FCC Test Report
(Class II Permissive Change)

Product Name	Access Point/Sensor
Model No.	O-90, O-90-E
FCC ID	PPQ-O90

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

Date of Receipt	Dec. 07, 2015
Issued Date	Dec. 11, 2015
Report No.	15C0146R-RFUSP05V00
Report Version	V1.0

Testing Laboratory
3023

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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The test report shall not be reproduced without the written approval of QuieTek Corporation.

Test Report

Issued Date: Dec. 11, 2015
Report No.: 15C0146R-RFUSP05V00

Product Name	Access Point/Sensor
Applicant	Lite-On Technology Corp.
Address	Bldg. C, 90, Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C.
Manufacturer	Lite-On Network Communication (Dongguan) Limited
Model No.	O-90, O-90-E
FCC ID	PPQ-O90
EUT Rated Voltage	Power By PoE (DC 48V)
EUT Test Voltage	Power By PoE (DC 48V)
Trade Name	LITE-ON
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E : 2014 ANSI C63.4 : 2014, ANSI C63.10 : 2013 KDB 789033 D02 General UNII Test Procedures New Rules v01
Test Result	Complied

Documented By : Joanne Lin

(Senior Adm. Specialist / Joanne Lin)

Tested By : Eason Chen

(Engineer / Eason Chen)

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	Access Point/Sensor
Trade Name	LITE-ON
Model No.	O-90, O-90-E
FCC ID	PPQ-O90
Frequency Range	802.11a/n-20MHz:5260-5320MHz,5500-5700MHz 802.11n-40MHz:5270-5310MHz,5510-5670MHz 802.11ac-20MHz:5720MHz, 802.11ac-40MHz:5710MHz 802.11ac-80MHz:5290MHz,5530-5690MHz
Number of Channels	802.11a/n-20MHz: 15, n-40MHz: 7 802.11ac-20MHz: 1, 802.11ac-40MHz: 1, 802.11ac-80MHz: 4
Data Rate	802.11a: 6-54Mbps, 802.11n: up to 450Mbps 802.11ac-80MHz: up to 1300MHz
Type of Modulation	802.11a/n/ac:OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM
Channel Control	Auto
Antenna type	Internal / External: Dipole Antenna
Antenna Gain	Refer to the table “Antenna List”

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain	Note
1	Lite-On	301000070567 301000070667 301000070767	Dipole	9.1dBi for 5.15~5.25GHz 8.6dBi for 5.25~5.35GHz 11.1dBi for 5.47~5.725GHz 10.9dBi for 5.725~5.825GHz	Internal Antenna
2	Walsin	RFDPA252025AMLB801	Dipole	4.38dBi for 5.15~5.25GHz 4.58dBi for 5.25~5.35GHz 6.07dBi for 5.47~5.725GHz 5.47dBi for 5.725~5.825GHz	External Antenna

802.11a/n-20MHz (5GHz Band) Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
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 120:	5600 MHz	Channel 124:	5620 MHz	Channel 128:	5640 MHz
Channel 132:	5660 MHz	Channel 136:	5680 MHz	Channel 140:	5700 MHz		

802.11n-40MHz (5GHz Band) Center Working Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 54:	5270 MHz	Channel 62:	5310 MHz	Channel 102:	5510 MHz	Channel 110:	5550 MHz
Channel 118:	5590 MHz	Channel 126:	5630 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 58:	5290 MHz	Channel 106:	5530 MHz	Channel 122:	5610 MHz	Channel 138:	5690 MHz

Note:

1. This device is an Access Point/Sensor with a built-in 802.11a/b/g/n/ac 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/n/ac is chain A+chain B+chain C)
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 21.7Mbps、802.11n-40BW is 45Mbps and 802.11ac(80M-BW) is 97.5 Mbps)
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.
7. This is requesting a Class II permissive change for FCC ID: PPQ-O90. Originally granted on 06/12/2015. The differences are listed as below:
   Change #1: Original grant compliance band 1 and band 3, this C2PC is add the frequency band of band 2a and band 2C by software. This change can’t be made by end user. All other hardware is identical with original granted.

Test Mode	Mode 1: Transmitter (802.11a-6Mbps) (Internal Antenna) Mode 1: Transmitter (802.11a-6Mbps) (External Antenna) Mode 2: Transmitter (802.11n-20BW 21.7Mbps) (Internal Antenna) Mode 2: Transmitter (802.11n-20BW 21.7Mbps) (External Antenna) Mode 3: Transmitter (802.11n-40BW 45Mbps) (Internal Antenna) Mode 3: Transmitter (802.11n-40BW 45Mbps) (External Antenna) Mode 4: Transmit (802.11ac-20BW-21.7Mbps) (Internal Antenna) Mode 4: Transmit (802.11ac-20BW-21.7Mbps) (External Antenna) Mode 5: Transmit (802.11ac-40BW-45Mbps) (Internal Antenna) Mode 5: Transmit (802.11ac-40BW-45Mbps) (External Antenna) Mode 6: Transmit (802.11ac-80BW-97.5Mbps) (Internal Antenna) Mode 6: Transmit (802.11ac-80BW-97.5Mbps) (External Antenna)

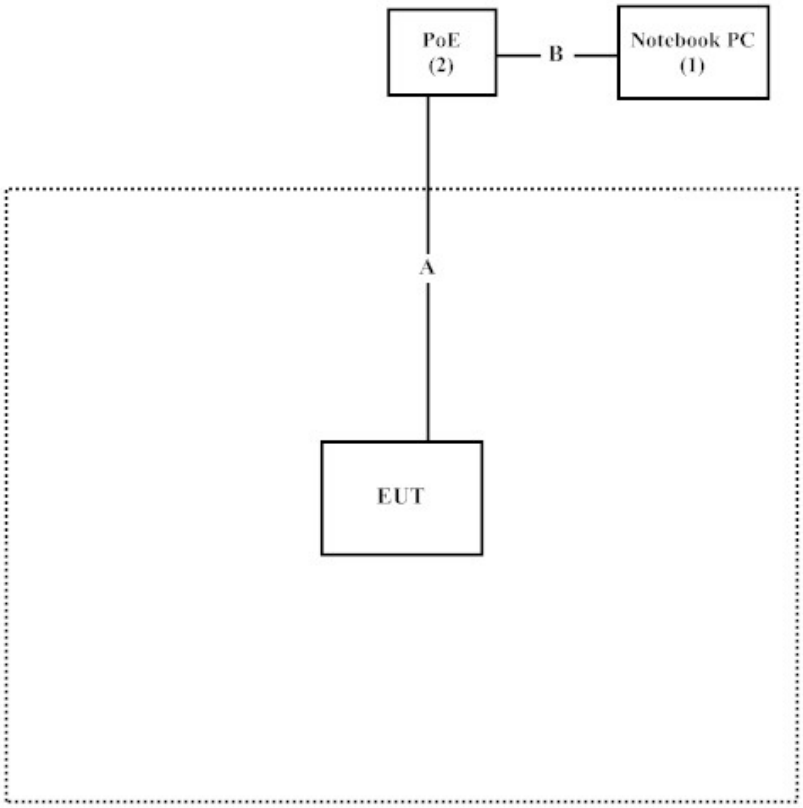
1.3. Tested System Datails

List of support equipment and cables used during testing:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	PPT	N/A	Non-Shielded, 0.8m
2	PoE	Linksys	LGS108P	N/A	N/A

Signal Cable Type		Signal cable Description
A	LAN Cable	Non-Shielded, 1.6m
B	LAN Cable	Non-Shielded, 1.6m

1.4. Configuration of tested System



1.5. EUT Exercise Software

1. Setup the EUT as shown in Section 1.4
2. Execute software “ART2-GUI (v2.3)” on the EUT.
3. Configure the test mode, the test channel, and the data rate.
4. Press “OK” to start the continuous Transmit.
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 test site and management system can be downloaded from QuieTek Corporation's Web Site : http://www.quietek.com/chinese/about/certificates.aspx?bval=5
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/

Site Description: File on
Certification and Engineering Bureau
3701 Carling Ave., Building 94
P.O. Box 11490, Station "H"
Ottawa, Ontario
K2H 8S2
File No.: 46405-4075
Test Site: IC 4075A-3
Submission: 124599

Site Name: Quietek Corporation
Site Address: No.5-22, Ruishukeng Linkou Dist., New Taipei City
24451, Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

2. Conducted Emission

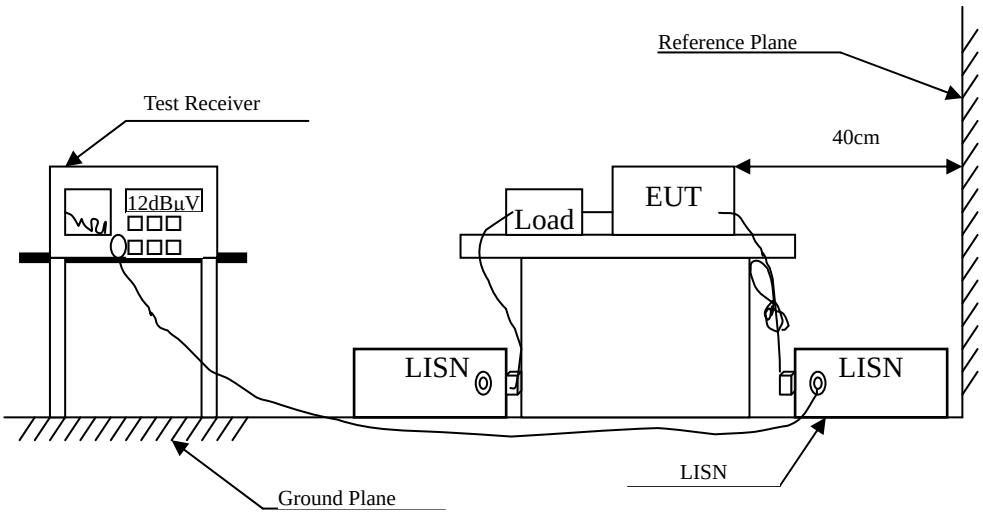
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
X	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2015	
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., 2015	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 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 C63.10:2013 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 C63.10:2013; 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

Owing to the EUT does not sell Adapter, this test item is not performed.

3. Maximun conducted output power

3.1. Test Equipment

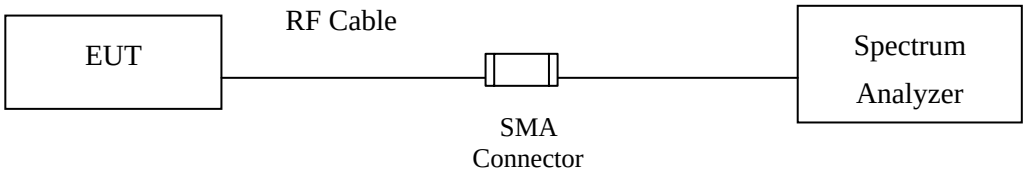
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Sensor	Anritsu	MA2411B/0738448	Jun., 2015
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2015
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2015

Note:

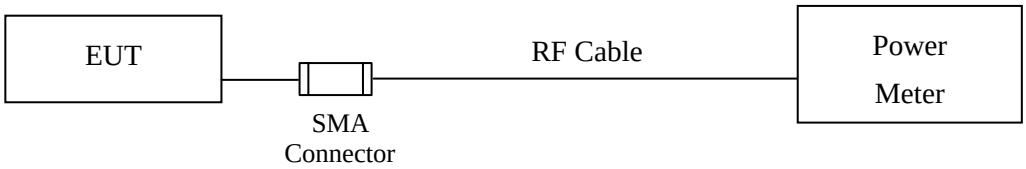
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
2. The test instruments marked with "X" are used to measure the final test results.

3.2. Test Setup

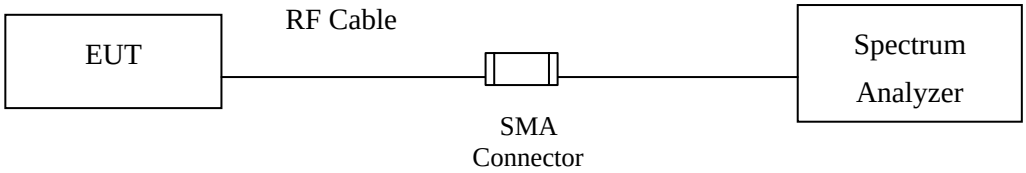
99% Occupied Bandwidth



Conduction Power Measurement (for 802.11an)



Conduction Power Measurement (for 802.11ac)



3.3. Limits

3.3.1. For the band 5.15-5.25 GHz,

△ For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in Db that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 Mw (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in Db that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-topoint U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 Db reduction in maximum conducted output power is required for each 1 Db of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 Mw provided the maximum antenna gain does not exceed 6 dBi. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in Db that the directional gain of the antenna exceeds 6 dBi.

3.3.2. For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 Mw or 11 dBm 10 log B, where B is the 26 Db emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in Db that the directional gain of the antenna exceeds 6 dBi.

3.3.3. For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in Db that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point UNII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any

corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

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.

802.11an (BW≦40MHz) Maximum conducted output power using KDB 789033 section E)3)b) Method PM-G (Measurement using a gated 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: 65MHz)

802.11ac (BW=80MHz) 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: ± 0.517 Db

Spectrum analyzer method: ± 1.27 Db

3.6. Test Result of Peak Transmit Power

Product : Access Point/Sensor
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter (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)								
52	5260	13.12	--	--	--	--	--	--	--	<24dBm
60	5300	13.09	12.91	12.73	12.55	12.37	12.19	12.01	11.87	<24dBm
64	5320	13.11	--	--	--	--	--	--	--	<24dBm
100	5500	10.6	--	--	--	--	--	--	--	<24dBm
116	5580	10.47	10.41	10.35	10.24	10.16	10.05	9.97	9.84	<24dBm
140	5700	10.98	--	--	--	--	--	--	--	<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)								
52	5260	12.9	--	--	--	--	--	--	--	<24dBm
60	5300	13.13	13.02	12.91	12.83	12.69	12.58	12.47	12.23	<24dBm
64	5320	13.02	--	--	--	--	--	--	--	<24dBm
100	5500	10.58	--	--	--	--	--	--	--	<24dBm
116	5580	10.59	10.47	10.35	10.42	10.29	10.16	10.03	9.93	<24dBm
140	5700	10.54	--	--	--	--	--	--	--	<24dBm

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

Chain C

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)								
52	5260	12.78	--	--	--	--	--	--	--	<24dBm
60	5300	12.74	12.62	12.5	12.38	12.26	12.14	12.02	11.82	<24dBm
64	5320	13.79	--	--	--	--	--	--	--	<24dBm
100	5500	9.82	--	--	--	--	--	--	--	<24dBm
116	5580	10.03	9.95	9.84	9.73	9.64	9.52	9.48	9.4	<24dBm
140	5700	9.03	--	--	--	--	--	--	--	<24dBm

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

Maximum conducted output power Measurement:

Chain A+ B+C

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit	
							(dBm)	dBm+10log(BW)
52	5260	17.388	13.12	12.90	12.78	17.71	21.4	20.80
60	5300	17.483	13.09	13.13	12.74	17.76	21.4	20.83
64	5320	17.477	13.11	13.02	13.79	18.09	21.4	20.82
100	5500	17.407	10.60	10.58	9.82	15.12	18.9	18.31
116	5580	17.412	10.47	10.59	10.03	15.14	18.9	18.31
140	5700	17.491	10.98	10.54	9.03	15.03	18.9	18.33

Note:

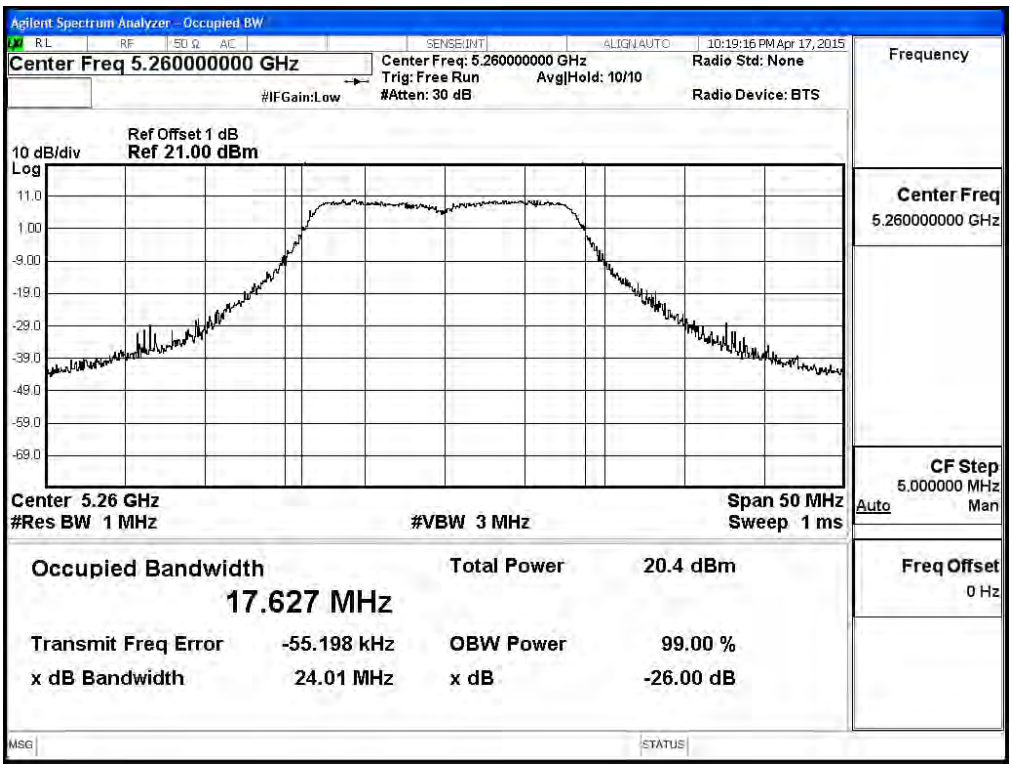
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (Mw)+ Chain B Power (Mw)+Chain C Power (Mw))
3. 99% Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

△ The maximum conducted output power shall be reduced by the amount in Db that the directional gain of

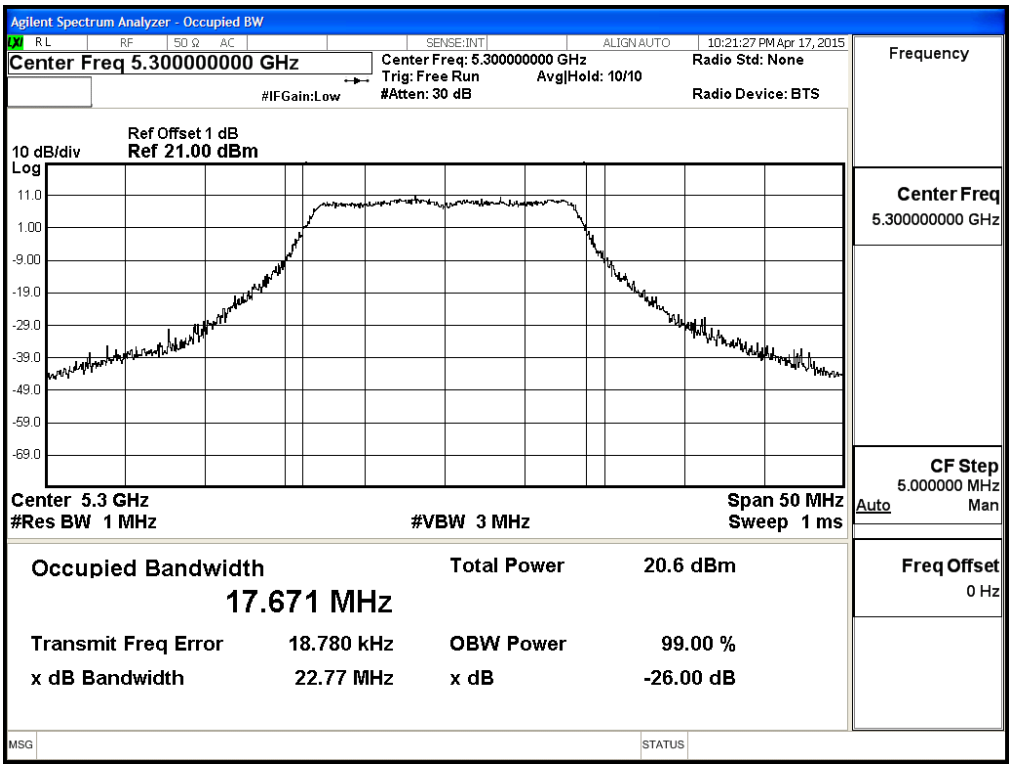
the antenna exceeds 6 dBi

99% Occupied Bandwidth:

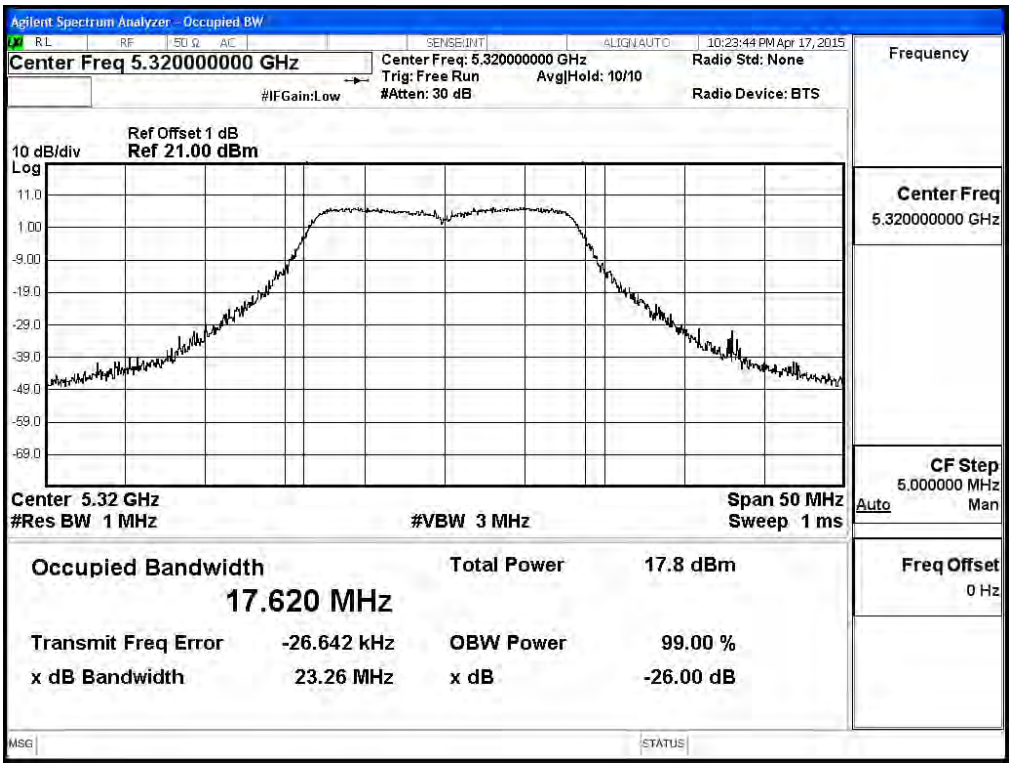
Channel 52: Chain A



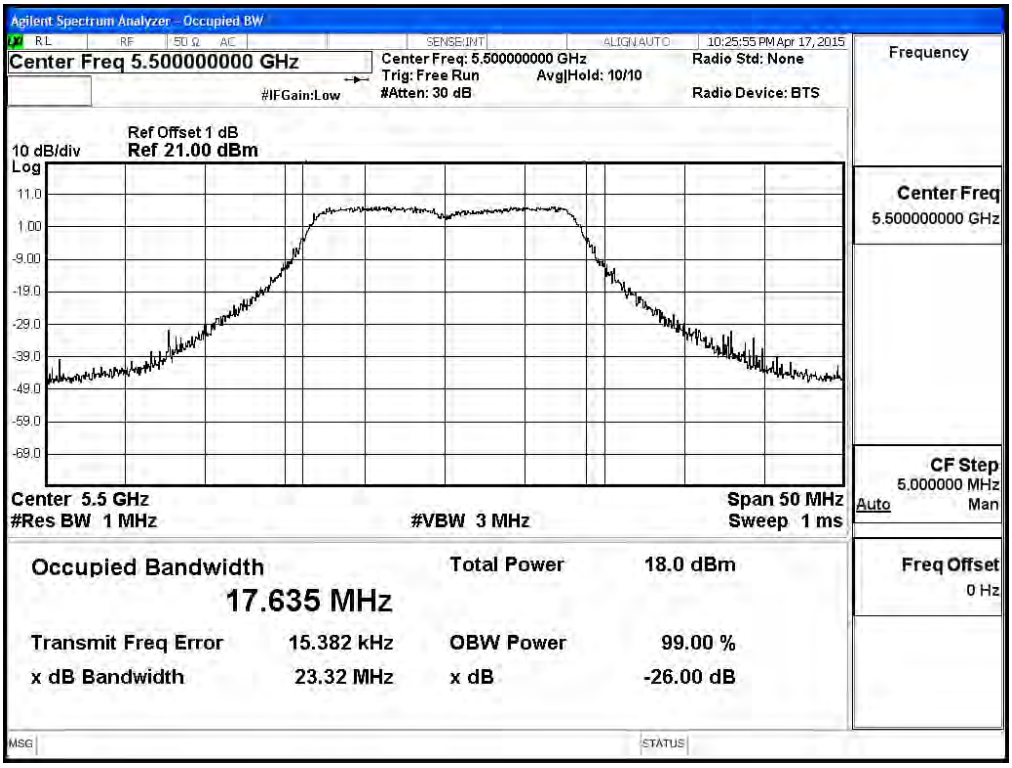
Channel 60: Chain A



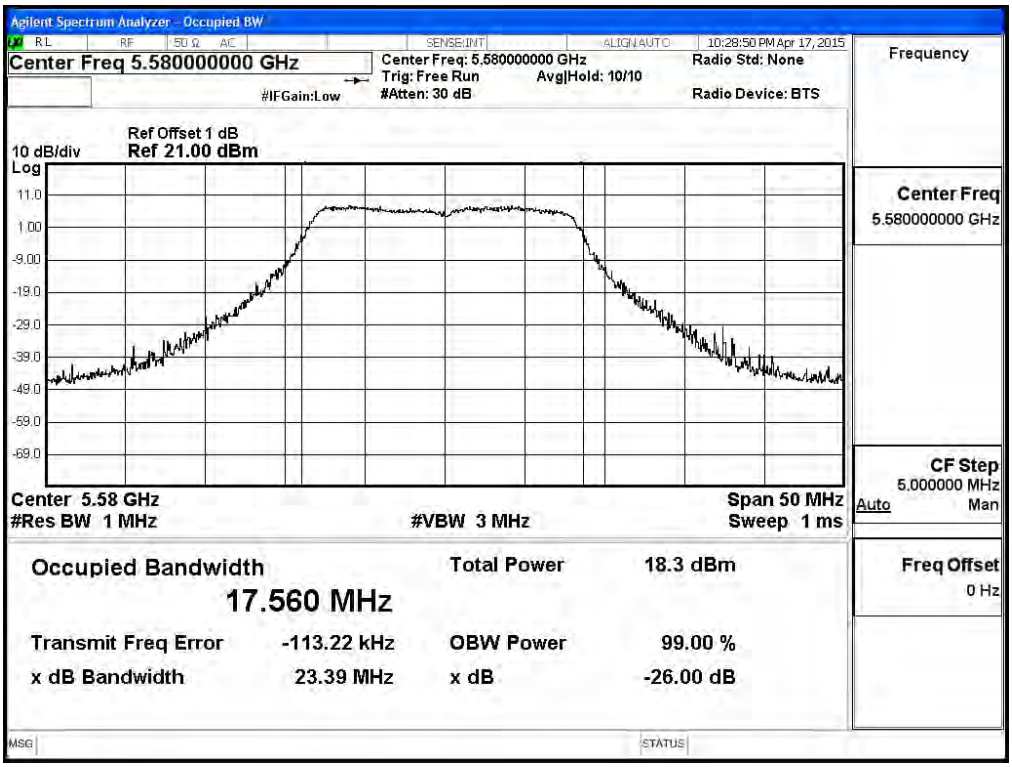
Channel 64: Chain A



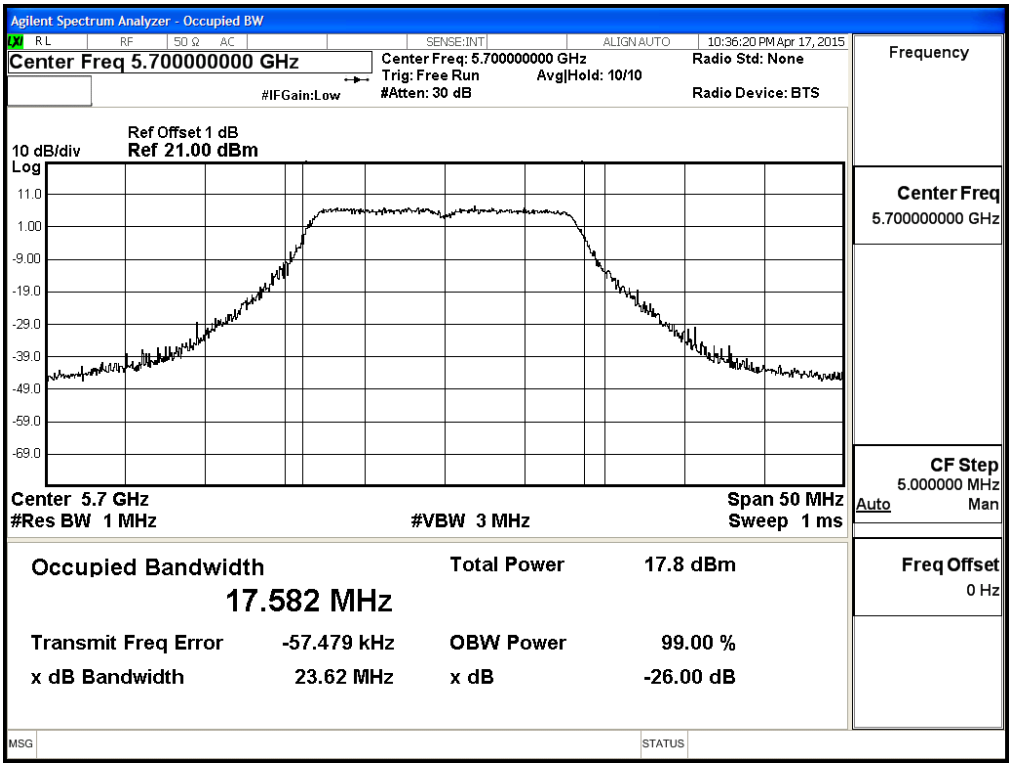
Channel 100: Chain A



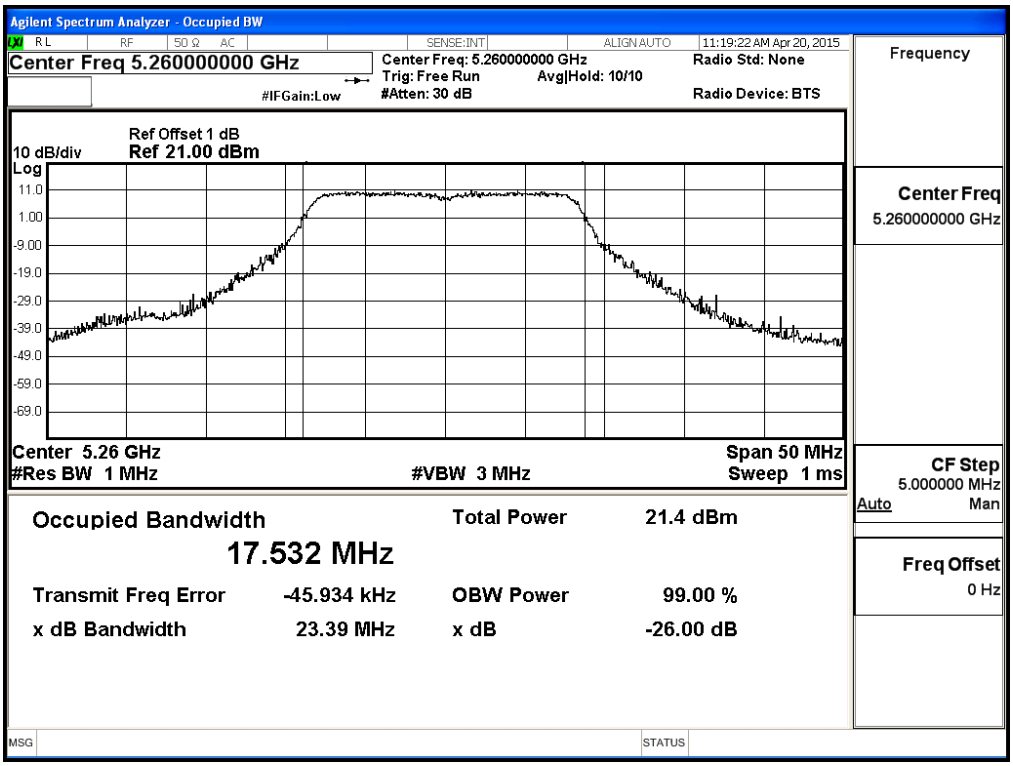
Channel 116: Chain A



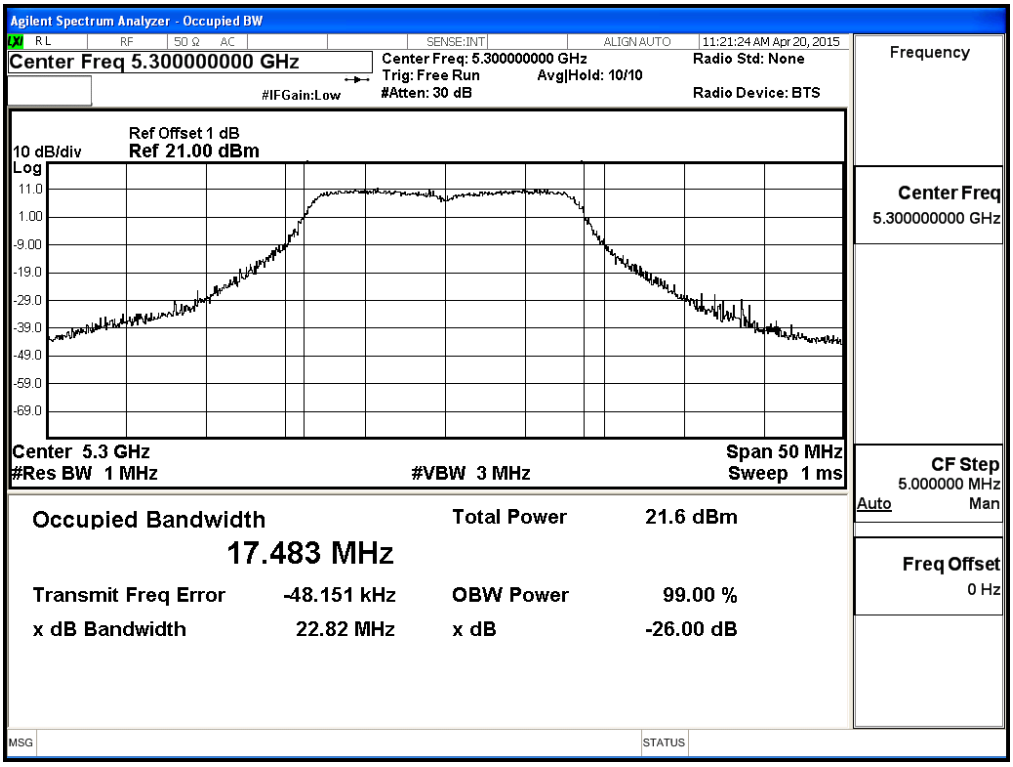
Channel 140: Chain A



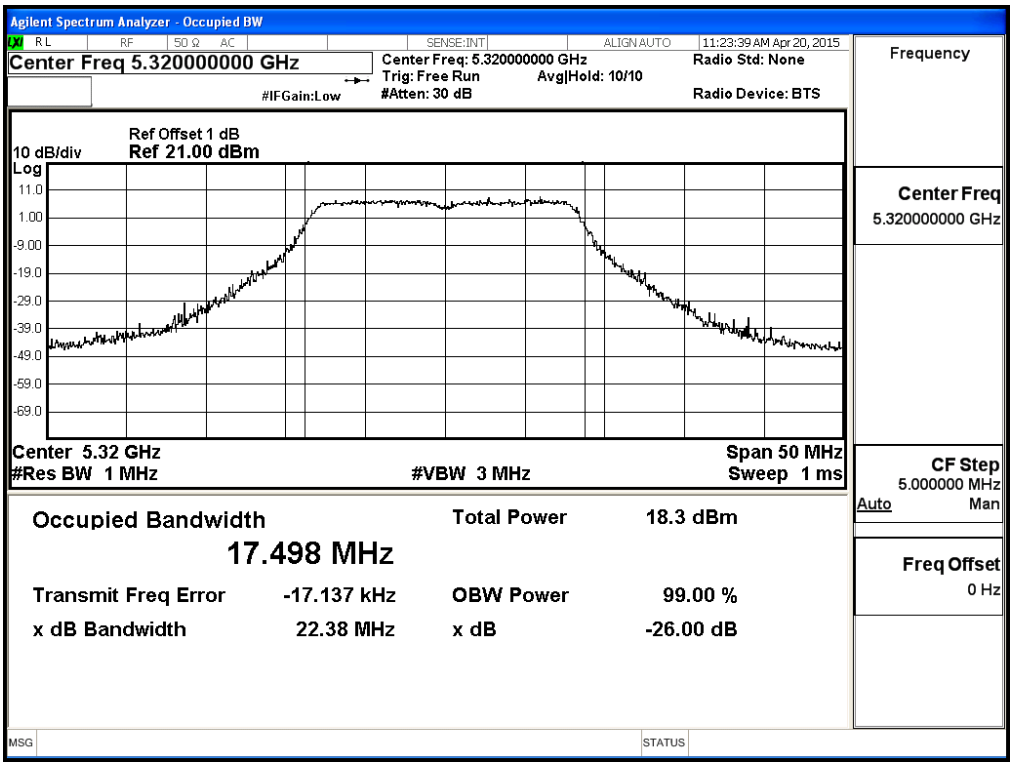
Channel 52: Chain B



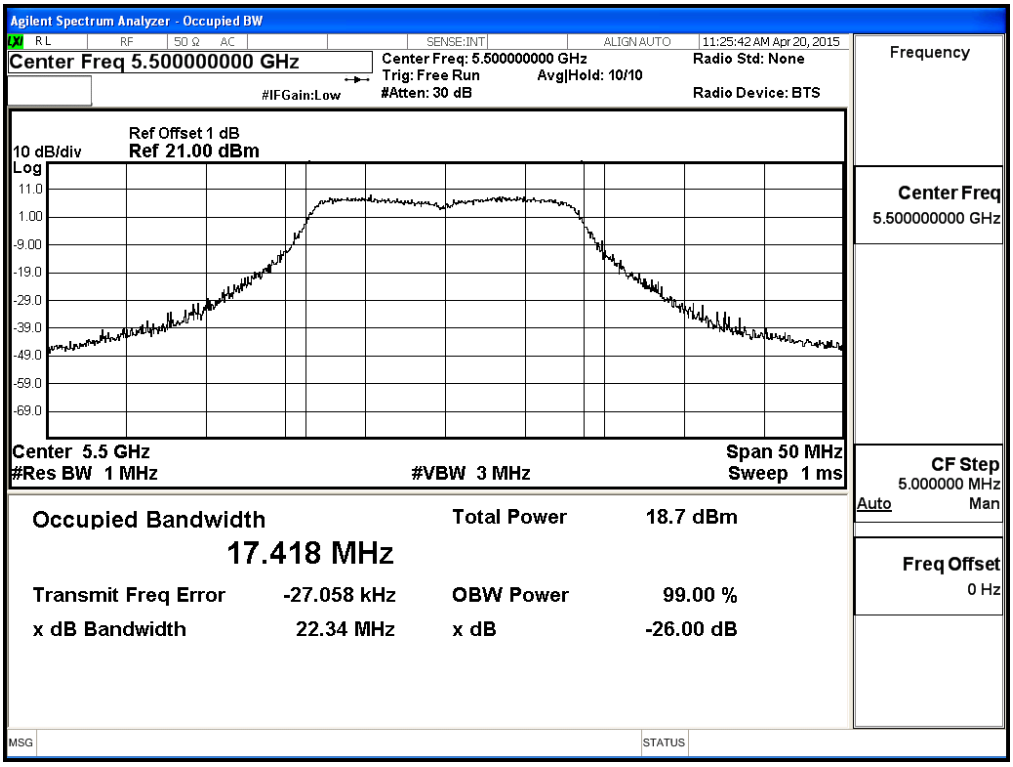
Channel 60: Chain B



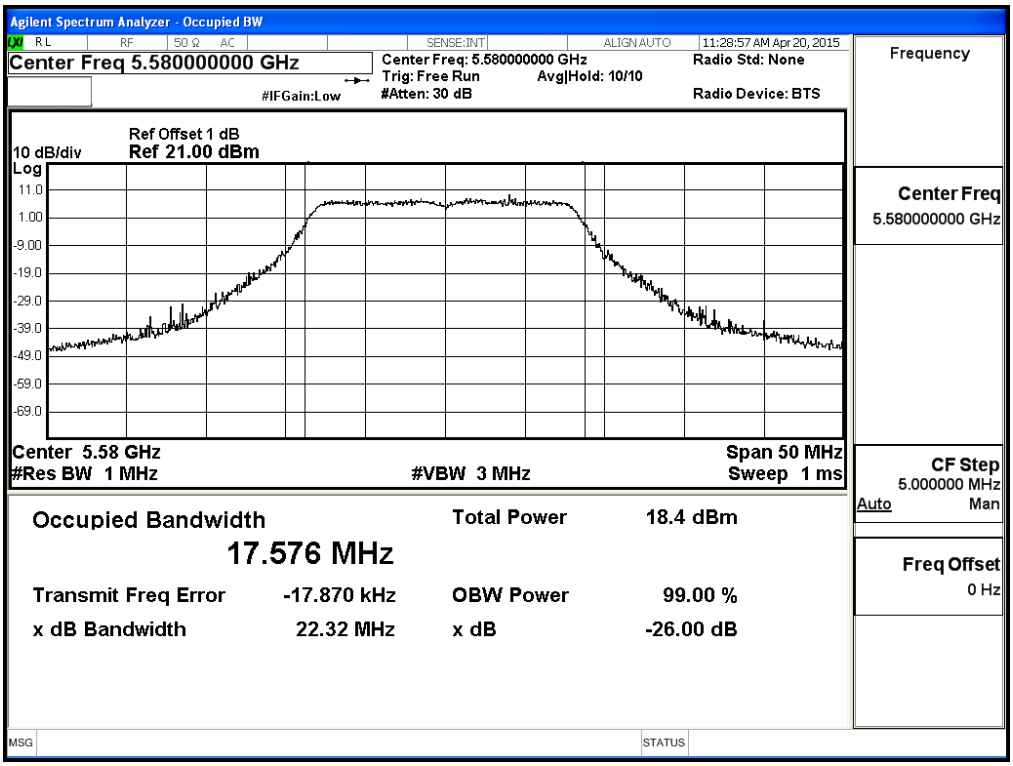
Channel 64: Chain B



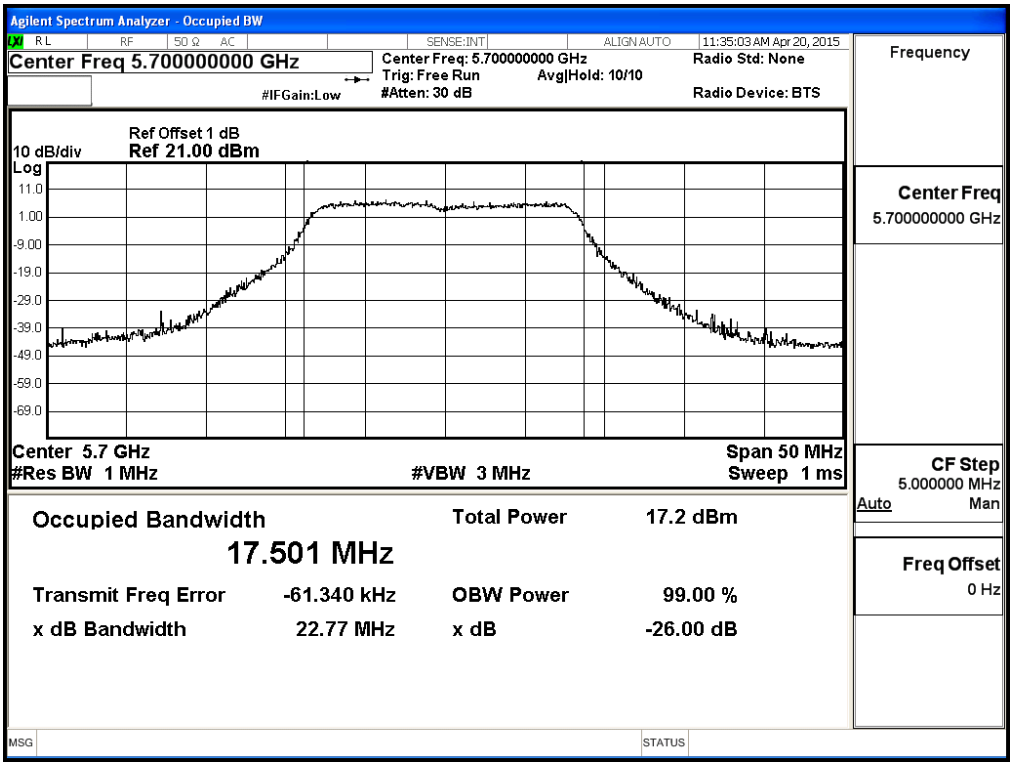
Channel 100: Chain B



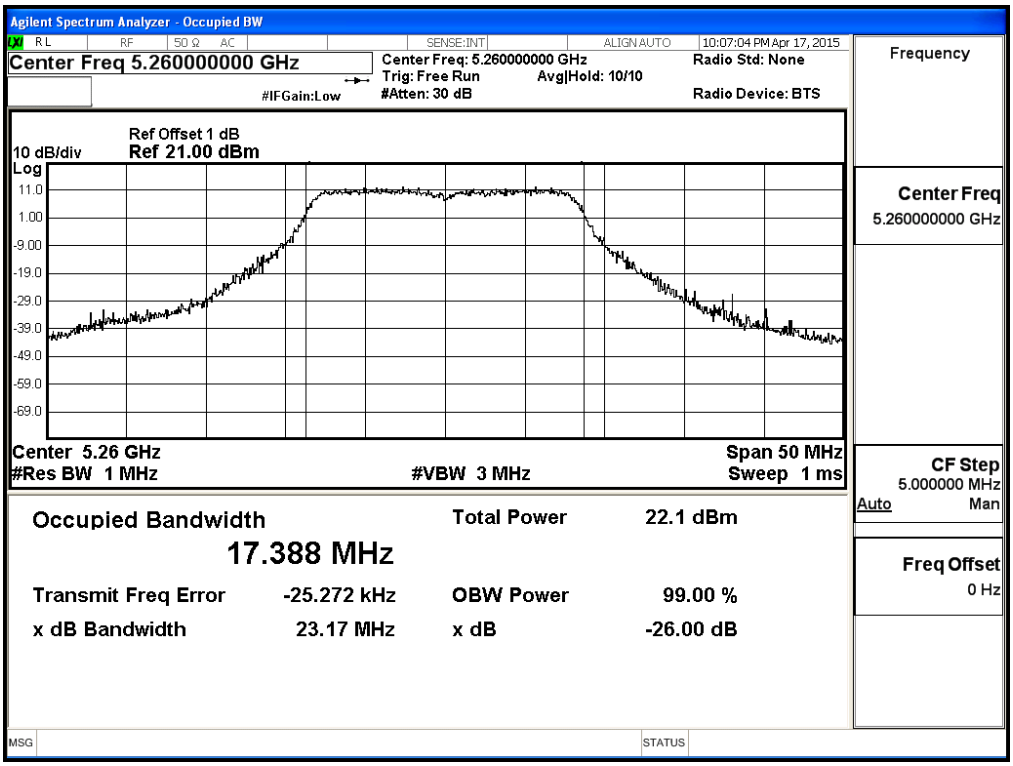
Channel 116: Chain B



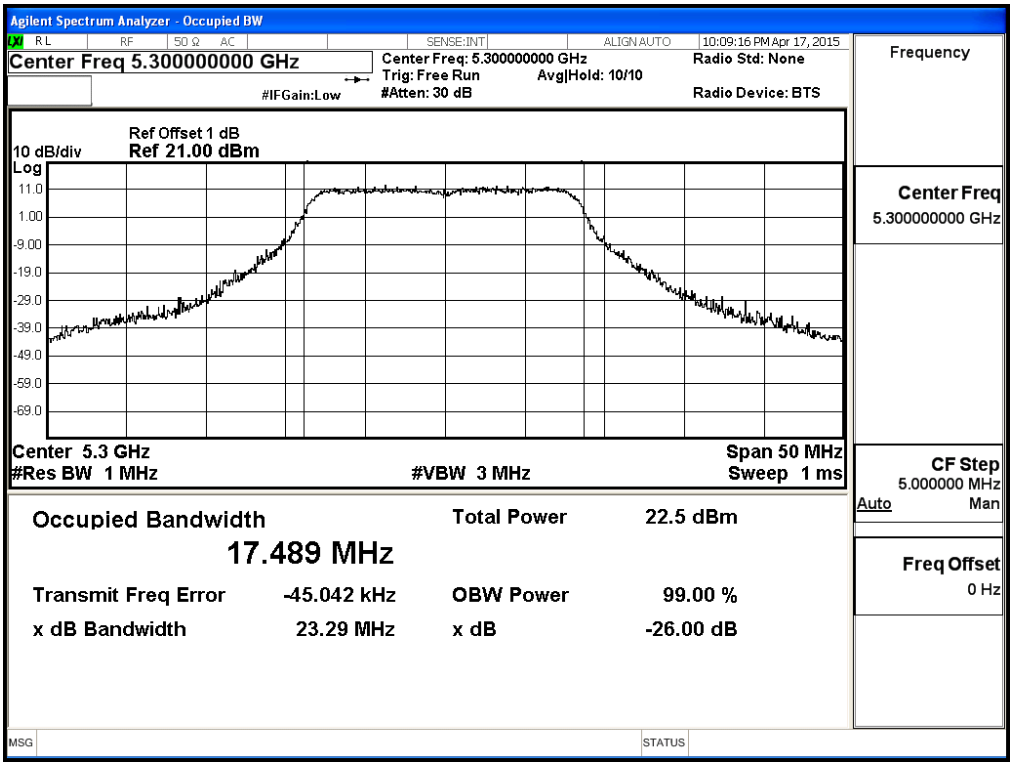
Channel 140: Chain B



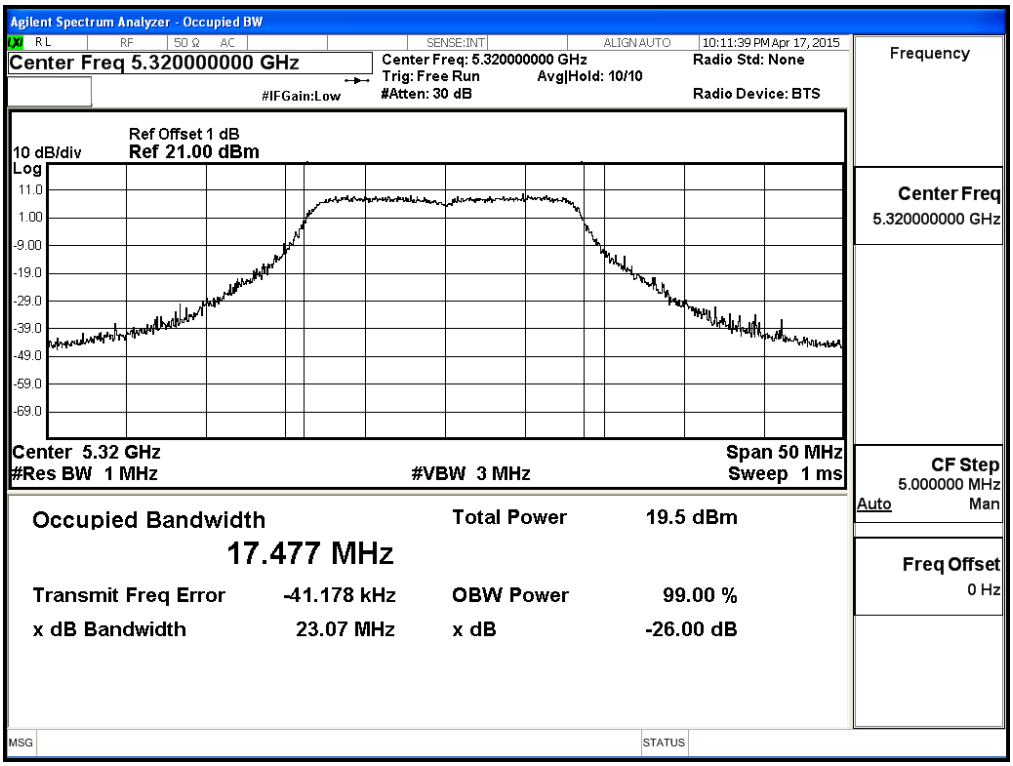
Channel 52: Chain C



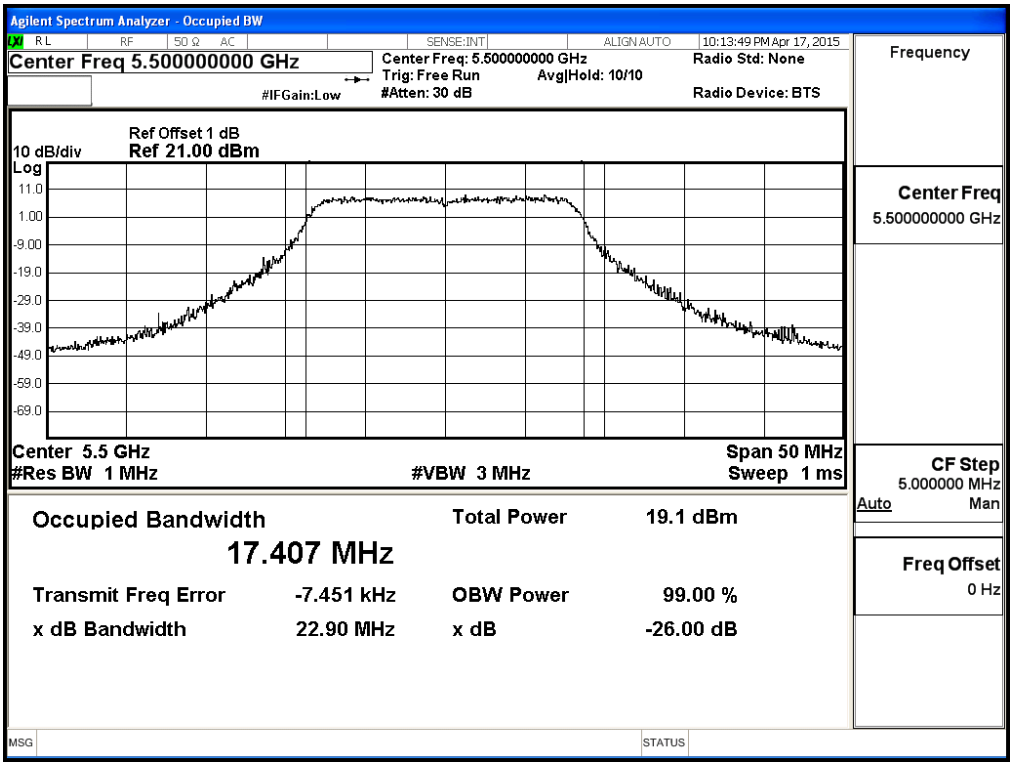
Channel 60: Chain C



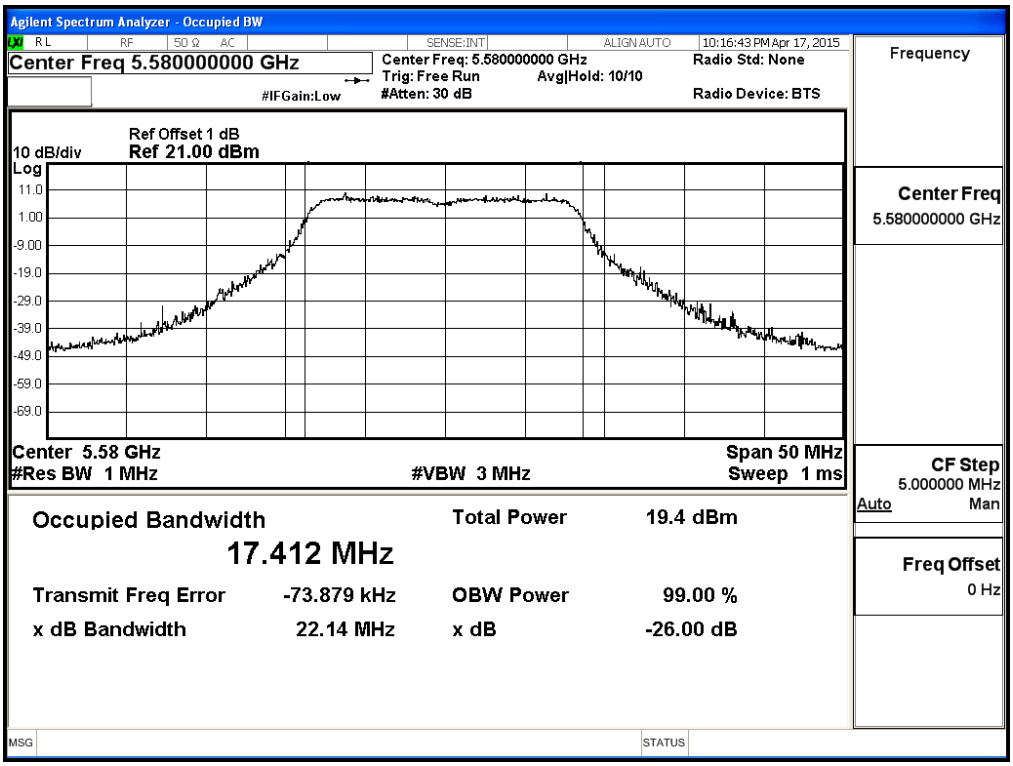
Channel 64: Chain C



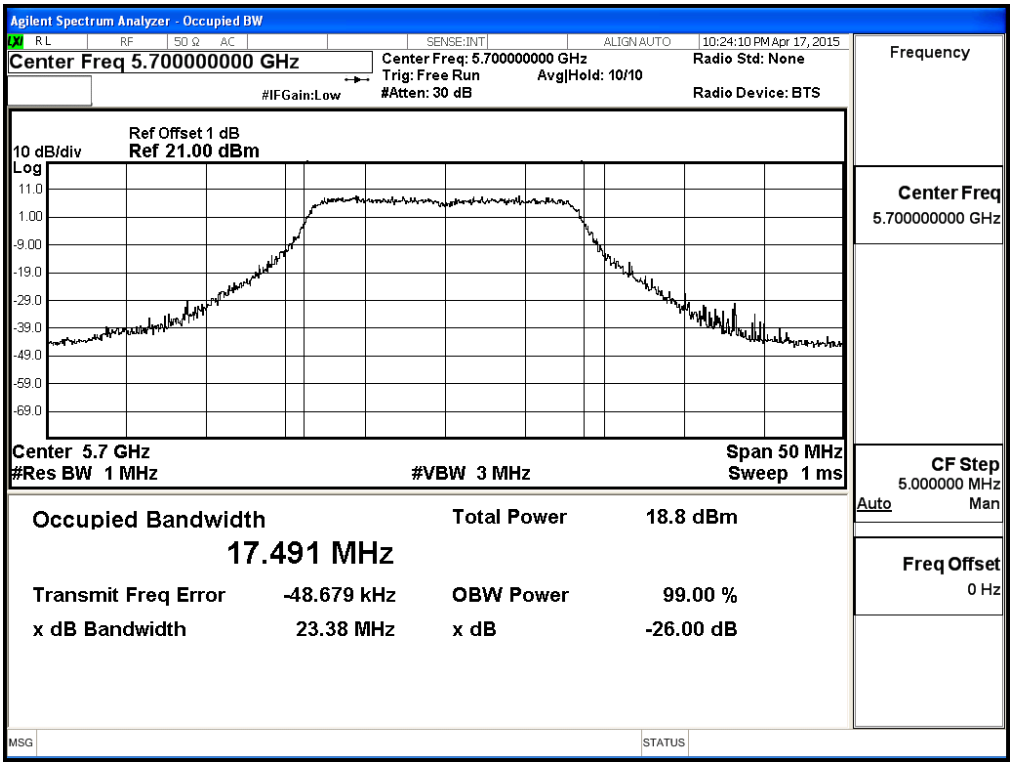
Channel 100: Chain C



Channel 116: Chain C



Channel 140: Chain C



Product : Access Point/Sensor
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter (802.11n-20BW 21.7Mbps) (Internal Antenna)

Chain A

Cable loss=1Db		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	
		Measurement Level (dBm)								
52	5260	13.17	--	--	--	--	--	--	--	<24dBm
60	5300	13.23	13.11	12.99	12.87	12.75	12.63	12.51	12.32	<24dBm
64	5320	12.41	--	--	--	--	--	--	--	<24dBm
100	5500	10.47	--	--	--	--	--	--	--	<24dBm
116	5580	10.38	10.33	10.22	10.07	9.92	9.77	9.62	9.47	<24dBm
140	5700	10.91	--	--	--	--	--	--	--	<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
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	
		Measurement Level (dBm)								
52	5260	12.88	--	--	--	--	--	--	--	<24dBm
60	5300	13.48	13.36	13.24	13.12	13.02	12.88	12.76	12.62	<24dBm
64	5320	12.55	--	--	--	--	--	--	--	<24dBm
100	5500	10.29	--	--	--	--	--	--	--	<24dBm
116	5580	10.53	10.44	10.37	10.28	10.11	9.94	9.77	9.62	<24dBm
140	5700	10.42	--	--	--	--	--	--	--	<24dBm

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

Chain C

Cable loss=1Db		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	
		Measurement Level (dBm)								
52	5260	12.64	--	--	--	--	--	--	--	<24dBm
60	5300	13.11	12.96	12.81	12.66	12.51	12.36	12.21	12.06	<24dBm
64	5320	13.12	--	--	--	--	--	--	--	<24dBm
100	5500	9.58	--	--	--	--	--	--	--	<24dBm
116	5580	9.88	9.84	9.76	9.71	9.63	9.52	9.41	9.31	<24dBm
140	5700	9.57	--	--	--	--	--	--	--	<24dBm

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

Maximum conducted output power Measurement:

Chain A+ B+C

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit	
							(dBm)	dBm+10log(BW)
52	5260	18.616	13.17	12.88	12.64	17.67	21.4	21.10
60	5300	18.775	13.23	13.48	13.11	18.05	21.4	21.14
64	5320	18.534	12.41	12.55	13.12	17.48	21.4	21.08
100	5500	18.646	10.47	10.29	9.58	14.90	18.9	18.61
116	5580	18.489	10.38	10.53	9.88	15.04	18.9	18.57
140	5700	18.582	10.91	10.42	9.57	15.11	18.9	18.59

Note:

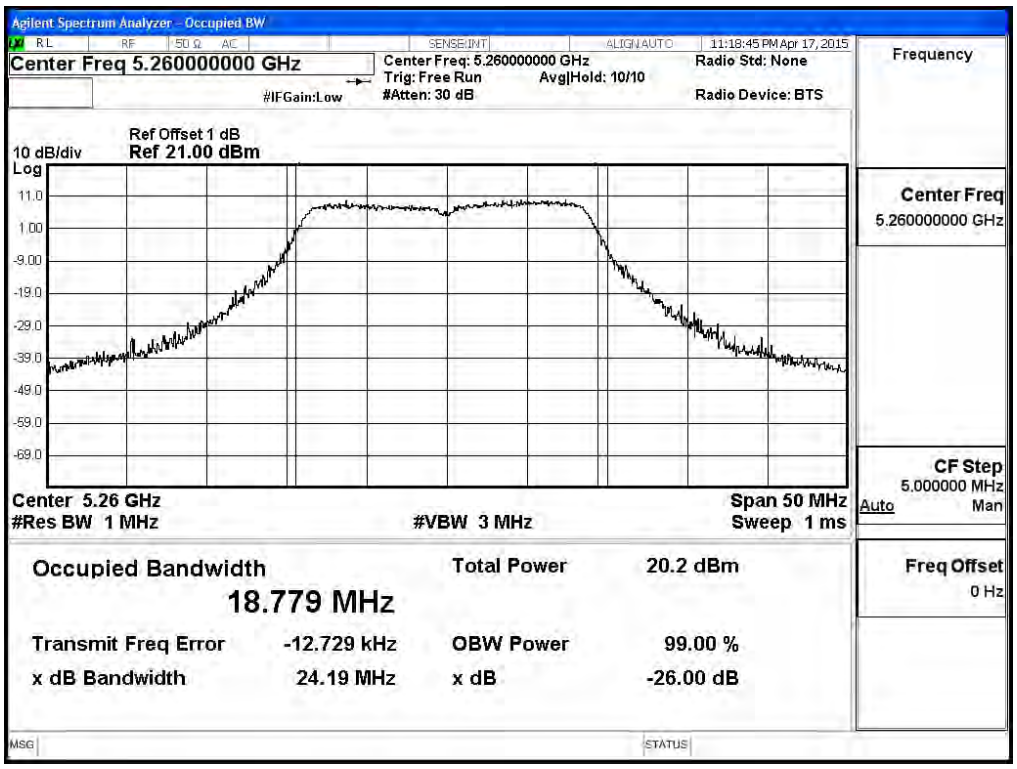
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (Mw)+ Chain B Power (Mw)+Chain C Power (Mw))
3. 99% Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

   △ The maximum conducted output power shall be reduced by the amount in Db that the directional gain of

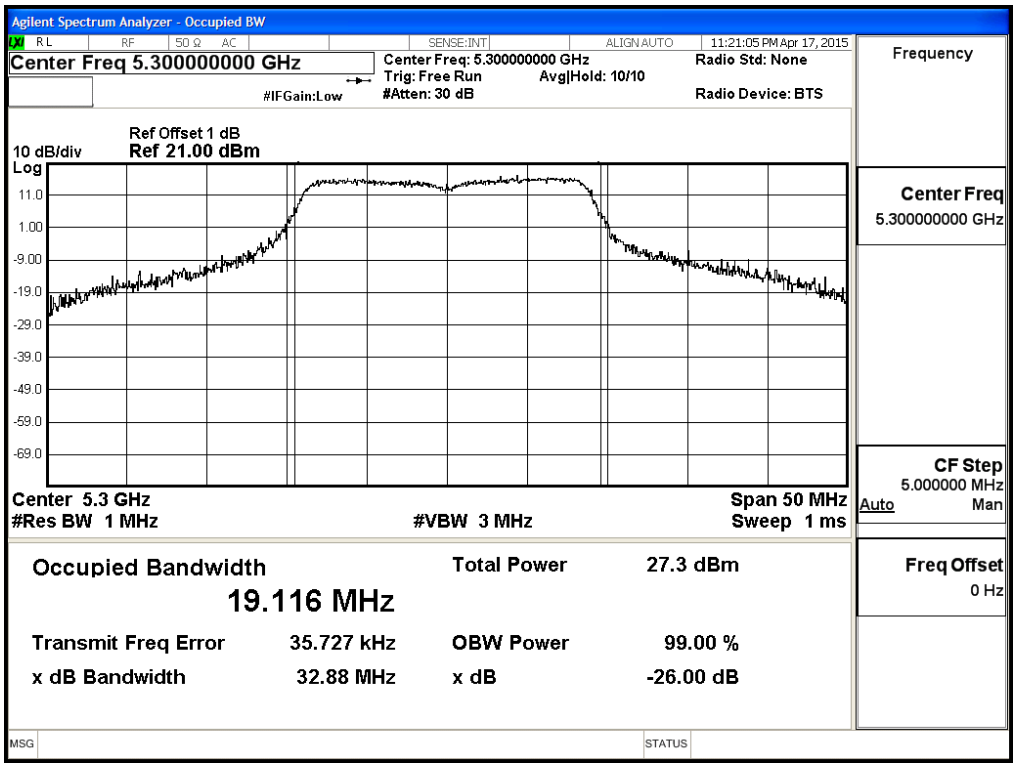
   the antenna exceeds 6 dBi

99% Occupied Bandwidth:

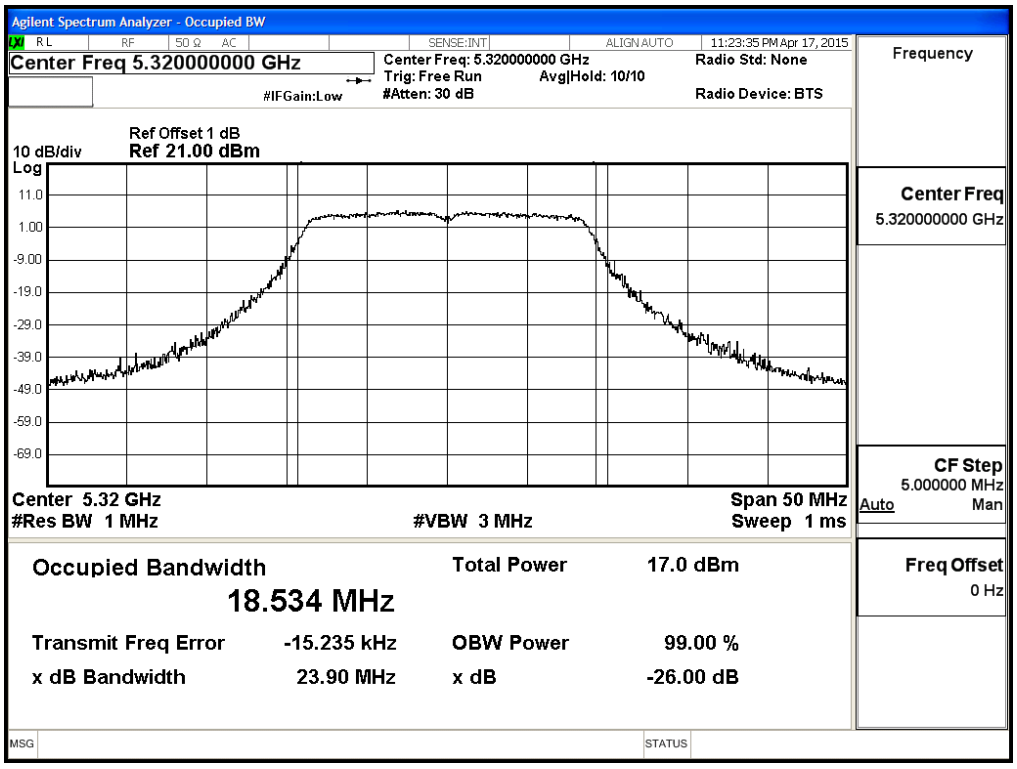
Channel 52: Chain A



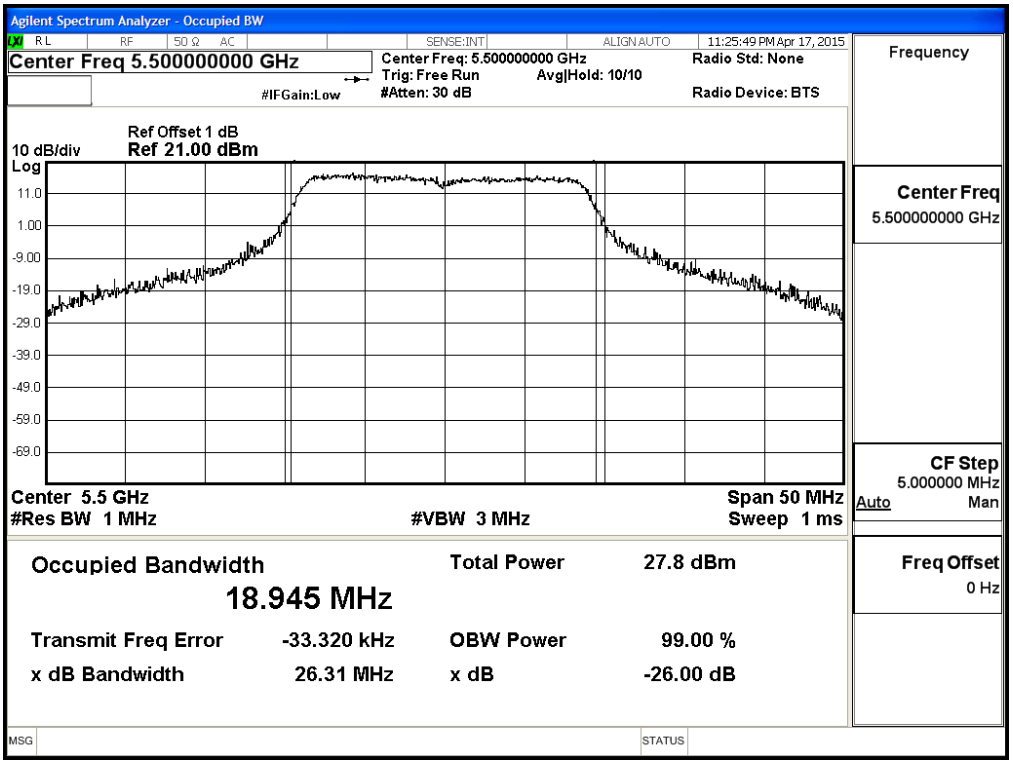
Channel 60: Chain A



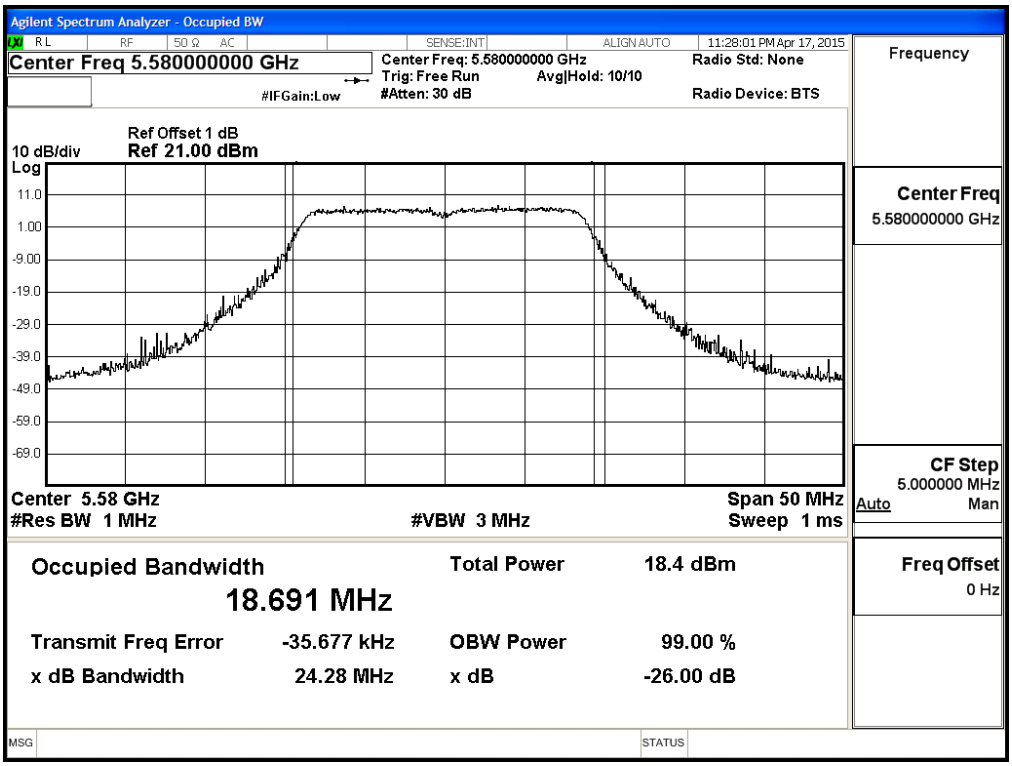
Channel 64: Chain A



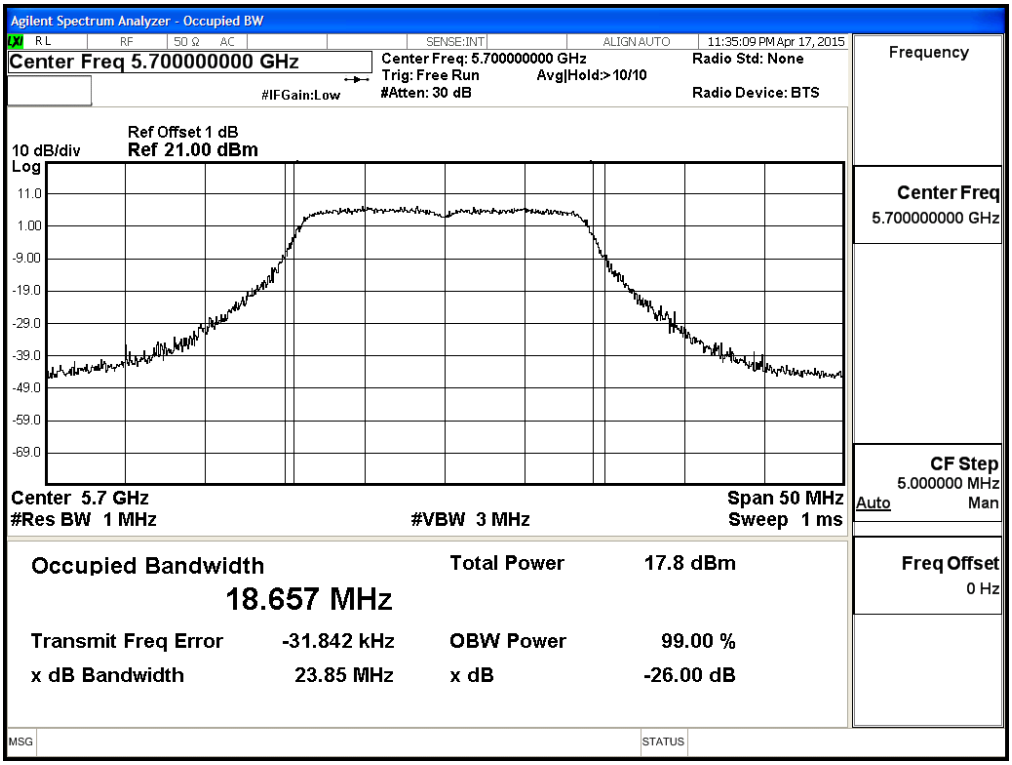
Channel 100: Chain A



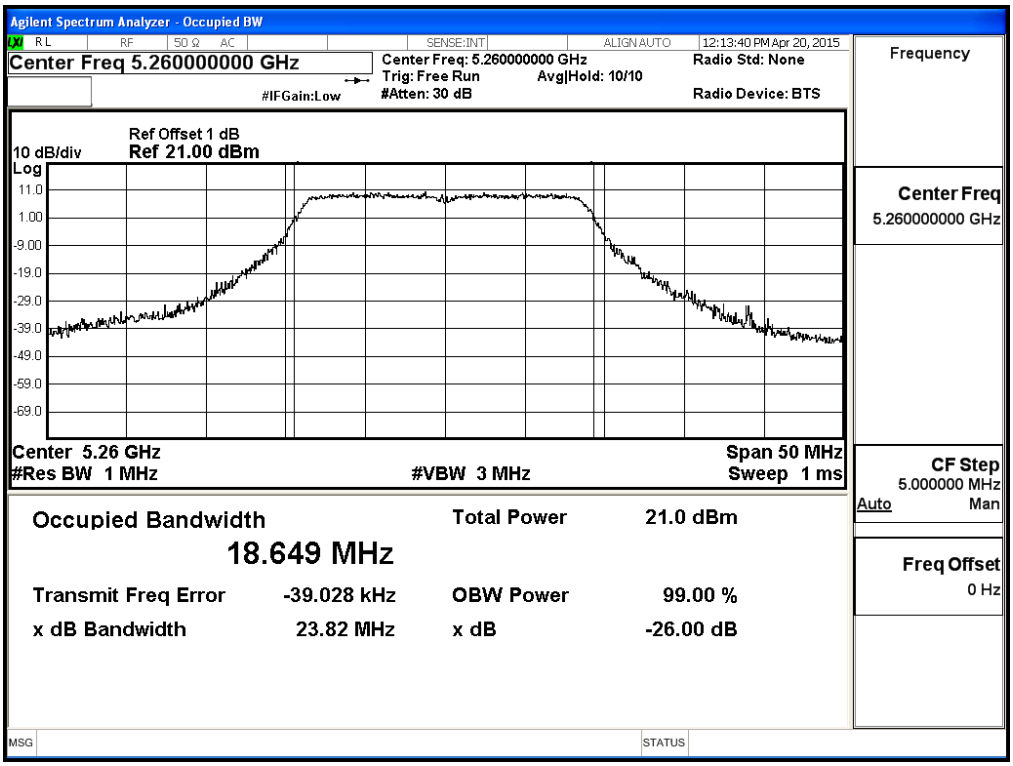
Channel 116: Chain A



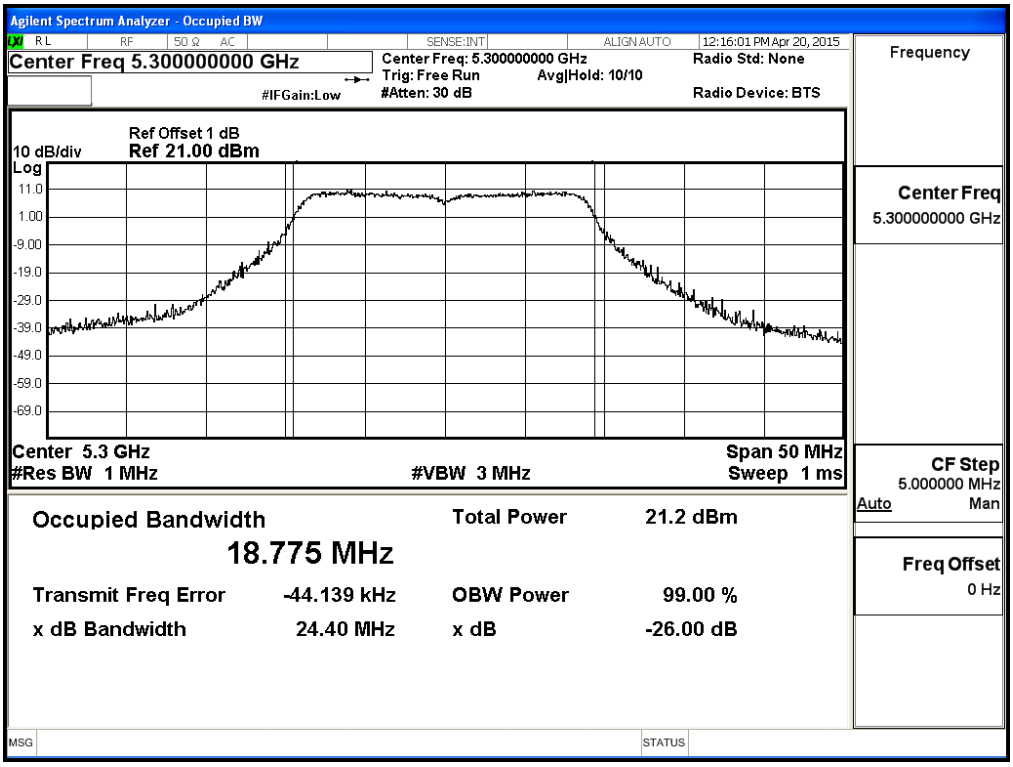
Channel 140: Chain A



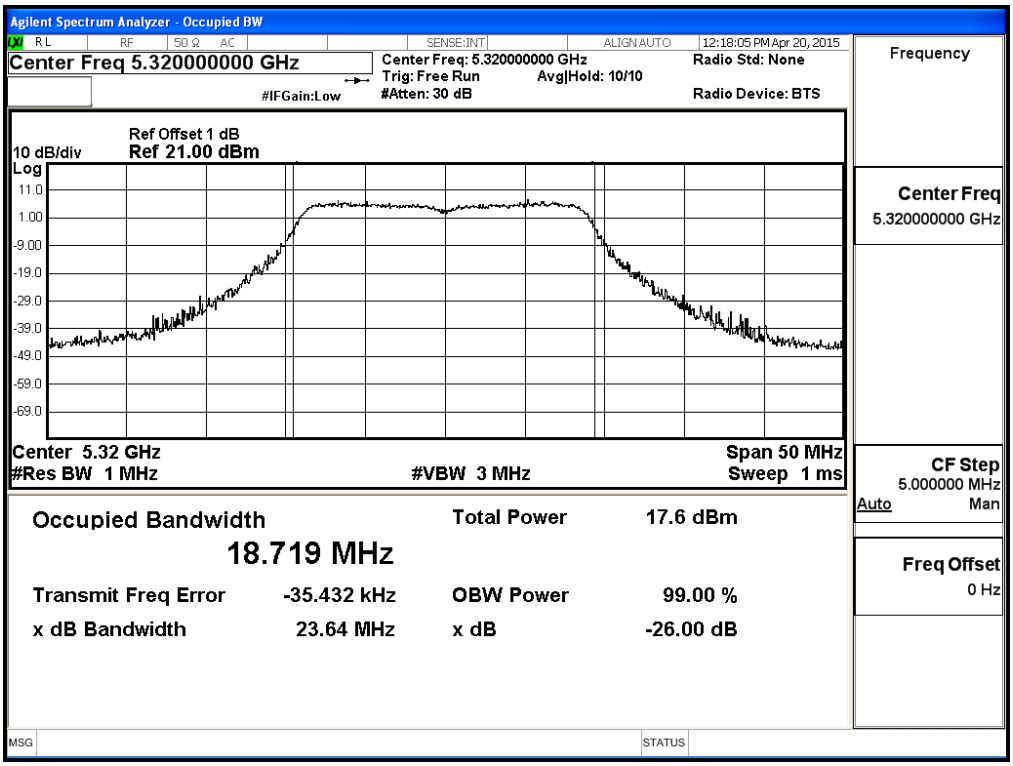
Channel 52: Chain B



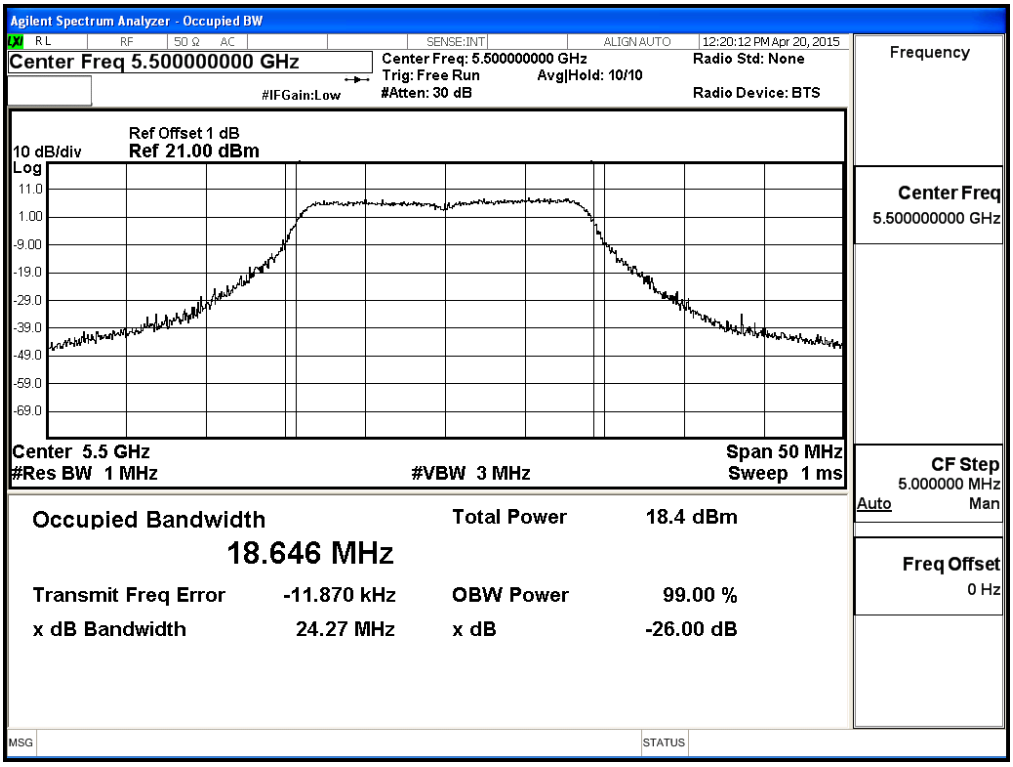
Channel 60: Chain B



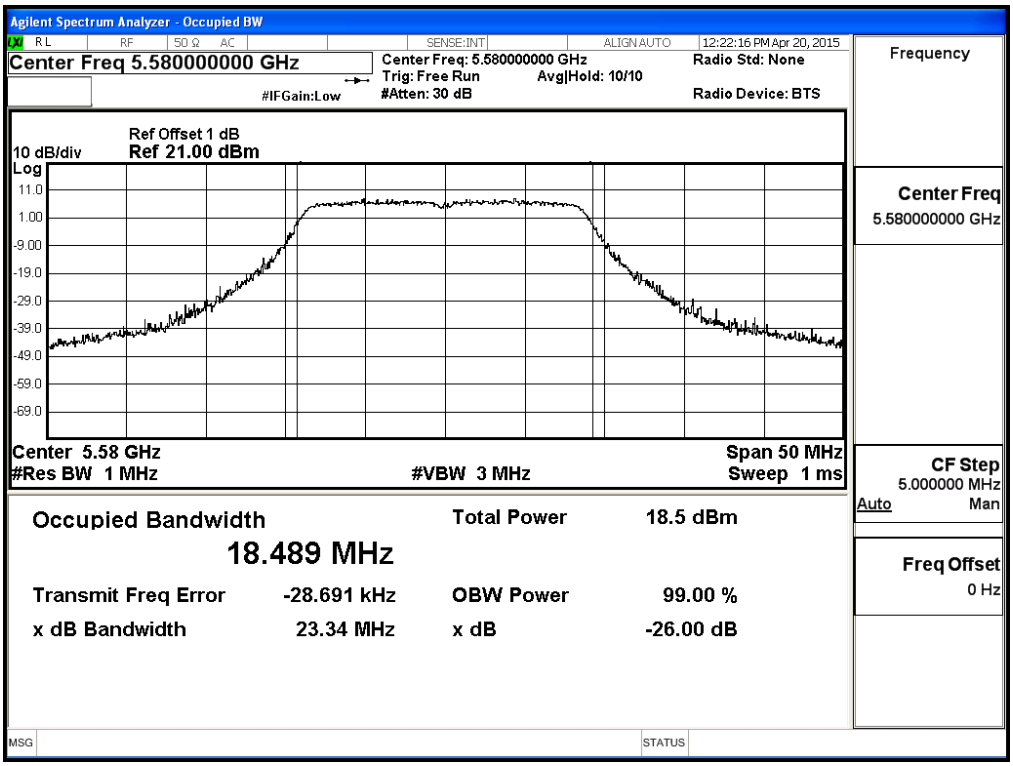
Channel 64: Chain B



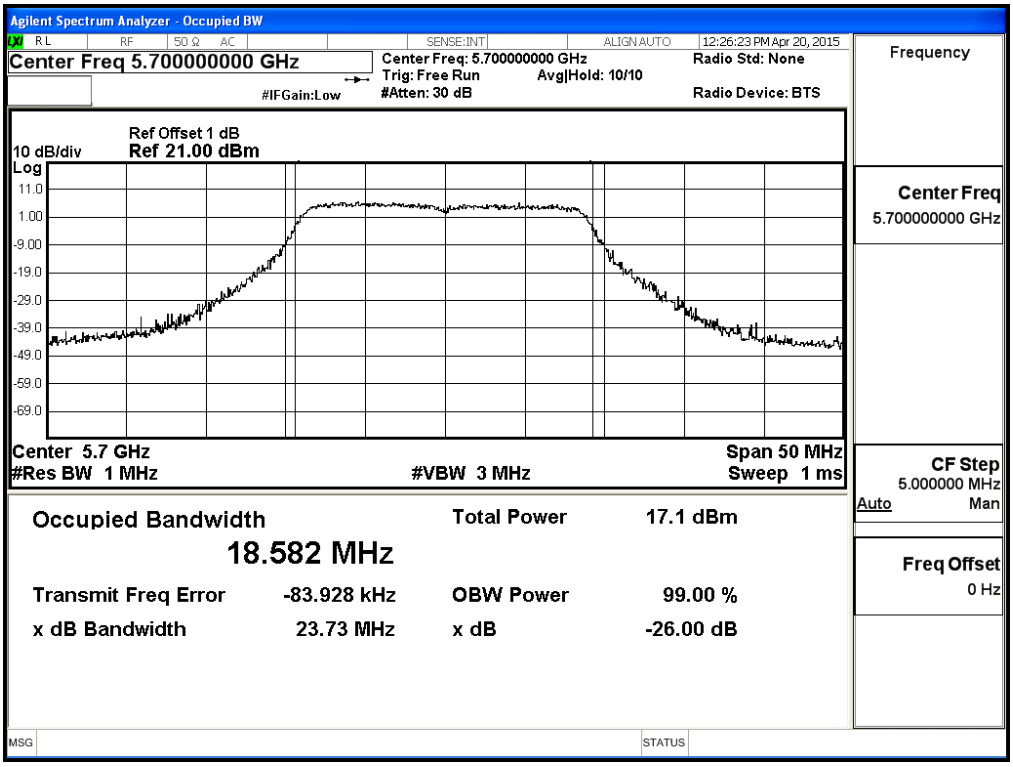
Channel 100: Chain B



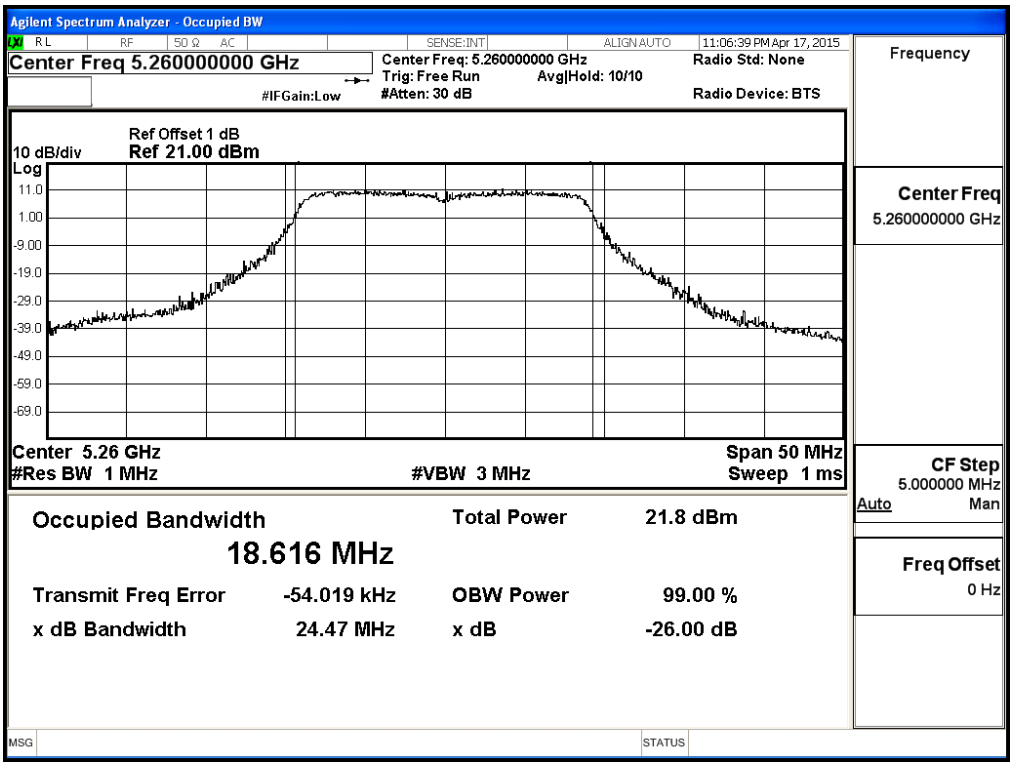
Channel 116: Chain B



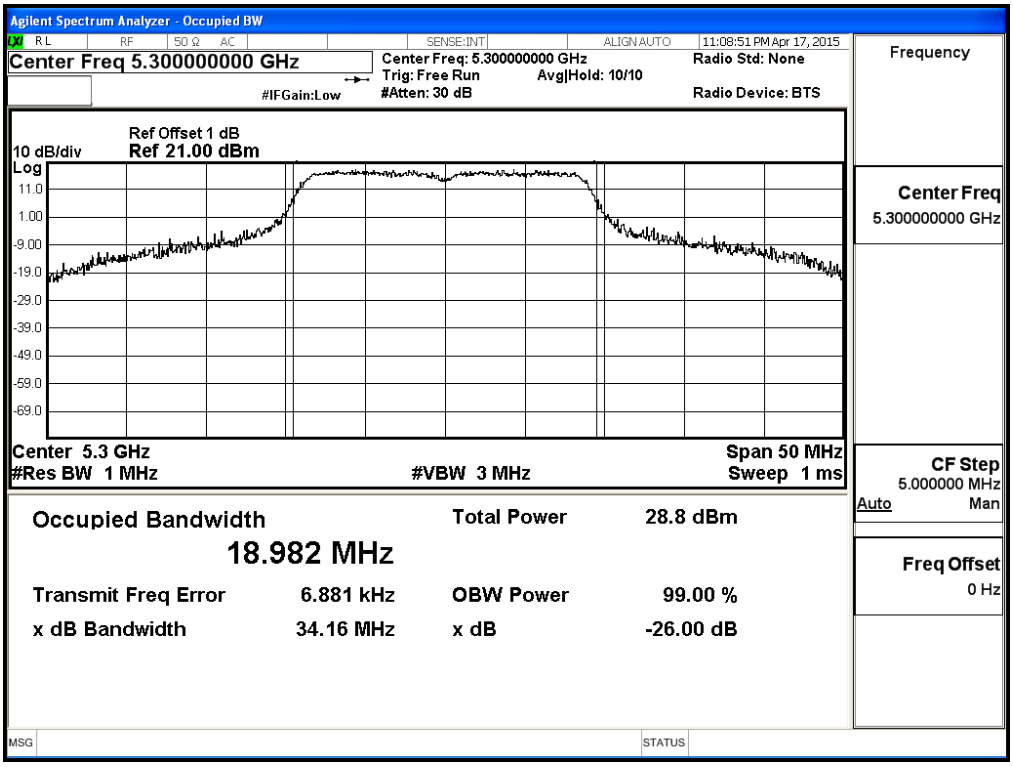
Channel 140: Chain B



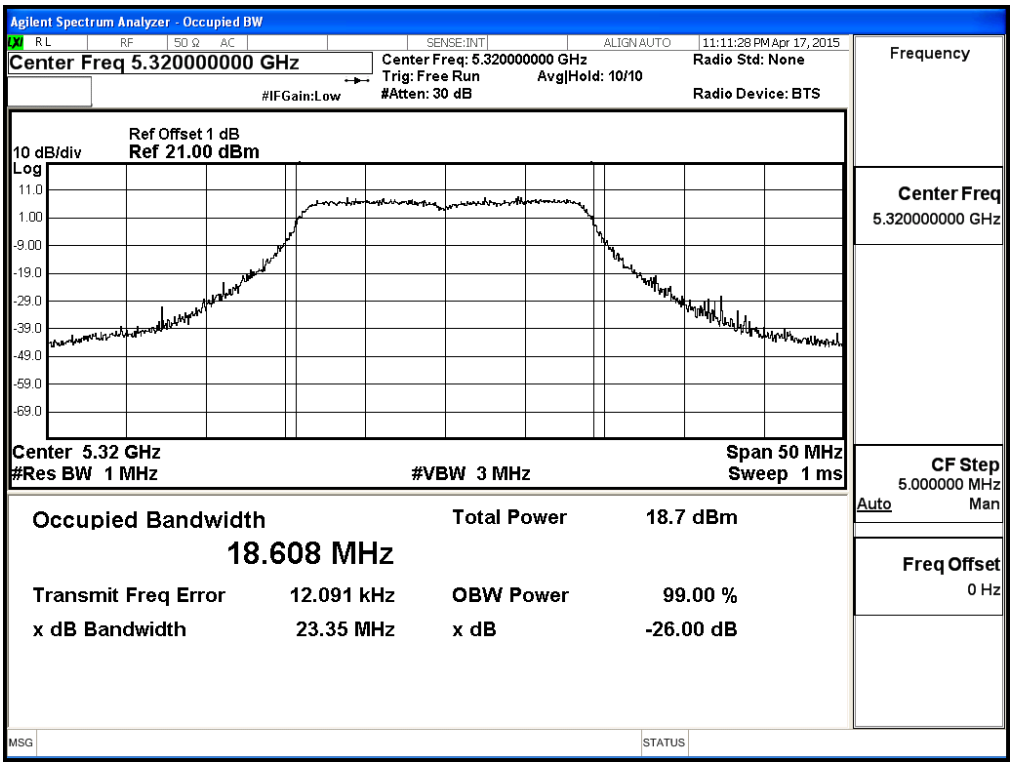
Channel 52: Chain C



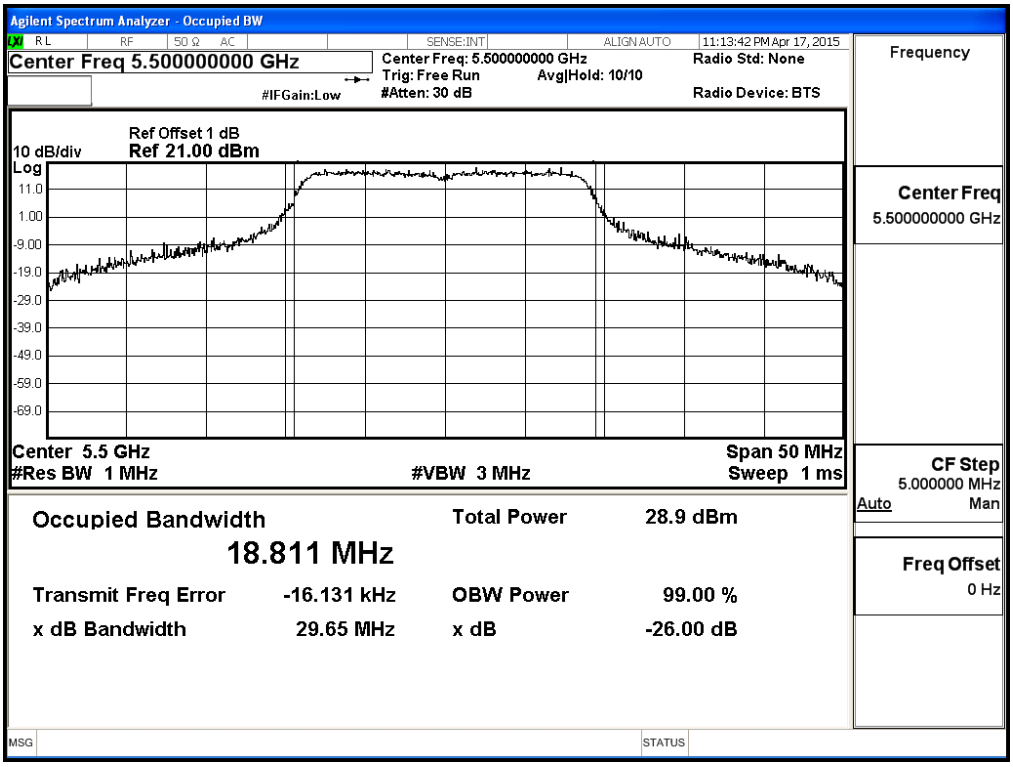
Channel 60: Chain C



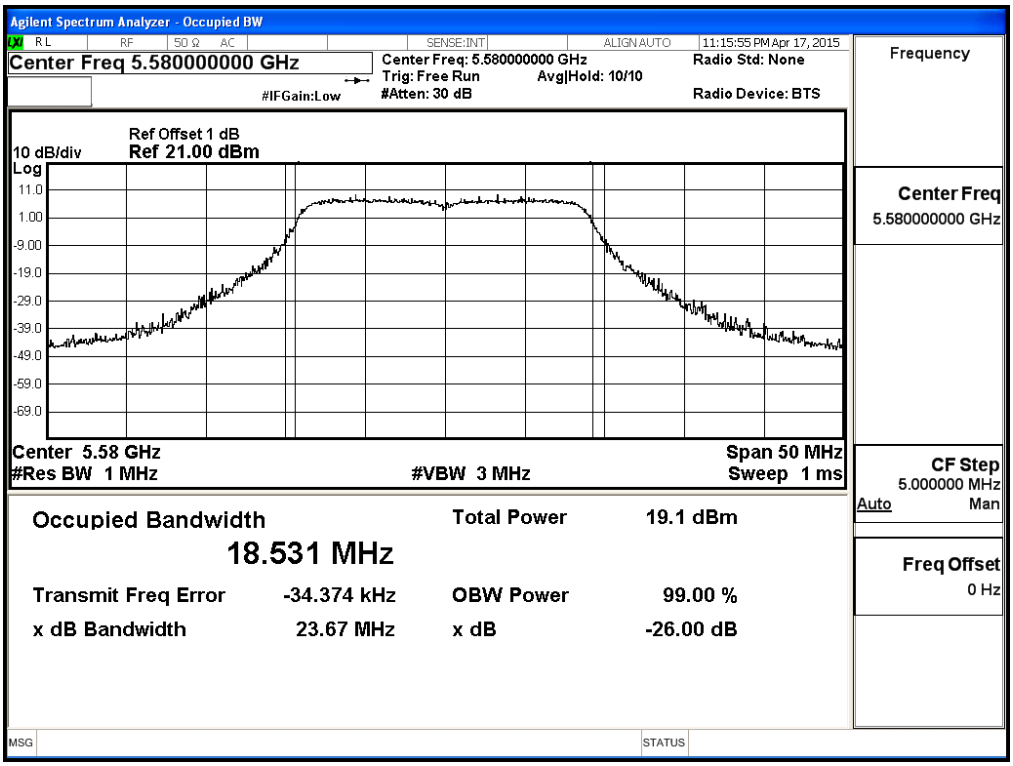
Channel 64: Chain C



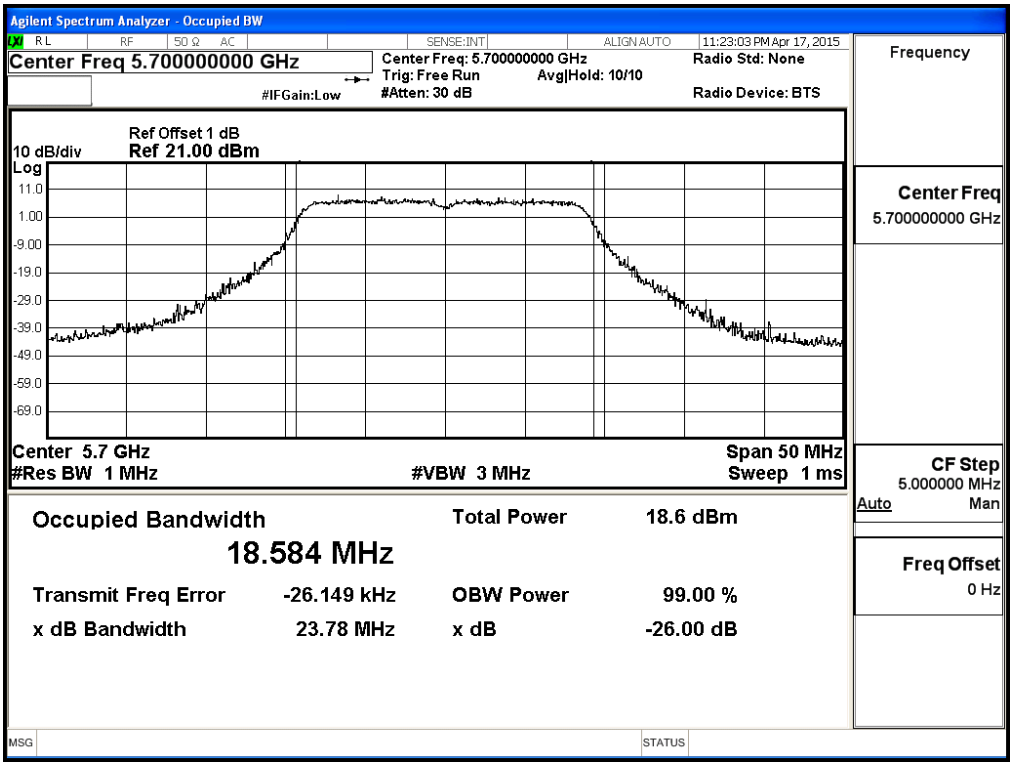
Channel 100: Chain C



Channel 116: Chain C



Channel 140: Chain C



Product : Access Point/Sensor
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter (802.11n-40BW 45Mbps) (Internal Antenna)

Chain A

Cable loss=1Db		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		45	90	135	180	270	360	405	450	
		Measurement Level (dBm)								
54	5270	13.05	--	--	--	--	--	--	--	<24dBm
62	5310	6.95	6.81	6.67	6.53	6.39	6.25	6.11	5.92	<24dBm
102	5510	10.87	--	--	--	--	--	--	--	<24dBm
110	5550	10.66	10.58	10.49	10.31	10.13	9.95	9.77	9.62	<24dBm
134	5670	10.81	--	--	--	--	--	--	--	<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
		45	90	135	180	270	360	405	450	
		Measurement Level (dBm)								
54	5270	12.86	--	--	--	--	--	--	--	<24dBm
62	5310	6.85	6.72	6.59	6.46	6.33	6.22	6.07	5.83	<24dBm
102	5510	10.92	--	--	--	--	--	--	--	<24dBm
110	5550	10.99	10.73	10.62	10.51	10.4	10.29	10.18	10.07	<24dBm
134	5670	10.67	--	--	--	--	--	--	--	<24dBm

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

Chain C

Cable loss=1Db		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		45	90	135	180	270	360	405	450	
		Measurement Level (dBm)								
54	5270	12.4	--	--	--	--	--	--	--	<24dBm
62	5310	7.43	7.31	7.19	7.07	6.95	6.83	6.71	6.56	<24dBm
102	5510	10.18	--	--	--	--	--	--	--	<24dBm
110	5550	10.24	10.16	10.05	9.94	9.83	9.72	9.61	9.56	<24dBm
134	5670	9.51	--	--	--	--	--	--	--	<24dBm

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

Maximum conducted output power Measurement:

Chain A+ B+C

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit	
							(dBm)	dBm+10log(BW)
54	5270	36.691	13.05	12.86	12.40	17.55	21.4	24.05
62	5310	36.629	6.95	6.85	7.43	11.86	21.4	24.04
102	5510	36.710	10.87	10.92	10.18	15.44	18.9	21.55
110	5550	36.809	10.66	10.99	10.24	15.41	18.9	21.56
134	5670	36.769	10.81	10.67	9.51	15.14	18.9	21.55

Note:

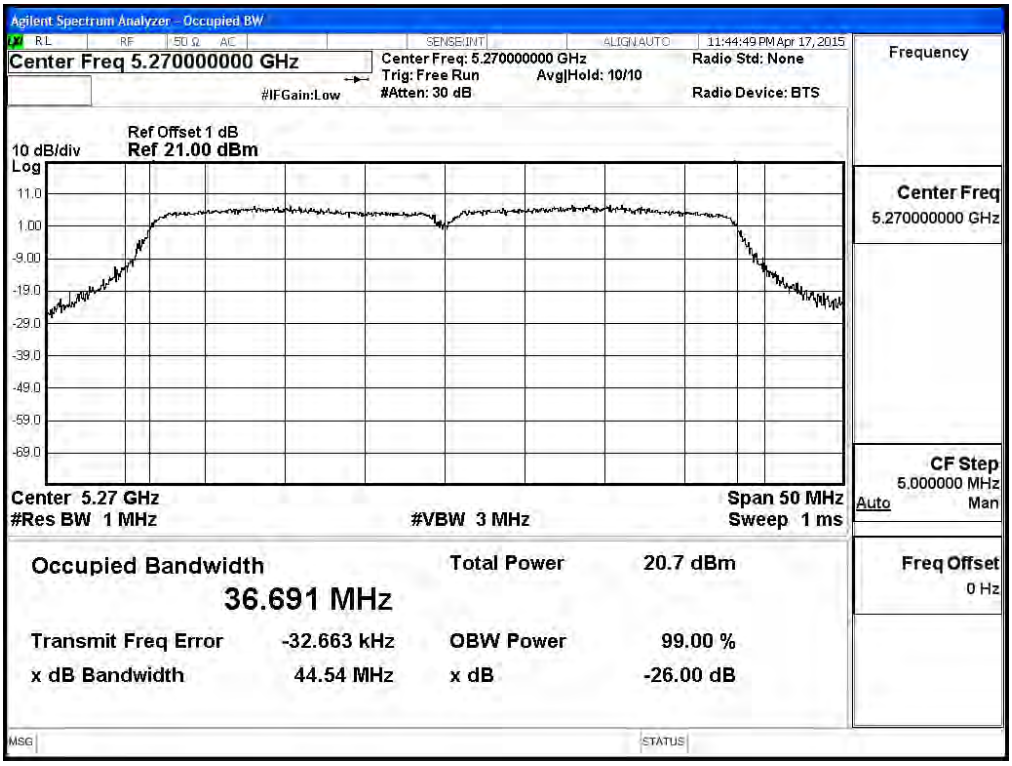
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (Mw)+ Chain B Power (Mw)+Chain C Power (Mw))
3. 99% Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

△ The maximum conducted output power shall be reduced by the amount in Db that the directional gain of

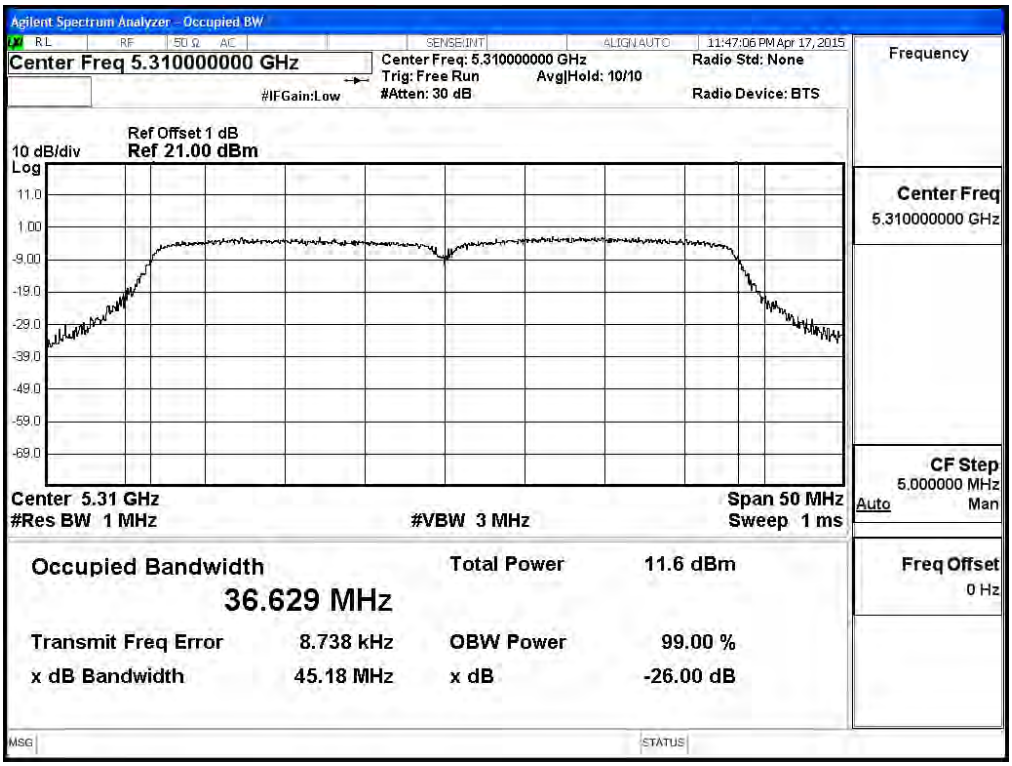
the antenna exceeds 6 dBi

99% Occupied Bandwidth:

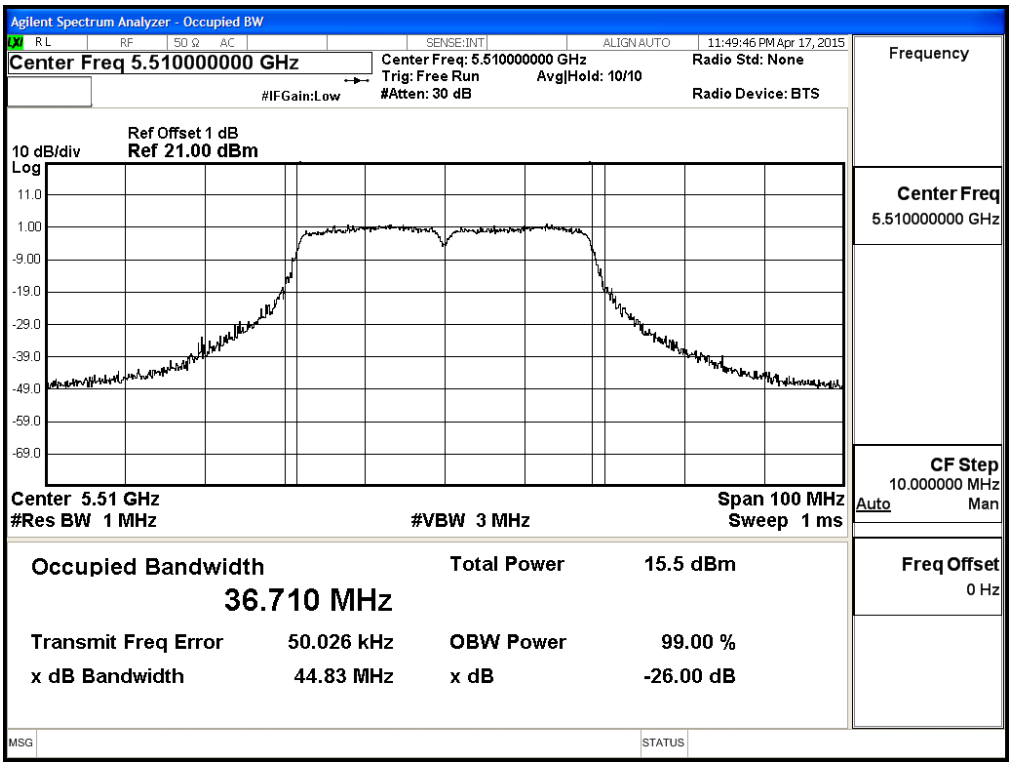
Channel 54: Chain A



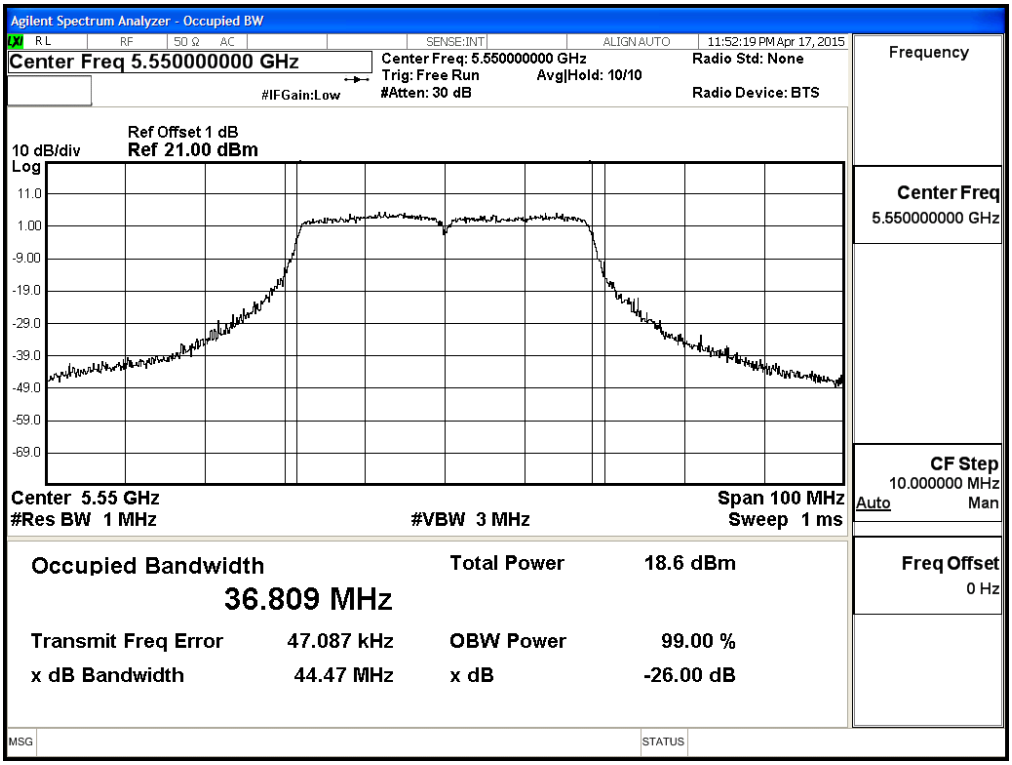
Channel 62: Chain A



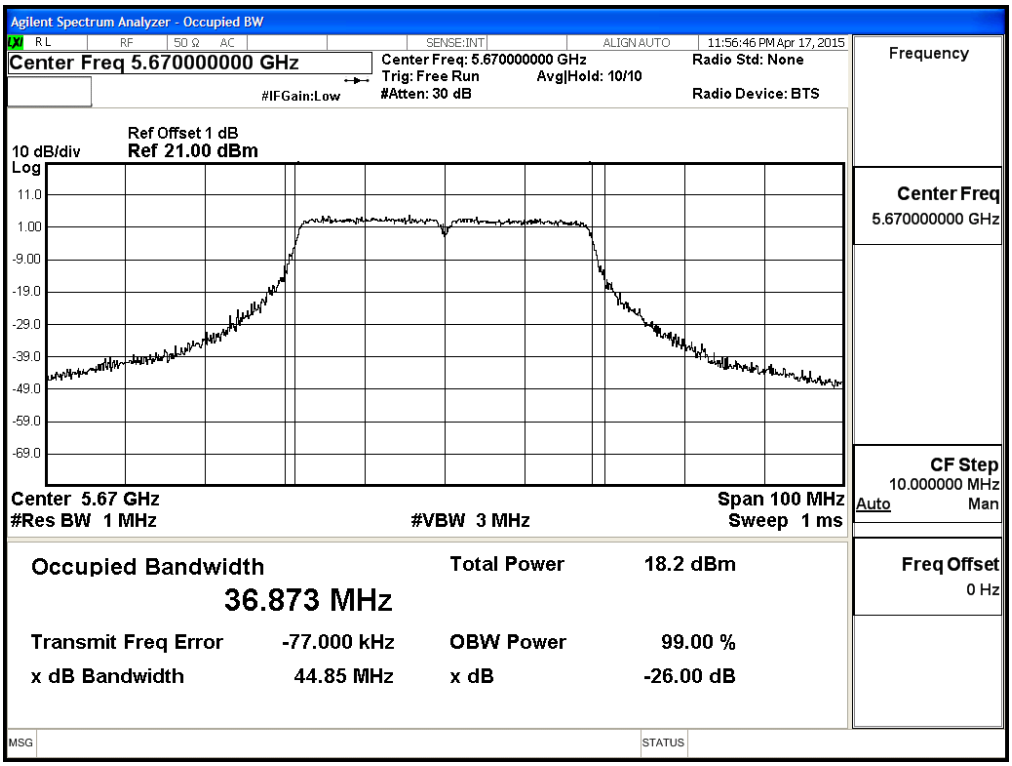
Channel 102: Chain A



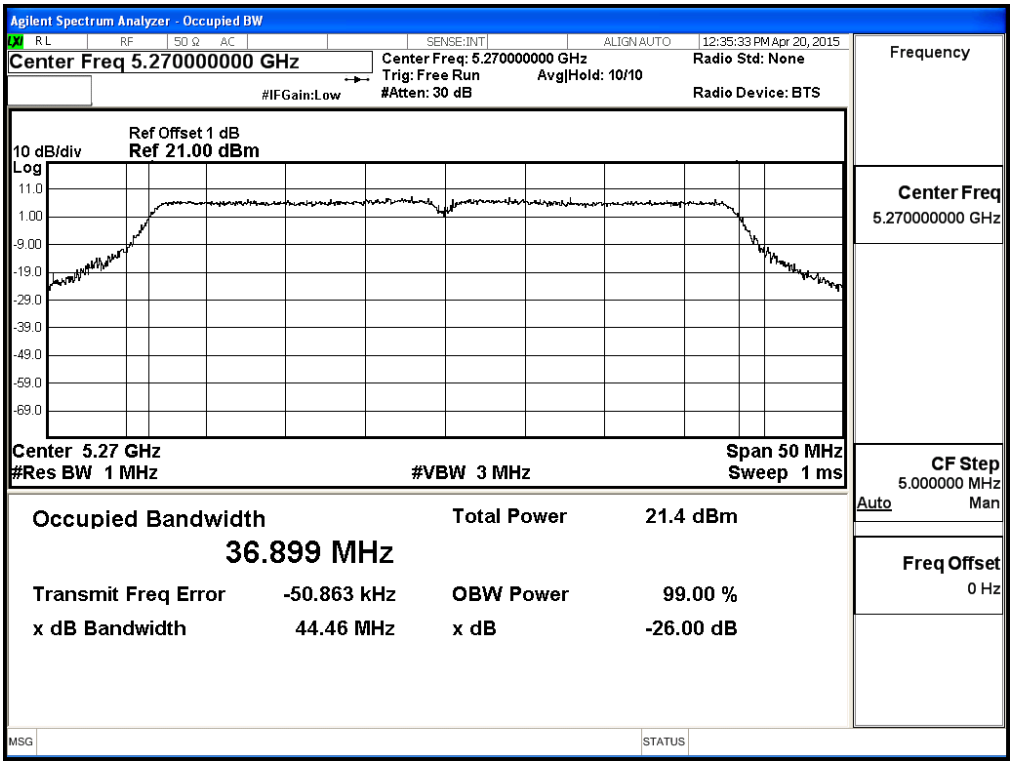
Channel 110: Chain A



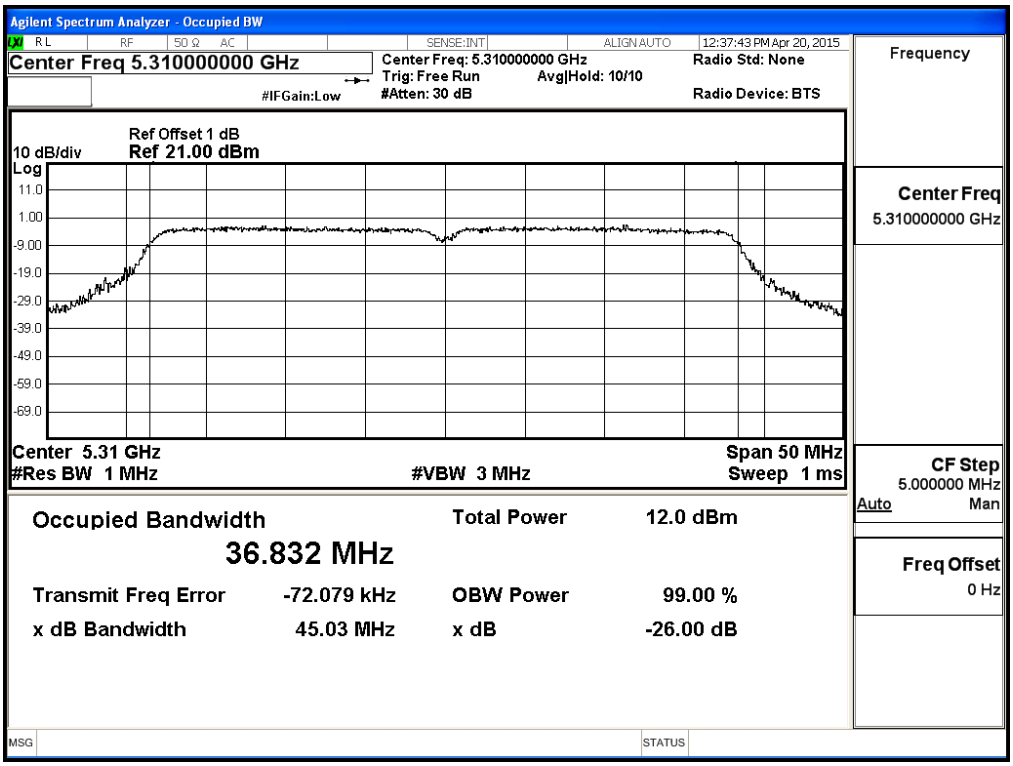
Channel 134: Chain A



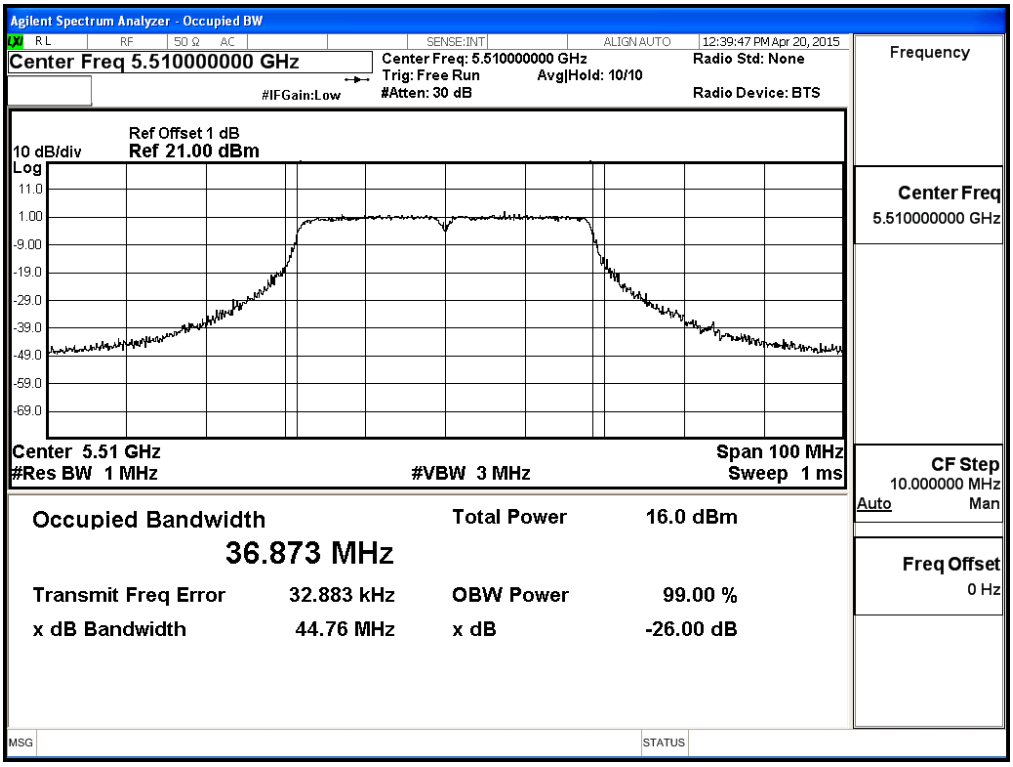
Channel 54: Chain B



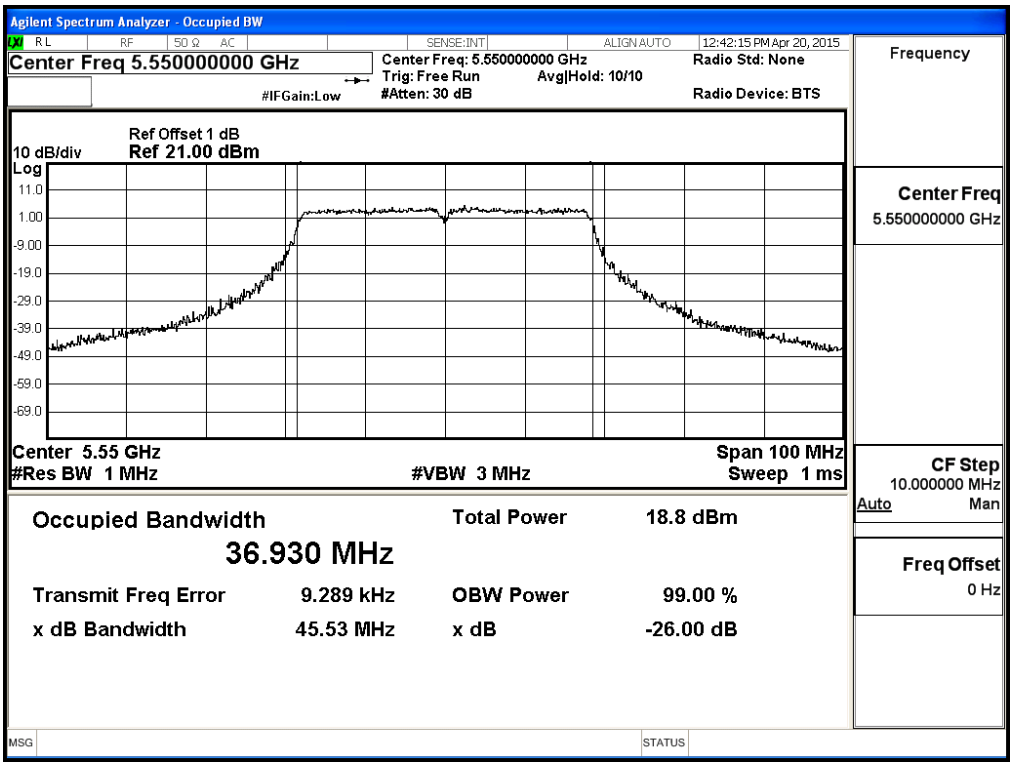
Channel 62: Chain B



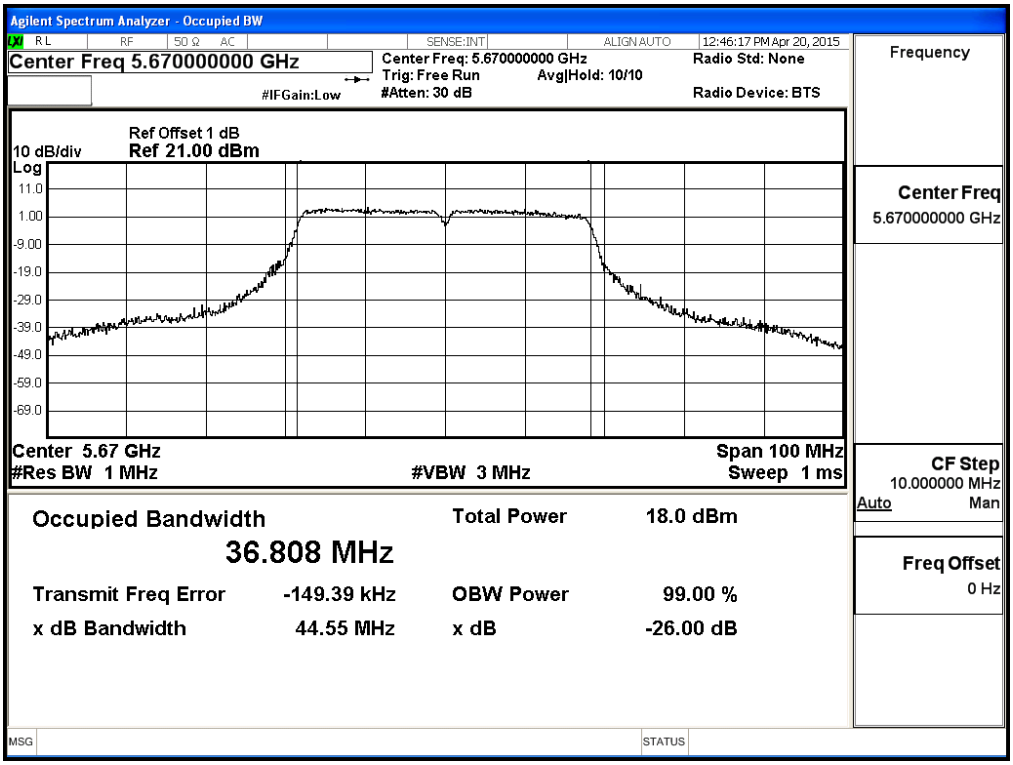
Channel 102: Chain B



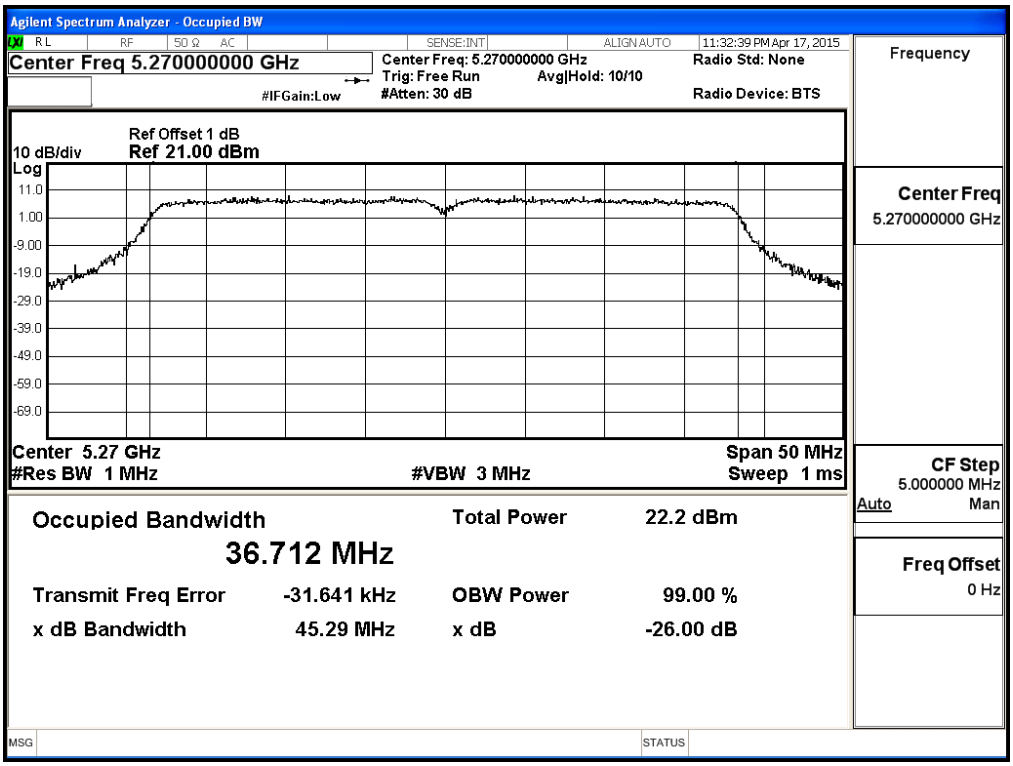
Channel 110: Chain B



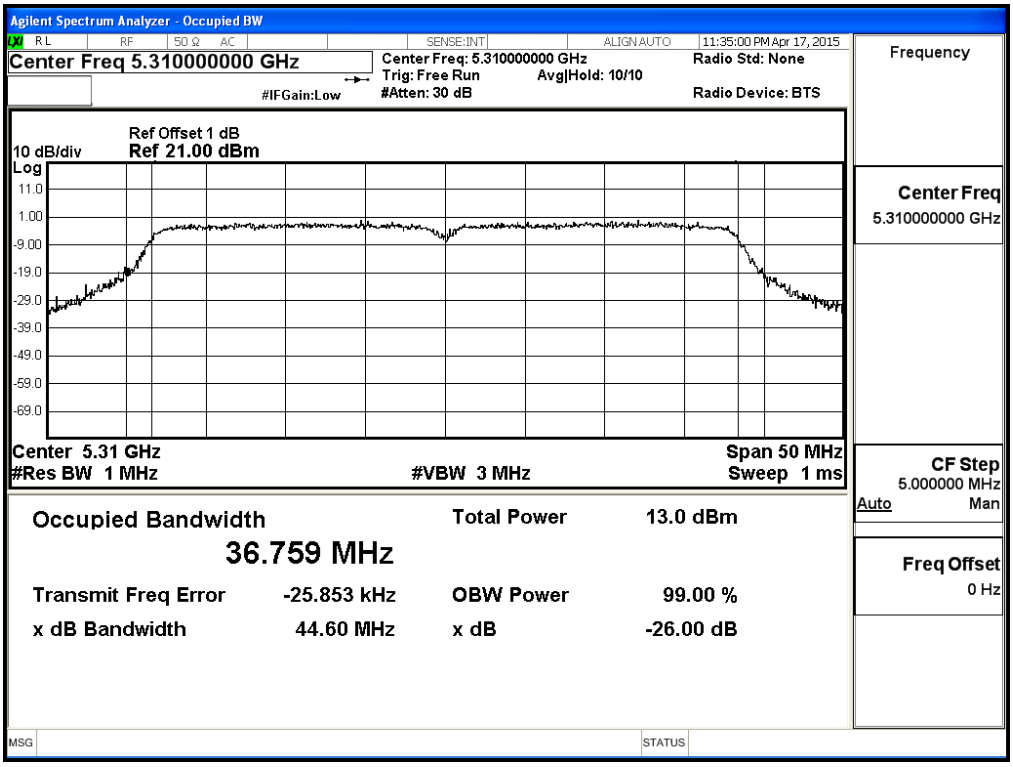
Channel 134: Chain B



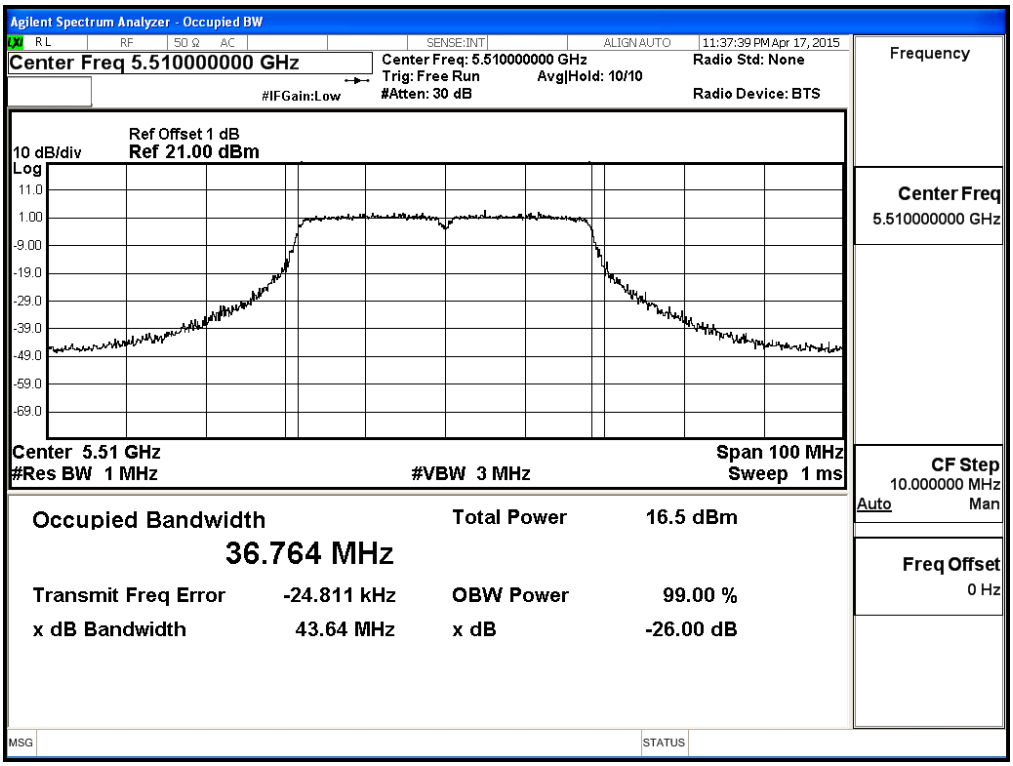
Channel 54: Chain C



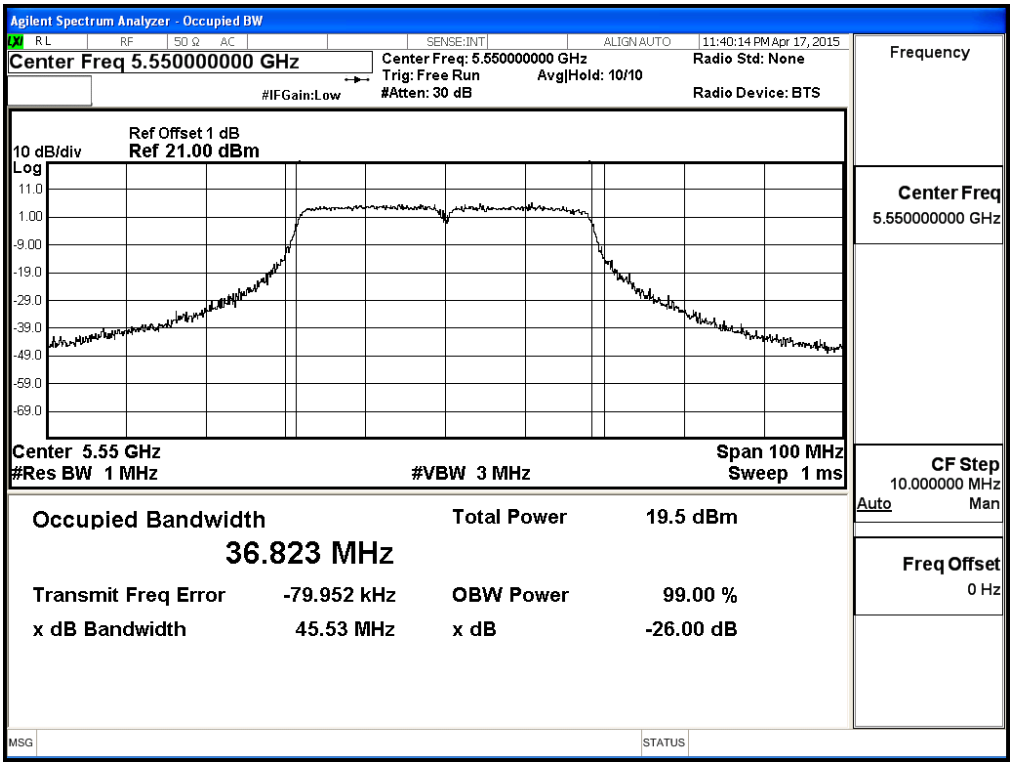
Channel 62: Chain C



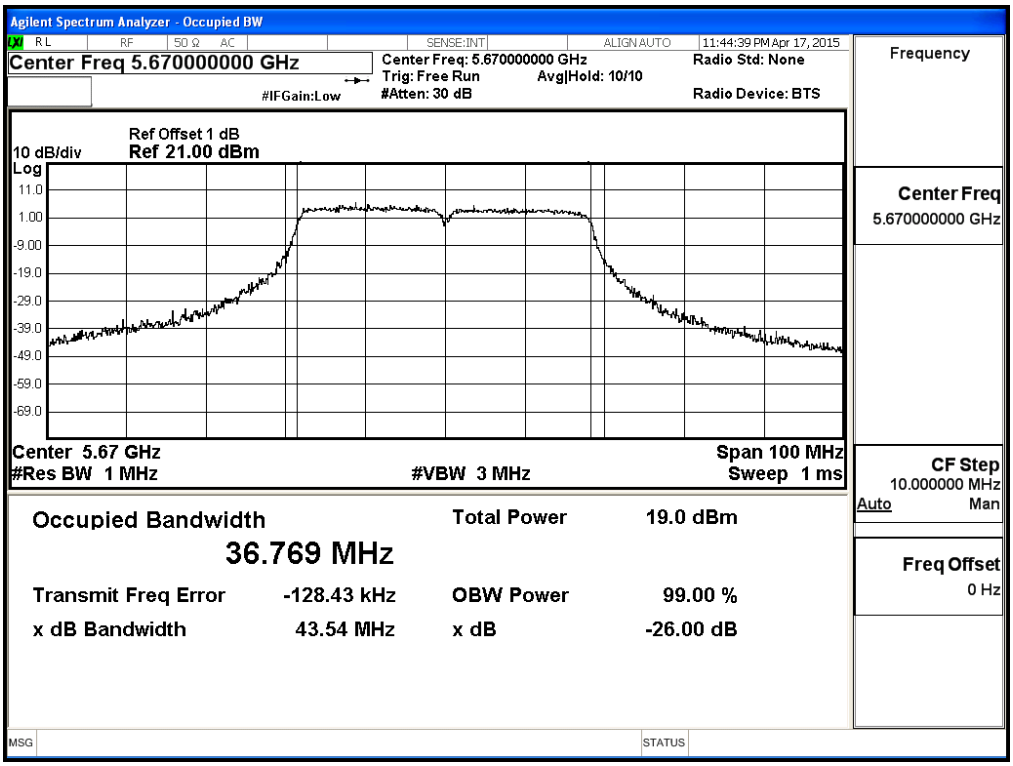
Channel 102: Chain C



Channel 110: Chain C



Channel 134: Chain C



Product : Access Point/Sensor
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 4: Transmit (802.11ac-20BW-21.7Mbps) (Internal 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	
144(Band3)	5720	10.69	10.58	10.47	10.36	10.25	10.14	10.03	9.92	9.72	--	<24dBm
144(Band4)	5720	5.42	5.31	5.2	5.09	4.98	4.87	4.76	4.65	4.51	--	<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
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
144(Band3)	5720	10.8	10.64	10.48	10.32	10.16	10.03	9.84	9.68	9.52	--	<24dBm
144(Band4)	5720	4.27	4.18	4.09	4.03	3.91	3.82	3.73	3.64	3.55	--	<24dBm

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

Chain C

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	
144(Band3)	5720	10.63	10.48	10.33	10.18	10.03	9.88	9.73	9.58	9.52	--	<24dBm
144(Band4)	5720	4.38	4.27	4.16	4.05	3.94	3.83	3.72	3.61	3.53	--	<24dBm

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

Maximum conducted output power Measurement:

Chain A+ B+C

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit	
							(dBm)	dBm+10log(BW)
144(Band3)	5720	14.283	10.69	10.80	10.63	15.48	18.9	17.45
144(Band4)	5720	--	5.42	4.27	4.38	9.49	25.1	--

Note:

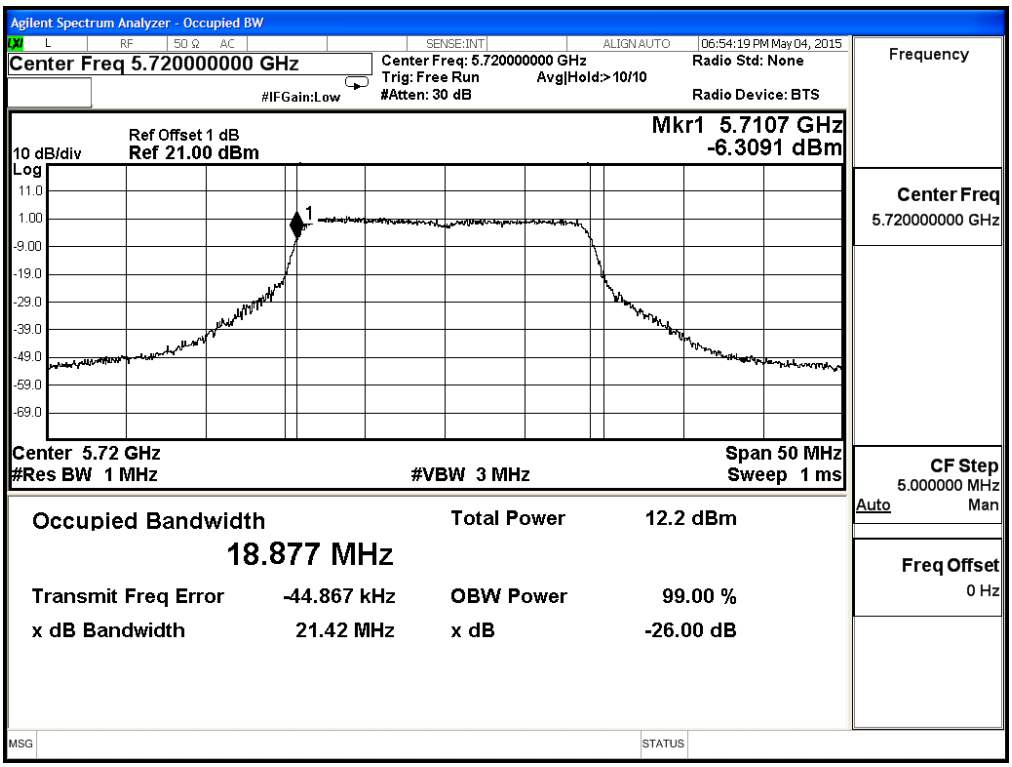
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (Mw)+ Chain B Power (Mw)+Chain C Power (Mw))
3. 99% Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

△ The maximum conducted output power shall be reduced by the amount in Db that the directional gain of

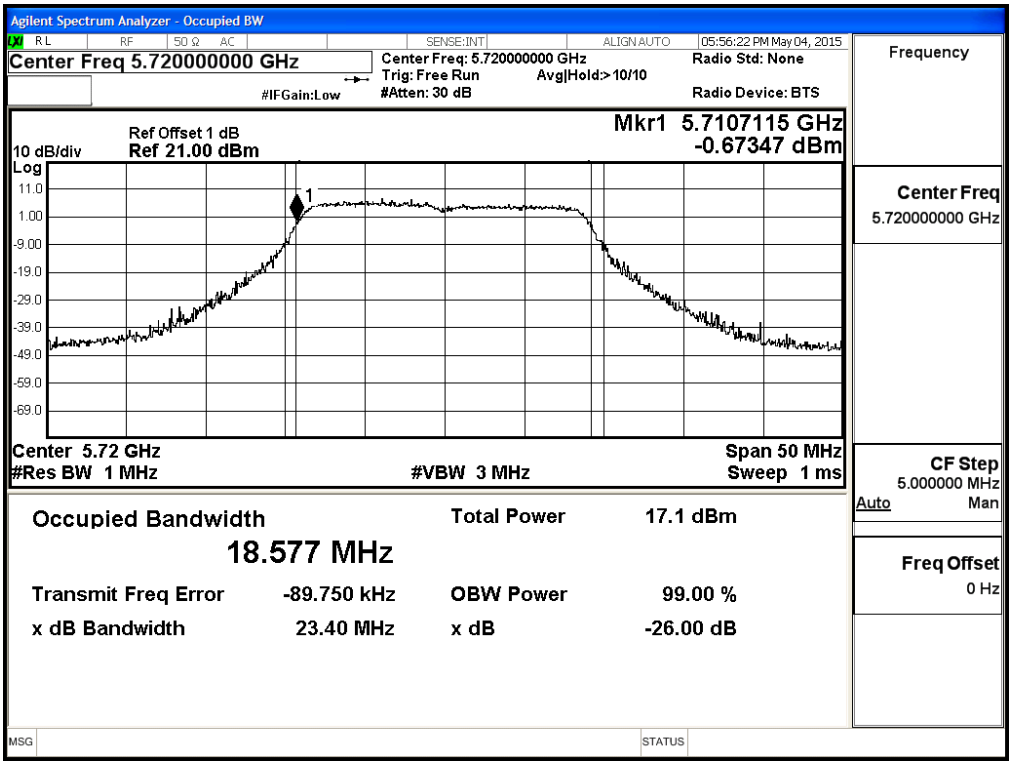
the antenna exceeds 6 dBi

99% Occupied Bandwidth:

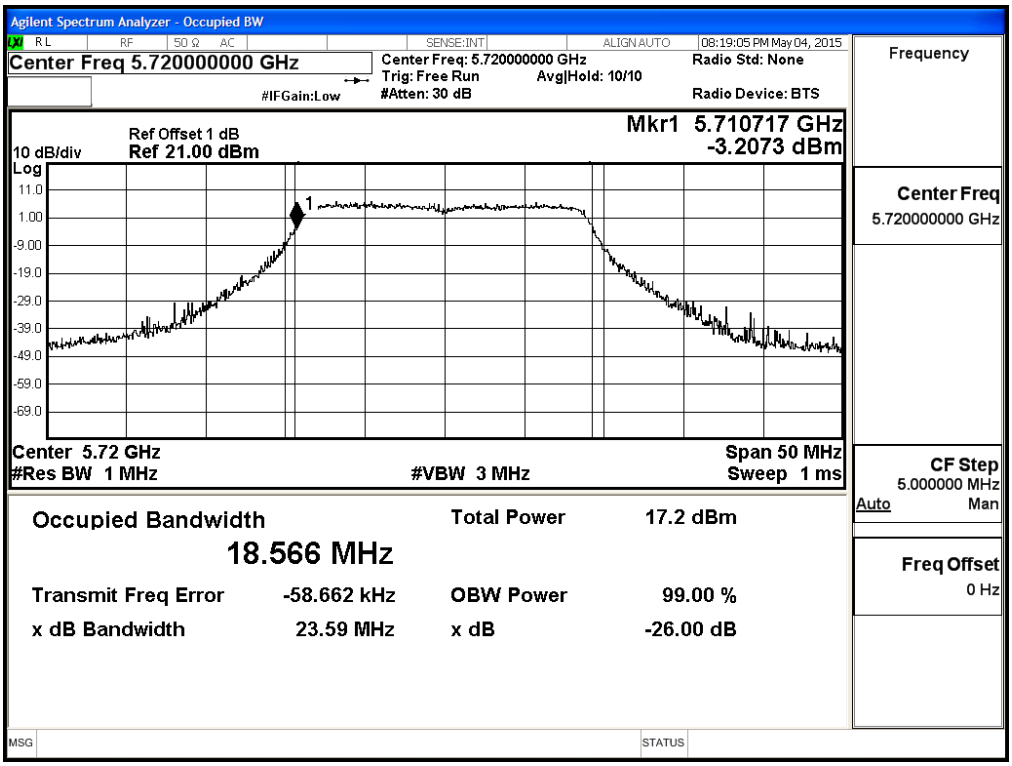
Channel 144: Chain A



Channel 144: Chain B

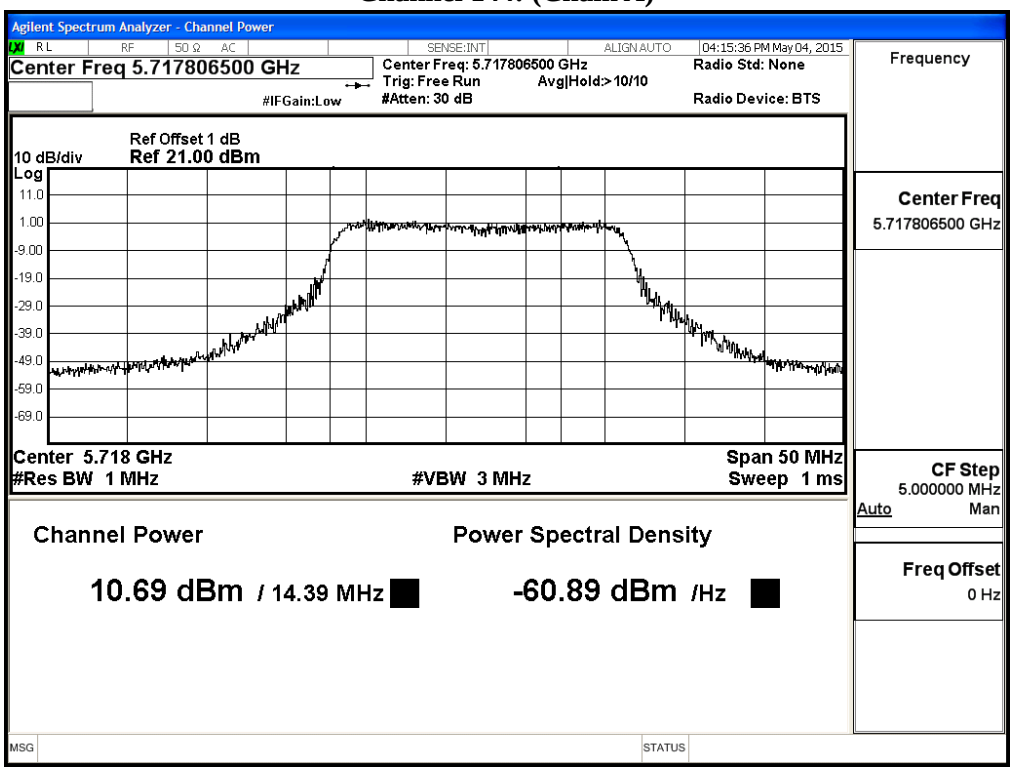


Channel 144: Chain C



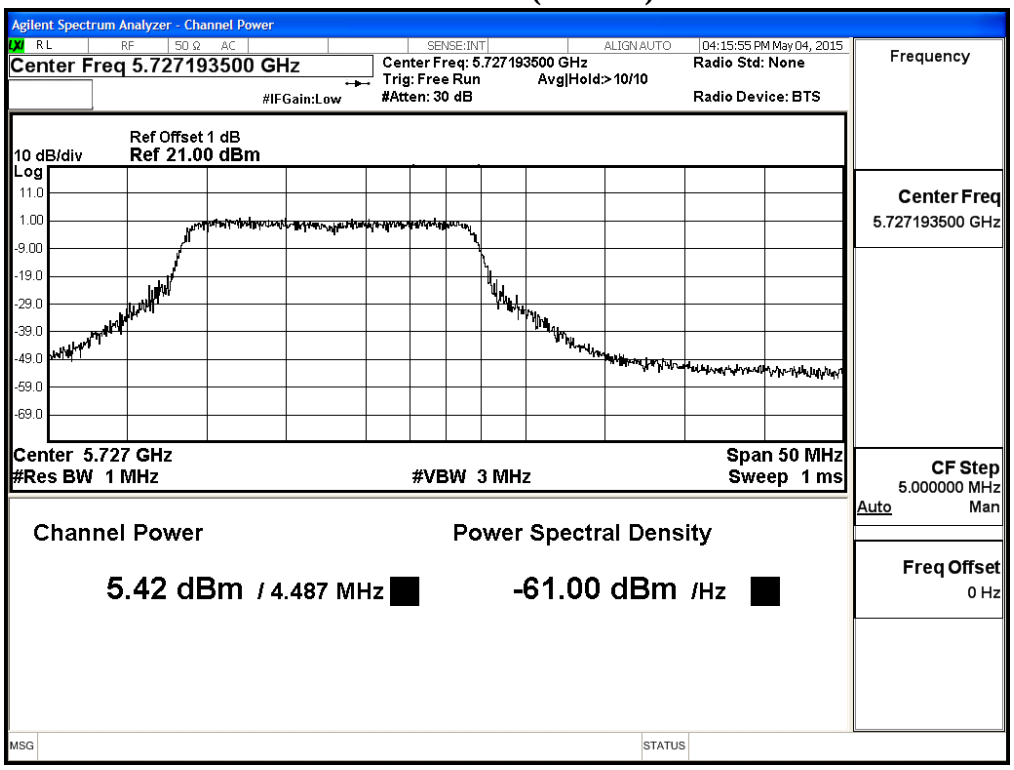
Maximum conducted output power:

Channel 144: (Chain A)



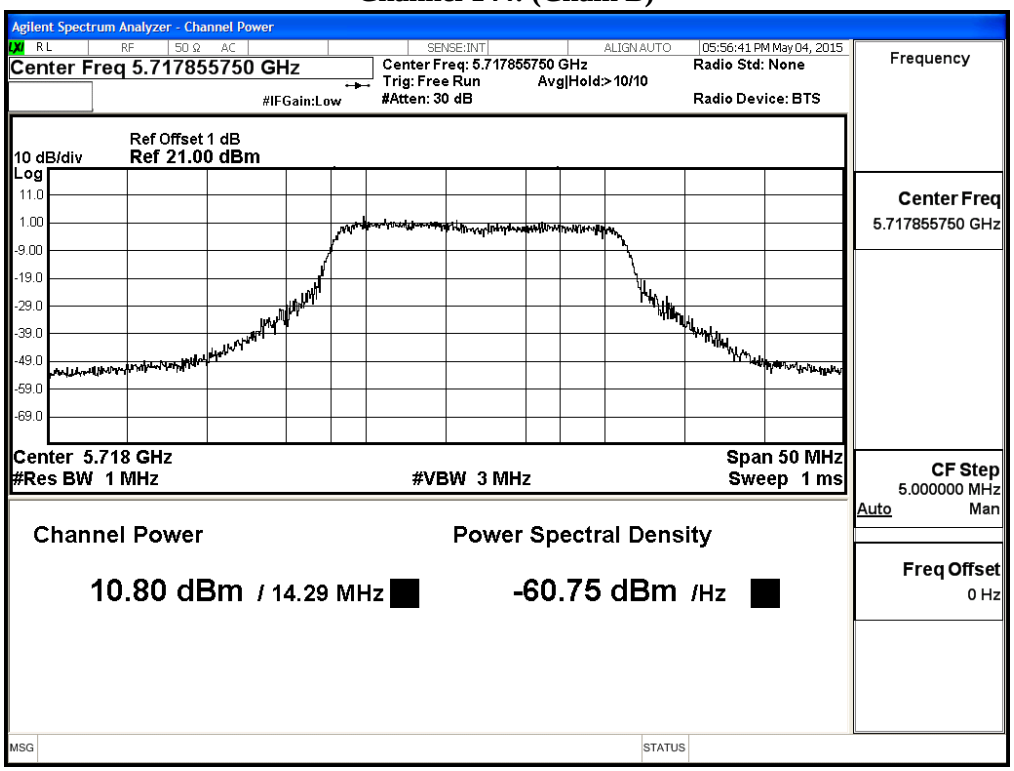
Maximum conducted output power:

Channel 144: (Chain A)



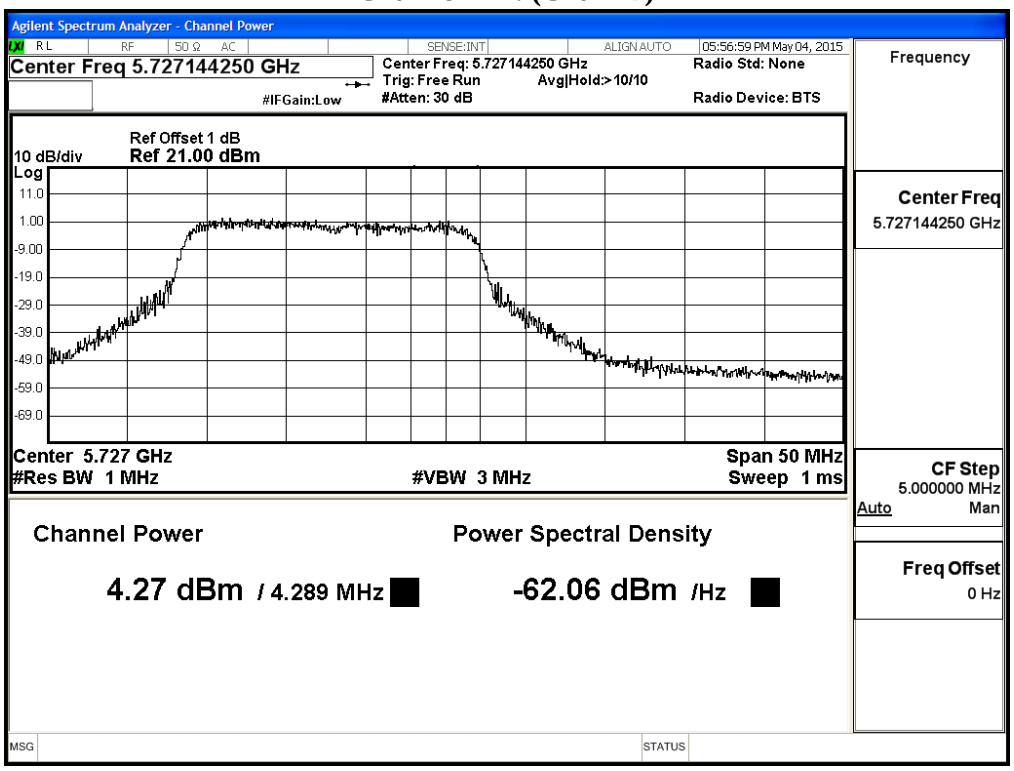
Maximum conducted output power:

Channel 144: (Chain B)



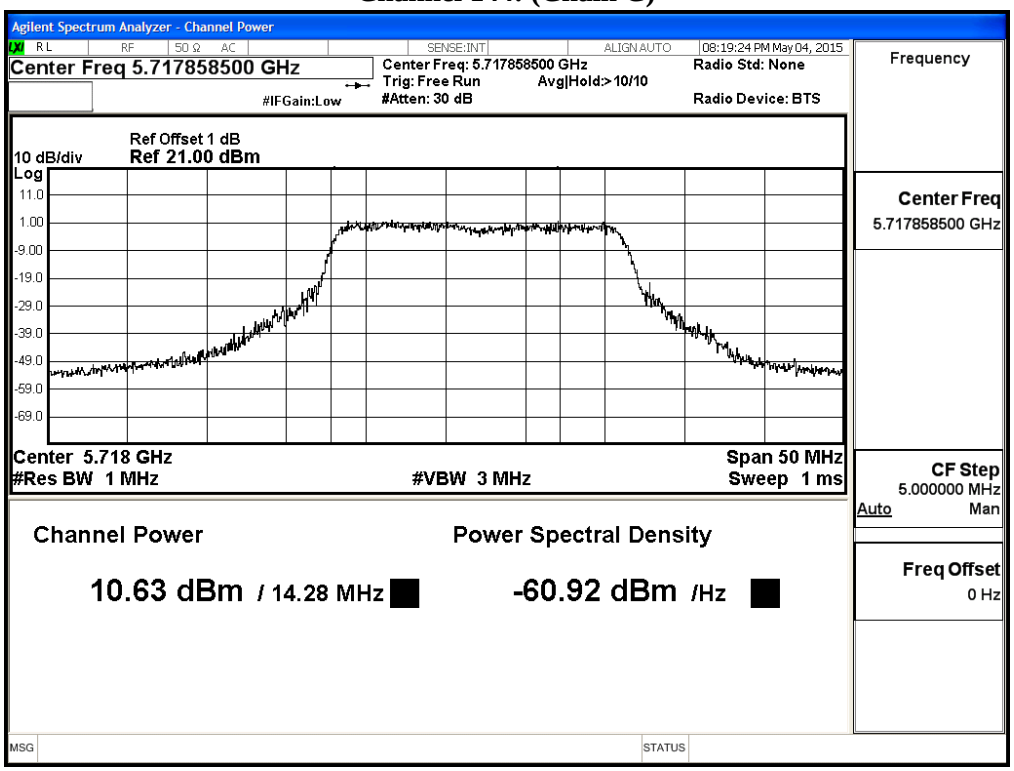
Maximum conducted output power:

Channel 144: (Chain B)



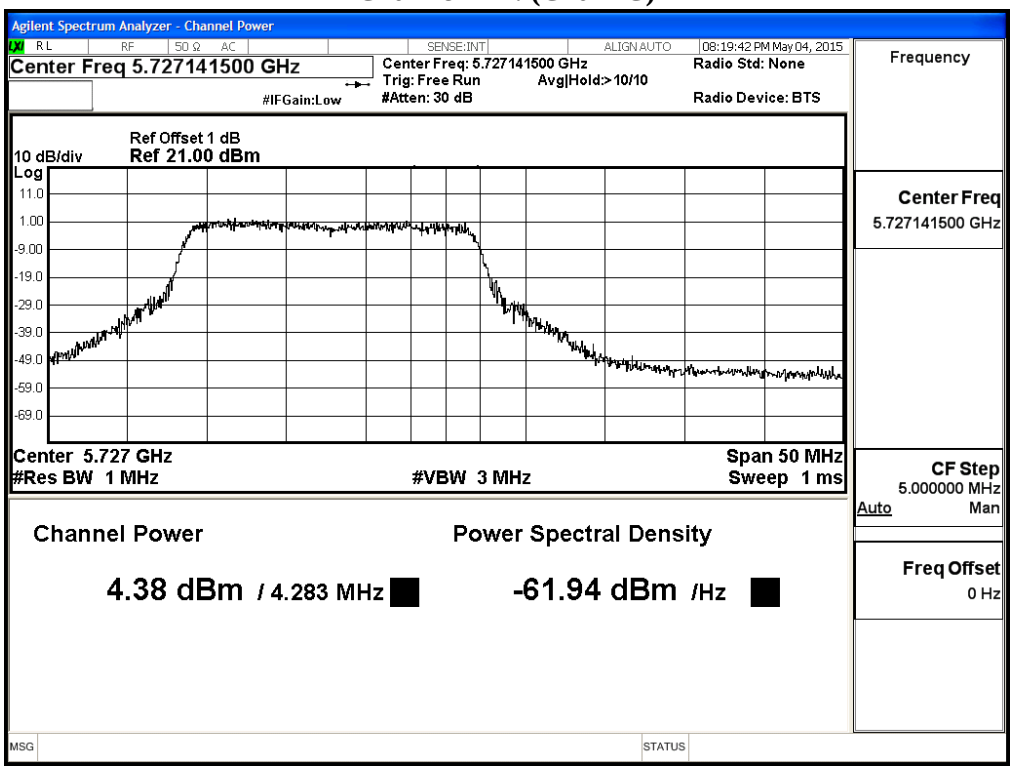
Maximum conducted output power:

Channel 144: (Chain C)



Maximum conducted output power:

Channel 144: (Chain C)



Product : Access Point/Sensor
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 5: Transmit (802.11ac-40BW-45Mbps) (Internal 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	
142(Band3)	5710	10.73	10.58	10.43	10.28	10.13	9.98	9.83	9.68	9.53	9.38	<24dBm
142(Band4)	5710	-0.33	-0.46	-0.59	-0.72	-0.85	-0.98	-1.11	-1.24	-1.37	-1.64	<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
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
142(Band3)	5710	10.75	10.57	10.39	10.21	10.03	9.85	9.67	9.49	9.31	9.13	<24dBm
142(Band4)	5710	-0.6	-0.76	-0.92	-1.08	-1.24	-1.4	-1.56	-1.72	-1.88	-2.14	<24dBm

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

Chain C

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	
142(Band3)	5710	9.63	9.48	9.33	9.18	9.03	8.88	8.73	8.58	8.43	8.18	<24dBm
142(Band4)	5710	-1.46	-1.62	-1.78	-1.94	-2.1	-2.26	-2.42	-2.58	-2.74	-2.96	<24dBm

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

Maximum conducted output power Measurement:

Chain A+ B+C

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit	
							(dBm)	dBm+10log(BW)
142(Band3)	5710	33.300	10.73	10.75	9.63	15.17	18.9	21.12
142(Band4)	5710	--	-0.33	-0.60	-1.46	4.00	25.1	--

Note:

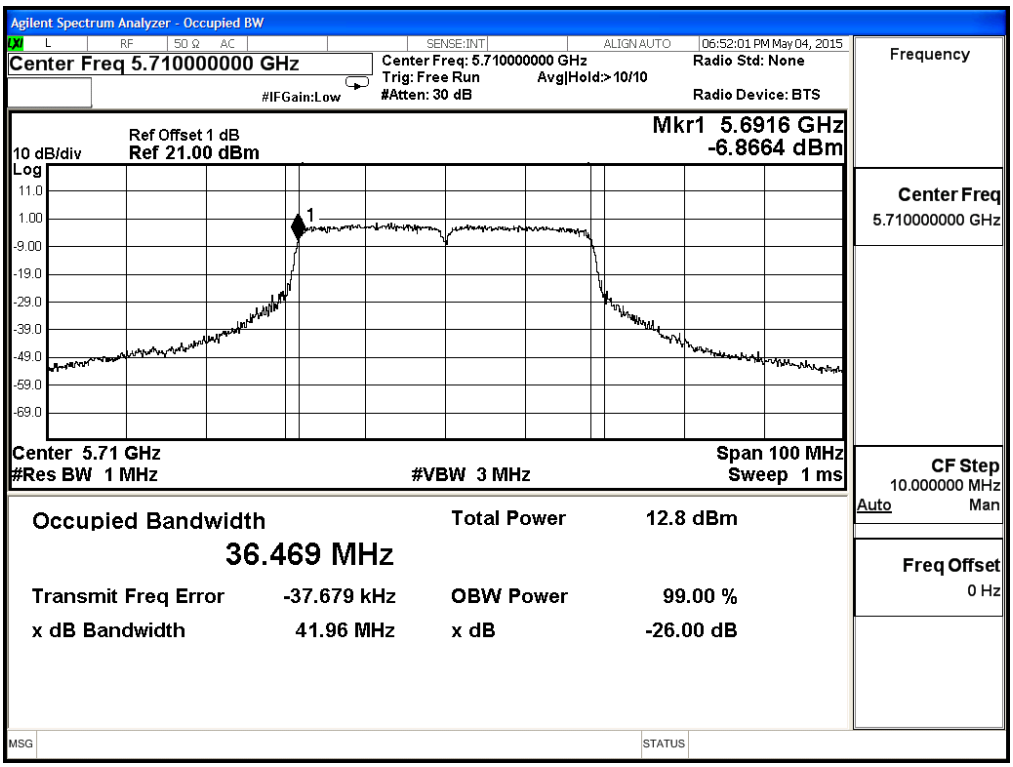
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (Mw)+ Chain B Power (Mw)+Chain C Power (Mw))
3. 99% Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

△ The maximum conducted output power shall be reduced by the amount in Db that the directional gain of

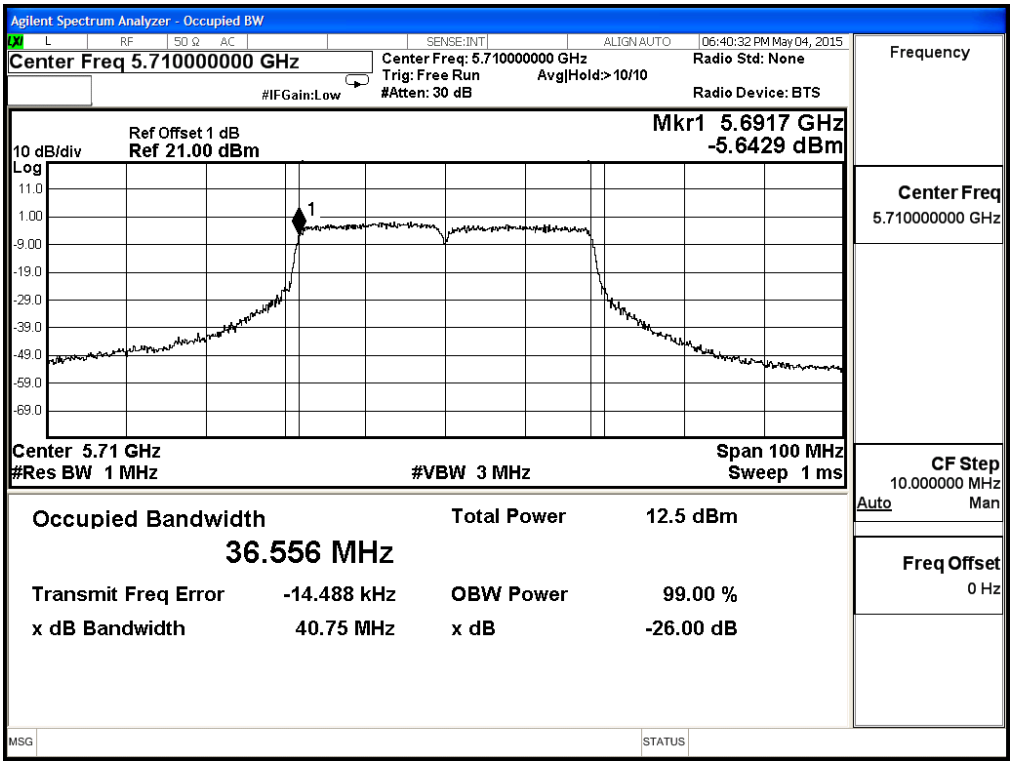
the antenna exceeds 6 dBi

99% Occupied Bandwidth:

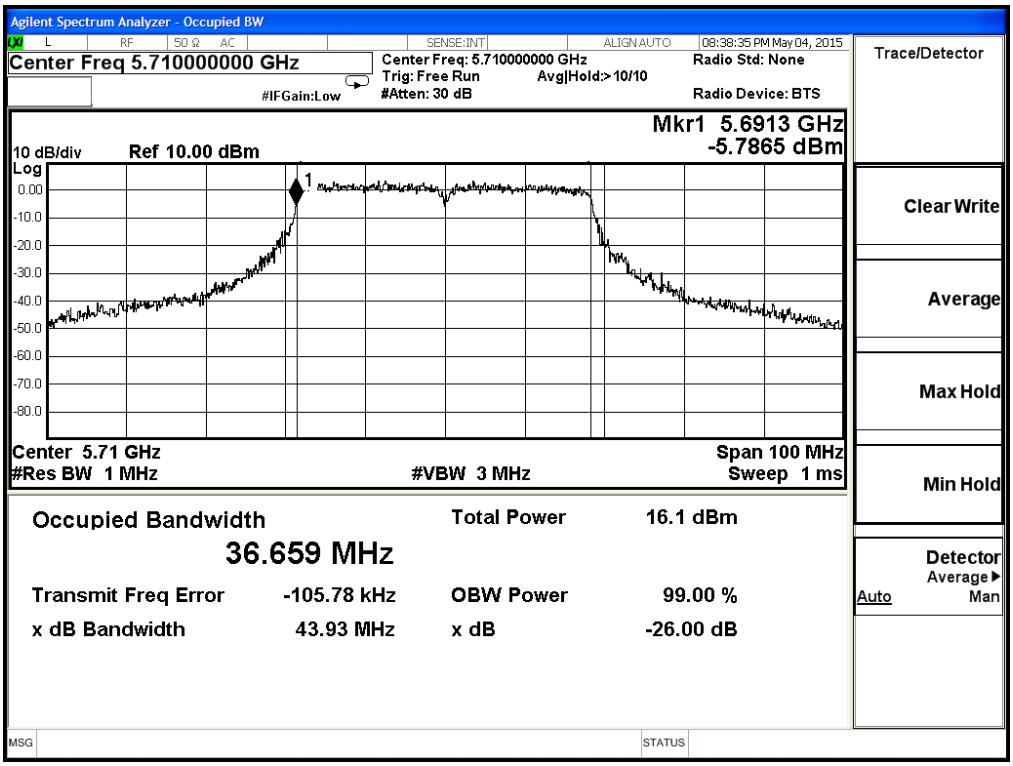
Channel 142: Chain A



Channel 142: Chain B

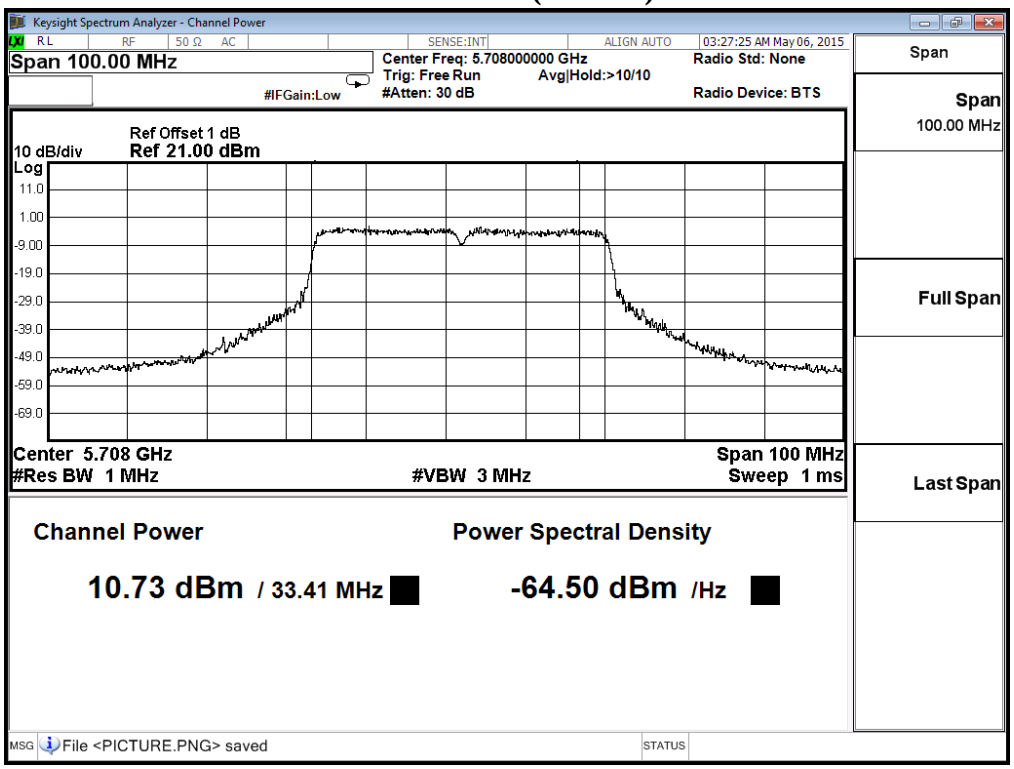


Channel 142: Chain C



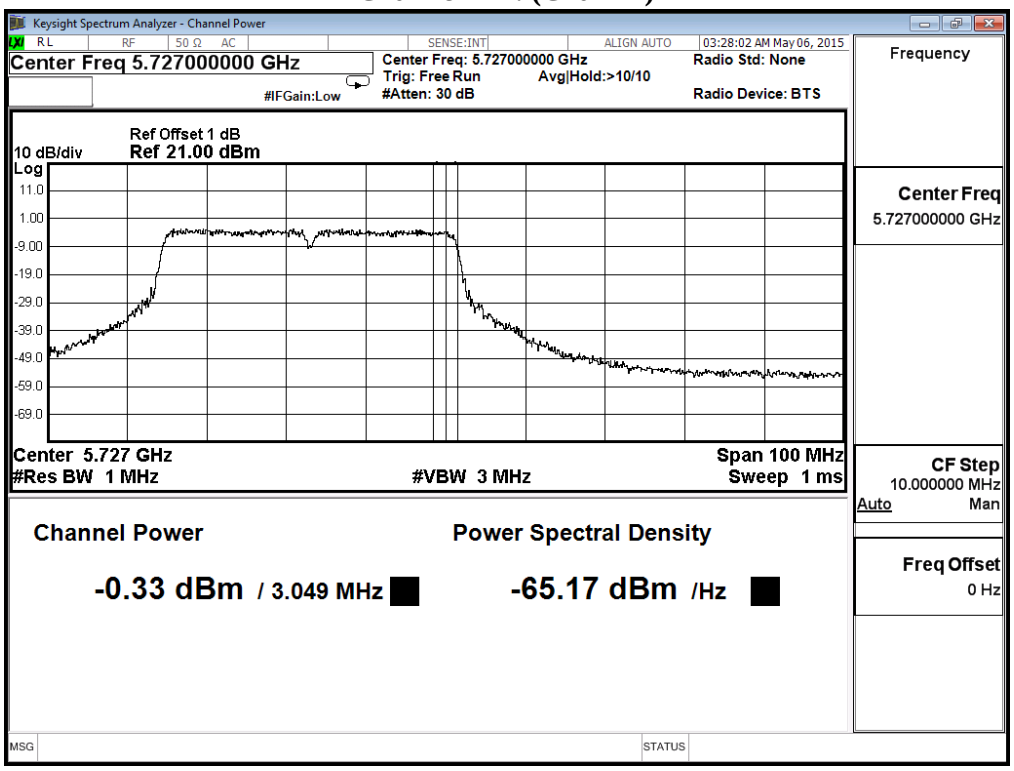
Maximum conducted output power:

Channel 142: (Chain A)



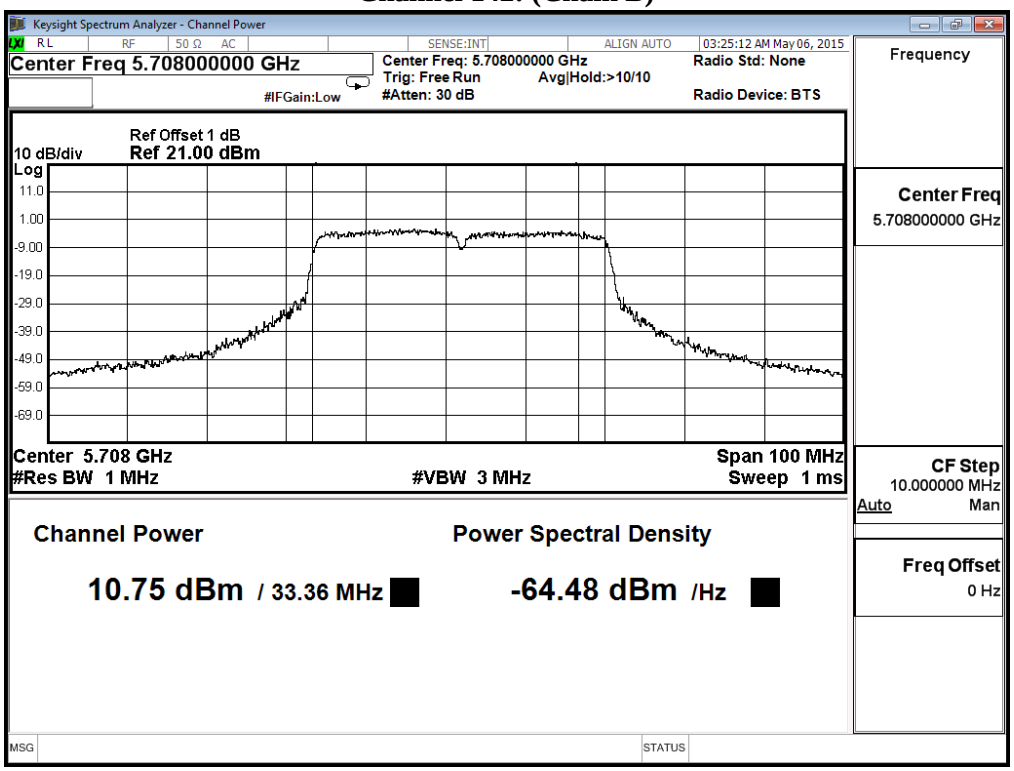
Maximum conducted output power:

Channel 142: (Chain A)



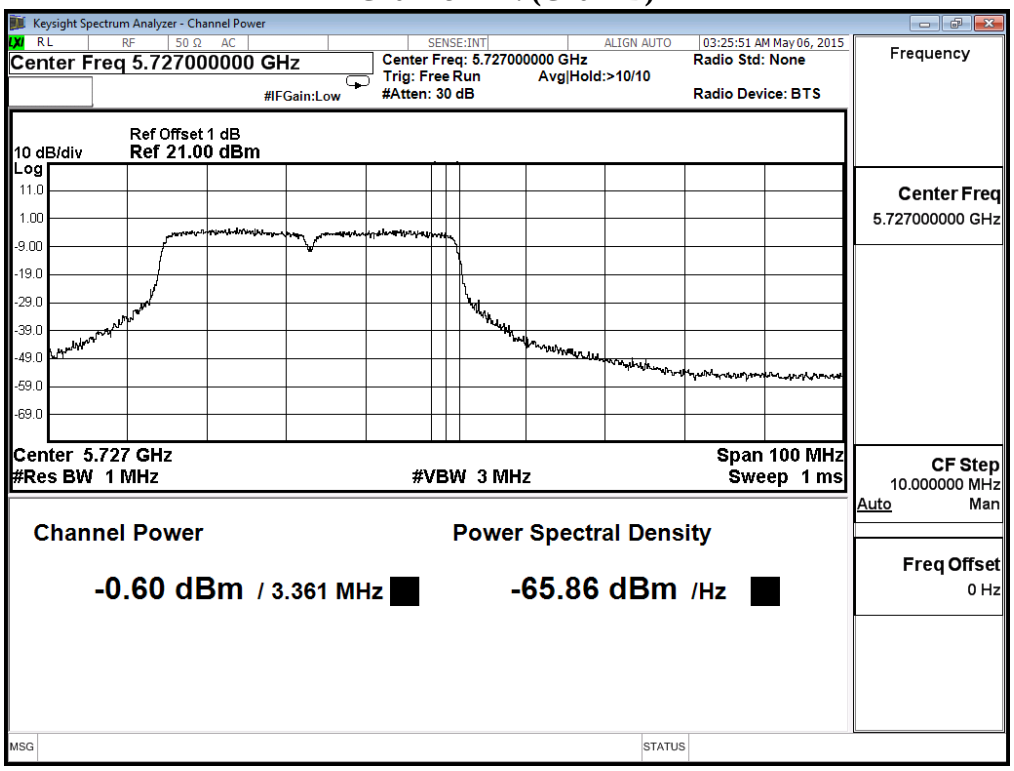
Maximum conducted output power:

Channel 142: (Chain B)



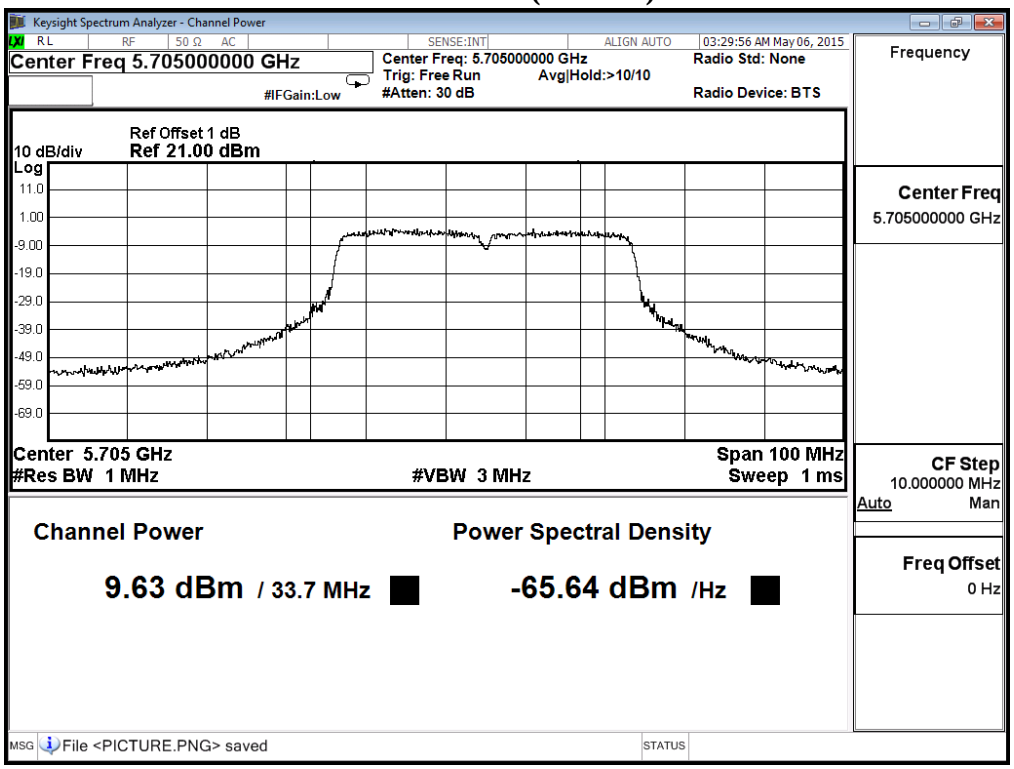
Maximum conducted output power:

Channel 142: (Chain B)



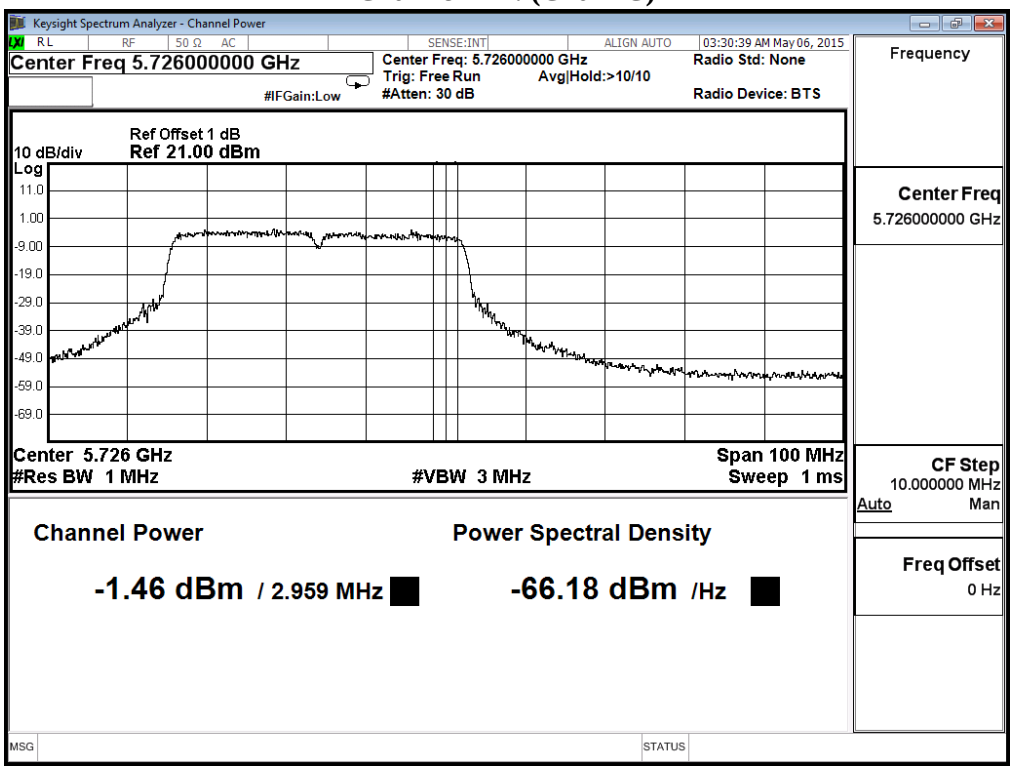
Maximum conducted output power:

Channel 142: (Chain C)



Maximum conducted output power:

Channel 142: (Chain C)



Product : Access Point/Sensor
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 6: Transmit (802.11ac-80BW-97.5Mbps) (Internal 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	
58	5290	3.96	3.78	3.63	3.42	3.24	3.06	2.88	2.72	2.52	2.34	<24dBm
106	5530	5.69	--	--	--	--	--	--	--	--	--	<24dBm
122	5610	10.47	10.28	10.09	9.92	9.71	9.52	9.33	9.14	8.95	8.76	<24dBm
138(Band3)	5690	10.69	--	--	--	--	--	--	--	--	--	<24dBm
138(Band4)	5690	-4.27	--	--	--	--	--	--	--	--	--	<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
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
58	5290	3.78	3.57	3.36	3.15	2.94	2.73	2.52	2.31	2.18	1.89	<24dBm
106	5530	6.2	--	--	--	--	--	--	--	--	--	<24dBm
122	5610	10.53	10.38	10.23	10.08	9.93	9.78	9.63	9.48	9.33	9.18	<24dBm
138(Band3)	5690	10.84	--	--	--	--	--	--	--	--	--	<24dBm
138(Band4)	5690	-5.86	--	--	--	--	--	--	--	--	--	<24dBm

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

Chain C

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	
58	5290	4.27	4.12	3.97	3.82	3.67	3.52	3.37	3.22	3.07	2.92	<24dBm
106	5530	6.06	--	--	--	--	--	--	--	--	--	<24dBm
122	5610	10.15	10.02	9.89	9.76	9.63	9.53	9.37	9.24	9.11	8.98	<24dBm
138(Band3)	5690	10.25	--	--	--	--	--	--	--	--	--	<24dBm
138(Band4)	5690	-7.15	--	--	--	--	--	--	--	--	--	<24dBm

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

Maximum conducted output power Measurement:

Chain A+ B+C

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit	
							(dBm)	dBm+10log(BW)
58	5290	75.833	3.96	3.78	4.27	8.78	21.4	27.20
106	5530	75.775	5.69	6.20	6.06	10.76	18.9	24.70
122	5610	75.810	10.47	10.53	10.15	15.16	18.9	24.70
138(Band3)	5690	73.200	10.69	10.84	10.25	15.37	18.9	24.55
138(Band4)	5690	--	-4.27	-5.86	-7.15	-0.83	25.1	--

Note:

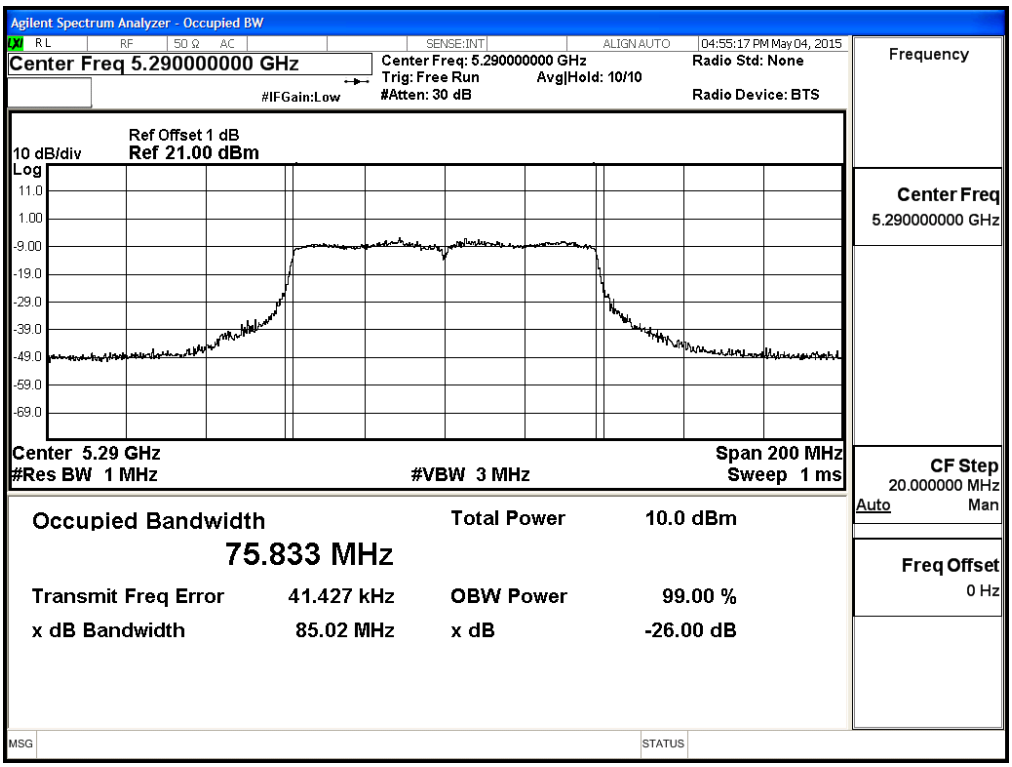
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (Mw)+ Chain B Power (Mw)+Chain C Power (Mw))
3. 99% Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

   △ The maximum conducted output power shall be reduced by the amount in Db that the directional gain of

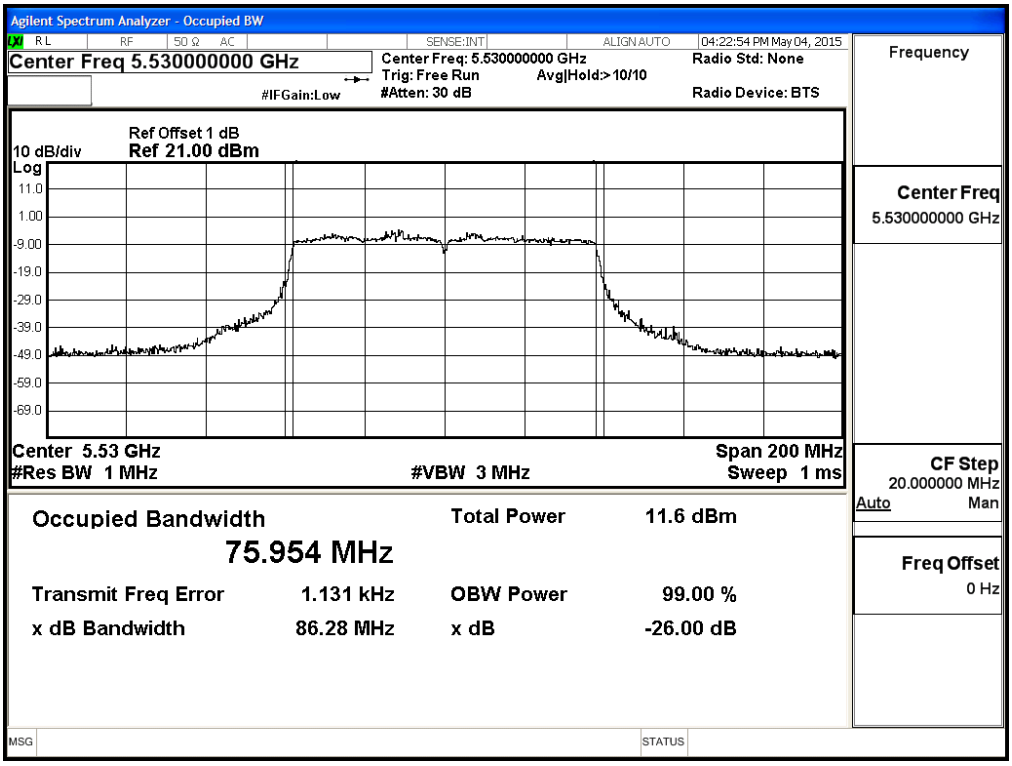
   the antenna exceeds 6 dBi

99% Occupied Bandwidth:

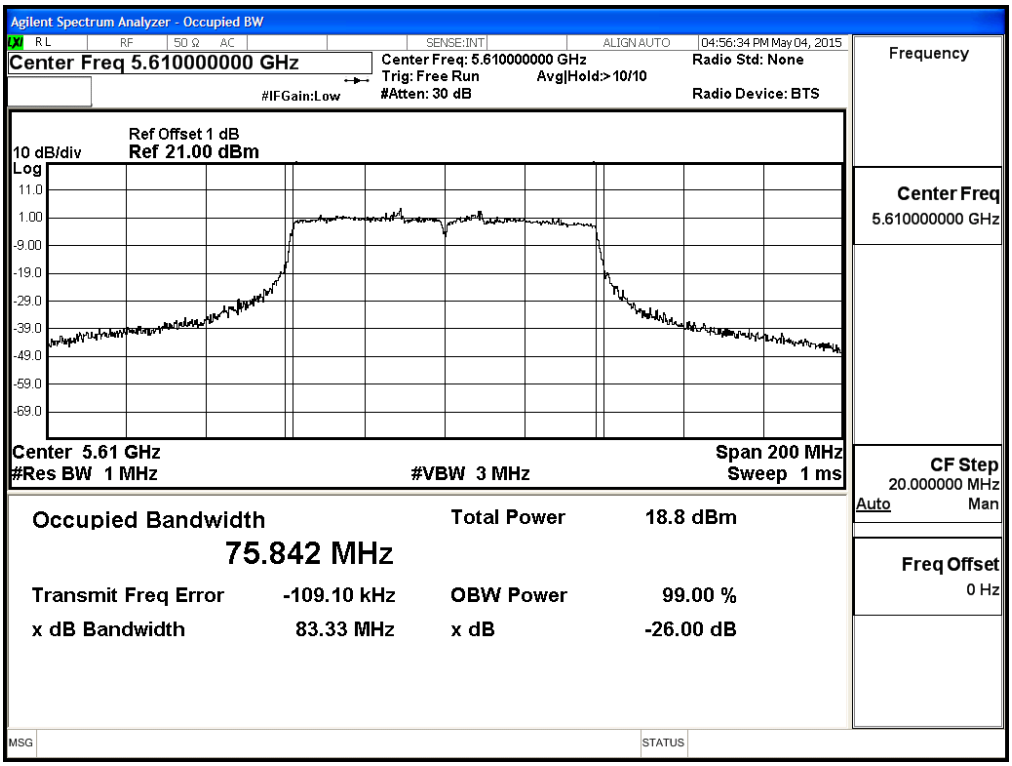
Channel 58: Chain A



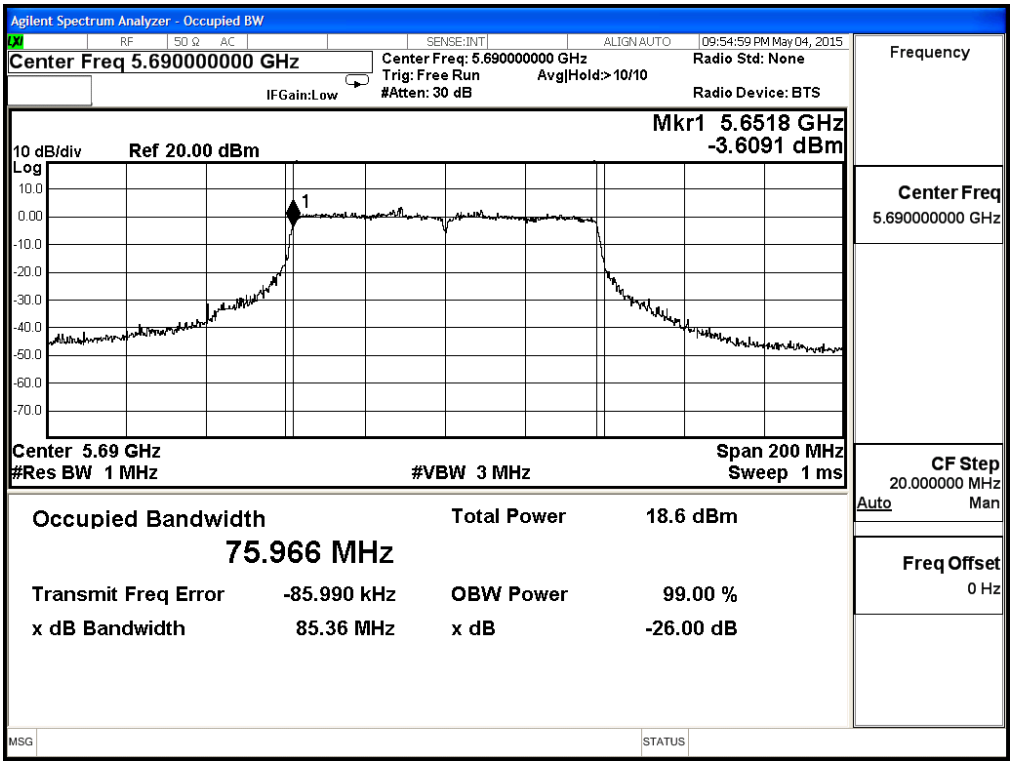
Channel 106: Chain A



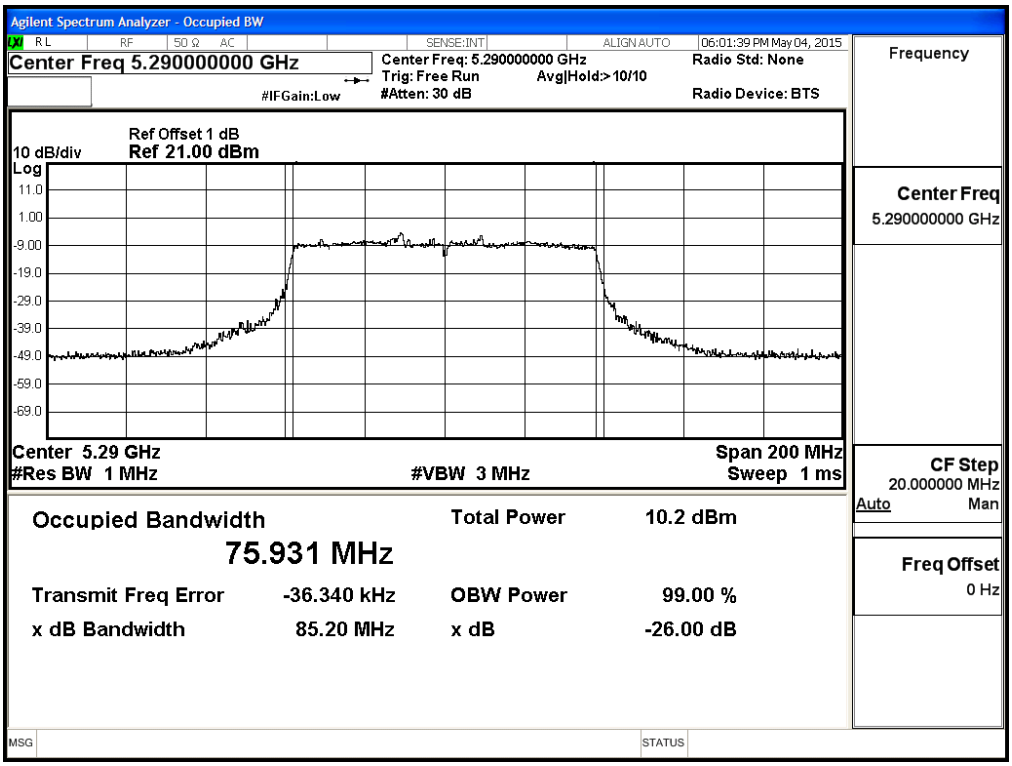
Channel 122: Chain A



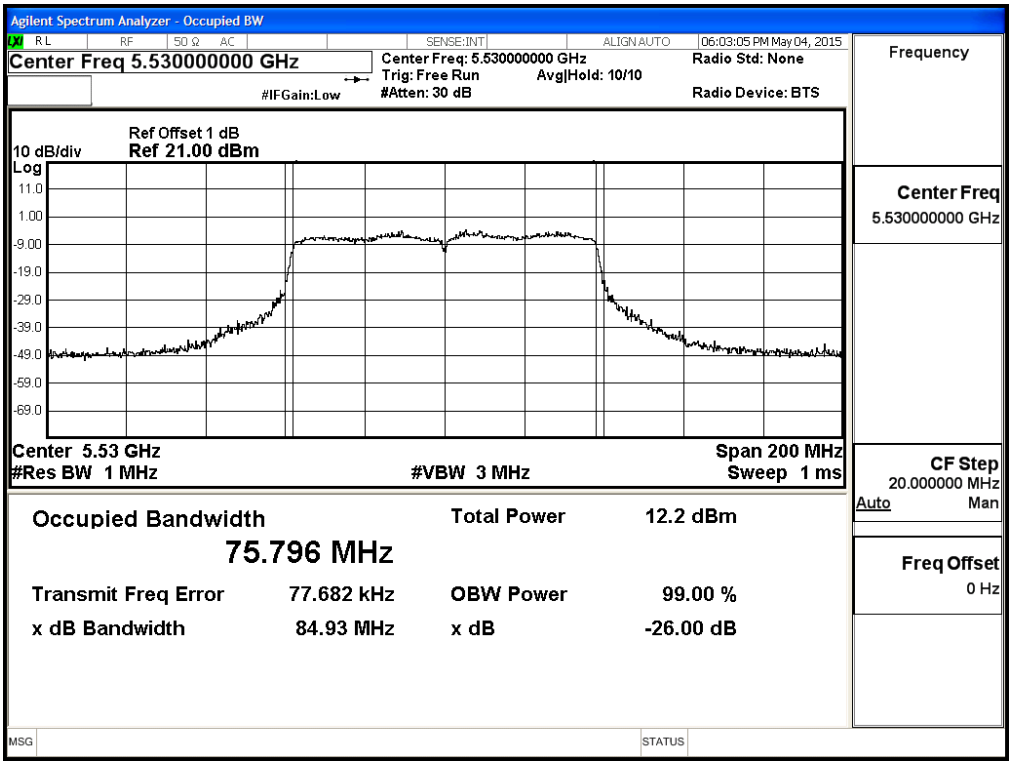
Channel 138: Chain A



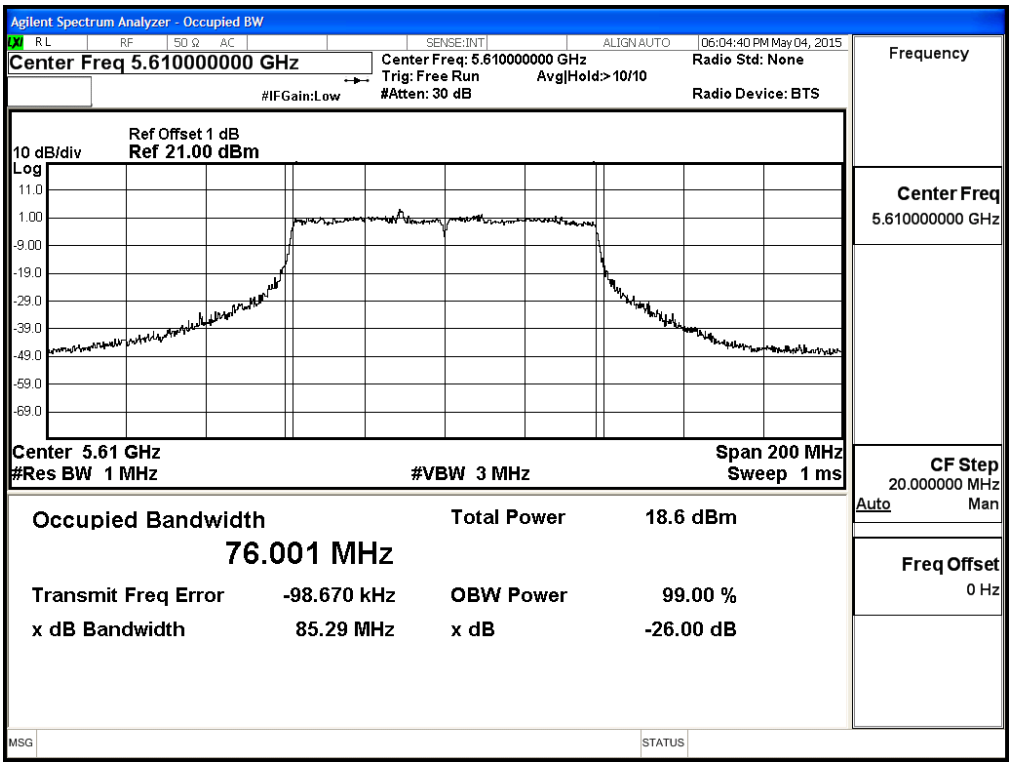
Channel 58: Chain B



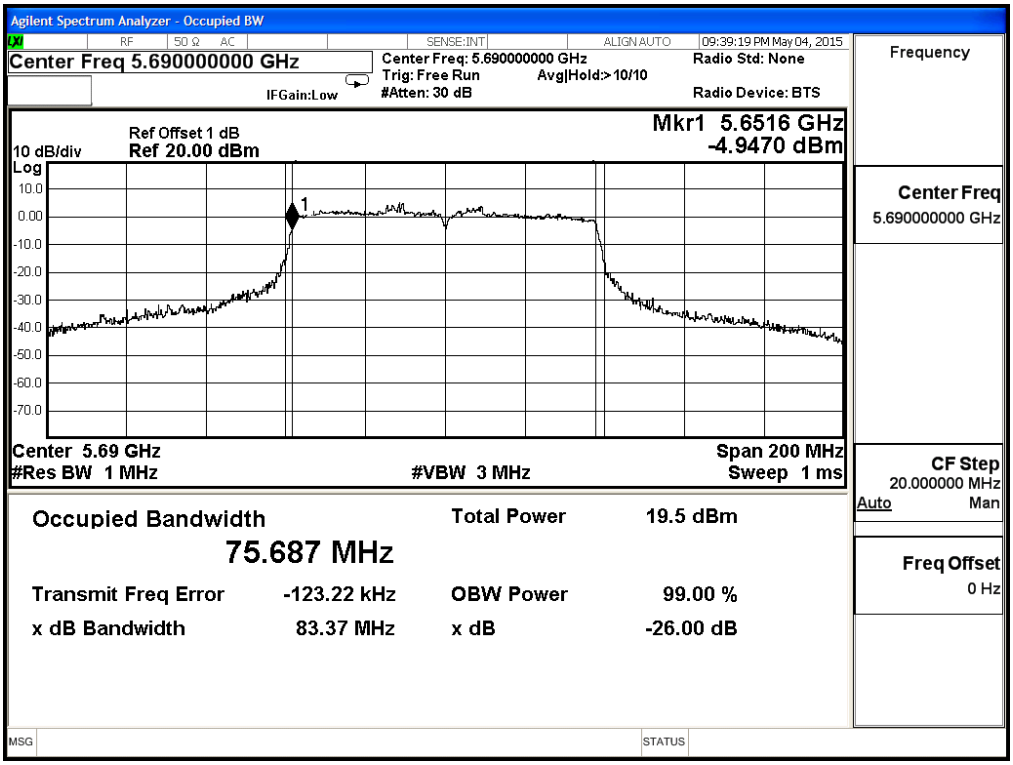
Channel 106: Chain B



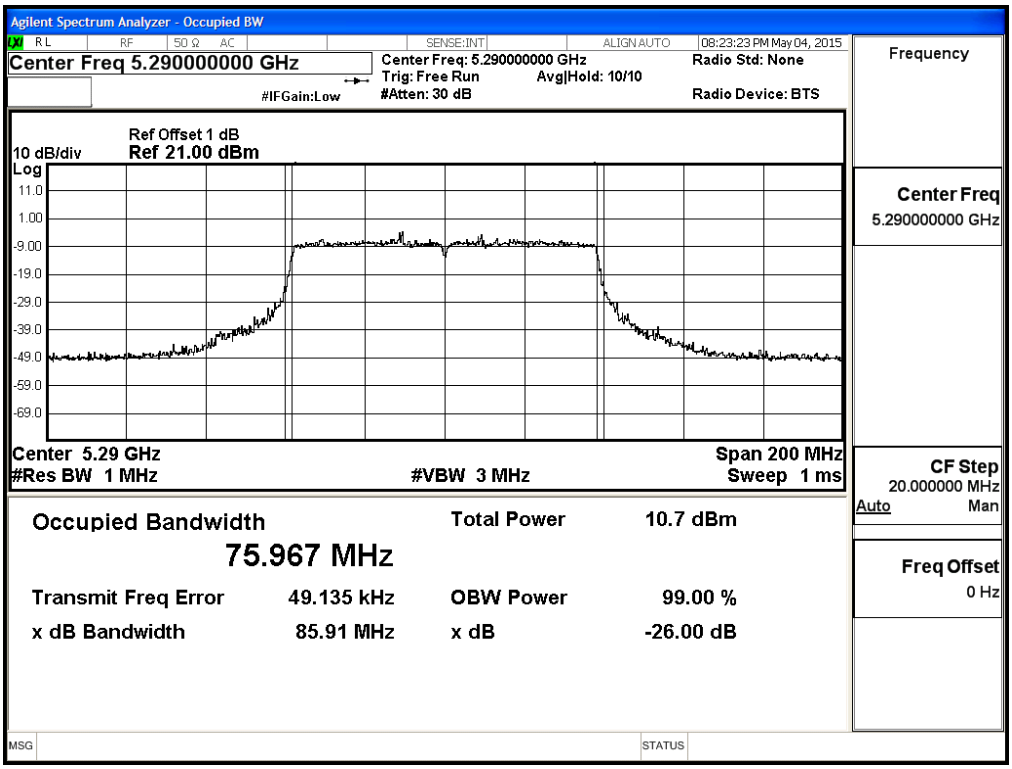
Channel 122: Chain B



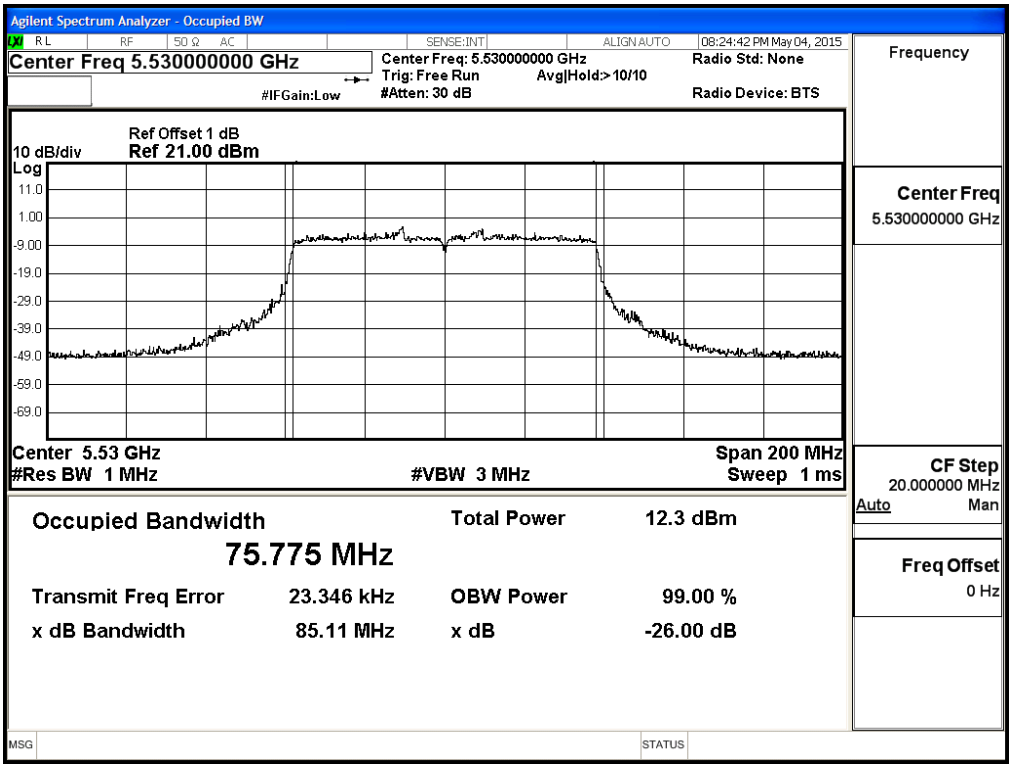
Channel 138: Chain B



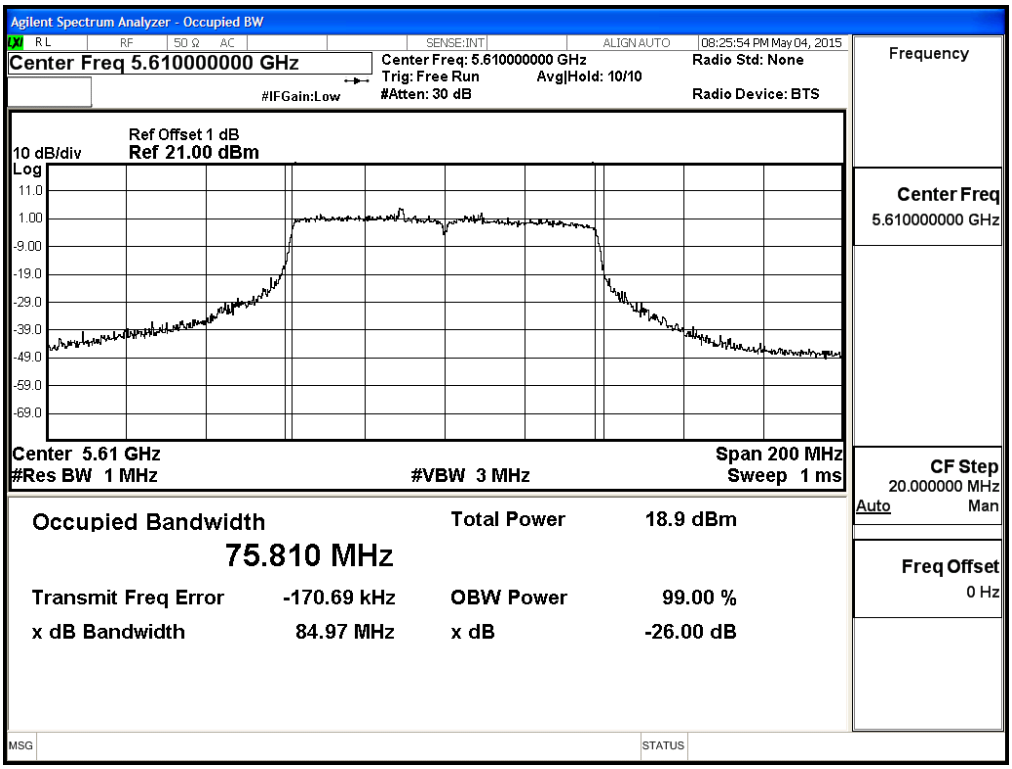
Channel 58: Chain C



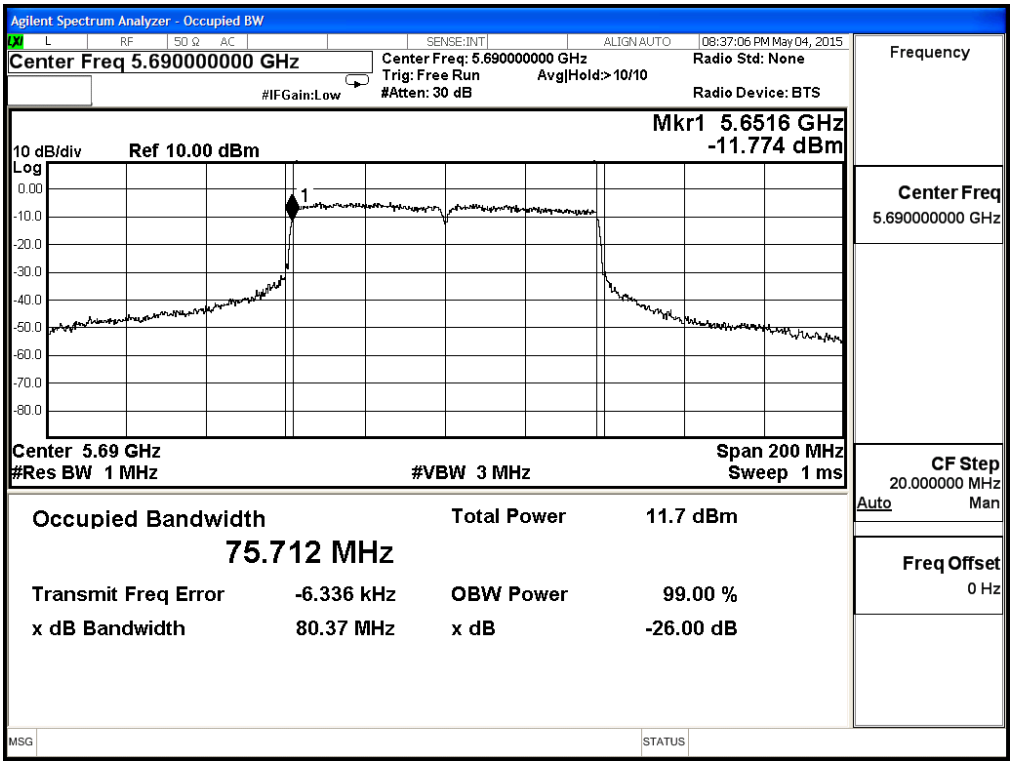
Channel 106: Chain C



Channel 122: Chain C

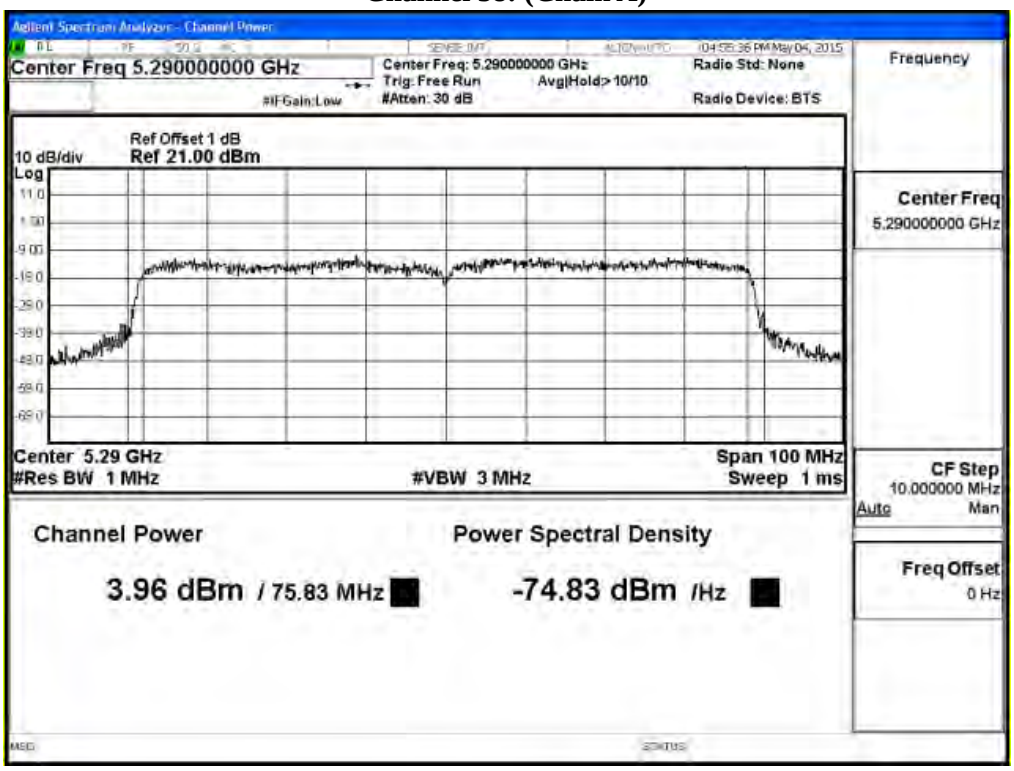


Channel 138: Chain C



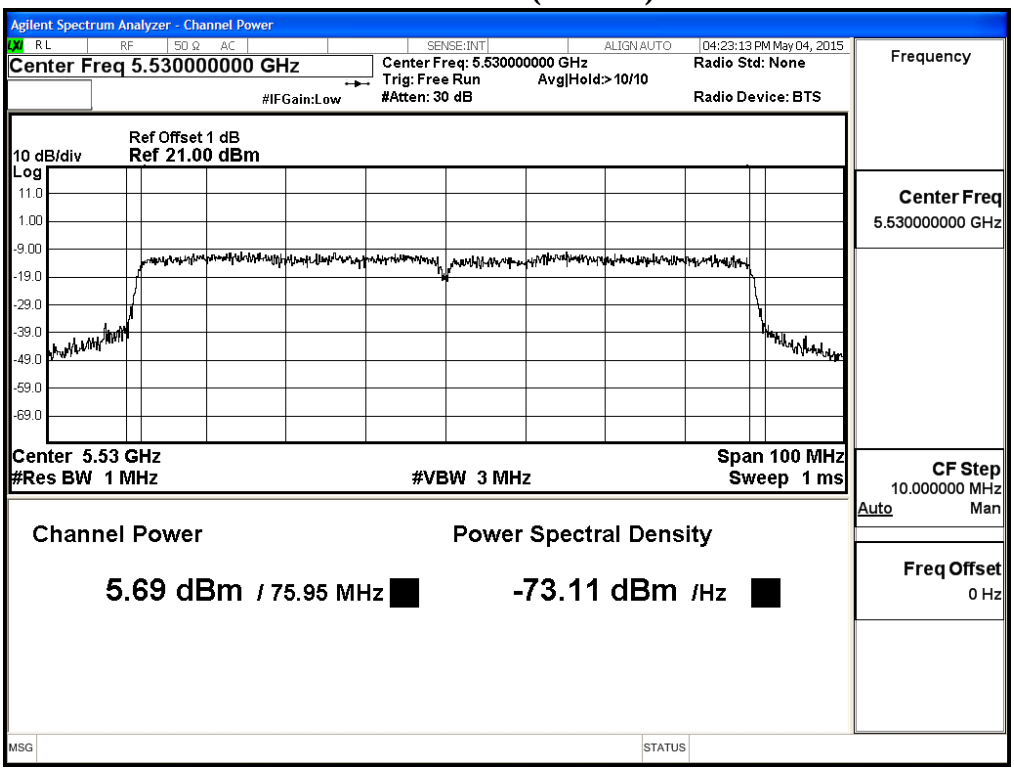
Maximum conducted output power:

Channel 58: (Chain A)



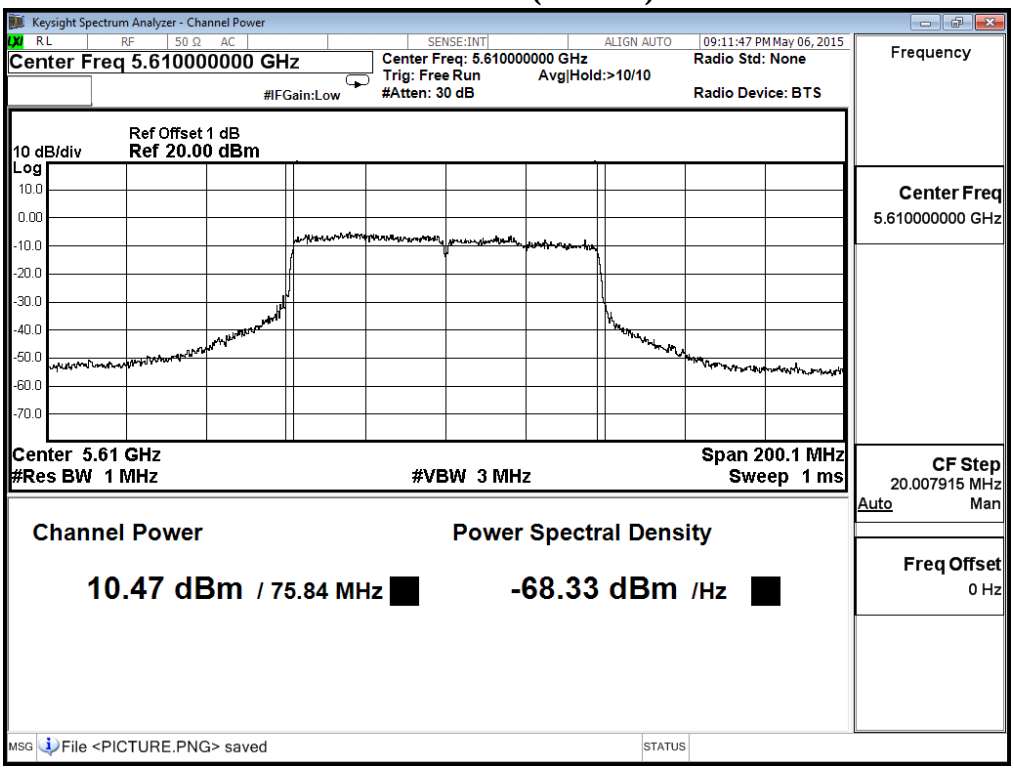
Maximum conducted output power:

Channel 106: (Chain A)



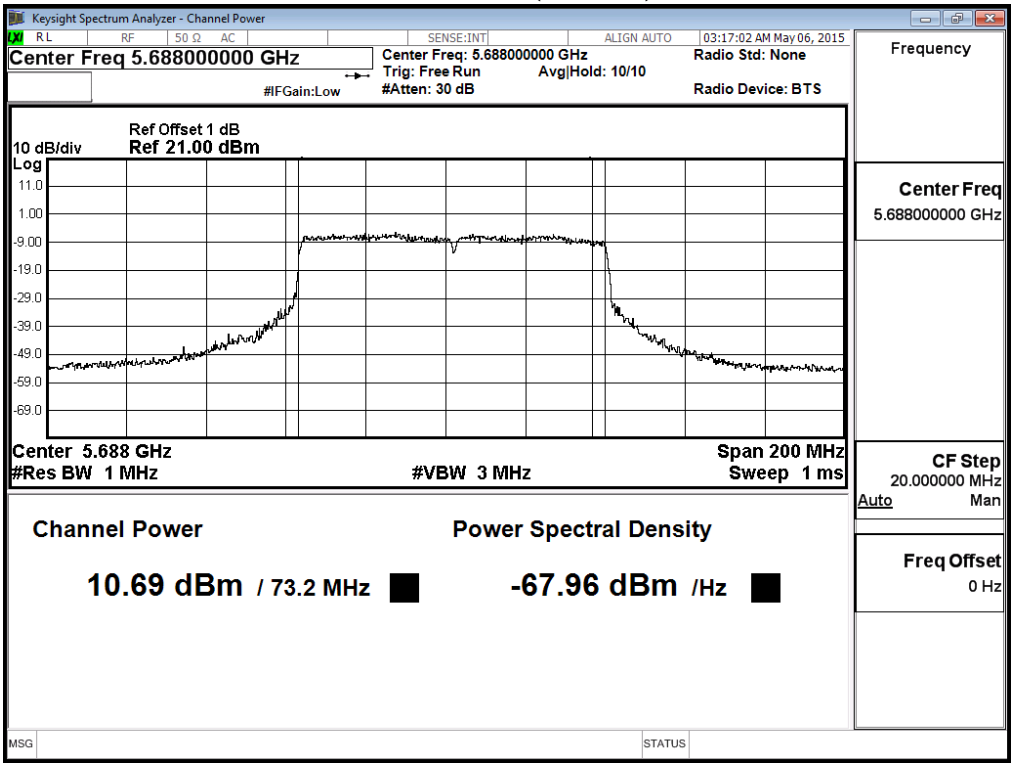
Maximum conducted output power:

Channel 122: (Chain A)



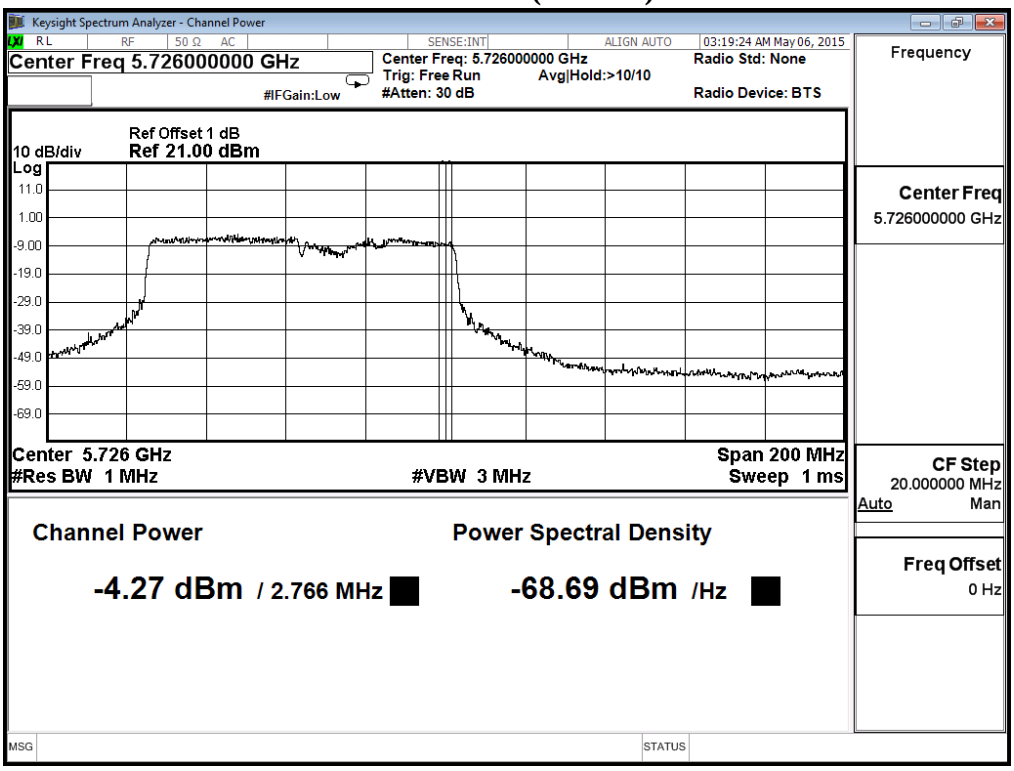
Maximum conducted output power:

Channel 138: (Chain A)



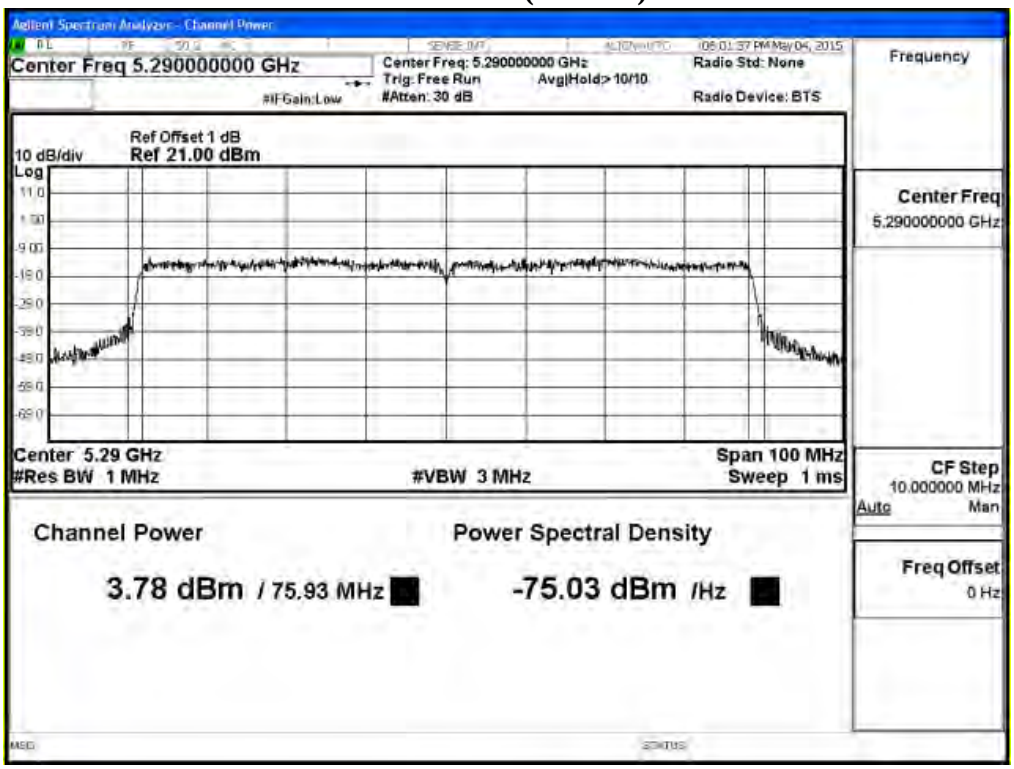
Maximum conducted output power:

Channel 138: (Chain A)



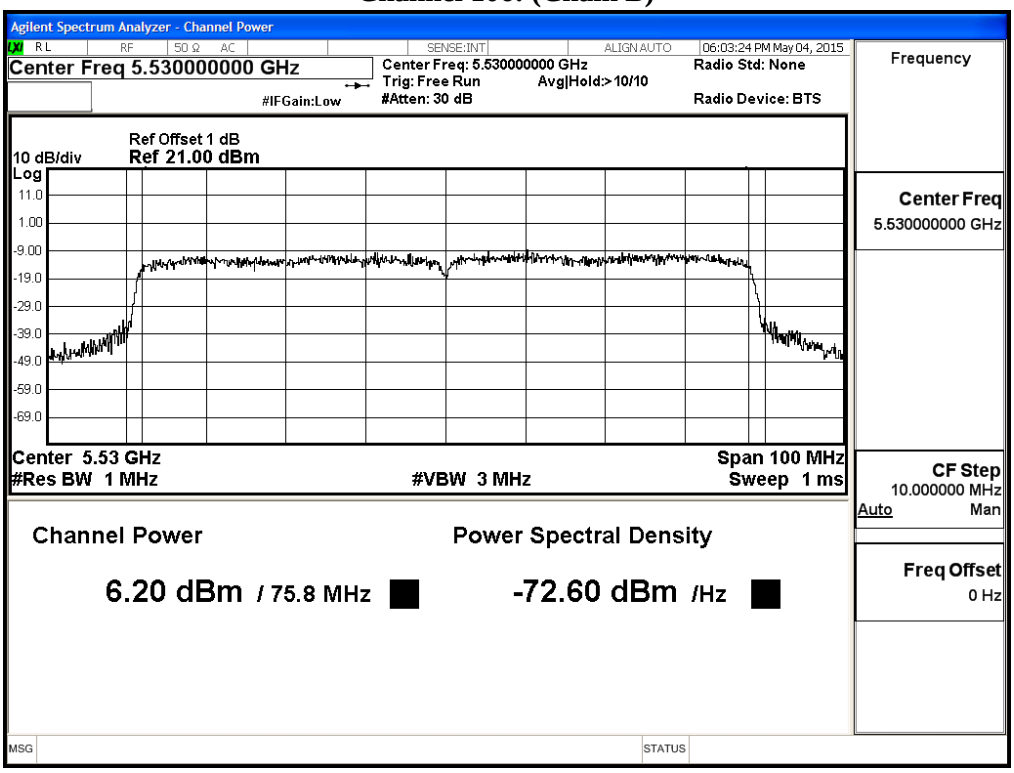
Maximum conducted output power:

Channel 58: (Chain B)



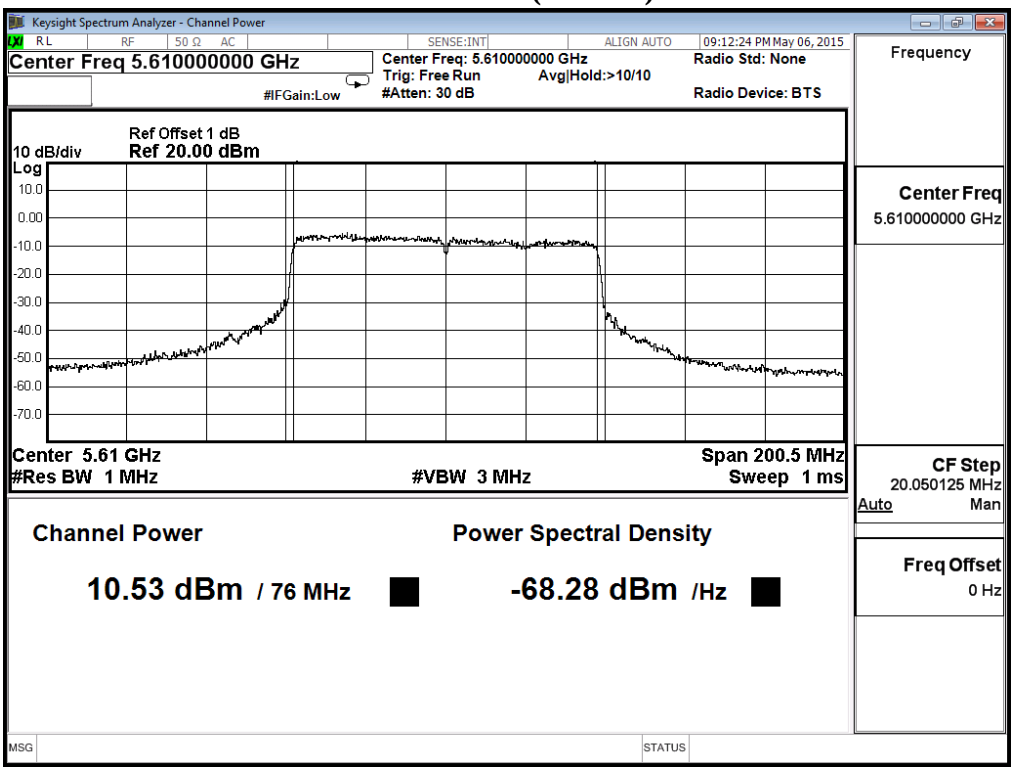
Maximum conducted output power:

Channel 106: (Chain B)



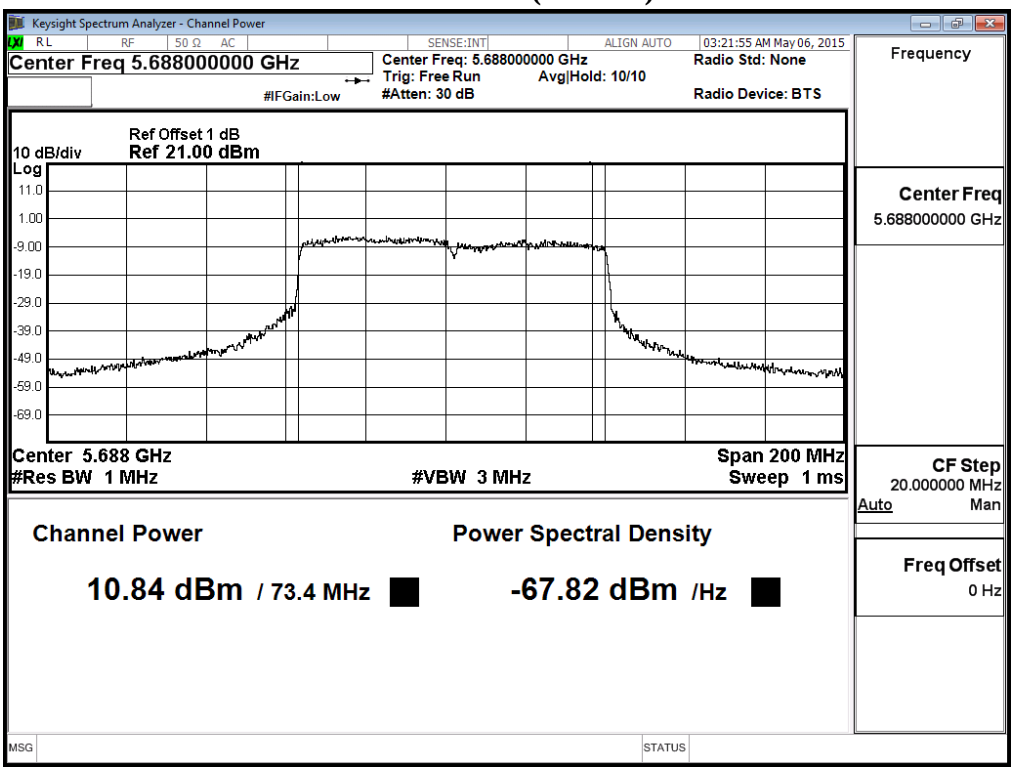
Maximum conducted output power:

Channel 122: (Chain B)



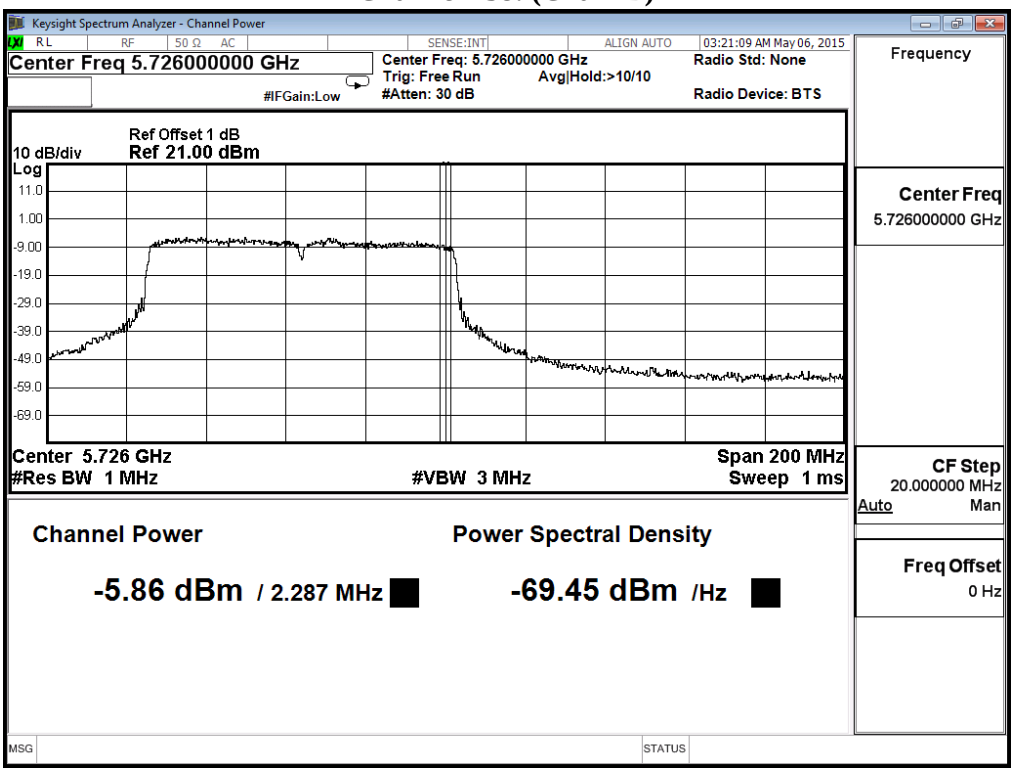
Maximum conducted output power:

Channel 138: (Chain B)



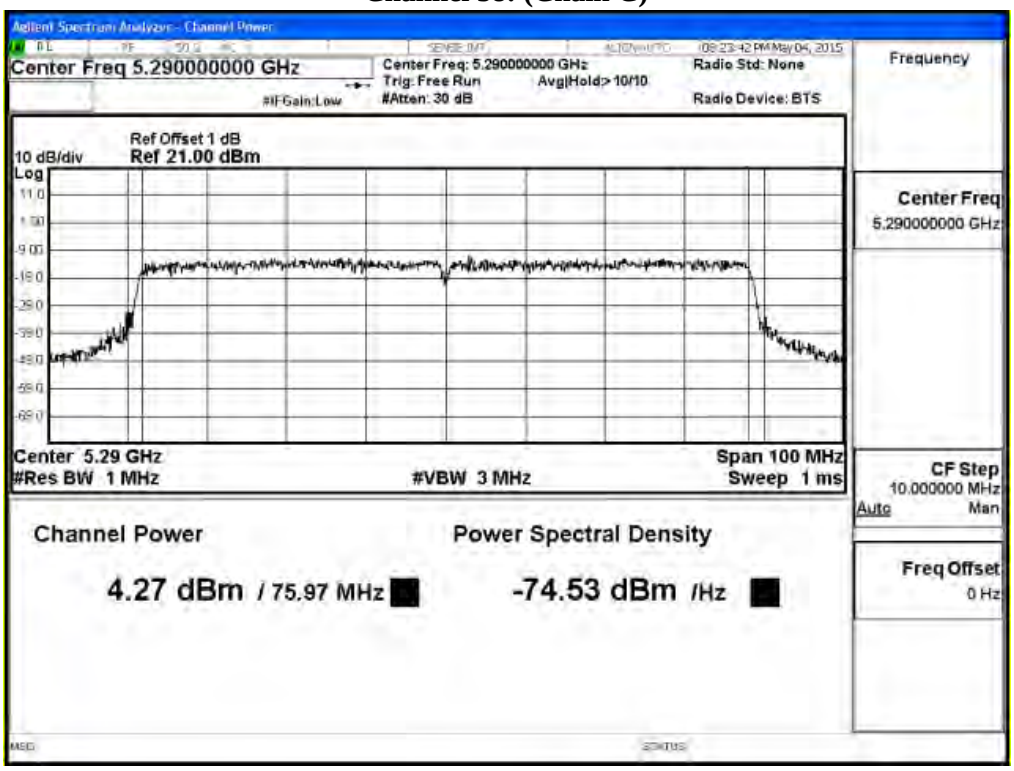
Maximum conducted output power:

Channel 138: (Chain B)



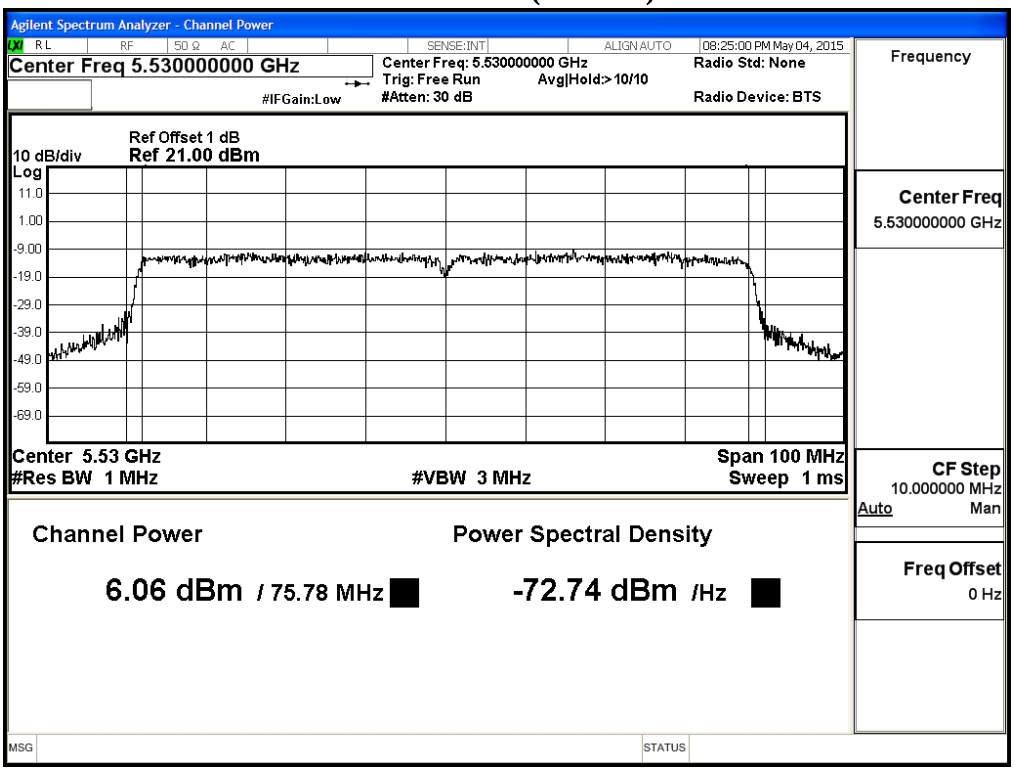
Maximum conducted output power:

Channel 58: (Chain C)



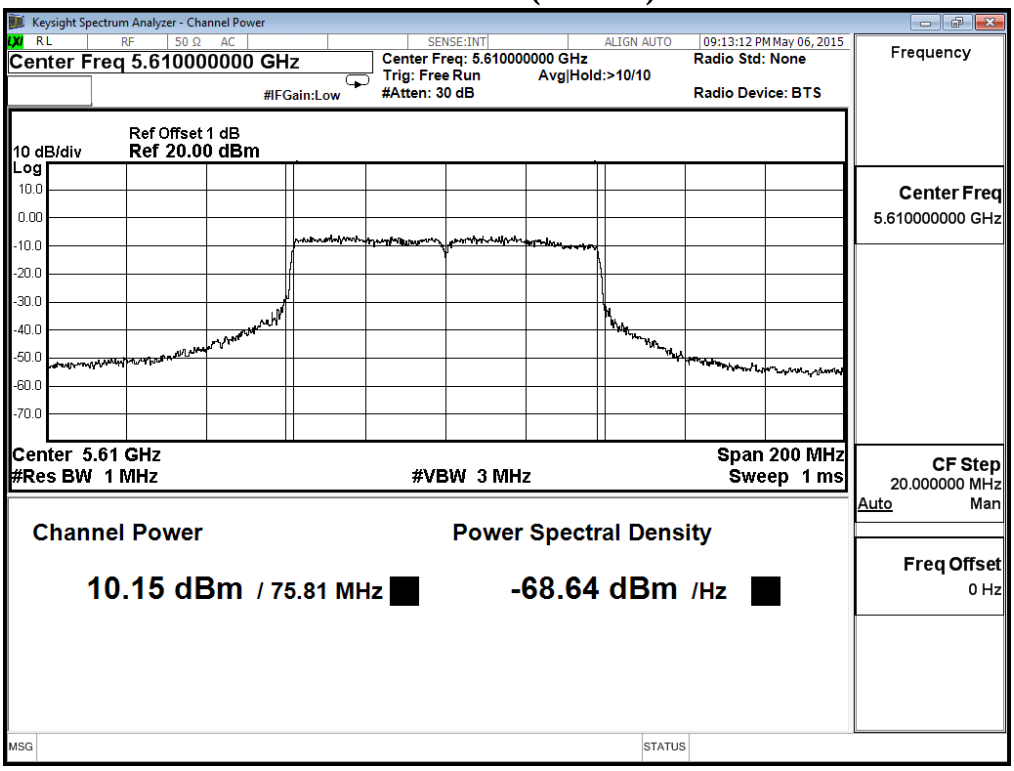
Maximum conducted output power:

Channel 106: (Chain C)



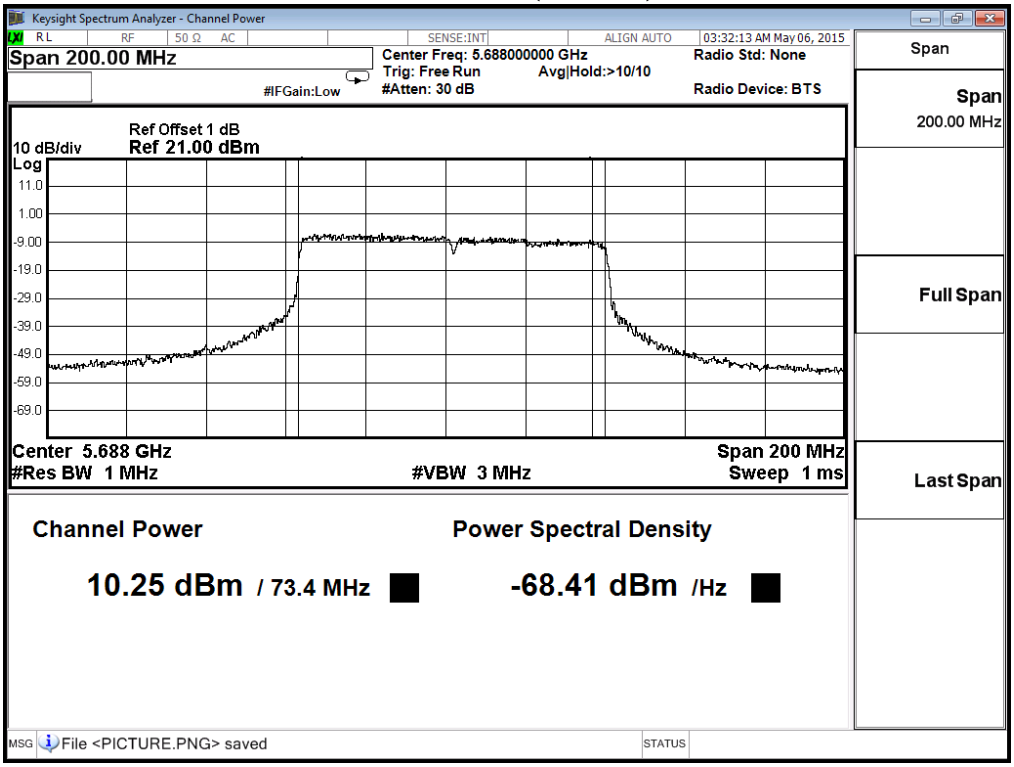
Maximum conducted output power:

Channel 122: (Chain C)



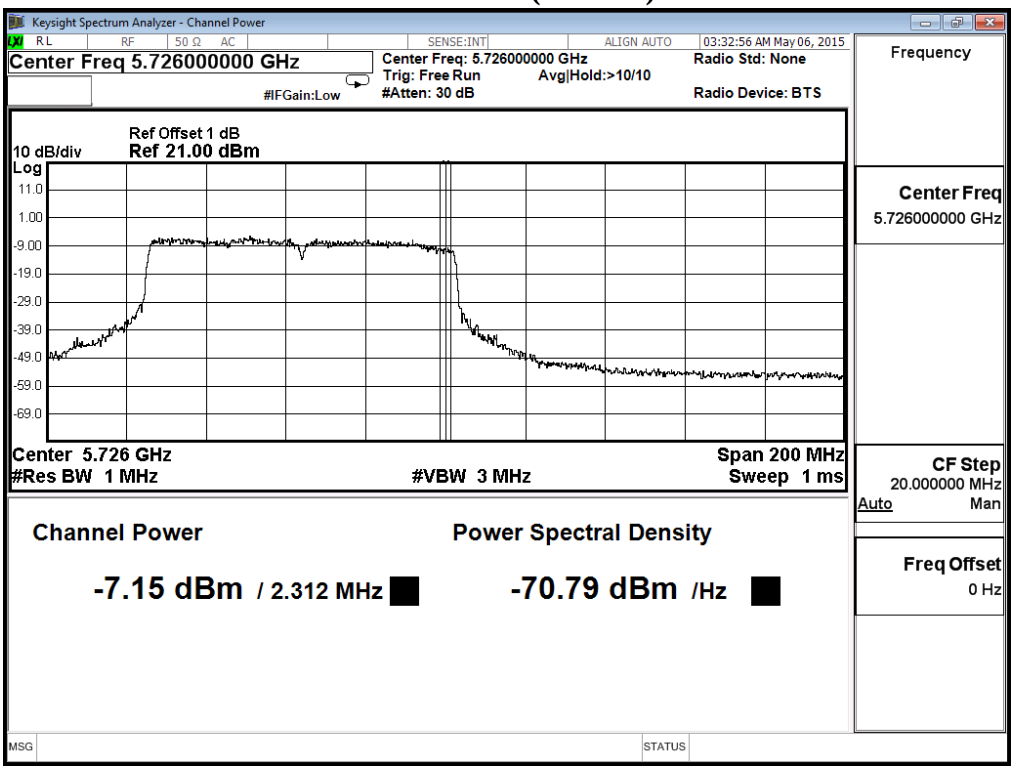
Maximum conducted output power:

Channel 138: (Chain C)



Maximum conducted output power:

Channel 138: (Chain C)



Product : Access Point/Sensor
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter (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)								
52	5260	17.16	--	--	--	--	--	--	--	<24dBm
60	5300	17.38	17.26	17.14	17.08	16.92	16.78	16.66	16.51	<24dBm
64	5320	16.82	--	--	--	--	--	--	--	<24dBm
100	5500	15.4	--	--	--	--	--	--	--	<24dBm
116	5580	15.23	15.16	15.04	14.97	14.86	14.76	14.65	14.52	<24dBm
140	5700	15.59	--	--	--	--	--	--	--	<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)								
52	5260	17.25	--	--	--	--	--	--	--	<24dBm
60	5300	17.36	17.28	17.22	17.12	17.04	16.96	16.88	16.82	<24dBm
64	5320	17.07	--	--	--	--	--	--	--	<24dBm
100	5500	15.84	--	--	--	--	--	--	--	<24dBm
116	5580	16.11	16.04	15.96	15.88	15.82	15.72	15.64	15.52	<24dBm
140	5700	15.18	--	--	--	--	--	--	--	<24dBm

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

Chain C

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)								
52	5260	16.88	--	--	--	--	--	--	--	<24dBm
60	5300	16.52	16.44	16.36	16.28	16.22	16.12	16.04	15.94	<24dBm
64	5320	16.22	--	--	--	--	--	--	--	<24dBm
100	5500	14.76	--	--	--	--	--	--	--	<24dBm
116	5580	14.98	14.85	14.76	14.65	14.52	14.43	14.36	14.25	<24dBm
140	5700	14.67	--	--	--	--	--	--	--	<24dBm

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

Maximum conducted output power Measurement:

Chain A+ B+C

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit	
							(dBm)	dBm+10log(BW)
52	5260	17.445	17.16	17.25	16.88	21.87	24	23.42
60	5300	17.479	17.38	17.36	16.52	21.88	24	23.43
64	5320	17.421	16.82	17.07	16.22	21.49	24	23.41
100	5500	17.430	15.40	15.84	14.76	20.13	23.93	23.34
116	5580	17.479	15.23	16.11	14.98	20.24	23.93	23.36
140	5700	17.421	15.59	15.18	14.67	19.93	23.93	23.34

Note:

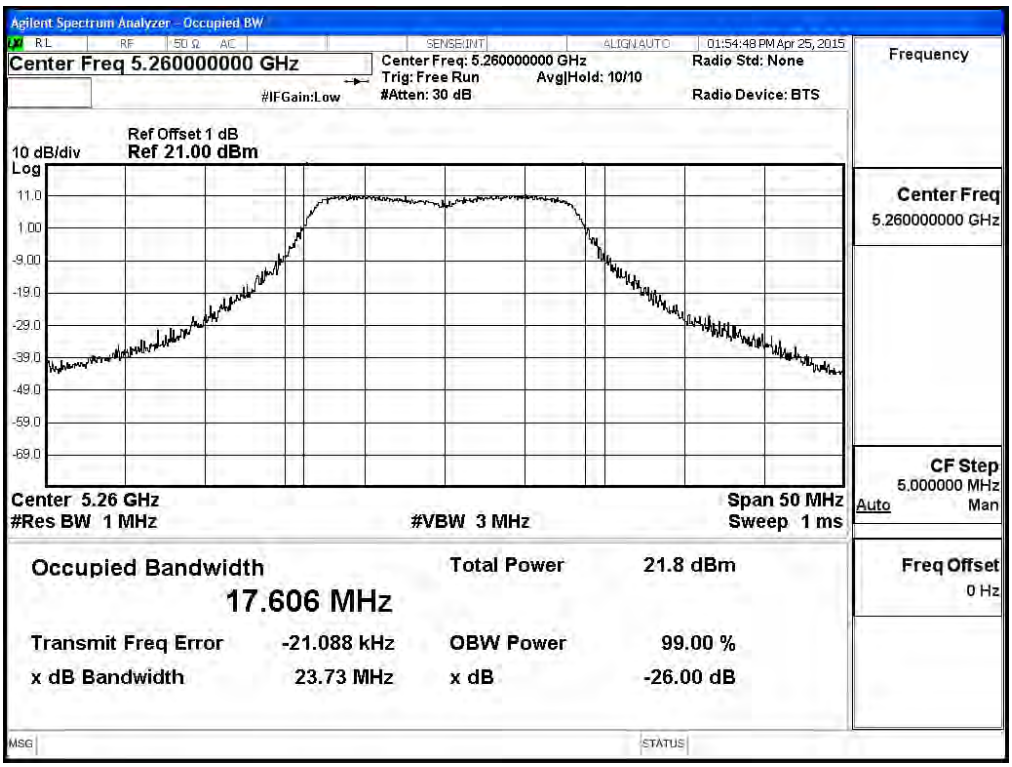
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (Mw)+ Chain B Power (Mw)+Chain C Power (Mw))
3. 99% Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

△ The maximum conducted output power shall be reduced by the amount in Db that the directional gain of

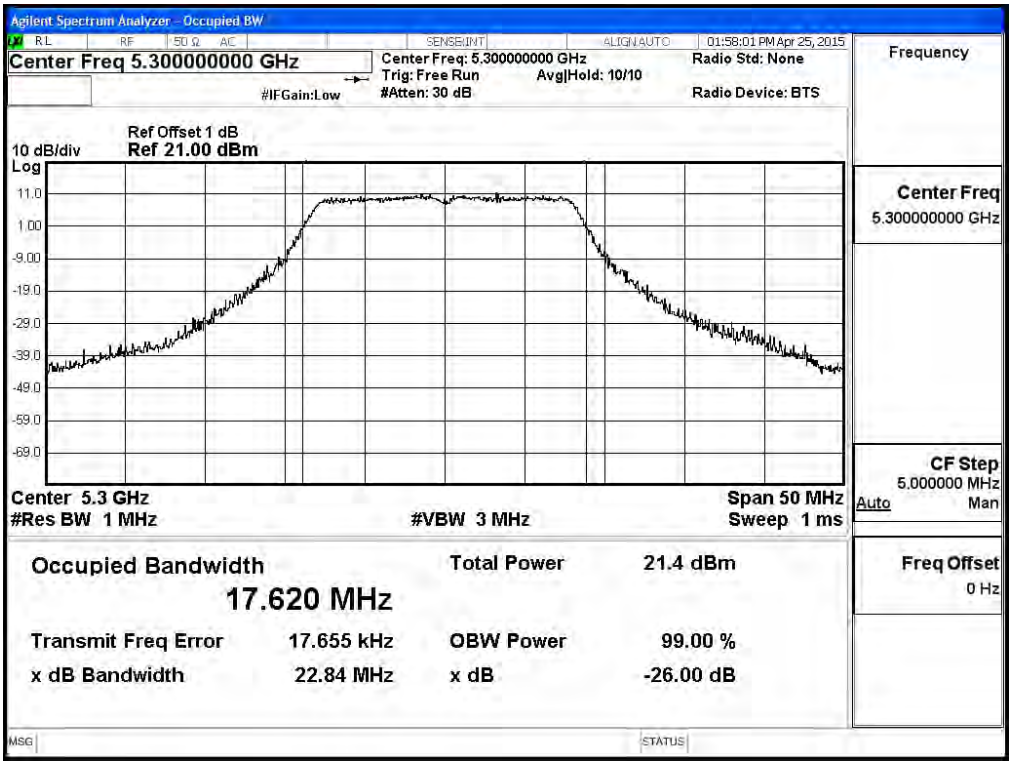
the antenna exceeds 6 dBi

99% Occupied Bandwidth:

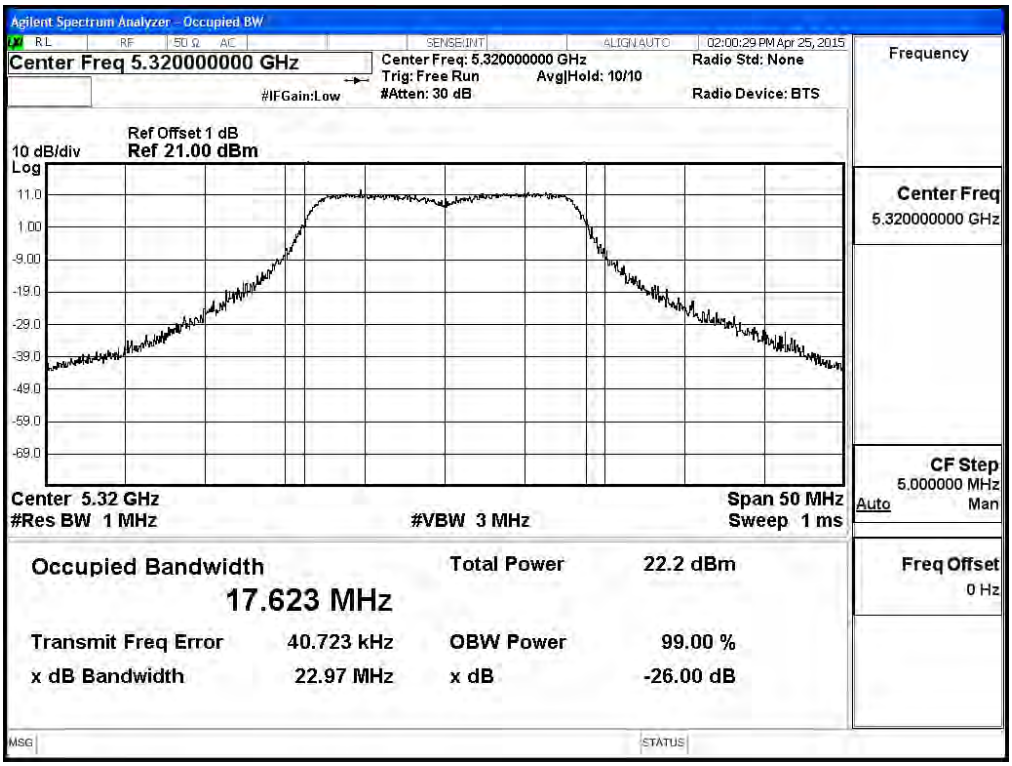
Channel 52: Chain A



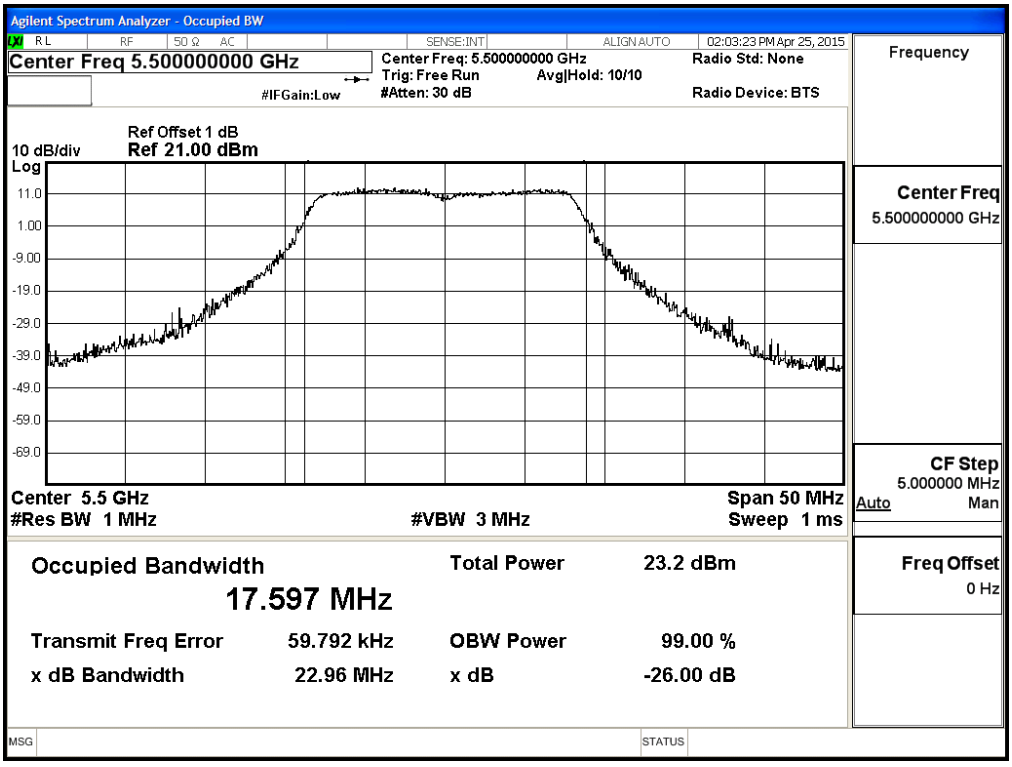
Channel 60: Chain A



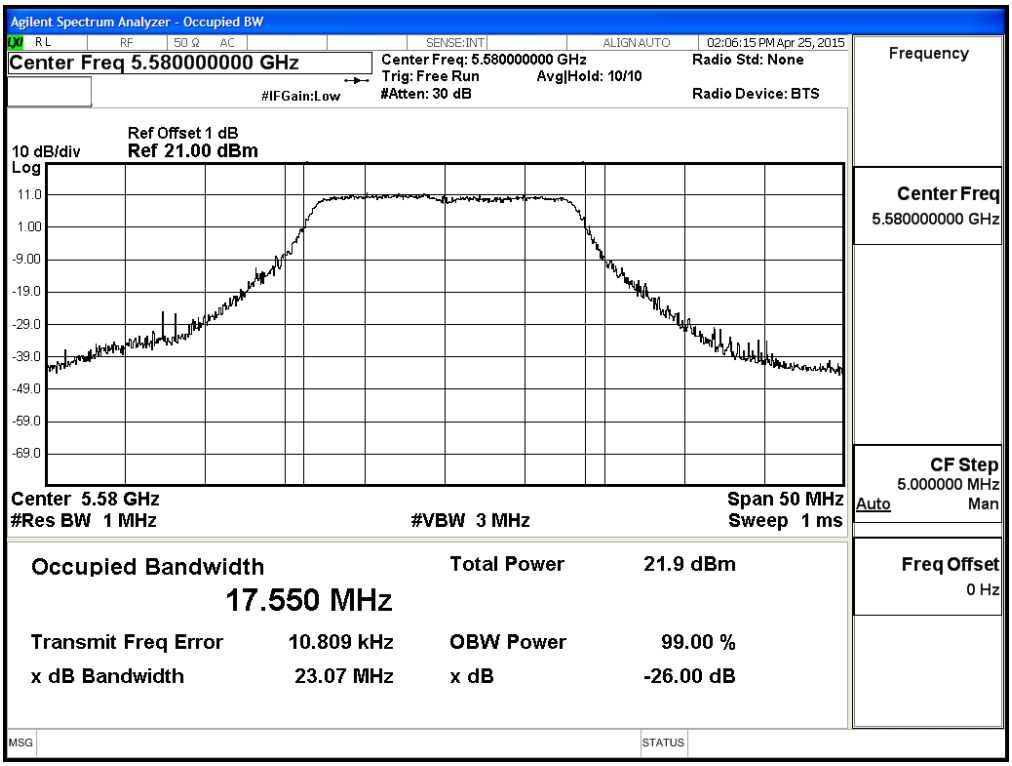
Channel 64: Chain A



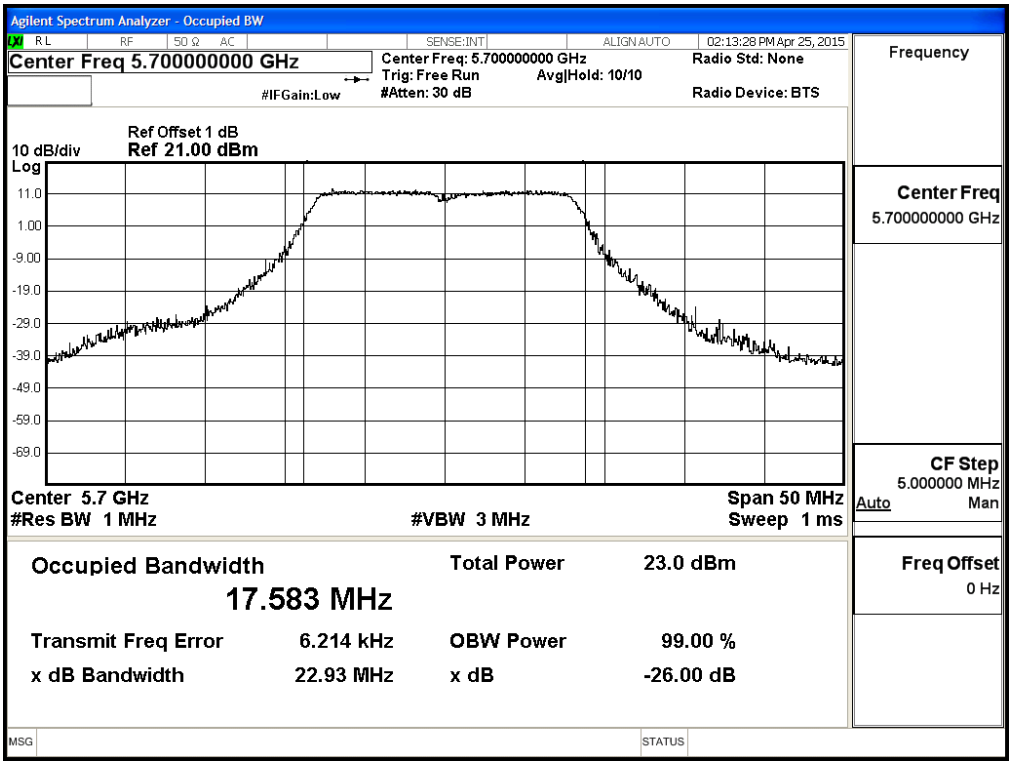
Channel 100: Chain A



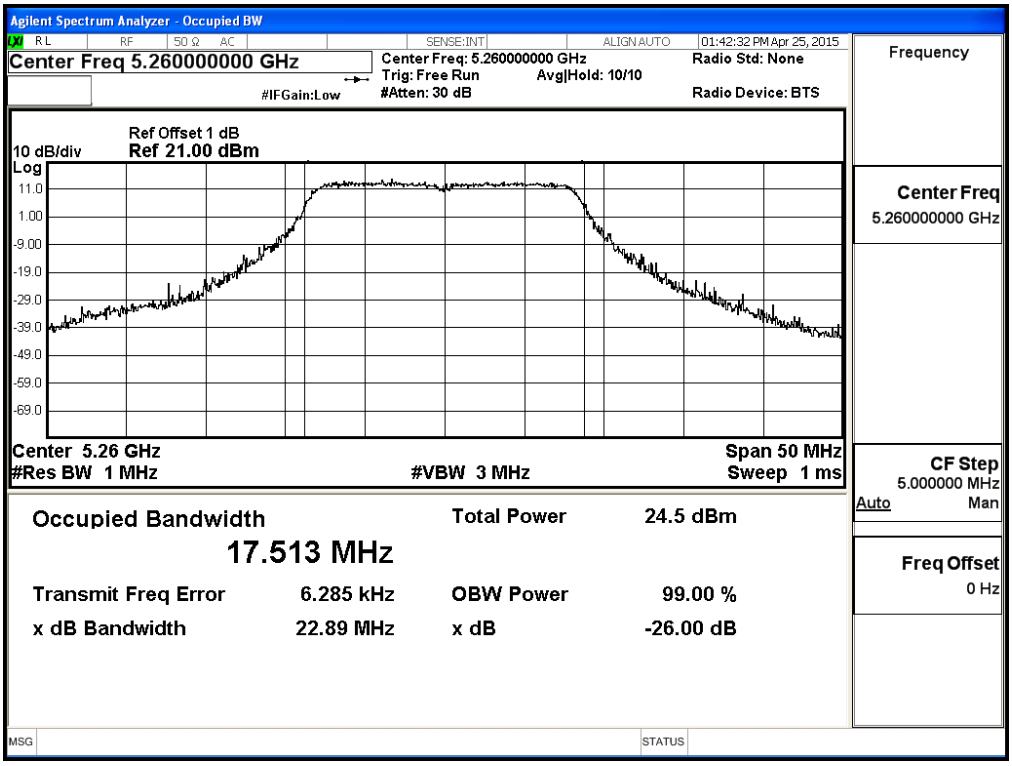
Channel 116: Chain A



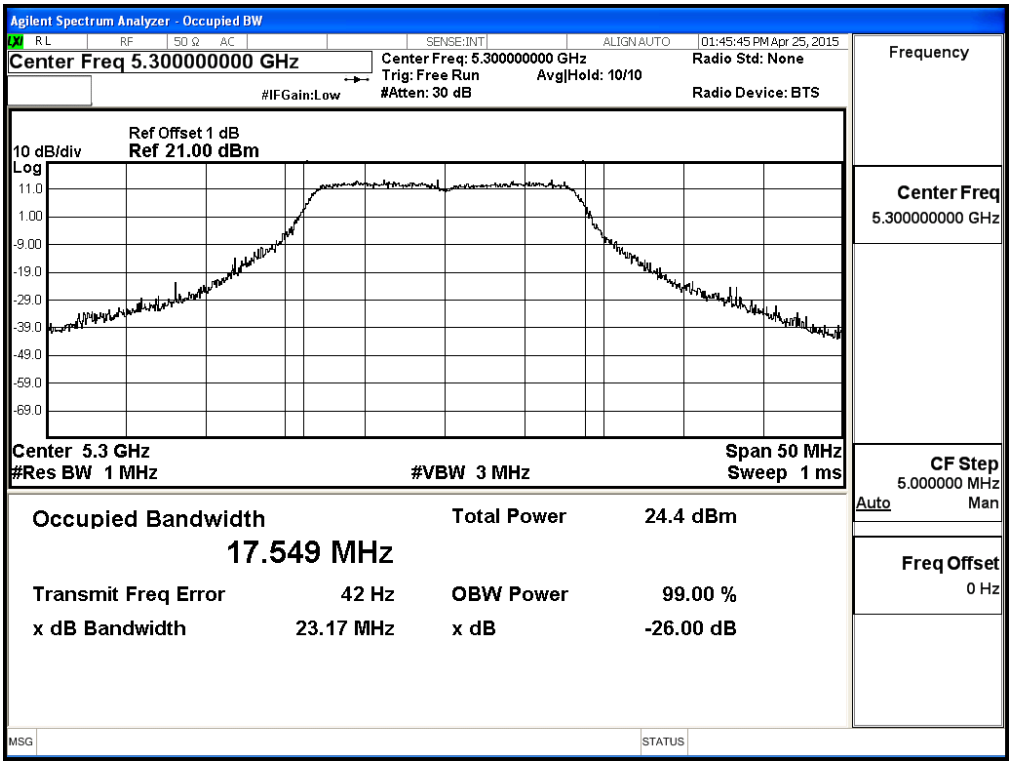
Channel 140: Chain A



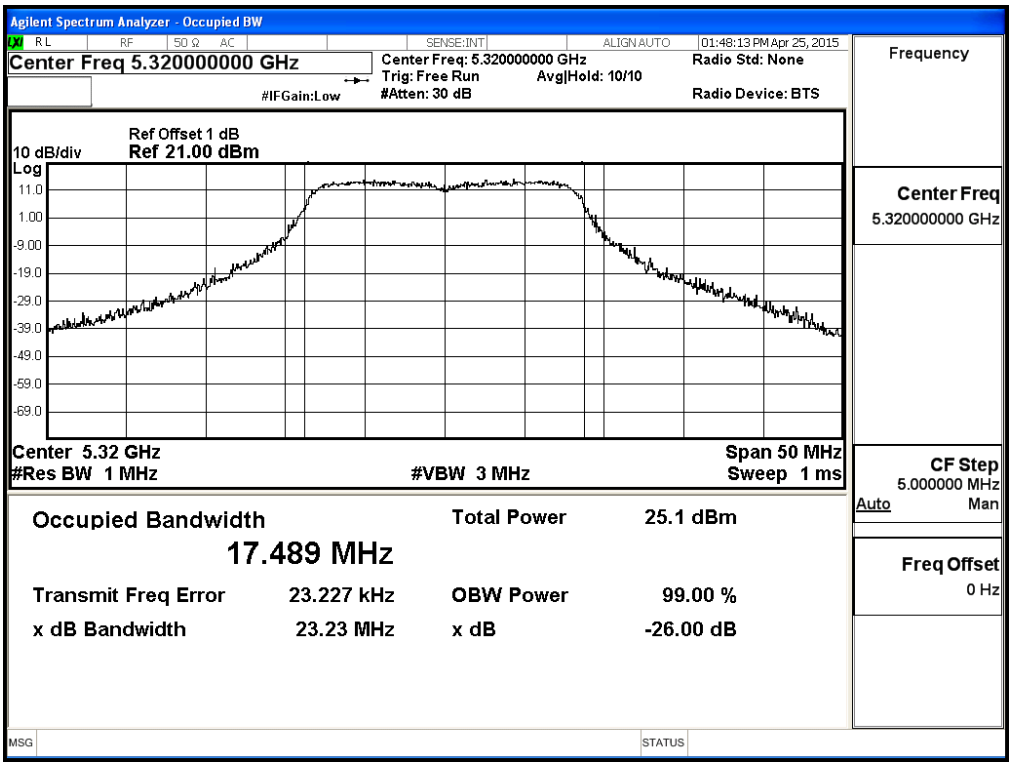
Channel 52: Chain B



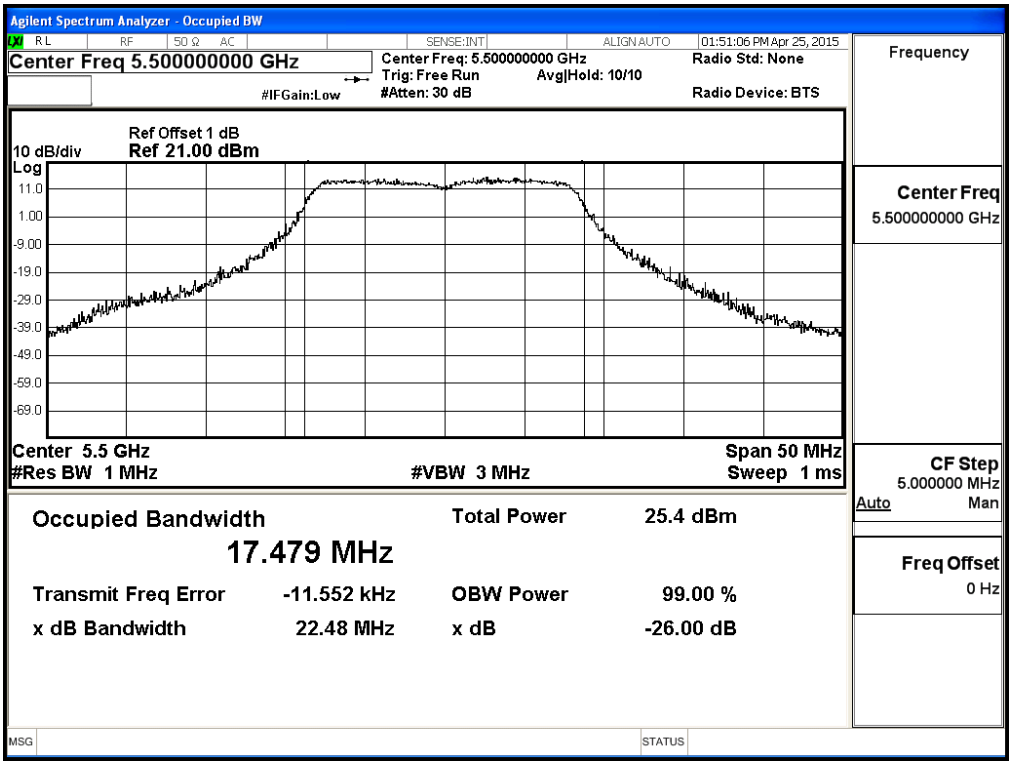
Channel 60: Chain B



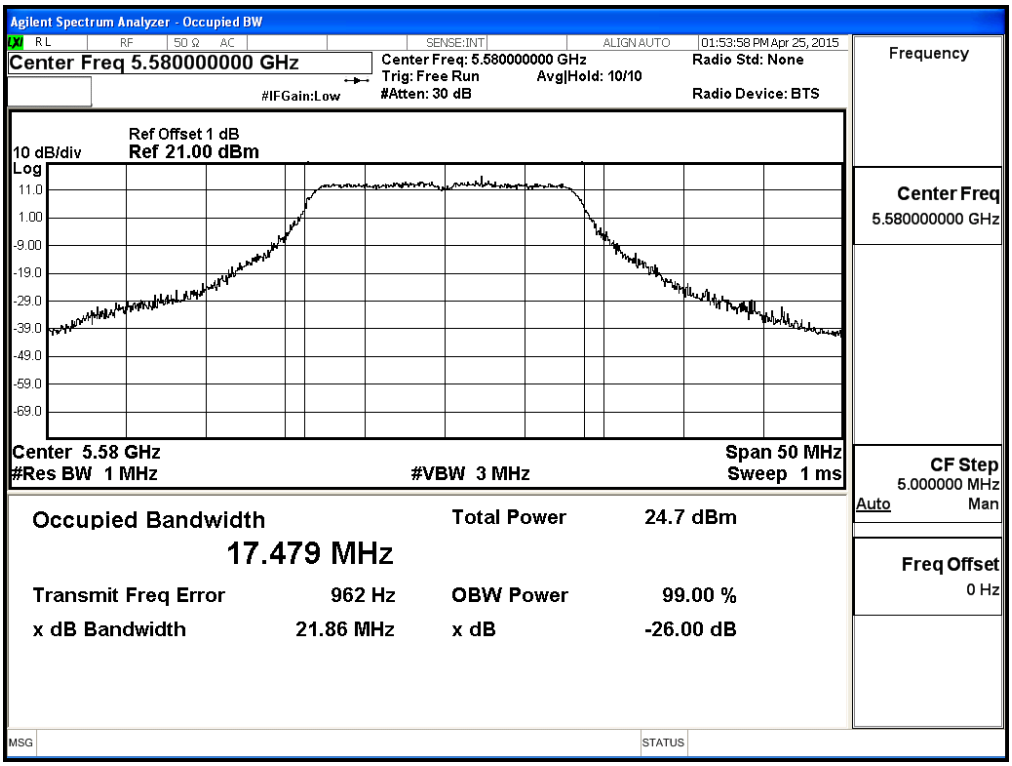
Channel 64: Chain B



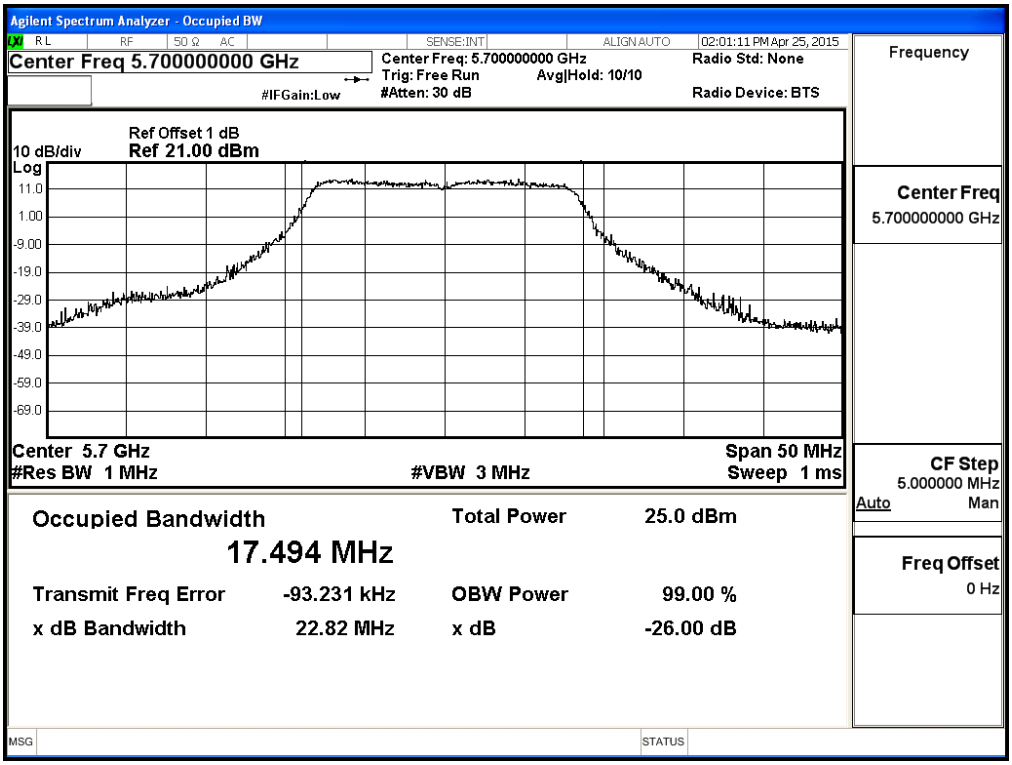
Channel 100: Chain B



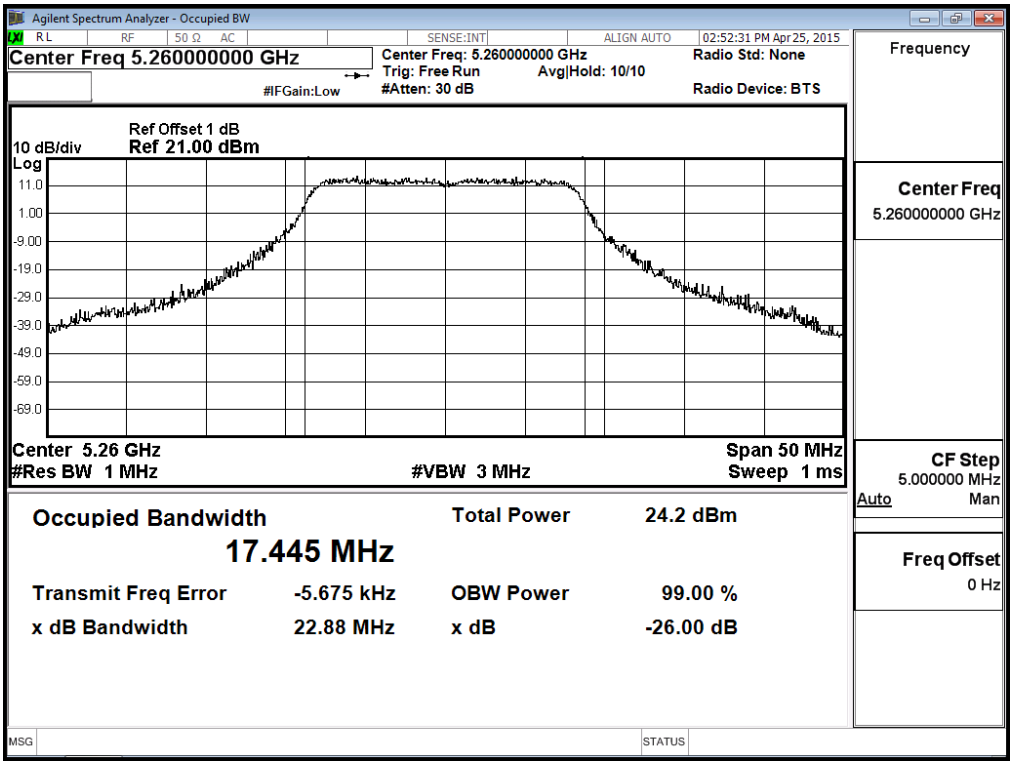
Channel 116: Chain B



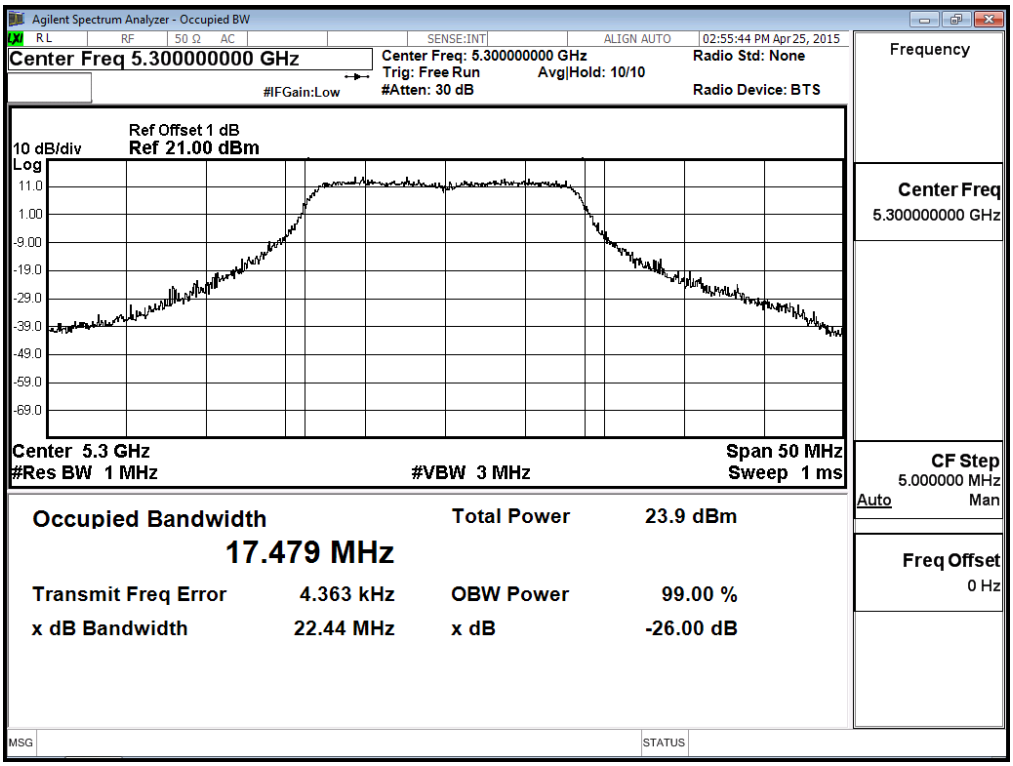
Channel 140: Chain B



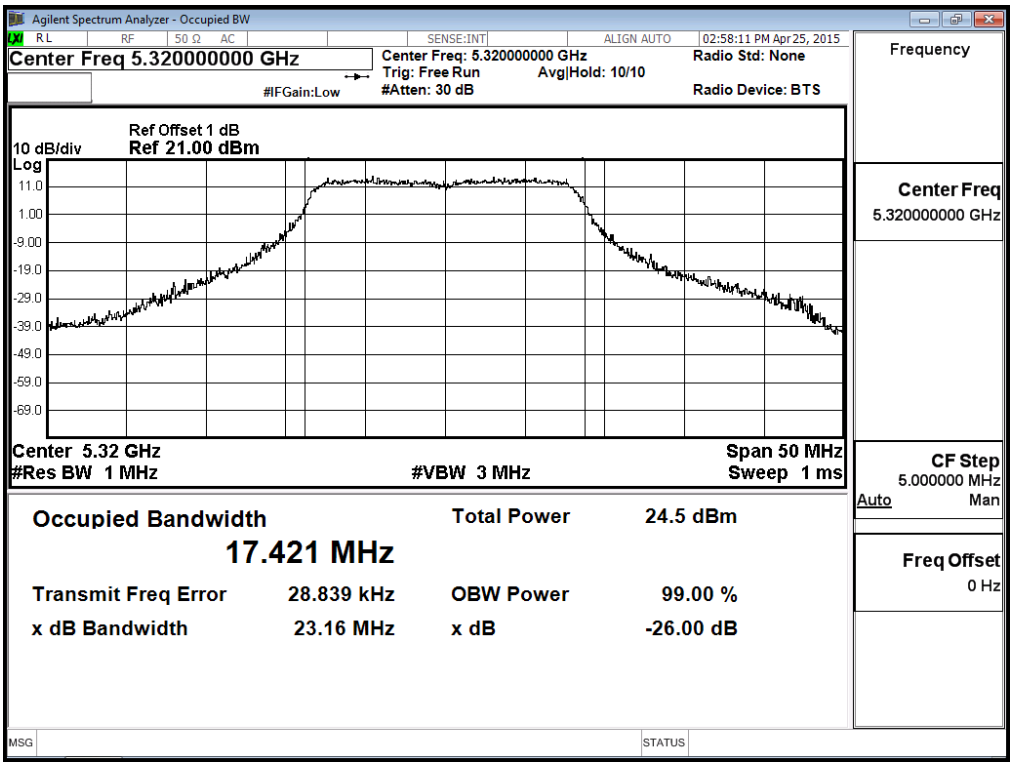
Channel 52: Chain C



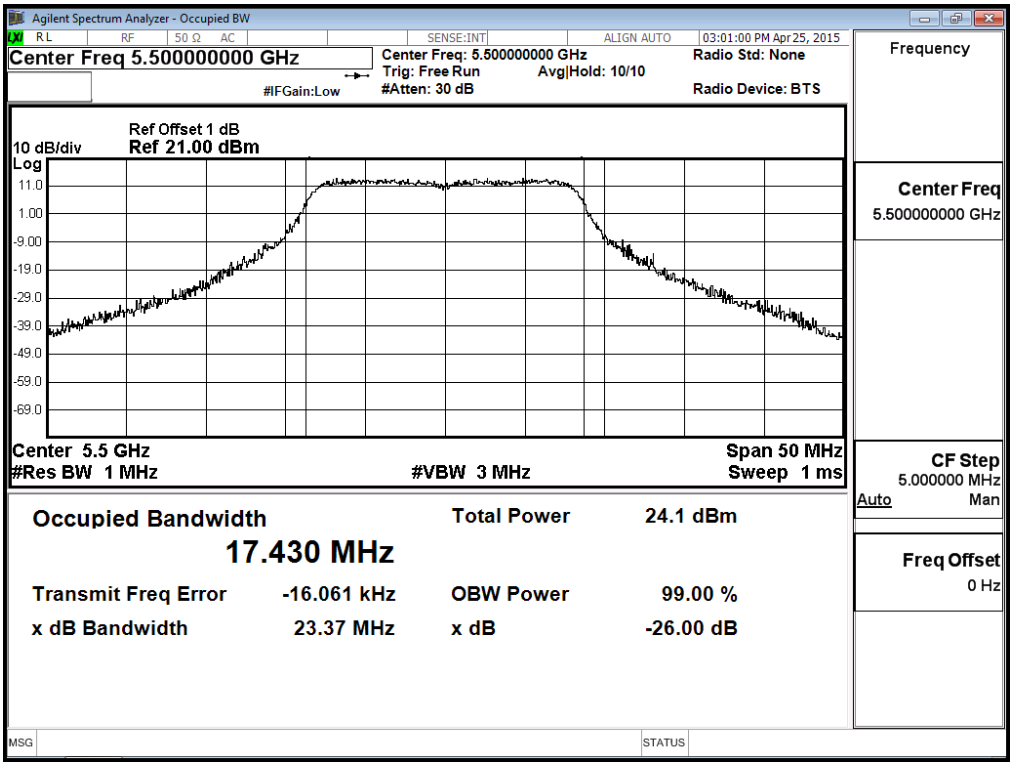
Channel 60: Chain C



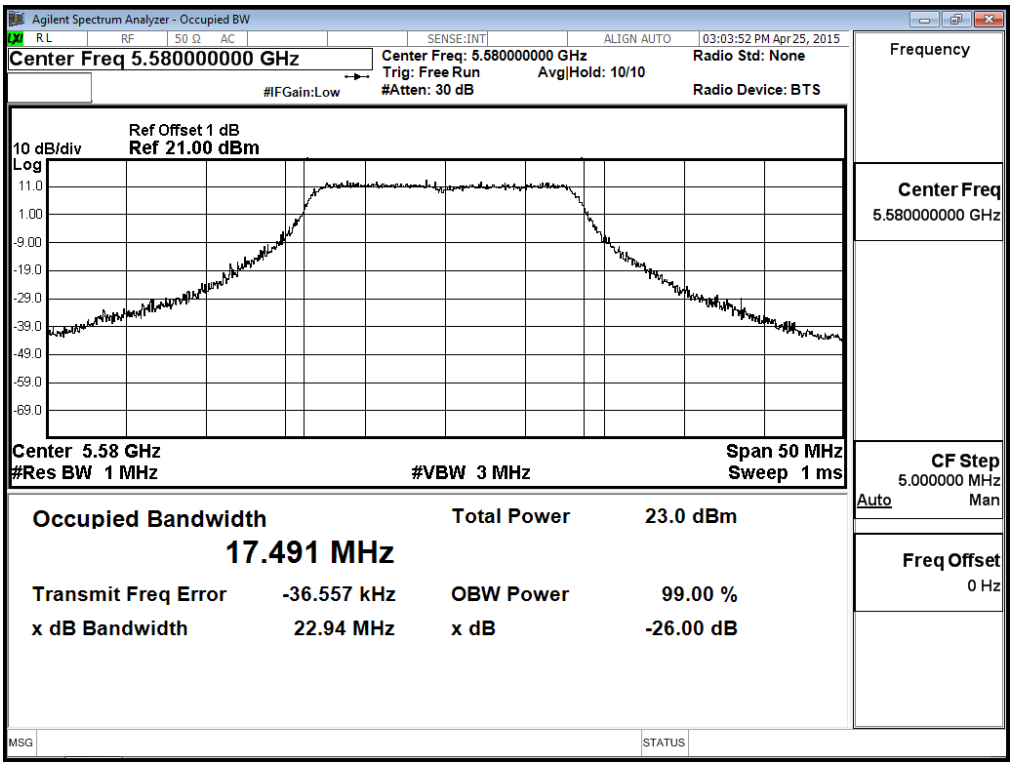
Channel 64: Chain C



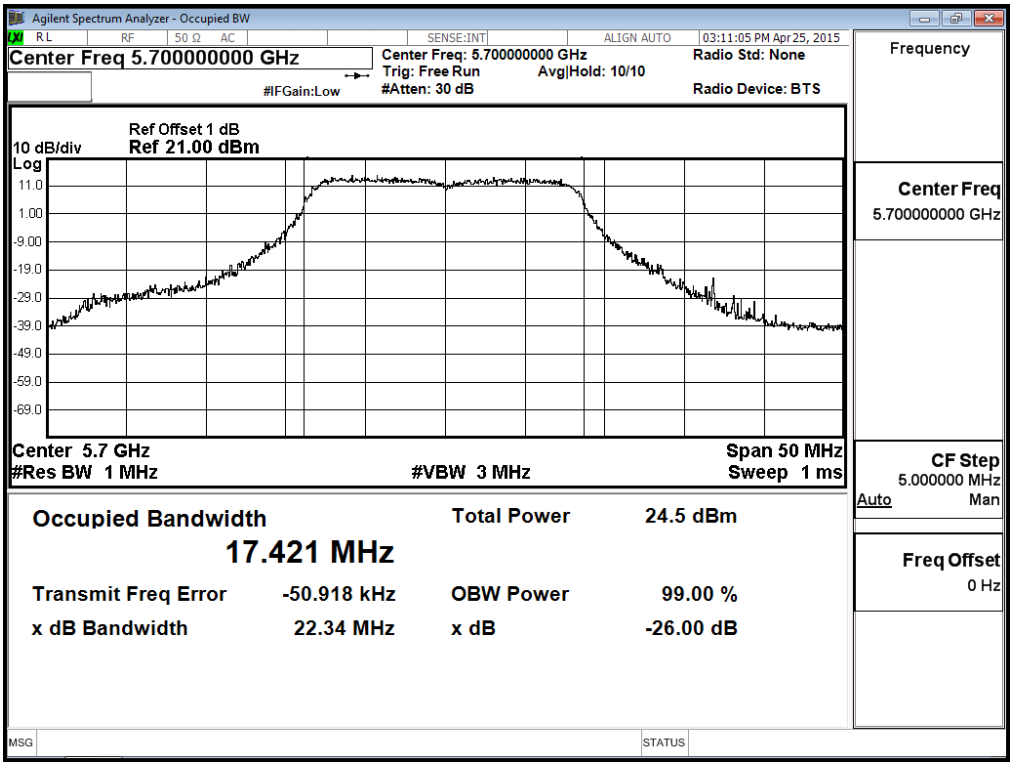
Channel 100: Chain C



Channel 116: Chain C



Channel 140: Chain C



Product : Access Point/Sensor
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter (802.11n-20BW 21.7Mbps) (External Antenna)

Chain A

Cable loss=1Db		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	
		Measurement Level (dBm)								
52	5260	17.22	--	--	--	--	--	--	--	<24dBm
60	5300	17.17	17.02	16.87	16.72	16.54	16.42	16.27	16.08	<24dBm
64	5320	16.97	--	--	--	--	--	--	--	<24dBm
100	5500	15.28	--	--	--	--	--	--	--	<24dBm
116	5580	14.98	14.87	14.76	14.65	14.51	14.48	14.32	14.26	<24dBm
140	5700	15.88	--	--	--	--	--	--	--	<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
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	
		Measurement Level (dBm)								
52	5260	17.25	--	--	--	--	--	--	--	<24dBm
60	5300	17.21	17.13	17.08	16.97	16.89	16.81	16.72	16.61	<24dBm
64	5320	17.28	--	--	--	--	--	--	--	<24dBm
100	5500	15.66	--	--	--	--	--	--	--	<24dBm
116	5580	16.19	16.05	15.97	15.86	15.76	15.64	15.53	15.42	<24dBm
140	5700	15.84	--	--	--	--	--	--	--	<24dBm

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

Chain C

Cable loss=1Db		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		21.7	43.3	65	86.7	130.7	173.3	195	216.7	
		Measurement Level (dBm)								
52	5260	16.77	--	--	--	--	--	--	--	<24dBm
60	5300	16.5	16.41	16.32	16.25	16.14	16.01	15.96	15.82	<24dBm
64	5320	16.48	--	--	--	--	--	--	--	<24dBm
100	5500	14.64	--	--	--	--	--	--	--	<24dBm
116	5580	14.84	14.76	14.62	14.58	14.49	14.35	14.26	14.14	<24dBm
140	5700	15.02	--	--	--	--	--	--	--	<24dBm

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

Maximum conducted output power Measurement:

Chain A+ B+C

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit	
							(dBm)	dBm+10log(BW)
52	5260	18.580	17.22	17.25	16.77	21.86	24	23.69
60	5300	18.573	17.17	17.21	16.50	21.74	24	23.69
64	5320	18.506	16.97	17.28	16.48	21.69	24	23.67
100	5500	18.511	15.28	15.66	14.64	19.98	23.93	23.60
116	5580	18.600	14.98	16.19	14.84	20.15	23.93	23.63
140	5700	18.635	15.88	15.84	15.02	20.37	23.93	23.63

Note:

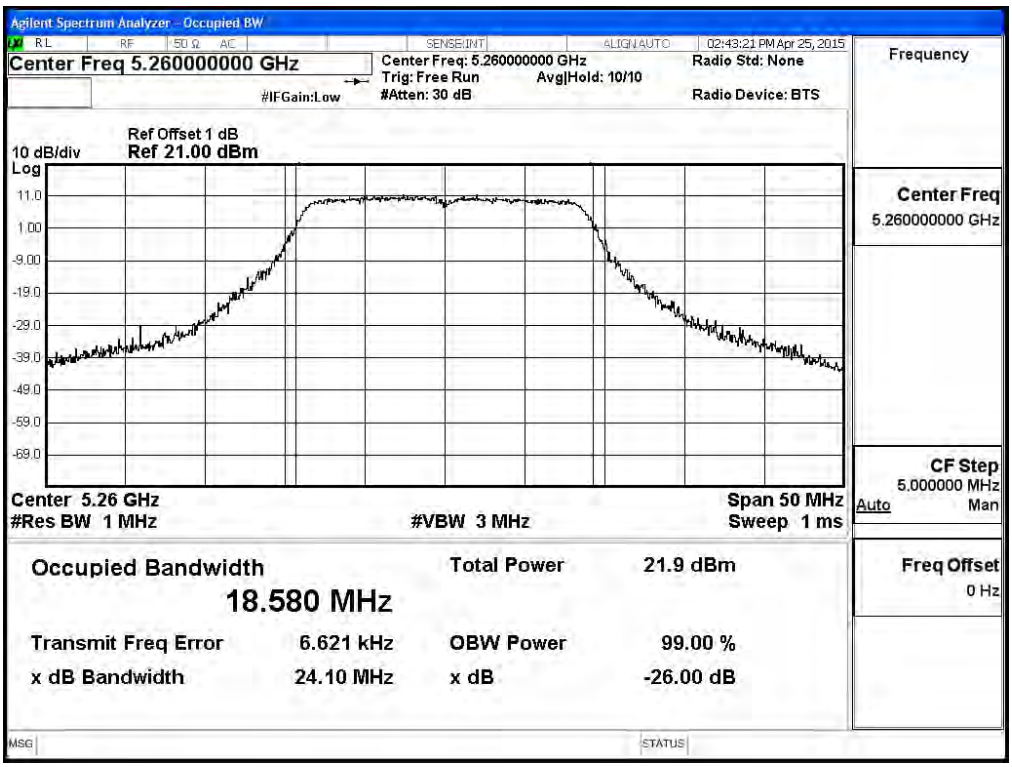
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (Mw)+ Chain B Power (Mw)+Chain C Power (Mw))
3. 99% Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

△ The maximum conducted output power shall be reduced by the amount in Db that the directional gain of

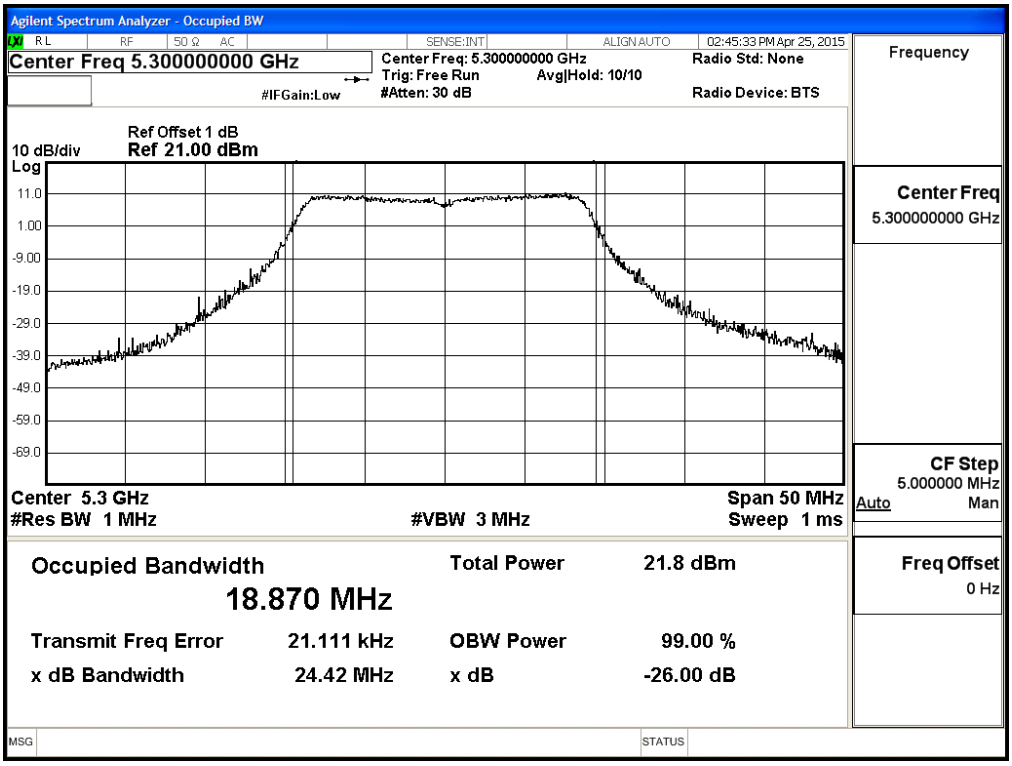
the antenna exceeds 6 dBi

99% Occupied Bandwidth:

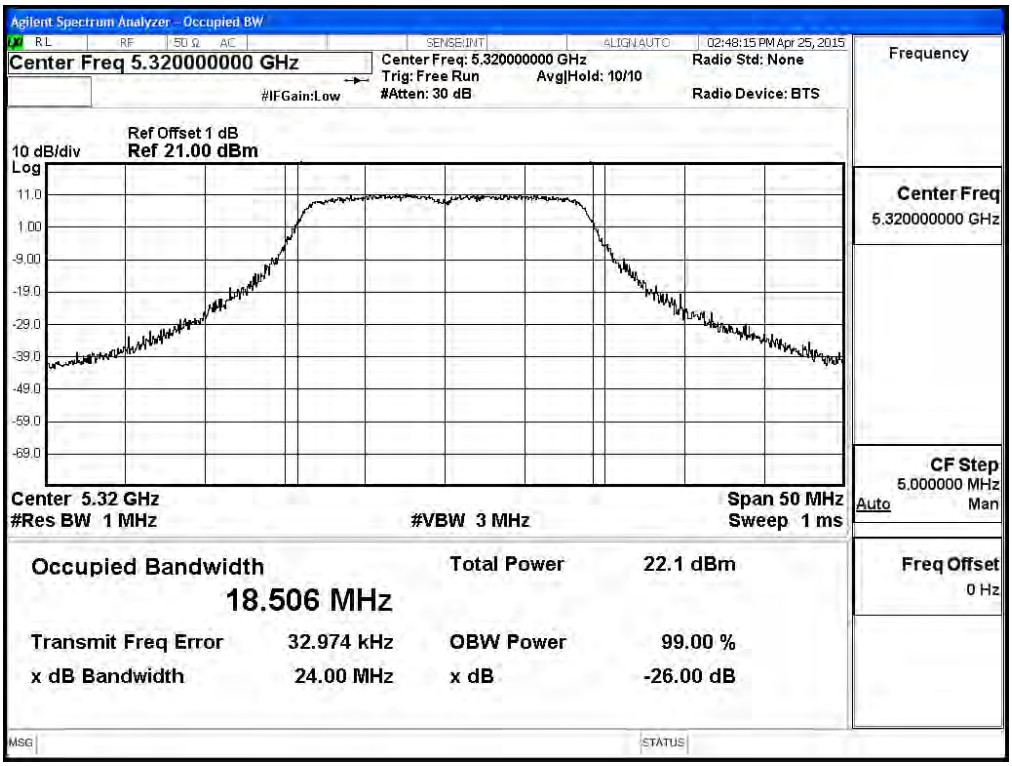
Channel 52: Chain A



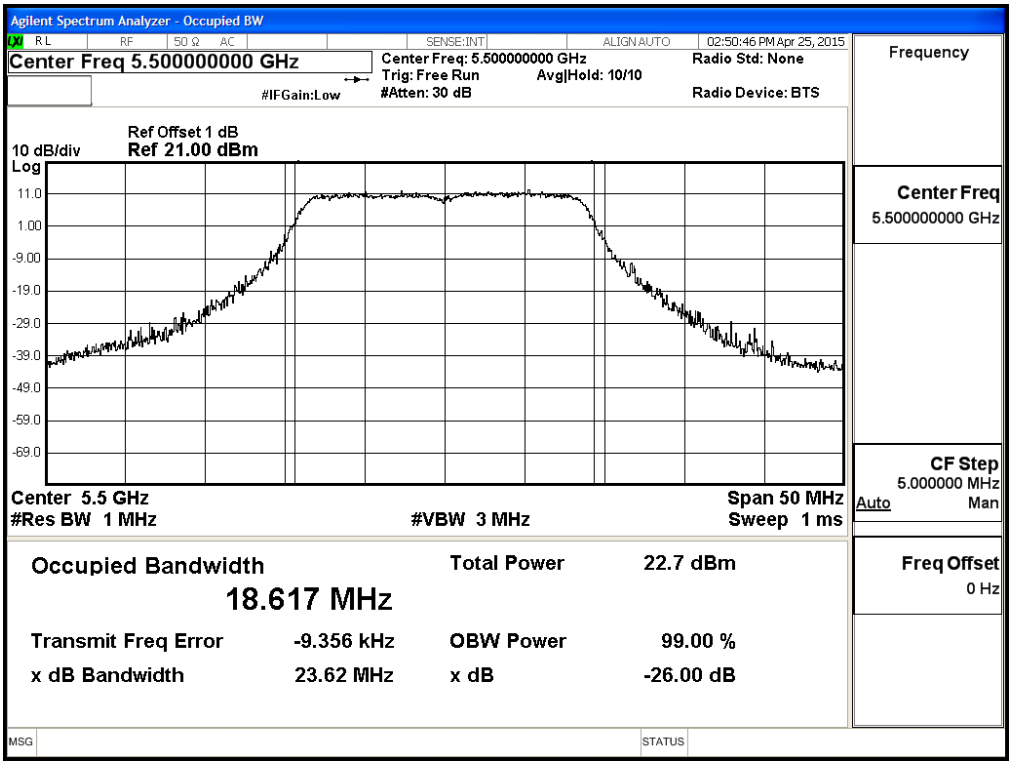
Channel 60: Chain A



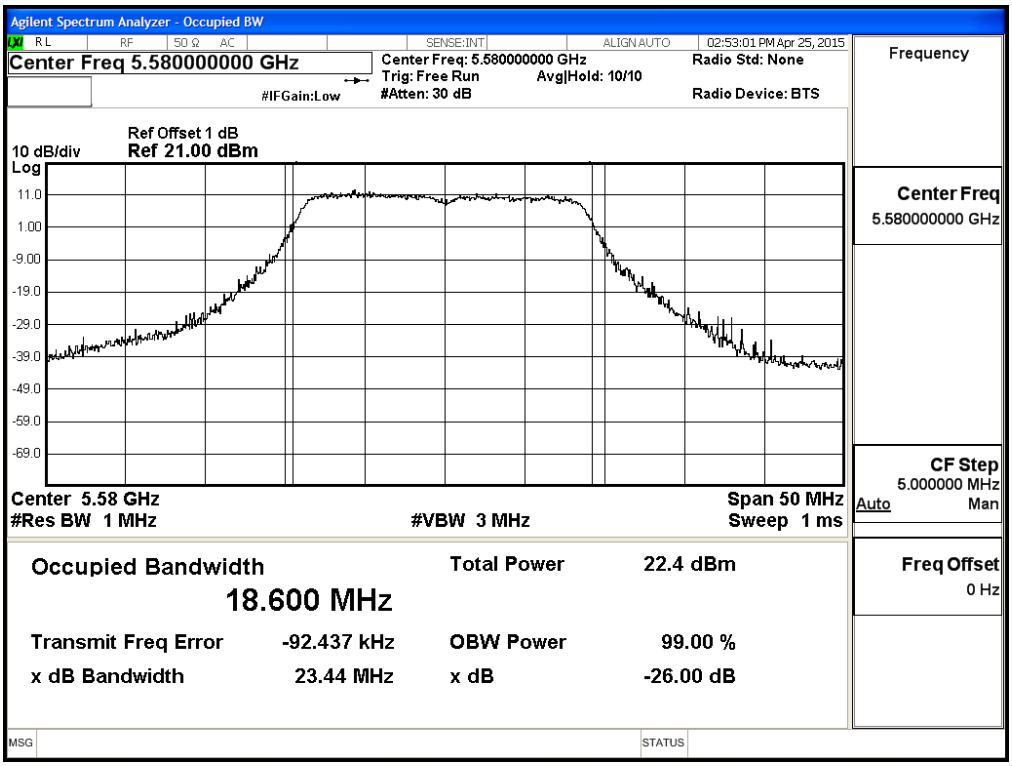
Channel 64: Chain A



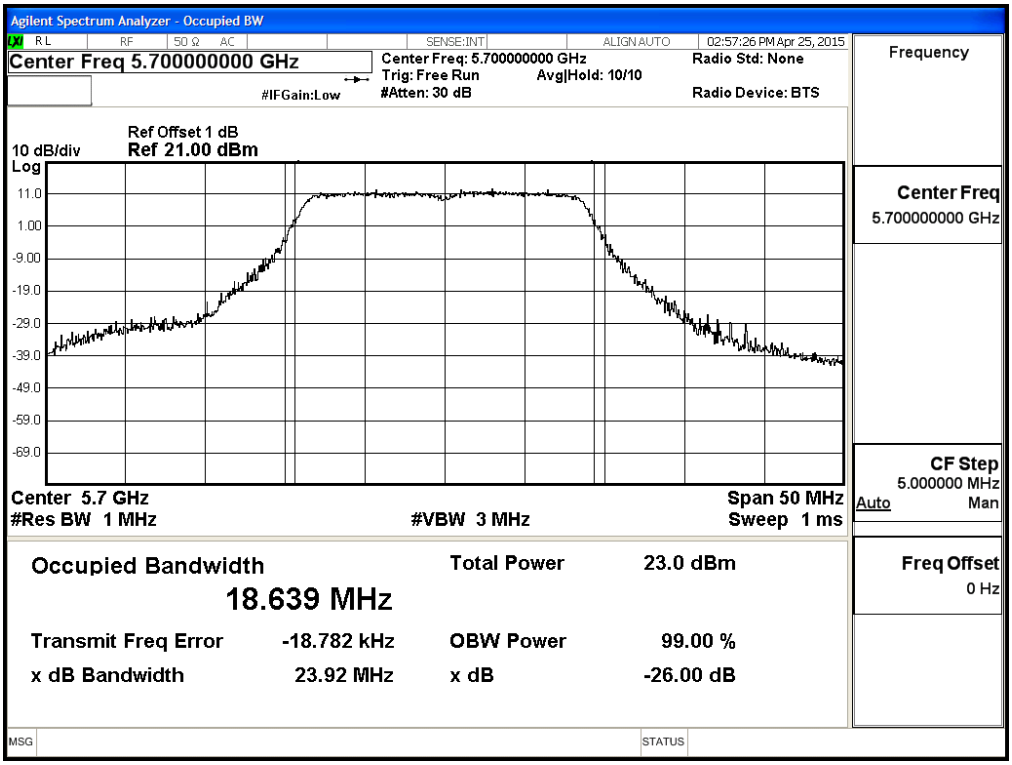
Channel 100: Chain A



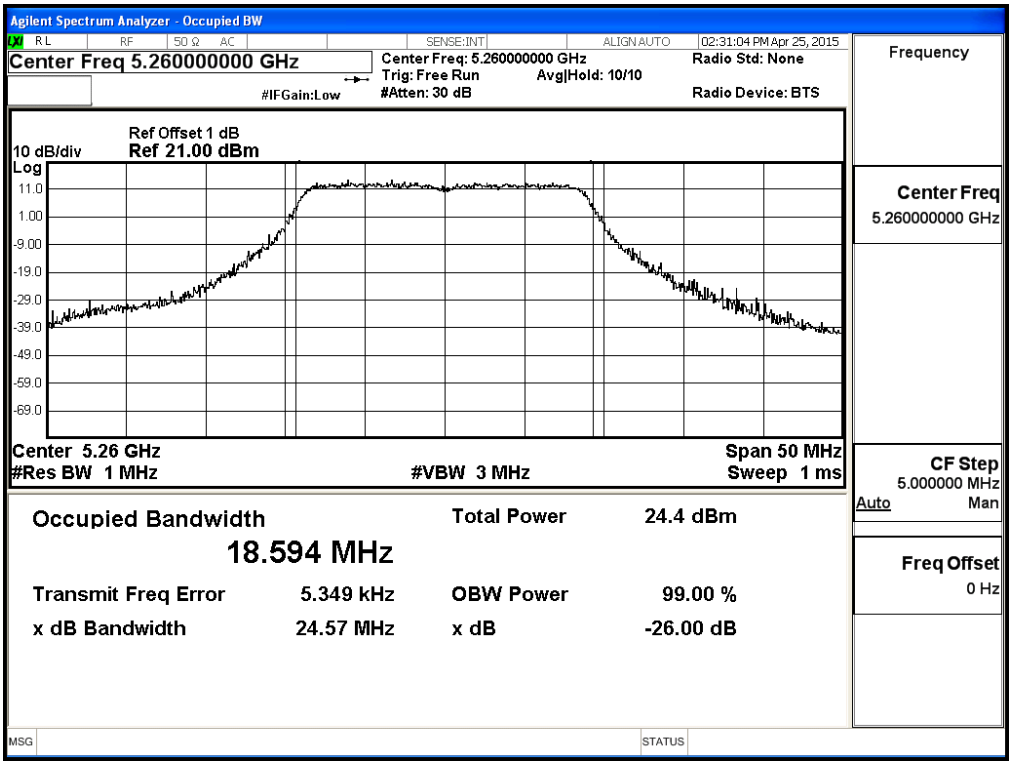
Channel 116: Chain A



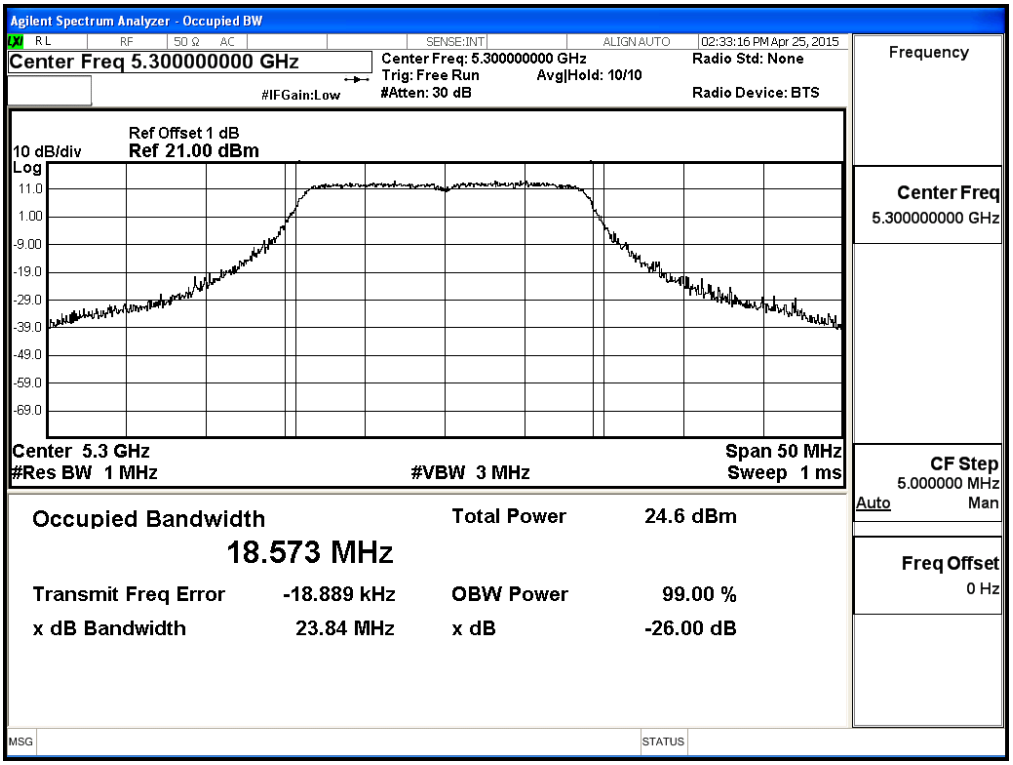
Channel 140: Chain A



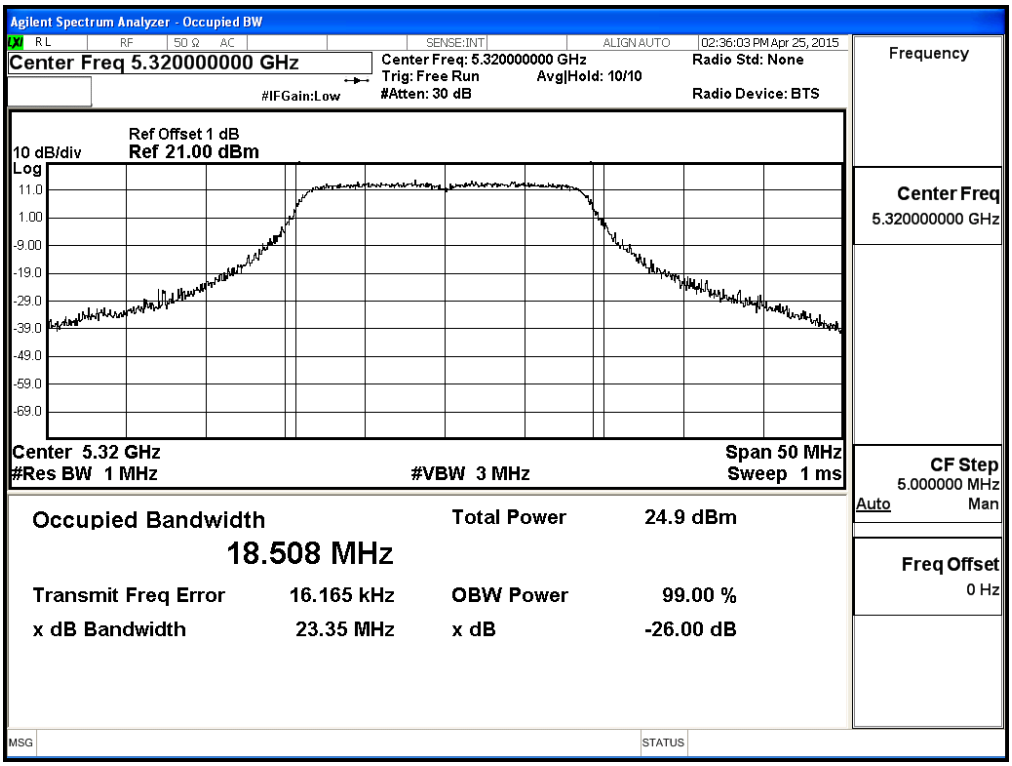
Channel 52: Chain B



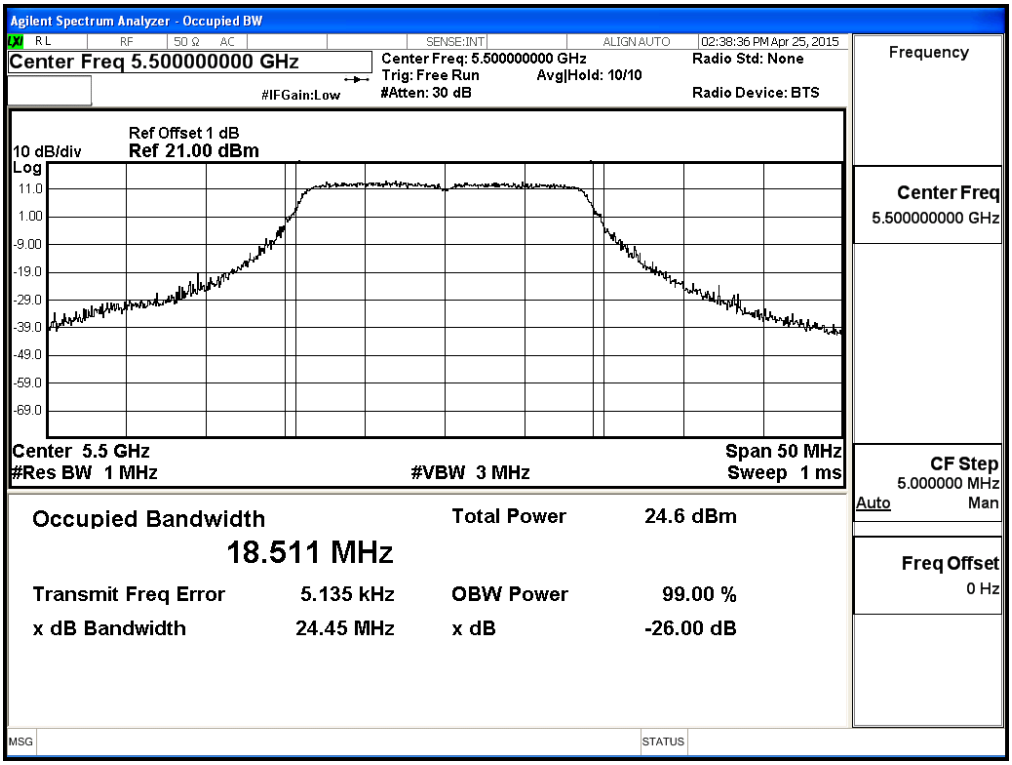
Channel 60: Chain B



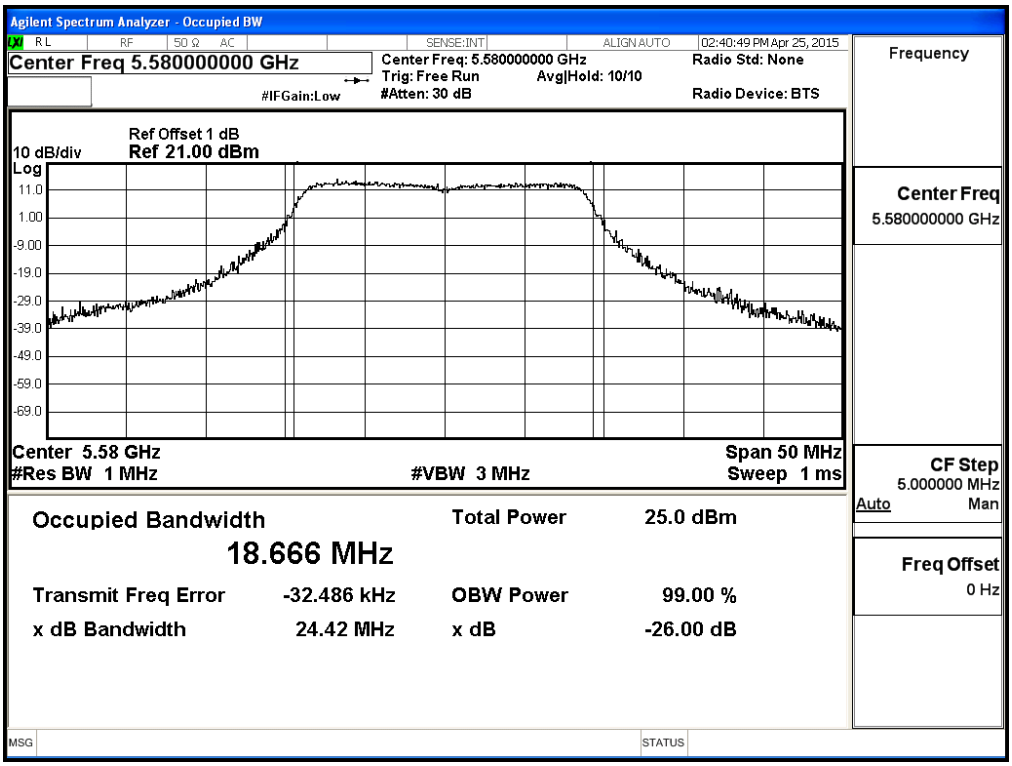
Channel 64: Chain B



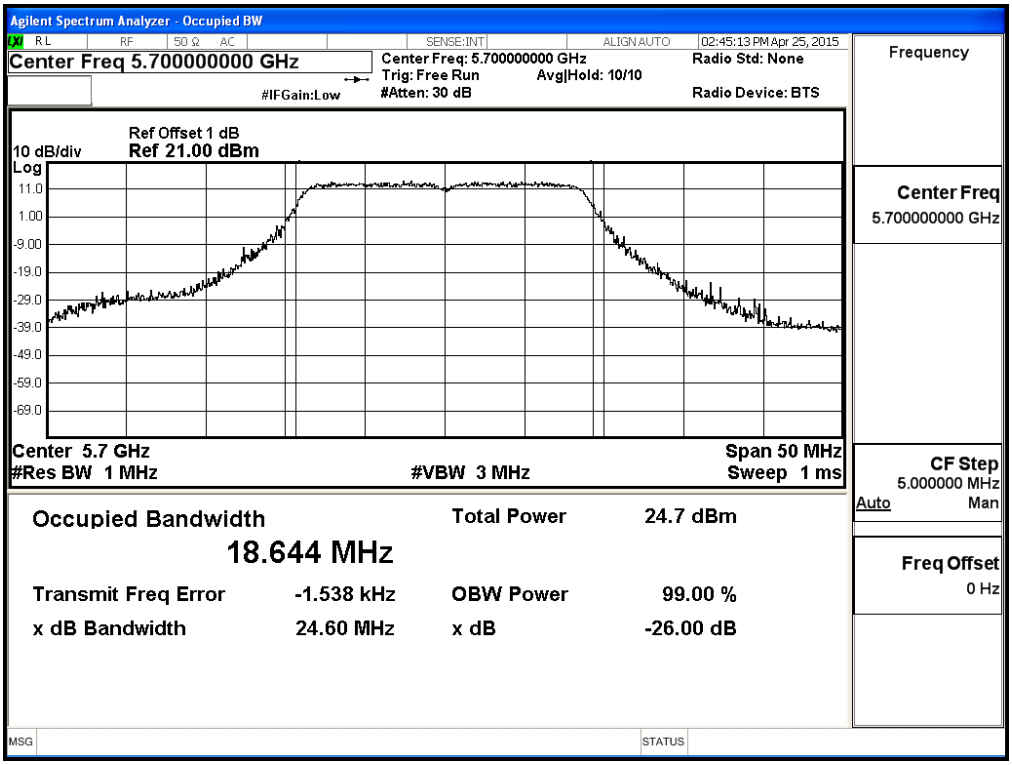
Channel 100: Chain B



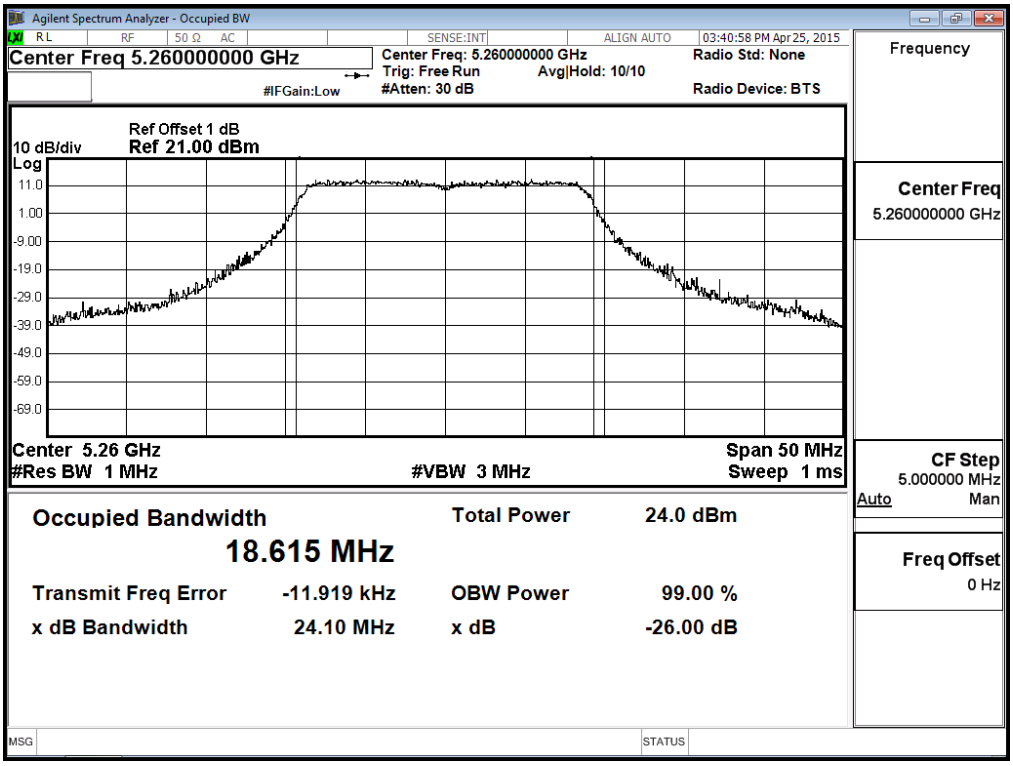
Channel 116: Chain B



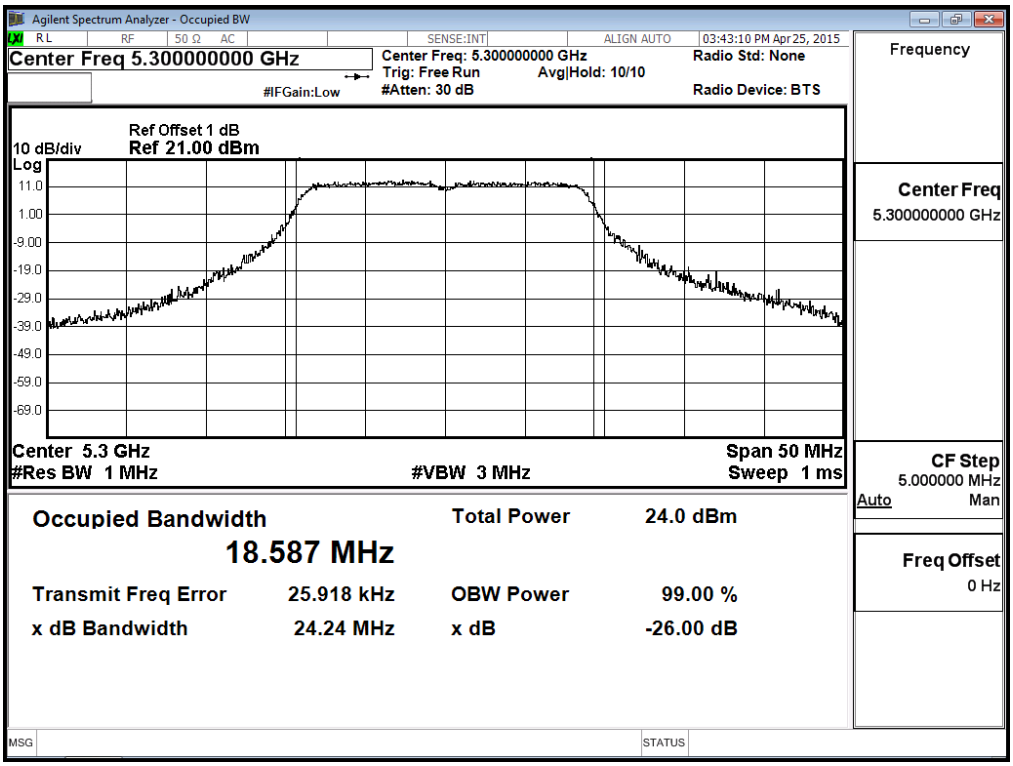
Channel 140: Chain B



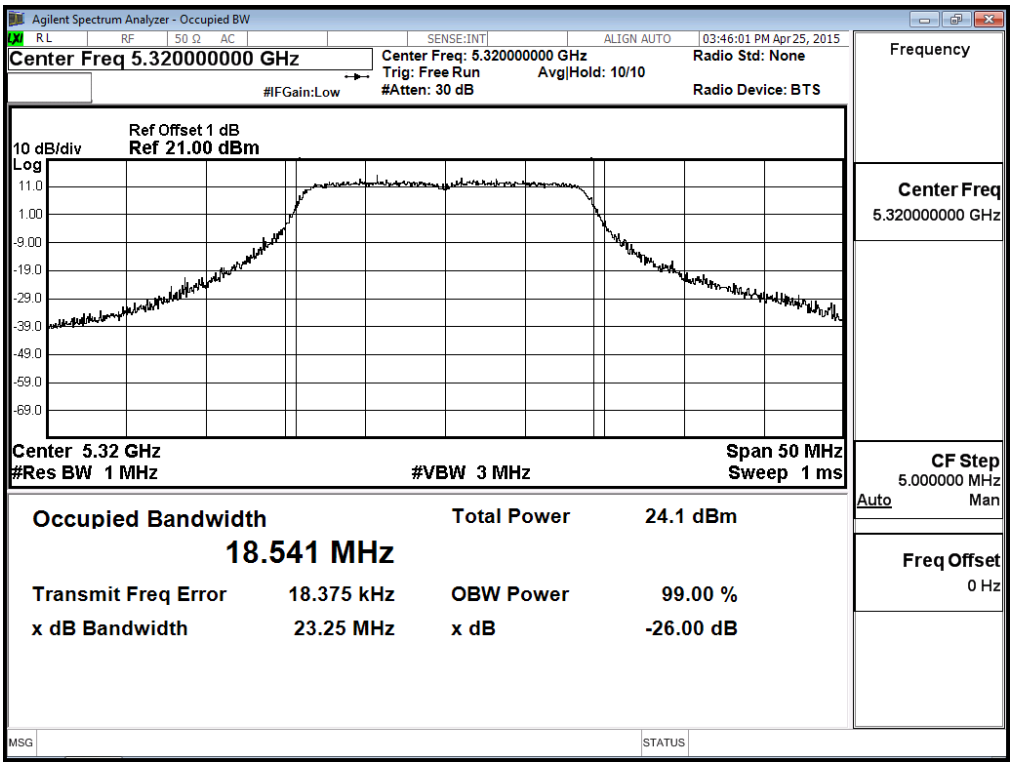
Channel 52: Chain C



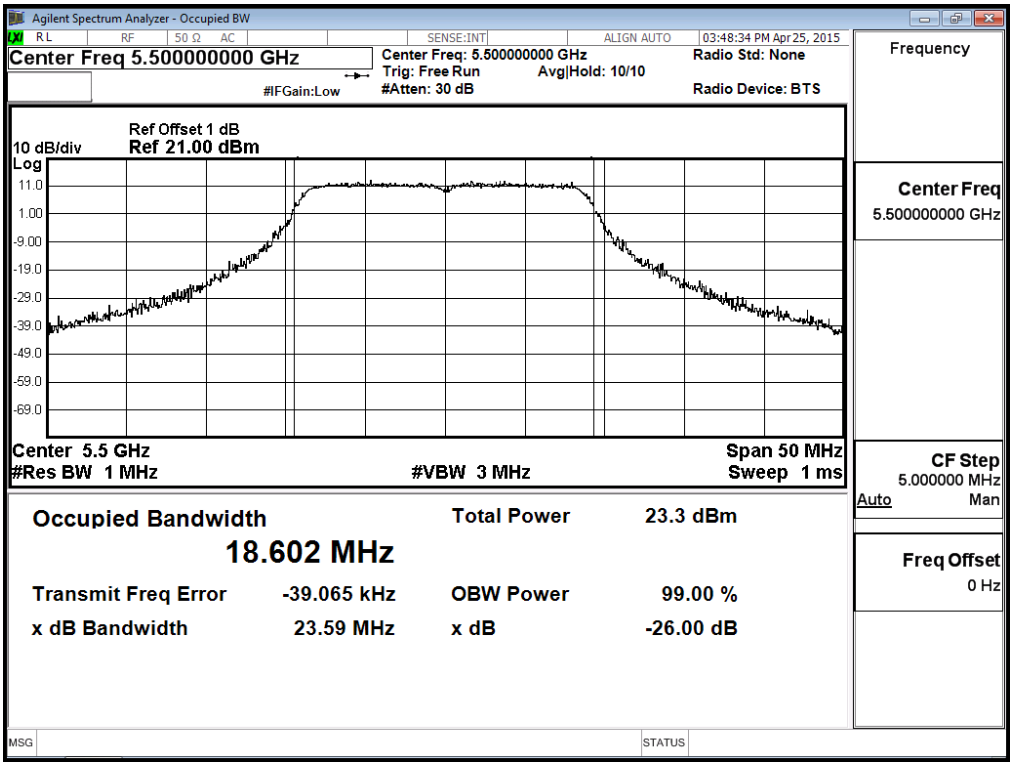
Channel 60: Chain C



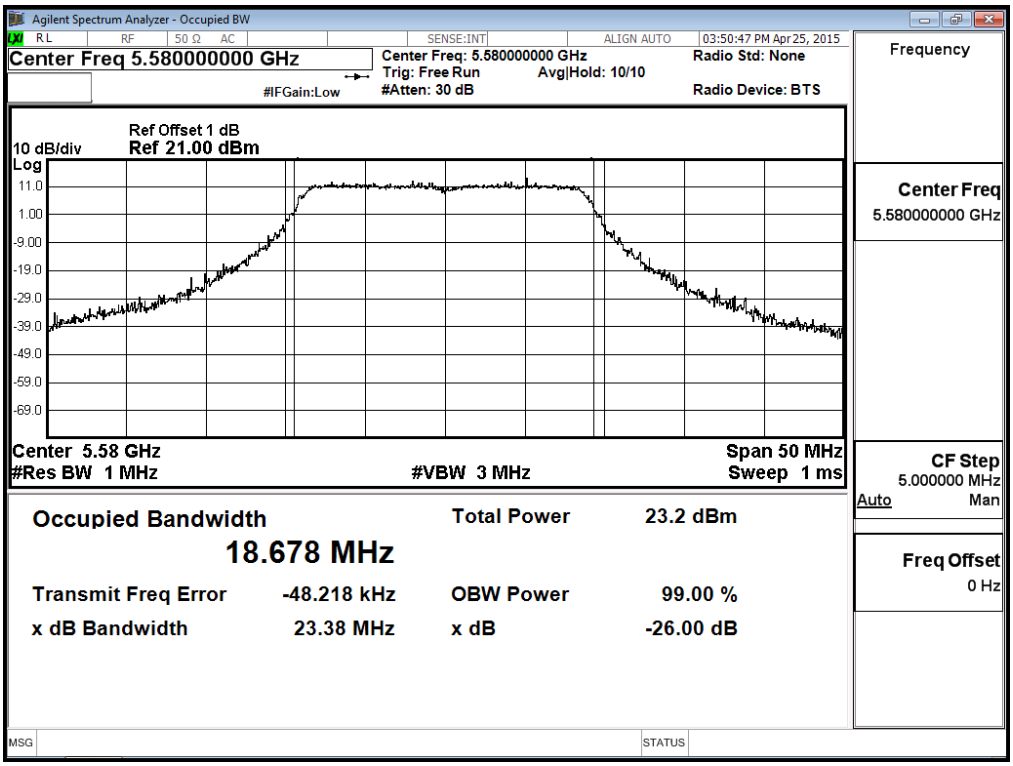
Channel 64: Chain C



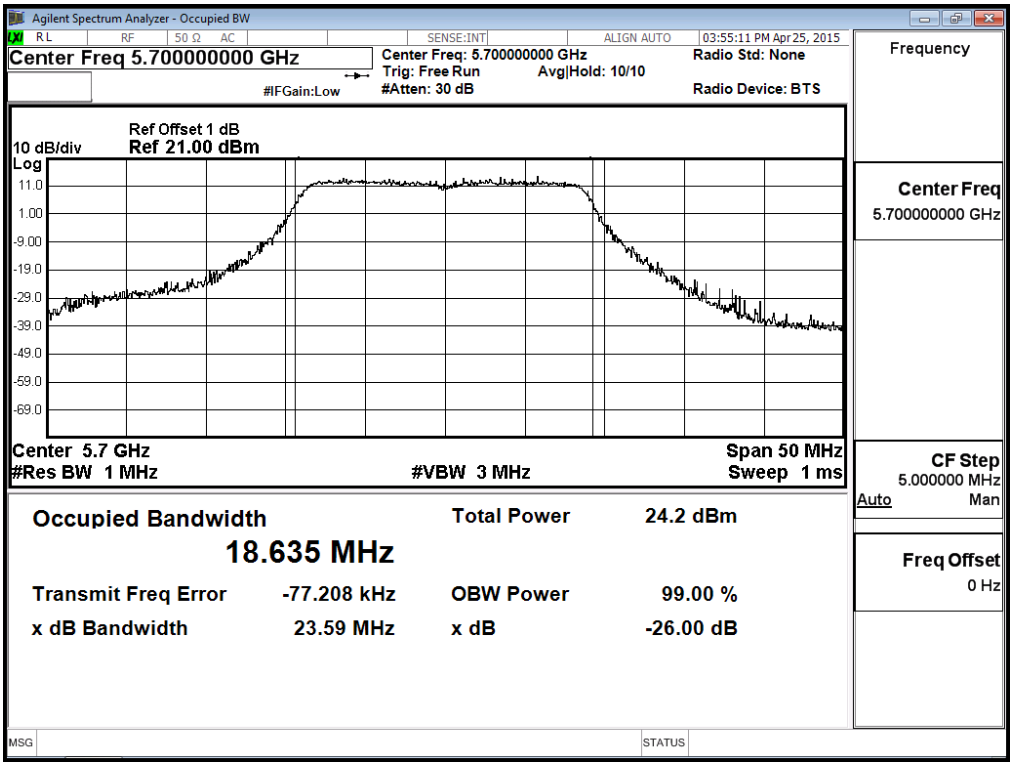
Channel 100: Chain C



Channel 116: Chain C



Channel 140: Chain C



Product : Access Point/Sensor
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test Mode : Mode 3: Transmitter (802.11n-40BW 45Mbps) (External Antenna)

Chain A

Cable loss=1Db		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		45	90	135	180	270	360	405	450	
		Measurement Level (dBm)								
54	5270	16.99	--	--	--	--	--	--	--	<24dBm
62	5310	13.87	13.76	13.65	13.51	13.43	13.32	13.21	13.16	<24dBm
102	5510	15.19	--	--	--	--	--	--	--	<24dBm
110	5550	14.73	14.66	14.54	14.42	14.35	14.29	14.15	14.05	<24dBm
134	5670	15.56	--	--	--	--	--	--	--	<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
		45	90	135	180	270	360	405	450	
		Measurement Level (dBm)								
54	5270	16.65	--	--	--	--	--	--	--	<24dBm
62	5310	14.48	14.37	14.26	14.15	14.08	13.93	13.82	13.72	<24dBm
102	5510	15.71	--	--	--	--	--	--	--	<24dBm
110	5550	15.85	15.76	15.64	15.54	15.37	15.23	15.03	14.86	<24dBm
134	5670	13.32	--	--	--	--	--	--	--	<24dBm

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

Chain C

Cable loss=1Db		Maximum conducted output power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		45	90	135	180	270	360	405	450	
		Measurement Level (dBm)								
54	5270	16.27	--	--	--	--	--	--	--	<24dBm
62	5310	14.35	14.28	14.21	14.14	14.08	14	13.93	13.84	<24dBm
102	5510	14.71	--	--	--	--	--	--	--	<24dBm
110	5550	14.75	14.66	14.58	14.47	14.32	14.24	14.15	14.02	<24dBm
134	5670	14.66	--	--	--	--	--	--	--	<24dBm

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

Maximum conducted output power Measurement:

Chain A+ B+C

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Chain C Power (dBm)	Output Power (dBm)	Output Power Limit	
							(dBm)	dBm+10log(BW)
54	5270	36.641	16.99	16.65	16.27	21.42	24	26.64
62	5310	36.636	13.87	14.48	14.35	19.01	24	26.64
102	5510	36.685	15.19	15.71	14.71	19.99	23.93	26.57
110	5550	36.697	14.73	15.85	14.75	19.91	23.93	26.58
134	5670	36.724	15.56	13.32	14.66	19.38	23.93	26.58

Note:

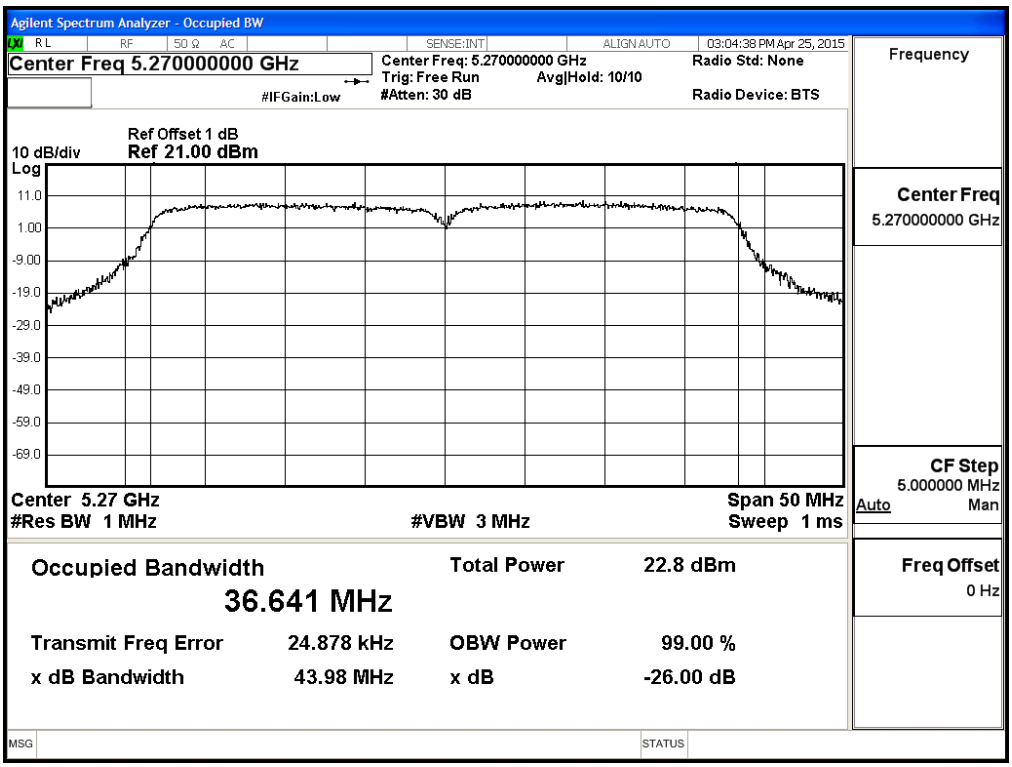
1. Power Output Value =Reading value on average power meter + cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (Mw)+ Chain B Power (Mw)+Chain C Power (Mw))
3. 99% Bandwidth is the bandwidth of chain A or chain B or chain C whichever is less bandwidth, output power limitation is more stringent.

   △ The maximum conducted output power shall be reduced by the amount in Db that the directional gain of

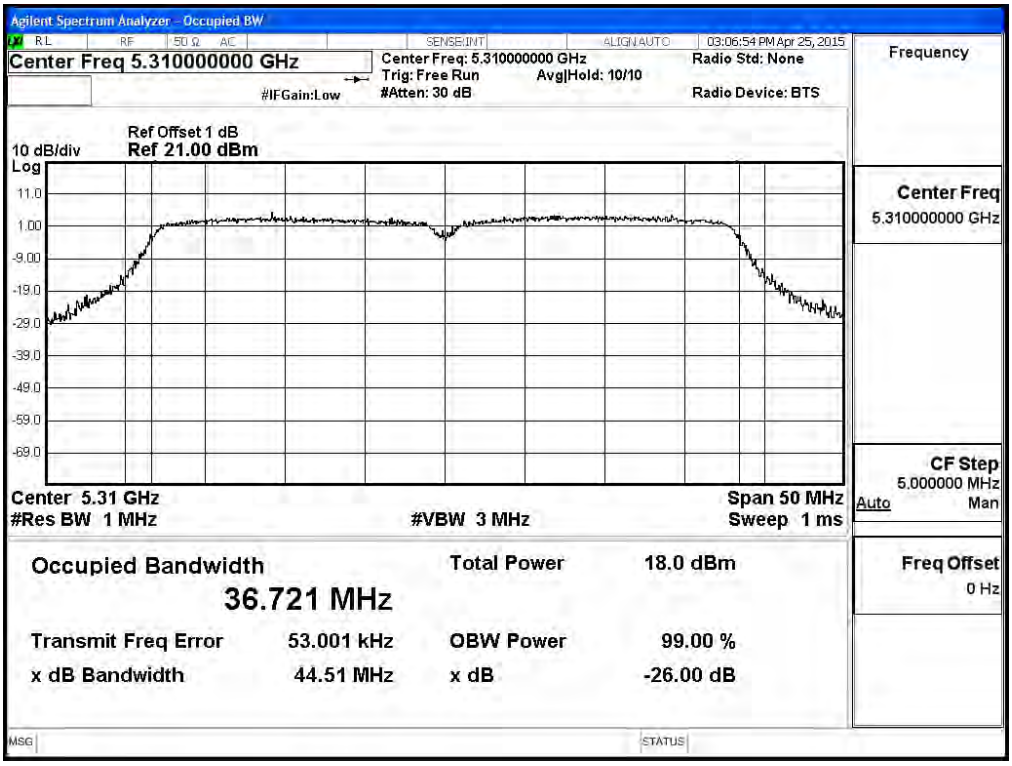
   the antenna exceeds 6 dBi

99% Occupied Bandwidth:

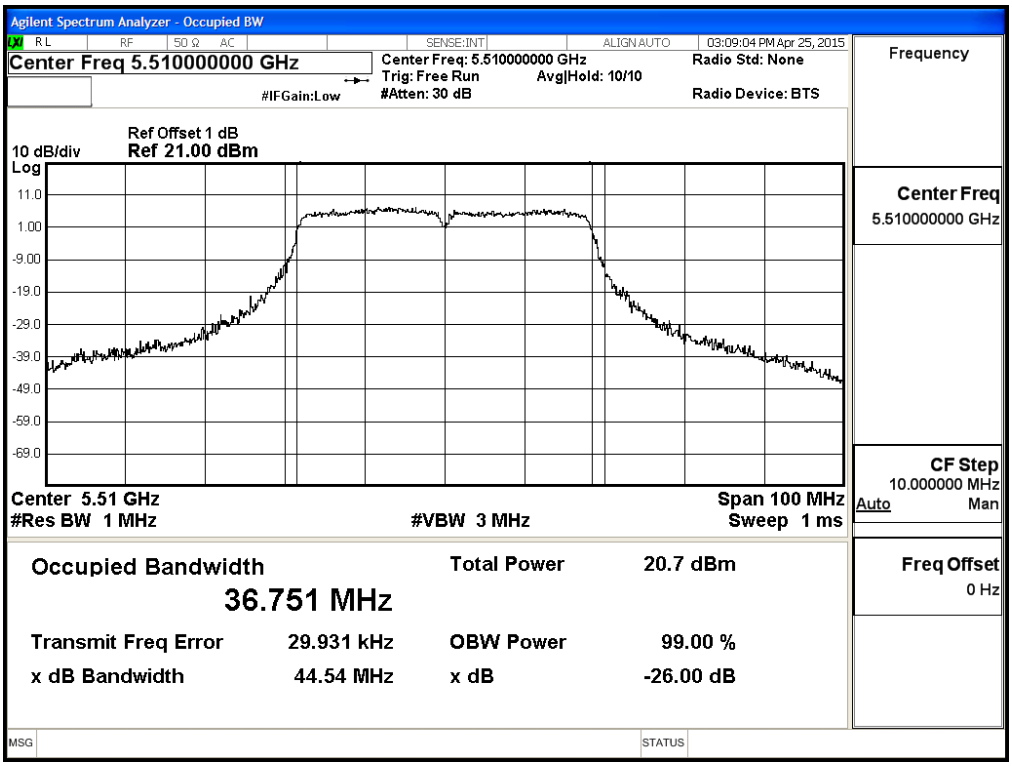
Channel 54: Chain A



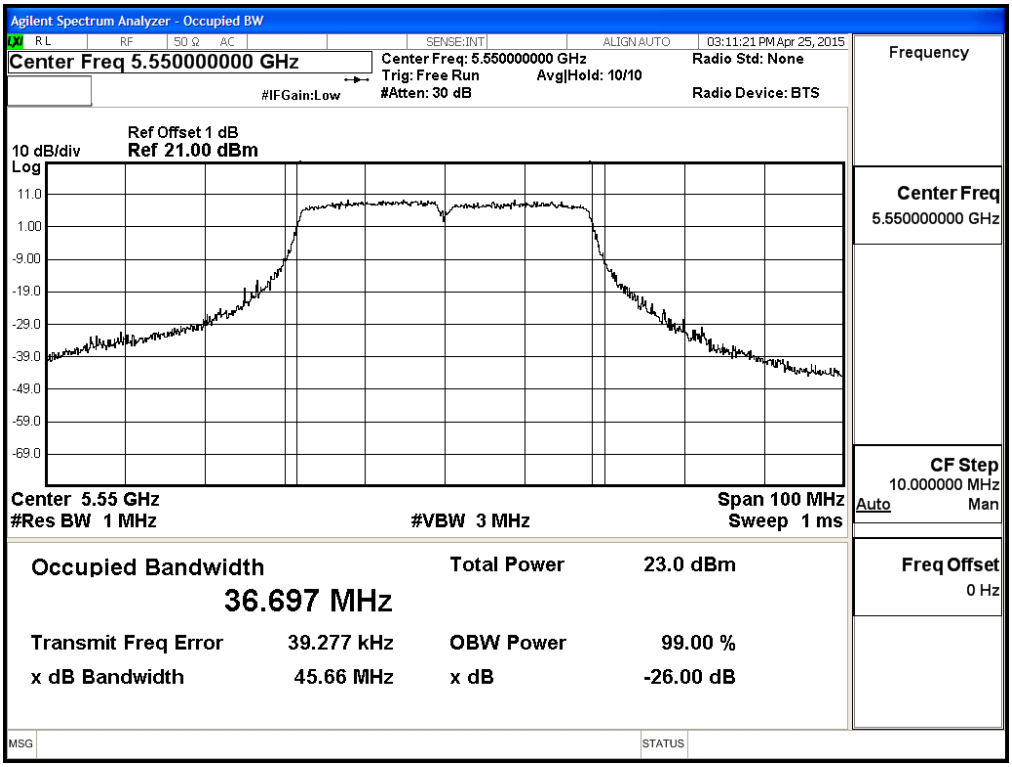
Channel 62: Chain A



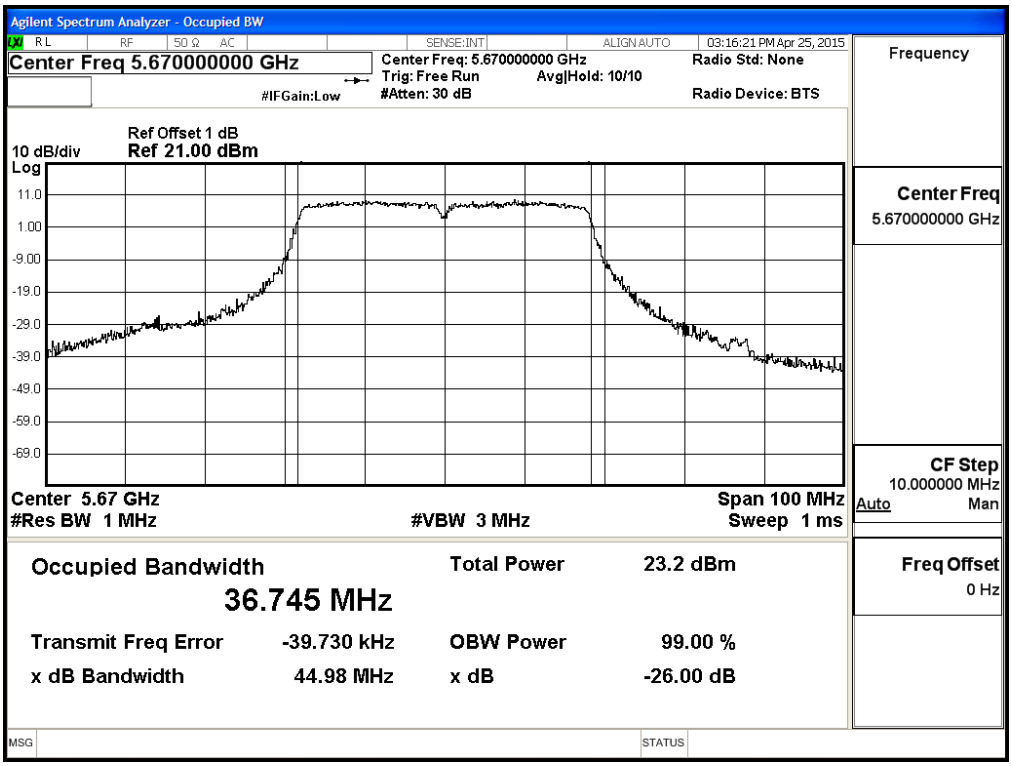
Channel 102: Chain A



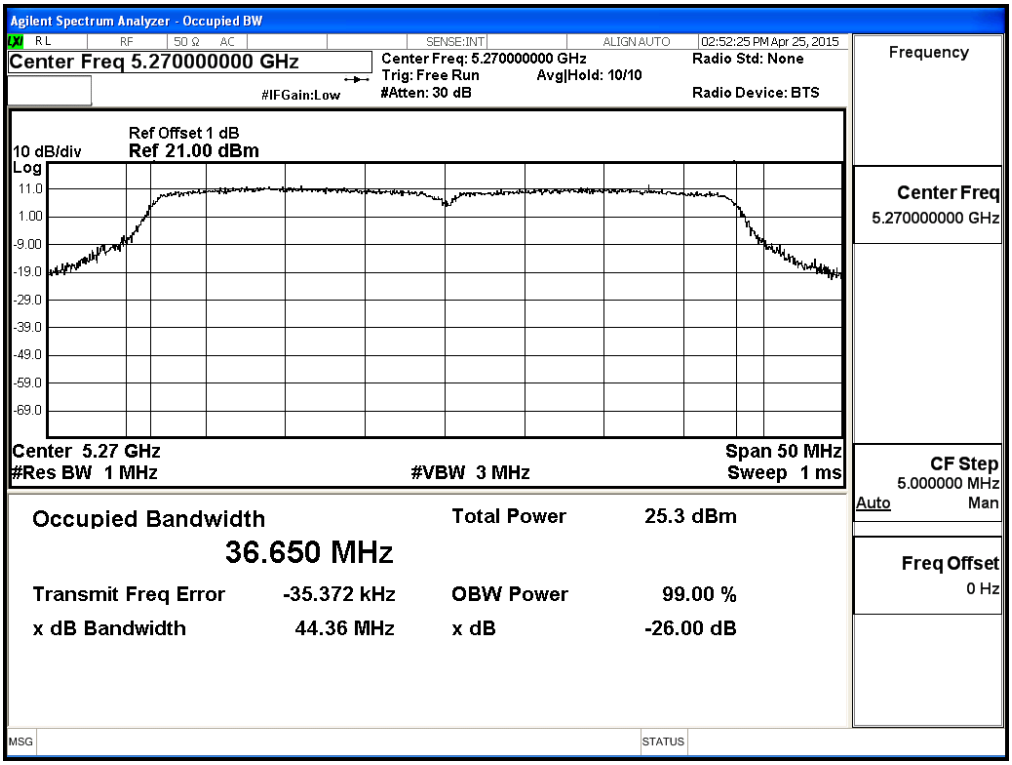
Channel 110: Chain A



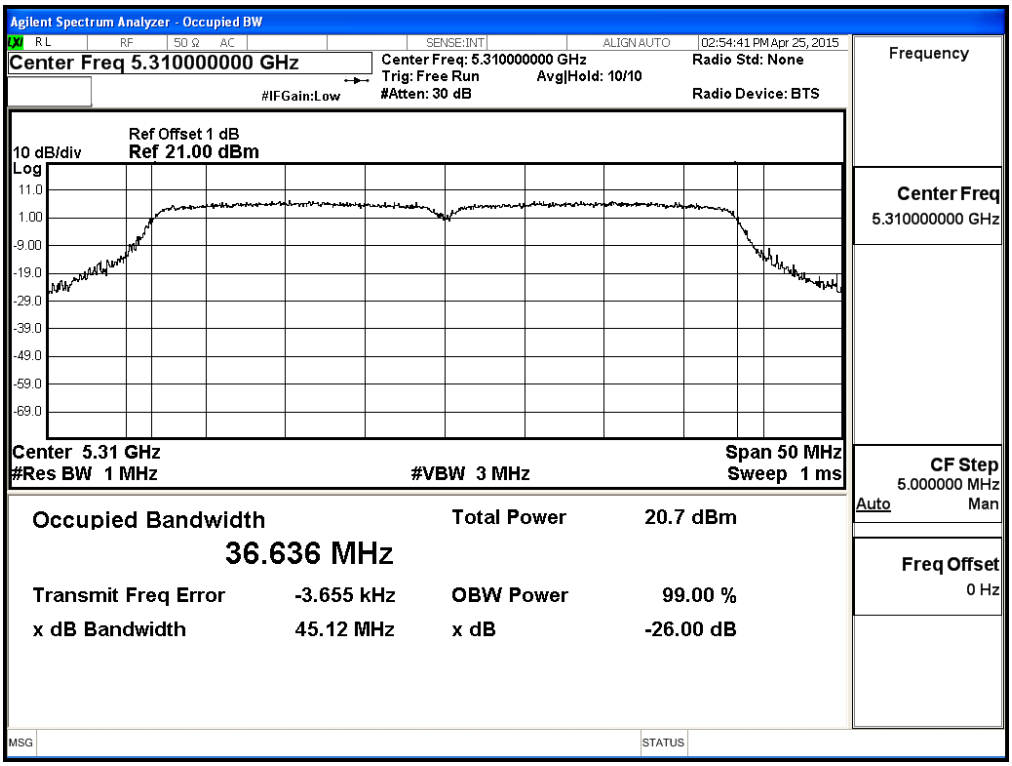
Channel 134: Chain A



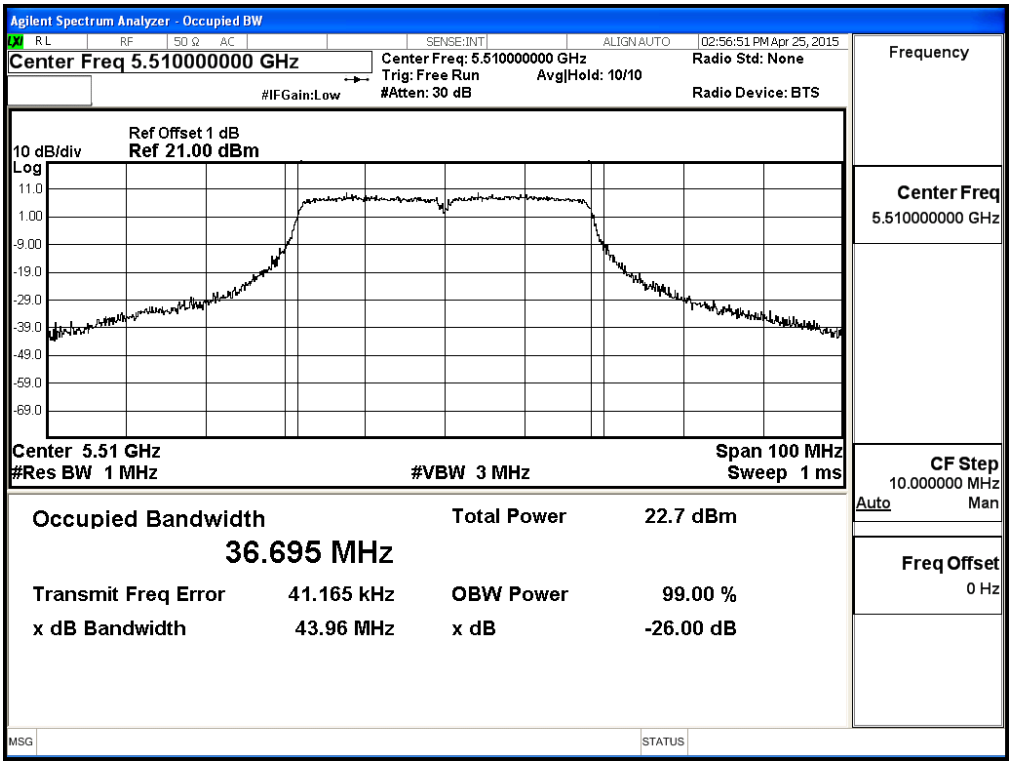
Channel 54: Chain B



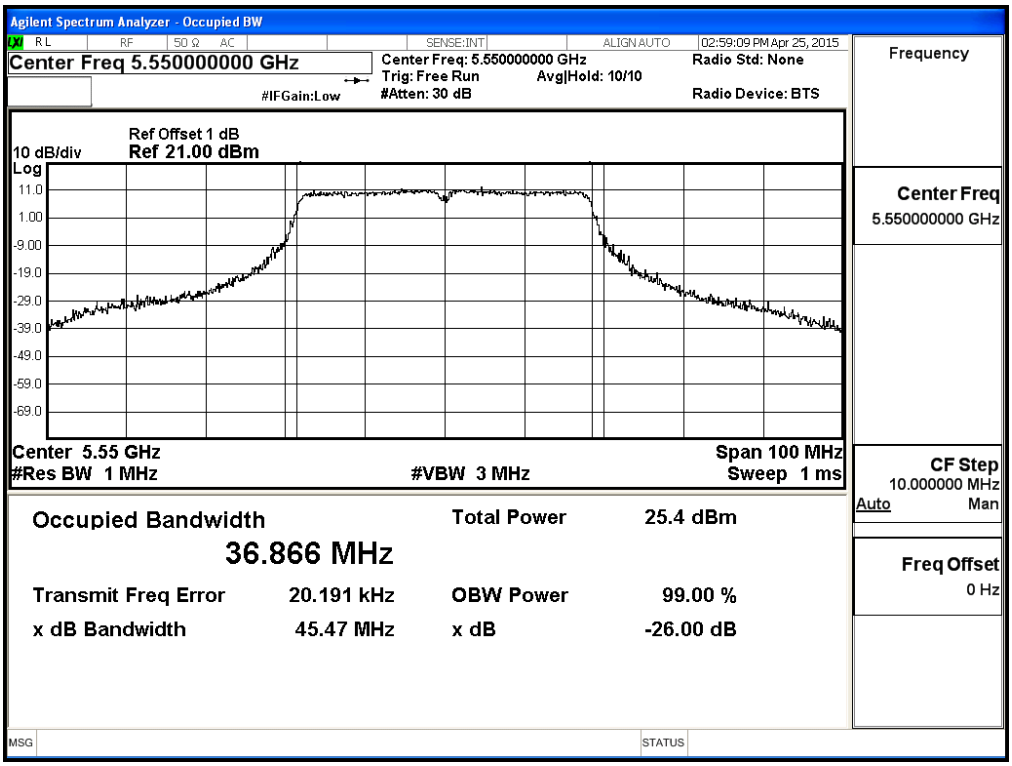
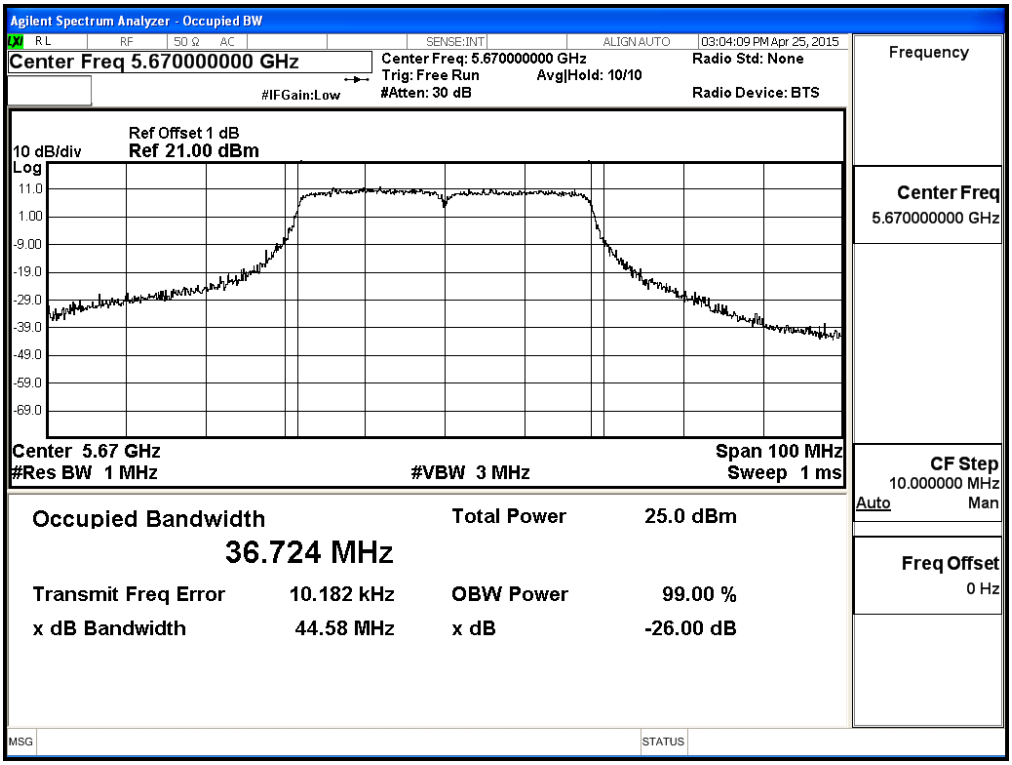
Channel 62: Chain B



Channel 102: Chain B



Channel 110: Chain B



Channel 134: Chain B