

FCC Test Report

Product Name	AerialCast
Model No	WN4507L
FCC ID	PPQ-WN4507L

Applicant	Lite-On Technology Corp.
Address	4F, 90, Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C.

Date of Receipt	Nov. 05, 2013
Issued Date	Nov. 27, 2013
Report No.	13B0101R-RFUSP52V00
Report Version	V1.0



The test results relate only to the samples tested.

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Test Report Certification

Issued Date: Nov. 27, 2013

Report No.: 13B0101R-RFUSP52V00



Product Name	AerialCast
Applicant	Lite-On Technology Corp.
Address	4F, 90, Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C.
Manufacturer	1. Lite-On Technology (Changzhou) Co., Ltd. 2. DONG GUAN G-COM COMPUTER CO., LTD
Model No.	WN4507L
FCC ID.	PPQ-WN4507L
EUT Rated Voltage	DC 5V by USB
EUT Test Voltage	AC 120V/60Hz
Trade Name	<i>acer</i>
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2012 ANSI C63.4: 2003, ANSI C63.10: 2009, FCC KDB-789033
Test Result	Complied

The test results relate only to the samples tested.

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	AerialCast
Trade Name	<i>acer</i>
FCC ID.	PPQ-WN4507L
Model No.	WN4507L
Frequency Range	802.11a/n-20MHz: 5180-5320MHz, 5500-5700MHz 802.11n-40MHz: 5190-5310, 5510-5670MHz
Number of Channels	802.11a/n-20MHz: 16; 802.11n-40MHz: 7
Data Rate	802.11a: 6-54Mbps, 802.11n: up to 300Mbps
Channel Control	Auto
Type of Modulation	802.11a/n: OFDM, BPSK, QPSK, 16QAM, 64QAM
Antenna type	Printed on PCB
Antenna Gain	Refer to the table "Antenna List"
HDMI Cable	Shielded, 0.1m
USB Cable	Shielded, 0.8m
Power Adapter	MFR: PCD, M/N: DSA-5PFK-05 FUS Input: AC 100V-240V~50/60Hz Output: DC 5V, 1A

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Lite-On	Dongle	Printed on PCB	3.22dBi For 5.15~5.35GHz 3.88dBi For 5.47~5.725GHz

Note: The antenna of EUT is conform to FCC 15.203

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

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

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

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

Note:

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

Test Mode	Mode 1: Transmit (802.11a-6Mbps) Mode 2: Transmit (802.11n-20BW 14.4Mbps) Mode 3: Transmit (802.11n-40BW 30Mbps)
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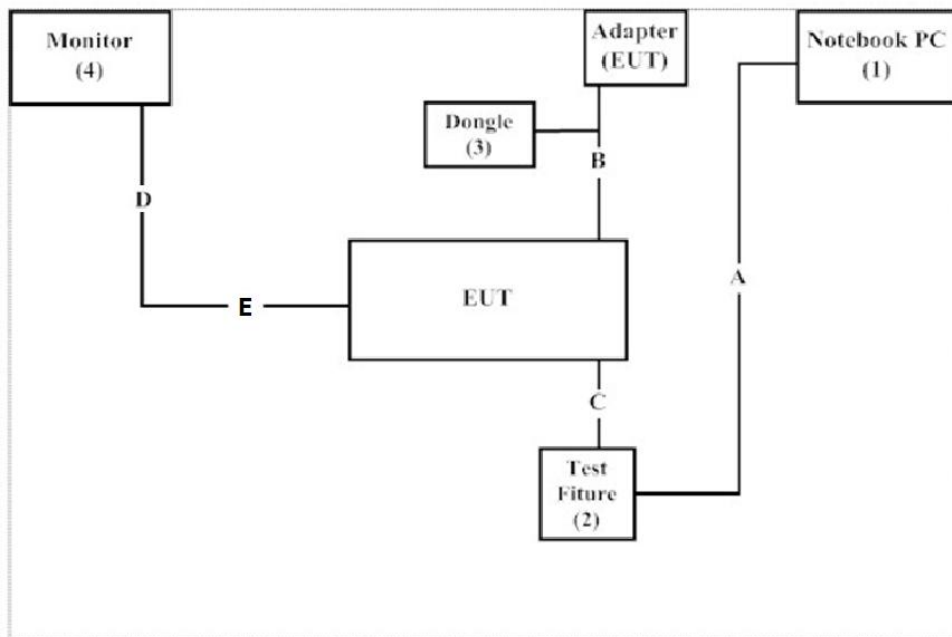
1.3. Tested System Details

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	lenovo	Think PAD X60	N/A	Non-Shielded, 0.8m
(2) Test Fixture	LITE ON	N/A	N/A	N/A
(3) FLASH	Transcend	JetFlash110	155422-2931	N/A
(4) Monitor	Dell	ST232QLF	CN-QM2NN6-72872-22I-C9WS	Non-Shielded, 1.8m

Signal Cable Type		Signal cable Description
A	USB Cable	Non-Shielded, 1.0m
B	USB Cable	Non-Shielded, 0.8m
C	Signal Cable	Non-Shielded, 0.05m
D	HDMI Extender Cable	Shielded, 1.0m
E	HDMI Cable	Shielded, 0.1m

1.4. Configuration of tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown on 1.4
- (2) Execute “Tera Term v4.67” program on the Notebook PC.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Start the continuous transmission.
- (5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

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

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

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

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

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Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
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E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

2. Conducted Emission

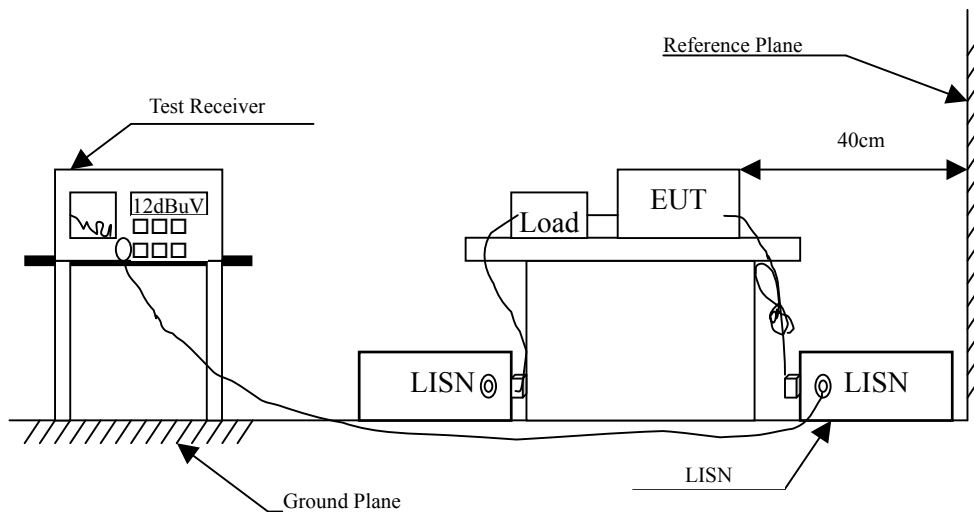
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2013	
X	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2013	Peripherals
X	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2013	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2013	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2013	
	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 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

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

2.4. Test Procedure

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

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

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

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

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : AerialCast
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.298	9.703	29.590	39.293	-22.478	61.771
0.369	9.706	32.510	42.216	-17.527	59.743
0.580	9.716	23.860	33.576	-22.424	56.000
1.267	9.757	20.390	30.147	-25.853	56.000
2.130	9.806	20.590	30.396	-25.604	56.000
5.802	9.840	22.280	32.120	-27.880	60.000
Average					
0.298	9.703	21.850	31.553	-20.218	51.771
0.369	9.706	25.220	34.926	-14.817	49.743
0.580	9.716	15.410	25.126	-20.874	46.000
1.267	9.757	11.180	20.937	-25.063	46.000
2.130	9.806	11.950	21.756	-24.244	46.000
5.802	9.840	14.000	23.840	-26.160	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 : AerialCast
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5190MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 2					
Quasi-Peak					
0.365	9.686	34.210	43.896	-15.961	59.857
0.494	9.692	24.840	34.532	-21.639	56.171
0.580	9.696	25.890	35.586	-20.414	56.000
0.662	9.700	25.420	35.120	-20.880	56.000
5.599	9.830	24.970	34.800	-25.200	60.000
17.056	9.980	27.990	37.970	-22.030	60.000
Average					
0.365	9.686	29.750	39.436	-10.421	49.857
0.494	9.692	19.910	29.602	-16.569	46.171
0.580	9.696	20.280	29.976	-16.024	46.000
0.662	9.700	19.140	28.840	-17.160	46.000
5.599	9.830	17.200	27.030	-22.970	50.000
17.056	9.980	17.510	27.490	-22.510	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 : AerialCast
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5270MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.345	9.705	22.980	32.685	-27.744	60.429
0.396	9.708	32.020	41.728	-17.243	58.971
0.455	9.710	24.930	34.640	-22.646	57.286
0.630	9.718	24.340	34.058	-21.942	56.000
0.795	9.726	21.580	31.306	-24.694	56.000
1.853	9.794	20.610	30.404	-25.596	56.000
Average					
0.345	9.705	14.970	24.675	-25.754	50.429
0.396	9.708	24.380	34.088	-14.883	48.971
0.455	9.710	16.200	25.910	-21.376	47.286
0.630	9.718	15.720	25.438	-20.562	46.000
0.795	9.726	11.780	21.506	-24.494	46.000
1.853	9.794	11.600	21.394	-24.606	46.000

Note:

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

Product : AerialCast
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5270MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 2					
Quasi-Peak					
0.357	9.686	33.020	42.706	-17.380	60.086
0.486	9.692	24.800	34.492	-21.908	56.400
0.584	9.696	25.570	35.266	-20.734	56.000
1.033	9.727	22.990	32.717	-23.283	56.000
4.904	9.820	25.390	35.210	-20.790	56.000
17.748	9.990	26.290	36.280	-23.720	60.000
Average					
0.357	9.686	28.710	38.396	-11.690	50.086
0.486	9.692	20.210	29.902	-16.498	46.400
0.584	9.696	19.530	29.226	-16.774	46.000
1.033	9.727	16.740	26.467	-19.533	46.000
4.904	9.820	17.940	27.760	-18.240	46.000
17.748	9.990	15.830	25.820	-24.180	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 : AerialCast
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5550MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.384	9.707	31.190	40.897	-18.417	59.314
0.412	9.708	25.890	35.598	-22.916	58.514
0.494	9.712	28.160	37.872	-18.299	56.171
0.693	9.721	26.840	36.561	-19.439	56.000
0.857	9.729	18.970	28.699	-27.301	56.000
4.716	9.830	24.070	33.900	-22.100	56.000
Average					
0.384	9.707	22.720	32.427	-16.887	49.314
0.412	9.708	18.370	28.078	-20.436	48.514
0.494	9.712	19.830	29.542	-16.629	46.171
0.693	9.721	19.060	28.781	-17.219	46.000
0.857	9.729	10.070	19.799	-26.201	46.000
4.716	9.830	15.980	25.810	-20.190	46.000

Note:

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

Product : AerialCast
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 3: Transmit (802.11n-40BW 30Mbps) (5550MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 2					
Quasi-Peak					
0.232	9.680	23.650	33.330	-30.327	63.657
0.361	9.686	33.960	43.646	-16.325	59.971
0.486	9.692	24.920	34.612	-21.788	56.400
0.572	9.696	25.730	35.426	-20.574	56.000
0.759	9.714	27.030	36.744	-19.256	56.000
17.466	9.990	28.550	38.540	-21.460	60.000
Average					
0.232	9.680	12.670	22.350	-31.307	53.657
0.361	9.686	29.470	39.156	-10.815	49.971
0.486	9.692	20.210	29.902	-16.498	46.400
0.572	9.696	19.980	29.676	-16.324	46.000
0.759	9.714	21.680	31.394	-14.606	46.000
17.466	9.990	18.250	28.240	-21.760	50.000

Note:

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

3. Maximun conducted output power

3.1. Test Equipment

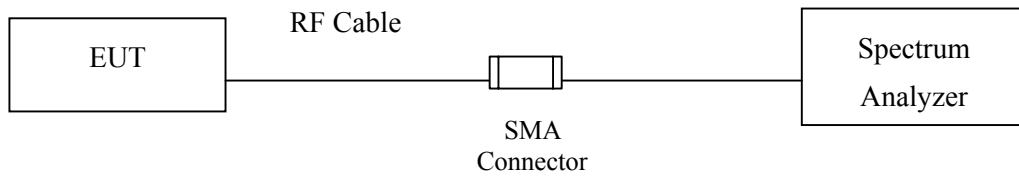
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2013
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2013
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2013

Note:

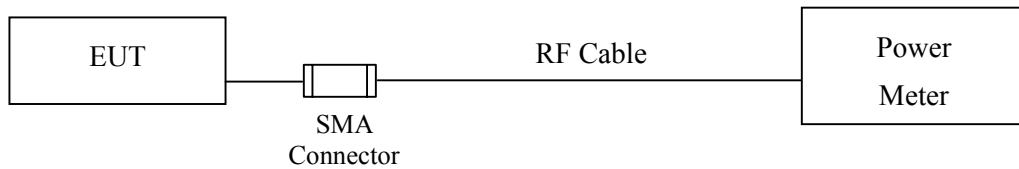
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with “X” are used to measure the final test results.

3.2. Test Setup

26dBc Occupied Bandwidth



Conduction Power Measurement



3.3. Limits

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

3.4. Test Procedur

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

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

3.5. Uncertainty

$\pm 1.27 \text{ dB}$

3.6. Test Result of Maximum conducted output power

Product : AerialCast
 Test Item : Maximum conducted output power
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (802.11a-6Mbps)

CHAIN A

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	12.08	--	--	--	--	--	--	--	<17dBm
44	5220	11.63	11.5	11.43	11.38	11.31	11.28	11.19	11.11	<17dBm
48	5240	11.51	--	--	--	--	--	--	--	<17dBm
52	5260	11.45	--	--	--	--	--	--	--	<24dBm
60	5300	11.09	11.03	10.91	10.88	10.84	10.76	10.69	10.61	<24dBm
64	5320	11.30	--	--	--	--	--	--	--	<24dBm
100	5500	11.01	--	--	--	--	--	--	--	<24dBm
116	5580	11.03	10.94	10.89	10.81	10.79	10.71	10.65	10.59	<24dBm
140	5700	11.25	--	--	--	--	--	--	--	<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	14.11	--	--	--	--	--	--	--	<17dBm
44	5220	14.13	14.01	13.92	13.86	13.79	13.74	13.69	13.6	<17dBm
48	5240	14.08	--	--	--	--	--	--	--	<17dBm
52	5260	14.18	--	--	--	--	--	--	--	<24dBm
60	5300	14.04	13.9	13.82	13.71	13.64	13.59	13.55	13.41	<24dBm
64	5320	14.17	--	--	--	--	--	--	--	<24dBm
100	5500	14.05	--	--	--	--	--	--	--	<24dBm
116	5580	14.27	14.14	14.07	13.94	13.82	13.71	13.69	13.61	<24dBm
140	5700	14.07	--	--	--	--	--	--	--	<24dBm

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

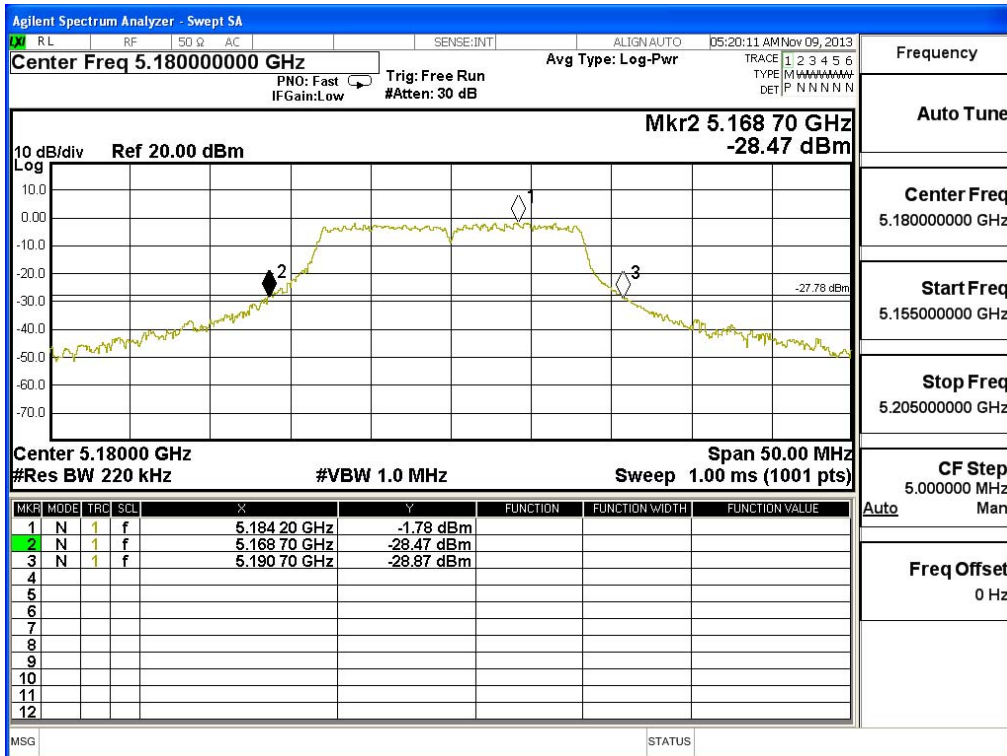
Maximum conducted output power Measurement:
CHAIN B

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit	
				(dBm)	dBm+10log(BW)
36	5180	22.000	14.11	17	17.42
44	5220	22.050	14.13	17	17.43
48	5240	21.750	14.08	17	17.37
52	5260	22.050	14.18	24	24.43
60	5300	21.950	14.04	24	24.41
64	5320	21.900	14.17	24	24.40
100	5500	22.300	14.05	24	24.48
116	5580	21.950	14.27	24	24.41
140	5700	21.950	14.07	24	24.41

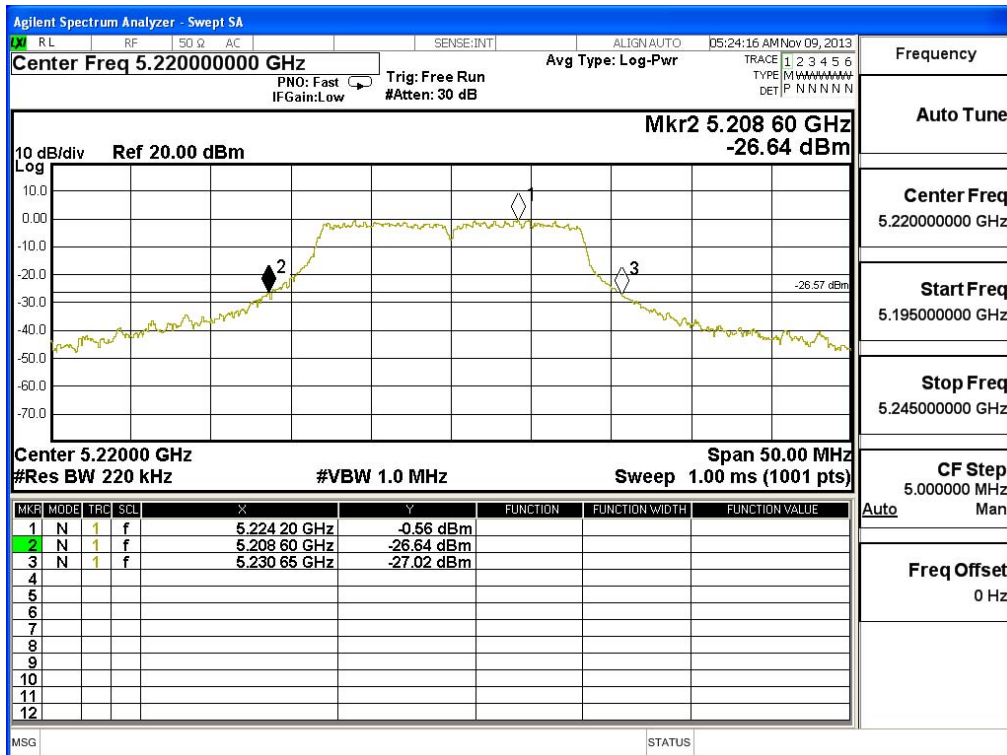
Note:

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.

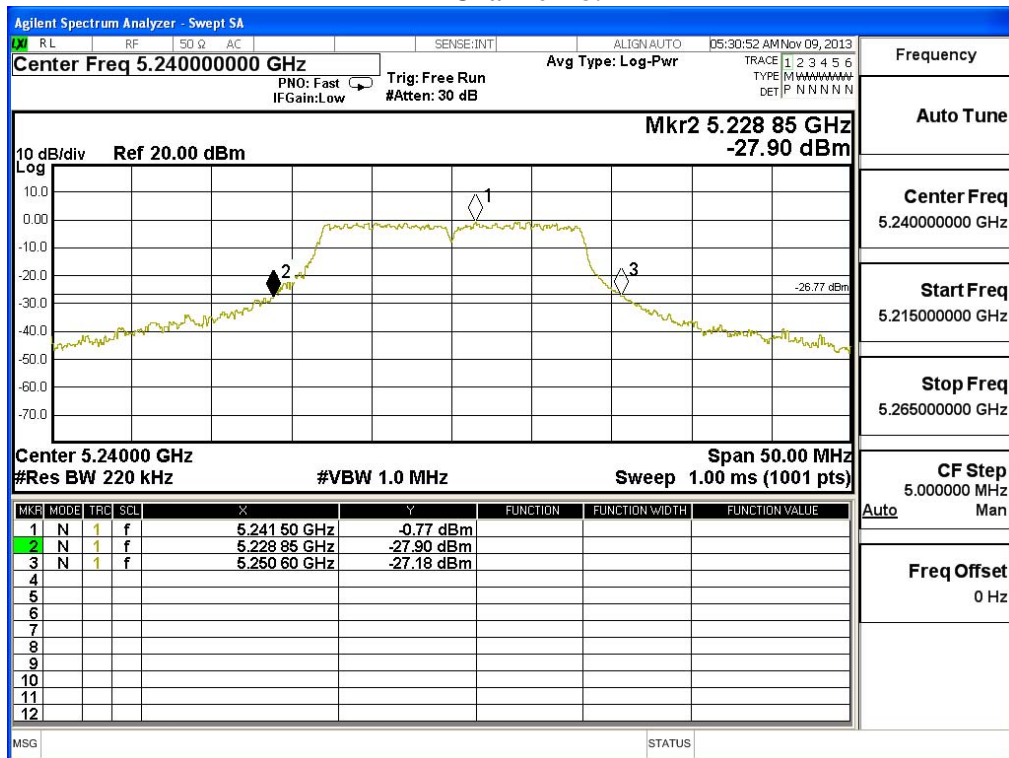
26dBc Occupied Bandwidth: Channel 36:



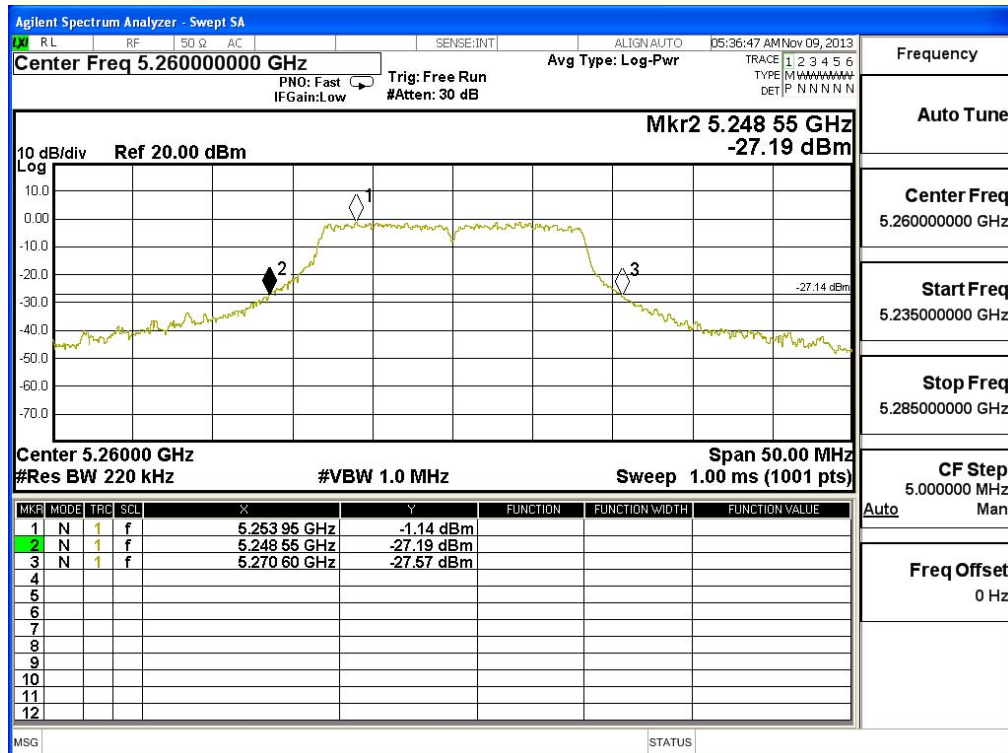
Channel 44:



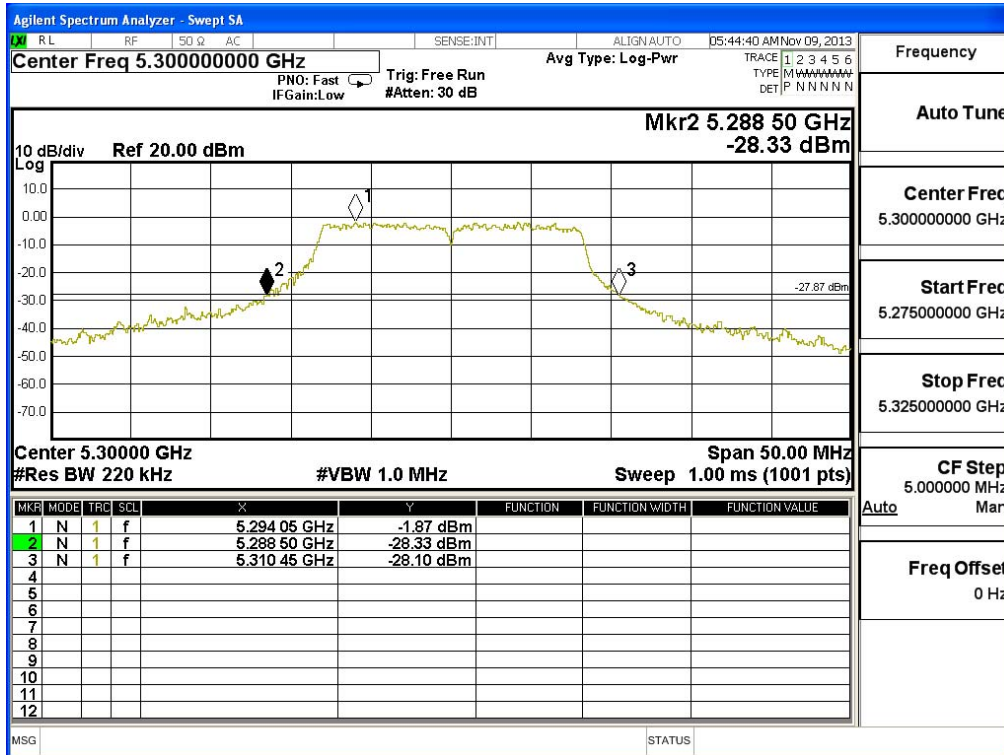
Channel 48:



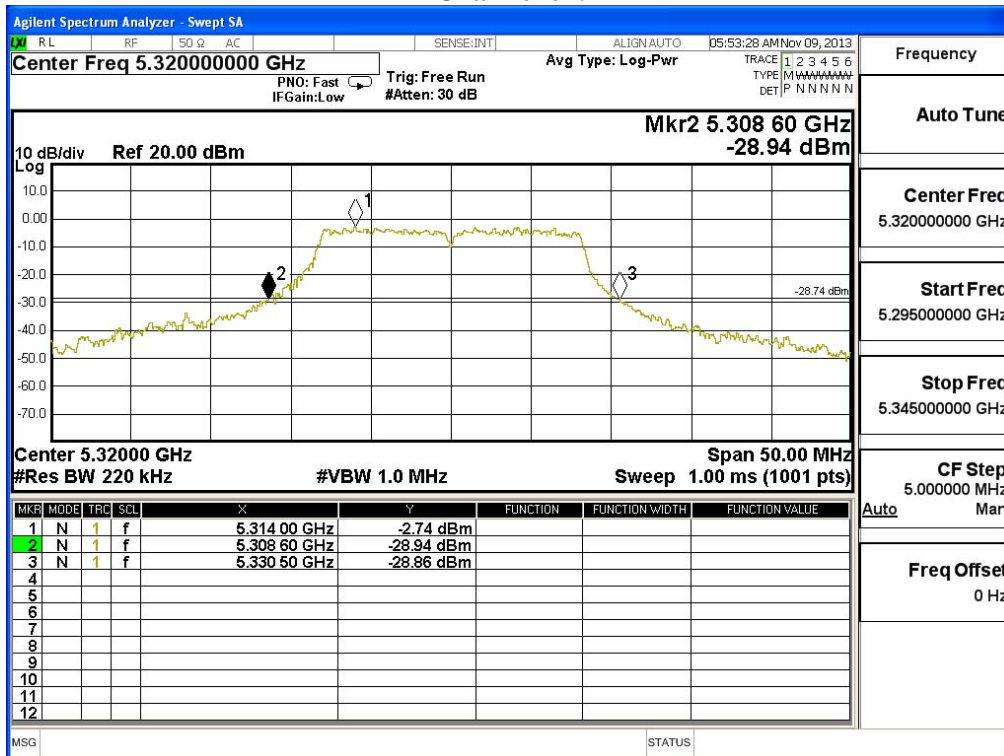
Channel 52:



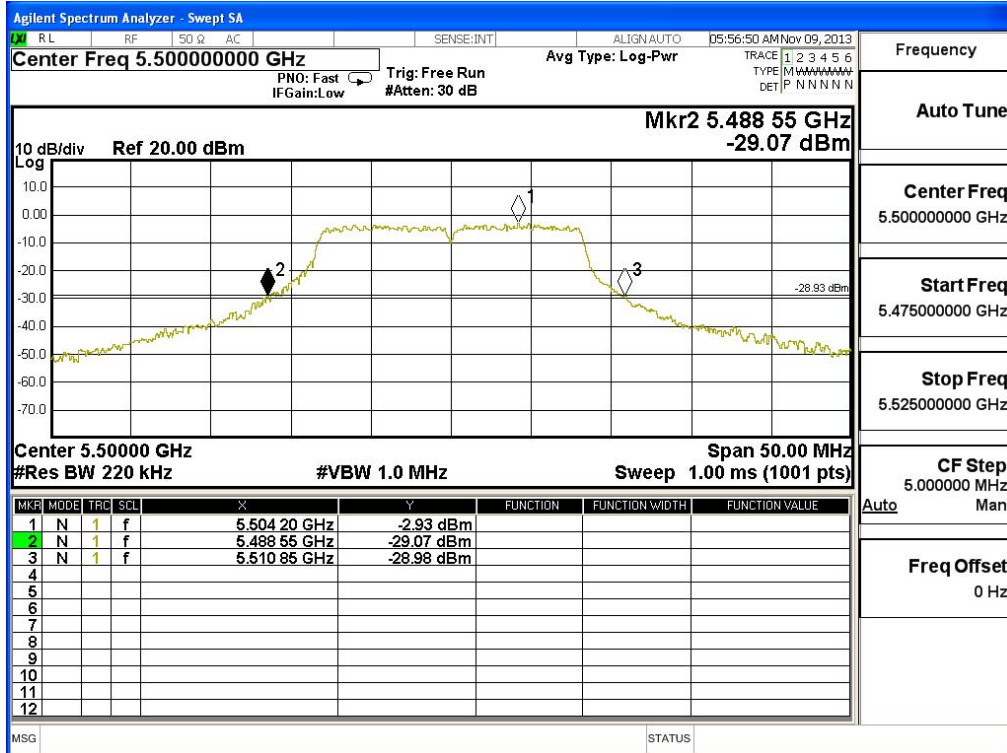
Channel 60:



Channel 64:



Channel 100:



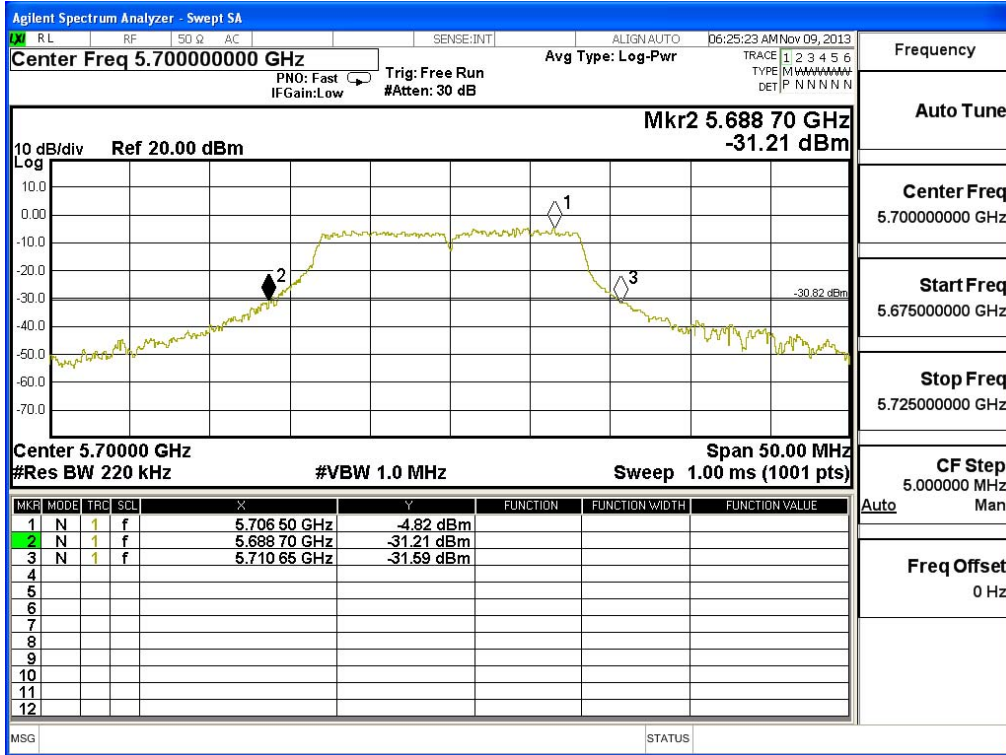
Frequency
Auto Tune
Center Freq 5.50000000 GHz
Start Freq 5.475000000 GHz
Stop Freq 5.525000000 GHz
CF Step 5.000000 MHz
Auto Man
Freq Offset 0 Hz

Channel 116:



Frequency
Auto Tune
Center Freq 5.580000000 GHz
Start Freq 5.555000000 GHz
Stop Freq 5.605000000 GHz
CF Step 5.000000 MHz
Auto Man
Freq Offset 0 Hz

Channel 140:



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

CHAIN A

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	
		Measurement Level (dBm)								
36	5180	12.28	--	--	--	--	--	--	--	<17dBm
44	5220	12.15	12.09	12.01	11.95	11.88	11.8	11.74	11.69	<17dBm
48	5240	12.24	--	--	--	--	--	--	--	<17dBm
52	5260	12.16	--	--	--	--	--	--	--	<24dBm
60	5300	12.28	12.21	12.11	12.05	11.94	11.87	11.82	11.78	<24dBm
64	5320	12.11	--	--	--	--	--	--	--	<24dBm
100	5500	12.15	--	--	--	--	--	--	--	<24dBm
116	5580	12.12	12.05	11.92	11.84	11.79	11.71	11.65	11.57	<24dBm
140	5700	12.21	--	--	--	--	--	--	--	<24dBm

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

CHAIN B

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4	
		Measurement Level (dBm)								
36	5180	12.24	--	--	--	--	--	--	--	<17dBm
44	5220	12.13	12.04	11.91	11.84	11.75	11.69	11.62	11.58	<17dBm
48	5240	12.03	--	--	--	--	--	--	--	<17dBm
52	5260	12.27	--	--	--	--	--	--	--	<24dBm
60	5300	12.04	11.97	11.81	11.77	11.72	11.67	11.61	11.55	<24dBm
64	5320	12.13	--	--	--	--	--	--	--	<24dBm
100	5500	12.07	--	--	--	--	--	--	--	<24dBm
116	5580	12.04	11.91	11.87	11.76	11.69	11.6	11.57	11.49	<24dBm
140	5700	12.28	--	--	--	--	--	--	--	<24dBm

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

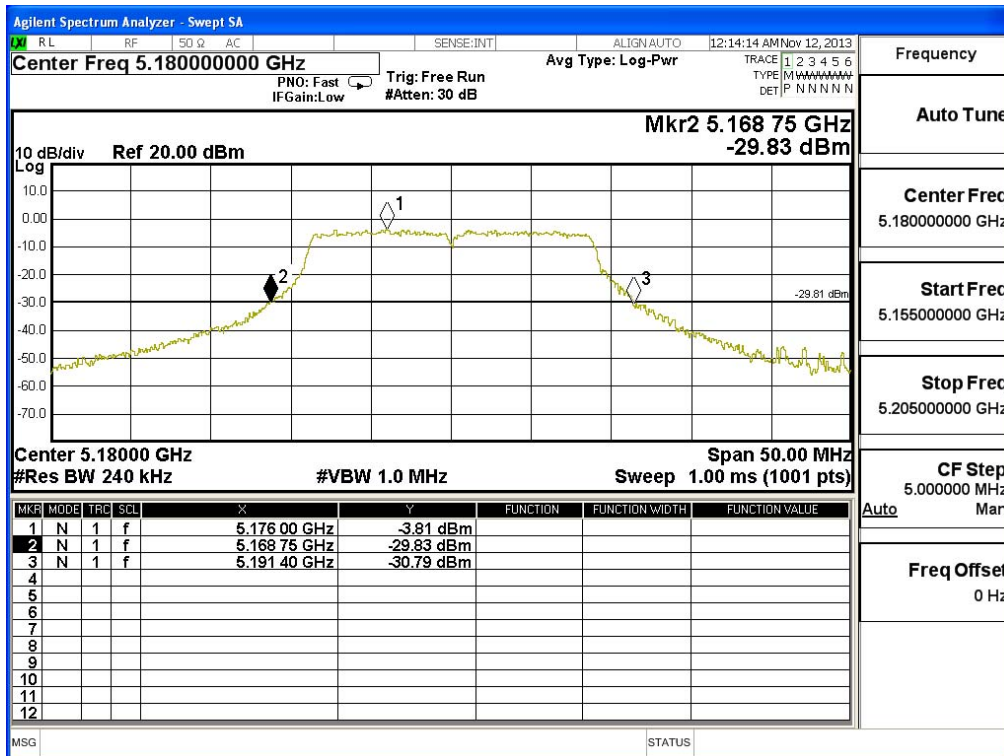
Maximum conducted output power Measurement:
(CHAIN A+ B)

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	22.400	12.28	12.24	15.27	17	17.50
44	5220	22.750	12.15	12.13	15.15	17	17.57
48	5240	22.200	12.24	12.03	15.15	17	17.46
52	5260	22.350	12.16	12.27	15.23	24	24.49
60	5300	22.400	12.28	12.04	15.17	24	24.50
64	5320	22.650	12.11	12.13	15.13	24	24.55
100	5500	22.650	12.15	12.07	15.12	24	24.55
116	5580	22.300	12.12	12.04	15.09	24	24.48
140	5700	22.450	12.21	12.28	15.26	24	24.51

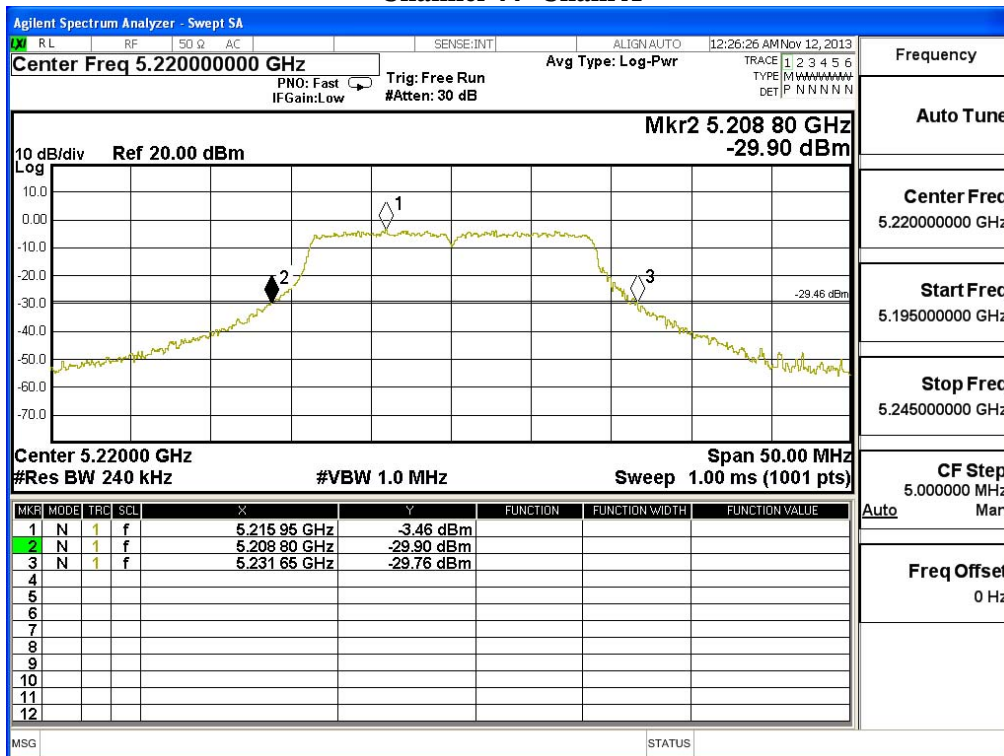
Note:

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.

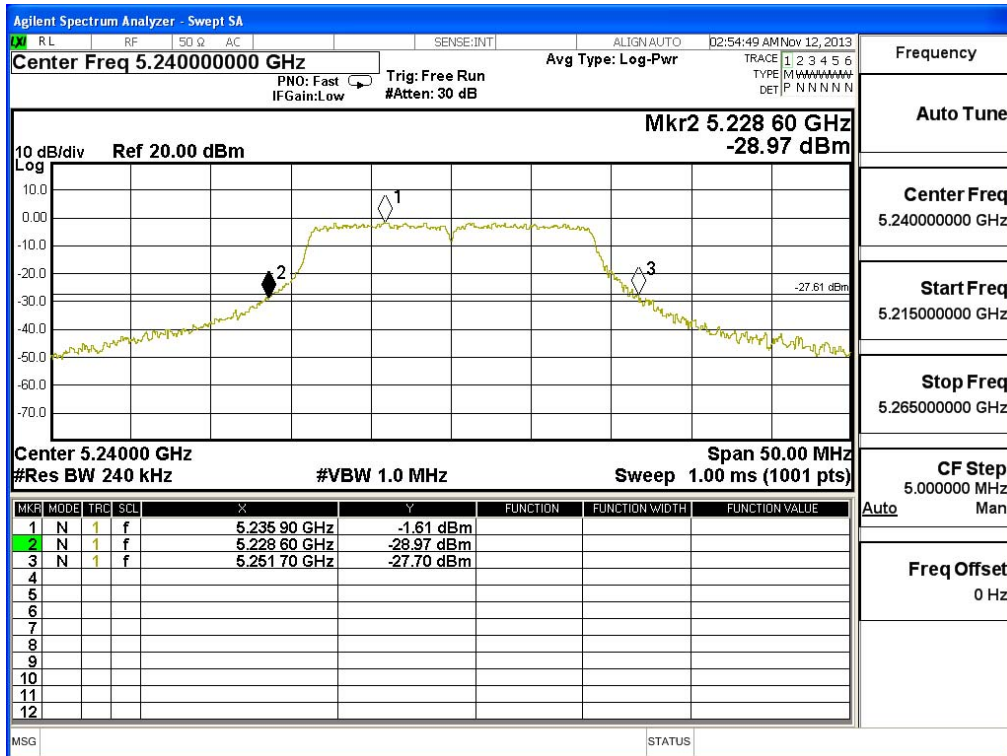
26dBc Occupied Bandwidth: Channel 36 -Chain A



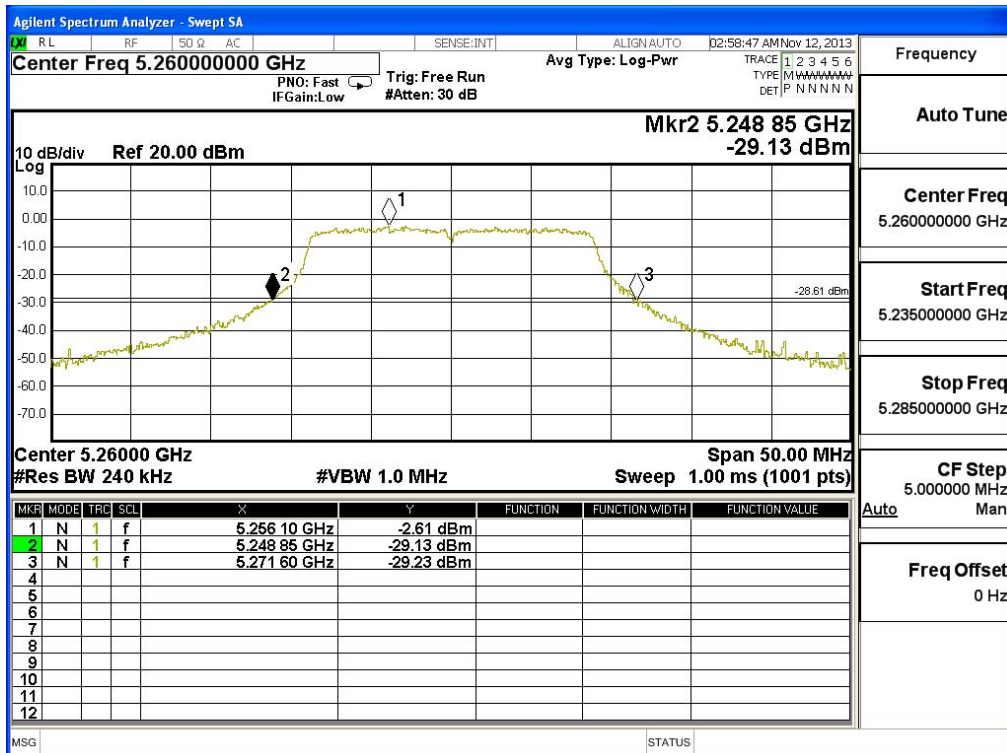
Channel 44 -Chain A



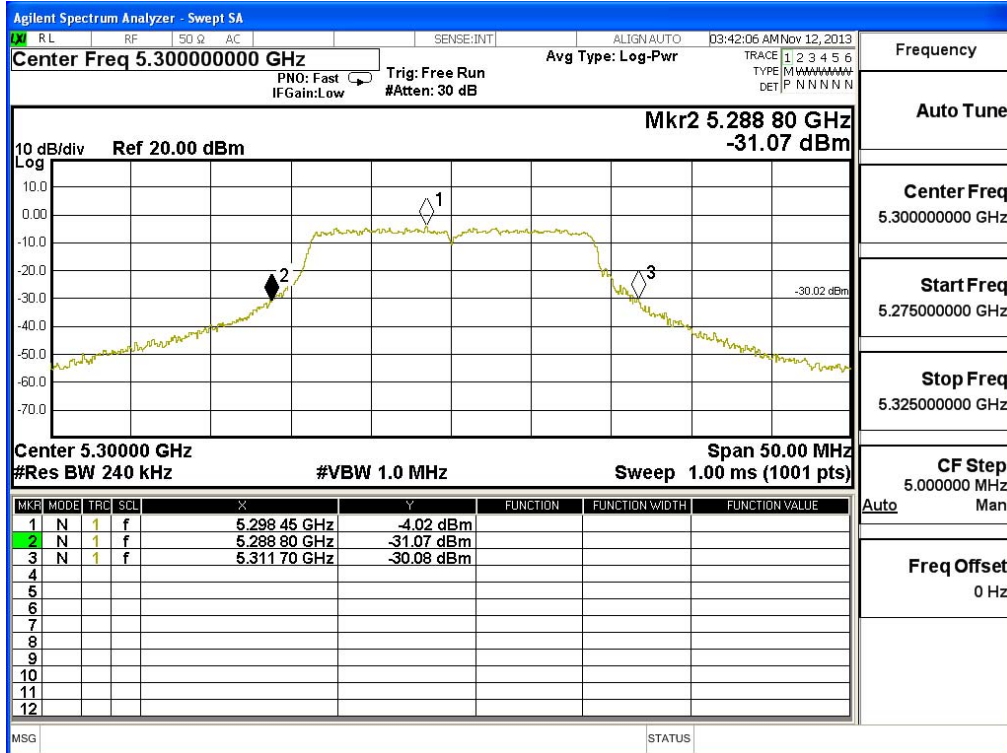
Channel 48 -Chain A



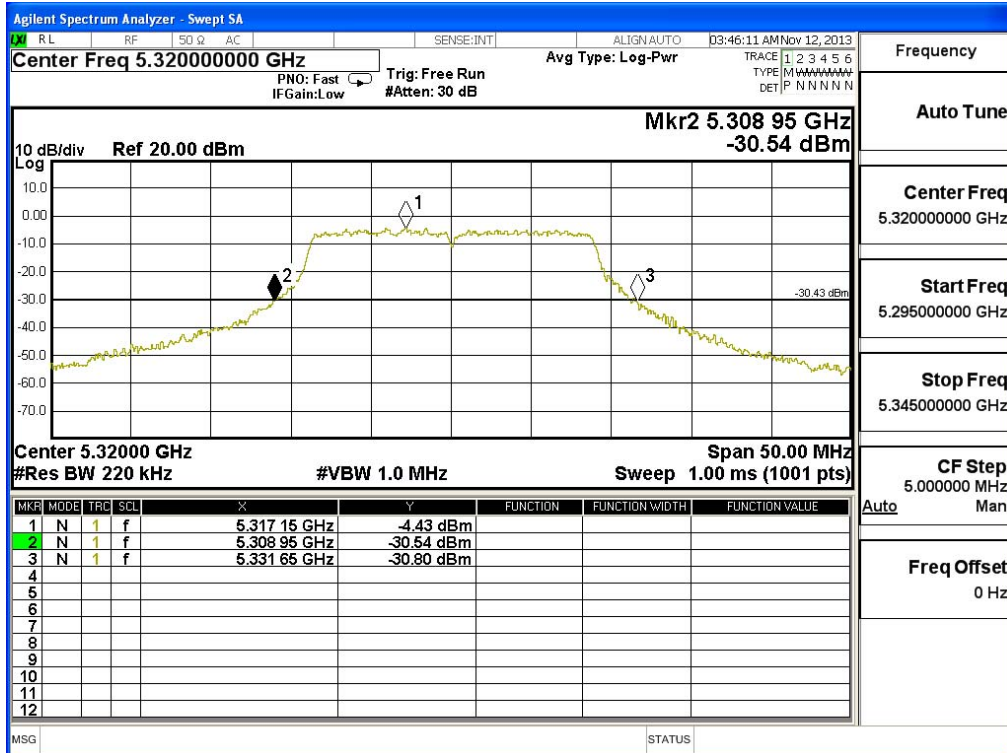
Channel 52 -Chain A



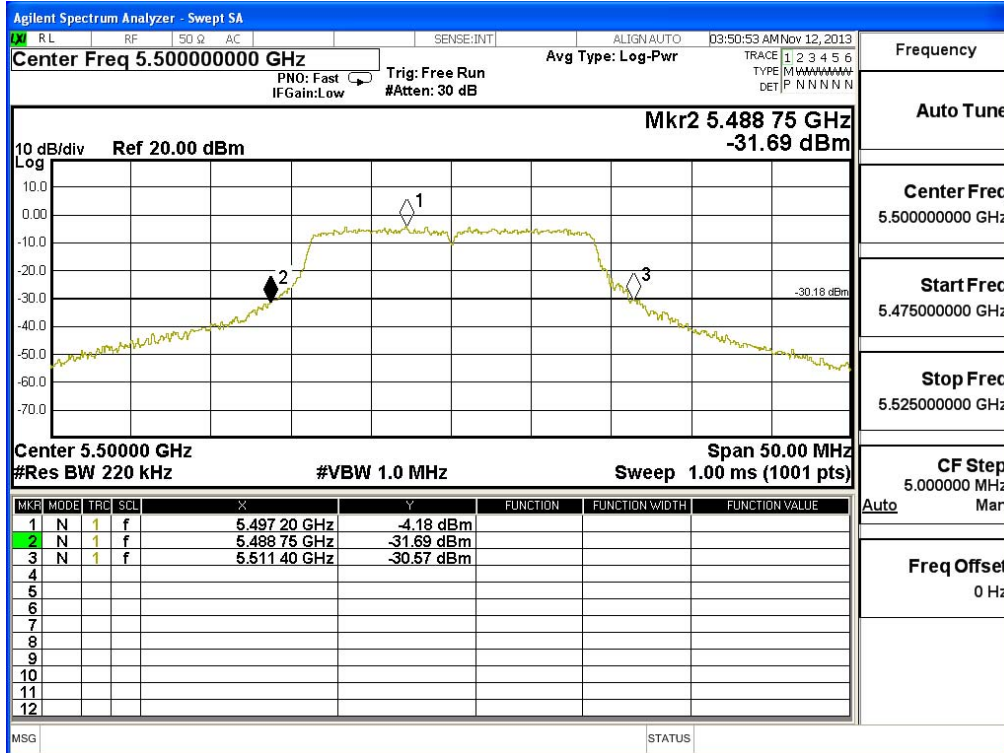
Channel 60 -Chain A



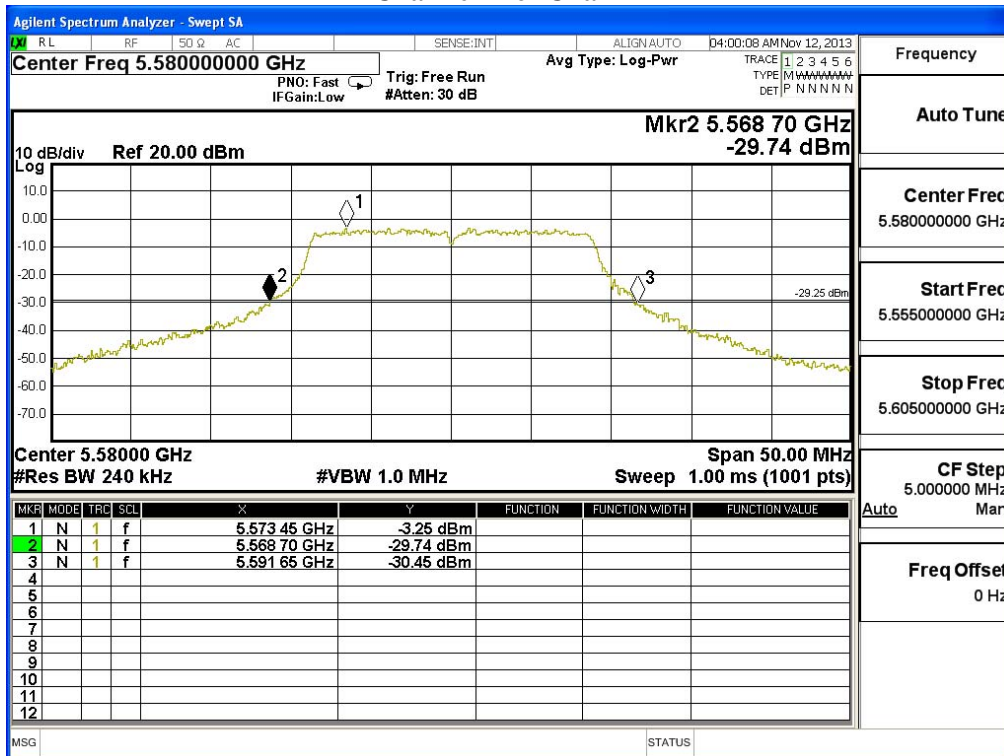
Channel 64 -Chain A



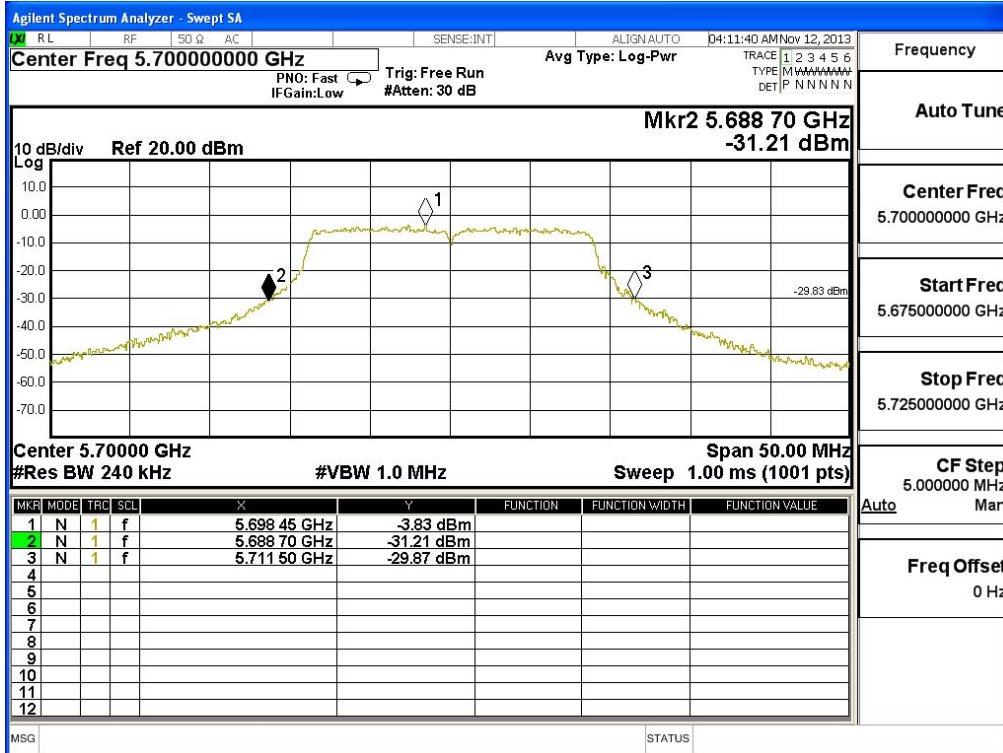
Channel 100 -Chain A



Channel 116 -Chain A

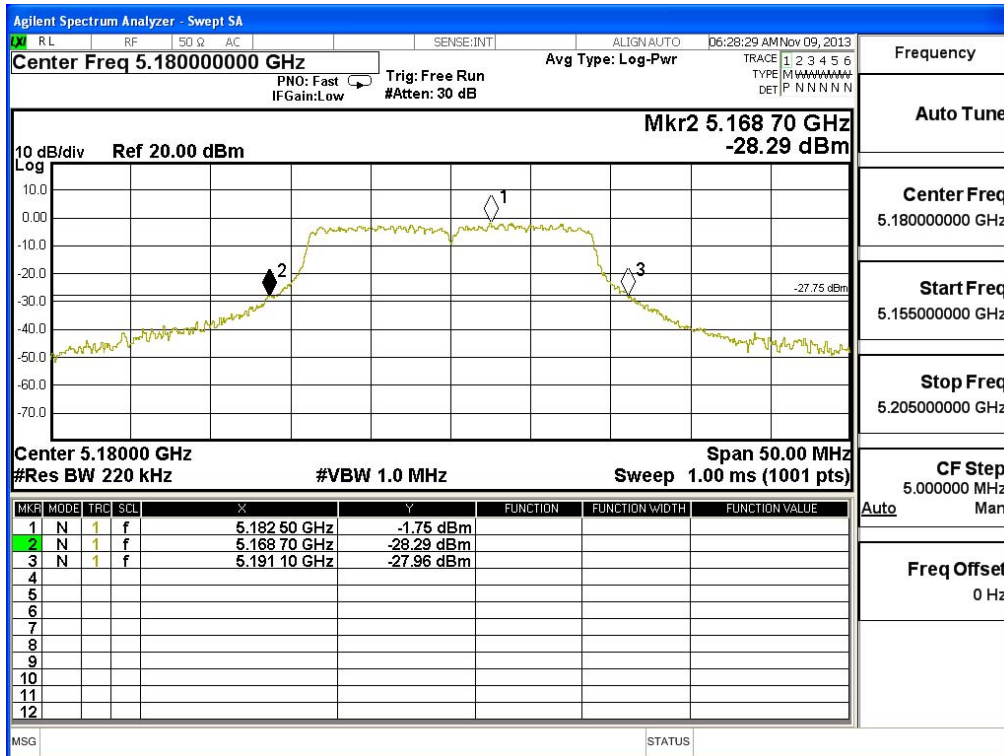


Channel 140 -Chain A

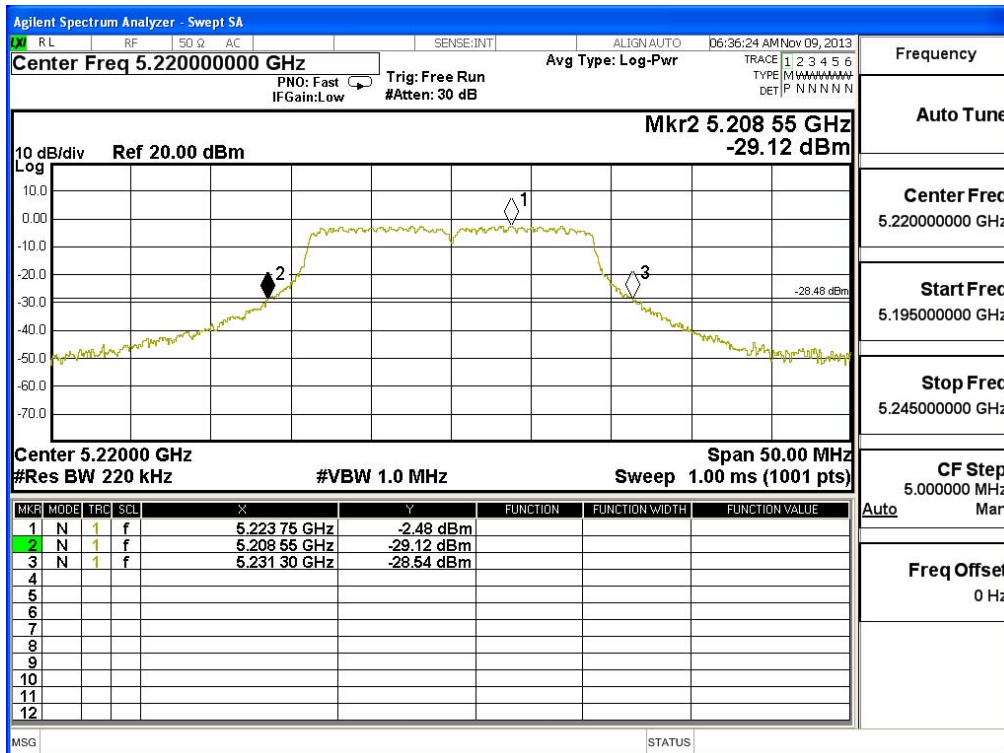


Frequency
Auto Tune
Center Freq 5.70000000 GHz
Start Freq 5.675000000 GHz
Stop Freq 5.725000000 GHz
CF Step 5.000000 MHz
Auto Man
Freq Offset 0 Hz

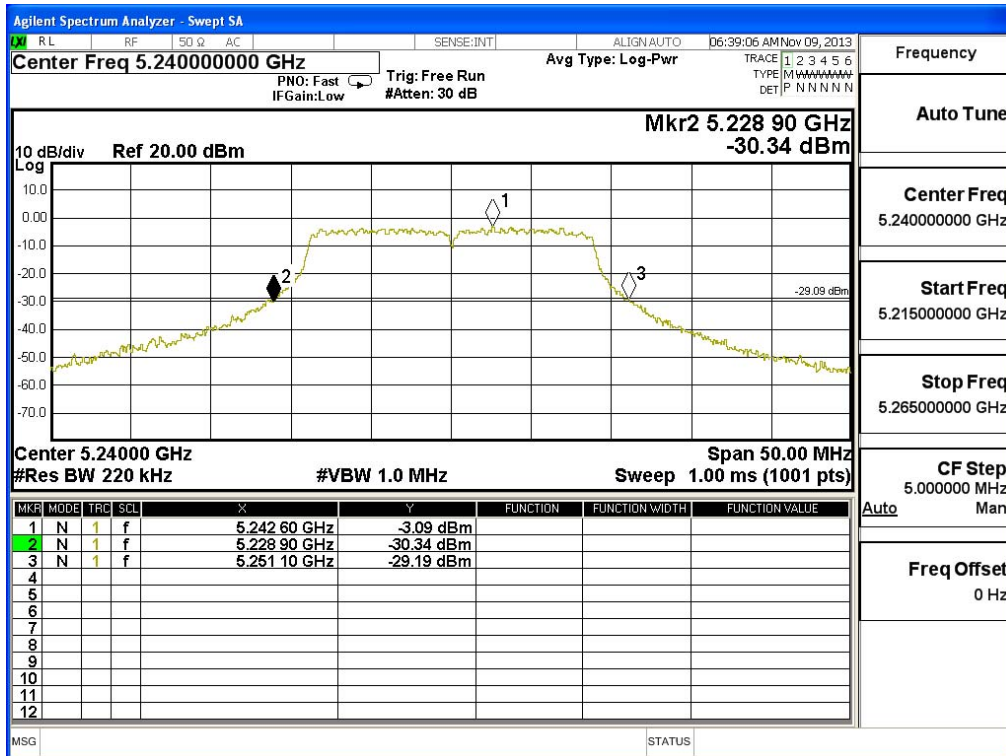
26dBc Occupied Bandwidth: Channel 36 -Chain B



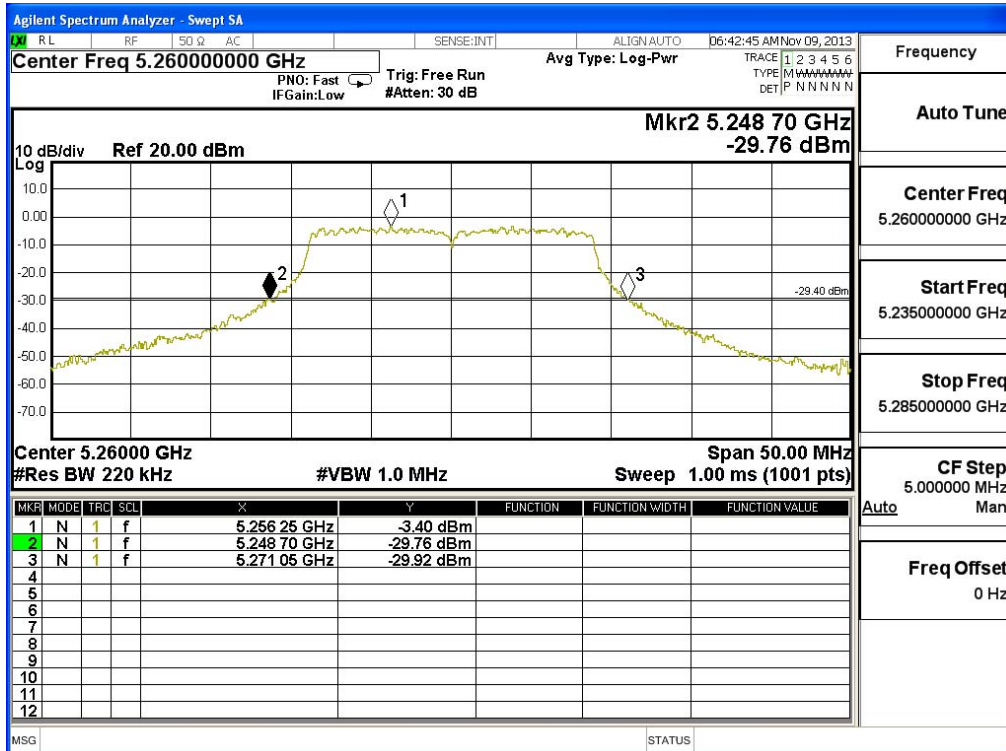
Channel 44 -Chain B



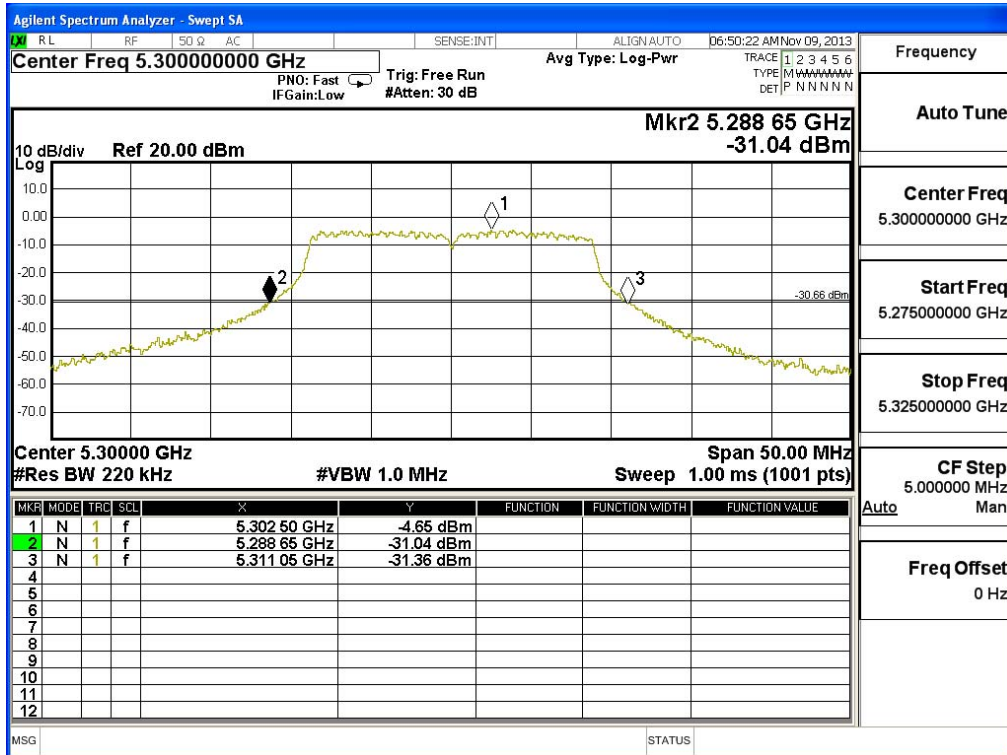
Channel 48 -Chain B



Channel 52 -Chain B

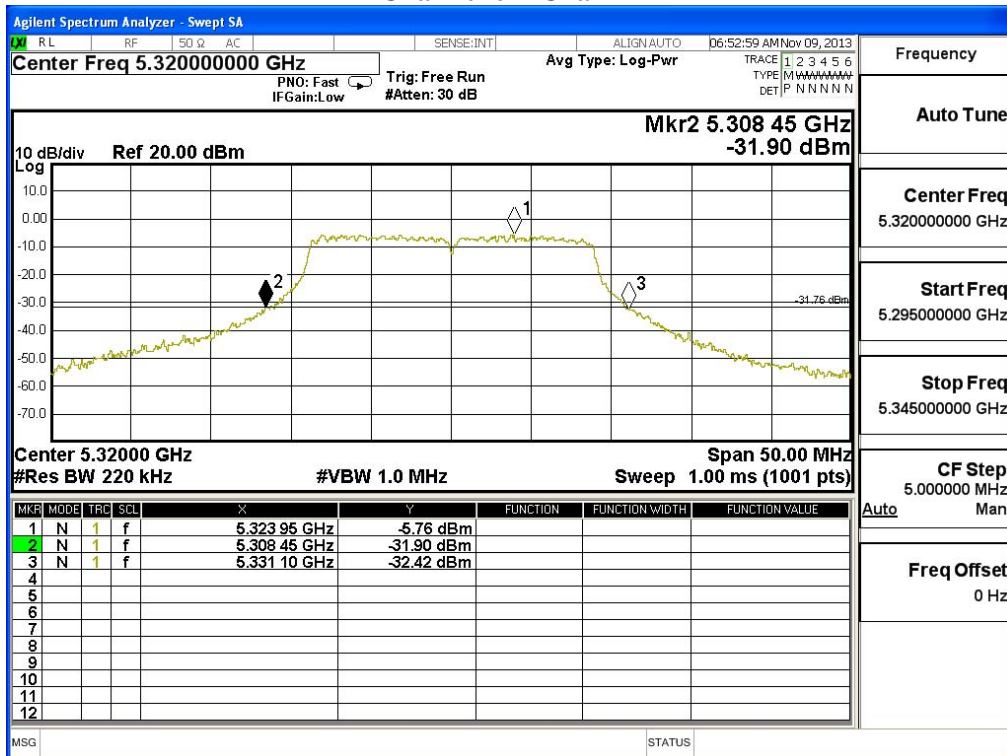


Channel 60 -Chain B



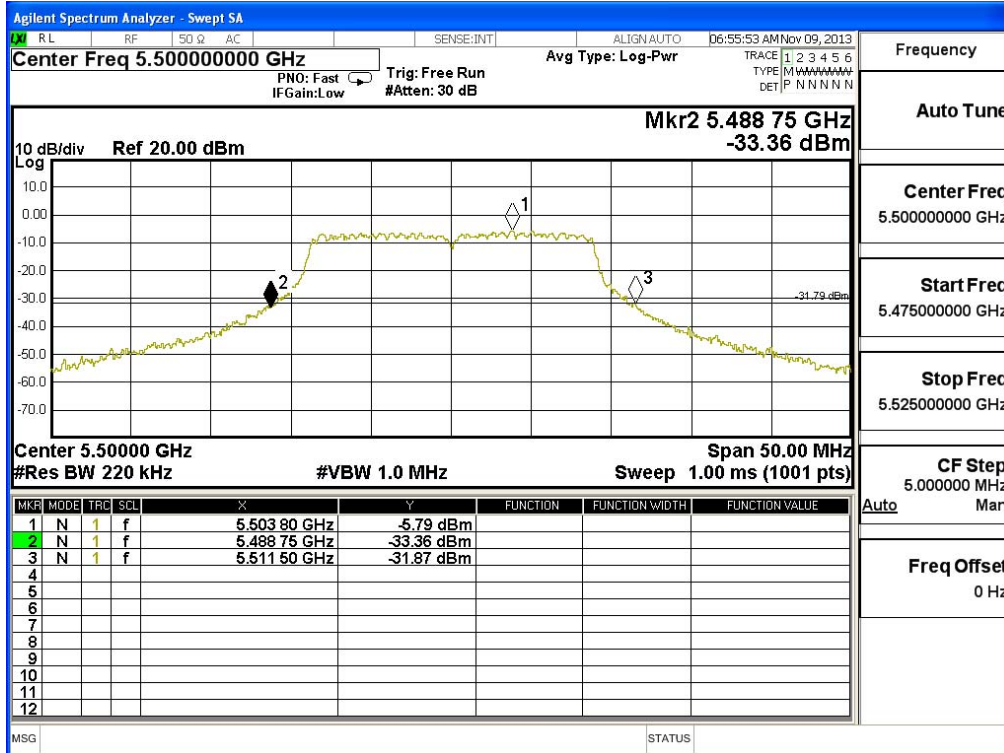
Frequency
Auto Tune
Center Freq 5.30000000 GHz
Start Freq 5.275000000 GHz
Stop Freq 5.325000000 GHz
CF Step 5.000000 MHz
Auto Man
Freq Offset 0 Hz

Channel 64 -Chain B



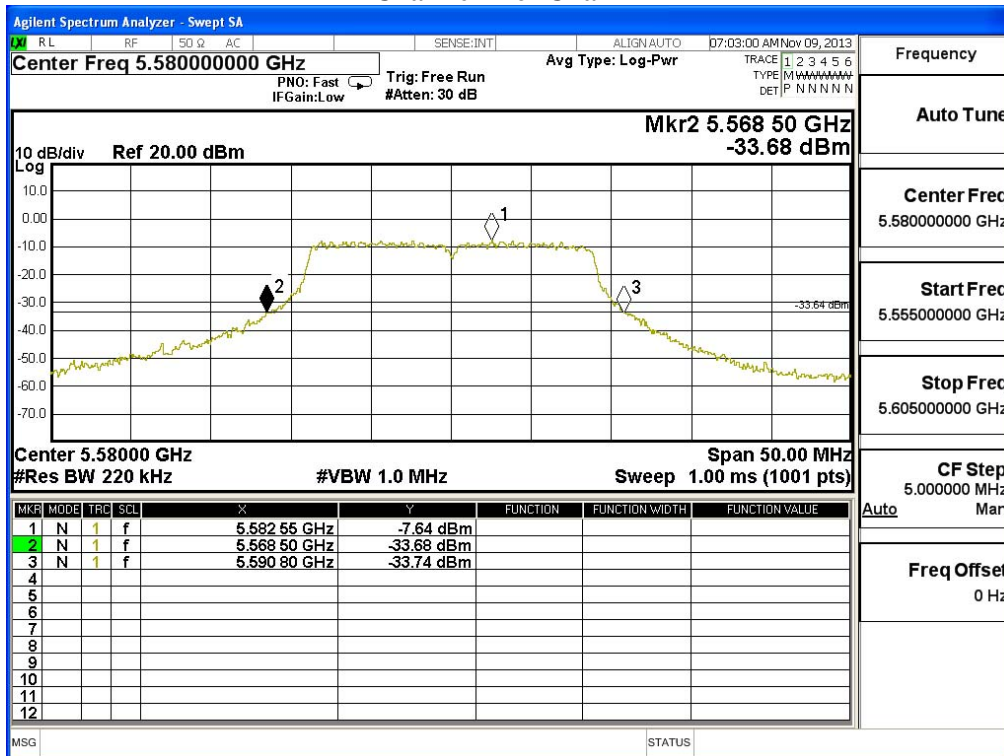
Frequency
Auto Tune
Center Freq 5.320000000 GHz
Start Freq 5.295000000 GHz
Stop Freq 5.345000000 GHz
CF Step 5.000000 MHz
Auto Man
Freq Offset 0 Hz

Channel 100 -Chain B



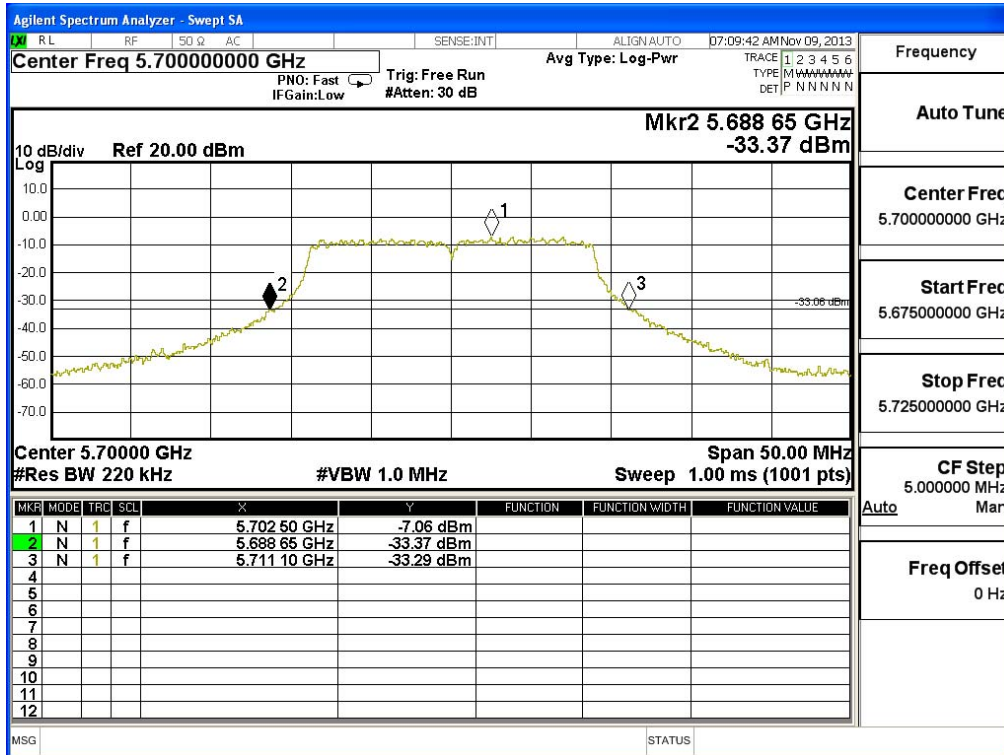
Frequency
Auto Tune
Center Freq 5.50000000 GHz
Start Freq 5.475000000 GHz
Stop Freq 5.525000000 GHz
CF Step 5.000000 MHz
Auto Man
Freq Offset 0 Hz

Channel 116 -Chain B



Frequency
Auto Tune
Center Freq 5.58000000 GHz
Start Freq 5.555000000 GHz
Stop Freq 5.605000000 GHz
CF Step 5.000000 MHz
Auto Man
Freq Offset 0 Hz

Channel 140 -Chain B



Frequency
Auto Tune
Center Freq 5.70000000 GHz
Start Freq 5.675000000 GHz
Stop Freq 5.725000000 GHz
CF Step 5.000000 MHz
Auto Man
Freq Offset 0 Hz

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

CHAIN A

Cable loss=1dB		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		30	60	90	120	180	240	270	300	
		Measurement Level (dBm)								
38	5190	11.33	--	--	--	--	--	--	--	<17dBm
46	5230	11.32	11.28	11.21	11.17	11.11	11.08	10.99	10.9	<17dBm
54	5270	11.13	--	--	--	--	--	--	--	<24dBm
62	5310	11.04	10.97	10.89	10.79	10.71	10.66	10.59	10.51	<24dBm
102	5510	11.05	--	--	--	--	--	--	--	<24dBm
110	5550	11.18	11.09	11	10.92	10.86	10.77	10.71	10.68	<24dBm
134	5670	11.27	--	--	--	--	--	--	--	<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	11.17	--	--	--	--	--	--	--	<17dBm
46	5230	11.18	11.09	11.02	10.91	10.84	10.74	10.69	10.61	<17dBm
54	5270	11.03	--	--	--	--	--	--	--	<24dBm
62	5310	11.21	11.13	11.07	10.92	10.88	10.79	10.71	10.66	<24dBm
102	5510	11.08	--	--	--	--	--	--	--	<24dBm
110	5550	11.11	11.07	10.95	10.82	10.74	10.69	10.61	10.59	<24dBm
134	5670	11.23	--	--	--	--	--	--	--	<24dBm

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

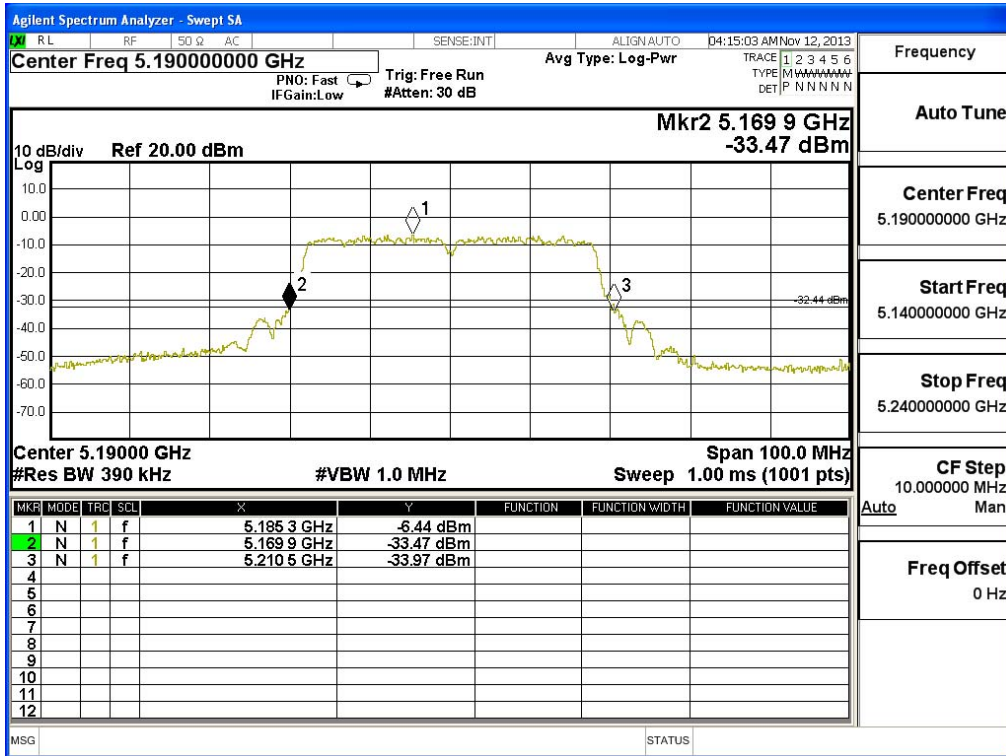
Maximum conducted output power Measurement:
(CHAIN A+ B)

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	40.400	11.33	11.17	14.26	17	20.06
46	5230	40.500	11.32	11.18	14.26	17	20.07
54	5270	40.100	11.13	11.03	14.09	24	27.03
62	5310	40.000	11.04	11.21	14.14	24	27.02
102	5510	40.000	11.05	11.08	14.08	24	27.02
110	5550	39.900	11.18	11.11	14.16	24	27.01
134	5670	40.400	11.27	11.23	14.26	24	27.06

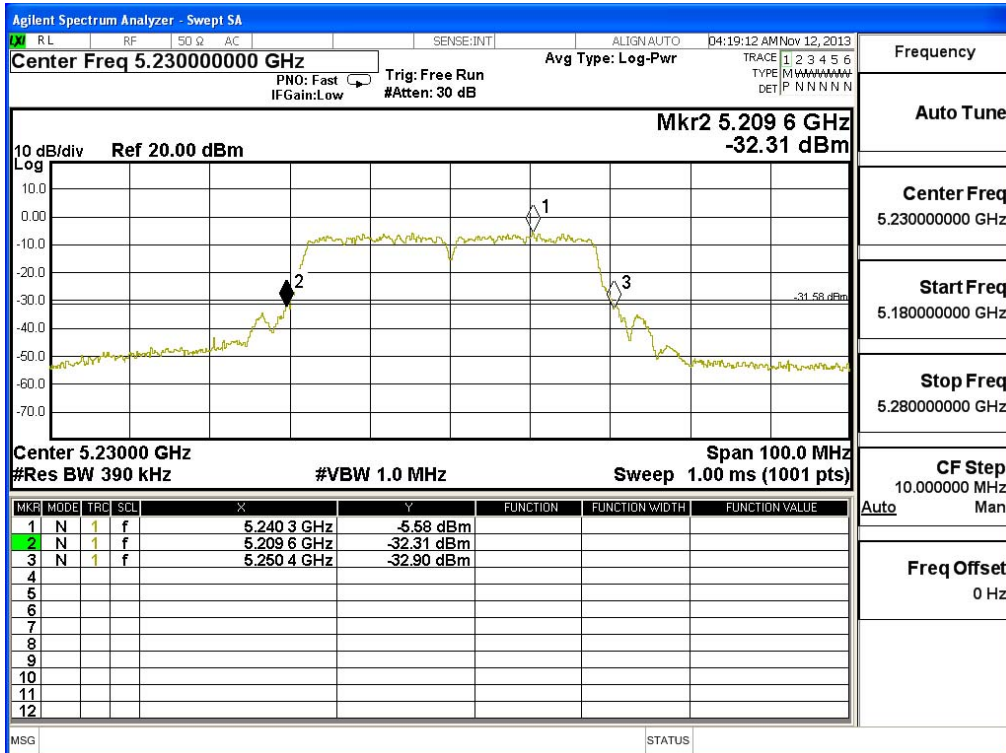
Note:

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.

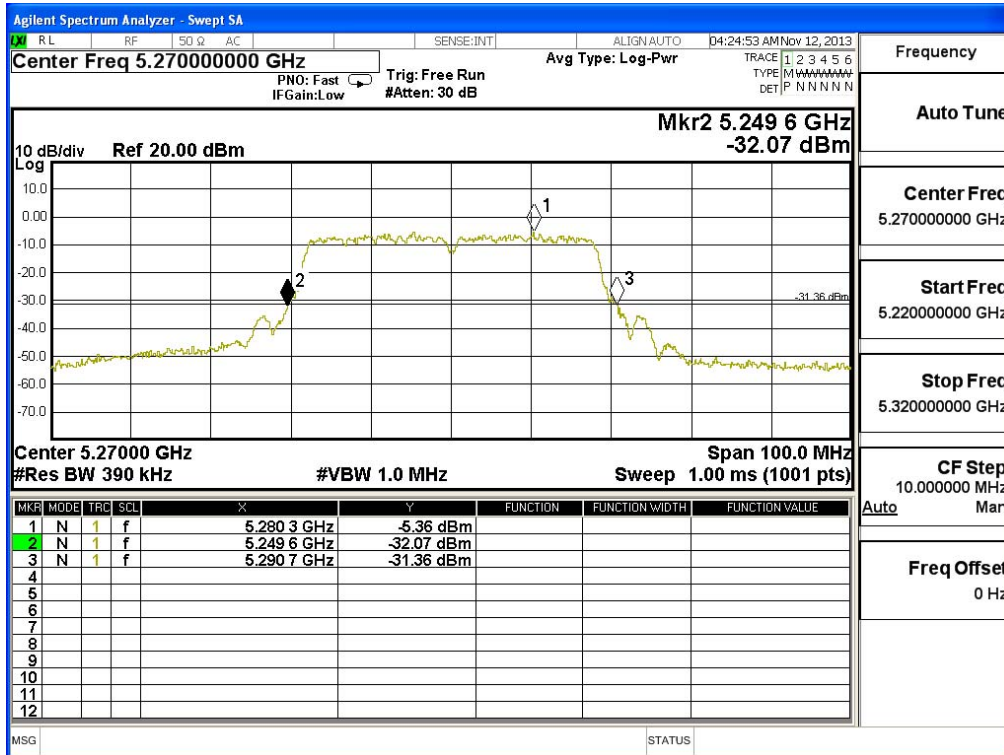
26dBc Occupied Bandwidth: Channel 38 – Chain A



Channel 46 – Chain A

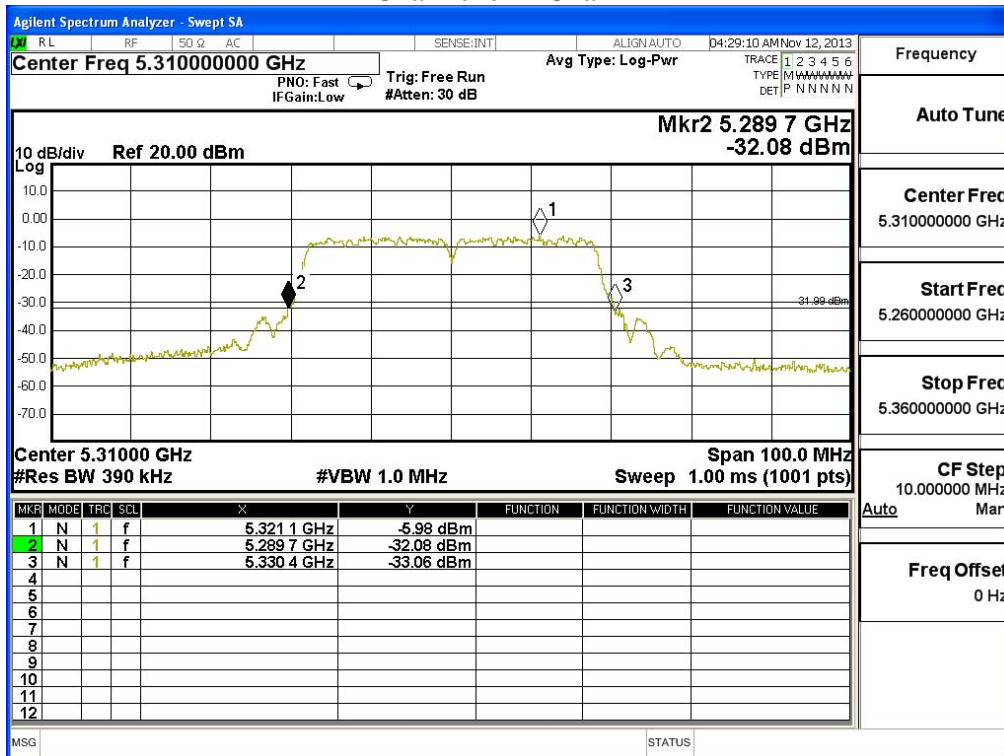


Channel 54 – Chain A



Frequency
Auto Tune
Center Freq 5.27000000 GHz
Start Freq 5.22000000 GHz
Stop Freq 5.32000000 GHz
CF Step 10.000000 MHz
Auto Man
Freq Offset 0 Hz

Channel 62 – Chain A



Frequency
Auto Tune
Center Freq 5.31000000 GHz
Start Freq 5.26000000 GHz
Stop Freq 5.36000000 GHz
CF Step 10.000000 MHz
Auto Man
Freq Offset 0 Hz