FCC Test Report

(Class II Permissive Change)

Product Name	Intel® Wi-Fi 6 AX201
Model No	AX201NGW
FCC ID	PD9AX201NG

Applicant	Intel Corporation
Address	100 Center Point Circle Suite 200 Columbia, South Carolina 29210, United States

Date of Receipt	Mar. 30, 2019
Issued Date	Aug. 28, 2019
Report No.	1930504R-RFUSP30V00
Report Version	V1.0

Testing Laboratory
3023

Test Report

Issued Date: Aug. 28, 2019
Report No.: 1930504R-RFUSP30V00

Product Name	Intel® Wi-Fi 6 AX201
Applicant	Intel Corporation
Address	100 Center Point Circle Suite 200 Columbia, South Carolina 29210, United States
Manufacturer	INTEL MOBILE COMMUNICATIONS
Model No.	AX201NGW
FCC ID.	PD9AX201NG
EUT Rated Voltage	DC 3.3V
EUT Test Voltage	DC 3.3V (Power By Test Fixture)
Trade Name	Intel
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E: 2018 ANSI C63.4: 2014, ANSI C63.10: 2013 789033 D02 General UNII Test Procedures New Rules v02
Test Result	Complied

Documented By : April Chen

(Senior Adm. Specialist / April Chen)

Tested By : Sam Hsu

(Engineer / Sam Hsu)

Approved By :

(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Intel® Wi-Fi 6 AX201
Trade Name	Intel
FCC ID.	PD9AX201NG
Model No.	AX201NGW
Frequency Range	802.11a/n/ax-20MHz: 5180-5320MHz, 5500-5700MHz, 5720 MHz, 5745-5825MHz 802.11n/ax-40MHz: 5190-5310MHz, 5510-5670MHz, 5710 MHz, 5755-5795MHz 802.11ac/ax-80MHz: 5210-5290MHz, 5530-5690MHz, 5775MHz 802.11ac/ax-160MHz: 5250MHz, 5570MHz
Number of Channels	802.11a/n/ax-20MHz: 25 802.11n/ax-40MHz: 12 802.11ac/ax-80MHz: 6 802.11ac/ax-160MHz: 2
Data Rate	802.11a: 6 - 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 1733.3Mbps 802.11ax: up to 2402Mbps
Type of Modulation	802.11a/n/ac/ax: OFDM, BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
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 / GY121C888-001-H	Dipole Antenna	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 5.725~5.85GHz

Note: The antenna of EUT is conforming to FCC 15.203.

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

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 036:	5180 MHz	Channel 040:	5200 MHz	Channel 044:	5220 MHz	Channel 048:	5240 MHz
Channel 052:	5260 MHz	Channel 056:	5280 MHz	Channel 060:	5300 MHz	Channel 064:	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 144:	5720 MHz
Channel 149:	5745 MHz	Channel 153:	5765 MHz	Channel 157:	5785 MHz	Channel 161:	5805 MHz
Channel 165:	5825 MHz						

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

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 038:	5190 MHz	Channel 046:	5230 MHz	Channel 054:	5270 MHz	Channel 062:	5310 MHz
Channel 102:	5510 MHz	Channel 110:	5550 MHz	Channel 118:	5590 MHz	Channel 126:	5630 MHz
Channel 134:	5670 MHz	Channel 142:	5710 MHz	Channel 151:	5755 MHz	Channel 159:	5795 MHz

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

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 042:	5210 MHz	Channel 058:	5290 MHz	Channel 106:	5530 MHz	Channel 122:	5610 MHz
Channel 138:	5690 MHz	Channel 155:	5775 MHz				

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

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

Note:

1. This device is an Intel® Wi-Fi 6 AX201 with a built-in WLAN (802.11a/b/g/n/ac/ax) with Bluetooth (5.0 and V3.0+HS, V2.1+EDR) transceiver, this report for 5GHz 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 of transmitter with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.
5. This is to request a Class II permissive change for FCC ID: PD9AX201NG, originally granted on 01/28/2019.

   The major change filed under this application is:

   Change #1: Addition an Dipole Antenna, the antenna type is different with the original application, All other hardware is identical with original granted.

   #2: Reduce the Output Power through firmware (only reduce WLAN Power, bluetooth power haven't changes).

Test Mode	Mode 1 SISO A: Transmit (802.11a_6Mbps) Mode 2 SISO A: Transmit (802.11n-20BW_7.2Mbps) Mode 3 SISO A: Transmit (802.11n-40BW_15Mbps) Mode 4 SISO A: Transmit (802.11ac-80BW_32.5Mbps) Mode 5 SISO A: Transmit (802.11ac-160BW_65Mbps) Mode 6: SISO A: Transmit (802.11ax-20BW_8.6Mbps) Mode 7: SISO A: Transmit (802.11ax-40BW_17.2Mbps) Mode 8: SISO A: Transmit (802.11ax-80BW_36Mbps) Mode 9: SISO A: Transmit (802.11ax-160BW_72.1Mbps) Mode 10 SISO B: Transmit (802.11a_6Mbps) Mode 11 SISO B: Transmit (802.11n-20BW_7.2Mbps) Mode 12 SISO B: Transmit (802.11n-40BW_15Mbps) Mode 13 SISO B: Transmit (802.11ac-80BW_32.5Mbps) Mode 14 SISO B: Transmit (802.11ac-160BW_65Mbps) Mode 15: SISO B: Transmit (802.11ax-20BW_8.6Mbps) Mode 16: SISO B: Transmit (802.11ax-40BW_17.2Mbps) Mode 17: SISO B: Transmit (802.11ax-80BW_36Mbps) Mode 18: SISO B: Transmit (802.11ax-160BW_72.1Mbps) Mode 19 MIMO: Transmit (802.11n-20BW_14.4Mbps) Mode 20 MIMO: Transmit (802.11n-40BW_30Mbps) Mode 21 MIMO: Transmit (802.11ac-80BW_65Mbps) Mode 22 MIMO: Transmit (802.11ac-160BW_130Mbps) Mode 23: MIMO: Transmit (802.11ax-20BW_17.2Mbps) Mode 24: MIMO: Transmit (802.11ax-40BW_34.4Mbps) Mode 25: MIMO: Transmit (802.11ax-80BW_72.1Mbps) Mode 26: MIMO: Transmit (802.11ax-160BW_144.1Mbps) Mode 27: Transmit-SISO A Mode 28: Transmit-SISO B Mode 29: Transmit-MIMO

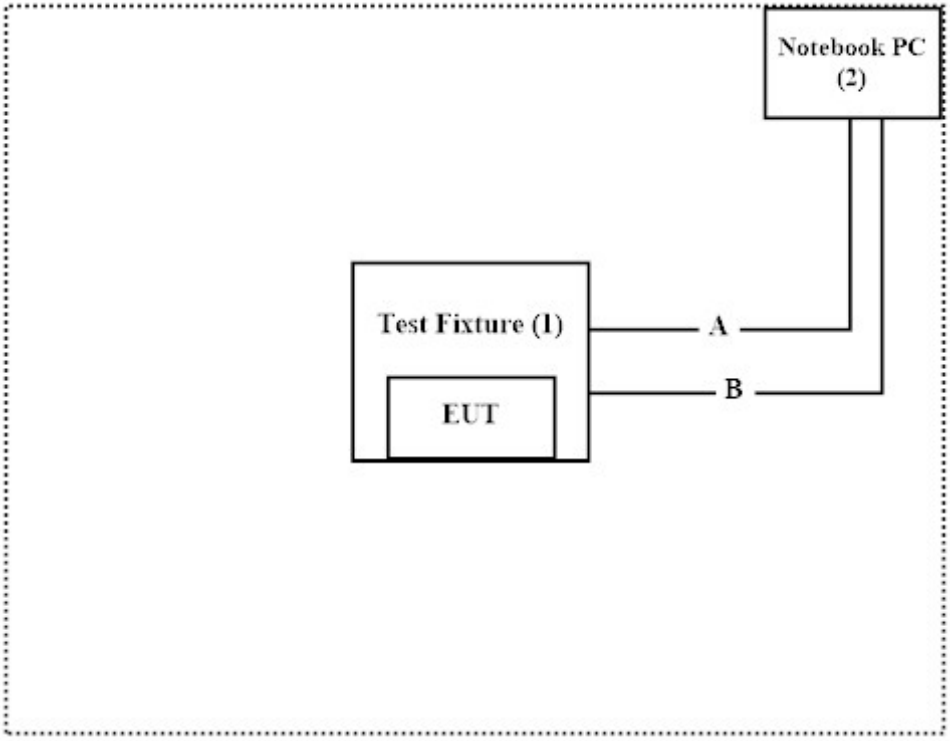
1.3. Tested System Datails

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	Test Fixture	Intel	N/A	N/A	N/A
2	Notebook PC	DELL	PP01L	96FFC A00	Non-Shielded, 1.8m

Signal Cable Type		Signal cable Description
A	USB Cable	Non-shielded, 1.2m
B	Signal Cable	Non-shielded, 1m

1.4. Configuration of tested System



1.5. EUT Exercise Software

1. Setup the EUT as shown in Section 1.4.
2. Execute software “DRTU (Ver. 11.1832.0-08048)” on the Notebook PC.
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

USA : FCC Registration Number: TW3023

Canada : IC Registration Number: 4075A

Site Description: Accredited by TAF
Accredited Number: 3023

Test Laboratory: DEKRA Testing and Certification Co., Ltd
Address: No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
Phone number: 886-2-8601-3788
Fax number: 886-2-8601-3789
Email address: info.tw@dekra.com
Website: http://www.dekra.com.tw

1.7. List of Test Equipment

For Conducted measurements /CB3/SR8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
	Temperature Chamber	WIT GROUP	TH-1S-B	EQ-201-00146	2019/02/26	2020/02/25
X	Spectrum Analyzer	Agilent	N9010A	MY53470892	2018/09/27	2019/09/26
X	Peak Power Analyzer	Keysight	8990B	MY51000410	2019/07/30	2020/07/29
X	Wideband Power Sensor	Keysight	N1923A	MY56080003	2019/07/30	2020/07/29
X	Wideband Power Sensor	Keysight	N1923A	MY56080004	2019/07/30	2020/07/29
X	EMI Test Receiver	R&S	ESCS 30	100369	2018/11/19	2019/11/18
X	LISN	R&S	ENV216	101105	2019/04/10	2020/04/09
X	LISN	R&S	ESH3-Z5	836679/014	2019/04/10	2020/04/09
X	Coaxial Cable	DEKRA	RG 400	LC018-RG	2019/06/21	2020/06/20

For Radiated measurements /Site3/CB8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
X	Spectrum Analyzer	R&S	FSP40	100170	2019/03/11	2020/03/10
X	Loop Antenna	Teseq	HLA6121	37133	2018/10/13	2019/10/12
X	Bilog Antenna	Schaffner Chase	CBL6112B	2707	2019/06/23	2020/06/22
X	Coaxial Cable	DEKRA	RG 214	LC003-RG	2019/06/13	2020/06/12
X	Pre-Amplifier	Jet-Power	JPA-10M1G33	170101000330010	2019/06/13	2020/06/12
X	Horn Antenna	ETS-Lindgren	3117	00135205	2019/04/30	2020/04/29
X	Horn Antenna	SCHWARZBECK	9120D	576	2018/12/18	2019/12/17
X	Pre-Amplifier	EMCI	EMC012630SE	980210	2019/04/16	2020/04/15
X	Horn Antenna	Com-Power	AH-840	101043	2019/01/19	2020/01/18
X	Amplifier + Cable	EMCI	EMC184045SE	980370	2019/03/27	2020/03/26
X	Filter	MICRO-TRONICS	BRM50702	G270	2019/08/08	2020/08/07
X	Filter	MICRO-TRONICS	BRM50716	G196	2019/08/08	2020/08/07

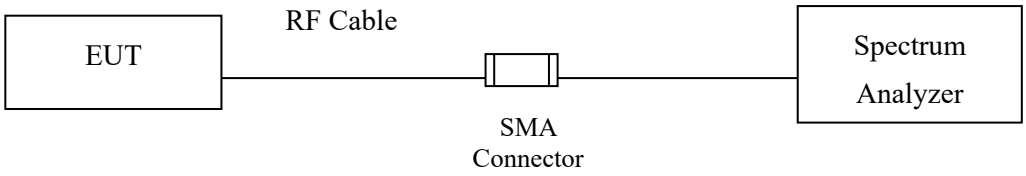
Note:

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

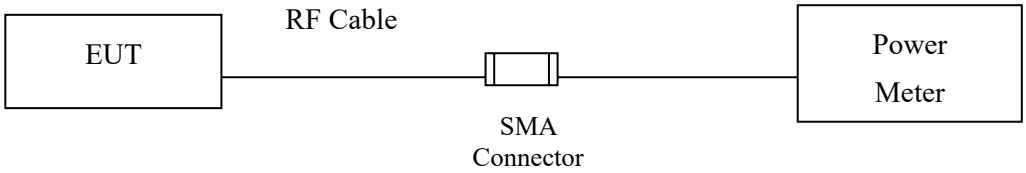
2.1. Test Setup

99% Occupied Bandwidth

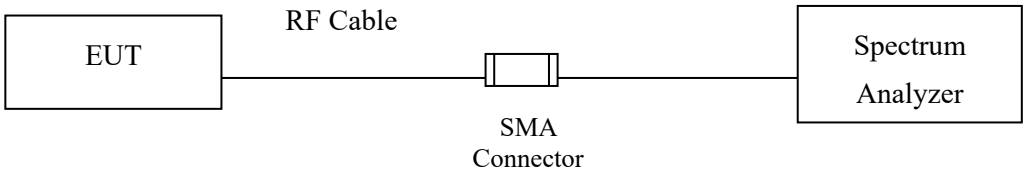


Conduction Power Measurement

Conduction Power Measurement (for 802.11an)



Conduction Power Measurement (for 802.11ac)



2.2. Limits

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.

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 99% 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.

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.

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

Power Meter: ±0.95dB
Spectrum Analyzer: ±1.30dB

2.5. Test Result of Maximum conducted output power

Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 1 SISO A: Transmit (802.11a_6Mbps)

Cable loss=1.0dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
		Measurement Level (dBm)							
36	5180	18.25	--	--	--	--	--	--	--
44	5220	21.00	20.94	20.85	20.80	20.74	20.64	20.55	20.47
48	5240	21.18	--	--	--	--	--	--	--
52	5260	21.25	--	--	--	--	--	--	--
60	5300	21.17	21.09	21.04	20.97	20.87	20.79	20.73	20.66
64	5320	17.24	--	--	--	--	--	--	--
100	5500	17.4	--	--	--	--	--	--	--
116	5580	20.98	20.89	20.79	20.73	20.67	20.60	20.55	20.47
140	5700	17.48	--	--	--	--	--	--	--
149	5745	20.98	--	--	--	--	--	--	--
157	5785	20.98	20.91	20.86	20.80	20.74	20.68	20.59	20.50
165	5825	21.16	--	--	--	--	--	--	--

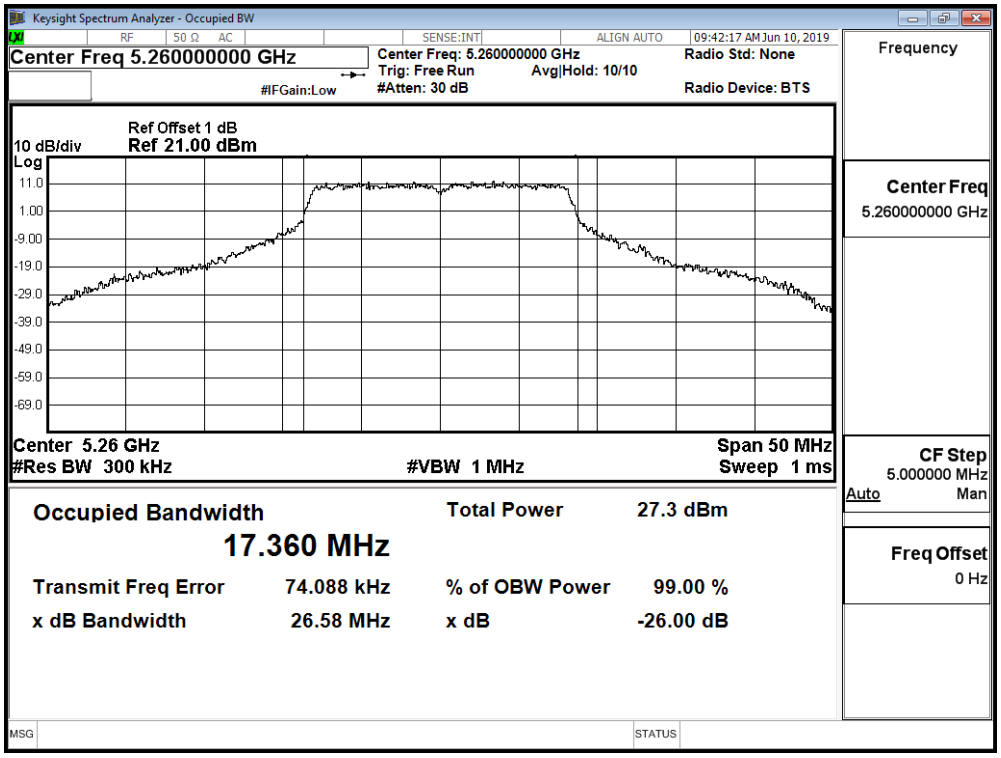
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

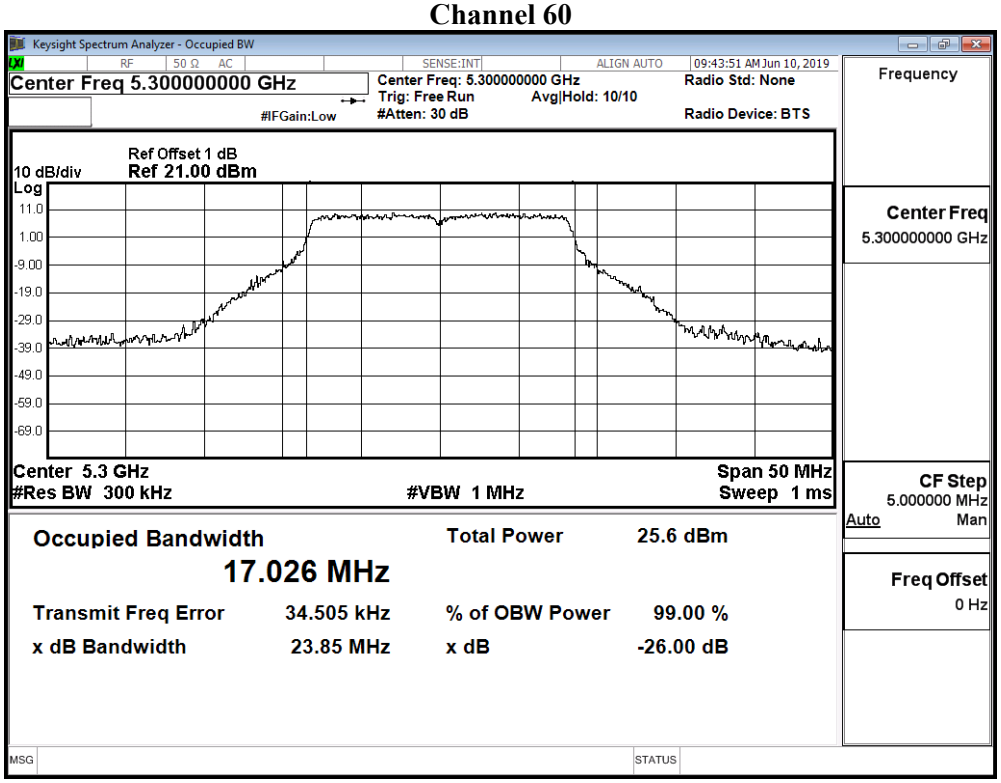
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
36	5180	--	18.25	24	--	Pass
44	5220	--	21	24	--	Pass
48	5240	--	21.18	24	--	Pass
52	5260	17.360	21.25	24	23.40	Pass
60	5300	17.026	21.17	24	23.31	Pass
64	5320	16.999	17.24	24	23.30	Pass
100	5500	17.044	17.4	24	23.32	Pass
116	5580	17.185	20.98	24	23.35	Pass
140	5700	17.068	17.48	24	23.32	Pass
149	5745	--	20.98	30	--	Pass
157	5785	--	20.98	30	--	Pass
165	5825	--	21.16	30	--	Pass

99% Occupied Bandwidth:

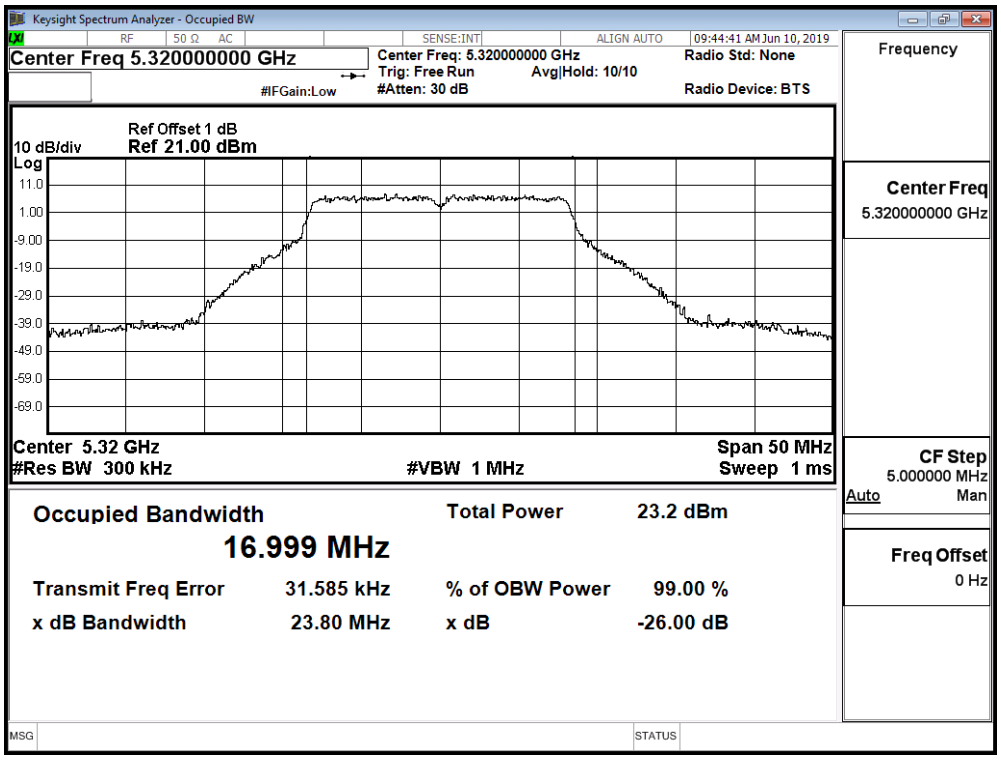
Channel 52



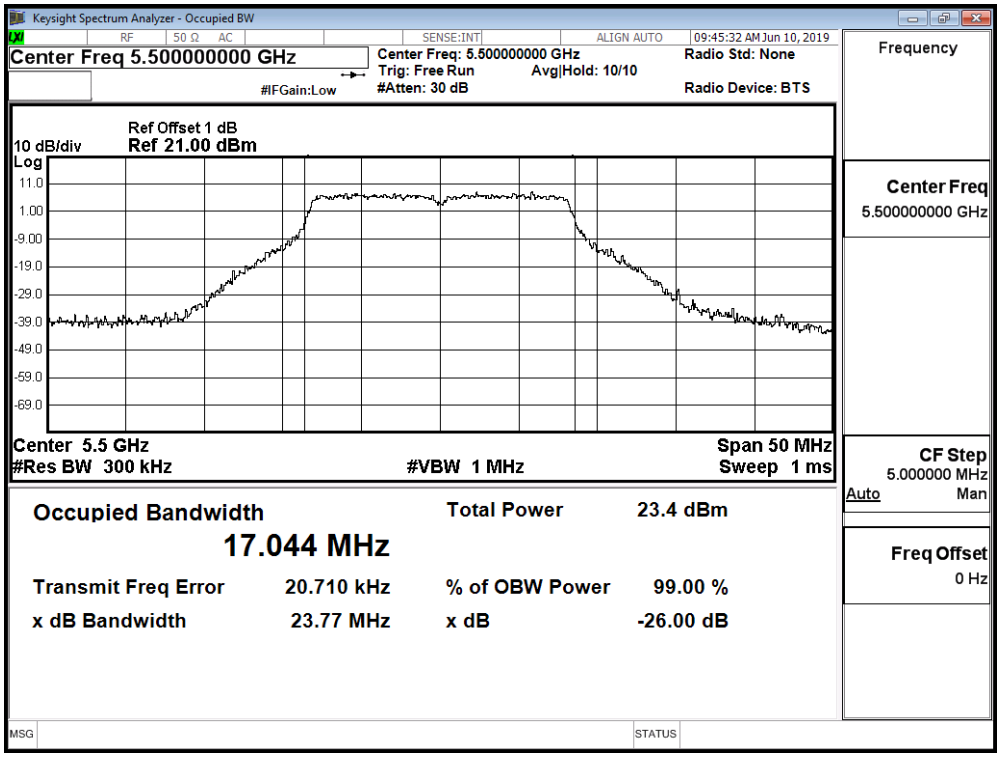
Channel 60



Channel 64



Channel 100



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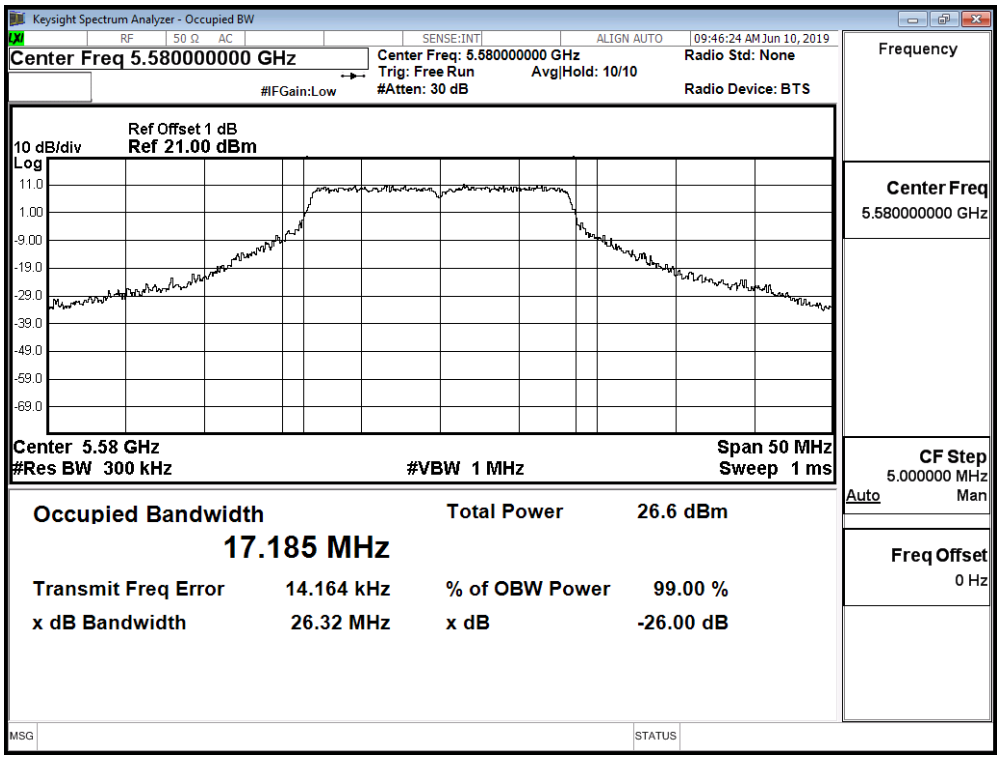
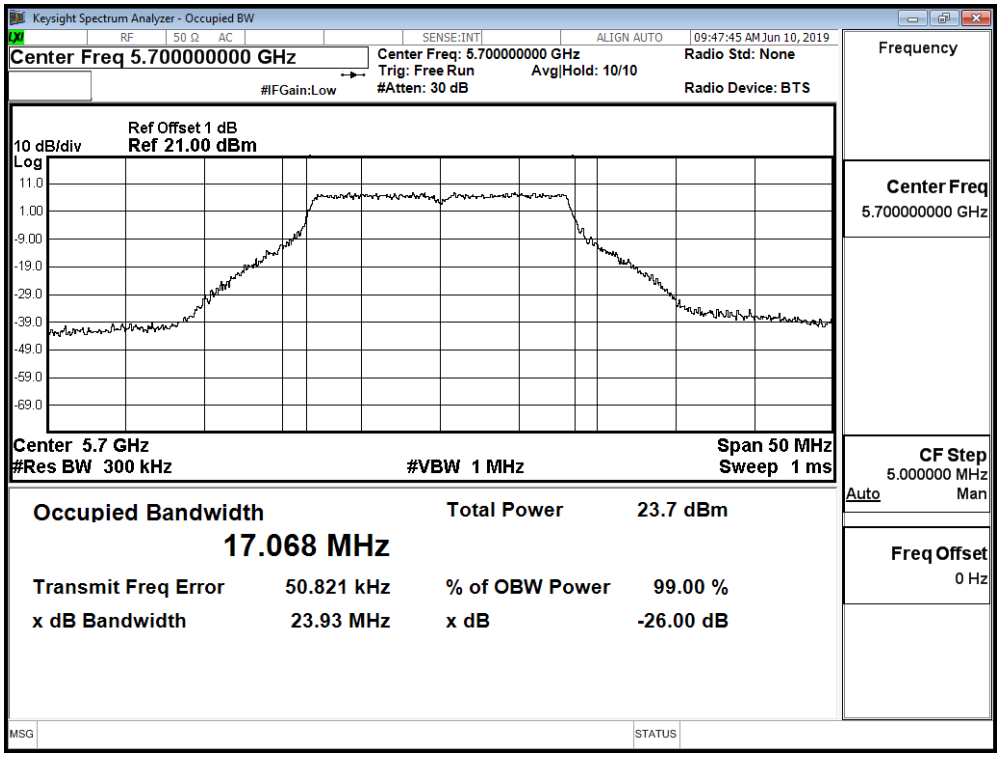


Channel 140



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 2 SISO A: Transmit (802.11n-20BW_7.2Mbps)

Cable loss=1.0dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		7.2	14.4	21.7	28.9	43.3	57.8	65	72.2
		Measurement Level (dBm)							
36	5180	18.11	--	--	--	--	--	--	--
44	5220	20.77	20.69	20.62	20.56	20.47	20.40	20.35	20.28
48	5240	20.82	--	--	--	--	--	--	--
52	5260	21.09	--	--	--	--	--	--	--
60	5300	20.91	20.85	20.80	20.73	20.66	20.60	20.51	20.41
64	5320	17.13	--	--	--	--	--	--	--
100	5500	17.12	--	--	--	--	--	--	--
116	5580	21.13	21.05	20.96	20.91	20.81	20.75	20.66	20.59
140	5700	17.34	--	--	--	--	--	--	--
144(U-NII-2C)	5720	19.25	19.16	19.08	19.01	18.87	18.77	18.70	18.62
144(U-NII-3)	5720	13.64	13.52	13.43	13.32	13.18	13.09	12.95	12.87
149	5745	20.7	--	--	--	--	--	--	--
157	5785	20.73	20.68	20.63	20.54	20.49	20.42	20.36	20.27
165	5825	20.76	--	--	--	--	--	--	--

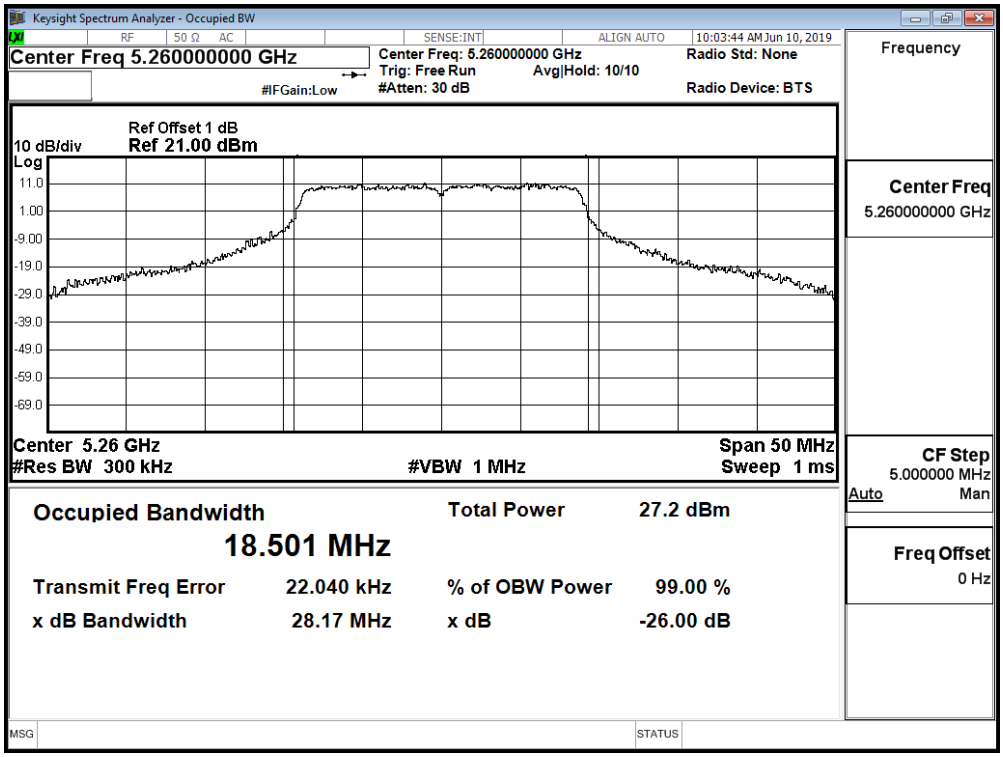
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

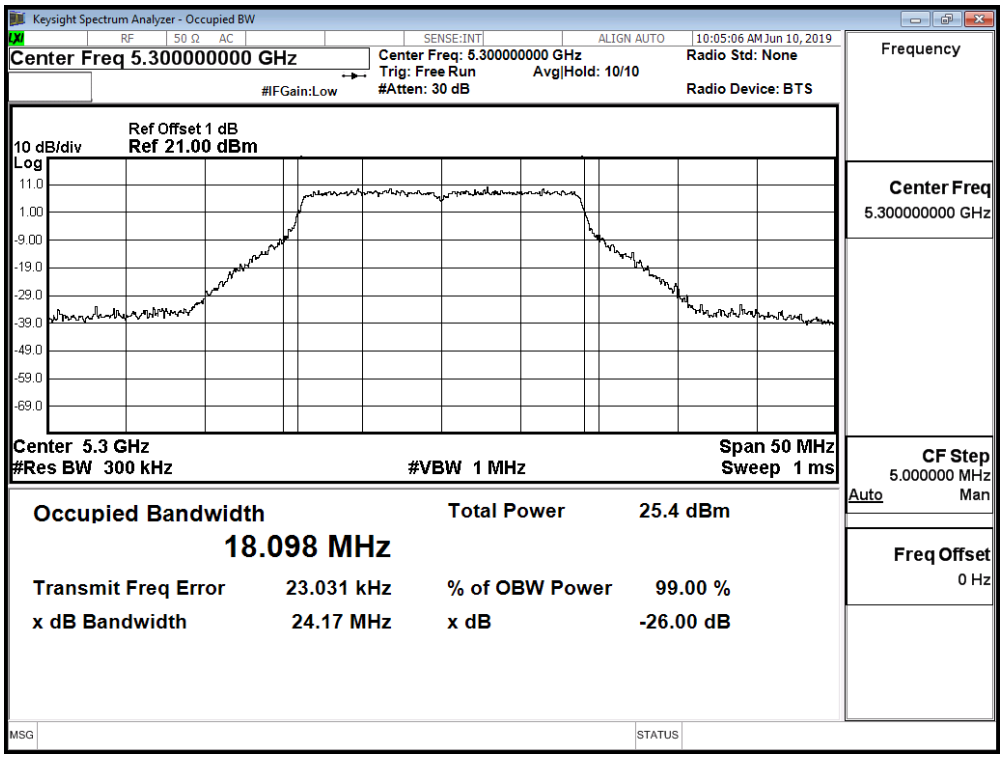
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
36	5180	--	18.11	24	--	Pass
44	5220	--	20.77	24	--	Pass
48	5240	--	20.82	24	--	Pass
52	5260	18.501	21.09	24	23.67	Pass
60	5300	18.098	20.91	24	23.58	Pass
64	5320	18.114	17.13	24	23.58	Pass
100	5500	18.104	17.12	24	23.58	Pass
116	5580	18.252	21.13	24	23.61	Pass
140	5700	18.130	17.34	24	23.58	Pass
144(U-NII-2C)	5720	14.136	19.25	24	22.50	Pass
144(U-NII-3)	5720	--	13.64	30	--	Pass
149	5745	--	20.7	30	--	Pass
157	5785	--	20.73	30	--	Pass
165	5825	--	20.76	30	--	Pass

99% Occupied Bandwidth:

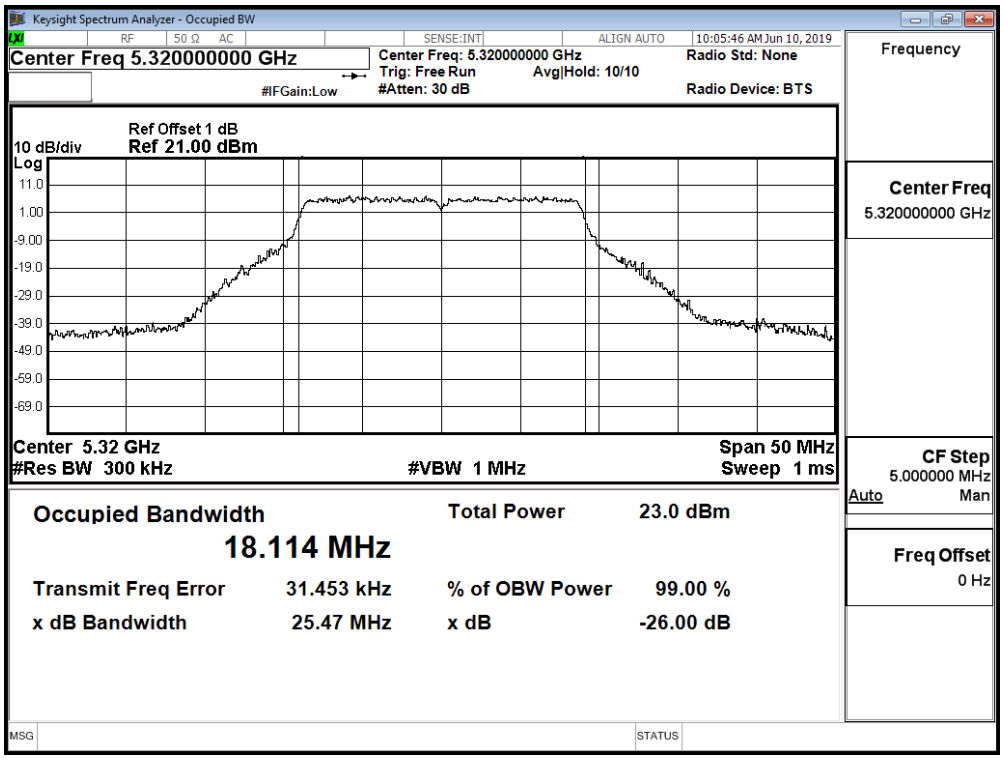
Channel 52



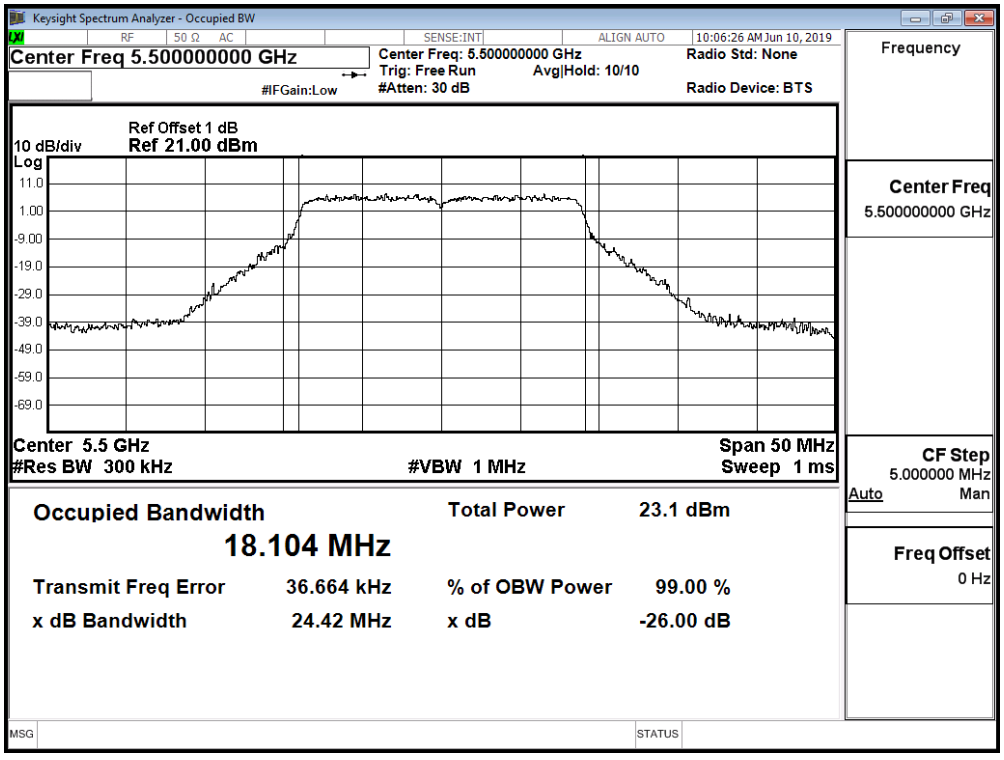
Channel 60



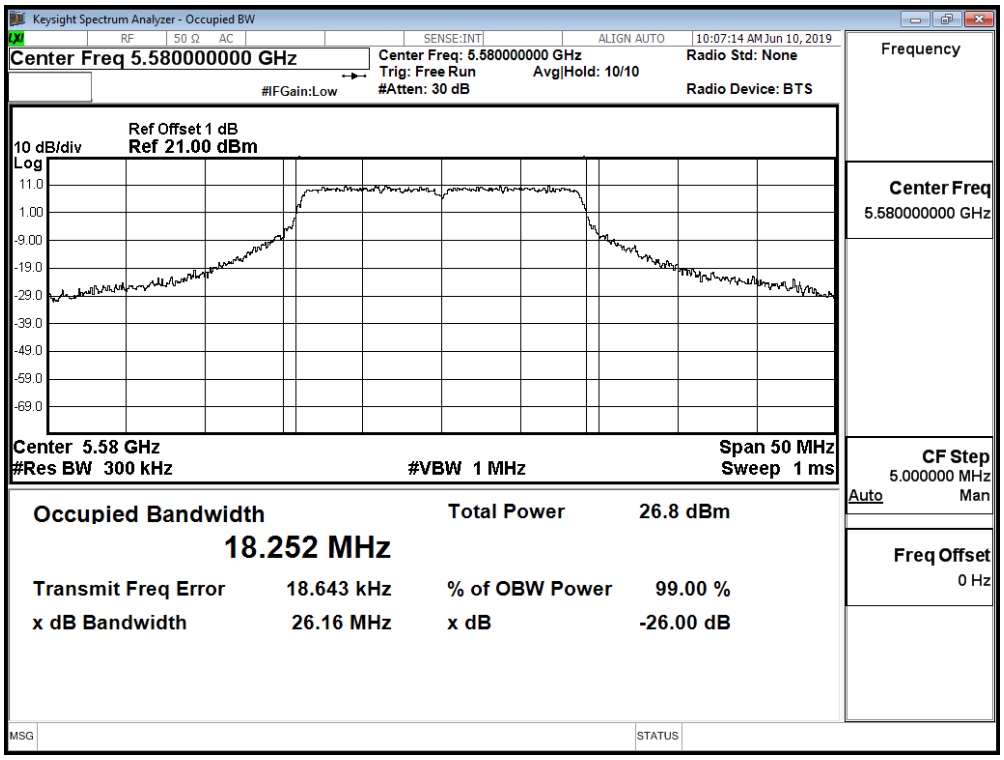
Channel 64



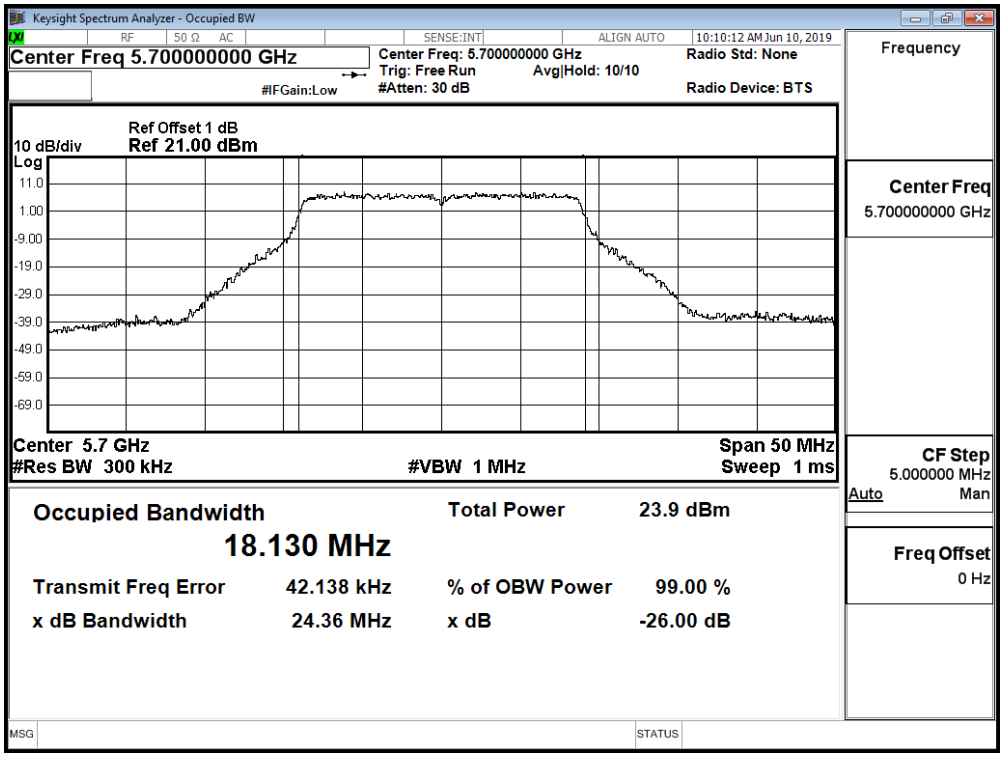
Channel 100



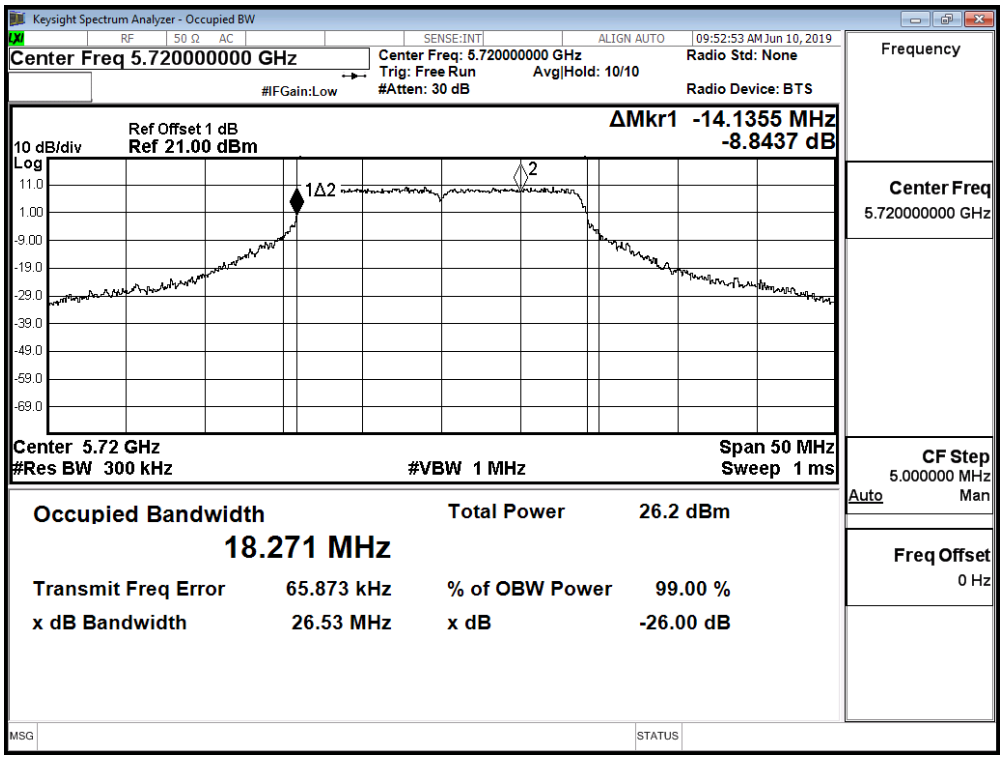
Channel 116



Channel 140

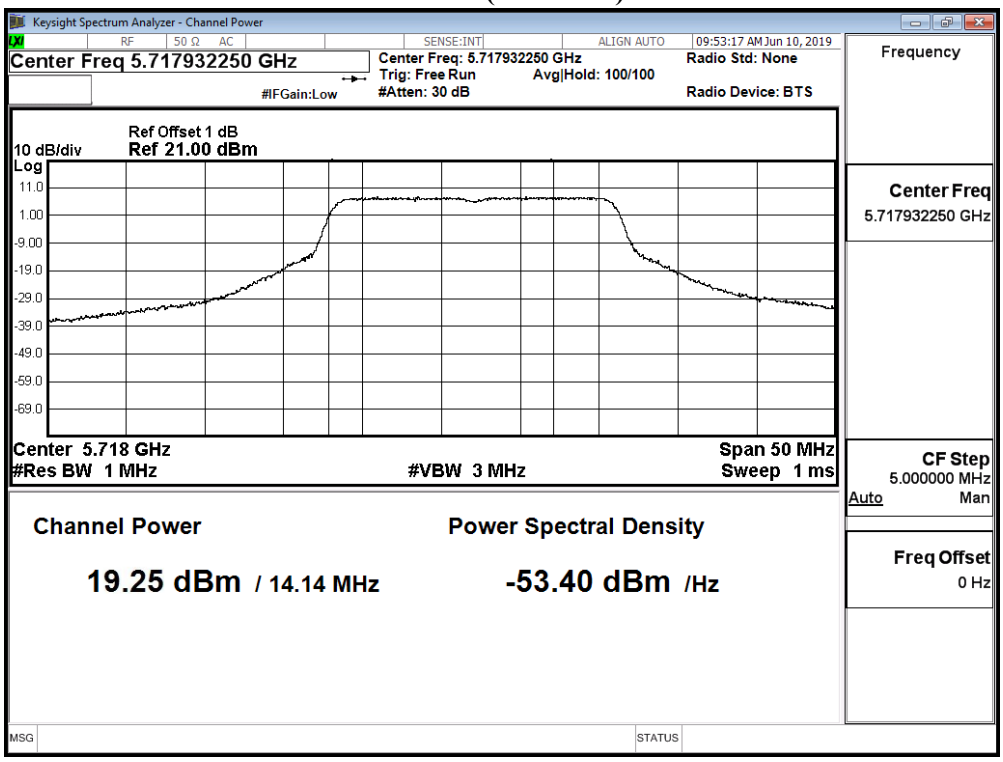


Channel 144


Keysight Spectrum Analyzer - Occupied BW
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
09:52:53 AM Jun 10, 2019
Center Freq 5.720000000 GHz
Center Freq: 5.720000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#IFGain:Low
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 1 dB
10 dB/div
Ref 21.00 dBm
ΔMkr1 -14.1355 MHz
-8.8437 dB
Log
11.0
1.00
-9.00
-19.0
-29.0
-39.0
-49.0
-59.0
-69.0
1Δ2
2
Center 5.72 GHz
#Res BW 300 kHz
#VBW 1 MHz
Span 50 MHz
Sweep 1 ms
Occupied Bandwidth
18.271 MHz
Total Power 26.2 dBm
Transmit Freq Error 65.873 kHz
% of OBW Power 99.00 %
x dB Bandwidth 26.53 MHz
x dB -26.00 dB
Center Freq
5.720000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

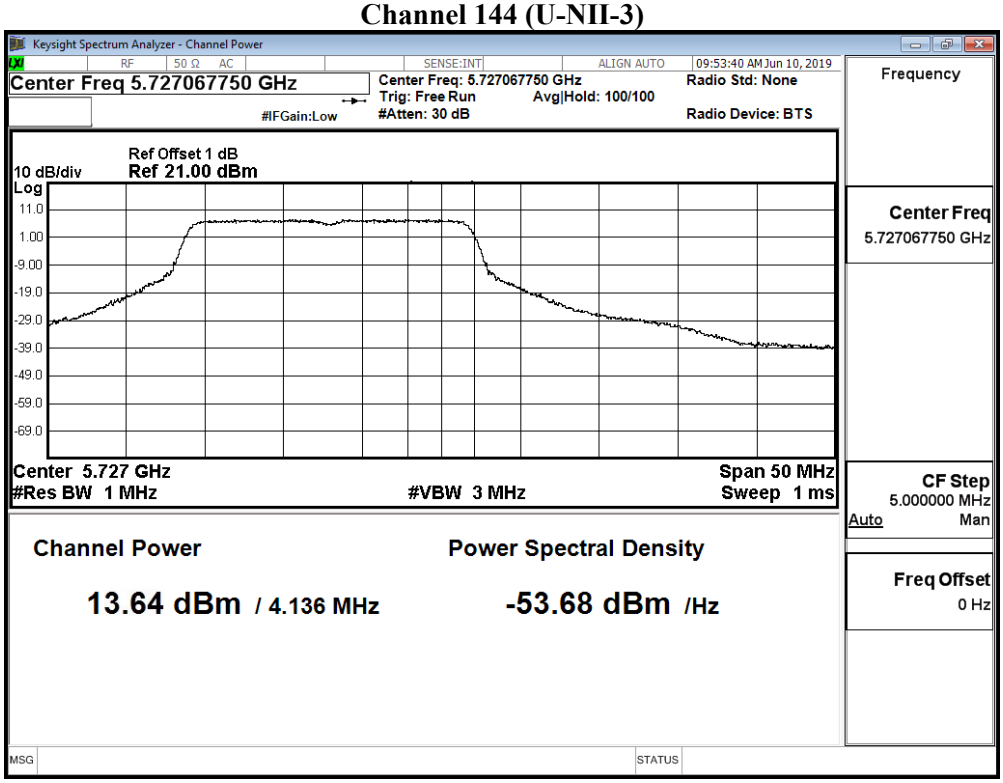
Maximum conducted output power:

Channel 144 (U-NII-2C)



Maximum conducted output power:

Channel 144 (U-NII-3)



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 3 SISO A: Transmit (802.11n-40BW_15Mbps)

Cable loss=1.0dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		15	30	45	60	90	120	135	150
		Measurement Level (dBm)							
38	5190	18.19	--	--	--	--	--	--	--
46	5230	20.92	20.85	20.75	20.70	20.62	20.54	20.49	20.40
54	5270	20.18	--	--	--	--	--	--	--
62	5310	16.45	16.36	16.29	16.19	16.12	16.07	15.98	15.93
102	5510	17.05	--	--	--	--	--	--	--
110	5550	20.16	20.11	20.01	19.94	19.84	19.77	19.68	19.60
134	5670	18.69	--	--	--	--	--	--	--
142(U-NII-2C)	5710	20.04	19.92	19.80	19.67	19.55	19.44	19.32	19.20
142(U-NII-3)	5710	9.91	9.79	9.66	9.54	9.46	9.32	9.23	9.11
151	5755	20.7	--	--	--	--	--	--	--
159	5795	21.01	20.91	20.82	20.70	20.63	20.60	20.52	20.45

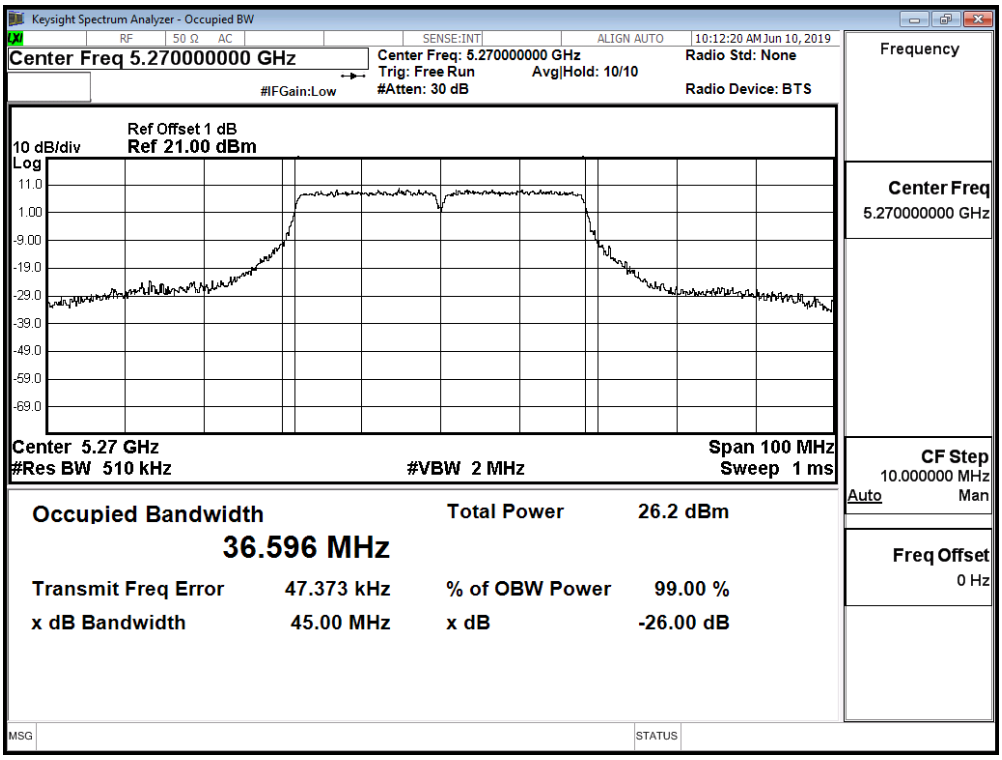
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

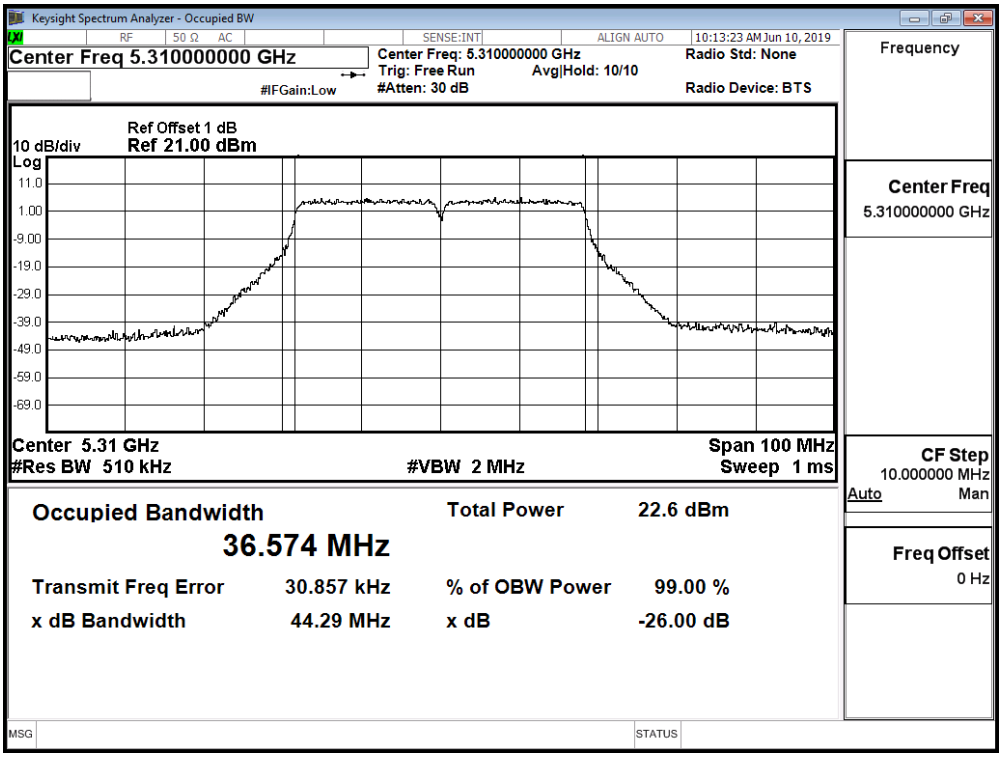
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
38	5190	--	18.19	24	--	Pass
46	5230	--	20.92	24	--	Pass
54	5270	36.596	20.18	24	26.63	Pass
62	5310	36.574	16.45	24	26.63	Pass
102	5510	36.600	17.05	24	26.63	Pass
110	5550	36.761	20.16	24	26.65	Pass
134	5670	36.651	18.69	24	26.64	Pass
142(U-NII-2C)	5710	33.521	20.04	24	26.25	Pass
142(U-NII-3)	5710	--	9.91	30	--	Pass
151	5755	--	20.7	30	--	Pass
159	5795	--	21.01	30	--	Pass

99% Occupied Bandwidth:

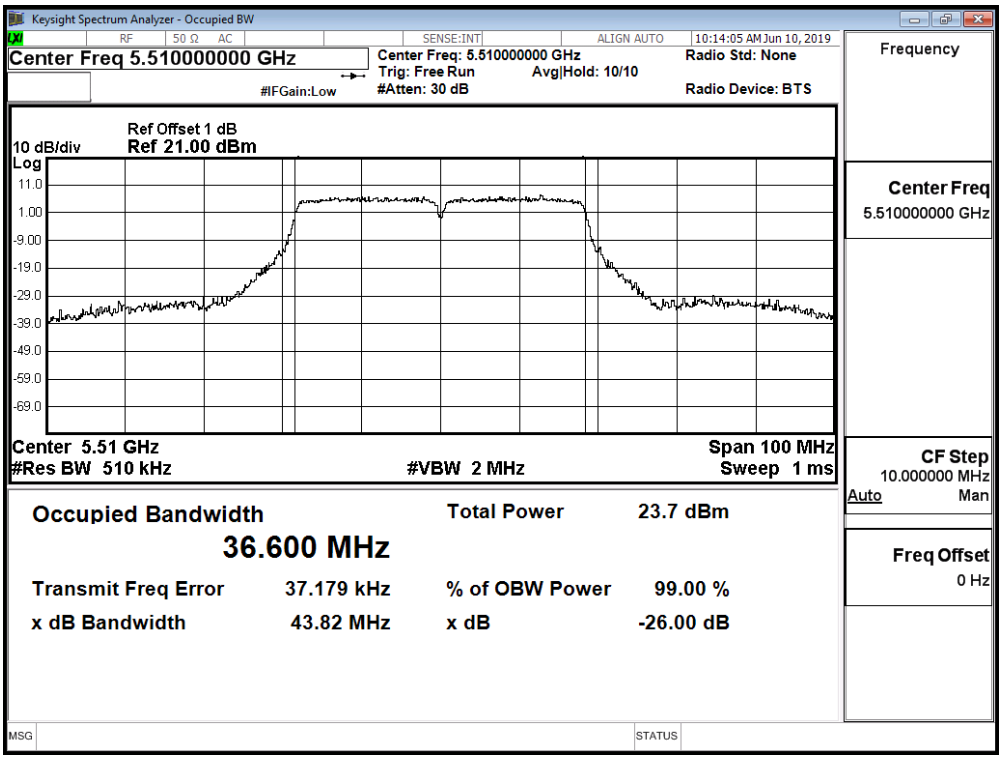
Channel 54



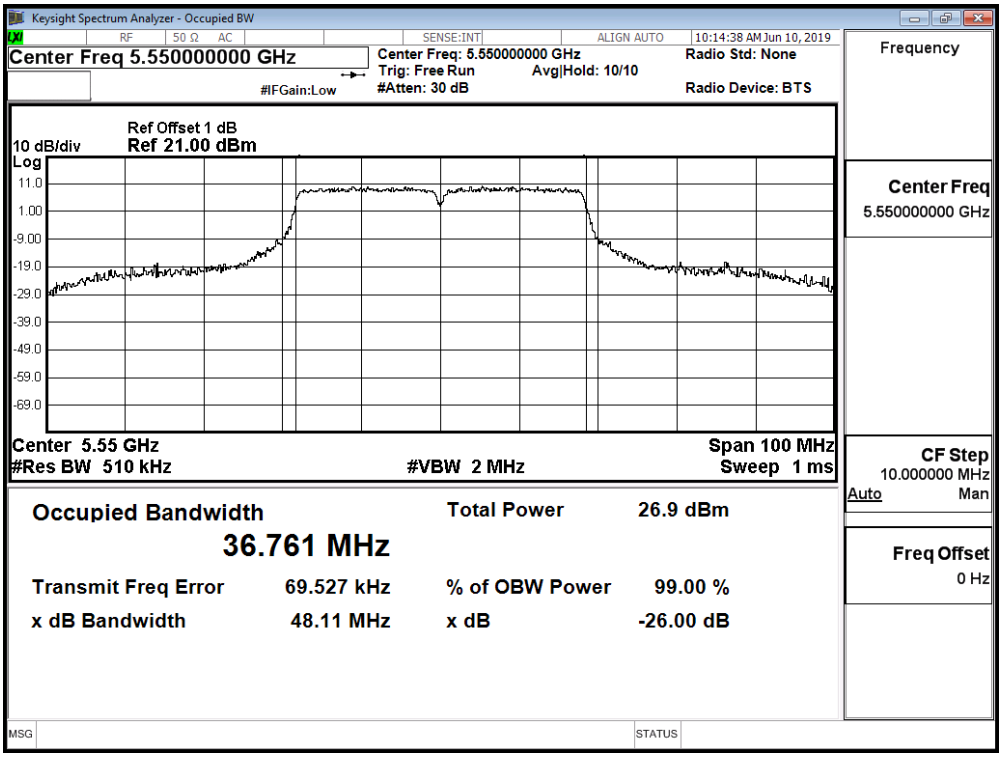
Channel 62



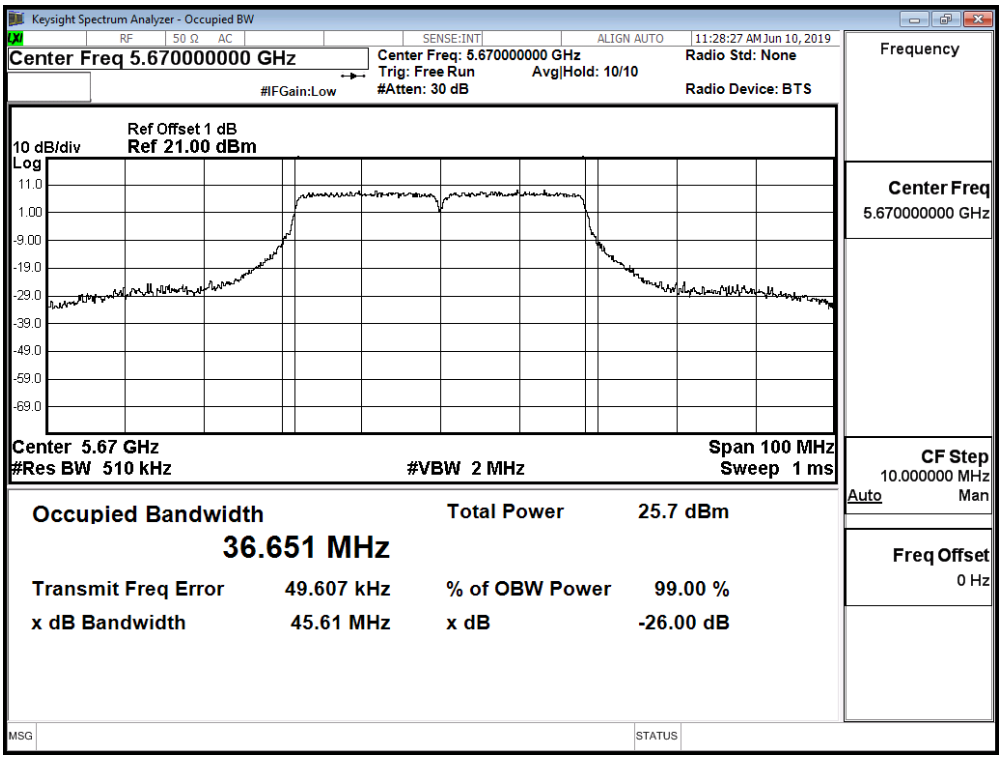
Channel 102



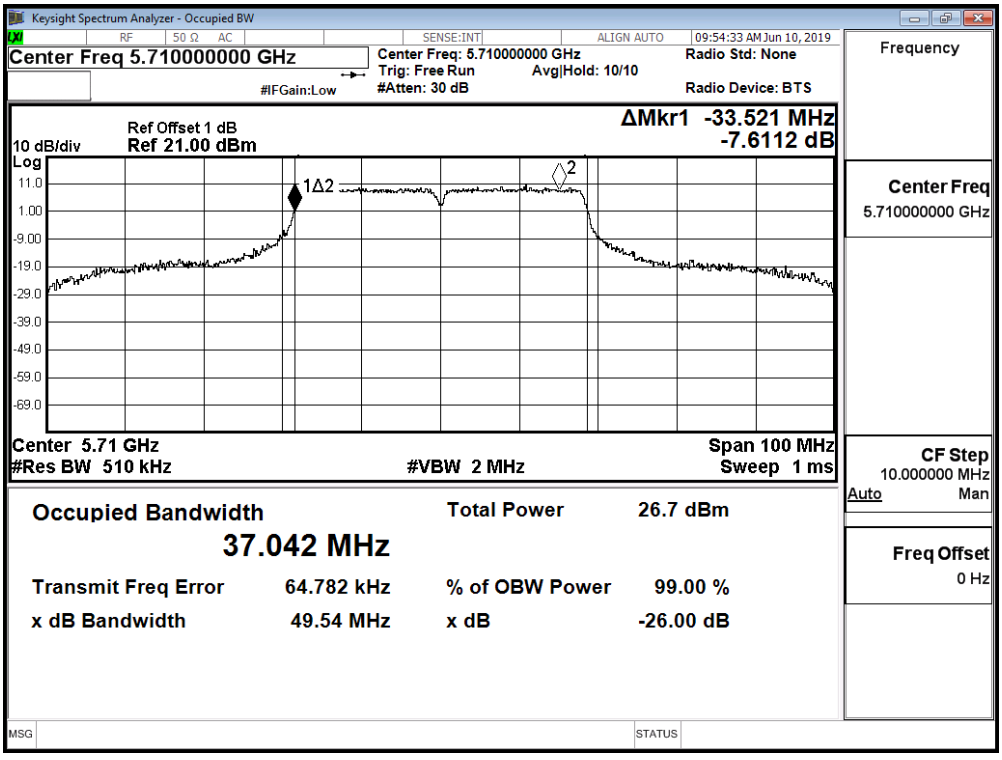
Channel 110



Channel 134

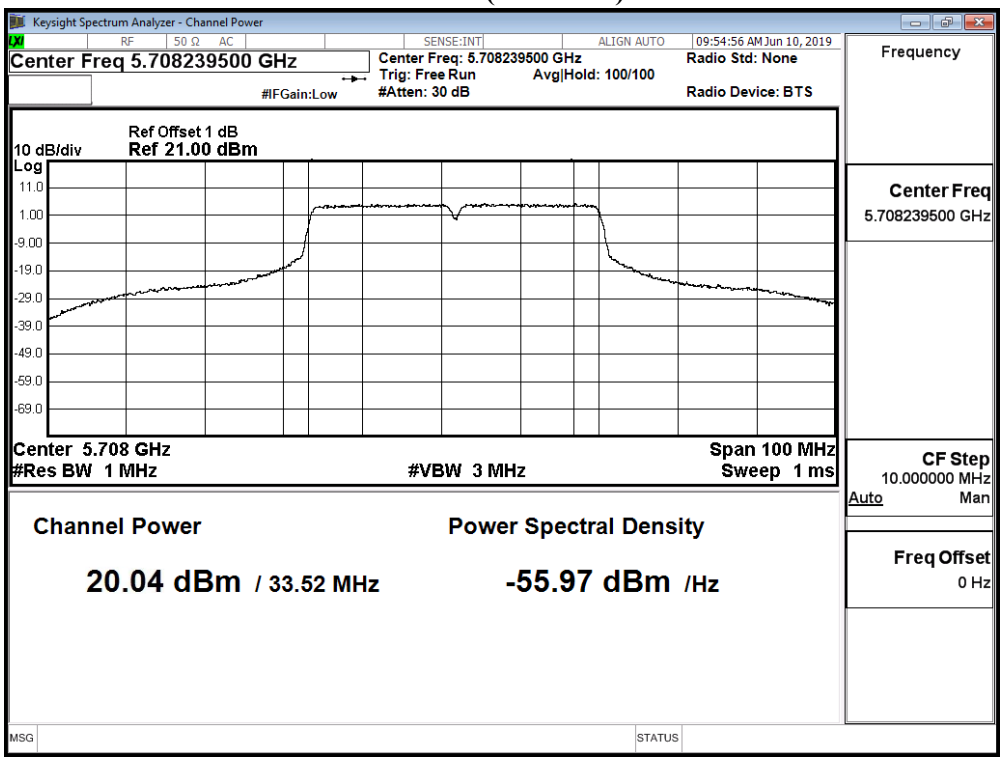


Channel 142



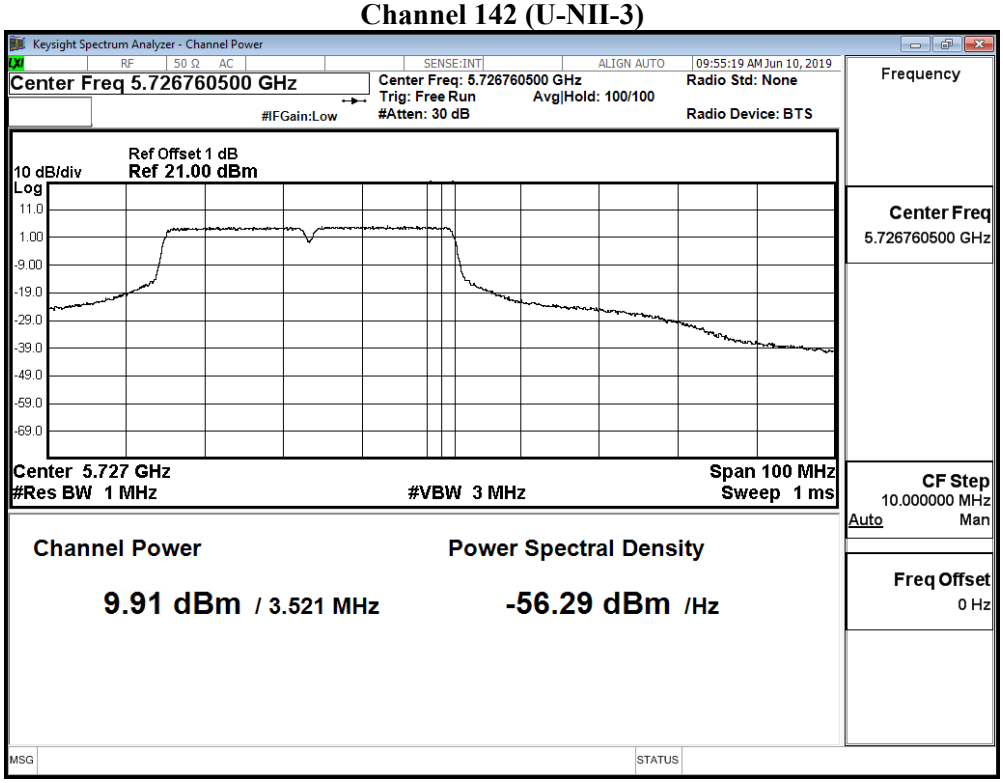
Maximum conducted output power:

Channel 142 (U-NII-2C)



Maximum conducted output power:

Channel 142 (U-NII-3)



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 4 SISO A: Transmit (802.11ac-80BW_32.5Mbps)

Cable loss=1.0dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		32.5	65	97.5	130	195	260	292.5	325	390	433.3
42	5210	17.99	17.77	17.71	17.61	17.52	17.44	17.38	17.28	17.22	17.15
58	5290	17.07	15.73	15.63	15.58	15.50	15.42	15.33	15.28	15.23	15.15
106	5530	17.34	--	--	--	--	--	--	--	--	--
122	5610	20.19	20.09	20.04	19.94	19.89	19.79	19.74	19.67	19.61	19.55
138 (U-NII-2C)	5690	20.7	--	--	--	--	--	--	--	--	--
138 (U-NII-3)	5690	3.71	--	--	--	--	--	--	--	--	--
155	5775	19.34	19.27	19.18	19.09	19.02	18.93	18.84	18.75	18.67	18.57

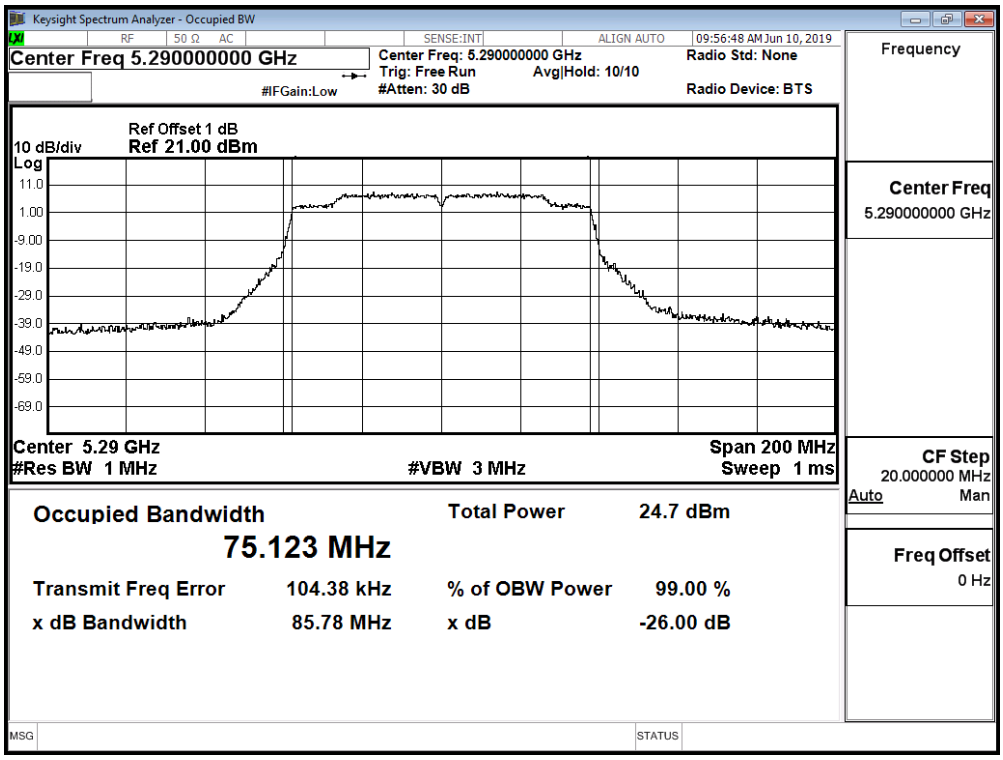
Note: Maximum conducted output power Value =Reading value on Spectrum Analyzer + cable loss

Maximum conducted output power Measurement:

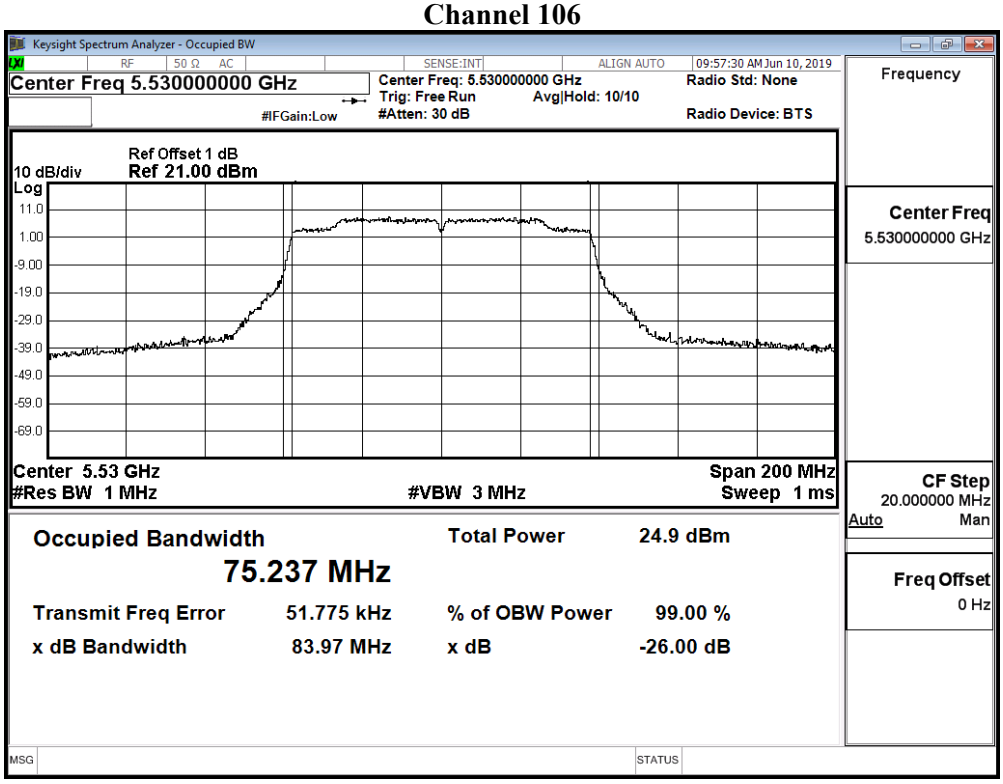
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
42	5210	--	17.99	24	--	Pass
58	5290	75.123	17.07	24	29.76	Pass
106	5530	75.237	17.34	24	29.76	Pass
122	5610	75.288	20.19	24	29.77	Pass
138 (U-NII-2C)	5690	72.819	20.70	24	29.62	Pass
138 (U-NII-3)	5690	--	3.71	30	--	Pass
155	5775	--	19.34	30	--	Pass

99% Occupied Bandwidth:

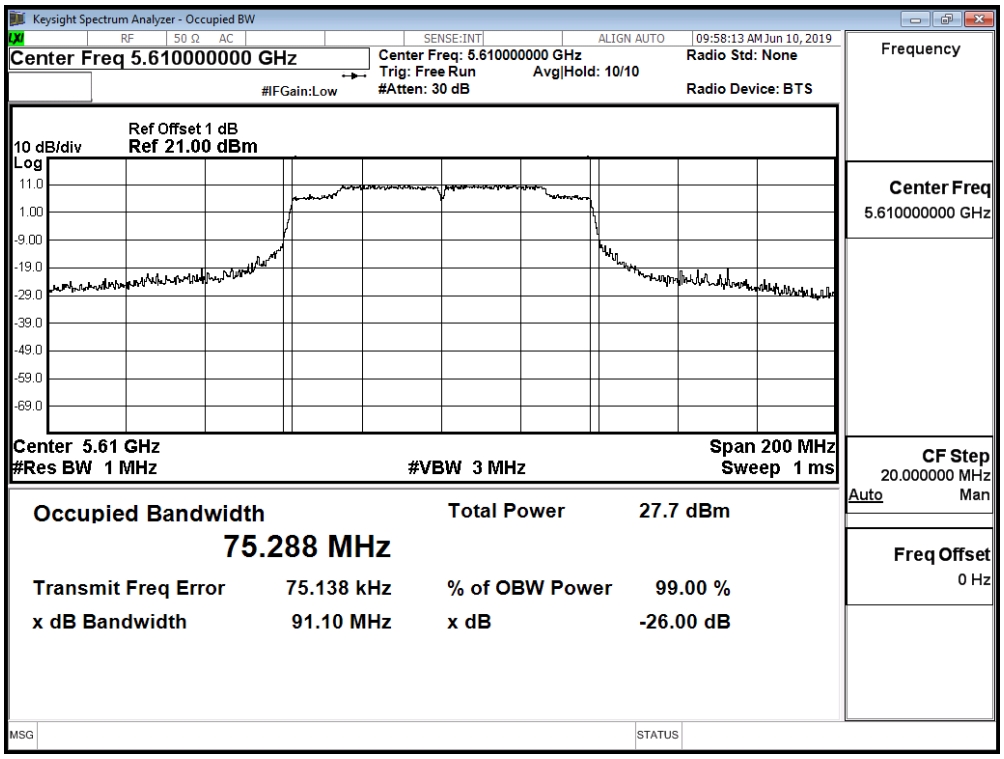
Channel 58



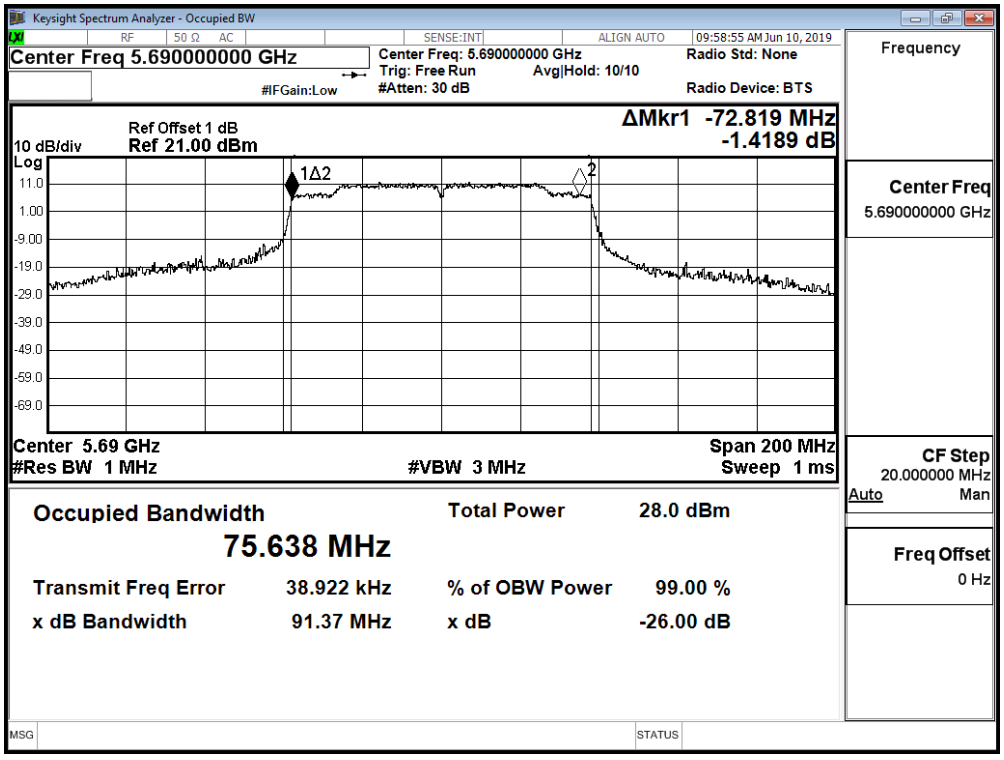
Channel 106



Channel 122

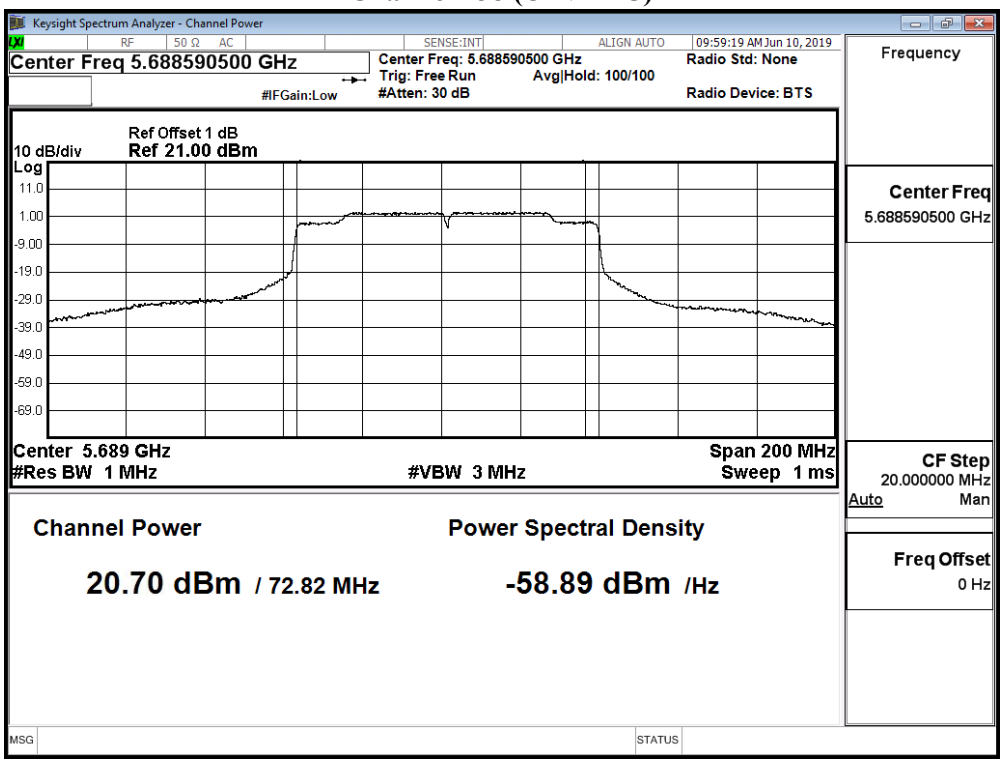


Channel 138



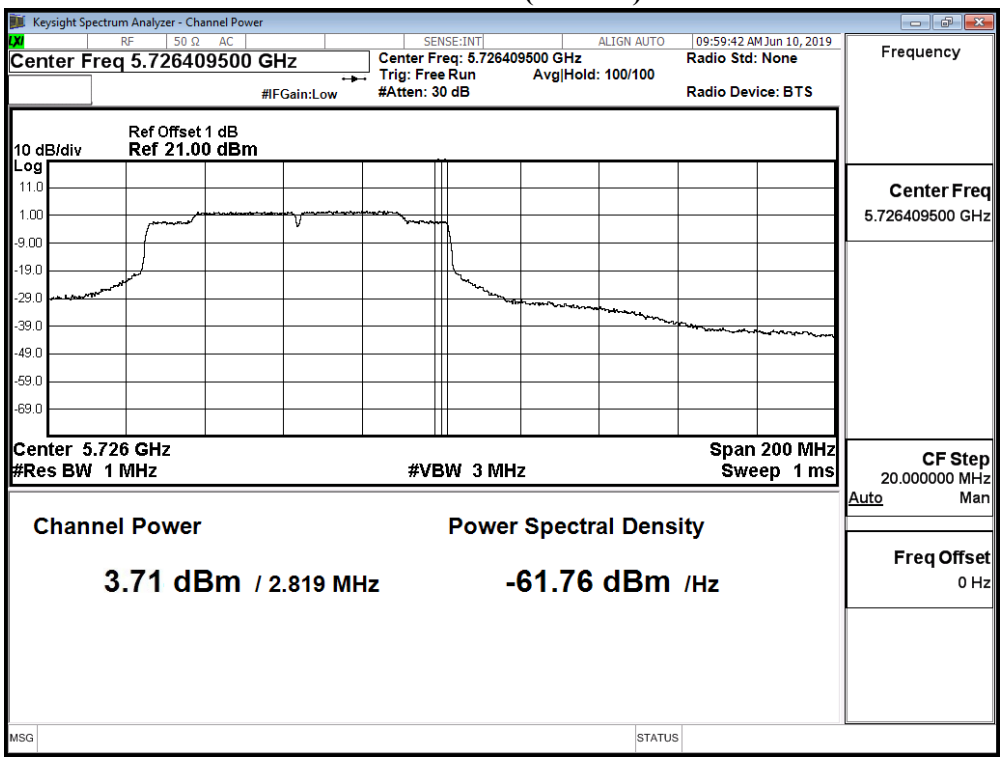
Maximum conducted output power:

Channel 138 (U-NII-2C)



Maximum conducted output power:

Channel 138 (U-NII-3)



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 5 SISO A: Transmit (802.11ac-160BW_65Mbps)

Cable loss=1.0dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		65	130	195	260	390	520	585	650	780	866.7
50 (U-NII-1)	5250	11.63	11.54	11.47	11.36	11.27	11.20	11.15	11.04	10.96	10.85
50 (U-NII-2A)	5250	11.72	11.64	11.60	11.51	11.43	11.40	11.36	11.26	11.22	11.15
114	5570	14.42	14.34	14.24	14.17	14.11	14.02	13.95	13.87	13.77	13.71

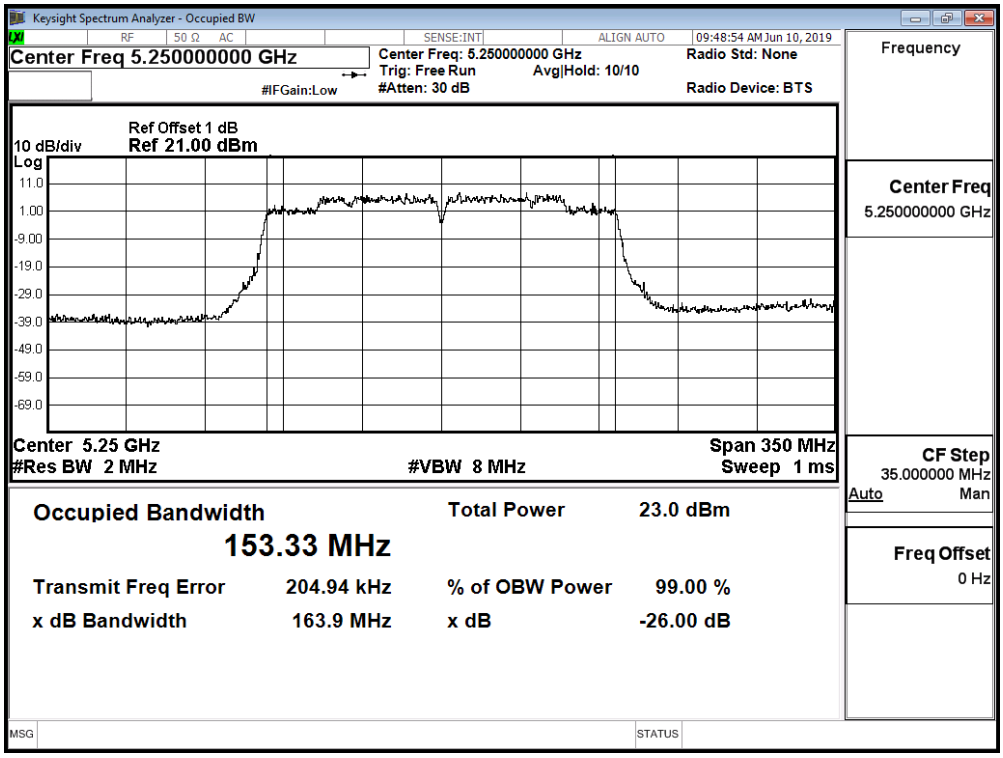
Note: Maximum conducted output power Value =Reading value on Spectrum Analyzer + cable loss

Maximum conducted output power Measurement:

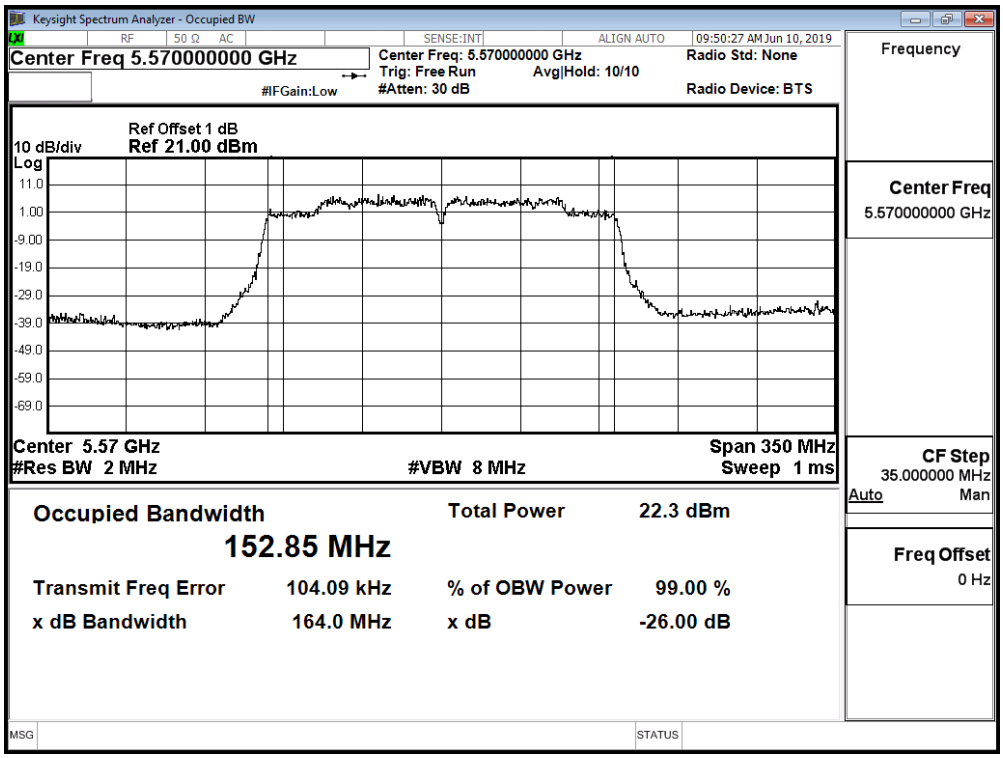
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
50 (U-NII-1)	5250	--	11.63	24	--	Pass
50 (U-NII-2A)	5250	76.665	11.72	24	29.85	Pass
114	5570	152.850	14.42	24	32.84	Pass

99% Occupied Bandwidth:

Channel 50

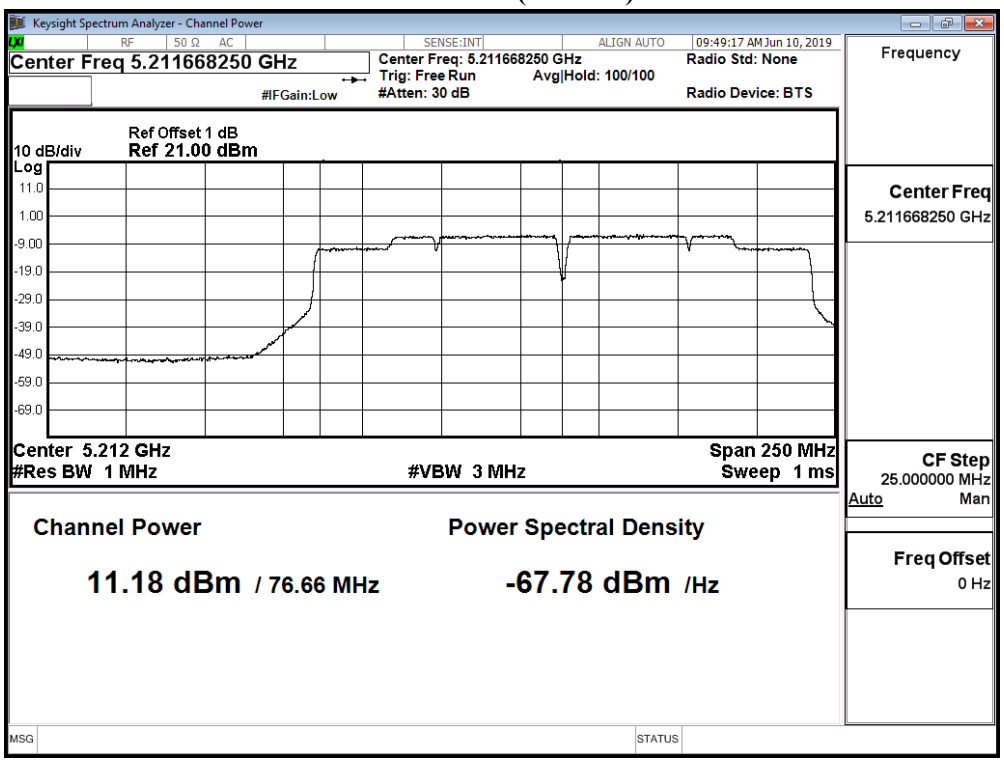


Channel 114



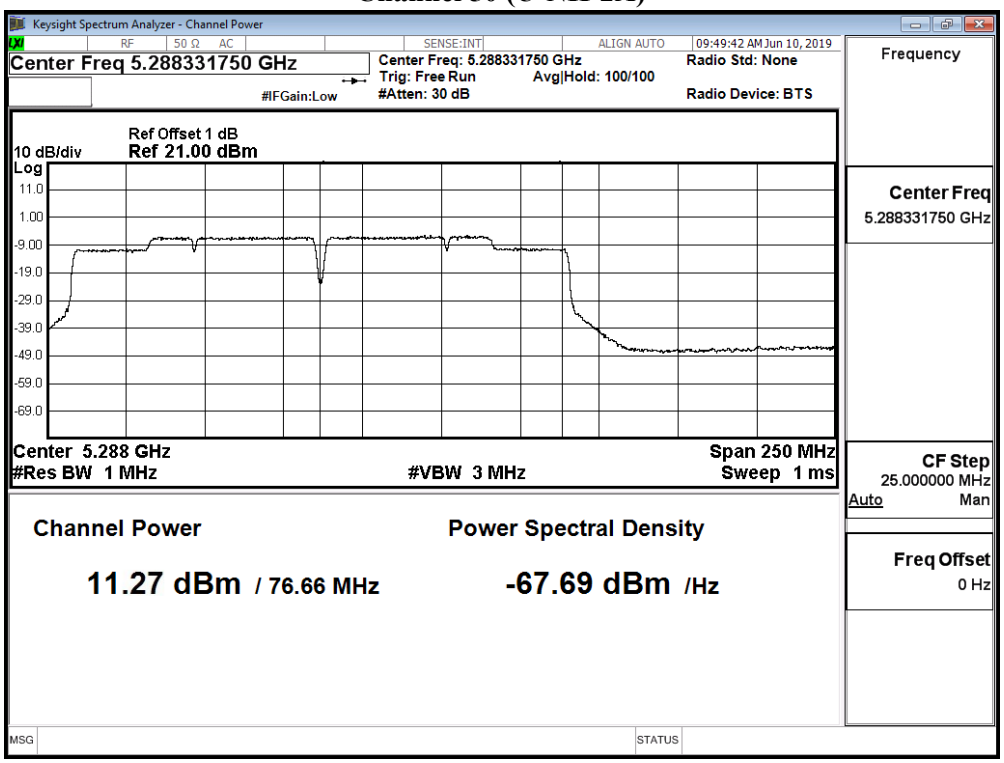
Maximum conducted output power:

Channel 50 (U-NII-1)



Maximum conducted output power:

Channel 50 (U-NII-2A)



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 10 SISO B: Transmit (802.11a_6Mbps)

Cable loss=1.0dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
		Measurement Level (dBm)							
36	5180	18.02	--	--	--	--	--	--	--
44	5220	20.66	20.60	20.54	20.48	20.40	20.34	20.28	20.23
48	5240	20.84	--	--	--	--	--	--	--
52	5260	20.93	--	--	--	--	--	--	--
60	5300	20.77	20.68	20.61	20.55	20.47	20.38	20.28	20.20
64	5320	17.4	--	--	--	--	--	--	--
100	5500	17.65	--	--	--	--	--	--	--
116	5580	21.06	21.01	20.93	20.88	20.80	20.73	20.63	20.53
140	5700	17.57	--	--	--	--	--	--	--
149	5745	21.07	--	--	--	--	--	--	--
157	5785	21.01	20.92	20.87	20.78	20.73	20.64	20.58	20.50
165	5825	21.05	--	--	--	--	--	--	--

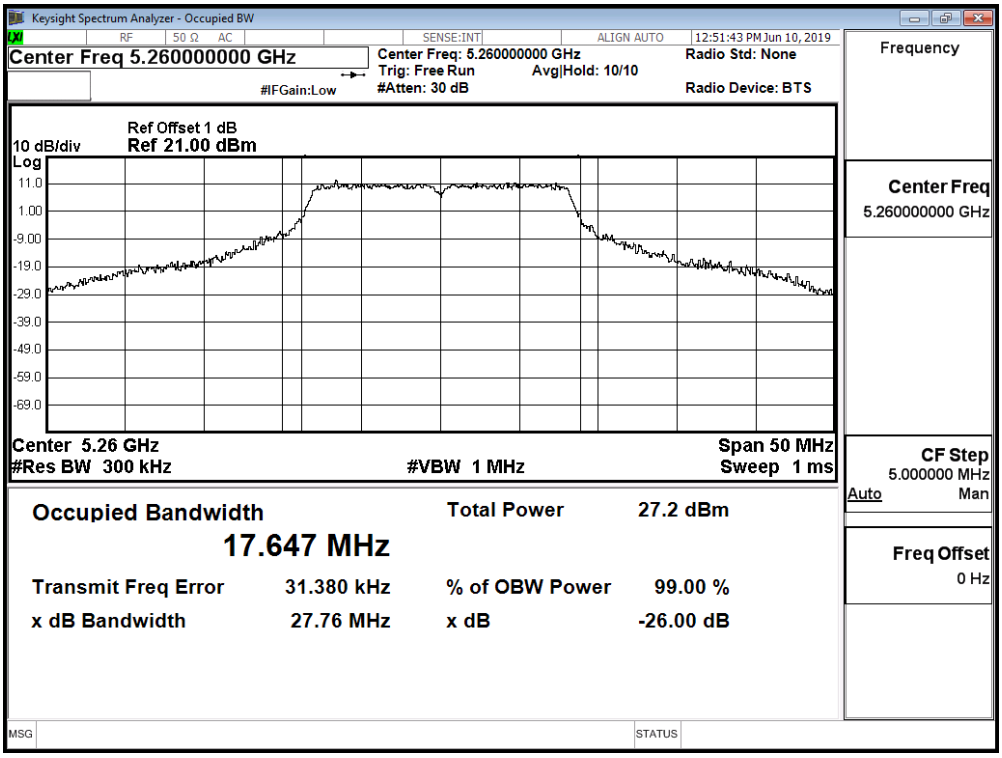
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

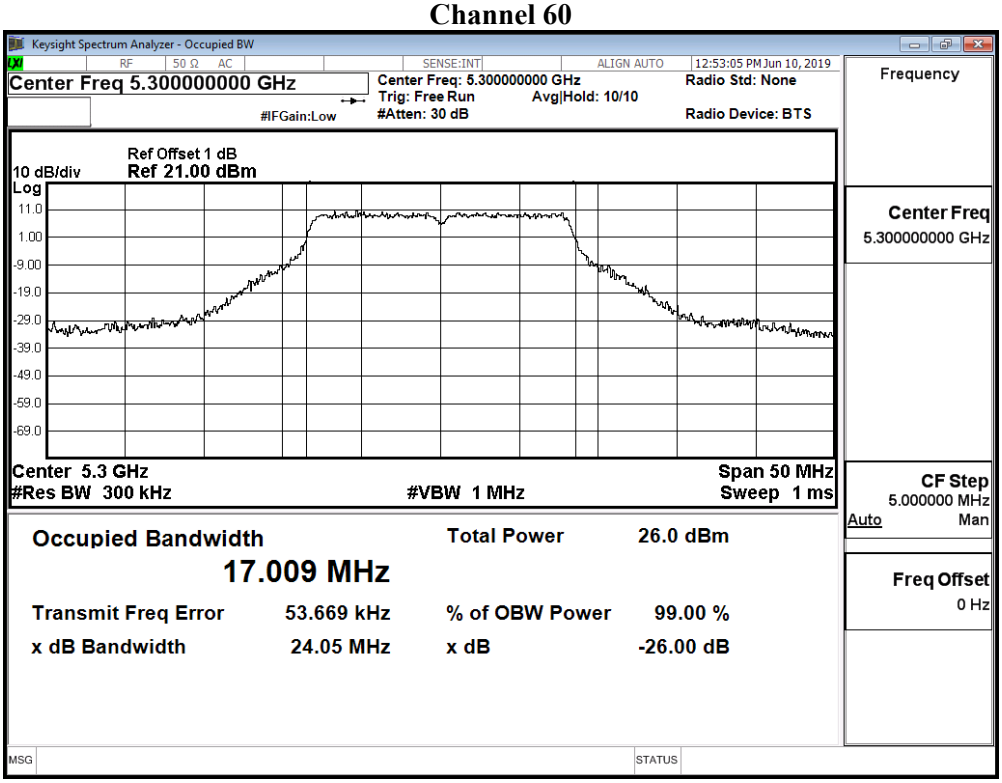
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
36	5180	--	18.02	24	--	Pass
44	5220	--	20.66	24	--	Pass
48	5240	--	20.84	24	--	Pass
52	5260	17.647	20.93	24	23.47	Pass
60	5300	17.009	20.77	24	23.31	Pass
64	5320	17.008	17.4	24	23.31	Pass
100	5500	16.978	17.65	24	23.30	Pass
116	5580	17.299	21.06	24	23.38	Pass
140	5700	17.011	17.57	24	23.31	Pass
149	5745	--	21.07	30	--	Pass
157	5785	--	21.01	30	--	Pass
165	5825	--	21.05	30	--	Pass

99% Occupied Bandwidth:

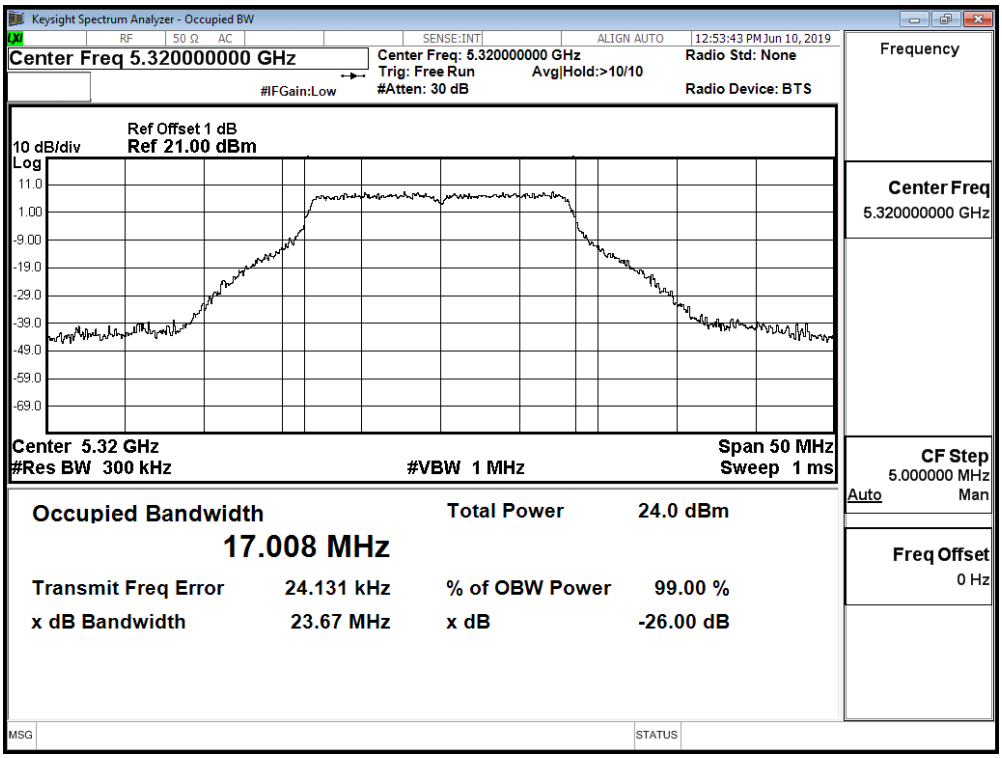
Channel 52



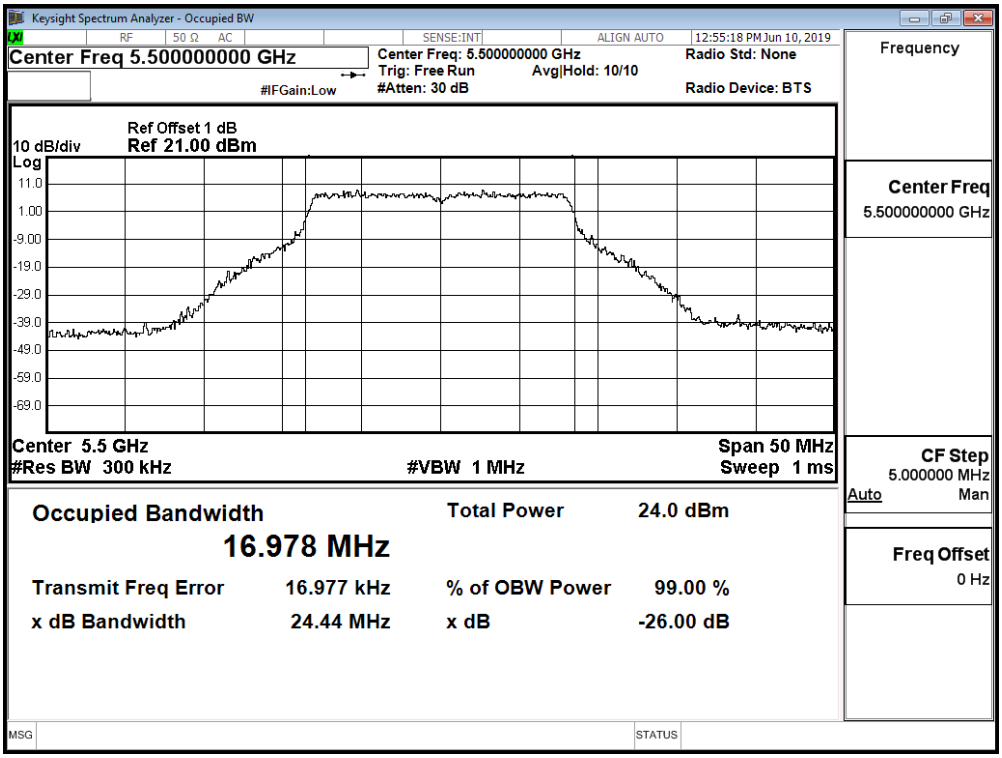
Channel 60



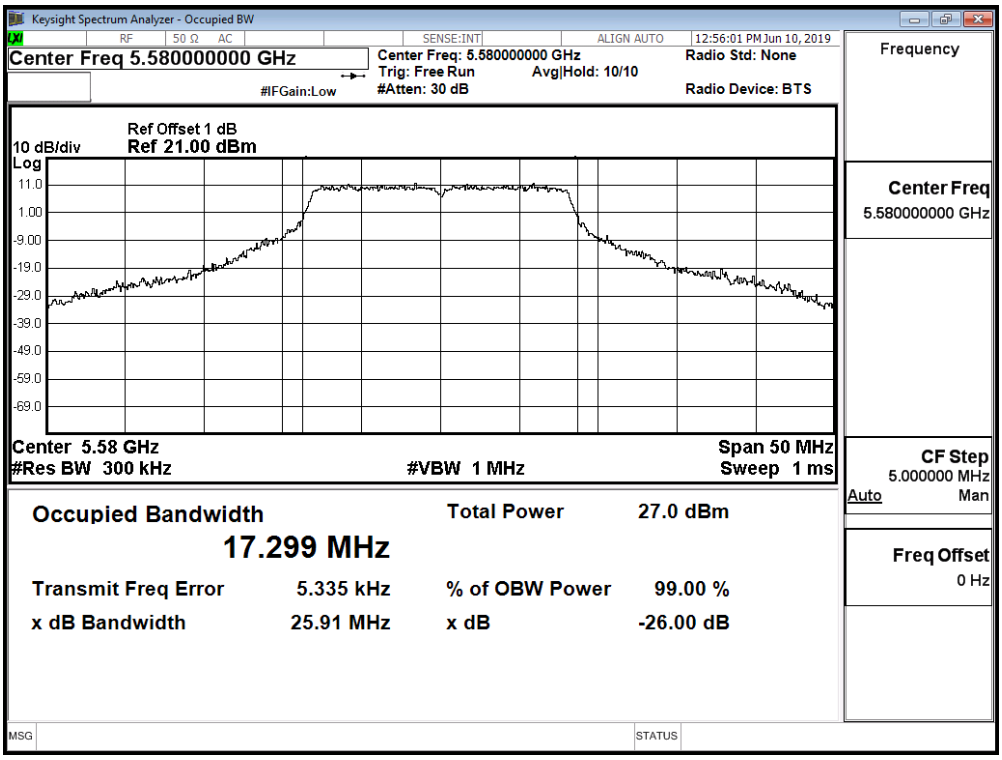
Channel 64



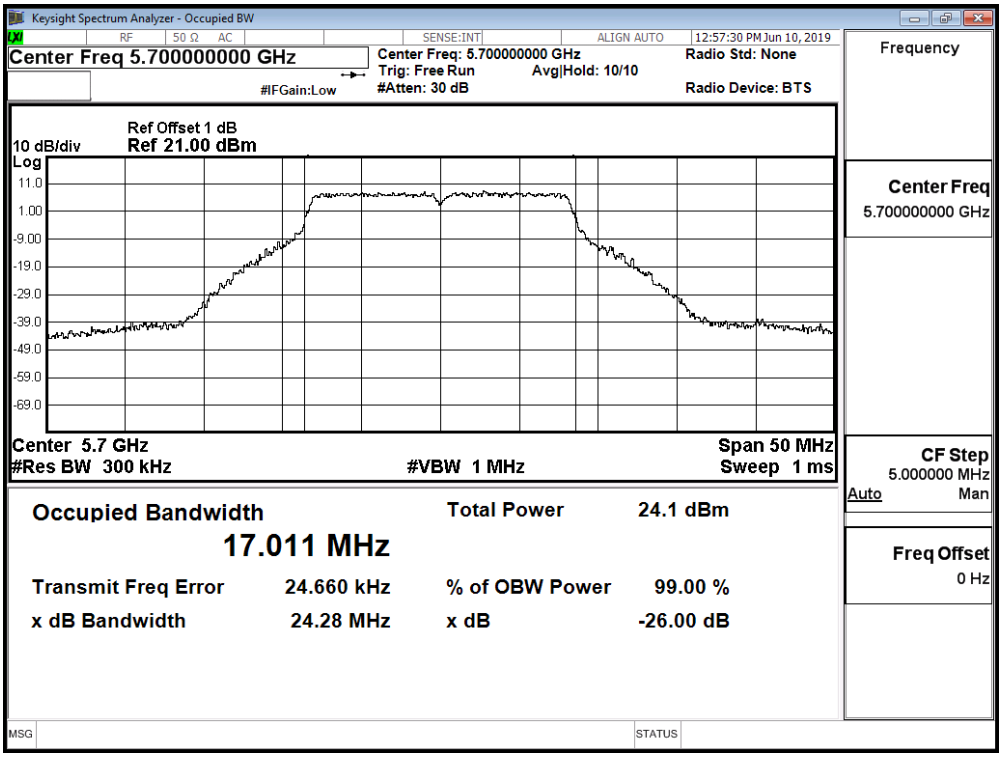
Channel 100



Channel 116



Channel 140



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 11 SISO B: Transmit (802.11n-20BW_7.2Mbps)

Cable loss=1.0dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		7.2	14.4	21.7	28.9	43.3	57.8	65	72.2
		Measurement Level (dBm)							
36	5180	18.05	--	--	--	--	--	--	--
44	5220	20.58	20.52	20.42	20.37	20.30	20.24	20.14	20.05
48	5240	19.4	--	--	--	--	--	--	--
52	5260	20.9	--	--	--	--	--	--	--
60	5300	20.85	20.78	20.73	20.67	20.59	20.49	20.41	20.31
64	5320	17.03	--	--	--	--	--	--	--
100	5500	17.46	--	--	--	--	--	--	--
116	5580	20.96	20.88	20.83	20.73	20.63	20.56	20.48	20.43
140	5700	17.48	--	--	--	--	--	--	--
144(U-NII-2C)	5720	19.28	19.15	19.05	18.95	18.87	18.75	18.66	18.57
144(U-NII-3)	5720	13.51	13.42	13.34	13.22	13.15	13.07	12.96	12.89
149	5745	20.97	--	--	--	--	--	--	--
157	5785	20.85	20.75	20.66	20.59	20.52	20.42	20.35	20.29
165	5825	20.95	--	--	--	--	--	--	--

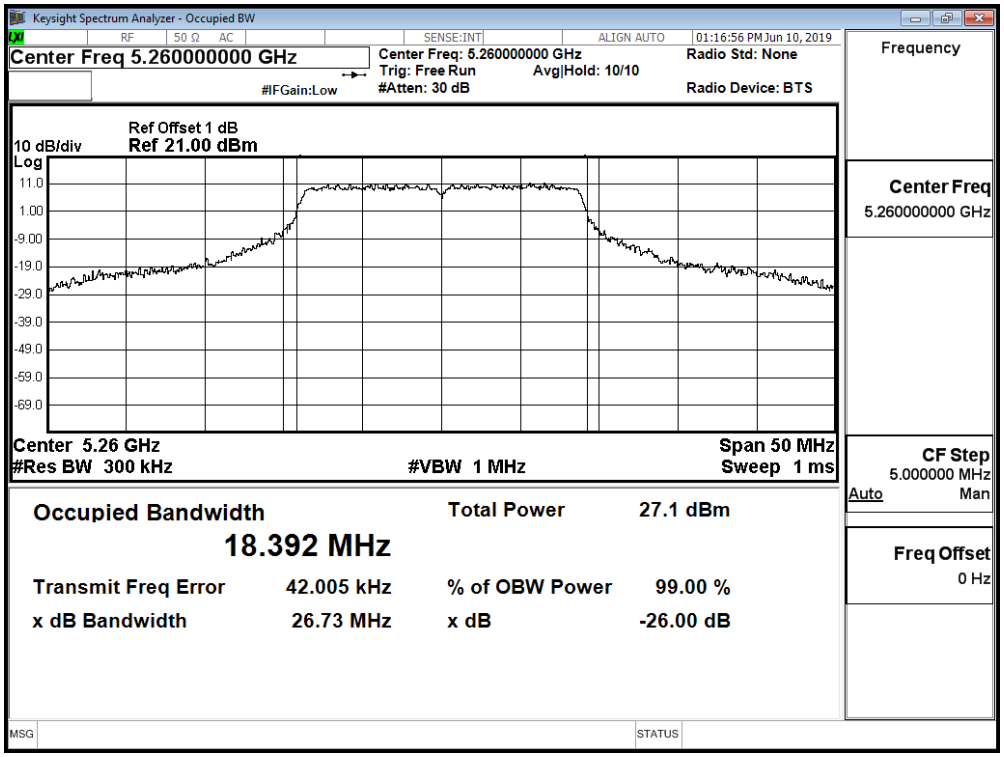
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

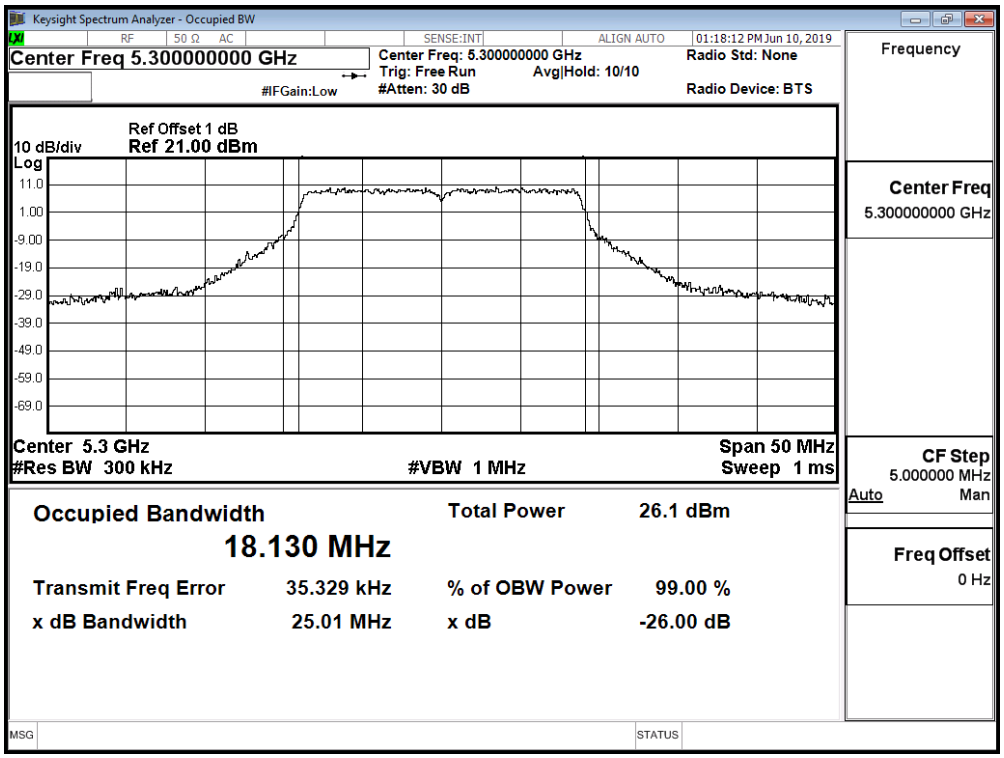
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
36	5180	--	18.05	24	--	Pass
44	5220	--	20.58	24	--	Pass
48	5240	--	19.4	24	--	Pass
52	5260	18.392	20.9	24	23.65	Pass
60	5300	18.130	20.85	24	23.58	Pass
64	5320	18.119	17.03	24	23.58	Pass
100	5500	18.129	17.46	24	23.58	Pass
116	5580	18.303	20.96	24	23.63	Pass
140	5700	18.104	17.48	24	23.58	Pass
144(U-NII-2C)	5720	14.187	19.28	24	22.52	Pass
144(U-NII-3)	5720	--	13.51	30	--	Pass
149	5745	--	20.97	30	--	Pass
157	5785	--	20.85	30	--	Pass
165	5825	--	20.95	30	--	Pass

99% Occupied Bandwidth:

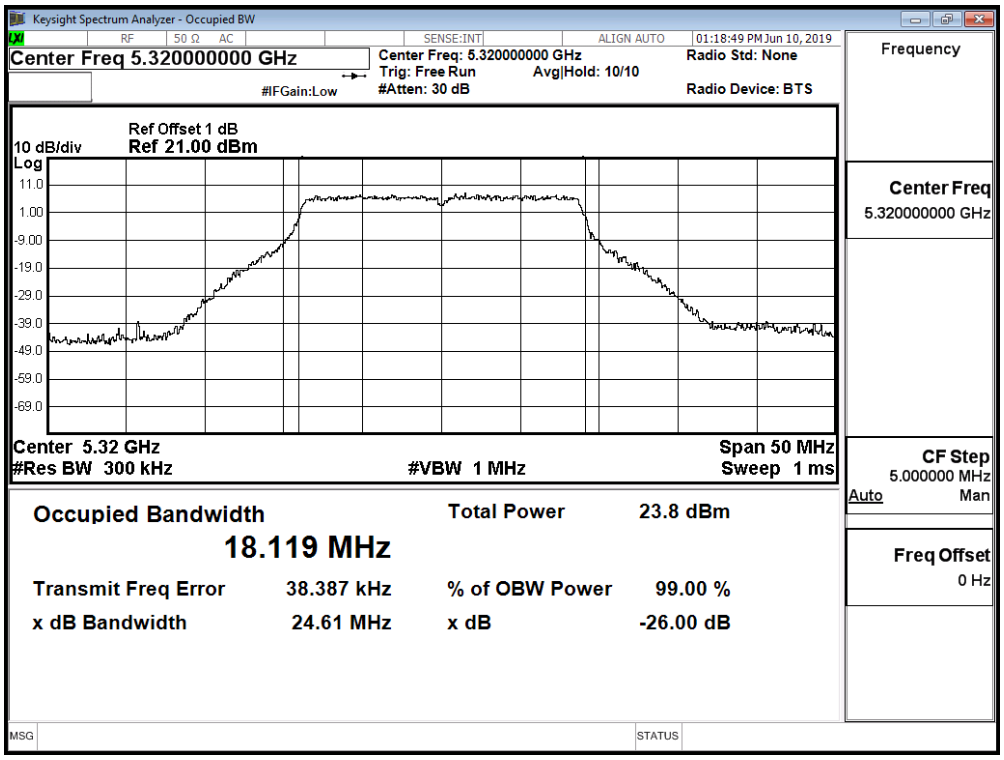
Channel 52



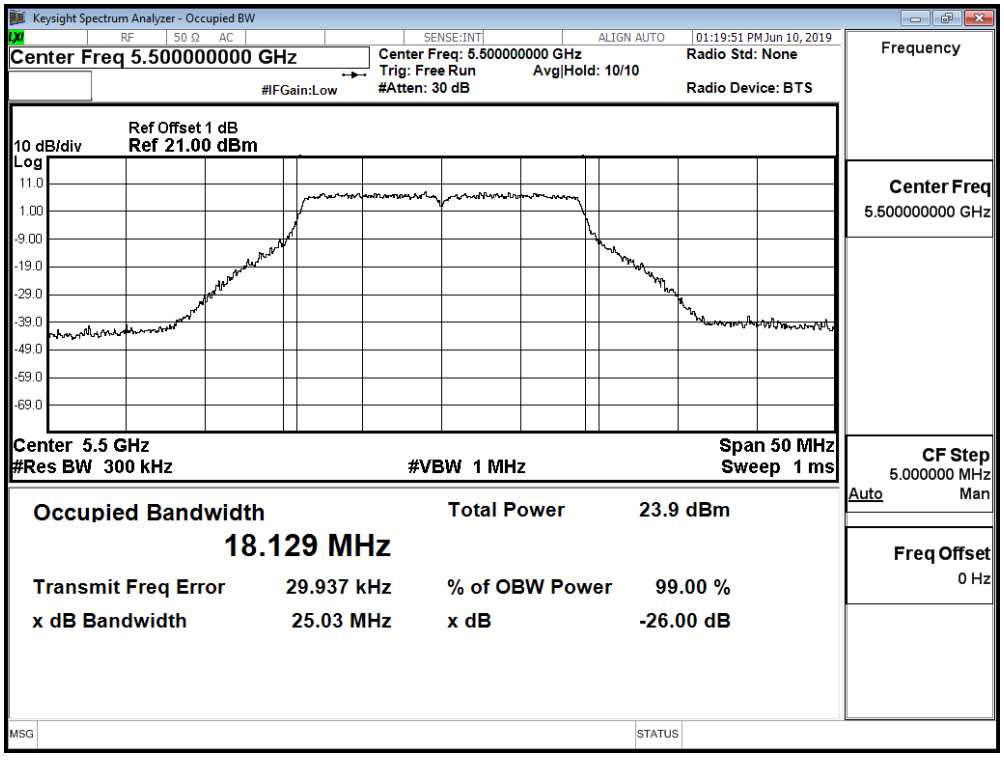
Channel 60



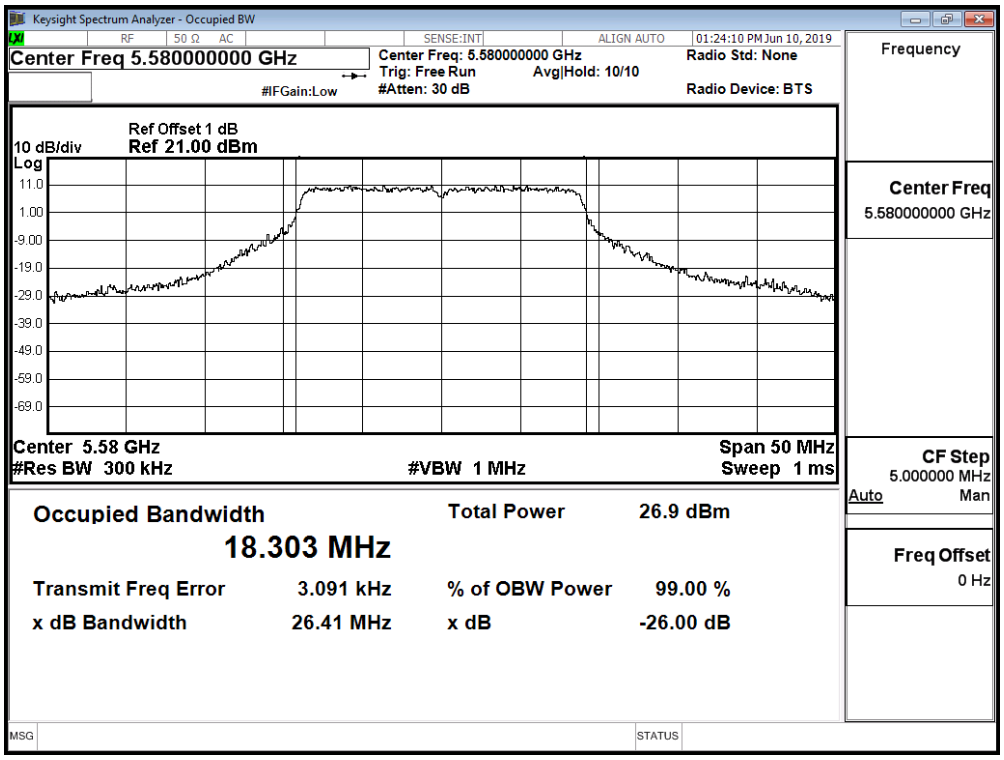
Channel 64



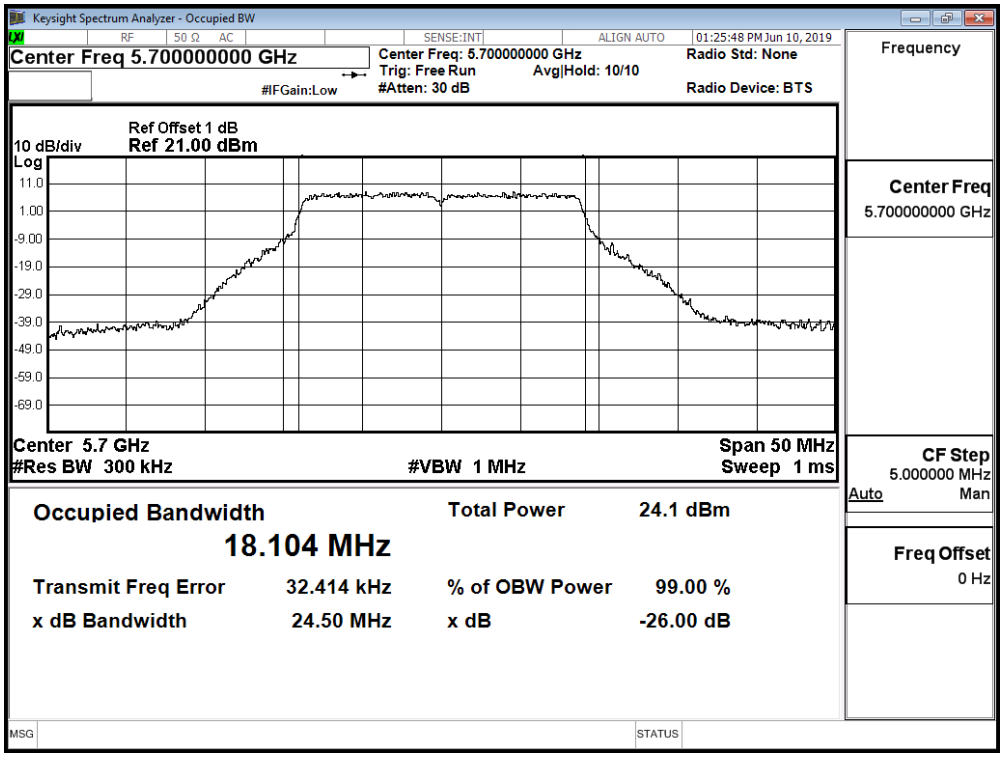
Channel 100



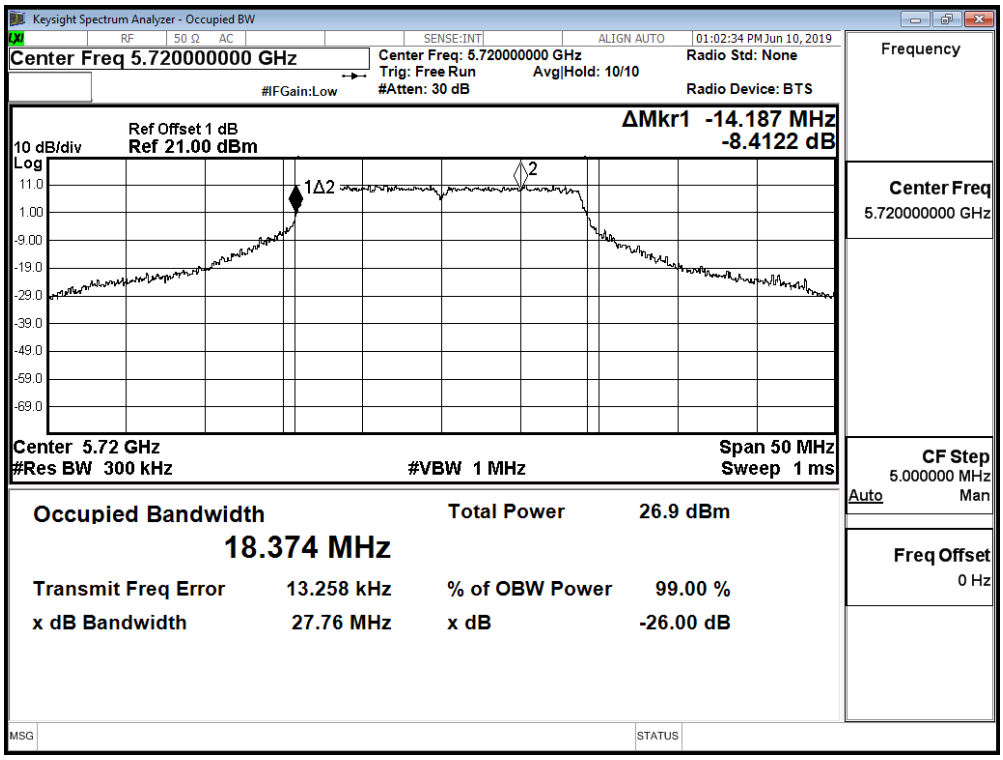
Channel 116



Channel 140

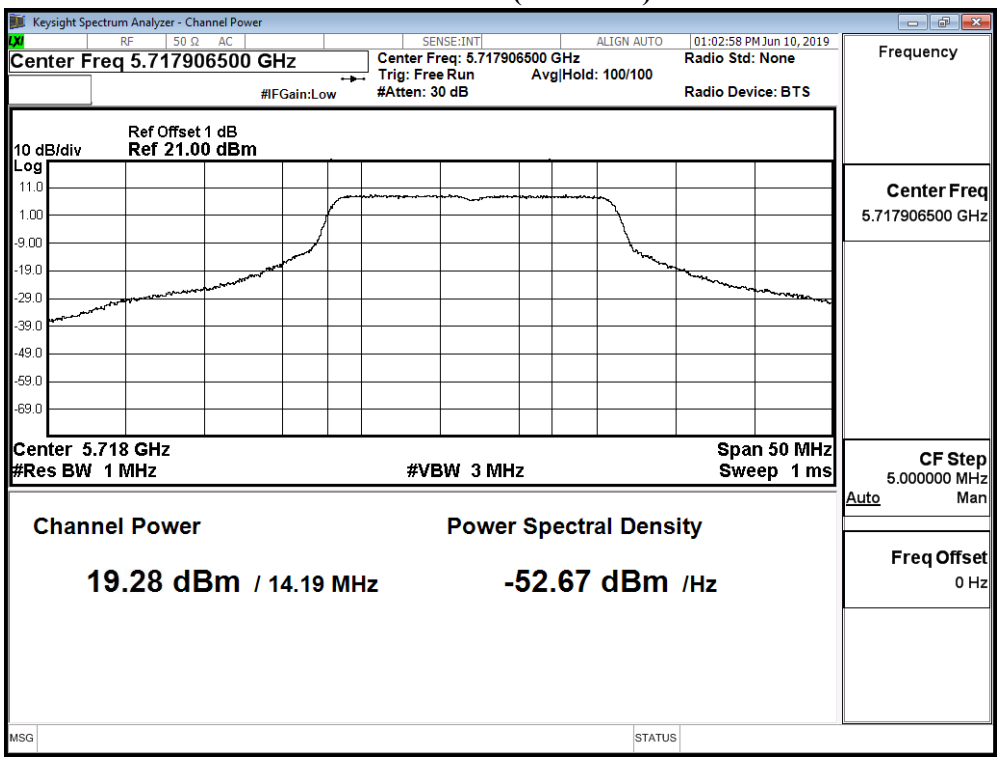


Channel 144


Keysight Spectrum Analyzer - Occupied BW
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
01:02:34 PM Jun 10, 2019
Center Freq 5.720000000 GHz
Center Freq: 5.720000000 GHz
Trig: Free Run
Avg|Hold: 10/10
#IFGain:Low
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
Ref Offset 1 dB
10 dB/div
Ref 21.00 dBm
ΔMkr1 -14.187 MHz
-8.4122 dB
Log
11.0
1.00
-9.00
-19.0
-29.0
-39.0
-49.0
-59.0
-69.0
1Δ2
2
Center 5.72 GHz
#Res BW 300 kHz
#VBW 1 MHz
Span 50 MHz
Sweep 1 ms
Occupied Bandwidth
18.374 MHz
Total Power 26.9 dBm
Transmit Freq Error 13.258 kHz
% of OBW Power 99.00 %
x dB Bandwidth 27.76 MHz
x dB -26.00 dB
Center Freq
5.720000000 GHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

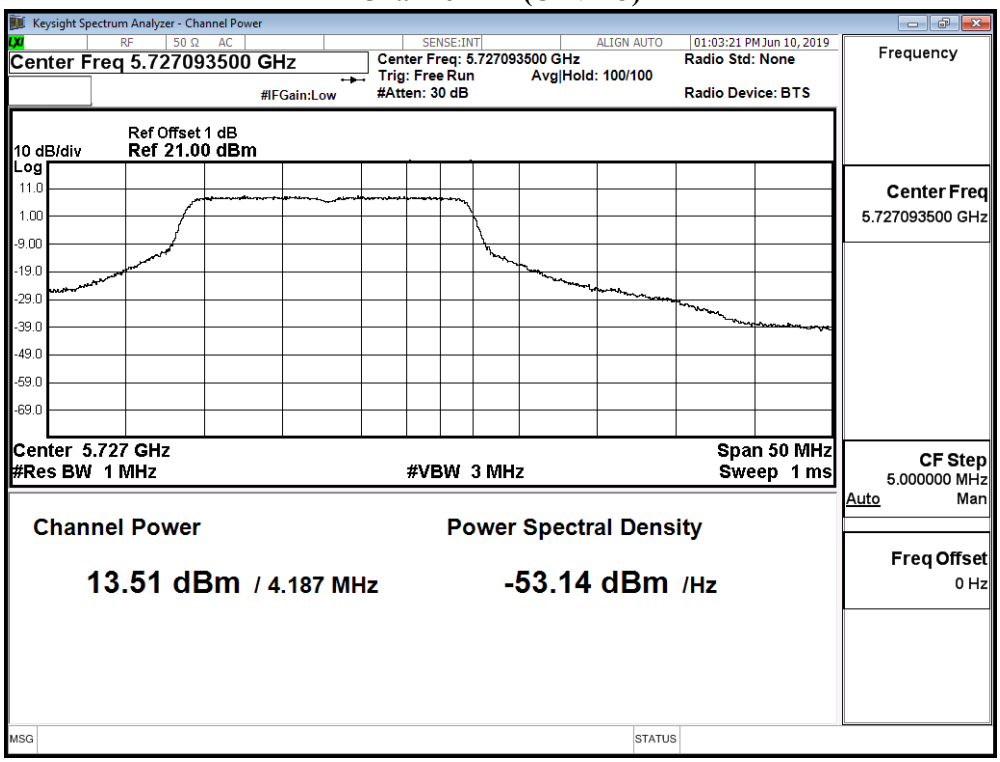
Maximum conducted output power:

Channel 144 (U-NII-2C)



Maximum conducted output power:

Channel 144 (U-NII-3)



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 12 SISO B: Transmit (802.11n-40BW_15Mbps)

Cable loss=1.0dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		15	30	45	60	90	120	135	150
		Measurement Level (dBm)							
38	5190	17.9	--	--	--	--	--	--	--
46	5230	19.56	19.49	19.42	19.35	19.29	19.23	19.15	19.10
54	5270	19.76	--	--	--	--	--	--	--
62	5310	16.20	16.11	16.04	15.97	15.91	15.82	15.76	15.68
102	5510	17.35	--	--	--	--	--	--	--
110	5550	20.10	20.05	20.00	19.94	19.88	19.80	19.70	19.63
134	5670	18.61	--	--	--	--	--	--	--
142(U-NII-2C)	5710	20.21	20.12	20.03	19.91	19.80	19.72	19.58	19.46
142(U-NII-3)	5710	10.12	9.99	9.87	9.73	9.66	9.59	9.47	9.40
151	5755	21.16	--	--	--	--	--	--	--
159	5795	21.04	20.98	20.92	20.86	20.80	20.72	20.62	20.56

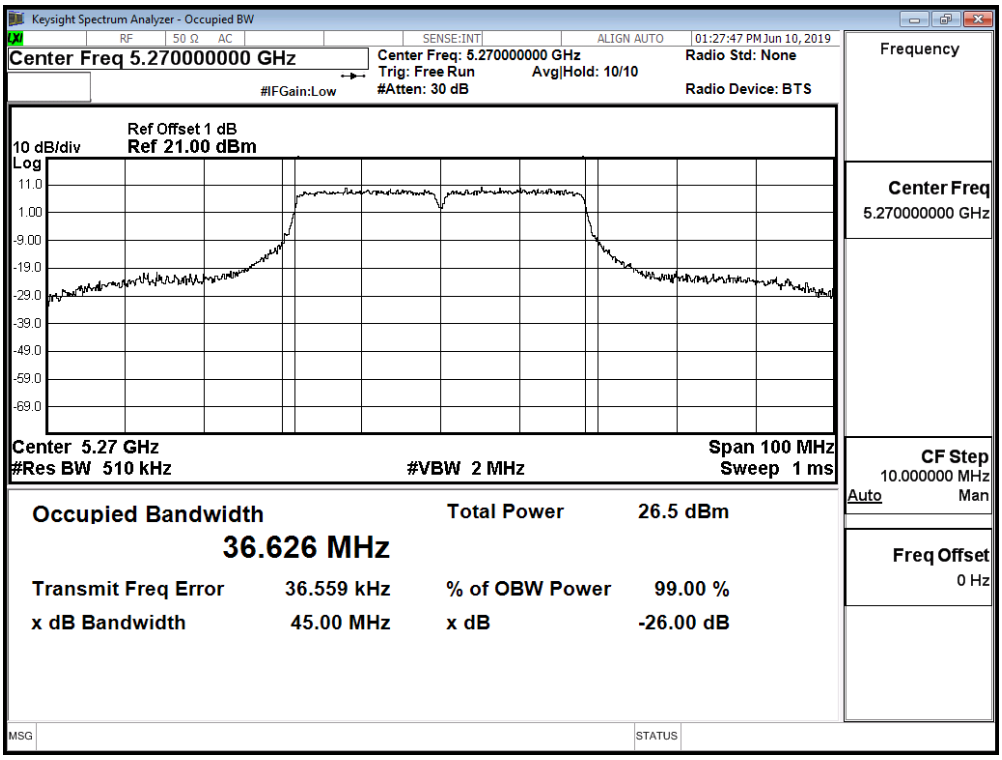
Note: Maximum conducted output power Value =Reading value on average power meter + cable loss

Maximum conducted output power Measurement:

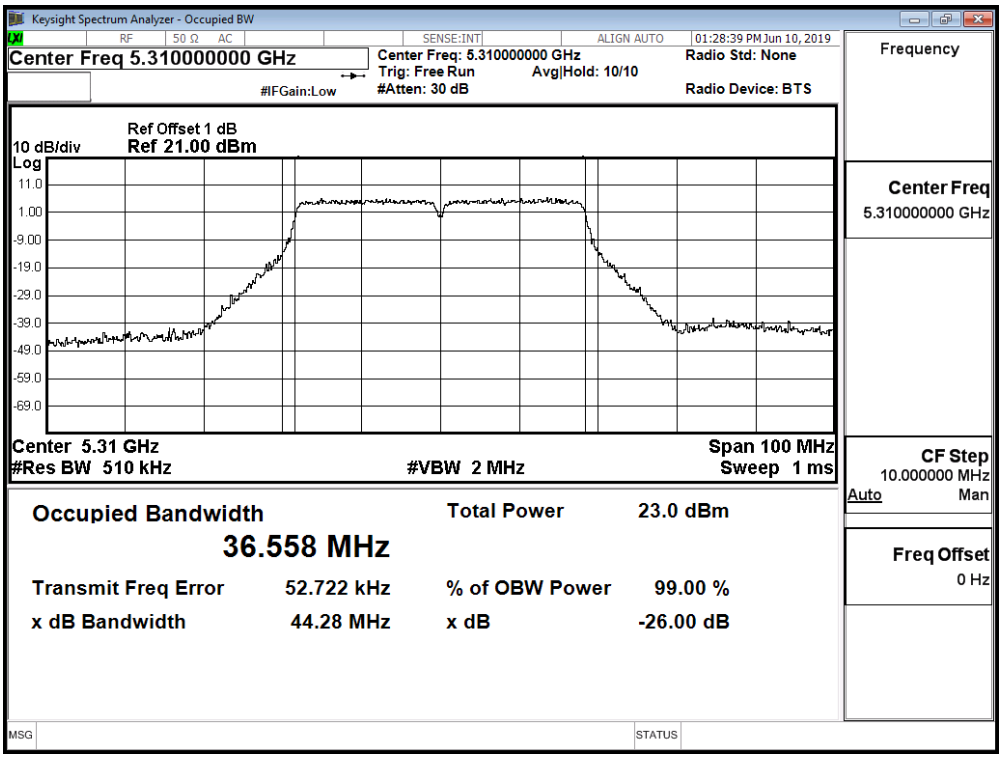
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
38	5190	--	17.9	24	--	Pass
46	5230	--	19.56	24	--	Pass
54	5270	36.626	19.76	24	26.64	Pass
62	5310	36.558	16.2	24	26.63	Pass
102	5510	36.594	17.35	24	26.63	Pass
110	5550	36.794	20.1	24	26.66	Pass
134	5670	36.599	18.61	24	26.63	Pass
142(U-NII-2C)	5710	33.558	20.21	24	26.26	Pass
142(U-NII-3)	5710	--	10.12	30	--	Pass
151	5755	--	21.16	30	--	Pass
159	5795	--	21.04	30	--	Pass

99% Occupied Bandwidth:

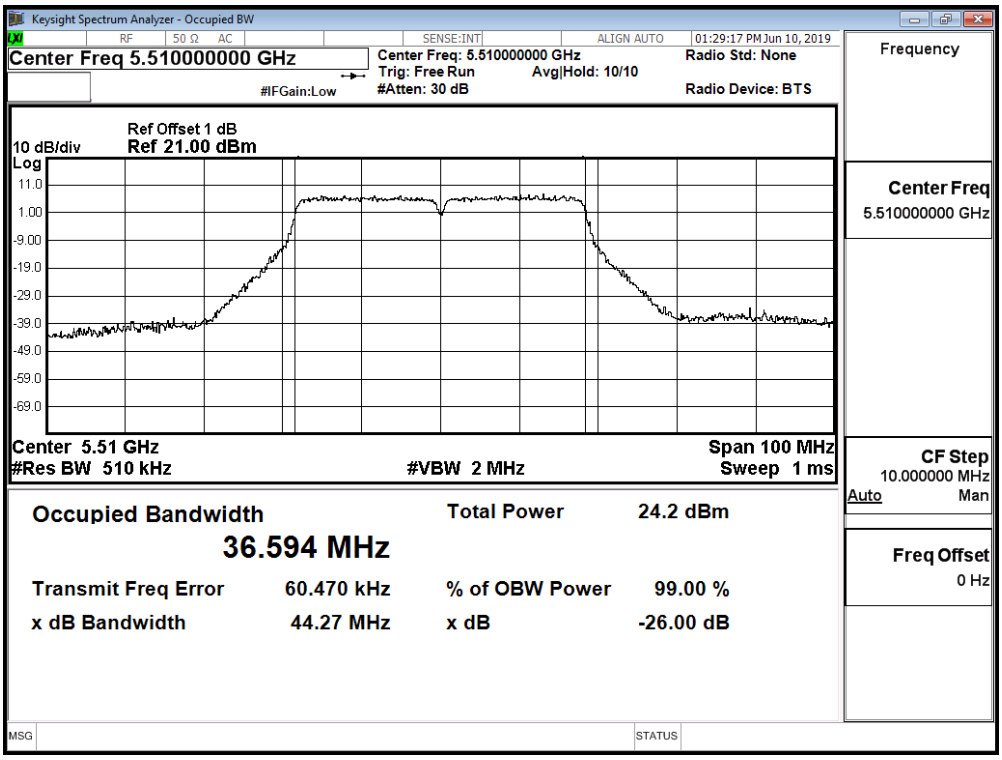
Channel 54



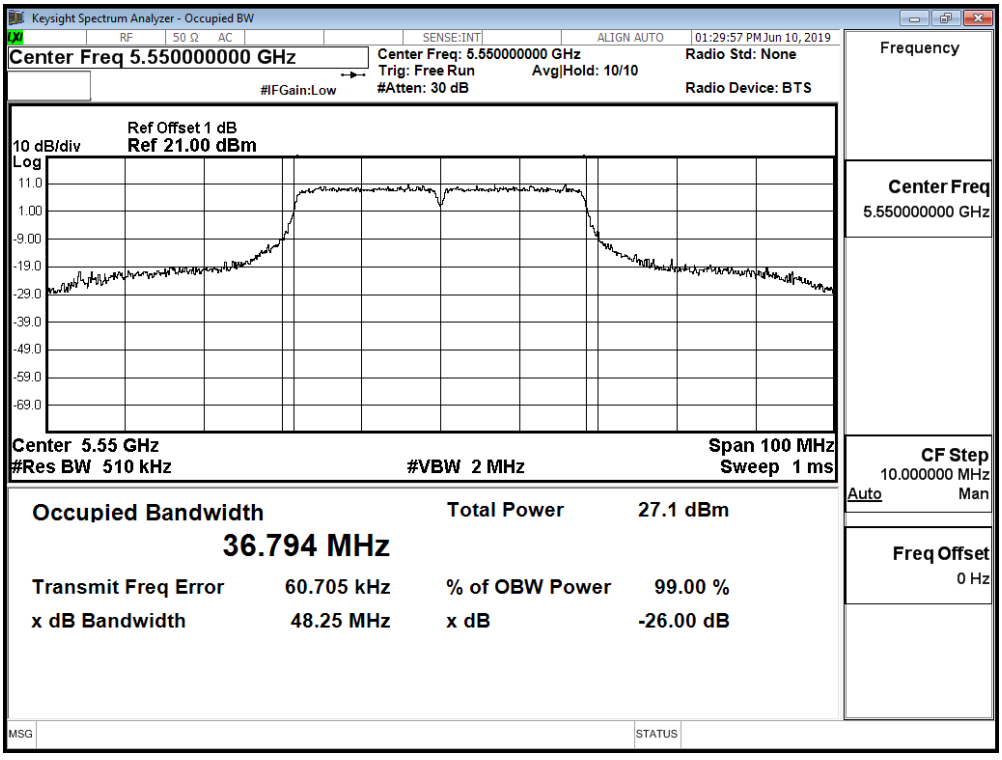
Channel 62



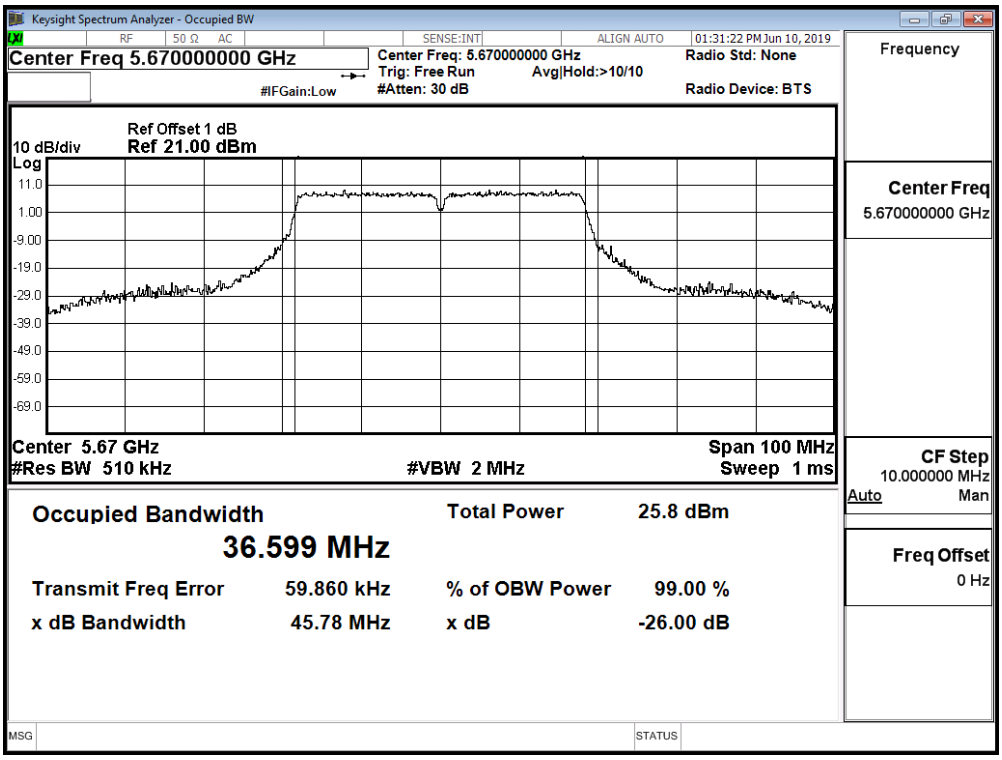
Channel 102



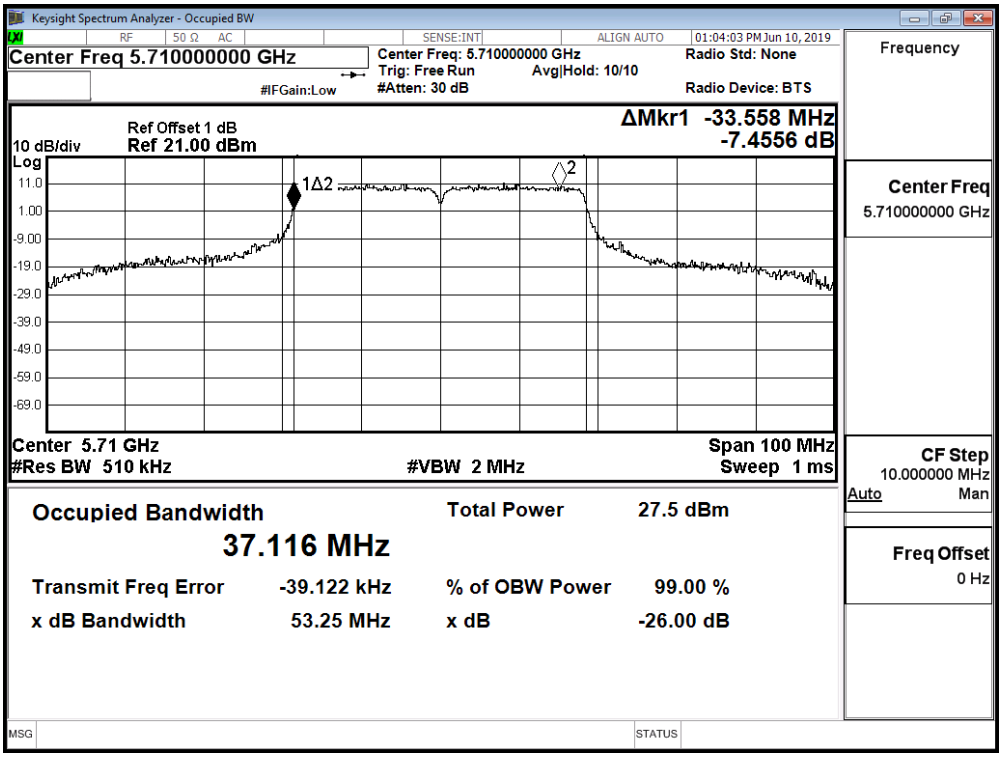
Channel 110



Channel 134

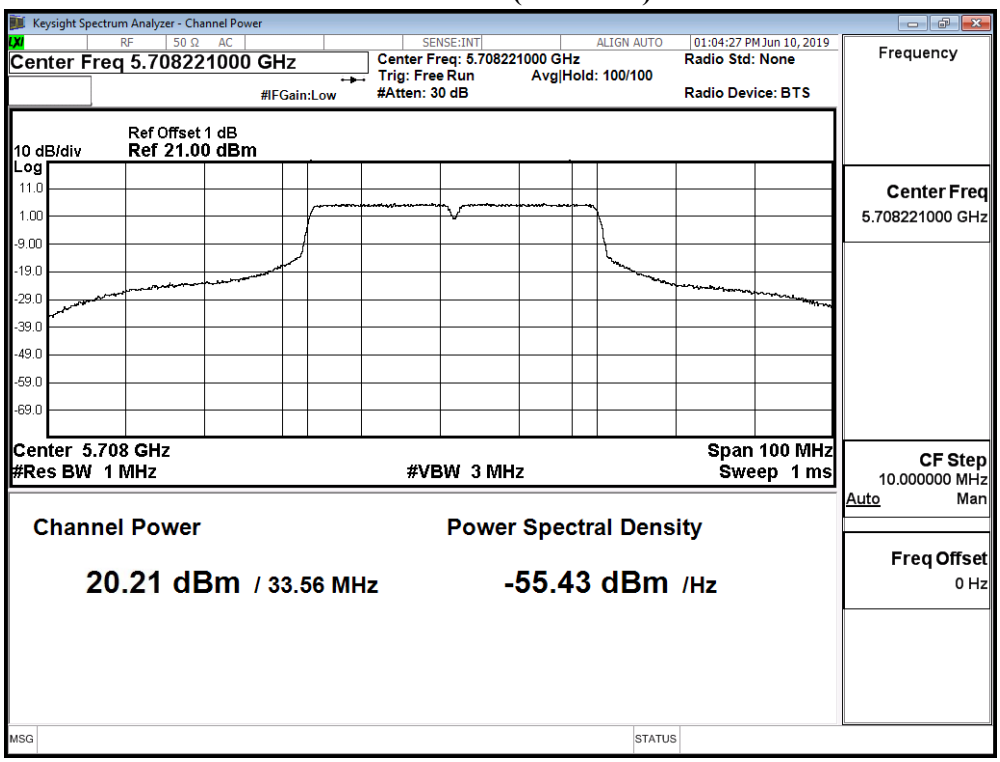


Channel 142



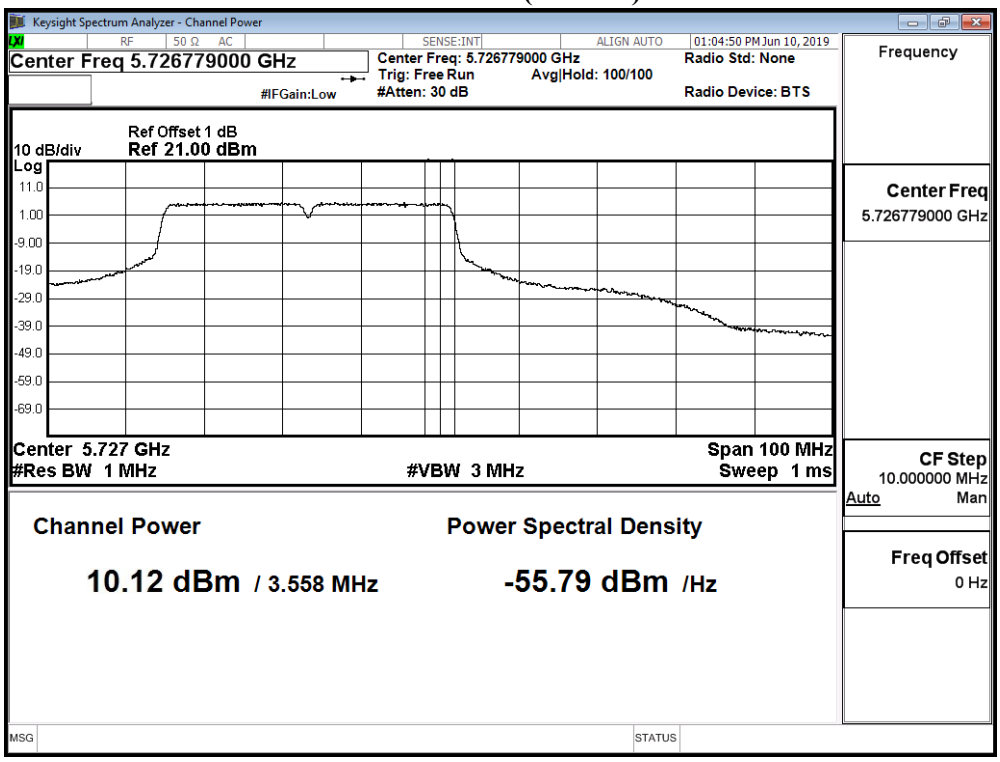
Maximum conducted output power:

Channel 142 (U-NII-2C)



Maximum conducted output power:

Channel 142 (U-NII-3)



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 13 SISO B: Transmit (802.11ac-80BW_32.5Mbps)

Cable loss=1.0dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		32.5	65	97.5	130	195	260	292.5	325	390	433.3
42	5210	17.89	17.80	17.75	17.66	17.60	17.51	17.42	17.35	17.29	17.21
58	5290	17.12	17.03	16.96	16.91	16.84	16.75	16.66	16.59	16.54	16.47
106	5530	17.52	--	--	--	--	--	--	--	--	--
122	5610	19.62	19.54	19.48	19.41	19.34	19.28	19.22	19.13	19.04	18.99
138 (U-NII-2C)	5690	20.81	--	--	--	--	--	--	--	--	--
138 (U-NII-3)	5690	3.73	--	--	--	--	--	--	--	--	--
155	5775	19.33	19.25	19.20	19.14	19.04	18.94	18.87	18.81	18.71	18.61

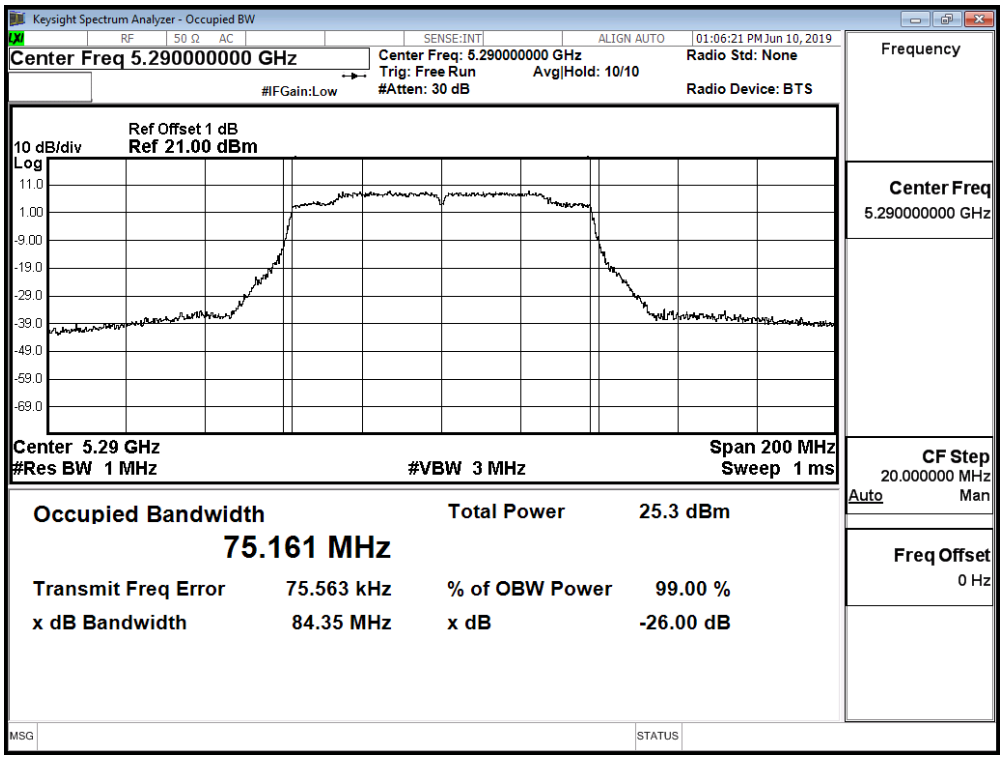
Note: Maximum conducted output power Value =Reading value on Spectrum Analyzer + cable loss

Maximum conducted output power Measurement:

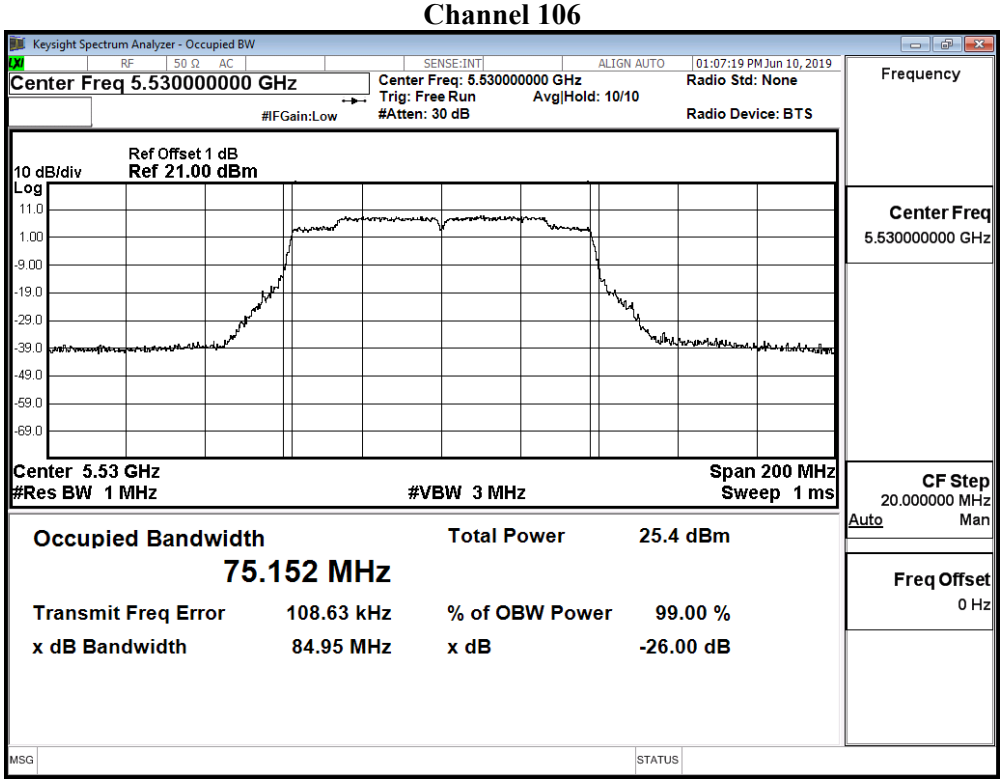
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
42	5210	--	17.89	24	--	Pass
58	5290	75.161	17.12	24	29.76	Pass
106	5530	75.152	17.52	24	29.76	Pass
122	5610	75.339	19.62	24	29.77	Pass
138 (U-NII-2C)	5690	72.754	20.81	24	29.62	Pass
138 (U-NII-3)	5690	--	3.73	30	--	Pass
155	5775	--	19.33	30	--	Pass

99% Occupied Bandwidth:

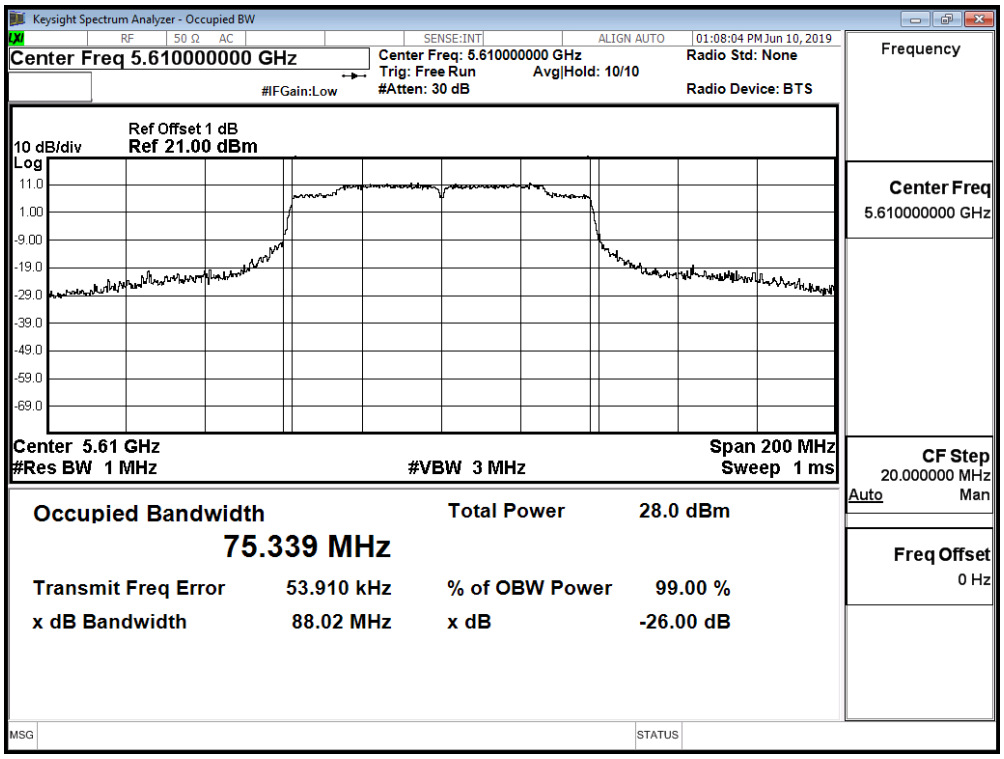
Channel 58



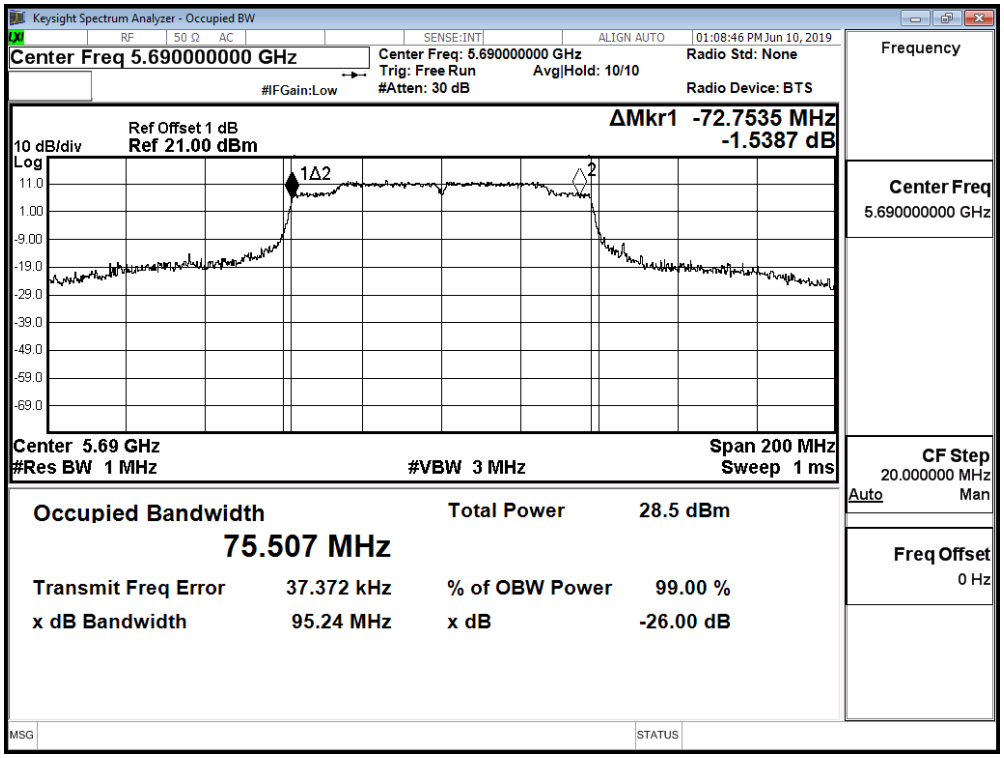
Channel 106



Channel 122

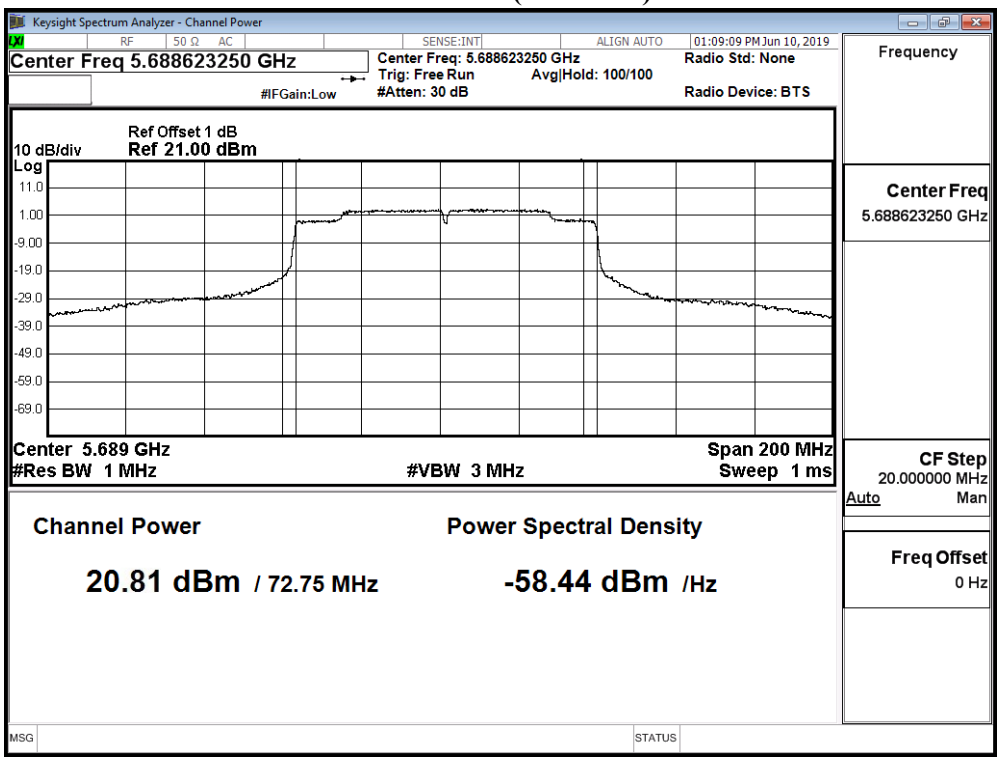


Channel 138



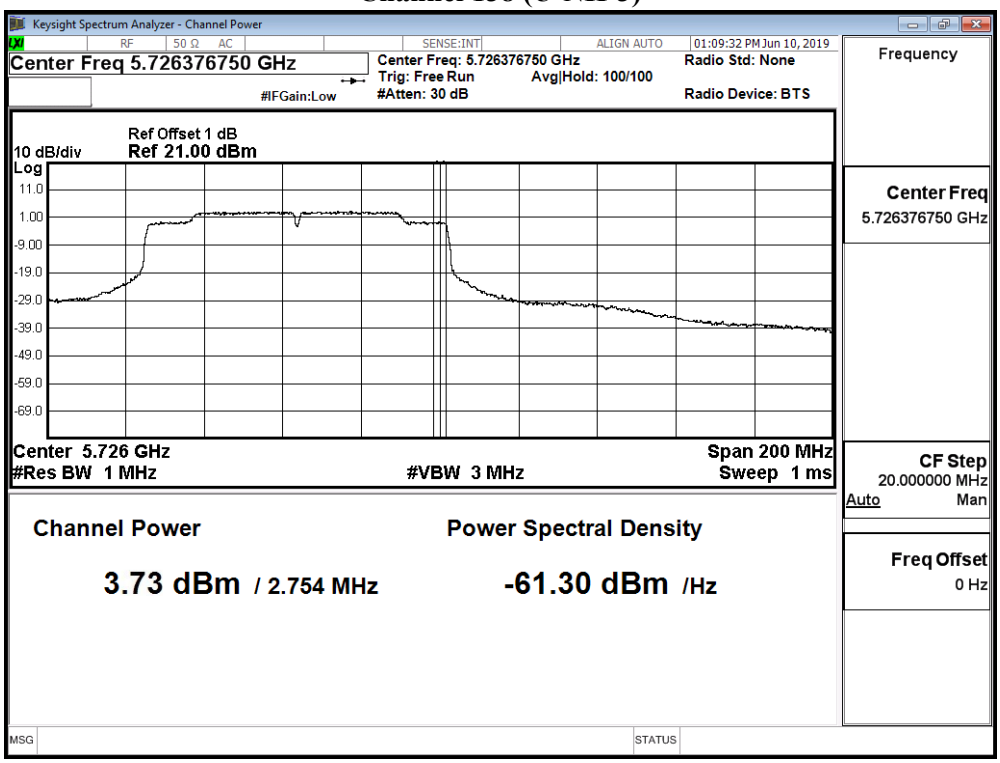
Maximum conducted output power:

Channel 138 (U-NII-2C)



Maximum conducted output power:

Channel 138 (U-NII-3)



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 14 SISO B: Transmit (802.11ac-160BW_65Mbps)

Cable loss=1.0dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		65	130	195	260	390	520	585	650	780	866.7
50 (U-NII-1)	5250	11.53	11.39	11.30	11.19	11.12	11.02	10.89	10.80	10.73	10.59
50 (U-NII-2A)	5250	11.75	11.65	11.58	11.51	11.39	11.32	11.19	11.08	11.01	10.89
114	5570	14.57	14.51	14.43	14.37	14.31	14.26	14.20	14.12	14.07	13.97

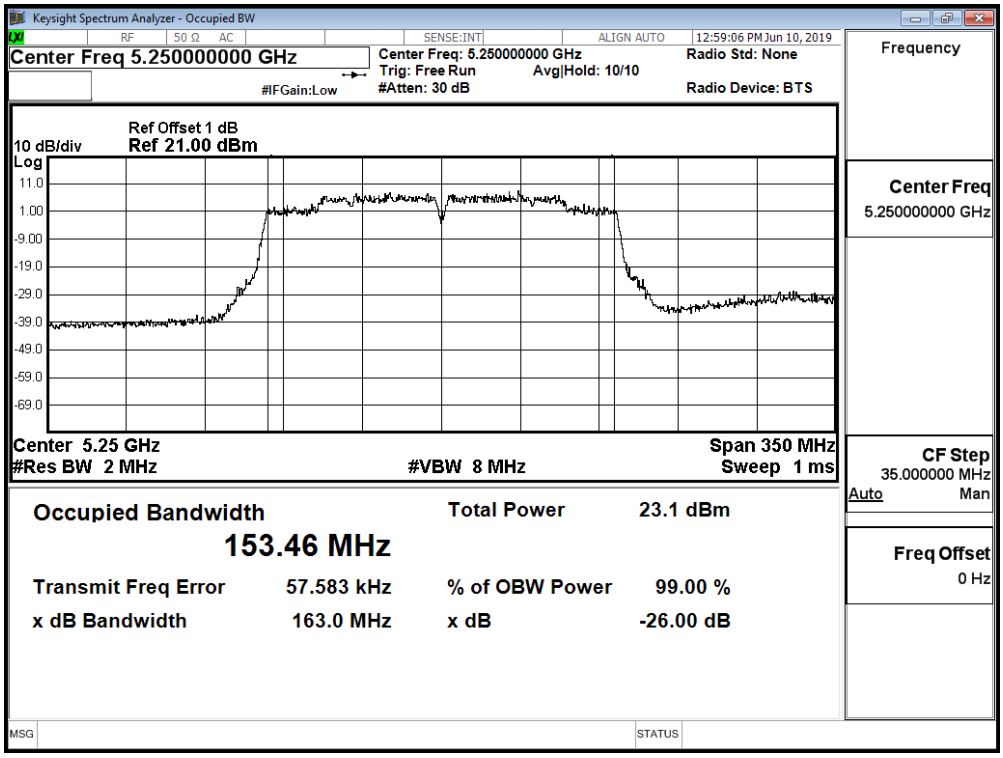
Note: Maximum conducted output power Value =Reading value on Spectrum Analyzer + cable loss

Maximum conducted output power Measurement:

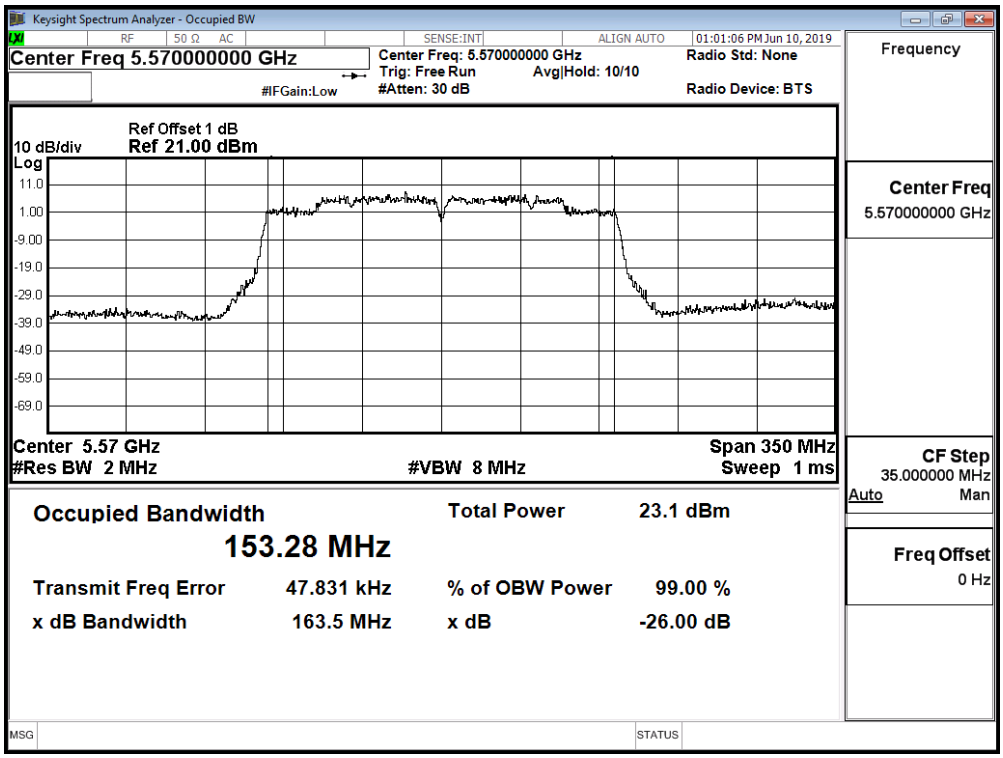
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
50 (U-NII-1)	5250	--	11.53	24	--	Pass
50 (U-NII-2A)	5250	76.730	11.75	24	29.85	Pass
114	5570	153.280	14.57	24	32.85	Pass

99% Occupied Bandwidth:

Channel 50

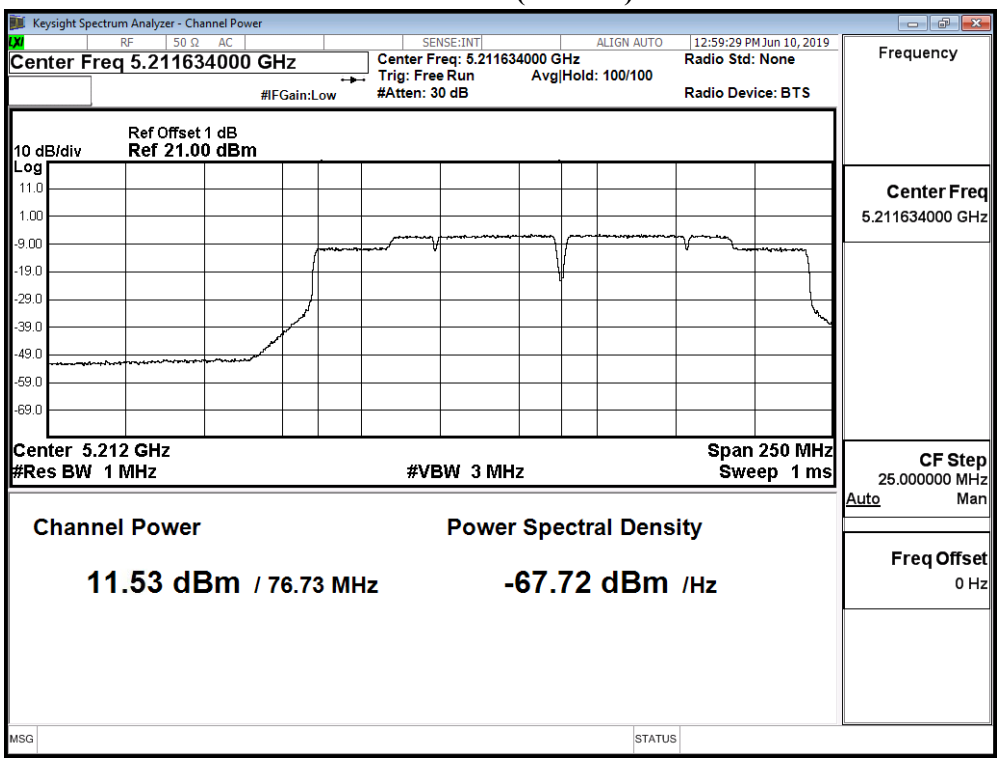


Channel 114



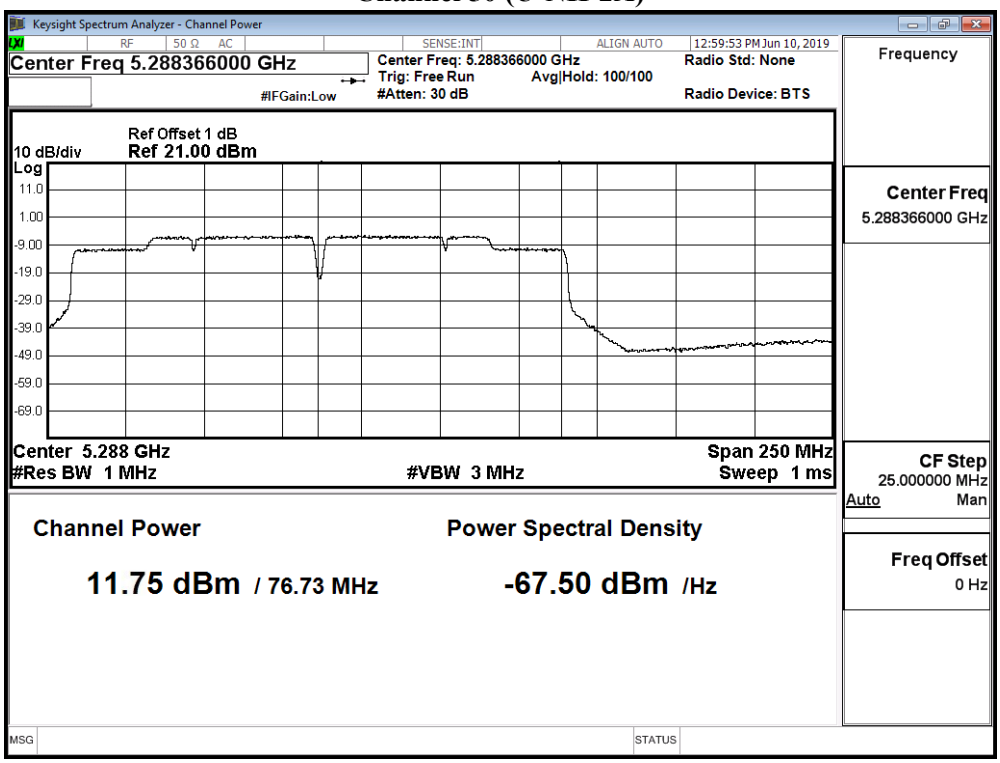
Maximum conducted output power:

Channel 50 (U-NII-1)



Maximum conducted output power:

Channel 50 (U-NII-2A)



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 19 MIMO: Transmit (802.11n-20BW_14.4Mbps)

Chain A

Cable loss=1.0dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4
36	5180	15.73	--	--	--	--	--	--	--
44	5220	17.60	17.47	17.38	17.30	17.22	17.10	17.02	16.93
48	5240	17.96	--	--	--	--	--	--	--
52	5260	17.68	--	--	--	--	--	--	--
60	5300	17.47	17.38	17.30	17.20	17.10	16.96	16.84	16.74
64	5320	13.47	--	--	--	--	--	--	--
100	5500	13.83	--	--	--	--	--	--	--
116	5580	18.08	17.97	17.87	17.77	17.65	17.51	17.39	17.32
140	5700	13.99	--	--	--	--	--	--	--
144(U-NII-2C)	5720	17.02	16.94	16.83	16.71	16.61	16.53	16.39	16.30
144(U-NII-3)	5720	11.33	11.19	11.11	11.04	10.96	10.88	10.77	10.66
149	5745	17.43	--	--	--	--	--	--	--
157	5785	17.57	17.49	17.38	17.28	17.15	17.03	16.96	16.85
165	5825	17.78	--	--	--	--	--	--	--

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

Chain B

Cable loss=1.0dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		14.4	28.9	43.3	57.8	86.7	115.6	130	144.4
36	5180	15.74	--	--	--	--	--	--	--
44	5220	17.12	17.02	16.93	16.86	16.73	16.60	16.51	16.38
48	5240	17.99	--	--	--	--	--	--	--
52	5260	17.54	--	--	--	--	--	--	--
60	5300	17.51	17.43	17.34	17.25	17.14	17.04	16.96	16.82
64	5320	13.31	--	--	--	--	--	--	--
100	5500	13.70	--	--	--	--	--	--	--
116	5580	17.99	17.88	17.76	17.66	17.59	17.52	17.45	17.38
140	5700	14.00	--	--	--	--	--	--	--
144(U-NII-2C)	5720	16.83	16.73	16.65	16.54	16.44	16.36	16.25	16.15
144(U-NII-3)	5720	11.59	11.48	11.36	11.22	11.10	10.98	10.85	10.76
149	5745	17.60	--	--	--	--	--	--	--
157	5785	17.49	17.38	17.28	17.19	17.06	16.92	16.84	16.77
165	5825	17.53	--	--	--	--	--	--	--

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

Maximum conducted output power Measurement:

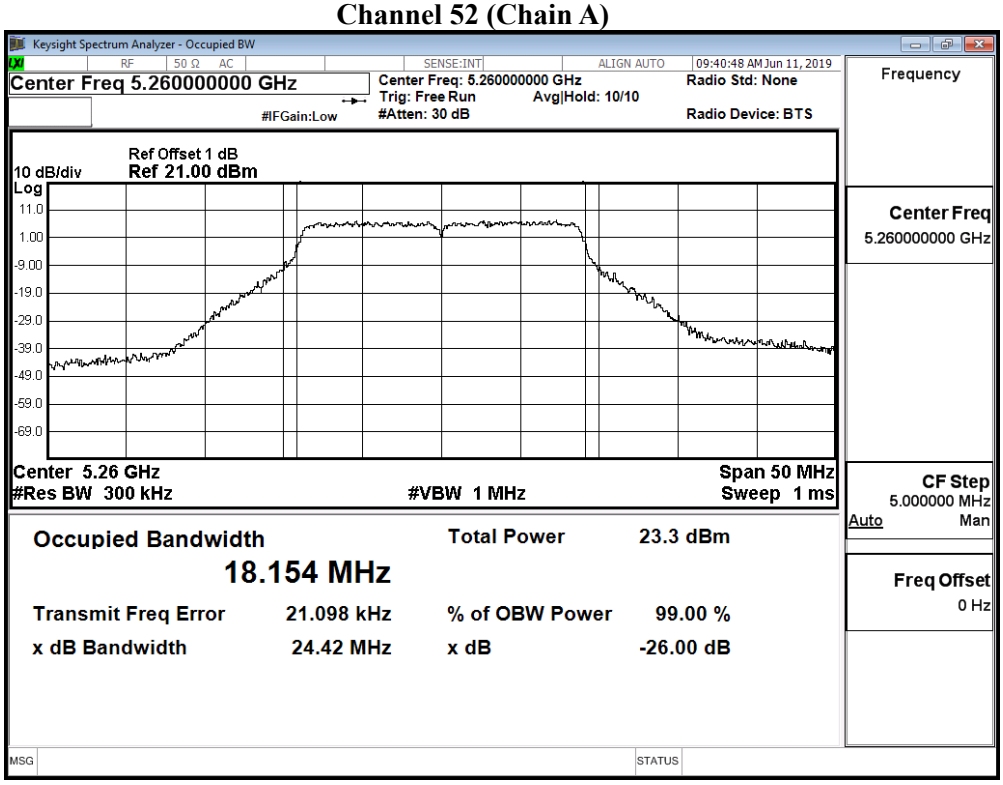
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit		Result
						(dBm)	dBm+10log(BW)	
36	5180	--	15.73	15.74	18.75	24	--	Pass
44	5220	--	17.6	17.12	20.38	24	--	Pass
48	5240	--	17.96	17.99	20.99	24	--	Pass
52	5260	18.022	17.68	17.54	20.62	24	23.56	Pass
60	5300	17.990	17.47	17.51	20.50	24	23.55	Pass
64	5320	18.010	13.47	13.31	16.40	24	23.56	Pass
100	5500	18.039	13.83	13.7	16.78	24	23.56	Pass
116	5580	18.015	18.08	17.99	21.05	24	23.56	Pass
140	5700	18.011	13.99	14	17.01	24	23.56	Pass
144(U-NII-2C)	5720	13.989	17.02	16.83	19.94	24	22.46	Pass
144(U-NII-3)	5720	--	11.33	11.59	14.47	30	--	Pass
149	5745	--	17.43	17.6	20.53	30	--	Pass
157	5785	--	17.57	17.49	20.54	30	--	Pass
165	5825	--	17.78	17.53	20.67	30	--	Pass

Note:

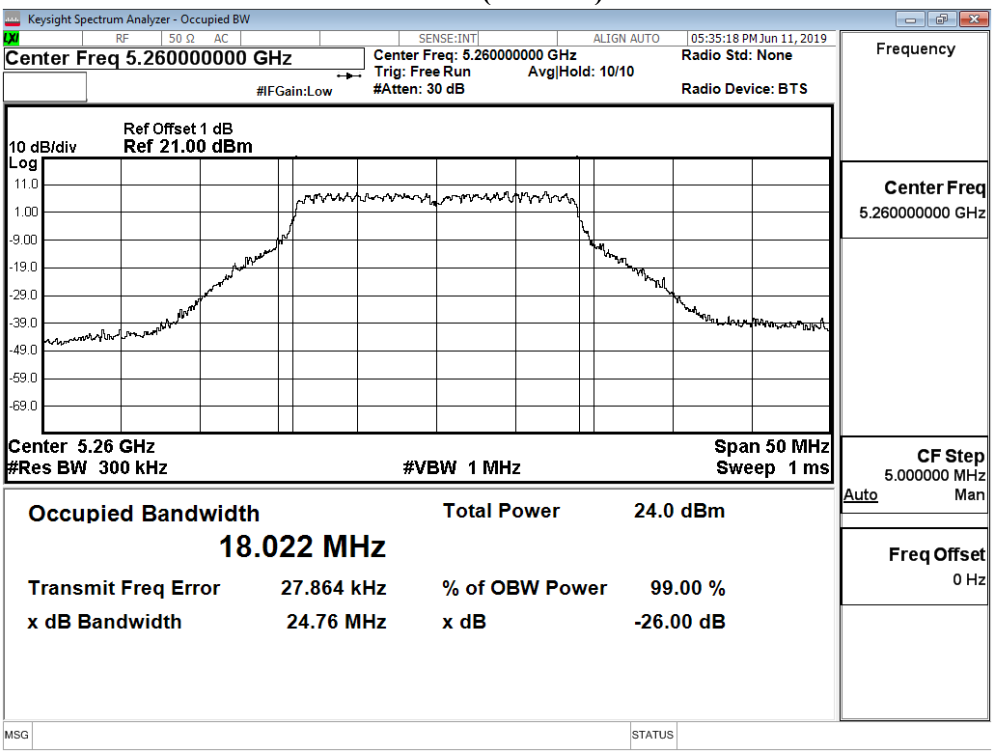
1. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW))
2. 99% Bandwidth is the bandwidth of chain A or chain Bwhichever is less bandwidth, output power limitation is more stringent.

99% Occupied Bandwidth:

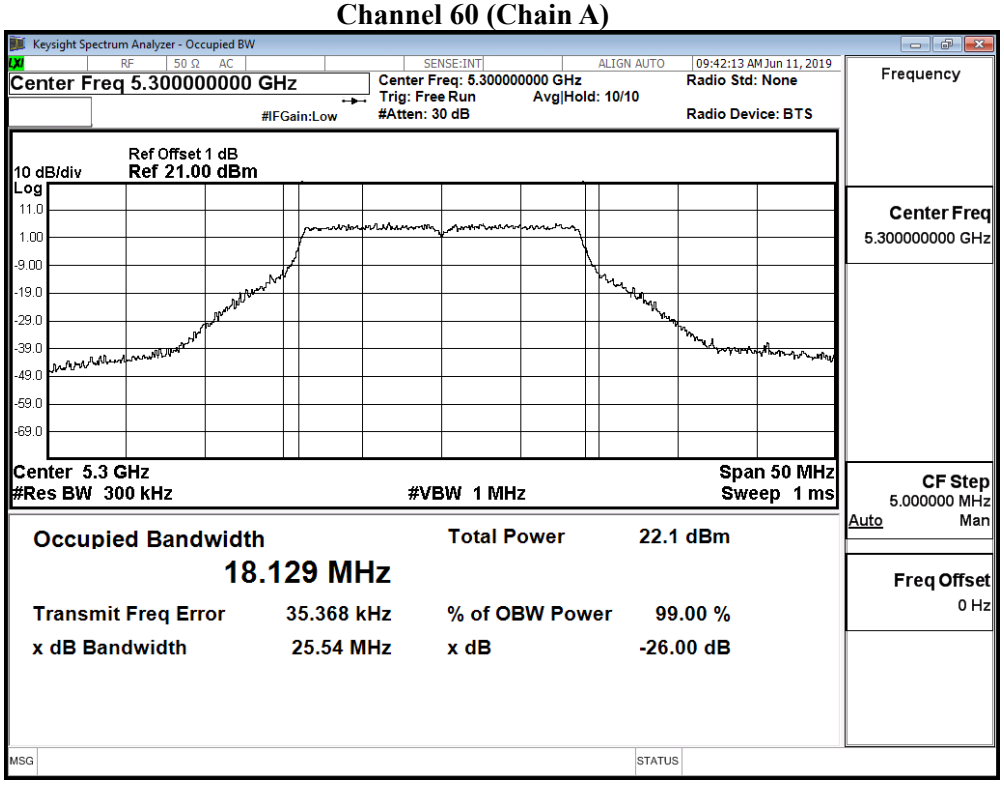
Channel 52 (Chain A)



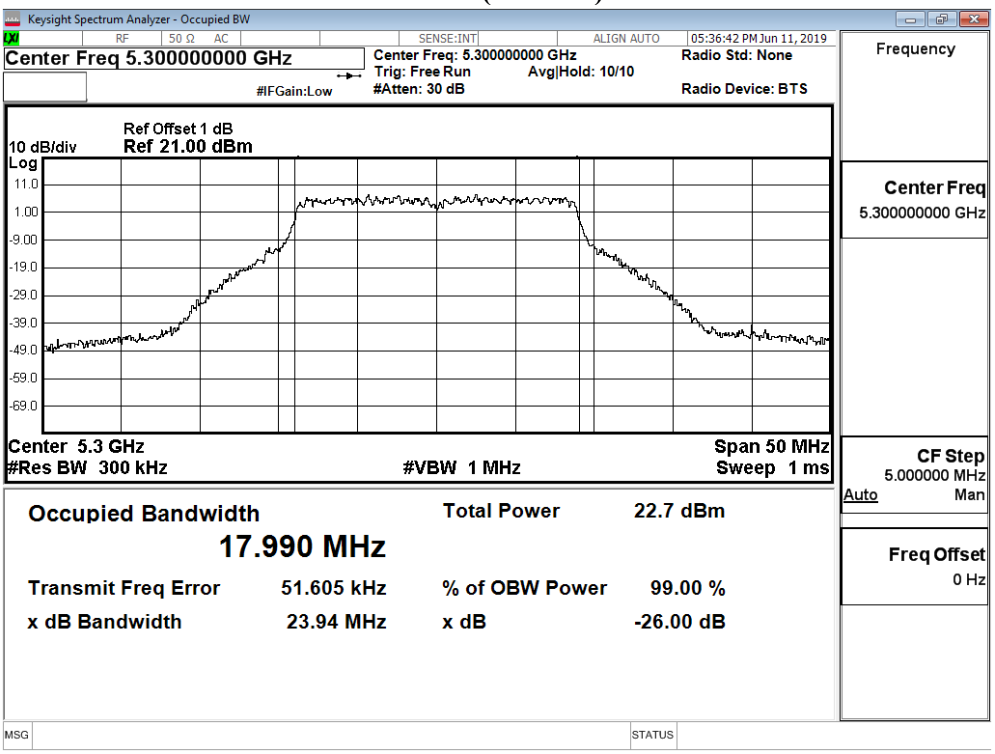
Channel 52 (Chain B)



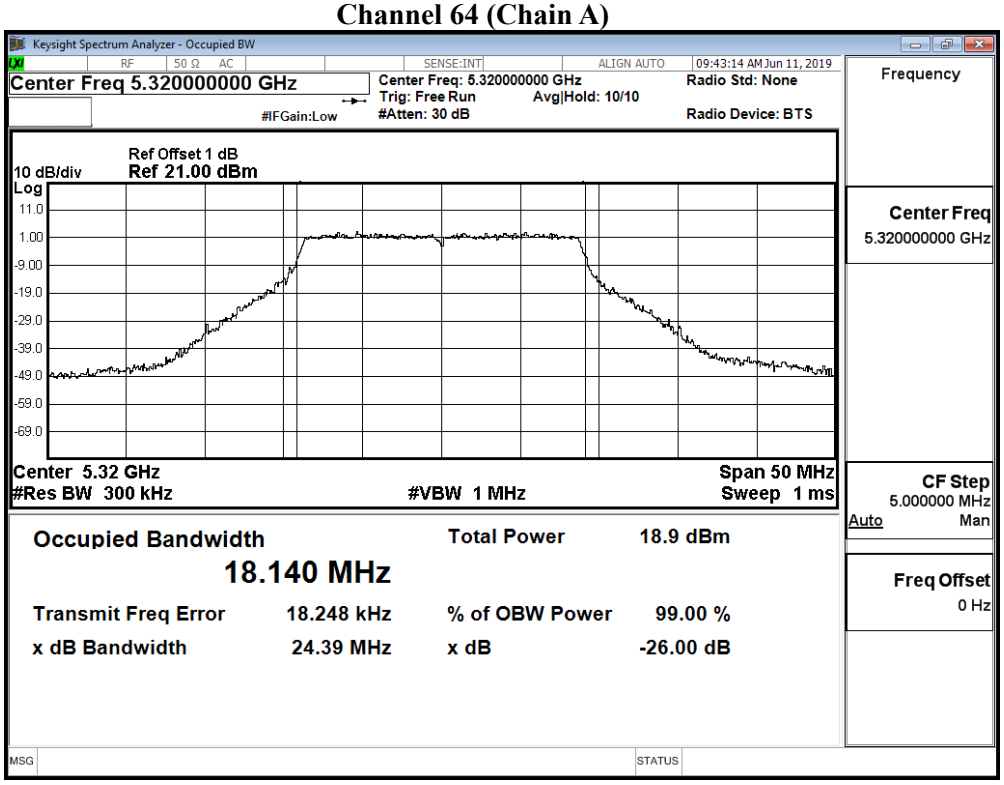
Channel 60 (Chain A)



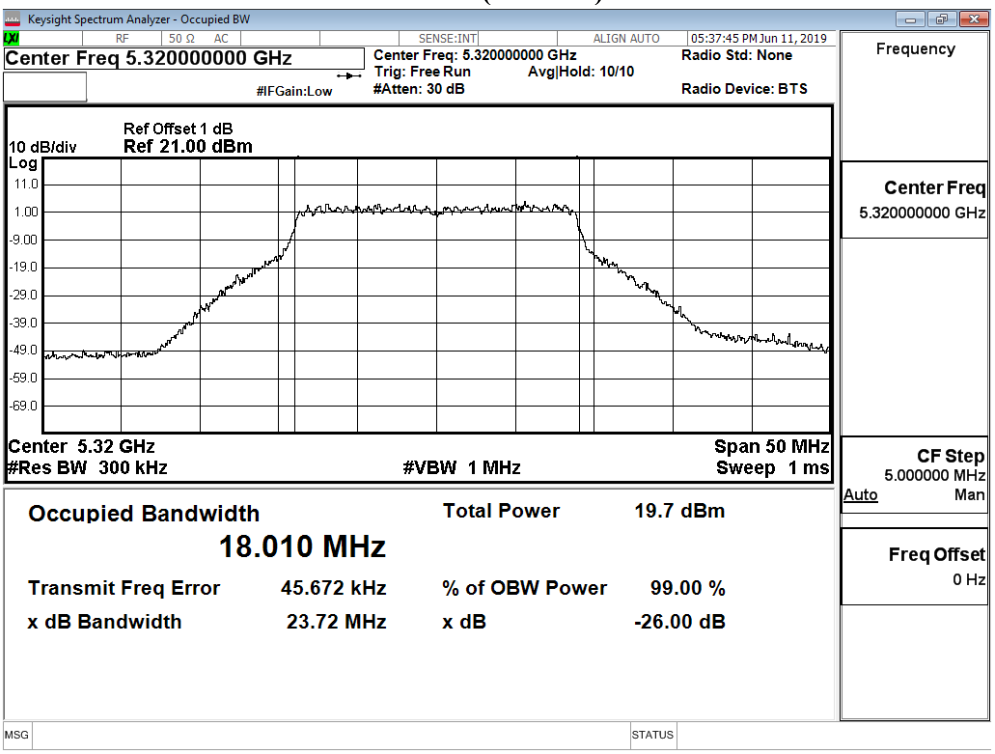
Channel 60 (Chain B)



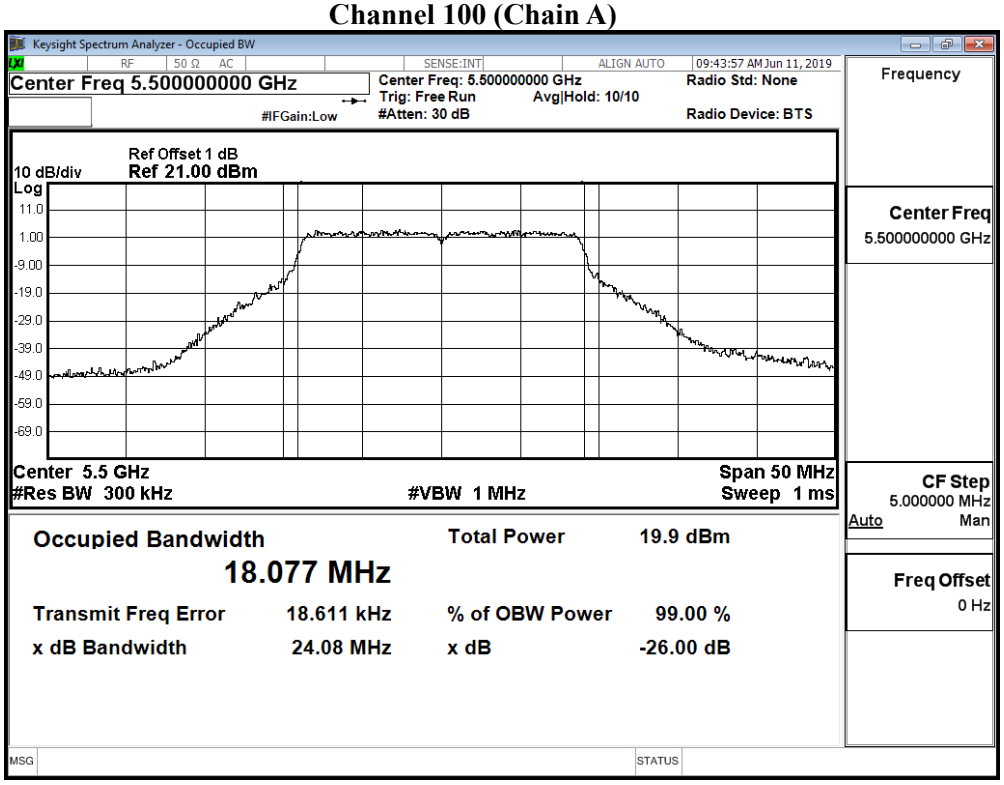
Channel 64 (Chain A)



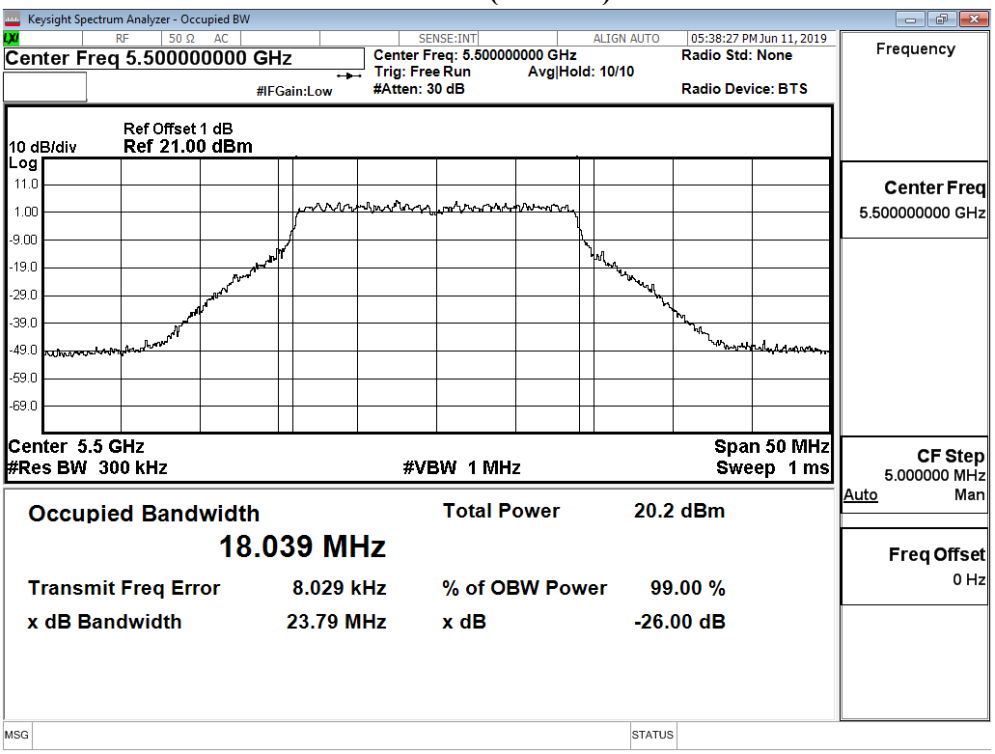
Channel 64 (Chain B)



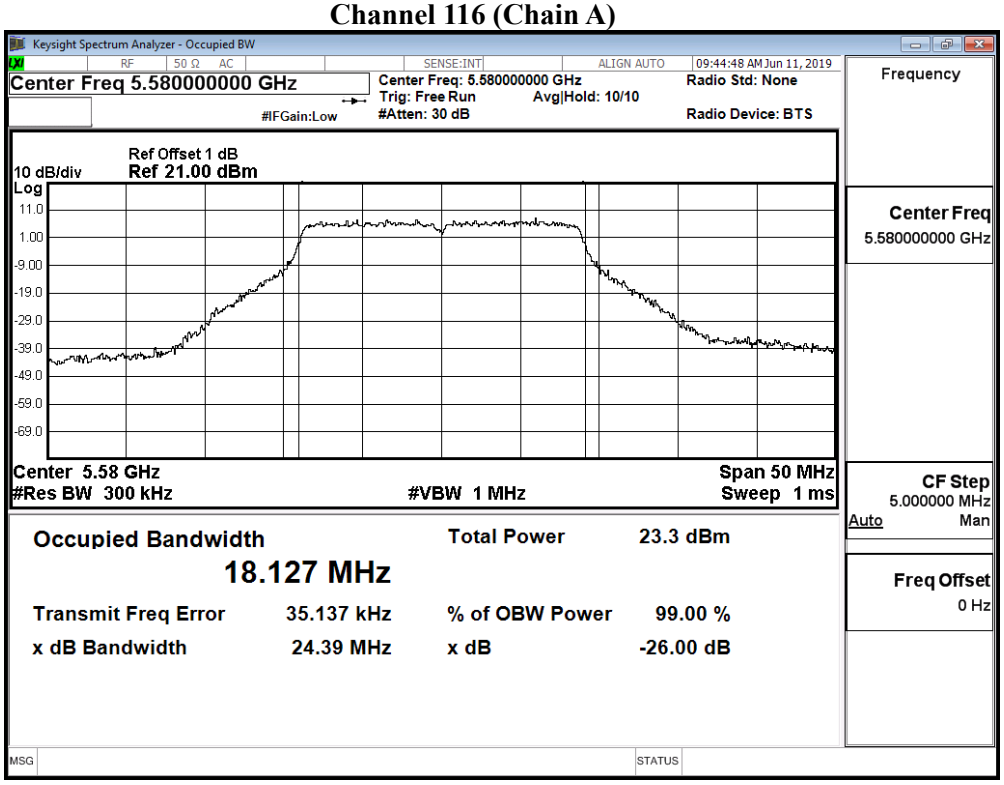
Channel 100 (Chain A)



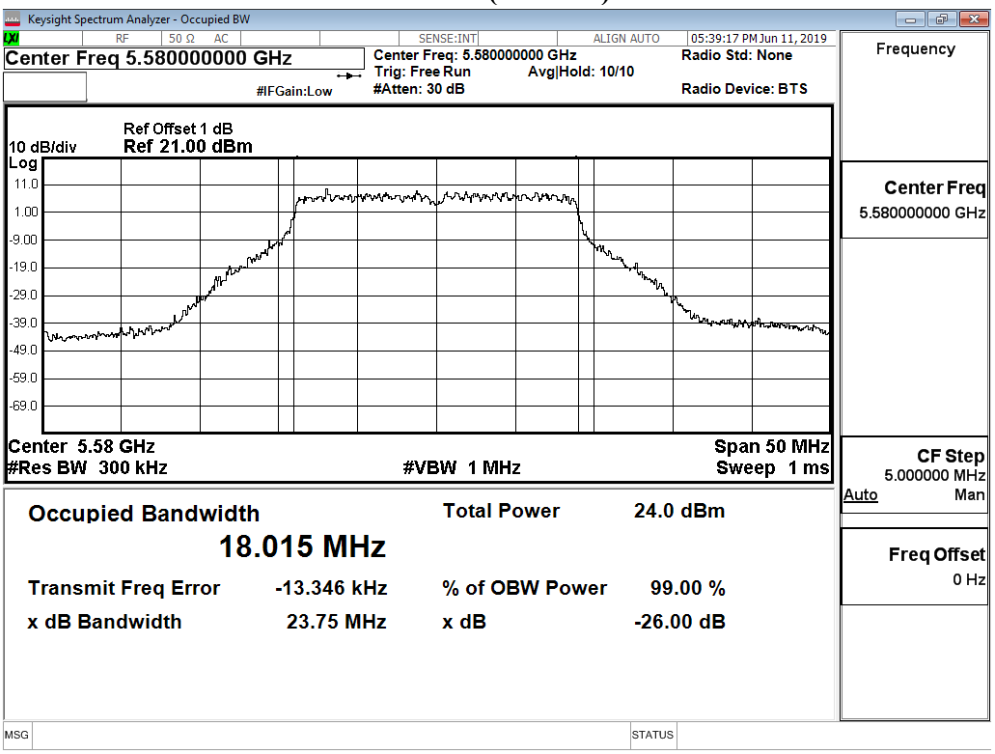
Channel 100 (Chain B)



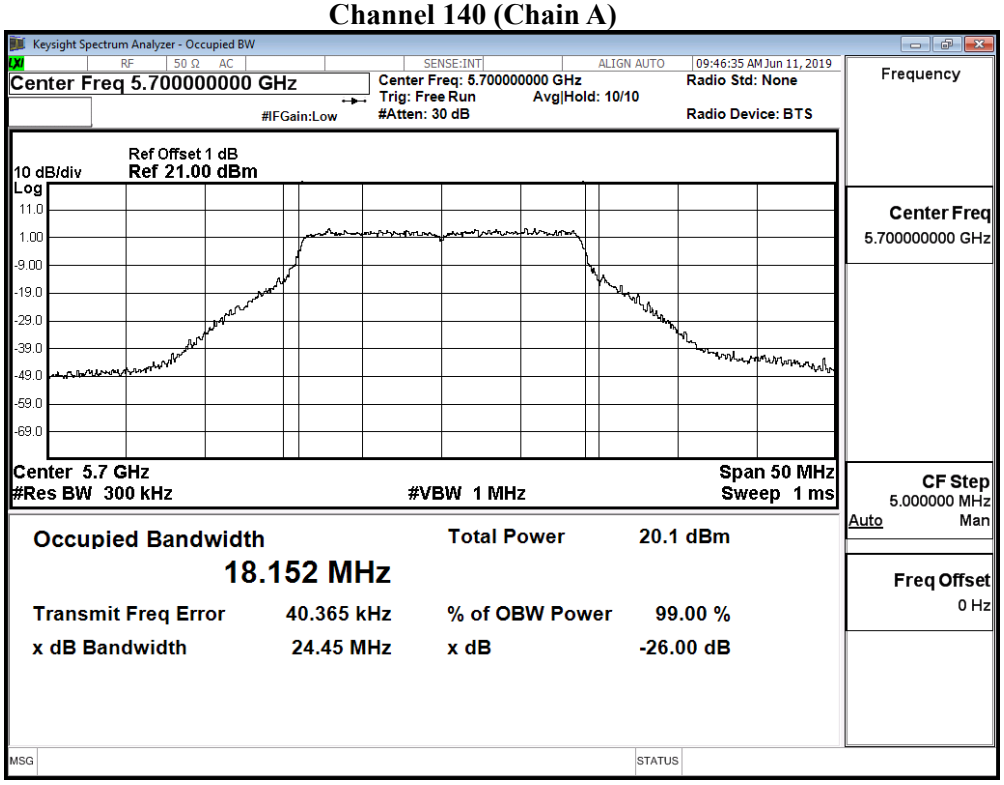
Channel 116 (Chain A)



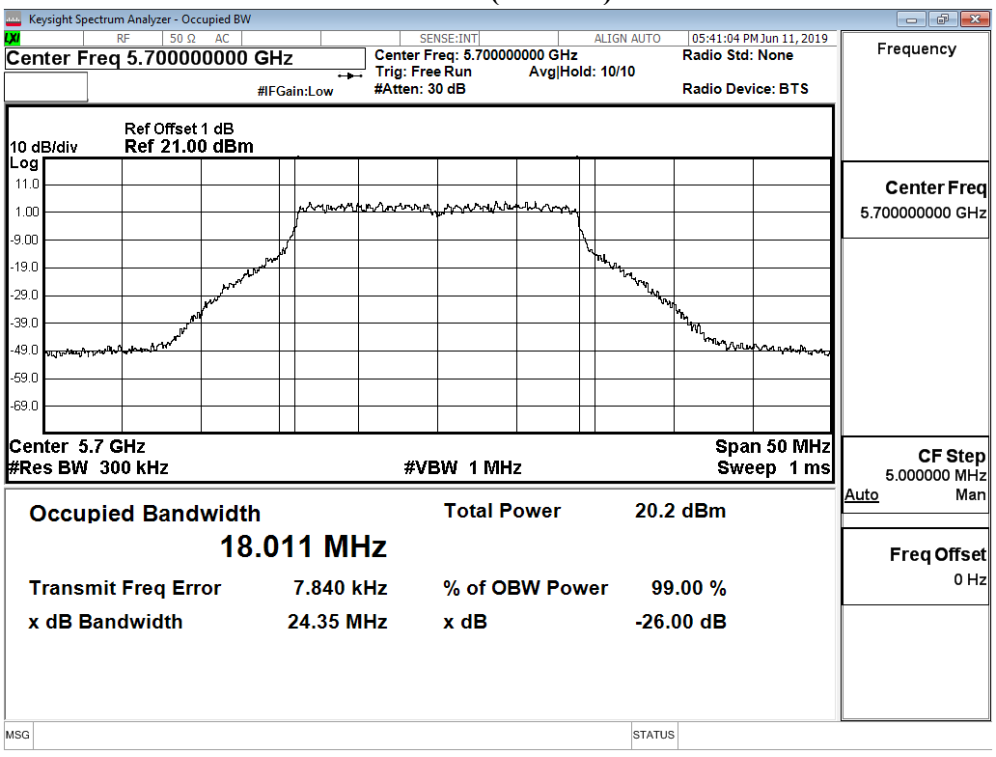
Channel 116 (Chain B)



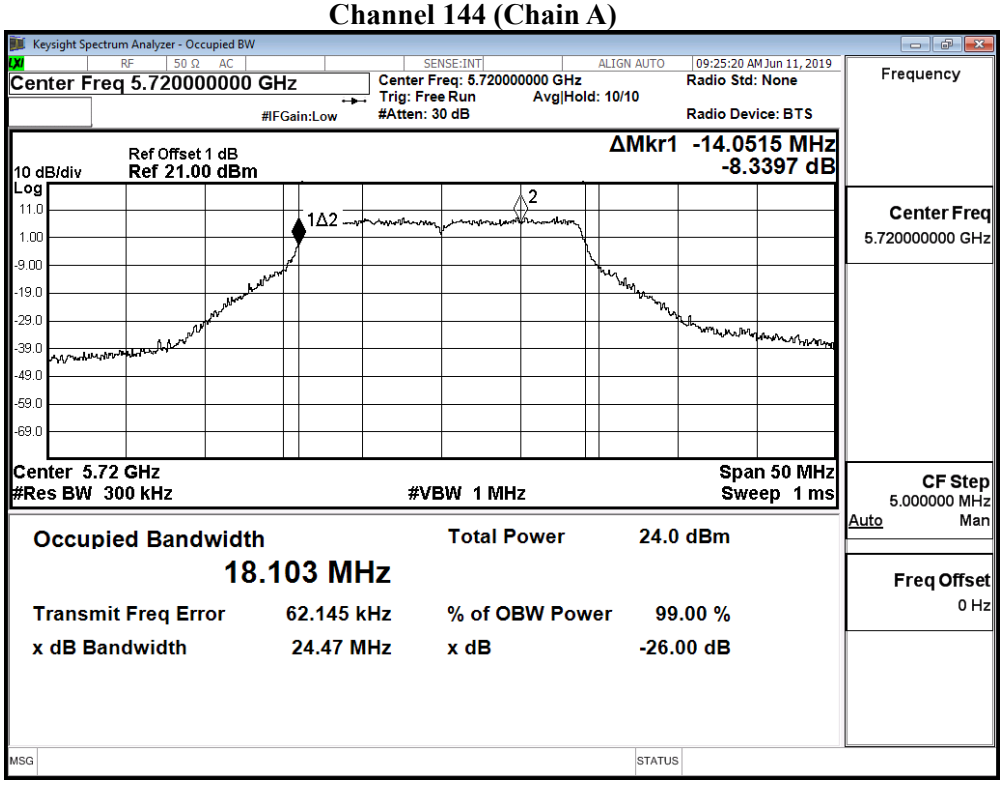
Channel 140 (Chain A)



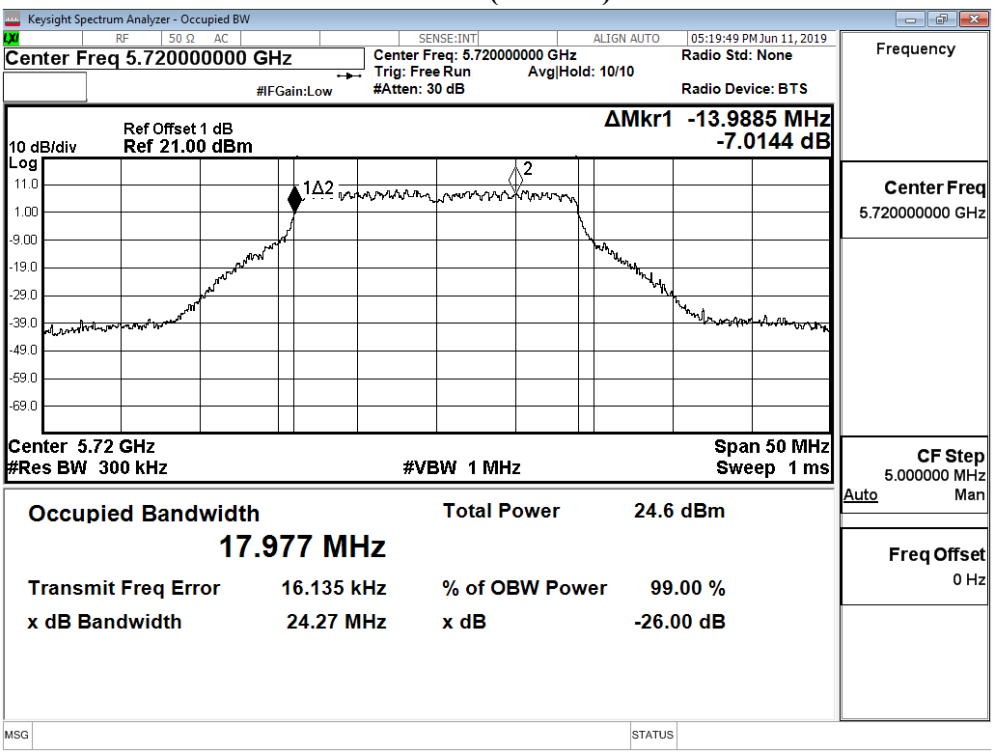
Channel 140 (Chain B)



Channel 144 (Chain A)

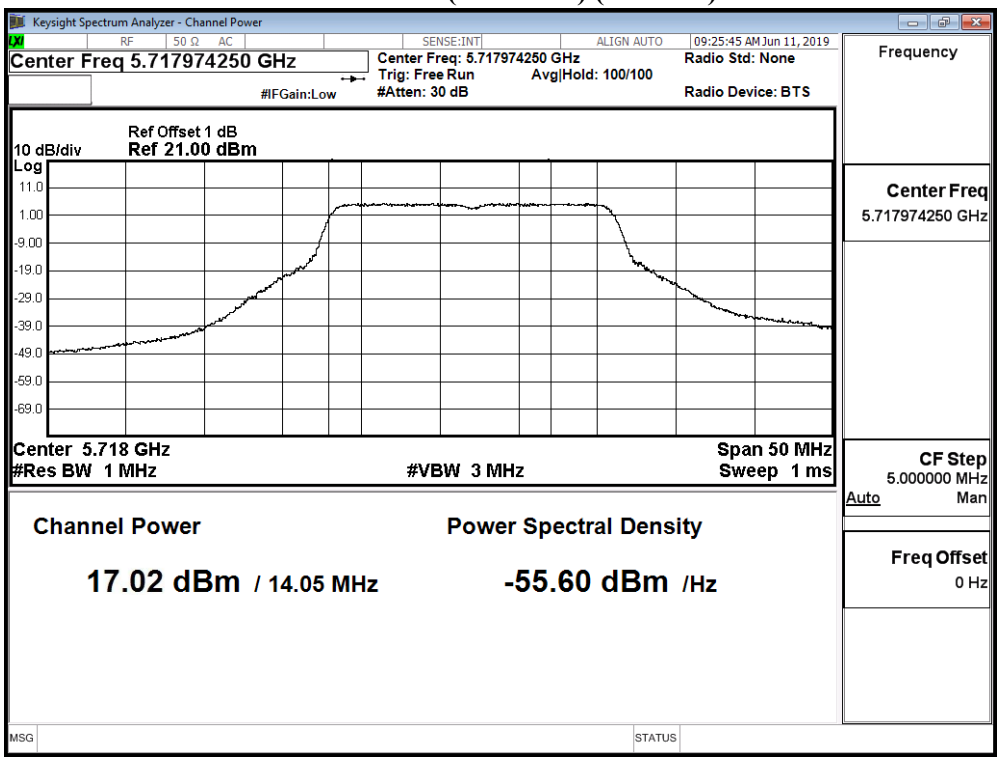


Channel 144 (Chain B)



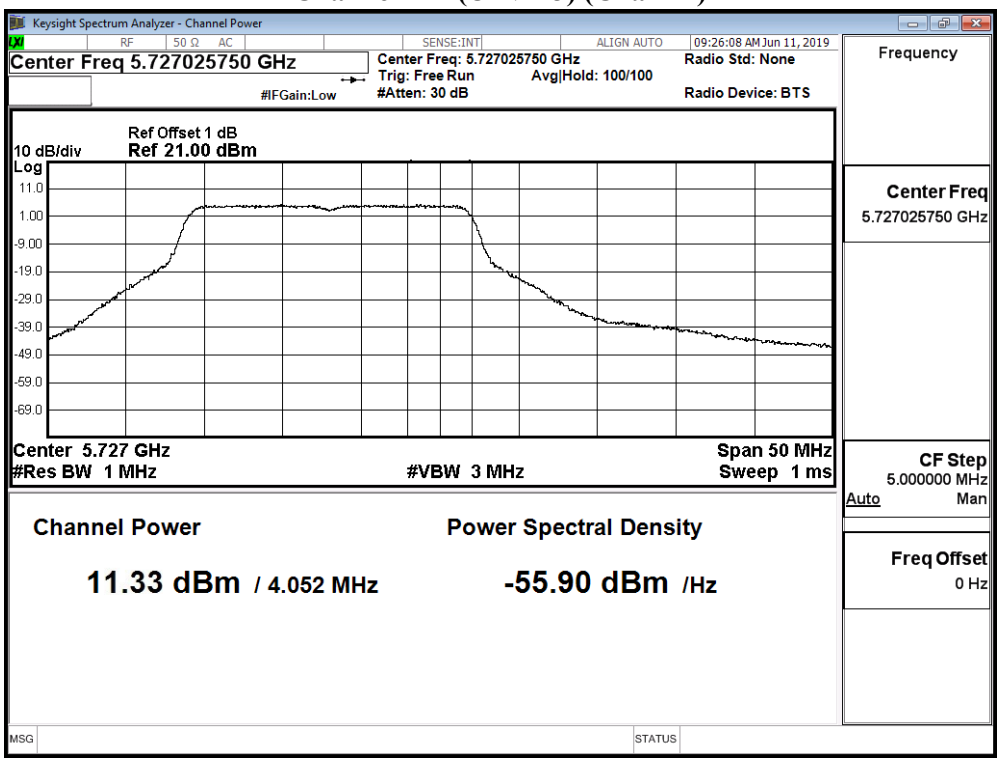
Maximum conducted output power:

Channel 144 (U-NII-2C) (Chain A)



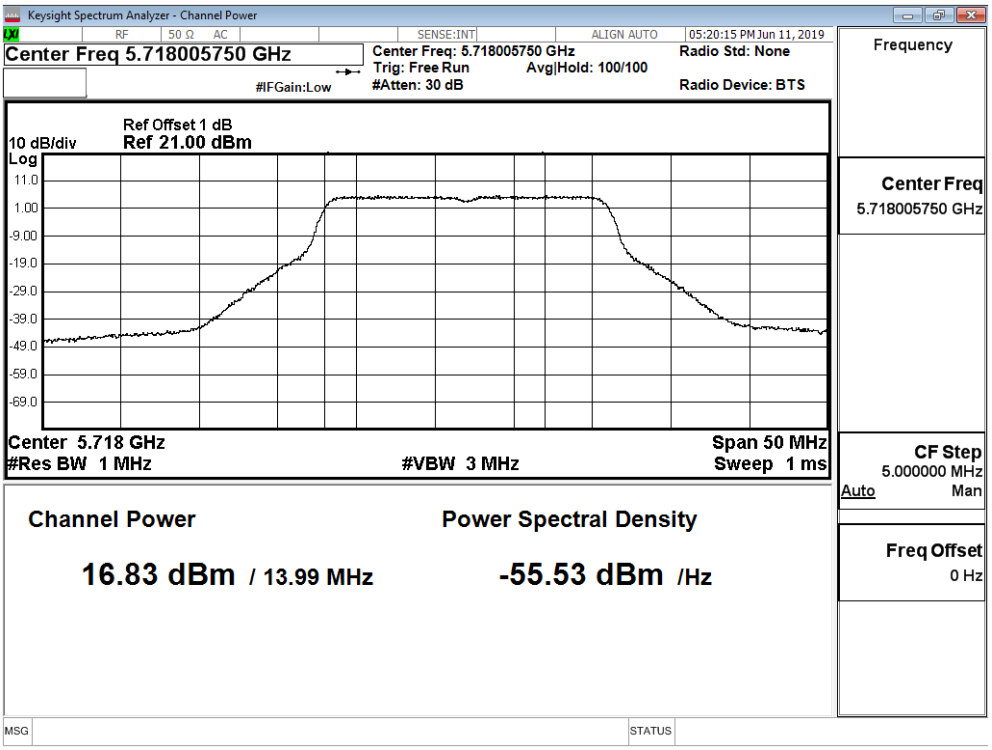
Maximum conducted output power:

Channel 144 (U-NII-3) (Chain A)



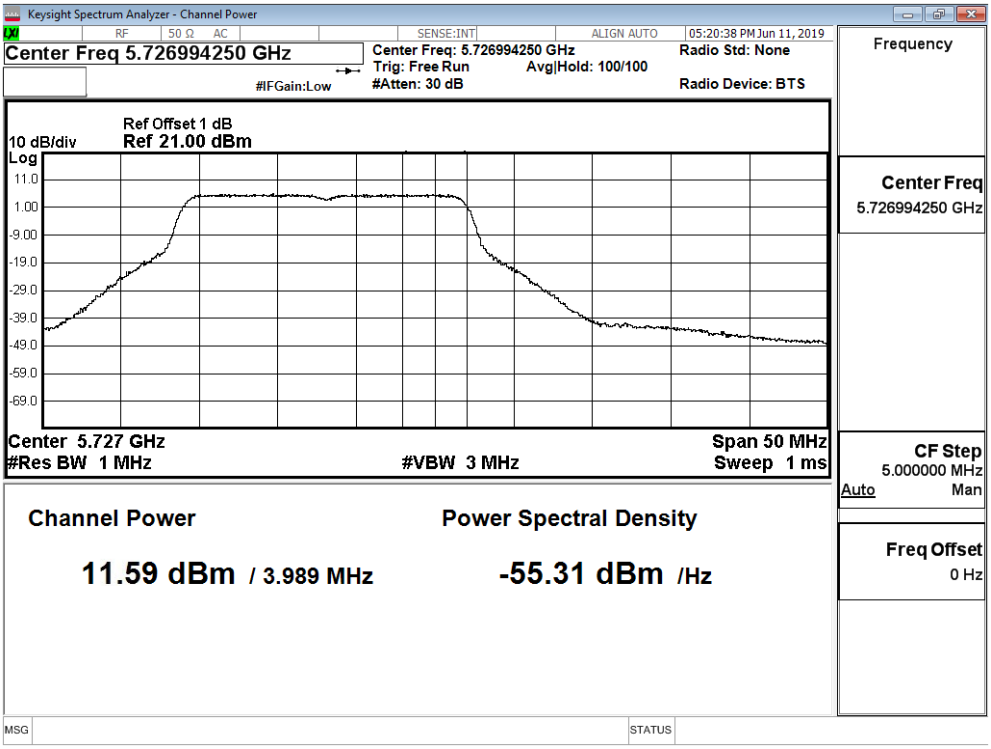
Maximum conducted output power:

Channel 144 (U-NII-2C) (Chain B)



Maximum conducted output power:

Channel 144 (U-NII-3) (Chain B)



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 20 MIMO: Transmit (802.11n-40BW_30Mbps)

Chain A

Cable loss=1.0dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		30	60	90	120	180	240	270	300
38	5190	15.34	--	--	--	--	--	--	--
46	5230	17.44	17.37	17.27	17.20	17.08	17.00	16.91	16.82
54	5270	16.08	--	--	--	--	--	--	--
62	5310	12.70	12.63	12.54	12.41	12.32	12.25	12.17	12.07
102	5510	13.96	--	--	--	--	--	--	--
110	5550	17.48	12.59	12.52	12.43	12.31	12.17	12.06	11.93
134	5670	16.83	--	--	--	--	--	--	--
142(U-NII-2C)	5710	18.10	18.02	17.95	17.82	17.70	17.61	17.49	17.35
142(U-NII-3)	5710	7.97	7.86	7.79	7.68	7.61	7.53	7.44	7.36
151	5755	17.67	--	--	--	--	--	--	--
159	5795	17.96	17.85	17.75	17.65	17.56	17.47	17.39	17.32

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

Chain B

Cable loss=1.0dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		30	60	90	120	180	240	270	300
38	5190	14.97	--	--	--	--	--	--	--
46	5230	17.48	17.40	17.26	17.17	17.05	16.97	16.86	16.75
54	5270	16.23	--	--	--	--	--	--	--
62	5310	12.63	12.54	12.47	12.34	12.27	12.19	12.12	12.00
102	5510	13.78	--	--	--	--	--	--	--
110	5550	17.95	17.85	17.73	17.62	17.53	17.41	17.28	17.20
134	5670	16.56	--	--	--	--	--	--	--
142(U-NII-2C)	5710	17.94	17.83	17.72	17.60	17.49	17.36	17.25	17.14
142(U-NII-3)	5710	8.03	7.91	7.82	7.74	7.67	7.58	7.50	7.40
151	5755	17.69	--	--	--	--	--	--	--
159	5795	17.83	17.76	17.68	17.58	17.50	17.36	17.25	17.12

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

Maximum conducted output power Measurement:

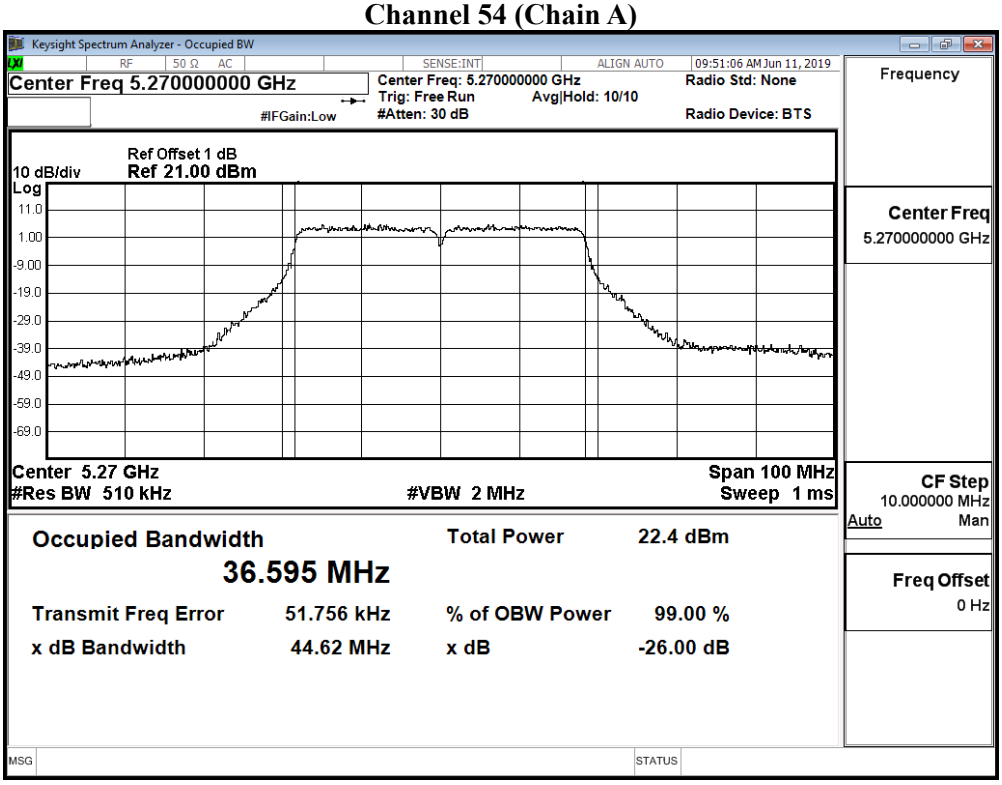
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit		Result
						(dBm)	dBm+10log(BW)	
38	5190	--	15.34	14.97	18.17	24	--	Pass
46	5230	--	17.44	17.48	20.47	24	--	Pass
54	5270	36.400	16.08	16.23	19.17	24	26.61	Pass
62	5310	36.437	12.7	12.63	15.68	24	26.62	Pass
102	5510	36.411	13.96	13.78	16.88	24	26.61	Pass
110	5550	36.431	17.48	17.95	20.73	24	26.61	Pass
134	5670	36.420	16.83	16.56	19.71	24	26.61	Pass
142(U-NII-2C)	5710	33.210	18.1	17.94	21.03	24	26.21	Pass
142(U-NII-3)	5710	--	7.97	8.03	11.01	30	--	Pass
151	5755	--	17.67	17.69	20.69	30	--	Pass
159	5795	--	17.96	17.83	20.91	30	--	Pass

Note:

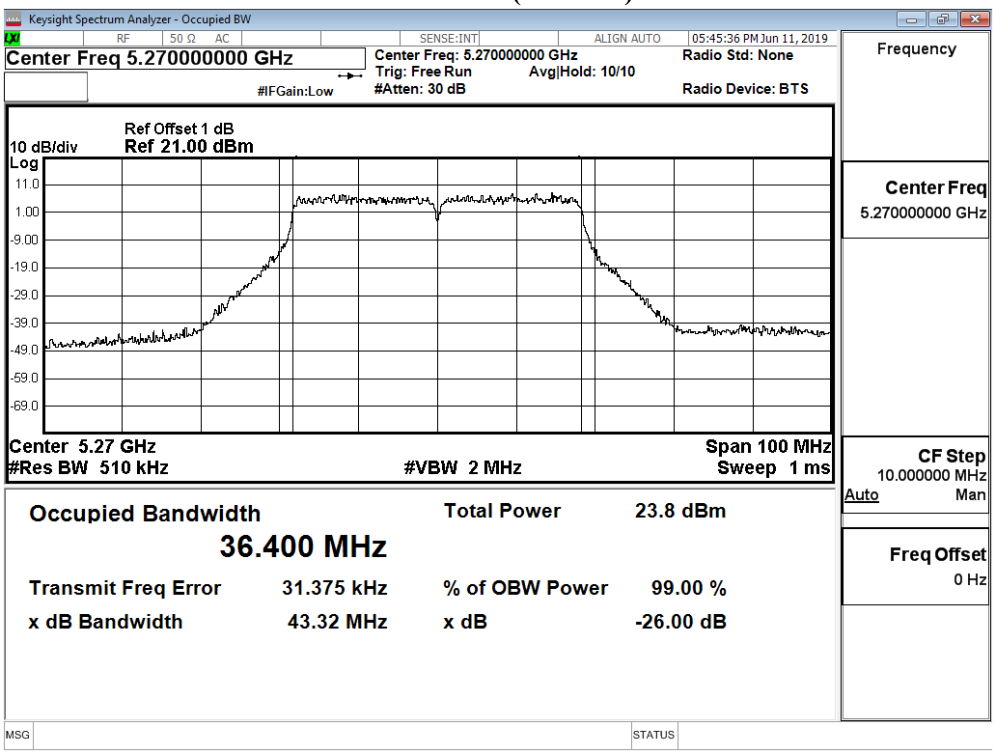
1. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW))
2. 99% Bandwidth is the bandwidth of chain A or chain Bwhichever is less bandwidth, output power limitation is more stringent.

99% Occupied Bandwidth:

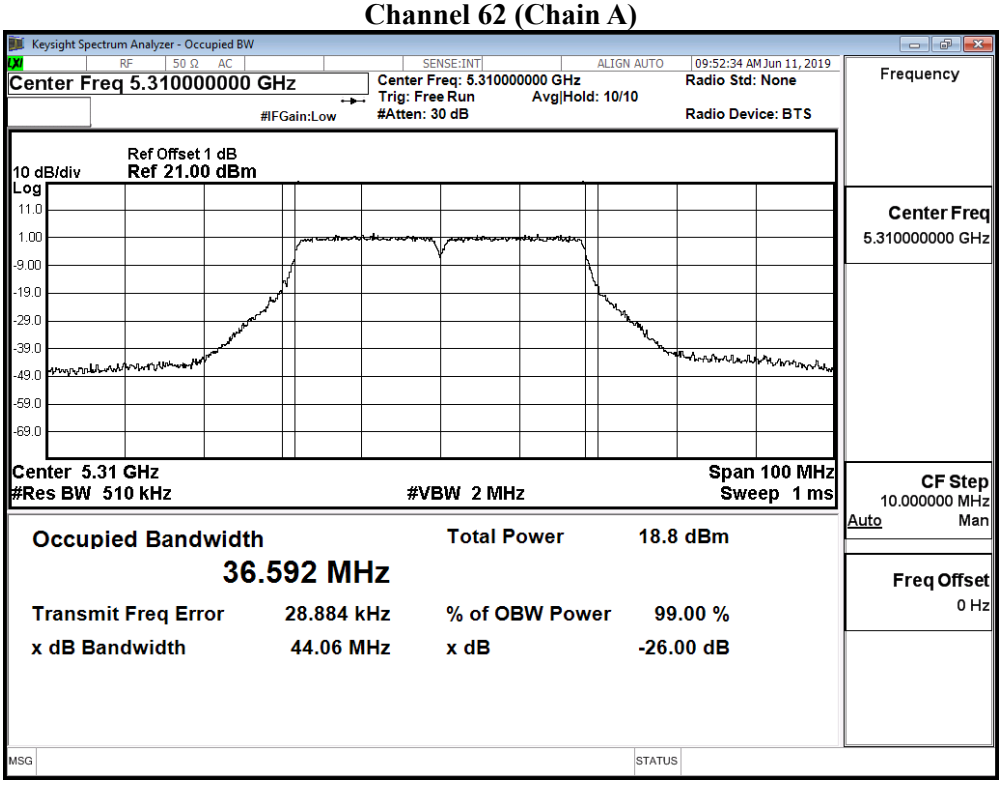
Channel 54 (Chain A)



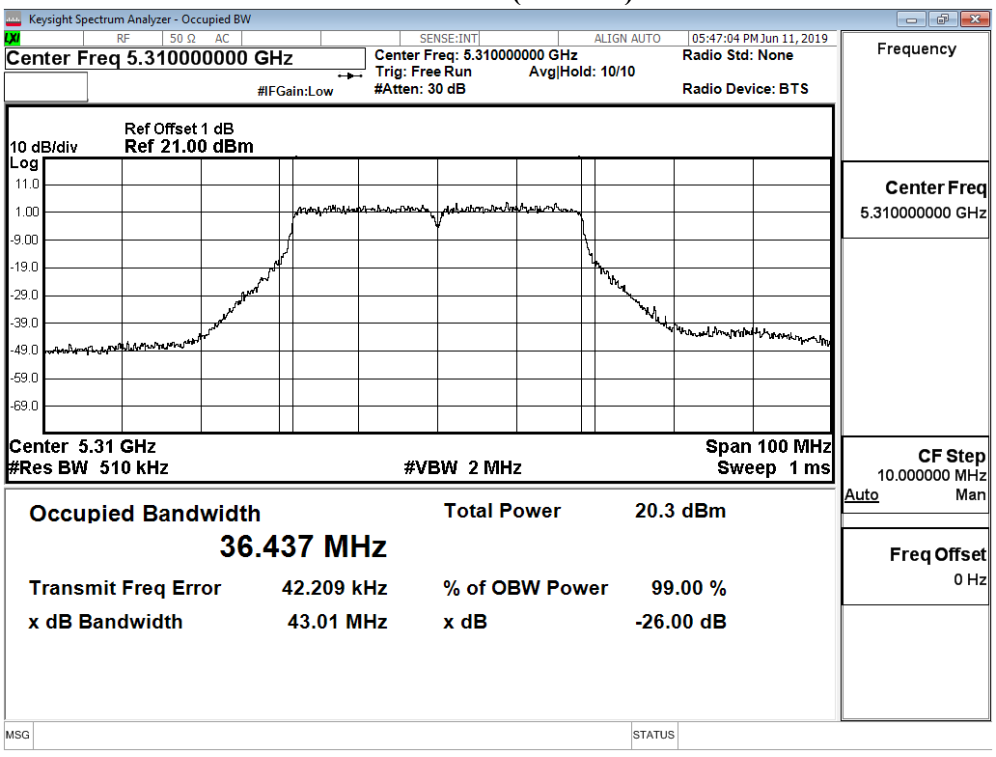
Channel 54 (Chain B)



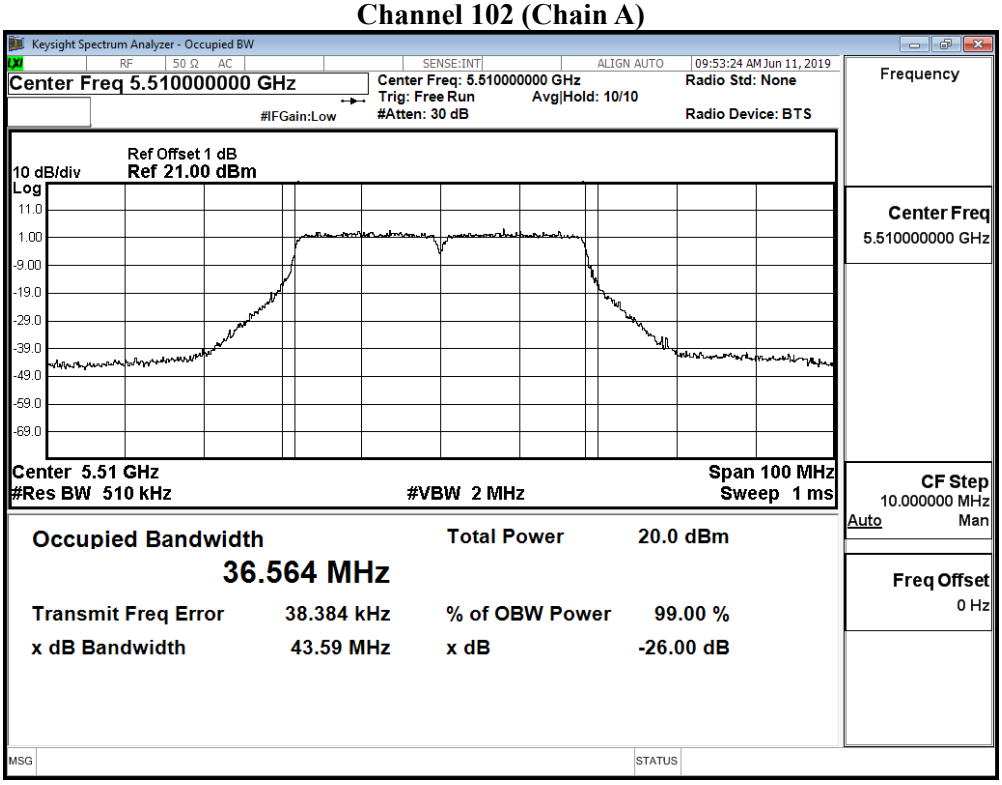
Channel 62 (Chain A)



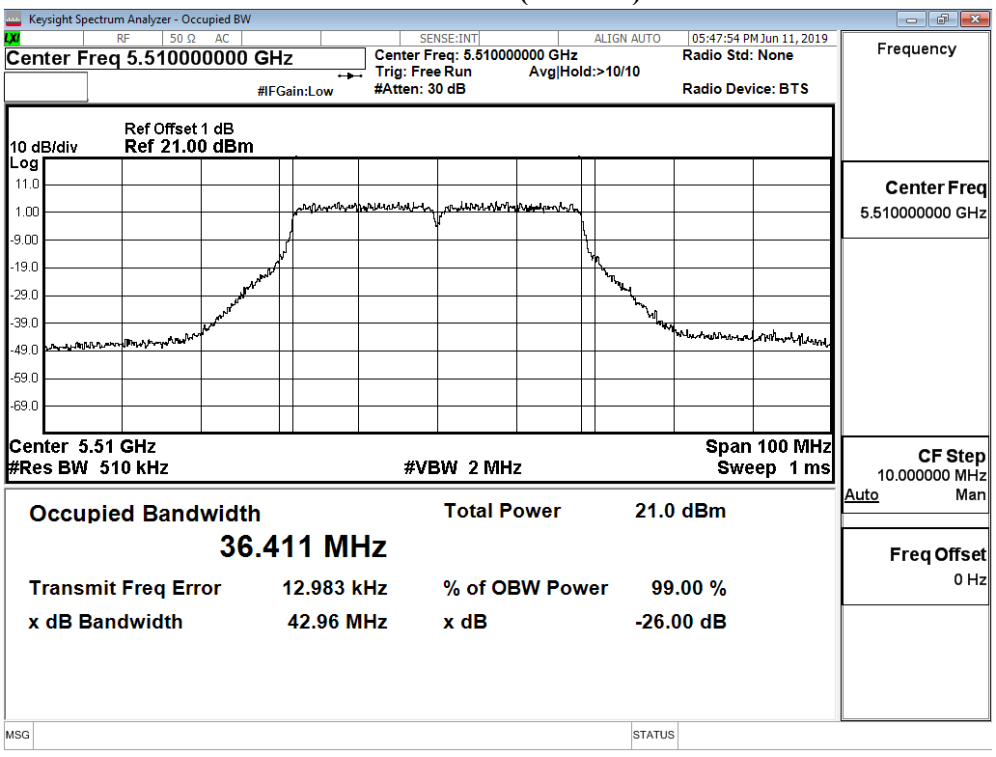
Channel 62 (Chain B)



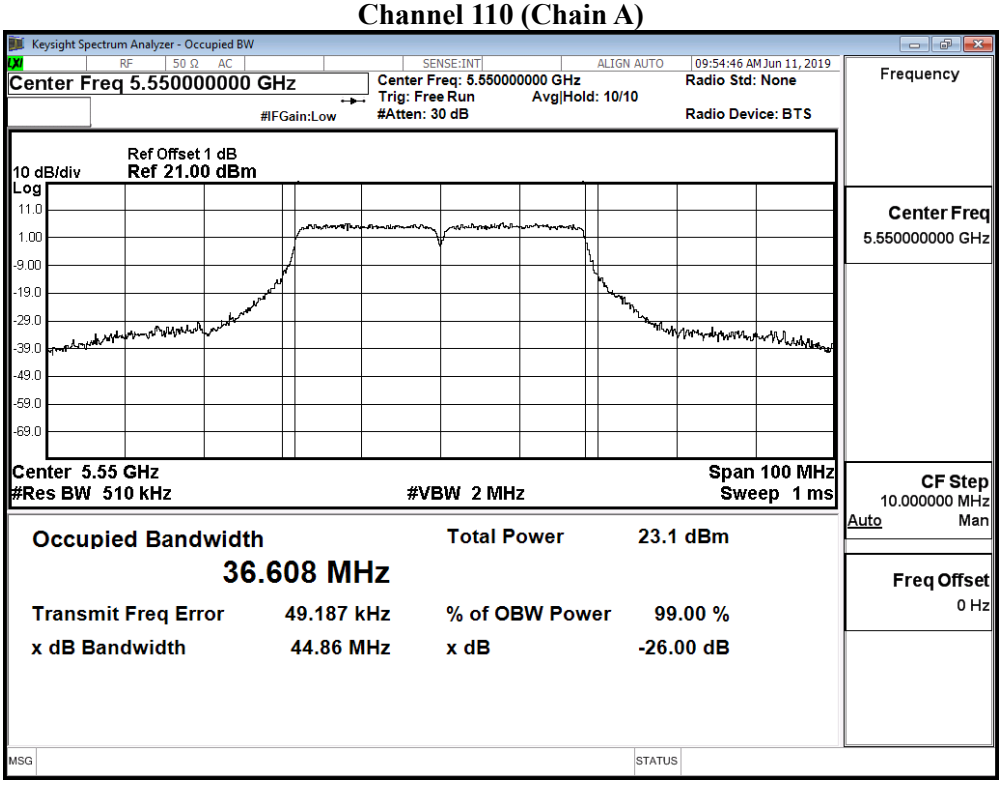
Channel 102 (Chain A)



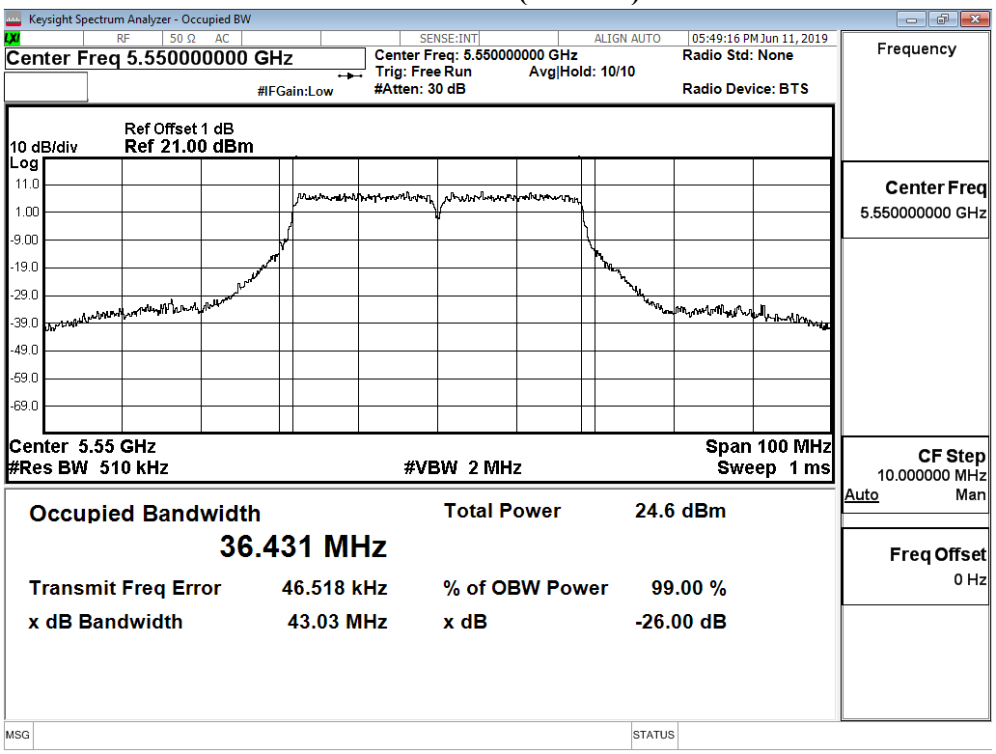
Channel 102 (Chain B)



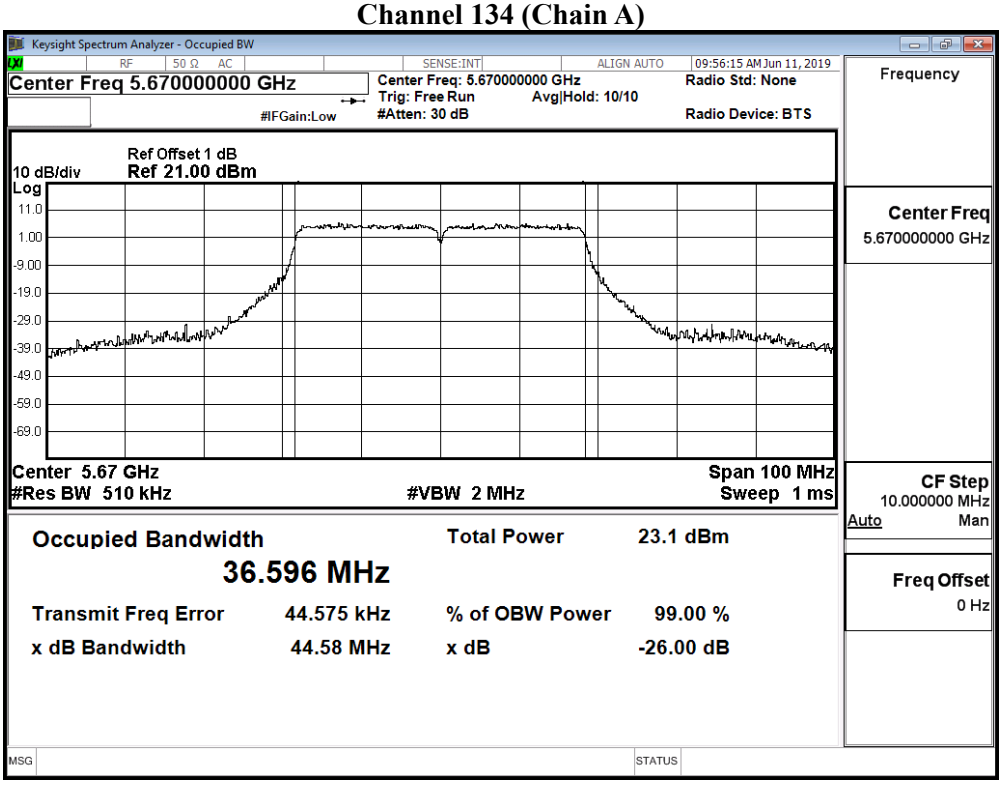
Channel 110 (Chain A)



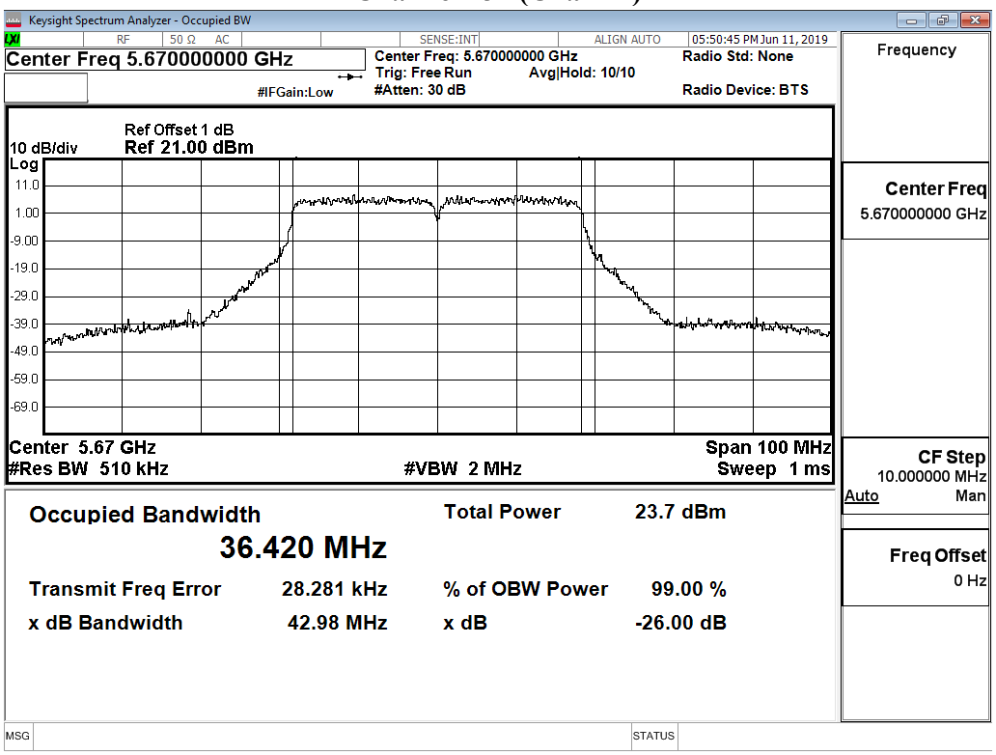
Channel 110 (Chain B)



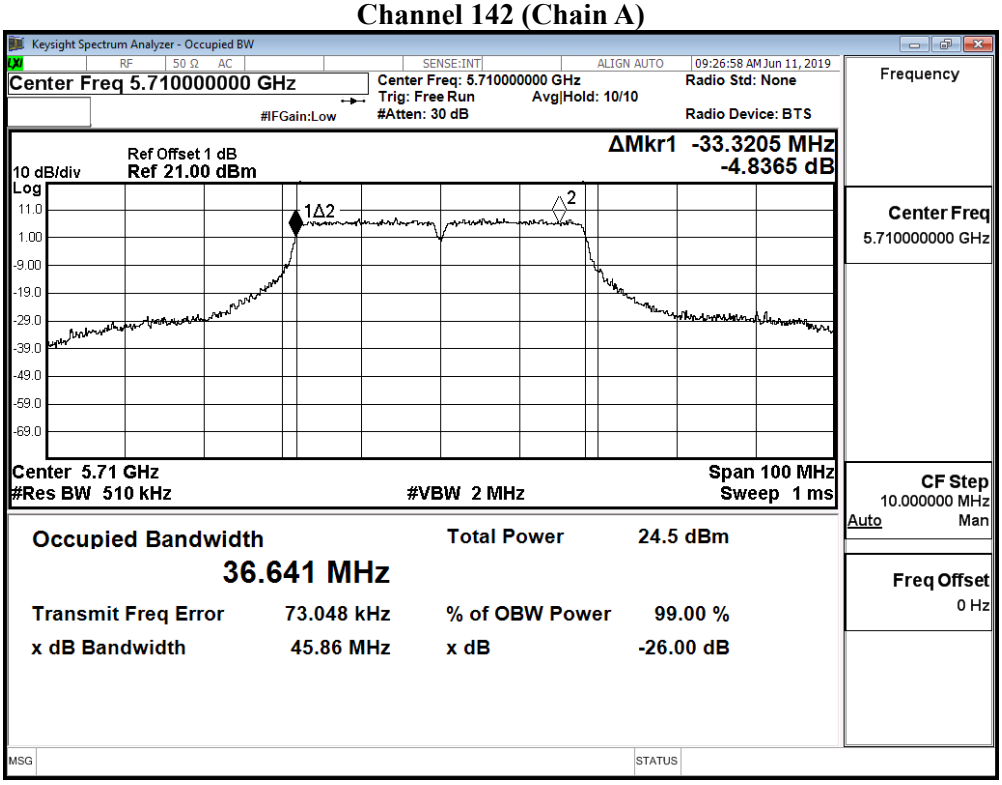
Channel 134 (Chain A)



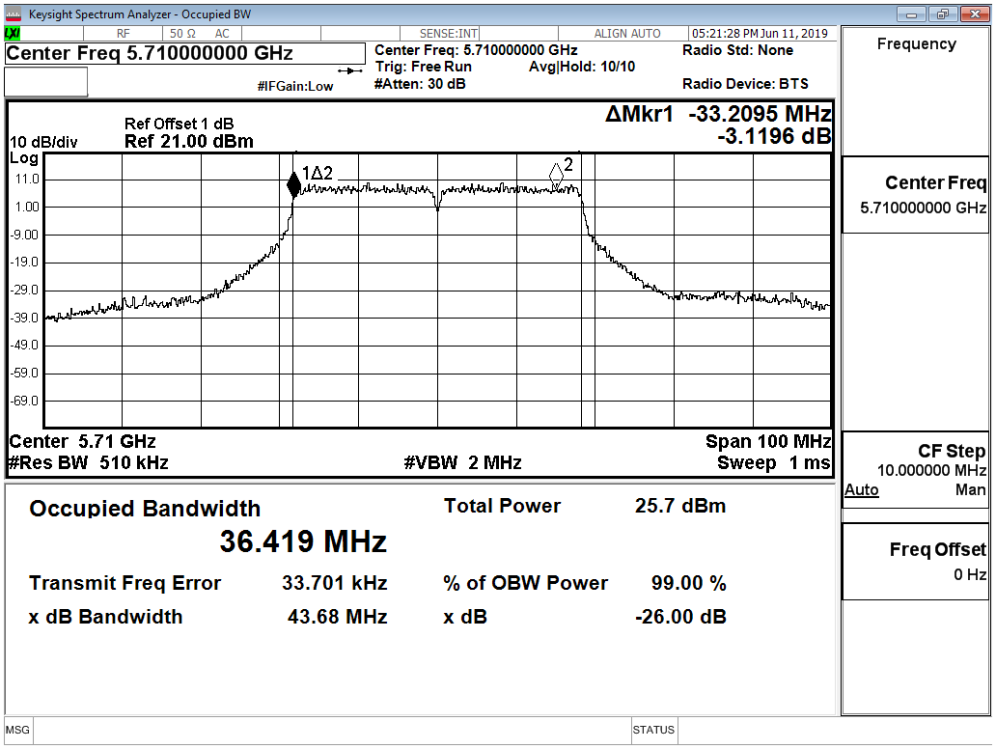
Channel 134 (Chain B)



Channel 142 (Chain A)

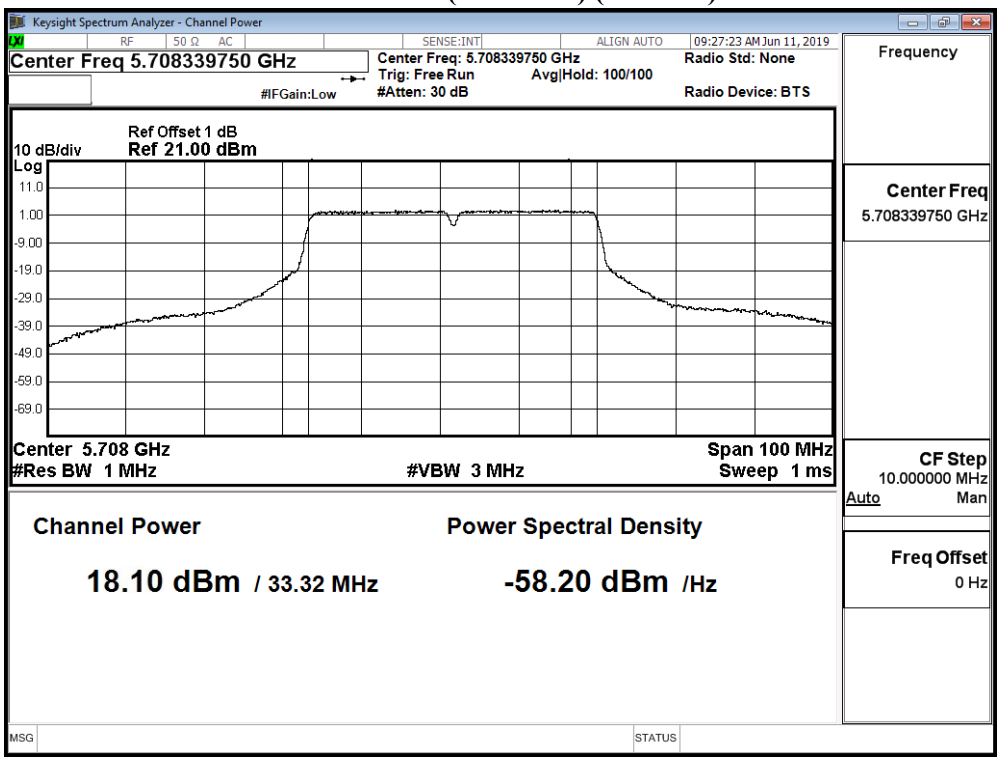


Channel 142 (Chain B)



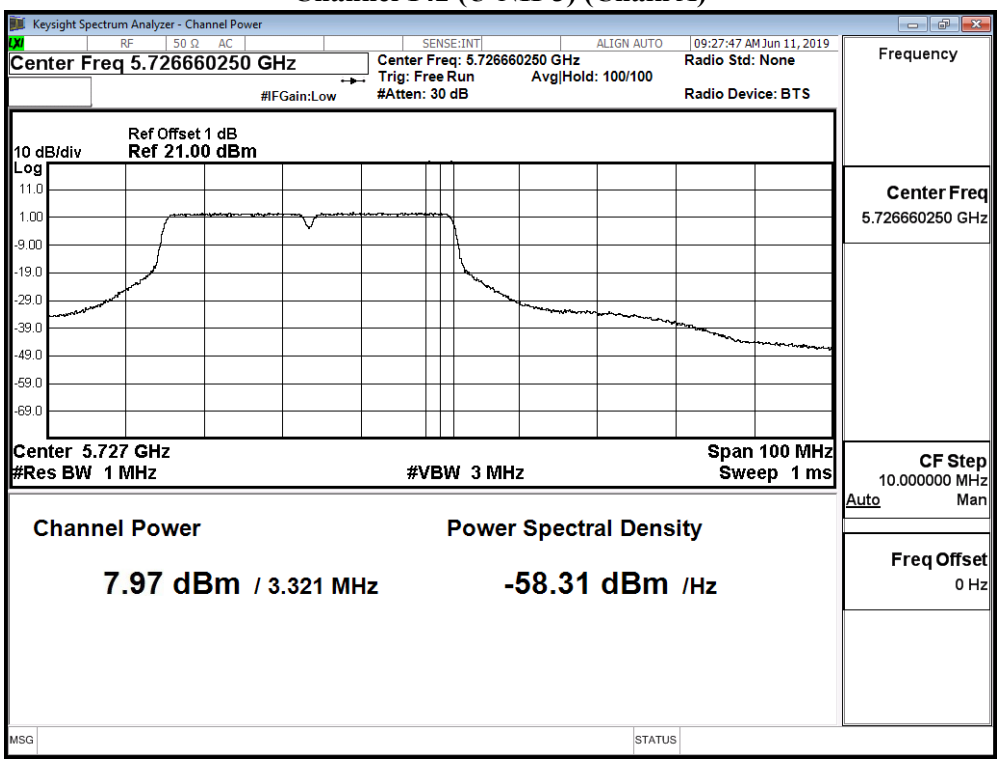
Maximum conducted output power:

Channel 142 (U-NII-2C) (Chain A)



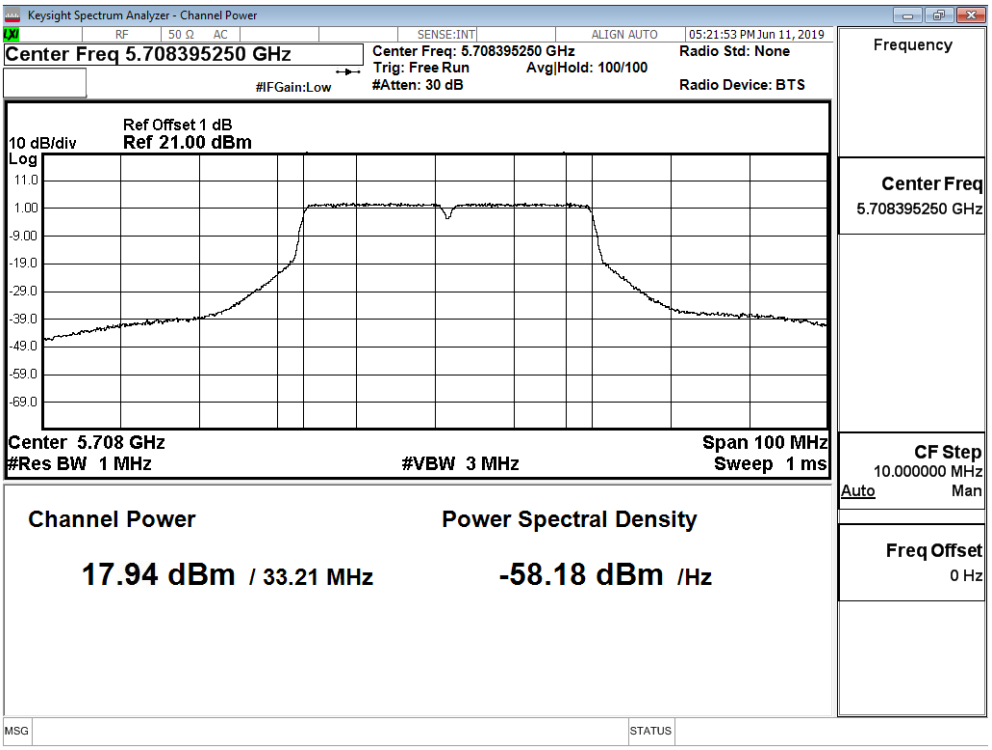
Maximum conducted output power:

Channel 142 (U-NII-3) (Chain A)



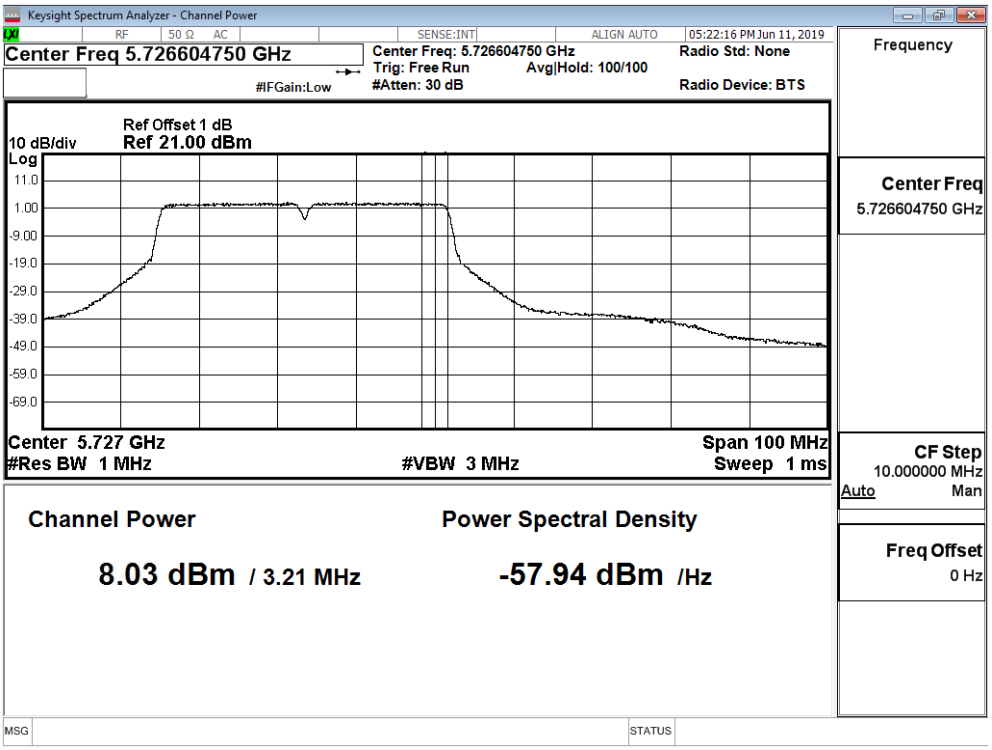
Maximum conducted output power:

Channel 142 (U-NII-2C) (Chain B)



Maximum conducted output power:

Channel 142 (U-NII-3) (Chain B)



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 21 MIMO: Transmit (802.11ac-80BW_65Mbps)

Chain A

Cable loss=1.0dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		65	130	1965	260	390	520	585	650	780	866.7
42	5210	15.26	15.15	15.04	14.97	14.83	14.72	14.63	14.56	14.47	14.35
58	5290	13.92	13.82	13.72	13.65	13.58	13.46	13.36	13.25	13.14	13.07
106	5530	14.54	--	--	--	--	--	--	--	--	--
122	5610	18.42	18.29	18.18	18.10	18.01	17.92	17.85	17.72	17.63	17.49
138 (U-NII-2C)	5690	18.39	--	--	--	--	--	--	--	--	--
138 (U-NII-3)	5690	1.48	--	--	--	--	--	--	--	--	--
155	5775	16.31	16.22	16.09	15.95	15.83	15.72	15.58	15.44	15.35	15.24

Note: Maximum conducted output power Value =Reading value on Spectrum Analyzer + cable loss

Chain B

Cable loss=1.0dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		65	130	1965	260	390	520	585	650	780	866.7
42	5210	15.38	15.30	15.16	15.03	14.92	14.84	14.70	14.61	14.52	14.42
58	5290	13.93	13.82	13.69	13.60	13.53	13.40	13.27	13.14	13.07	12.97
106	5530	14.72	--	--	--	--	--	--	--	--	--
122	5610	18.17	18.07	17.99	17.92	17.85	17.77	17.66	17.59	17.51	17.39
138 (U-NII-2C)	5690	18.66	--	--	--	--	--	--	--	--	--
138 (U-NII-3)	5690	1.3	--	--	--	--	--	--	--	--	--
155	5775	16.30	16.21	16.07	15.93	15.86	15.79	15.68	15.59	15.47	15.39

Note: Maximum conducted output power Value =Reading value on Spectrum Analyzer + cable loss

Maximum conducted output power Measurement:

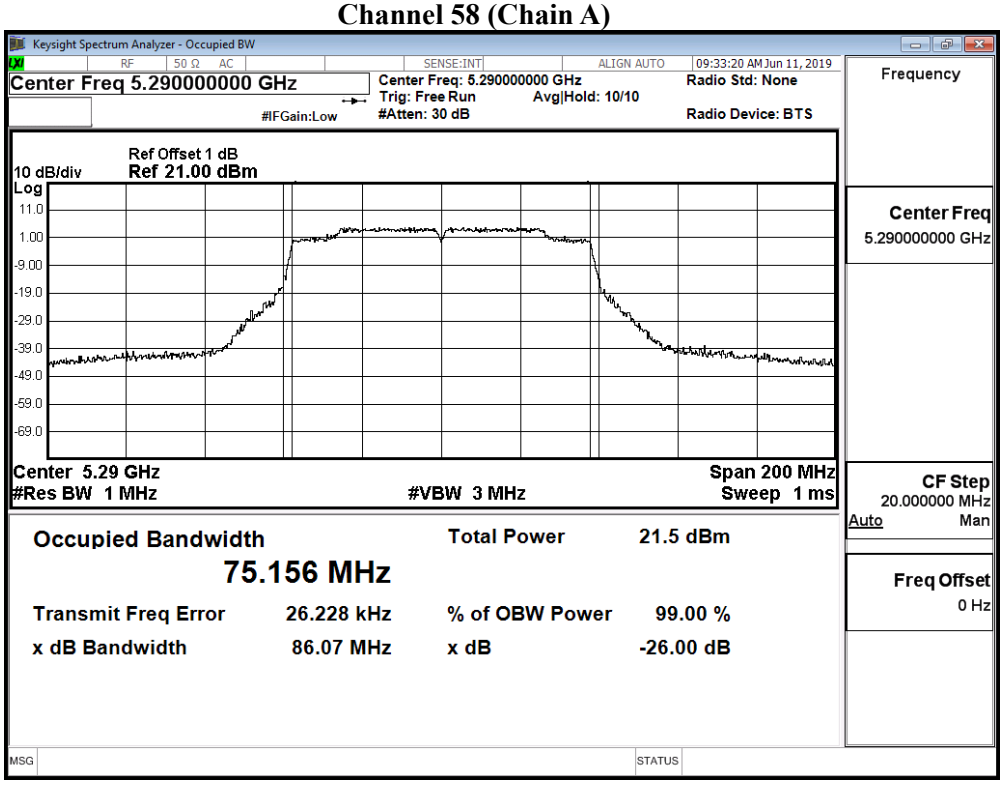
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit		Result
						(dBm)	dBm+10log(BW)	
42	5210	--	15.26	15.38	18.33	24	--	Pass
58	5290	75.104	13.92	13.93	16.94	24	29.76	Pass
106	5530	75.164	14.54	14.72	17.64	24	29.76	Pass
122	5610	75.067	18.42	18.17	21.31	24	29.75	Pass
138 (U-NII-2C)	5690	72.542	18.39	18.66	21.54	24	29.61	Pass
138 (U-NII-3)	5690	--	1.48	1.30	4.40	30	--	Pass
155	5775	--	16.31	16.30	19.32	30	--	Pass

Note:

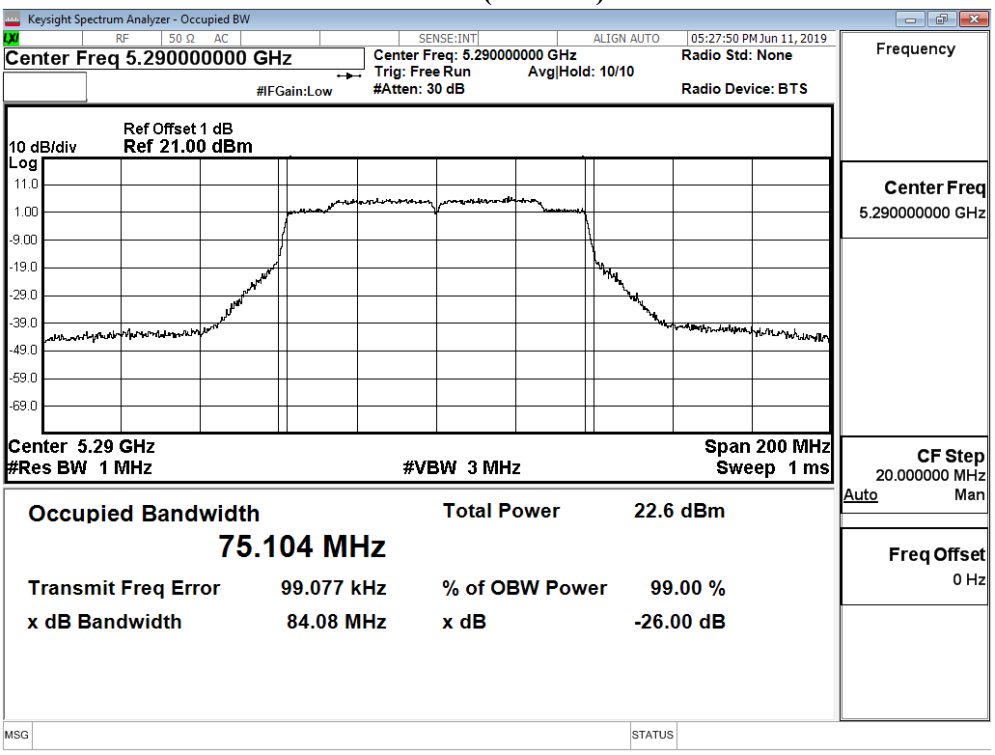
1. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW))
2. 99% Bandwidth is the bandwidth of chain A or chain Bwhichever is less bandwidth, output power limitation is more stringent.

99% Occupied Bandwidth:

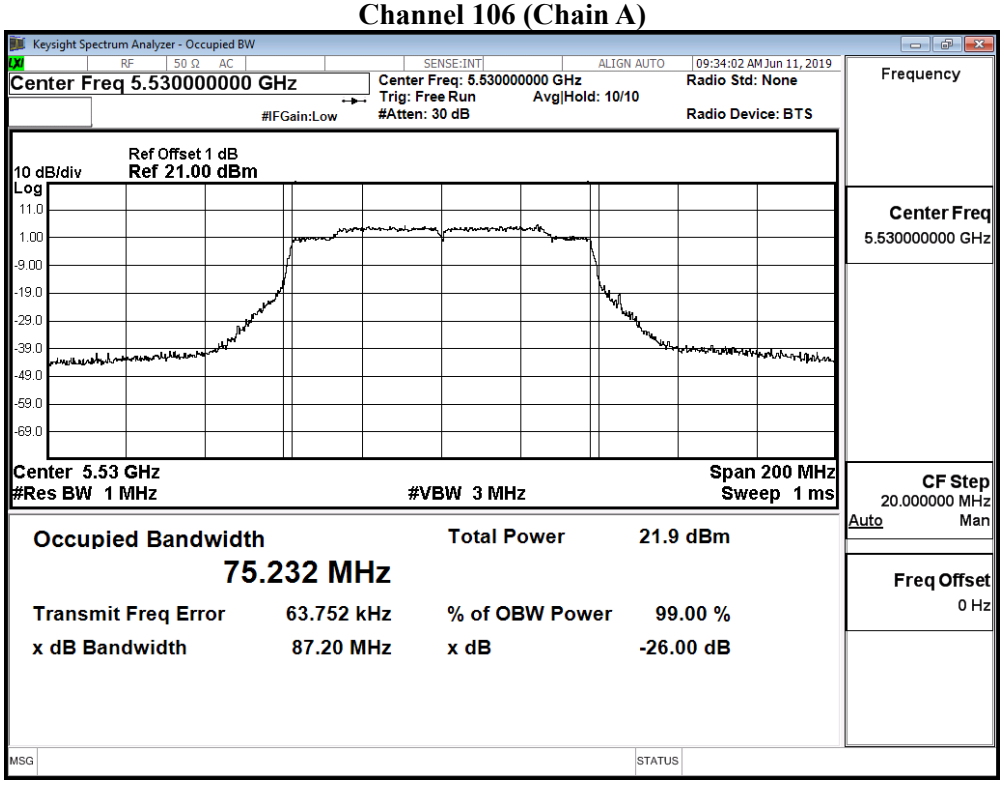
Channel 58 (Chain A)



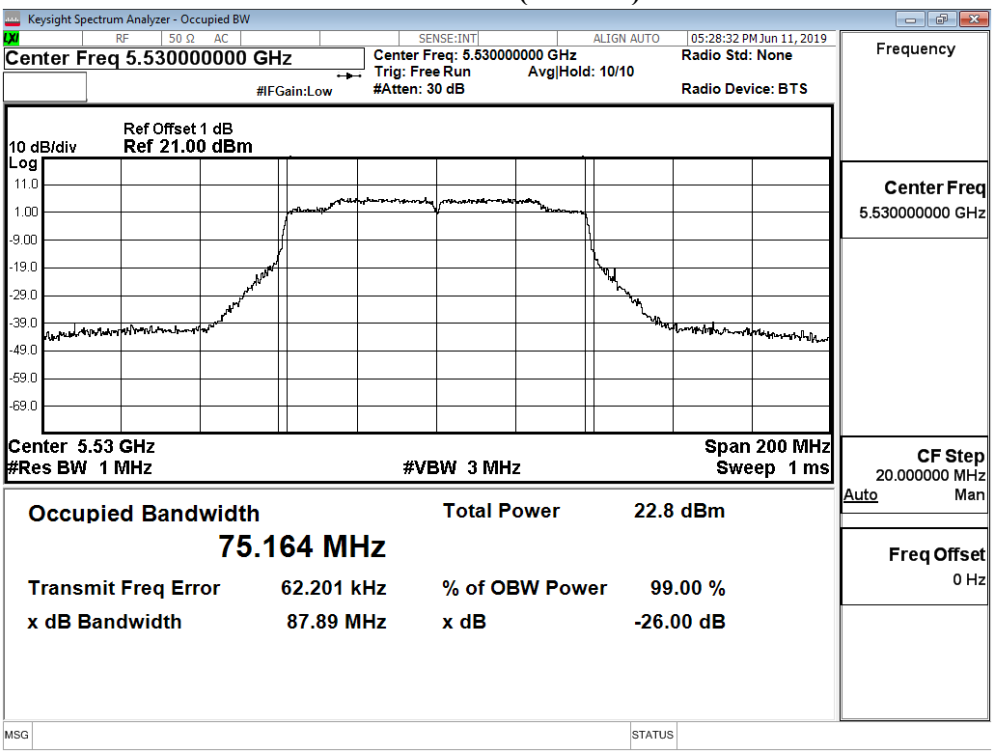
Channel 58 (Chain B)



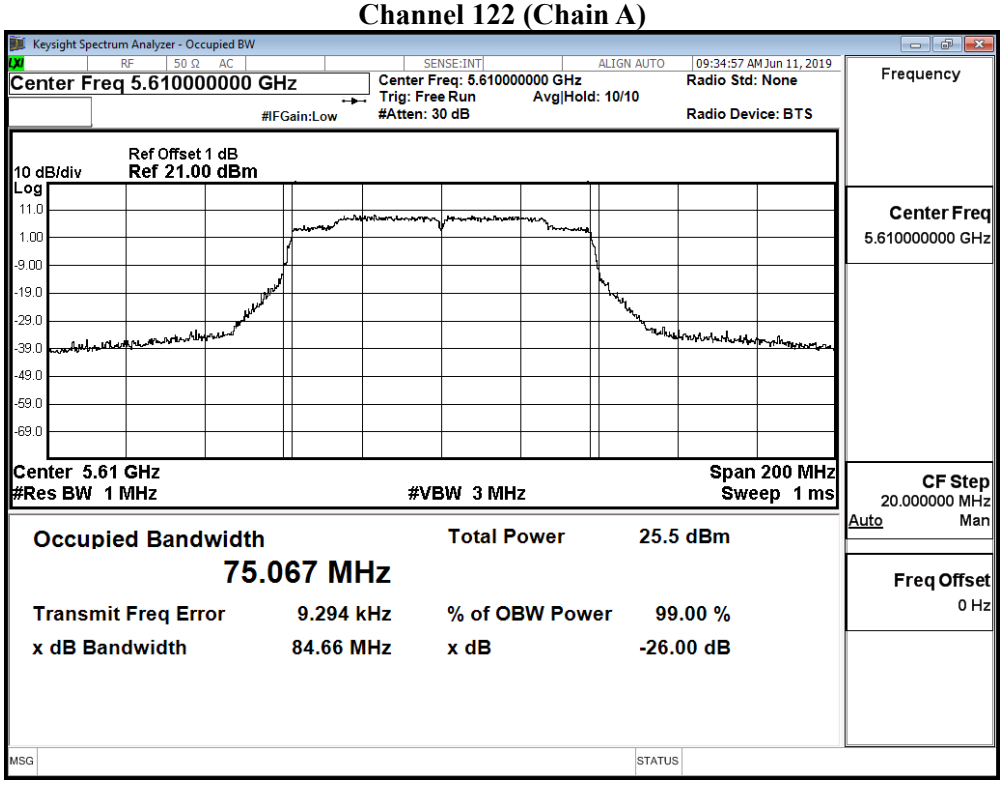
Channel 106 (Chain A)



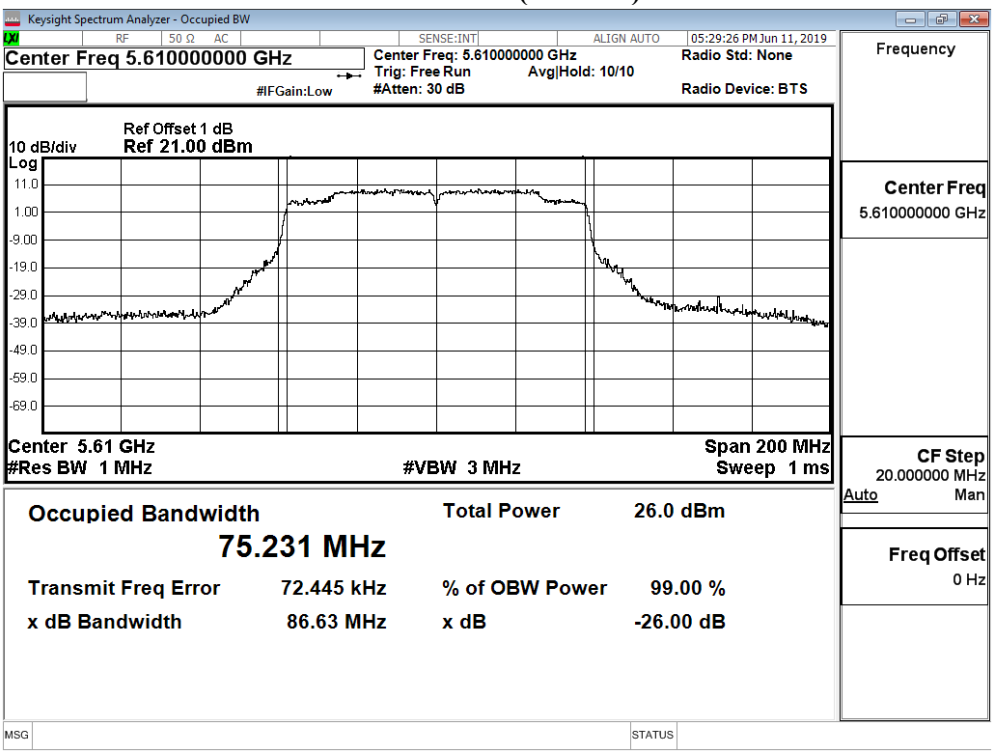
Channel 106 (Chain B)



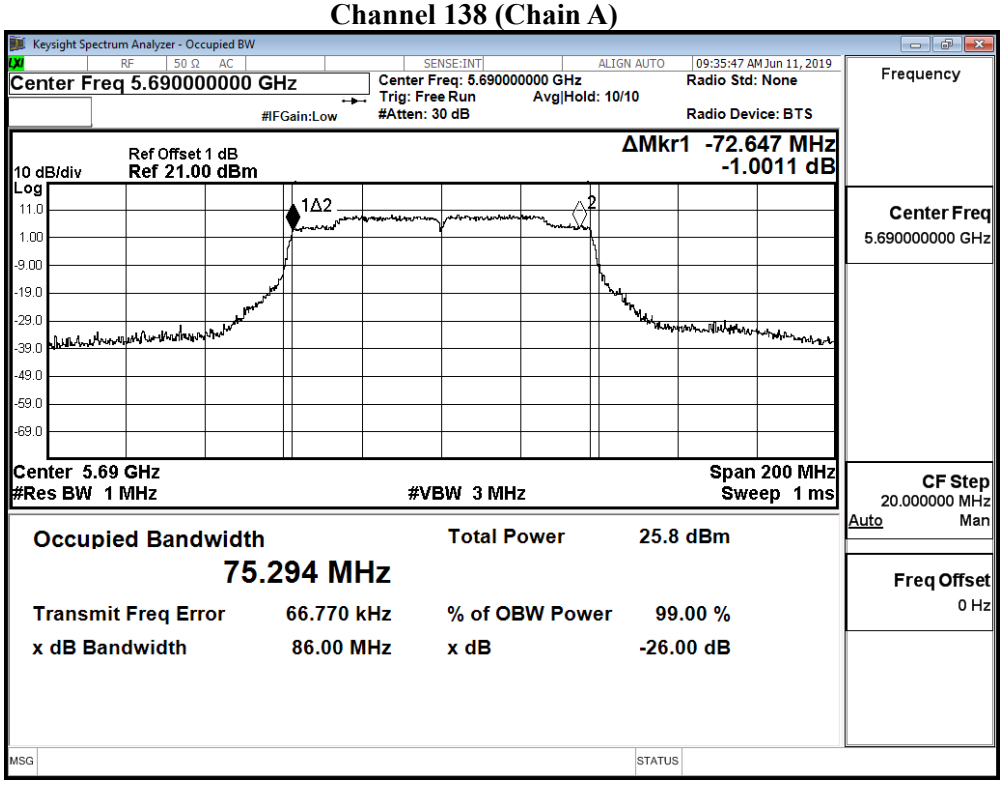
Channel 122 (Chain A)



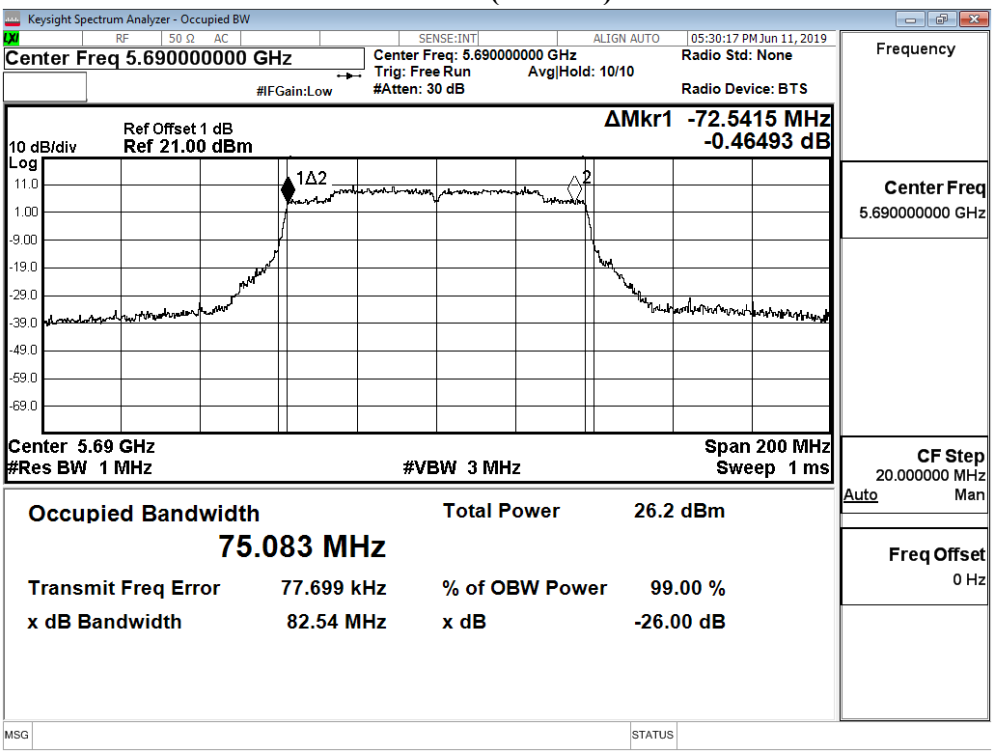
Channel 122 (Chain B)



Channel 138 (Chain A)

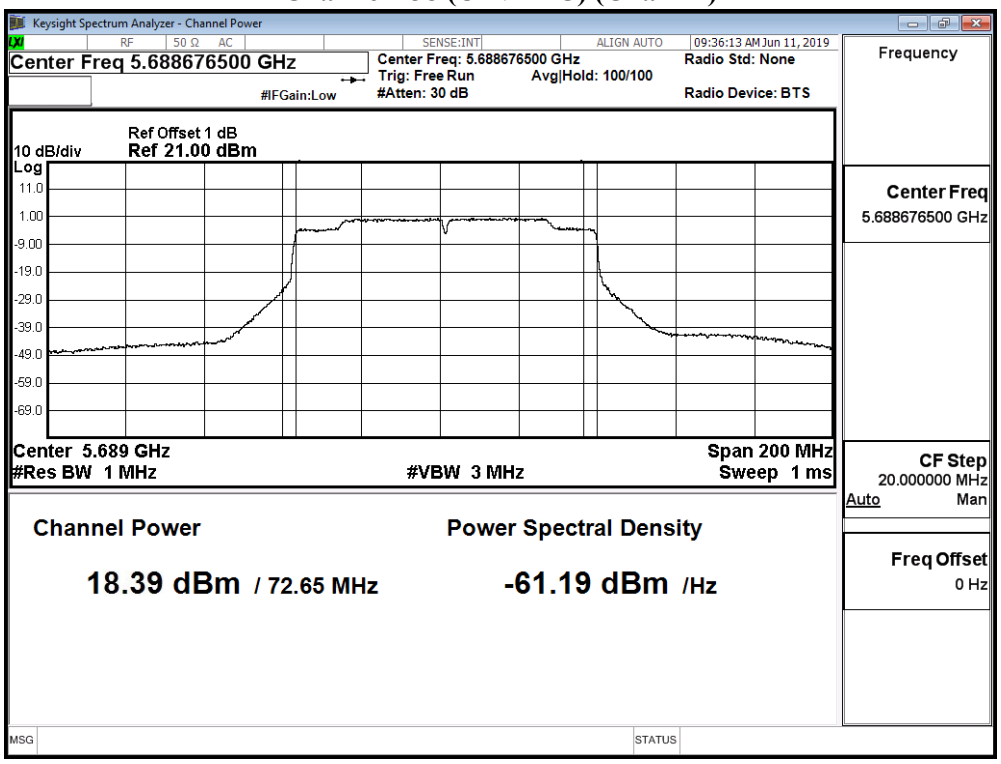


Channel 138 (Chain B)



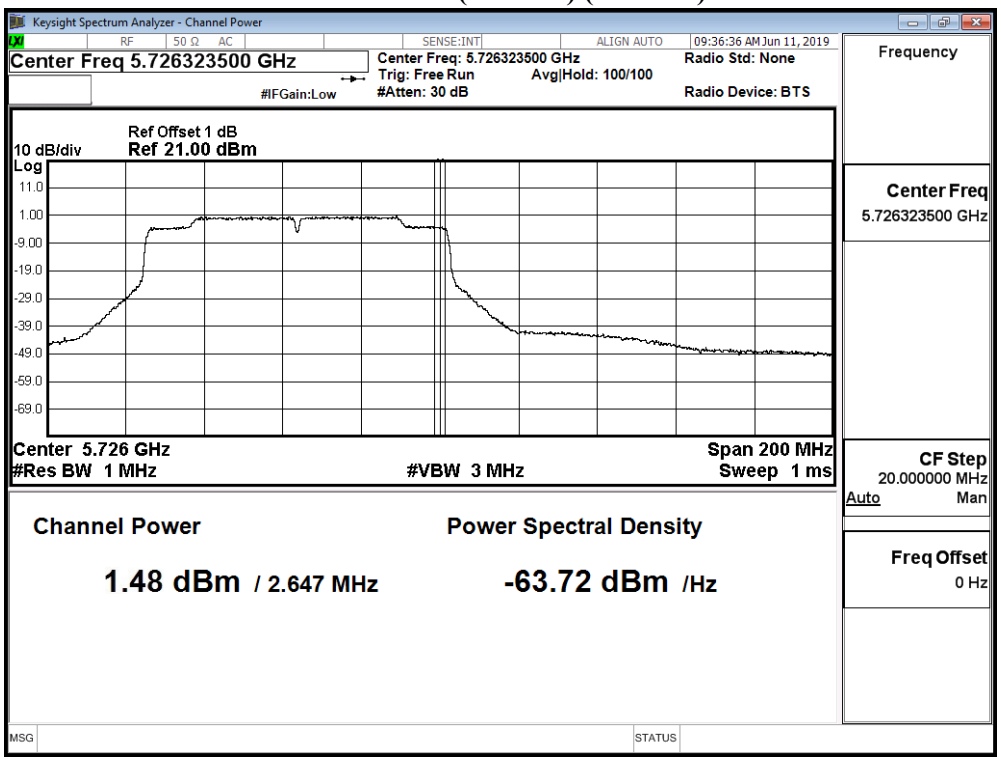
Maximum conducted output power:

Channel 138 (U-NII-2C) (Chain A)



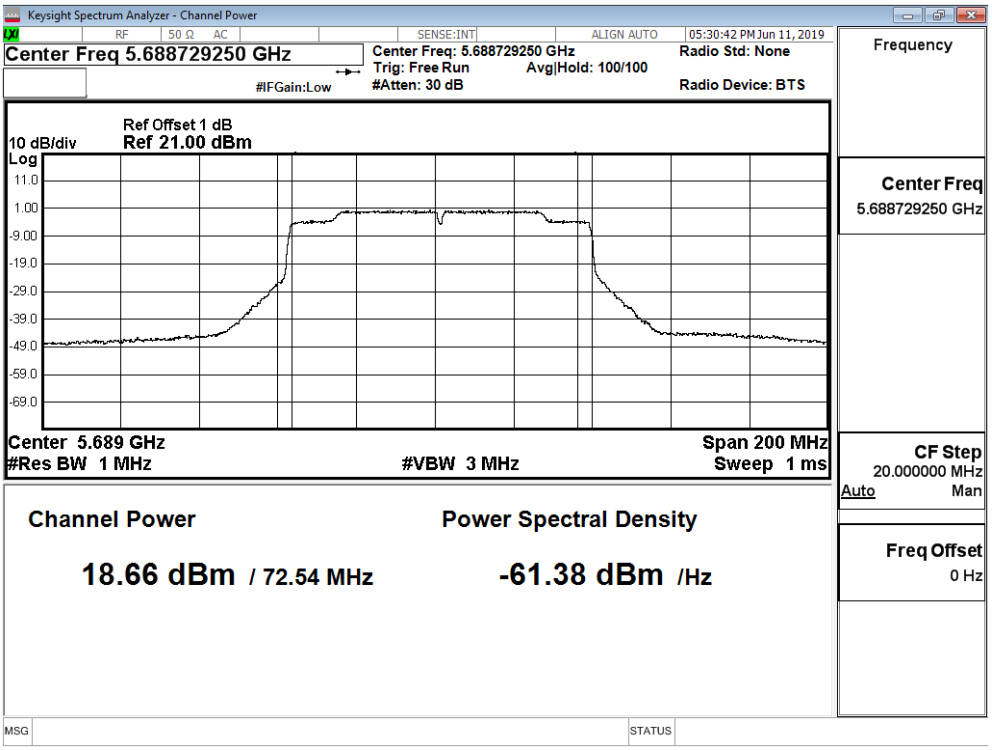
Maximum conducted output power:

Channel 138 (U-NII-3) (Chain A)



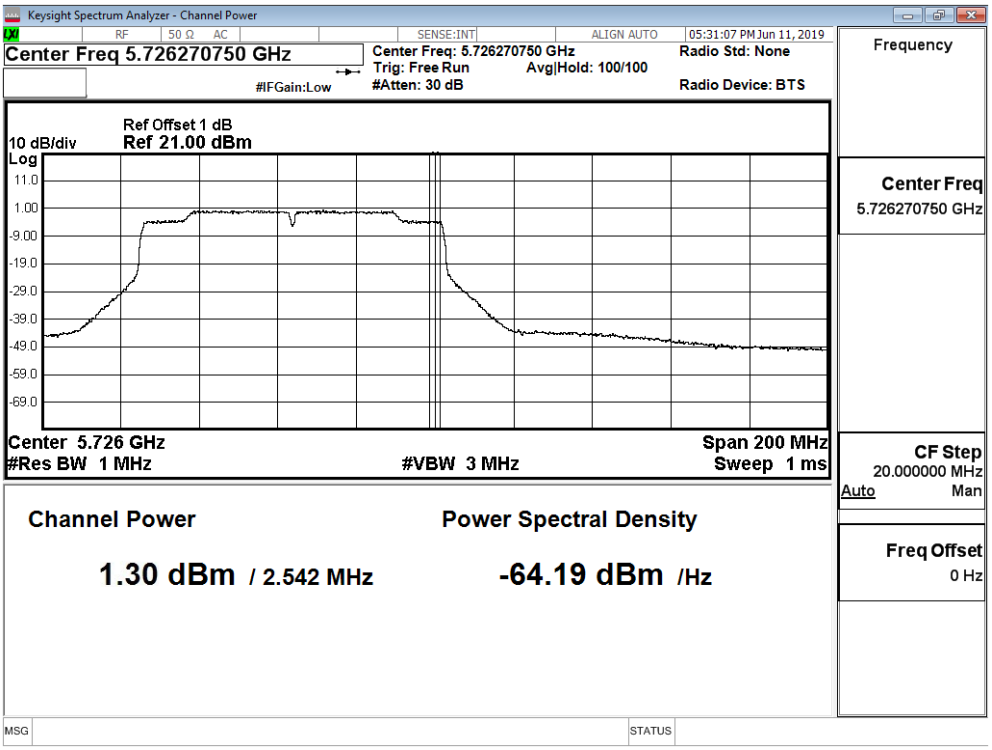
Maximum conducted output power:

Channel 138 (U-NII-2C) (Chain B)



Maximum conducted output power:

Channel 138 (U-NII-3) (Chain B)



Product : Intel® Wi-Fi 6 AX201
Test Item : Maximum conducted output power
Test Date : 2019/06/25
Test Mode : Mode 22 MIMO: Transmit (802.11ac-160BW_130Mbps)

Chain A

Cable loss=1.0dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		130	260	390	520	780	1040	1170	1300	1560	1733.3
50 (U-NII-1)	5250	8.88	8.77	8.63	8.56	8.49	8.41	8.32	8.25	8.13	8.02
50 (U-NII-2A)	5250	8.49	8.36	8.23	8.11	7.98	7.85	7.72	7.61	7.50	7.43
114	5570	11.93	11.79	11.66	11.53	11.41	11.31	11.20	11.09	10.96	10.85

Note: Maximum conducted output power Value =Reading value on Spectrum Analyzer + cable loss

Chain B

Cable loss=1.0dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		130	260	390	520	780	1040	1170	1300	1560	1733.3
50 (U-NII-1)	5250	9.00	8.87	8.80	8.66	8.52	8.45	8.34	8.22	8.10	7.97
50 (U-NII-2A)	5250	8.78	8.70	8.63	8.55	8.42	8.32	8.22	8.09	7.99	7.92
114	5570	12.11	12.00	11.93	11.85	11.76	11.62	11.51	11.40	11.33	11.26

Note: Maximum conducted output power Value =Reading value on Spectrum Analyzer + cable loss

Maximum conducted output power Measurement:

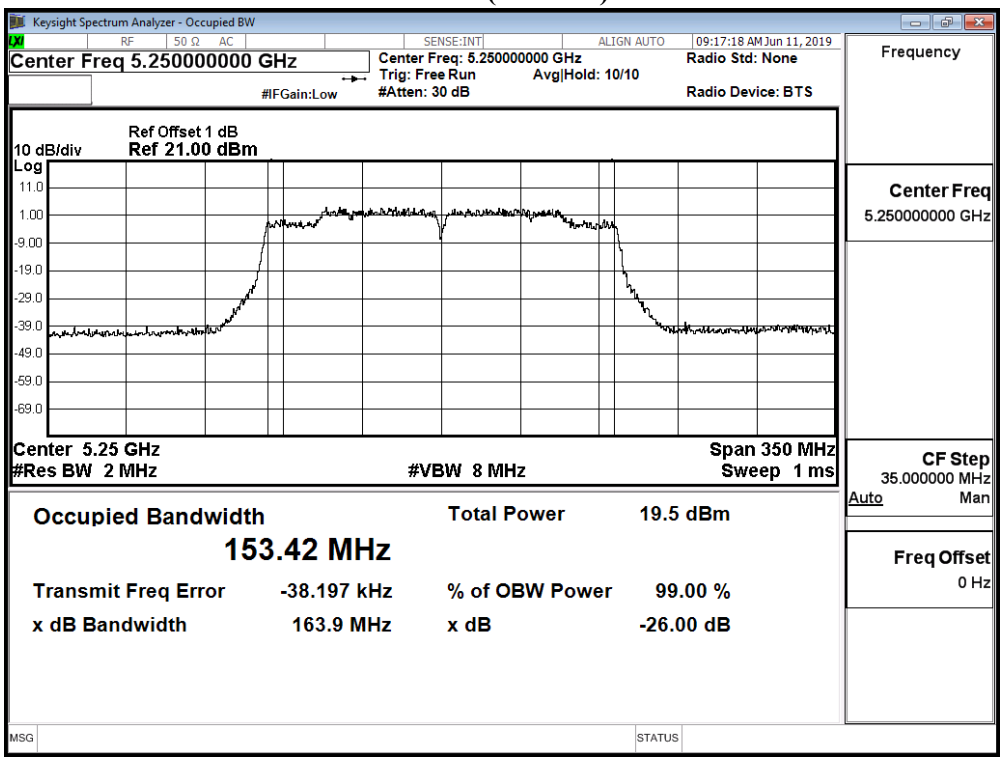
Channel No	Frequency Range (MHz)	99% Bandwidth (MHz)	Chain A Power (dBm)	Chain B Power (dBm)	Output Power (dBm)	Output Power Limit		Result
						(dBm)	dBm+10log(BW)	
50(U-NII-1)	5250	--	8.88	9.00	11.95	24	--	Pass
50(U-NII-2A)	5250	76.560	8.49	8.78	11.65	24	29.84	Pass
114	5570	153.210	11.93	12.11	15.03	24	32.85	Pass

Note:

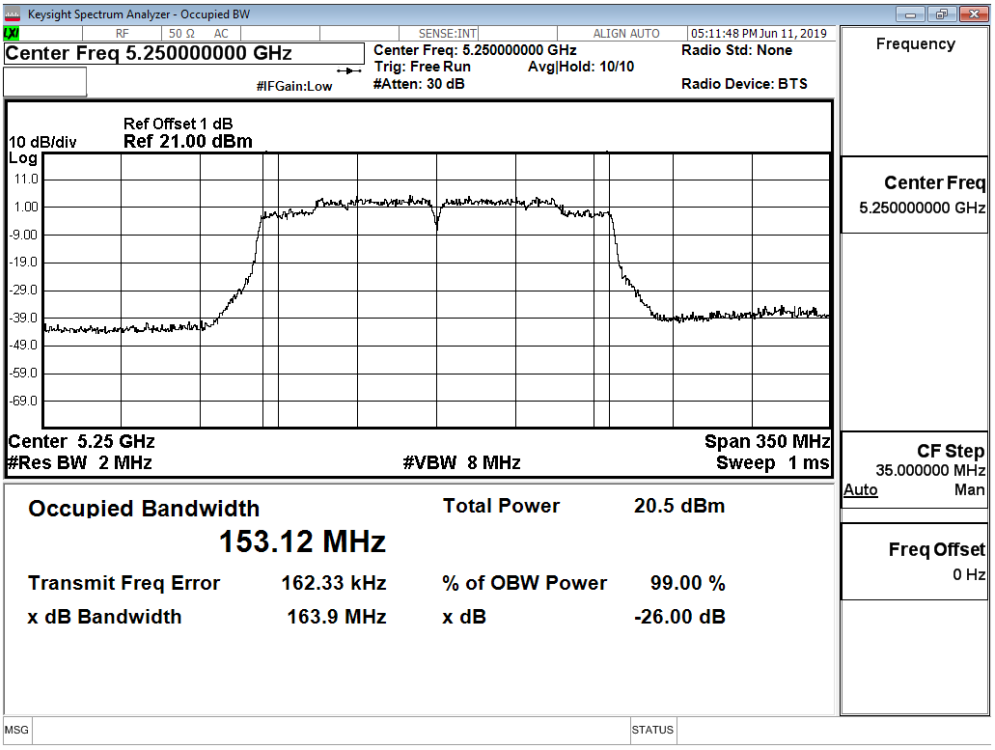
1. Output Power (dBm) = 10LOG (Chain A Power (mW)+ Chain B Power (mW))
2. 99% Bandwidth is the bandwidth of chain A or chain Bwhichever is less bandwidth, output power limitation is more stringent.

99% Occupied Bandwidth:

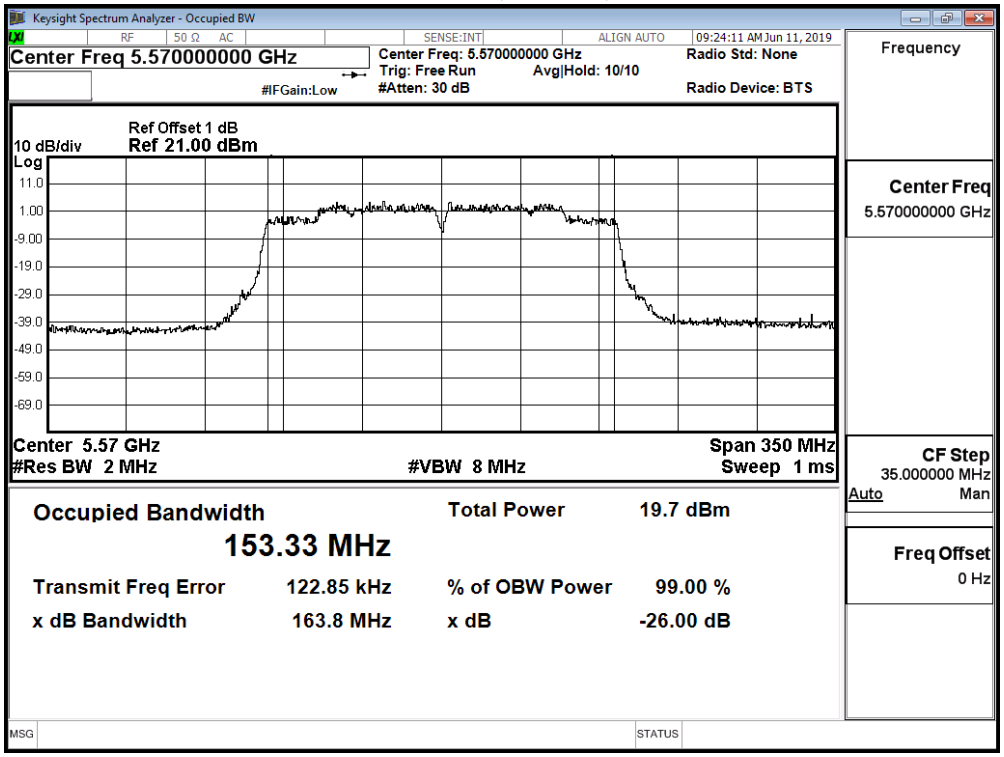
Channel 50 (Chain A)



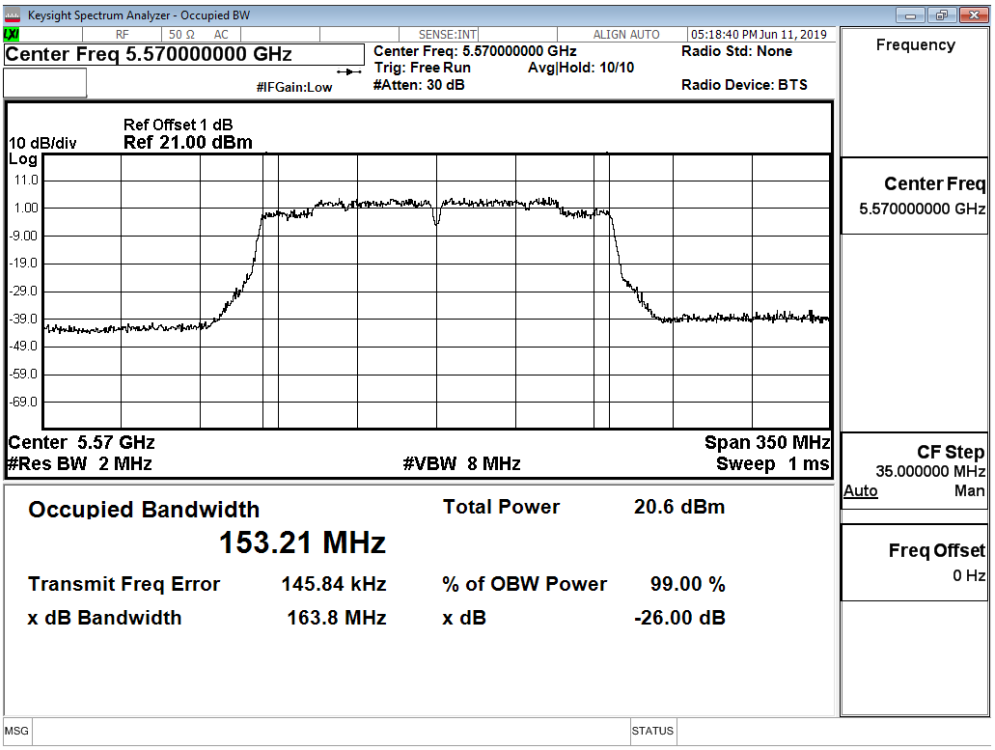
Channel 50 (Chain B)



Channel 114 (Chain A)

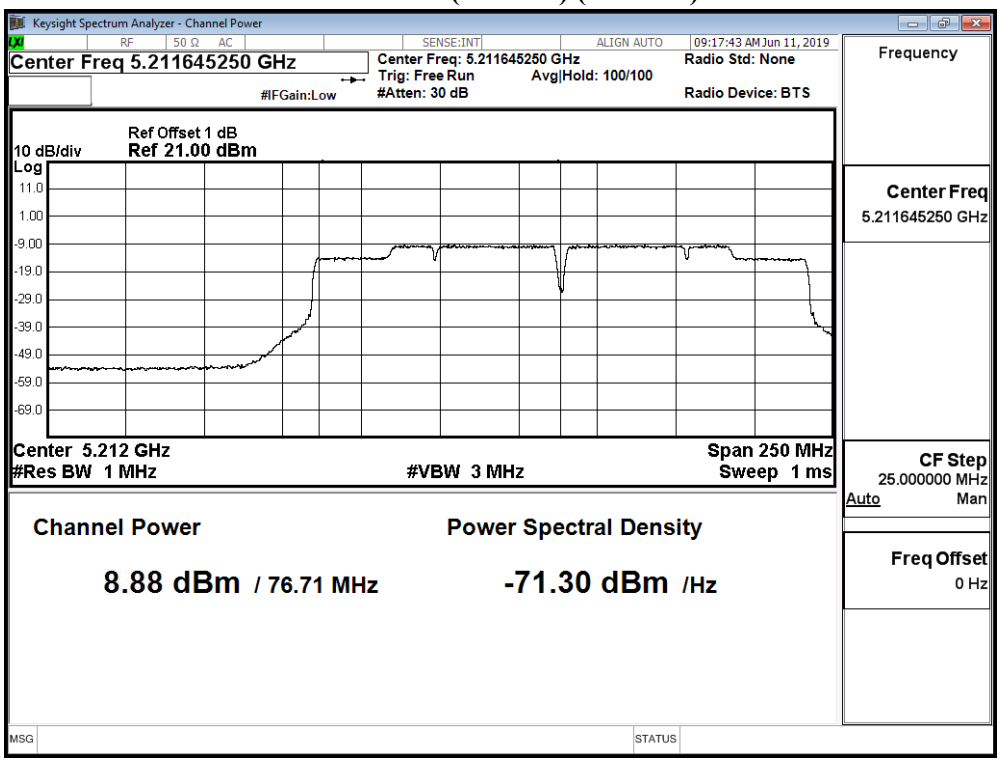


Channel 114 (Chain B)



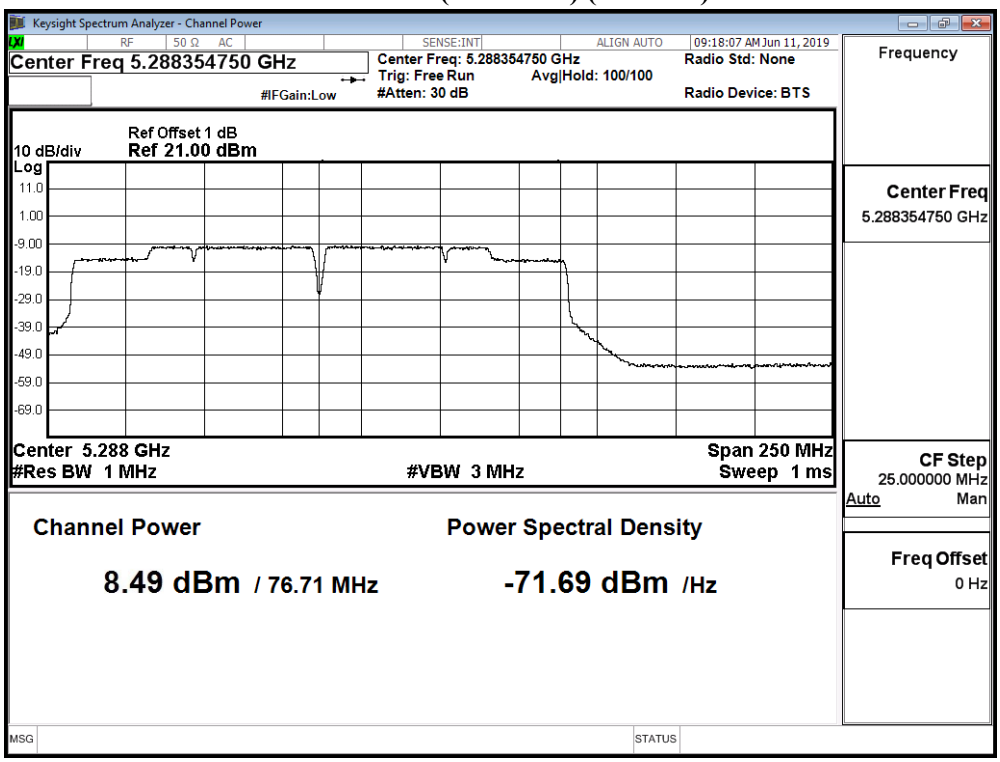
Maximum conducted output power:

Channel 50 (U-NII-1) (Chain A)



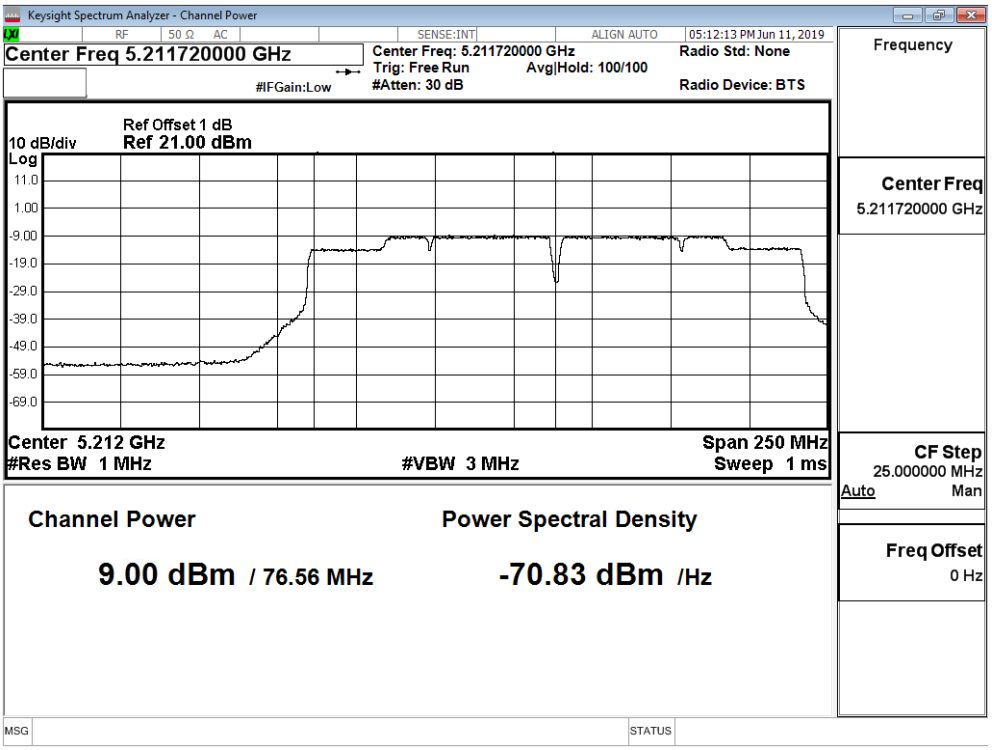
Maximum conducted output power:

Channel 50 (U-NII-2A) (Chain A)



Maximum conducted output power:

Channel 50 (U-NII-1) (Chain B)



Maximum conducted output power:

Channel 50 (U-NII-2A) (Chain B)