FCC Test Report
(Class II Permissive Change)

Product Name	Intel® Wireless-AC 9560
Model No	9560NGW
FCC ID	PD99560NG

Applicant	Intel Mobile Communications
Address	100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA

Date of Receipt	Sep. 15, 2017
Issued Date	Nov. 20, 2017
Report No.	1790208R-RFUSP25V00-A
Report Version	V1.0

Testing Laboratory
3023

Test Report

Issued Date: Nov. 20, 2017
Report No.: 1790208R-RFUSP25V00-A

Product Name	Intel® Wireless-AC 9560
Applicant	Intel Mobile Communications
Address	100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA
Manufacturer	Intel Mobile Communications
Model No.	9560NGW
FCC ID.	PD99560NG
EUT Rated Voltage	DC 3.3V (via Mini-PCI Express slot)
EUT Test Voltage	AC 120V/60Hz
Trade Name	Intel
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2016 ANSI C63.4: 2014, ANSI C63.10: 2013 789033 D02 General UNII Test Procedures New Rules v01r04
Test Result	Complied

Documented By : April Chen

(Adm. Specialist / April Chen)

Tested By : Tom chiu

(Engineer / Tom Chiu)

Approved By :

(Director / Vincent Lin)

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Intel® Wireless-AC 9560
Trade Name	Intel
Model No.	9560NGW
FCC ID.	PD99560NG
Frequency Range	802.11a/n-20MHz: 5180-5320MHz, 5500-5700MHz, 5745-5825MHz 802.11n-40MHz: 5190-5310, 5510-5670MHz, 5755-5795MHz 802.11ac-20MHz: 5720MHz, 802.11ac-40MHz: 5710MHz 802.11ac-80MHz: 5210-5290MHz, 5530-5690MHz, 5775MHz 802.11ac-160MHz: 5250MHz, 5570MHz
Number of Channels	802.11a/n-20MHz: 24; 802.11n-40MHz: 11 802.11ac-20MHz: 1, 802.11ac-40MHz: 1, 802.11ac-80MHz: 6 802.11ac-160MHz: 2
Data Rate	802.11a: 6 - 54Mbps 802.11n: up to 300Mbps 802.11ac-80MHz: up to 866.7Mbps 802.11ac-160MHz: up to 1733.3Mbps
Type of Modulation	802.11a/n/ac:OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna Type	Dipole Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”

Antenna List:

No.	Manufacturer	Part No .	Antenna type	Peak Gain
1	WIESON Technologies co ., ltd	GY121HT0321-003-H (Main), (Aux)	Dipole	2.92 dBi for 5.15~5.25GHz 3.19 dBi for 5.25~5.35GHz 4.41 dBi for 5.47~5.725GHz 4.22 dBi for 5.725~5.850GHz

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 120:	5600 MHz	Channel 124:	5620 MHz	Channel 128:	5640 MHz
Channel 132:	5660 MHz	Channel 136:	5680 MHz	Channel 140:	5700 MHz	Channel 149:	5745 MHz
Channel 153:	5765 MHz	Channel 157:	5785 MHz	Channel 161:	5805 MHz	Channel 165:	5825 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 118:	5590 MHz	Channel 126:	5630 MHz
Channel 134:	5670 MHz	Channel 151:	5755 MHz	Channel 159:	5795 MHz		

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

Channel	Frequency
Channel 144:	5720 MHz

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

Channel	Frequency
Channel 142:	5710 MHz

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

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 42:	5210 MHz	Channel 58:	5290 MHz	Channel 106:	5530 MHz	Channel 122:	5610 MHz
Channel 138:	5690 MHz	Channel 155:	5775 MHz				

802.11ac-160MHz Center Working Frequency of Each Channel:

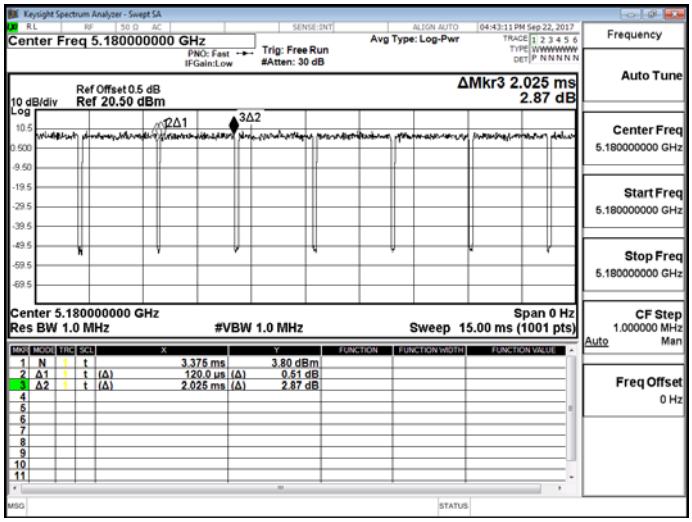
Channel	Frequency	Channel	Frequency
Channel 50:	5250 MHz	Channel 114:	5570 MHz

Duty Cycle:

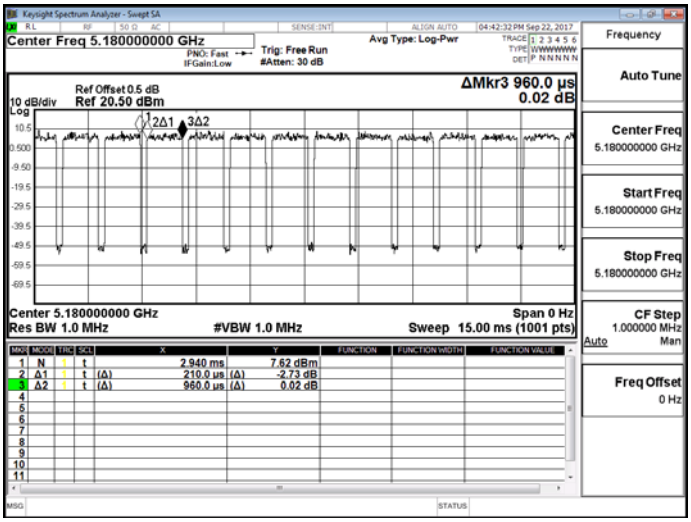
802.11a	0.944	802.11ac-40	0.756
802.11n-20	0.821	802.11ac-80	0.682
802.11n-40	0.769	802.11ac-160	0.714
802.11ac-20	0.833		

*Duty cycle = Ton / (Ton + Toff)

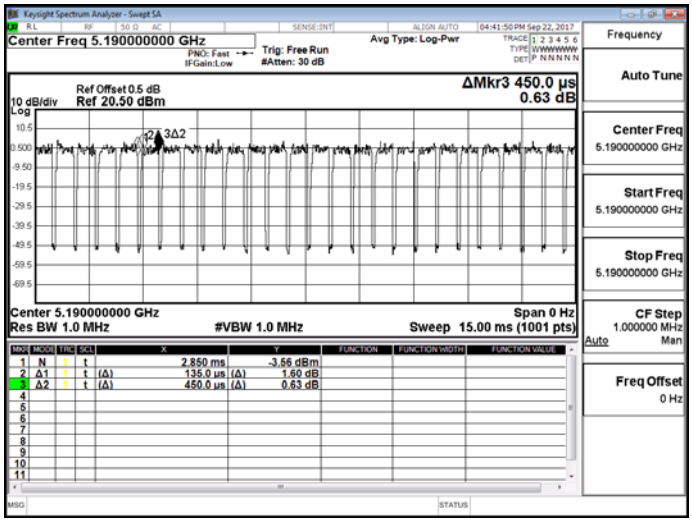
802.11a:



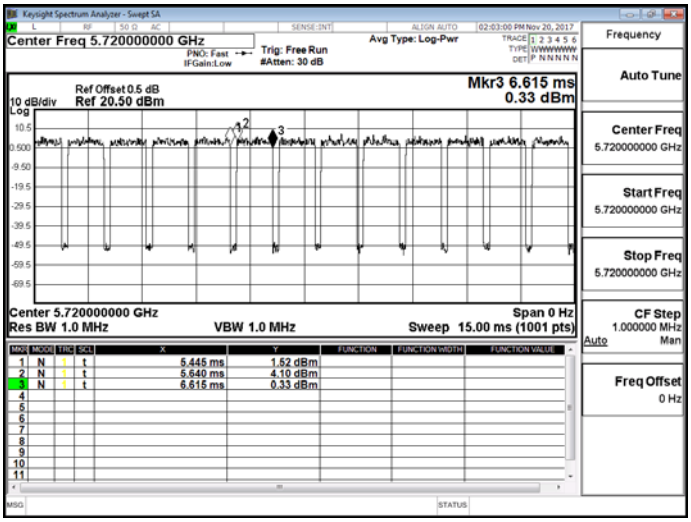
802.11n20:



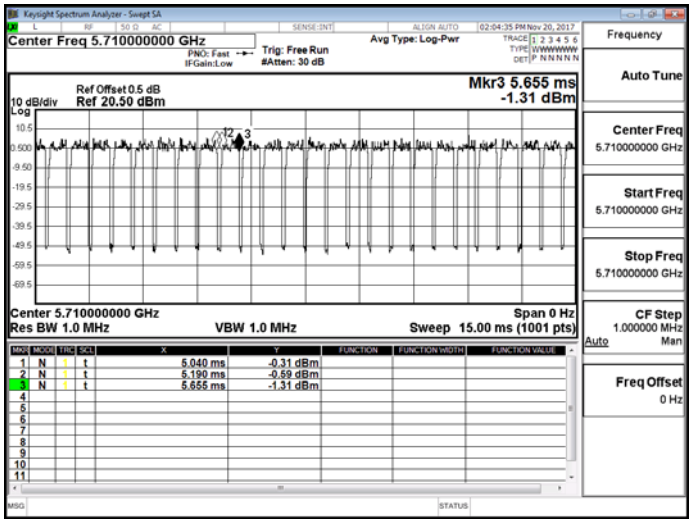
802.11n40:



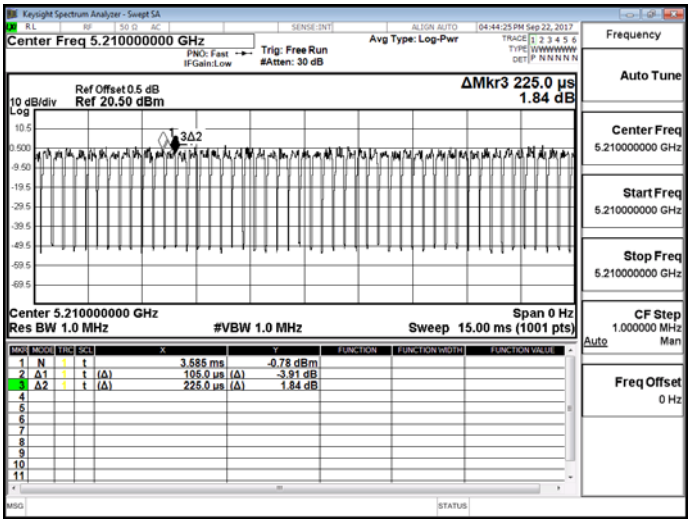
802.11ac-20:



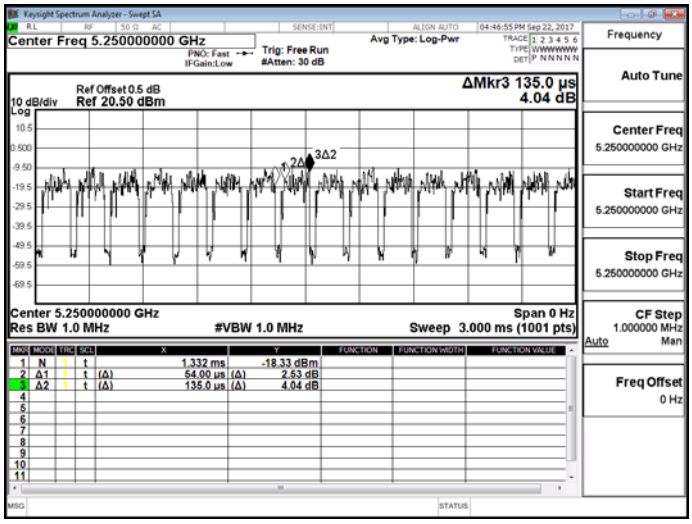
802.11ac-40:



802.11ac-80:



802.11ac-160:



Note:

1. This device is an Intel® Wireless-AC 9560 built-in WLAN、Bluetooth transceiver, this report for 5G WLAN.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report.
4. 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.
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
6. This is to request a Class II permissive change for FCC ID: PD99560NG, originally granted on 07/25/2017. The major change filed under this application is:
   Change #1: Addition an new antenna, antenna type is different with the original application.
   (Antenna type: Dipole antenna)

Test Mode	Mode 1 SISO A: Transmit (802.11a-6Mbps) Mode 1 SISO A: Transmit (802.11n-20BW 7.2Mbps) Mode 1 SISO A: Transmit (802.11n-40BW 15Mbps) Mode 1 SISO A: Transmit (802.11ac-20BW-7.2Mbps) Mode 1 SISO A: Transmit (802.11ac-40BW-15Mbps) Mode 1 SISO A: Transmit (802.11ac-80BW-32.5Mbps) Mode 1 SISO A: Transmit (802.11ac-160BW-65Mbps) Mode 2 SISO B: Transmit (802.11a-6Mbps) Mode 2 SISO B: Transmit (802.11n-20BW 7.2Mbps) Mode 2 SISO B: Transmit (802.11n-40BW 15Mbps) Mode 2 SISO B: Transmit (802.11ac-20BW-7.2Mbps) Mode 2 SISO B: Transmit (802.11ac-40BW-15Mbps) Mode 2 SISO B: Transmit (802.11ac-80BW-32.5Mbps) Mode 2 SISO B: Transmit (802.11ac-160BW-65Mbps) Mode 3 MIMO: Transmit (802.11n-20BW 14.4Mbps) Mode 3 MIMO: Transmit (802.11n-40BW 30Mbps) Mode 3 MIMO: Transmit (802.11ac-20BW-14.4Mbps) Mode 3 MIMO: Transmit (802.11ac-40BW-30Mbps) Mode 3 MIMO: Transmit (802.11ac-80BW-65Mbps) Mode 3 MIMO: Transmit (802.11ac-160BW-130Mbps)

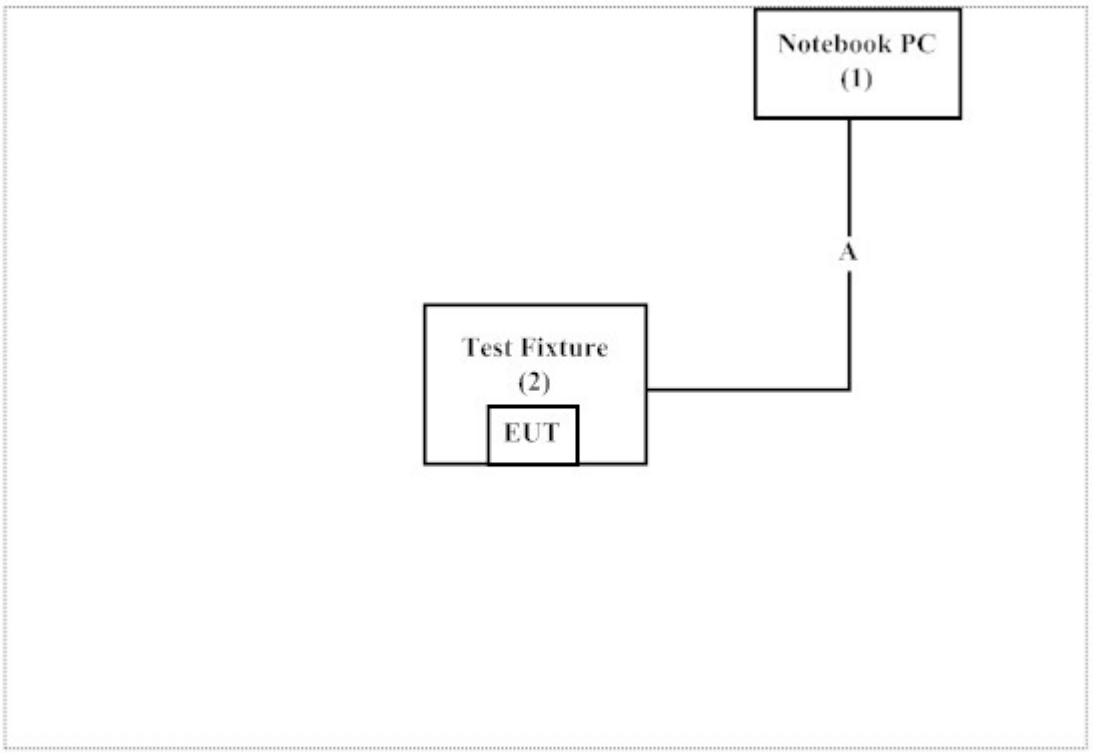
1.3. Tested System Datails

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	N/A	N/A	Non-Shielded, 1.8m
2	Test Fixture	Intel	N/A	N/A	N/A

Signal Cable Type		Signal cable Description
A	Test Fixture Line	Non-Shielded, 1.0m

1.4. Configuration of tested System



1.5. EUT Exercise Software

(1) Setup the EUT as shown on 1.4

(2) Execute software “DRTU (Ver 10.1739.0-06012)” 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 DEKRA Testing and Certification Co., Ltd. Web Site:
http://www.dekra.com.tw/chinese/about/certificates.aspx?bval=5
The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http:// www.dekra.com.tw

Site Description: Accredited by TAF
Accredited Number: 3023

Site Name: DEKRA Testing and Certification Co., Ltd
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 : info.tw@dekra.com

FCC Accreditation Number: TW3023

1.7. List of Test Item and Equipment

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Power Meter	Keysight	8990B	MY51000410	2017/8/16	2018/8/15
X	Wideband power sensor	Keysight	N1923A	MY5608003	2017/8/16	2018/8/15
X	Spectrum Analyzer	R&S	FSP40	100170	2017/1/5	2018/1/3
X	Loop Antenna	TESEQ	HLA6121	37133	2017/3/18	2018/3/17
X	Bi-Log Antenna	Schaffner Chase	CBL6112B	2707	2017/6/11	2018/6/10
X	Horn Antenna	ETS-Lindgren	3117	00203761	2017/10/15	2018/10/13
X	Horn Antenna	Schwarzbeck	BBHA9170	209	2017/4/14	2018/4/13
X	Pre-Amplifier	QuieTek	QTK-LK-E-I-AMP4	N/A	2017/6/16	2018/6/15
X	Pre-Amplifier	EMCI	EMC012630SE	980210	2017/1/26	2018/1/24
X	Pre-Amplifier	NARDA WE	DBL-1840N506	013	2017/8/6	2018/8/4
	Filter	MicroTRON	BRM50701	019	2017/10/20	2018/10/18
X	Filter	Microwave Circuits	N0257881	36681	2016/12/7	2017/12/5
X	Coaxial Cable	QTK(Arnist)	SUCOFLEX 106	L1606-015C	2017/6/23	2018/6/22
X	EMI Test Receiver	R&S	ESCS 30	838251/001	2017/7/21	2018/7/20
X	Coaxial Cable	QTK(Arnist)	RG 214	LC003-RG	2017/6/16	2018/6/15
X	Coaxial signal switch	Anritsu	MP59B	6201415889	2017/6/16	2018/6/15

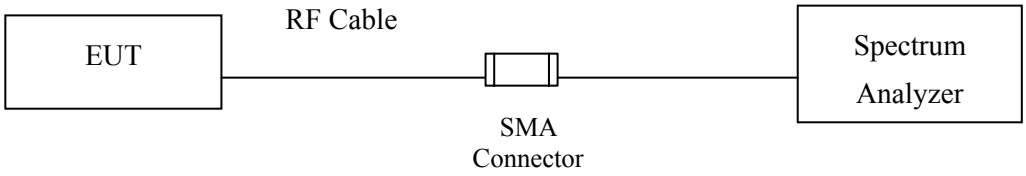
Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version :QuieTek EMI 2.0 V2.1.113.

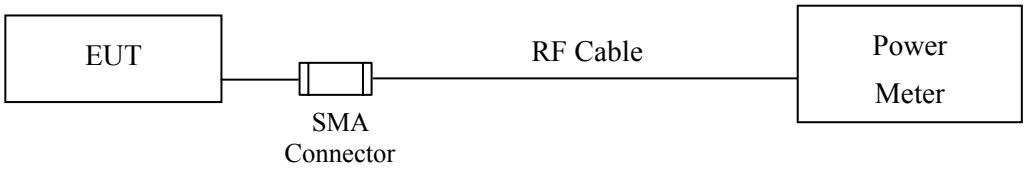
2. Maximun conducted output power

2.1. Test Setup

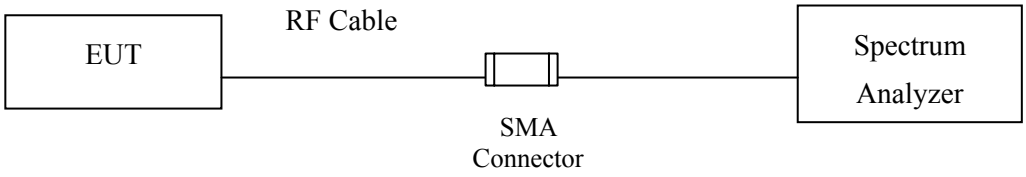
99% Occupied Bandwidth



Conduction Power Measurement (for 802.11an/ac)



Conduction Power Measurement (for 802.11ac)



2.2. Limits

2.2.1. For the band 5.15-5.25 GHz,

(i) 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.

2.2.2. 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.

2.2.3. 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.

2.3. Test Procedure

As an alternative to FCC KDB-789033, the EUT maximum conducted output power was measured with an average power meter employing a video bandwidth greater the 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 D03 section D) procedure is used for measurements.

2.4. Uncertainty

± 1.27 dB

2.5. Test Result of Maximum conducted output power

Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/16
Test Mode : Mode 1 SISO A: Transmit (802.11a-6Mbps)

Cable loss=1dB		Average Power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	18.88	--	--	--	--	--	--	--	<24dBm
40	5200	21.33	21.29	21.20	21.15	21.08	21.00	20.94	20.86	<24dBm
48	5240	20.51	--	--	--	--	--	--	--	<24dBm
52	5260	20.64	--	--	--	--	--	--	--	<24dBm
56	5280	21.35	21.24	21.18	21.13	21.09	21.00	19.92	19.83	<24dBm
64	5320	16.29	--	--	--	--	--	--	--	<24dBm
100	5500	19.25	--	--	--	--	--	--	--	<24dBm
120	5600	20.74	20.68	20.52	20.48	20.39	20.27	20.18	20.10	<24dBm
140	5700	18.84	--	--	--	--	--	--	--	<24dBm
149	5745	20.97	--	--	--	--	--	--	--	<30dBm
157	5785	20.89	20.74	20.69	20.58	20.42	20.39	20.21	20.17	<30dBm
165	5825	20.89	--	--	--	--	--	--	--	<30dBm

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

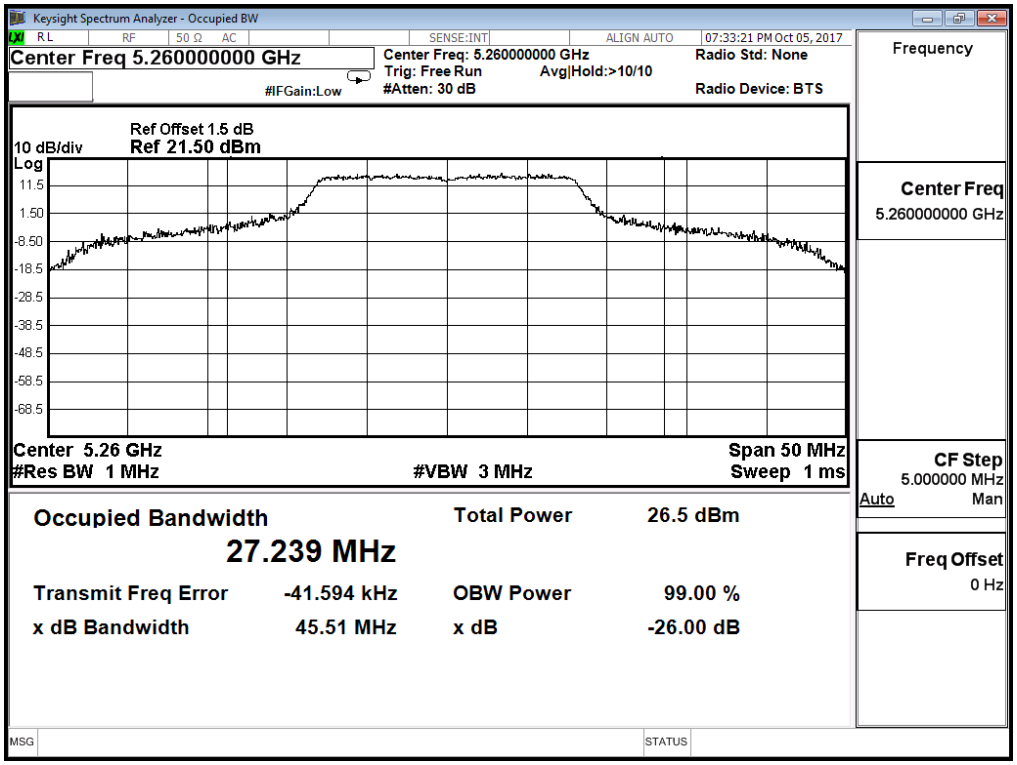
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit	
					(dBm)	dBm+10log(BW)
36	5180	--	18.88	18.88	24	--
40	5200	--	21.33	21.33	24	--
48	5240	--	20.51	20.51	24	--
52	5260	27.239	20.64	20.64	24	25.35
56	5280	32.305	21.35	21.35	24	26.09
64	5320	18.079	16.29	16.29	24	23.57
100	5500	18.527	19.25	19.25	24	23.68
120	5600	27.559	20.74	20.74	24	25.40
140	5700	17.955	18.84	18.84	24	23.54
149	5745	--	20.97	20.97	30	--
157	5785	--	20.89	20.89	30	--
165	5825	--	20.89	20.89	30	--

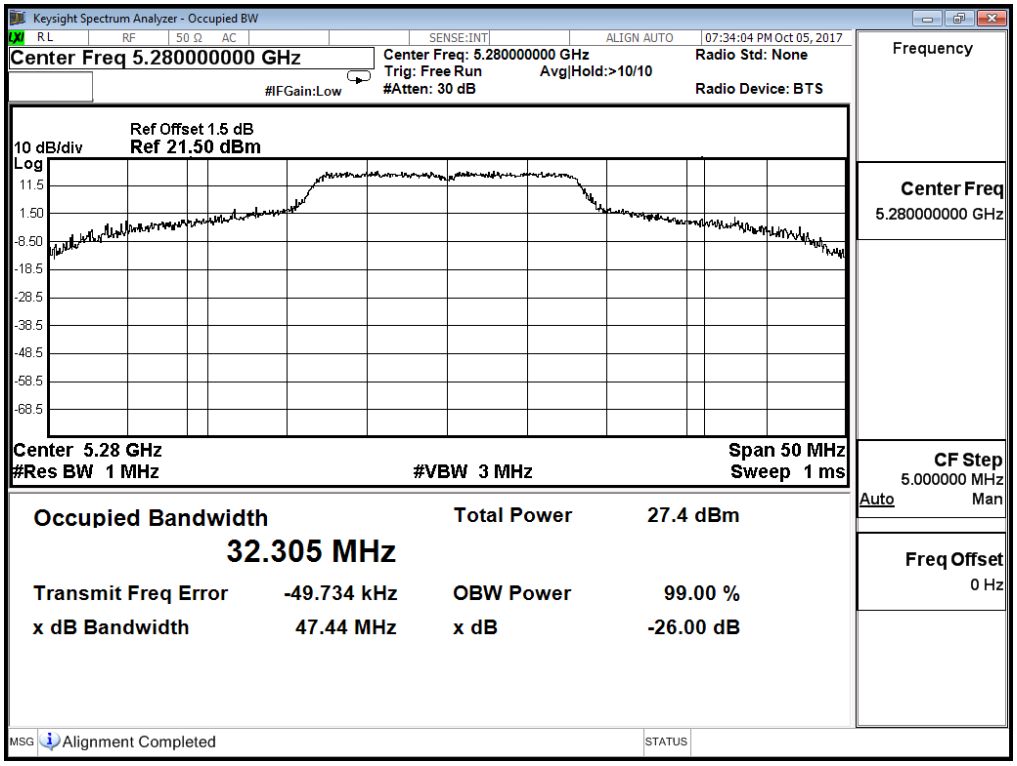
Note: Power Output Value =Reading value on average power meter + Cable loss

99% Occupied Bandwidth:

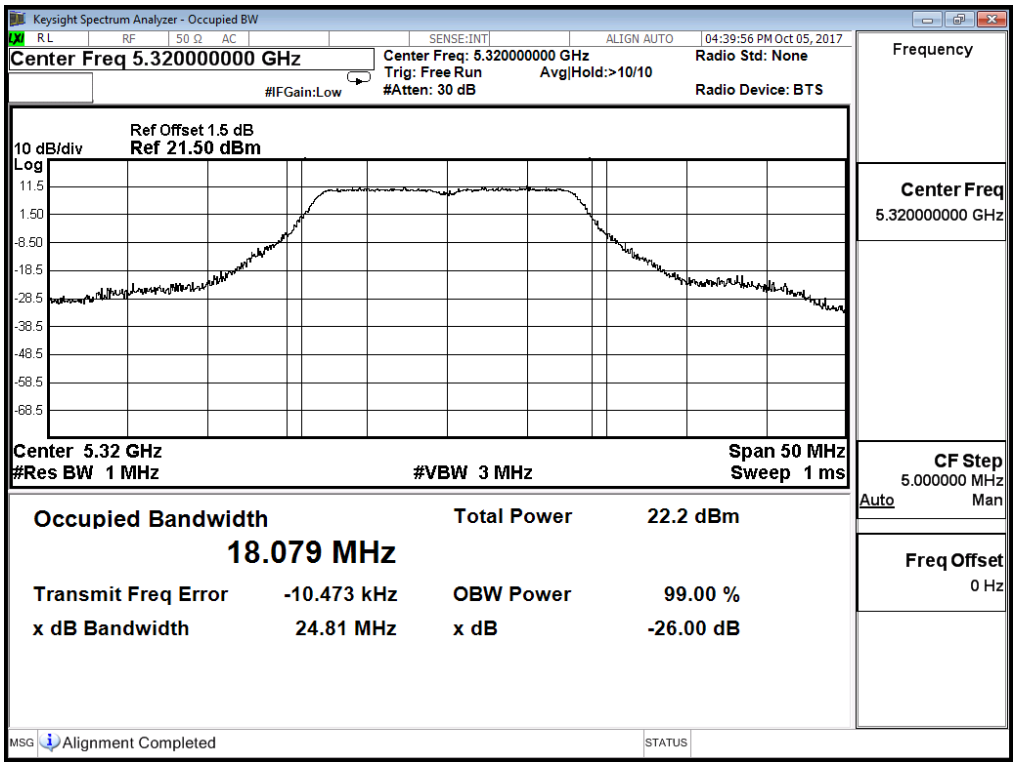
Channel 52:



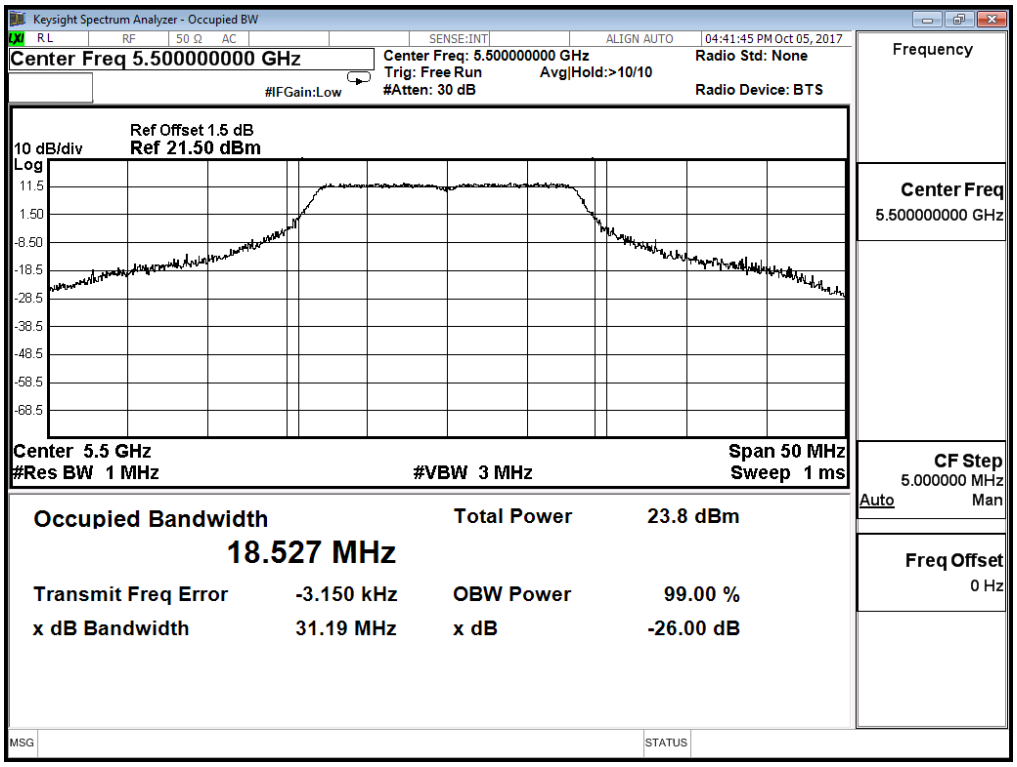
Channel 56:



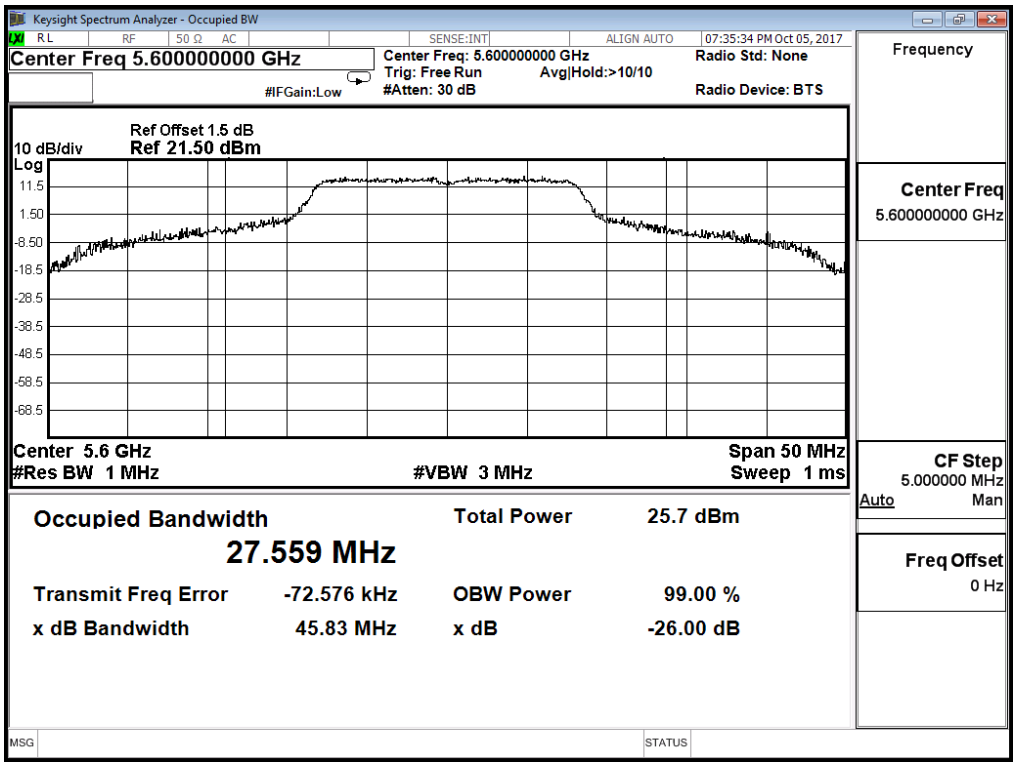
Channel 64:



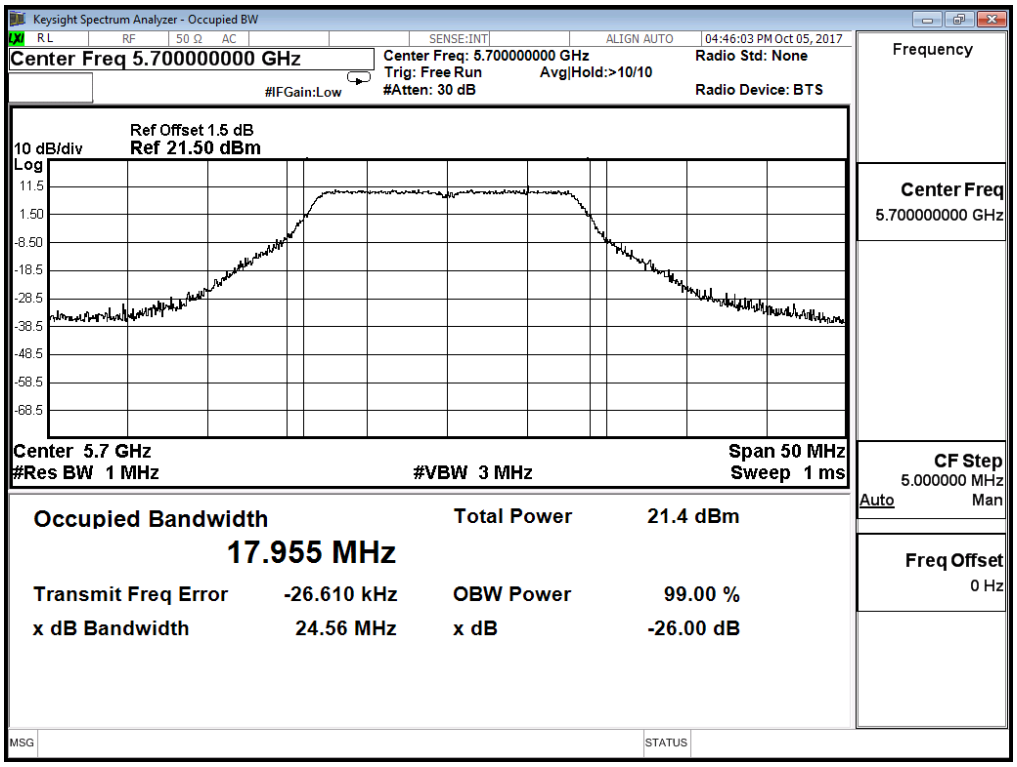
Channel 100:



Channel 120:



Channel 140:



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/16
Test Mode : Mode 1 SISO A: Transmit (802.11n-20BW 7.2Mbps)

Cable loss=1dB		Average Power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	
		Measurement Level (dBm)								
36	5180	17.71	--	--	--	--	--	--	--	<24dBm
40	5200	21.34	21.22	21.18	21.09	20.98	20.87	20.76	20.63	<24dBm
48	5240	20.65	--	--	--	--	--	--	--	<24dBm
52	5260	20.66	--	--	--	--	--	--	--	<24dBm
56	5280	21.20	21.12	21.08	19.97	19.86	19.75	19.69	19.53	<24dBm
64	5320	16.12	--	--	--	--	--	--	--	<24dBm
100	5500	18.64	--	--	--	--	--	--	--	<24dBm
120	5600	20.69	20.57	20.43	20.32	20.29	20.17	20.11	20.04	<24dBm
140	5700	18.06	--	--	--	--	--	--	--	<24dBm
149	5745	20.87	--	--	--	--	--	--	--	<30dBm
157	5785	21.26	21.17	21.10	21.04	20.94	20.88	20.76	20.64	<30dBm
165	5825	20.79	--	--	--	--	--	--	--	<30dBm

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

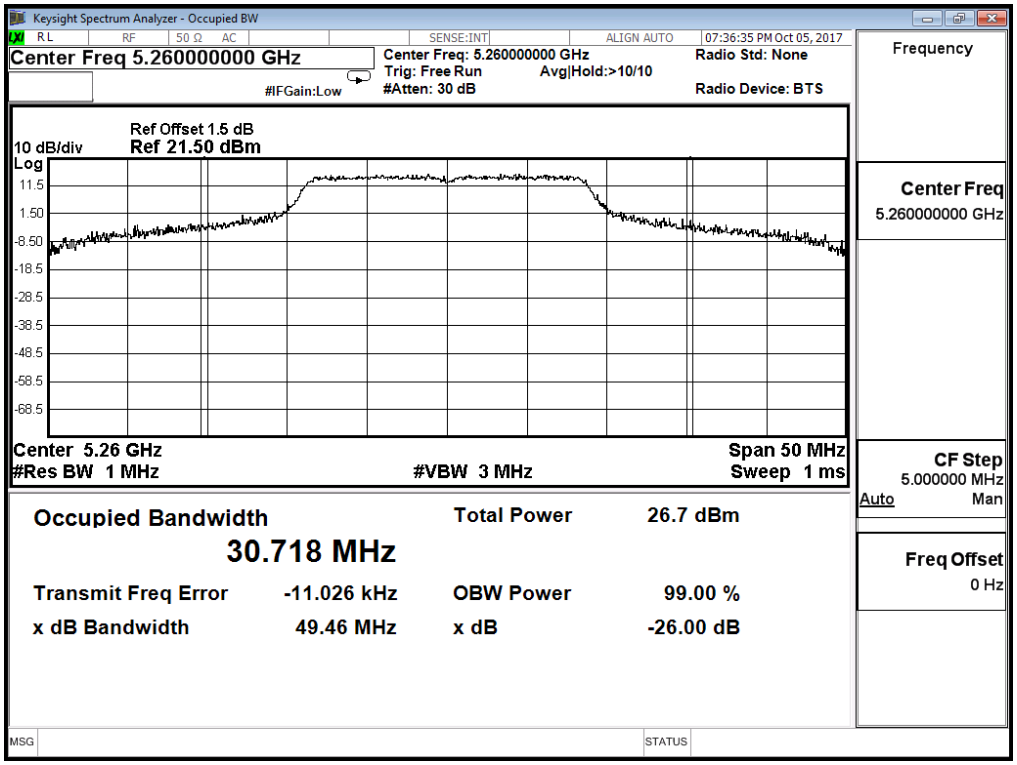
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit	
					(dBm)	dBm+10log(BW)
36	5180	--	17.71	17.71	24	--
40	5200	--	21.34	21.34	24	--
48	5240	--	20.65	20.65	24	--
52	5260	30.718	20.66	20.66	24	25.87
56	5280	34.684	21.2	21.20	24	26.40
64	5320	18.836	16.12	16.12	24	23.75
100	5500	18.931	18.64	18.64	24	23.77
120	5600	30.690	20.69	20.69	24	25.87
140	5700	18.855	18.06	18.06	24	23.75
149	5745	--	20.87	20.87	30	--
157	5785	--	21.26	21.26	30	--
165	5825	--	20.79	20.79	30	--

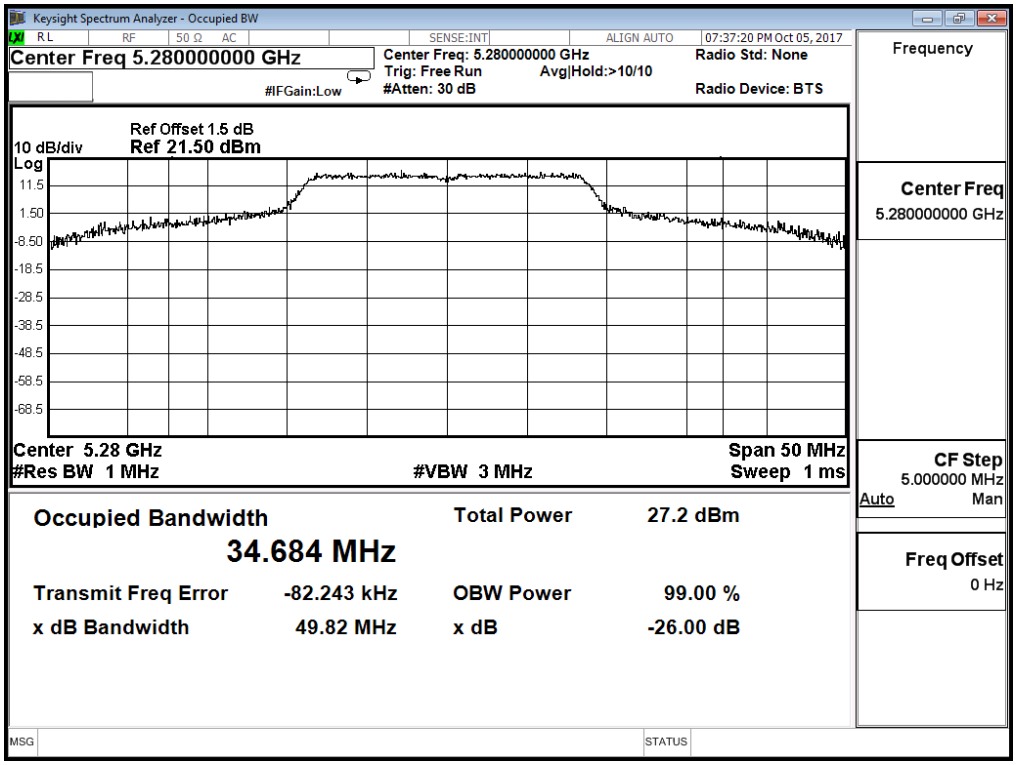
Note: Power Output Value =Reading value on average power meter + Cable loss

99% Occupied Bandwidth:

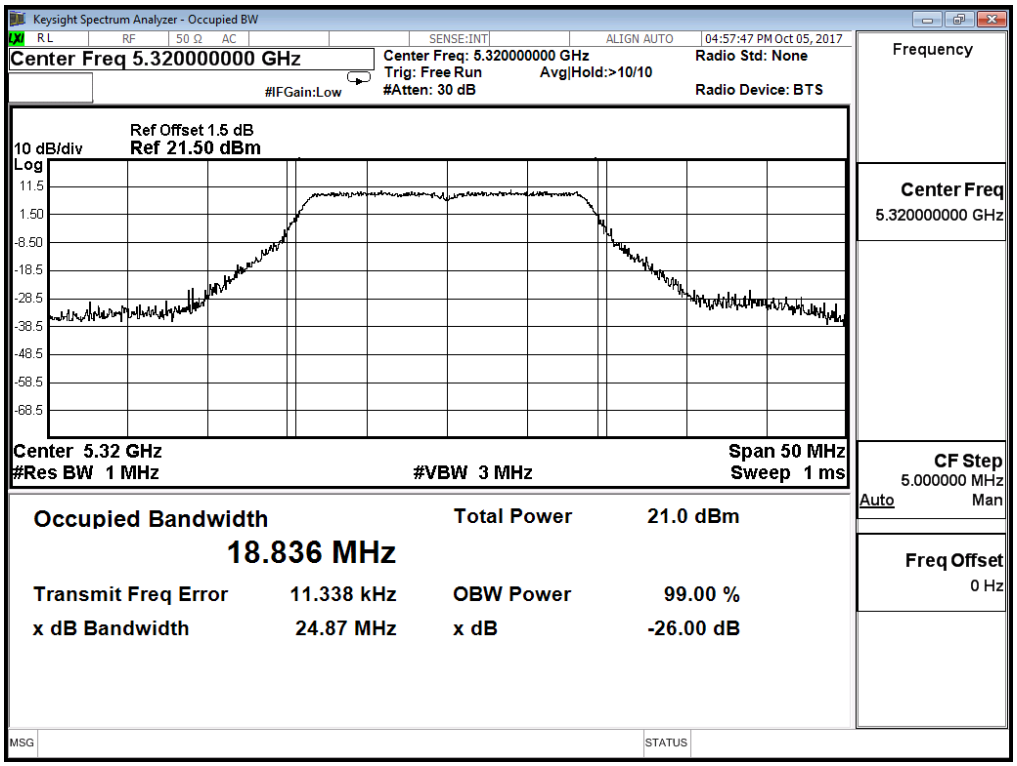
Channel 52:



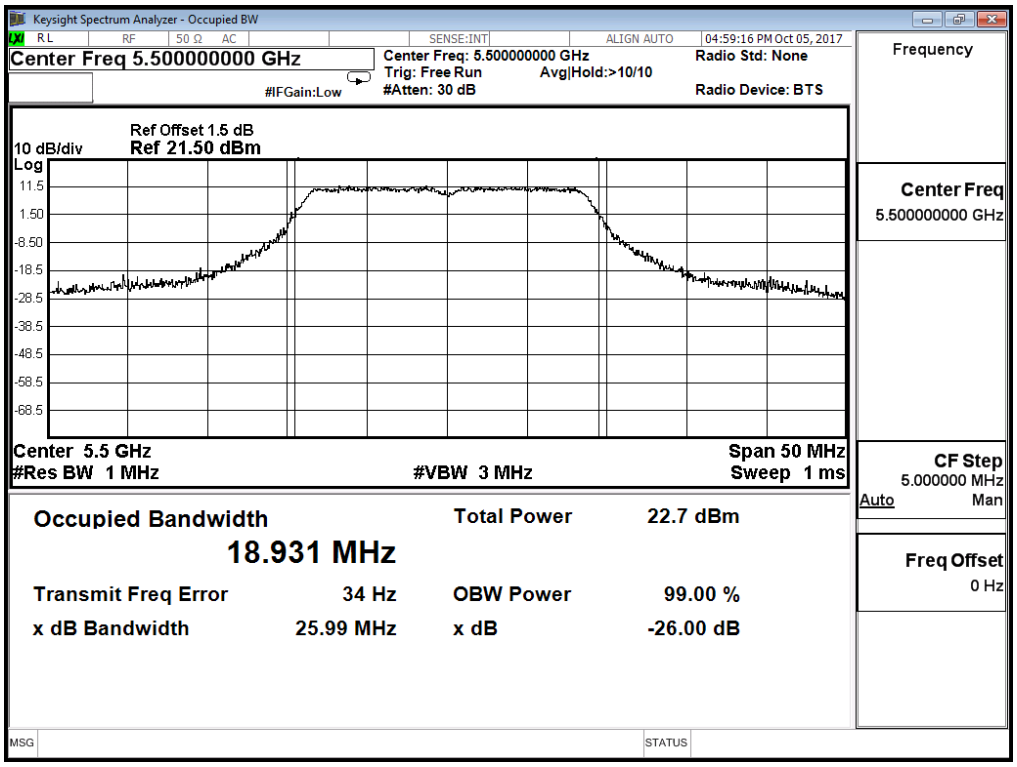
Channel 56:



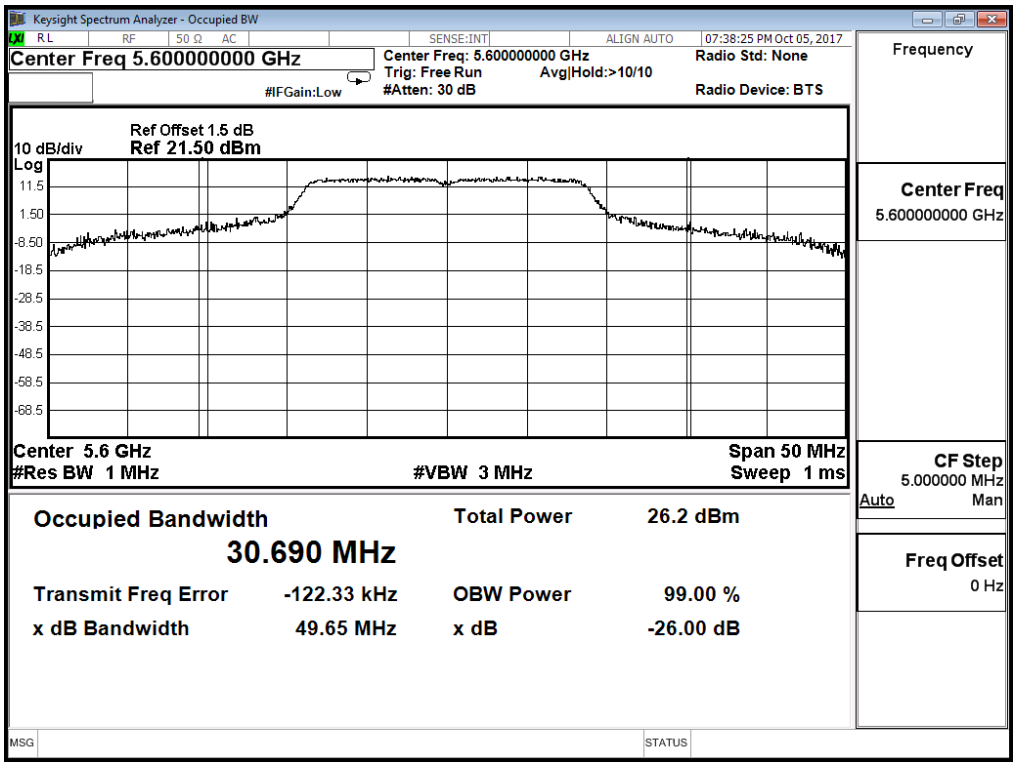
Channel 64:



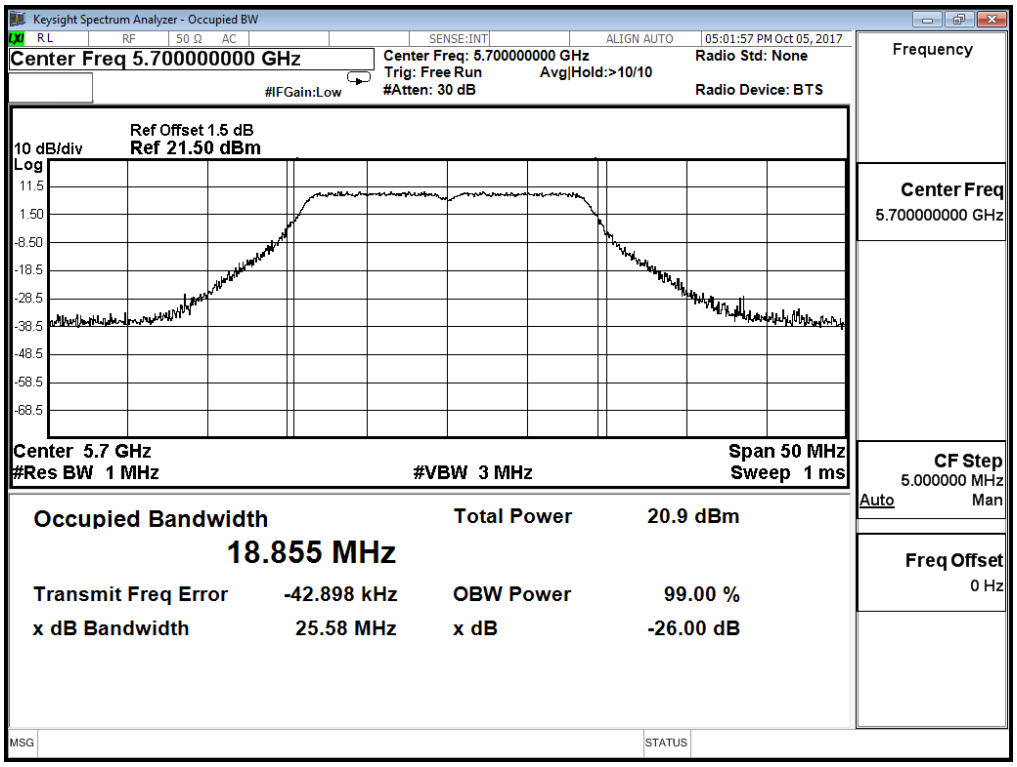
Channel 100:



Channel 120:



Channel 140:



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/16
Test Mode : Mode 1 SISO A: Transmit (802.11n-40BW 15Mbps)

Cable loss=1dB		Average Power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		15	30	45	60	90	120	135	150	
		Measurement Level (dBm)								
38	5190	18.15	18.06	17.96	17.86	17.78	17.61	17.58	17.46	<24dBm
46	5230	19.21	--	--	--	--	--	--	--	<24dBm
54	5270	18.85	18.74	18.62	18.56	18.43	18.39	18.24	18.14	<24dBm
62	5310	14.62	--	--	--	--	--	--	--	<24dBm
102	5510	16.63	--	--	--	--	--	--	--	<24dBm
118	5590	21.24	21.14	21.06	20.99	20.87	20.78	20.70	20.67	<24dBm
134	5670	18.28	--	--	--	--	--	--	--	<24dBm
151	5755	19.29	19.20	19.13	19.06	18.94	18.76	18.64	18.56	<30dBm
159	5795	19.77	--	--	--	--	--	--	--	<30dBm

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

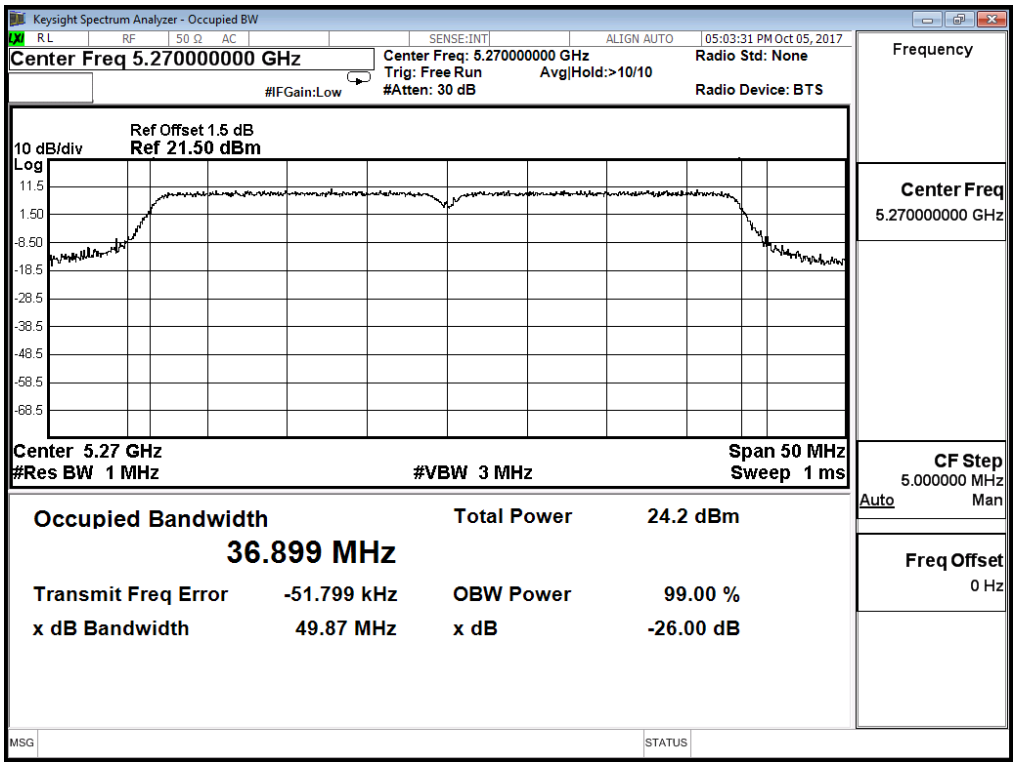
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit	
					(dBm)	dBm+10log(BW)
38	5190	--	18.15	18.15	24	--
46	5230	--	19.21	19.21	24	--
54	5270	36.899	18.85	18.85	24	26.67
62	5310	36.802	14.62	14.62	24	26.66
102	5510	36.806	16.63	16.63	24	26.66
118	5590	37.400	21.24	21.24	24	26.73
134	5670	36.942	18.28	18.28	24	26.68
151	5755	--	19.29	19.29	30	--
159	5795	--	19.77	19.77	30	--

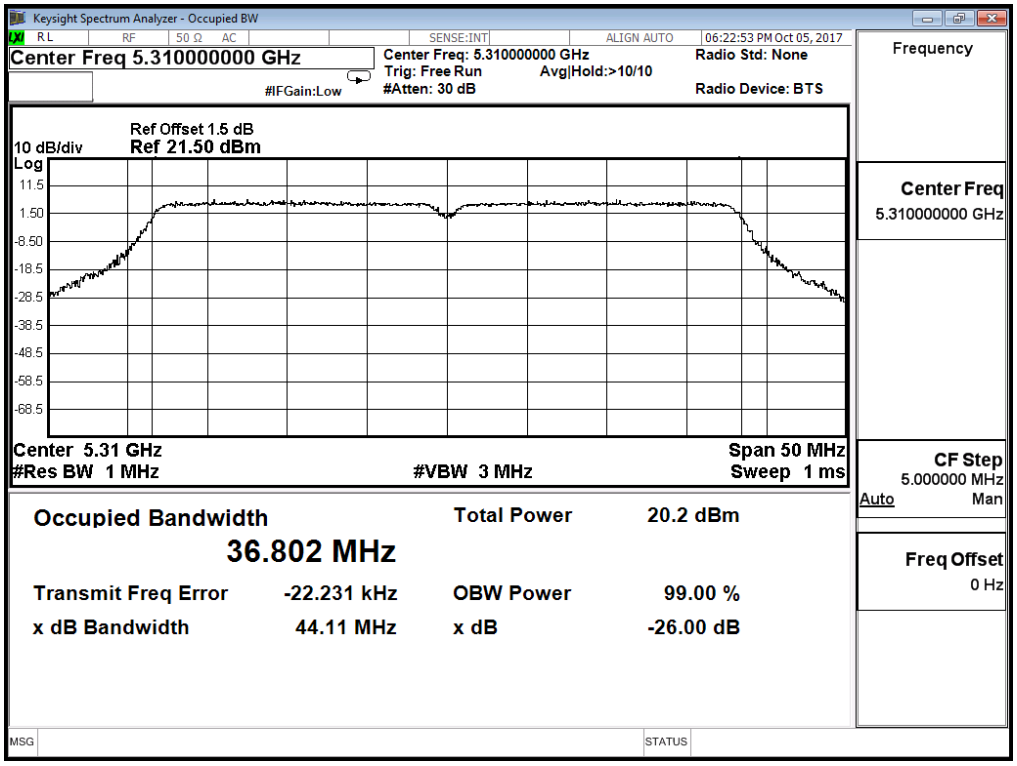
Note: Power Output Value =Reading value on average power meter + Cable loss

99% Occupied Bandwidth:

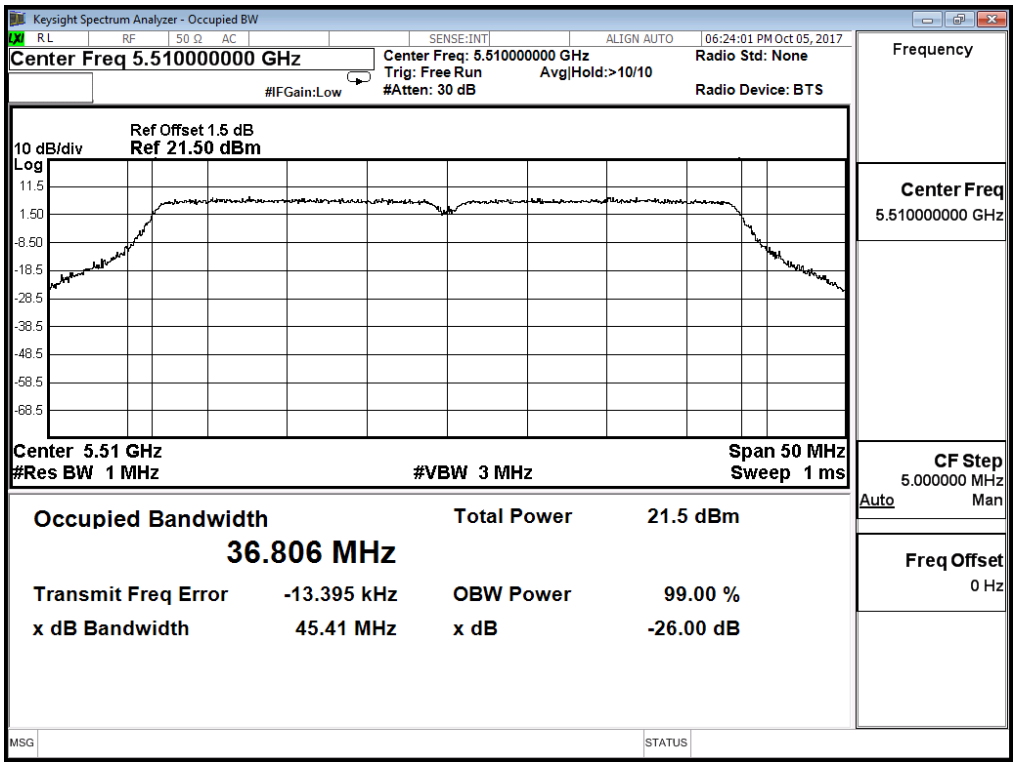
Channel 54



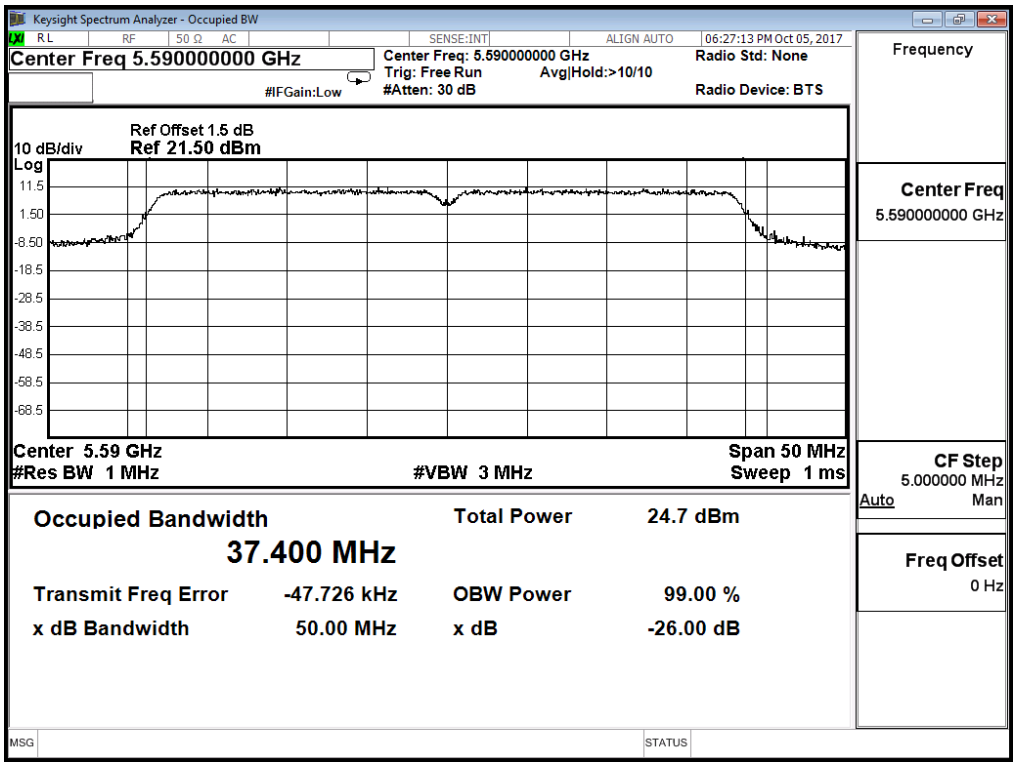
Channel 62



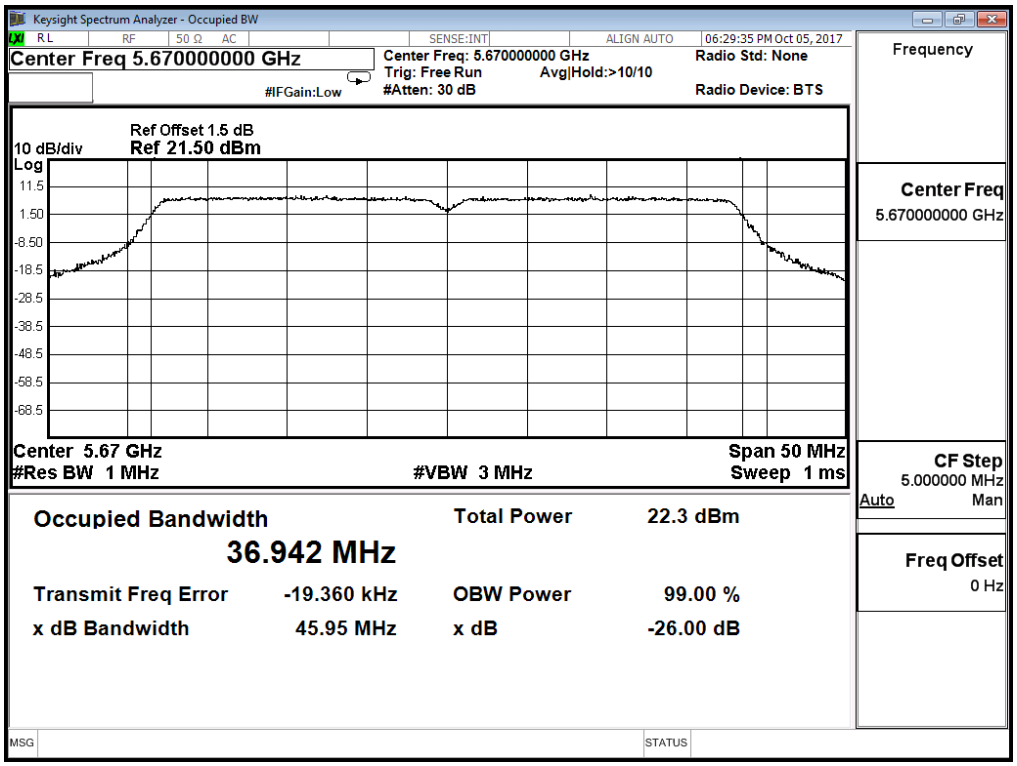
Channel 102



Channel 118



Channel 134


Keysight Spectrum Analyzer - Occupied BW
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
06:29:35 PM Oct 05, 2017
Center Freq 5.670000000 GHz
Center Freq: 5.670000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#IFGain:Low
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 1.5 dB
10 dB/div
Ref 21.50 dBm
Log
11.5
1.50
-8.50
-18.5
-28.5
-38.5
-48.5
-58.5
-68.5
Center Freq
5.670000000 GHz
Center 5.67 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms
CF Step
5.000000 MHz
Auto
Man
Occupied Bandwidth
36.942 MHz
Total Power
22.3 dBm
Freq Offset
0 Hz
Transmit Freq Error
-19.360 kHz
OBW Power
99.00 %
x dB Bandwidth
45.95 MHz
x dB
-26.00 dB
MSG
STATUS

Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/16
Test Mode : Mode 1 SISO A: Transmit (802.11ac-20BW-7.2Mbps)

Cable loss=1dB		Average Power									
Channel No.	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
		Measurement Level (dBm)									
144 (Band3)	5720	19.87	19.75	19.68	19.52	19.48	19.36	19.28	19.22	19.15	<24dBm
144 (Band4)	5720	14.17	14.10	14.06	13.99	13.91	13.85	13.69	13.62	13.56	<30dBm

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

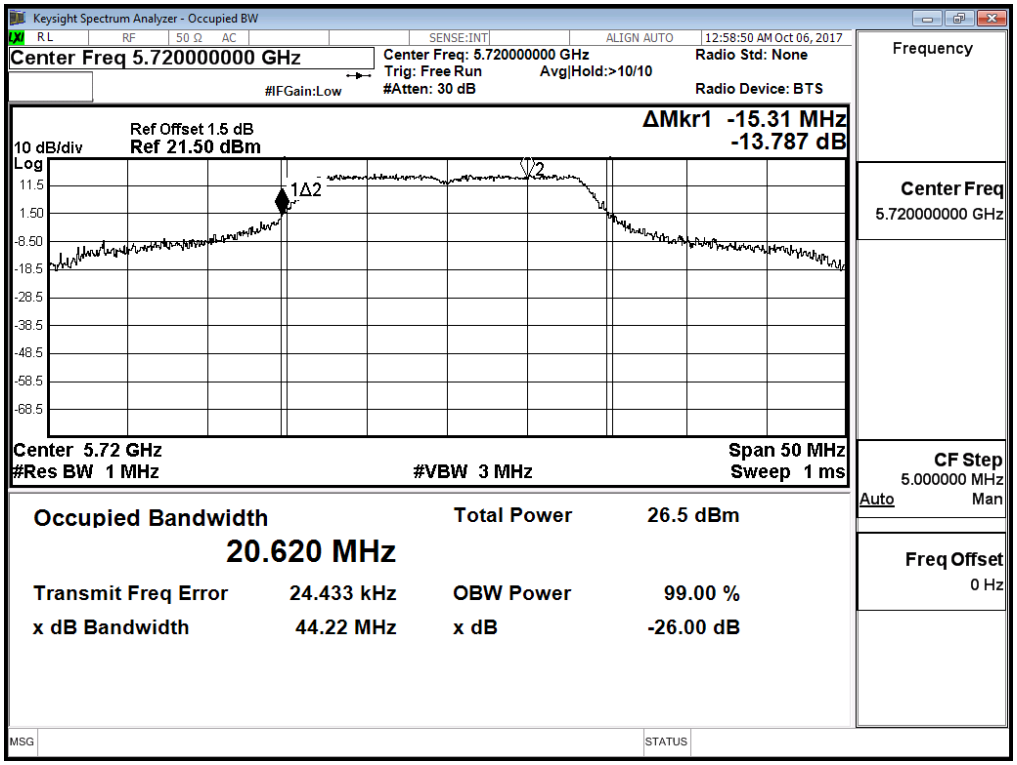
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit		Result
					(dBm)	dBm+10log(BW)	
144(Band3)	5720	15.310	19.87	19.87	24	22.85	Pass
144(Band4)	5720	--	14.17	14.17	30	--	Pass

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

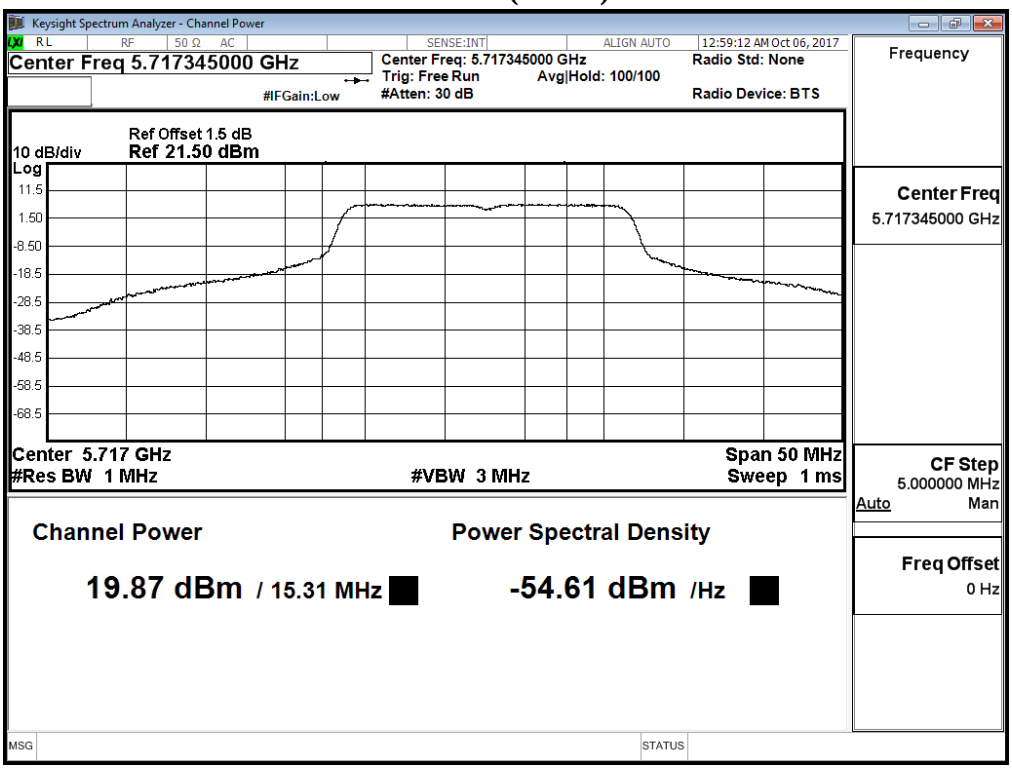
99% Occupied Bandwidth:

Channel 144

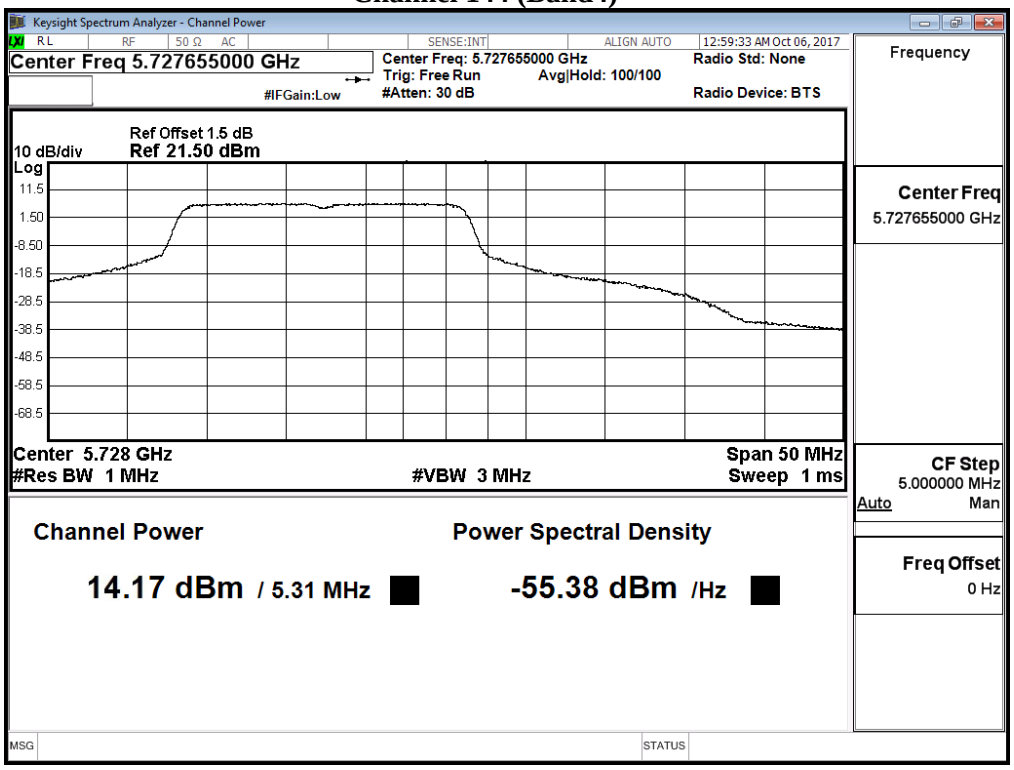


Maximum conducted output power:

Channel 144 (Band3)



Channel 144 (Band4)



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/16
Test Mode : Mode 1 SISO A: Transmit (802.11ac-40BW-15Mbps)

Cable loss=1dB		Average Power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
142F(Band3)	5710	19.72	19.63	19.58	19.42	19.36	19.28	19.17	19.11	19.05	<24dBm
142F(Band4)	5710	9.81	9.76	9.68	9.62	9.53	9.45	9.39	9.33	9.26	<30dBm

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

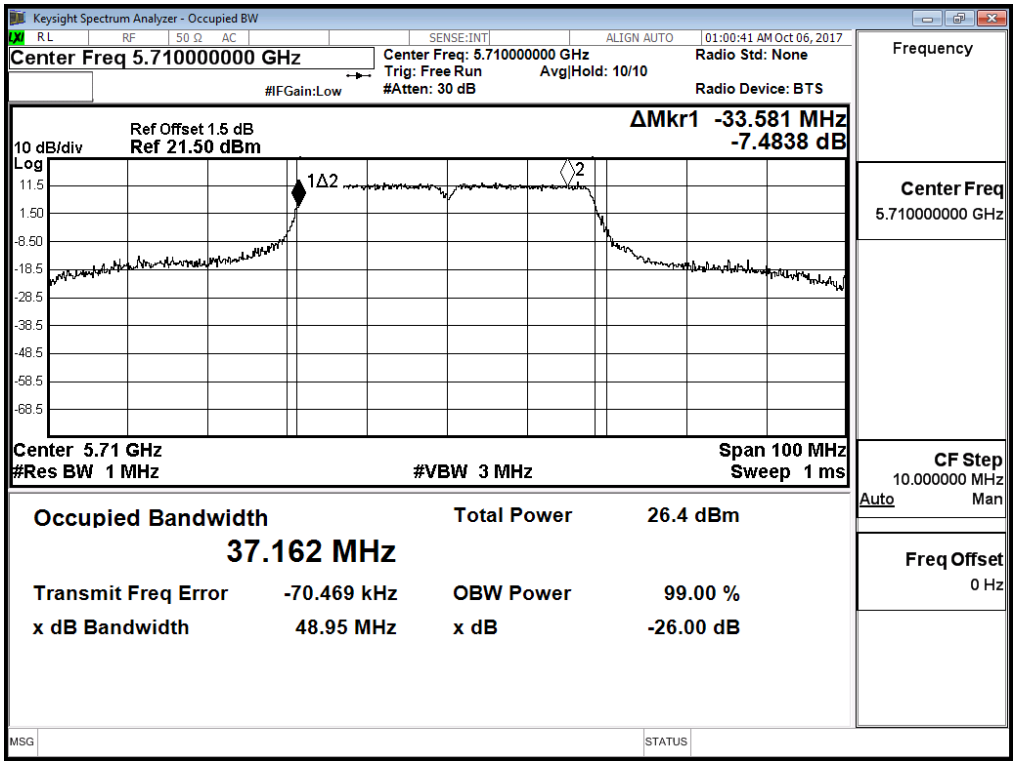
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit		Result
					(dBm)	dBm+10log(BW)	
142F(Band3)	5710	33.581	19.72	19.72	24	26.26	Pass
142F(Band4)	5710	--	9.81	9.81	30	--	Pass

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

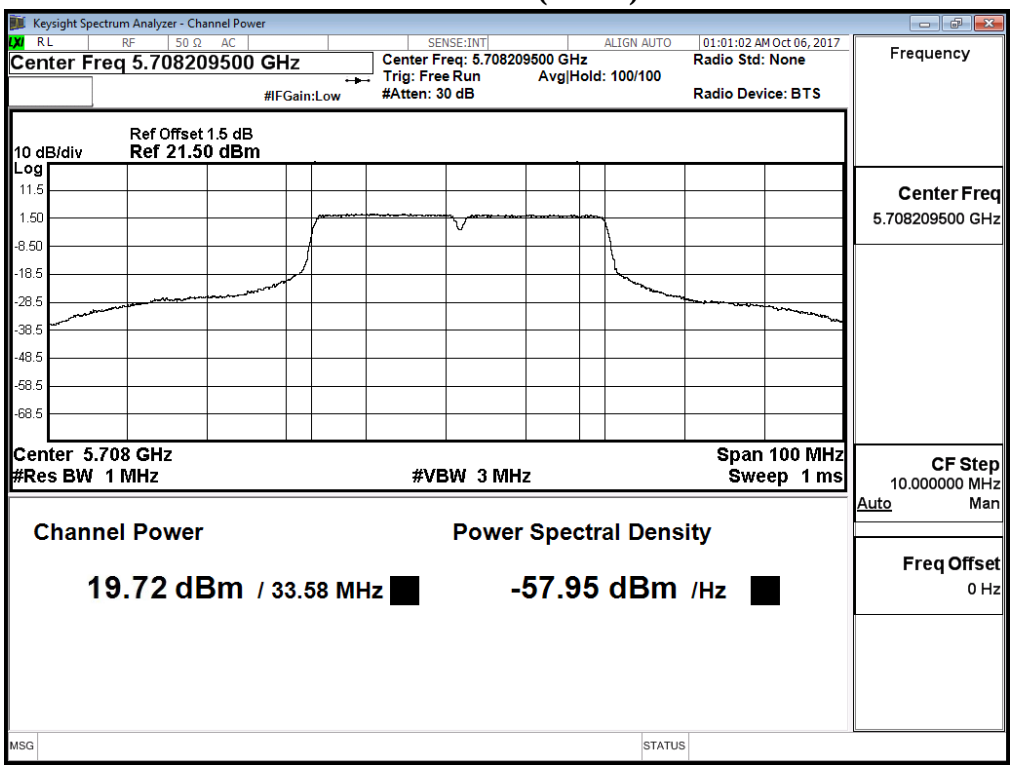
99% Occupied Bandwidth:

Channel 142

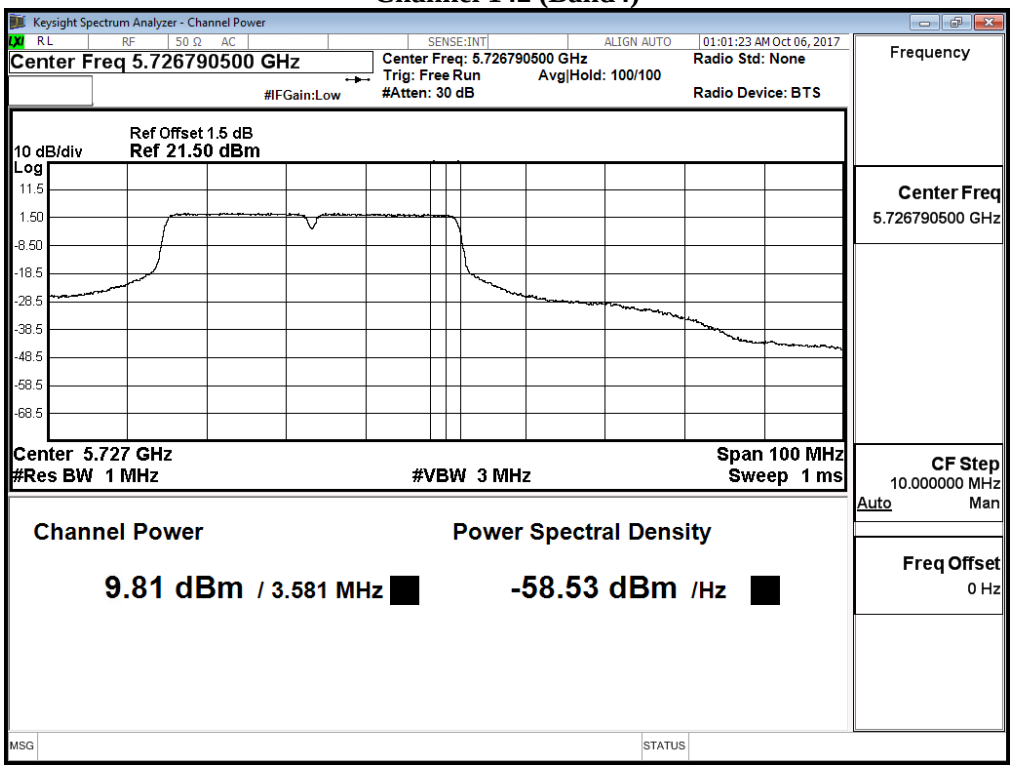


Maximum conducted output power:

Channel 142 (Band3)



Channel 142 (Band4)



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/16
Test Mode : Mode 1 SISO A: Transmit (802.11ac-80BW-32.5Mbps)

Cable loss=1dB		Average Power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	18.02	17.96	17.84	17.74	17.62	17.58	17.74	17.34	17.22	17.18	<24dBm
58	5290	15.57	15.53	15.41	15.30	15.17	15.09	14.89	14.75	14.69	14.54	<24dBm
106	5530	17.42	17.39	17.24	17.18	17.08	16.94	16.87	16.72	16.67	16.52	<24dBm
122	5610	20.61	20.57	20.46	20.39	20.26	20.18	20.09	20.00	19.94	19.84	<24dBm
138(Band3)	5690	20.18	20.11	20.05	19.97	19.90	19.84	19.76	19.65	19.58	19.42	<24dBm
138(Band4)	5690	4.03	3.94	3.84	3.76	3.69	3.52	3.45	3.39	3.31	3.24	<30dBm
155	5775	18.76	18.66	18.54	18.43	18.39	18.24	18.19	18.11	18.04	17.95	<30dBm

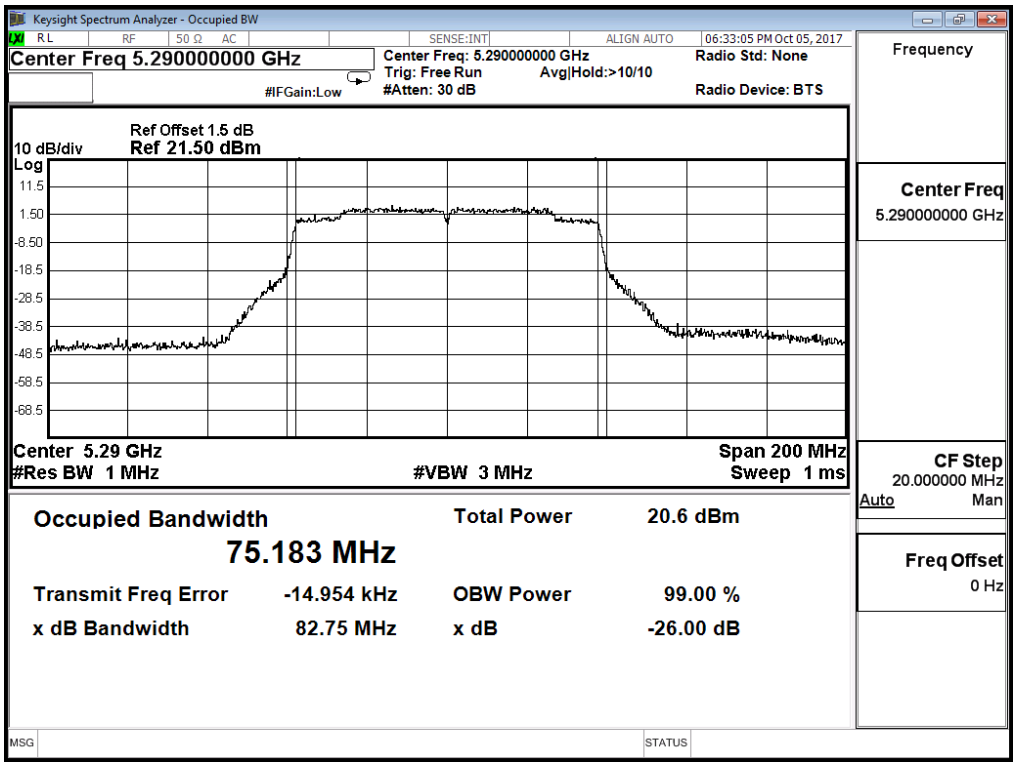
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

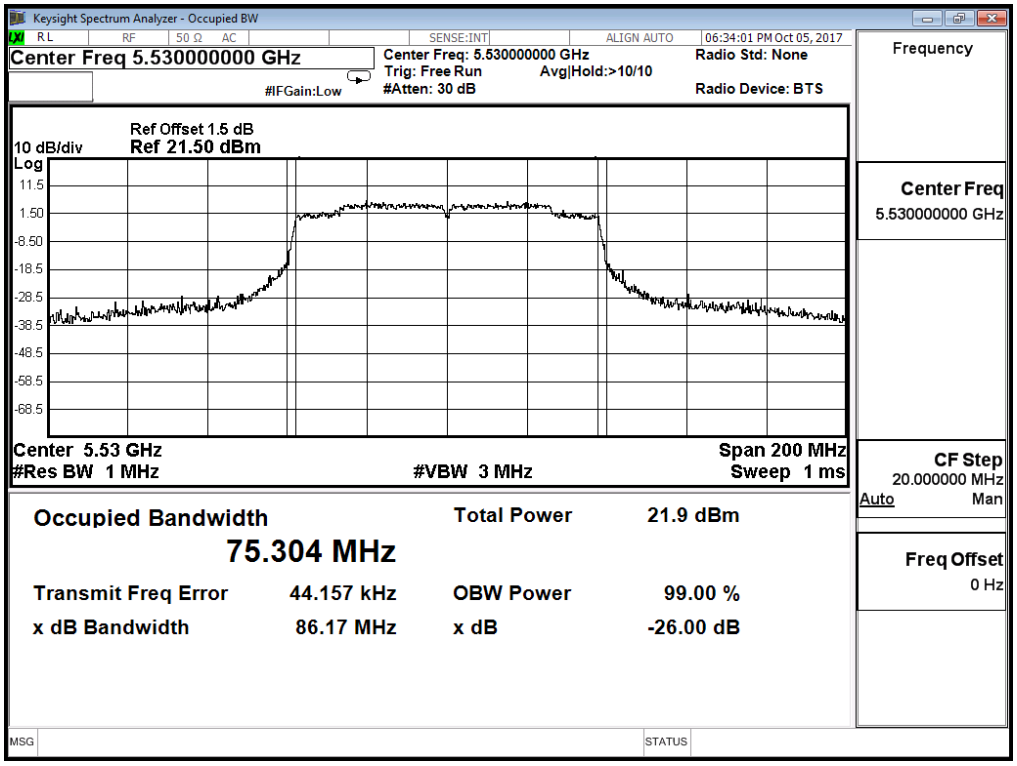
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit		Result
					(dBm)	dBm+10log(BW)	
42	5210	--	18.02	18.02	24	--	Pass
58	5290	75.183	15.57	15.57	24	29.76	Pass
106	5530	75.304	17.42	17.42	24	29.77	Pass
122	5610	76.276	20.61	20.61	24	29.82	Pass
138(Band3)	5690	73.028	20.18	20.18	24	29.63	Pass
138 (Band4)	5690	--	4.03	4.03	30	--	Pass
155	5775	--	18.76	18.76	30	--	Pass

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

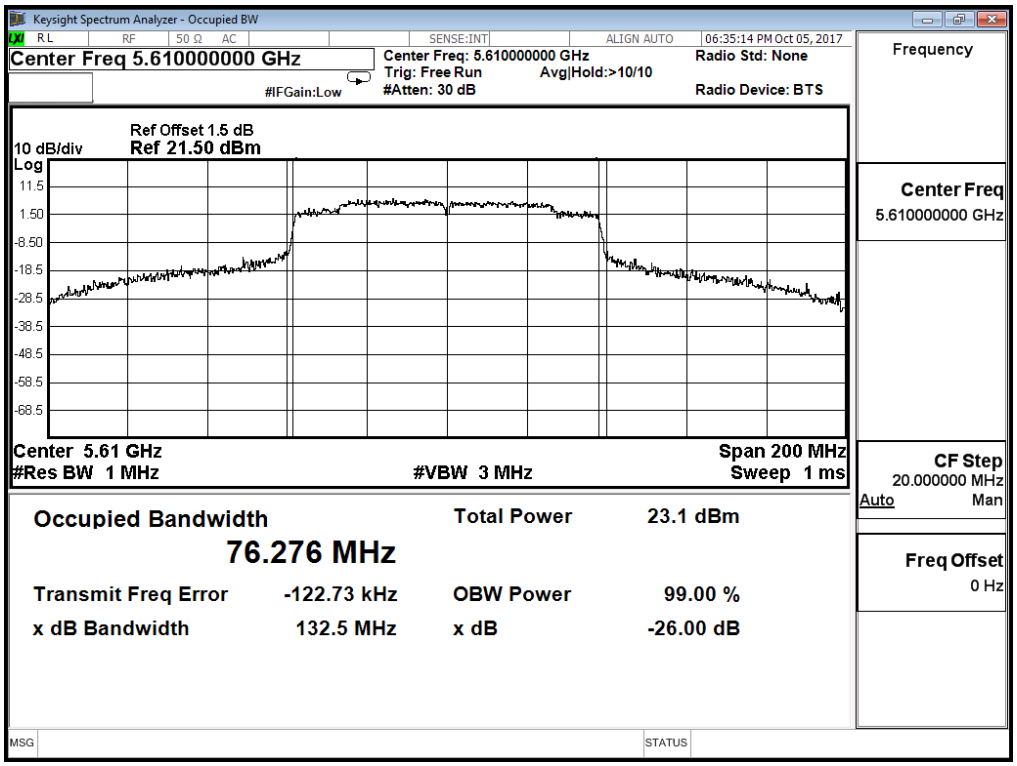
99% Occupied Bandwidth:
Channel 58



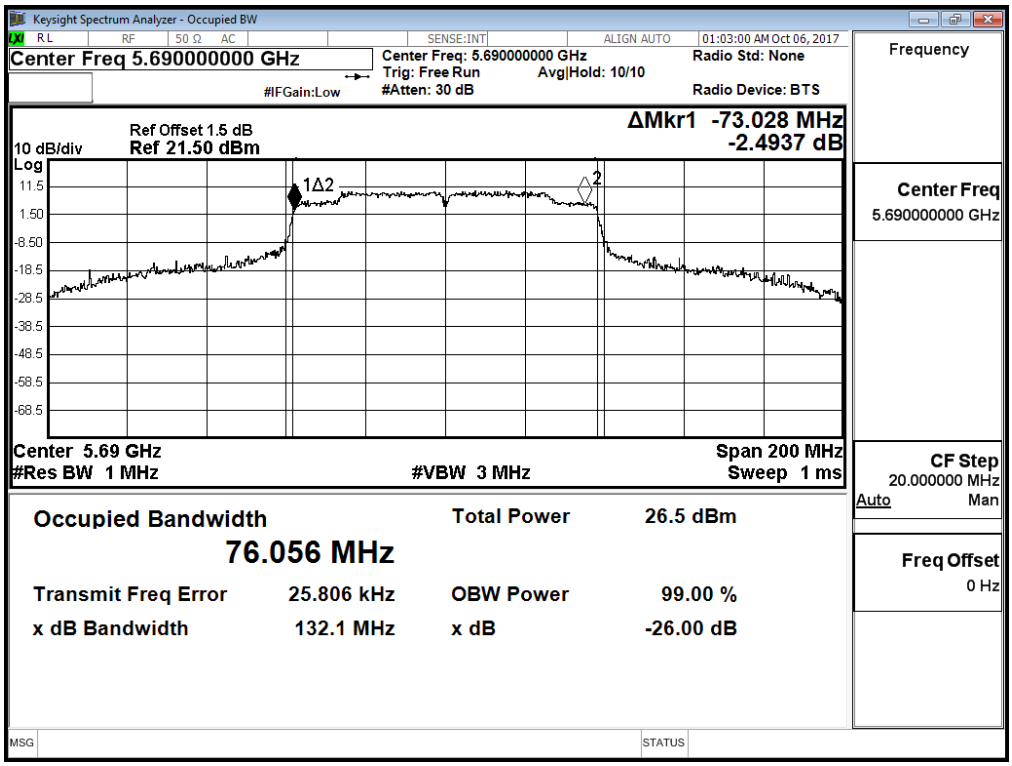
Channel 106



Channel 122

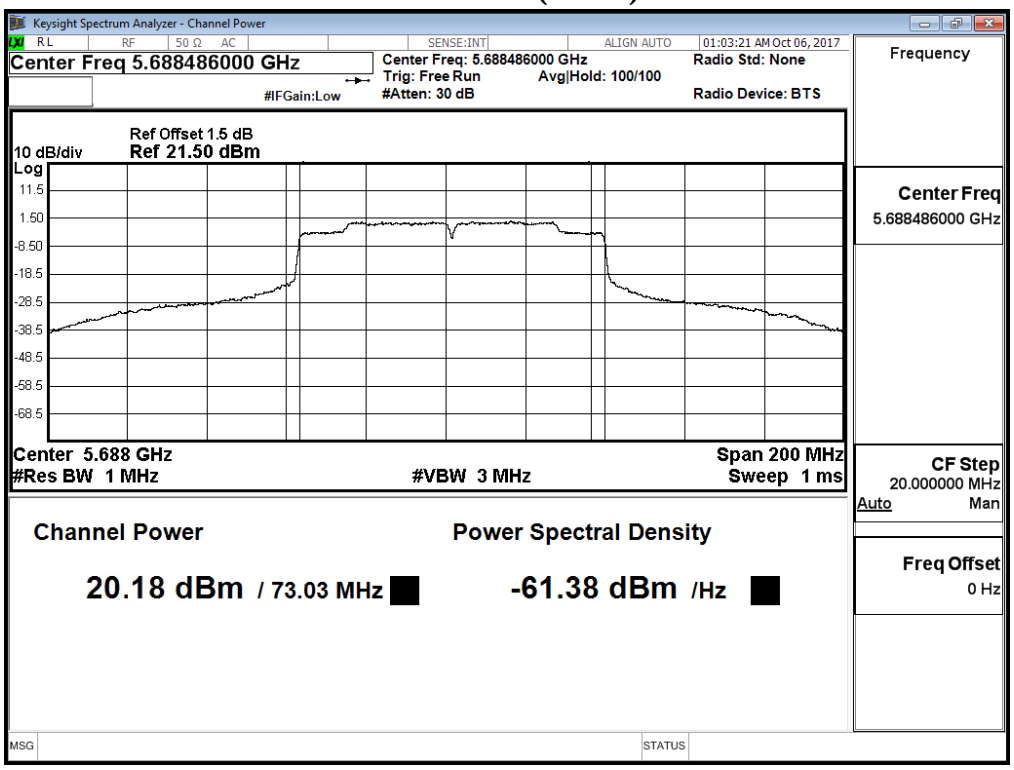


Channel 138



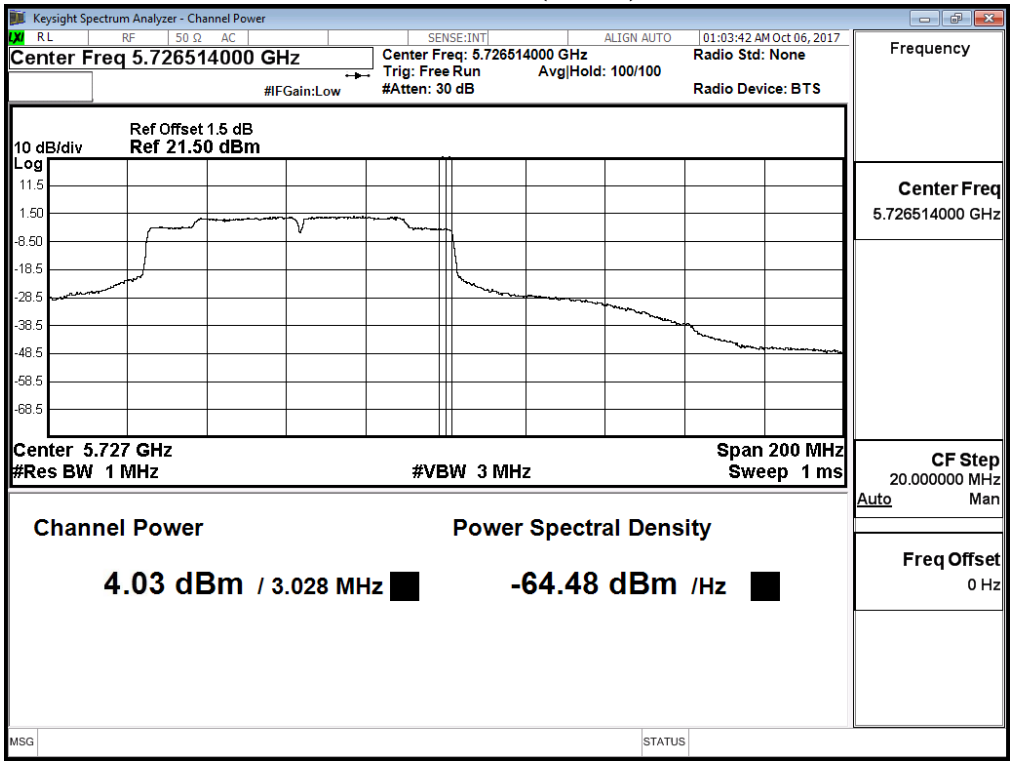
Maximum conducted output power:

Channel 138 (Band3)



Maximum conducted output power:

Channel 138 (Band4)



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/16
Test Mode : Mode 1 SISO A: Transmit (802.11ac-160BW-65Mbps)

Cable loss=1dB		Average Power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
50(Band1)	5250	10.22	10.15	10.09	10.02	9.96	9.89	9.80	9.75	9.68	9.61	<24dBm
50(Band2)	5250	10.11	10.03	9.95	9.89	9.81	9.75	9.69	9.61	9.55	9.50	<24dBm
114	5570	14.61	14.52	14.41	14.32	14.27	14.15	14.02	13.91	13.82	13.77	<24dBm

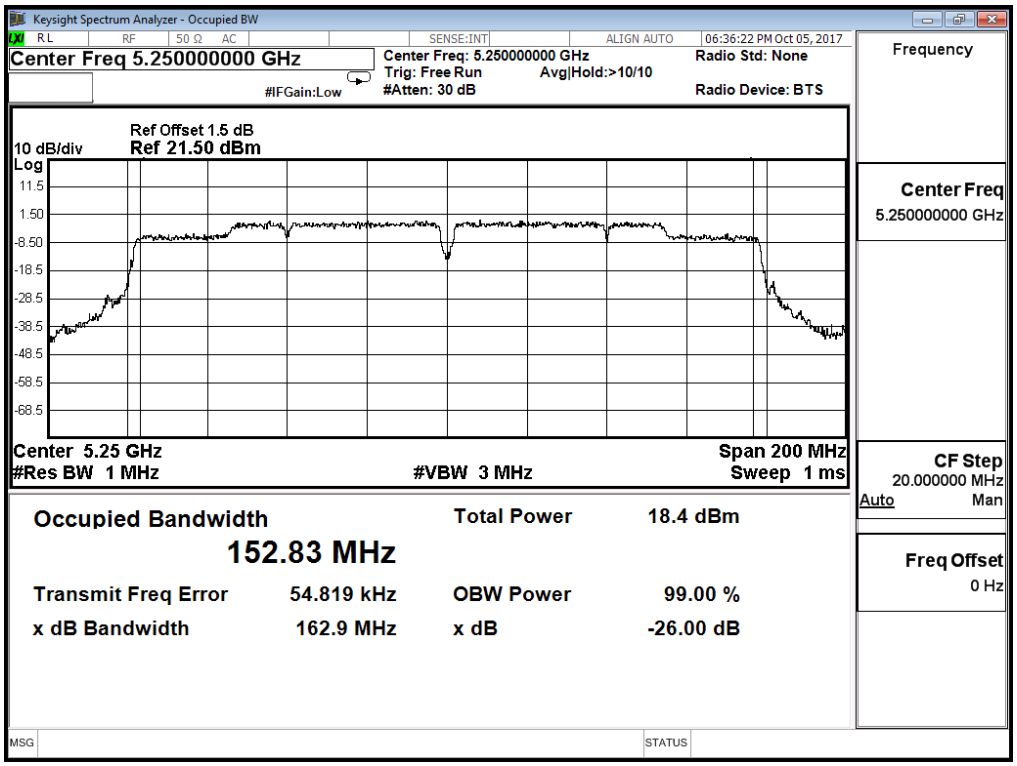
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

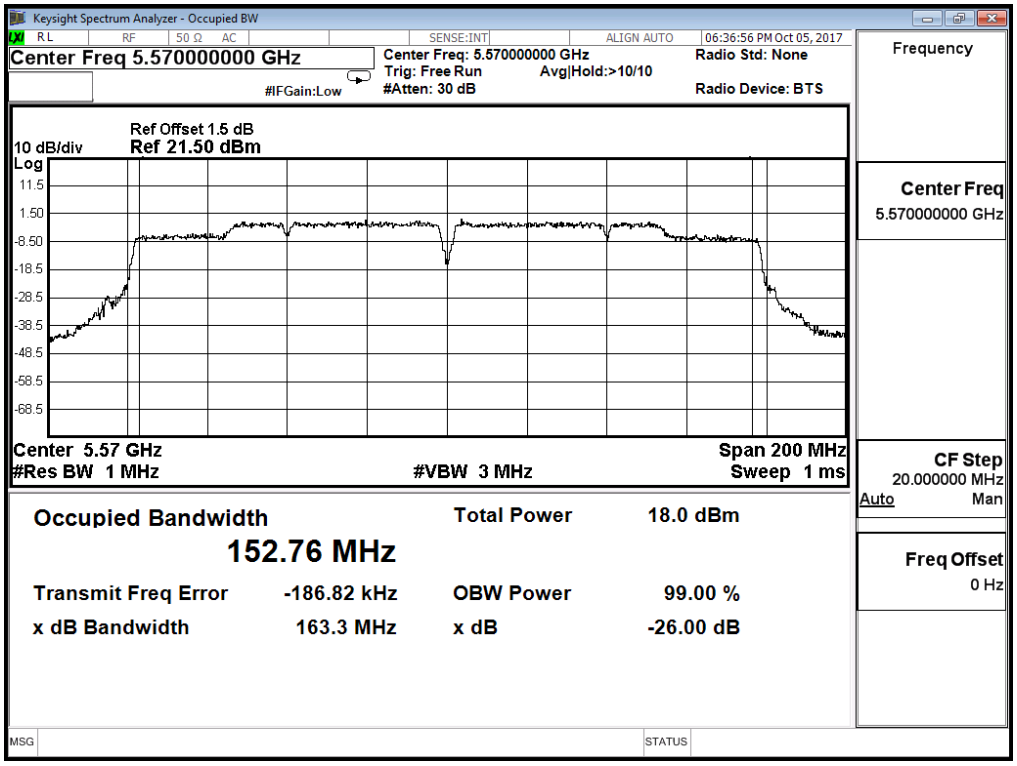
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit		Result
					(dBm)	dBm+10log(BW)	
50(Band1)	5250	--	10.22	10.22	24	--	Pass
50(Band2)	5250	76.415	10.11	10.11	24	29.83	Pass
114	5570	152.760	14.61	14.61	24	32.84	Pass

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

99% Occupied Bandwidth:
Channel 50

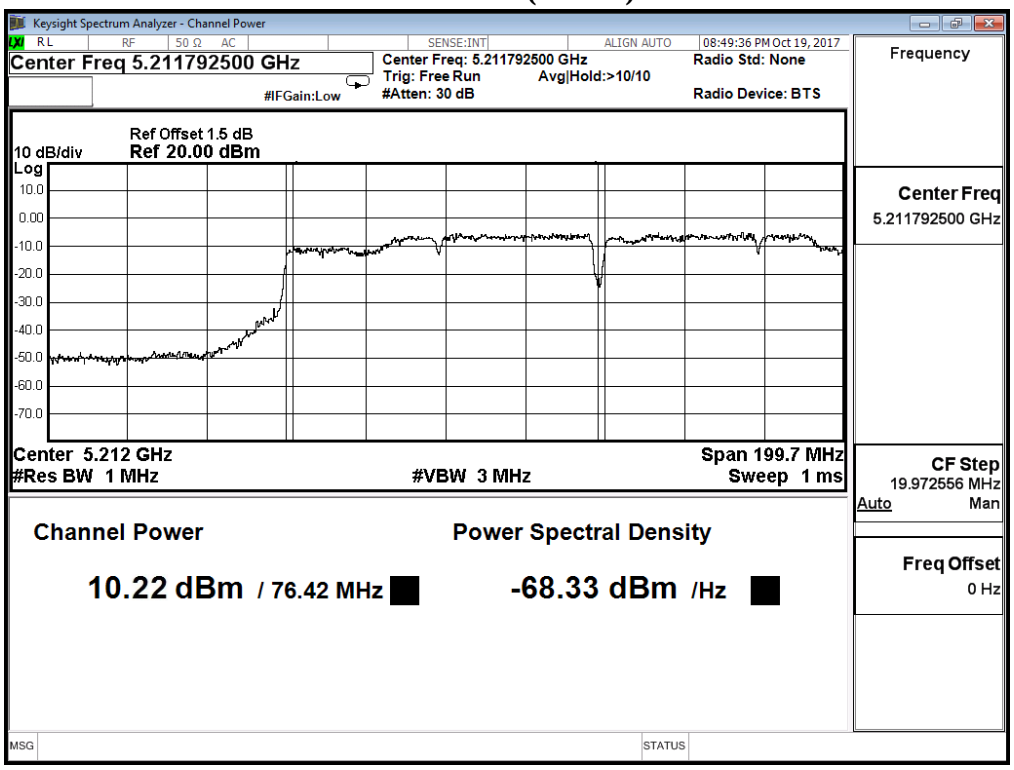


Channel 114



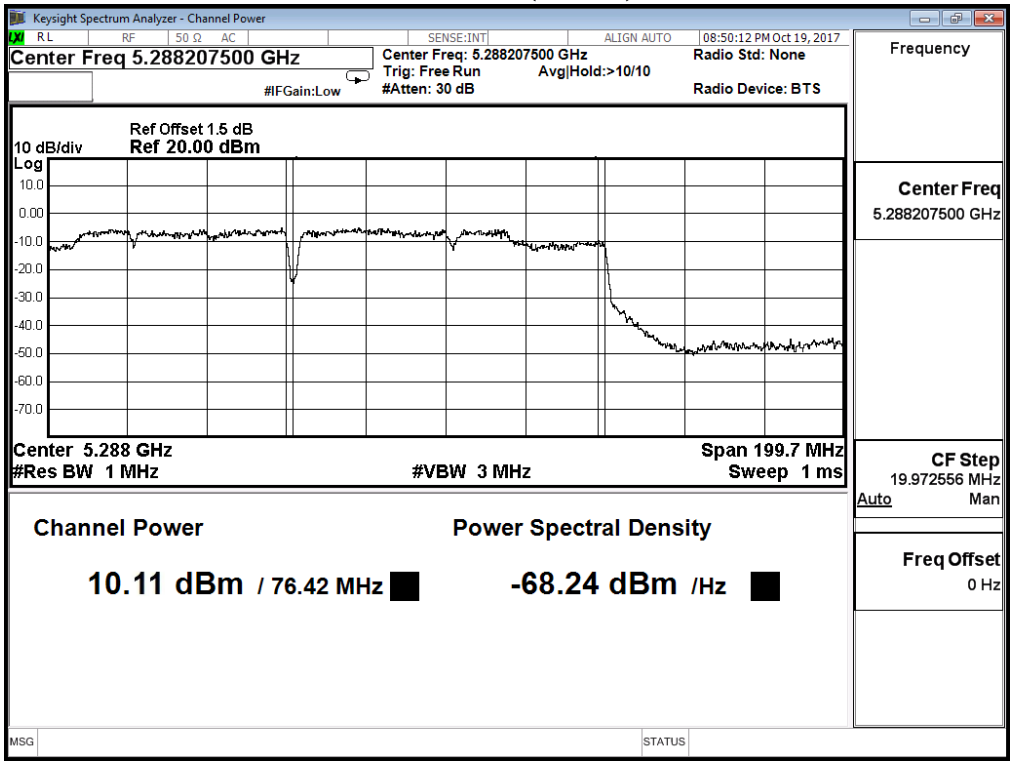
Maximum conducted output power:

Channel 50 (Band 1)



Maximum conducted output power:

Channel 50 (Band 2)



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/18
Test Mode : Mode 2 SISO B: Transmit (802.11a-6Mbps)

Cable loss=1dB		Average Power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
		Measurement Level (dBm)								
36	5180	18.77	--	--	--	--	--	--	--	<24dBm
40	5200	21.25	21.14	21.09	21.00	20.95	20.84	20.76	20.69	<24dBm
48	5240	20.92	--	--	--	--	--	--	--	<24dBm
52	5260	21.39	--	--	--	--	--	--	--	<24dBm
56	5280	21.37	21.23	21.18	21.10	21.05	20.95	20.84	20.73	<24dBm
64	5320	16.83	--	--	--	--	--	--	--	<24dBm
100	5500	19.16	--	--	--	--	--	--	--	<24dBm
120	5600	21.13	21.07	21.00	20.93	20.84	20.76	20.69	20.52	<24dBm
140	5700	18.3	--	--	--	--	--	--	--	<24dBm
149	5745	20.71	--	--	--	--	--	--	--	<30dBm
157	5785	21.22	21.13	21.08	20.00	19.92	19.83	19.78	19.67	<30dBm
165	5825	21.13	--	--	--	--	--	--	--	<30dBm

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

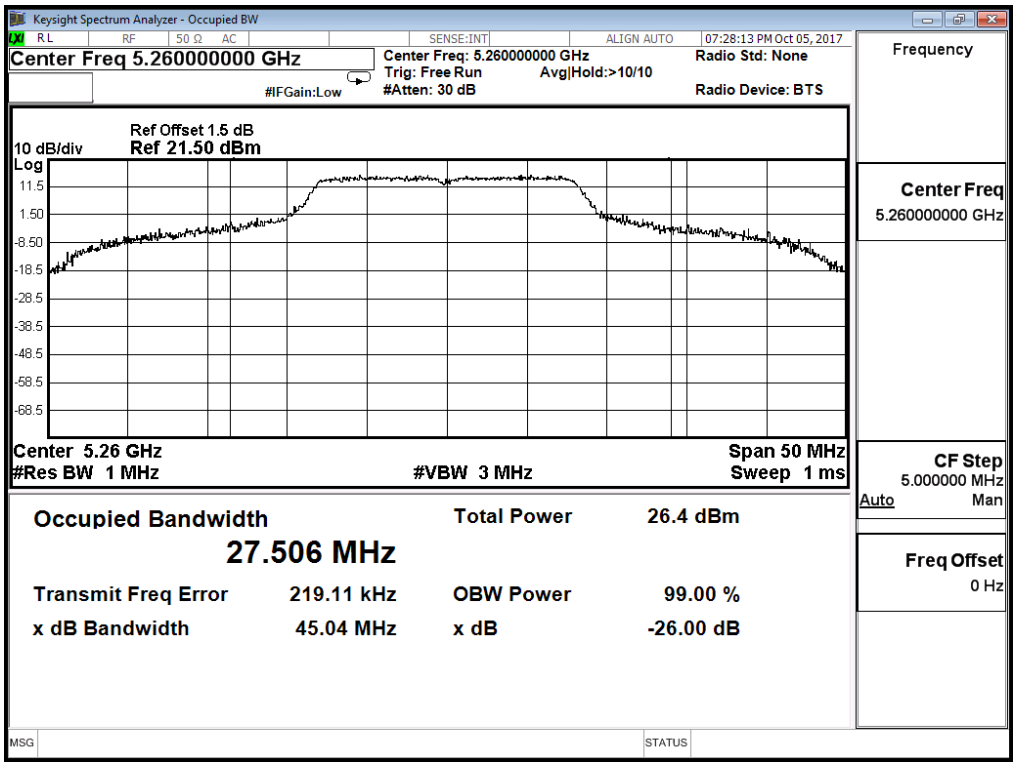
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit	
					(dBm)	dBm+10log(BW)
36	5180	--	18.77	18.77	24	--
40	5200	--	21.25	21.25	24	--
48	5240	--	20.92	20.92	24	--
52	5260	27.506	21.39	21.39	24	25.39
56	5280	25.799	21.37	21.37	24	25.12
64	5320	17.816	16.83	16.83	24	23.51
100	5500	17.756	19.16	19.16	24	23.49
120	5600	18.498	21.13	21.13	24	23.67
140	5700	17.832	18.3	18.3	24	23.51
149	5745	--	20.71	20.71	30	--
157	5785	--	21.22	21.22	30	--
165	5825	--	21.13	21.13	30	--

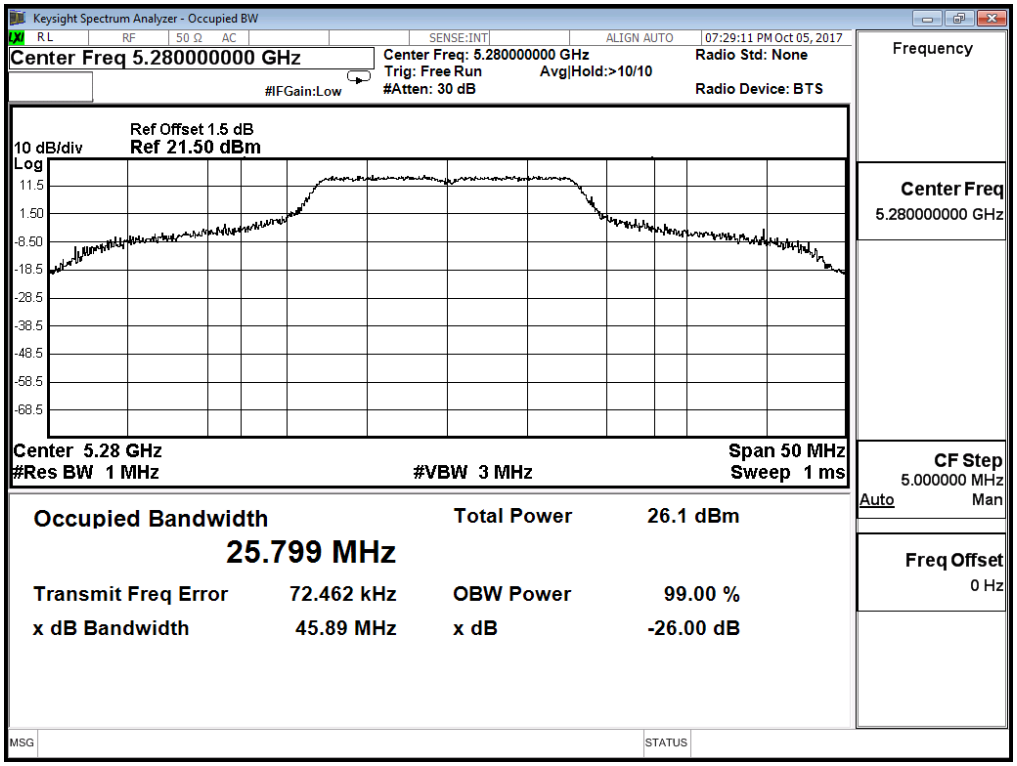
Note: Power Output Value =Reading value on average power meter + Cable loss

99% Occupied Bandwidth:

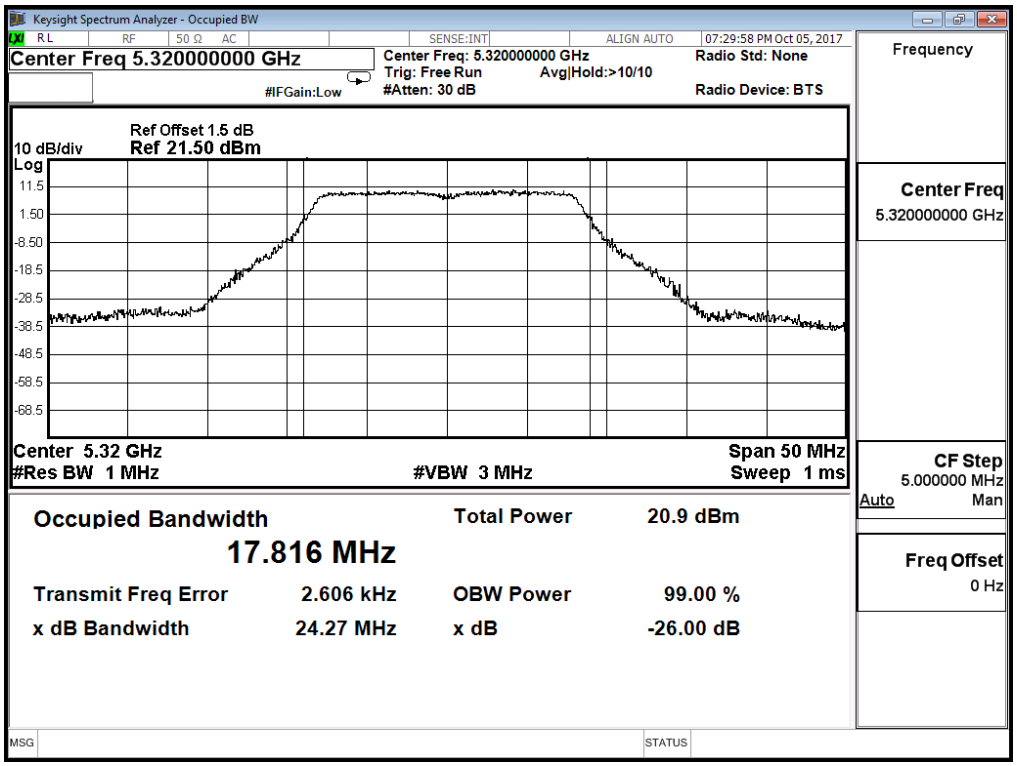
Channel 52:



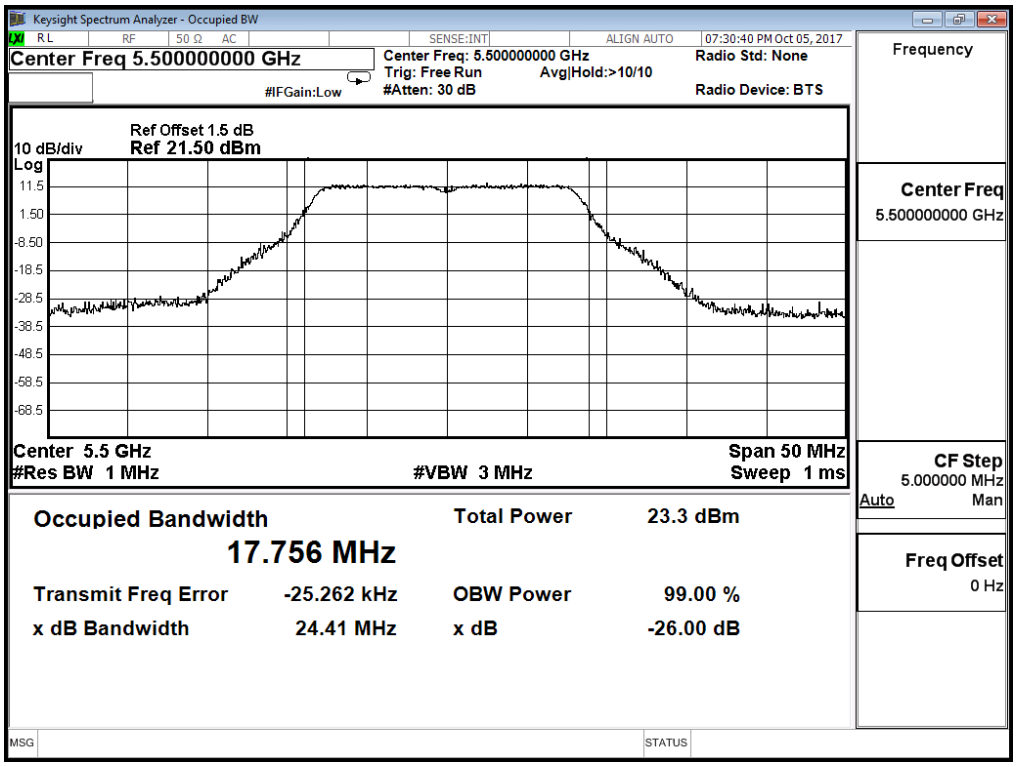
Channel 56:



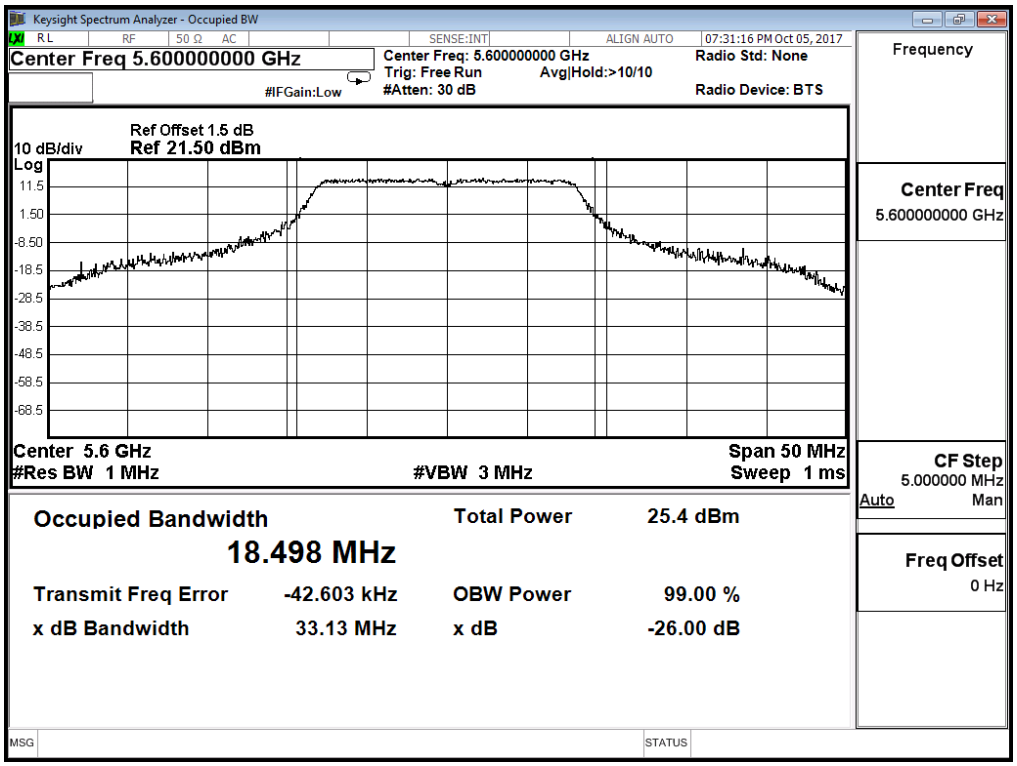
Channel 64:



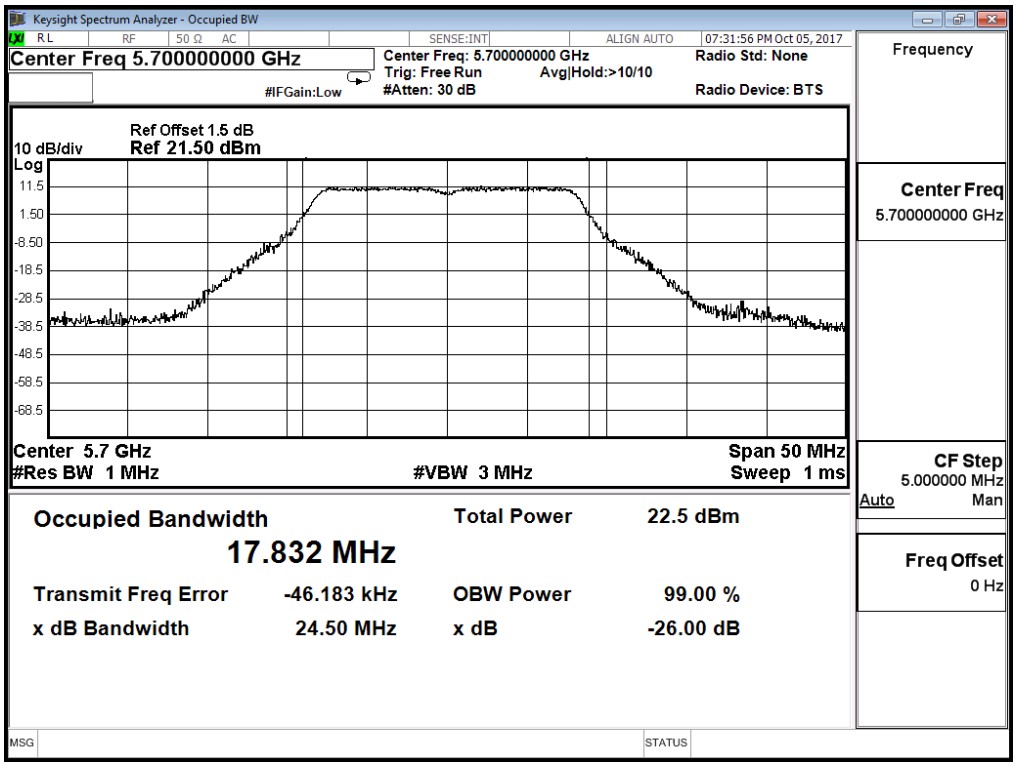
Channel 100:



Channel 120:



Channel 140:



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/18
Test Mode : Mode 2 SISO B: Transmit (802.11n-20BW 7.2Mbps)

Cable loss=1dB		Average Power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	
		Measurement Level (dBm)								
36	5180	18.4	--	--	--	--	--	--	--	<24dBm
40	5200	20.84	20.73	20.61	20.52	20.41	20.37	20.25	20.18	<24dBm
48	5240	20.24	--	--	--	--	--	--	--	<24dBm
52	5260	21.35	--	--	--	--	--	--	--	<24dBm
56	5280	21.11	21.03	20.94	20.86	20.74	20.69	20.52	20.41	<24dBm
64	5320	16.37	--	--	--	--	--	--	--	<24dBm
100	5500	18.79	--	--	--	--	--	--	--	<24dBm
120	5600	21.27	21.19	21.11	21.03	20.96	20.84	20.76	20.64	<24dBm
140	5700	18.77	--	--	--	--	--	--	--	<24dBm
149	5745	20.99	--	--	--	--	--	--	--	<30dBm
157	5785	21.22	21.15	21.07	21.00	20.95	20.83	20.79	20.69	<30dBm
165	5825	20.68	--	--	--	--	--	--	--	<30dBm

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

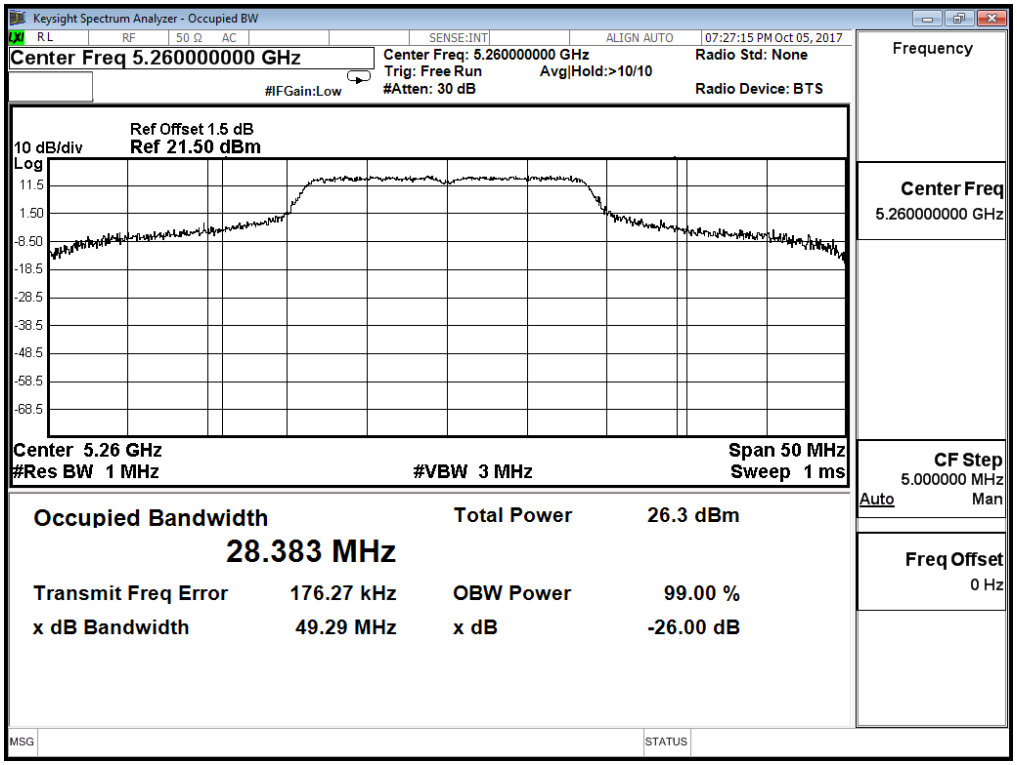
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit	
					(dBm)	dBm+10log(BW)
36	5180	--	18.4	18.40	24	--
40	5200	--	20.84	20.84	24	--
48	5240	--	20.24	20.24	24	--
52	5260	28.383	21.35	21.35	24	25.53
56	5280	27.194	21.11	21.11	24	25.34
64	5320	18.866	16.37	16.37	24	23.76
100	5500	18.843	18.79	18.79	24	23.75
120	5600	19.905	21.27	21.27	24	23.99
140	5700	18.841	18.77	18.77	24	23.75
149	5745	--	20.99	20.99	30	--
157	5785	--	21.22	21.22	30	--
165	5825	--	20.68	20.68	30	--

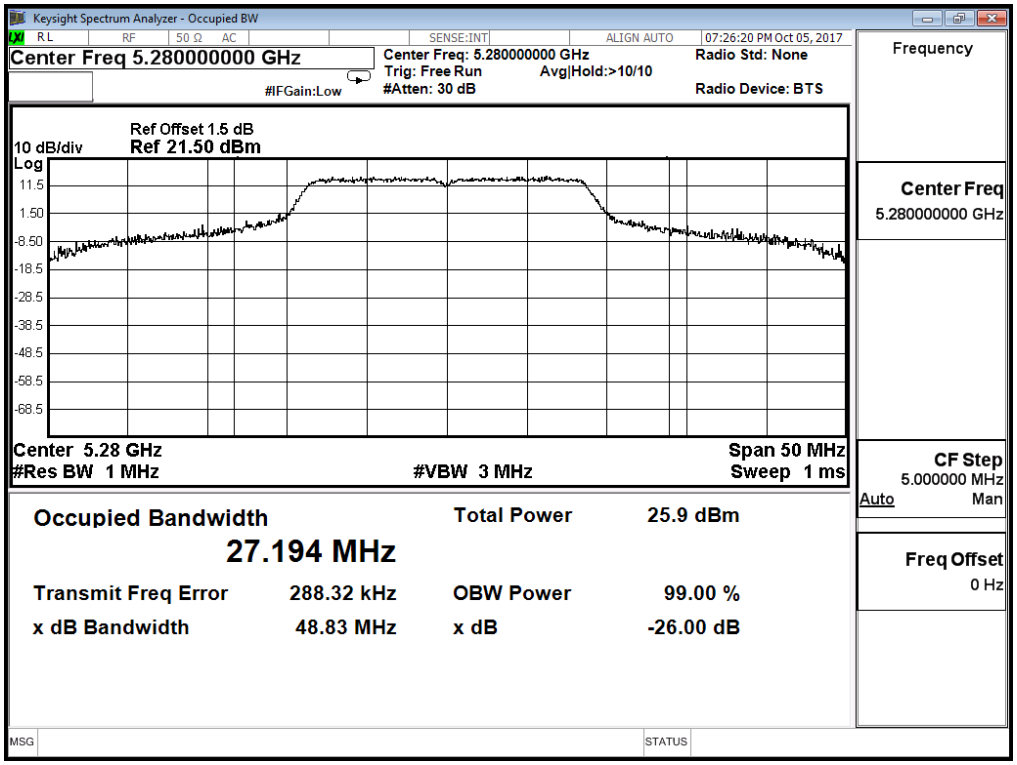
Note:Power Output Value =Reading value on average power meter + Cable loss

99% Occupied Bandwidth:

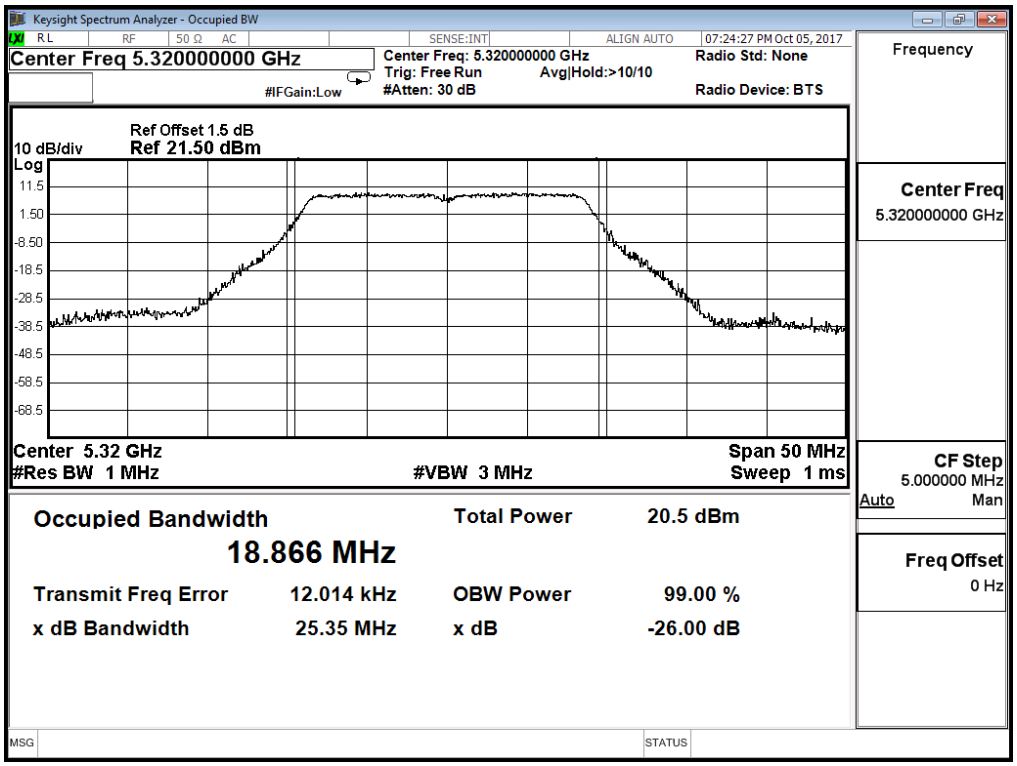
Channel 52:



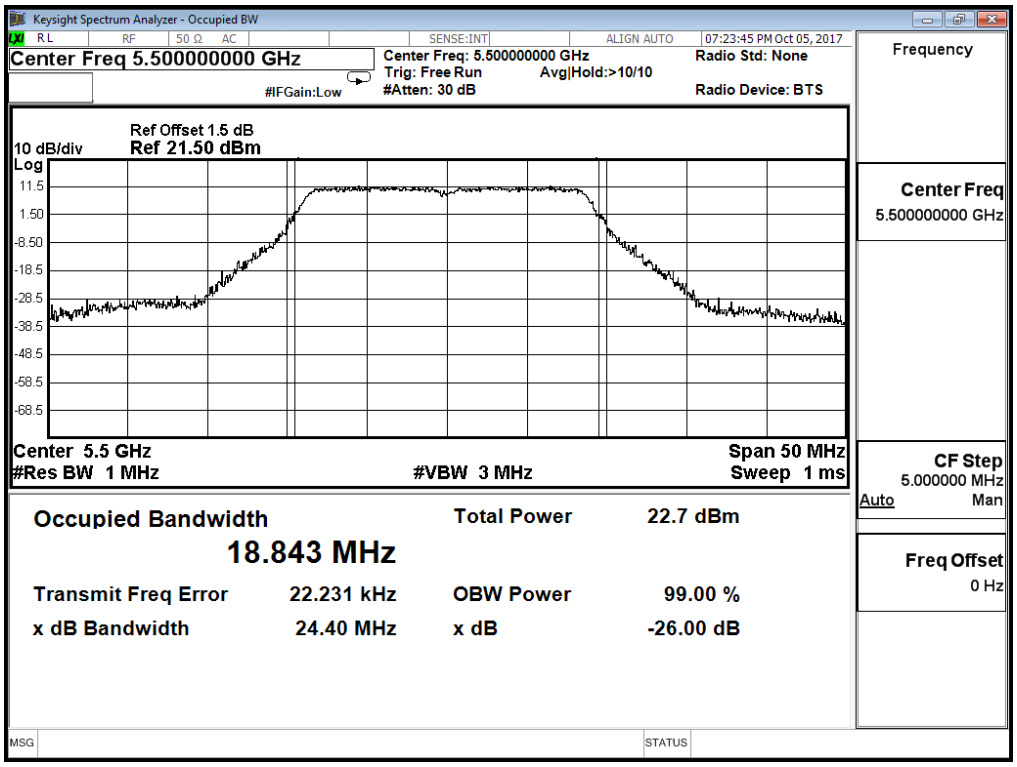
Channel 56:



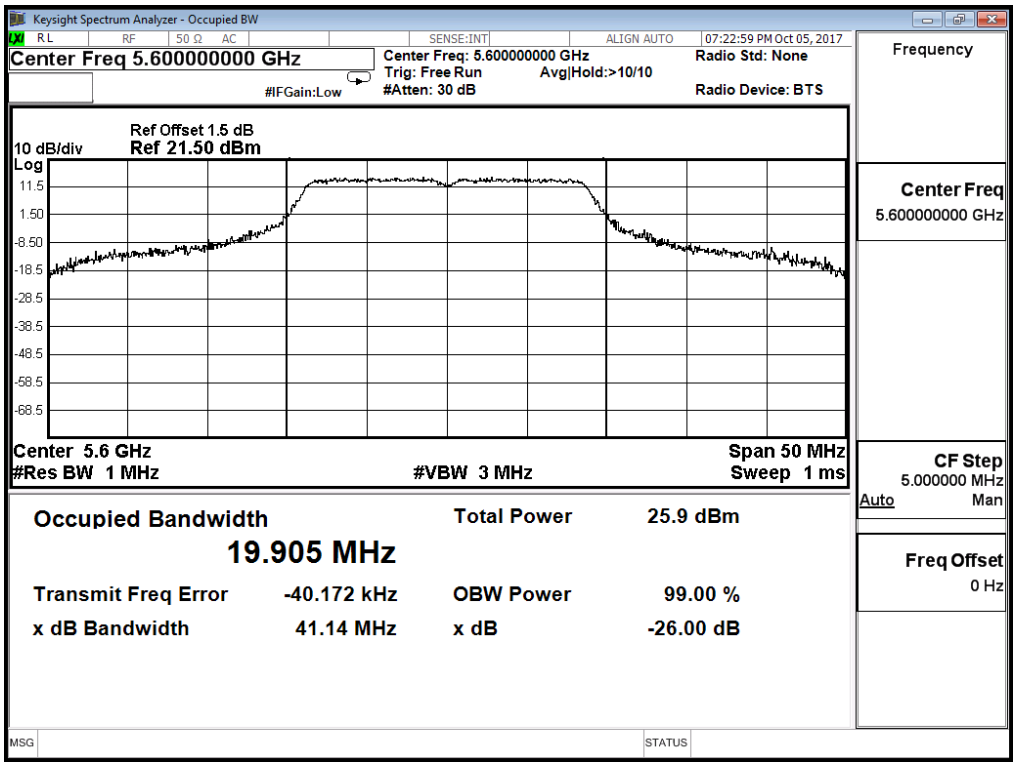
Channel 64:



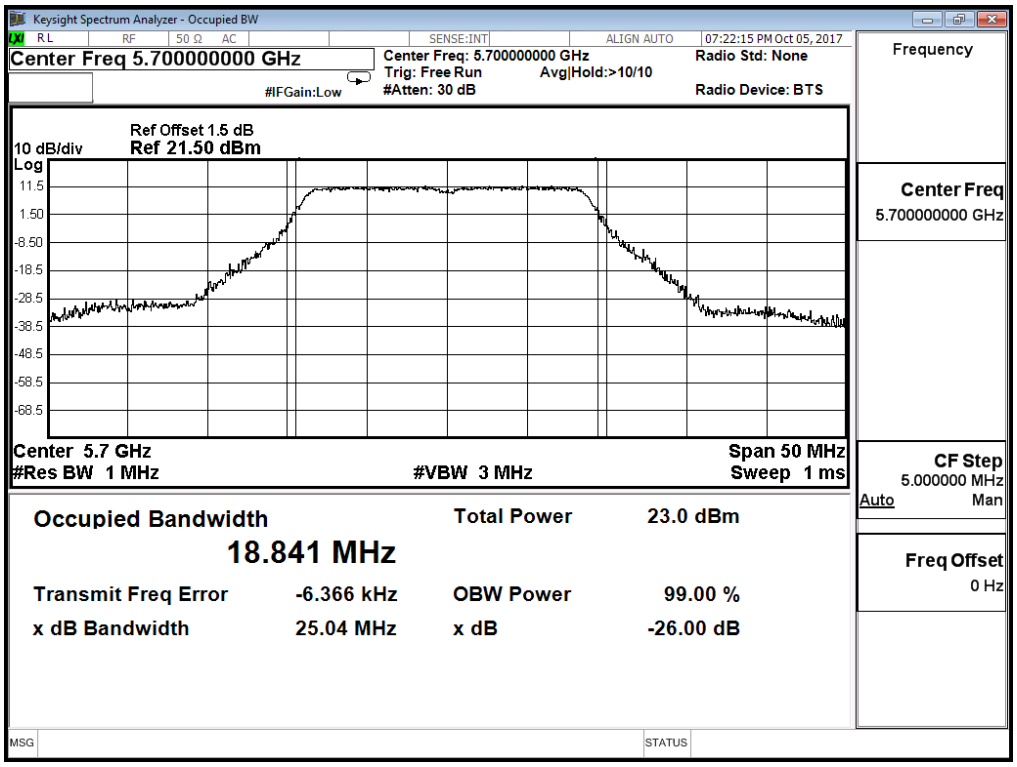
Channel 100:



Channel 120:



Channel 140:



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/18
Test Mode : Mode 2 SISO B: Transmit (802.11n-40BW 15Mbps)

Cable loss=1dB		Average Power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		15	30	45	60	90	120	135	150	
		Measurement Level (dBm)								
38	5190	18.24	18.16	18.04	17.96	17.89	17.71	17.64	17.56	<24dBm
46	5230	19.24	--	--	--	--	--	--	--	<24dBm
54	5270	18.65	18.58	18.42	18.39	18.24	18.12	18.09	17.94	<24dBm
62	5310	14.64	--	--	--	--	--	--	--	<24dBm
102	5510	16.36	--	--	--	--	--	--	--	<24dBm
118	5590	21.32	21.28	21.17	21.05	20.94	20.86	20.74	20.62	<24dBm
134	5670	19.39	--	--	--	--	--	--	--	<24dBm
151	5755	18.64	18.58	18.51	18.42	18.34	18.28	18.11	18.02	<30dBm
159	5795	19.76	--	--	--	--	--	--	--	<30dBm

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

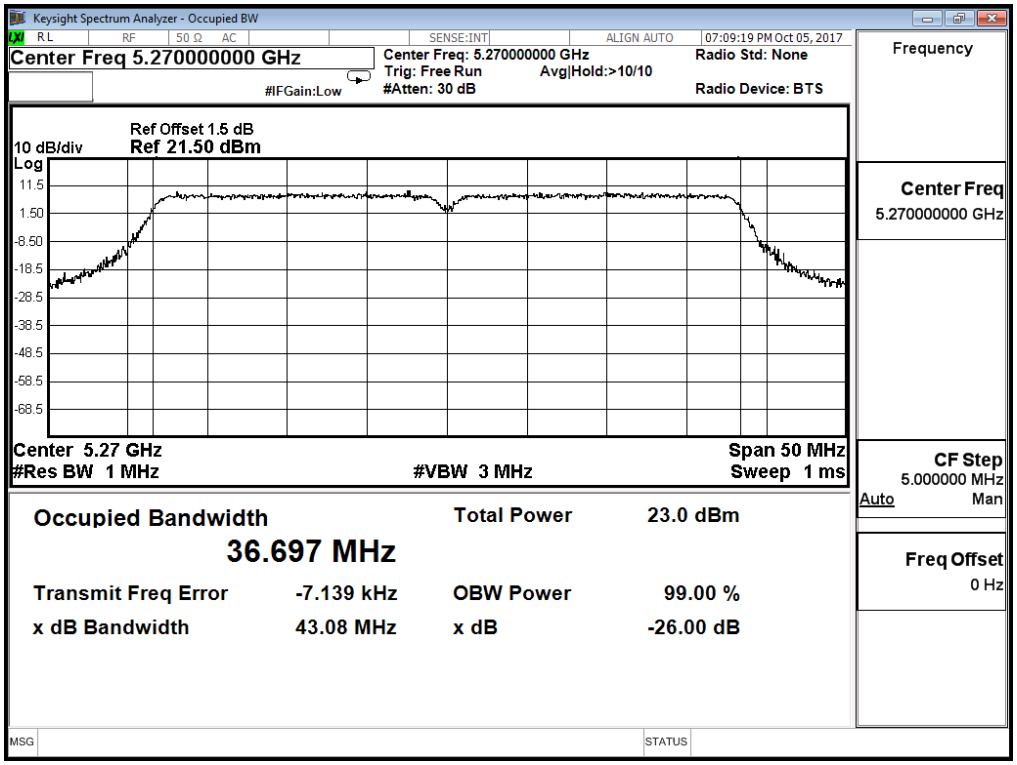
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit	
					(dBm)	dBm+10log(BW)
38	5190	--	18.24	18.24	24	--
46	5230	--	19.24	19.24	24	--
54	5270	36.697	18.65	18.65	24	26.65
62	5310	36.749	14.64	14.64	24	26.65
102	5510	36.809	16.36	16.36	24	26.66
118	5590	36.809	21.32	21.32	24	26.66
134	5670	36.802	19.39	19.39	24	26.66
151	5755	--	18.64	18.64	30	--
159	5795	--	19.76	19.76	30	--

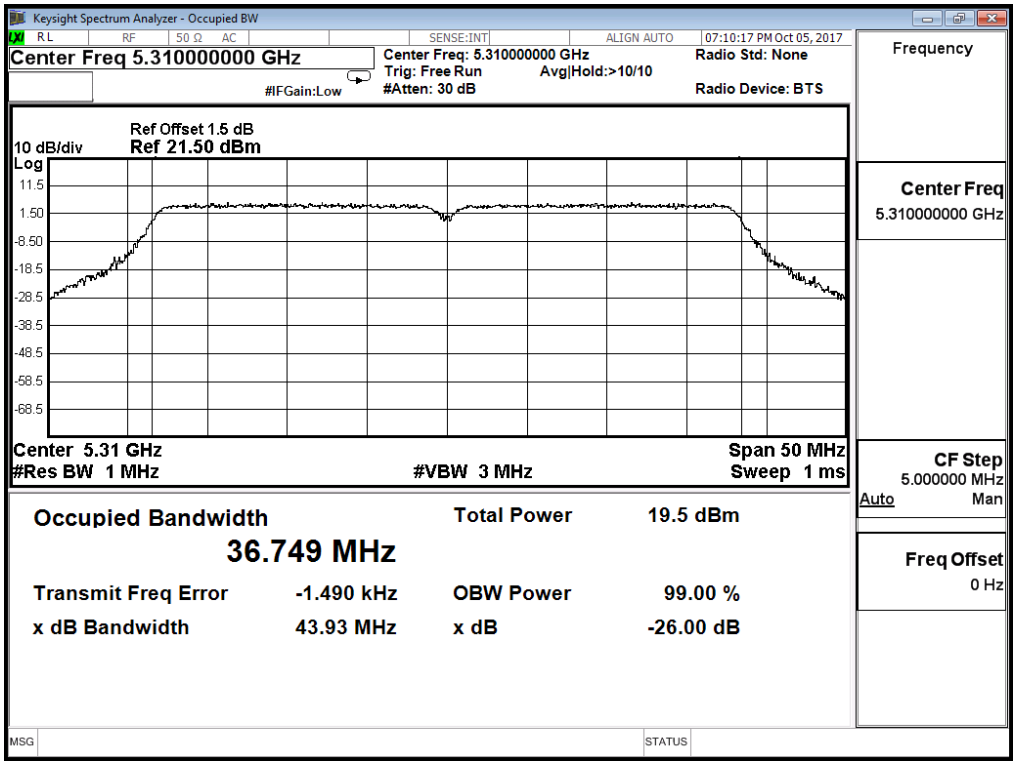
Note: Power Output Value =Reading value on average power meter + Cable loss

99% Occupied Bandwidth:

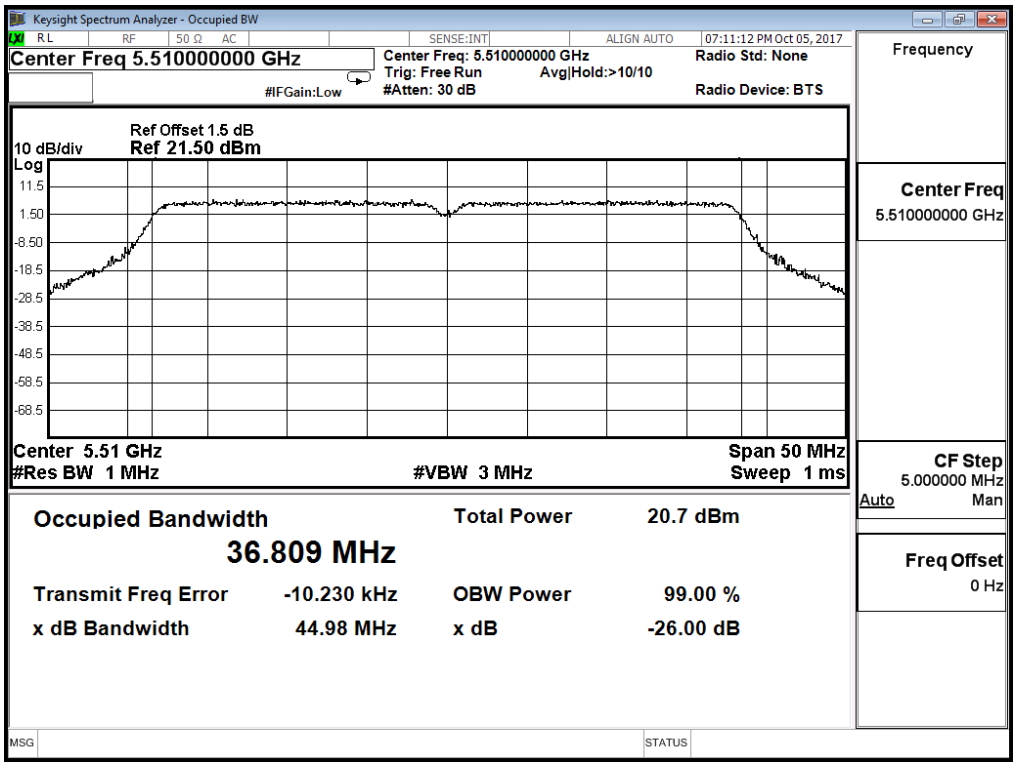
Channel 54



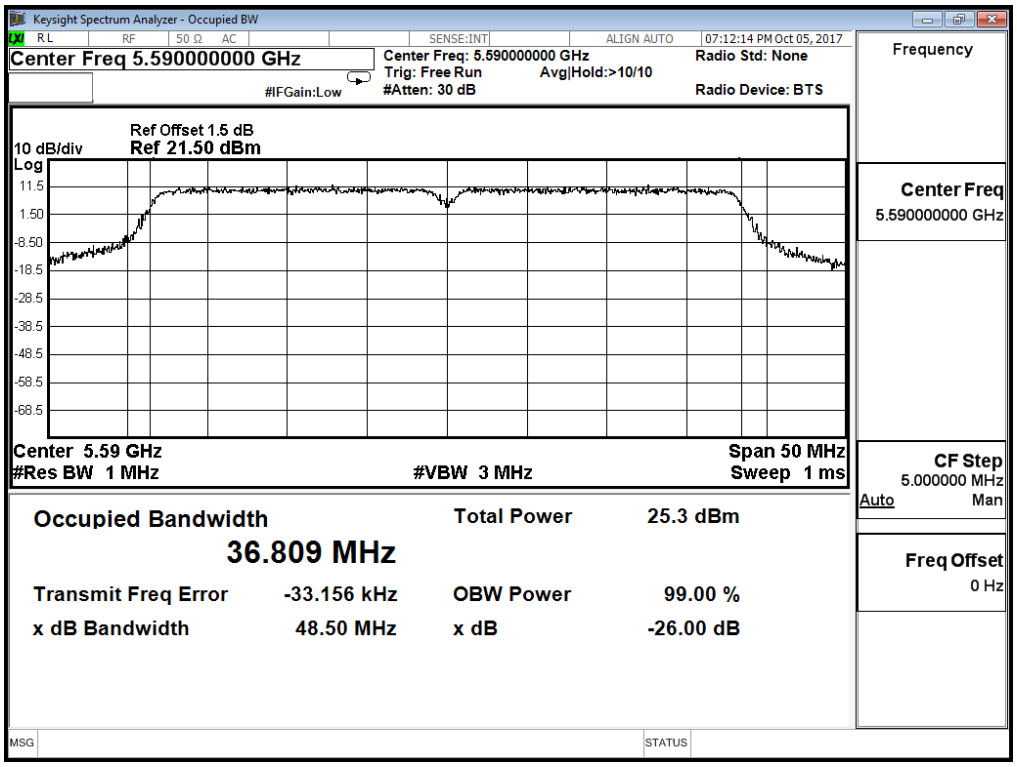
Channel 62



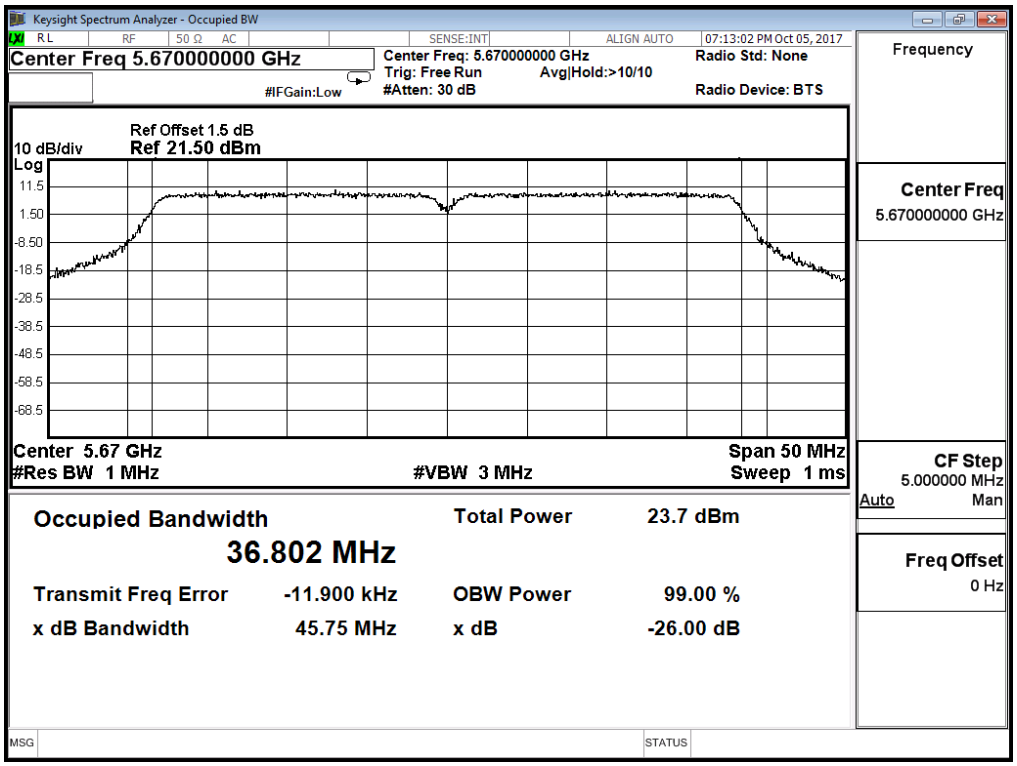
Channel 102



Channel 118



Channel 134


Keysight Spectrum Analyzer - Occupied BW
RL
RF
50 Ω AC
SENSE:INT
ALIGN AUTO
07:13:02 PM Oct 05, 2017
Center Freq 5.670000000 GHz
Center Freq: 5.670000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#IFGain:Low
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 1.5 dB
10 dB/div
Ref 21.50 dBm
Log
11.5
1.50
-8.50
-18.5
-28.5
-38.5
-48.5
-58.5
-68.5
Center Freq
5.670000000 GHz
Center 5.67 GHz
#Res BW 1 MHz
#VBW 3 MHz
Span 50 MHz
Sweep 1 ms
CF Step
5.000000 MHz
Auto
Man
Occupied Bandwidth
36.802 MHz
Total Power
23.7 dBm
Freq Offset
0 Hz
Transmit Freq Error
-11.900 kHz
OBW Power
99.00 %
x dB Bandwidth
45.75 MHz
x dB
-26.00 dB
MSG
STATUS

Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/18
Test Mode : Mode 2 SISO B: Transmit (802.11ac-20BW-7.2Mbps)

Cable loss=1dB		Average Power									
Channel No.	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
		Measurement Level (dBm)									
144 (Band3)	5720	19.77	19.62	19.54	19.43	19.38	19.31	19.25	19.17	19.06	<24dBm
144 (Band4)	5720	14.19	14.11	14.05	13.99	13.84	13.76	13.69	13.58	13.42	<30dBm

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

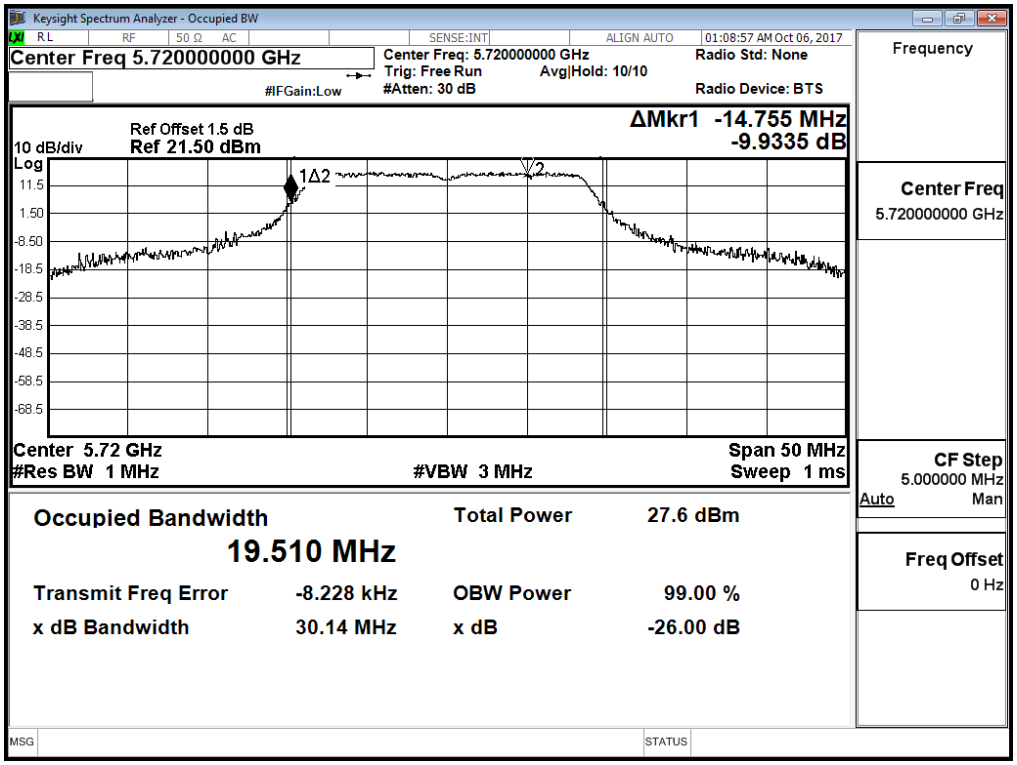
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit		Result
					(dBm)	dBm+10log(BW)	
144(Band3)	5720	14.755	19.77	19.77	24	22.69	Pass
144(Band4)	5720	--	14.19	14.19	30	--	Pass

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

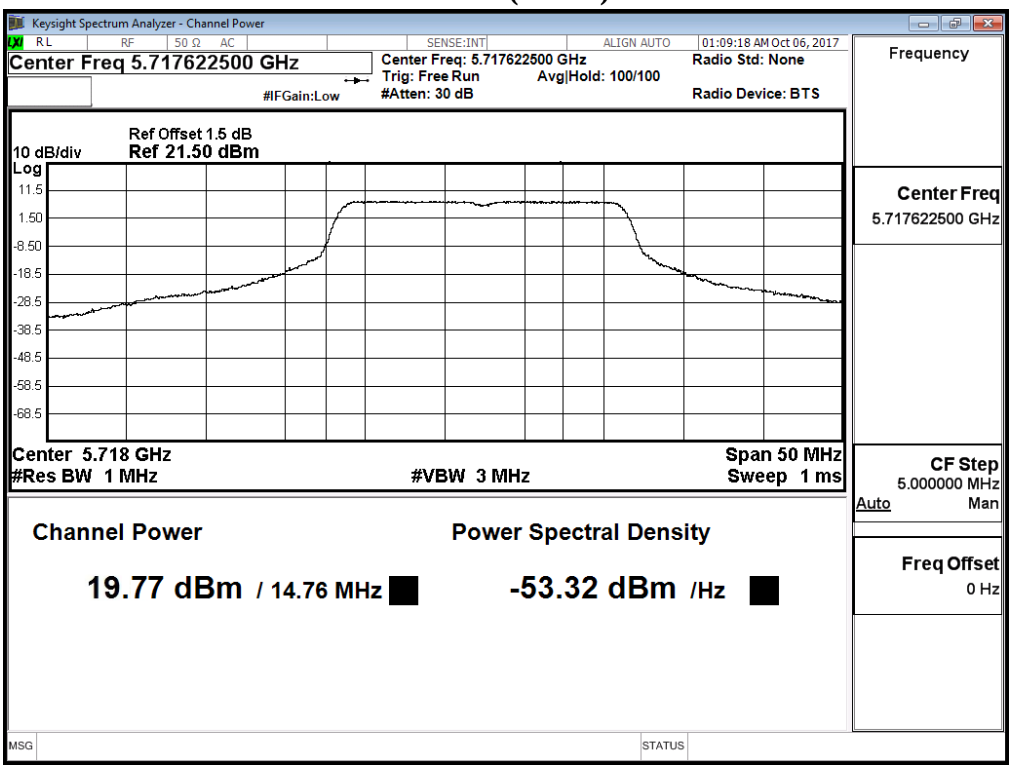
99% Occupied Bandwidth:

Channel 144

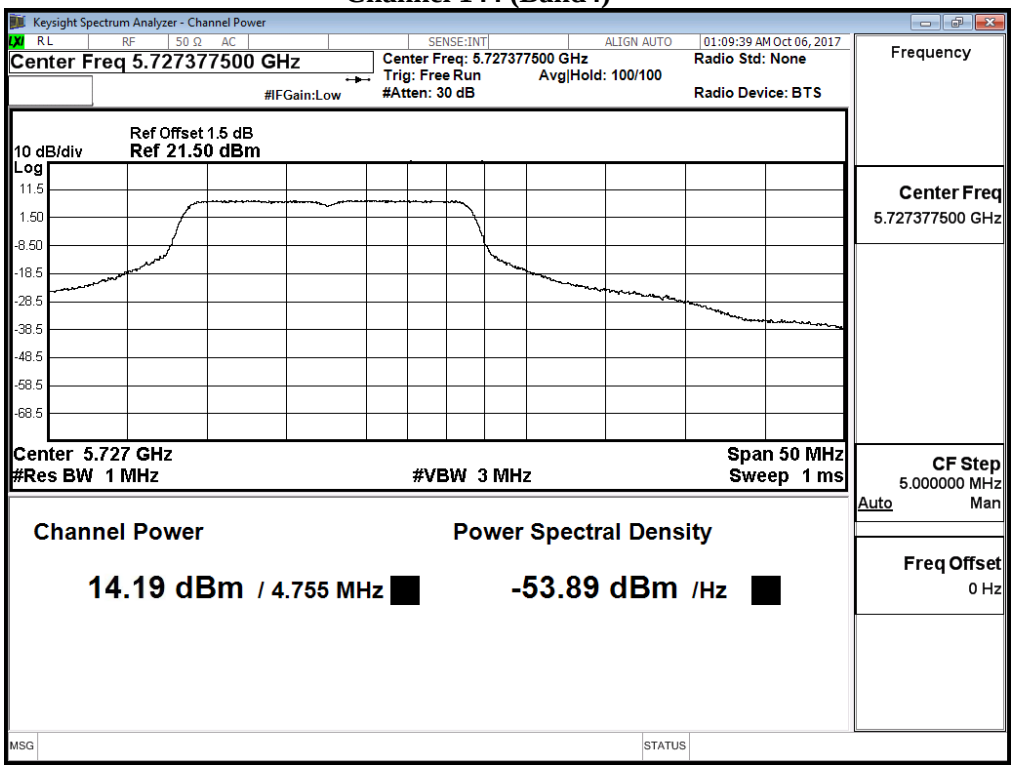


Maximum conducted output power:

Channel 144 (Band3)



Channel 144 (Band4)



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/18
Test Mode : Mode 2 SISO B: Transmit (802.11ac-40BW-15Mbps)

Cable loss=1dB		Average Power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
142F(Band3)	5710	19.85	19.77	19.63	19.58	19.46	19.37	19.26	19.12	19.03	<24dBm
142F(Band4)	5710	9.88	9.79	9.72	9.64	9.58	9.51	9.45	9.38	9.33	<30dBm

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

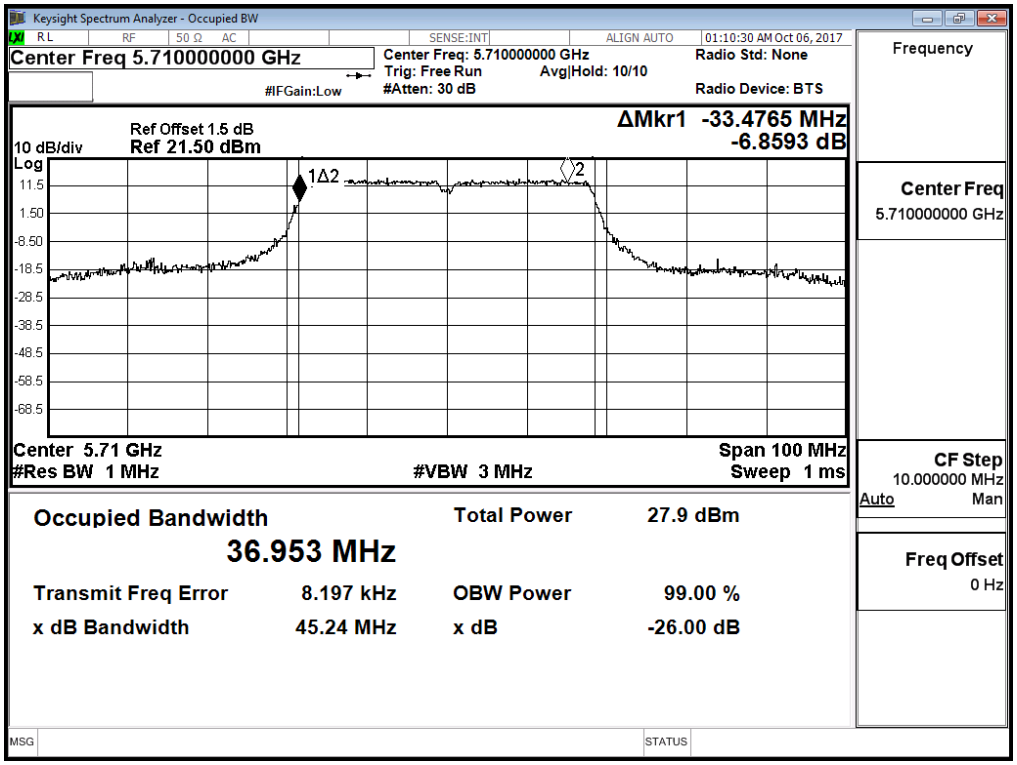
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit		Result
					(dBm)	dBm+10log(BW)	
142F(Band3)	5710	33.477	19.85	19.85	20.43	24	Pass
142F(Band4)	5710	--	9.88	9.88	11.86	30	Pass

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

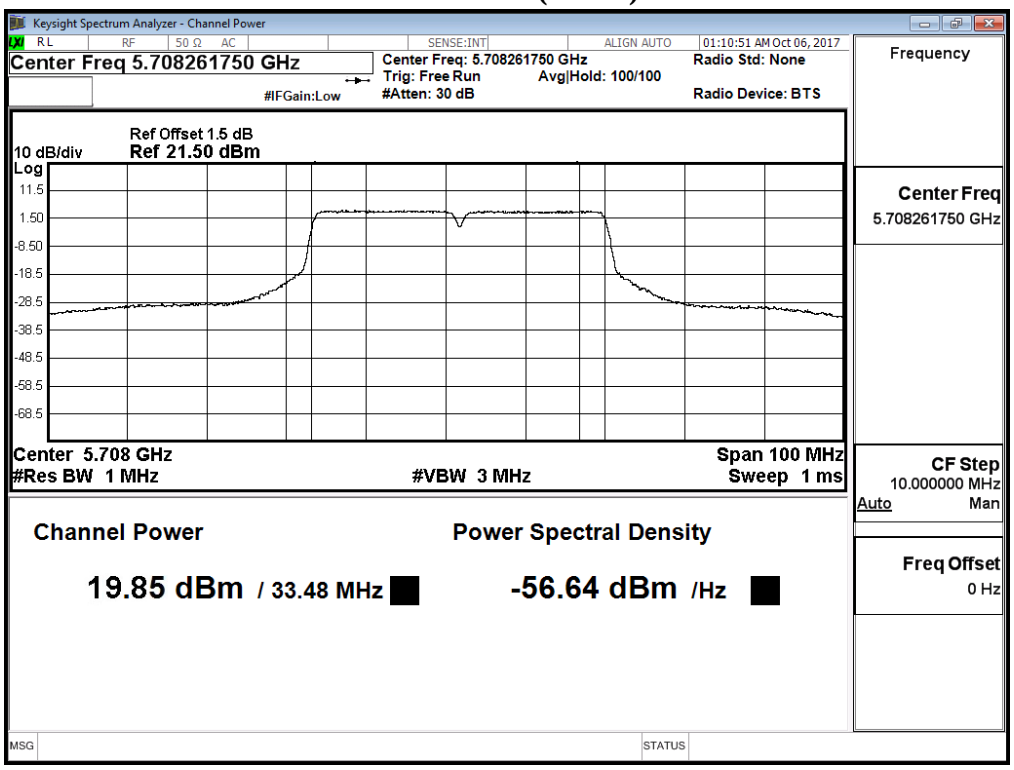
99% Occupied Bandwidth:

Channel 142

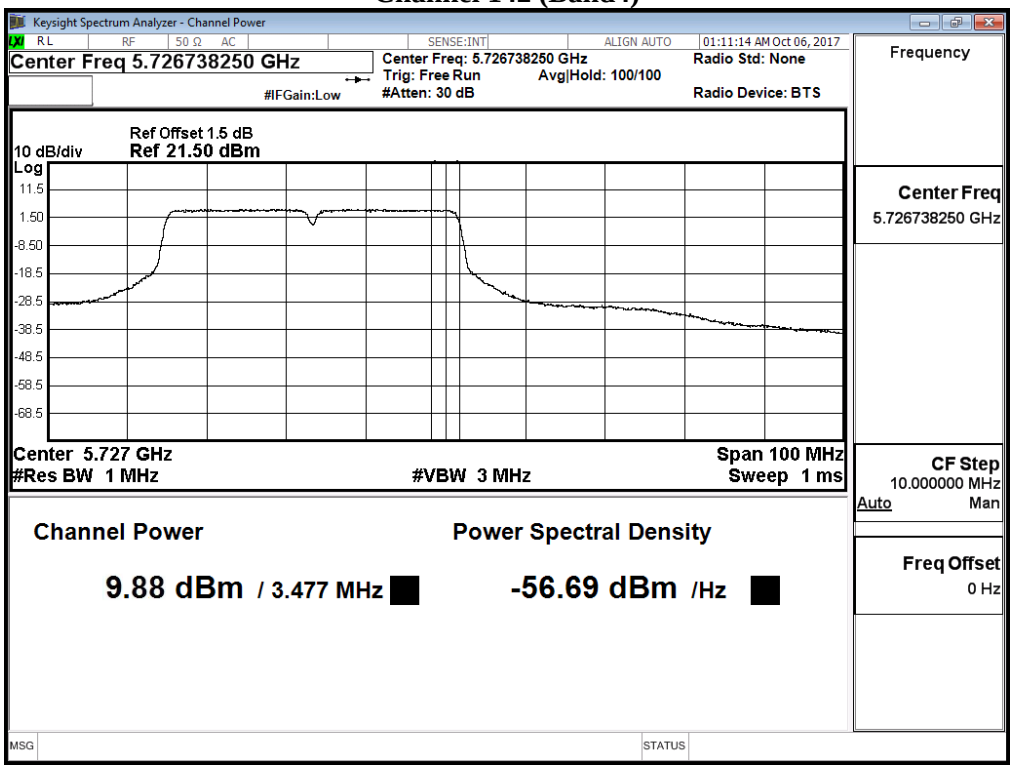


Maximum conducted output power:

Channel 142 (Band3)



Channel 142 (Band4)



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/18
Test Mode : Mode 2 SISO B: Transmit (802.11ac-80BW-32.5Mbps)

Cable loss=1dB		Average Power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	17.45	17.39	17.28	17.16	17.02	16.96	16.89	16.72	16.65	16.59	<24dBm
58	5290	15.10	15.00	14.94	14.86	14.77	14.62	14.51	14.35	14.28	14.18	<24dBm
106	5530	17.28	17.20	17.15	17.09	17.00	16.94	16.82	16.74	16.62	16.54	<24dBm
122	5610	20.59	20.51	20.44	20.38	20.25	20.18	20.09	20.00	19.95	19.82	<24dBm
138(Band3)	5690	20.25	20.18	20.11	20.05	19.98	19.90	19.84	19.78	19.71	19.66	<24dBm
138(Band4)	5690	4.08	4.01	3.95	3.88	3.80	3.75	3.69	3.61	3.55	3.50	<30dBm
155	5775	18.38	18.25	18.16	18.05	17.96	17.82	17.71	17.65	17.52	17.41	<30dBm

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

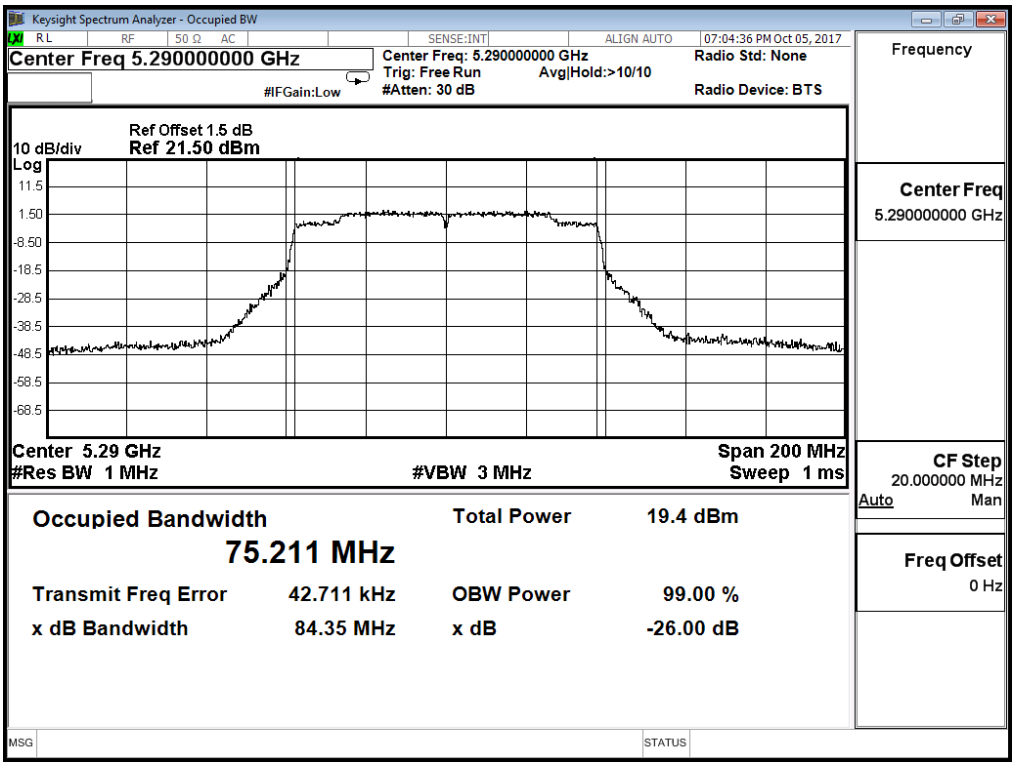
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit		Result
					(dBm)	dBm+10log(BW)	
42	5210	--	17.45	17.45	17.88	24	Pass
58	5290	75.211	15.10	15.10	15.18	24	Pass
106	5530	75.268	17.28	17.28	17.53	24	Pass
122	5610	75.434	20.59	20.59	20.80	24	Pass
138(Band3)	5690	72.688	20.25	20.25	20.43	24	Pass
138(Band4)	5690	--	4.08	4.08	5.66	30	Pass
155	5775	--	18.38	18.38	18.46	30	Pass

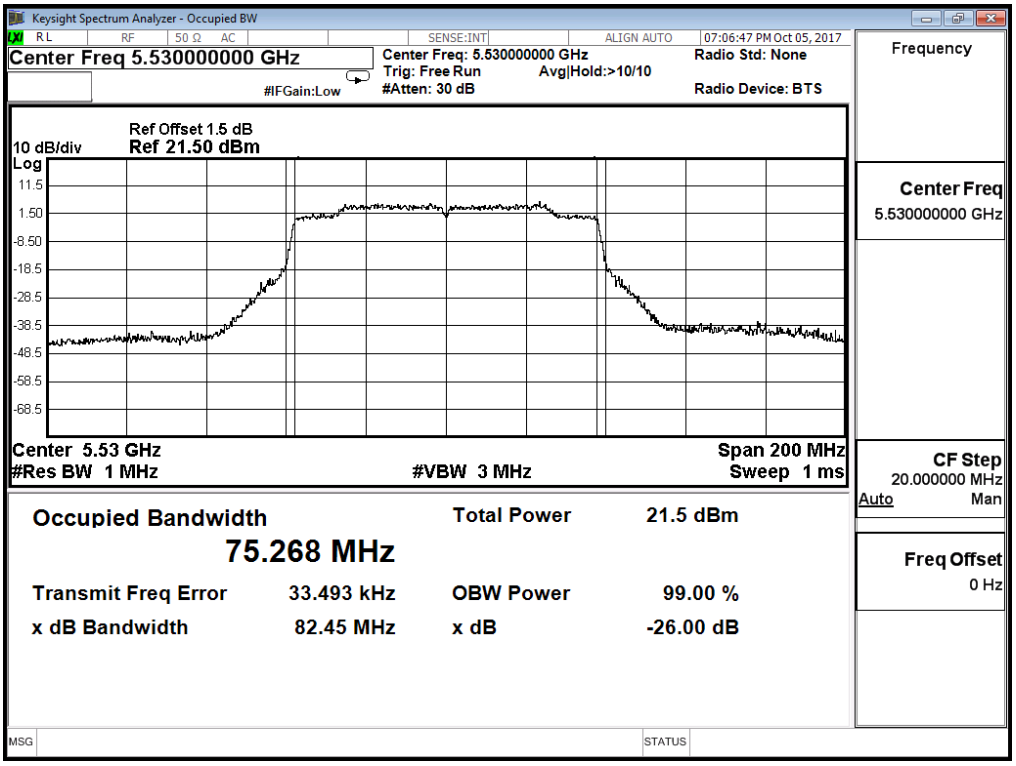
Note: Power Output Value =Reading value on average power meter + Cable loss

99% Occupied Bandwidth:

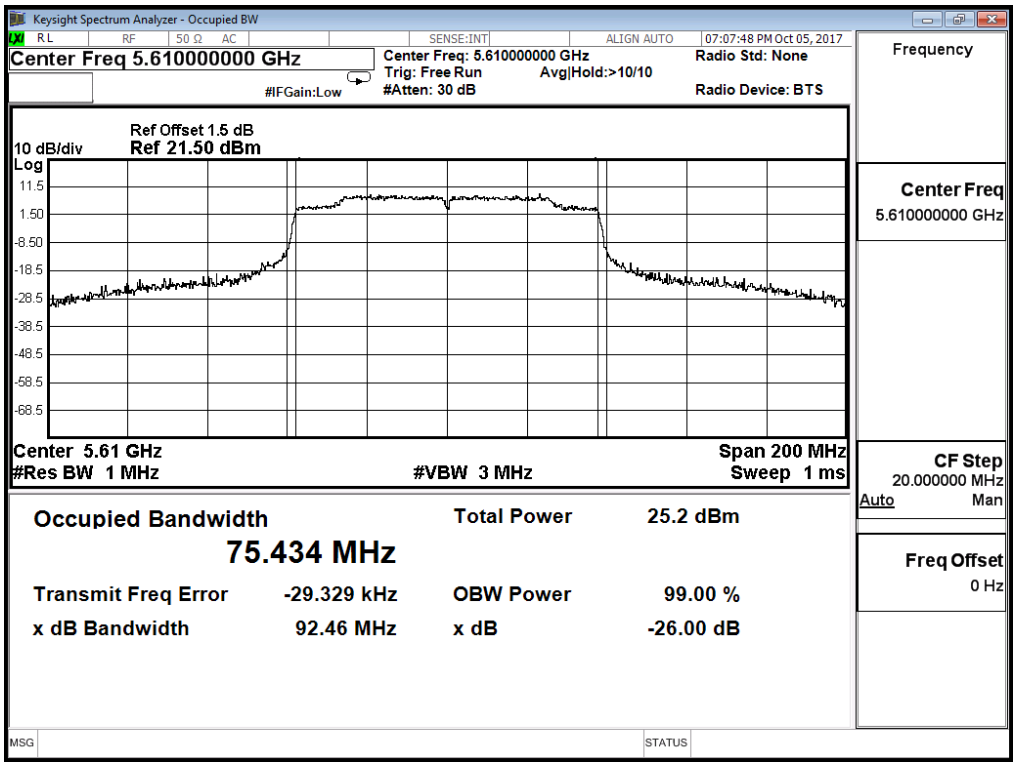
Channel 58



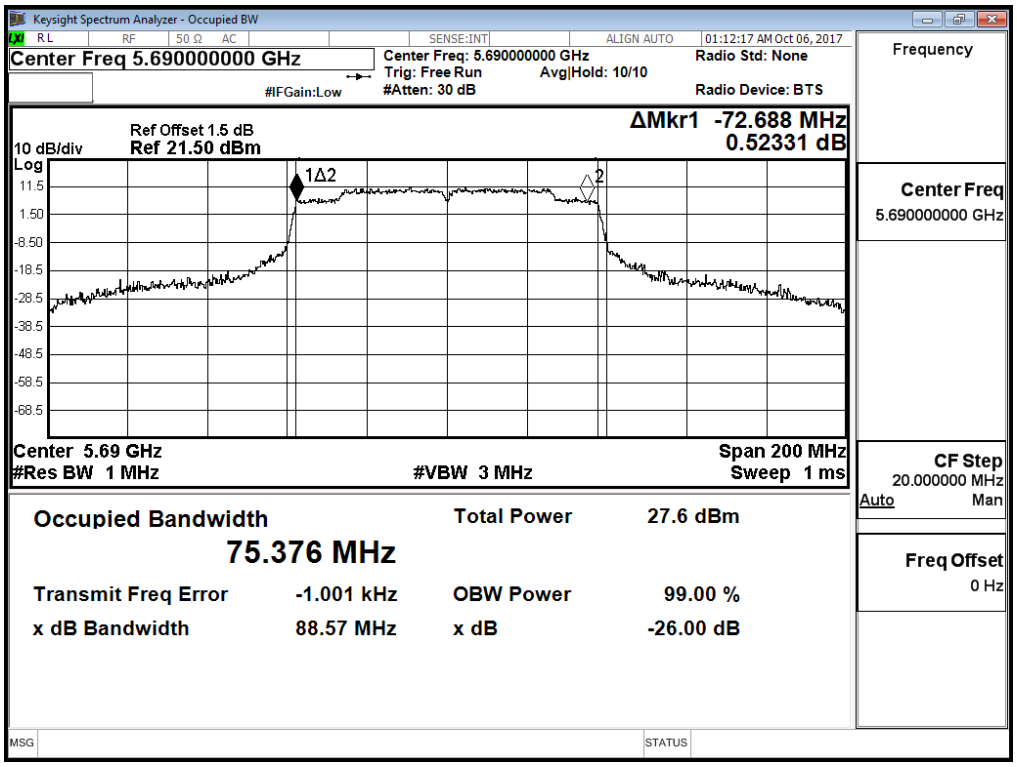
Channel 106



Channel 122

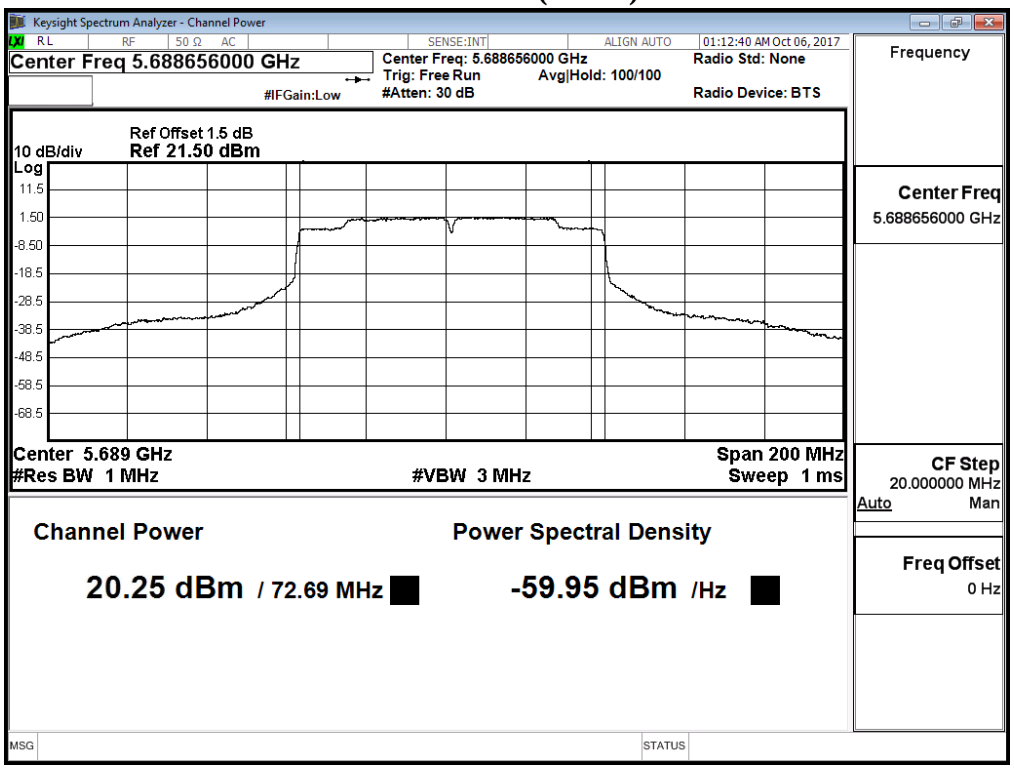


Channel 138



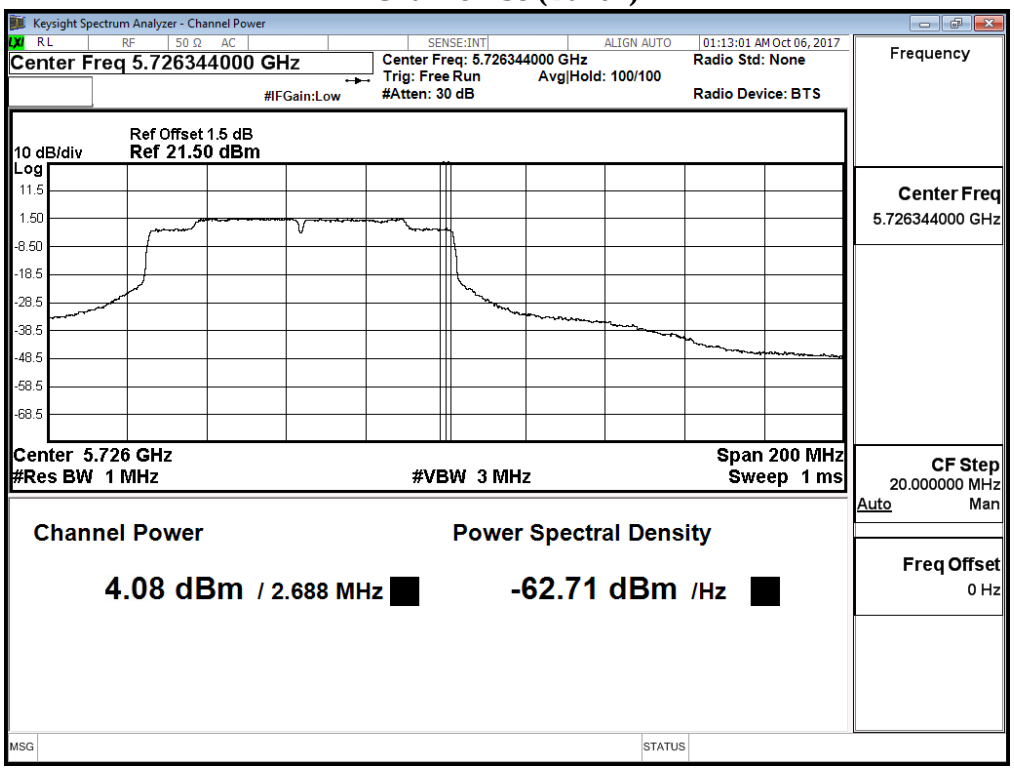
Maximum conducted output power:

Channel 138 (Band3)



Maximum conducted output power:

Channel 138 (Band4)



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/18
Test Mode : Mode 2 SISO B: Transmit (802.11ac-160BW-65Mbps)

Cable loss=1dB		Average Power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
50(Band1)	5250	10.29	10.21	10.15	10.09	10.01	9.95	9.88	9.82	9.75	9.70	<24dBm
50(Band2)	5250	10.25	10.19	10.11	10.06	9.99	9.91	9.85	9.77	9.70	9.65	<24dBm
114	5570	14.58	14.43	14.32	14.24	14.12	14.09	13.98	13.88	13.78	13.64	<24dBm

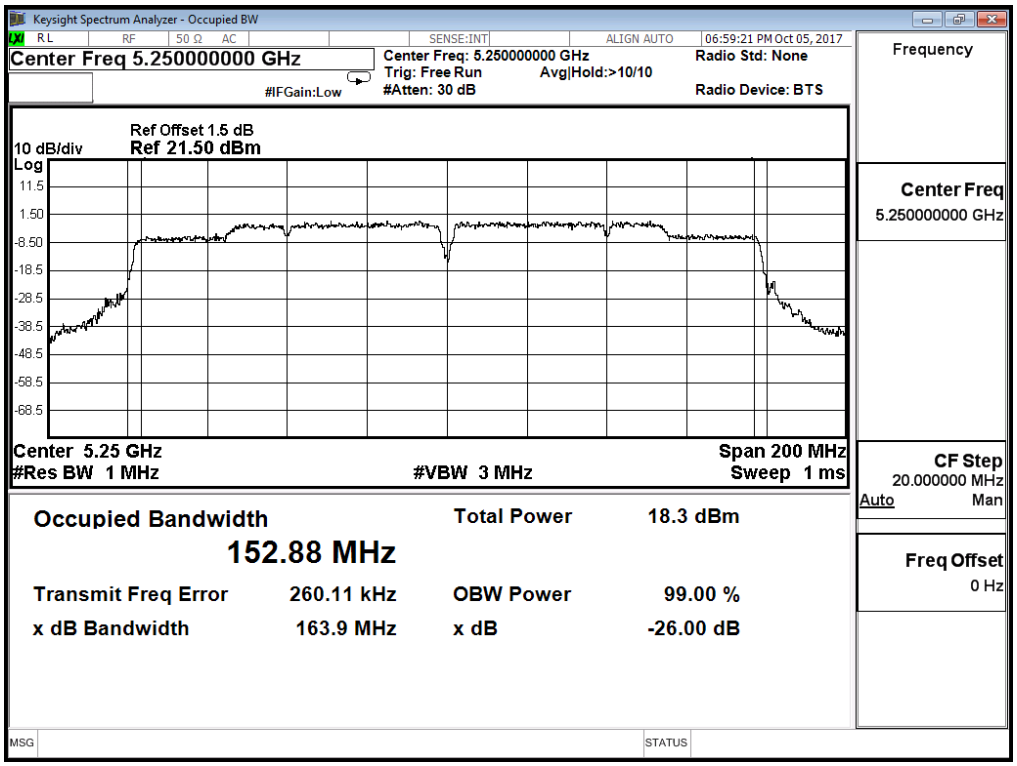
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

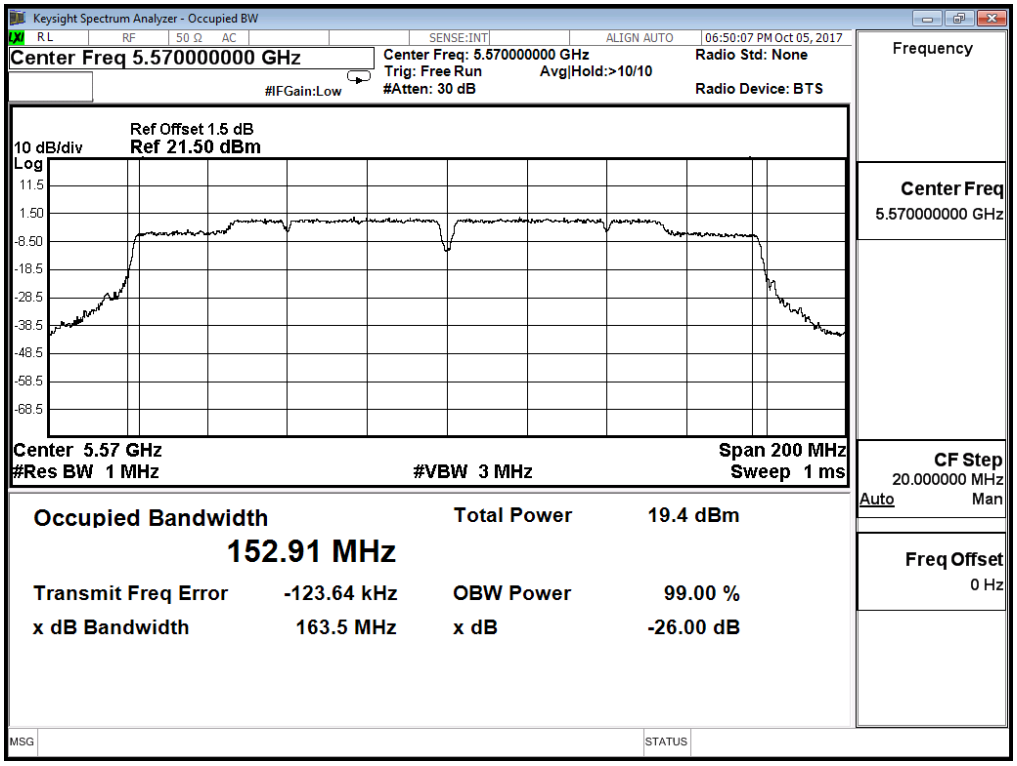
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Total Output Power (dBm)	Output Power Limit		Result
					(dBm)	dBm+10log(BW)	
50(Band1)	5250	--	10.29	10.29	24	--	Pass
50(Band2)	5250	76.440	10.25	10.25	24	29.83	Pass
114	5570	152.910	14.58	14.58	24	32.84	Pass

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

99% Occupied Bandwidth:
Channel 50

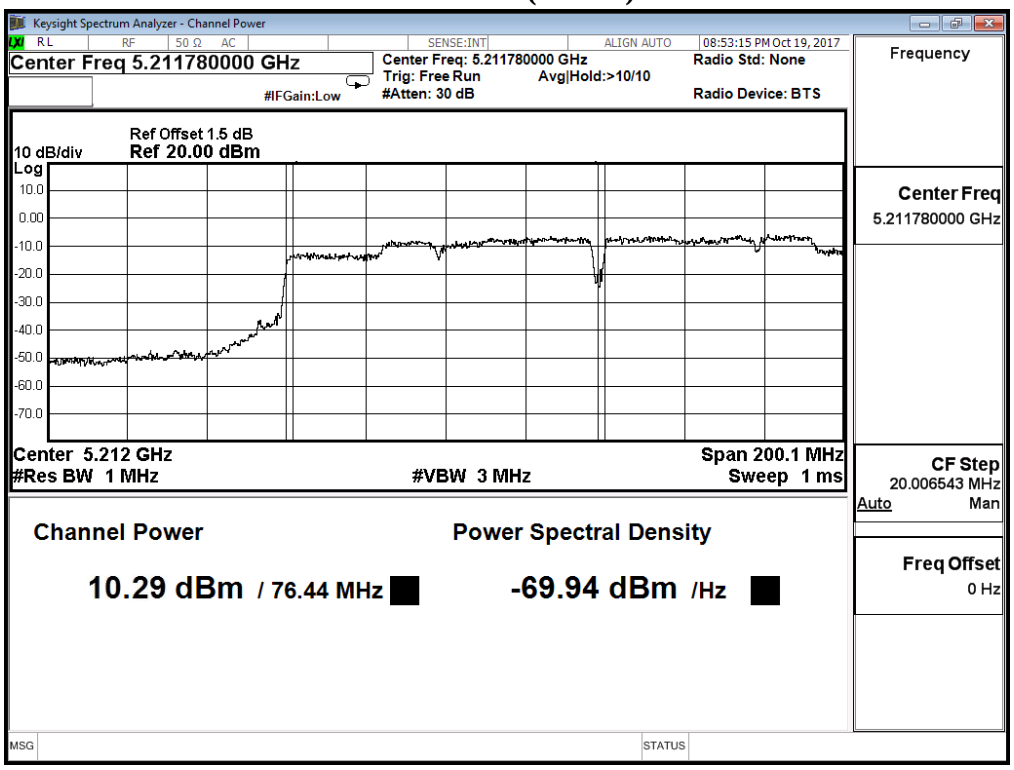


Channel 114



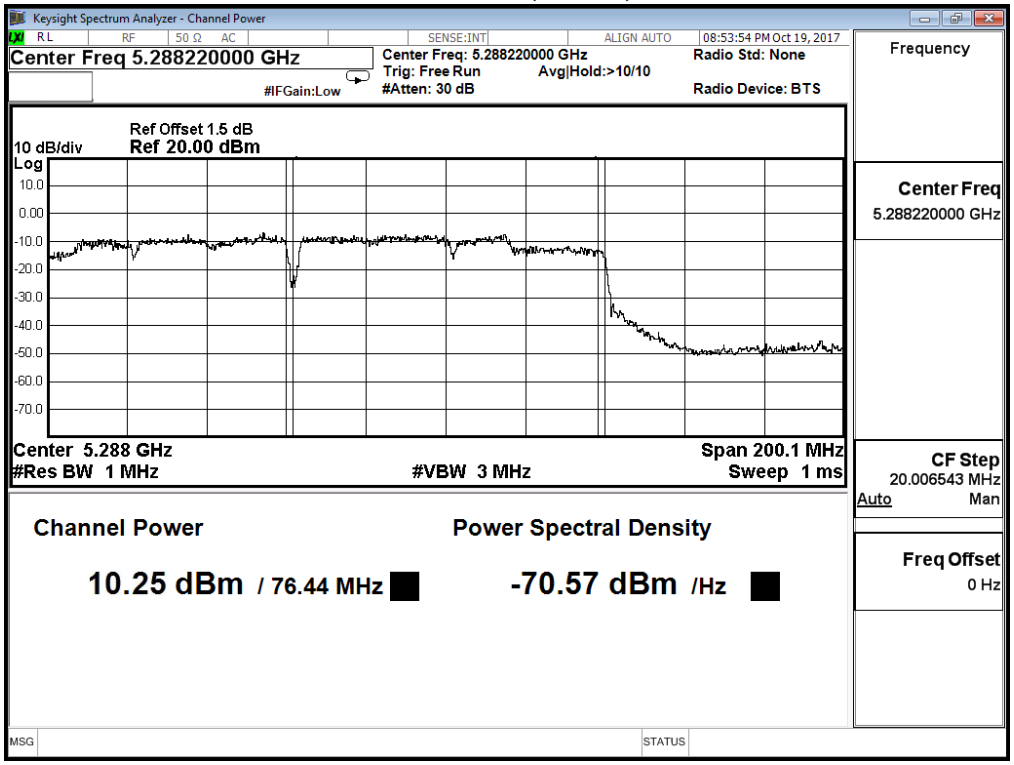
Maximum conducted output power:

Channel 50 (Band 1)



Maximum conducted output power:

Channel 50 (Band 2)



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/18
Test Mode : Mode 3 MIMO: Transmit (802.11n-20BW 14.4Mbps)

Chain A

Cable loss=1dB		Average 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	15.83	--	--	--	--	--	--	--	<24dBm
44	5220	19.52	19.46	19.37	19.28	19.18	19.12	19.07	19.00	<24dBm
48	5240	19.46	--	--	--	--	--	--	--	<24dBm
52	5260	19.64	--	--	--	--	--	--	--	<24dBm
56	5280	19.54	19.47	19.36	19.28	19.19	19.11	19.08	18.94	<24dBm
64	5320	15.6	--	--	--	--	--	--	--	<24dBm
100	5500	16.01	--	--	--	--	--	--	--	<24dBm
120	5600	19.46	19.32	19.24	19.18	19.06	18.96	18.88	18.76	<24dBm
140	5700	17.85	--	--	--	--	--	--	--	<24dBm
149	5745	20.99	--	--	--	--	--	--	--	<30dBm
157	5785	21.30	21.18	21.09	20.96	20.84	20.77	20.69	20.58	<30dBm
165	5825	20.93	--	--	--	--	--	--	--	<30dBm

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

Chain B

Cable loss=1dB		Average 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	15.56	--	--	--	--	--	--	--	<24dBm
44	5220	19.76	19.68	19.57	19.43	19.35	19.29	19.21	19.15	<24dBm
48	5240	19.61	--	--	--	--	--	--	--	<24dBm
52	5260	19.75	--	--	--	--	--	--	--	<24dBm
56	5280	19.66	19.54	19.47	19.36	19.28	19.18	19.13	19.04	<24dBm
64	5320	16.11	--	--	--	--	--	--	--	<24dBm
100	5500	16.22	--	--	--	--	--	--	--	<24dBm
120	5600	19.40	19.28	19.17	19.09	18.95	18.84	18.72	18.64	<24dBm
140	5700	18.24	--	--	--	--	--	--	--	<24dBm
149	5745	20.93	--	--	--	--	--	--	--	<30dBm
157	5785	21.21	21.18	21.08	20.94	20.86	20.75	20.68	20.58	<30dBm
165	5825	21.14	--	--	--	--	--	--	--	<30dBm

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

Maximum conducted output power Measurement:

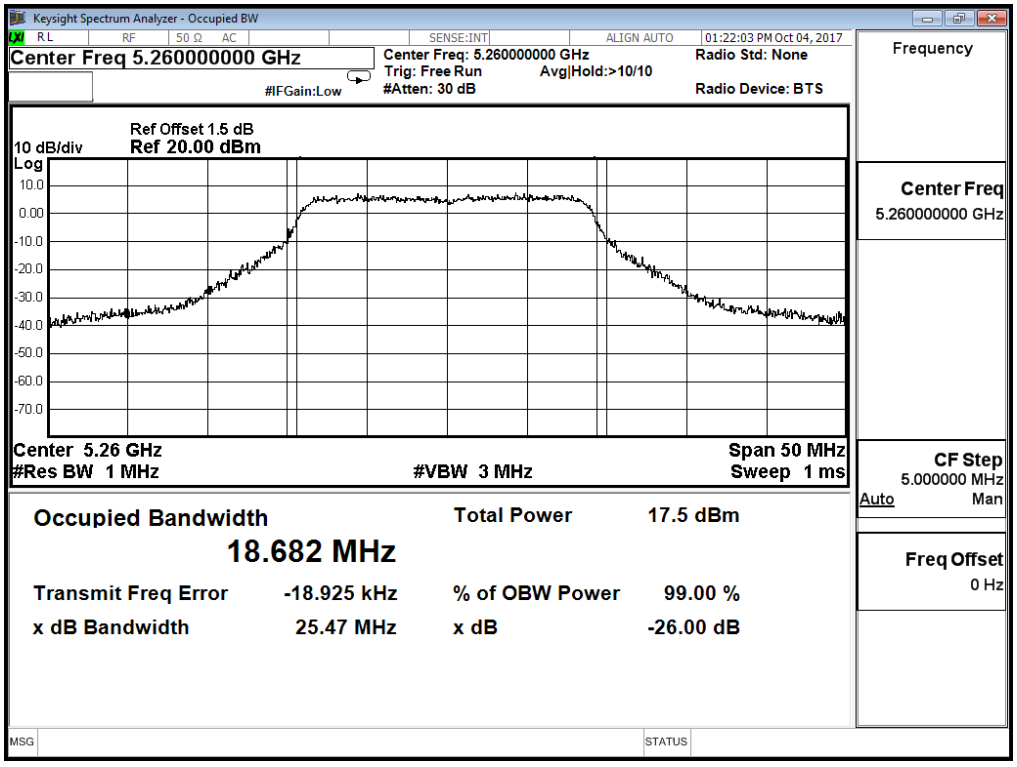
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit	
						(dBm)	dBm+10log(BW)
36	5180	--	15.83	15.56	18.71	24	--
44	5220	--	19.52	19.76	22.65	24	--
48	5240	--	19.46	19.61	22.55	24	--
52	5260	18.682	19.64	19.75	22.71	24	23.71
60	5300	18.859	19.54	19.66	22.61	24	23.76
64	5320	18.721	15.60	16.11	18.87	24	23.72
100	5500	18.603	16.01	16.22	19.13	24	23.70
120	5600	18.916	19.46	19.40	22.44	24	23.76
140	5700	18.633	17.85	18.24	21.06	24	23.70
149	5745	--	20.99	20.93	23.97	30	--
157	5785	--	21.30	21.21	24.27	30	--
165	5825	--	20.93	21.14	24.05	30	--

Note:

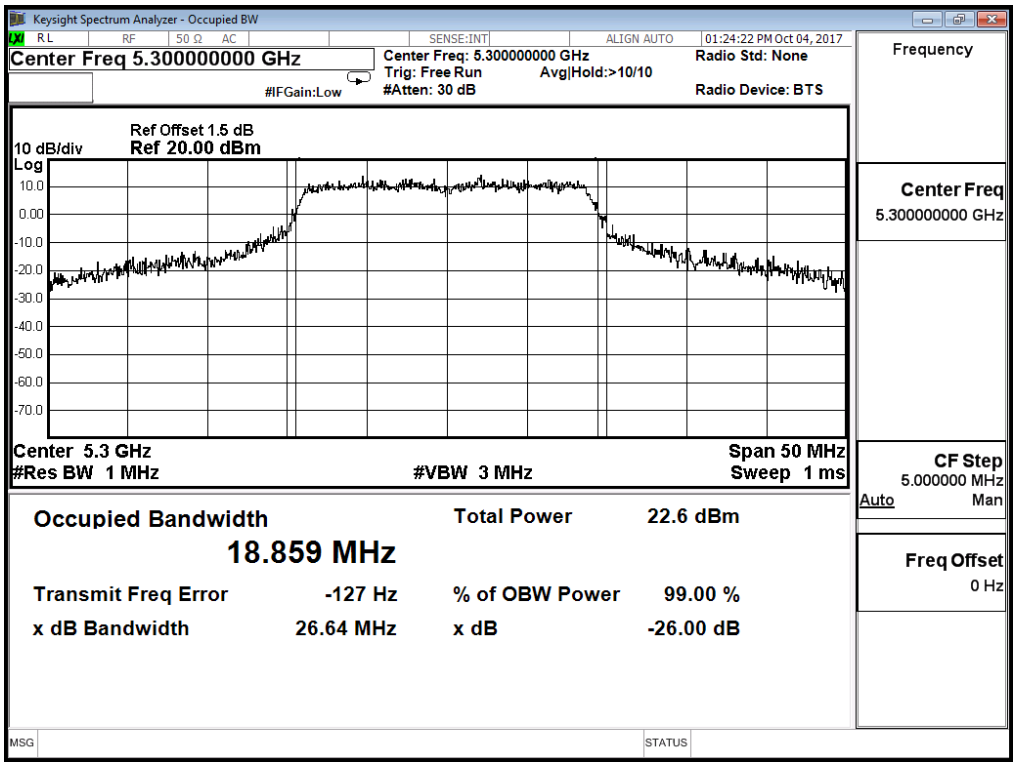
1. Power Output Value =Reading value on average power meter + Cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW))
3. 99% Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

99% Occupied Bandwidth:

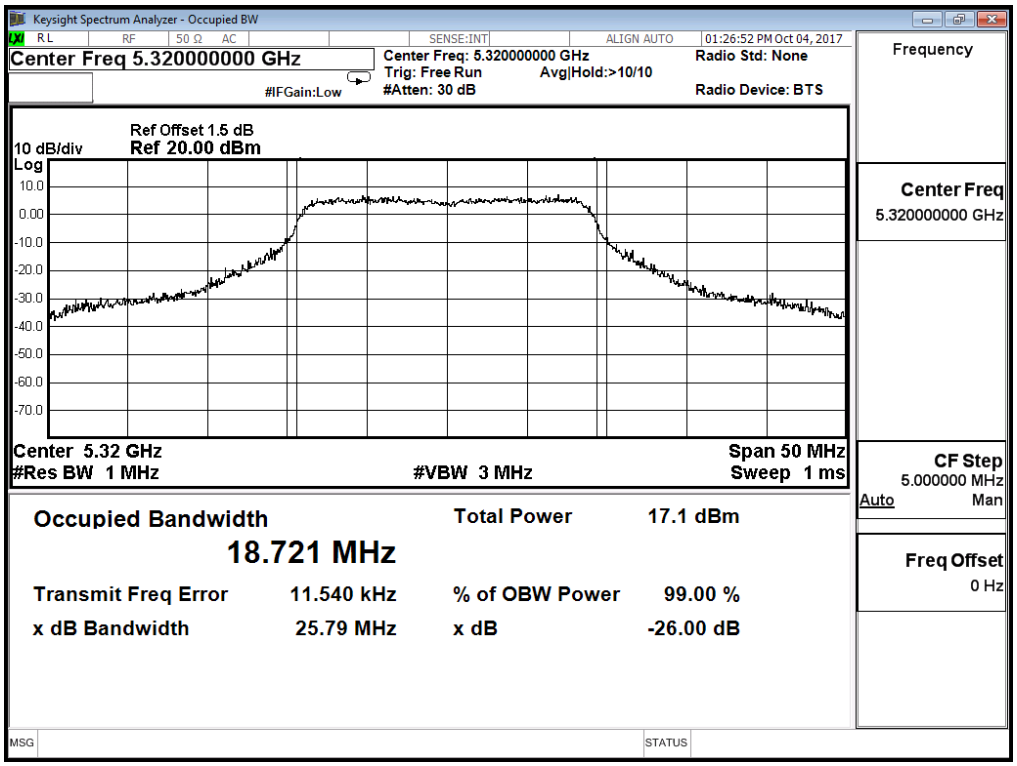
Channel 52 -Chain A



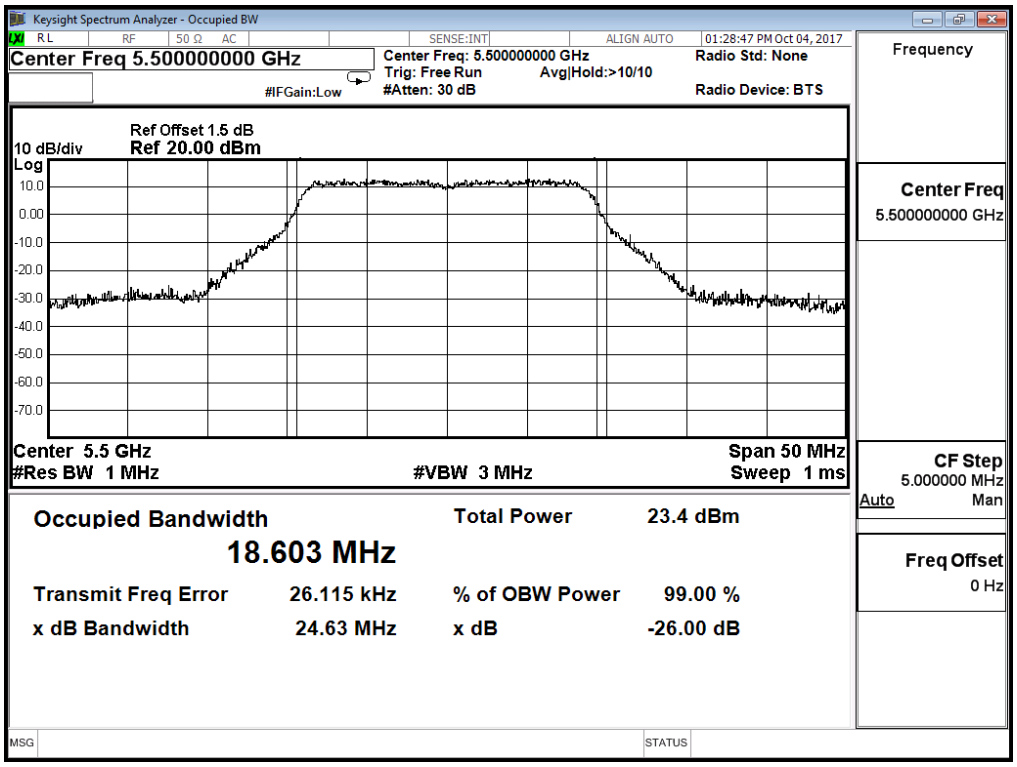
Channel 56 -Chain A



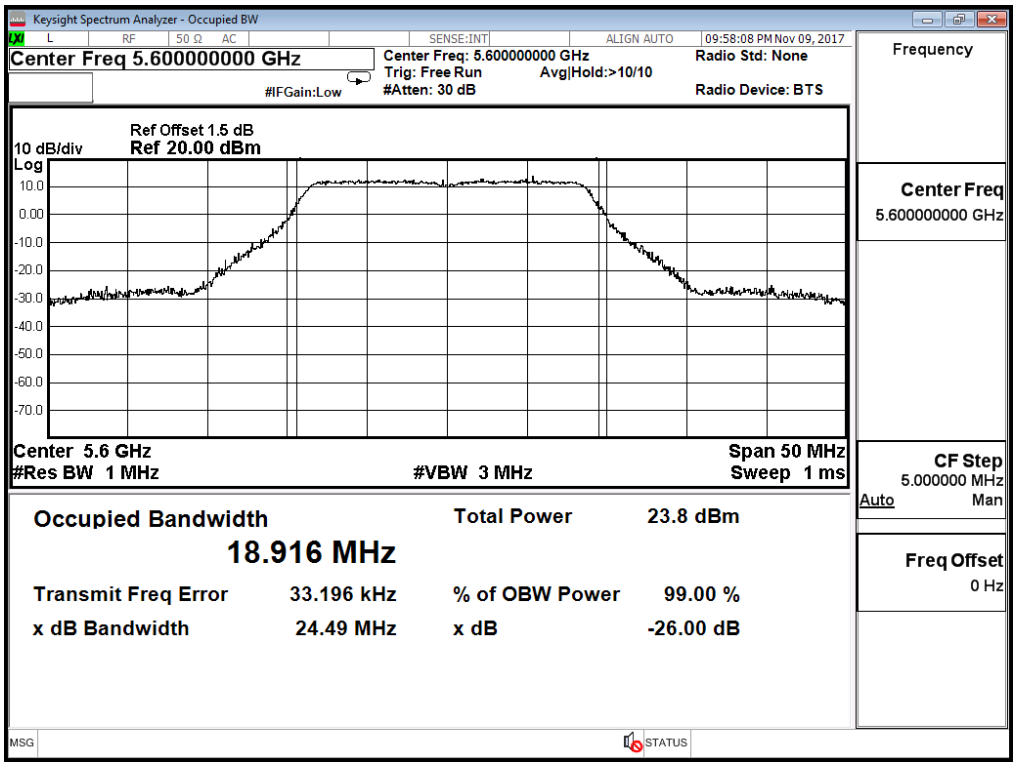
Channel 64 -Chain A



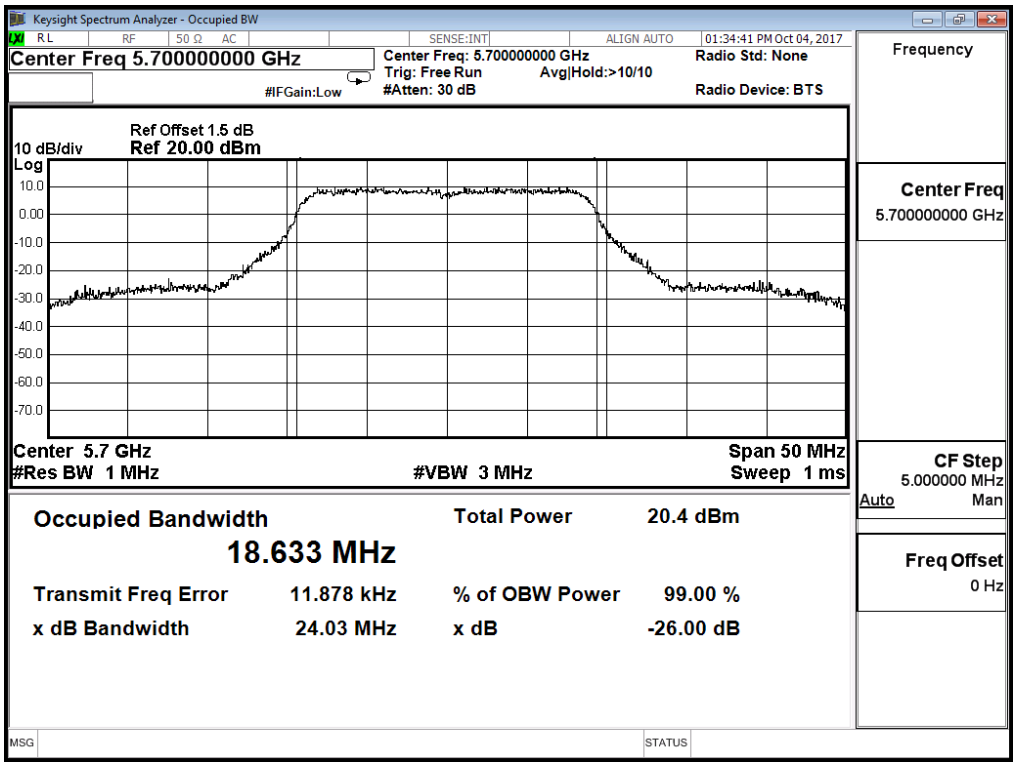
Channel 100 -Chain A



Channel 120 -Chain A

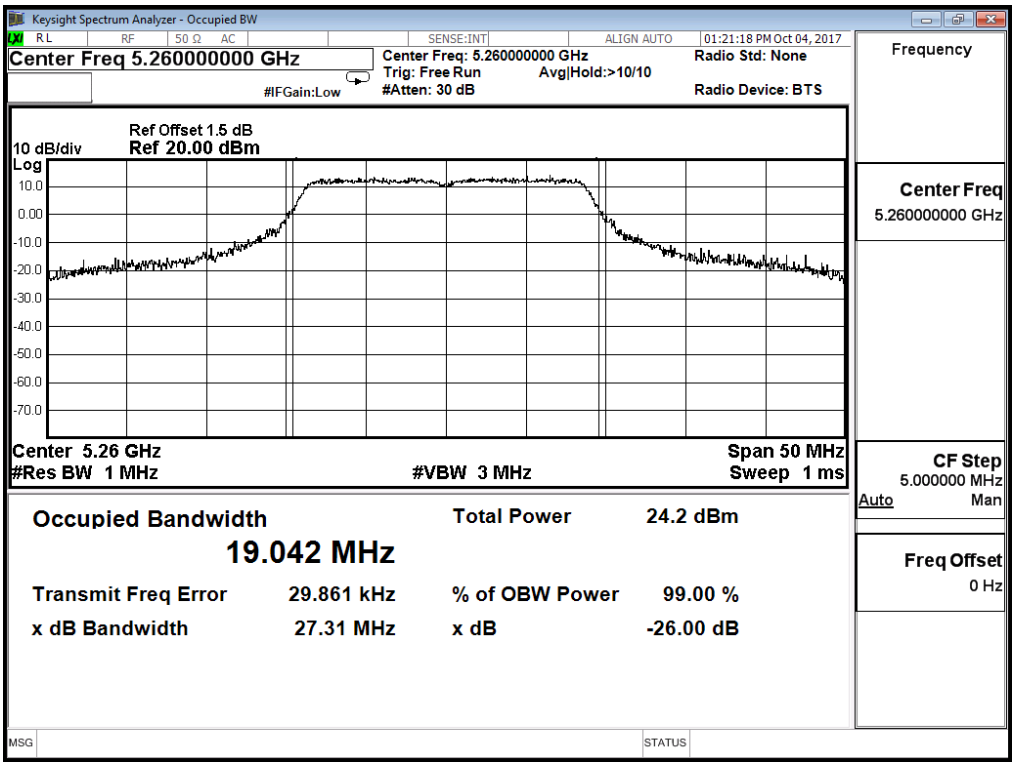


Channel 140 -Chain A

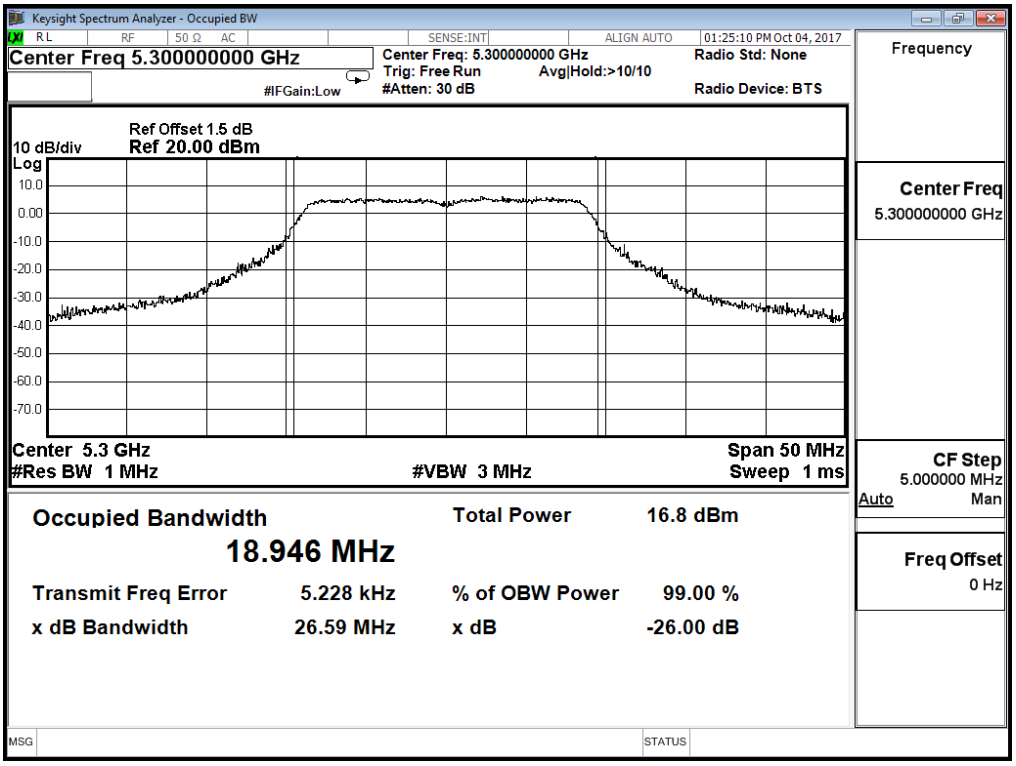


99% Occupied Bandwidth:

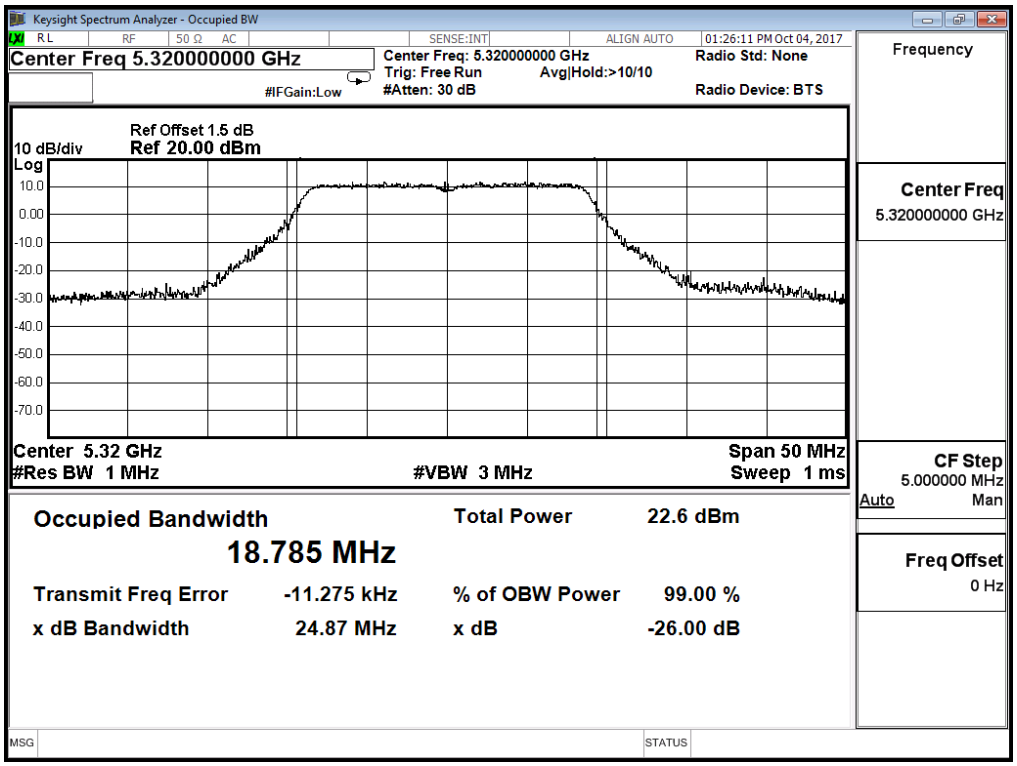
Channel 52 -Chain B



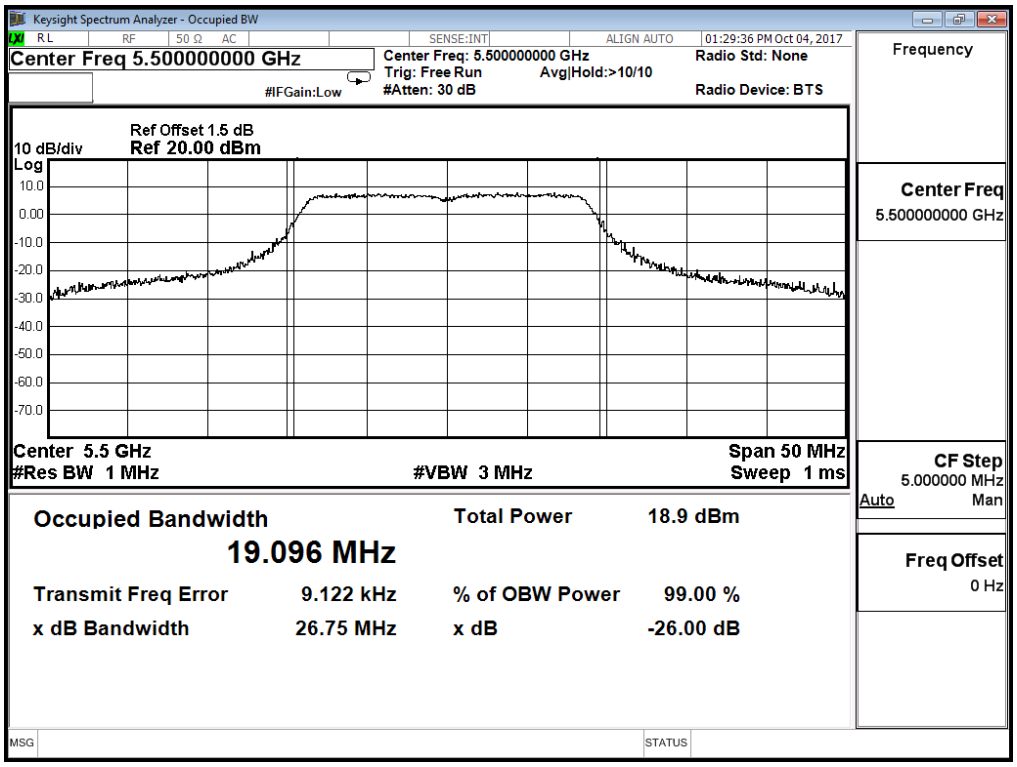
Channel 56 -Chain B



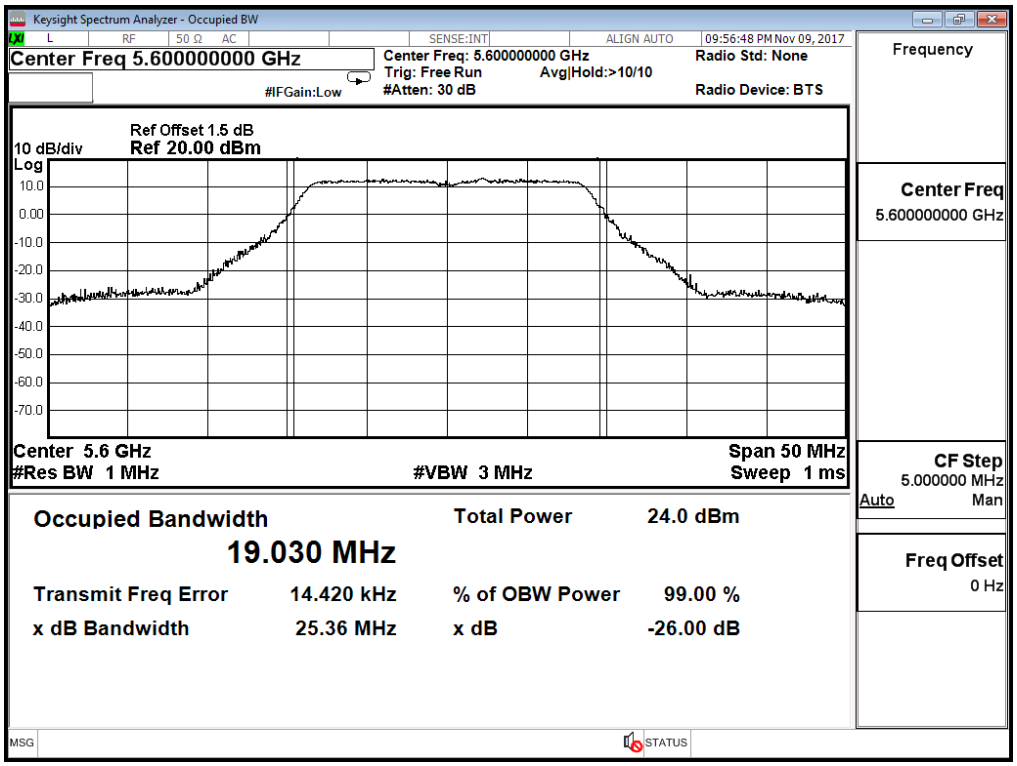
Channel 64 -Chain B



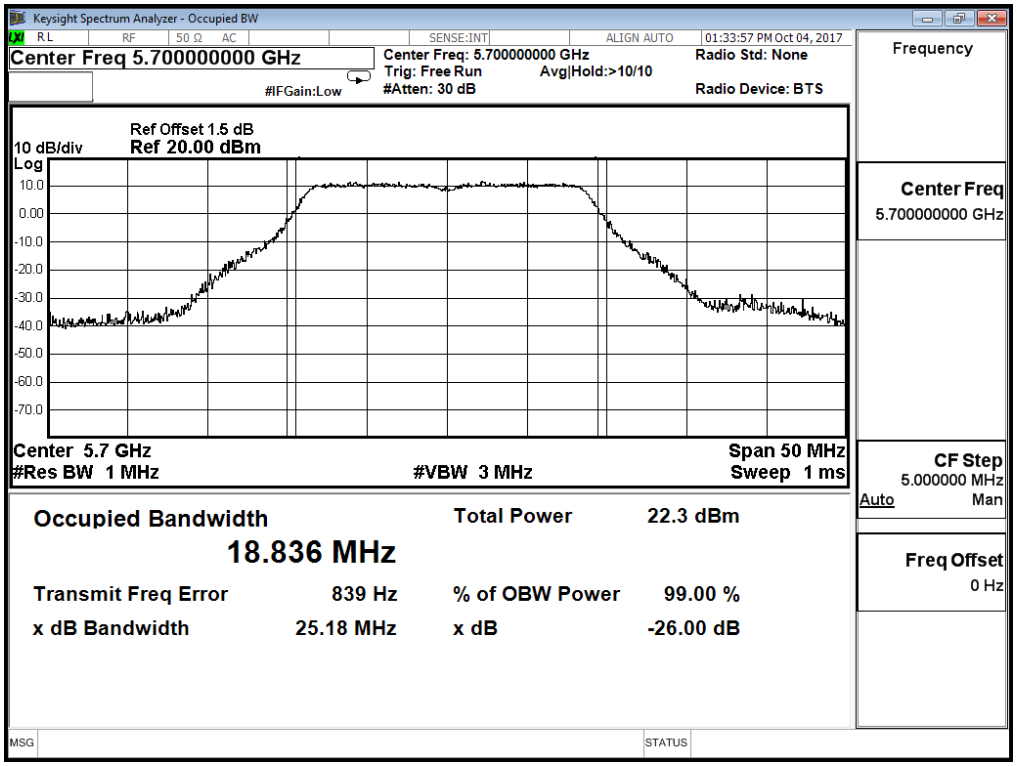
Channel 100 -Chain B



Channel 120 -Chain B



Channel 140 -Chain B



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/18
Test Mode : Mode 3 MIMO: Transmit (802.11n-40BW 30Mbps)

Chain A

Cable loss=1dB		Average Power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		30	60	90	120	180	240	270	300	
		Measurement Level (dBm)								
38	5190	15.22	--	--	--	--	--	--	--	<24dBm
46	5230	18.54	18.42	18.36	18.28	18.17	18.11	18.09	18.00	<24dBm
54	5270	17.54	--	--	--	--	--	--	--	<24dBm
62	5310	14.28	14.17	14.10	14.03	13.99	13.82	13.79	13.62	<24dBm
102	5510	15.95	--	--	--	--	--	--	--	<24dBm
118	5590	21.16	21.10	21.04	20.95	20.84	20.79	20.62	20.59	<24dBm
134	5670	17.77	--	--	--	--	--	--	--	<24dBm
151	5775	18.72	--	--	--	--	--	--	--	<30dBm
159	5795	19.30	19.24	19.18	19.10	19.06	18.95	18.82	18.76	<30dBm

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

Chain B

Cable loss=1dB		Average Power								
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		30	60	90	120	180	240	270	300	
		Measurement Level (dBm)								
38	5190	15.37	--	--	--	--	--	--	--	<24dBm
46	5230	18.55	18.42	18.36	18.29	18.18	18.09	17.84	17.71	<24dBm
54	5270	17.35	--	--	--	--	--	--	--	<24dBm
62	5310	14.21	14.18	14.05	13.94	13.85	13.77	13.62	13.55	<24dBm
102	5510	15.65	--	--	--	--	--	--	--	<24dBm
118	5590	19.76	19.69	19.58	19.49	19.36	19.28	19.16	19.08	<24dBm
134	5670	18.45	--	--	--	--	--	--	--	<24dBm
151	5775	18.03	--	--	--	--	--	--	--	<30dBm
159	5795	19.19	19.06	18.94	18.82	18.76	18.69	18.54	18.42	<30dBm

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

Maximum conducted output power Measurement:

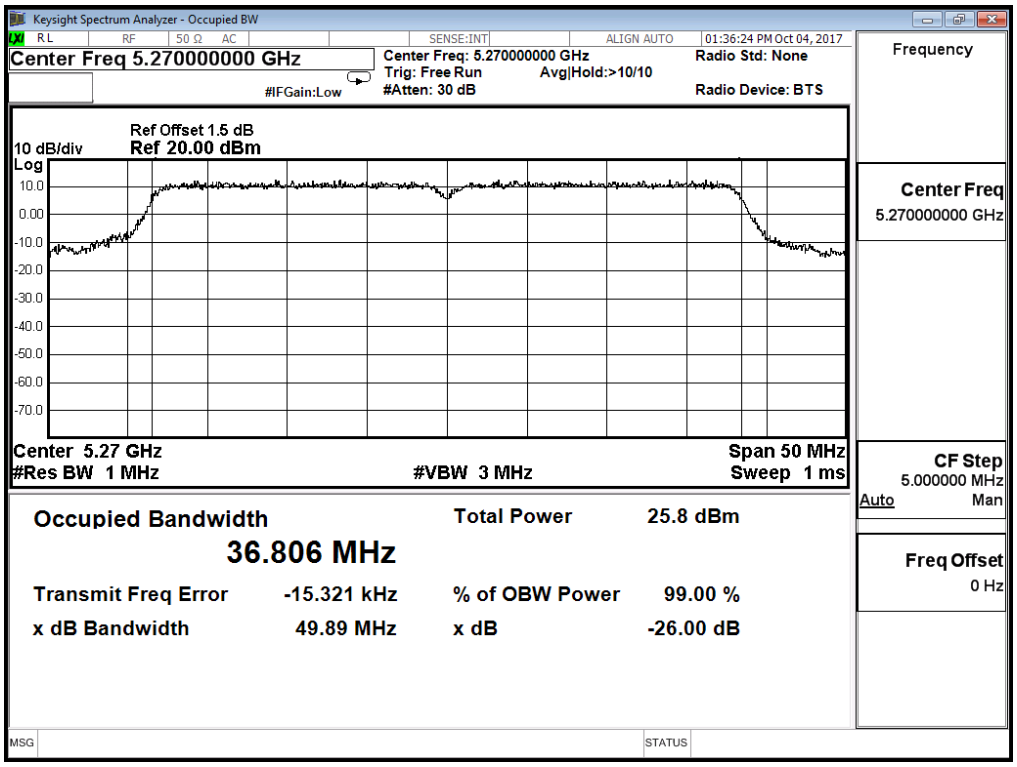
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit	
						(dBm)	dBm+10log(BW)
38	5190	--	15.22	15.37	18.31	24	--
46	5230	--	18.54	18.55	21.56	24	--
54	5270	36.806	17.54	17.35	20.46	24	26.66
62	5310	36.739	14.28	14.21	17.26	24	26.65
102	5510	36.787	15.95	15.65	18.81	24	26.66
118	5590	36.801	21.16	19.76	23.53	24	26.66
134	5670	36.759	17.77	18.45	21.13	24	26.65
151	5755	--	18.72	18.03	21.40	30	--
159	5795	--	19.30	19.19	22.26	30	--

Note:

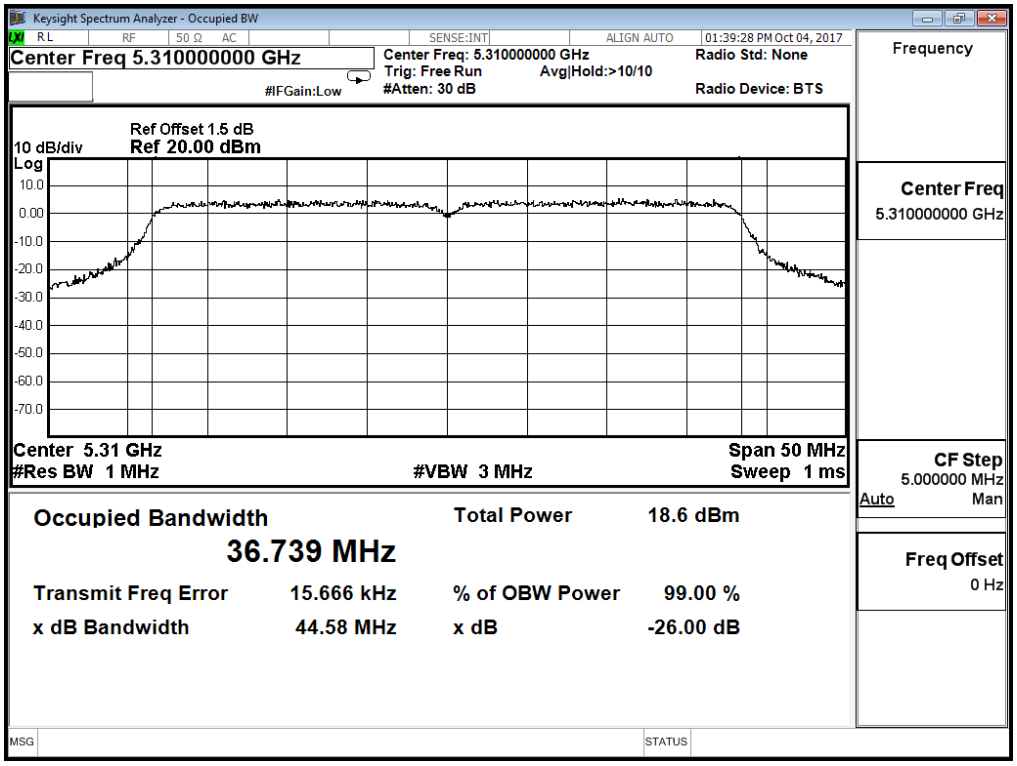
1. Power Output Value =Reading value on average power meter + Cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW))
3. 99% Bandwidth is the bandwidth of chain A or chain B whichever is less bandwidth, output power limitation is more stringent.

99% Occupied Bandwidth:

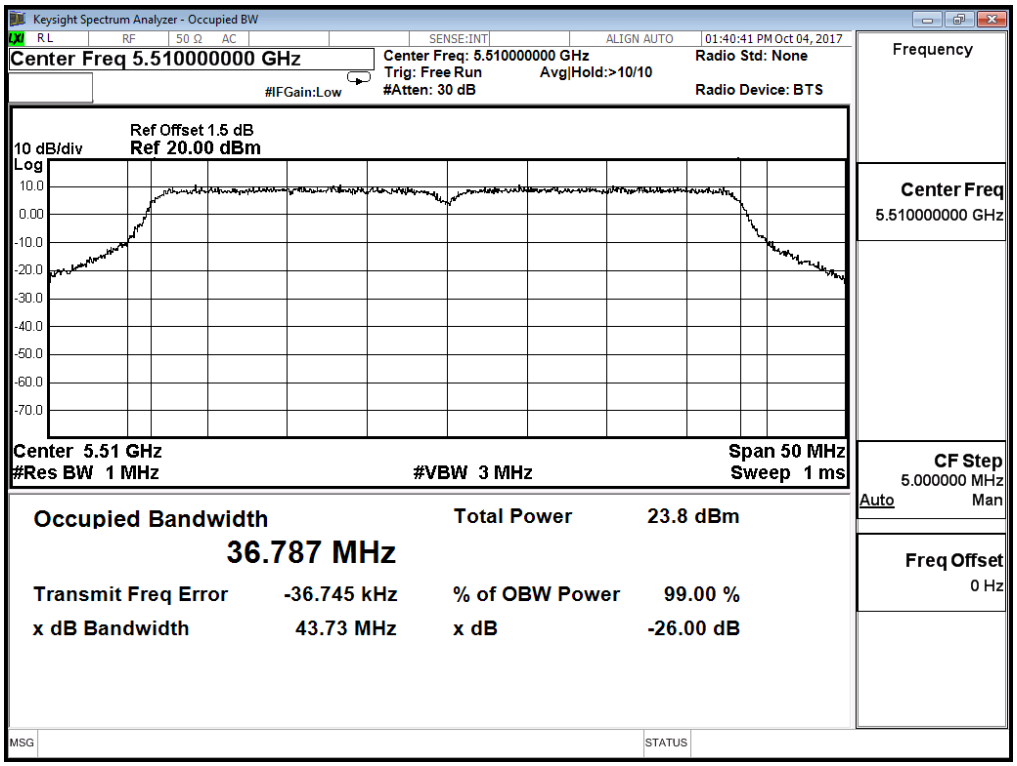
Channel 54 – Chain A



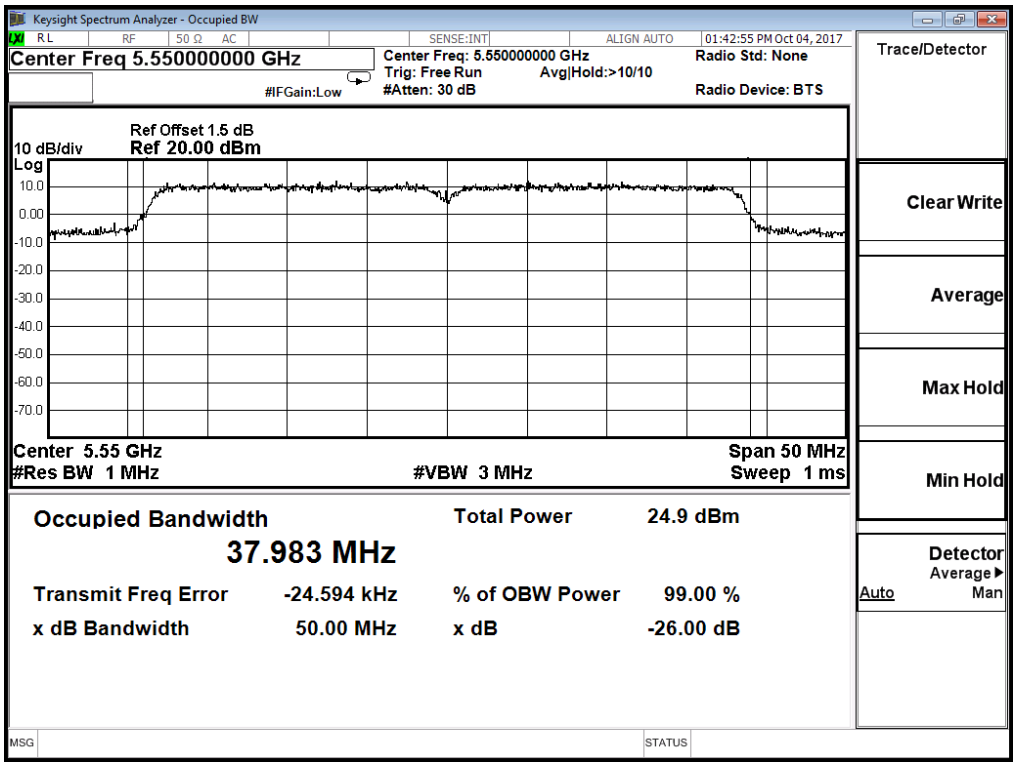
Channel 62 – Chain A



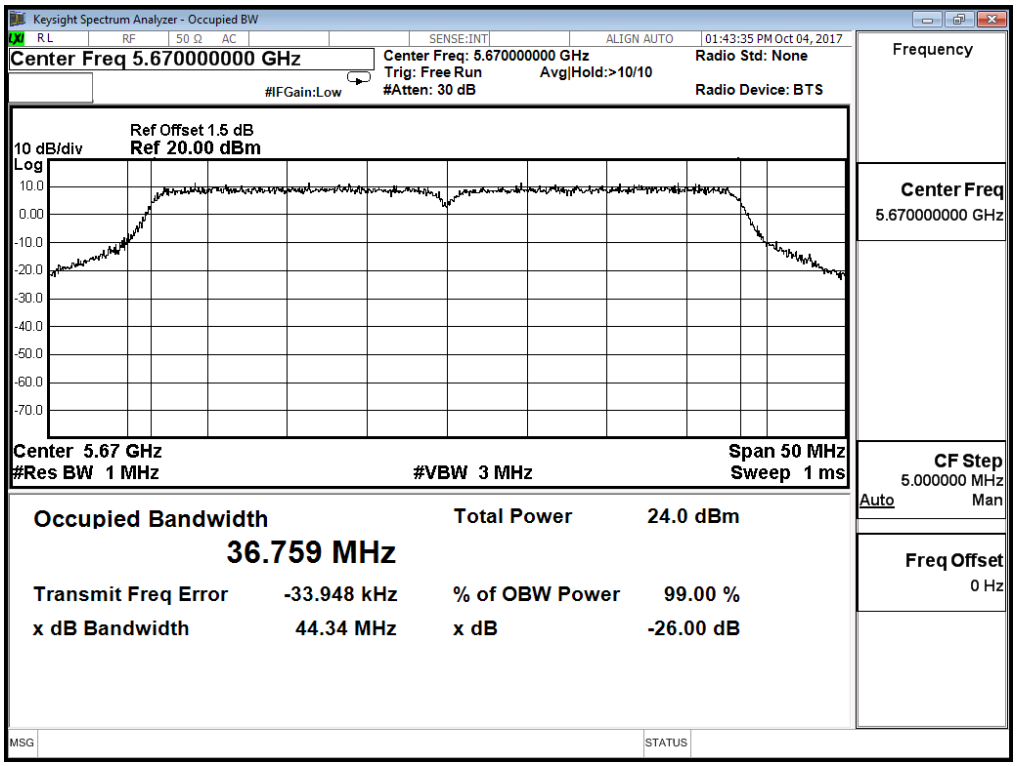
Channel 102 – Chain A



Channel 110 – Chain A

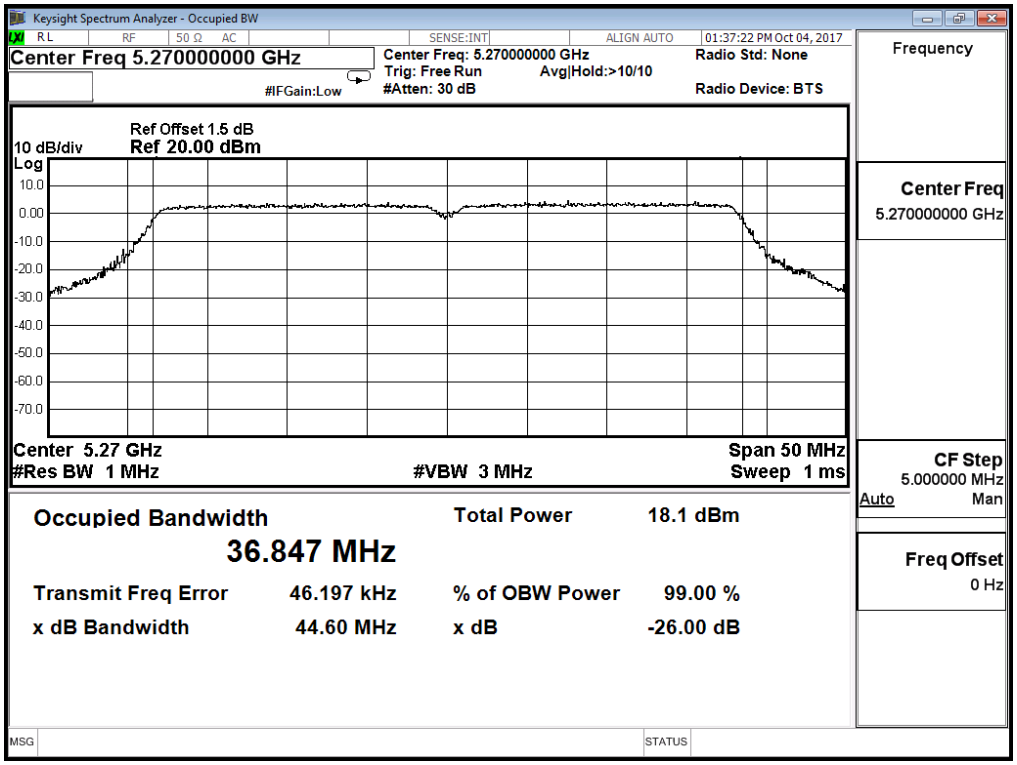


Channel 134 – Chain A

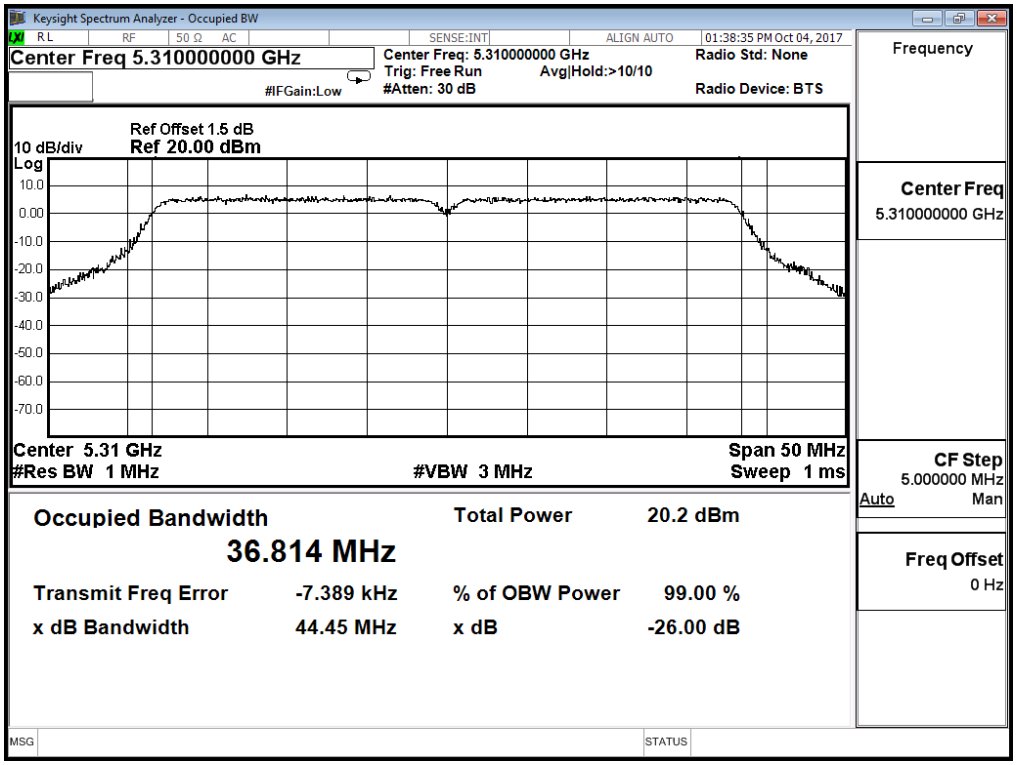


99% Occupied Bandwidth:

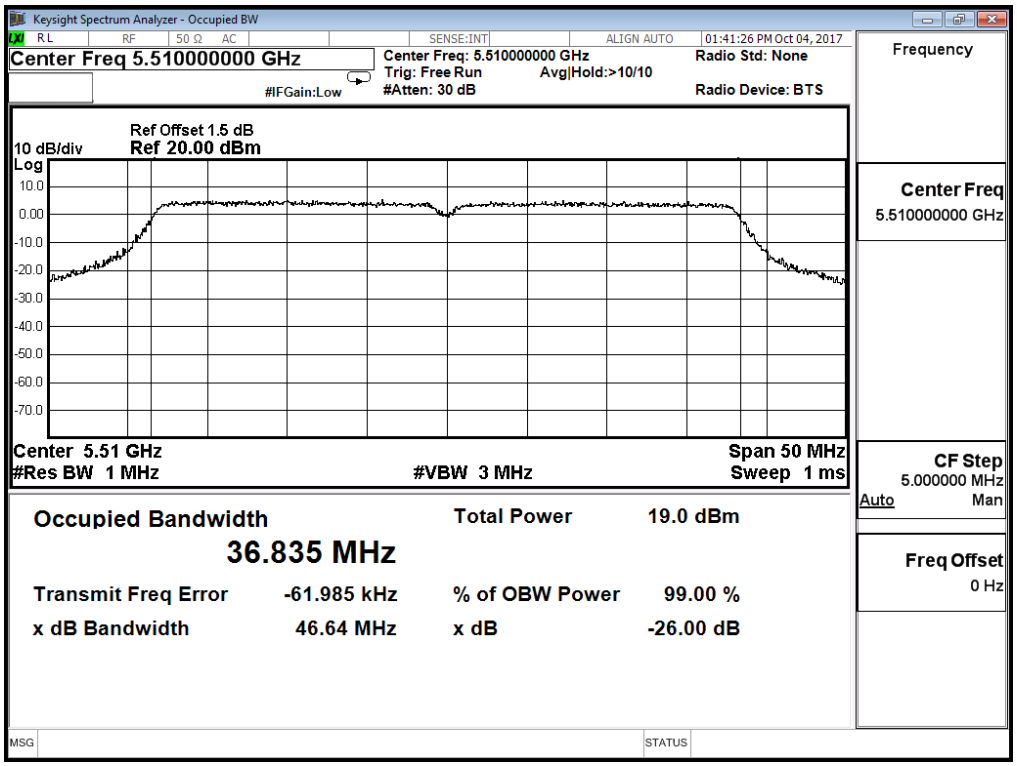
Channel 54 – Chain B



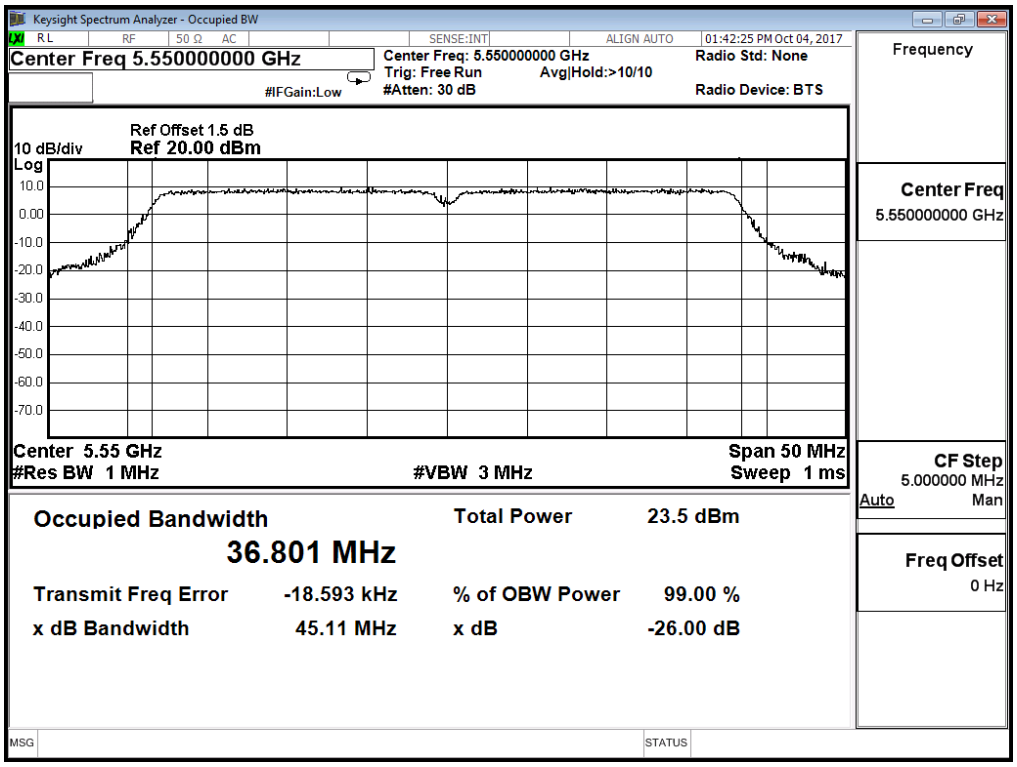
Channel 62 – Chain B



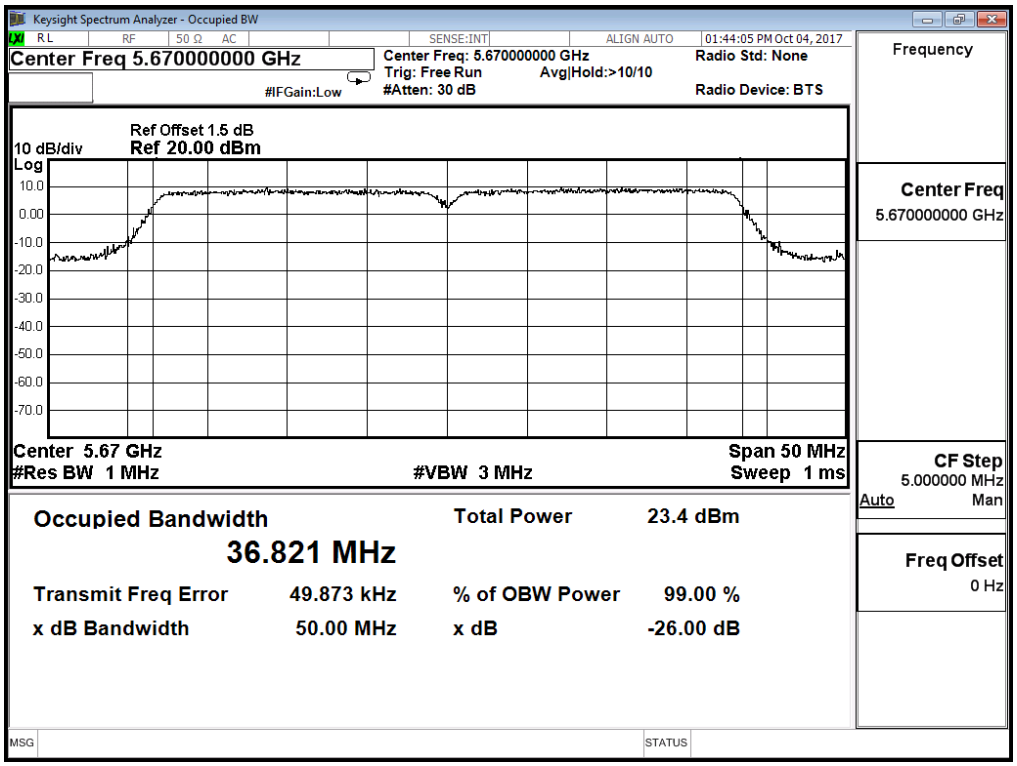
Channel 102 – Chain B



Channel 110 – Chain B



Channel 134 – Chain B



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/18
Test Mode : Mode 3 MIMO: Transmit (802.11ac-20BW-14.4Mbps)

Chain A

Cable loss=1dB		Average Power									
Channel No.	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
		Measurement Level (dBm)									
144 (Band3)	5720	19.52	19.45	19.36	19.28	19.20	19.12	19.04	18.96	18.88	<24dBm
144 (Band4)	5720	13.06	13.00	12.95	12.89	12.84	12.78	12.73	12.67	12.62	<30dBm

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

Chain B

Cable loss=1dB		Average Power									
Channel No.	Frequency (MHz)	Data Rate (Mbps)									Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	
		Measurement Level (dBm)									
144 (Band3)	5720	19.43	19.34	19.26	19.20	19.13	19.07	18.94	18.89	18.71	<24dBm
144 (Band4)	5720	13.05	13.00	12.94	12.87	12.80	12.75	12.69	12.61	12.55	<30dBm

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

Maximum conducted output power Measurement:

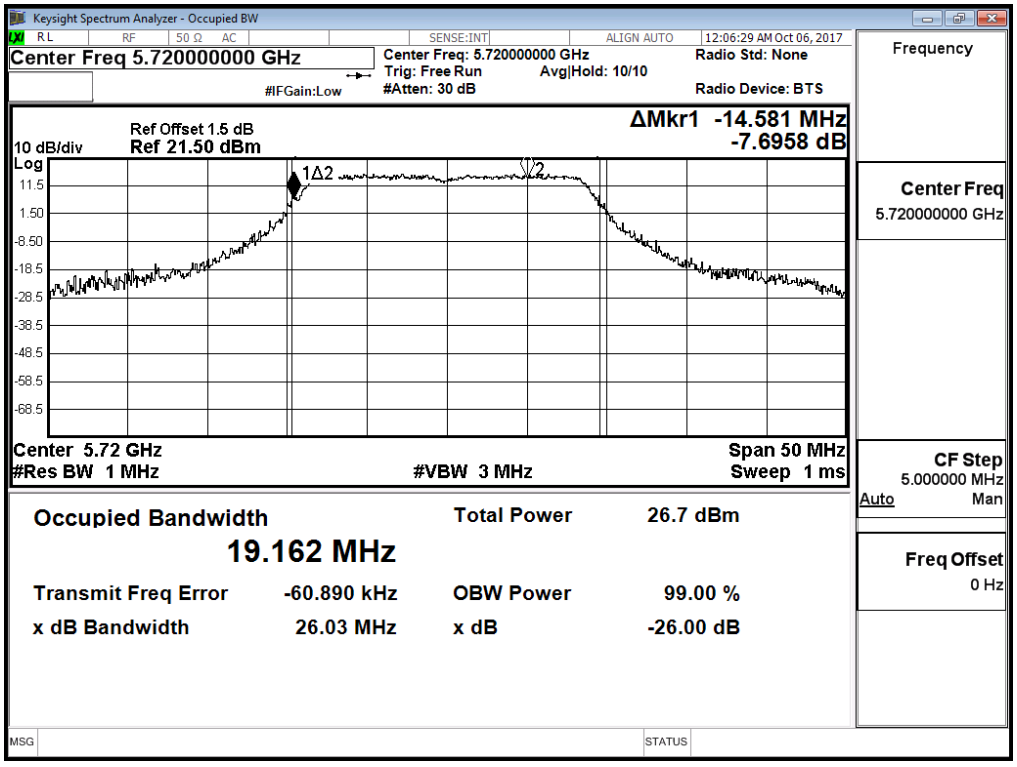
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit		Result
						(dBm)	dBm+10log(BW)	
144(Band3)	5720	14.505	19.52	19.43	22.49	24	22.62	Pass
144(Band4)	5720	--	13.06	13.05	16.07	30	--	Pass

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. 99% Bandwidth is the bandwidth of chain A or chain Bwhichever is less bandwidth, output power limitation is more stringent.

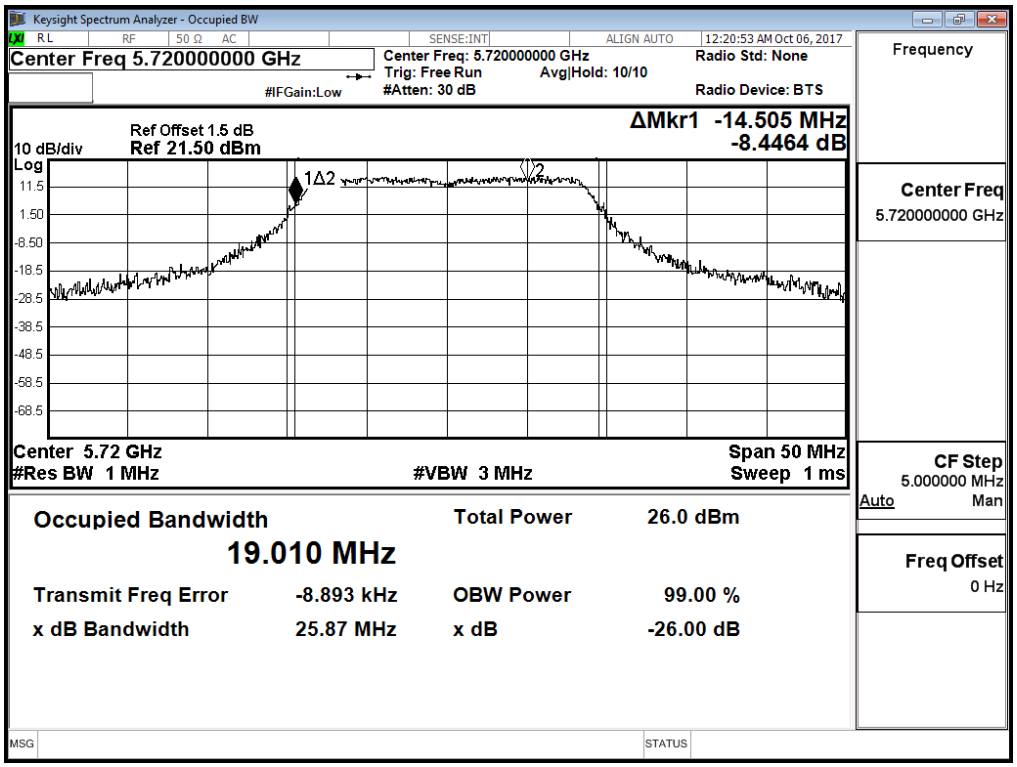
99% Occupied Bandwidth:

Channel 144 – Chain A



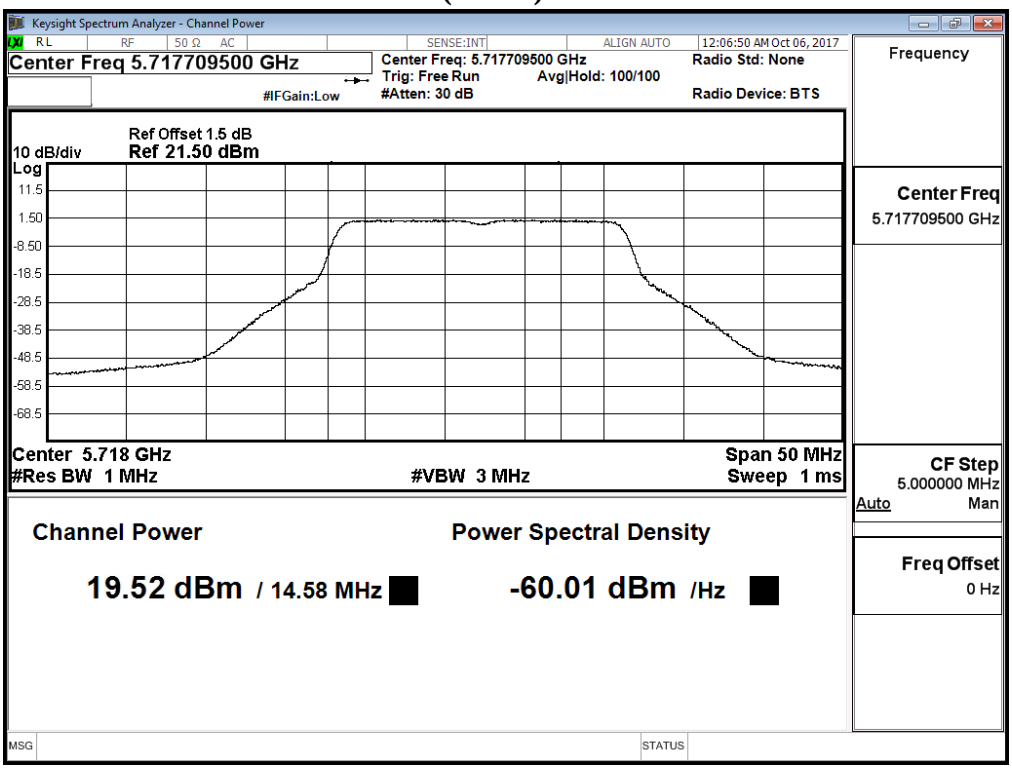
99% Occupied Bandwidth:

Channel 144 – Chain B

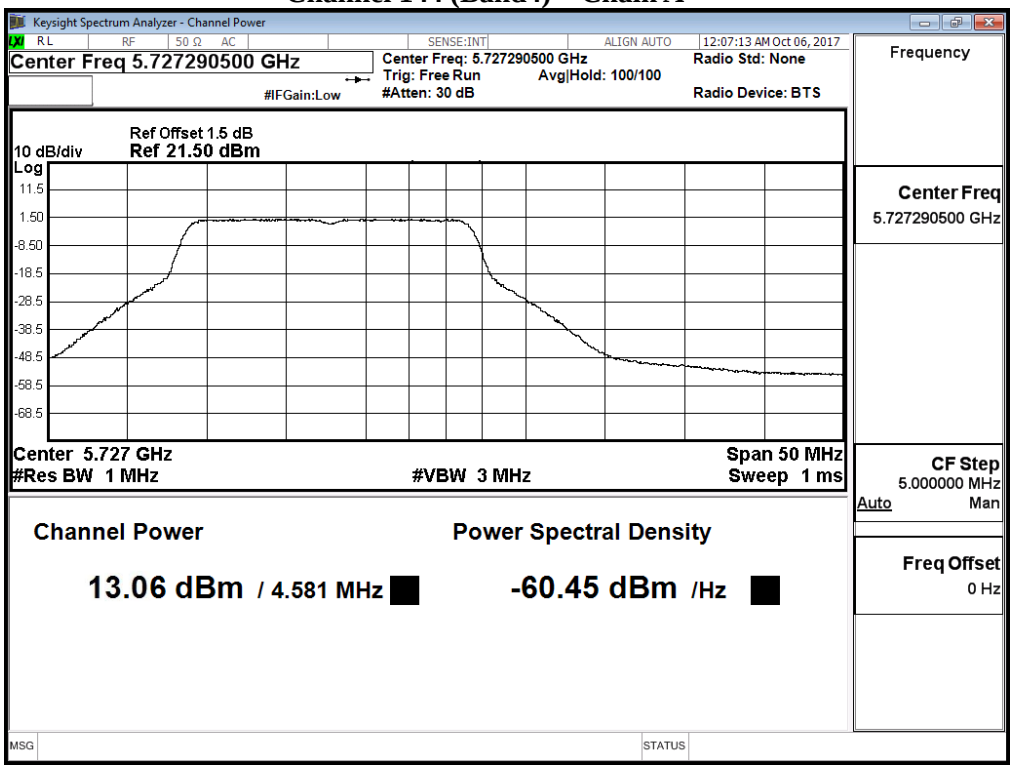


Maximum conducted output power:

Channel 144 (Band3) – Chain A

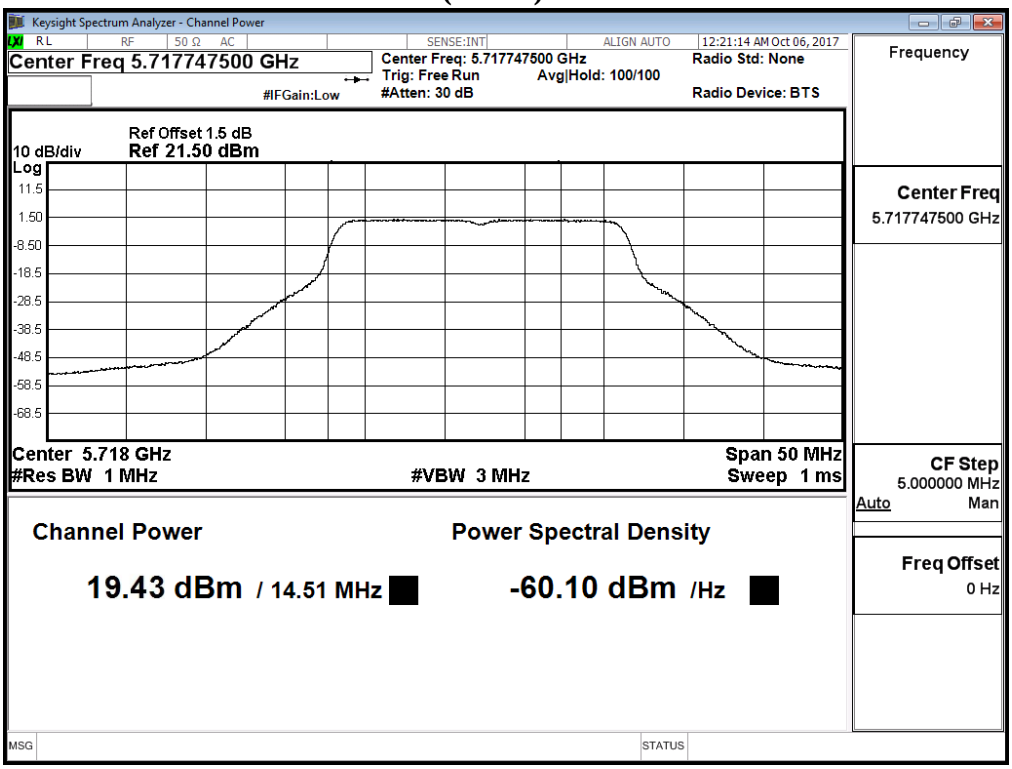


Channel 144 (Band4) – Chain A

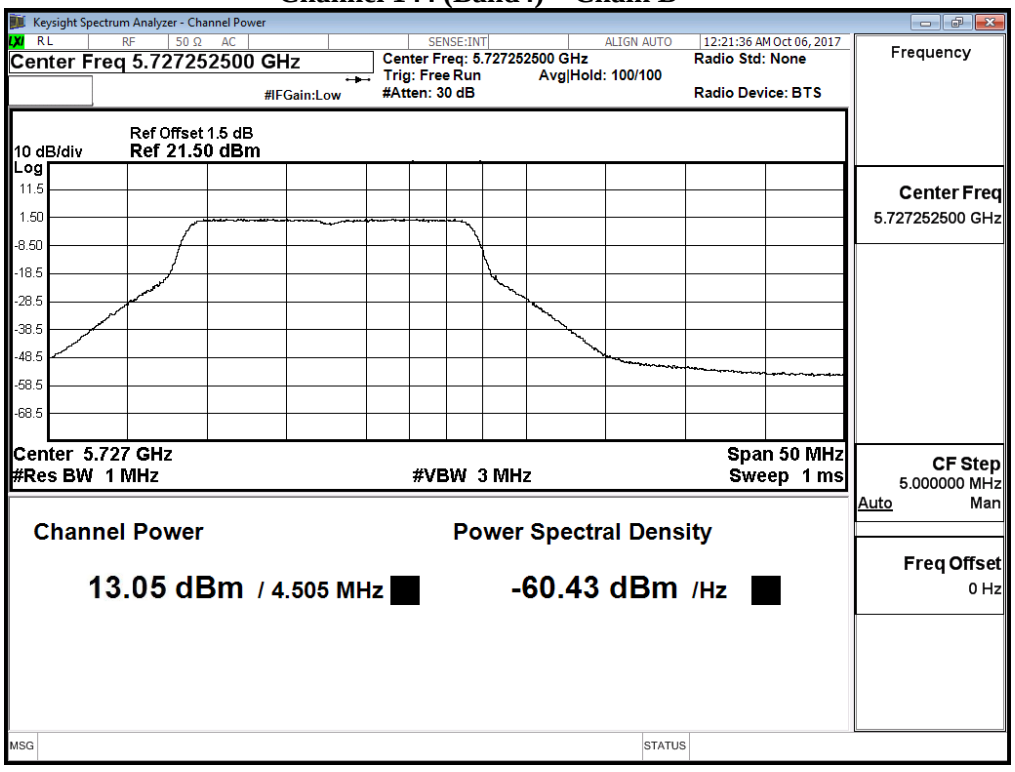


Maximum conducted output power:

Channel 144 (Band3) – Chain B



Channel 144 (Band4) – Chain B



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/18
Test Mode : Mode 3 MIMO: Transmit (802.11ac-40BW-30Mbps)

Chain A

Cable loss=1dB		Average Power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
142F(Band3)	5710	19.48	19.43	19.36	19.28	19.21	19.15	19.08	19.01	18.95	18.87	<24dBm
142F(Band4)	5710	9.54	9.43	9.34	9.29	9.21	9.13	9.08	9.02	8.95	8.89	<30dBm

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

Chain B

Cable loss=1dB		Average Power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
142F(Band3)	5710	19.91	19.84	19.76	19.69	19.52	19.43	19.34	19.28	19.18	19.13	<24dBm
142F(Band4)	5710	9.99	9.94	9.87	9.80	9.74	9.68	9.61	9.53	9.47	9.42	<30dBm

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

Maximum conducted output power Measurement:

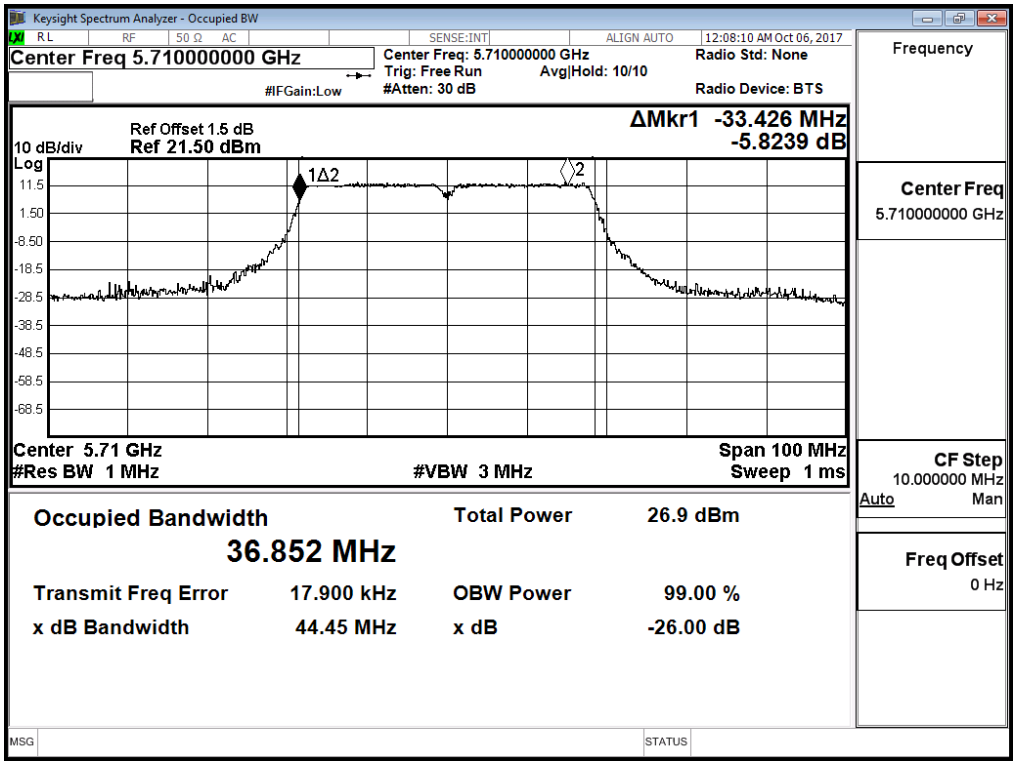
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit		Result
						(dBm)	dBm+10log(BW)	
142F(Band3)	5710	33.418	19.48	19.91	22.71	24	26.24	Pass
142F(Band4)	5710	--	9.54	9.99	12.78	30	--	Pass

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. 99% Bandwidth is the bandwidth of chain A or chain Bwhichever is less bandwidth, output power limitation is more stringent.

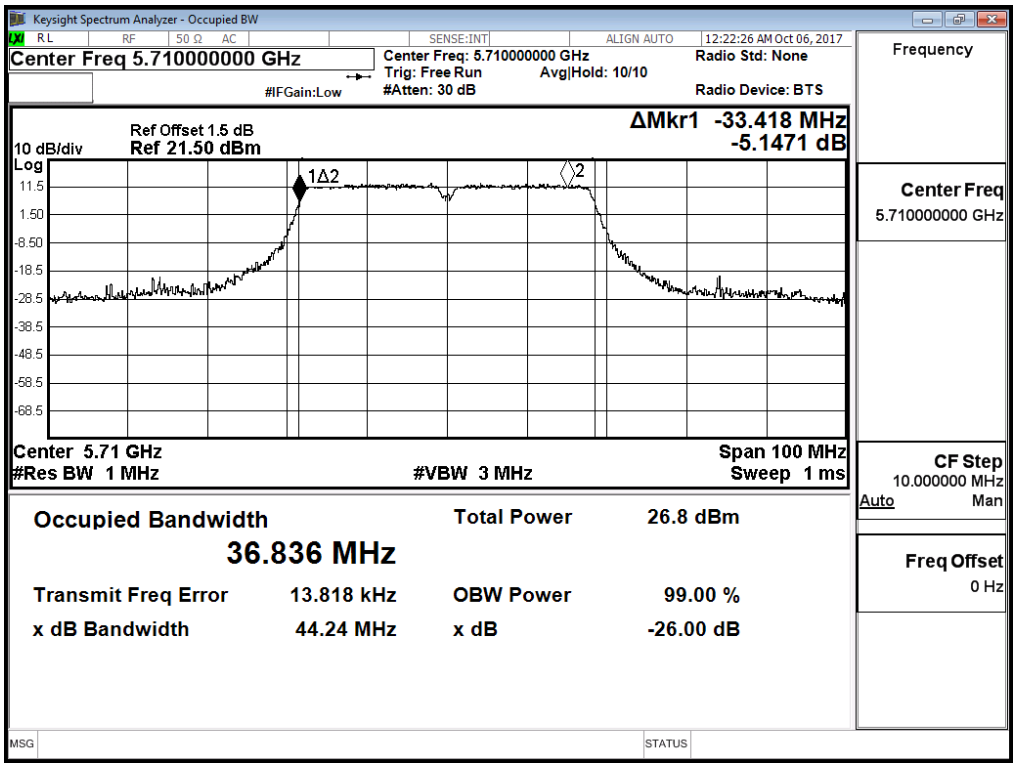
99% Occupied Bandwidth:

Channel 142 – Chain A



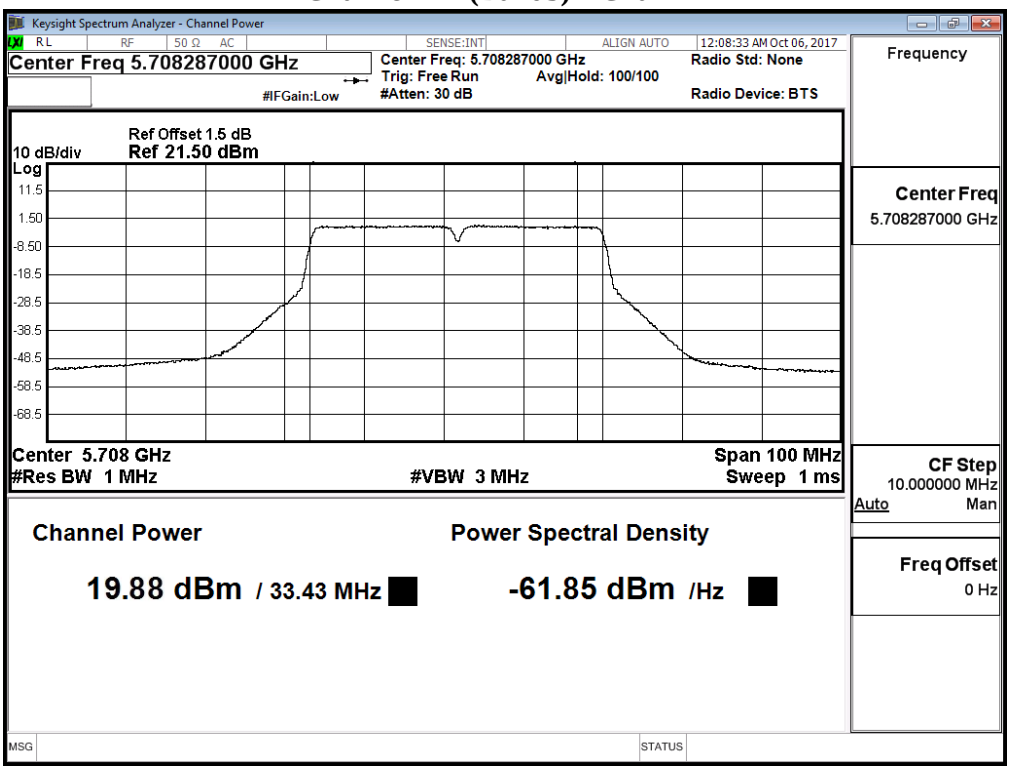
99% Occupied Bandwidth:

Channel 142 – Chain B

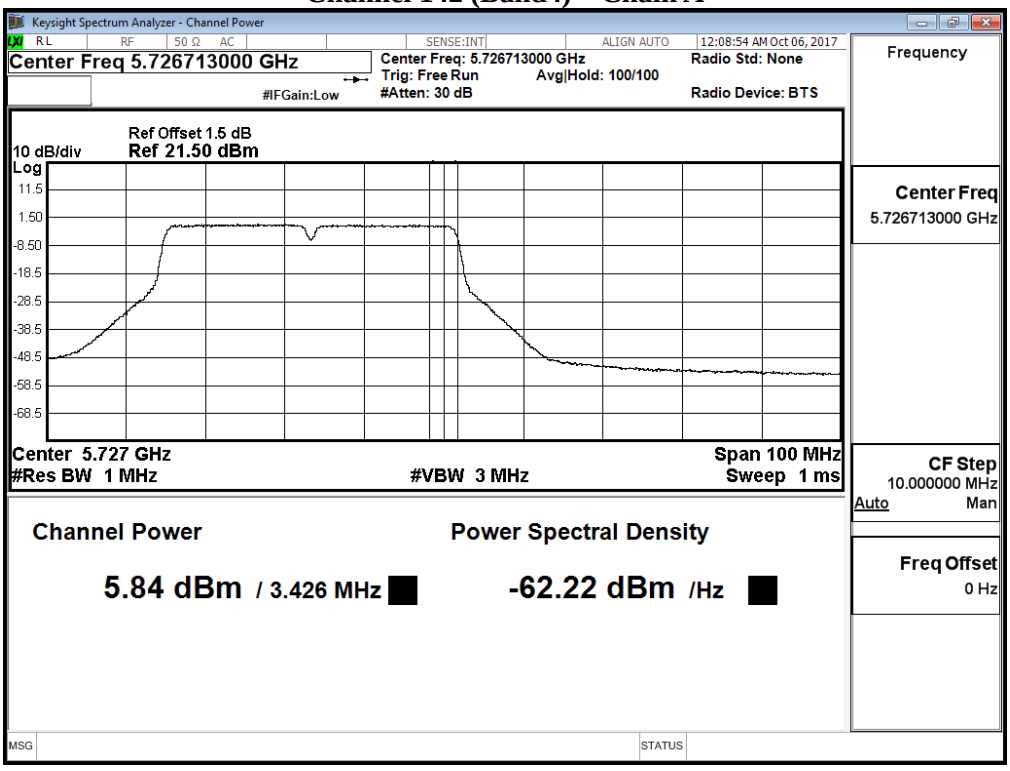


Maximum conducted output power:

Channel 142 (Band3) – Chain A

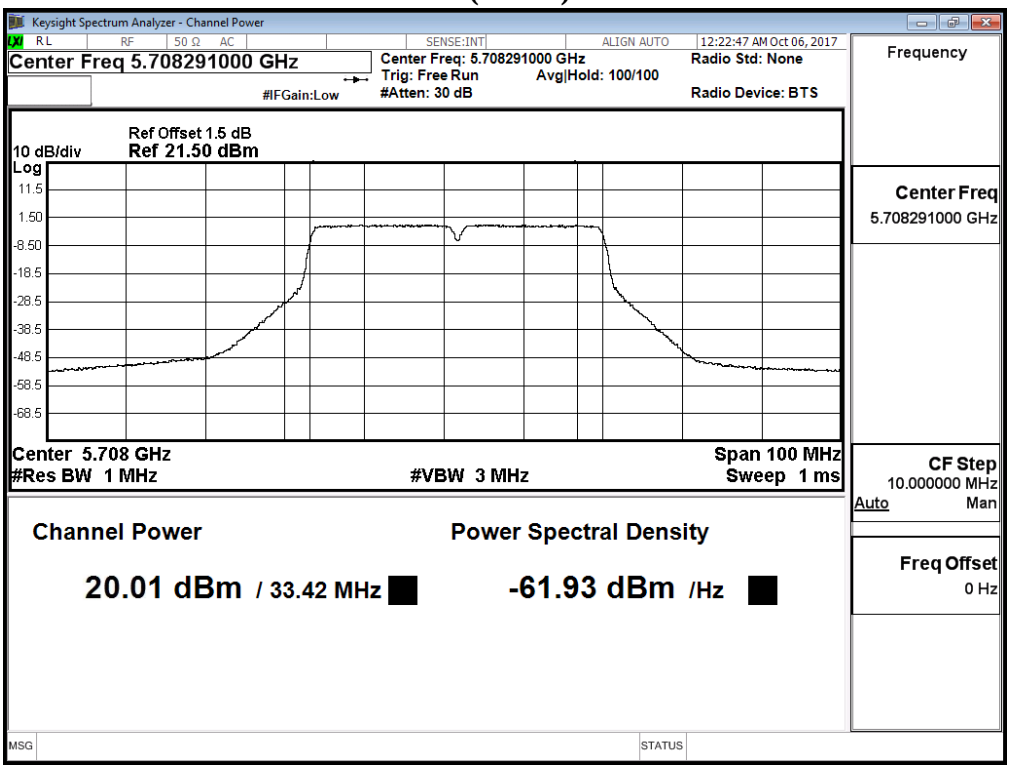


Channel 142 (Band4) – Chain A

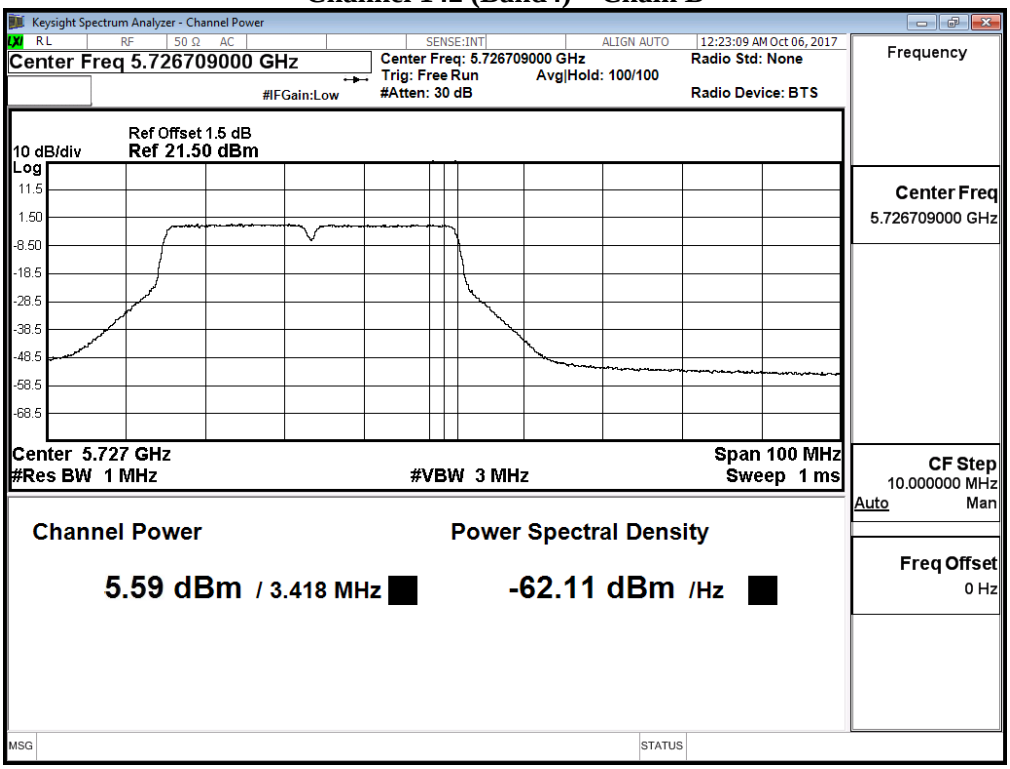


Maximum conducted output power:

Channel 142 (Band3) – Chain B



Channel 142 (Band4) – Chain B



Product : Intel® Wireless-AC 9560
Test Item : Maximum conducted output power
Test Site : No.3 OATS
Test date : 2017/10/18
Test Mode : Mode 3 MIMO: Transmit (802.11ac-80BW-65Mbps)

Chain A

Cable loss=1dB		Average Power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	14.27	14.18	14.09	14.02	13.94	13.84	13.78	13.69	13.58	13.51	<24dBm
58	5290	12.48	12.36	12.28	12.18	12.09	12.00	11.96	11.84	11.75	11.69	<24dBm
106	5530	14.86	14.75	14.68	14.53	14.42	14.39	14.28	14.18	14.09	14.00	<24dBm
122	5610	19.03	18.96	18.88	18.75	18.69	18.59	18.45	18.36	18.28	18.18	<24dBm
138(Band3)	5690	19.67	19.56	19.41	19.36	19.28	19.18	19.11	19.09	19.01	18.96	<24dBm
138(Band4)	5690	4.85	4.76	4.62	4.58	4.42	4.39	4.24	4.18	4.09	4.00	<30dBm
155	5775	18.13	18.06	17.94	17.88	17.74	17.68	17.52	17.42	17.32	17.21	<30dBm

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

Chain B

Cable loss=1dB		Average Power										
Channel No	Frequency (MHz)	Data Rate (Mbps)										Required Limit
		VTH0	VTH1	VTH2	VTH3	VTH4	VTH5	VTH6	VTH7	VTH8	VTH9	
42	5210	14.25	14.18	14.09	14.00	13.94	13.84	13.77	13.71	13.67	13.62	<24dBm
58	5290	12.11	12.04	11.94	11.84	11.76	11.68	11.59	11.46	11.38	11.29	<24dBm
106	5530	14.92	14.86	14.75	14.62	14.59	14.42	14.38	14.29	14.18	14.08	<24dBm
122	5610	19.92	19.82	18.76	19.61	19.51	19.43	19.37	19.28	19.18	19.05	<24dBm
138(Band3)	5690	19.97	19.84	19.76	19.67	19.53	19.42	19.38	19.28	19.17	19.05	<24dBm
138(Band4)	5690	5.09	4.94	4.86	4.75	4.68	4.58	4.43	4.31	4.28	4.18	<30dBm
155	5775	17.71	17.61	17.59	17.45	17.38	17.21	17.18	17.07	16.98	16.87	<30dBm

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

Maximum conducted output power Measurement:

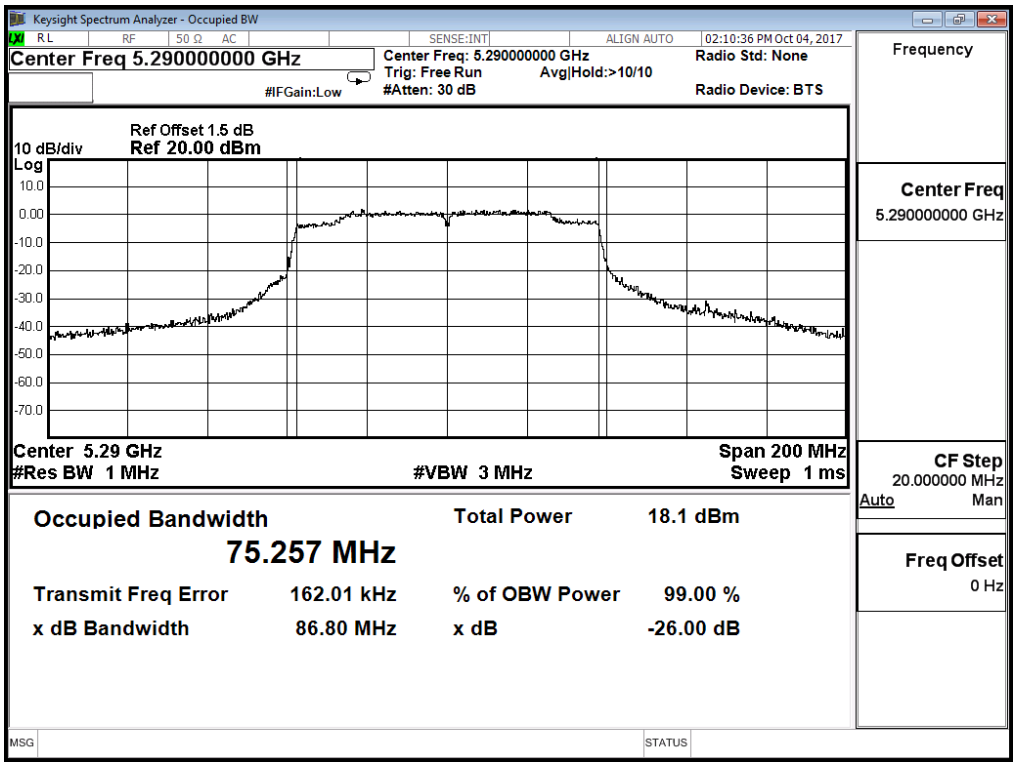
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit		Result
						(dBm)	dBm+10log(BW)	
42	5210	--	14.27	14.25	17.27	24	--	Pass
58	5290	75.211	12.48	12.11	15.31	24	29.76	Pass
106	5530	75.213	14.86	14.92	17.90	24	29.76	Pass
122	5610	75.602	19.03	19.92	22.51	24	29.79	Pass
138	5690	72.647	19.67	19.97	22.83	24	29.61	Pass
138ac80(Band4)	5690	--	4.85	5.09	7.98	30	--	Pass
155	5775	--	18.13	17.71	20.94	30	--	Pass

Note:

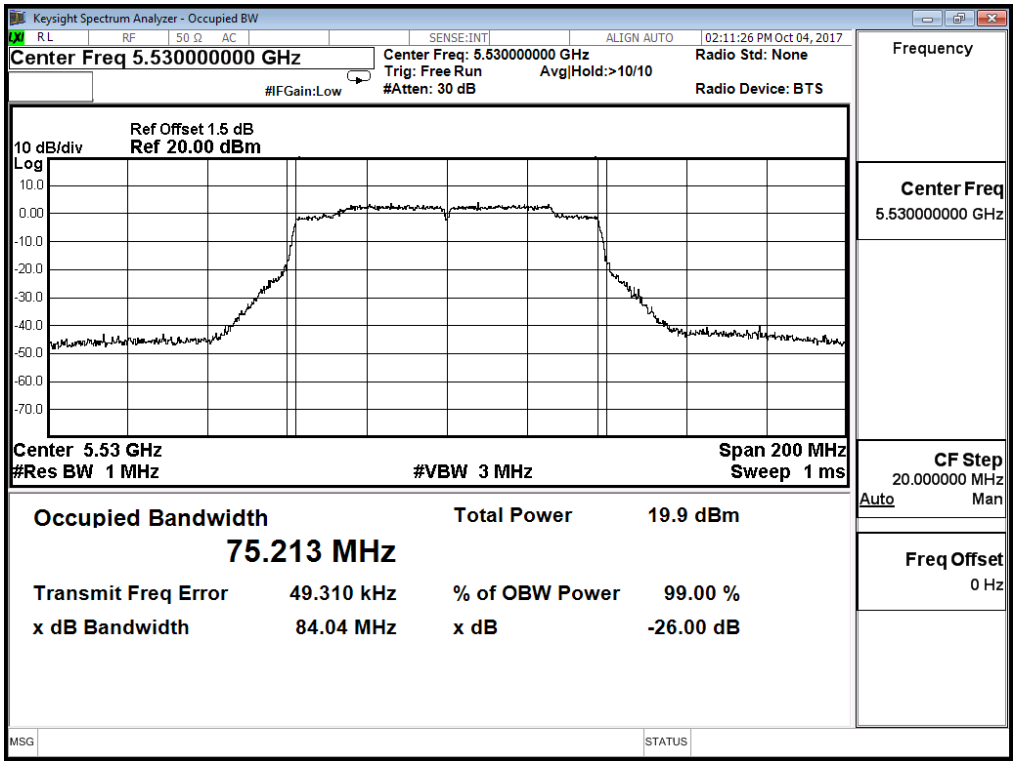
1. Power Output Value =Reading value on average power meter + Cable loss
2. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW))
3. 99% Bandwidth is the bandwidth of chain A or chain Bwhichever is less bandwidth, output power limitation is more stringent.

99% Occupied Bandwidth:

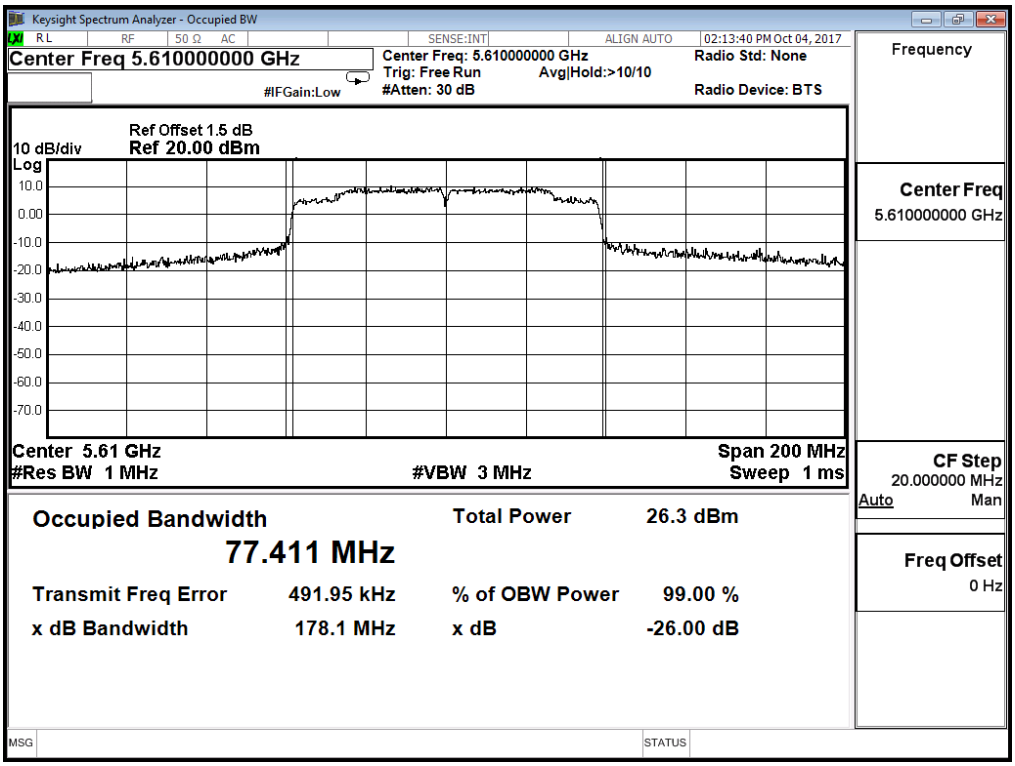
Channel 58 – Chain A



Channel 106 – Chain A



Channel 122 – Chain A



Channel 138 – Chain A