

# FCC Test Report

|              |                       |
|--------------|-----------------------|
| Product Name | Wireless Access Point |
| Model No     | AP-90M                |
| FCC ID       | AFJ360300             |

|           |                                                      |
|-----------|------------------------------------------------------|
| Applicant | ICOM Incorporated                                    |
| Address   | 1-1-32 Kamiminami, Hirano-ku, Osaka, 547-0003, Japan |

|                 |                     |
|-----------------|---------------------|
| Date of Receipt | Sep. 10, 2014       |
| Issued Date     | Feb. 04, 2015       |
| Report No.      | 1490280R-RFUSP05V00 |
| 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 report of the equipment and evaluated measurement uncertainty herein.

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# Test Report

Issued Date: Feb. 04, 2015

Report No.: 1490280R-RFUSP05V00



|                     |                                                                                                                                                     |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name        | Wireless Access Point                                                                                                                               |
| Applicant           | ICOM Incorporated                                                                                                                                   |
| Address             | 1-1-32 Kamiminami, Hirano-ku, Osaka, 547-0003, Japan                                                                                                |
| Manufacturer        | ICOM Incorporated                                                                                                                                   |
| Model No.           | AP-90M                                                                                                                                              |
| FCC ID.             | AFJ360300                                                                                                                                           |
| EUT Rated Voltage   | AC 100-240V, 50-60Hz                                                                                                                                |
| EUT Test Voltage    | AC 120V/60Hz                                                                                                                                        |
| Trade Name          | ICOM                                                                                                                                                |
| Applicable Standard | FCC CFR Title 47 Part 15 Subpart E: 2013<br>ANSI C63.4: 2009, ANSI C63.10: 2009<br>FCC KDB 789033 D01 General UNII Test Procedures Old Rules v01r04 |
| Test Result         | Complied                                                                                                                                            |

Documented By

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( Senior Adm. Specialist / Joanne Lin )

Tested By

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( Engineer / Jack Hsu )

Approved By

:

( Director / Vincent Lin )

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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

## 1. GENERAL INFORMATION

### 1.1. EUT Description

|                    |                                                                                                                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name       | Wireless Access Point                                                                                                                                                                                                           |
| Trade Name         | ICOM                                                                                                                                                                                                                            |
| FCC ID.            | AFJ360300                                                                                                                                                                                                                       |
| Model No.          | AP-90M                                                                                                                                                                                                                          |
| Frequency Range    | 802.11a/n-20MHz: 5180-5320MHz, 5500-5700MHz<br>802.11n-40MHz: 5190-5310, 5510-5670MHz<br>802.11n-40MHz: 5190-5230, 5755-5795MHz<br>802.11ac-20MHz: 5720, 802.11ac-40MHz: 5710 MHz<br>802.11ac-80MHz: 5210-5290MHz, 5530-5690MHz |
| Number of Channels | 802.11a/n-20MHz: 19; 802.11n-40MHz: 9<br>802.11ac-20MHz: 1, 802.11ac-40MHz: 1, 802.11ac-80MHz: 4                                                                                                                                |
| Data Rate          | 802.11a: 6 - 54Mbps<br>802.11n: up to 300Mbps<br>802.11ac-80MHz: up to 866.7MHz                                                                                                                                                 |
| Type of Modulation | 802.11a/n:OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM                                                                                                                                                                                |
| Channel Control    | Auto                                                                                                                                                                                                                            |
| Antenna type       | Internal / External: Dipole                                                                                                                                                                                                     |
| Antenna Gain       | Refer to the table "Antenna List"                                                                                                                                                                                               |
| Power Adapter      | MFR: ICOM, M/N: SA142B-12U<br>Input: AC 100-240V~50-60Hz, 1.2A<br>Output: 12V $\overline{=}$ 3.5A<br>Cable Out: Non-Shielded, 1.8m                                                                                              |

#### Antenna List

| No. | Manufacturer        | Part No.                      | Antenna Type | Peak Gain                                                                                                       | Note             |
|-----|---------------------|-------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------|------------------|
| 1   | Wistron NeWeb Corp. | 3ARNRA001S1<br>(Main)(Aux)    | Dipole       | 2.73dBi for 5.15~5.25GHz<br>2.73dBi for 5.25~5.35GHz<br>3.24dBi for 5.47~5.725GHz<br>3.24dBi for 5.725~5.825GHz | Internal Antenna |
| 2   | WHA YU INDUSTRIAL   | C1251-510008-A<br>(Main)(Aux) | Dipole       | 5.00dBi for 5.15~5.25GHz<br>5.00dBi for 5.25~5.35GHz<br>5.00dBi for 5.47~5.725GHz<br>5.00dBi for 5.725~5.825GHz | External Antenna |

Note: The antenna connector is Reverse SMA type.

### Internal Antenna:

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 38: | 5190 MHz  | Channel 46: | 5230 MHz  |

### External Antenna:

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  |             |           |

802.11ac-20MHz Center Working Frequency of Each Channel:

| Channel      | Frequency |
|--------------|-----------|
| Channel 144: | 5720 MHz  |

802.11ac-40MHz Center Working Frequency of Each Channel:

| Channel      | Frequency |
|--------------|-----------|
| Channel 142: | 5710 MHz  |

802.11ac-80MHz Center Working Frequency of Each Channel:

| Channel     | Frequency | Channel     | Frequency | Channel      | Frequency | Channel      | Frequency |
|-------------|-----------|-------------|-----------|--------------|-----------|--------------|-----------|
| Channel 42: | 5210 MHz  | Channel 58: | 5290 MHz  | Channel 106: | 5530 MHz  | Channel 138: | 5690 MHz  |

Note:

1. This device is a Wireless Access Point with a built-in two WLAN transceivers, Internal Antenna of transceiver support 802.11a/n20/n40, External Antenna of transceiver support 802.11a/n20/n40/ac20/ac40/ac80 technology.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Continuous transmission mode provides a 100% duty cycle to perform the test.
4. At result of pretests, module supports dual-channel transmission, only the worst case is shown in the report. (802.11a is chain A)
5. 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 、 802.11n-40BW is 30Mbps and 802.11ac(80M-BW) is 65 Mbps)
6. 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.
7. The EUT was setup according to ANSI C63.10: 2009 (table height of 1.5 meters was used during radiated emission measurements above 1 GHz instead of a 80 cm table height).

|           |                                                                                                                                                                                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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)<br>Mode 4: Transmit (802.11ac-20BW-7.2Mbps)<br>Mode 5: Transmit (802.11ac-40BW-15Mbps)<br>Mode 6: Transmit (802.11ac-80BW-65Mbps) |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

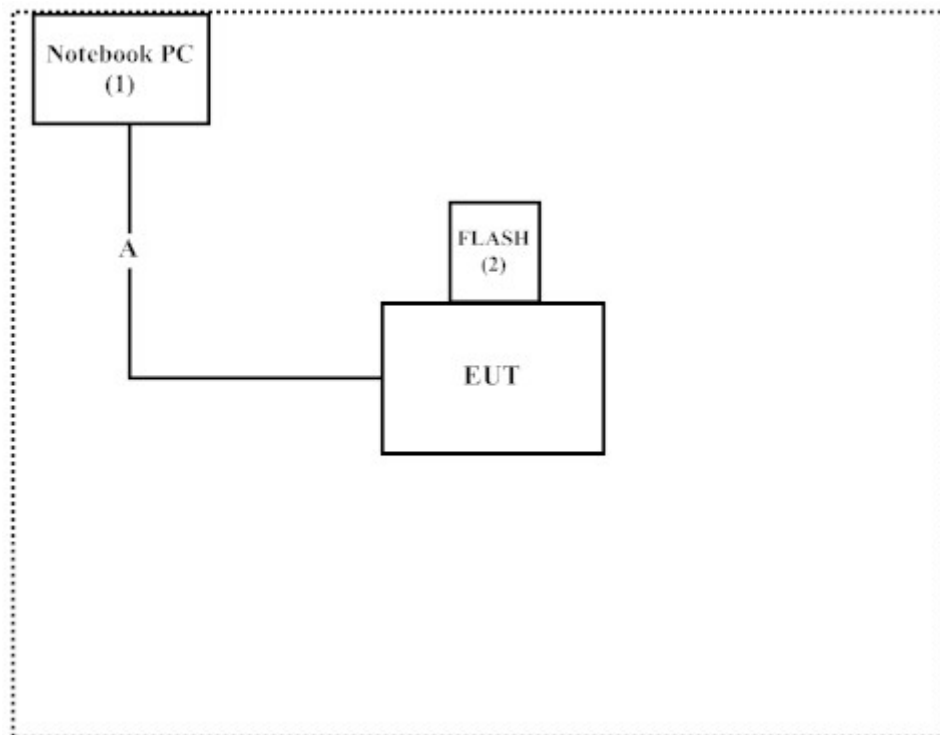
### 1.3. Tested System Details

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         | PP18L       | 36119001664 | Non-Shielded, 0.8m |
| 2 FLASH       | Transcend    | JetFlash110 | 155422-2931 | N/A                |

| Signal Cable Type | Signal cable Description |
|-------------------|--------------------------|
| A LAN Cable       | Non-Shielded, 2m         |

### 1.4. Configuration of tested System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown on 1.4
- (2) Execute “Cmd Tool v1.0.0.3” program on the EUT.
- (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

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FCC Accreditation Number: TW1014

## 2. Conducted Emission

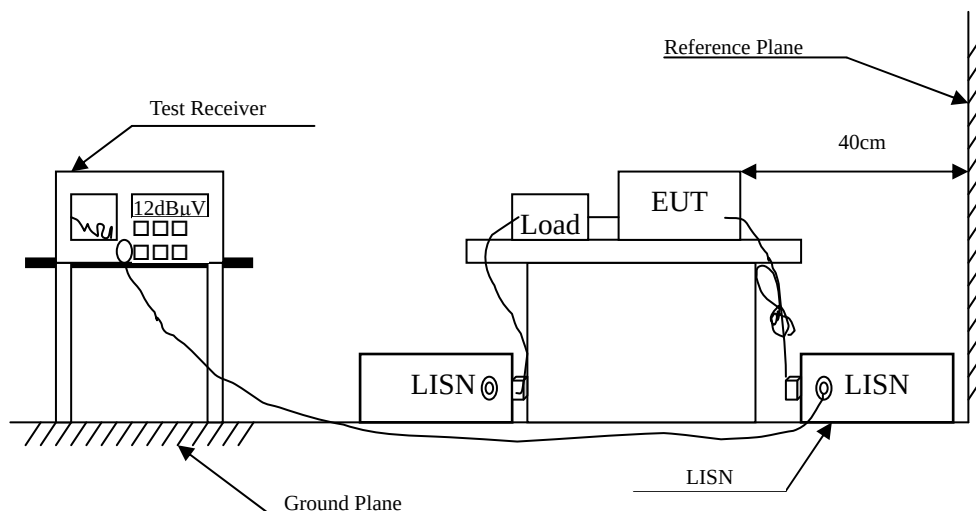
### 2.1. Test Equipment

|   | Equipment                | Manufacturer | Model No. / Serial No. | Last Cal.  | Remark      |
|---|--------------------------|--------------|------------------------|------------|-------------|
| X | Test Receiver            | R & S        | ESCS 30 / 825442/018   | Sep., 2014 |             |
| X | Artificial Mains Network | R & S        | ENV4200 / 848411/10    | Feb., 2015 | Peripherals |
| X | LISN                     | R & S        | ESH3-Z5 / 825562/002   | Feb., 2015 | EUT         |
|   | DC LISN                  | Schwarzbeck  | 8226 / 176             | Mar., 2014 | EUT         |
| X | Pulse Limiter            | R & S        | ESH3-Z2 / 357.8810.52  | Feb., 2015 |             |
|   | 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 UNII 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 : Wireless Access Point  
 Test Item : Conducted Emission Test  
 Power Line : Line 1  
 Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5260MHz) (Internal Antenna)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 1</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.181             | 9.662   | 36.400  | 46.062      | -19.052 | 65.114 |
| 0.236             | 9.662   | 30.010  | 39.672      | -23.871 | 63.543 |
| 0.291             | 9.665   | 30.540  | 40.205      | -21.766 | 61.971 |
| 0.459             | 9.675   | 32.960  | 42.635      | -14.536 | 57.171 |
| 0.685             | 9.687   | 25.220  | 34.907      | -21.093 | 56.000 |
| 28.302            | 10.047  | 23.300  | 33.347      | -26.653 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.181             | 9.662   | 23.980  | 33.642      | -21.472 | 55.114 |
| 0.236             | 9.662   | 18.730  | 28.392      | -25.151 | 53.543 |
| 0.291             | 9.665   | 19.820  | 29.485      | -22.486 | 51.971 |
| 0.459             | 9.675   | 22.770  | 32.445      | -14.726 | 47.171 |
| 0.685             | 9.687   | 14.780  | 24.467      | -21.533 | 46.000 |
| 28.302            | 10.047  | 15.370  | 25.417      | -24.583 | 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 : Wireless Access Point  
Test Item : Conducted Emission Test  
Power Line : Line 2  
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5260MHz) (Internal Antenna)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 2</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.189             | 9.660   | 32.280  | 41.940      | -22.946 | 64.886 |
| 0.306             | 9.666   | 32.030  | 41.696      | -19.847 | 61.543 |
| 0.459             | 9.675   | 34.200  | 43.875      | -13.296 | 57.171 |
| 0.806             | 9.693   | 25.730  | 35.423      | -20.577 | 56.000 |
| 1.611             | 9.747   | 20.330  | 30.077      | -25.923 | 56.000 |
| 27.955            | 10.274  | 21.970  | 32.244      | -27.756 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.189             | 9.660   | 14.600  | 24.260      | -30.626 | 54.886 |
| 0.306             | 9.666   | 24.660  | 34.326      | -17.217 | 51.543 |
| 0.459             | 9.675   | 22.250  | 31.925      | -15.246 | 47.171 |
| 0.806             | 9.693   | 15.300  | 24.993      | -21.007 | 46.000 |
| 1.611             | 9.747   | 13.840  | 23.587      | -22.413 | 46.000 |
| 27.955            | 10.274  | 16.090  | 26.364      | -23.636 | 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 : Wireless Access Point  
Test Item : Conducted Emission Test  
Power Line : Line 1  
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5500MHz) (Internal Antenna)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 1</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.177             | 9.663   | 36.720  | 46.383      | -18.846 | 65.229 |
| 0.232             | 9.662   | 29.810  | 39.472      | -24.185 | 63.657 |
| 0.310             | 9.666   | 30.440  | 40.106      | -21.323 | 61.429 |
| 0.455             | 9.674   | 32.670  | 42.344      | -14.942 | 57.286 |
| 0.810             | 9.694   | 25.340  | 35.034      | -20.966 | 56.000 |
| 28.384            | 10.048  | 23.380  | 33.428      | -26.572 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.177             | 9.663   | 30.100  | 39.763      | -15.466 | 55.229 |
| 0.232             | 9.662   | 16.730  | 26.392      | -27.265 | 53.657 |
| 0.310             | 9.666   | 18.910  | 28.576      | -22.853 | 51.429 |
| 0.455             | 9.674   | 21.800  | 31.474      | -15.812 | 47.286 |
| 0.810             | 9.694   | 12.950  | 22.644      | -23.356 | 46.000 |
| 28.384            | 10.048  | 16.100  | 26.148      | -23.852 | 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 : Wireless Access Point  
Test Item : Conducted Emission Test  
Power Line : Line 2  
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (5500MHz) (Internal Antenna)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 2</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.177             | 9.663   | 37.100  | 46.763      | -18.466 | 65.229 |
| 0.306             | 9.666   | 32.070  | 41.736      | -19.807 | 61.543 |
| 0.451             | 9.674   | 34.200  | 43.874      | -13.526 | 57.400 |
| 0.841             | 9.695   | 25.790  | 35.485      | -20.515 | 56.000 |
| 1.748             | 9.755   | 20.330  | 30.085      | -25.915 | 56.000 |
| 27.818            | 10.273  | 21.880  | 32.153      | -27.847 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.177             | 9.663   | 29.410  | 39.073      | -16.156 | 55.229 |
| 0.306             | 9.666   | 24.250  | 33.916      | -17.627 | 51.543 |
| 0.451             | 9.674   | 26.220  | 35.894      | -11.506 | 47.400 |
| 0.841             | 9.695   | 15.870  | 25.565      | -20.435 | 46.000 |
| 1.748             | 9.755   | 12.270  | 22.025      | -23.975 | 46.000 |
| 27.818            | 10.273  | 13.070  | 23.343      | -26.657 | 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 : Wireless Access Point  
Test Item : Conducted Emission Test  
Power Line : Line 1  
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5230MHz) (Internal Antenna)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 1</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.173             | 9.664   | 36.600  | 46.264      | -19.079 | 65.343 |
| 0.228             | 9.662   | 29.700  | 39.362      | -24.409 | 63.771 |
| 0.341             | 9.668   | 27.460  | 37.128      | -23.415 | 60.543 |
| 0.443             | 9.674   | 30.680  | 40.354      | -17.275 | 57.629 |
| 0.834             | 9.695   | 25.500  | 35.195      | -20.805 | 56.000 |
| 28.783            | 10.051  | 23.610  | 33.661      | -26.339 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.173             | 9.664   | 30.730  | 40.394      | -14.949 | 55.343 |
| 0.228             | 9.662   | 19.310  | 28.972      | -24.799 | 53.771 |
| 0.341             | 9.668   | 18.770  | 28.438      | -22.105 | 50.543 |
| 0.443             | 9.674   | 12.870  | 22.544      | -25.085 | 47.629 |
| 0.834             | 9.695   | 13.690  | 23.385      | -22.615 | 46.000 |
| 28.783            | 10.051  | 17.130  | 27.181      | -22.819 | 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 : Wireless Access Point  
Test Item : Conducted Emission Test  
Power Line : Line 2  
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5230MHz) (Internal Antenna)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 2</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.181             | 9.662   | 36.480  | 46.142      | -18.972 | 65.114 |
| 0.236             | 9.662   | 28.750  | 38.412      | -25.131 | 63.543 |
| 0.298             | 9.666   | 31.810  | 41.476      | -20.295 | 61.771 |
| 0.463             | 9.675   | 34.220  | 43.895      | -13.162 | 57.057 |
| 0.845             | 9.696   | 26.310  | 36.006      | -19.994 | 56.000 |
| 27.970            | 10.274  | 23.110  | 33.384      | -26.616 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.181             | 9.662   | 23.300  | 32.962      | -22.152 | 55.114 |
| 0.236             | 9.662   | 19.610  | 29.272      | -24.271 | 53.543 |
| 0.298             | 9.666   | 24.460  | 34.126      | -17.645 | 51.771 |
| 0.463             | 9.675   | 22.250  | 31.925      | -15.132 | 47.057 |
| 0.845             | 9.696   | 16.000  | 25.696      | -20.304 | 46.000 |
| 27.970            | 10.274  | 15.300  | 25.574      | -24.426 | 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 : Wireless Access Point  
Test Item : Conducted Emission Test  
Power Line : Line 1  
Test Mode : Mode 6: Transmit (802.11ac-80BW-65Mbps) (5210MHz) (External Antenna)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 1</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.173             | 9.664   | 39.050  | 48.714      | -16.629 | 65.343 |
| 0.220             | 9.662   | 27.580  | 37.242      | -26.758 | 64.000 |
| 0.306             | 9.666   | 32.470  | 42.136      | -19.407 | 61.543 |
| 0.463             | 9.675   | 34.480  | 44.155      | -12.902 | 57.057 |
| 0.838             | 9.695   | 26.560  | 36.255      | -19.745 | 56.000 |
| 28.470            | 10.049  | 23.200  | 33.249      | -26.751 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.173             | 9.664   | 32.990  | 42.654      | -12.689 | 55.343 |
| 0.220             | 9.662   | 11.350  | 21.012      | -32.988 | 54.000 |
| 0.306             | 9.666   | 14.980  | 24.646      | -26.897 | 51.543 |
| 0.463             | 9.675   | 22.950  | 32.625      | -14.432 | 47.057 |
| 0.838             | 9.695   | 14.370  | 24.065      | -21.935 | 46.000 |
| 28.470            | 10.049  | 16.010  | 26.059      | -23.941 | 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 : Wireless Access Point  
Test Item : Conducted Emission Test  
Power Line : Line 2  
Test Mode : Mode 6: Transmit (802.11ac-80BW-65Mbps) (5210MHz) (External Antenna)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 2</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.173             | 9.664   | 37.280  | 46.944      | -18.399 | 65.343 |
| 0.244             | 9.663   | 30.820  | 40.483      | -22.831 | 63.314 |
| 0.306             | 9.666   | 32.090  | 41.756      | -19.787 | 61.543 |
| 0.466             | 9.675   | 33.180  | 42.855      | -14.116 | 56.971 |
| 0.810             | 9.694   | 25.790  | 35.484      | -20.516 | 56.000 |
| 27.396            | 10.259  | 23.230  | 33.489      | -26.511 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.173             | 9.664   | 24.280  | 33.944      | -21.399 | 55.343 |
| 0.244             | 9.663   | 22.880  | 32.543      | -20.771 | 53.314 |
| 0.306             | 9.666   | 21.620  | 31.286      | -20.257 | 51.543 |
| 0.466             | 9.675   | 23.880  | 33.555      | -13.416 | 46.971 |
| 0.810             | 9.694   | 15.590  | 25.284      | -20.716 | 46.000 |
| 27.396            | 10.259  | 17.590  | 27.849      | -22.151 | 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 : Wireless Access Point  
Test Item : Conducted Emission Test  
Power Line : Line 1  
Test Mode : Mode 6: Transmit (802.11ac-80BW-65Mbps) (5290MHz) (External Antenna)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 1</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.173             | 9.664   | 38.810  | 48.474      | -16.869 | 65.343 |
| 0.240             | 9.663   | 30.340  | 40.003      | -23.426 | 63.429 |
| 0.295             | 9.666   | 31.730  | 41.396      | -20.461 | 61.857 |
| 0.470             | 9.675   | 34.470  | 44.145      | -12.712 | 56.857 |
| 0.838             | 9.695   | 26.740  | 36.435      | -19.565 | 56.000 |
| 6.814             | 9.893   | 15.340  | 25.233      | -34.767 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.173             | 9.664   | 29.330  | 38.994      | -16.349 | 55.343 |
| 0.240             | 9.663   | 19.840  | 29.503      | -23.926 | 53.429 |
| 0.295             | 9.666   | 23.880  | 33.546      | -18.311 | 51.857 |
| 0.470             | 9.675   | 23.180  | 32.855      | -14.002 | 46.857 |
| 0.838             | 9.695   | 14.800  | 24.495      | -21.505 | 46.000 |
| 6.814             | 9.893   | 10.760  | 20.653      | -29.347 | 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 : Wireless Access Point  
Test Item : Conducted Emission Test  
Power Line : Line 2  
Test Mode : Mode 6: Transmit (802.11ac-80BW-65Mbps) (5290MHz) (External Antenna)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 2</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.181             | 9.662   | 36.740  | 46.402      | -18.712 | 65.114 |
| 0.228             | 9.662   | 30.630  | 40.292      | -23.479 | 63.771 |
| 0.291             | 9.665   | 31.190  | 40.855      | -21.116 | 61.971 |
| 0.463             | 9.675   | 33.980  | 43.655      | -13.402 | 57.057 |
| 0.822             | 9.694   | 26.580  | 36.274      | -19.726 | 56.000 |
| 28.998            | 10.282  | 21.020  | 31.302      | -28.698 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.181             | 9.662   | 24.490  | 34.152      | -20.962 | 55.114 |
| 0.228             | 9.662   | 19.620  | 29.282      | -24.489 | 53.771 |
| 0.291             | 9.665   | 18.100  | 27.765      | -24.206 | 51.971 |
| 0.463             | 9.675   | 23.730  | 33.405      | -13.652 | 47.057 |
| 0.822             | 9.694   | 13.980  | 23.674      | -22.326 | 46.000 |
| 28.998            | 10.282  | 15.780  | 26.062      | -23.938 | 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 : Wireless Access Point  
Test Item : Conducted Emission Test  
Power Line : Line 1  
Test Mode : Mode 6: Transmit (802.11ac-80BW-65Mbps) (5530MHz) (External Antenna)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 1</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.173             | 9.664   | 38.690  | 48.354      | -16.989 | 65.343 |
| 0.283             | 9.665   | 31.280  | 40.945      | -21.255 | 62.200 |
| 0.447             | 9.674   | 33.940  | 43.614      | -13.900 | 57.514 |
| 0.810             | 9.694   | 27.210  | 36.904      | -19.096 | 56.000 |
| 1.298             | 9.720   | 23.690  | 33.410      | -22.590 | 56.000 |
| 28.591            | 10.050  | 23.550  | 33.600      | -26.400 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.173             | 9.664   | 34.870  | 44.534      | -10.809 | 55.343 |
| 0.283             | 9.665   | 22.780  | 32.445      | -19.755 | 52.200 |
| 0.447             | 9.674   | 24.170  | 33.844      | -13.670 | 47.514 |
| 0.810             | 9.694   | 14.690  | 24.384      | -21.616 | 46.000 |
| 1.298             | 9.720   | 12.930  | 22.650      | -23.350 | 46.000 |
| 28.591            | 10.050  | 13.980  | 24.030      | -25.970 | 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 : Wireless Access Point  
Test Item : Conducted Emission Test  
Power Line : Line 2  
Test Mode : Mode 6: Transmit (802.11ac-80BW-65Mbps) (5530MHz) (External Antenna)

| Frequency         | Correct | Reading | Measurement | Margin  | Limit  |
|-------------------|---------|---------|-------------|---------|--------|
| MHz               | Factor  | Level   | Level       |         |        |
|                   | dB      | dBμV    | dBμV        | dB      | dBμV   |
| <b>LINE 2</b>     |         |         |             |         |        |
| <b>Quasi-Peak</b> |         |         |             |         |        |
| 0.181             | 9.662   | 36.740  | 46.402      | -18.712 | 65.114 |
| 0.236             | 9.662   | 30.870  | 40.532      | -23.011 | 63.543 |
| 0.306             | 9.666   | 32.310  | 41.976      | -19.567 | 61.543 |
| 0.466             | 9.675   | 33.340  | 43.015      | -13.956 | 56.971 |
| 0.822             | 9.694   | 26.660  | 36.354      | -19.646 | 56.000 |
| 27.509            | 10.270  | 23.250  | 33.520      | -26.480 | 60.000 |
| <b>Average</b>    |         |         |             |         |        |
| 0.181             | 9.662   | 31.500  | 41.162      | -13.952 | 55.114 |
| 0.236             | 9.662   | 21.820  | 31.482      | -22.061 | 53.543 |
| 0.306             | 9.666   | 24.870  | 34.536      | -17.007 | 51.543 |
| 0.466             | 9.675   | 23.340  | 33.015      | -13.956 | 46.971 |
| 0.822             | 9.694   | 13.980  | 23.674      | -22.326 | 46.000 |
| 27.509            | 10.270  | 16.900  | 27.170      | -22.830 | 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

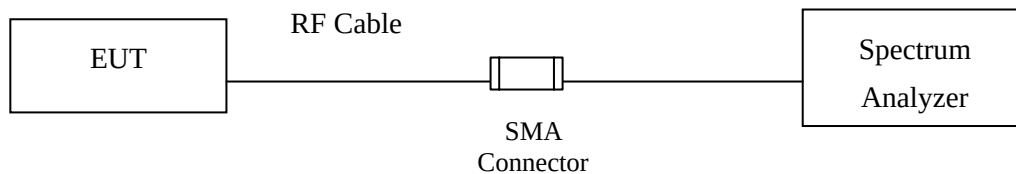
|   | Equipment         | Manufacturer | Model No./Serial No. | Last Cal.  |
|---|-------------------|--------------|----------------------|------------|
| X | Power Meter       | Anritsu      | ML2495A/6K00003357   | May, 2014  |
| X | Power Sensor      | Anritsu      | MA2411B/0738448      | Jun., 2014 |
| X | Spectrum Analyzer | Agilent      | N9010A / MY48030495  | Apr., 2014 |

Note:

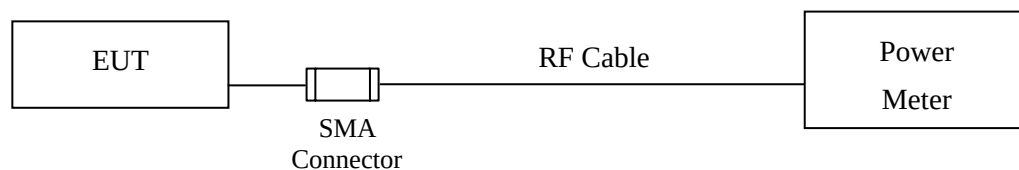
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

#### 3.2. Test Setup

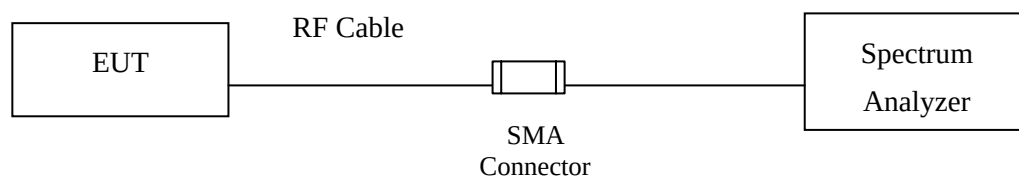
##### 26dBc Occupied Bandwidth



##### Conduction Power Measurement (for 802.11an)



##### Conduction Power Measurement (for 802.11ac)



### 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 Procedure

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.

802.11an ( $BW \leq 40\text{MHz}$ ) Maximum conducted output power using KDB 789033 section E)3)a) Method PM (Measurement using an RF average power meter):

Note: the power meter have a video bandwidth that is greater than or equal to the measurement bandwidth, (Anritsu/ MA2411B video bandwidth: 50MHz)

802.11ac ( $BW=80\text{MHz}$ ) Maximum conducted output power using KDB 789033 section E)2)b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep).

When transmitted signals consist of two or more non-contiguous spectrum segments (e.g., 80+80 MHz mode) or when a single spectrum segment of a transmission crosses the boundary between two adjacent U-NII bands, KDB 644545 D01 section F) procedure is used for measurements.

### 3.5. Uncertainty

Power sensor/meter method:  $\pm 0.517$  dB

Spectrum analyzer method:  $\pm 1.27$  dB

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

Product : Wireless Access Point  
 Test Item : Maximum conducted output power  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (Internal Antenna)

#### 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            | 9.58                           | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 44             | 5220            | 9.91                           | 9.82  | 9.71  | 9.64  | 9.52  | 9.46  | 9.35  | 9.22  | <17dBm         |
| 48             | 5240            | 10.08                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 52             | 5260            | 10.25                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 60             | 5300            | 10.37                          | 10.27 | 10.15 | 10.08 | 9.95  | 9.82  | 9.74  | 9.67  | <24dBm         |
| 64             | 5320            | 10.27                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 100            | 5500            | 12.07                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 116            | 5580            | 12.4                           | 12.29 | 12.17 | 12.04 | 11.95 | 11.87 | 11.74 | 11.61 | <24dBm         |
| 140            | 5700            | 11.01                          | --    | --    | --    | --    | --    | --    | --    | <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            | 9.44                           | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 44             | 5220            | 9.84                           | 9.71  | 9.65  | 9.54  | 9.41  | 9.28  | 9.14  | 9.08  | <17dBm         |
| 48             | 5240            | 10.91                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 52             | 5260            | 10.09                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 60             | 5300            | 10.24                          | 10.18 | 10.02 | 9.94  | 9.81  | 9.74  | 9.66  | 9.53  | <24dBm         |
| 64             | 5320            | 10.11                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 100            | 5500            | 11.94                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 116            | 5580            | 12.35                          | 12.18 | 12.05 | 11.93 | 11.82 | 11.77 | 11.61 | 11.51 | <24dBm         |
| 140            | 5700            | 10.88                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |

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

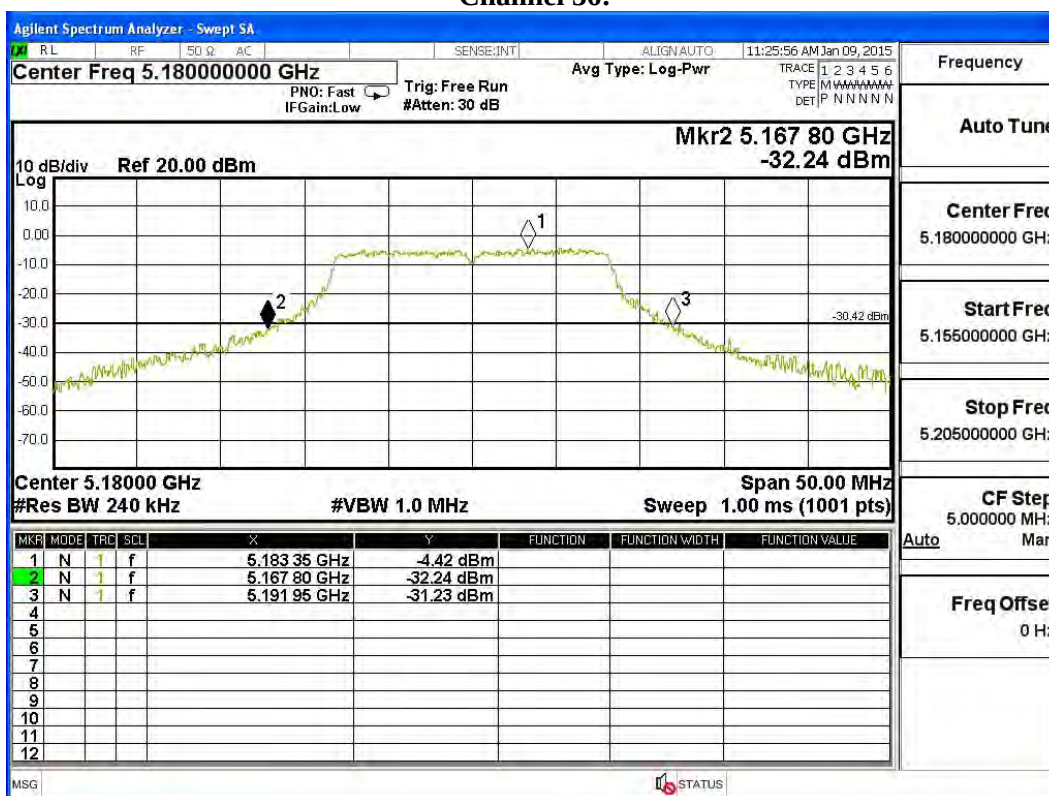
### Maximum conducted output power Measurement:

| Channel No | Frequency Range<br>(MHz) | 26dB Bandwidth<br>(MHz) | Output Power<br>(dBm) | Output Power Limit |               |
|------------|--------------------------|-------------------------|-----------------------|--------------------|---------------|
|            |                          |                         |                       | (dBm)              | dBm+10log(BW) |
| 36         | 5180                     | 24.150                  | 9.58                  | 17                 | 17.83         |
| 44         | 5220                     | 23.500                  | 9.91                  | 17                 | 17.71         |
| 48         | 5240                     | 23.950                  | 10.08                 | 17                 | 17.79         |
| 52         | 5260                     | 23.150                  | 10.25                 | 24                 | 24.65         |
| 60         | 5300                     | 23.900                  | 10.37                 | 24                 | 24.78         |
| 64         | 5320                     | 23.050                  | 10.27                 | 24                 | 24.63         |
| 100        | 5500                     | 24.150                  | 12.07                 | 24                 | 24.83         |
| 116        | 5580                     | 23.500                  | 12.4                  | 24                 | 24.71         |
| 140        | 5700                     | 22.800                  | 11.01                 | 24                 | 24.58         |

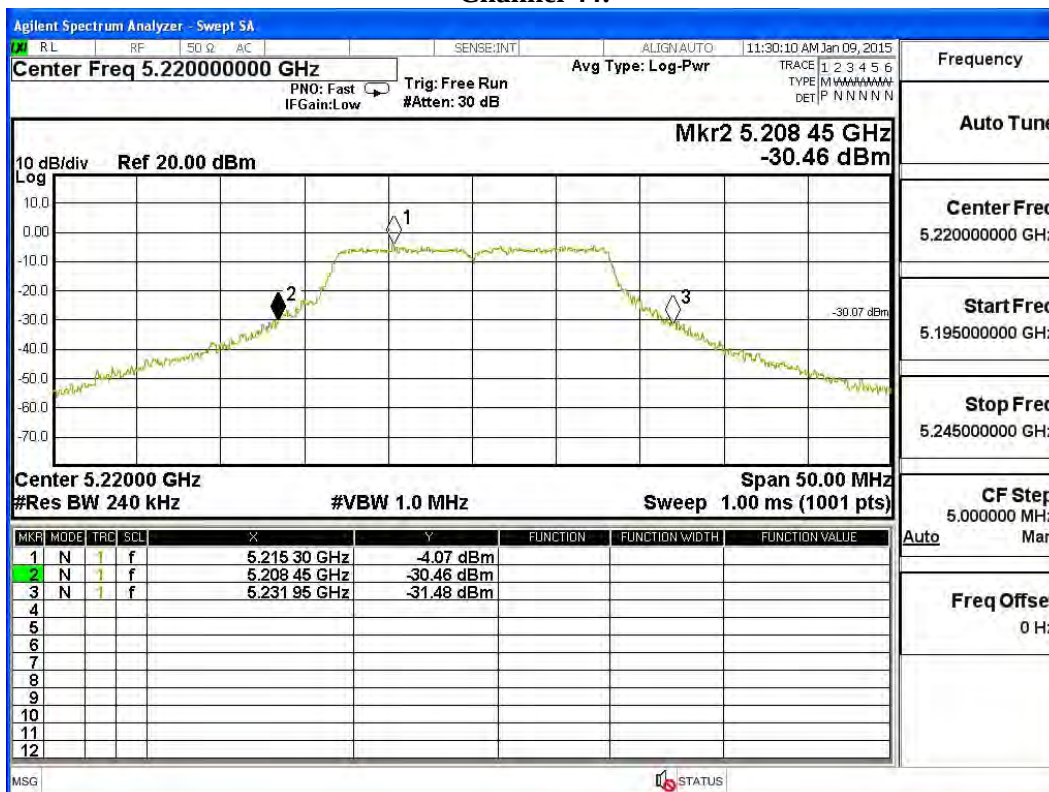
Note:

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.

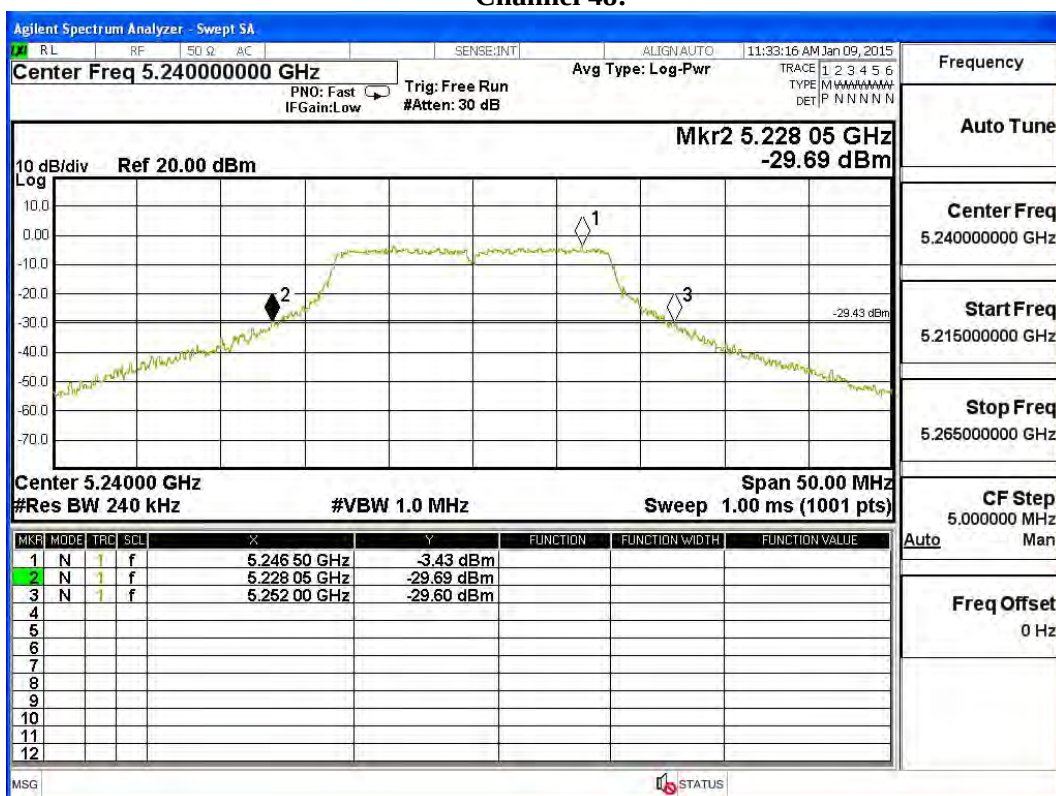
### 26dBc Occupied Bandwidth: Channel 36:



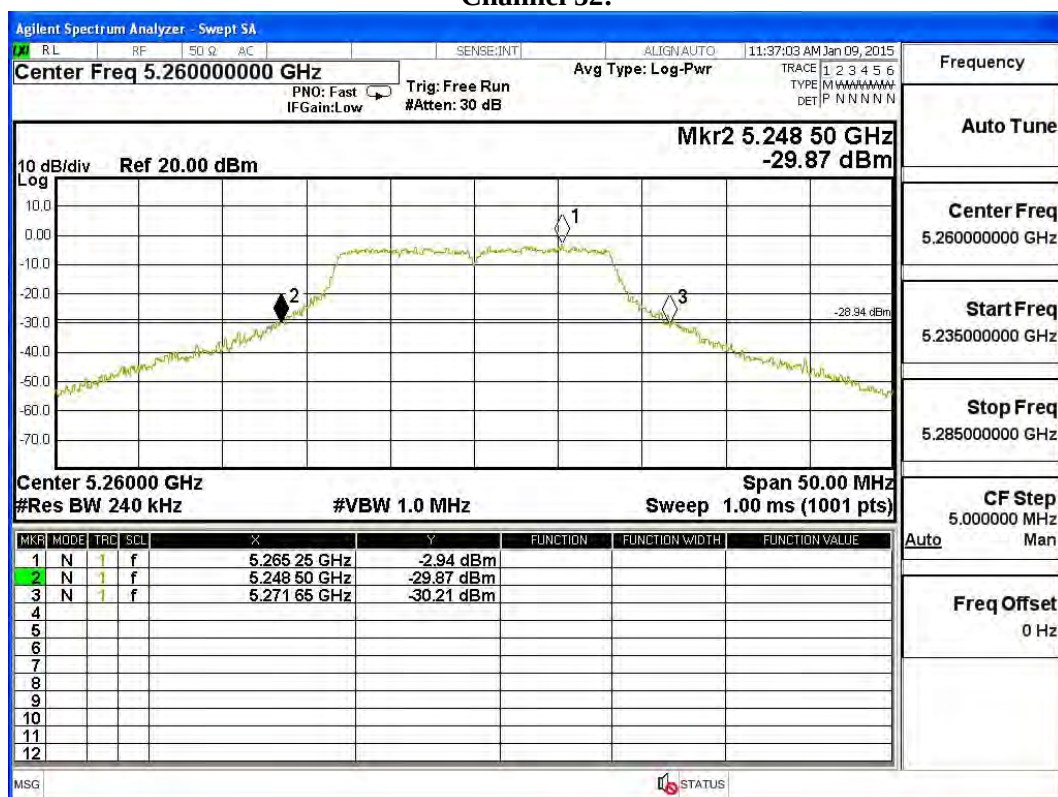
### Channel 44:



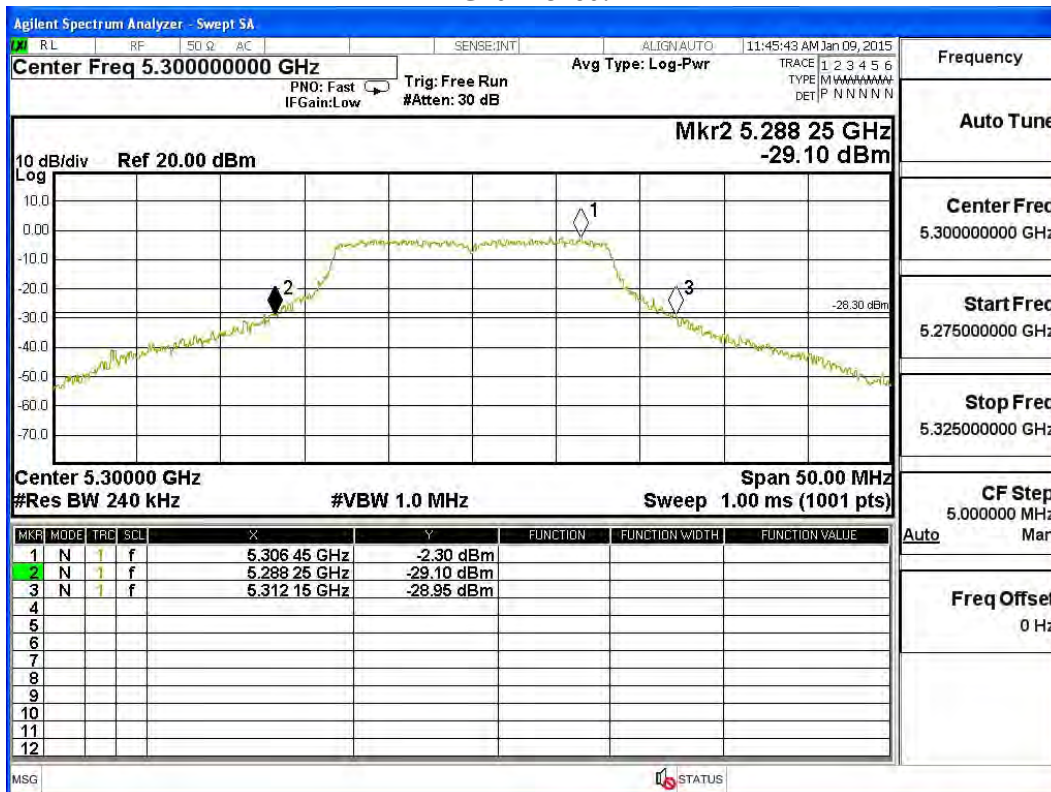
## Channel 48:



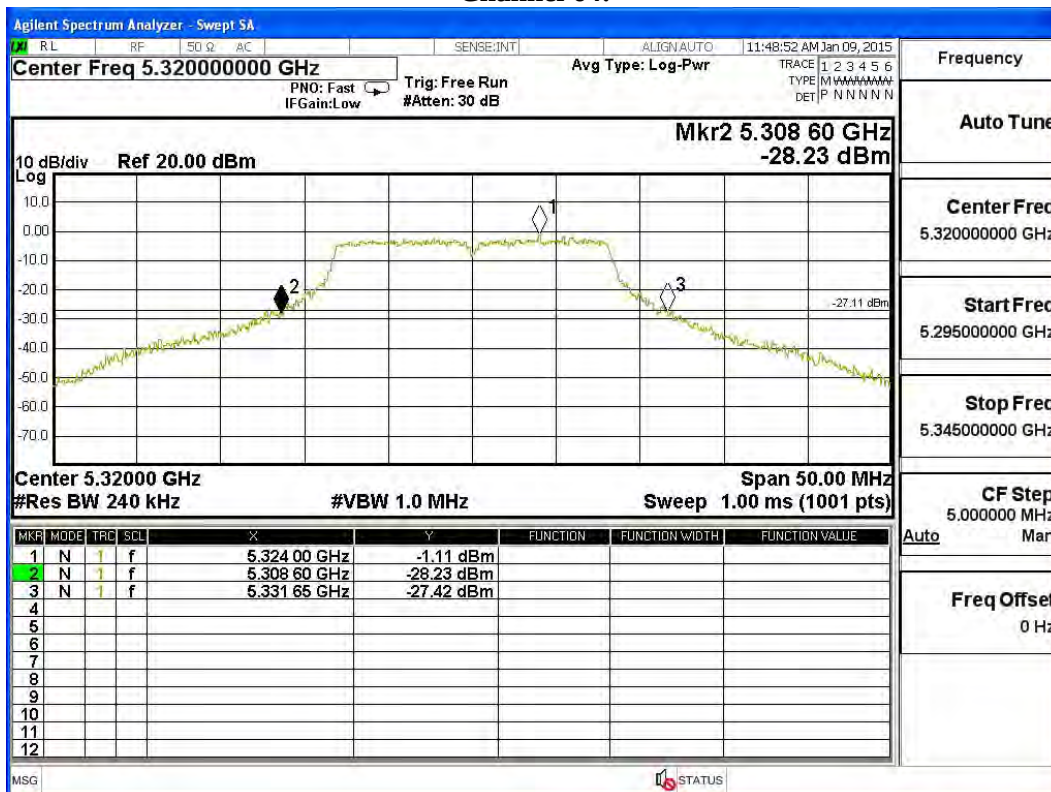
## Channel 52:



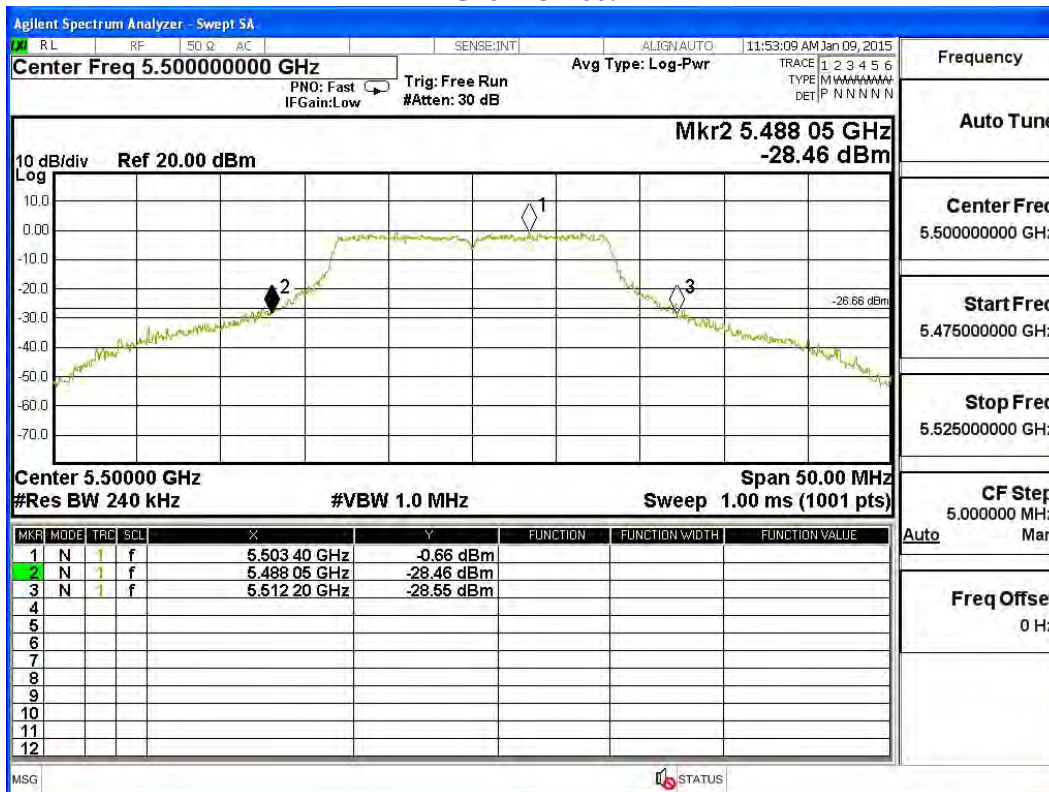
### Channel 60:



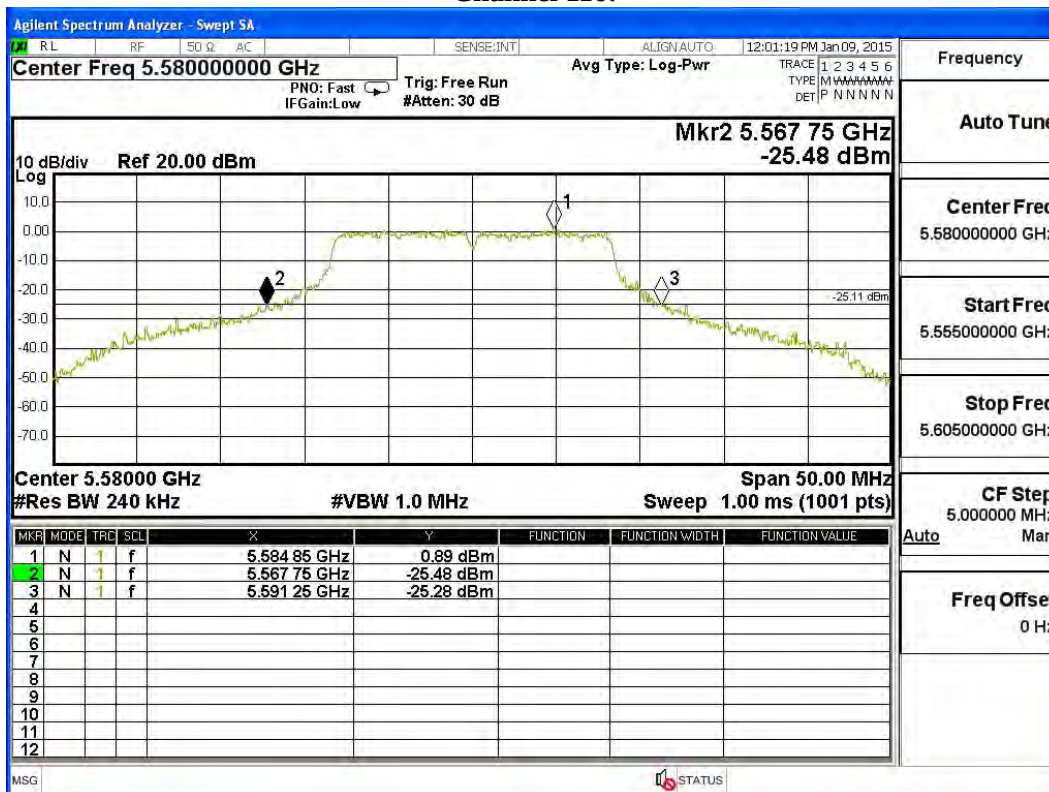
### Channel 64:



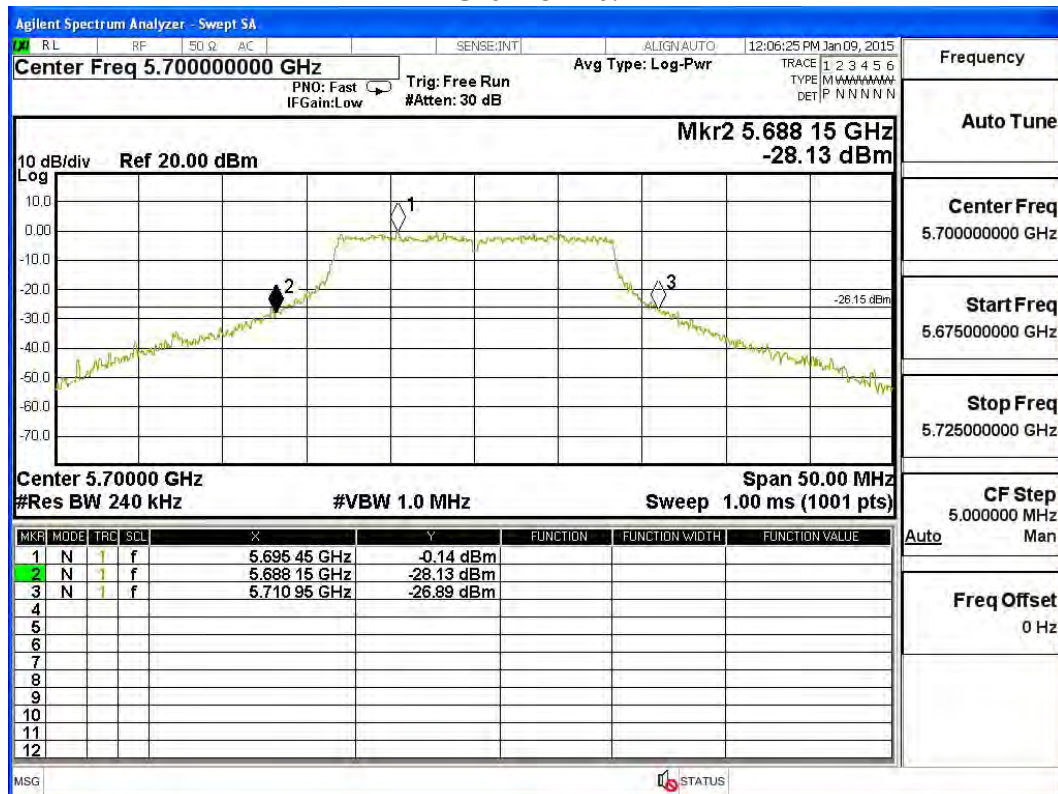
### Channel 100:



### Channel 116:



Channel 140:



Product : Wireless Access Point  
Test Item : Maximum conducted output power  
Test Site : No.3 OATS  
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (Internal Antenna)

### 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            | 10.32                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 44             | 5220            | 10.63                          | 10.56 | 10.47 | 10.41 | 10.35 | 10.25 | 10.21 | 10.12 | <17dBm         |
| 48             | 5240            | 10.37                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 52             | 5260            | 10.55                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 60             | 5300            | 9.96                           | 9.88  | 9.8   | 9.77  | 9.64  | 9.52  | 9.48  | 9.35  | <24dBm         |
| 64             | 5320            | 10.06                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 100            | 5500            | 12.92                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 116            | 5580            | 13.23                          | 13.15 | 13.05 | 12.97 | 12.91 | 12.83 | 12.75 | 12.63 | <24dBm         |
| 140            | 5700            | 9.91                           | --    | --    | --    | --    | --    | --    | --    | <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            | 10.81                          | --    | --    | --    | --   | --    | --    | --    | <17dBm         |
| 44             | 5220            | 10.1                           | 9.94  | 9.78  | 9.67  | 9.46 | 9.3   | 9.12  | 8.93  | <17dBm         |
| 48             | 5240            | 9.35                           | --    | --    | --    | --   | --    | --    | --    | <17dBm         |
| 52             | 5260            | 9.33                           | --    | --    | --    | --   | --    | --    | --    | <24dBm         |
| 60             | 5300            | 9.66                           | 9.51  | 9.36  | 9.22  | 9.06 | 8.94  | 8.76  | 8.58  | <24dBm         |
| 64             | 5320            | 9.91                           | --    | --    | --    | --   | --    | --    | --    | <24dBm         |
| 100            | 5500            | 12.25                          | --    | --    | --    | --   | --    | --    | --    | <24dBm         |
| 116            | 5580            | 13.46                          | 13.37 | 13.27 | 13.15 | 13.1 | 13.01 | 12.98 | 12.82 | <24dBm         |
| 140            | 5700            | 9.69                           | --    | --    | --    | --   | --    | --    | --    | <24dBm         |

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

### Maximum conducted output power Measurement:

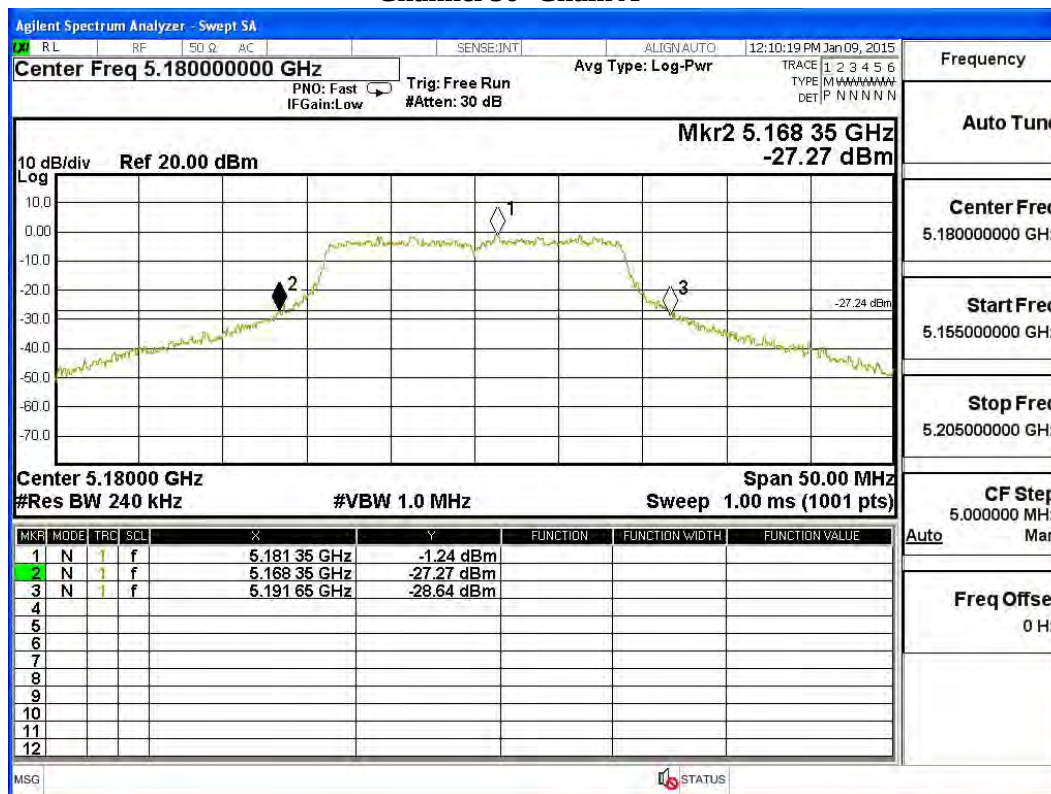
(CHAIN A+ B)

| 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            | 23.300               | 10.32               | 10.81               | 13.58              | 17                 | 17.67         |
| 44             | 5220            | 23.250               | 10.63               | 10.10               | 13.38              | 17                 | 17.66         |
| 48             | 5240            | 23.000               | 10.37               | 9.35                | 12.90              | 17                 | 17.62         |
| 52             | 5260            | 23.400               | 10.55               | 9.33                | 12.99              | 24                 | 24.69         |
| 60             | 5300            | 23.750               | 9.96                | 9.66                | 12.82              | 24                 | 24.76         |
| 64             | 5320            | 24.000               | 10.06               | 9.91                | 13.00              | 24                 | 24.80         |
| 100            | 5500            | 23.900               | 12.92               | 12.25               | 15.61              | 24                 | 24.78         |
| 116            | 5580            | 25.050               | 13.23               | 13.46               | 16.36              | 24                 | 24.99         |
| 140            | 5700            | 24.150               | 9.91                | 9.69                | 12.81              | 24                 | 24.83         |

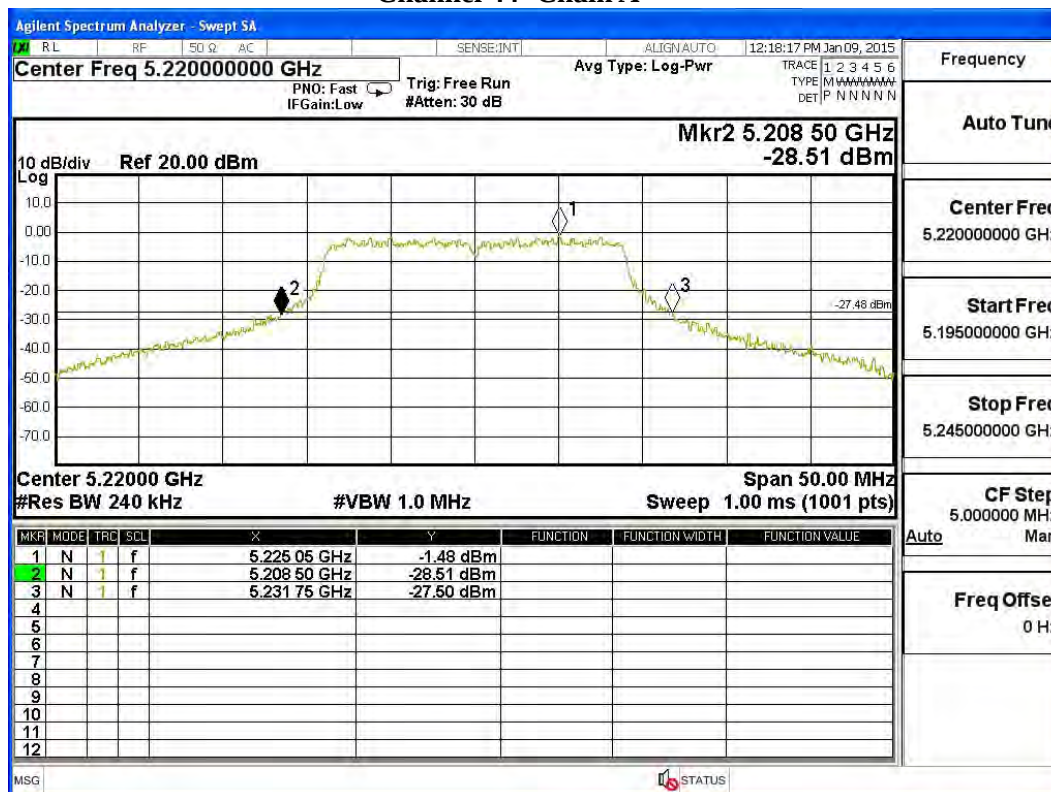
Note:

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.

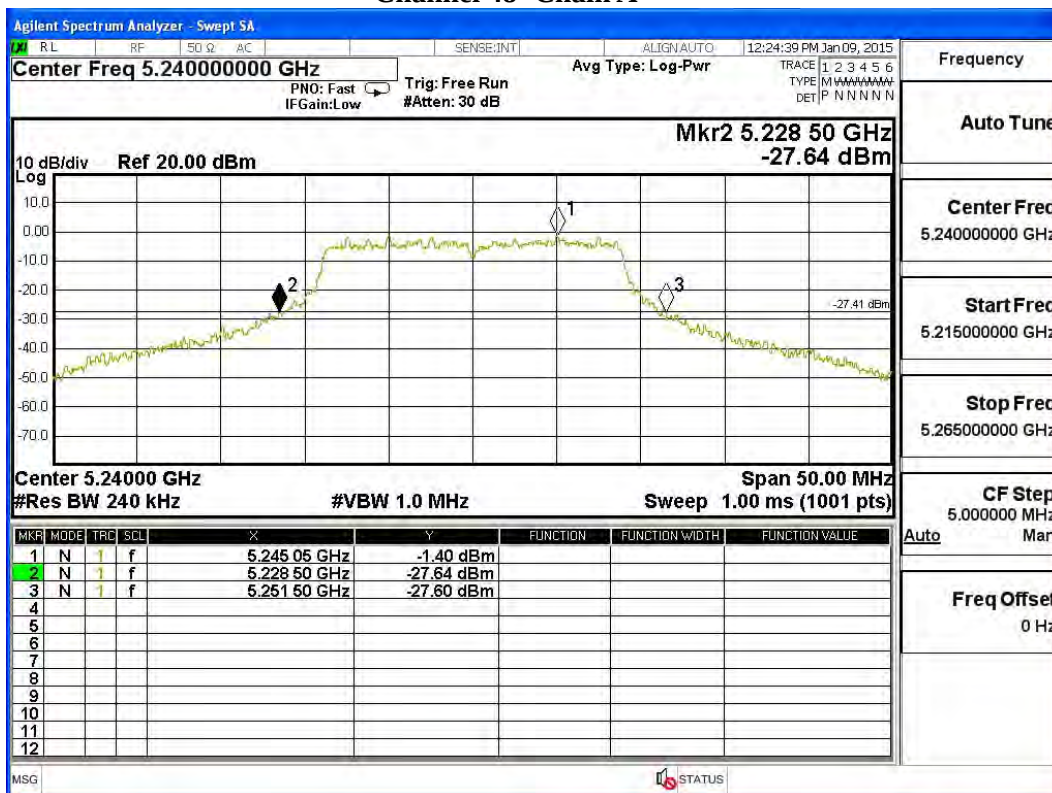
### 26dBc Occupied Bandwidth: Channel 36 -Chain A



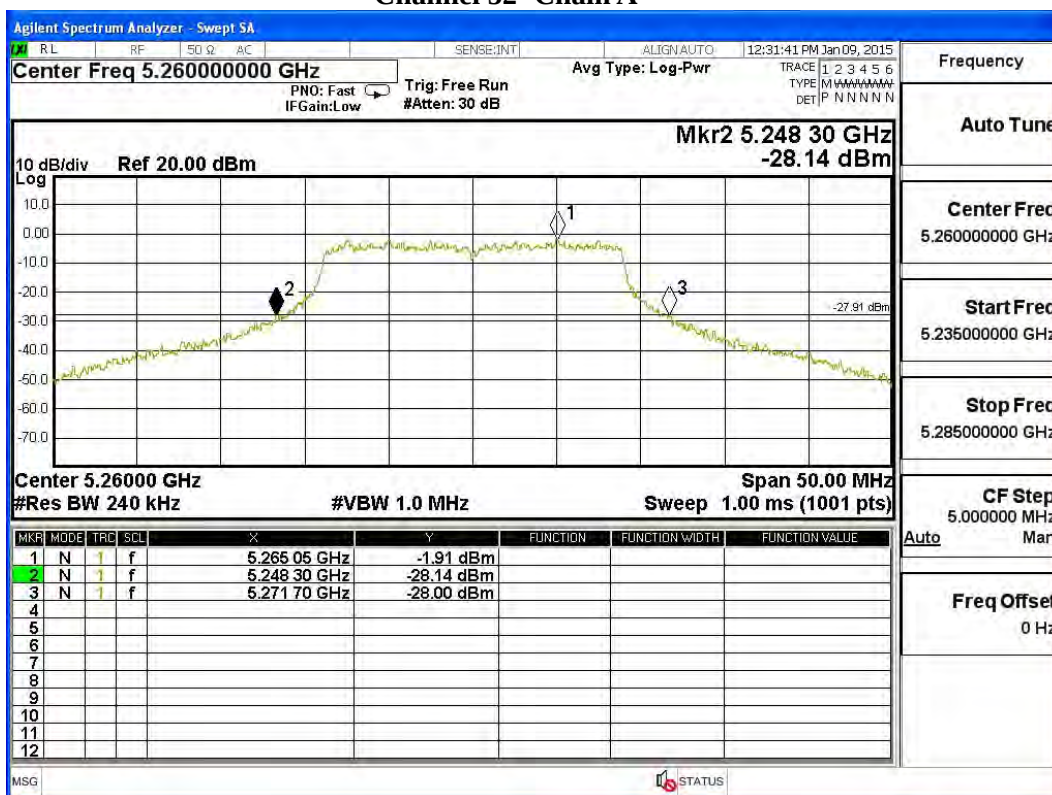
### Channel 44 -Chain A



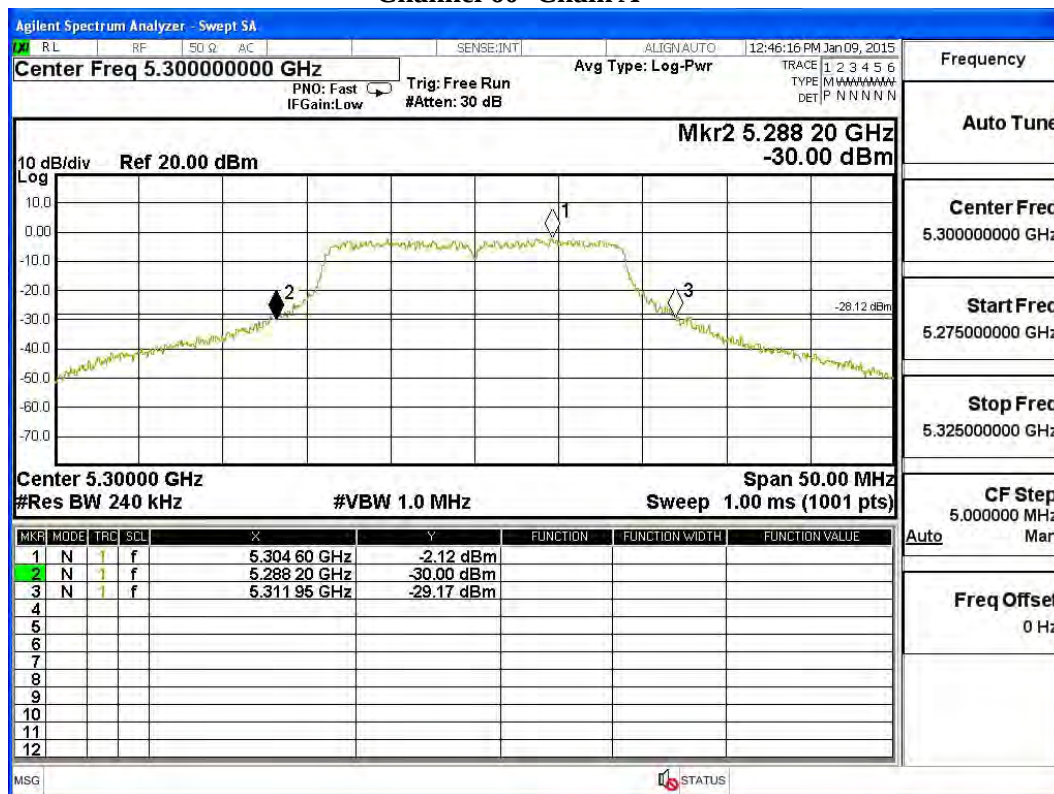
### Channel 48 -Chain A



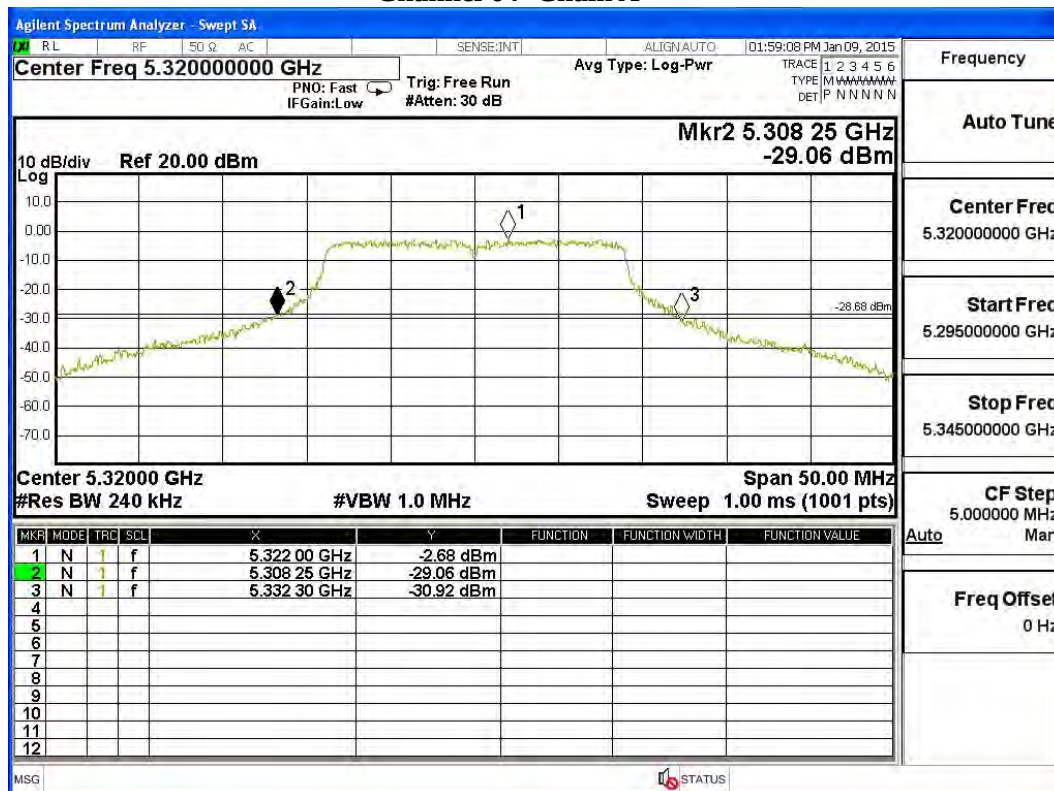
### Channel 52 -Chain A



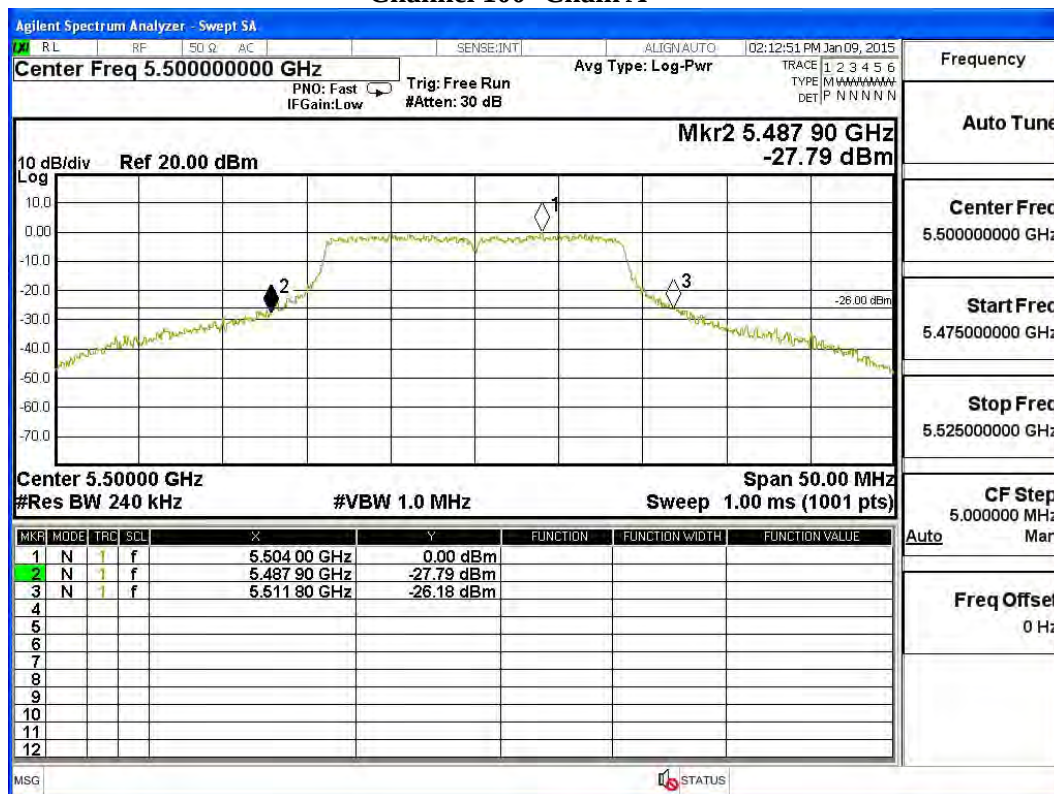
### Channel 60 -Chain A



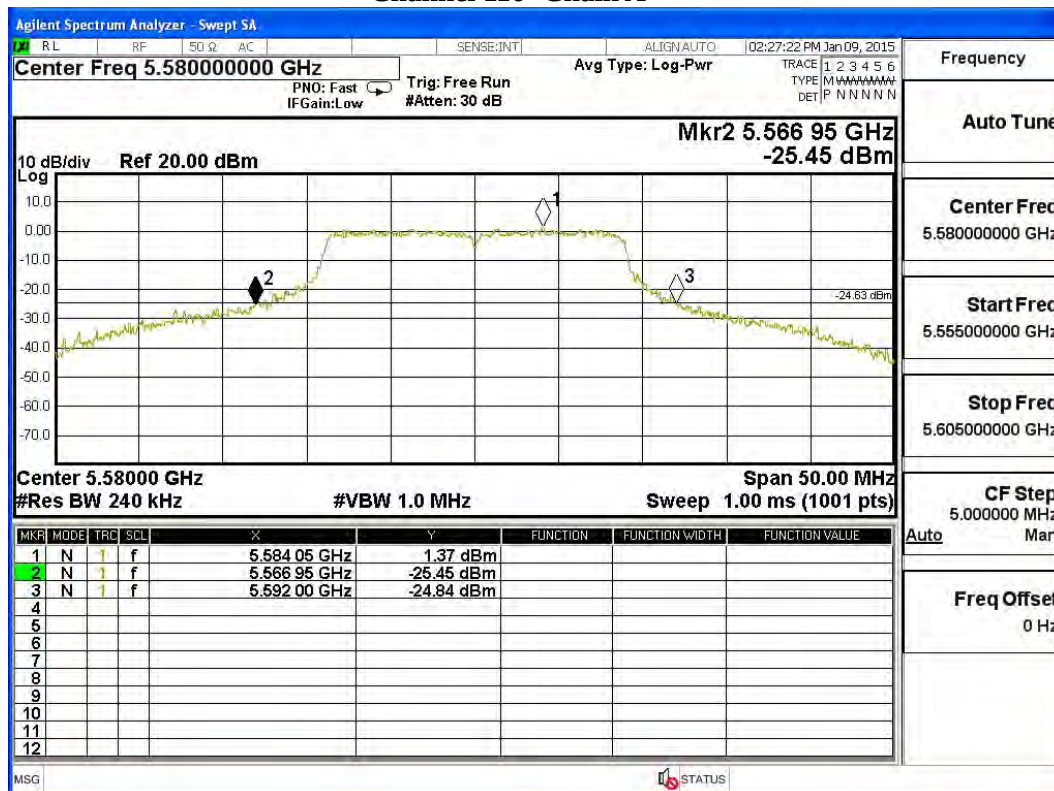
### Channel 64 -Chain A



### Channel 100 -Chain A



### Channel 116 -Chain A

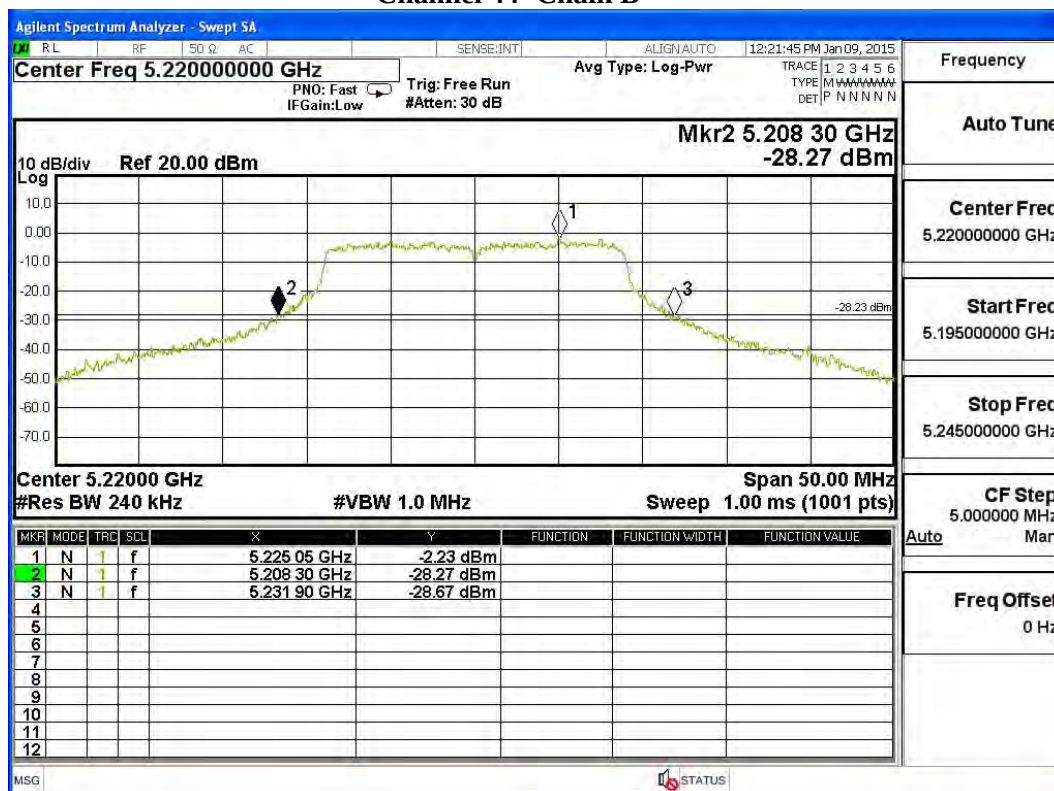


[illegible]

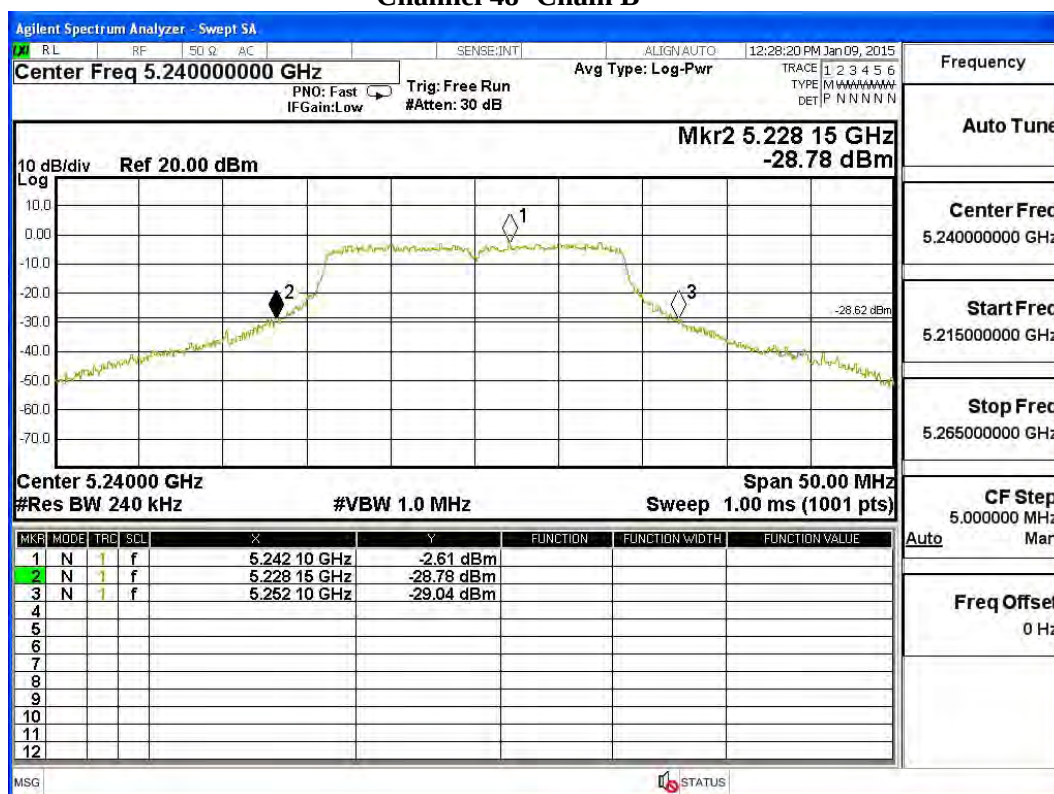
### 26dBc Occupied Bandwidth: Channel 36 -Chain B



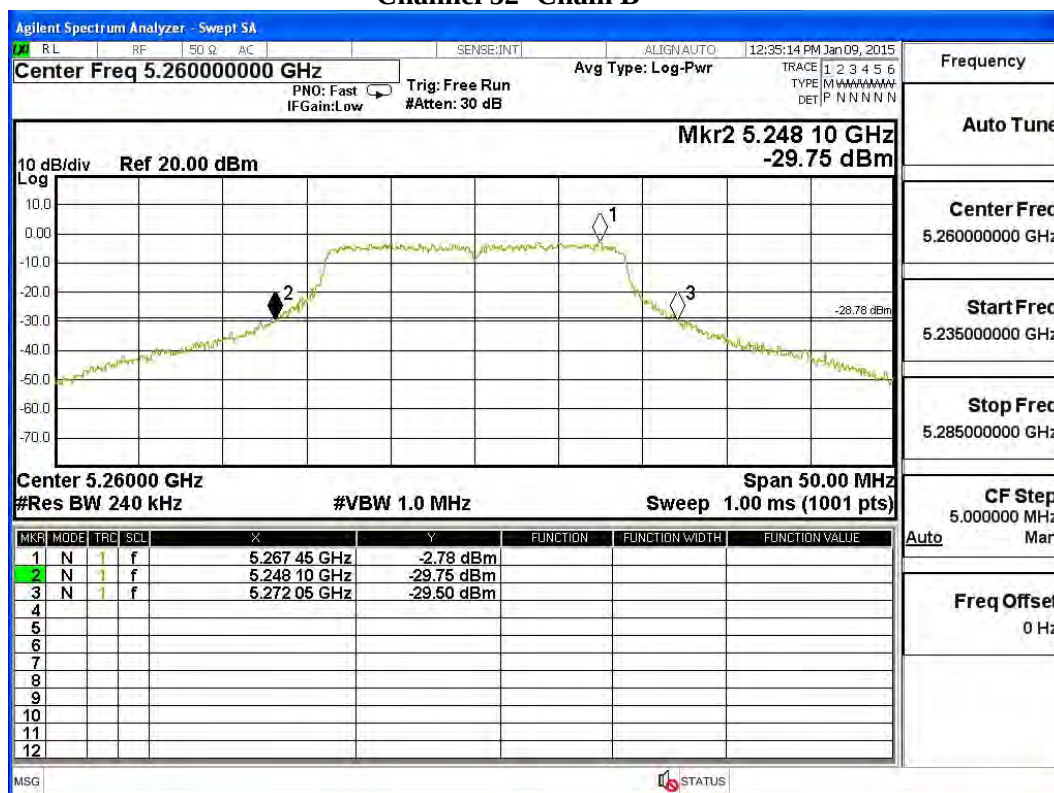
### Channel 44 -Chain B



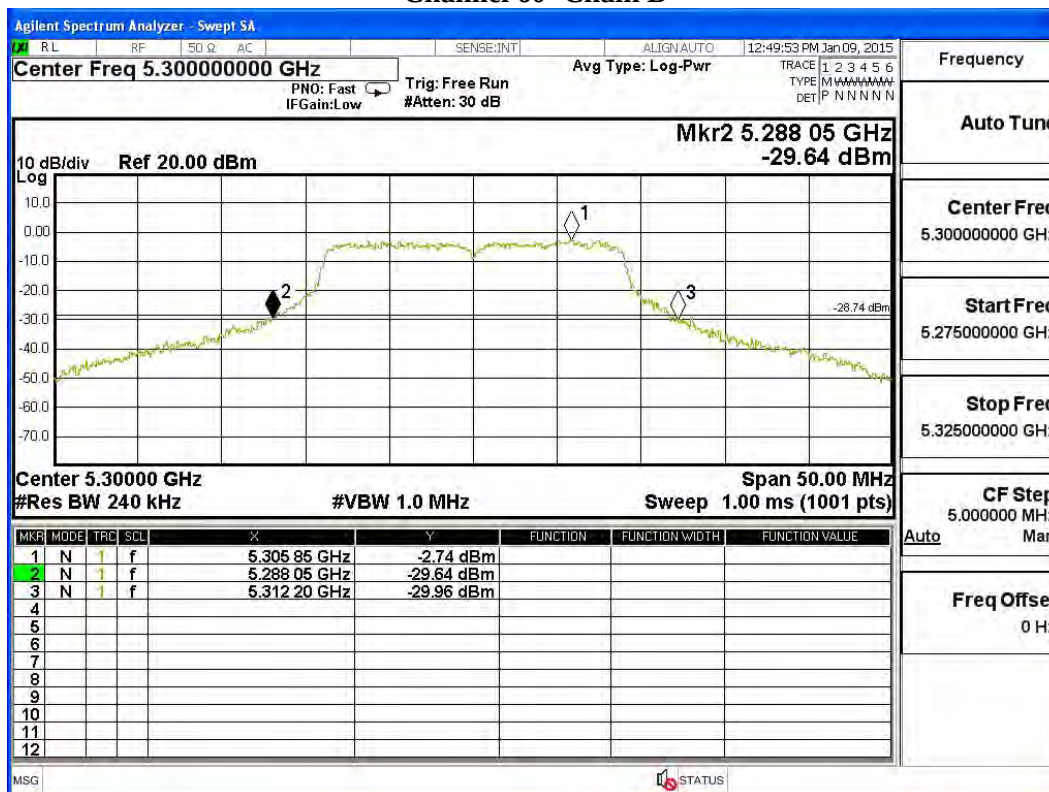
### Channel 48 -Chain B



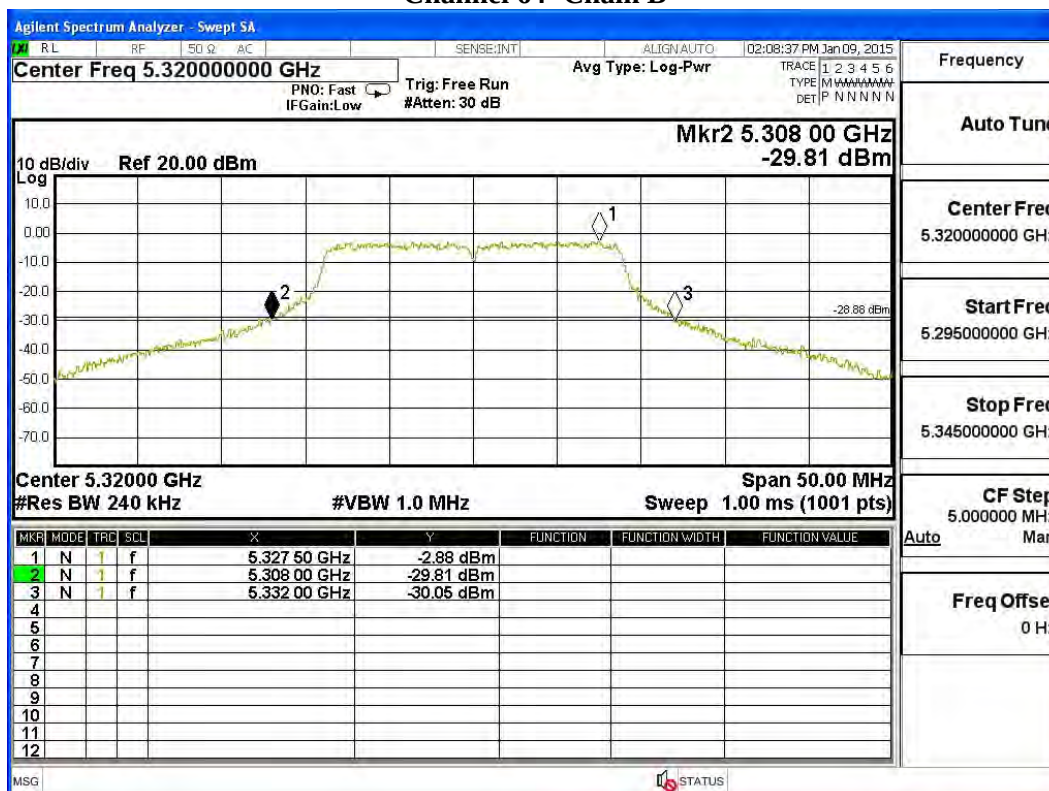
### Channel 52 -Chain B



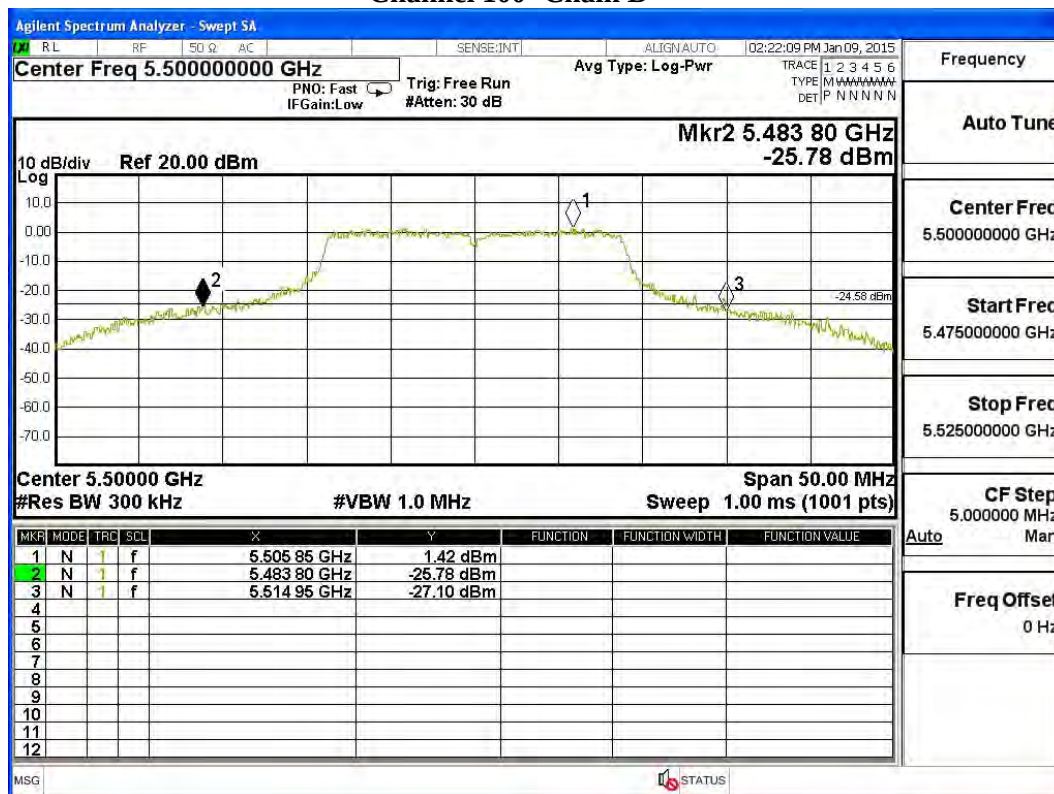
### Channel 60 -Chain B



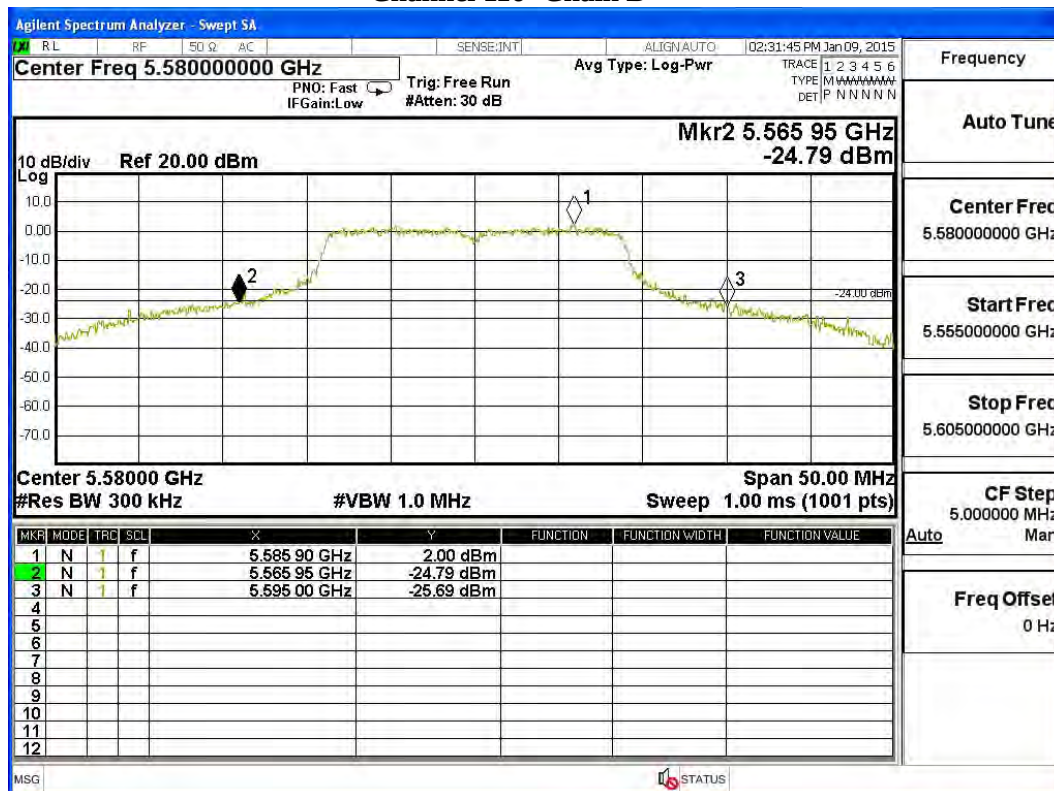
### Channel 64 -Chain B



### Channel 100 -Chain B



### Channel 116 -Chain B



Agilent Spectrum Analyzer - Swept SA

RL RF 50  $\Omega$  AC SENSE:INT ALIGN:AUTO 02:45:22 PM Jan 09, 2015

Center Freq 5.700000000 GHz PNO: Fast Trig: Free Run Avg Type: Log-Pwr

IF Gain: Low #Atten: 30 dB TRACE 1 2 3 4 5 6 TYPE M M M M M M M M DET P N N N N N N

10 dB/div Ref 20.00 dBm

Mkr2 5.687 50 GHz -28.23 dBm

Center 5.70000 GHz Span 50.00 MHz

#Res BW 240 kHz #VBW 1.0 MHz Sweep 1.00 ms (1001 pts)

| Mkr | MODE | TRC | SCL | X            | Y          | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|-----|------|-----|-----|--------------|------------|----------|----------------|----------------|
| 1   | N    | f   | f   | 5.698 60 GHz | -0.90 dBm  |          |                |                |
| 2   | N    | f   | f   | 5.687 50 GHz | -28.23 dBm |          |                |                |
| 3   | N    | f   | f   | 5.712 05 GHz | -27.29 dBm |          |                |                |
| 4   |      |     |     |              |            |          |                |                |
| 5   |      |     |     |              |            |          |                |                |
| 6   |      |     |     |              |            |          |                |                |
| 7   |      |     |     |              |            |          |                |                |
| 8   |      |     |     |              |            |          |                |                |
| 9   |      |     |     |              |            |          |                |                |
| 10  |      |     |     |              |            |          |                |                |
| 11  |      |     |     |              |            |          |                |                |
| 12  |      |     |     |              |            |          |                |                |

Frequency

Auto Tune

Center Freq 5.700000000 GHz

Start Freq 5.675000000 GHz

Stop Freq 5.725000000 GHz

CF Step 5.000000 MHz

Auto Man

Freq Offset 0 Hz

MSG STATUS

Product : Wireless Access Point  
 Test Item : Maximum conducted output power  
 Test Site : No.3 OATS  
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (Internal Antenna)

#### 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            | 8.31                           | --   | --   | --   | --   | --   | --   | --   | <17dBm         |
| 46             | 5230            | 9.92                           | 9.83 | 9.72 | 9.65 | 9.54 | 9.47 | 9.37 | 9.25 | <17dBm         |

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            | 7.67                           | --   | --  | --   | --   | --   | --   | --   | <17dBm         |
| 46             | 5230            | 9.47                           | 9.34 | 9.2 | 9.08 | 8.91 | 8.82 | 8.67 | 8.55 | <17dBm         |

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

**Maximum conducted output power Measurement:**

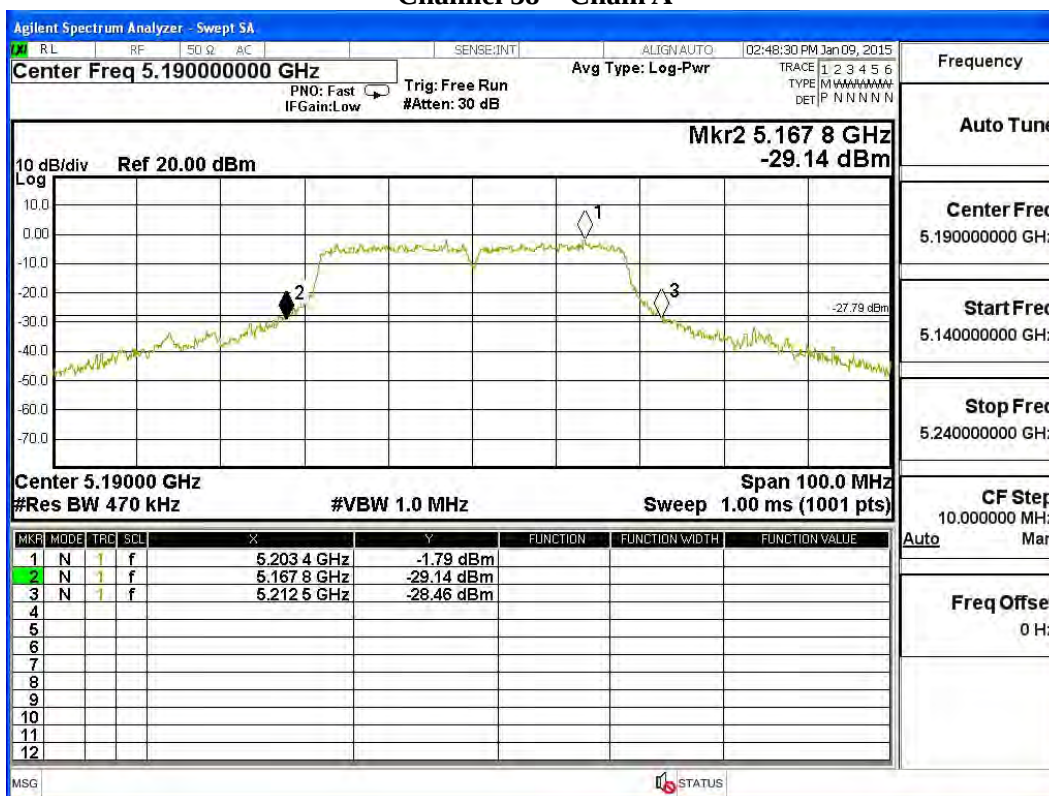
**(CHAIN A+ B)**

| 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            | 44.700               | 8.31                | 7.67                | 11.01              | 17                 | 20.50         |
| 46             | 5230            | 46.400               | 9.92                | 9.47                | 12.71              | 17                 | 20.67         |

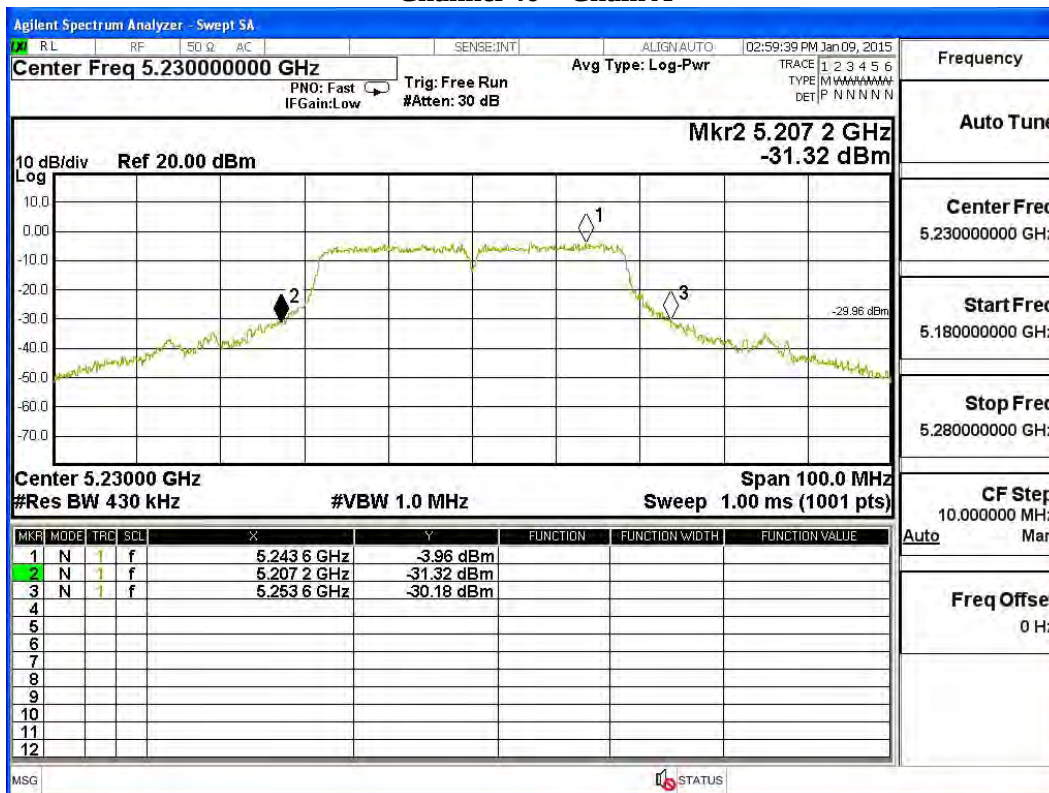
Note:

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.

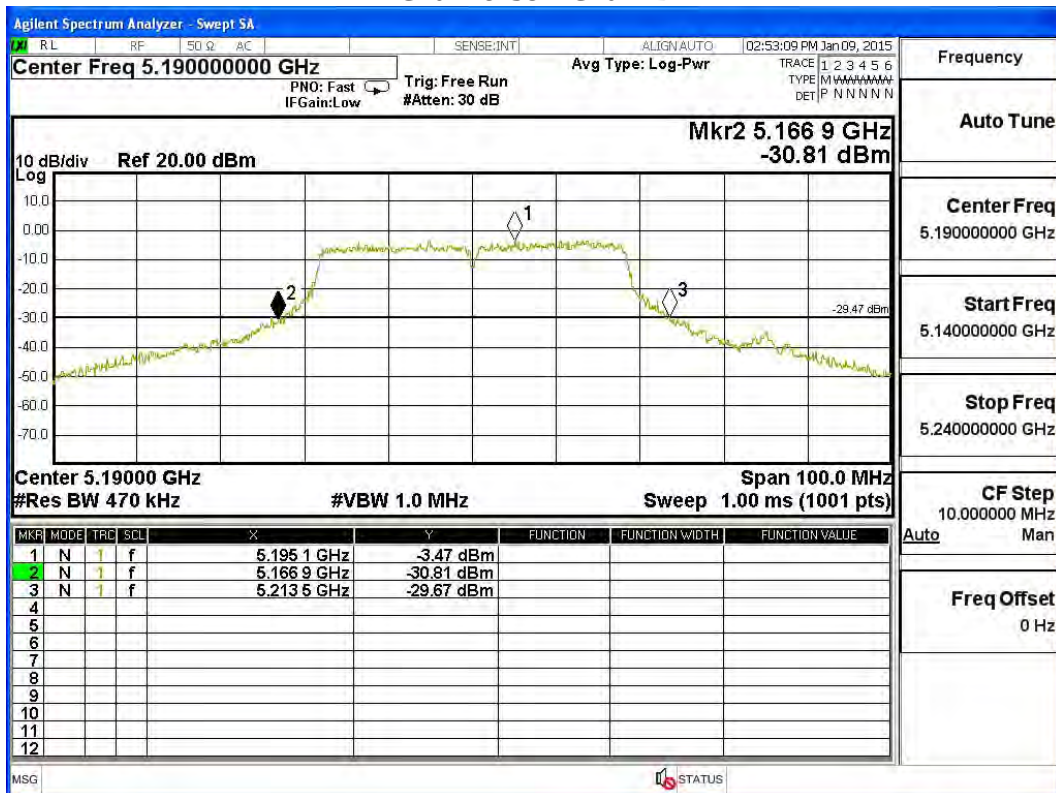
# 26dBc Occupied Bandwidth: Channel 38 – Chain A



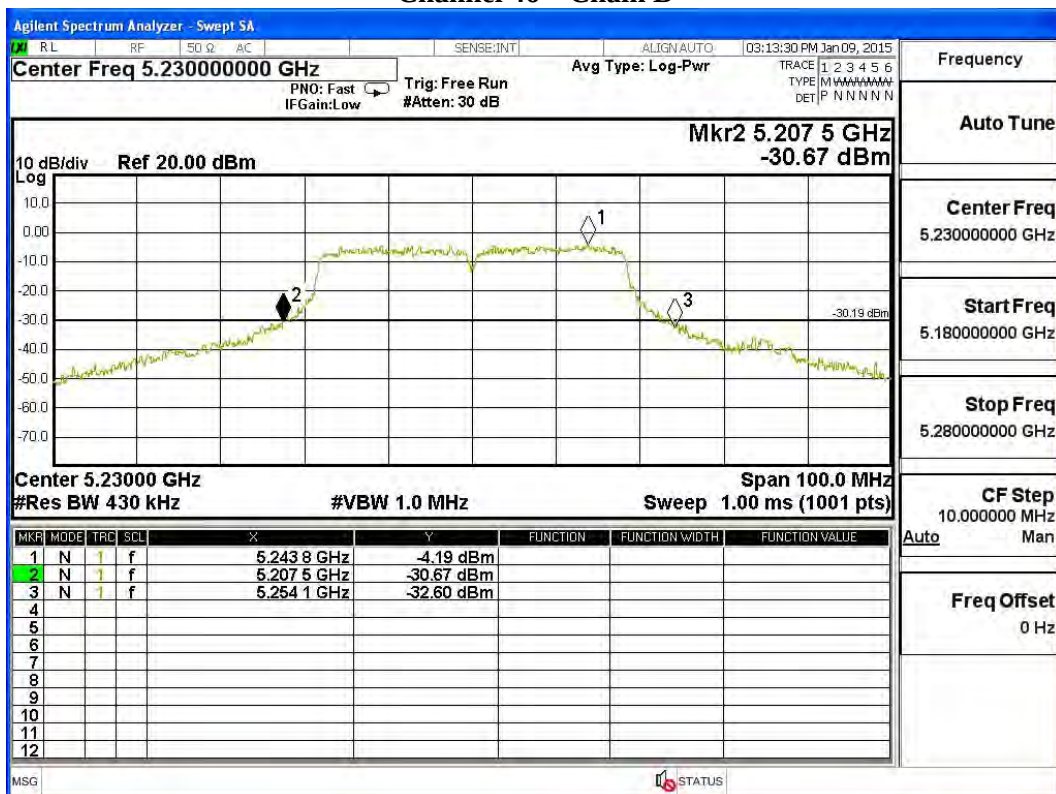
# Channel 46 – Chain A



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



### Channel 46 – Chain B



Product : Wireless Access Point  
Test Item : Maximum conducted output power  
Test Site : No.3 OATS  
Test Mode : Mode 1: Transmit (802.11a-6Mbps) (External Antenna)

#### 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            | 10.24                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 44             | 5220            | 10.28                          | 10.21 | 10.18 | 10.07 | 10.01 | 9.91  | 9.86  | 9.79  | <17dBm         |
| 48             | 5240            | 10.2                           | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 52             | 5260            | 10.13                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 60             | 5300            | 9.75                           | 9.61  | 9.46  | 9.38  | 9.19  | 9.08  | 8.91  | 8.84  | <24dBm         |
| 64             | 5320            | 9.53                           | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 100            | 5500            | 11.22                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 116            | 5580            | 11.47                          | 11.34 | 11.26 | 11.18 | 10.96 | 10.82 | 10.71 | 10.66 | <24dBm         |
| 140            | 5700            | 8.41                           | --    | --    | --    | --    | --    | --    | --    | <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            | 10.11                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 44             | 5220            | 10.15                          | 10.05 | 10.01 | 9.94  | 9.81  | 9.77  | 9.62  | 9.55  | <17dBm         |
| 48             | 5240            | 10.1                           | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 52             | 5260            | 10.06                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 60             | 5300            | 9.66                           | 9.52  | 9.44  | 9.31  | 9.15  | 9.02  | 8.81  | 8.77  | <24dBm         |
| 64             | 5320            | 9.47                           | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 100            | 5500            | 11.09                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 116            | 5580            | 11.34                          | 11.25 | 11.16 | 11.05 | 10.94 | 10.72 | 10.64 | 10.54 | <24dBm         |
| 140            | 5700            | 8.32                           | --    | --    | --    | --    | --    | --    | --    | <24dBm         |

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

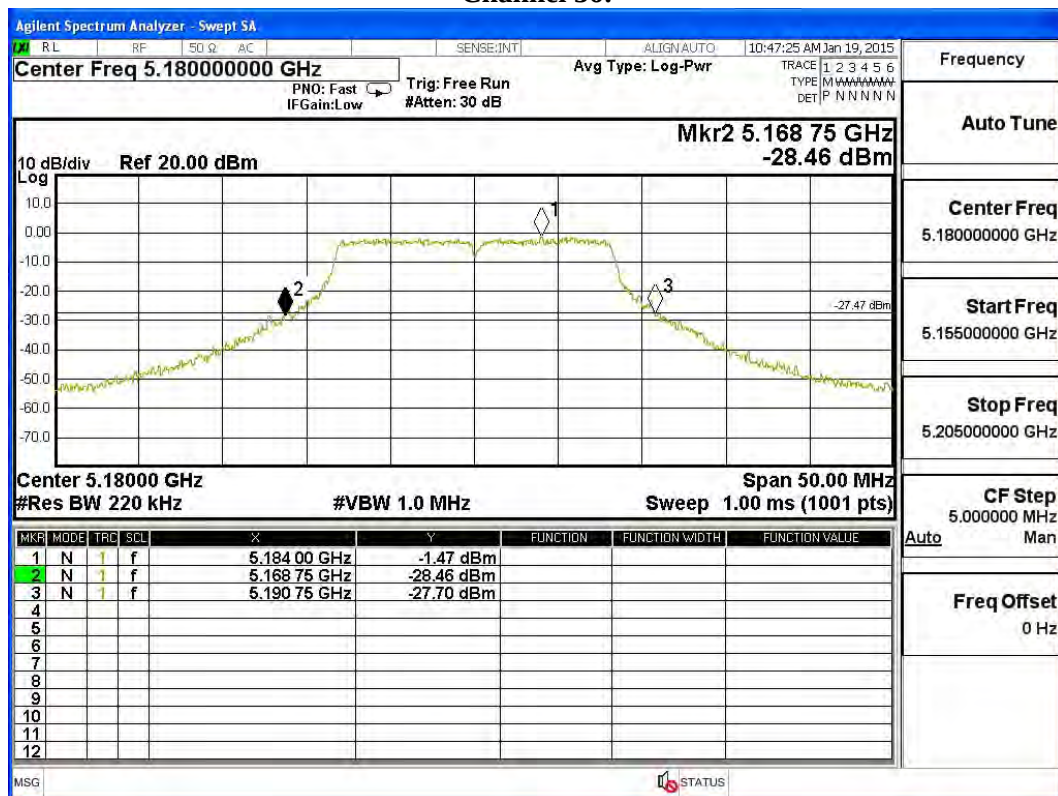
### Maximum conducted output power Measurement:

| Channel No | Frequency Range<br>(MHz) | 26dB Bandwidth<br>(MHz) | Output Power<br>(dBm) | Output Power Limit |               |
|------------|--------------------------|-------------------------|-----------------------|--------------------|---------------|
|            |                          |                         |                       | (dBm)              | dBm+10log(BW) |
| 36         | 5180                     | 22.000                  | 10.24                 | 17                 | 17.42         |
| 44         | 5220                     | 21.900                  | 10.28                 | 17                 | 17.40         |
| 48         | 5240                     | 21.800                  | 10.2                  | 17                 | 17.38         |
| 52         | 5260                     | 22.950                  | 10.13                 | 24                 | 24.61         |
| 60         | 5300                     | 22.750                  | 9.75                  | 24                 | 24.57         |
| 64         | 5320                     | 22.150                  | 9.53                  | 24                 | 24.45         |
| 100        | 5500                     | 22.300                  | 11.22                 | 24                 | 24.48         |
| 116        | 5580                     | 21.850                  | 11.47                 | 24                 | 24.39         |
| 140        | 5700                     | 22.400                  | 8.41                  | 24                 | 24.50         |

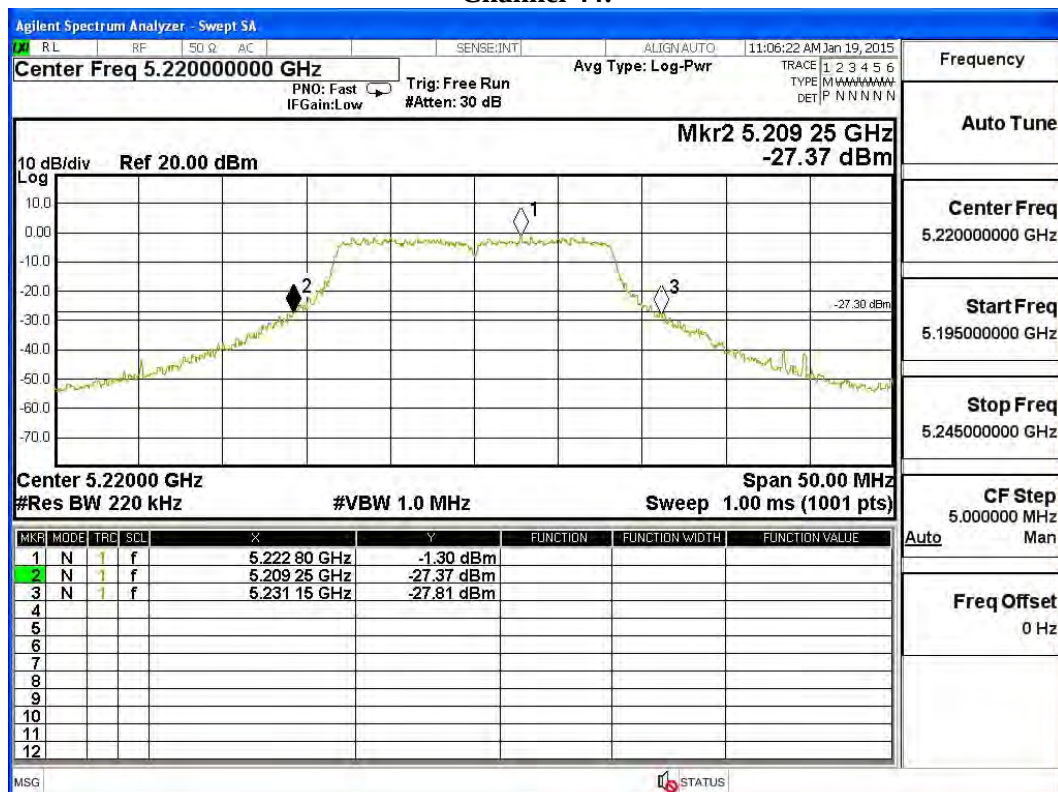
Note:

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

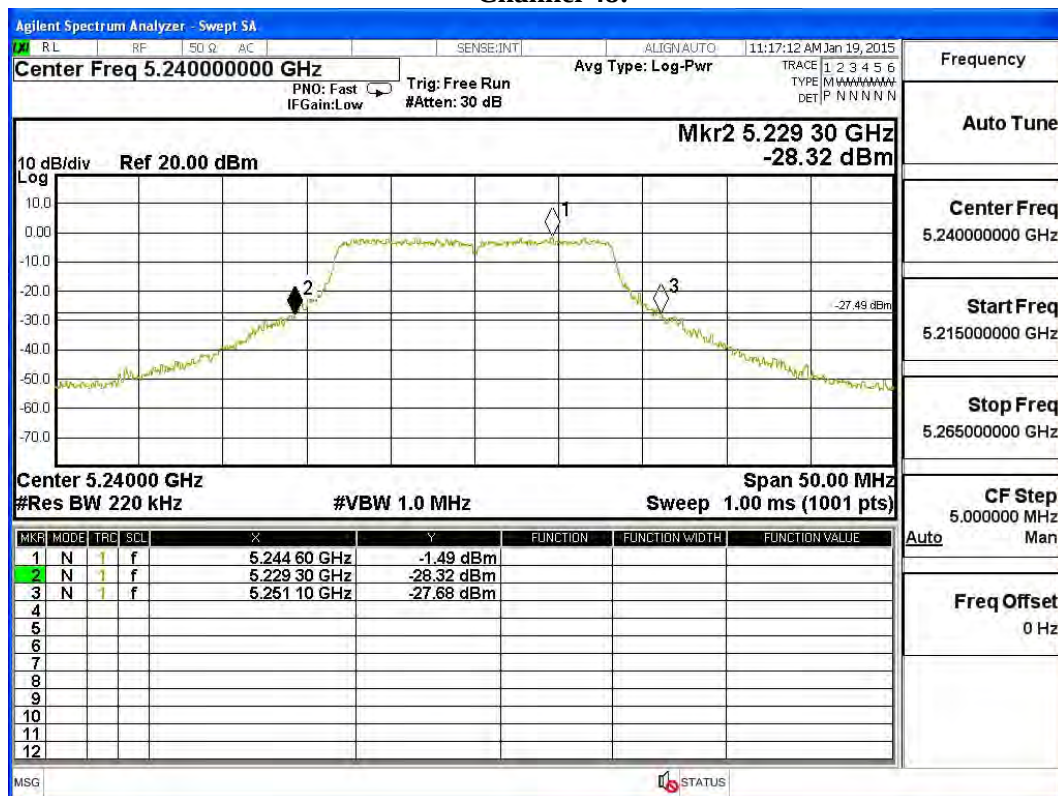
### 26dBc Occupied Bandwidth: Channel 36:



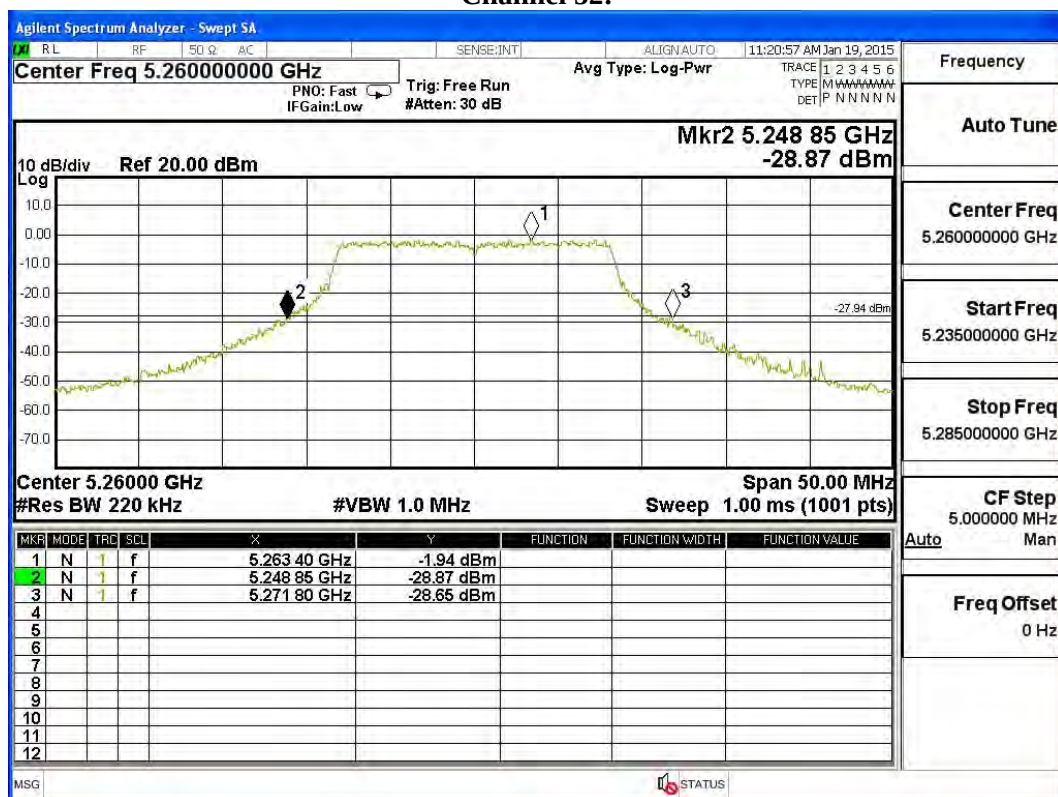
### Channel 44:



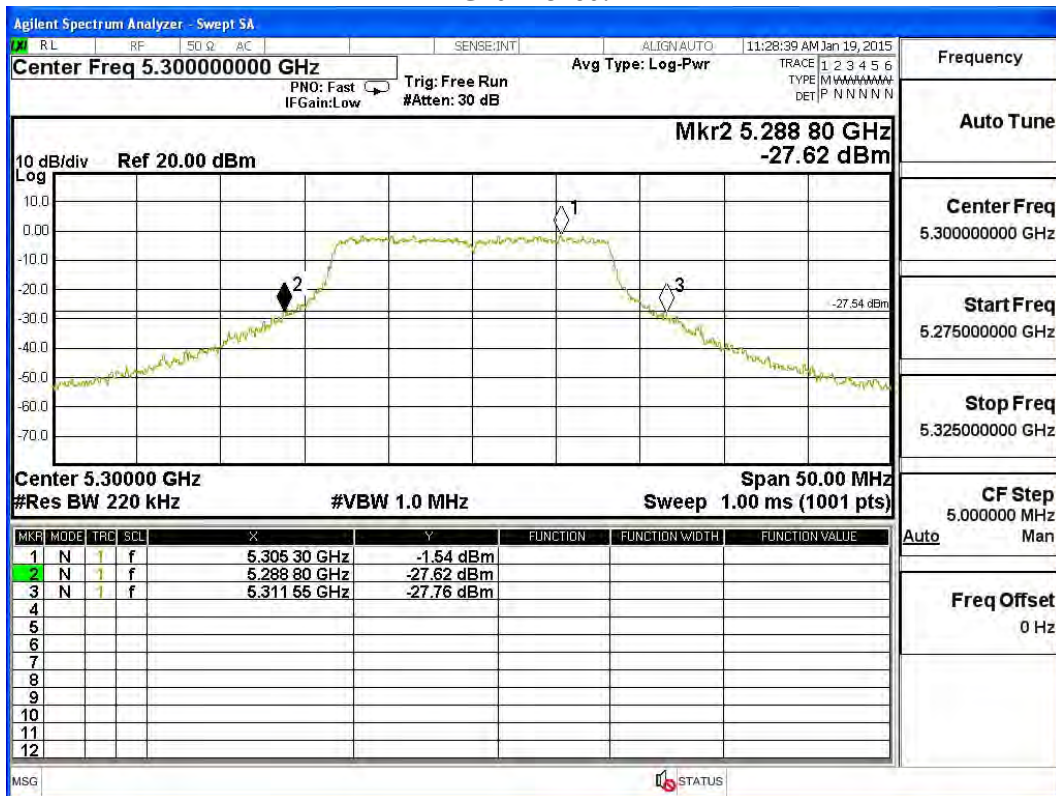
Channel 48:



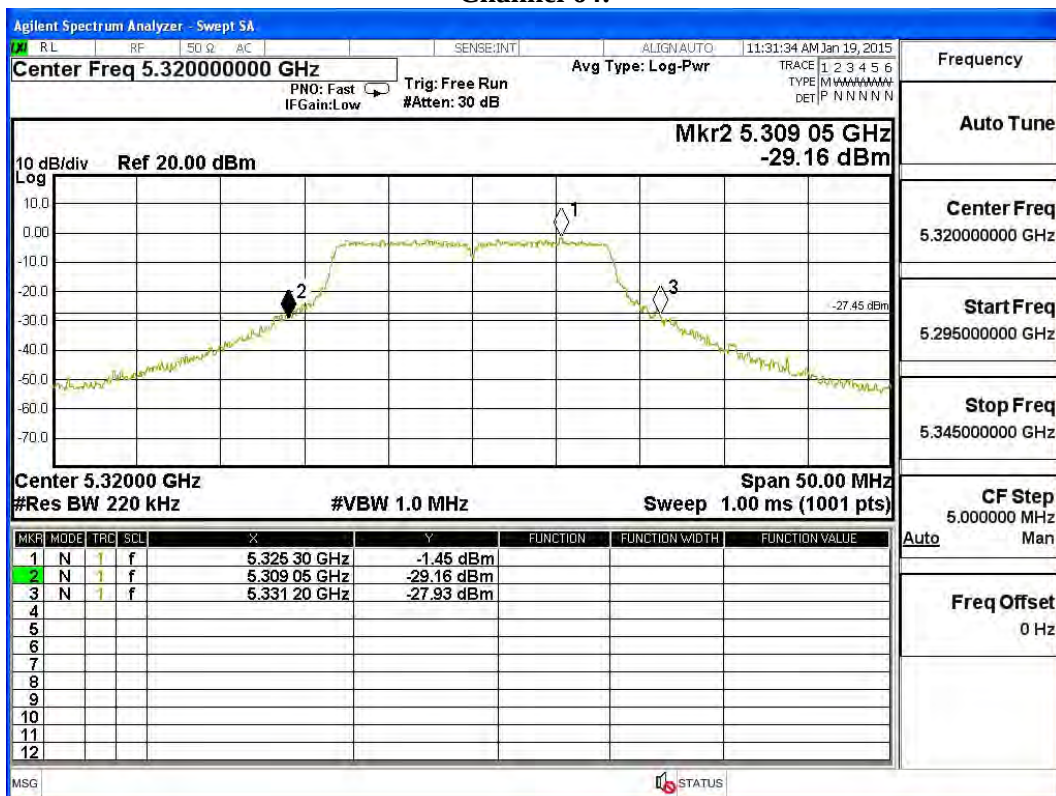
Channel 52:



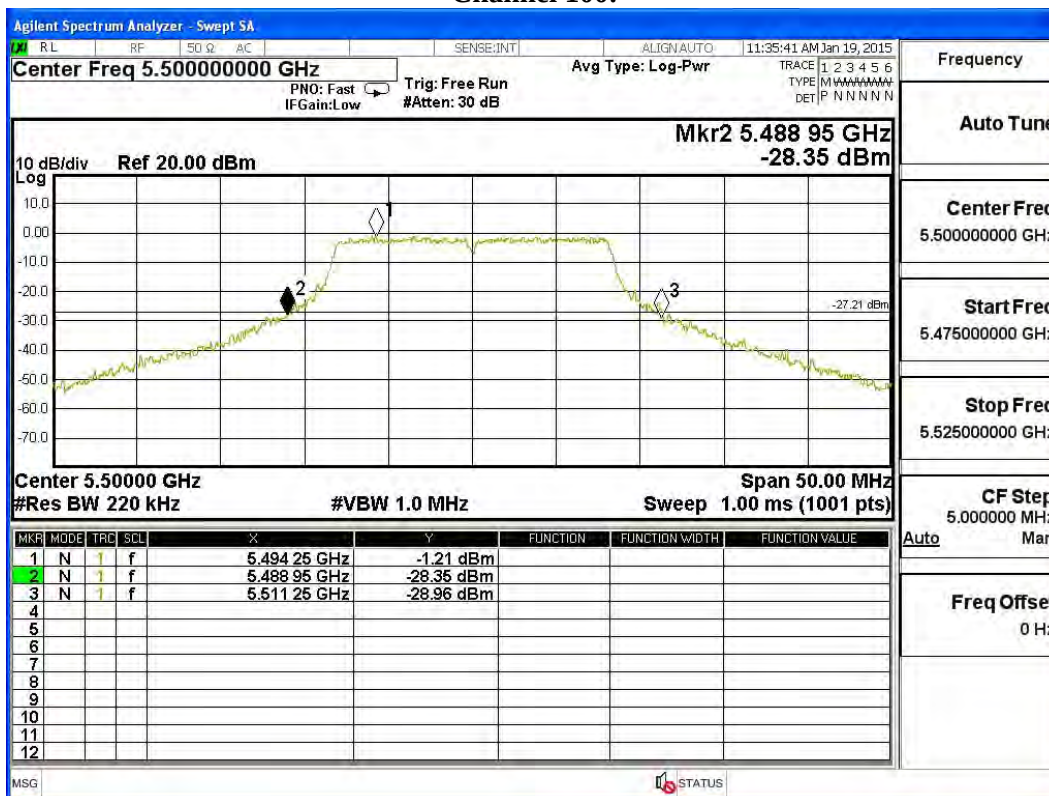
### Channel 60:



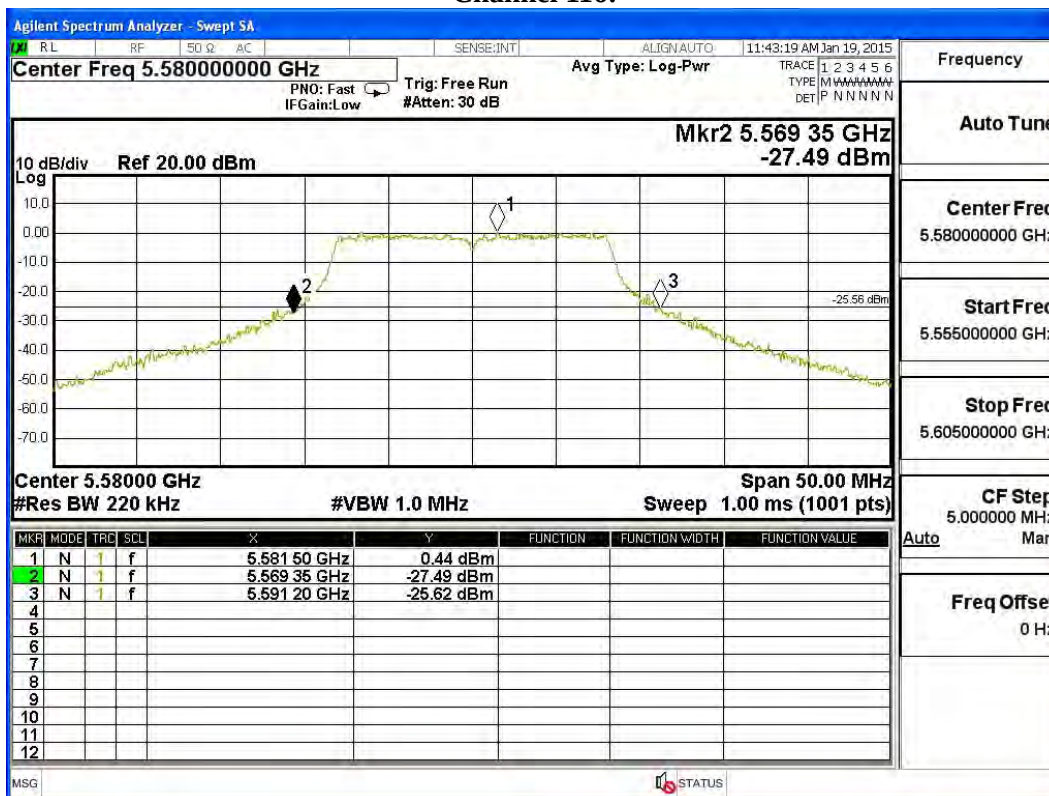
### Channel 64:



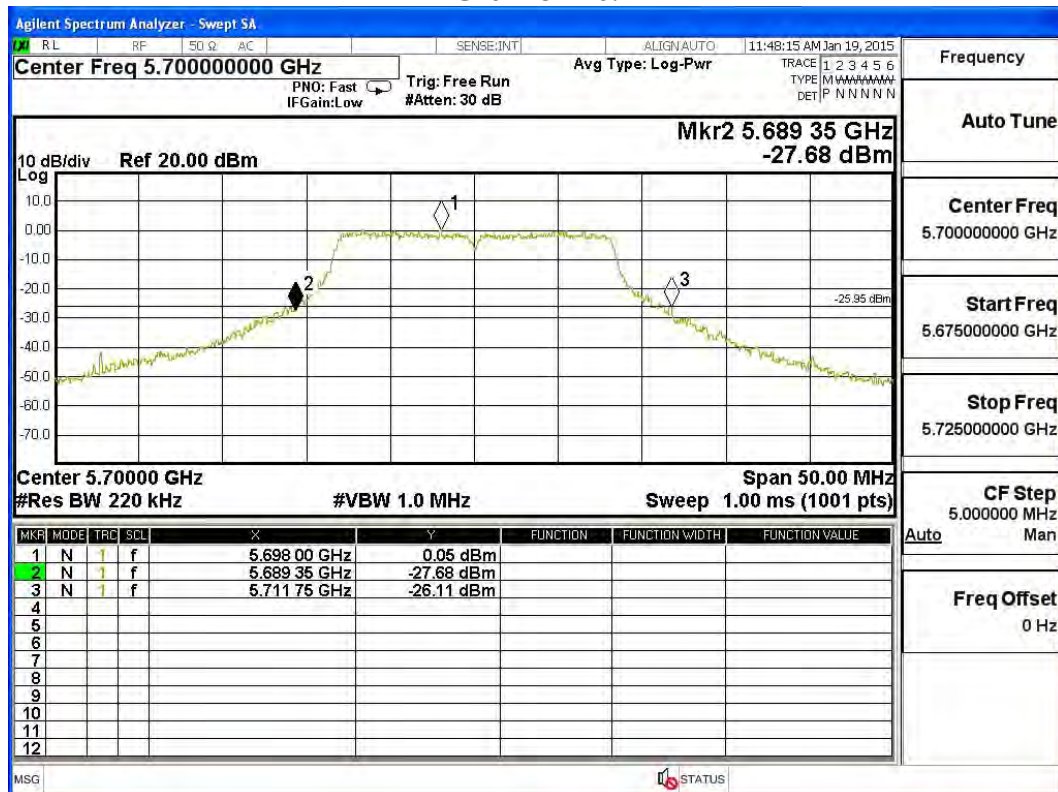
### Channel 100:



### Channel 116:



Channel 140:



Product : Wireless Access Point  
Test Item : Maximum conducted output power  
Test Site : No.3 OATS  
Test Mode : Mode 2: Transmit (802.11n-20BW 14.4Mbps) (External Antenna)

### 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            | 10.13                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 44             | 5220            | 10.12                          | 10.04 | 9.95  | 9.88  | 9.82  | 9.71  | 9.64  | 9.58  | <17dBm         |
| 48             | 5240            | 10.13                          | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 52             | 5260            | 9.94                           | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 60             | 5300            | 9.57                           | 9.51  | 9.46  | 9.39  | 9.32  | 9.27  | 9.24  | 9.15  | <24dBm         |
| 64             | 5320            | 9.31                           | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 100            | 5500            | 11.82                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 116            | 5580            | 12                             | 11.94 | 11.88 | 11.85 | 11.76 | 11.68 | 11.64 | 11.51 | <24dBm         |
| 140            | 5700            | 9.08                           | --    | --    | --    | --    | --    | --    | --    | <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            | 9.11                           | --    | --    | --    | --    | --    | --   | --    | <17dBm         |
| 44             | 5220            | 9.31                           | 9.22  | 9.14  | 9.08  | 8.95  | 8.81  | 8.77 | 8.65  | <17dBm         |
| 48             | 5240            | 9.25                           | --    | --    | --    | --    | --    | --   | --    | <17dBm         |
| 52             | 5260            | 9.57                           | --    | --    | --    | --    | --    | --   | --    | <24dBm         |
| 60             | 5300            | 9.82                           | 9.77  | 9.72  | 9.66  | 9.62  | 9.55  | 9.52 | 9.41  | <24dBm         |
| 64             | 5320            | 9.82                           | --    | --    | --    | --    | --    | --   | --    | <24dBm         |
| 100            | 5500            | 12.37                          | --    | --    | --    | --    | --    | --   | --    | <24dBm         |
| 116            | 5580            | 11.96                          | 11.85 | 11.74 | 11.63 | 11.52 | 11.45 | 11.3 | 11.12 | <24dBm         |
| 140            | 5700            | 10.31                          | --    | --    | --    | --    | --    | --   | --    | <24dBm         |

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

### Maximum conducted output power Measurement:

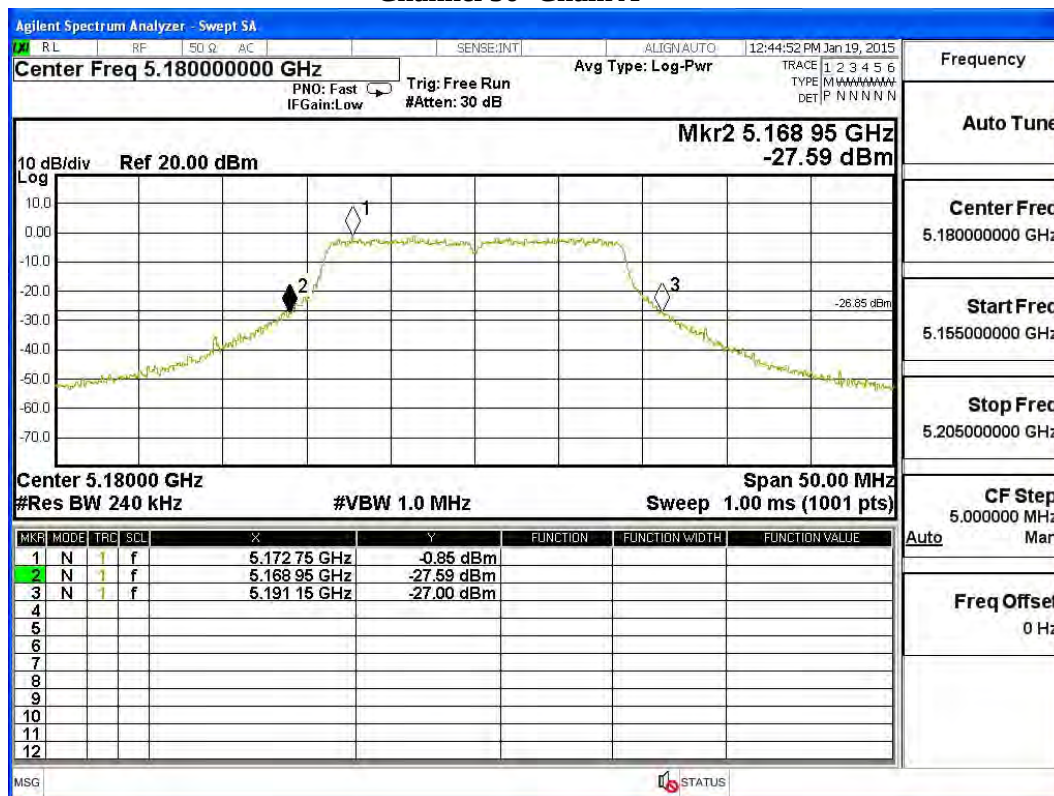
(CHAIN A+ B)

| 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            | 22.200               | 10.13               | 9.11                | 12.66              | 17                 | 17.46         |
| 44             | 5220            | 23.100               | 10.12               | 9.31                | 12.74              | 17                 | 17.64         |
| 48             | 5240            | 22.150               | 10.13               | 9.25                | 12.72              | 17                 | 17.45         |
| 52             | 5260            | 22.300               | 9.94                | 9.57                | 12.77              | 24                 | 24.48         |
| 60             | 5300            | 22.750               | 9.57                | 9.82                | 12.71              | 24                 | 24.57         |
| 64             | 5320            | 22.850               | 9.31                | 9.82                | 12.58              | 24                 | 24.59         |
| 100            | 5500            | 22.600               | 11.82               | 12.37               | 15.11              | 24                 | 24.54         |
| 116            | 5580            | 22.900               | 12.00               | 11.96               | 14.99              | 24                 | 24.60         |
| 140            | 5700            | 23.100               | 9.08                | 10.31               | 12.75              | 24                 | 24.64         |

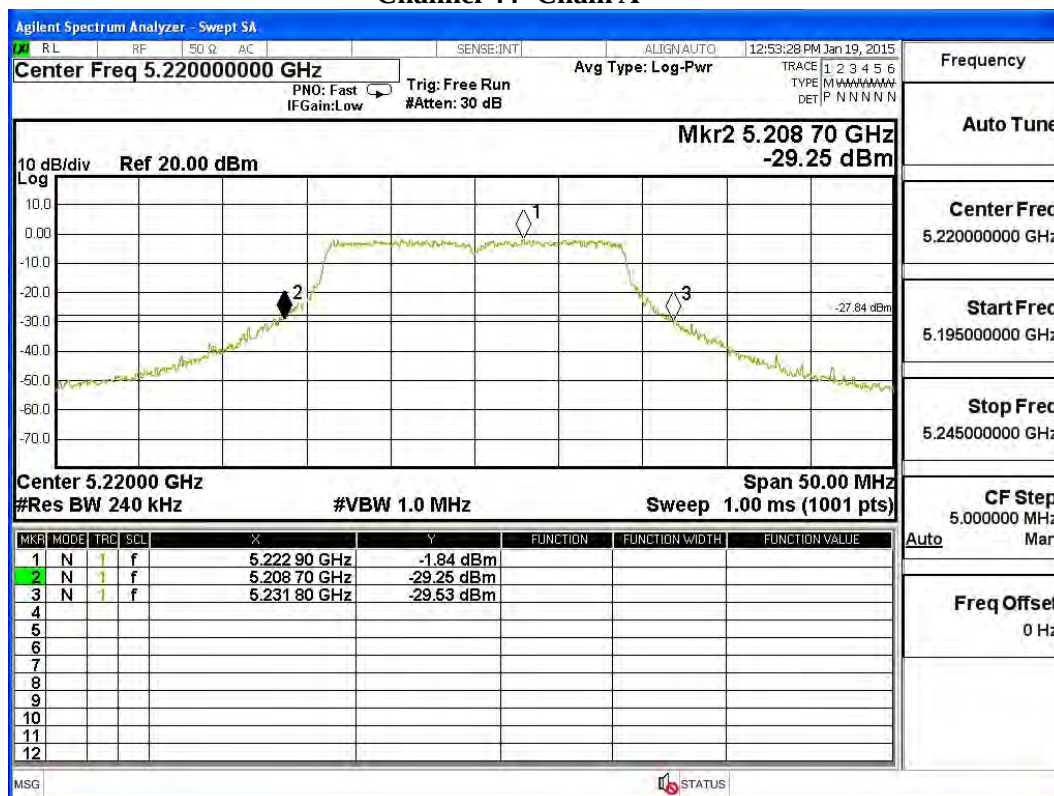
Note:

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.

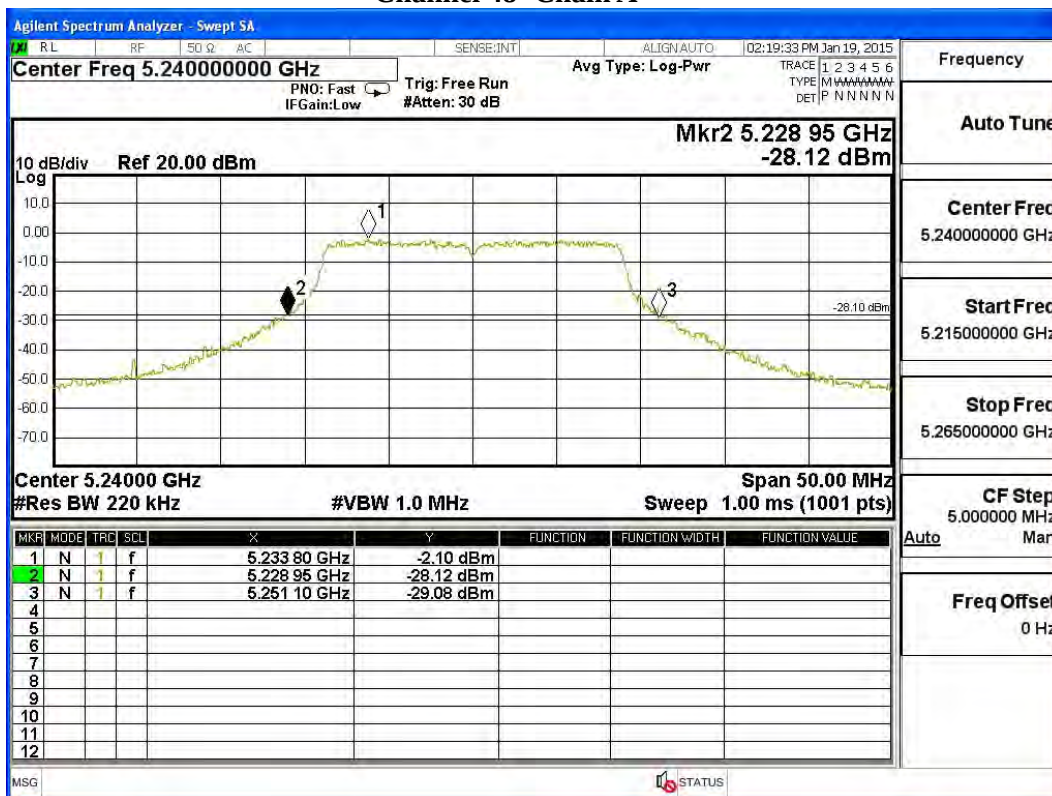
### 26dBc Occupied Bandwidth: Channel 36 -Chain A



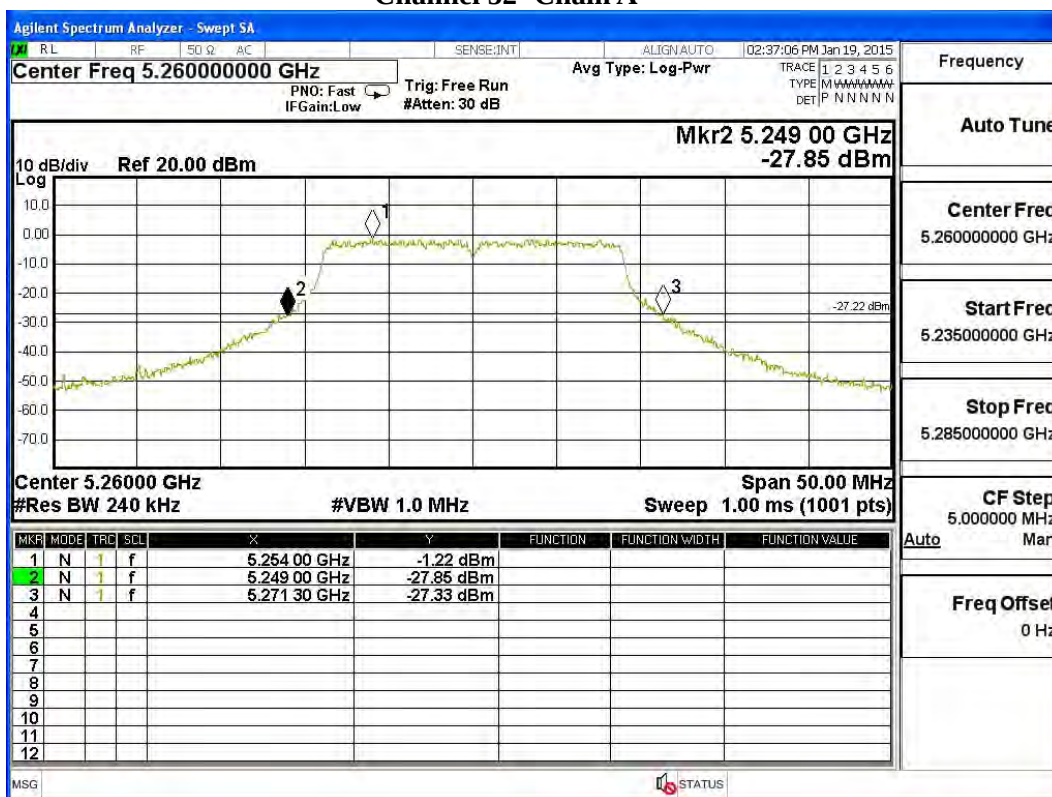
### Channel 44 -Chain A



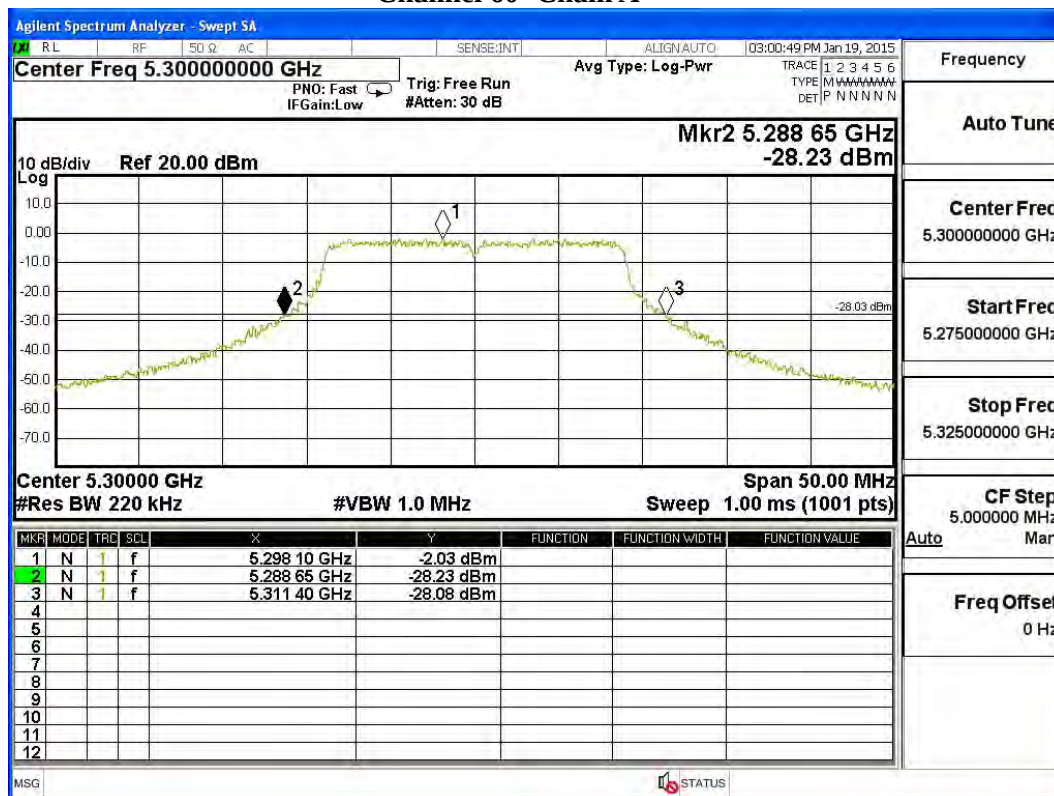
### Channel 48 -Chain A



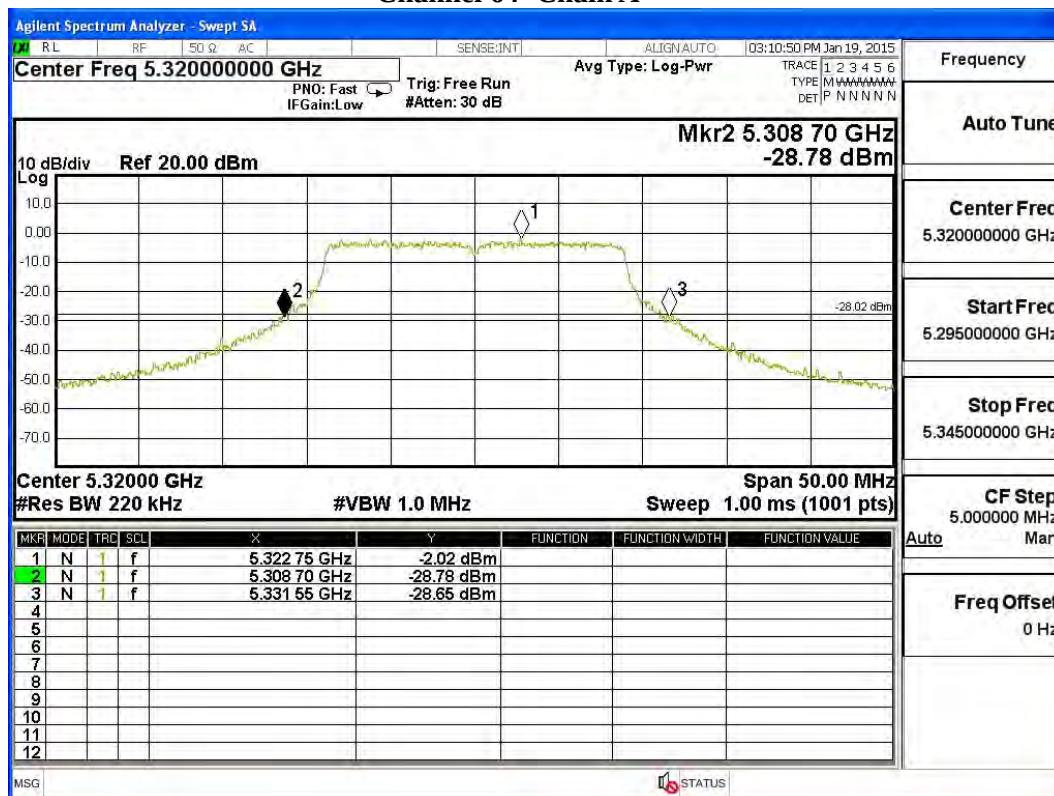
### Channel 52 -Chain A



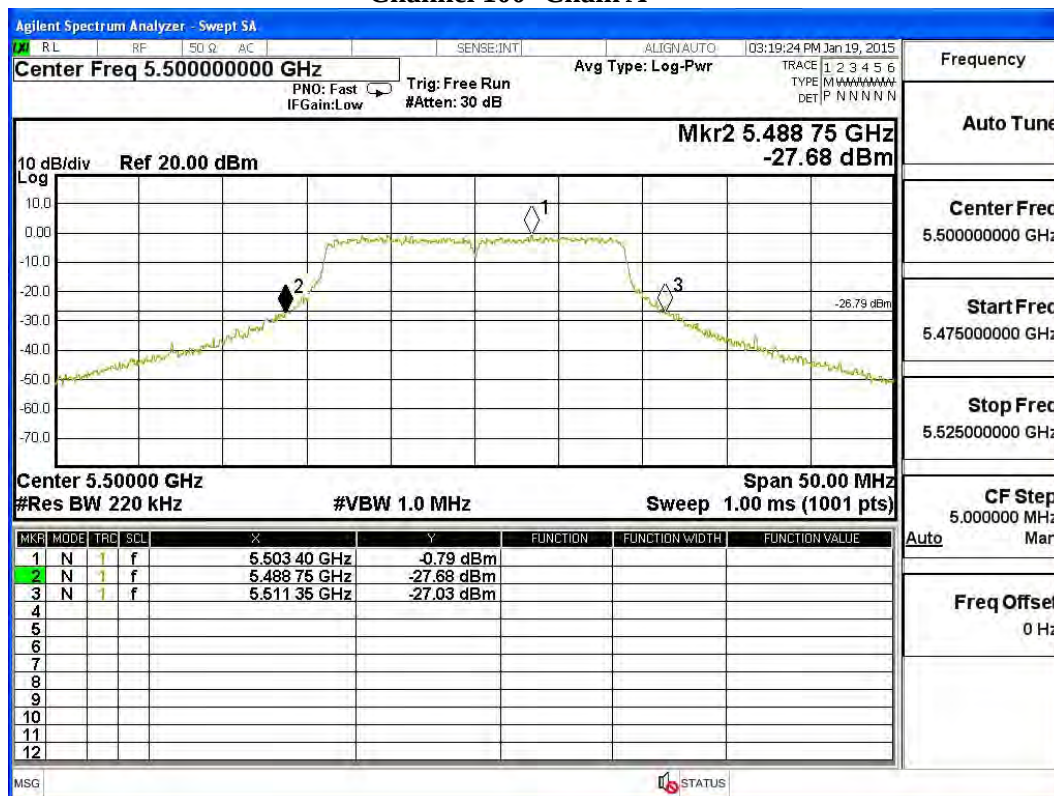
### Channel 60 -Chain A



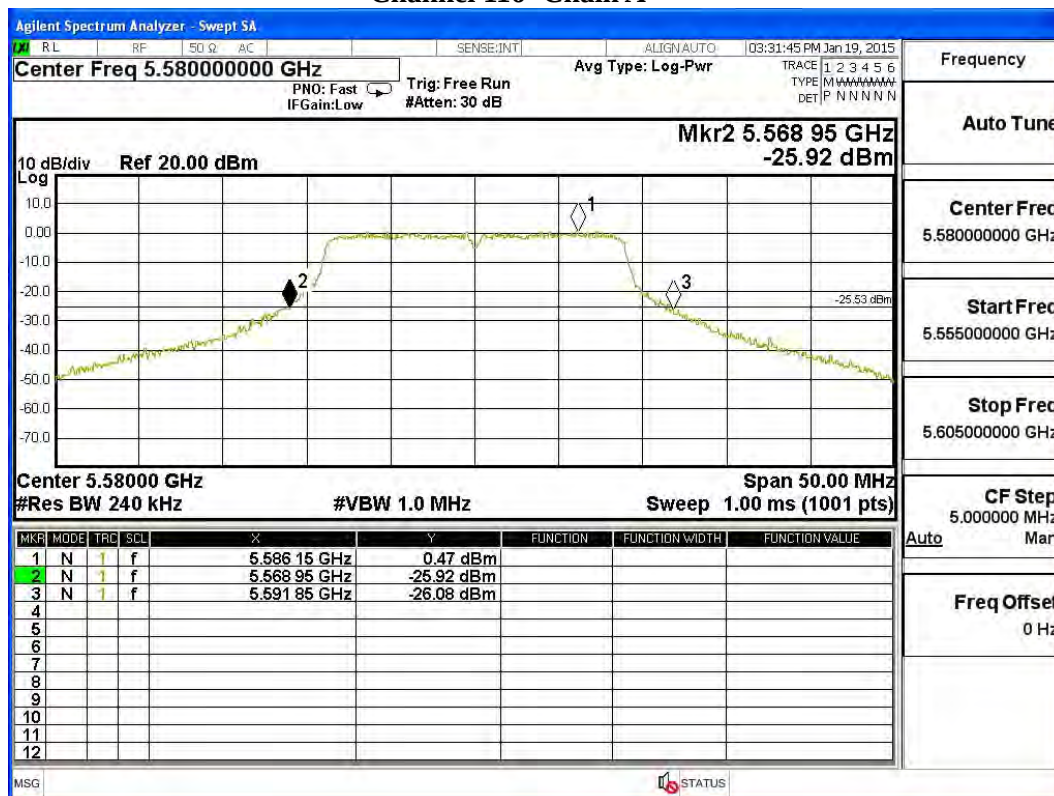
### Channel 64 -Chain A



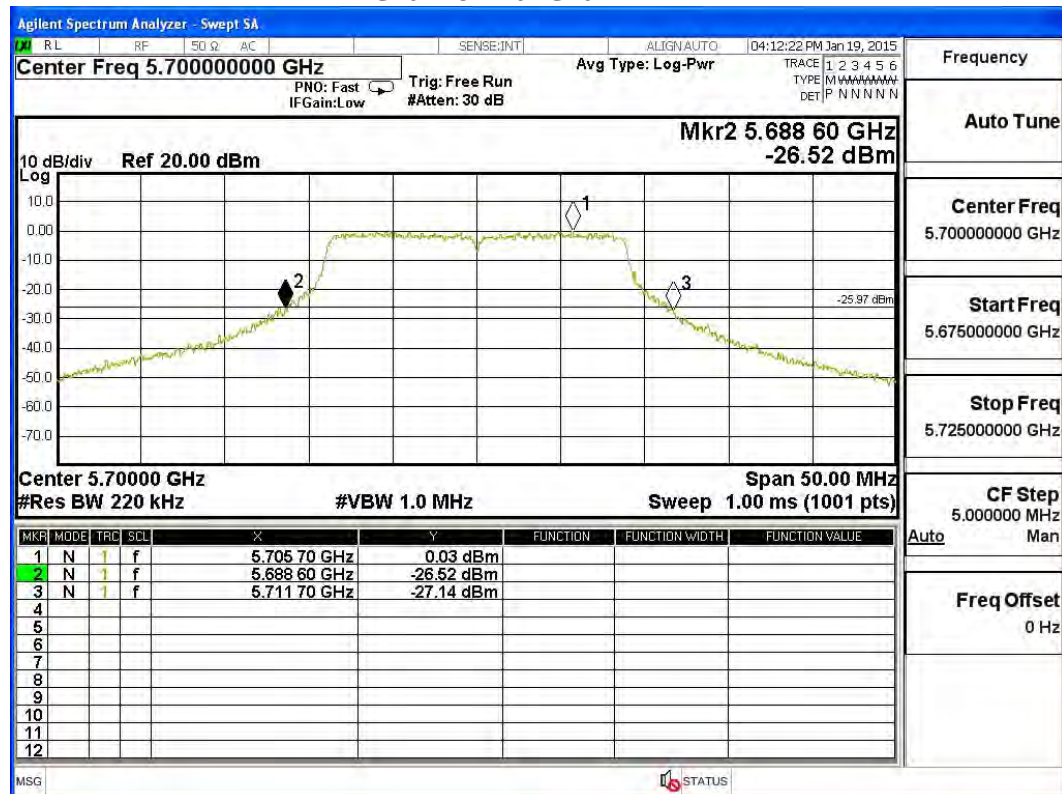
### Channel 100 -Chain A



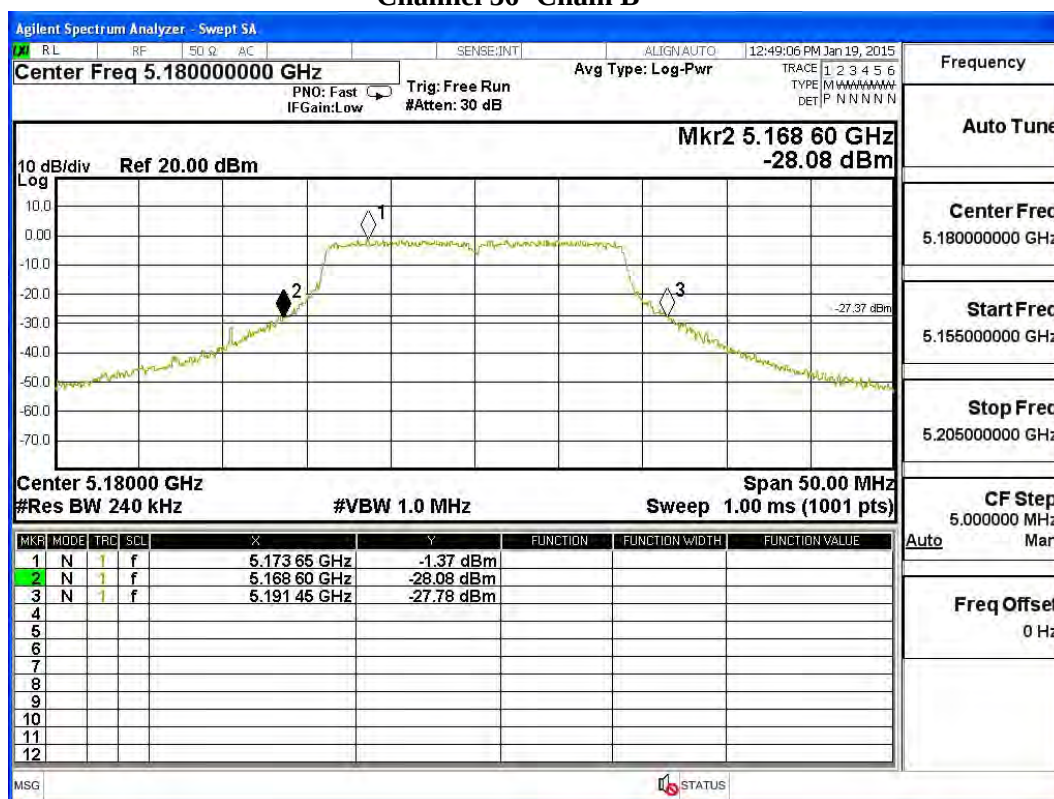
### Channel 116 -Chain A



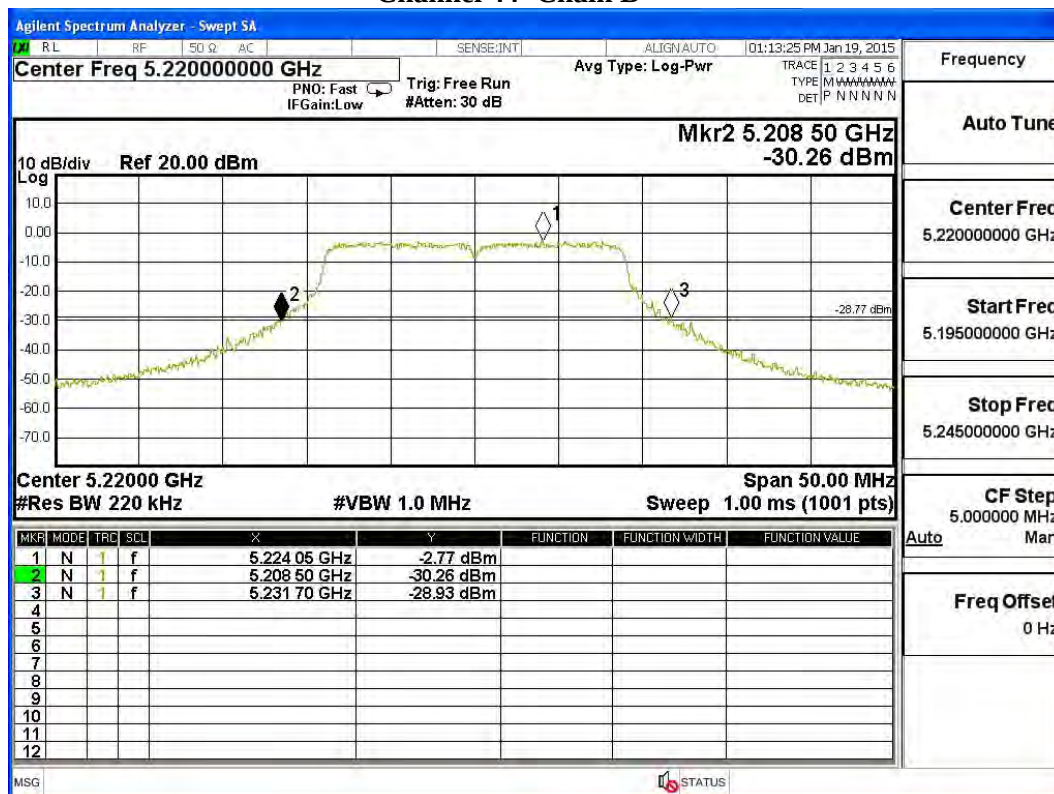
### Channel 140 -Chain A



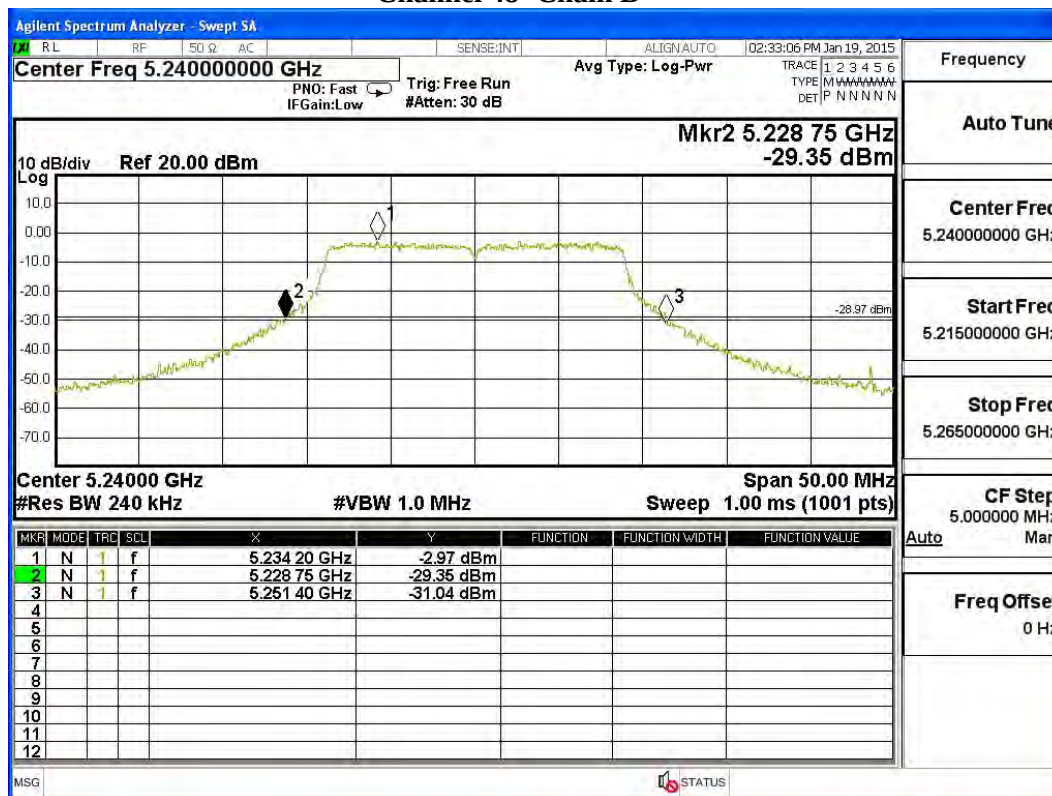
### 26dBc Occupied Bandwidth: Channel 36 -Chain B



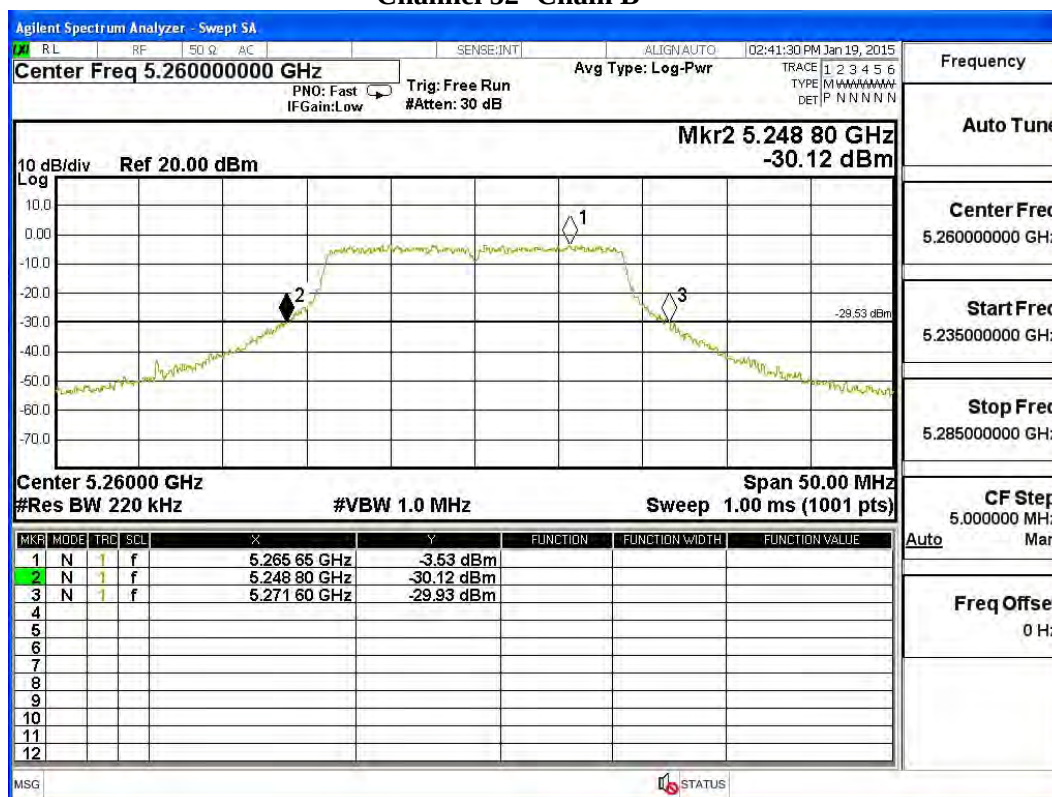
### Channel 44 -Chain B



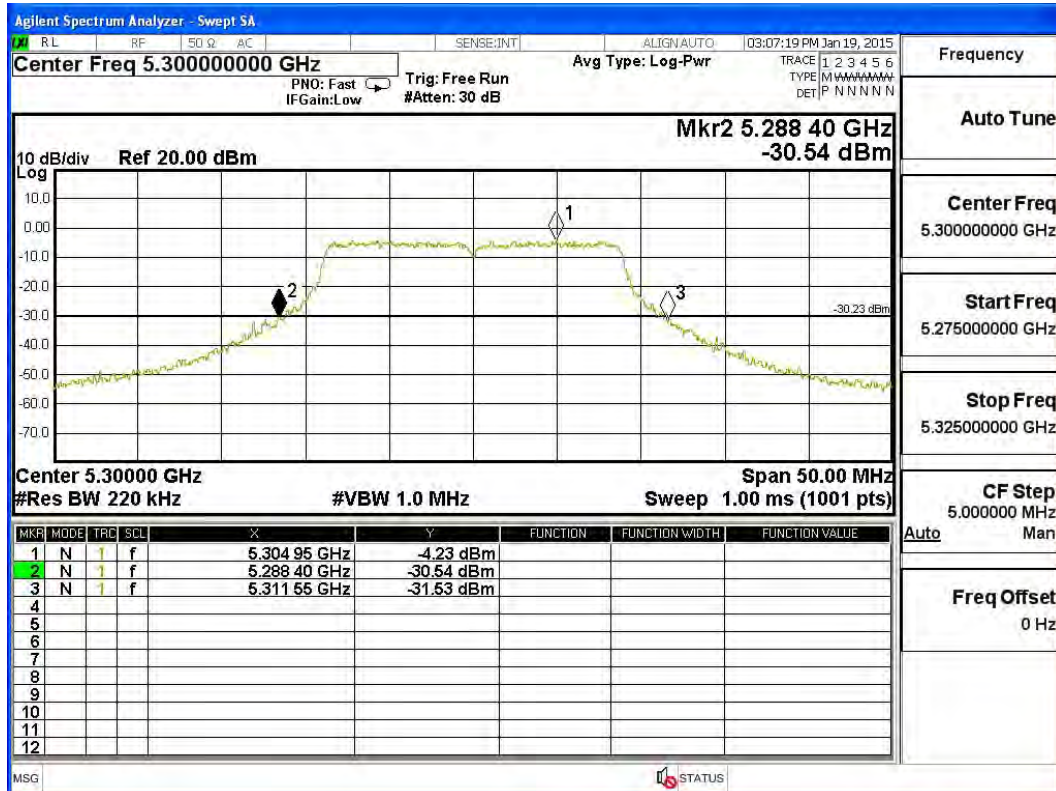
### Channel 48 -Chain B



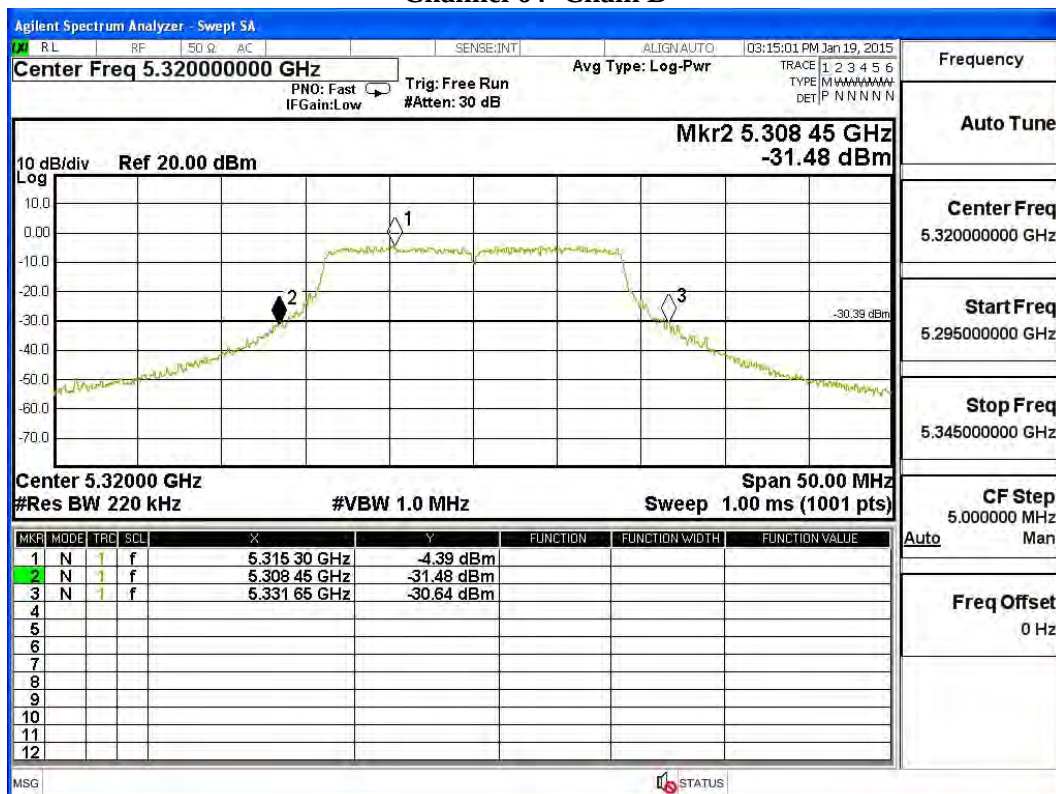
### Channel 52 -Chain B



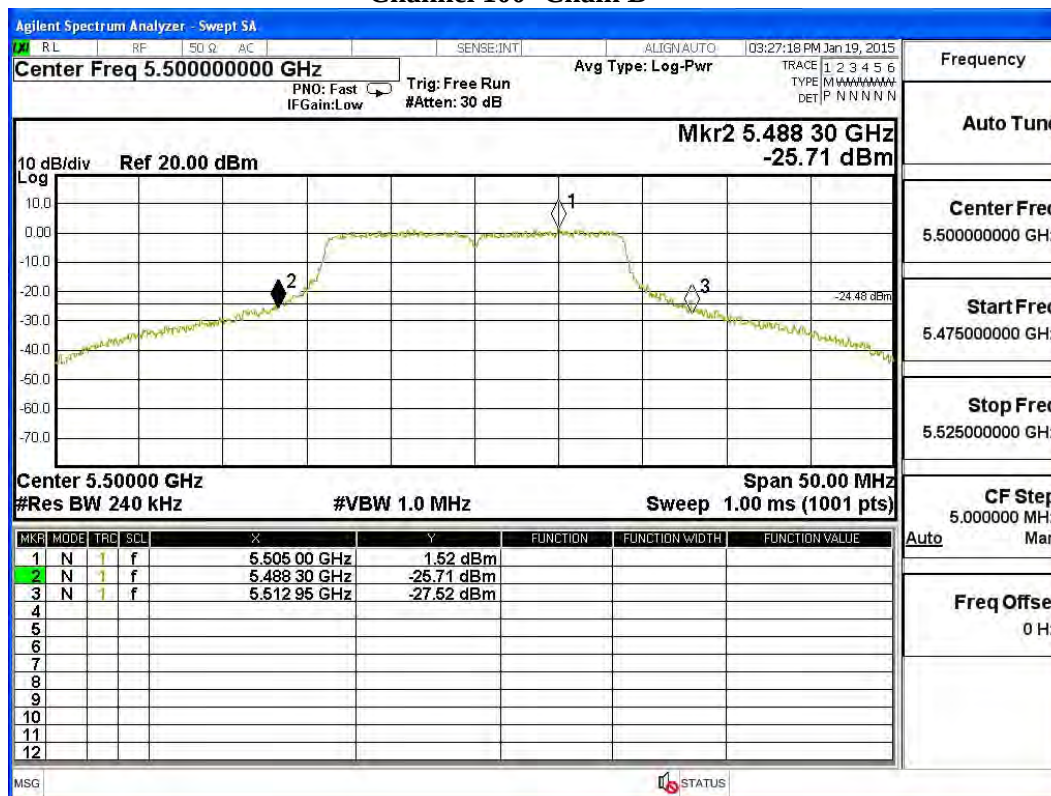
### Channel 60 -Chain B



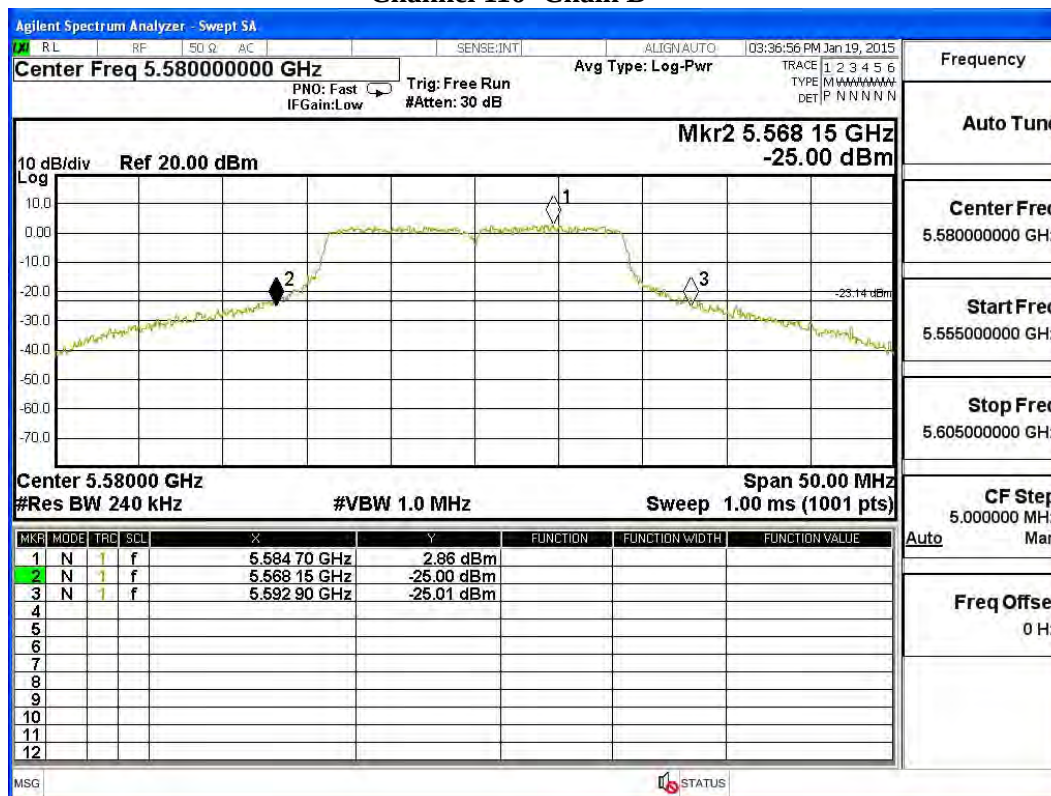
### Channel 64 -Chain B



### Channel 100 -Chain B



### Channel 116 -Chain B



[illegible]

Product : Wireless Access Point  
Test Item : Maximum conducted output power  
Test Site : No.3 OATS  
Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (External Antenna)

#### 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            | 10.4                           | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 46             | 5230            | 10.53                          | 10.44 | 10.36 | 10.26 | 10.18 | 10.08 | 9.92  | 9.81  | <17dBm         |
| 54             | 5270            | 10.27                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 62             | 5310            | 9.96                           | 9.88  | 9.8   | 9.75  | 9.64  | 9.59  | 9.42  | 9.38  | <24dBm         |
| 102            | 5510            | 12.53                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 110            | 5550            | 12.66                          | 12.58 | 12.5  | 12.45 | 12.34 | 12.24 | 12.18 | 12.16 | <24dBm         |
| 134            | 5670            | 13.71                          | --    | --    | --    | --    | --    | --    | --    | <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            | 10.5                           | --    | --    | --    | --    | --    | --    | --    | <17dBm         |
| 46             | 5230            | 10.22                          | 10.11 | 10.03 | 9.89  | 9.77  | 9.67  | 9.56  | 9.42  | <17dBm         |
| 54             | 5270            | 10.64                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 62             | 5310            | 10.79                          | 10.72 | 10.65 | 10.57 | 10.51 | 10.42 | 10.37 | 10.31 | <24dBm         |
| 102            | 5510            | 13.11                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |
| 110            | 5550            | 12.96                          | 12.88 | 12.8  | 12.74 | 12.64 | 12.58 | 12.48 | 12.41 | <24dBm         |
| 134            | 5670            | 13.84                          | --    | --    | --    | --    | --    | --    | --    | <24dBm         |

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

### Maximum conducted output power Measurement:

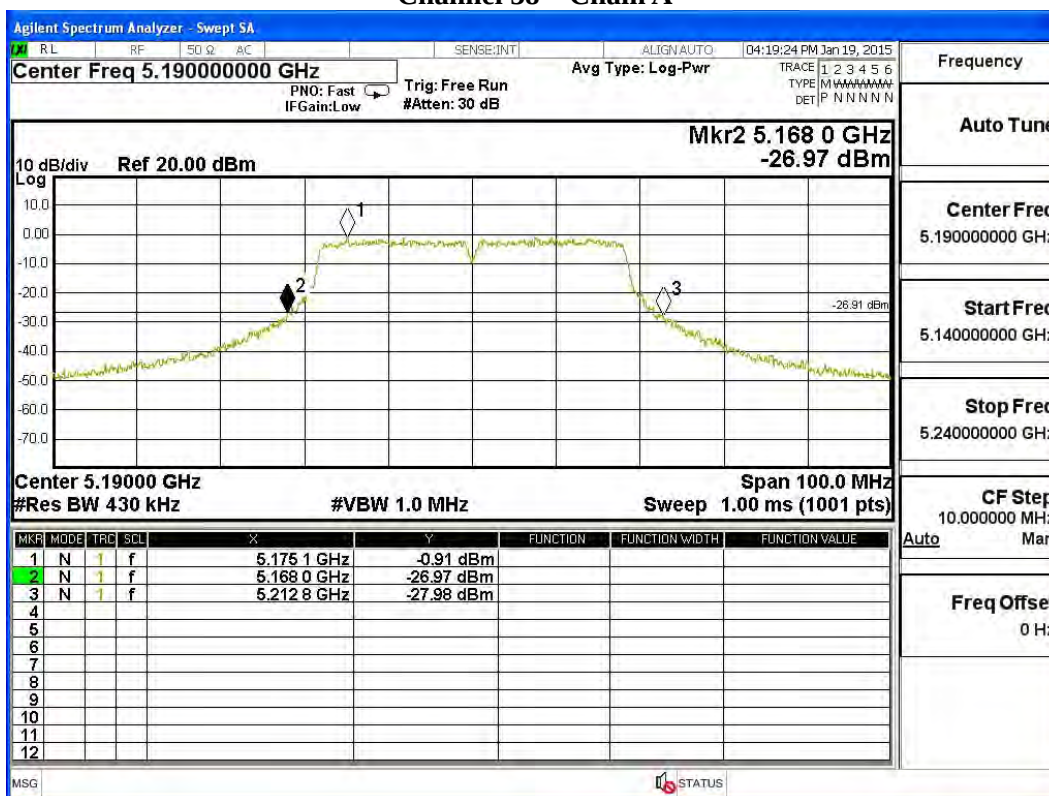
(CHAIN A+ B)

| 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            | 44.200               | 10.40               | 10.50               | 13.46              | 17                 | 20.45         |
| 46             | 5230            | 43.500               | 10.53               | 10.22               | 13.39              | 17                 | 20.38         |
| 54             | 5270            | 43.100               | 10.27               | 10.64               | 13.47              | 24                 | 27.34         |
| 62             | 5310            | 43.200               | 9.96                | 10.79               | 13.41              | 24                 | 27.35         |
| 102            | 5510            | 45.600               | 12.53               | 13.11               | 15.84              | 24                 | 27.59         |
| 110            | 5550            | 44.800               | 12.66               | 12.96               | 15.82              | 24                 | 27.51         |
| 134            | 5670            | 45.600               | 13.71               | 13.84               | 16.79              | 24                 | 27.59         |

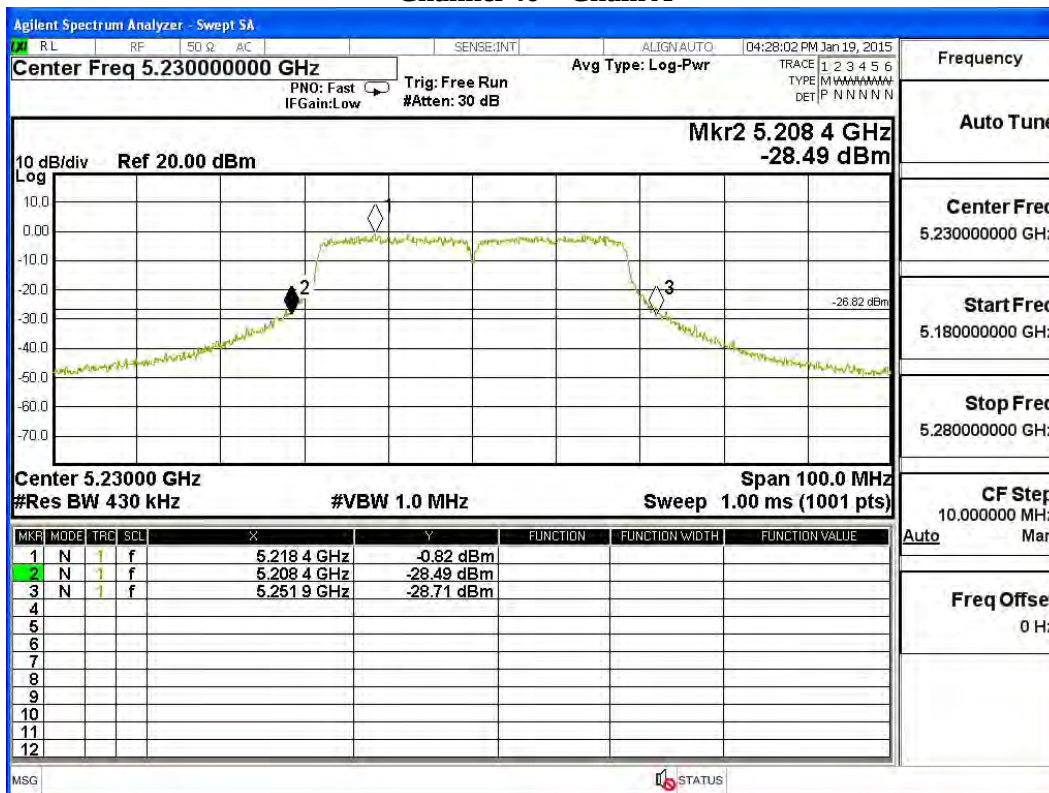
Note:

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.

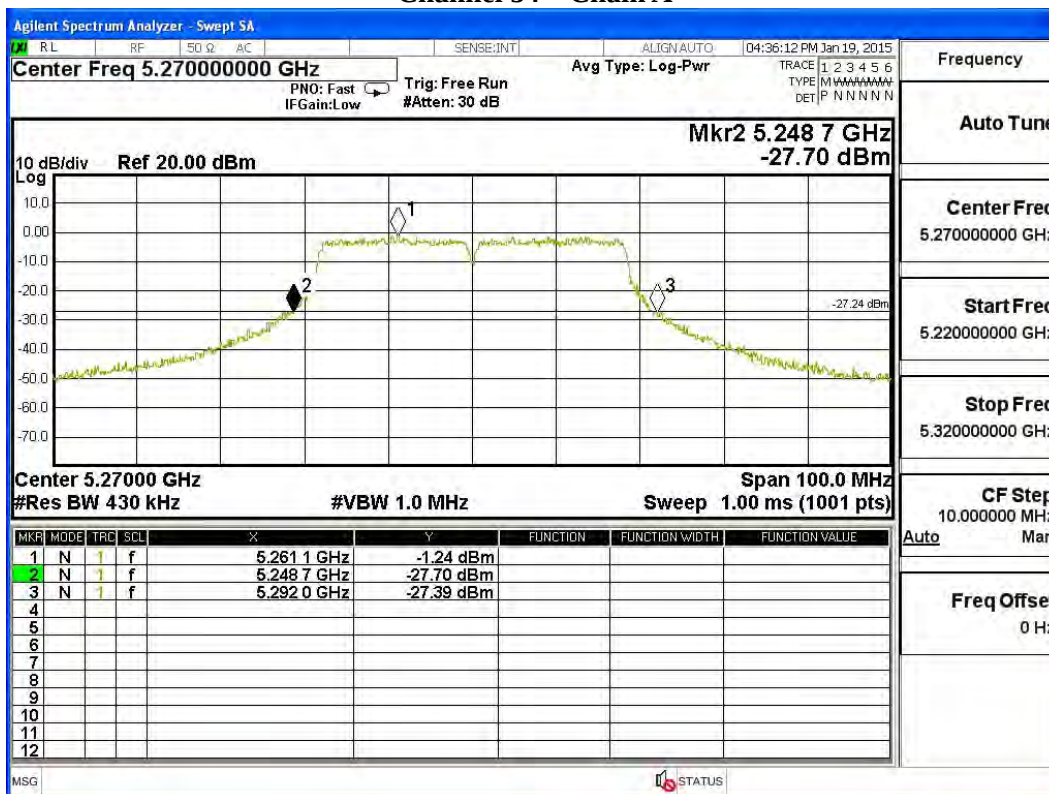
26dBc Occupied Bandwidth:  
Channel 38 – Chain A



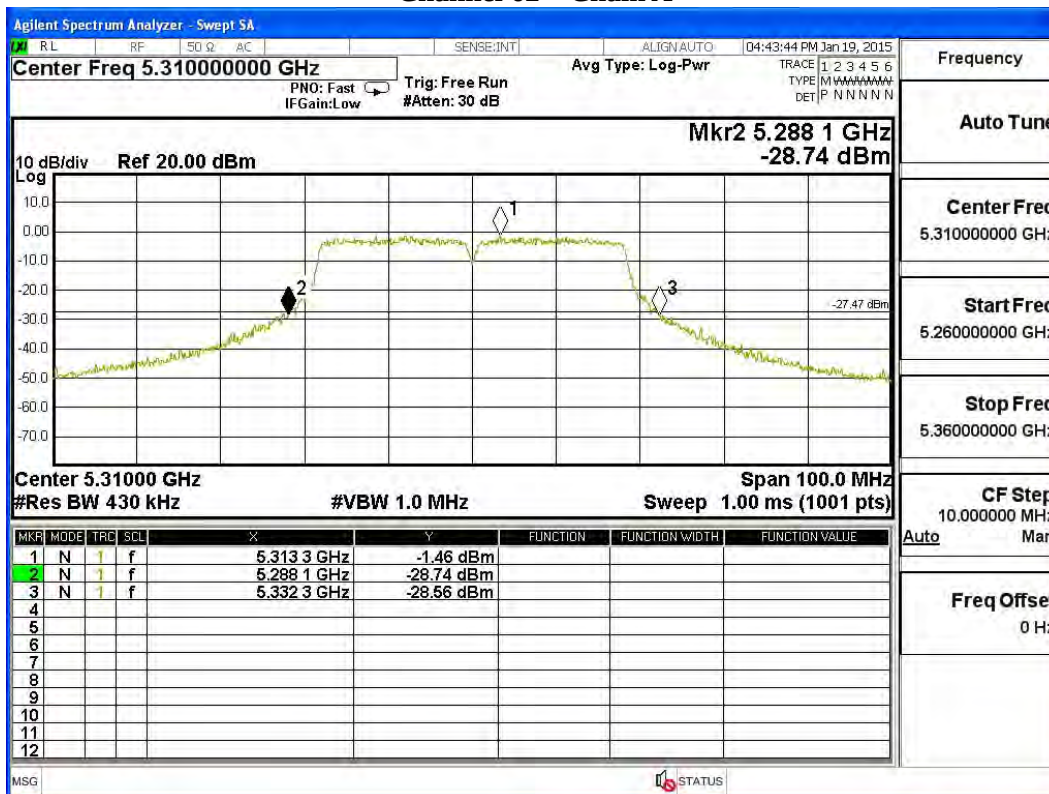
Channel 46 – Chain A



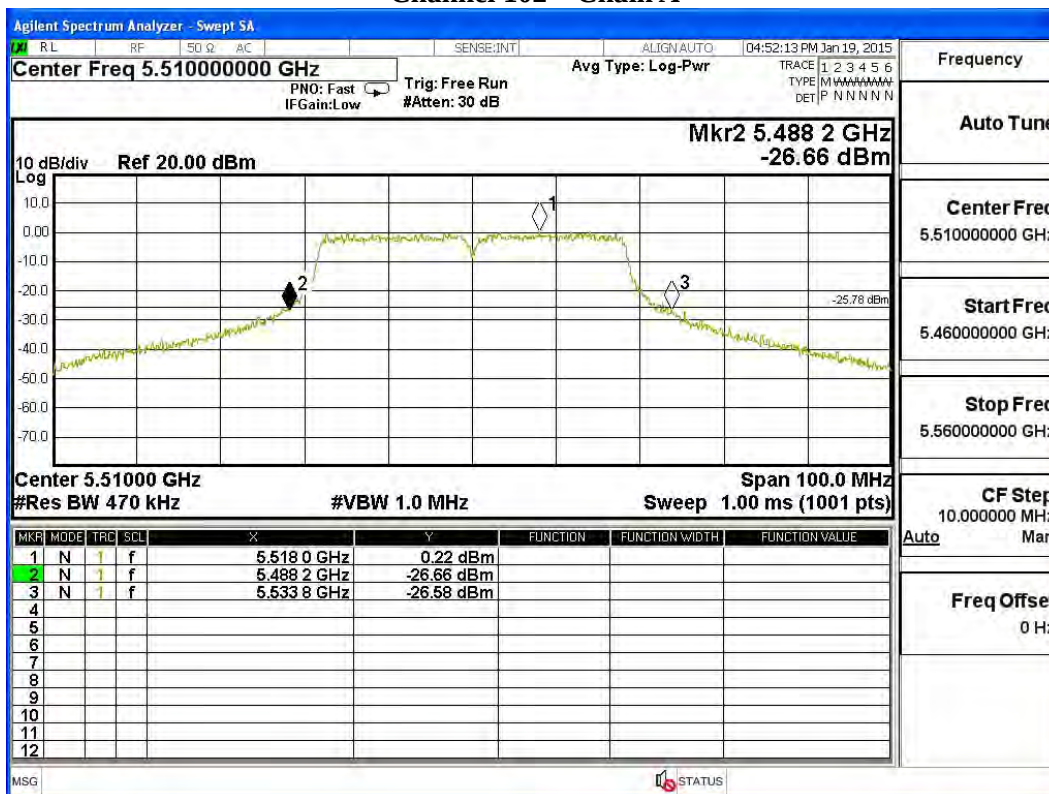
### Channel 54 – Chain A



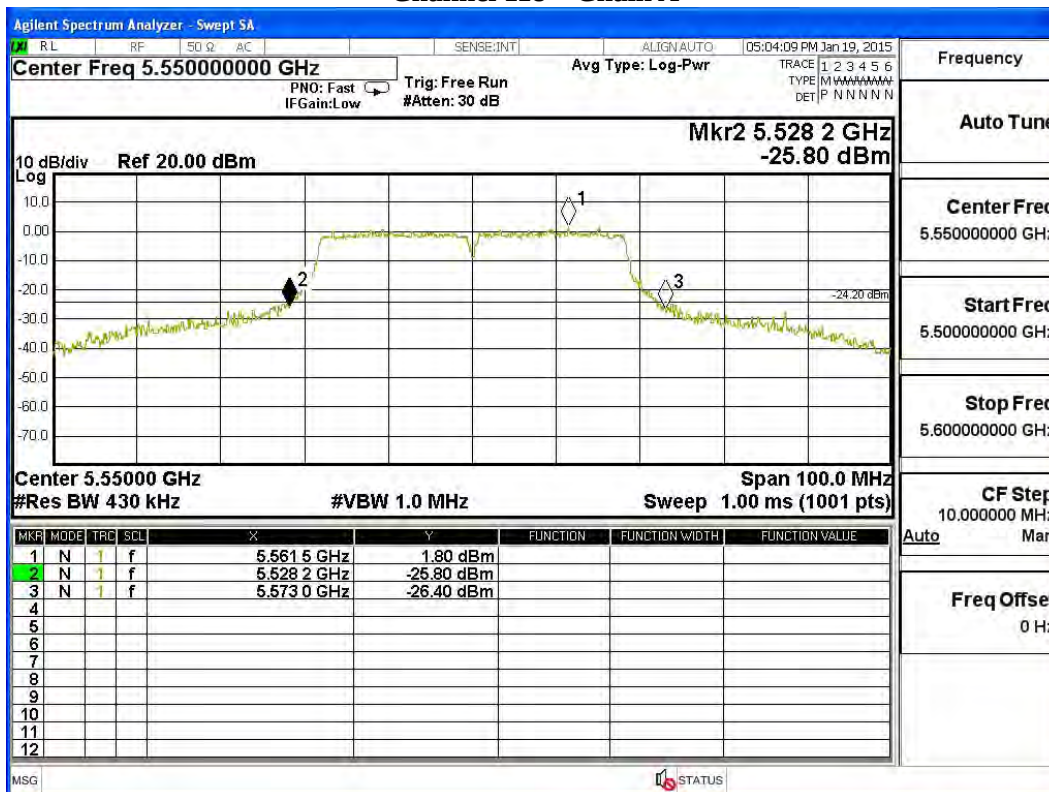
### Channel 62 – Chain A



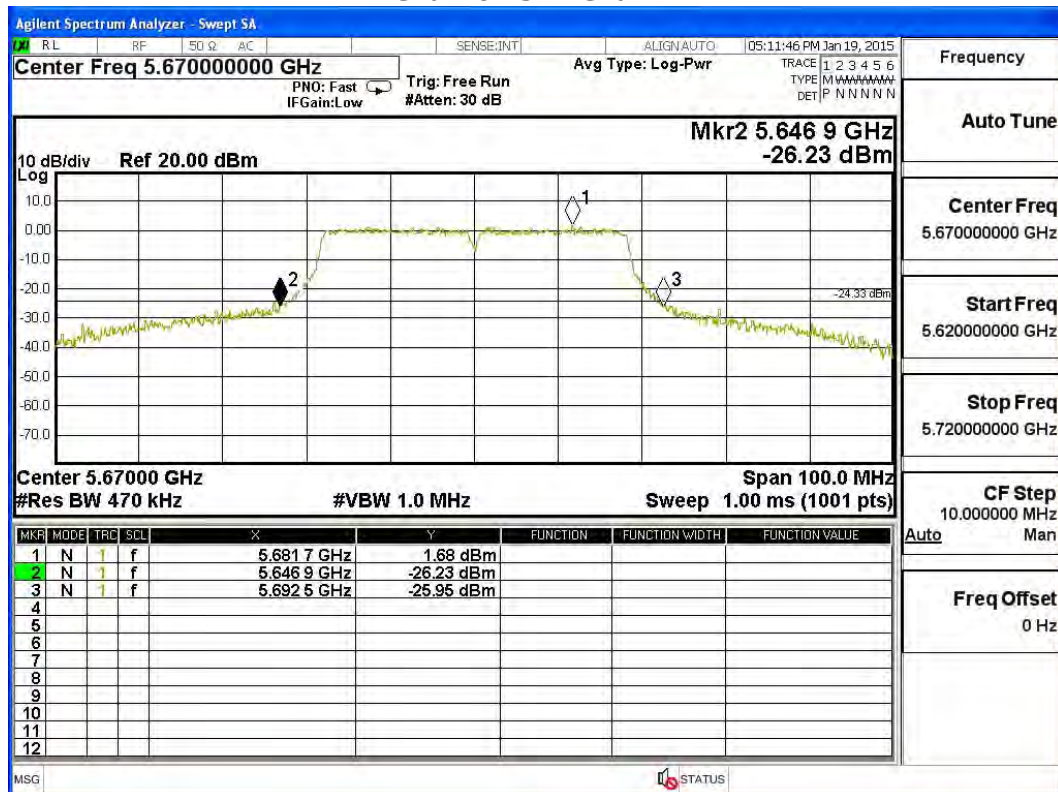
### Channel 102 – Chain A



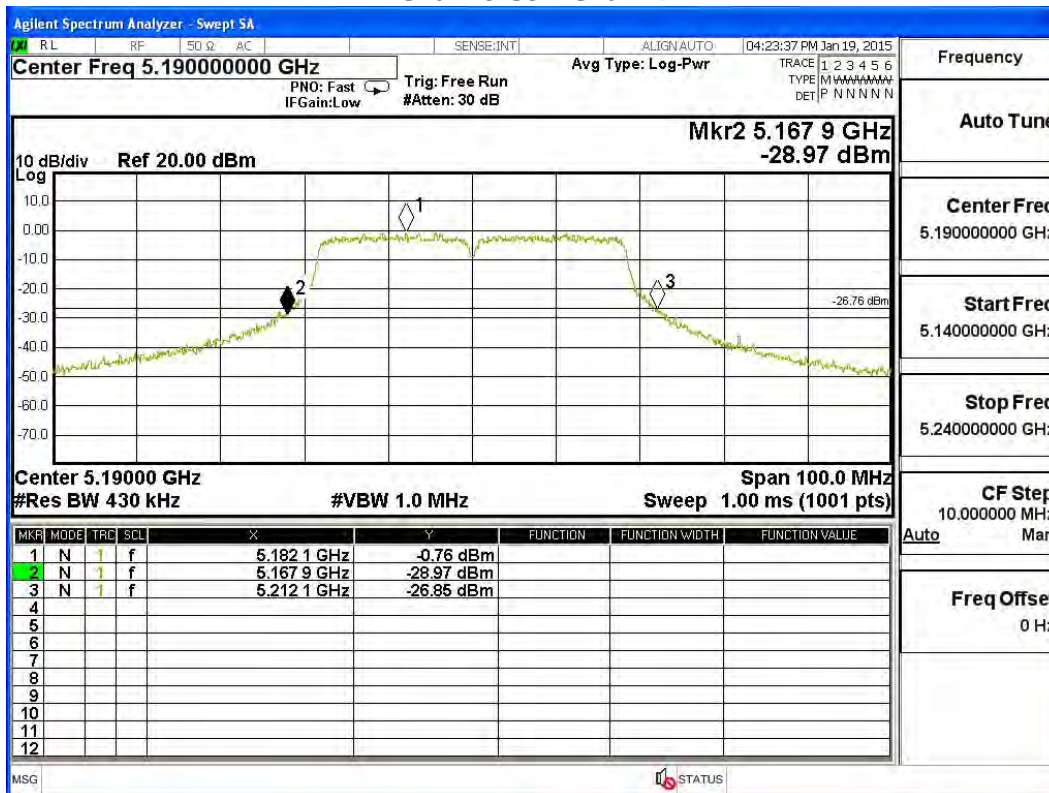
### Channel 118 – Chain A



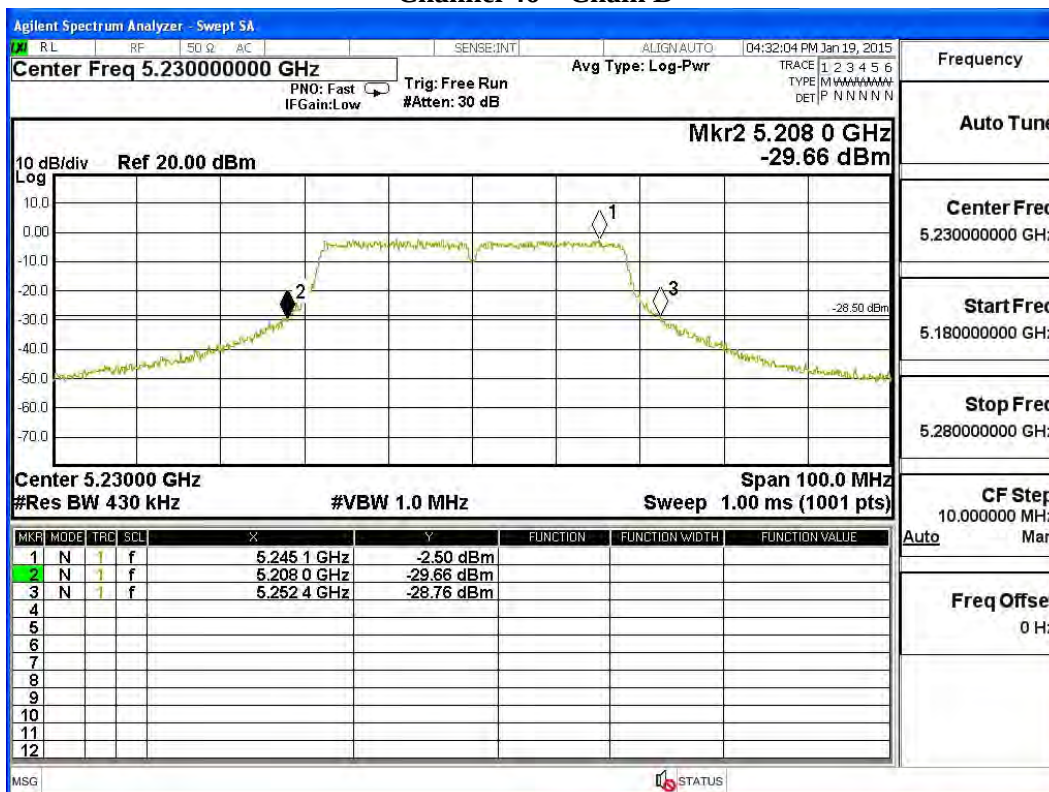
### Channel 134 – Chain A



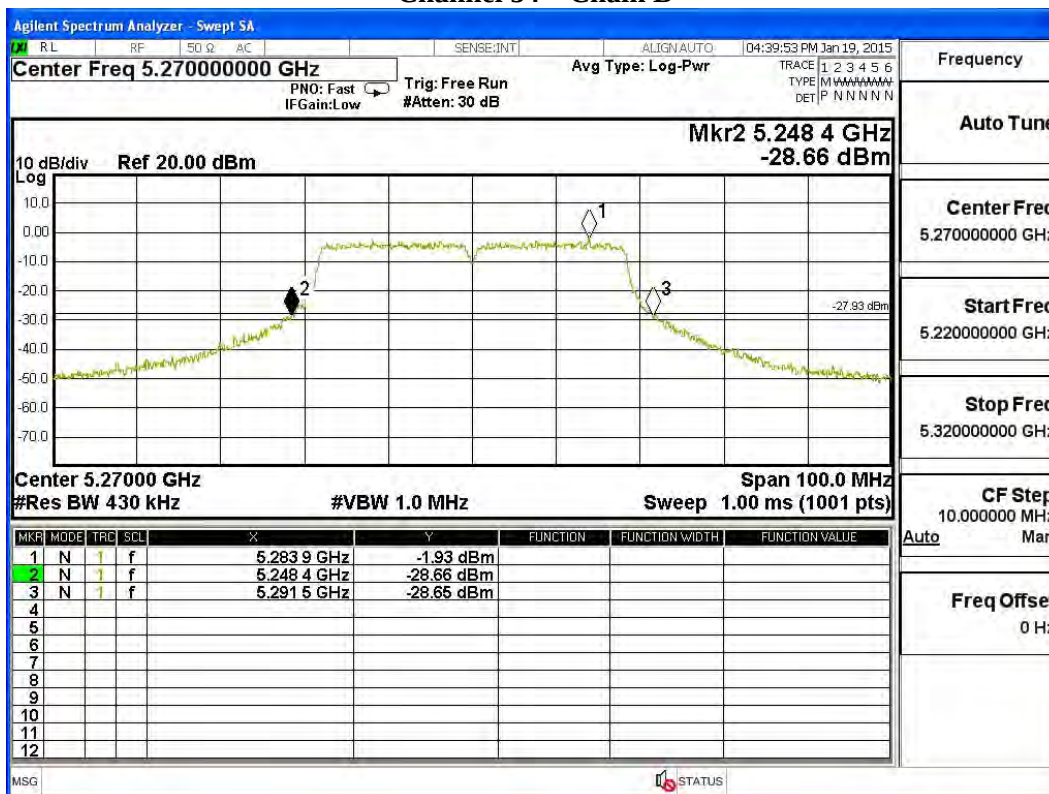
### 26dBc Occupied Bandwidth: Channel 38 – Chain B



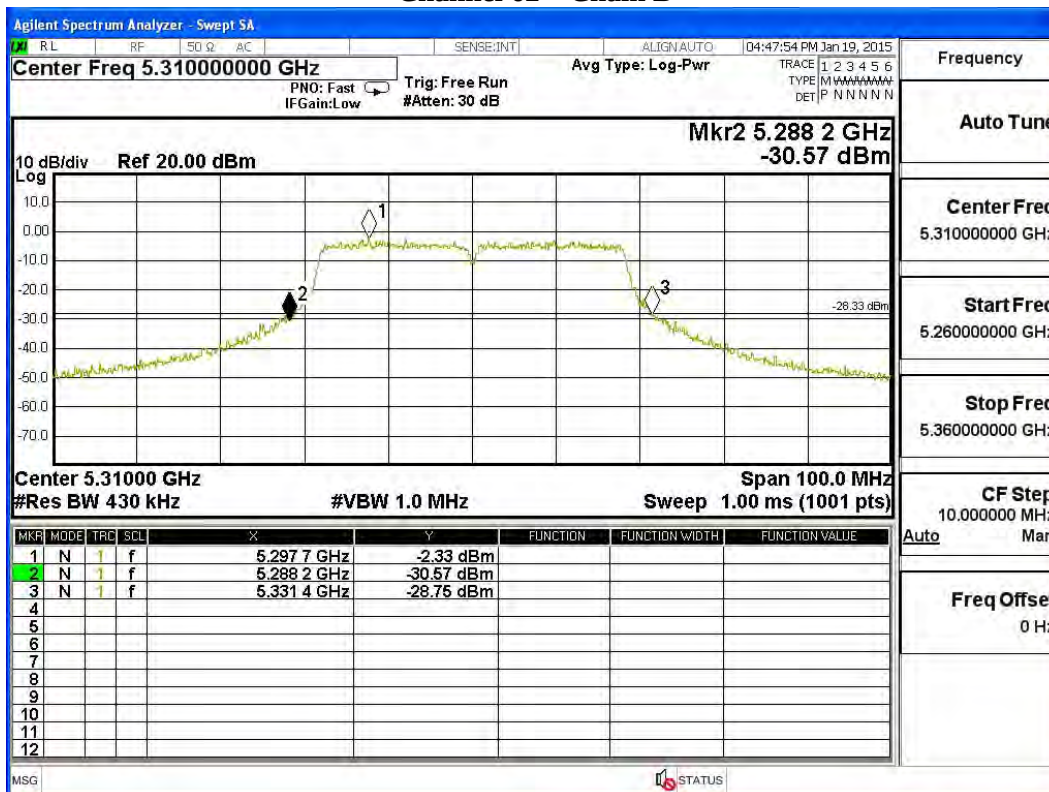
### Channel 46 – Chain B



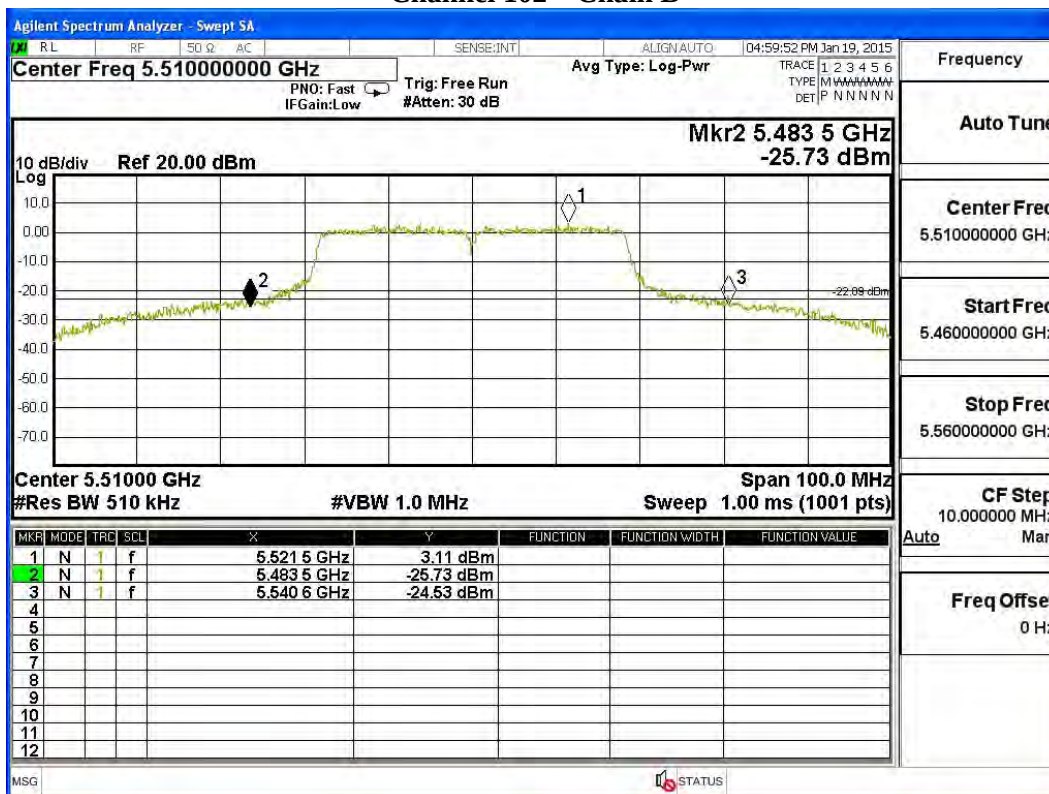
### Channel 54 – Chain B



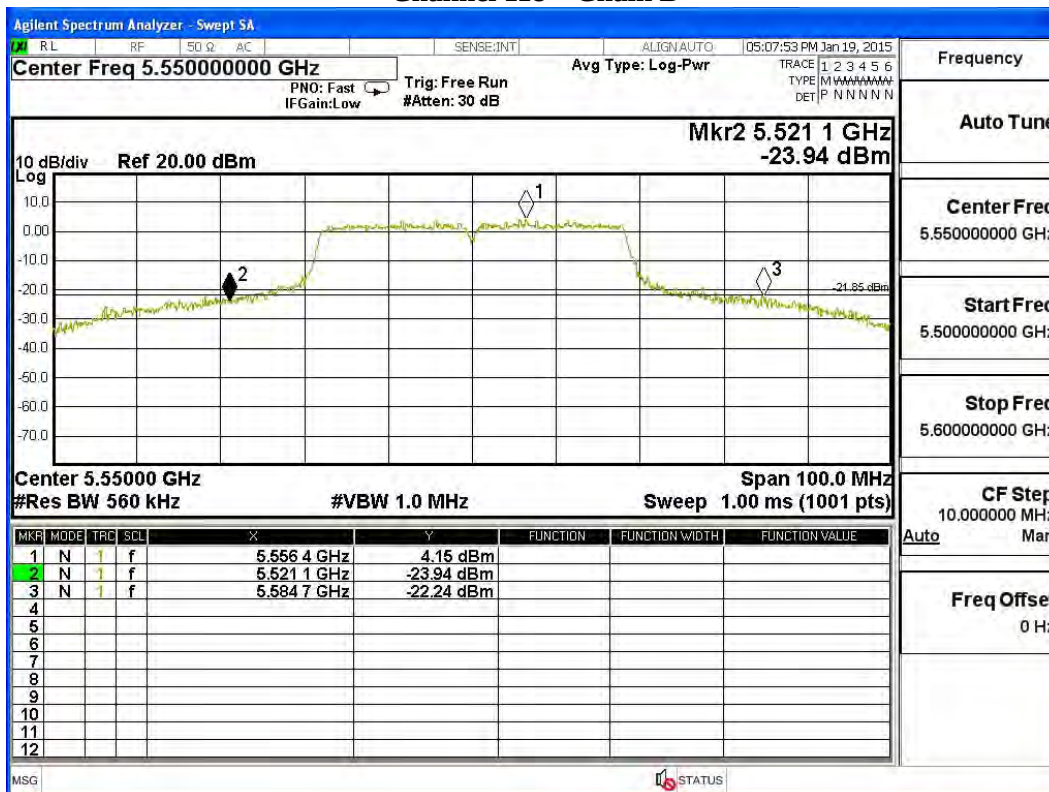
### Channel 62 – Chain B



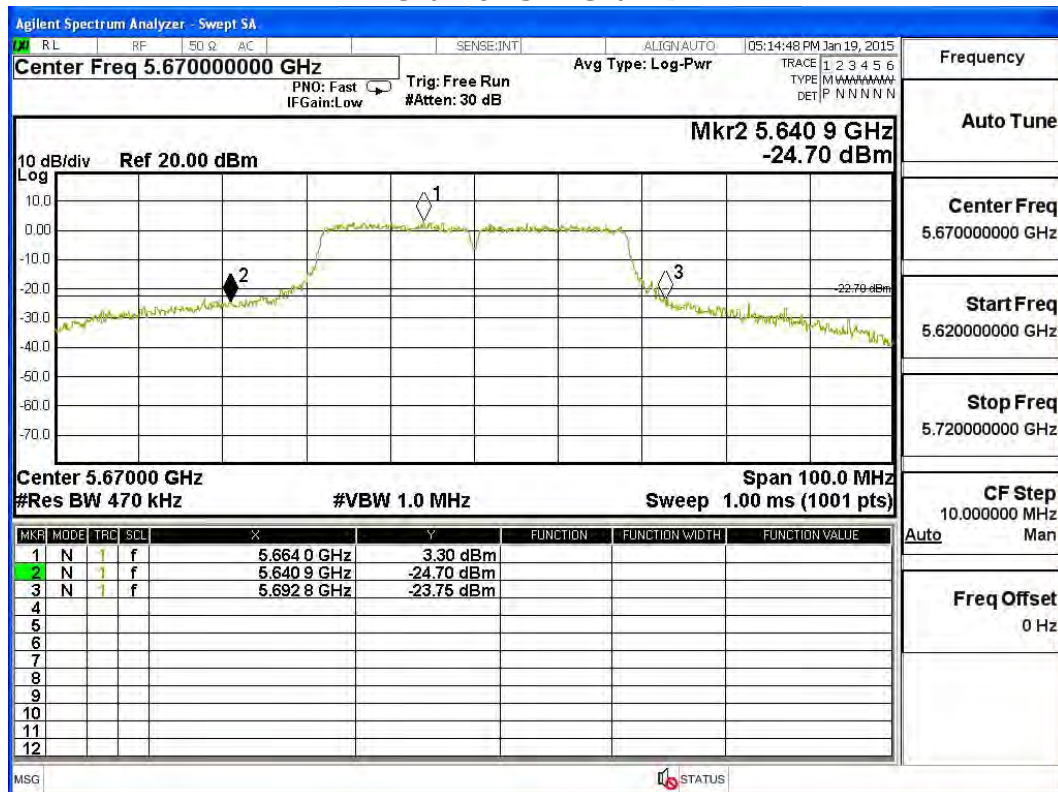
### Channel 102 – Chain B



### Channel 118 – Chain B



### Channel 134 – Chain B



Product : Wireless Access Point  
 Test Item : Maximum conducted output power  
 Test Site : No.3 OATS  
 Test Mode : Mode 4: Transmit (802.11ac-20BW-7.2Mbps) (External Antenna)

### Chain A

| Cable loss=1dB |                    | Maximum conducted output power |      |      |      |      |      |      |      |      |                |
|----------------|--------------------|--------------------------------|------|------|------|------|------|------|------|------|----------------|
| Channel No.    | Frequency<br>(MHz) | Data Rate (Mbps)               |      |      |      |      |      |      |      |      | Required Limit |
|                |                    | VTH0                           | VTH1 | VTH2 | VTH3 | VTH4 | VTH5 | VTH6 | VTH7 | VTH8 |                |
|                |                    | Measurement Level (dBm)        |      |      |      |      |      |      |      |      |                |
| 144 (Band3)    | 5720               | 8.37                           | 8.26 | 8.15 | 8.08 | 7.93 | 7.82 | 7.74 | 7.6  | 7.55 | <24dBm         |
| 144 (Band4)    | 5720               | 2.87                           | 2.78 | 2.69 | 2.62 | 2.54 | 2.42 | 2.35 | 2.24 | 2.24 | <30dBm         |

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<br>(MHz) | Data Rate (Mbps)               |      |      |      |      |      |      |      |      | Required Limit |
|                |                    | VTH0                           | VTH1 | VTH2 | VTH3 | VTH4 | VTH5 | VTH6 | VTH7 | VTH8 |                |
|                |                    | Measurement Level (dBm)        |      |      |      |      |      |      |      |      |                |
| 144 (Band3)    | 5720               | 8.71                           | 8.66 | 8.61 | 8.57 | 8.51 | 8.43 | 8.41 | 8.36 | 8.32 | <24dBm         |
| 144 (Band4)    | 5720               | 3.17                           | 3.08 | 2.97 | 2.9  | 2.81 | 2.75 | 2.63 | 2.58 | 2.49 | <30dBm         |

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

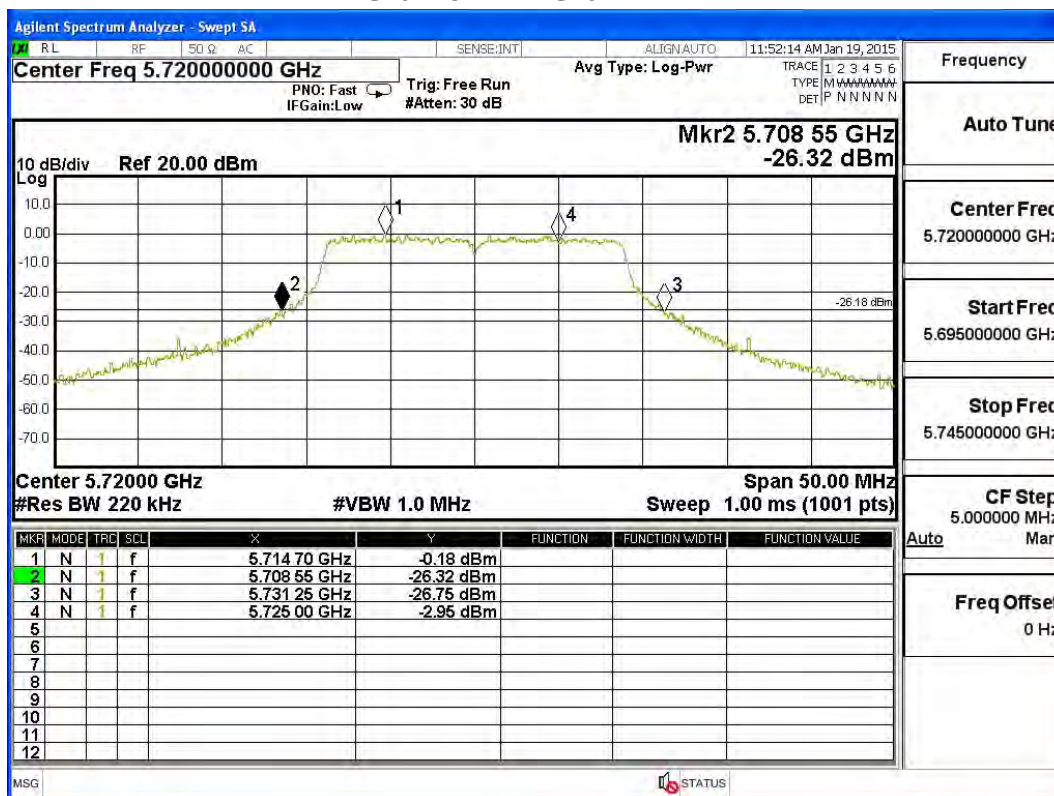
### Maximum conducted output power Measurement:

| Channel No | Frequency Range (MHz) | 26dB Bandwidth (MHz) | Chain A Power (dBm) | Chain B Power (dBm) | Output Power (dBm) | Output Power Limit |               | Result |
|------------|-----------------------|----------------------|---------------------|---------------------|--------------------|--------------------|---------------|--------|
|            |                       |                      |                     |                     |                    | (dBm)              | dBm+10log(BW) |        |
| 144(Band3) | 5720                  | 16.250               | 8.37                | 8.71                | 11.55              | 24                 | 23.11         | Pass   |
| 144(Band4) | 5720                  | 6.250                | 2.87                | 3.17                | 6.03               | 30                 | 18.96         | Pass   |

Note: Power Output Value =Reading value on average power meter + cable loss

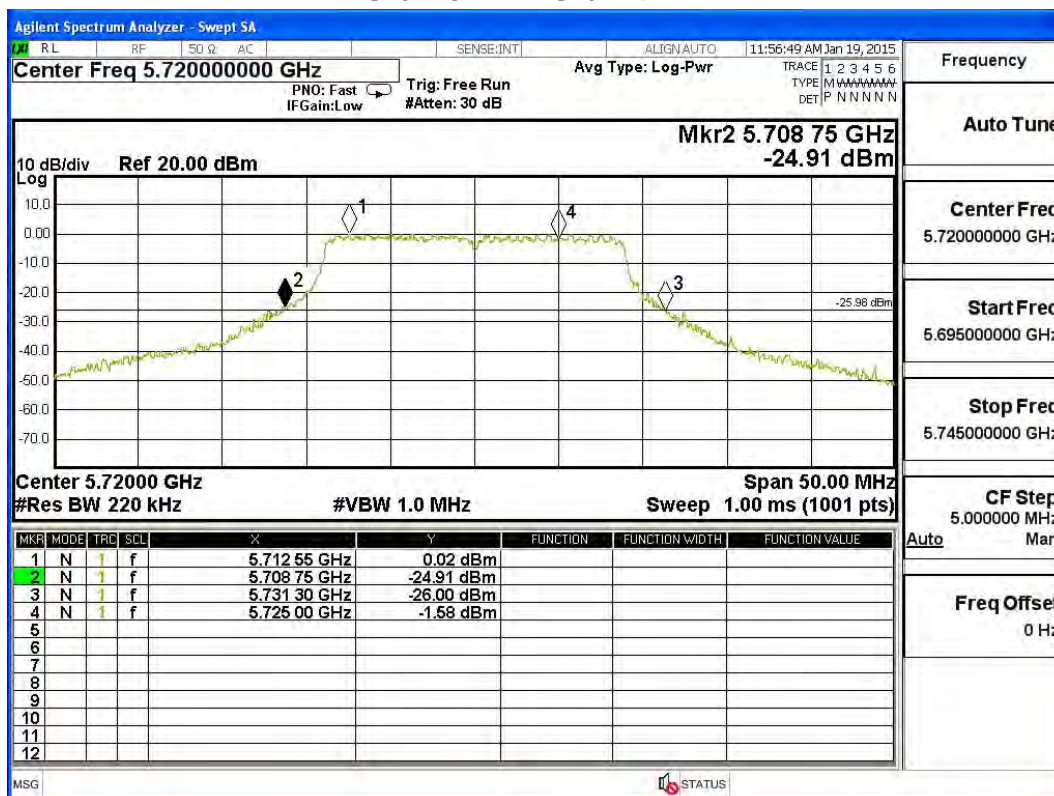
26dBc Occupied Bandwidth:

Channel 144 – Chain A



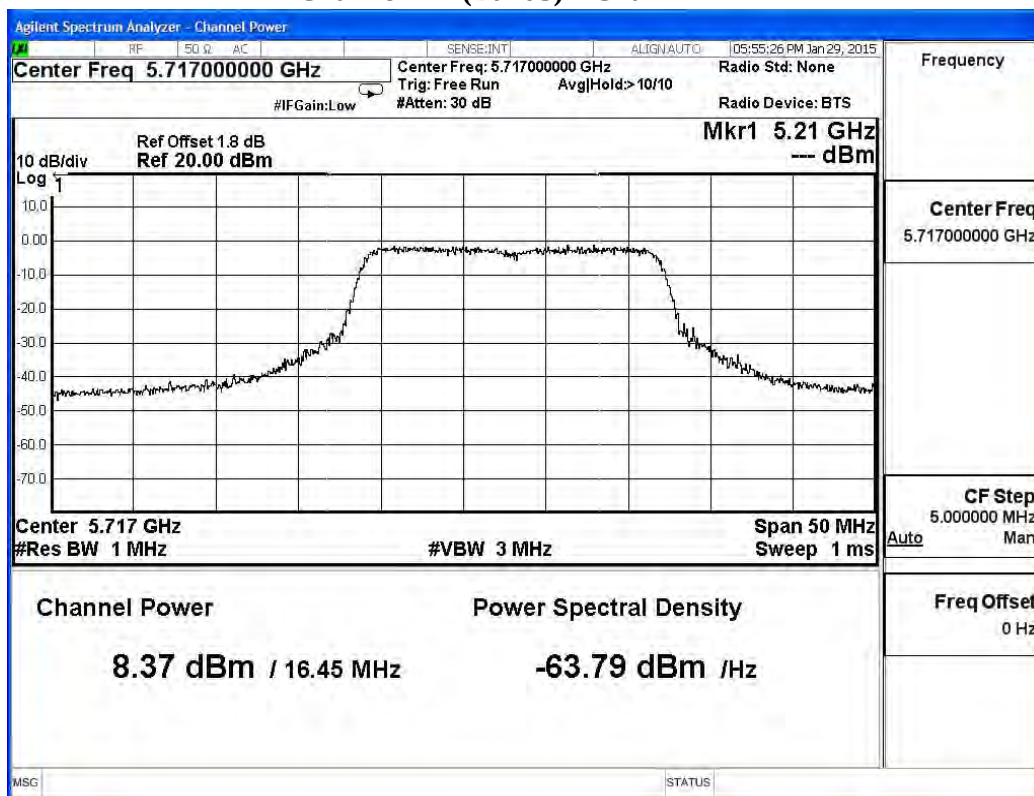
26dBc Occupied Bandwidth:

Channel 144 – Chain B

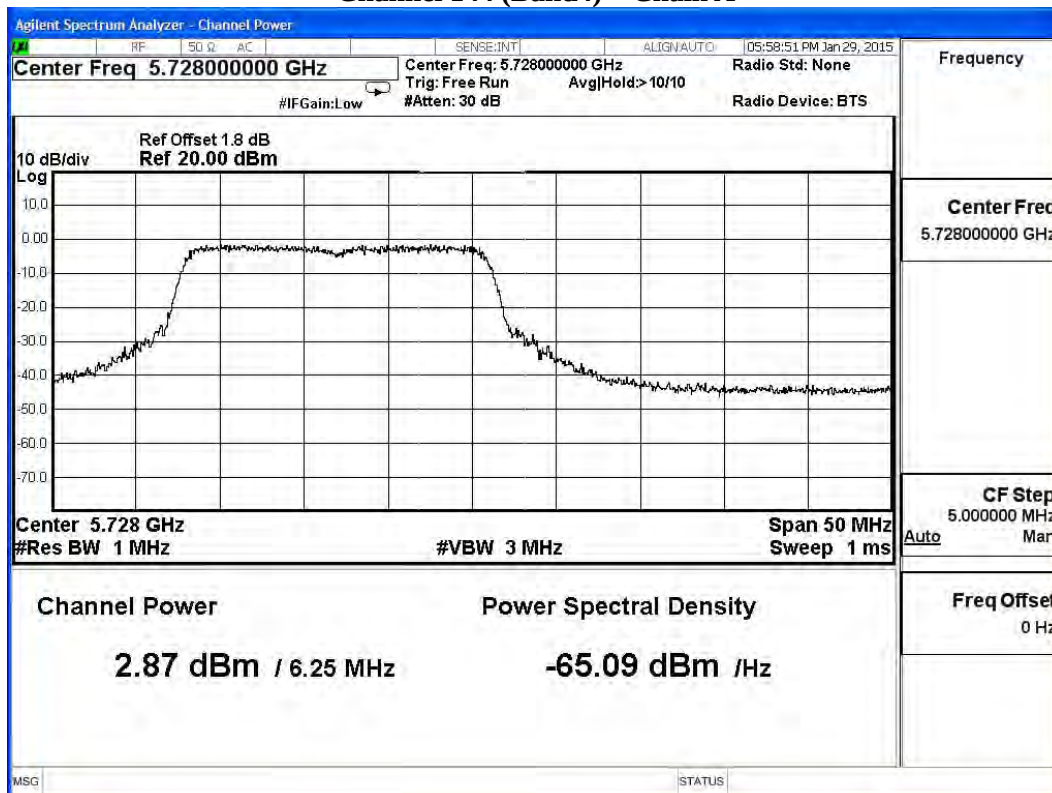


Maximum conducted output power:

Channel 144 (Band3) – Chain A

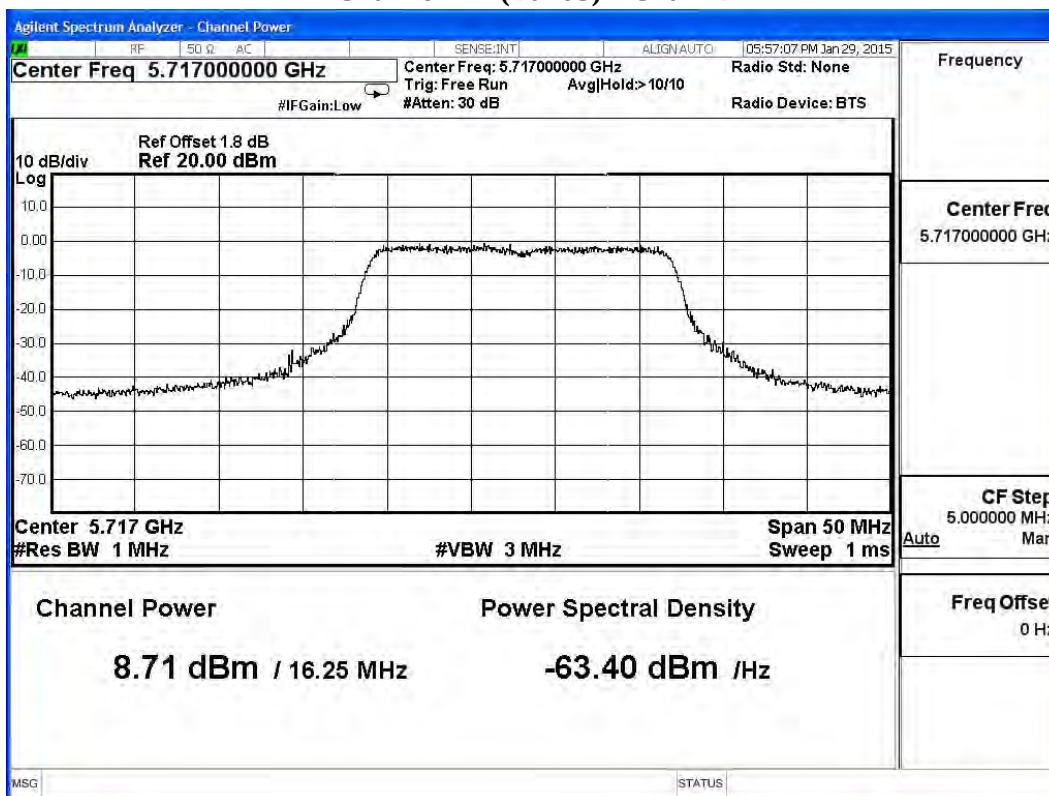


Channel 144 (Band4) – Chain A

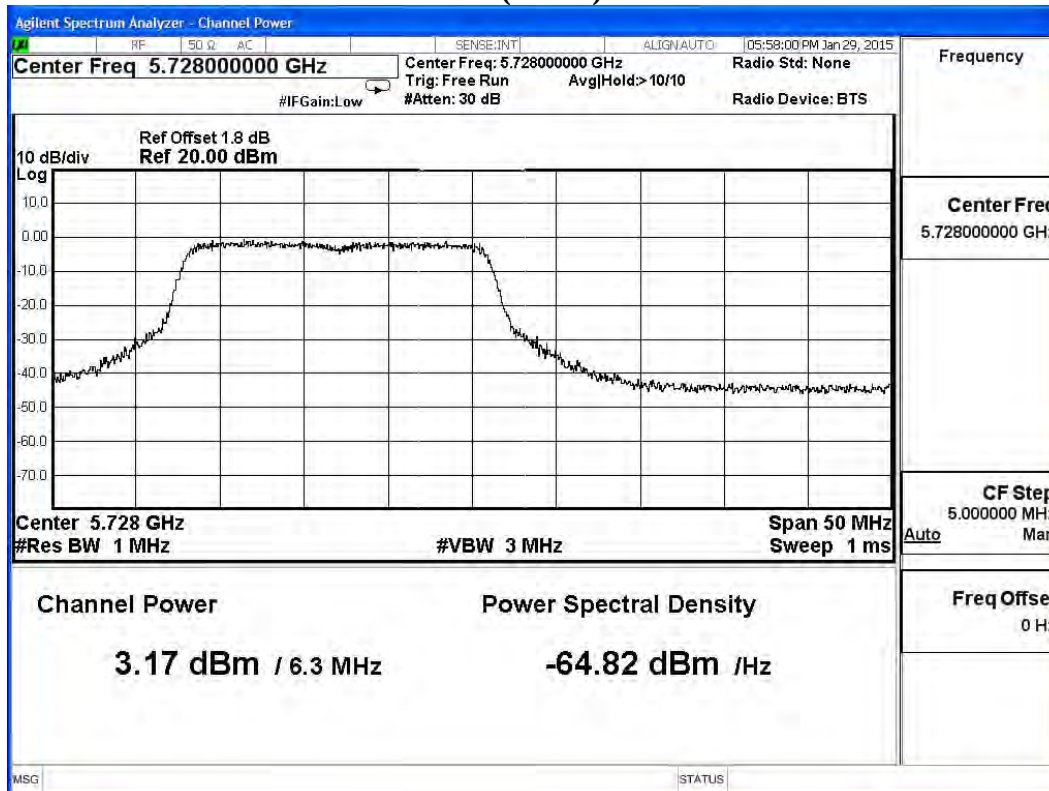


Maximum conducted output power:

Channel 144 (Band3) – Chain B



Channel 144 (Band4) – Chain B



Product : Wireless Access Point  
Test Item : Maximum conducted output power  
Test Site : No.3 OATS  
Test Mode : Mode 5: Transmit (802.11ac-40BW-15Mbps) (External Antenna)

### Chain A

| Cable loss=1dB |                    | Maximum conducted output power |       |       |       |       |       |       |       |       |       |                   |
|----------------|--------------------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------|
| Channel No     | Frequency<br>(MHz) | Data Rate (Mbps)               |       |       |       |       |       |       |       |       |       | Required<br>Limit |
|                |                    | VTH0                           | VTH1  | VTH2  | VTH3  | VTH4  | VTH5  | VTH6  | VTH7  | VTH8  | VTH9  |                   |
| 142F(Band3)    | 5710               | 9.78                           | 9.71  | 9.64  | 9.59  | 9.5   | 9.43  | 9.36  | 9.29  | 9.25  | 9.16  | <24dBm            |
| 142F(Band4)    | 5710               | -1.17                          | -1.22 | -1.27 | -1.35 | -1.37 | -1.42 | -1.47 | -1.52 | -1.59 | -1.62 | <30dBm            |

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<br>(MHz) | Data Rate (Mbps)               |       |       |       |       |       |       |       |       |       | Required<br>Limit |
|                |                    | VTH0                           | VTH1  | VTH2  | VTH3  | VTH4  | VTH5  | VTH6  | VTH7  | VTH8  | VTH9  |                   |
| 142F(Band3)    | 5710               | 10.12                          | 10.06 | 10.01 | 9.94  | 9.85  | 9.82  | 9.76  | 9.7   | 9.68  | 9.58  | <24dBm            |
| 142F(Band4)    | 5710               | -0.55                          | -0.61 | -0.67 | -0.73 | -0.79 | -0.85 | -0.94 | -0.97 | -1.05 | -1.09 | <30dBm            |

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

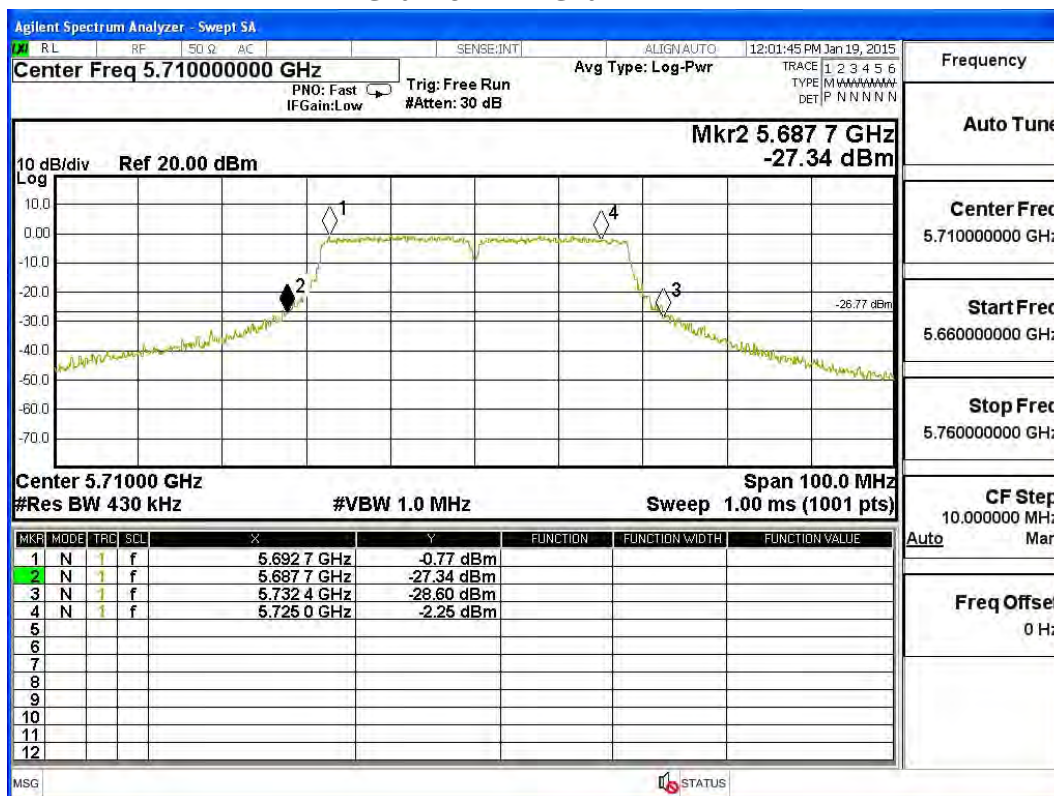
### Maximum conducted output power Measurement:

| Channel No  | Frequency<br>Range<br>(MHz) | 26dB<br>Bandwidth<br>(MHz) | Chain A<br>Power<br>(dBm) | Chain B<br>Power<br>(dBm) | Output<br>Power<br>(dBm) | Output Power Limit |               | Result |
|-------------|-----------------------------|----------------------------|---------------------------|---------------------------|--------------------------|--------------------|---------------|--------|
|             |                             |                            |                           |                           |                          | (dBm)              | dBm+10log(BW) |        |
| 142F(Band3) | 5710                        | 37.000                     | 9.78                      | 10.12                     | 12.96                    | 24                 | 26.68         | Pass   |
| 142F(Band4) | 5710                        | 6.000                      | -1.17                     | -0.55                     | 2.16                     | 30                 | 18.78         | Pass   |

Note: Power Output Value =Reading value on average power meter + cable loss

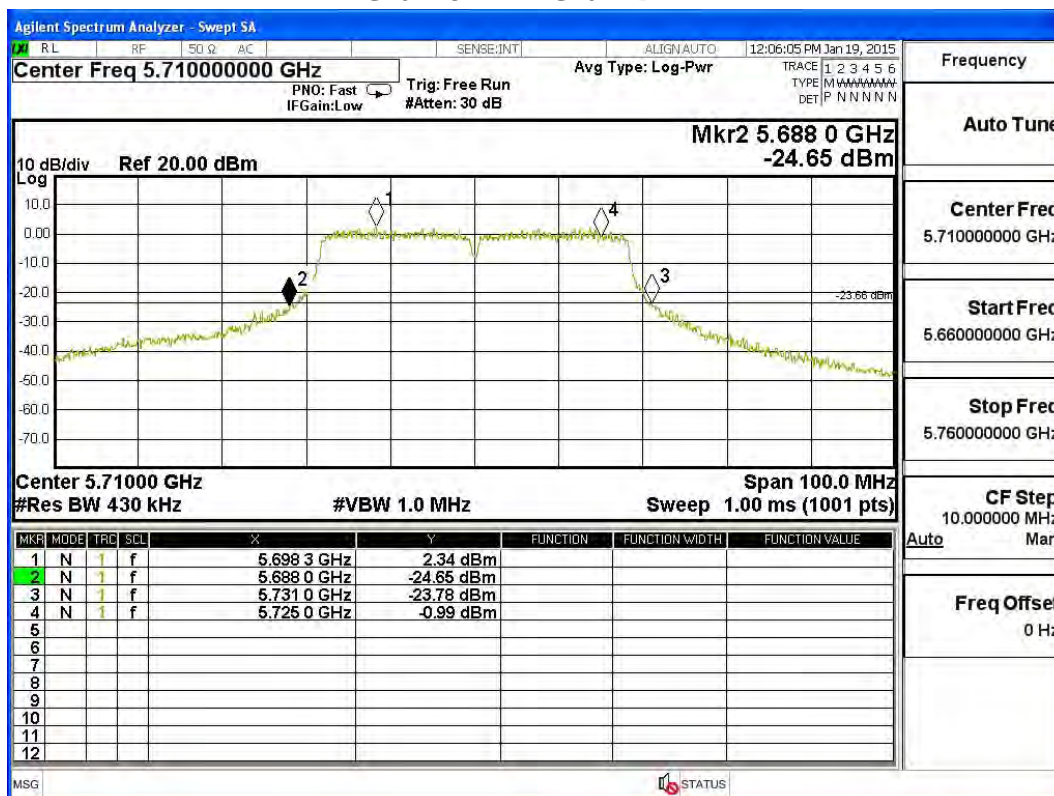
## 26dBc Occupied Bandwidth:

### Channel 142 – Chain A



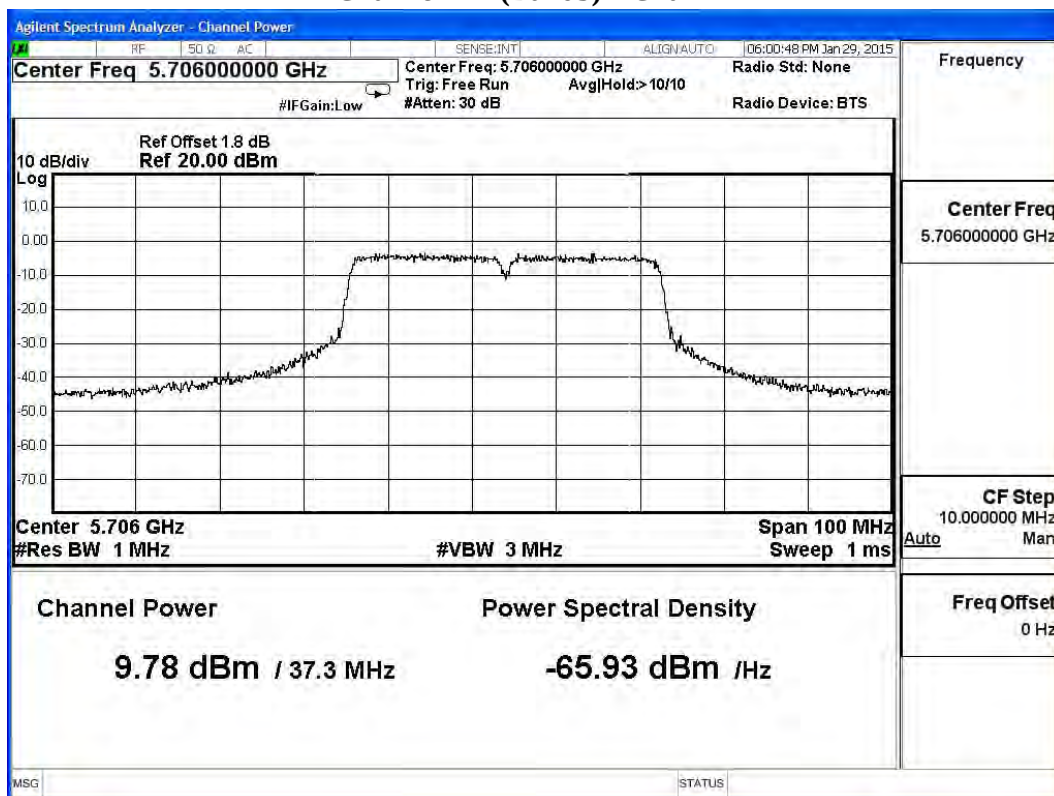
## 26dBc Occupied Bandwidth:

### Channel 142 – Chain B

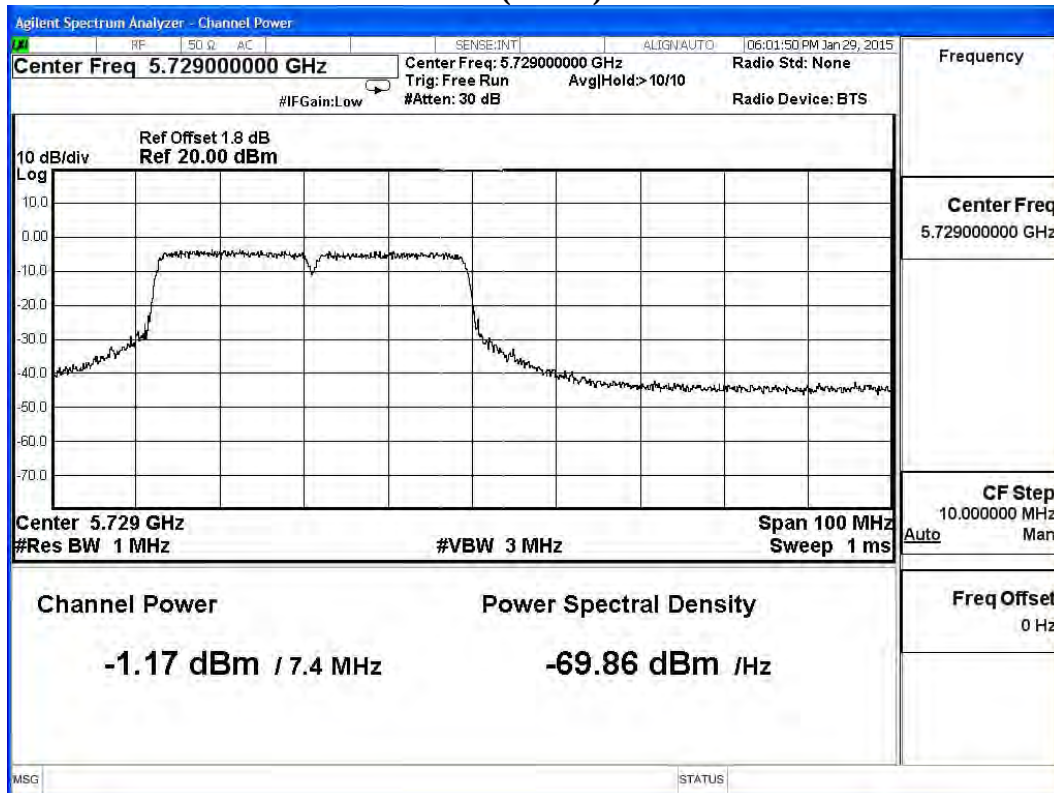


Maximum conducted output power:

Channel 142 (Band3) – Chain A

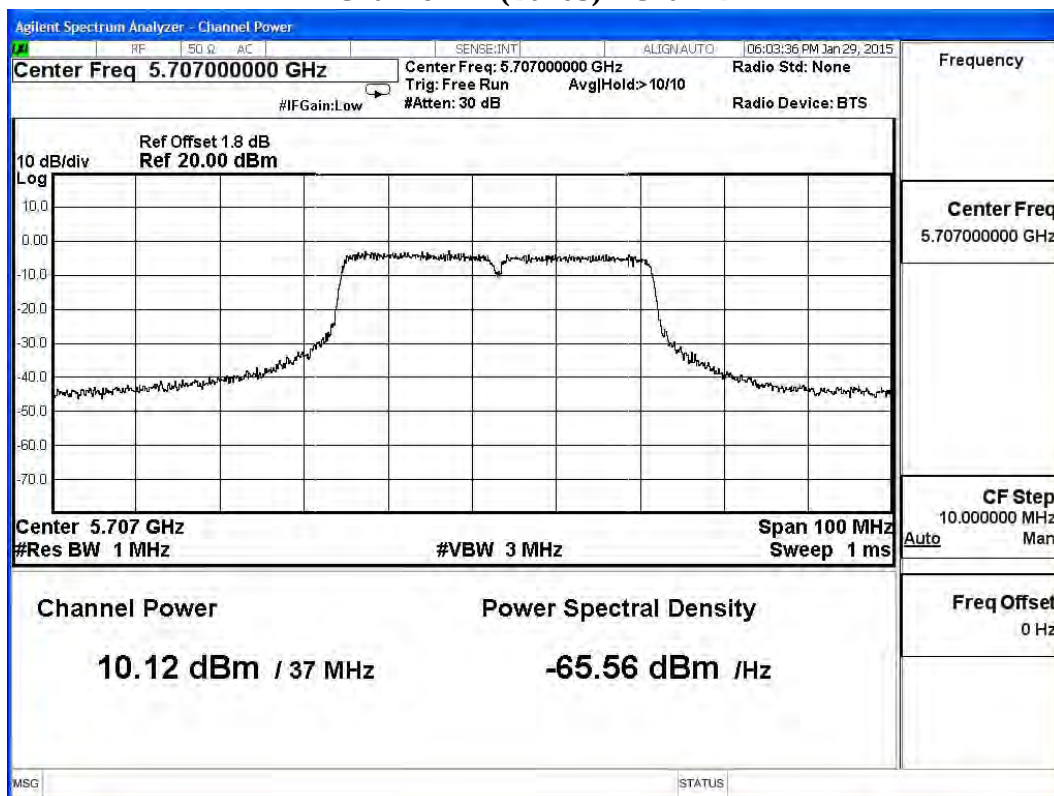


Channel 142 (Band4) – Chain A

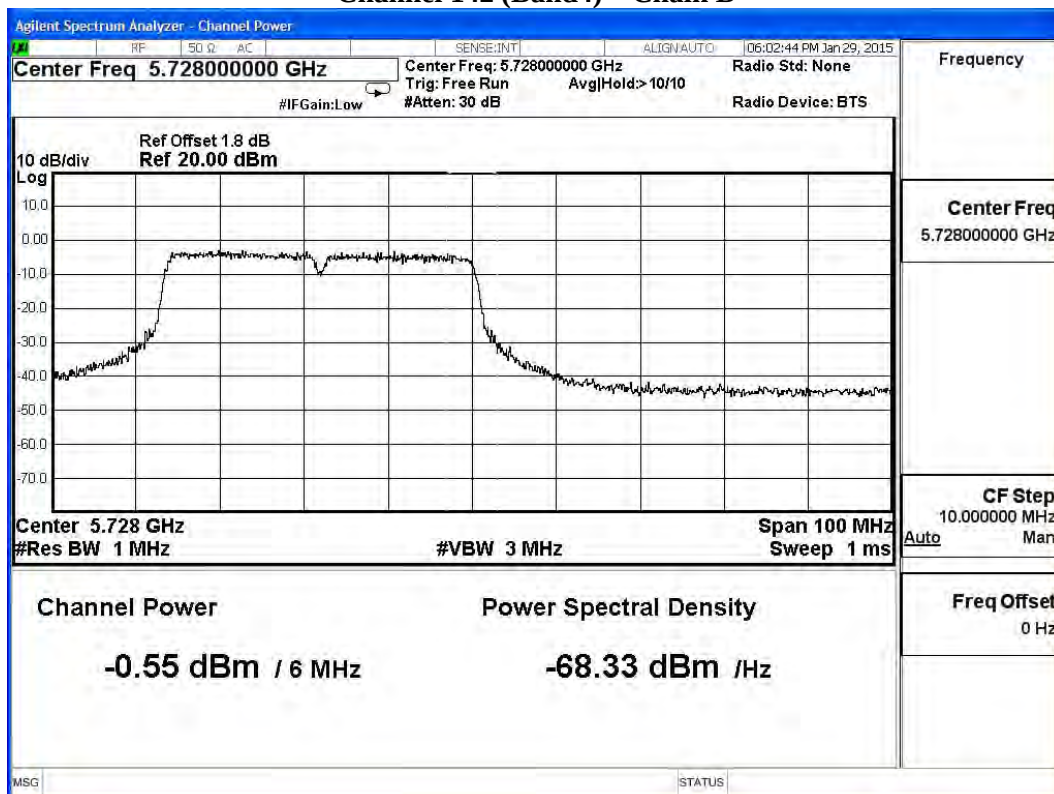


Maximum conducted output power:

Channel 142 (Band3) – Chain B



Channel 142 (Band4) – Chain B



Product : Wireless Access Point  
Test Item : Maximum conducted output power  
Test Site : No.3 OATS  
Test Mode : Mode 6: Transmit (802.11ac-80BW-65Mbps) (External Antenna)

### Chain A

| Cable loss=1dB |                 | Maximum conducted output power |       |       |       |       |       |       |       |       |       |                |
|----------------|-----------------|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------|
| Channel No     | Frequency (MHz) | Data Rate (Mbps)               |       |       |       |       |       |       |       |       |       | Required Limit |
|                |                 | VTH0                           | VTH1  | VTH2  | VTH3  | VTH4  | VTH5  | VTH6  | VTH7  | VTH8  | VTH9  |                |
| 42             | 5210            | 8.53                           | 8.48  | 8.43  | 8.38  | 8.39  | 8.28  | 8.23  | 8.18  | 8.13  | 8.09  | <24dBm         |
| 58             | 5290            | 8.12                           | 8.07  | 8.02  | 7.97  | 7.92  | 7.87  | 7.82  | 7.76  | 7.72  | 7.67  | <24dBm         |
| 106            | 5530            | 6.89                           | 6.84  | 6.79  | 6.77  | 6.69  | 6.61  | 6.59  | 6.54  | 6.49  | 6.43  | <24dBm         |
| 138(Band3)     | 5690            | 10.29                          | 10.22 | 10.15 | 10.08 | 10.01 | 9.94  | 9.87  | 9.81  | 9.73  | 9.66  | <24dBm         |
| 138(Band4)     | 5690            | -4.37                          | -4.42 | -4.47 | -4.55 | -4.57 | -4.62 | -4.67 | -4.72 | -4.78 | -4.82 | <30dBm         |

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 |
|                |                 | VTH0                           | VTH1  | VTH2  | VTH3  | VTH4  | VTH5  | VTH6  | VTH7  | VTH8  | VTH9  |                |
| 42             | 5210            | 7.7                            | 7.4   | 7.12  | 6.89  | 6.5   | 6.22  | 5.9   | 5.63  | 5.32  | 5.25  | <24dBm         |
| 58             | 5290            | 6.58                           | 6.47  | 6.36  | 6.25  | 6.14  | 6.03  | 5.98  | 5.81  | 5.7   | 5.56  | <24dBm         |
| 106            | 5530            | 8.11                           | 8.07  | 8.03  | 7.97  | 7.95  | 7.91  | 7.85  | 7.83  | 7.79  | 7.75  | <24dBm         |
| 138(Band3)     | 5690            | 10.7                           | 10.66 | 10.62 | 10.58 | 10.54 | 10.52 | 10.46 | 10.42 | 10.38 | 10.36 | <24dBm         |
| 138(Band4)     | 5690            | -4.33                          | -4.38 | -4.43 | -4.48 | -4.53 | -4.58 | -4.61 | -4.68 | -4.72 | -4.78 | <30dBm         |

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

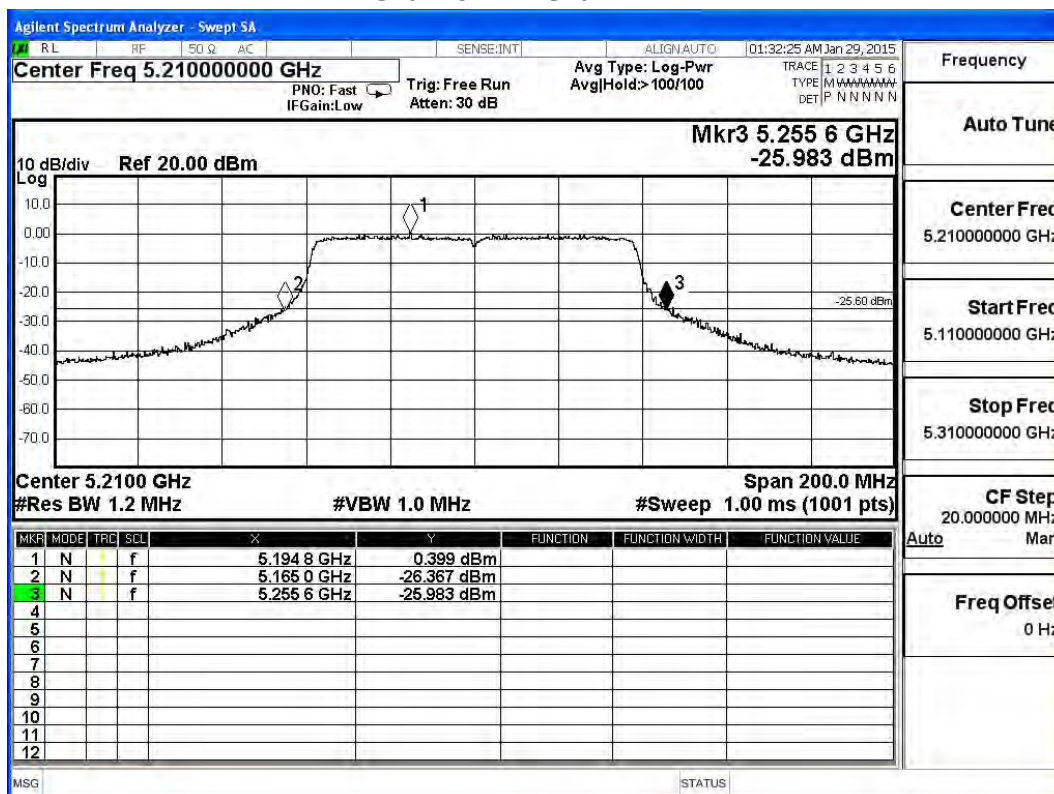
### Maximum conducted output power Measurement:

Note: Power Output Value =Reading value on average power meter + cable loss

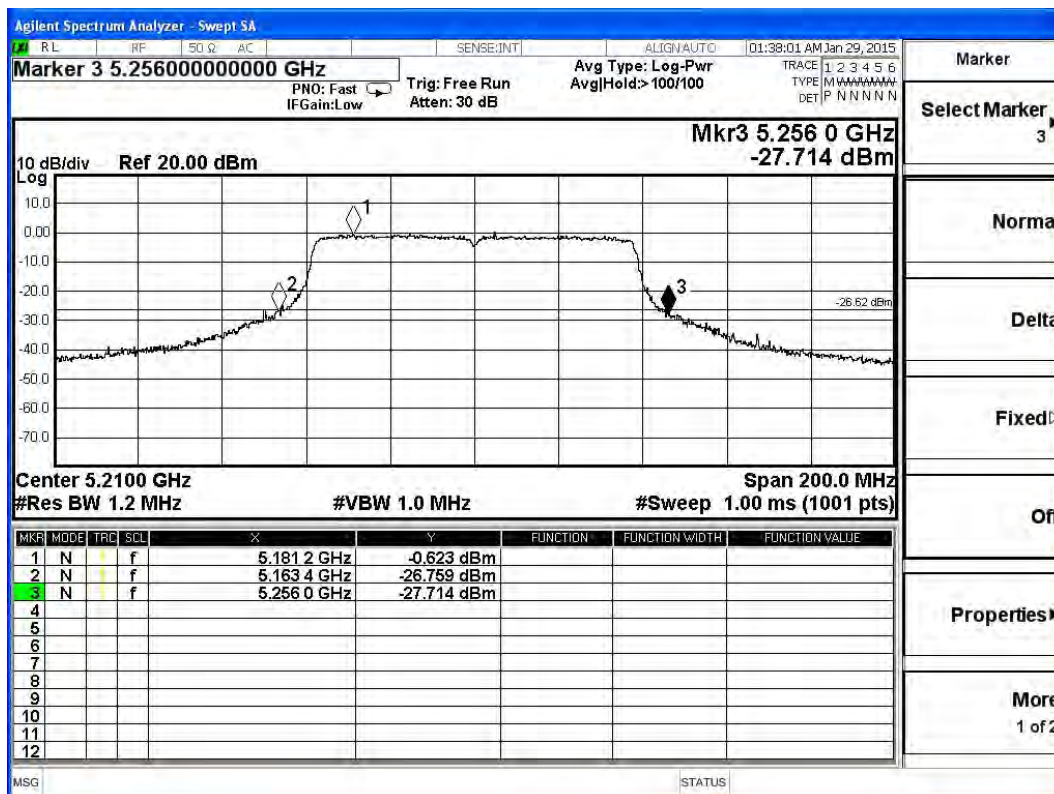
| Channel No | Frequency Range (MHz) | 26dB Bandwidth (MHz) | Chain A Power (dBm) | Chain B Power (dBm) | Output Power (dBm) | Output Power Limit |               | Result |
|------------|-----------------------|----------------------|---------------------|---------------------|--------------------|--------------------|---------------|--------|
|            |                       |                      |                     |                     |                    | (dBm)              | dBm+10log(BW) |        |
| 42         | 5210                  | 90.600               | 8.53                | 7.70                | 11.15              | 17                 | 30.57         | Pass   |
| 58         | 5290                  | 91.000               | 8.12                | 6.58                | 10.43              | 17                 | 30.59         | Pass   |
| 106        | 5530                  | 90.200               | 6.89                | 8.11                | 10.55              | 24                 | 30.55         | Pass   |
| 138(Band3) | 5690                  | 80.000               | 10.29               | 10.70               | 13.51              | 24                 | 30.03         | Pass   |
| 138(Band4) | 5690                  | 8.200                | -4.37               | -4.33               | -1.34              | 30                 | 26.14         | Pass   |

## 26dBc Occupied Bandwidth:

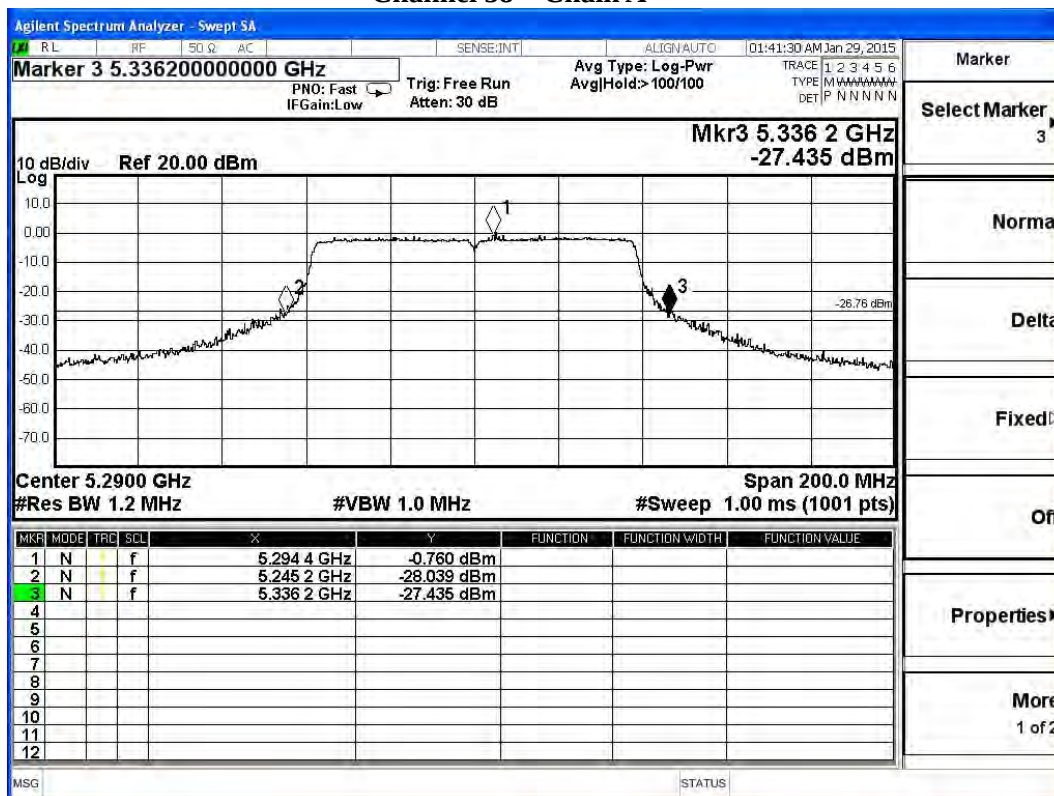
### Channel 42 – Chain A



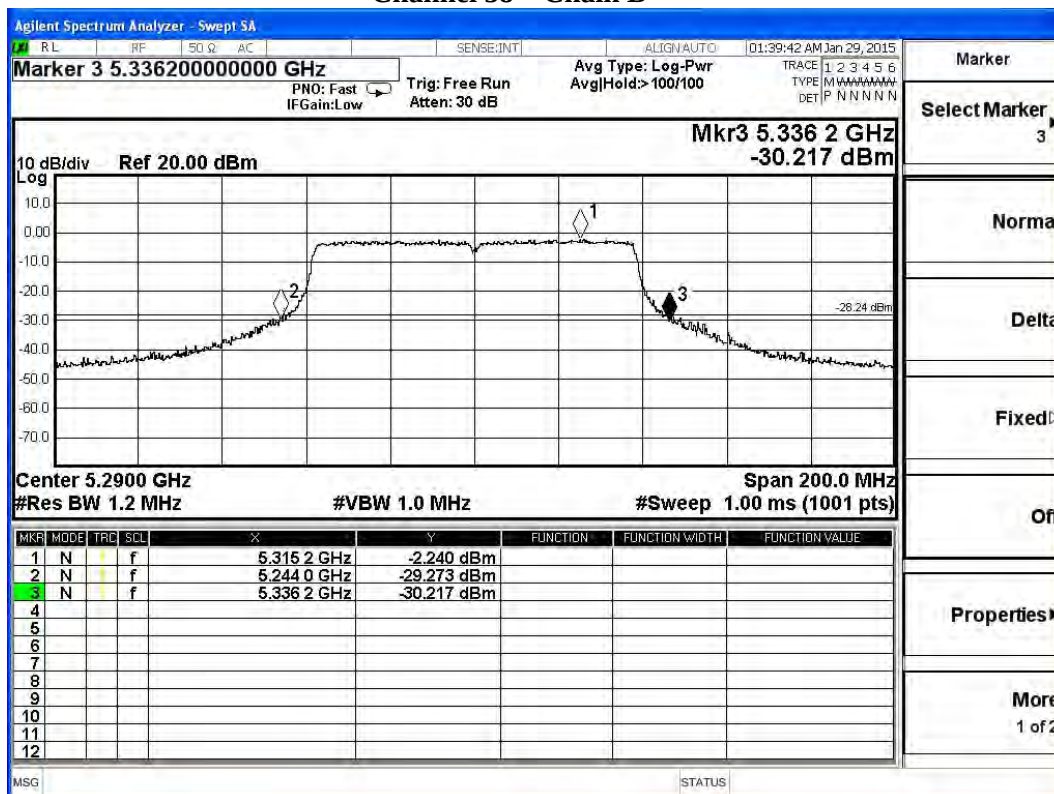
### Channel 42 – Chain B



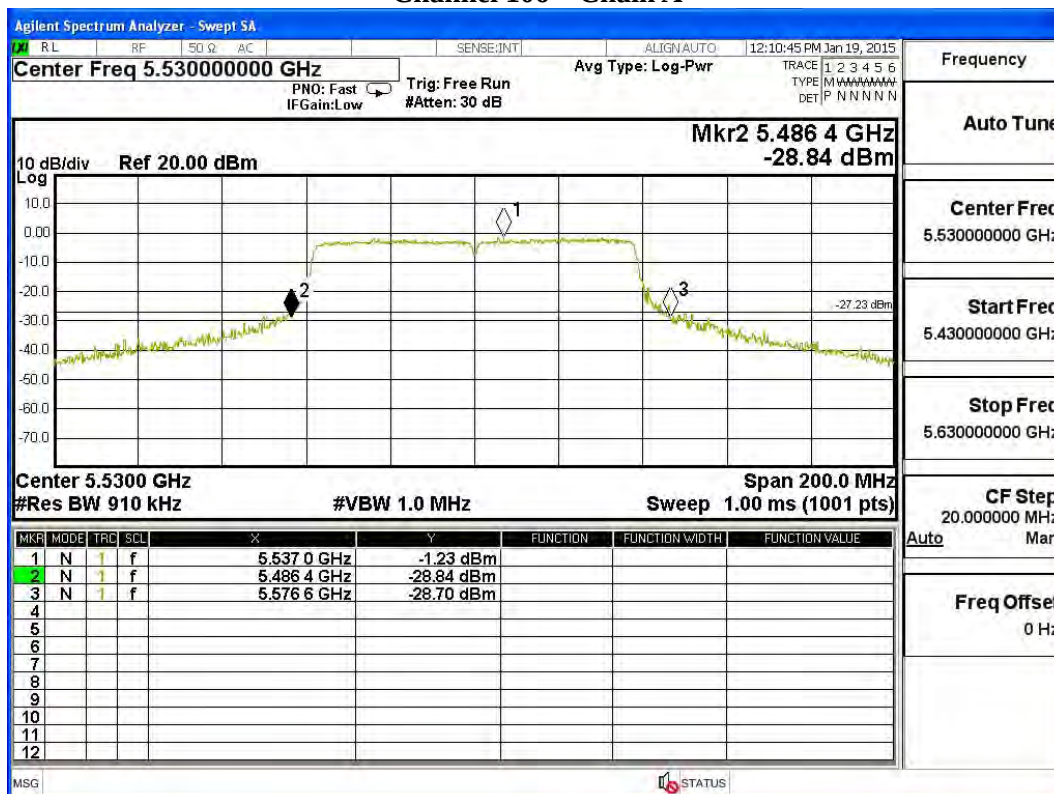
### Channel 58 – Chain A



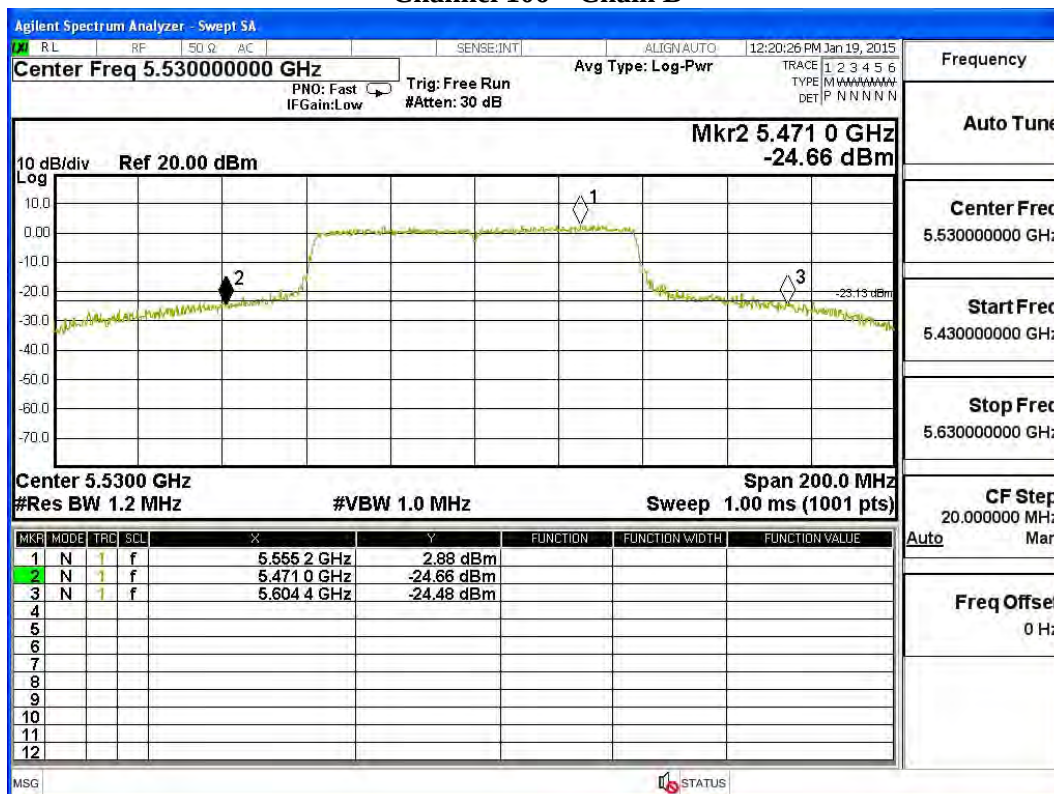
### Channel 58 – Chain B



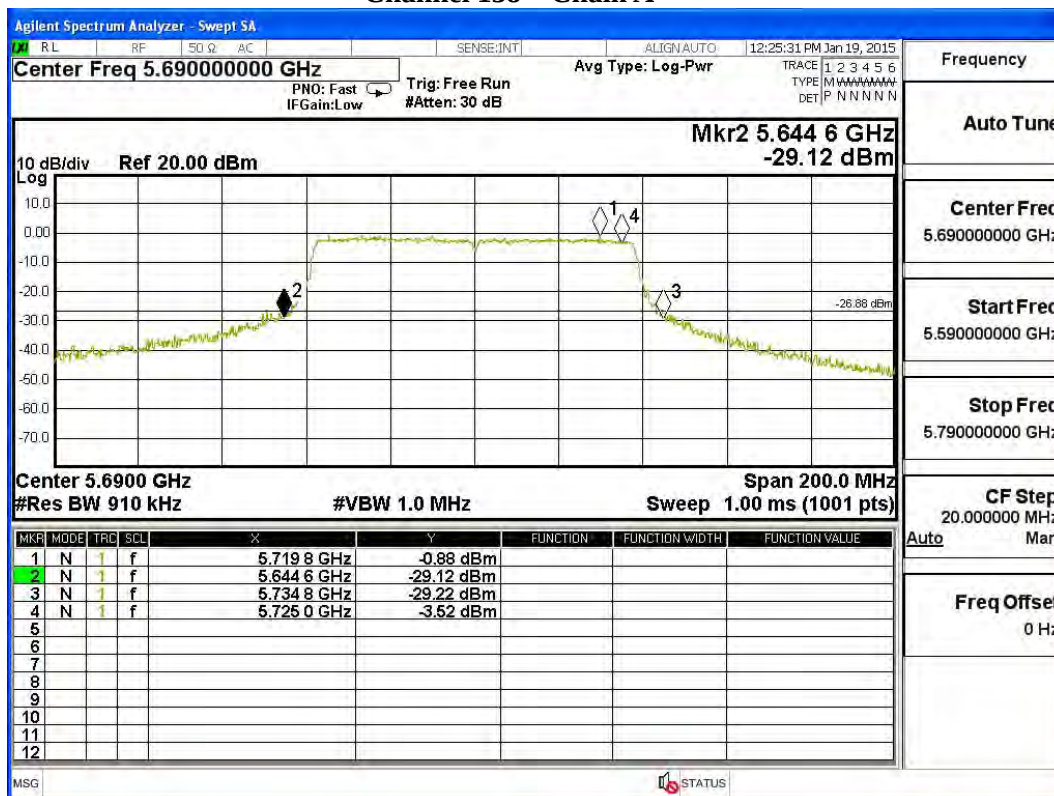
### Channel 106 – Chain A



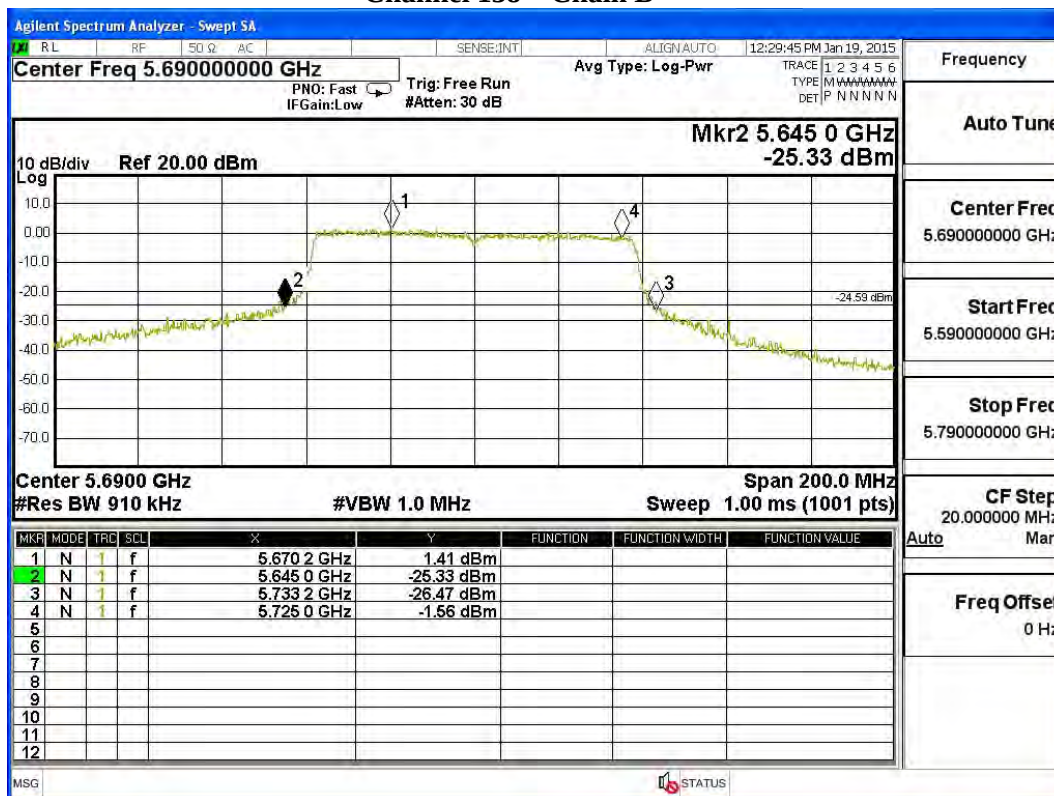
### Channel 106 – Chain B



### Channel 138 – Chain A

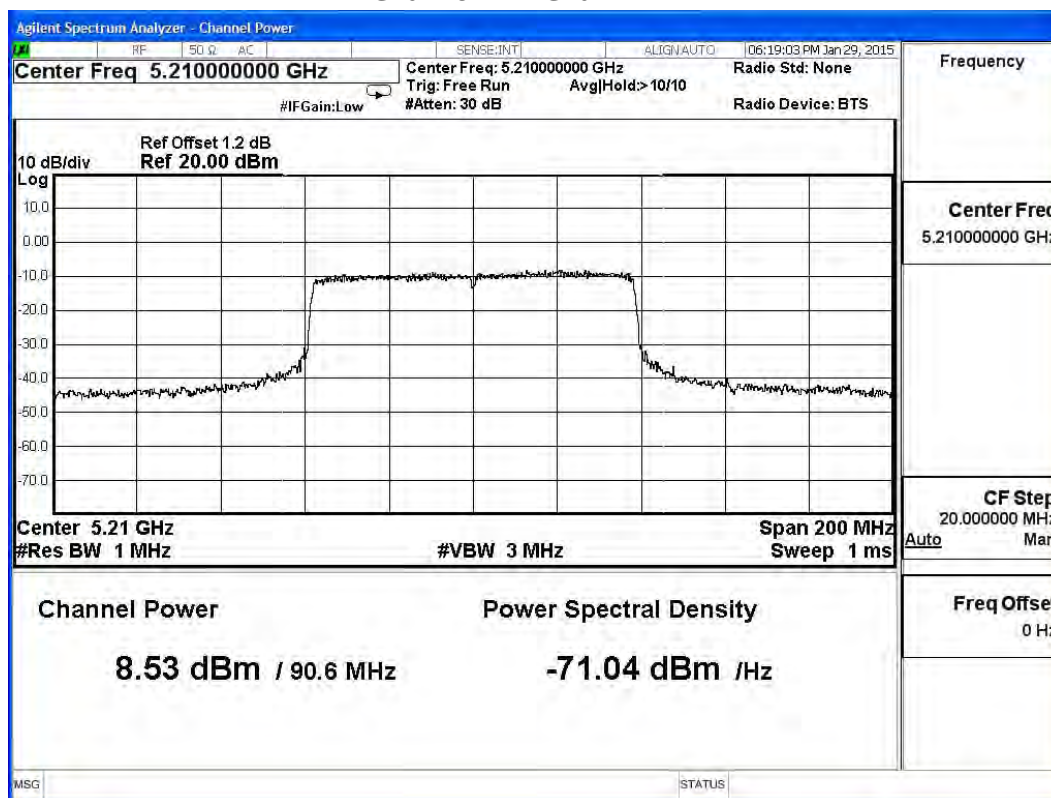


### Channel 138 – Chain B



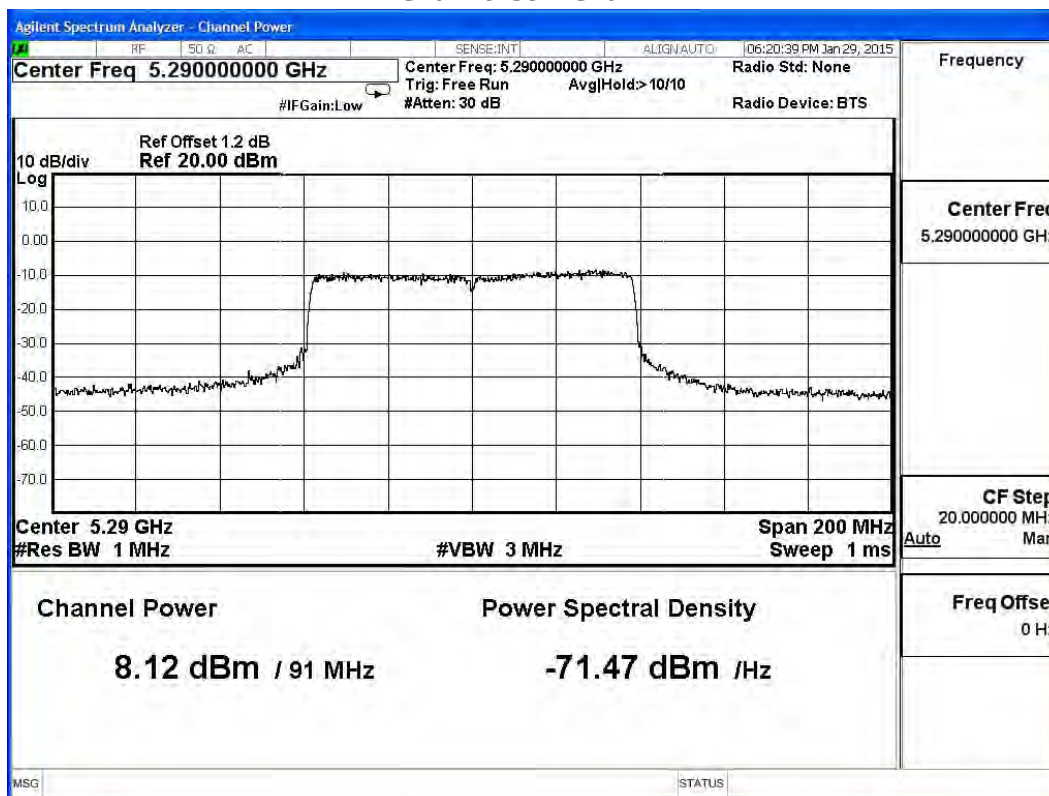
Maximum conducted output power:

Channel 42 – Chain A



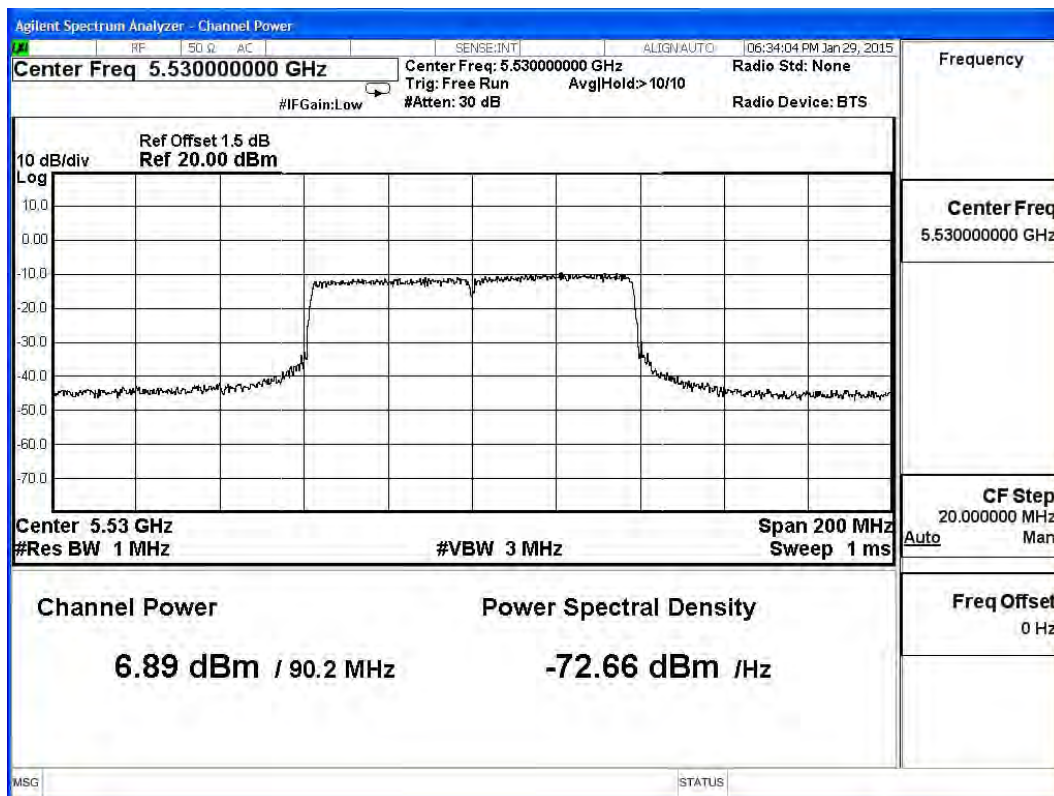
Maximum conducted output power:

Channel 58 – Chain A



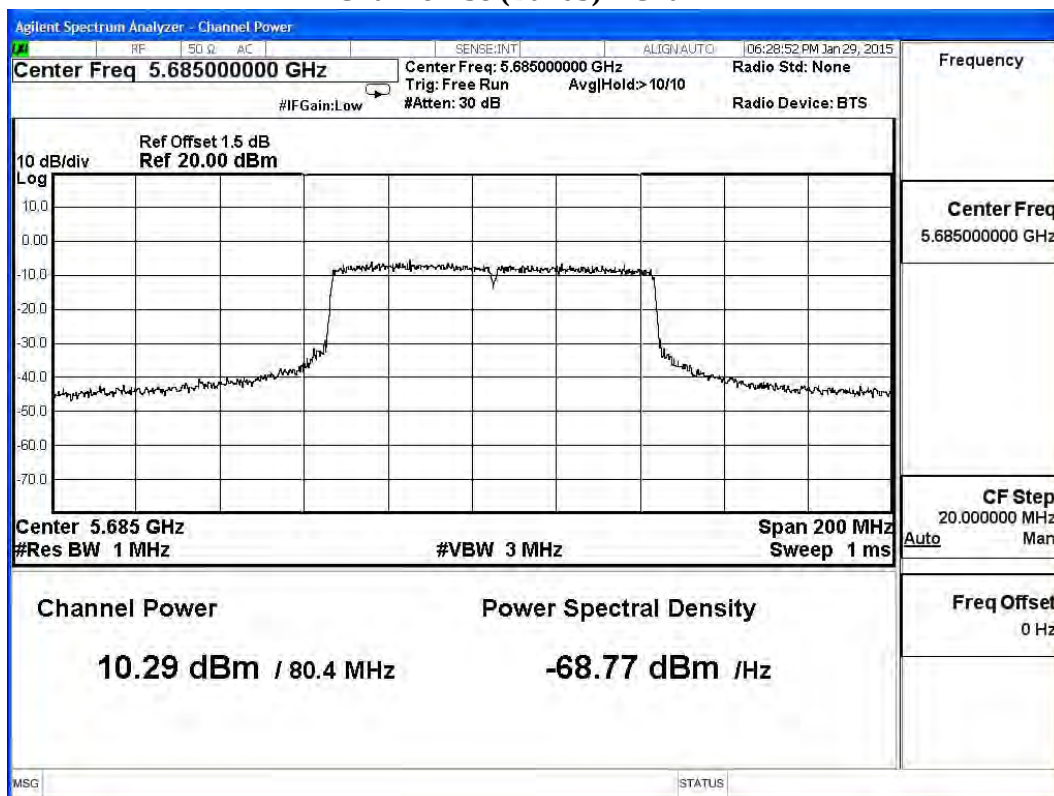
Maximum conducted output power:

Channel 106 – Chain A



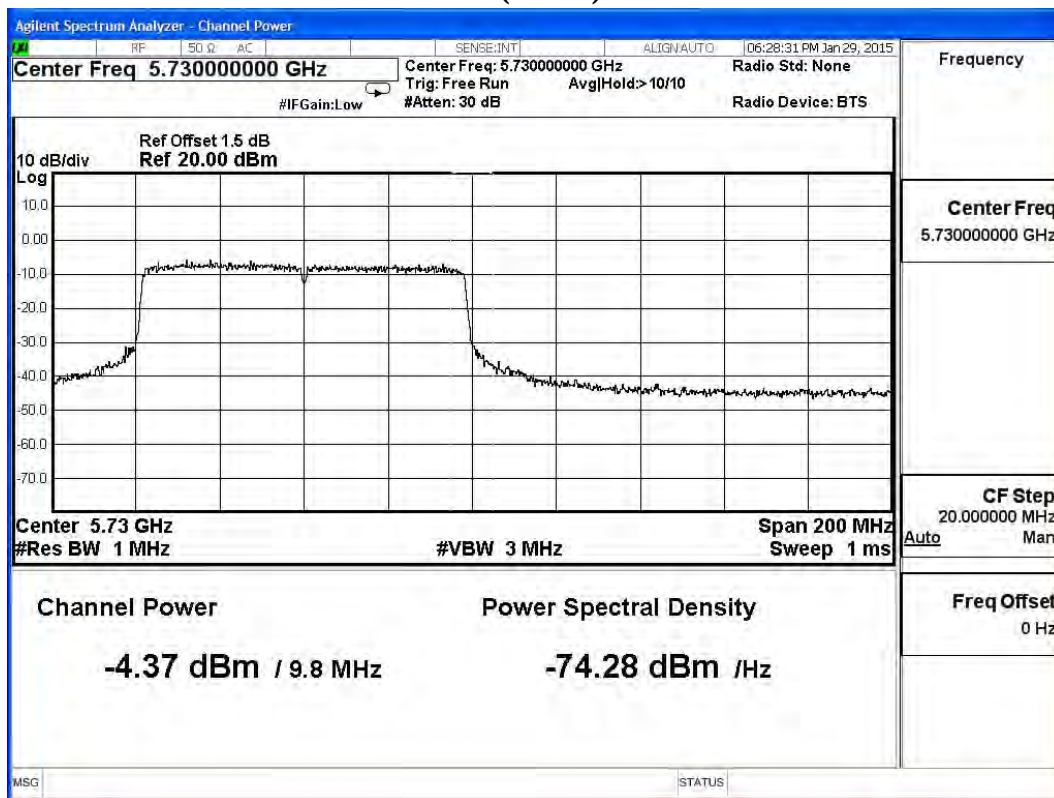
Maximum conducted output power:

Channel 138 (Band3) – Chain A



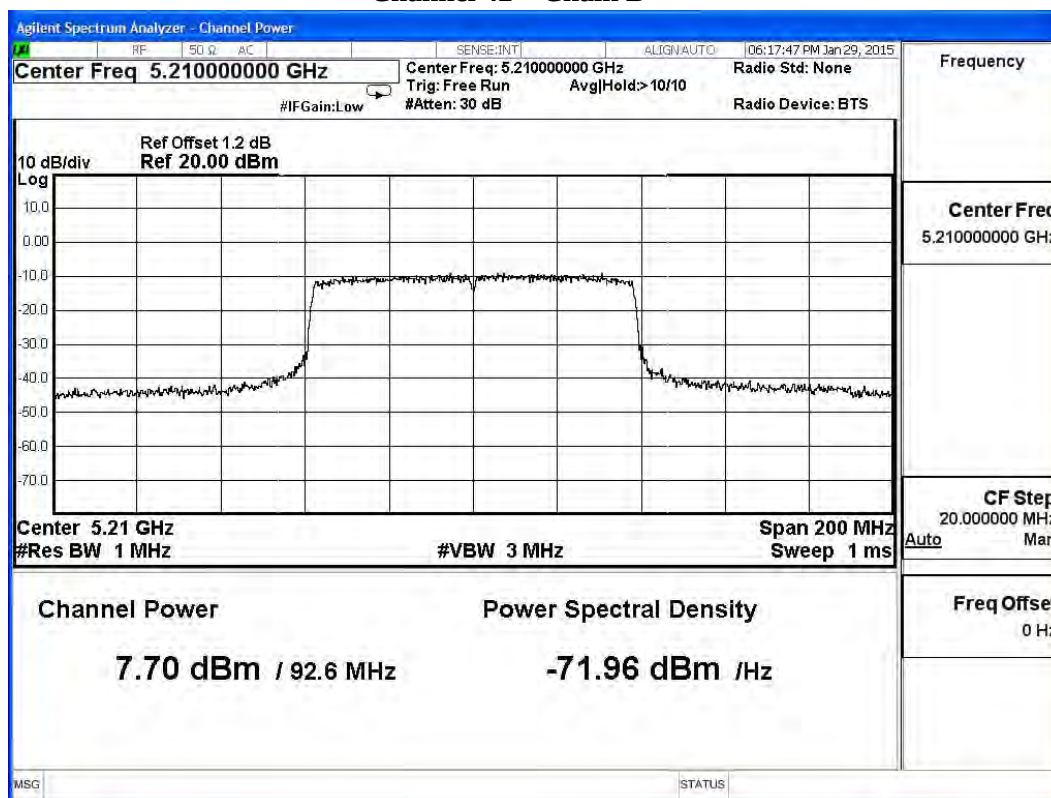
Maximum conducted output power:

Channel 138 (Band4) – Chain A



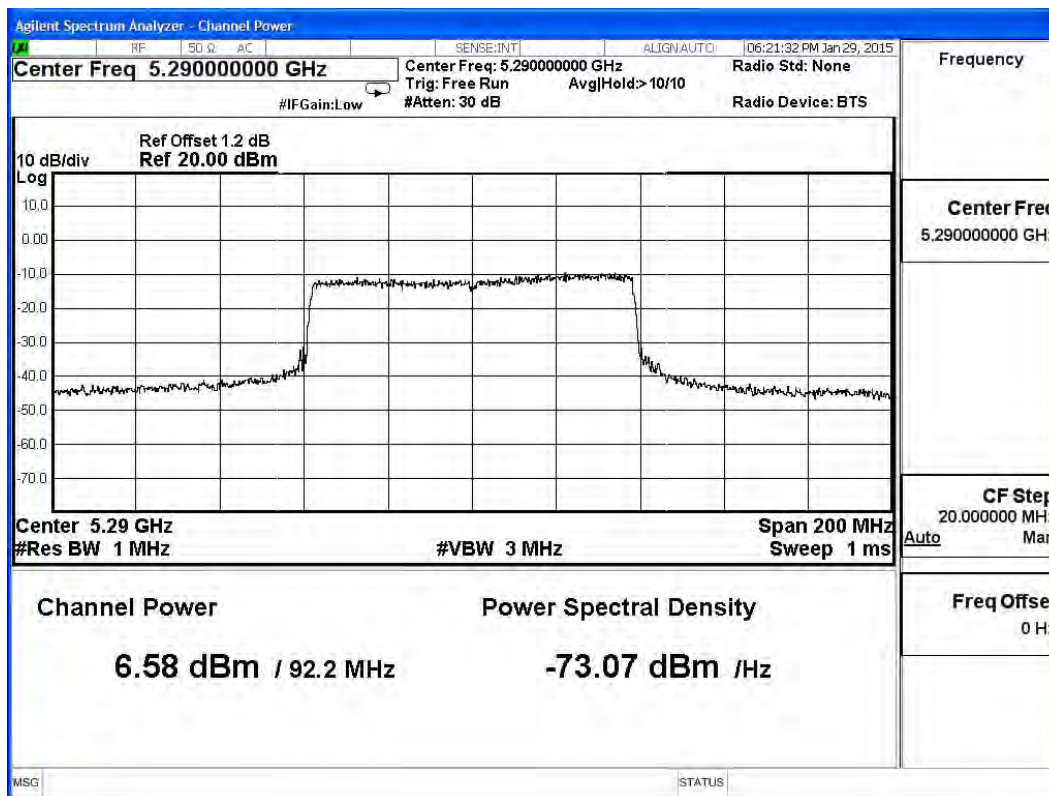
Maximum conducted output power:

Channel 42 – Chain B



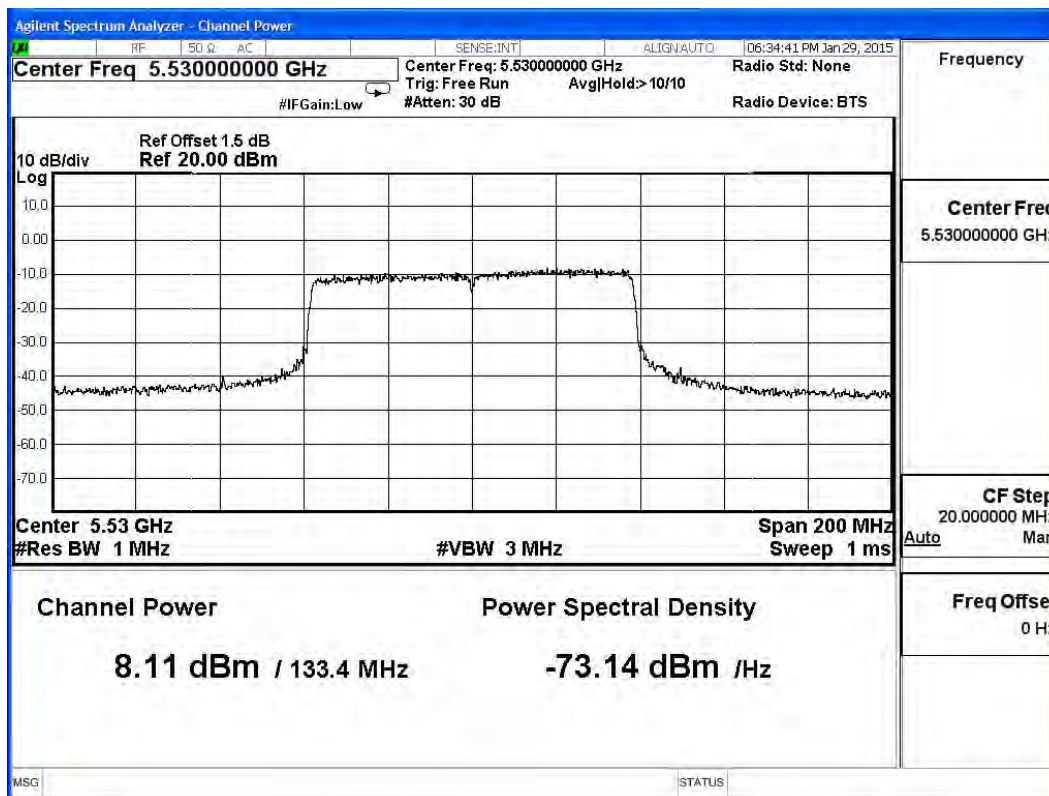
Maximum conducted output power:

Channel 58 – Chain B



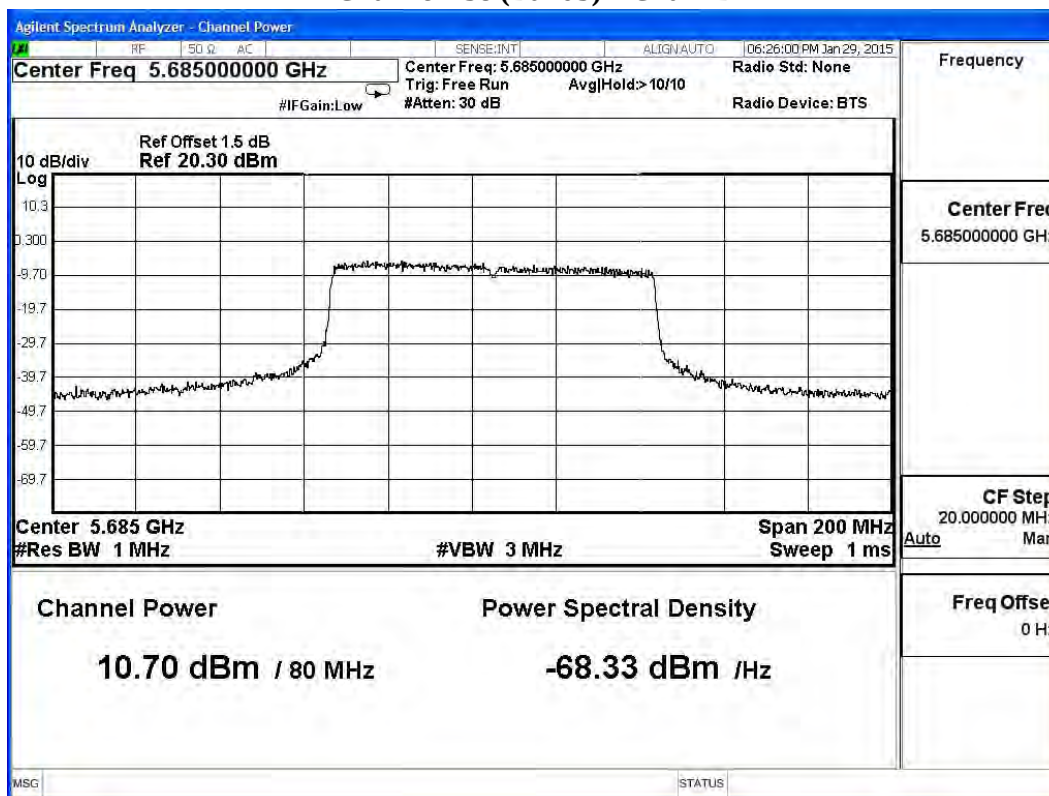
Maximum conducted output power:

Channel 106 – Chain B



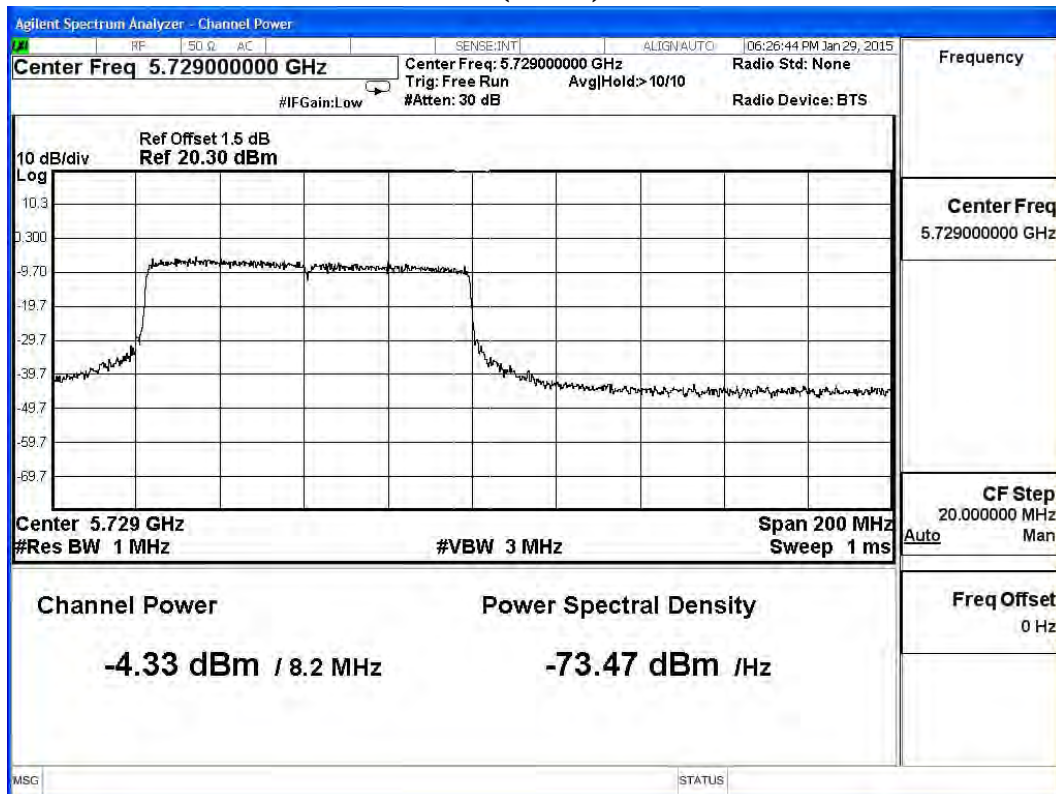
Maximum conducted output power:

Channel 138 (Band3) – Chain B



Maximum conducted output power:

Channel 138 (Band4) – Chain B



#### 4. Peak Power Spectral Density

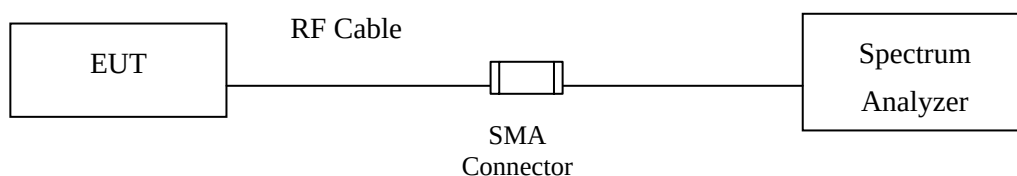
##### 4.1. Test Equipment

|   | Equipment         | Manufacturer | Model No./Serial No. | Last Cal.  |
|---|-------------------|--------------|----------------------|------------|
|   | Spectrum Analyzer | R&S          | FSP40 / 100170       | Jun., 2014 |
|   | Spectrum Analyzer | Agilent      | E4407B / US39440758  | Jun., 2014 |
| X | Spectrum Analyzer | Agilent      | N9010A / MY48030495  | Apr, 2014  |

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 : Wireless Access Point  
 Test Item : Peak Power Spectral Density  
 Test Site : No.3 OATS  
 Test Mode : Mode 1: Transmit (802.11a-6Mbps) (Internal Antenna)

| Channel Number | Frequency (MHz) | Data Rate (Mbps) | Reading Level (dBm) | Cable Loss (dB) | Measurement Level (dBm) | Required Limit (dBm) | Result |
|----------------|-----------------|------------------|---------------------|-----------------|-------------------------|----------------------|--------|
| 36             | 5180            | 6                | -6.18               | 1.2             | -4.98                   | 4                    | Pass   |
| 44             | 5220            | 6                | -5.90               | 1.2             | -4.70                   | 4                    | Pass   |
| 48             | 5240            | 6                | -5.27               | 1.2             | -4.07                   | 4                    | Pass   |
| 52             | 5260            | 6                | -5.26               | 1.2             | -4.06                   | 11                   | Pass   |
| 60             | 5300            | 6                | -4.30               | 1.2             | -3.10                   | 11                   | Pass   |
| 64             | 5320            | 6                | -3.64               | 1.2             | -2.44                   | 11                   | Pass   |
| 100            | 5500            | 6                | -2.36               | 1.5             | -0.86                   | 11                   | Pass   |
| 116            | 5580            | 6                | -2.04               | 1.5             | -0.54                   | 11                   | Pass   |
| 140            | 5700            | 6                | -3.45               | 1.5             | -1.95                   | 11                   | Pass   |

Channel 36:



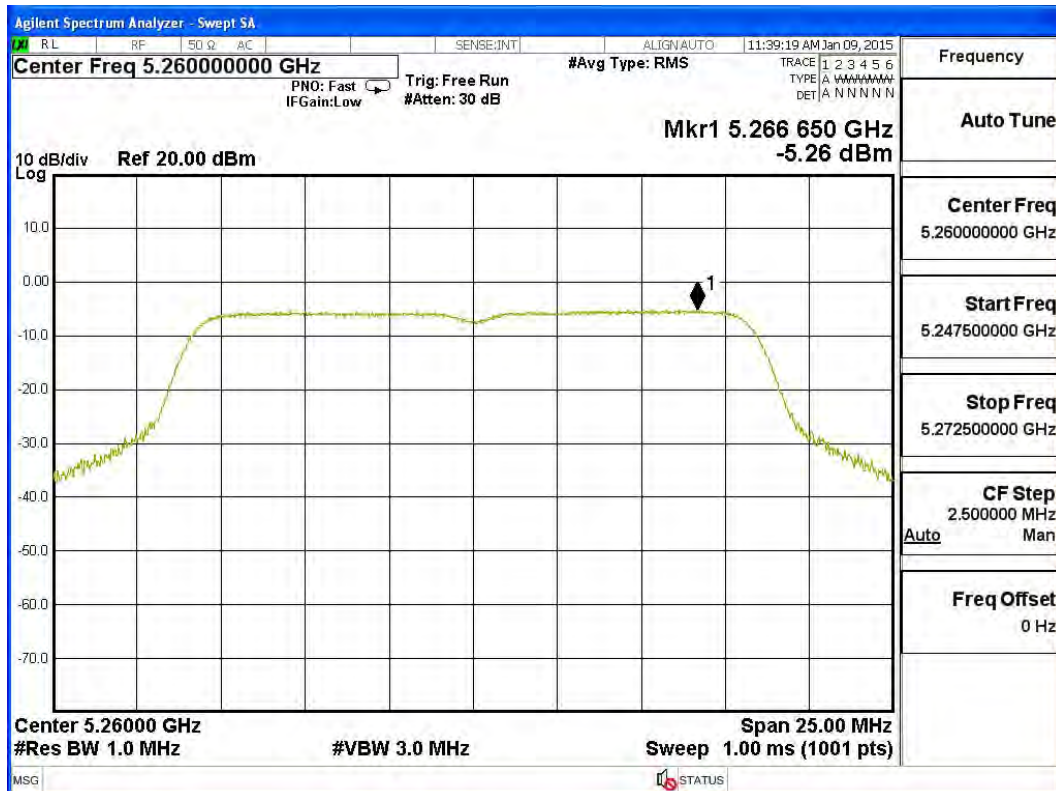
Channel 44:



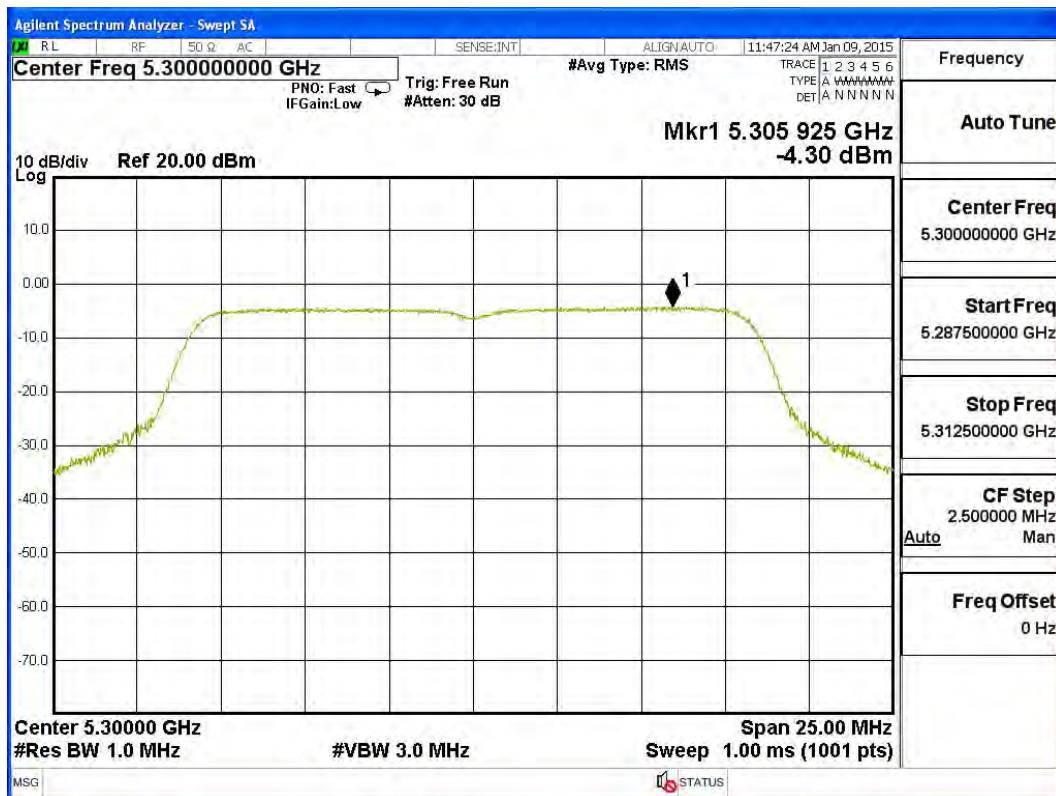
Channel 48:



Channel 52:



Channel 60:



Channel 64:

