

FCC Test Report

Product Name	Notebook Computers
Model No	16T90P,16TD90P,16TG90P,16TB90P
FCC ID	BEJNT-16T90P

Applicant	LG Electronics USA
Address	111 Sylvan Avenue North Building Englewood Cliffs New Jersey United States

Date of Receipt	Nov. 05, 2020
Issued Date	Dec. 09, 2020
Report No.	20B0154R-E3032110126
Report Version	V1.0



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

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Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test Report

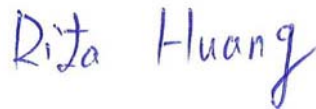
Issued Date: Dec. 09, 2020

Report No.: 20B0154R-E3032110126



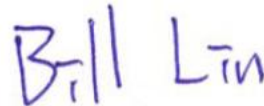
Product Name	Notebook Computers
Applicant	LG Electronics USA
Address	111 Sylvan Avenue North Bulding Englewood Cliffs New Jerssy United States
Manufacturer	LG Electronics Inc.
Model No.	16T90P,16TD90P,16TG90P,16TB90P
FCC ID.	BEJNT-16T90P
EUT Rated Voltage	AC 100-240V, 50-60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	LG
Applicable Standard	FCC CFR Title 47 Part 15 Subpart E ANSI C63.4: 2014, ANSI C63.10: 2013 KDB Publication 789033
Test Result	Complied

Documented By :



(Senior Adm. Specialist / Rita Huang)

Tested By :



(Senior Engineer / Bill Lin)

Approved By :



(Director / Vincent Lin)

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Revision History

Report No.	Version	Description	Issued Date
20B0154R-E3032110126	V1.0	Initial issue of report.	Dec. 09, 2020

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Notebook Computers
Trade Name	LG
FCC ID.	BEJNT-16T90P
Model No.	16T90P,16TD90P,16TG90P,16TB90P
Frequency Range	802.11a/n/ax-20MHz: 5180-5320MHz, 5500-5700MHz, 5720MHz, 5745-5825MHz 802.11n/ax-40MHz: 5190-5310MHz, 5510-5670MHz, 5710MHz, 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 Speed	802.11a: 6 - 54Mbps 802.11n: up to 300Mbps 802.11ac: up to 1733.3Mbps 802.11ax: up to 2402Mbps
Channel Control	Auto
Type of Modulation	802.11a/n/ac/ax: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Antenna type	PIFA Antenna
Antenna Gain	Refer to the table "Antenna List"
Power Adapter	MFR: HONOR, M/N: ADT-65DSU-D03-2 Input: AC 100-240V~50-60Hz 1.6A Output: 20V $\overline{=}$ 3.25A , MAX 65W Cable Out: Non-Shielded, 1.5m Power Cord: Non-Shielded, 1.5m
Contain Module	Intel / AX201D2W

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Yageo	DQ601419201 (Main) DQ601419201 (Aux)	PIFA Antenna	2.80dBi For 5.15~5.25GHz 2.76dBi For 5.25~5.35GHz 2.95dBi For 5.47~5.725GHz 2.70dBi For 5.725~5.825GHz
2	Hong-Bo	260-23807 (Main) 260-23807 (Aux)	PIFA Antenna	-0.19dBi For 5.15~5.25GHz -1.56dBi For 5.25~5.35GHz -0.54dBi For 5.47~5.725GHz -1.40dBi For 5.725~5.825GHz

Note: The antenna of EUT is conform to FCC 15.203

802.11a/n/ax -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 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 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 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 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/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 a Notebook Computers with built-in WLAN and Bluetooth transceiver, this report for WLAN 5GHz.
2. The EUT is including four models for different marketing requirement.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report.
5. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart E for Unlicensed National Information Infrastructure devices.
6. At result of pretests, module supports dual-channel transmission, only the worst case is shown in the report.
7. The SISOA(Chain A) is Aux and SISOB(Chain B) is Main for EUT in this report.

Test item:

	Maximum conducted output power	Peak Power Spectral Density	Occupied Bandwidth	Radiated Emission	Band Edge
SISOA-802.11a	✓	Band4	Band4	Band4	Band4
SISOA-802.11n20	✓				
SISOA-802.11n40	✓				
SISOA-802.11ac80	✓				
SISOA-802.11ac160	✓				
SISOA-802.11ax20	✓	Band4	Band4	Band4	Band4
SISOA-802.11ax40	✓	Band4	Band4	Band4	Band4
SISOA-802.11ax80	✓	Band4	Band4	Band4	Band4
SISOA-802.11ax160	✓				
SISOA-802.11ax20-RU	✓	Band4			
SISOA-802.11ax40-RU	✓	Band4			
SISOA-802.11ax80-RU	✓	Band4			
SISOA-802.11ax160-RU	✓				
SISOB-802.11a	✓	Band1~3		Band1~3	Band1~3
SISOB-802.11n20	✓				
SISOB-802.11n40	✓				
SISOB-802.11ac80	✓				
SISOB-802.11ac160	✓				
SISOB-802.11ax20	✓	Band1~3		Band1~3	Band1~3
SISOB-802.11ax40	✓	Band1~3		Band1~3	Band1~3
SISOB-802.11ax80	✓	Band1~3		Band1~3	Band1~3
SISOB-802.11ax160	✓	Band1~3		Band1~3	Band1~3
SISOB-802.11ax20-RU	✓	Band1~3			
SISOB-802.11ax40-RU	✓	Band1~3			
SISOB-802.11ax80-RU	✓	Band1~3			
SISOB-802.11ax160-RU	✓	Band1~3			
MIMO-802.11n20	✓	✓			
MIMO-802.11n40	✓	✓			
MIMO-802.11ac80	✓	✓			
MIMO-802.11ac160	✓	✓			
MIMO-802.11ax20	✓	✓	✓	✓	✓
MIMO-802.11ax40	✓	✓	✓	✓	✓
MIMO-802.11ax80	✓	✓	✓	✓	✓
MIMO-802.11ax160	✓	✓		✓	✓
MIMO-802.11ax20-RU	✓	✓			
MIMO-802.11ax40-RU	✓	✓			
MIMO-802.11ax80-RU	✓	✓			
MIMO-802.11ax160-RU	✓	✓			

Note:

1. The EUT applies to SISOA 、SISOB and MIMO mode. Each mode through the pretest, only the worst case (Please see Test item table) are shown in the test report.
2. RU config settings, please refer to each test item data.

Test Mode (5GHz)	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)

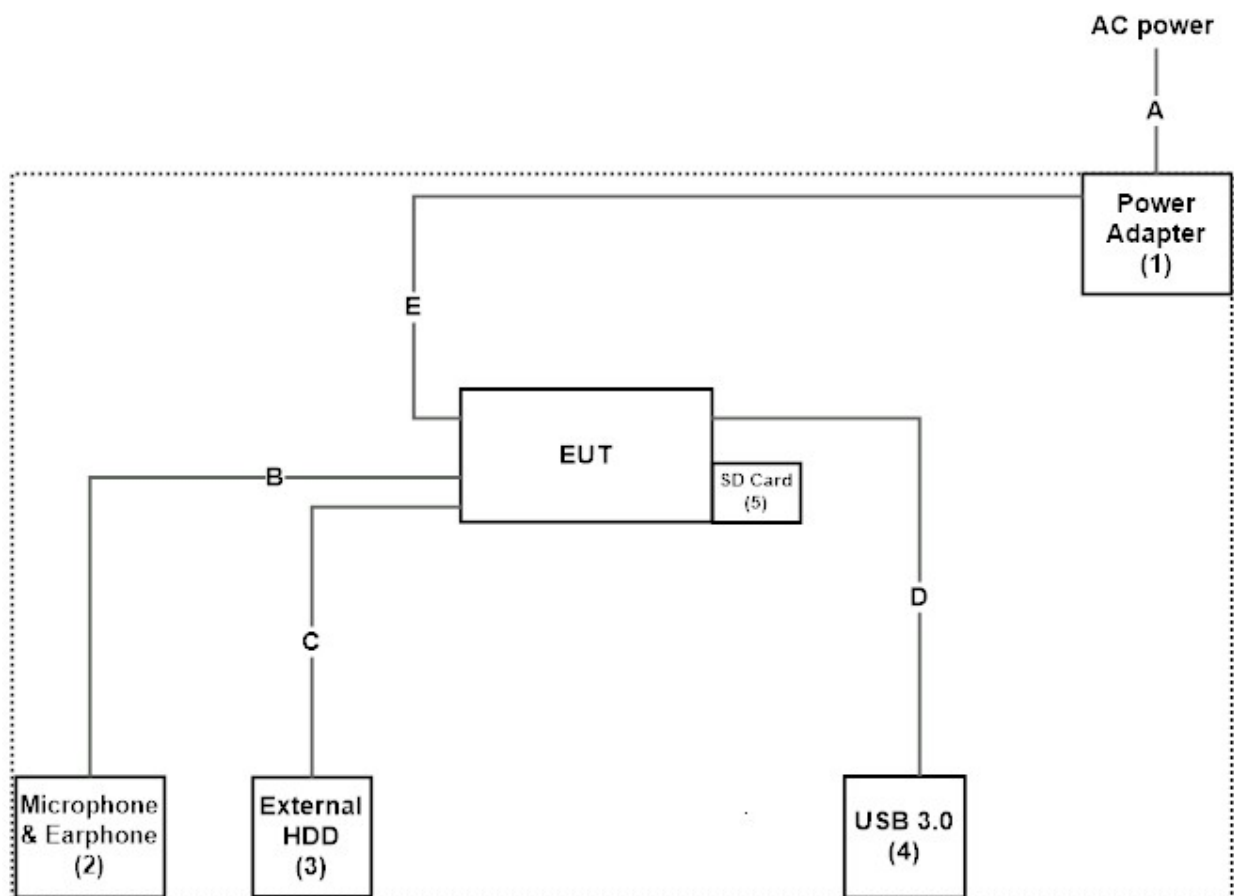
1.2. Tested System Details

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

	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Power Adapter	HONOR	ADT-65DSU-D03-2	EAY65895911	Non-Shielded, 1.5m
2	Microphone & Earphone	PCHOME	N/A	N/A	N/A
3	External HDD	SanDisk	SanDisk Extreme 900	N/A	N/A
4	USB 3.0	Transcend	TS1TSJ25M3	D468623809	N/A
5	SD Card	Apacer	64GB R85	N/A	N/A

Signal Cable Type		Signal cable Description
A	Power Cable	Non-Shielded, 1.5m
B	Microphone & Earphone Cable	Non-Shielded, 1.2m
C	USB Cable	Shielded, 0.5m
D	USB Cable	Shielded, 0.4m
E	Power Cable	Non-Shielded, 1.5m

1.3. Configuration of tested System



1.4. EUT Exercise Software

1. Setup the EUT as shown in Section 1.3.
2. Execute software “DRTU Ver.11.1941.0-10270” on the EUT.
3. Configure the test mode, the test channel, and the data rate.
4. Press “OK” to start the continuous Transmit.
5. Verify that the EUT works properly.

1.5. Test Facility

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	10~40 °C	21.8 °C
	Humidity (%RH)	10~90 %	62.9 %
Radiated Emission	Temperature (°C)	10~40 °C	22.2 °C
	Humidity (%RH)	10~90 %	58.5 %
Conductive	Temperature (°C)	10~40 °C	23.1 °C
	Humidity (%RH)	10~90 %	55.7%

USA : FCC Registration Number: TW0023

Canada : IC Registration Number: 25880

Site Description : Accredited by TAF
Accredited Number: 3023

Test Laboratory : DEKRA Testing and Certification Co., Ltd
Address : No.159, Sec. 2, Wenhua 1st Rd., Linkou Dist.,
New Taipei City 24457, Taiwan, R.O.C.
Phone number : 886-2-2602-7968
Fax number : 866-2-2602-3286
Email address : info.tw@dekra.com
Website : <http://www.dekra.com.tw>

1.6. List of Test Equipment

For Conduction measurements /ASR1

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	EMI Test Receiver	R&S	ESR7	101601	2020.05.28	2021.05.27
X	Two-Line V-Network	R&S	ENV216	101306	2020.03.25	2021.03.24
X	Two-Line V-Network	R&S	ENV216	101307	2020.04.17	2021.04.16
X	Coaxial Cable	DEKRA	RG400 BNC	RF001	2020.05.24	2021.05.23

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 : DEKRA Testing System V2.0.

For Conducted measurements /ASR2

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Spectrum Analyzer	R&S	FSV30	103464	2020.02.11	2021.02.10
X	Power Meter	Anritsu	ML2496A	1548003	2019.12.17	2020.12.16
X	Power Sensor	Anritsu	MA2411B	1531024	2019.12.17	2020.12.16
X	Power Sensor	Anritsu	MA2411B	1531025	2019.12.17	2020.12.16

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 : DEKRA Conduction Test System V9.0.5.

For Radiated measurements /ACB1

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Loop Antenna	AMETEK	HLA6121	49611	2020.03.16	2021.03.15
X	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-953	2020.01.03	2021.01.02
X	Horn Antenna	ETS-Lindgren	3117	00203800	2019.12.12	2020.12.11
X	Horn Antenna	Com-Power	AH-840	101087	2020.06.08	2021.06.07
X	Pre-Amplifier	EMCI	EMC001330	980316	2020.06.23	2021.06.22
X	Pre-Amplifier	EMCI	EMC051845SE	SN980632	2020.08.21	2021.08.20
X	Pre-Amplifier	EMCI	EMC184045SE	980314	2020.06.10	2021.06.09
X	Filter	MICRO-TRONICS	BRM50702	G270	2020.08.17	2021.08.16
X	Filter	MICRO-TRONICS	BRM50716	G196	2020.08.17	2021.08.16
X	EMI Test Receiver	R&S	ESR7	101602	2019.12.16	2020.12.15
X	Spectrum Analyzer	R&S	FSV40	101148	2020.03.16	2021.03.15
X	Coaxial Cable	SUHNER	SUCOFLEX 106	RF002	2020.07.03	2021.07.02
X	Mircoflex Cable	HUBER SUHNER	SUCOFLEX 102	MY3381/2	2020.06.10	2021.06.09

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 : DEKRA Testing System V2.0.

1.7. Uncertainty

Uncertainties have been calculated according to the DEKRA internal document, and is described in each test chapter of this report.

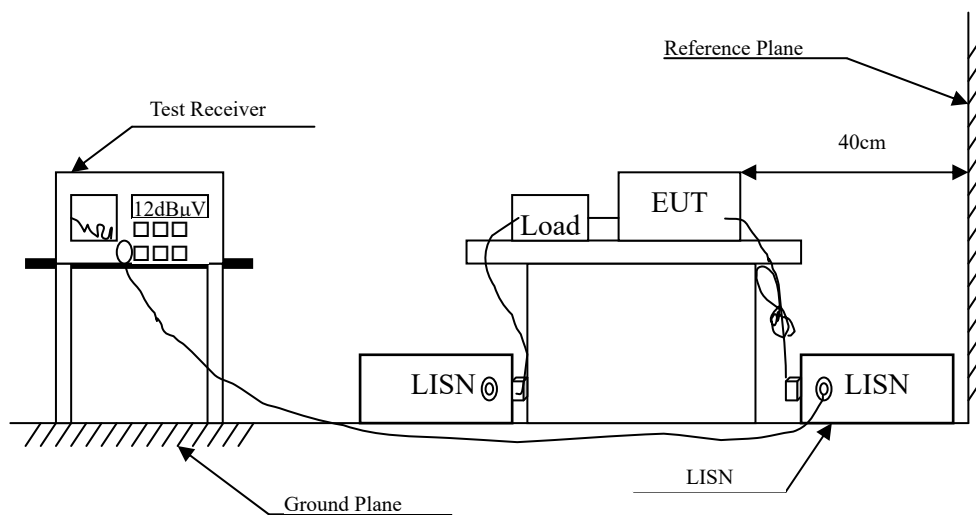
The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95%.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test item	Uncertainty	
Conducted Emission	± 3.42 dB	
Maximun conducted output power	Power Meter ± 0.91 dB	
Peak Power Spectral Density	± 2.53 dB	
Radiated Emission	Under 1GHz ± 4.06 dB	Above 1GHz ± 3.73 dB
Band Edge	± 2.53 dB	
Occupied Bandwidth	± 682.83 Hz	
Duty Cycle	± 2.31 ms	

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBμV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

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

2.3. Test Procedure

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

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4:2014 on conducted measurement.

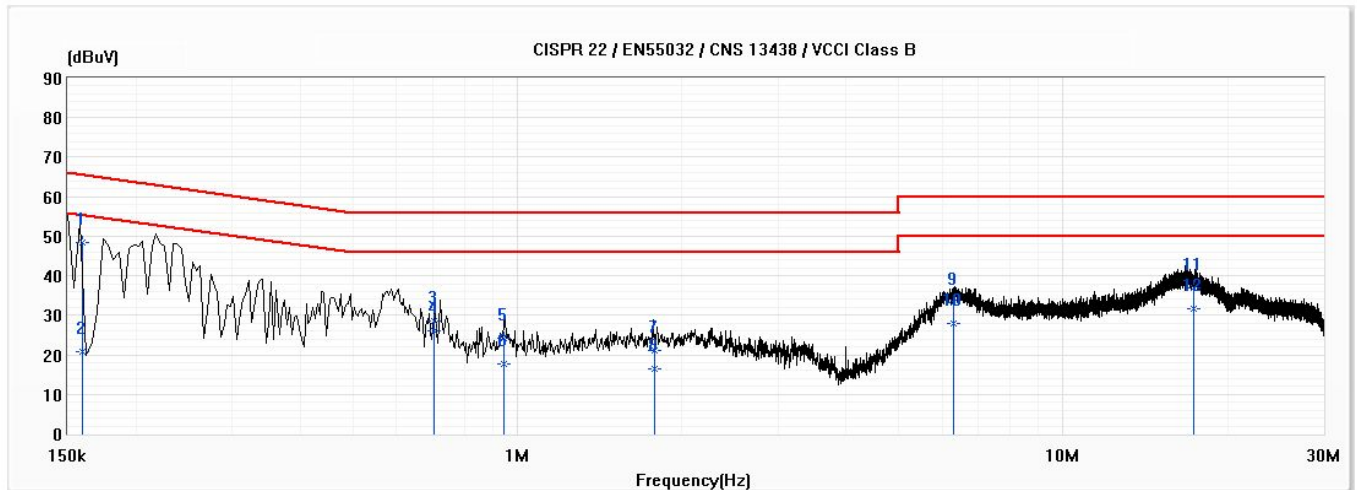
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

The EUT was setup to ANSI C63.4, 2014; tested to UNII test procedure of FCC KDB-789033 for compliance to FCC 47CFR Subpart E requirements.

2.4. Test Result of Conducted Emission

Product : Notebook Computers
 Test Item : Conducted Emission Test
 Test date : 2020/12/09
 Test Mode : Mode 26: MIMO: Transmit (802.11ax-160BW_144.1Mbps) (5250MHz)

Line1



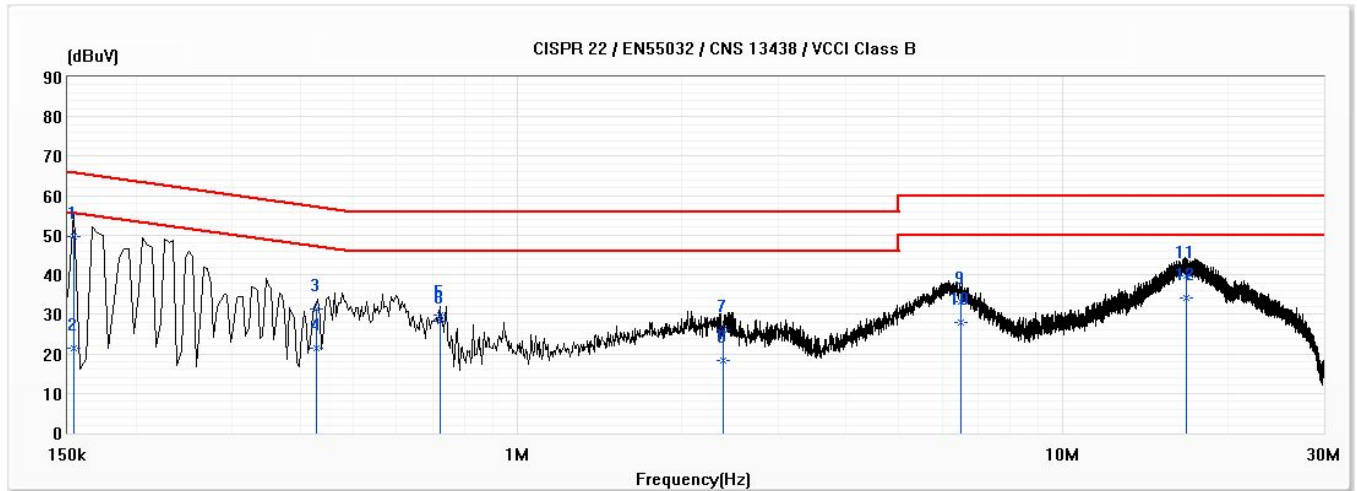
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
*1	0.160	48.47	65.48	-17.00	38.82	9.66	QP
2	0.160	20.87	55.48	-34.61	11.21	9.66	AV
3	0.705	28.44	56.00	-27.56	18.77	9.68	QP
4	0.705	25.95	46.00	-20.05	16.27	9.68	AV
5	0.943	24.34	56.00	-31.66	14.65	9.69	QP
6	0.943	17.76	46.00	-28.24	8.07	9.69	AV
7	1.780	21.10	56.00	-34.90	11.39	9.71	QP
8	1.780	16.42	46.00	-29.58	6.70	9.71	AV
9	6.290	33.10	60.00	-26.90	23.27	9.82	QP
10	6.290	27.99	50.00	-22.01	18.17	9.82	AV
11	17.338	36.93	60.00	-23.07	26.97	9.95	QP
12	17.338	31.62	50.00	-18.38	21.66	9.95	AV

Remark:

1. "*" means this data is the worst emission level; "!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=LISN Factor+Cable Loss).
3. Margin=Emission Level-Limit

Product : Notebook Computers
 Test Item : Conducted Emission Test
 Test date : 2020/12/09
 Test Mode : Mode 26: MIMO: Transmit (802.11ax-160BW_144.1Mbps) (5250MHz)

N



No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.154	49.59	65.78	-16.19	39.92	9.67	QP
2	0.154	21.41	55.78	-34.38	11.74	9.67	AV
3	0.428	31.22	57.29	-26.08	21.55	9.67	QP
4	0.428	21.49	47.29	-25.81	11.82	9.67	AV
5	0.723	29.83	56.00	-26.17	20.15	9.68	QP
6	0.723	28.33	46.00	-17.67	18.65	9.68	AV
7	2.381	25.96	56.00	-30.04	16.22	9.74	QP
8	2.381	18.32	46.00	-27.68	8.58	9.74	AV
9	6.488	33.34	60.00	-26.66	23.50	9.83	QP
10	6.488	27.89	50.00	-22.11	18.05	9.83	AV
11	16.785	39.81	60.00	-20.19	29.79	10.01	QP
*12	16.785	34.28	50.00	-15.72	24.27	10.01	AV

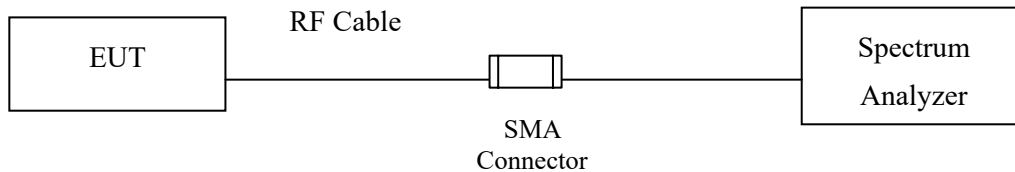
Remark:

1. "*" means this data is the worst emission level; "!" means this data is over limit.
2. Emission Level=Reading Level + Correct Factor(Correct Factor=LISN Factor+Cable Loss).
3. Margin=Emission Level-Limit

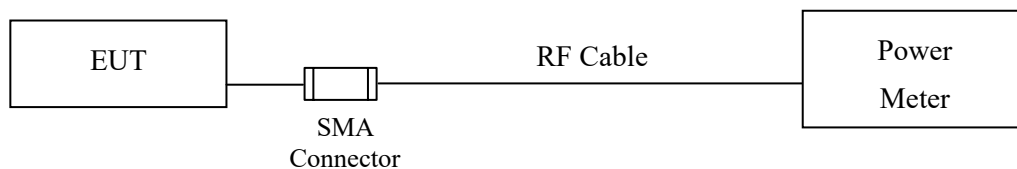
3. Maximun conducted output power

3.1. Test Setup

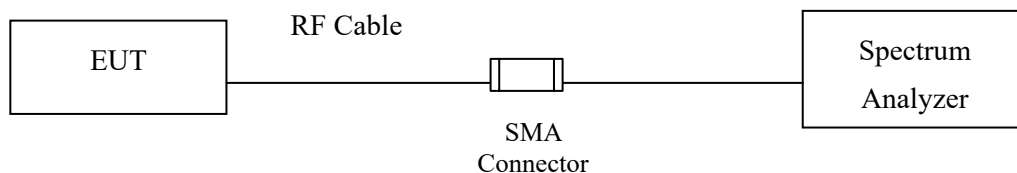
26dB Occupied Bandwidth



Conduction Power Measurement (for 802.11an)



Conduction Power Measurement (for 802.11ac)



3.2. Limits

3.2.1. 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-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

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

3.2.2. 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 $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.2.3. 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.

3.3. 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 ($BW \leq 40\text{MHz}$) 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 ($BW=80\text{MHz}$) Maximum conducted output power using KDB 789033 section E)2)b)
Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep).

When transmitted signals consist of two or more non-contiguous spectrum segments (e.g., 80+80 MHz mode) or when a single spectrum segment of a transmission crosses the boundary between two adjacent U-NII bands, KDB 644545 D03 section D) procedure is used for measurements.

3.4. Test Result of Maximum conducted output power

Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 1 SISO A: Transmit (802.11a_6Mbps)

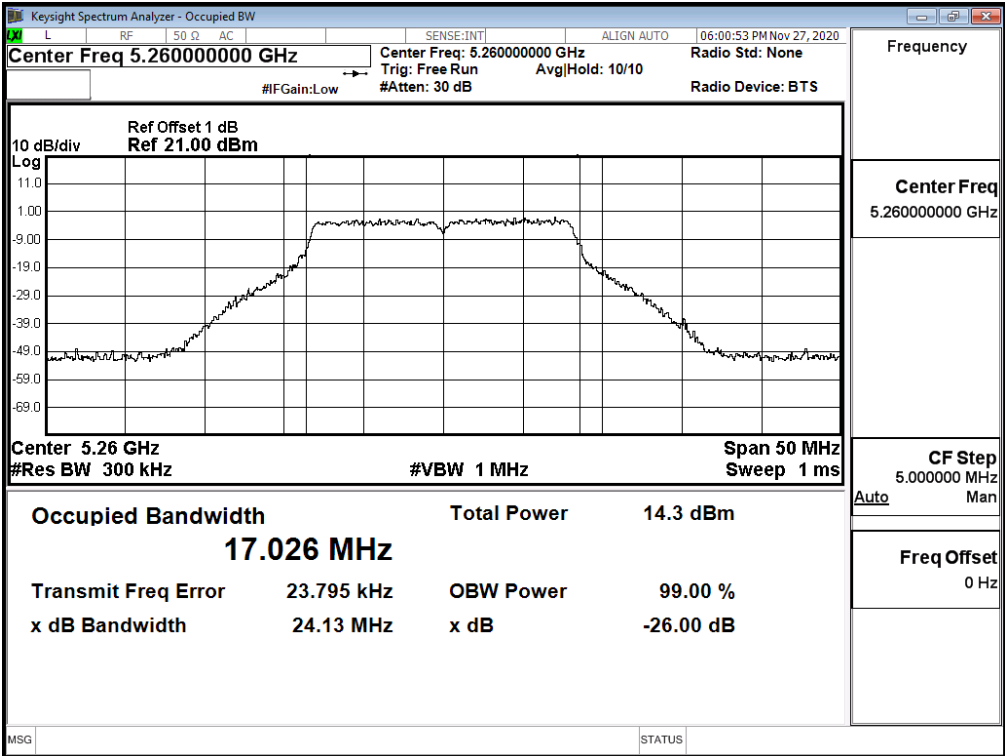
Cable loss=1dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
		Measurement Level (dBm)							
36	5180	7.51	--	--	--	--	--	--	--
44	5220	7.55	7.52	7.45	7.40	7.33	7.30	7.20	7.11
48	5240	7.52	--	--	--	--	--	--	--
52	5260	7.53	--	--	--	--	--	--	--
60	5300	7.56	7.53	7.43	7.40	7.37	7.31	7.21	7.15
64	5320	7.57	--	--	--	--	--	--	--
100	5500	7.40	--	--	--	--	--	--	--
116	5580	7.46	7.42	7.32	7.24	7.21	7.13	7.06	6.99
140	5700	7.48	--	--	--	--	--	--	--
149	5745	10.87	--	--	--	--	--	--	--
157	5785	10.94	10.84	10.77	10.68	10.58	10.51	10.42	10.35
165	5825	10.81	--	--	--	--	--	--	--

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

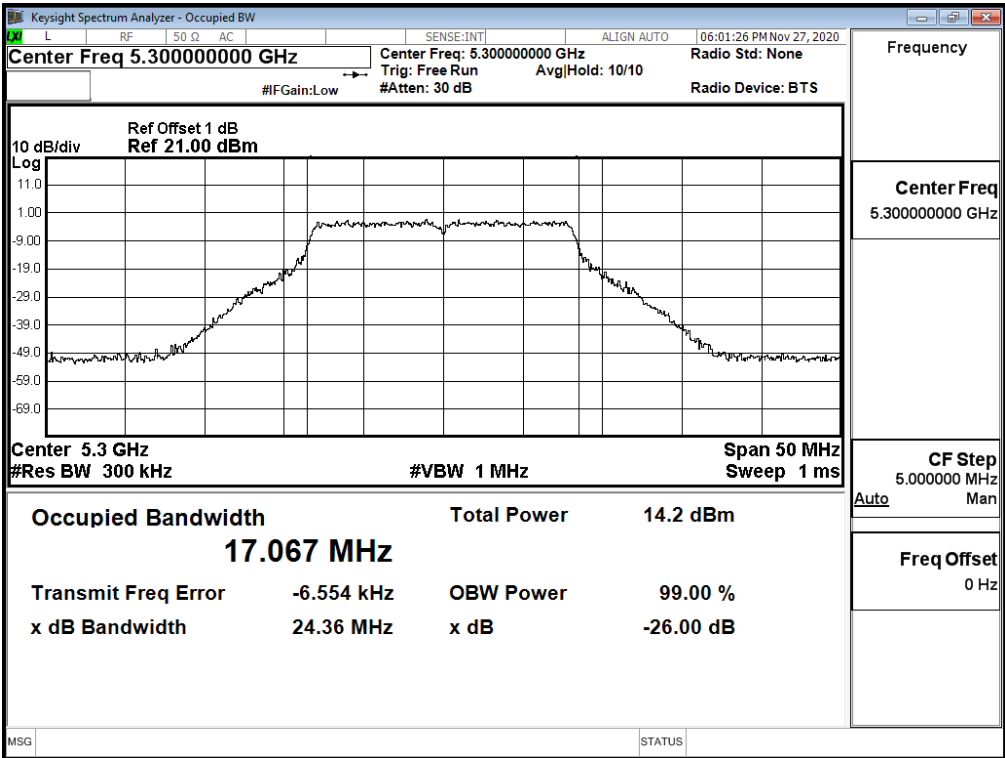
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
36	5180	--	7.51	24	--	Pass
44	5220	--	7.55	24	--	Pass
48	5240	--	7.52	24	--	Pass
52	5260	24.130	7.53	24	24.83	Pass
60	5300	24.360	7.56	24	24.87	Pass
64	5320	23.390	7.57	24	24.69	Pass
100	5500	24.310	7.40	24	24.86	Pass
116	5580	24.200	7.46	24	24.84	Pass
140	5700	24.210	7.48	24	24.84	Pass
149	5745	--	10.87	30	--	Pass
157	5785	--	10.94	30	--	Pass
165	5825	--	10.81	30	--	Pass

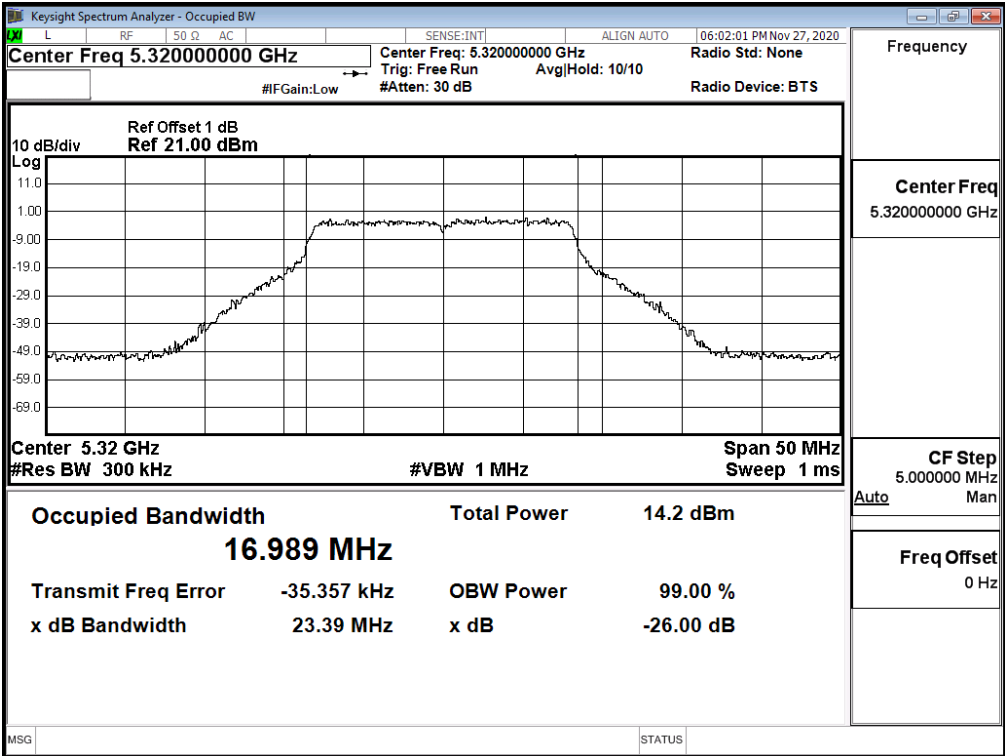
26dB Occupied Bandwidth:
Channel 52



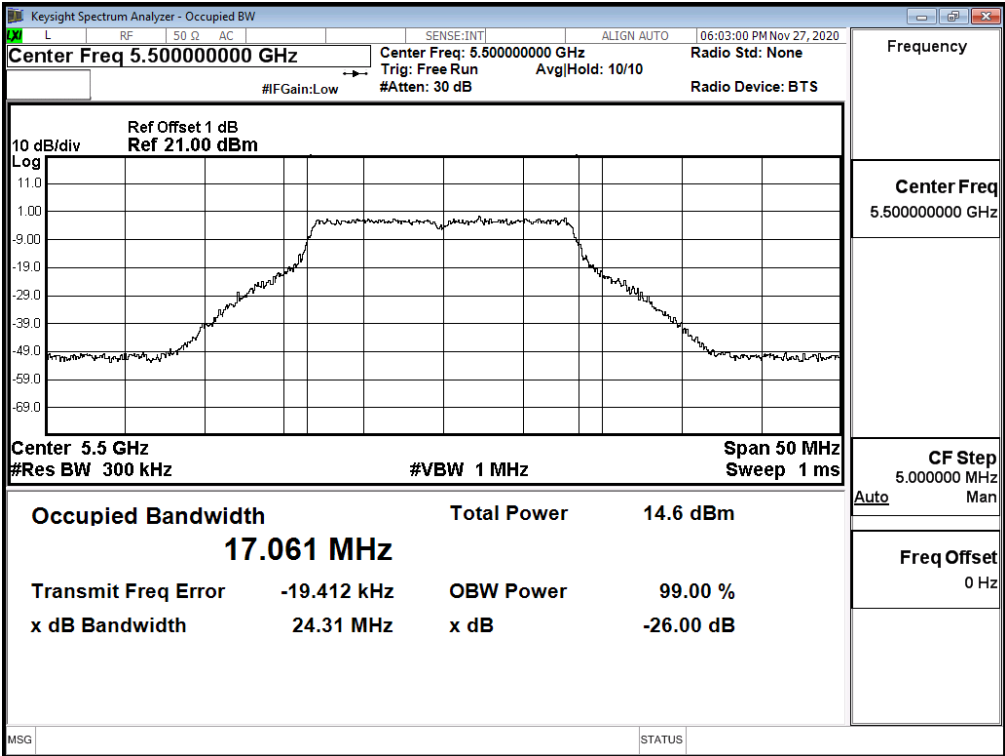
Channel 60



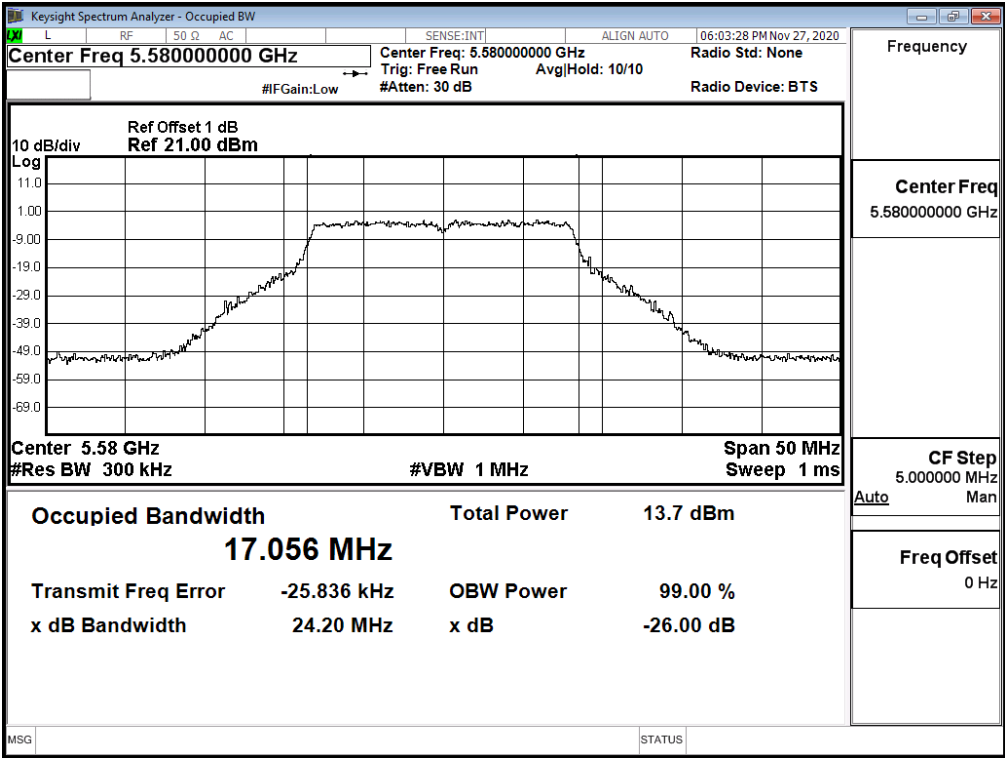
Channel 64



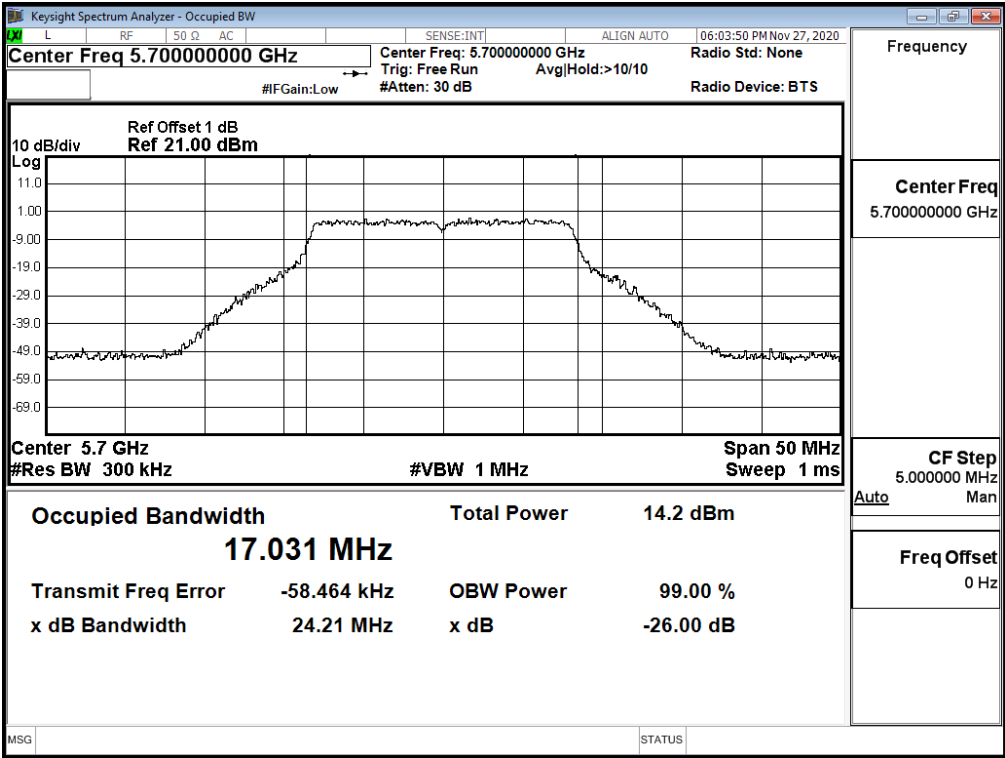
Channel 100



Channel 116



Channel 140



Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 2 SISO A: Transmit (802.11n-20BW_7.2Mbps)

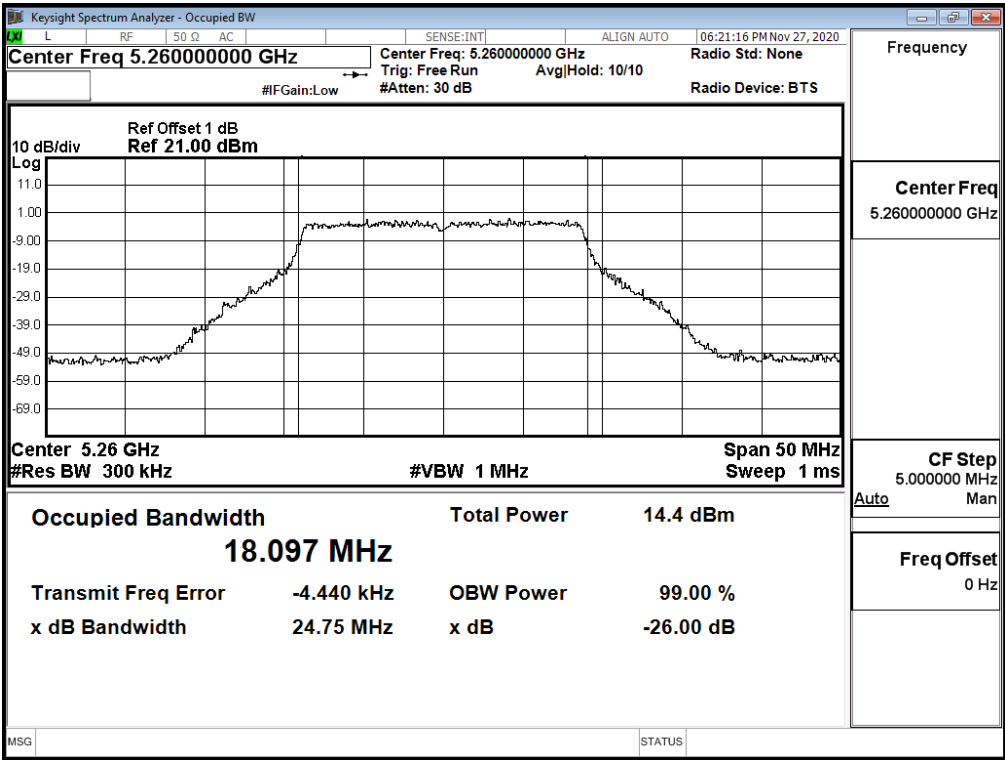
Cable loss=1dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		HT0	HT1	HT2	HT3	HT4	HT5	HT6	HT7
		Measurement Level (dBm)							
36	5180	7.85	--	--	--	--	--	--	--
44	5220	7.53	7.48	7.42	7.32	7.24	7.20	7.17	7.12
48	5240	7.64	--	--	--	--	--	--	--
52	5260	7.86	--	--	--	--	--	--	--
60	5300	7.53	7.46	7.38	7.28	7.24	7.17	7.09	7.03
64	5320	7.52	--	--	--	--	--	--	--
100	5500	7.42	--	--	--	--	--	--	--
116	5580	7.48	7.38	7.33	7.23	7.14	7.11	7.04	7.01
140	5700	7.47	--	--	--	--	--	--	--
144(Band3)	5720	6.40	6.34	6.29	6.19	6.09	6.02	5.99	5.94
144(Band4)	5720	0.68	0.65	0.59	0.52	0.44	0.37	0.30	0.26
149	5745	10.90	--	--	--	--	--	--	--
157	5785	10.84	10.77	10.73	10.66	10.62	10.55	10.52	10.45
165	5825	10.97	--	--	--	--	--	--	--

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

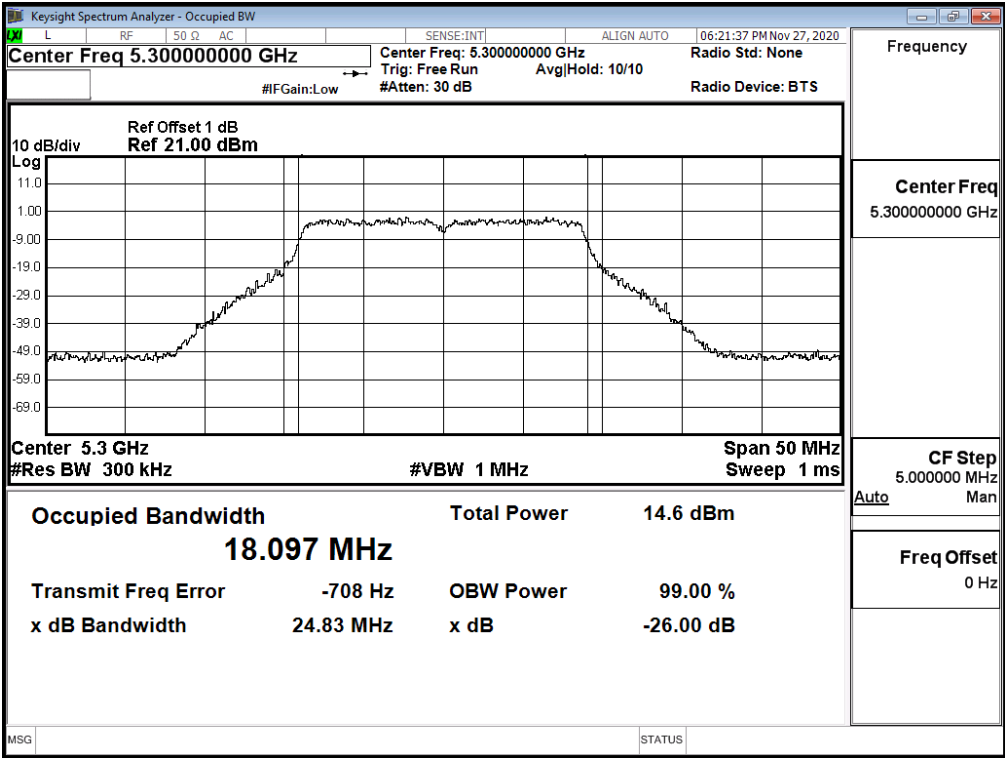
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
36	5180	--	7.85	24	--	Pass
44	5220	--	7.53	24	--	Pass
48	5240	--	7.64	24	--	Pass
52	5260	24.750	7.86	24	24.94	Pass
60	5300	24.830	7.53	24	24.95	Pass
64	5320	24.710	7.52	24	24.93	Pass
100	5500	24.320	7.42	24	24.86	Pass
116	5580	24.160	7.48	24	24.83	Pass
140	5700	24.310	7.47	24	24.86	Pass
144(Band3)	5720	16.850	6.40	24	23.27	Pass
144(Band4)	5720	--	0.68	30	--	Pass
149	5745	--	10.90	30	--	Pass
157	5785	--	10.84	30	--	Pass
165	5825	--	10.97	30	--	Pass

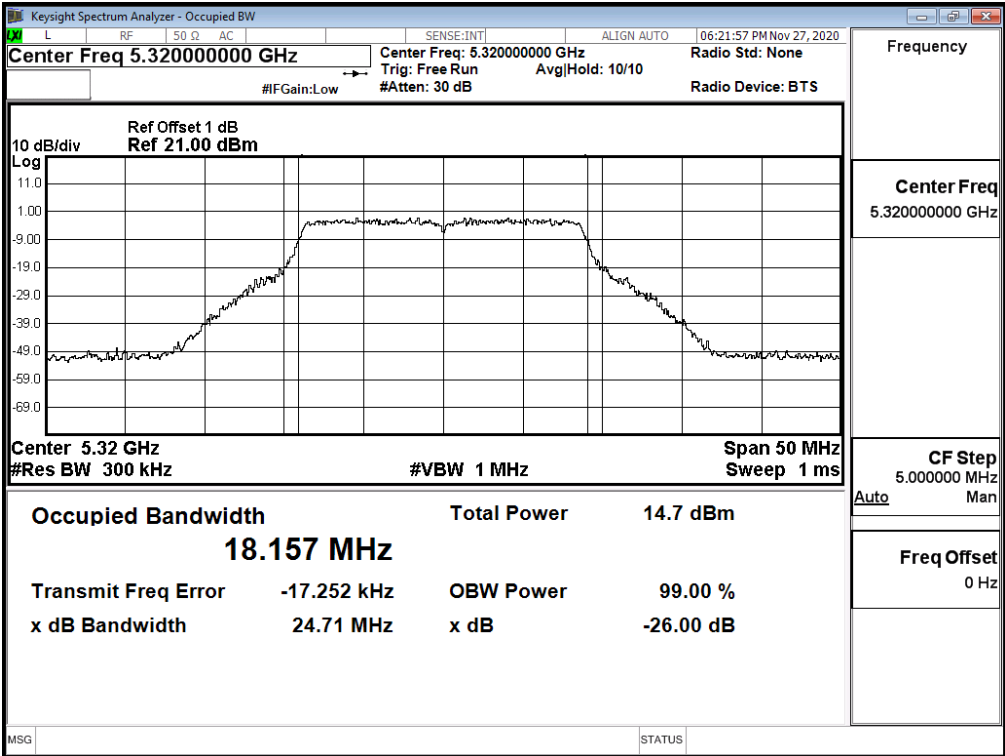
26dB Occupied Bandwidth:
Channel 52



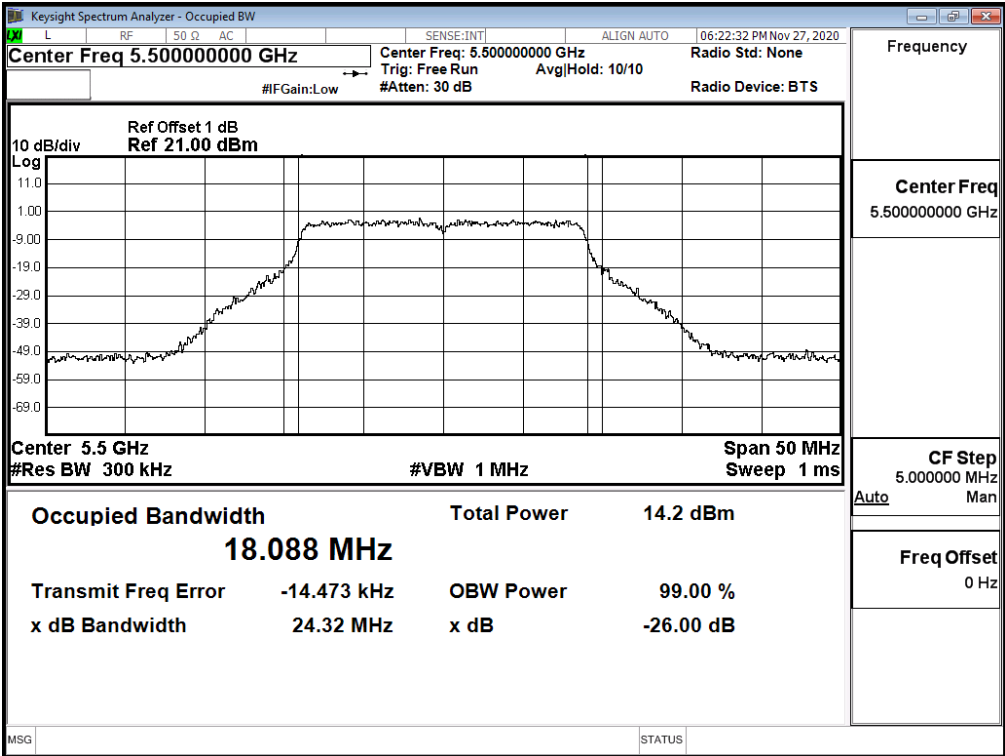
Channel 60



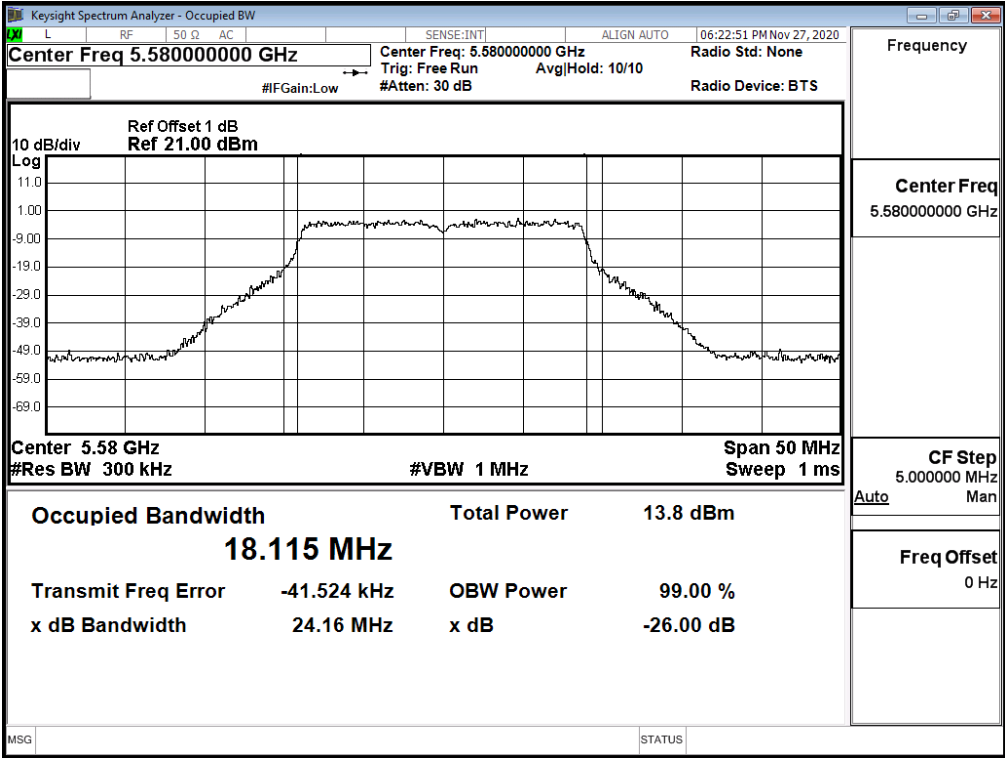
Channel 64



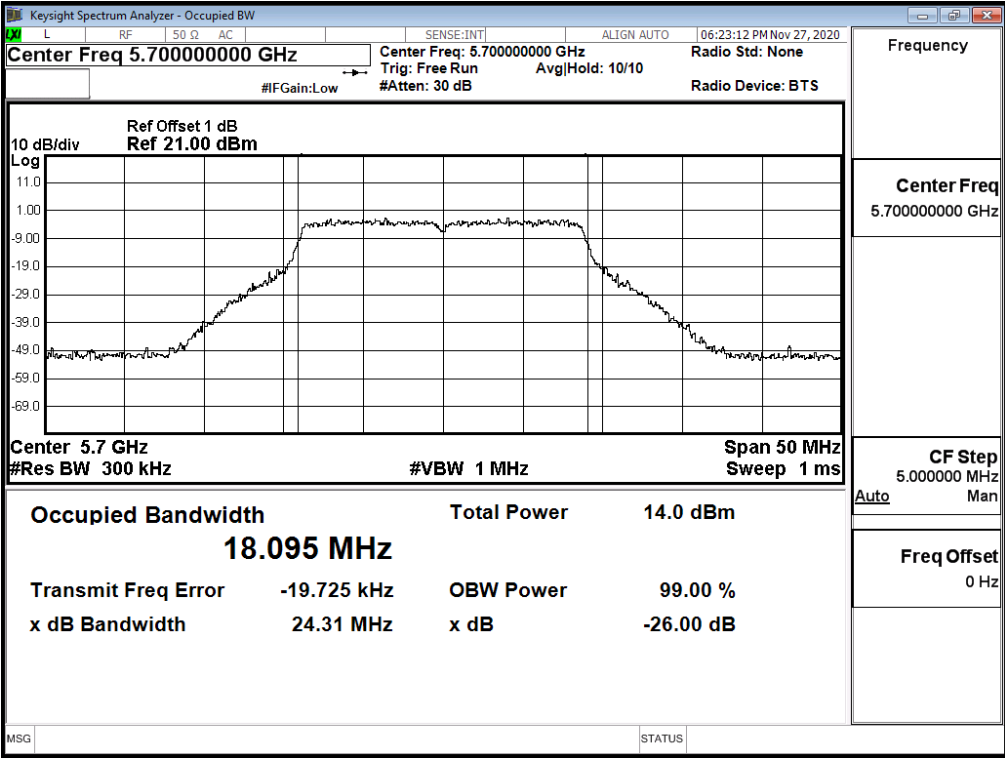
Channel 100



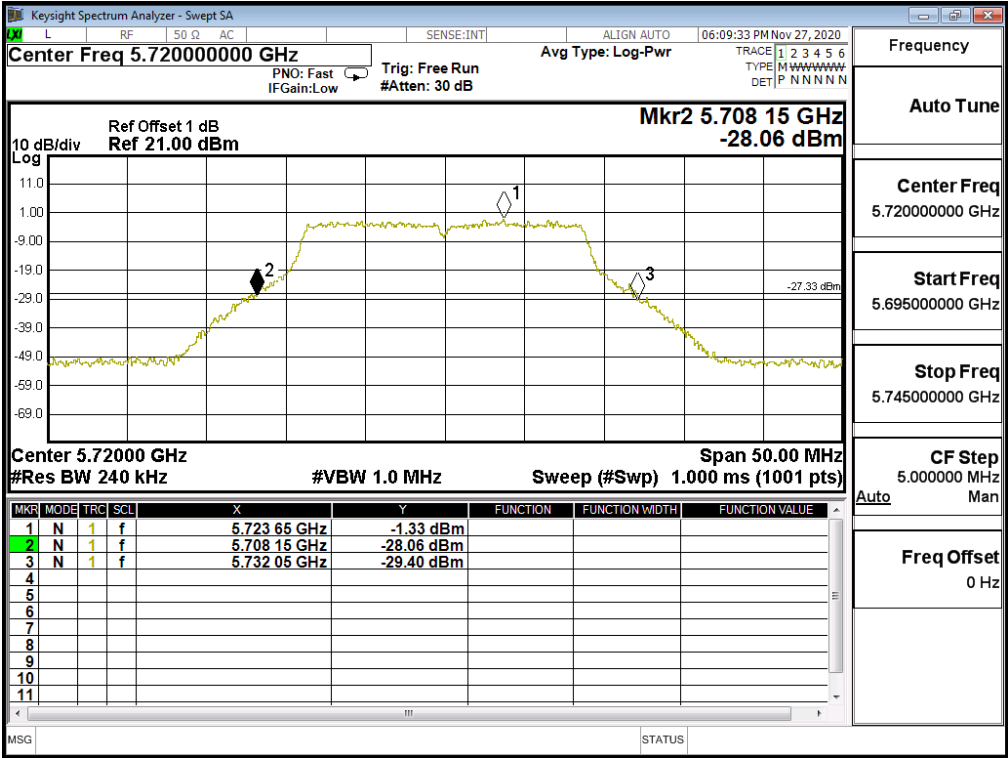
Channel 116



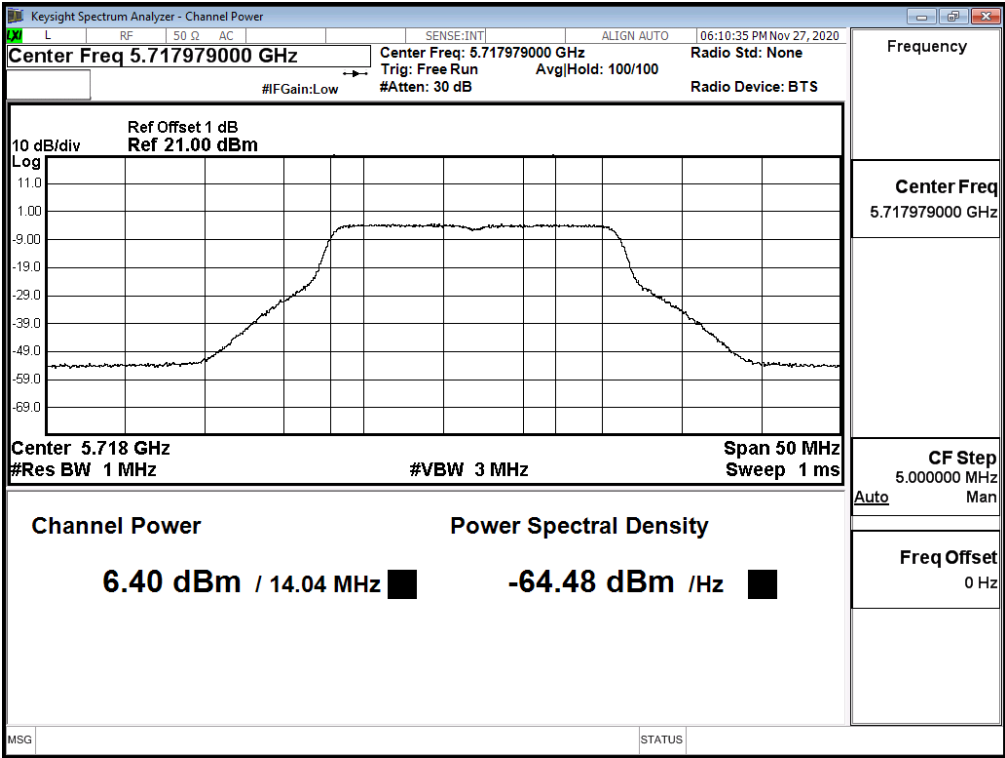
Channel 140



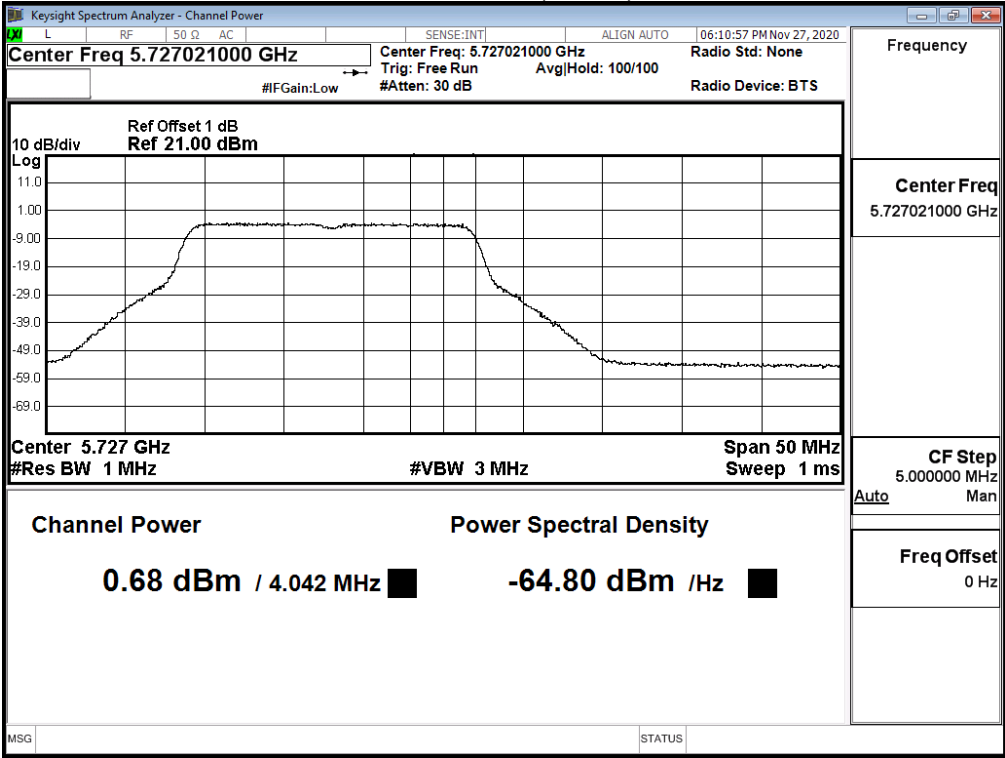
Channel 144



Maximum conducted output power:
Channel 144 (Band3)



Maximum conducted output power:
Channel 144 (Band4)



Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 3 SISO A: Transmit (802.11n-40BW_15Mbps)

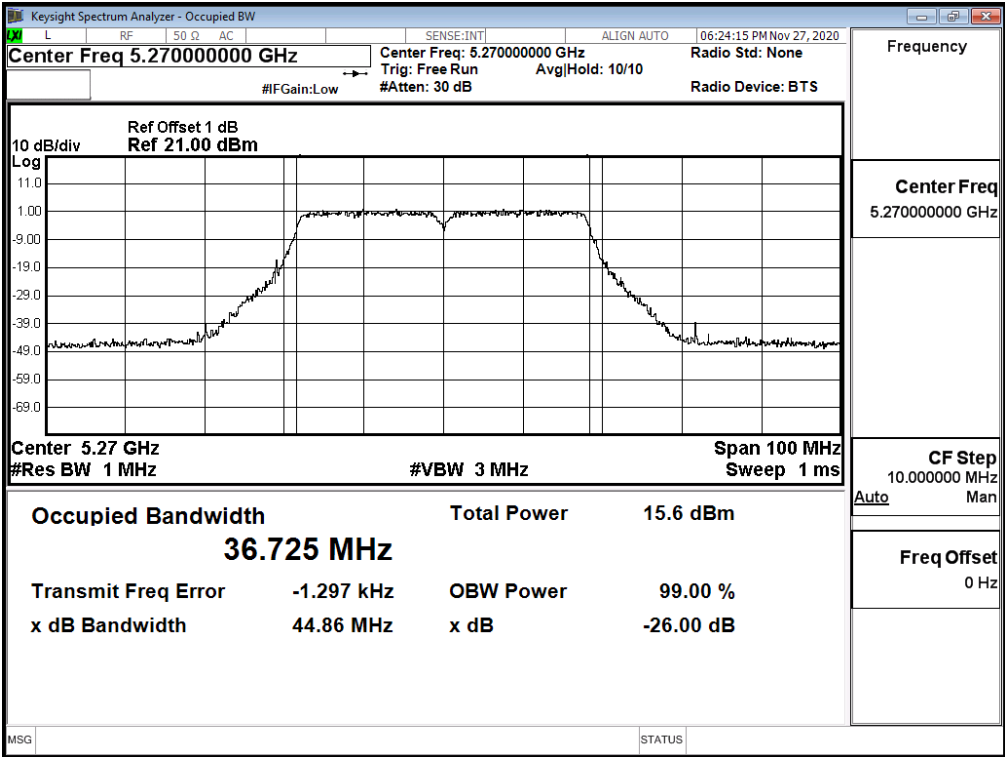
Cable loss=1dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		HT0	HT1	HT2	HT3	HT4	HT5	HT6	HT7
		Measurement Level (dBm)							
38	5190	7.89	--	--	--	--	--	--	--
46	5230	7.51	7.46	7.42	7.32	7.28	7.22	7.14	7.07
54	5270	7.55	--	--	--	--	--	--	--
62	5310	7.51	7.46	7.39	7.34	7.26	7.21	7.15	7.07
102	5510	7.39	--	--	--	--	--	--	--
110	5550	7.42	7.37	7.32	7.26	7.22	7.13	7.08	6.99
134	5670	7.48	--	--	--	--	--	--	--
142F(Band3)	5710	7.00	6.96	6.90	6.86	6.79	6.71	6.63	6.58
142F(Band4)	5710	-3.03	-3.09	-3.15	-3.25	-3.33	-3.40	-3.50	-3.55
151	5755	10.76	--	--	--	--	--	--	--
159	5795	10.98	10.93	10.84	10.74	10.67	10.60	10.54	10.48

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

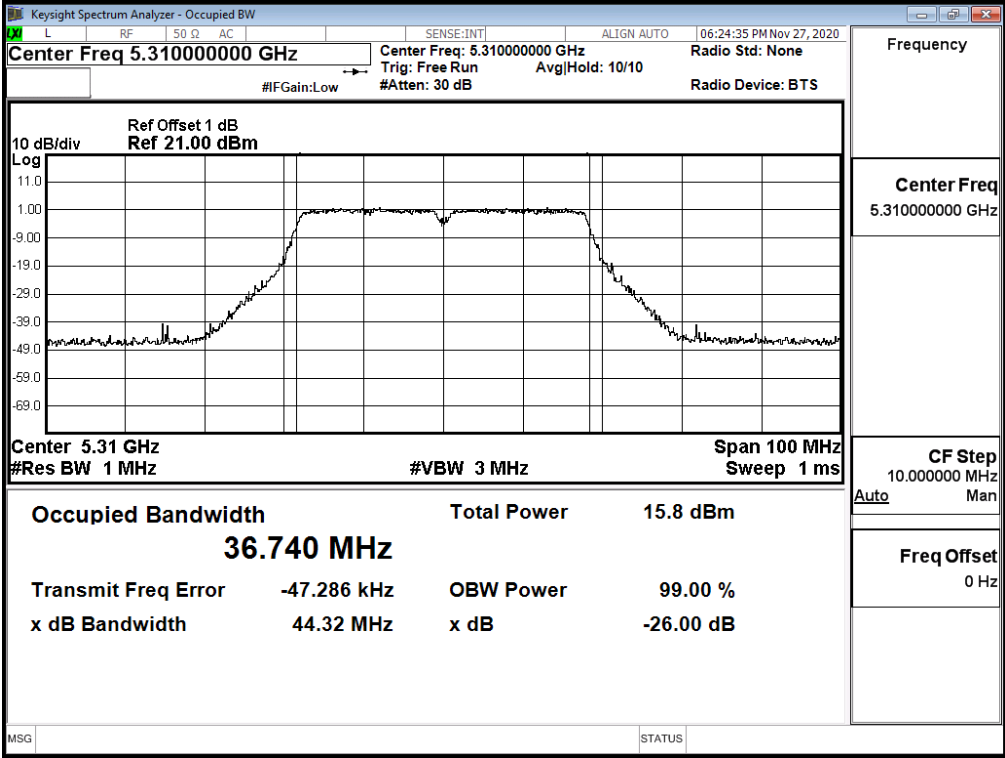
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
38	5190	--	7.89	24	--	Pass
46	5230	--	7.51	24	--	Pass
54	5270	44.860	7.55	24	27.52	Pass
62	5310	44.320	7.51	24	27.47	Pass
102	5510	45.050	7.39	24	27.54	Pass
110	5550	43.930	7.42	24	27.43	Pass
134	5670	44.170	7.48	24	27.45	Pass
142F(Band3)	5710	36.900	7.00	24	26.67	Pass
142F(Band4)	5710	--	-3.03	30	--	Pass
151	5755	--	10.76	30	--	Pass
159	5795	--	10.98	30	--	Pass

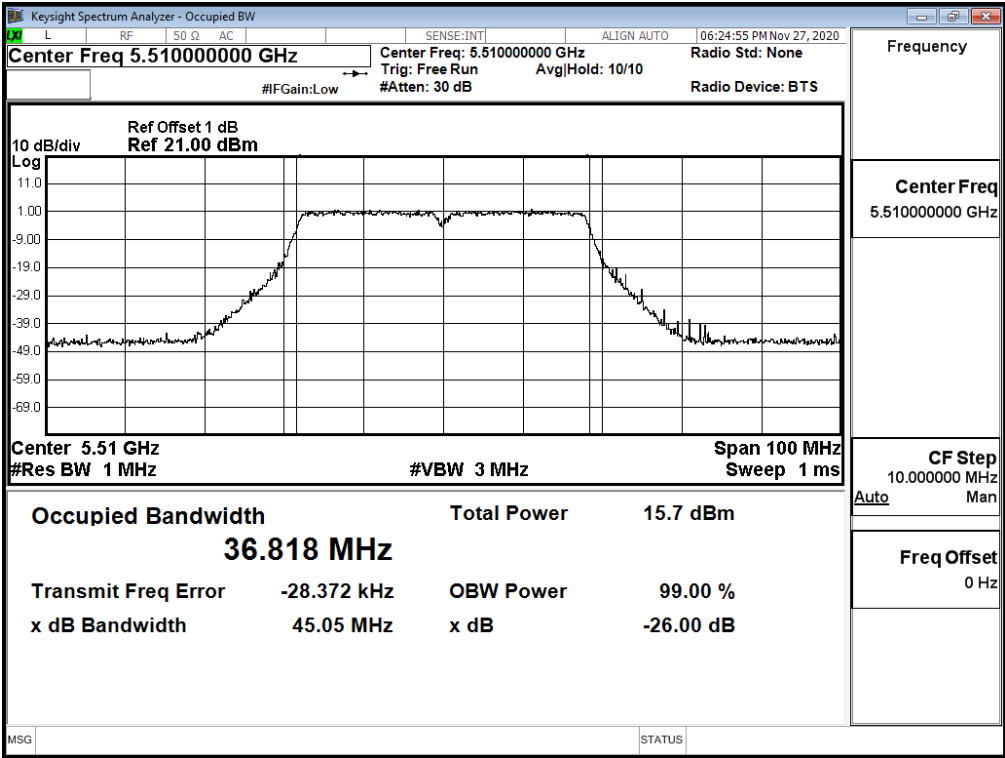
26dB Occupied Bandwidth:
Channel 54



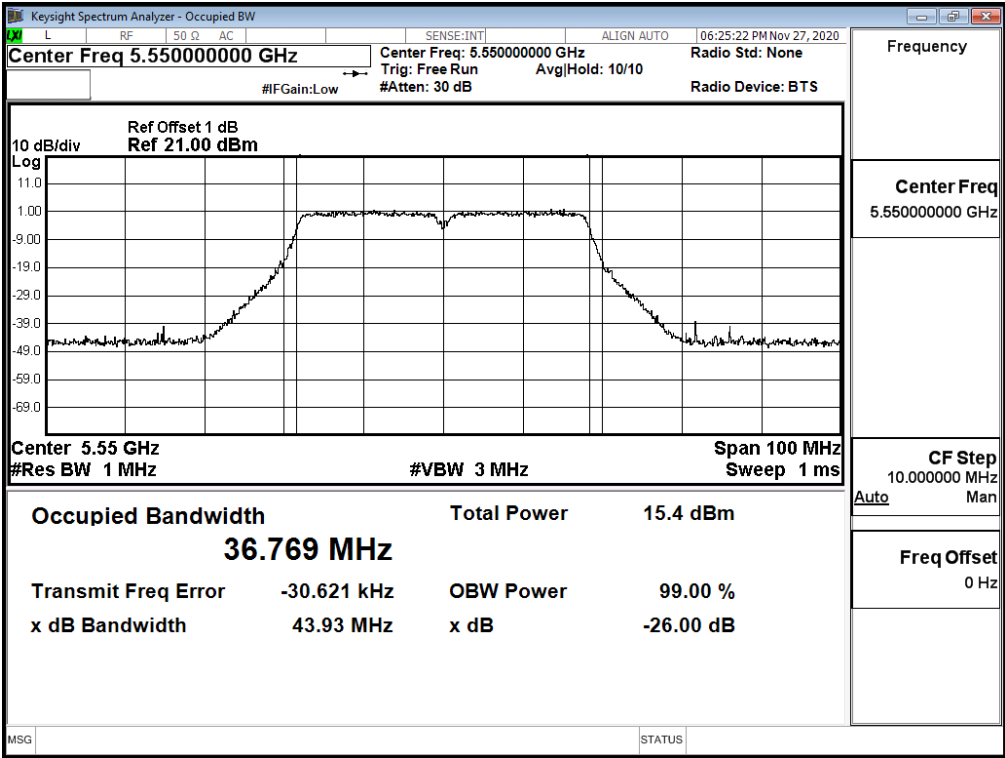
Channel 62



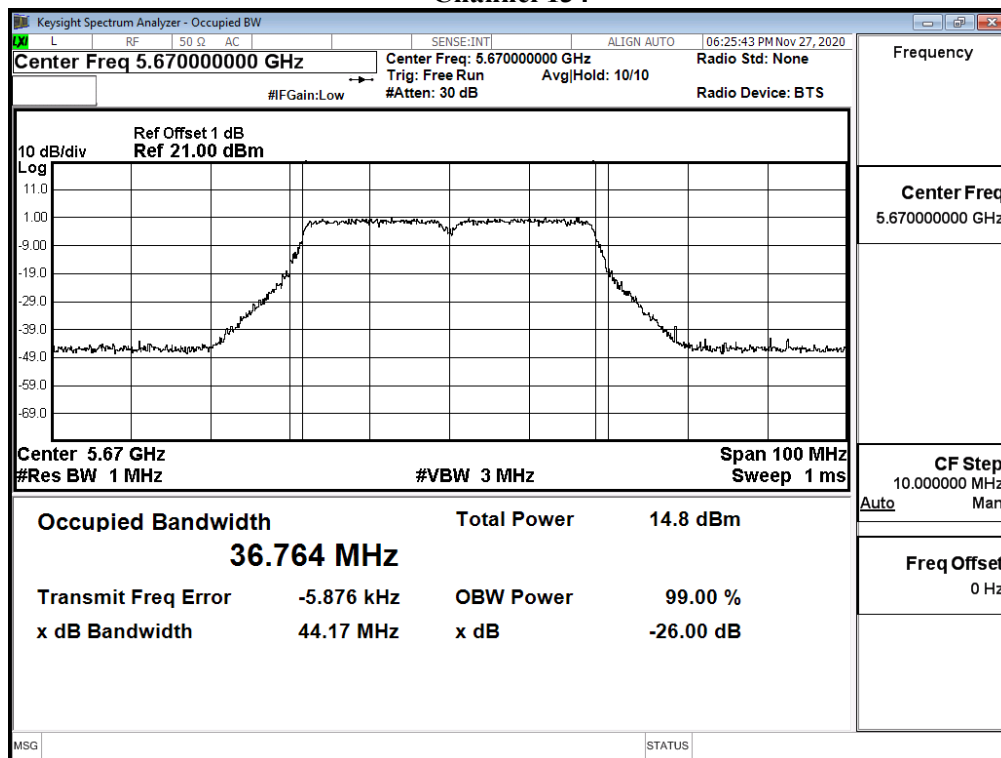
Channel 102



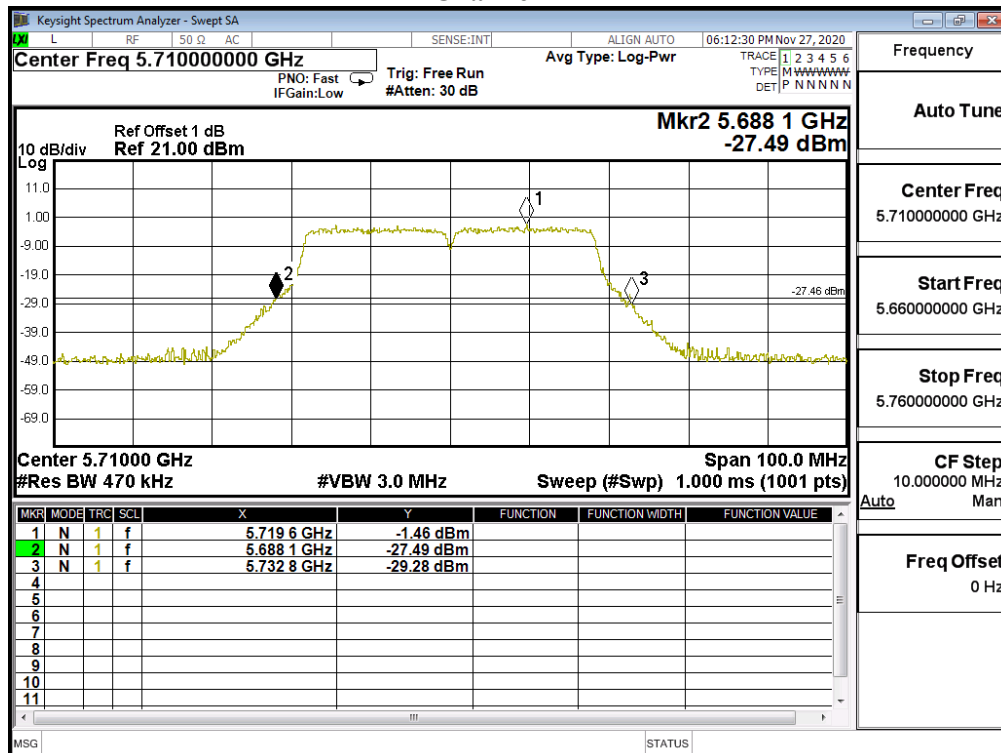
Channel 110



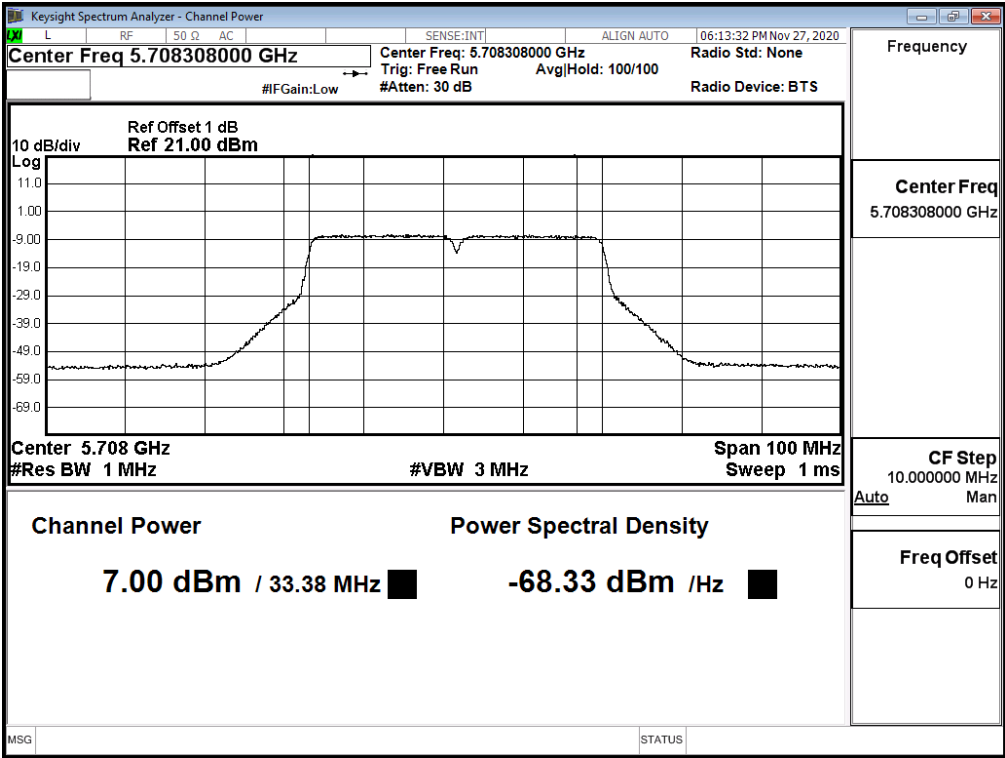
Channel 134



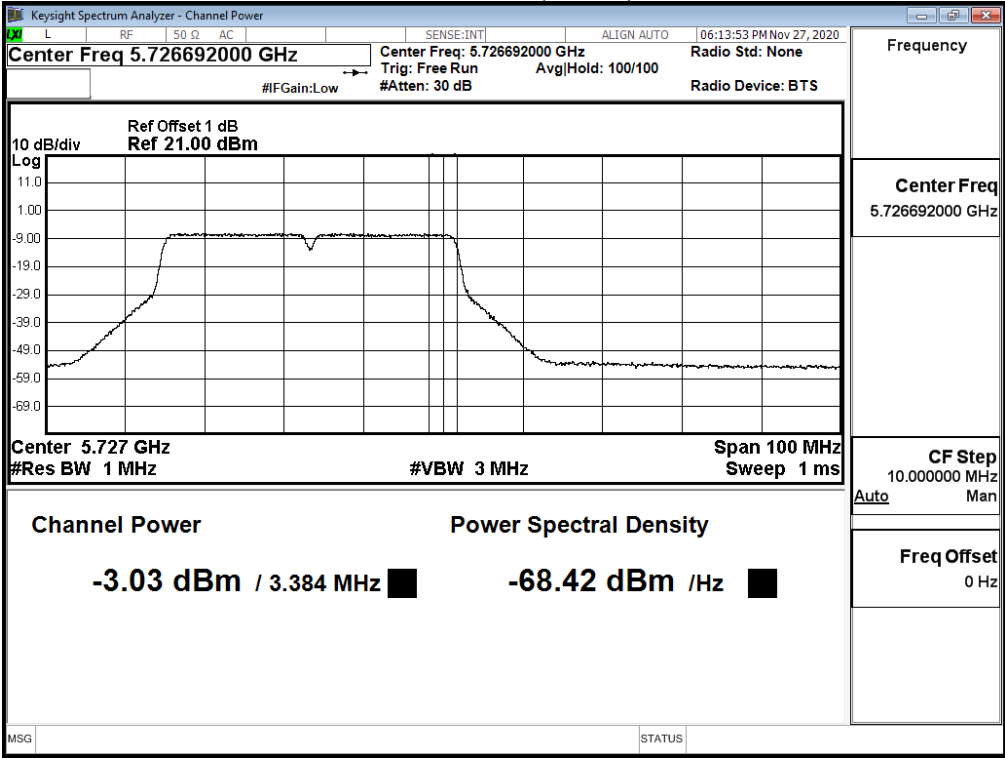
Channel 142



Maximum conducted output power:
Channel 142 (Band3)



Maximum conducted output power:
Channel 142 (Band4)



Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 4 SISO A: Transmit (802.11ac-80BW_32.5Mbps)

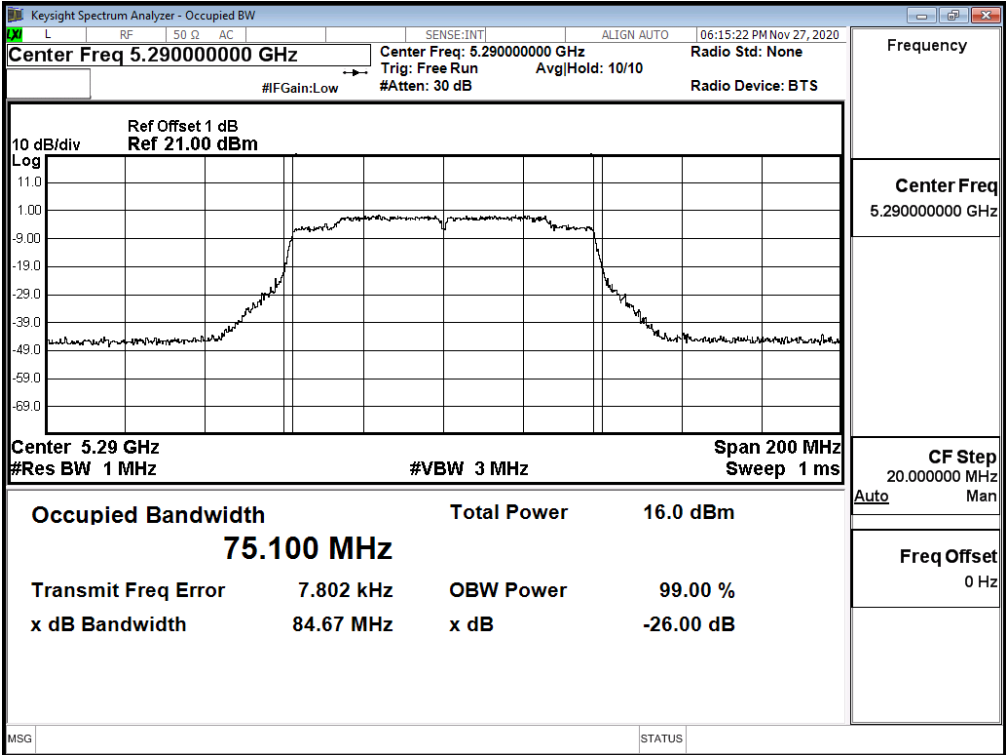
Cable loss=1dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		VHT0	VHT1	VHT2	VHT3	VHT4	VHT5	VHT6	VHT7	VHT8	VHT9
42	5210	7.59	7.49	7.40	7.31	7.22	7.15	7.09	7.01	6.95	6.88
58	5290	7.67	7.61	7.51	7.45	7.36	7.31	7.26	7.18	7.15	7.08
106ac80	5530	7.46	--	--	--	--	--	--	--	--	--
122ac80	5610	7.35	7.31	7.24	7.20	7.13	7.09	7.06	7.00	6.90	6.86
138ac80(Band3)	5690	7.39	7.30	7.25	7.16	7.07	7.03	6.95	6.85	6.77	6.71
138ac80(Band4)	5690	-10.02	-10.06	-10.11	-10.14	-10.23	-10.26	-10.35	-10.42	-10.46	-10.50
155ac80	5775	10.96	10.88	10.78	10.75	10.71	10.68	10.65	10.58	10.54	10.50

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

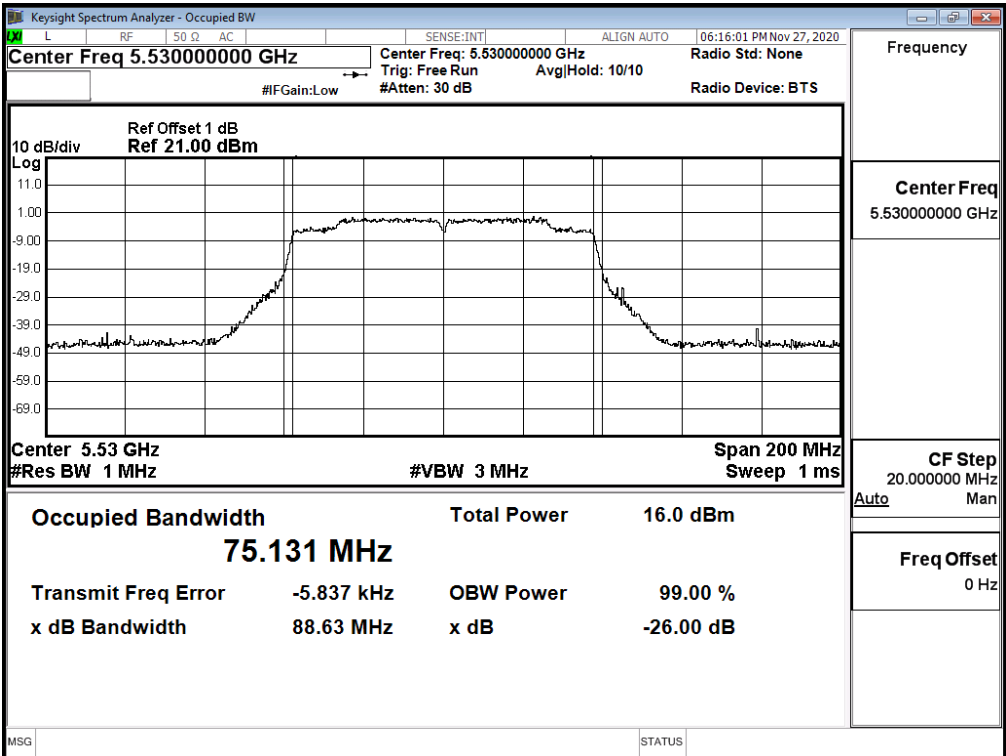
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
42	5210	--	7.59	24	--	Pass
58	5290	84.670	7.67	24	30.28	Pass
106ac80	5530	88.630	7.46	24	30.48	Pass
122ac80	5610	85.480	7.35	24	30.32	Pass
138ac80(Band3)	5690	77.800	7.39	24	29.91	Pass
138ac80(Band4)	5690	--	-10.02	30	--	Pass
155ac80	5775	--	10.96	30	--	Pass

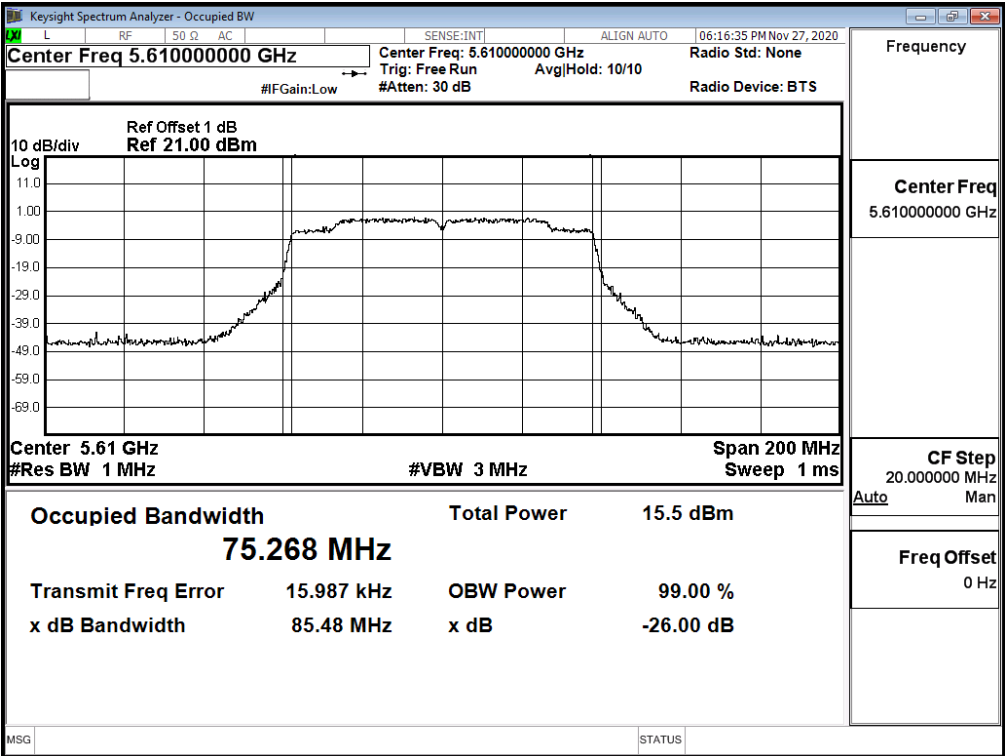
26dB Occupied Bandwidth:
Channel 58



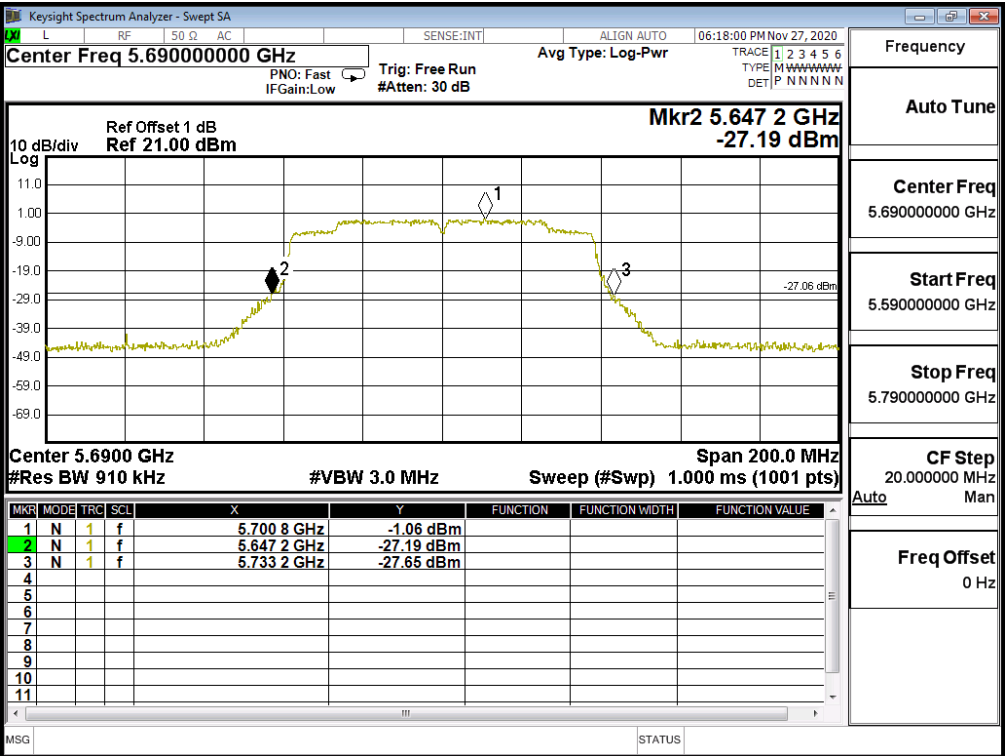
Channel 106



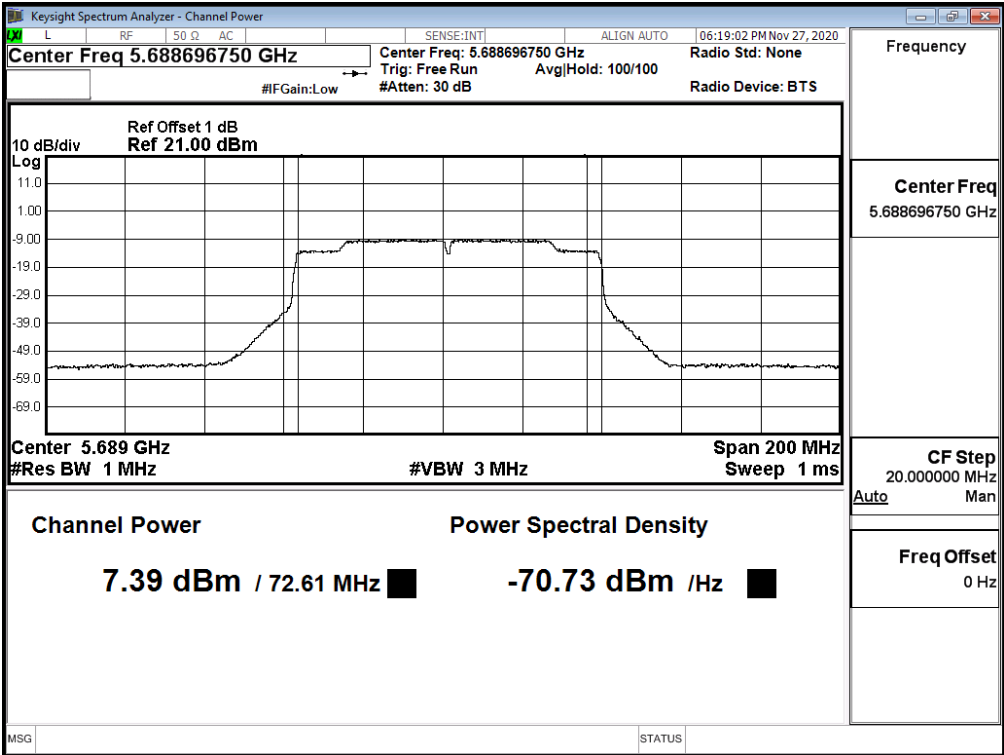
Channel 122



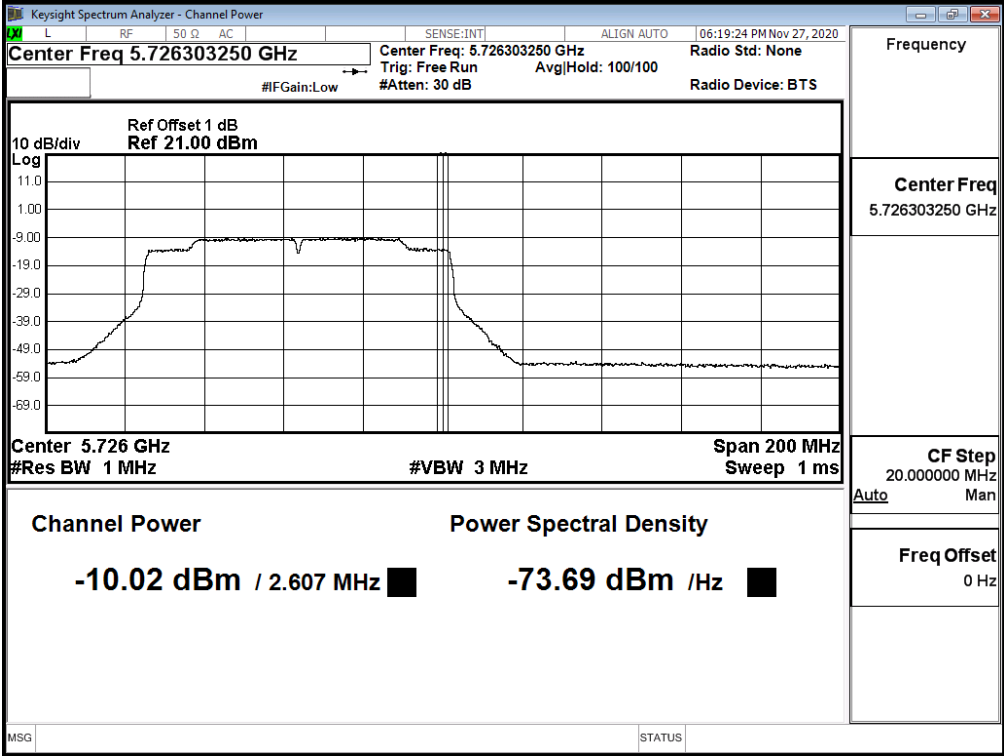
Channel 138



Maximum conducted output power:
Channel 138 (Band3)



Maximum conducted output power:
Channel 138 (Band4)



Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 5 SISO A: Transmit (802.11ac-160BW_65Mbps)

Cable loss=1dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		VHT0	VHT1	VHT2	VHT3	VHT4	VHT5	VHT6	VHT7	VHT8	VHT9
50ac160(Band1)	5250	4.14	4.07	4.04	4.00	3.90	3.87	3.82	3.74	3.70	3.61
50ac160(Band2)	5250	4.85	4.79	4.73	4.67	4.64	4.55	4.50	4.46	4.42	4.36
114ac160	5570	7.46	7.39	7.30	7.21	7.17	7.08	7.01	6.92	6.82	6.76

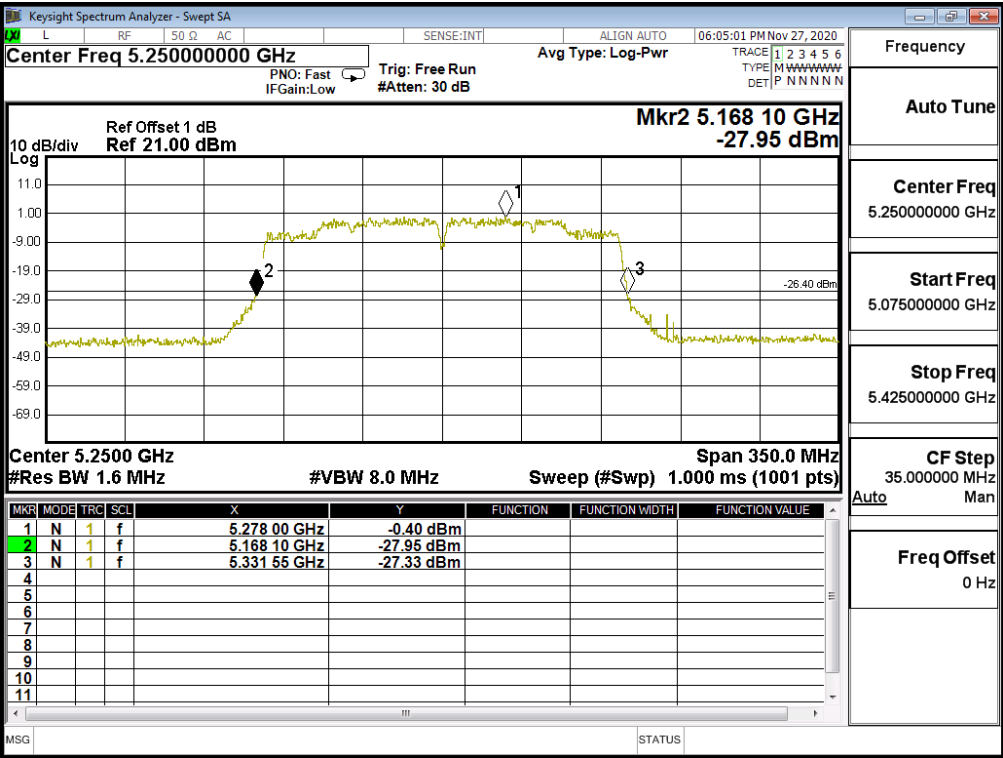
Note: Maximum conducted output power Value =Reading value on Spectrum Analyzer + cable loss

Maximum conducted output power Measurement:

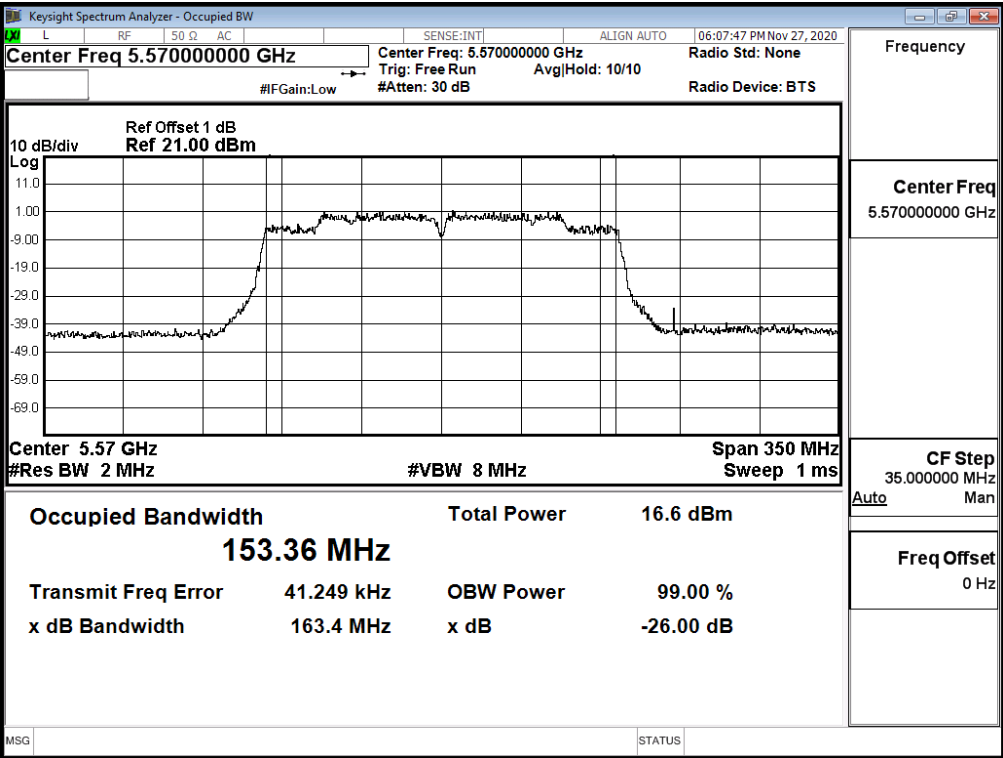
Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
50ac160(Band1)	5250	--	4.14	24	--	Pass
80ac160(Band2)	5250	81.550	4.85	24	30.11	Pass
114ac160	5570	163.400	7.46	24	33.13	Pass

26dB Occupied Bandwidth:

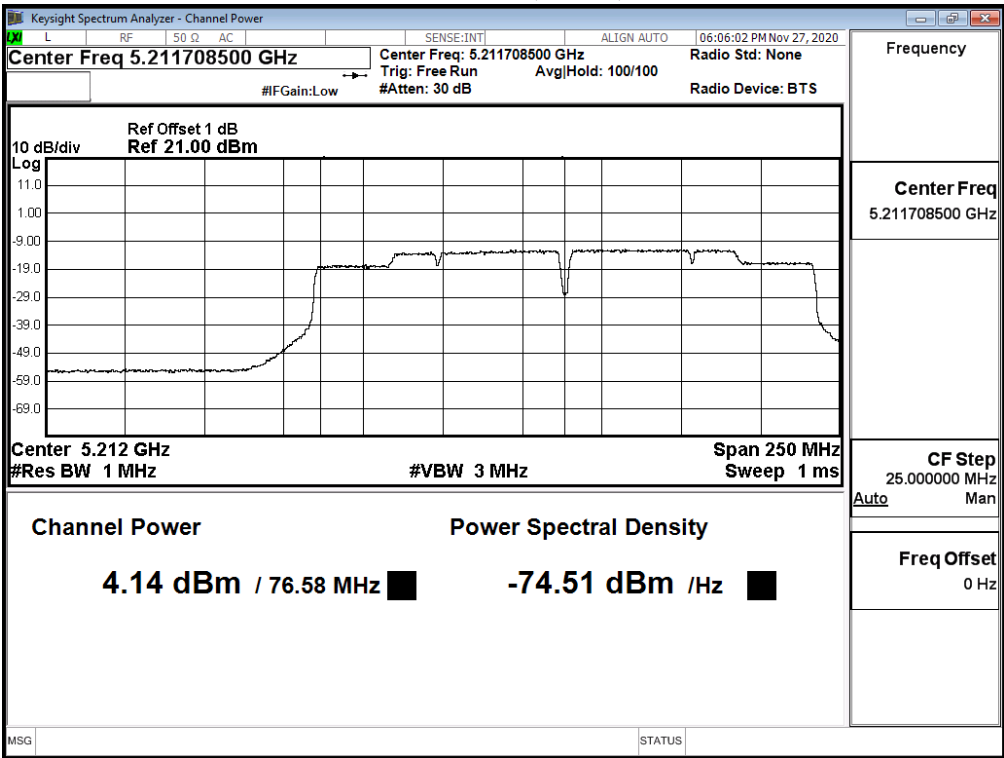
Channel 50



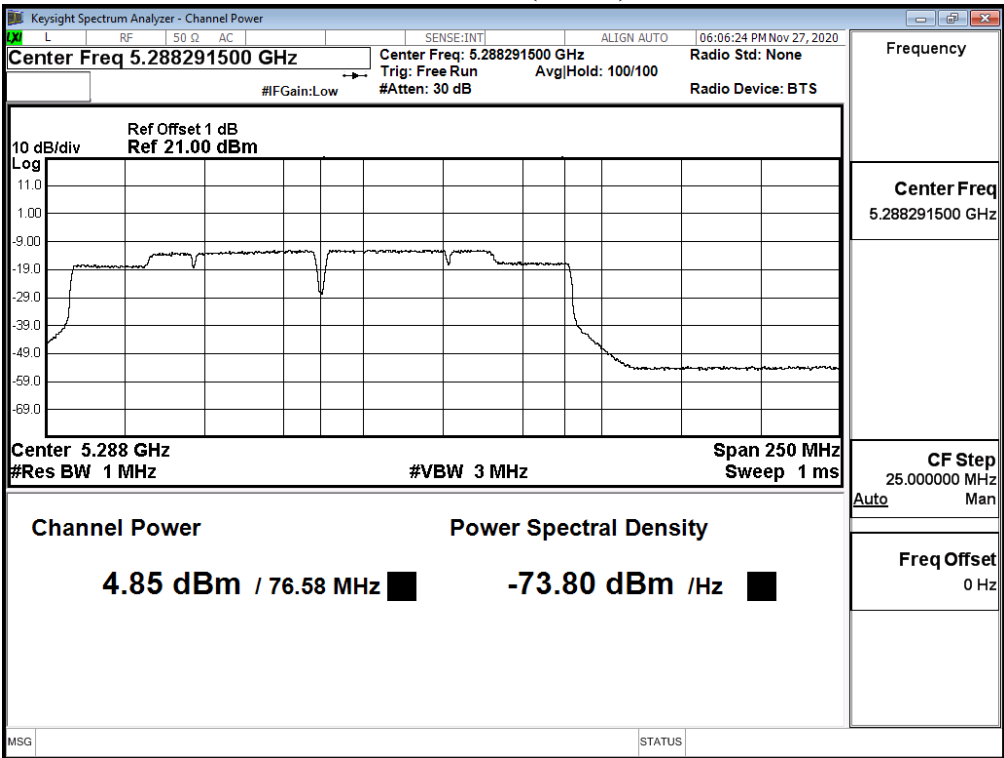
Channel 114



Maximum conducted output power:
Channel 50 (Band1)



Maximum conducted output power:
Channel 50 (Band2)



Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 6: SISO A: Transmit (802.11ax-20BW_8.6Mbps)

RU config: Full

Cable loss=1 dB		Maximum conducted output power											
Channel No.	Frequency (MHz)	Data Rate (Mbps)											
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11
		Measurement Level (dBm)											
36	5180	7.57	--	--	--	--	--	--	--	--	--	--	--
44	5220	7.56	7.53	7.46	7.41	7.34	7.24	7.14	7.10	7.01	6.93	6.84	6.80
48	5240	7.52	--	--	--	--	--	--	--	--	--	--	--
52	5260	7.62	--	--	--	--	--	--	--	--	--	--	--
60	5300	7.61	7.54	7.48	7.39	7.36	7.30	7.25	7.15	7.09	6.99	6.93	6.85
64	5320	7.54	--	--	--	--	--	--	--	--	--	--	--
100	5500	7.22	--	--	--	--	--	--	--	--	--	--	--
116	5580	7.28	7.21	7.14	7.04	6.98	6.94	6.91	6.86	6.76	6.67	6.64	6.57
140	5700	7.44	--	--	--	--	--	--	--	--	--	--	--
144(Band3)	5720	6.38	6.29	6.20	6.17	6.10	6.03	5.97	5.87	5.83	5.79	5.76	5.67
144(Band4)	5720	0.99	0.91	0.85	0.82	0.73	0.66	0.58	0.51	0.48	0.44	0.38	0.31
149	5745	10.86	--	--	--	--	--	--	--	--	--	--	--
157	5785	10.87	10.77	10.70	10.65	10.59	10.56	10.52	10.42	10.39	10.34	10.25	10.17
165	5825	10.89	--	--	--	--	--	--	--	--	--	--	--

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

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
36	5180	--	7.57	24	--	Pass
44	5220	--	7.56	24	--	Pass
48	5240	--	7.52	24	--	Pass
52	5260	23.330	7.62	24	24.68	Pass
60	5300	23.550	7.61	24	24.72	Pass
64	5320	23.690	7.54	24	24.75	Pass
100	5500	23.560	7.22	24	24.72	Pass
116	5580	24.080	7.28	24	24.82	Pass
140	5700	23.830	7.44	24	24.77	Pass
144(Band3)	5720	17.300	6.38	24	23.38	Pass
144(Band4)	5720	--	0.99	30	--	Pass
149	5745	--	10.86	30	--	Pass
157	5785	--	10.87	30	--	Pass
165	5825	--	10.89	30	--	Pass

RU config: Other

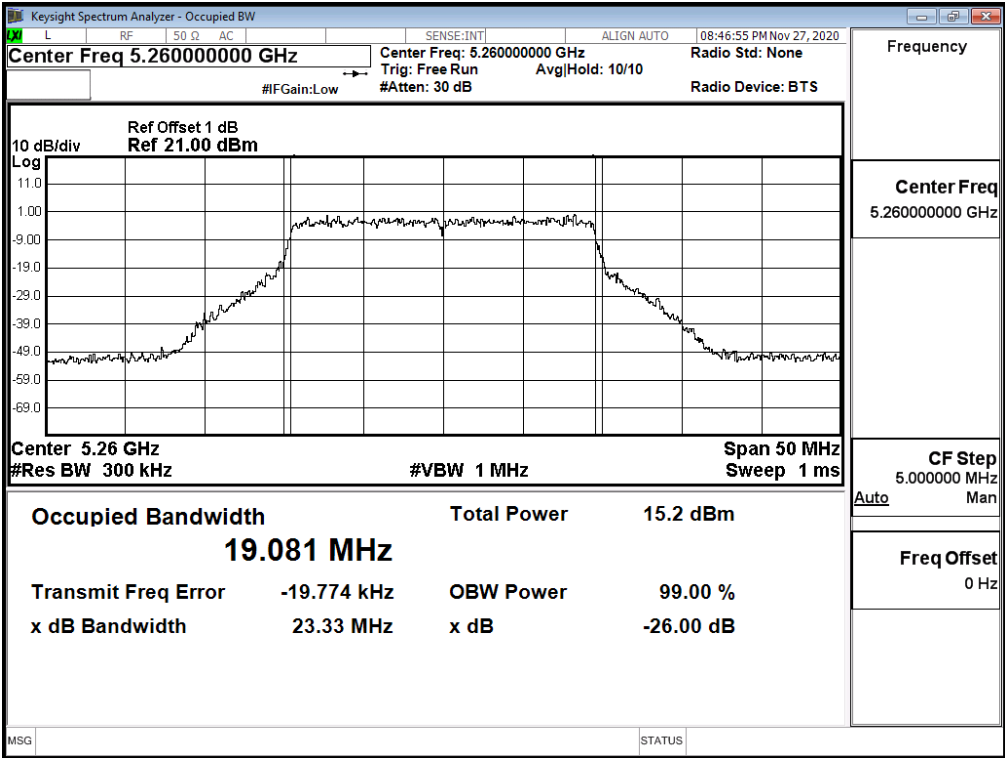
Channel No / Frequency (MHz)	RU setting	Average Power Output (dBm)													Required Lim
		Data Rate (Mbps)													
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11		
36/5180	26/0	7.57	--	--	--	--	--	--	--	--	--	--	--	<24dBm	
	52/37	7.52	7.47	7.38	7.32	7.25	7.20	7.14	7.06	7.01	6.91	6.81	6.75	<24dBm	
	106/53	7.53	--	--	--	--	--	--	--	--	--	--	--	<24dBm	
64/5320	26/8	7.77	--	--	--	--	--	--	--	--	--	--	--	<24dBm	
	52/40	7.57	7.54	7.49	7.41	7.37	7.29	7.20	7.10	7.03	6.95	6.92	6.87	<24dBm	
	106/54	7.54	--	--	--	--	--	--	--	--	--	--	--	<24dBm	
100/5500	26/0	7.34	--	--	--	--	--	--	--	--	--	--	--	<24dBm	
	52/37	7.45	7.35	7.30	7.20	7.15	7.07	6.98	6.92	6.82	6.78	6.73	6.65	<24dBm	
	106/53	7.34	--	--	--	--	--	--	--	--	--	--	--	<24dBm	
140/5700	26/8	7.49	--	--	--	--	--	--	--	--	--	--	--	<24dBm	
	52/40	7.41	7.36	7.29	7.25	7.16	7.08	6.98	6.89	6.83	6.79	6.72	6.65	<24dBm	
	106/54	7.49	--	--	--	--	--	--	--	--	--	--	--	<24dBm	
149/5745	26/0	10.92	--	--	--	--	--	--	--	--	--	--	--	<30dBm	
	52/37	10.99	10.92	10.84	10.80	10.70	10.60	10.55	10.48	10.45	10.37	10.30	10.26	<30dBm	
	106/53	10.99	--	--	--	--	--	--	--	--	--	--	--	<30dBm	

Maximum conducted output power Measurement:

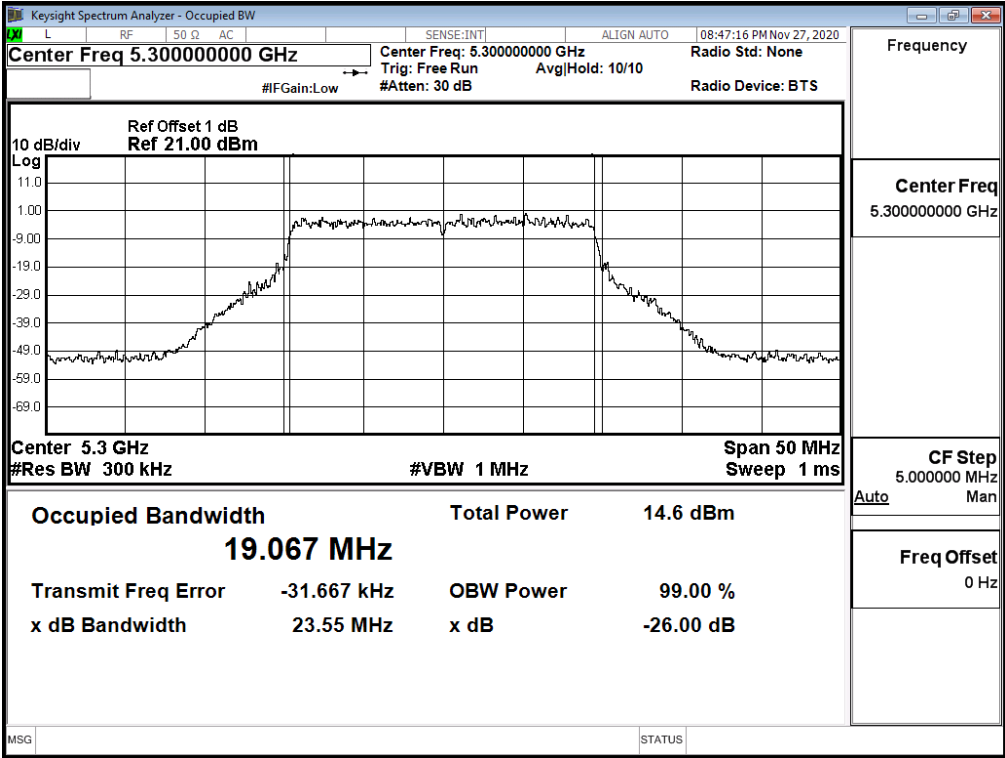
Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
36/5180	26/0	--	7.57	24	--	Pass
	52/37	--	7.52	24	--	Pass
	106/53	--	7.53	24	--	Pass
64/5320	26/8	20.630	7.77	24	24.14	Pass
	52/40	21.490	7.57	24	24.32	Pass
	106/54	21.800	7.54	24	24.38	Pass
100/5500	26/0	20.420	7.34	24	24.10	Pass
	52/37	20.720	7.45	24	24.16	Pass
	106/53	20.760	7.34	24	24.17	Pass
140/5700	26/8	20.840	7.49	24	24.19	Pass
	52/40	21.230	7.41	24	24.27	Pass
	106/54	22.180	7.49	24	24.46	Pass
149/5745	26/0	--	10.92	30	--	Pass
	52/37	--	10.99	30	--	Pass
	106/53	--	10.99	30	--	Pass

RU config: Full

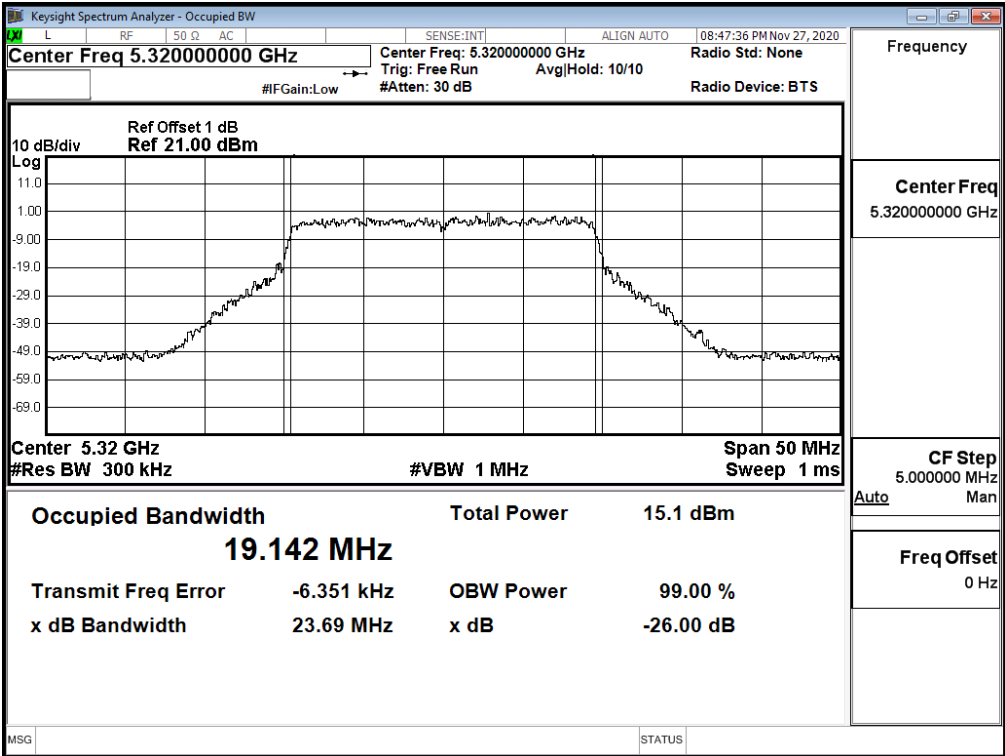
26dB Occupied Bandwidth:
Channel 52



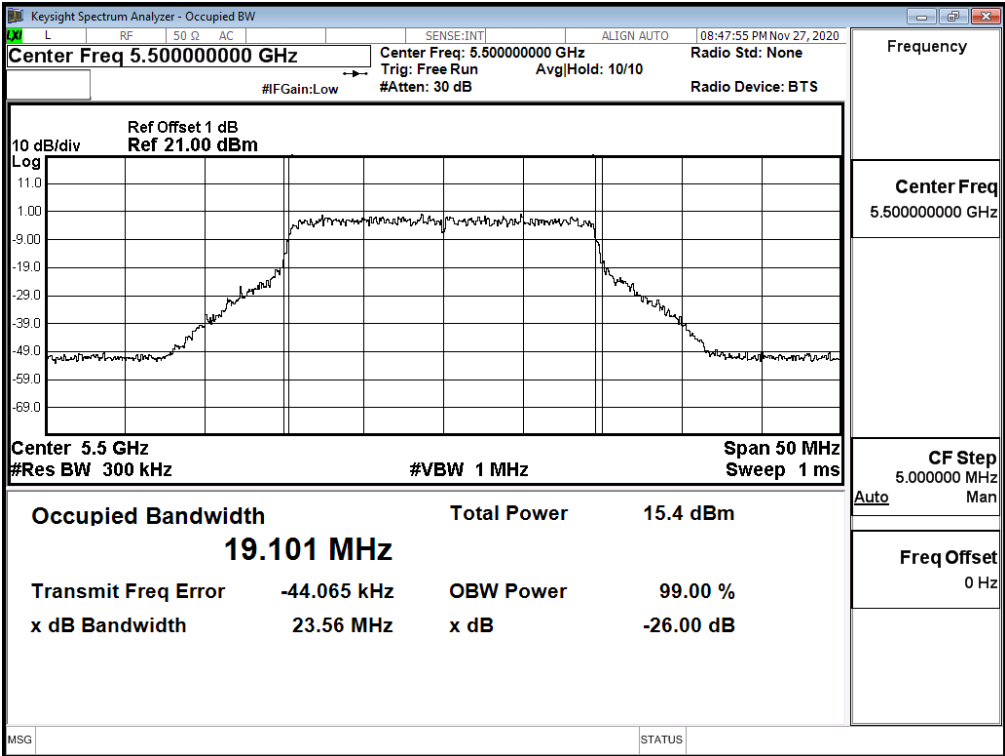
Channel 60



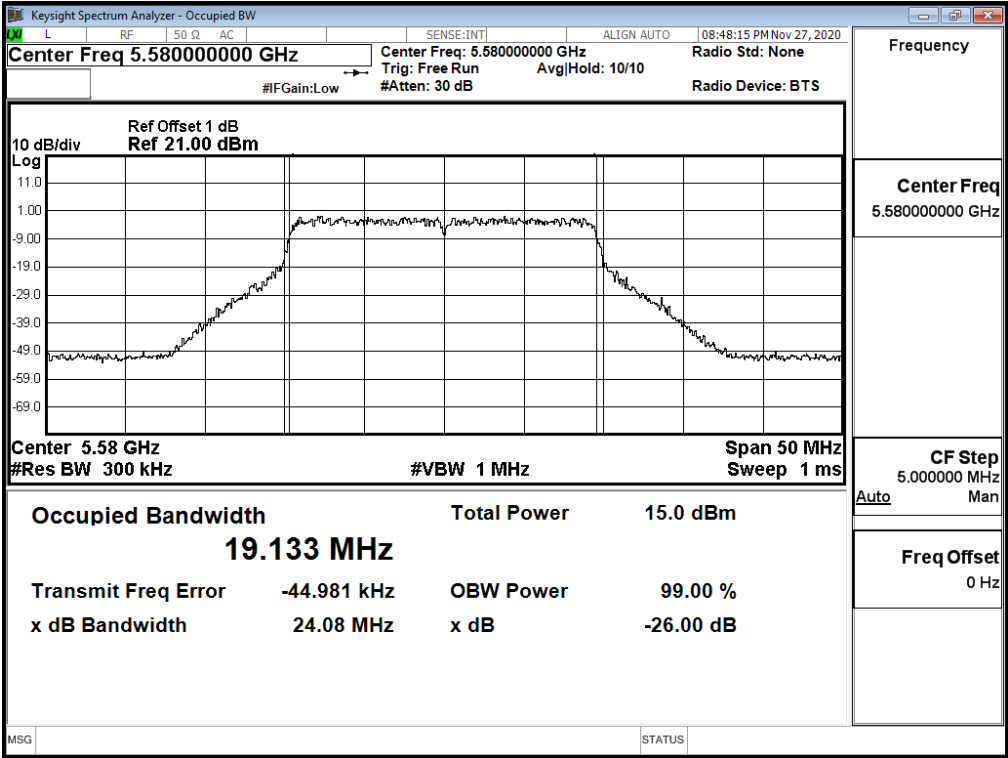
Channel 64



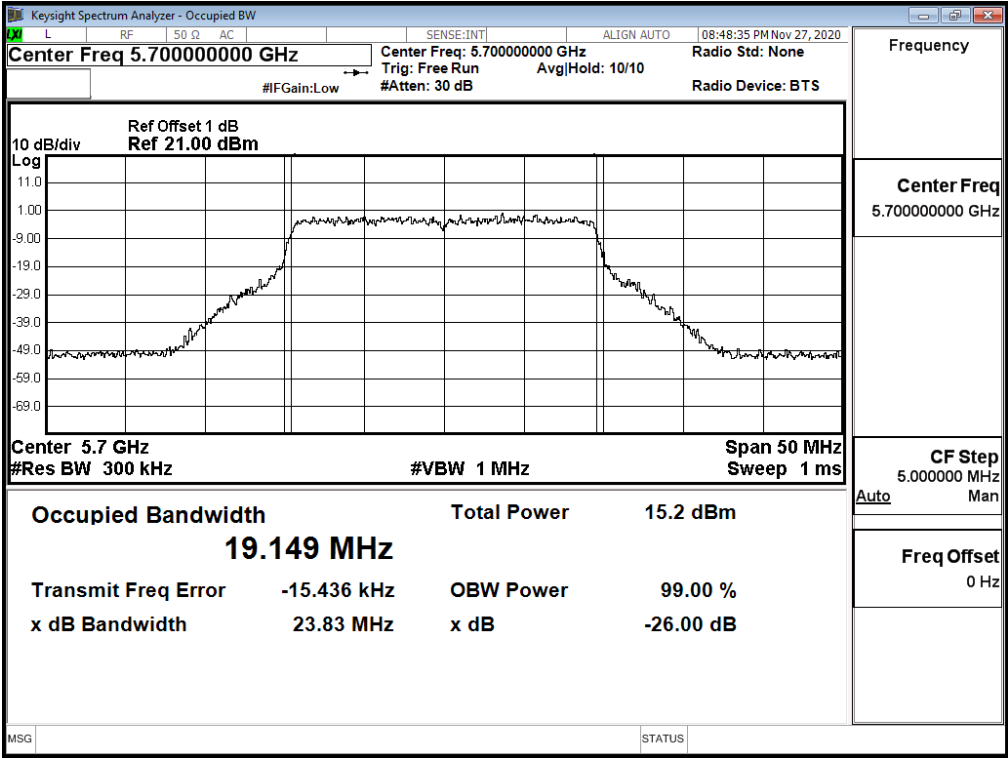
Channel 100



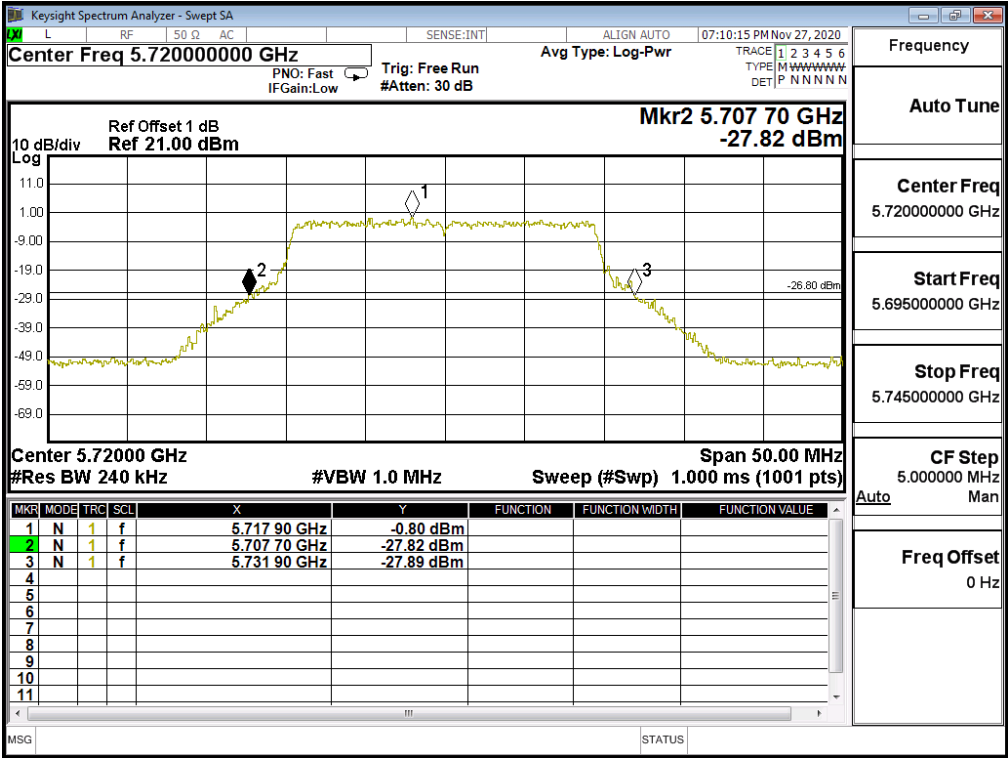
Channel 116



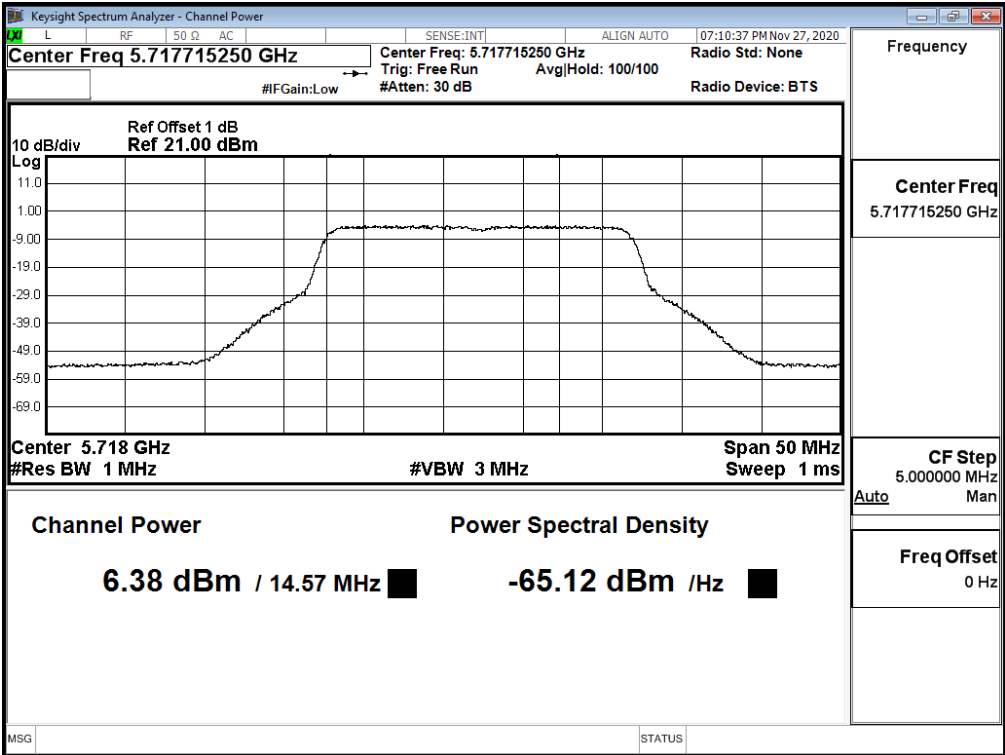
Channel 140



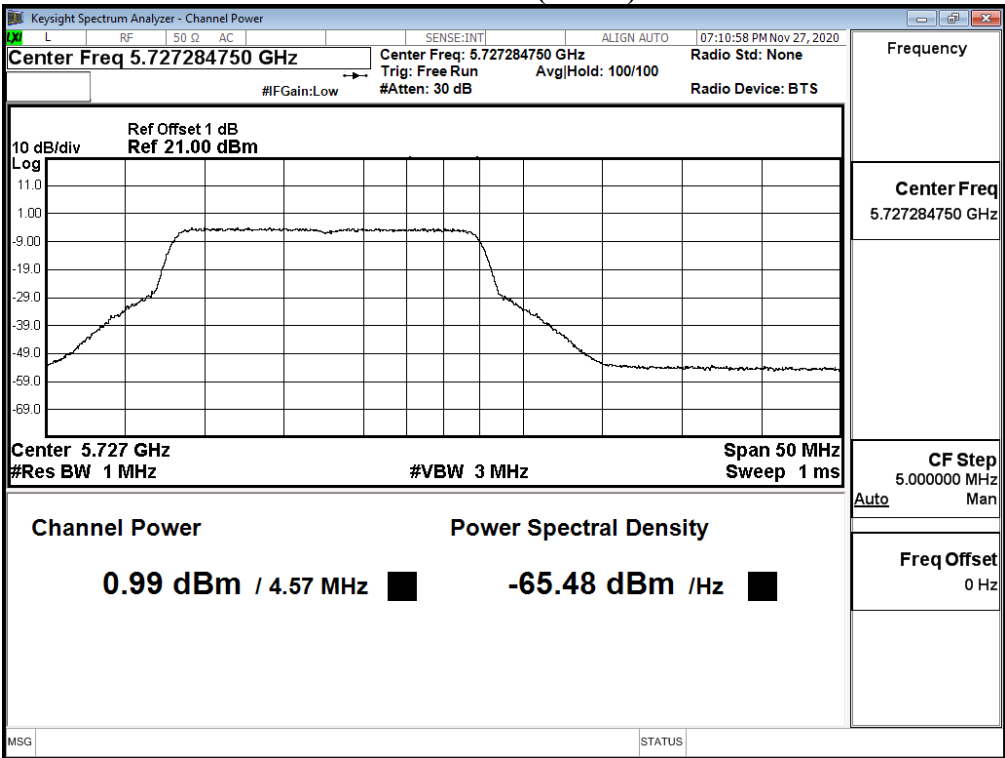
Channel 144



RU config: Full
Maximum conducted output power:
Channel 144 (Band3)

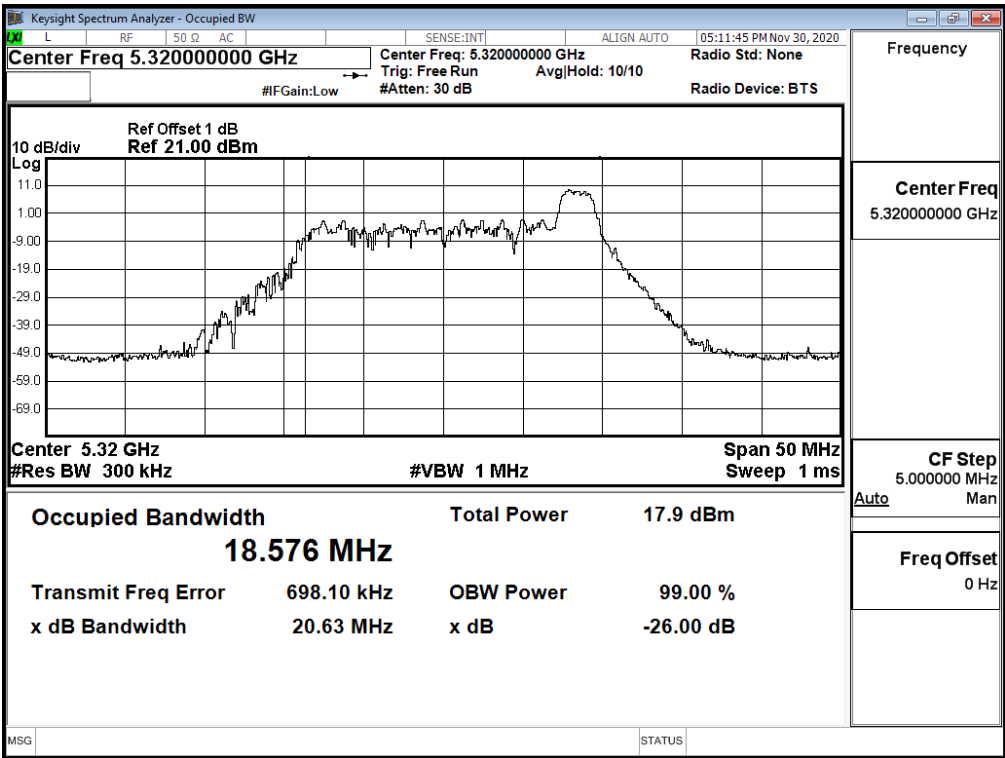


Maximum conducted output power:
Channel 144 (Band4)

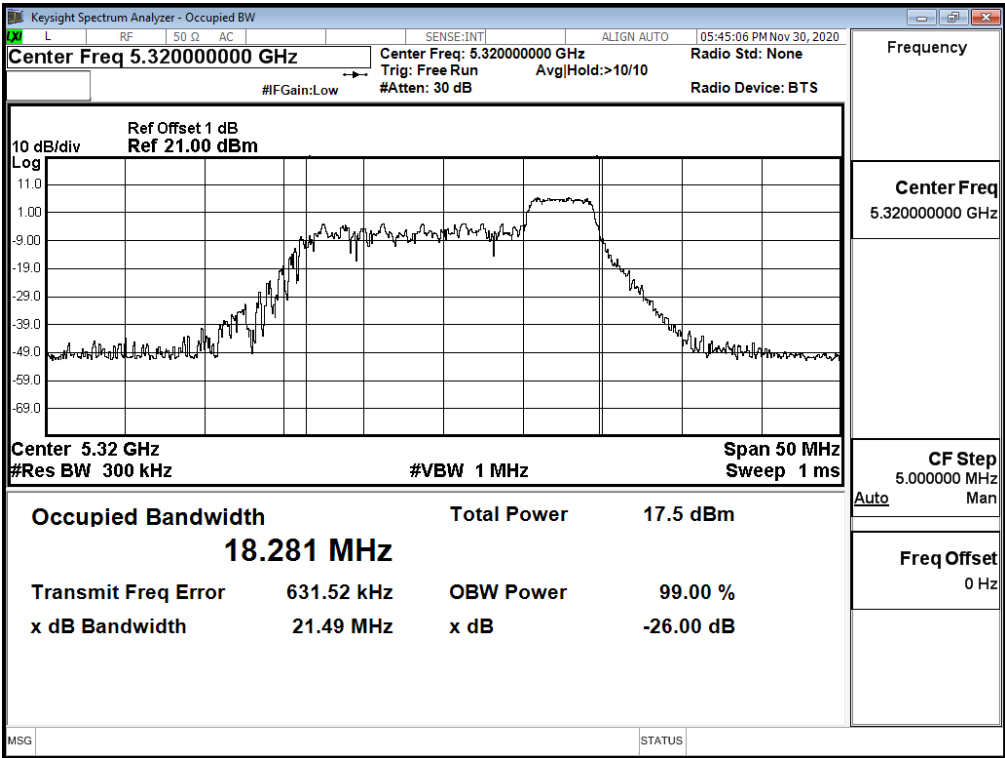


RU config: Other

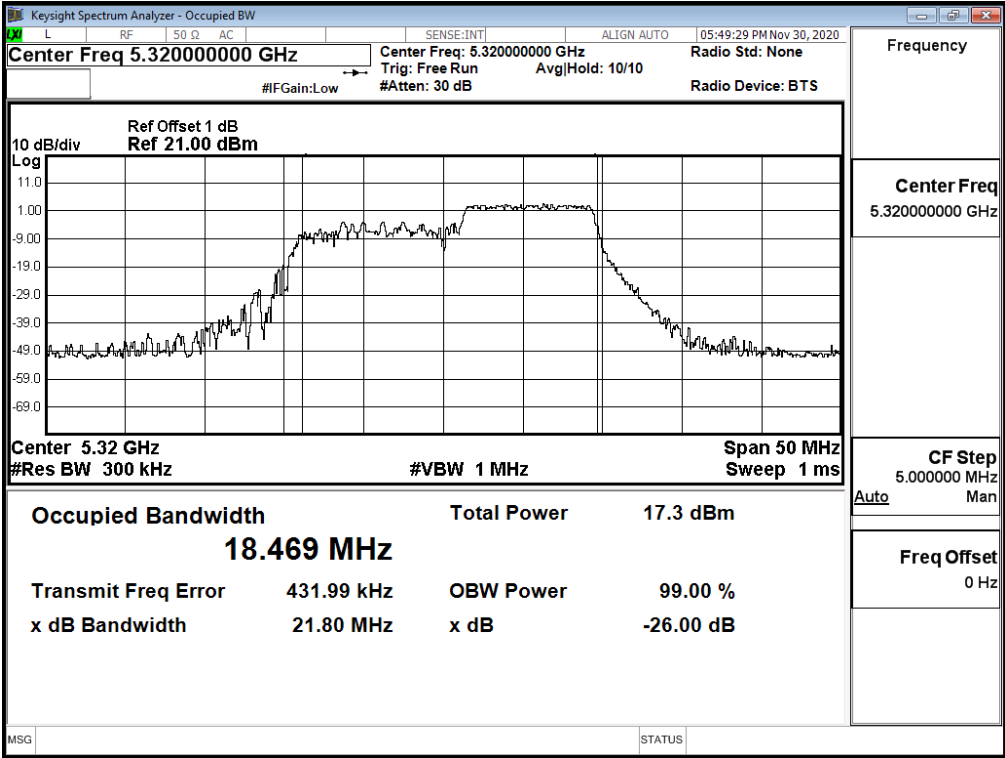
26dB Occupied Bandwidth:
Channel 64 - 26/8



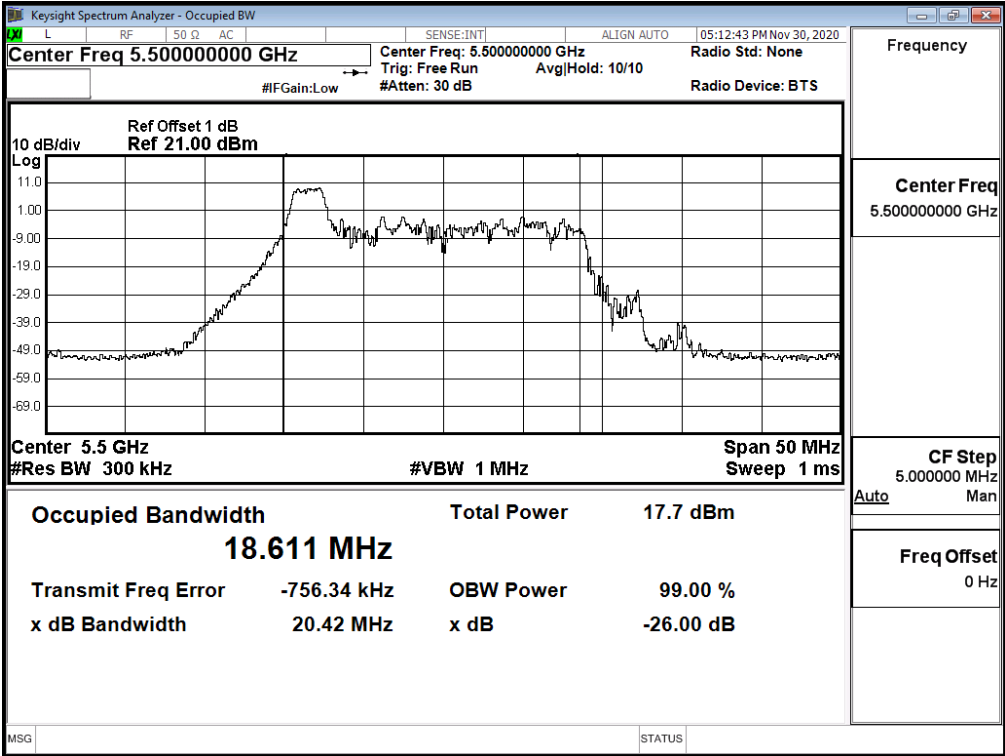
Channel 64 - 52/40



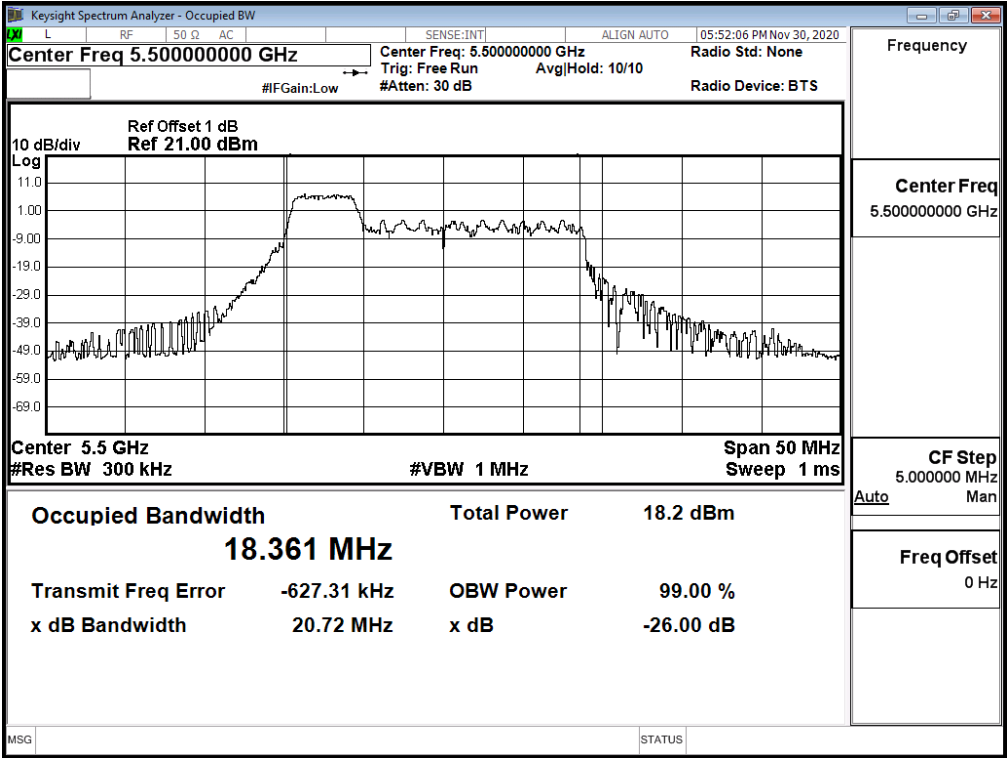
Channel 64 - 106/54



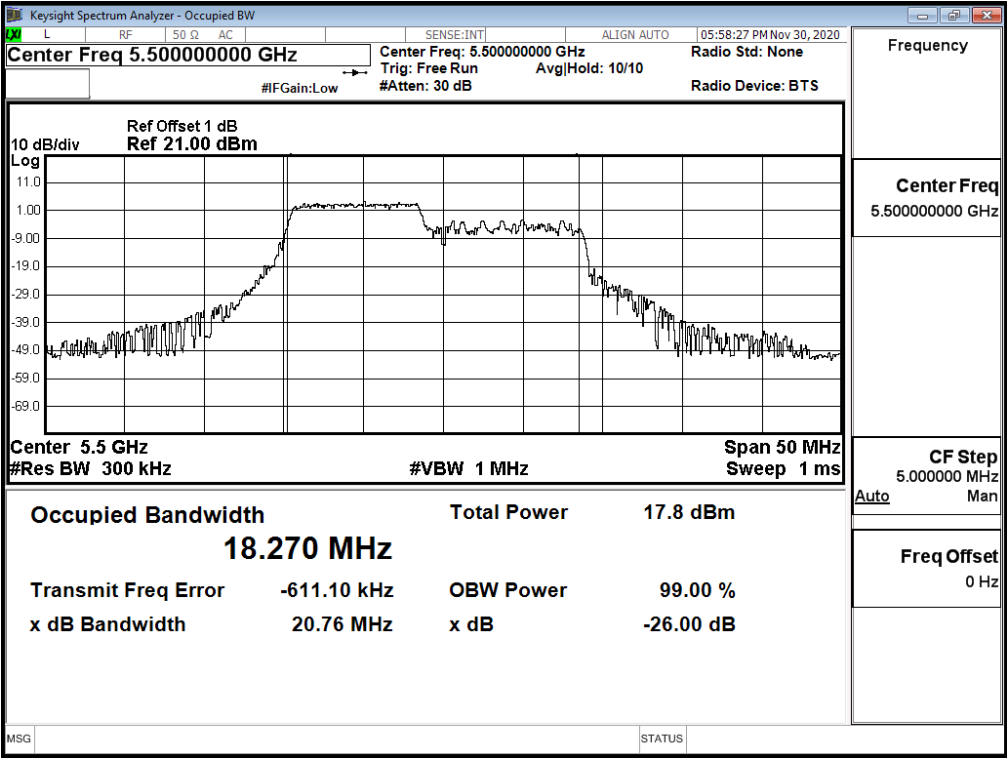
Channel 100 - 26/0



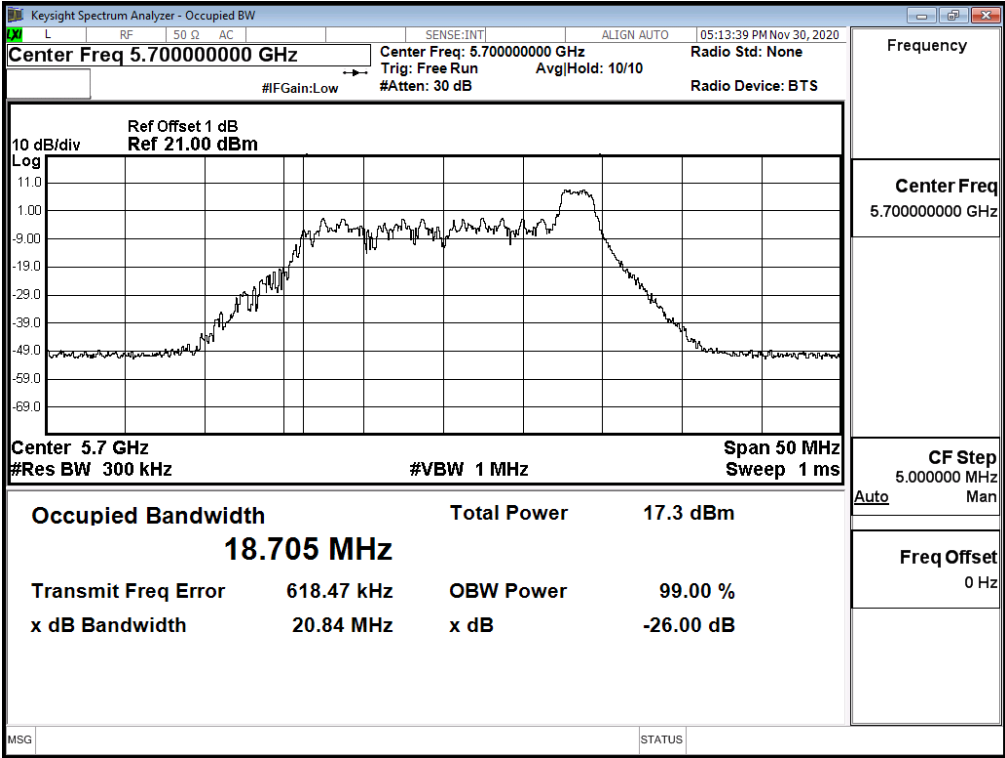
Channel 100 - 52/37



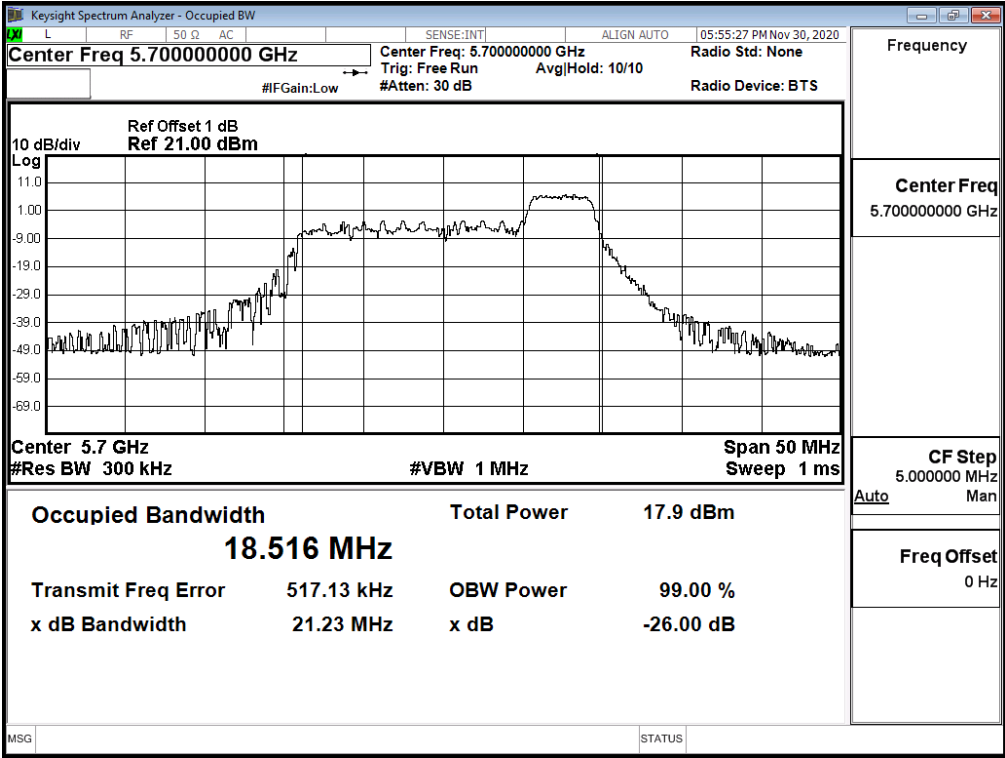
Channel 100 - 106/53



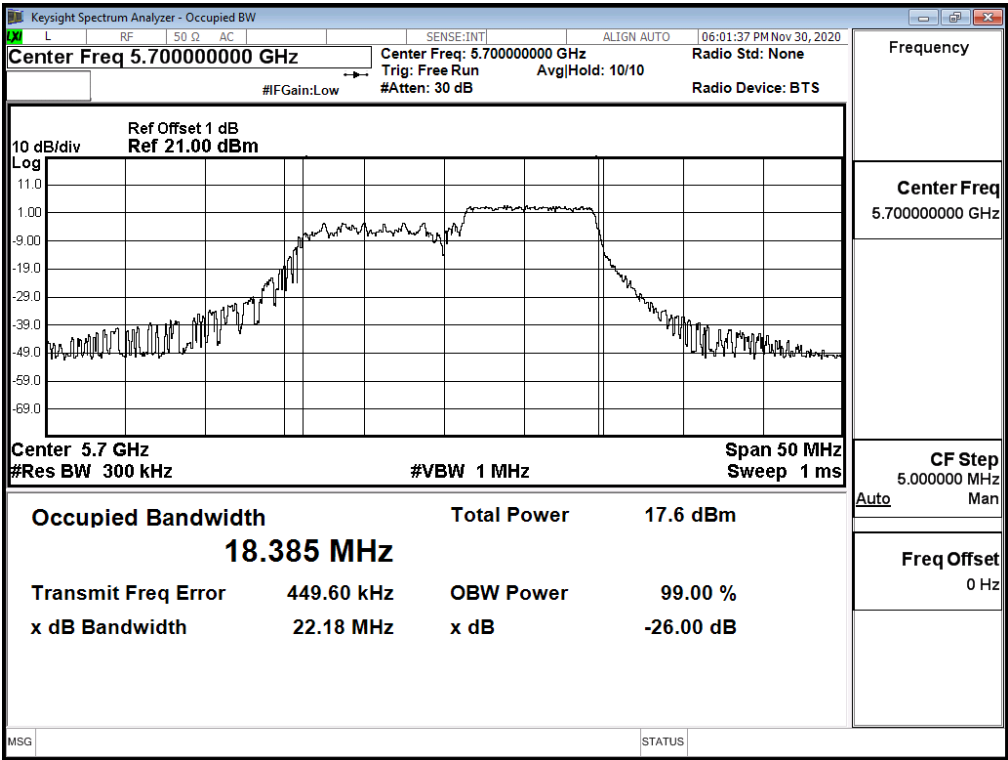
Channel 140 - 26/8



Channel 140 - 52/40



Channel 140 - 106/54



Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 7: SISO A: Transmit (802.11ax-40BW_17.2Mbps)

RU config: Full

Cable loss=1dB		Maximum conducted output power											
Channel No.	Frequency (MHz)	Data Rate (Mbps)											
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11
		Measurement Level (dBm)											
38	5190	7.55	--	--	--	--	--	--	--	--	--	--	--
46	5230	7.55	7.52	7.42	7.36	7.31	7.26	7.16	7.08	7.04	7.01	6.95	6.92
54	5270	7.52	--	--	--	--	--	--	--	--	--	--	--
62	5310	7.51	7.43	7.34	7.26	7.19	7.14	7.10	7.07	6.99	6.94	6.91	6.83
102	5510	7.43	--	--	--	--	--	--	--	--	--	--	--
110	5550	7.30	7.21	7.14	7.11	7.08	7.04	7.01	6.95	6.87	6.79	6.69	6.64
134	5670	7.37	--	--	--	--	--	--	--	--	--	--	--
142F(Band3)	5710	6.93	6.89	6.84	6.80	6.74	6.68	6.58	6.55	6.45	6.40	6.30	6.20
142F(Band4)	5710	-2.51	-2.54	-2.61	-2.64	-2.74	-2.83	-2.93	-3.01	-3.06	-3.12	-3.19	-3.22
151	5755	10.93	--	--	--	--	--	--	--	--	--	--	--
159	5795	10.99	10.91	10.82	10.77	10.70	10.60	10.55	10.49	10.39	10.35	10.26	10.23

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

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
38	5190	--	7.55	24	--	Pass
46	5230	--	7.55	24	--	Pass
54	5270	43.550	7.52	24	27.39	Pass
62	5310	45.110	7.51	24	27.54	Pass
102	5510	44.380	7.43	24	27.47	Pass
110	5550	44.660	7.30	24	27.50	Pass
134	5670	44.000	7.37	24	27.43	Pass
142F(Band3)	5710	36.100	6.93	24	26.58	Pass
142F(Band4)	5710	--	-2.51	30	--	Pass
151	5755	--	10.93	30	--	Pass
159	5795	--	10.99	30	--	Pass

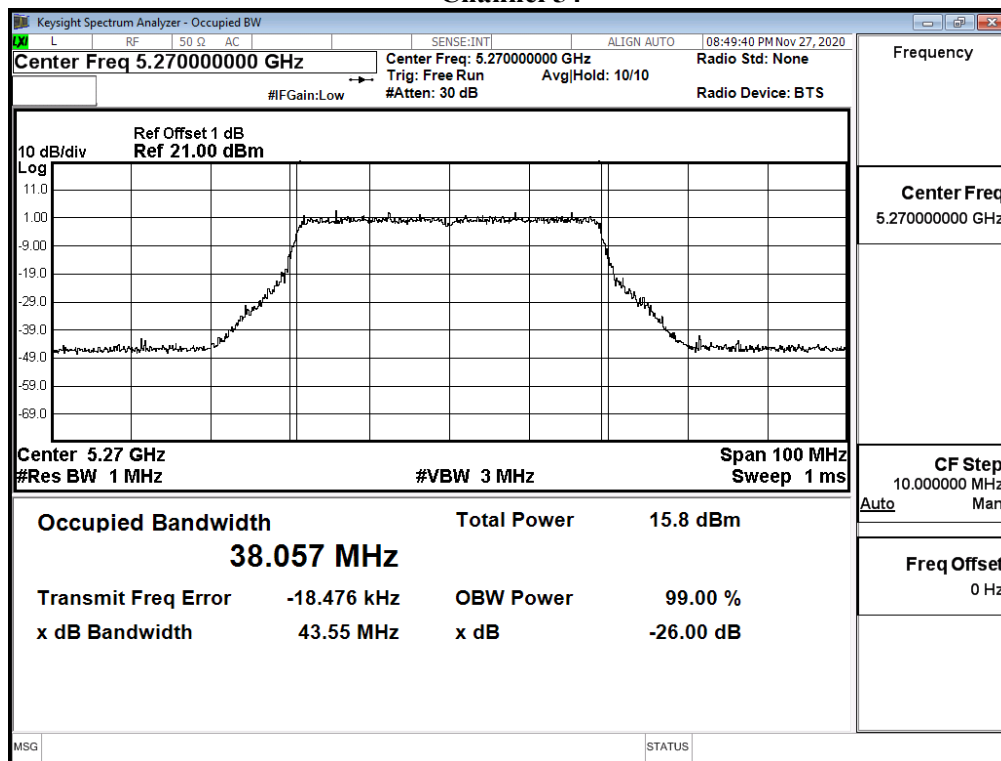
RU config: Other

Channel No / Frequency (MHz)	RU setting	Average Power Output (dBm)													Required Limi
		Data Rate (Mbps)													
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11		
38 / 5190	242/61	7.52	--	--	--	--	--	--	--	--	--	--	--	<24dBm	
62 / 5310	242/62	7.68	7.61	7.52	7.42	7.39	7.30	7.20	7.17	7.11	7.03	6.96	6.88	<24dBm	
102 / 5510	242/61	7.37	--	--	--	--	--	--	--	--	--	--	--	<24dBm	
134 / 5670	242/62	7.35	7.27	7.21	7.17	7.11	7.08	7.02	6.99	6.92	6.84	6.77	6.67	<24dBm	
151 / 5755	242/61	10.98	--	--	--	--	--	--	--	--	--	--	--	<24dBm	

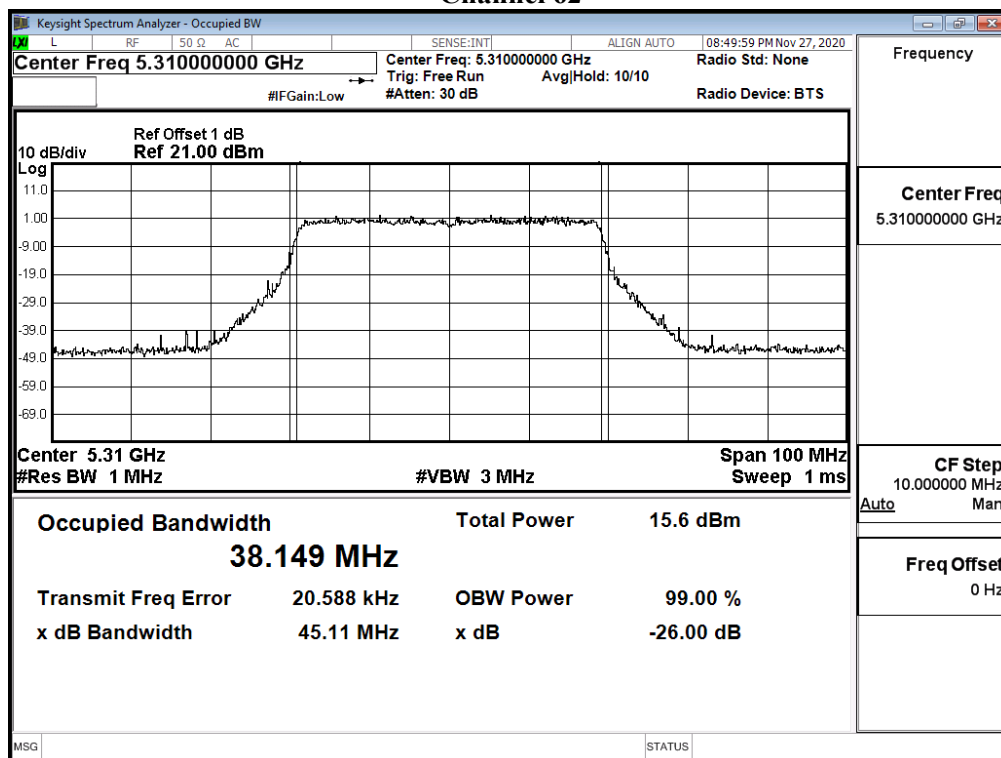
Maximum conducted output power Measurement:

Channel No /Frequency Range (MHz)	RU setting	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
38 / 5190	242/61		7.52	24		Pass
62 / 5310	242/62	23.480	7.68	24	24.71	Pass
102 / 5510	242/61	22.500	7.37	24	24.52	Pass
134 / 5670	242/62	22.330	7.35	24	24.49	Pass
151 / 5755	242/61		10.98	30		Pass

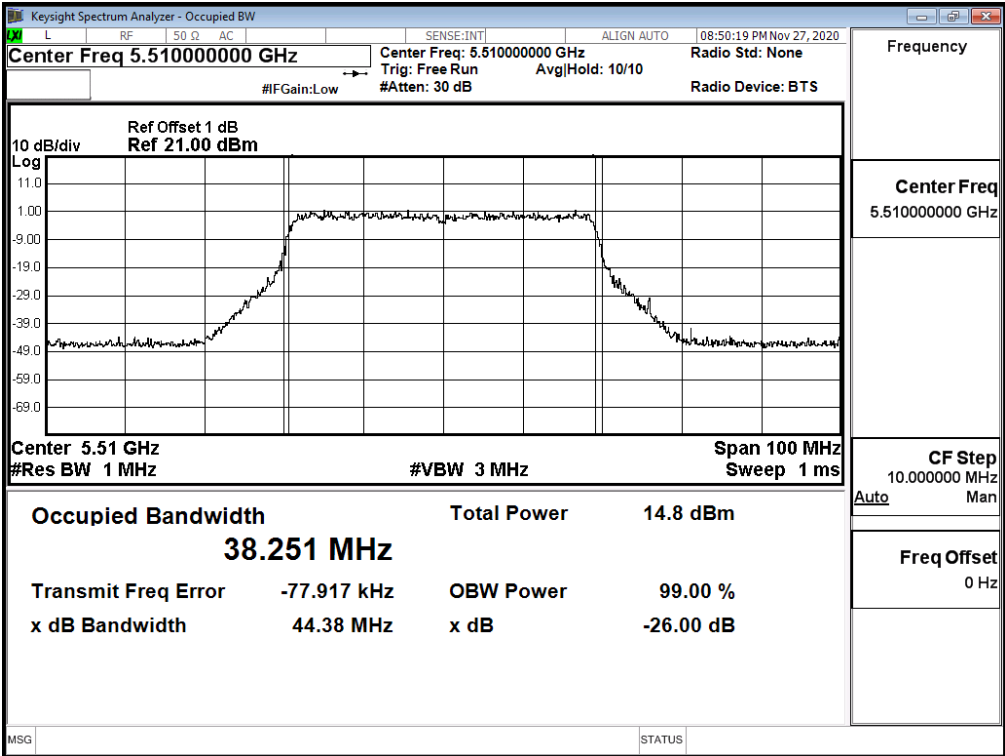
RU config: Full
26dB Occupied Bandwidth:
Channel 54



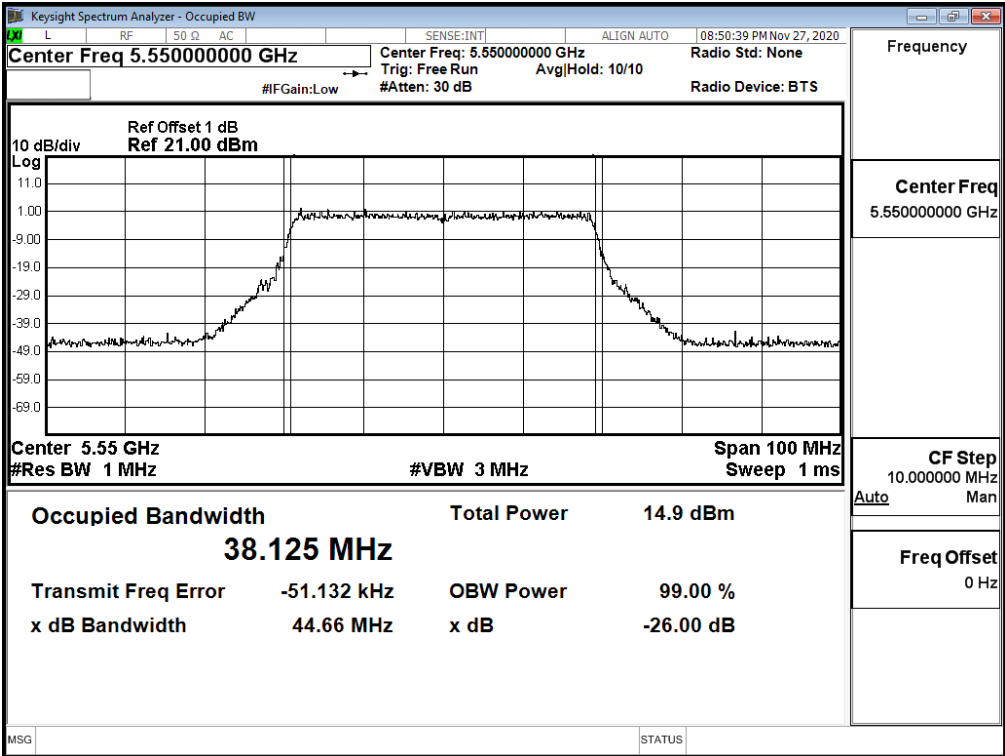
Channel 62



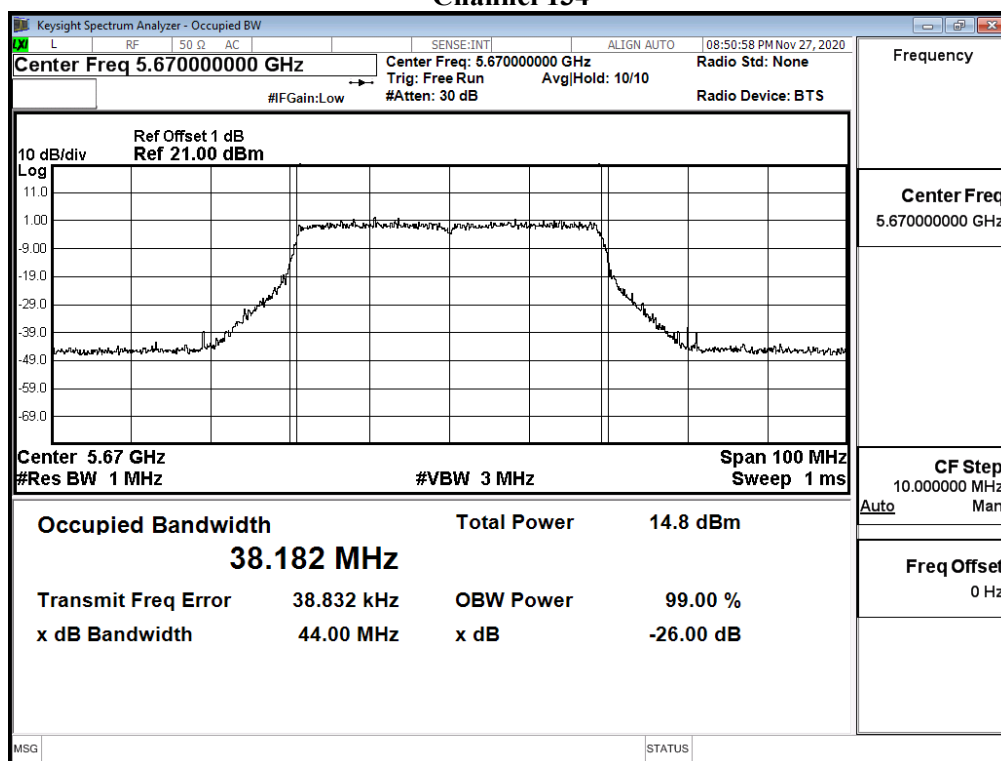
Channel 102



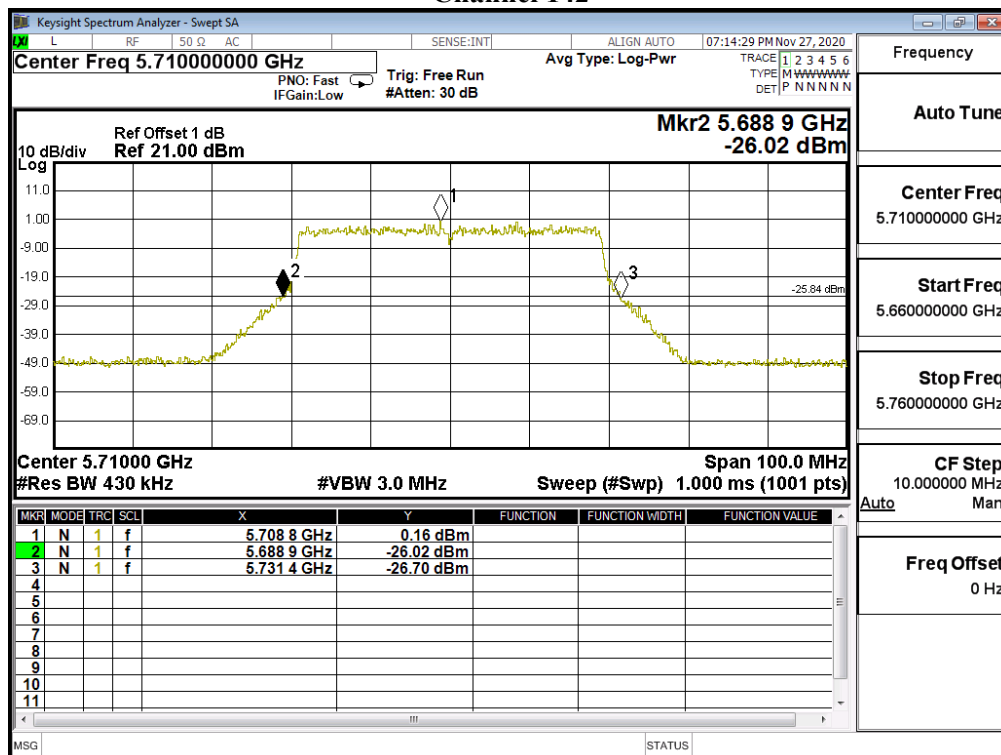
Channel 110



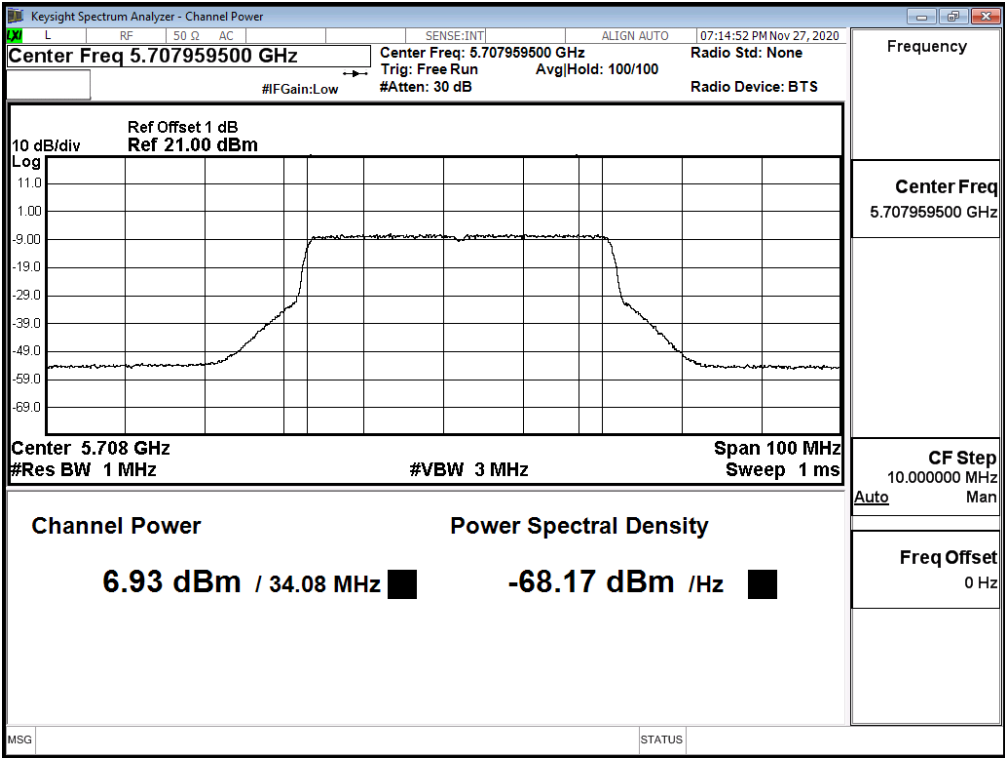
Channel 134



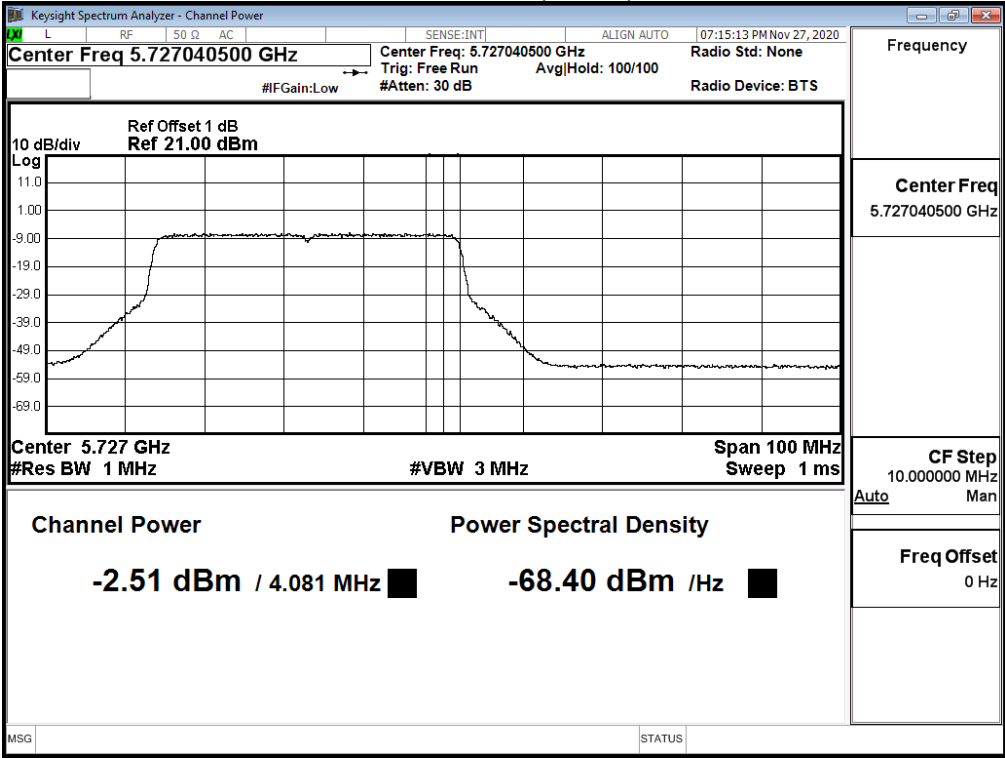
Channel 142



RU config: Full
Maximum conducted output power:
Channel 142 (Band3)

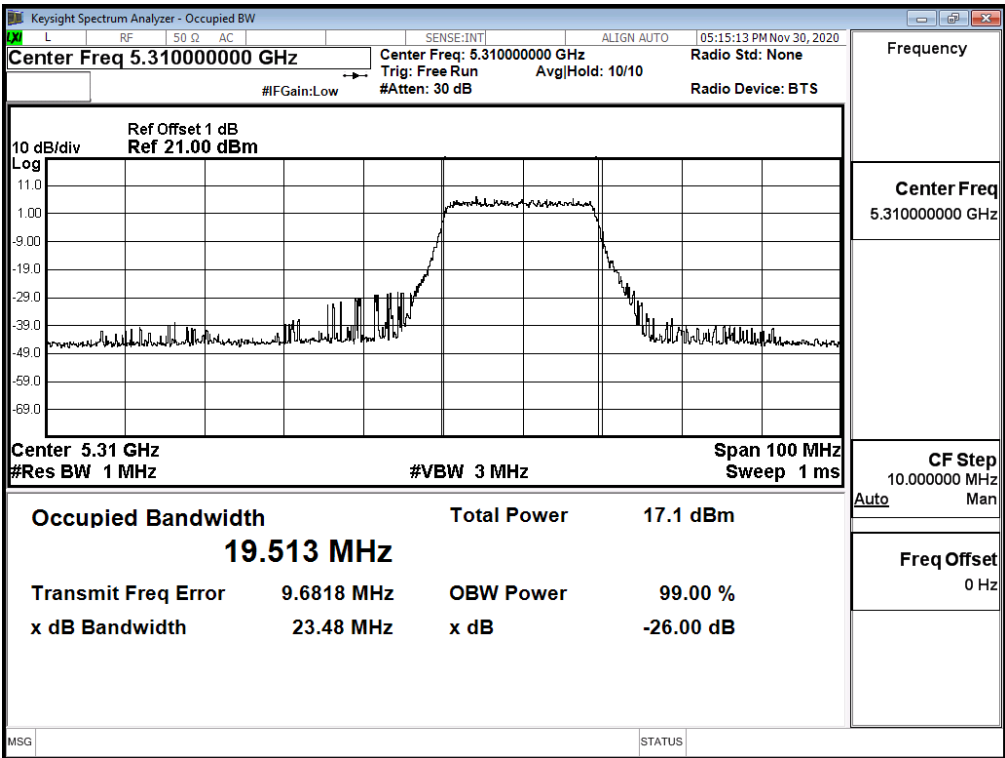


Maximum conducted output power:
Channel 142 (Band4)

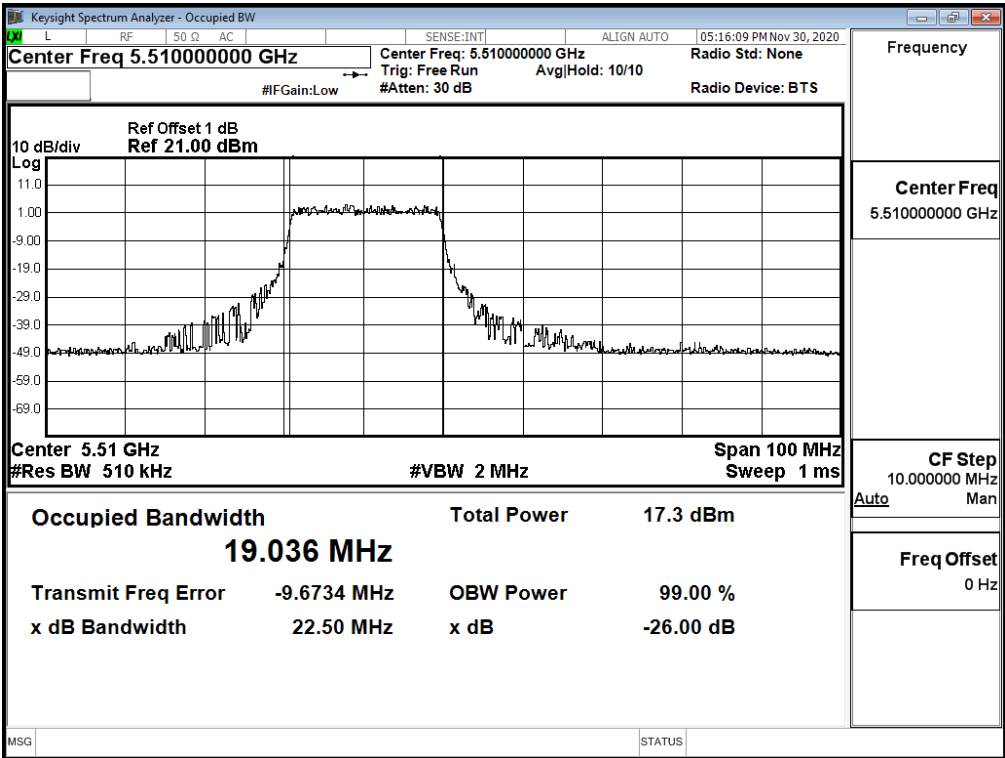


RU config: Other

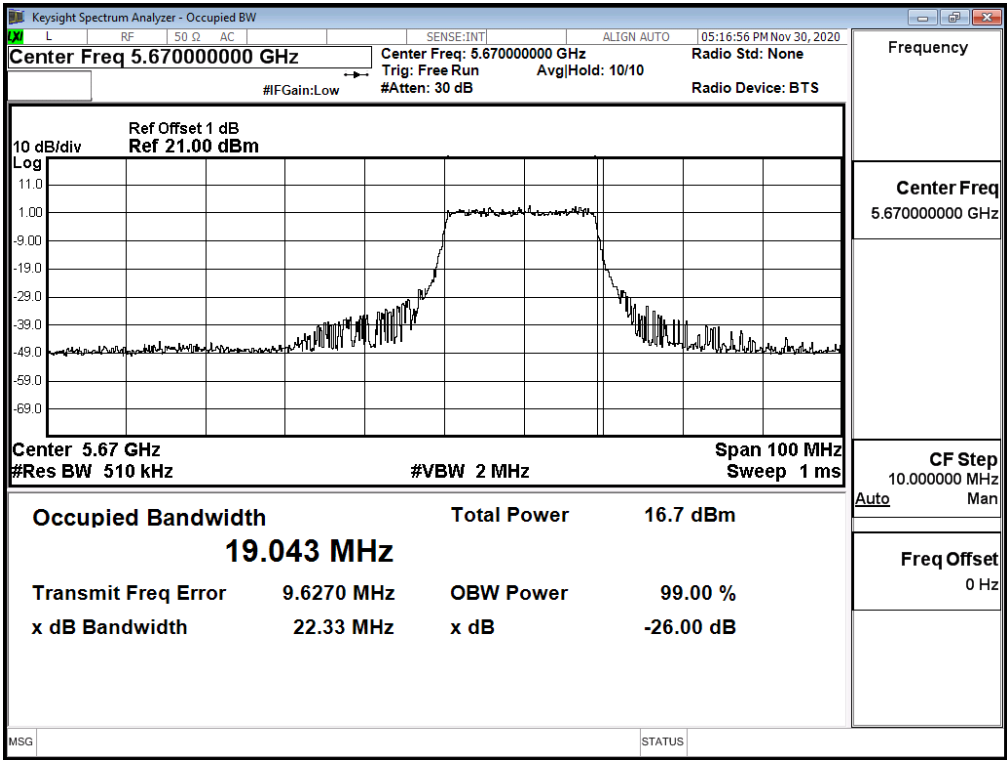
26dB Occupied Bandwidth:
Channel 62 - 242/62



Channel 102 - 242/61



Channel 134 - 242/62



Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 8: SISO A: Transmit (802.11ax-80BW_36Mbps)

RU config: Full

Cable loss=1dB		Maximum conducted output power											
Channel No	Frequency (MHz)	Data Rate (Mbps)											
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11
42	5210	7.51	7.44	7.34	7.25	7.18	7.10	7.04	7.00	6.91	6.87	6.77	6.67
58	5290	7.51	7.41	7.36	7.30	7.24	7.15	7.09	7.04	6.94	6.91	6.82	6.77
106ac80	5530	7.09	--	--	--	--	--	--	--	--	--	--	--
122ac80	5610	7.39	7.35	7.31	7.28	7.18	7.13	7.06	6.97	6.91	6.85	6.78	6.73
138ac80(Band3)	5690	7.30	7.22	7.15	7.09	7.06	6.97	6.92	6.83	6.79	6.71	6.68	6.63
138ac80(Band4)	5690	-9.06	-9.13	-9.22	-9.29	-9.33	-9.40	-9.43	-9.52	-9.59	-9.65	-9.75	-9.85
155ac80	5775	10.64	10.54	10.51	10.41	10.36	10.31	10.26	10.19	10.14	10.07	10.04	9.95

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

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
42	5210	--	7.51	24	--	Pass
58	5290	82.120	7.51	24	30.14	Pass
106ac80	5530	83.870	7.09	24	30.24	Pass
122ac80	5610	83.060	7.39	24	30.19	Pass
138ac80(Band3)	5690	76.200	7.30	24	29.82	Pass
138ac80(Band4)	5690	--	-9.06	30	--	Pass
155ac80	5775	--	10.64	30	--	Pass

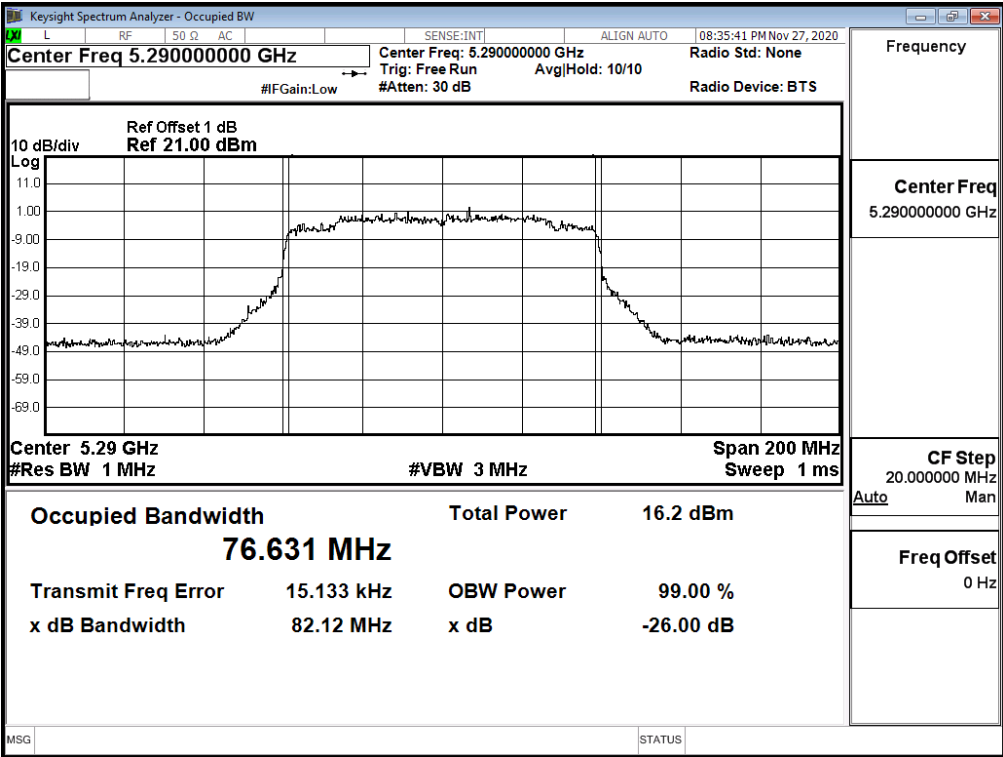
RU config: Other

Channel No / Frequency Range (MHz)	RU setting	Maximum Conducted Power Output (dBm)												
		Data Rate (Mbps)												Required Limit
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	
42/5210	484/65	7.55	7.47	7.39	7.30	7.25	7.19	7.09	7.05	6.97	6.90	6.80	6.74	<24dBm
58/5290	484/66	7.54	7.51	7.47	7.41	7.34	7.24	7.17	7.13	7.07	7.04	6.96	6.88	<24dBm
106/5530	484/65	7.45	7.37	7.32	7.28	7.22	7.17	7.10	7.04	6.97	6.90	6.80	6.75	<24dBm
155/5775	484/65	10.91	10.81	10.77	10.67	10.58	10.50	10.47	10.43	10.36	10.33	10.24	10.15	<30dBm

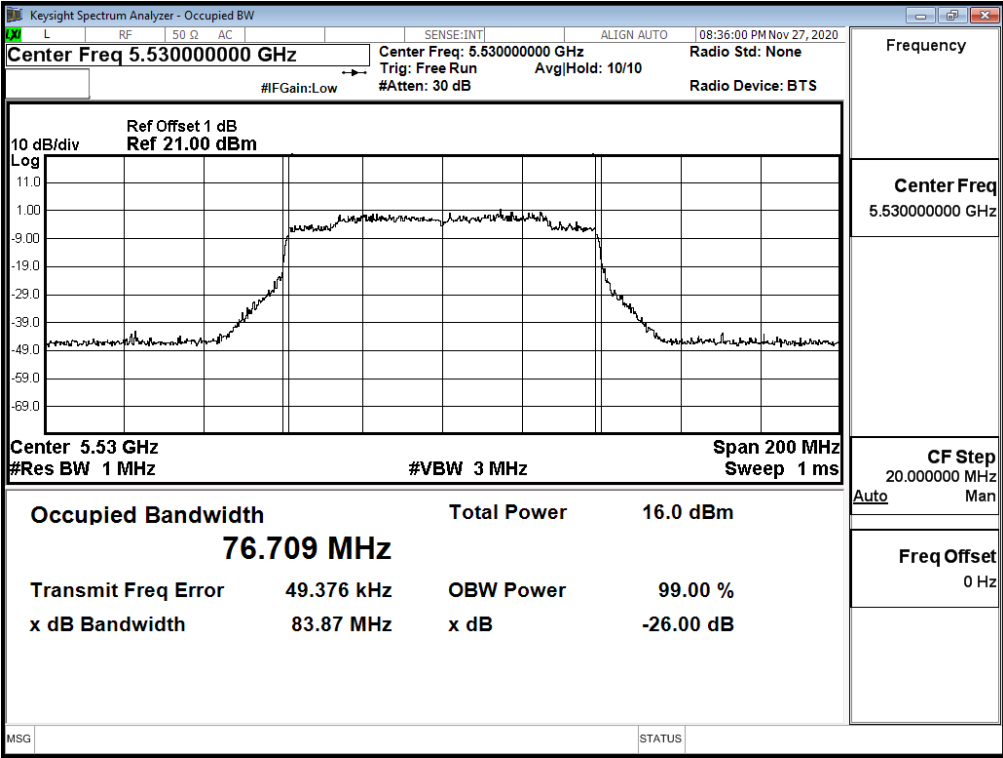
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
42/5210	484/65	--	7.55	24	--	Pass
58/5290	484/66	42.870	7.54	24	27.32	Pass
106/5530	484/65	46.040	7.45	24	27.63	Pass
155/5775	484/65	--	10.91	30	--	Pass

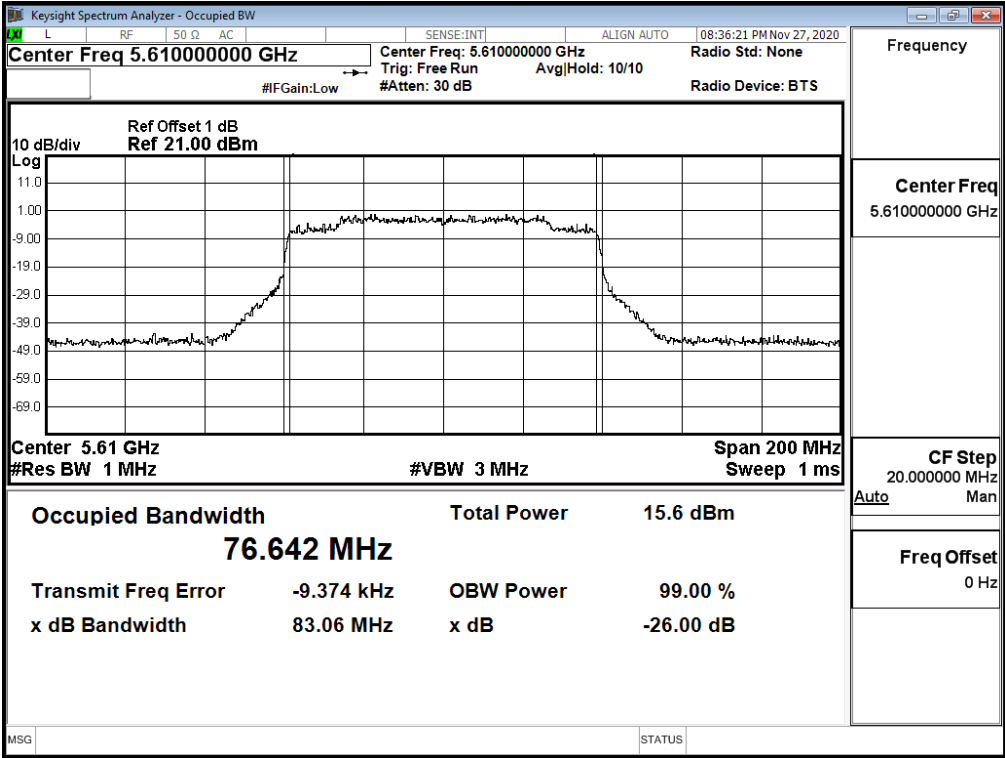
RU config: Full
26dB Occupied Bandwidth:
Channel 58



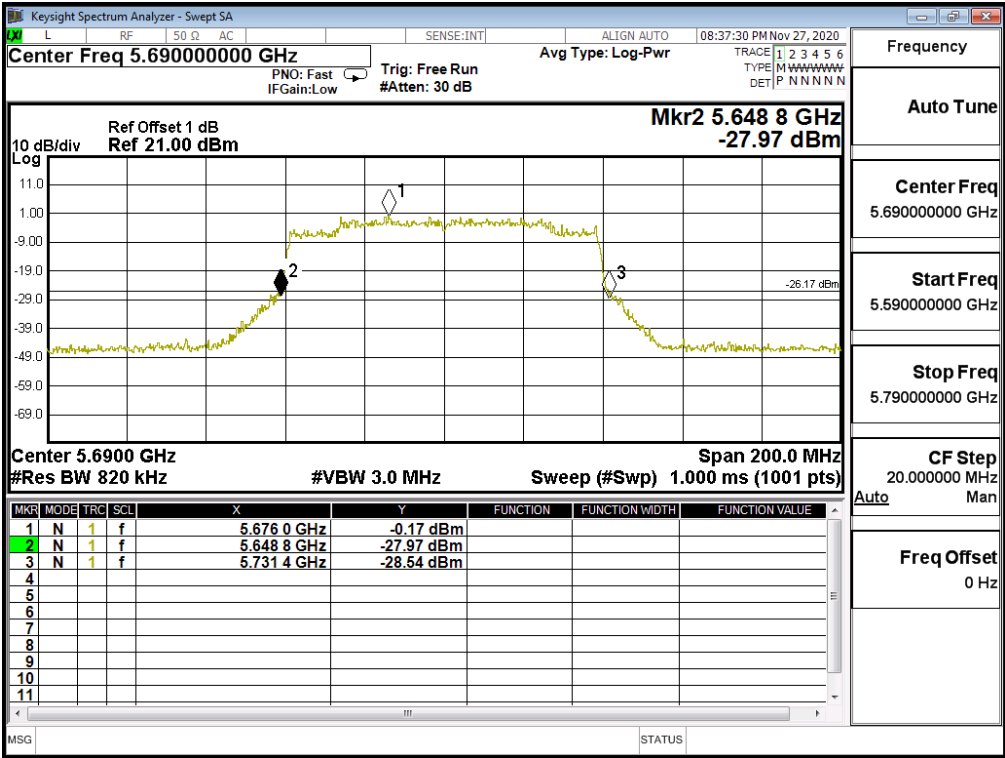
Channel 106



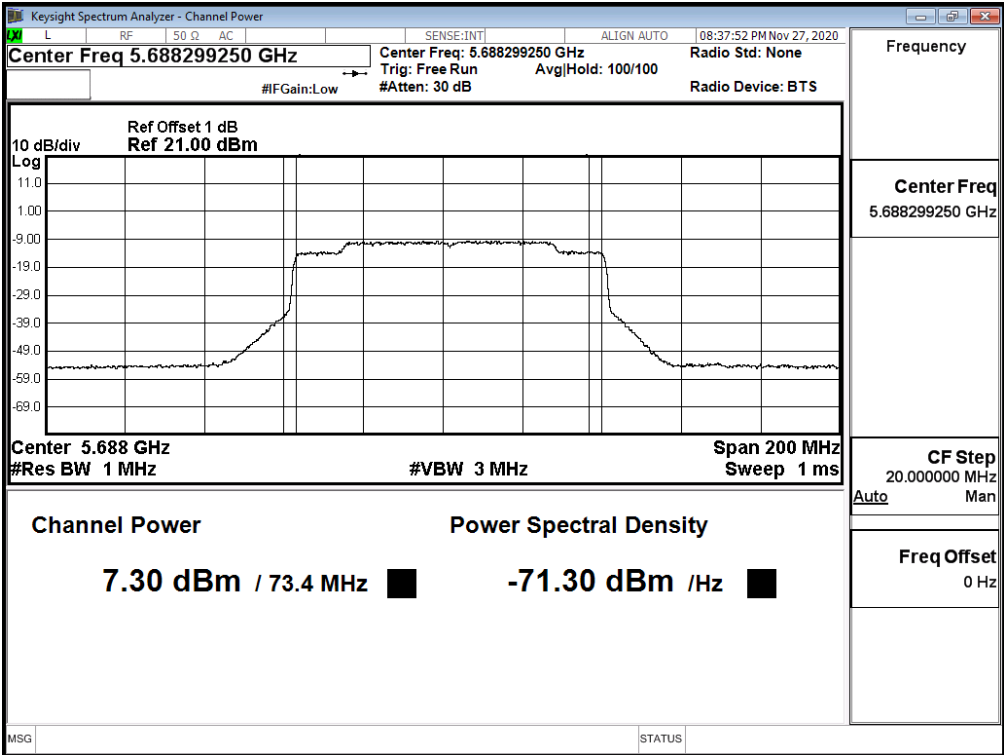
Channel 122



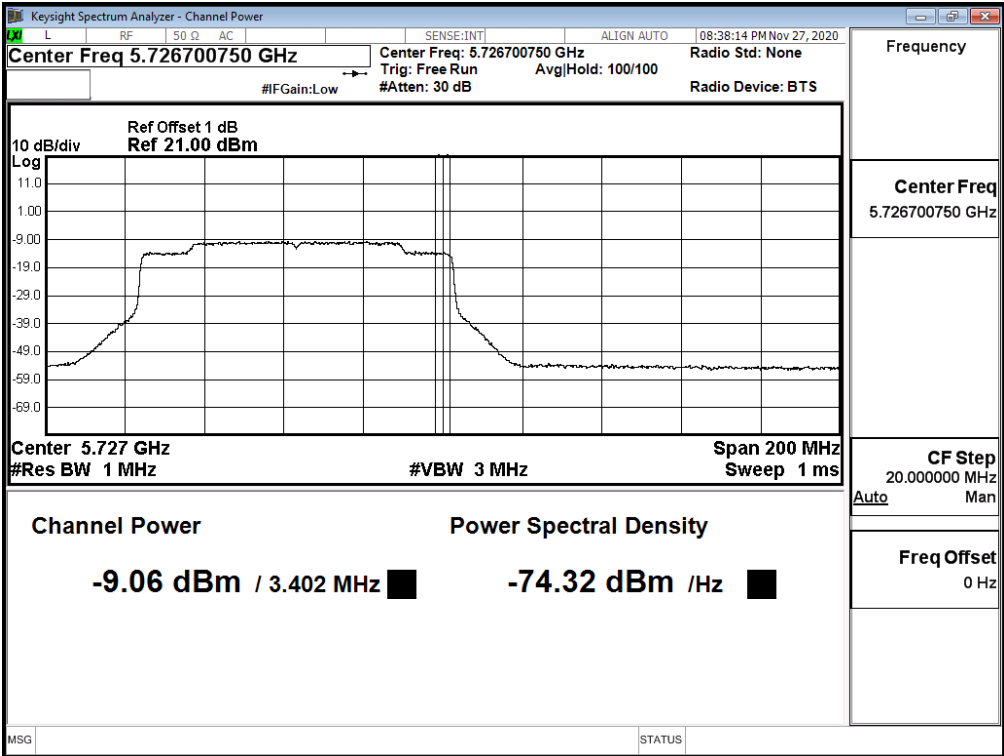
Channel 138



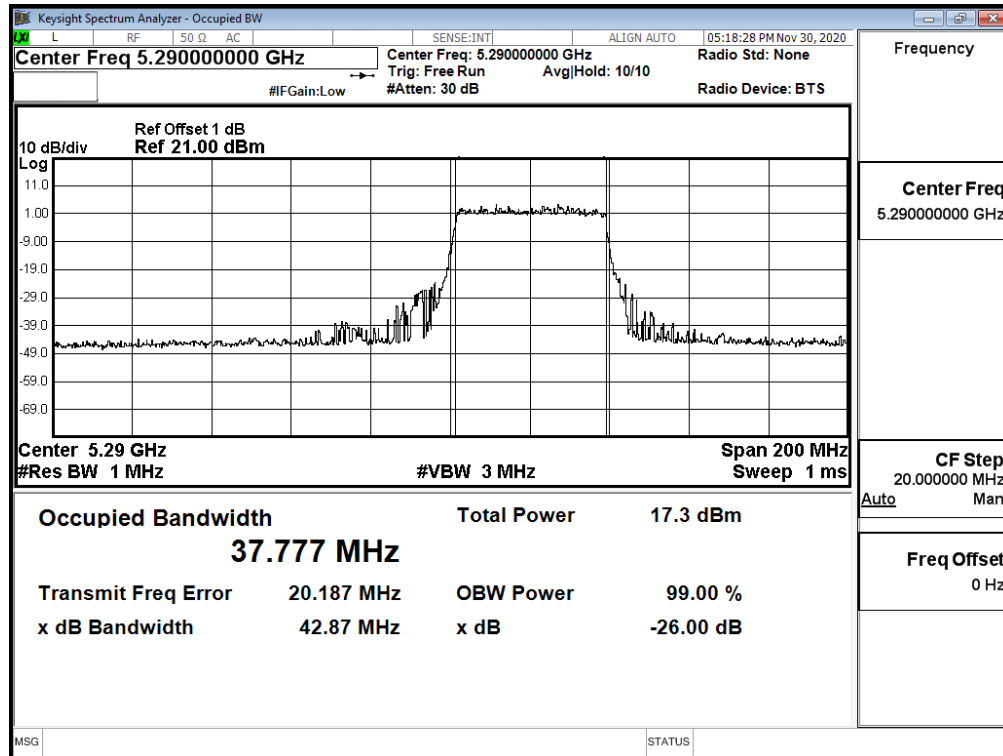
RU config: Full
Maximum conducted output power:
Channel 138 ((Band3))



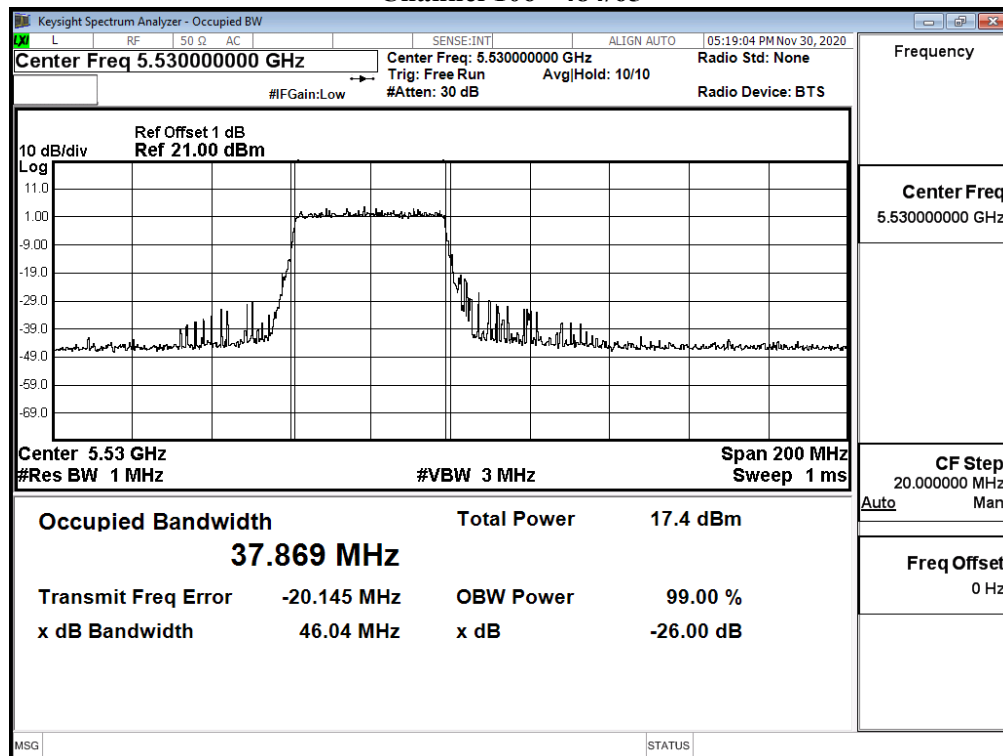
Maximum conducted output power:
Channel 138 ((Band4))



RU config: Other
26dB Occupied Bandwidth:
Channel 58 - 484/66



Channel 106 - 484/65



Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 9: SISO A: Transmit (802.11ax-160BW_72.1Mbps)

RU config: Full

Cable loss=1dB		Maximum conducted output power											
Channel No	Frequency (MHz)	Data Rate (Mbps)											
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11
50ac160(Band1)	5250	4.14	4.09	4.02	3.92	3.84	3.76	3.67	3.60	3.51	3.46	3.42	3.39
50ac160(Band2)	5250	4.86	4.77	4.72	4.64	4.56	4.46	4.42	4.34	4.24	4.15	4.11	4.06
114ac160	5570	7.30	7.27	7.24	7.21	7.17	7.07	7.02	6.93	6.87	6.79	6.74	6.68

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

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
50ac160(Band1)	5250	--	4.14	24	--	Pass
80ac160(Band2)	5250	84.000	4.86	24	30.24	Pass
114ac160	5570	163.600	7.30	24	33.14	Pass

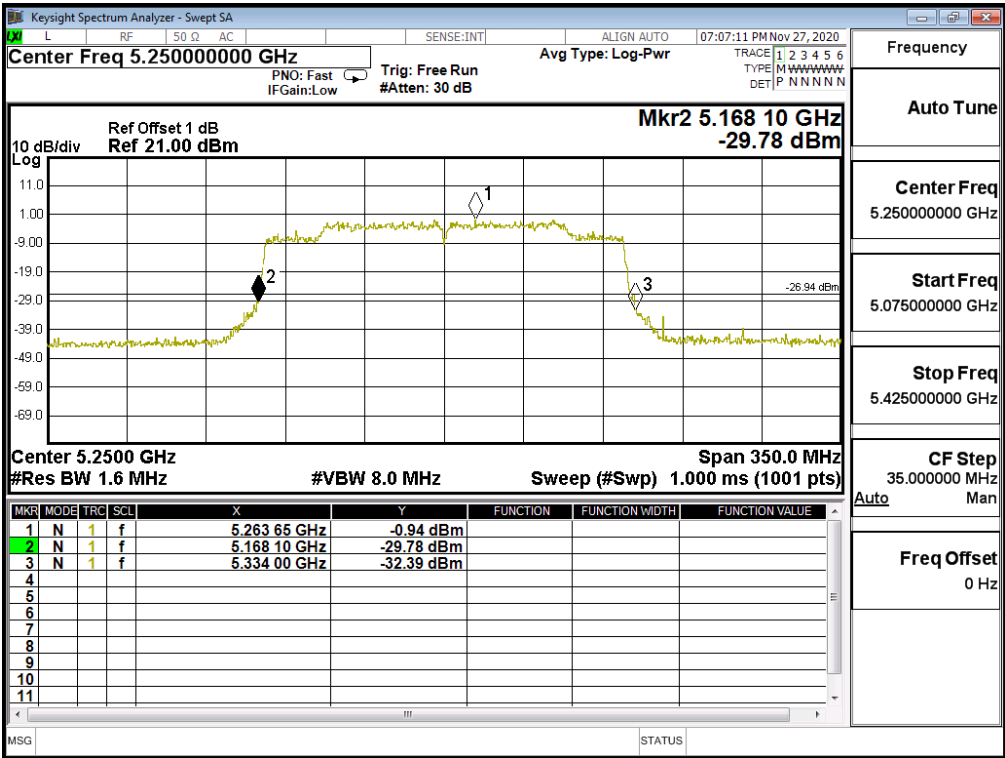
RU config: Other

Channel No / Frequency (MHz)	RU setting	Average Power Output (dBm)												
		Data Rate (Mbps)												Required Limit
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10	MCS11	
50/5250	996/67	7.51	7.41	7.37	7.31	7.21	7.14	7.05	6.95	6.87	6.78	6.73	6.63	<24dBm
	996/S67	7.61	7.51	7.47	7.38	7.31	7.24	7.18	7.10	7.00	6.94	6.86	6.81	<24dBm
114/5570	996/67	7.43	7.39	7.36	7.31	7.22	7.17	7.10	7.05	7.02	6.95	6.90	6.84	<24dBm
	996/S67	7.44	7.34	7.27	7.23	7.17	7.10	7.06	7.01	6.92	6.86	6.76	6.72	<24dBm

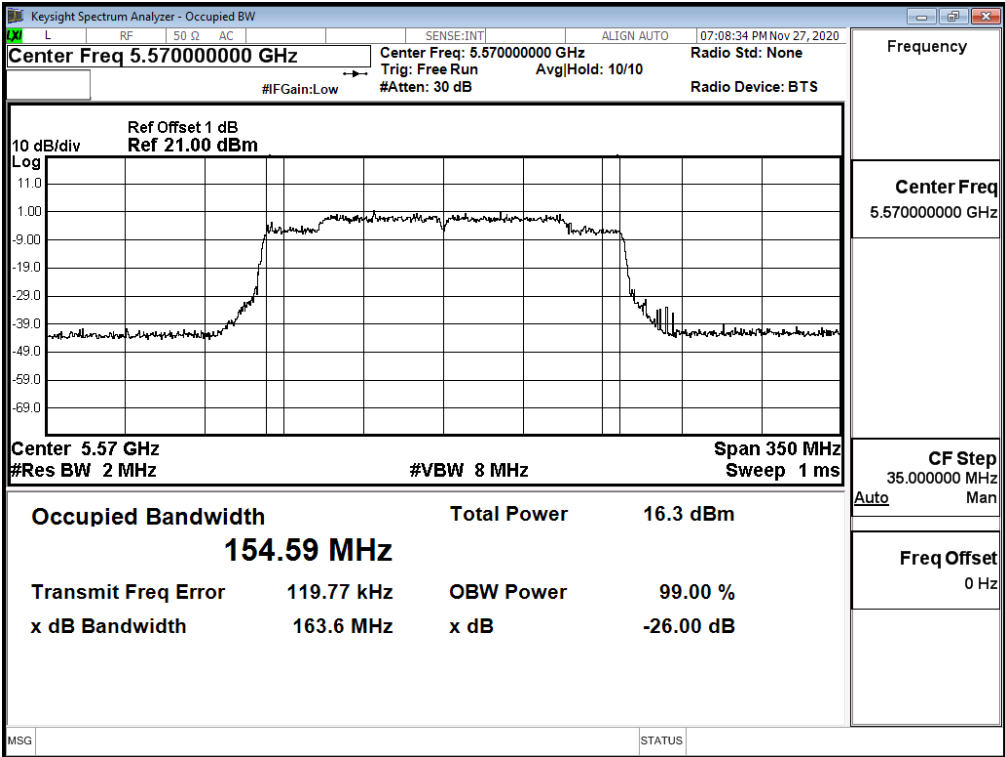
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
50/5250	996/67	--	7.51	24	--	Pass
	996/S67	88.070	7.61	24	30.45	Pass
114/5570	996/67	86.160	7.43	24	30.35	Pass
	996/S67	87.130	7.44	24	30.40	Pass

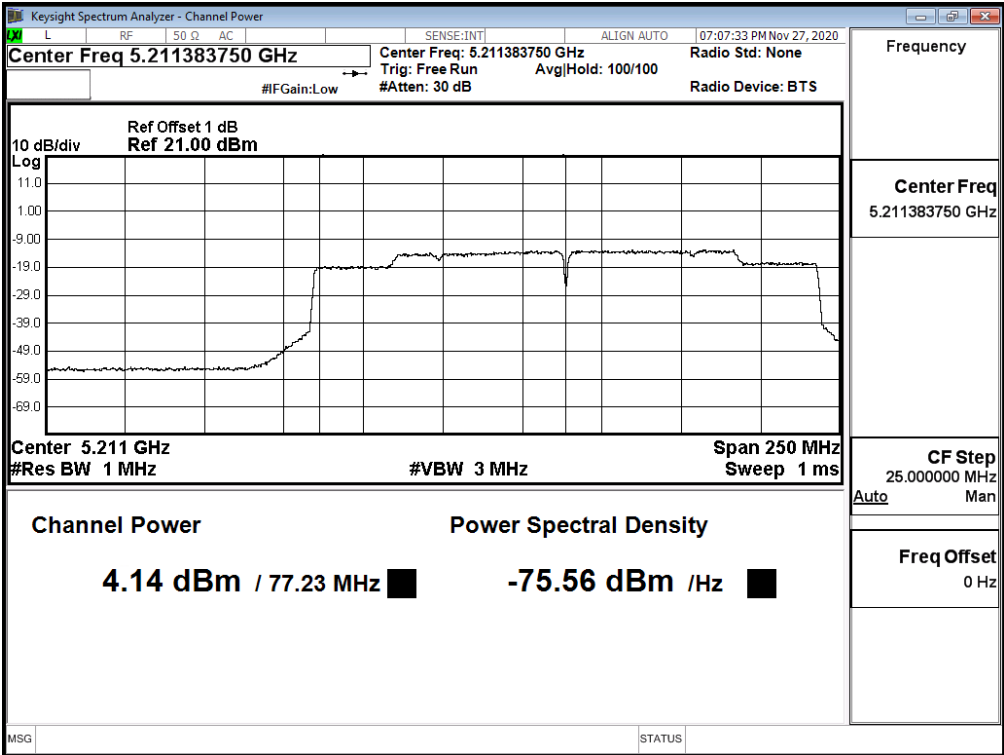
RU config: Full
26dB Occupied Bandwidth:
Channel 50



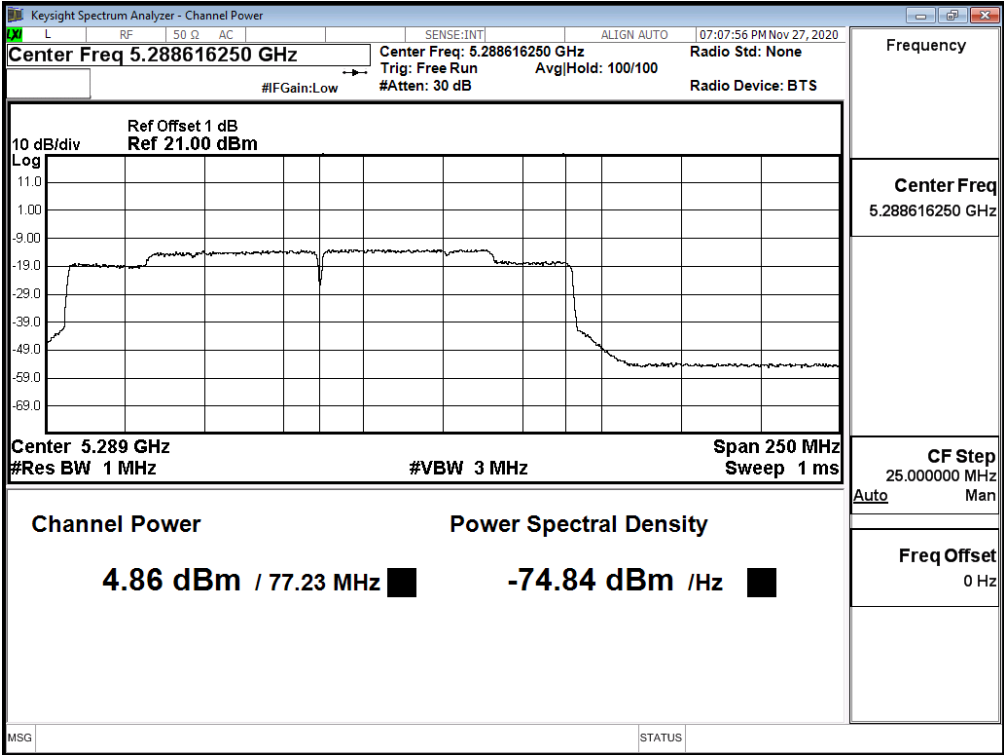
Channel 114



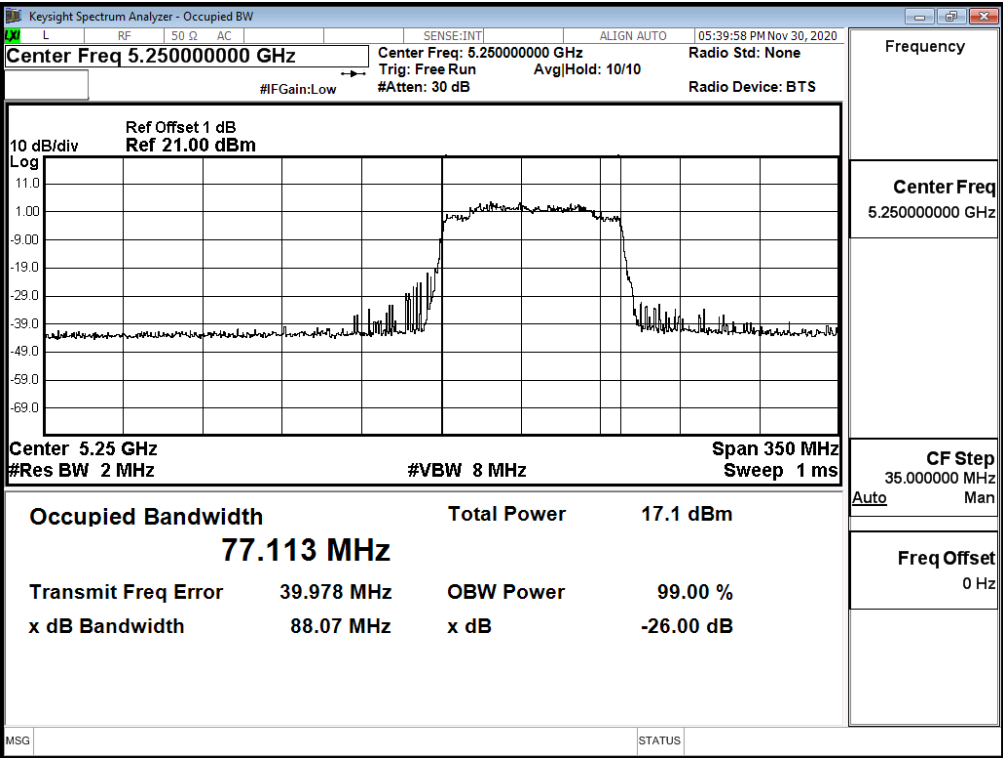
RU config: Full
Maximum conducted output power:
Channel 50 (Band1)



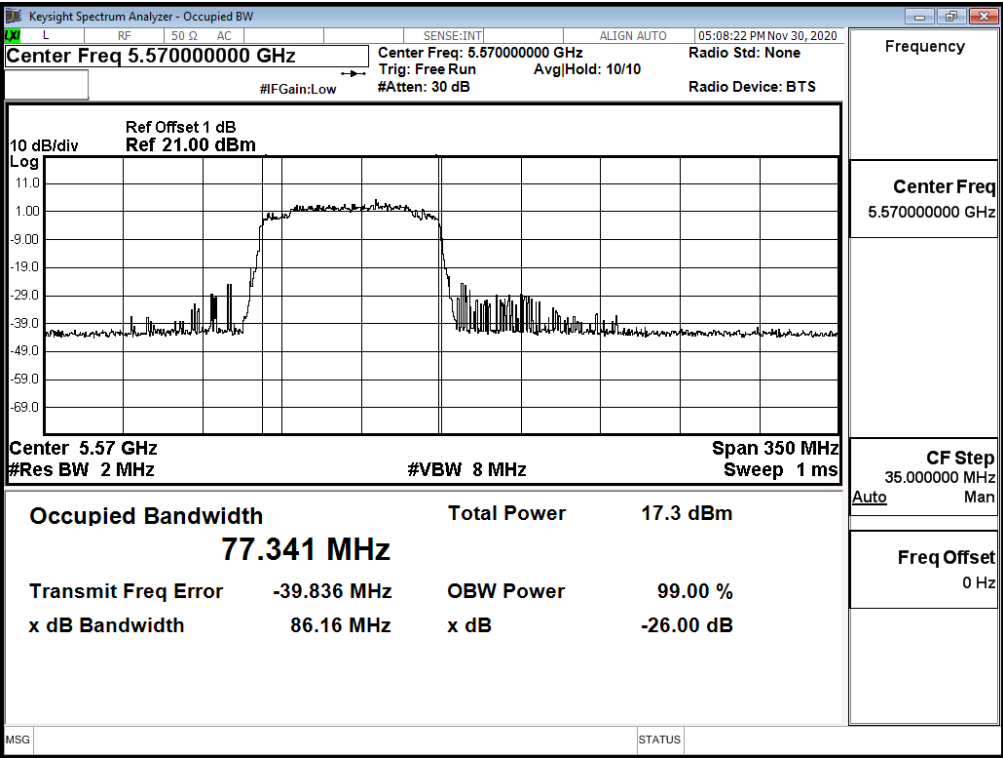
Maximum conducted output power:
Channel 50 (Band2)



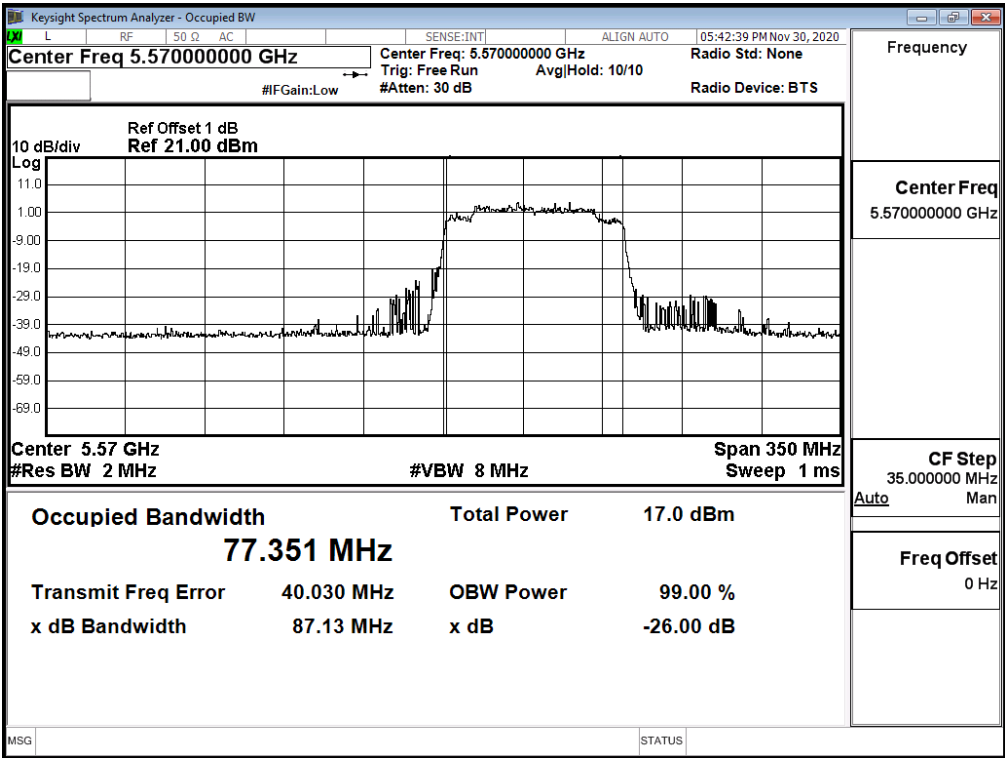
RU config: Other
26dB Occupied Bandwidth:
Channel 50 - 996/S67



26dB Occupied Bandwidth:
Channel 114 - 996/67



Channel 114 - 996/S67



Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 10 SISO B: Transmit (802.11a_6Mbps)

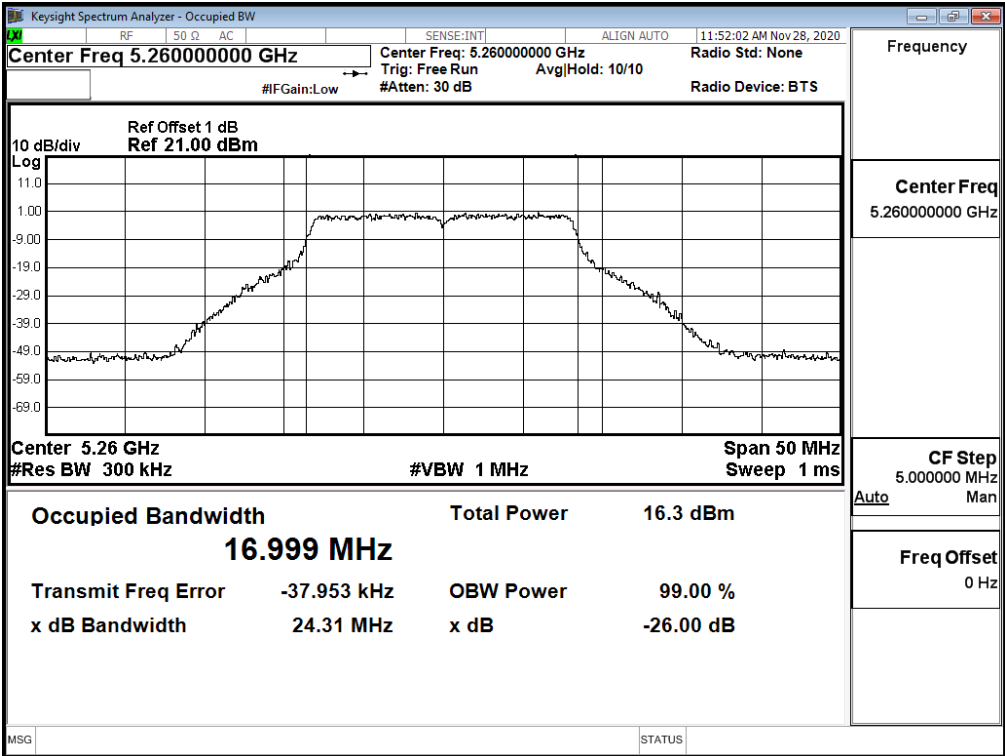
Cable loss=1dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
		Measurement Level (dBm)							
36	5180	10.85	--	--	--	--	--	--	--
44	5220	10.92	10.86	10.79	10.69	10.59	10.51	10.41	10.33
48	5240	10.85	--	--	--	--	--	--	--
52	5260	10.96	--	--	--	--	--	--	--
60	5300	10.99	10.91	10.82	10.75	10.68	10.59	10.50	10.46
64	5320	10.97	--	--	--	--	--	--	--
100	5500	9.83	--	--	--	--	--	--	--
116	5580	9.92	9.89	9.79	9.72	9.68	9.64	9.58	9.54
140	5700	9.98	--	--	--	--	--	--	--
149	5745	10.71	--	--	--	--	--	--	--
157	5785	10.75	10.66	10.56	10.46	10.42	10.34	10.27	10.20
165	5825	10.62	--	--	--	--	--	--	--

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

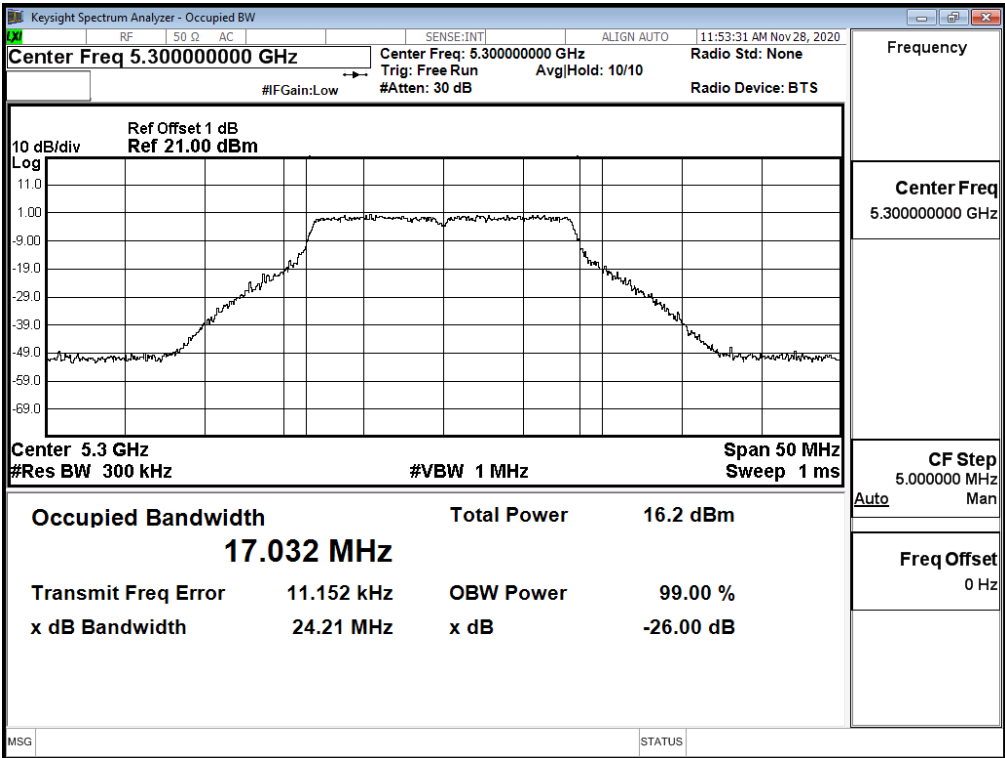
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
36	5180	--	10.85	24	--	Pass
44	5220	--	10.92	24	--	Pass
48	5240	--	10.85	24	--	Pass
52	5260	24.310	10.96	24	24.86	Pass
60	5300	24.210	10.99	24	24.84	Pass
64	5320	23.690	10.97	24	24.75	Pass
100	5500	23.220	9.83	24	24.66	Pass
116	5580	23.740	9.92	24	24.75	Pass
140	5700	24.070	9.98	24	24.81	Pass
149	5745	--	10.71	30	--	Pass
157	5785	--	10.75	30	--	Pass
165	5825	--	10.62	30	--	Pass

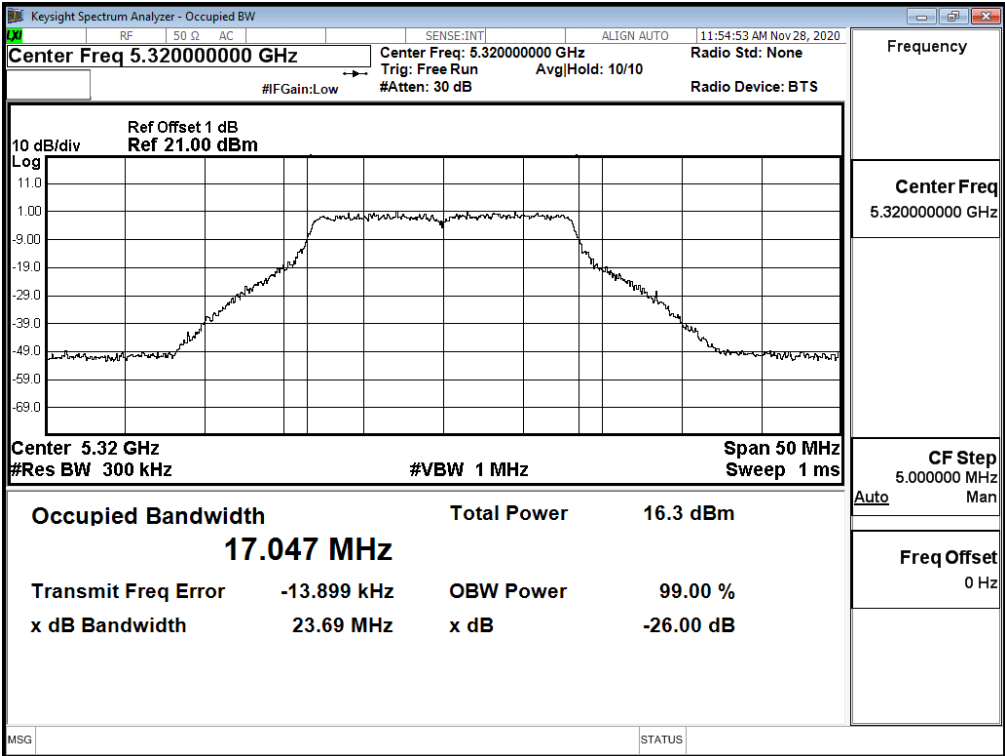
26dB Occupied Bandwidth:
Channel 52



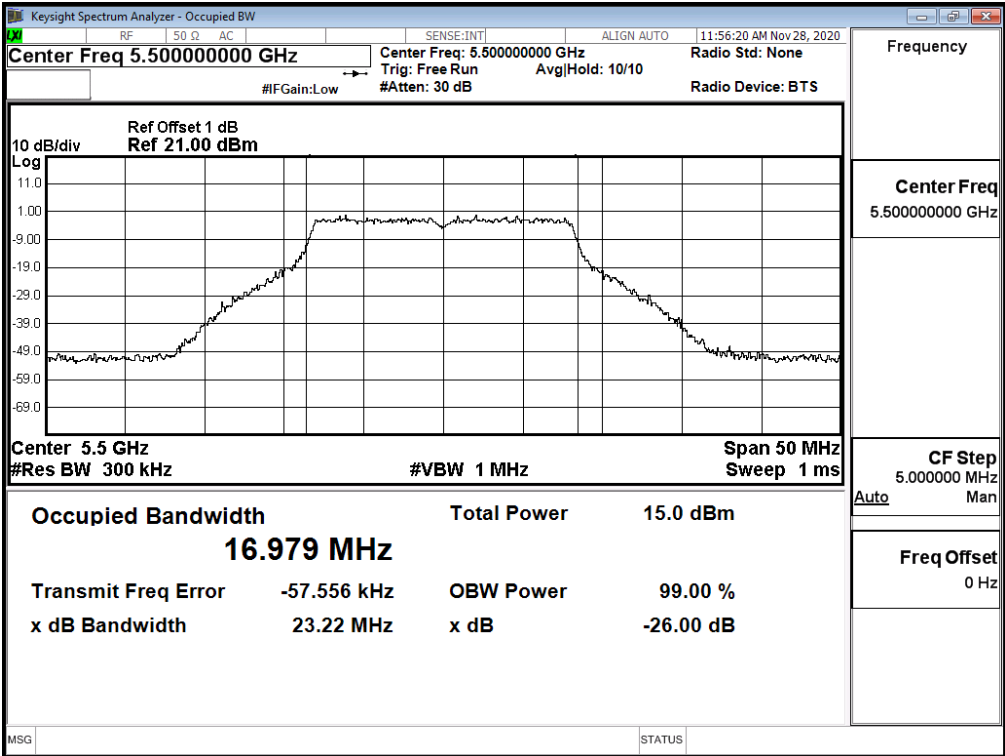
Channel 60



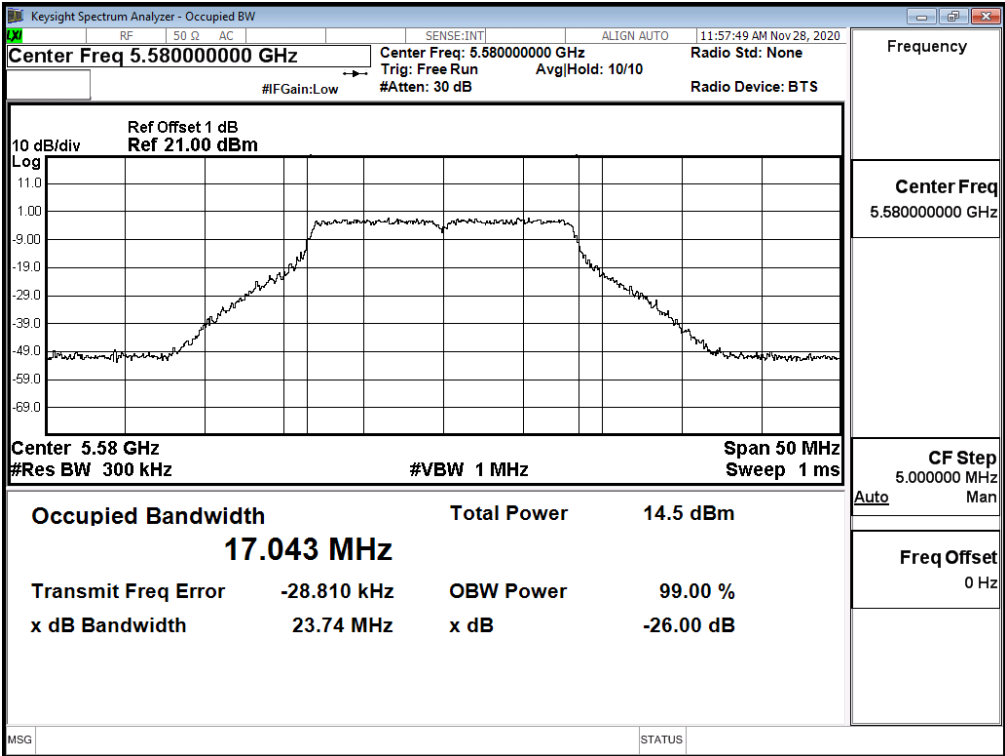
Channel 64



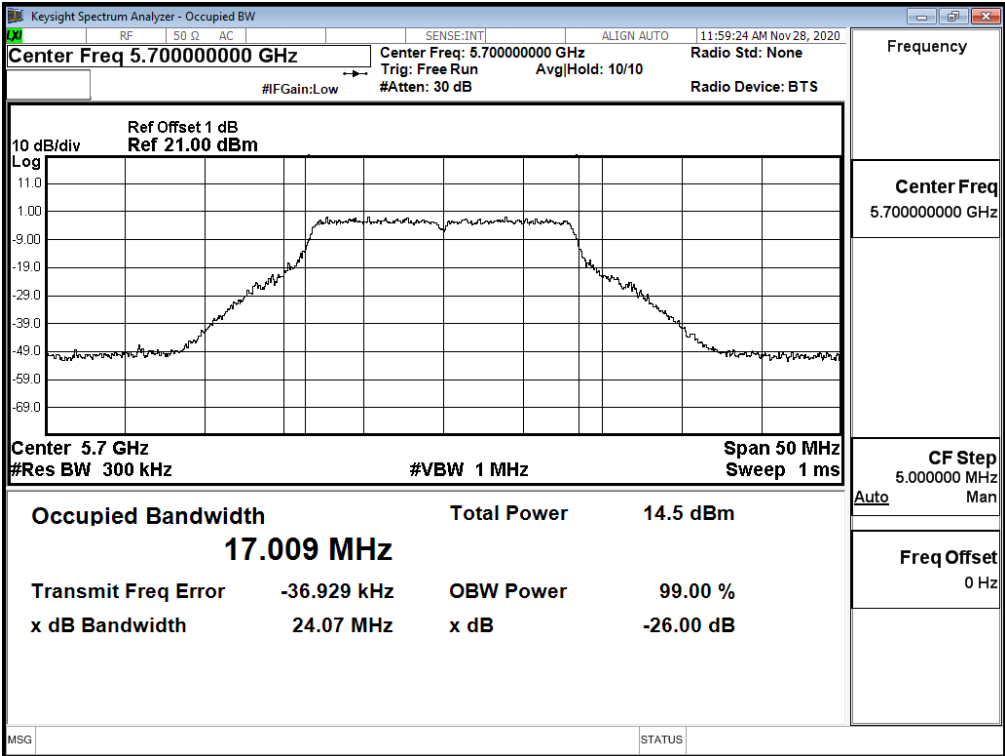
Channel 100



Channel 116



Channel 140



Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 11 SISO B: Transmit (802.11n-20BW_7.2Mbps)

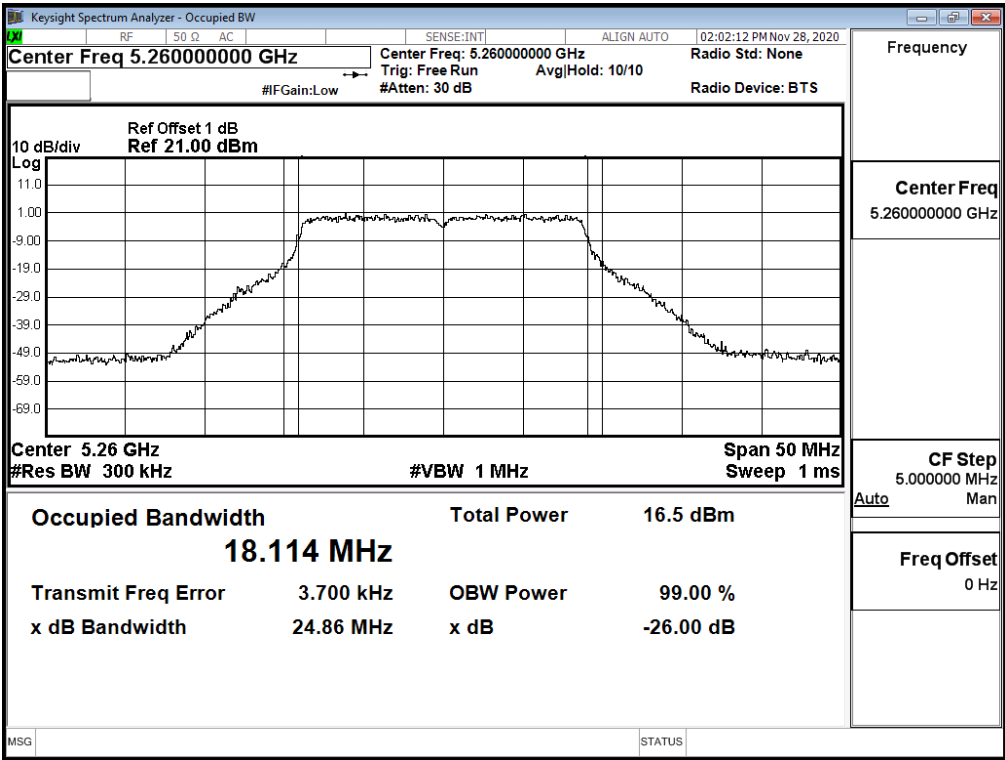
Cable loss=1dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		HT0	HT1	HT2	HT3	HT4	HT5	HT6	HT7
		Measurement Level (dBm)							
36	5180	10.79	--	--	--	--	--	--	--
44	5220	10.82	10.78	10.71	10.62	10.54	10.50	10.42	10.32
48	5240	10.94	--	--	--	--	--	--	--
52	5260	10.98	--	--	--	--	--	--	--
60	5300	10.94	10.89	10.79	10.72	10.66	10.58	10.48	10.41
64	5320	10.89	--	--	--	--	--	--	--
100	5500	9.84	--	--	--	--	--	--	--
116	5580	9.98	9.95	9.85	9.75	9.67	9.58	9.49	9.40
140	5700	9.93	--	--	--	--	--	--	--
144(Band3)	5720	8.80	8.77	8.70	8.63	8.60	8.53	8.48	8.38
144(Band4)	5720	3.30	3.27	3.24	3.14	3.11	3.07	2.98	2.93
149	5745	10.80	--	--	--	--	--	--	--
157	5785	10.75	10.72	10.66	10.61	10.56	10.46	10.39	10.33
165	5825	10.66	--	--	--	--	--	--	--

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

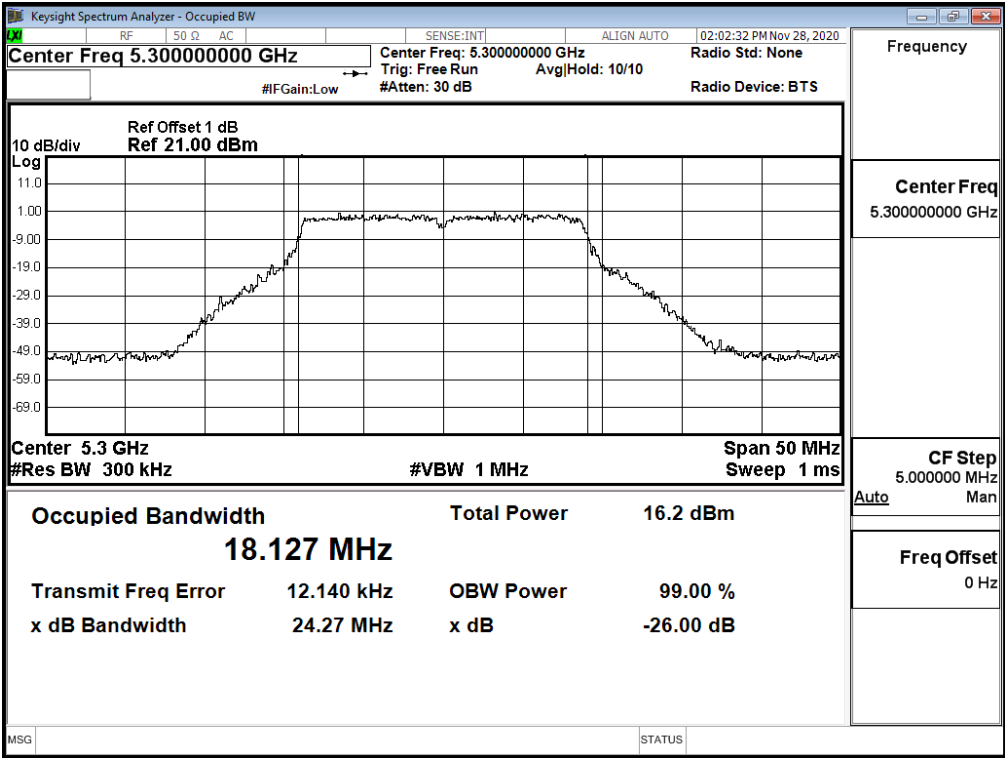
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
36	5180	--	10.79	24	--	Pass
44	5220	--	10.82	24	--	Pass
48	5240	--	10.94	24	--	Pass
52	5260	24.860	10.98	24	24.96	Pass
60	5300	24.270	10.94	24	24.85	Pass
64	5320	24.450	10.89	24	24.88	Pass
100	5500	24.270	9.84	24	24.85	Pass
116	5580	24.470	9.98	24	24.89	Pass
140	5700	24.160	9.93	24	24.83	Pass
144(Band3)	5720	17.350	8.80	24	23.39	Pass
144(Band4)	5720	--	3.30	30	--	Pass
149	5745	--	10.80	30	--	Pass
157	5785	--	10.75	30	--	Pass
165	5825	--	10.66	30	--	Pass

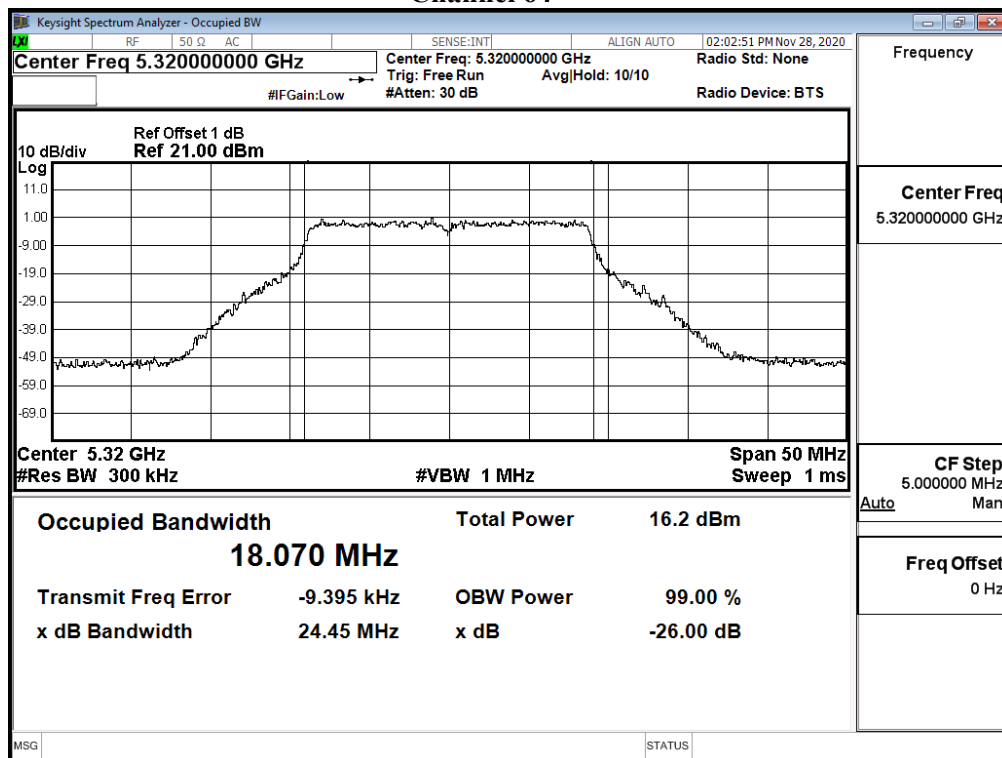
26dB Occupied Bandwidth:
Channel 52



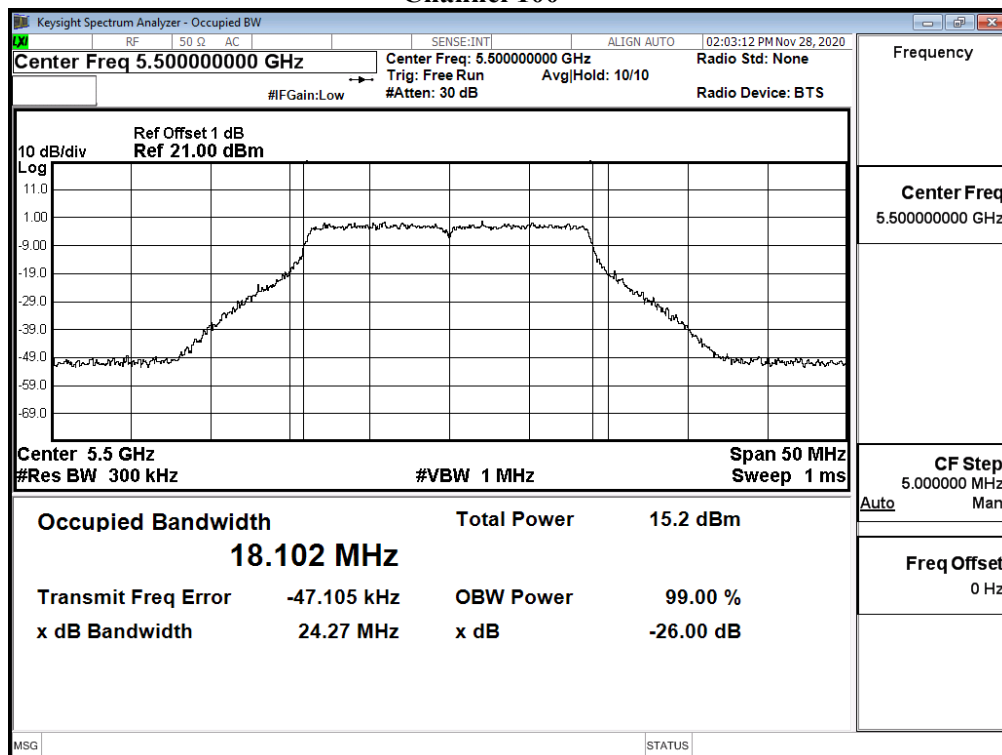
Channel 60



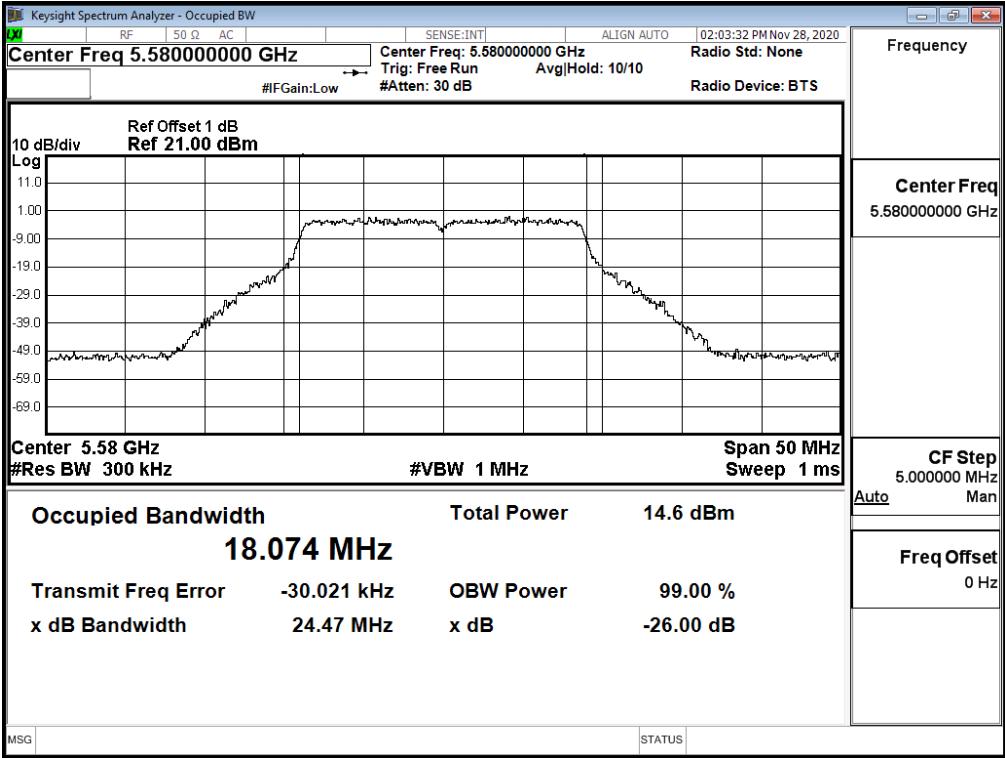
Channel 64



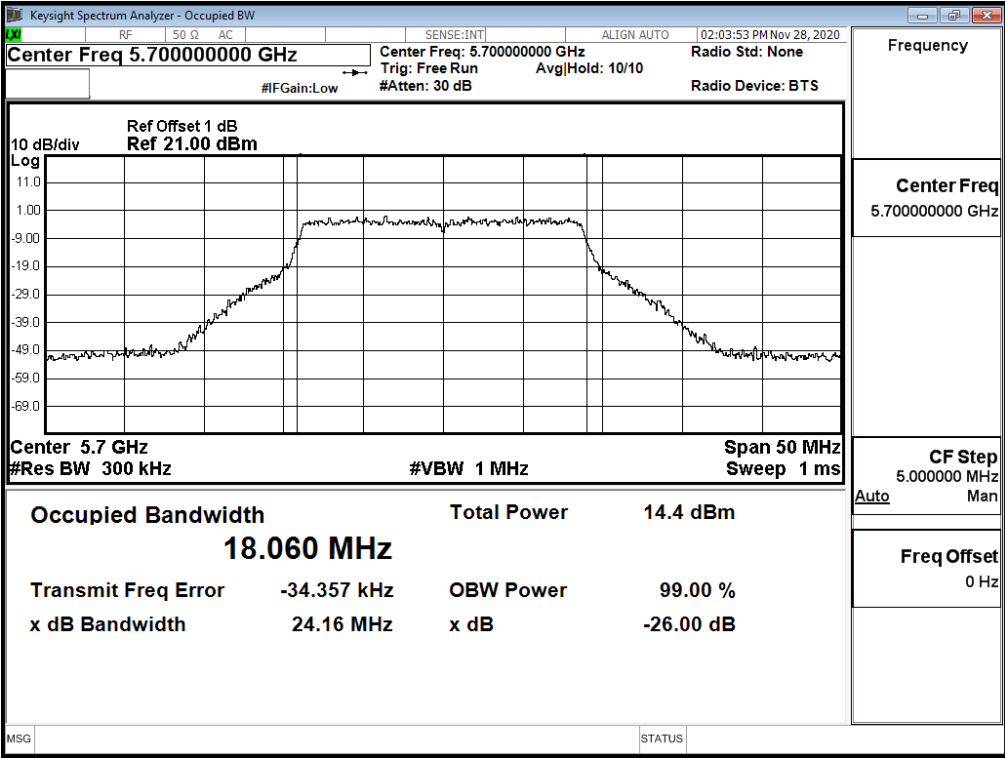
Channel 100



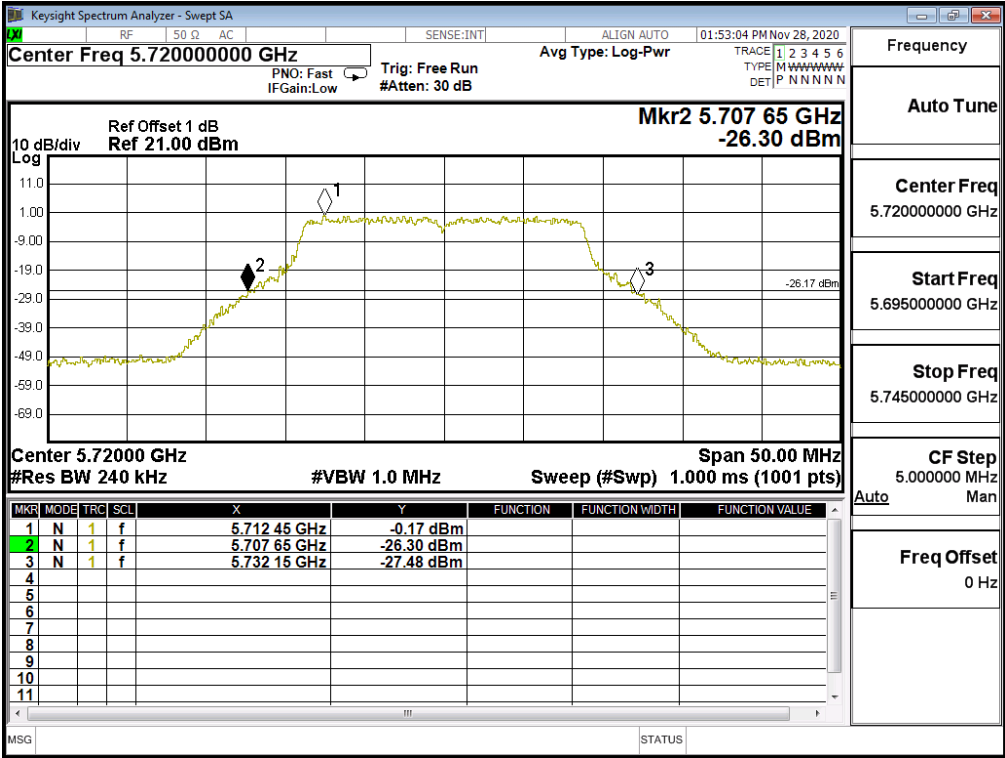
Channel 116



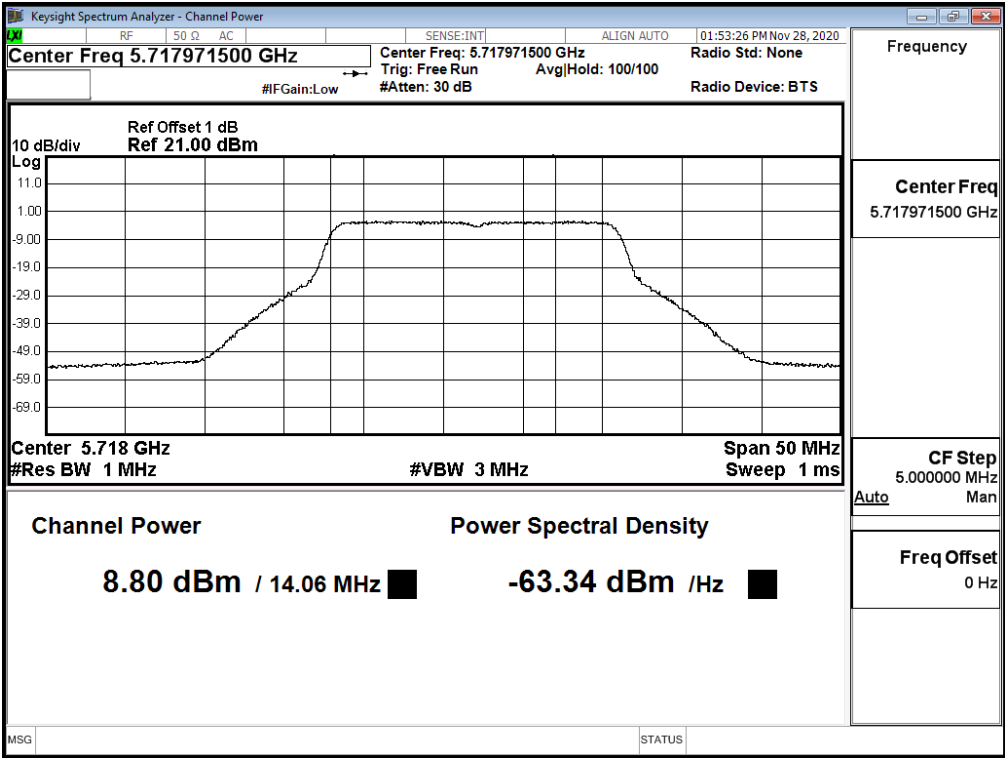
Channel 140



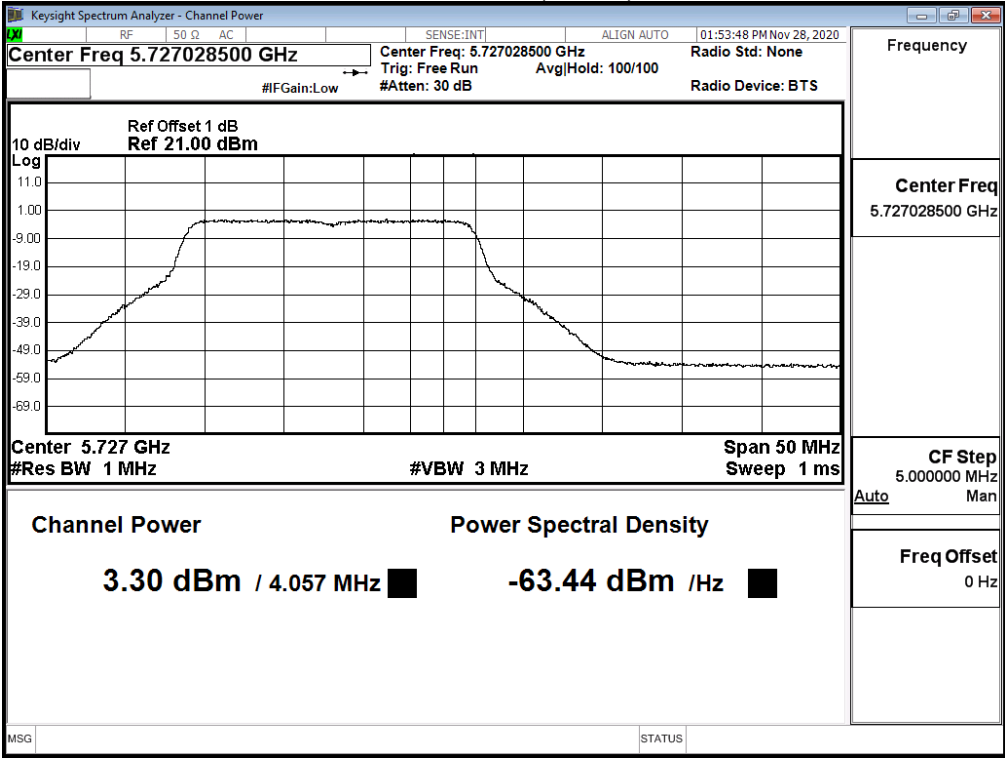
Channel 144



Maximum conducted output power:
Channel 144 (Band3)



Maximum conducted output power:
Channel 144 (Band4)



Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 12 SISO B: Transmit (802.11n-40BW_15Mbps)

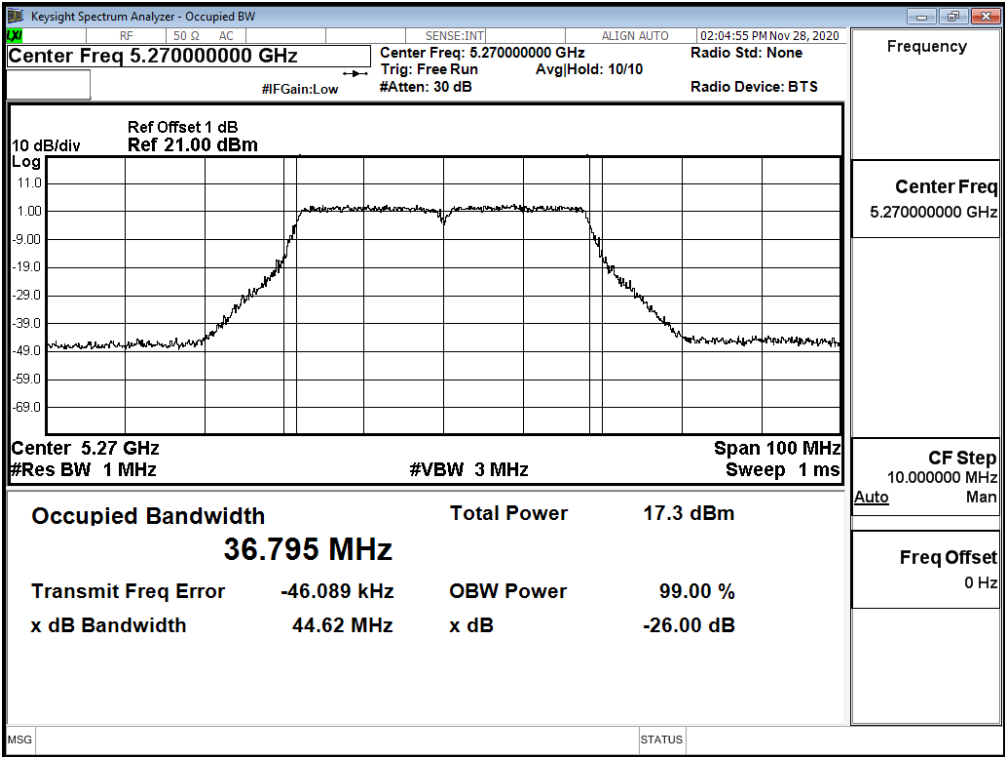
Cable loss=1dB		Maximum conducted output power							
Channel No.	Frequency (MHz)	Data Rate (Mbps)							
		HT0	HT1	HT2	HT3	HT4	HT5	HT6	HT7
		Measurement Level (dBm)							
38	5190	10.84	--	--	--	--	--	--	--
46	5230	10.99	10.91	10.83	10.80	10.70	10.62	10.56	10.49
54	5270	10.93	--	--	--	--	--	--	--
62	5310	10.83	10.80	10.71	10.67	10.60	10.56	10.46	10.37
102	5510	9.88	--	--	--	--	--	--	--
110	5550	9.98	9.89	9.83	9.77	9.69	9.62	9.59	9.51
134	5670	9.75	--	--	--	--	--	--	--
142F(Band3)	5710	9.48	9.42	9.37	9.28	9.24	9.19	9.12	9.08
142F(Band4)	5710	-0.61	-0.66	-0.75	-0.79	-0.85	-0.90	-0.97	-1.07
151	5755	10.65	--	--	--	--	--	--	--
159	5795	10.72	10.62	10.53	10.50	10.42	10.37	10.33	10.27

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

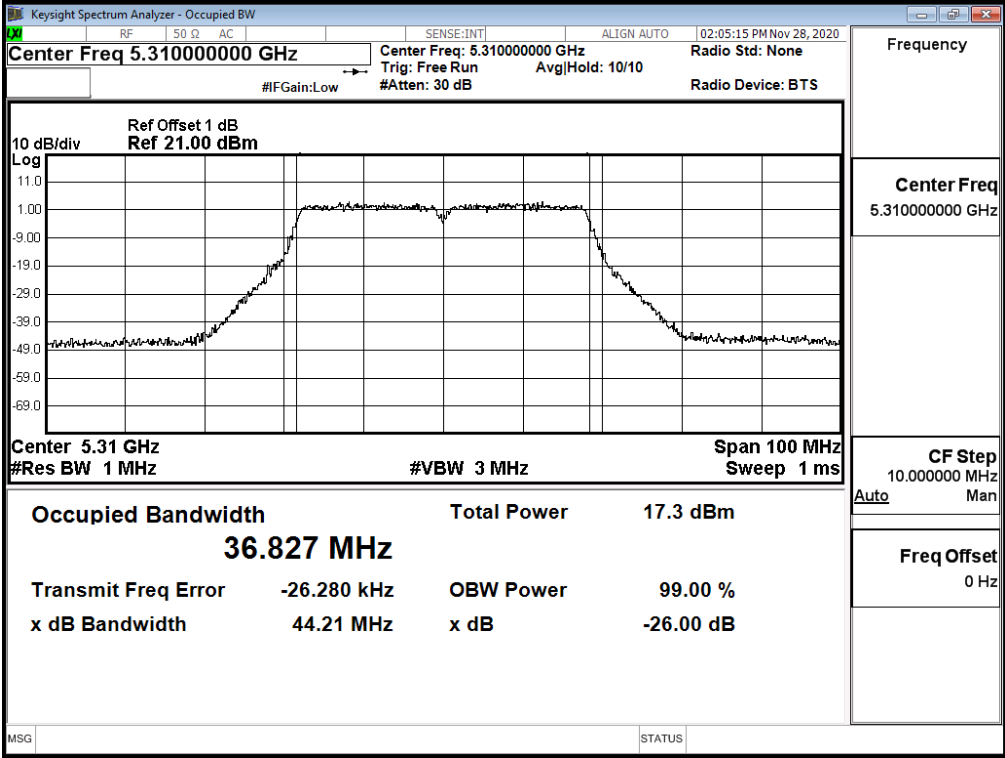
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
38	5190	--	10.84	24	--	Pass
46	5230	--	10.99	24	--	Pass
54	5270	44.620	10.93	24	27.50	Pass
62	5310	44.210	10.83	24	27.46	Pass
102	5510	43.780	9.88	24	27.41	Pass
110	5550	44.310	9.98	24	27.47	Pass
134	5670	44.670	9.75	24	27.50	Pass
142F(Band3)	5710	36.700	9.48	24	26.65	Pass
142F(Band4)	5710	--	-0.61	30	--	Pass
151	5755	--	10.65	30	--	Pass
159	5795	--	10.72	30	--	Pass

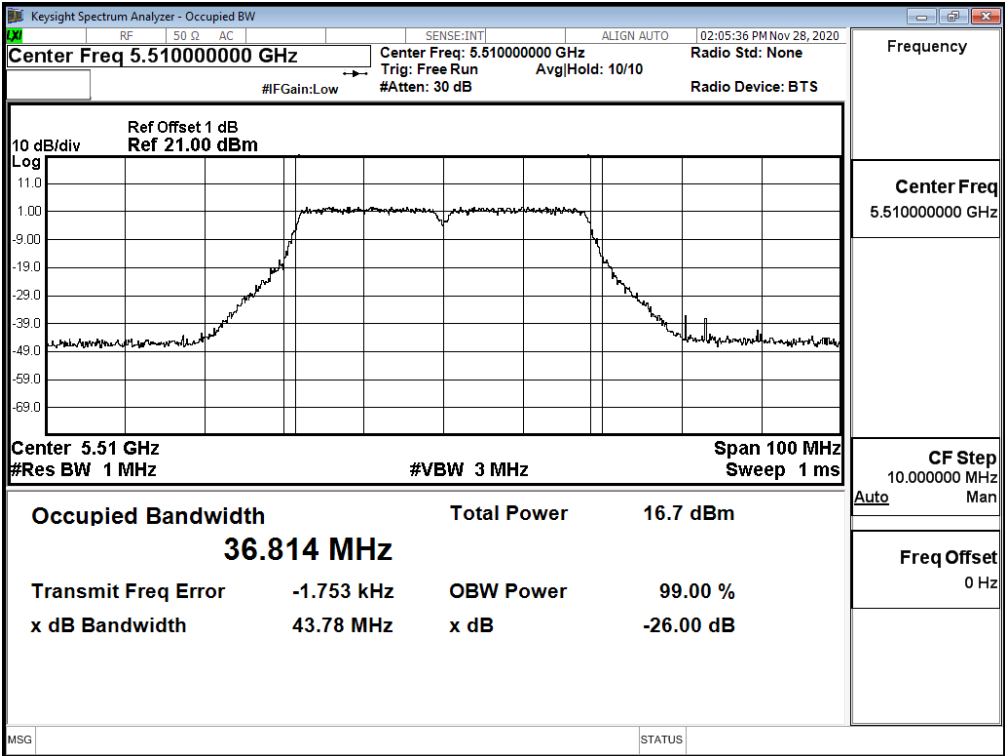
26dB Occupied Bandwidth:
Channel 54



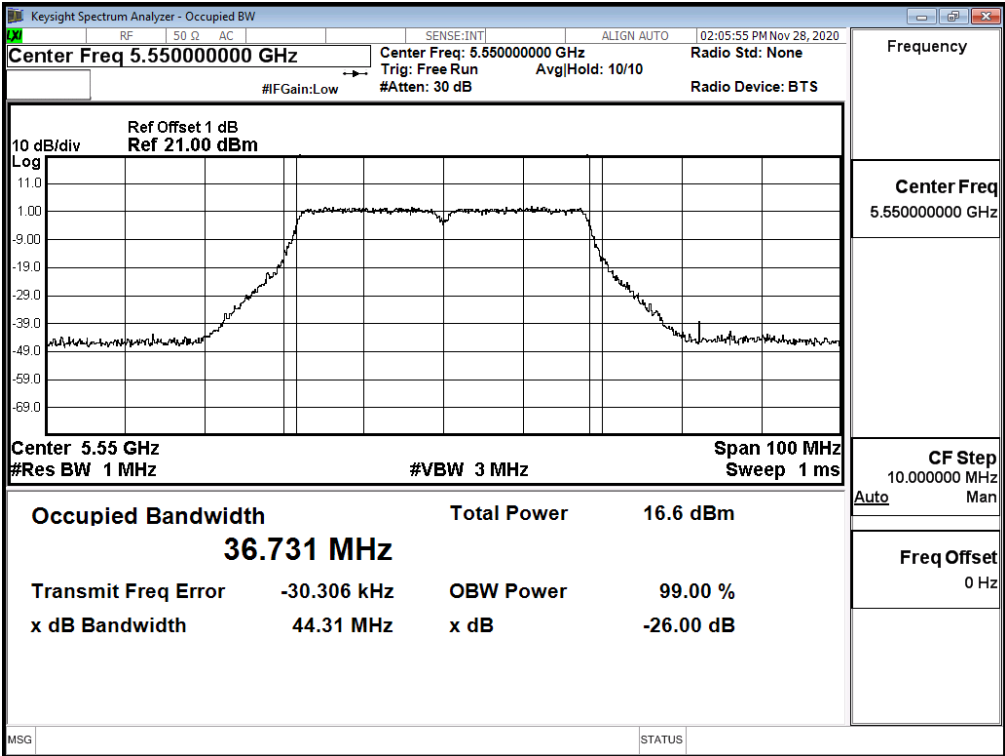
Channel 62



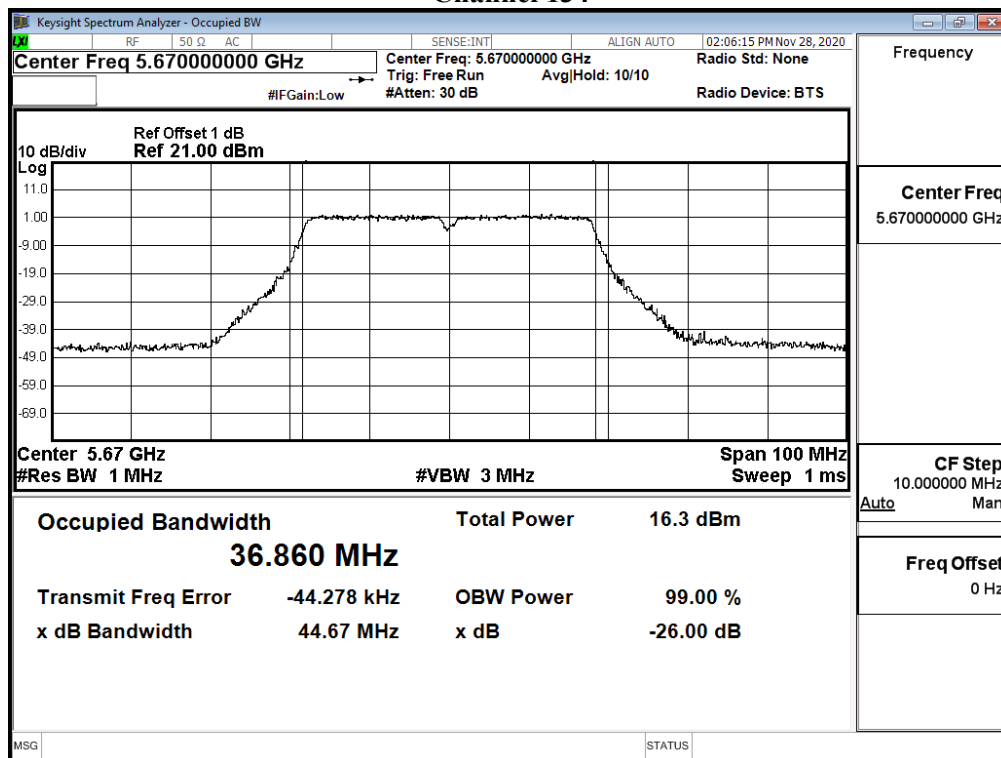
Channel 102



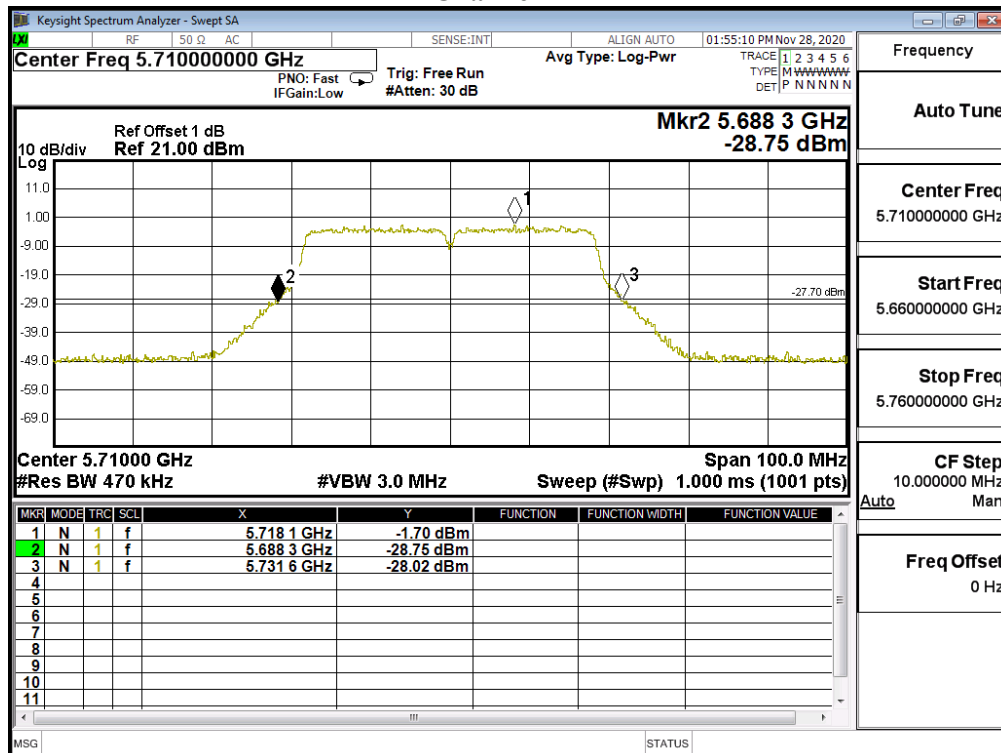
Channel 110

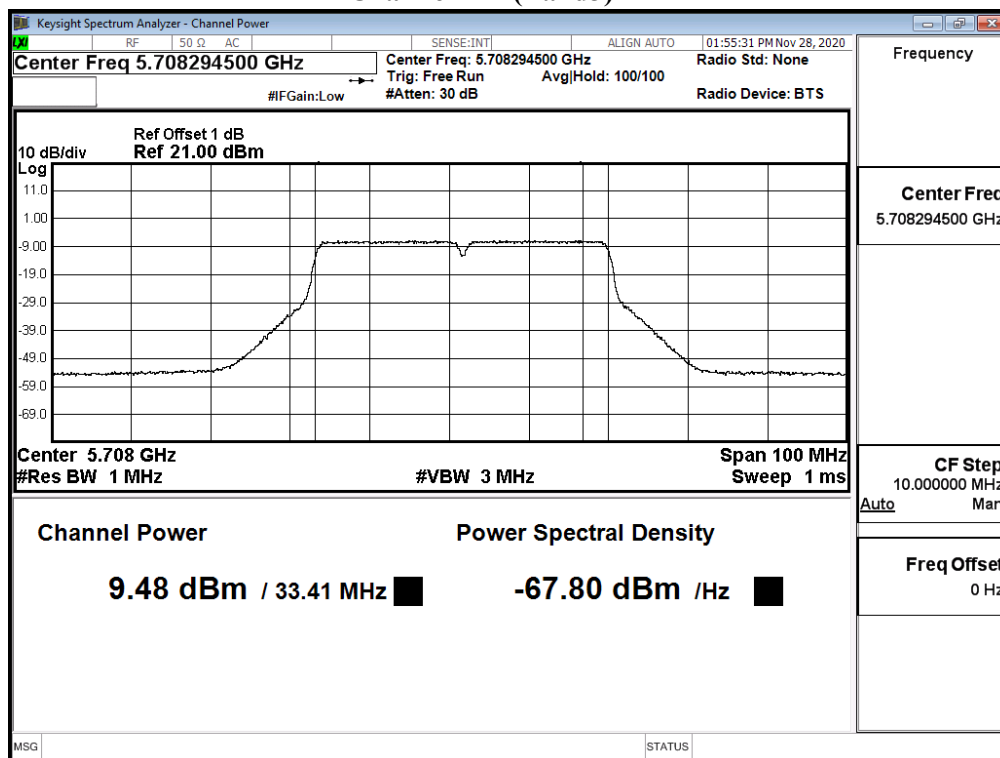
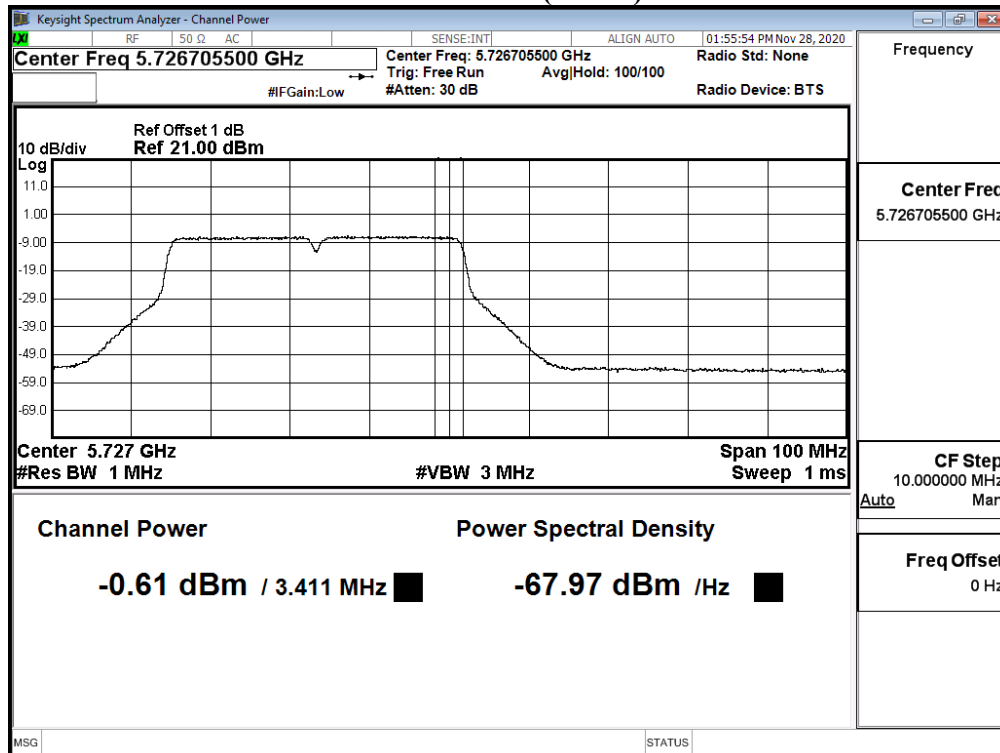


Channel 134



Channel 142



Maximum conducted output power:**Channel 142 (Band3)****Maximum conducted output power:****Channel 142 (Band4)**

Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 13 SISO B: Transmit (802.11ac-80BW_32.5Mbps)

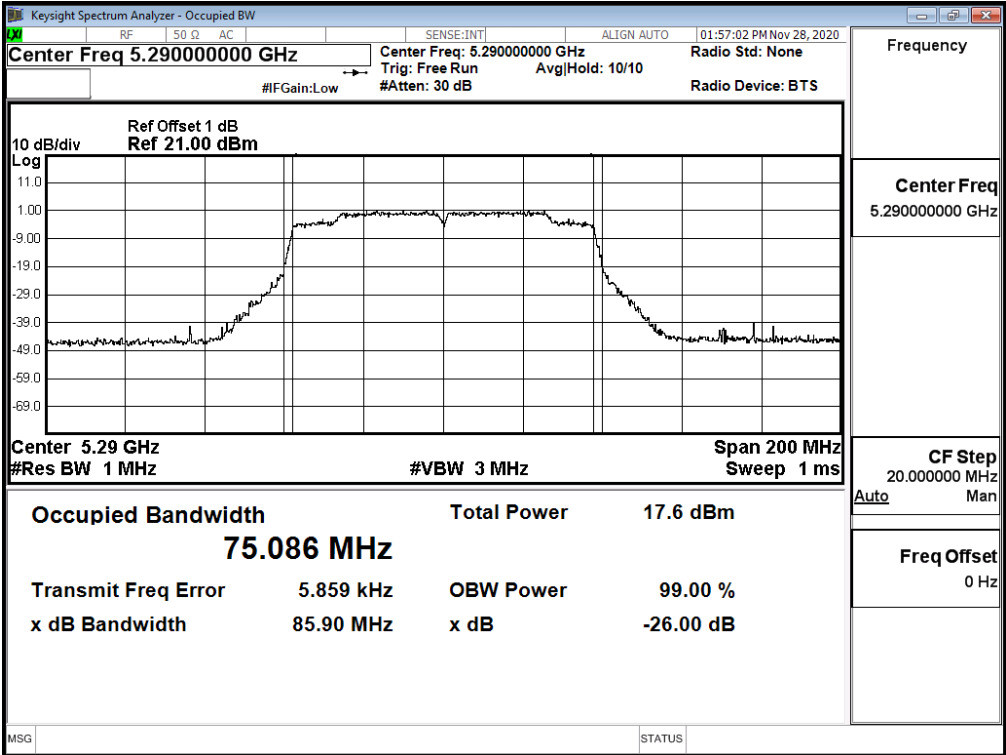
Cable loss=1dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		VHT0	VHT1	VHT2	VHT3	VHT4	VHT5	VHT6	VHT7	VHT8	VHT9
42	5210	10.79	10.71	10.61	10.52	10.48	10.38	10.33	10.25	10.21	10.11
58	5290	10.92	10.86	10.82	10.76	10.71	10.68	10.58	10.48	10.38	10.35
106ac80	5530	9.88	--	--	--	--	--	--	--	--	--
122ac80	5610	9.94	9.85	9.80	9.73	9.63	9.59	9.50	9.46	9.38	9.33
138ac80(Band3)	5690	9.64	9.56	9.53	9.47	9.38	9.30	9.26	9.19	9.12	9.05
138ac80(Band4)	5690	-7.81	-7.88	-7.98	-8.01	-8.11	-8.17	-8.25	-8.29	-8.36	-8.46
155ac80	5775	10.64	10.58	10.55	10.51	10.42	10.39	10.30	10.22	10.16	10.13

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

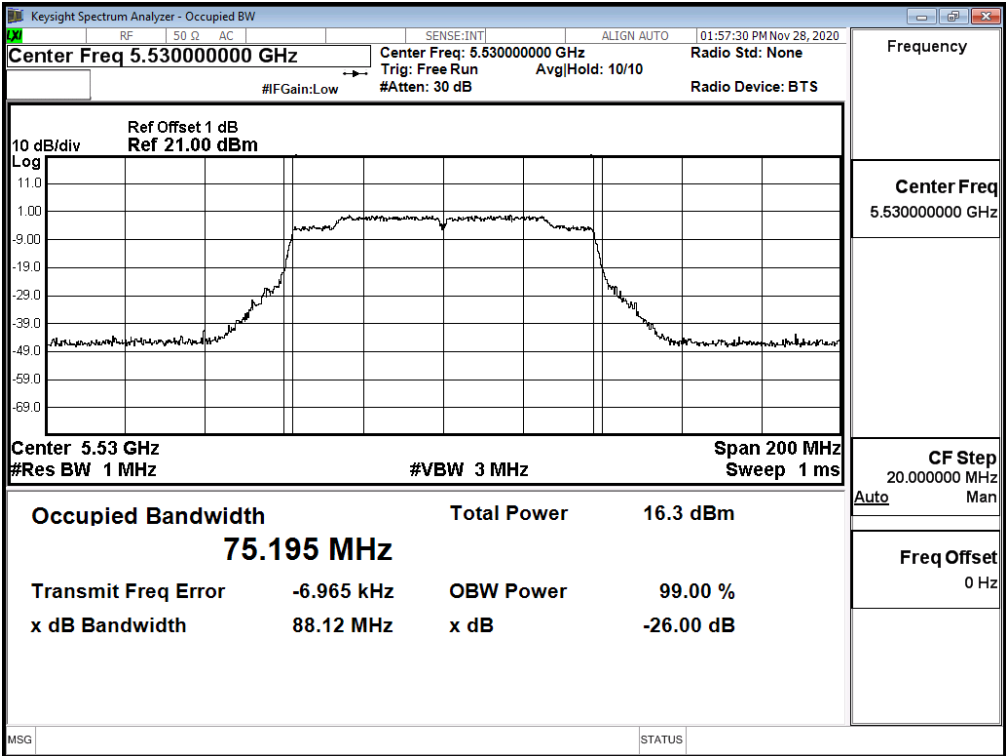
Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
42	5210	--	10.79	24	--	Pass
58	5290	85.900	10.92	24	30.34	Pass
106ac80	5530	88.120	9.88	24	30.45	Pass
122ac80	5610	84.790	9.94	24	30.28	Pass
138ac80(Band3)	5690	77.800	9.64	24	29.91	Pass
138ac80(Band4)	5690	--	-7.81	30	--	Pass
155ac80	5775	--	10.64	30	--	Pass

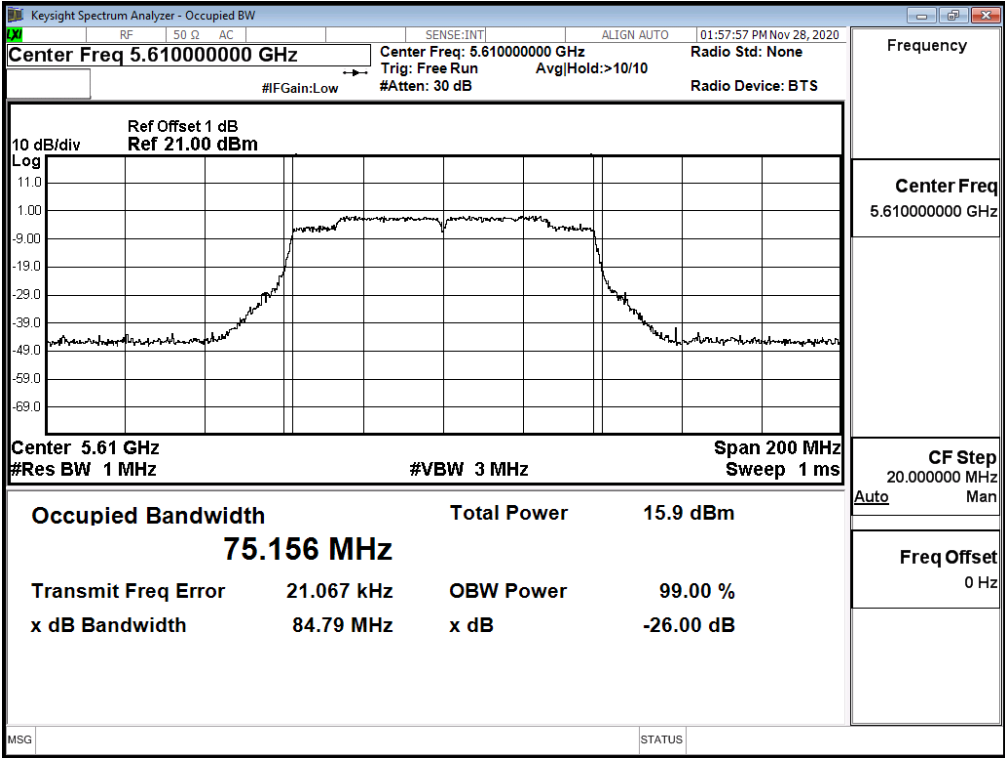
26dB Occupied Bandwidth:
Channel 58



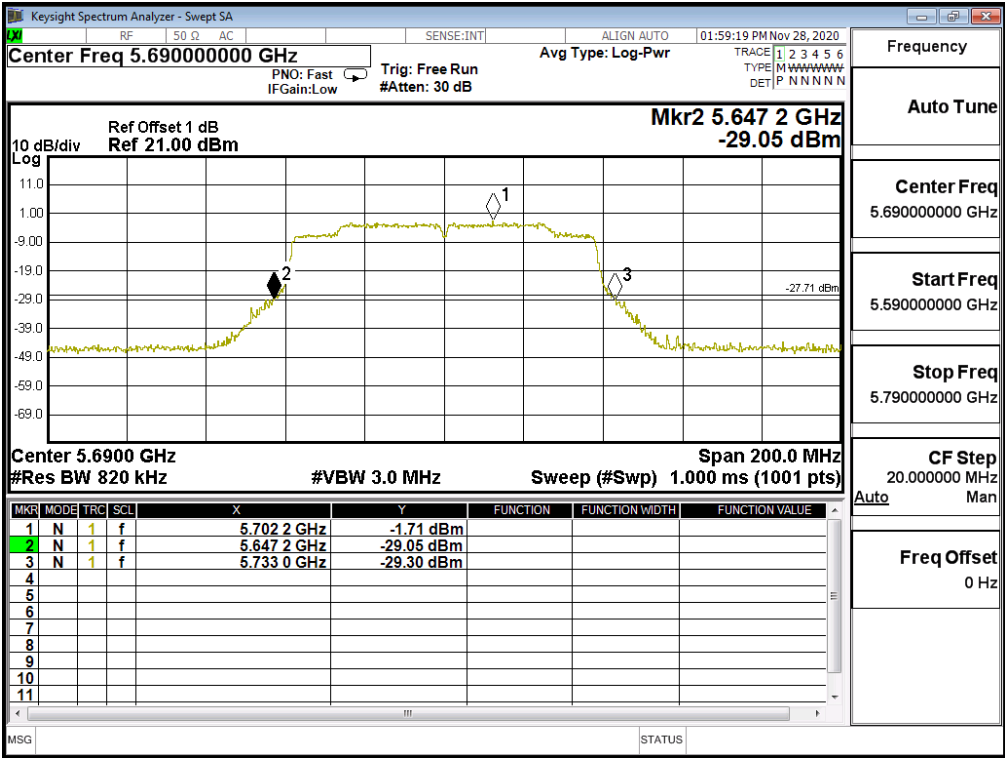
Channel 106



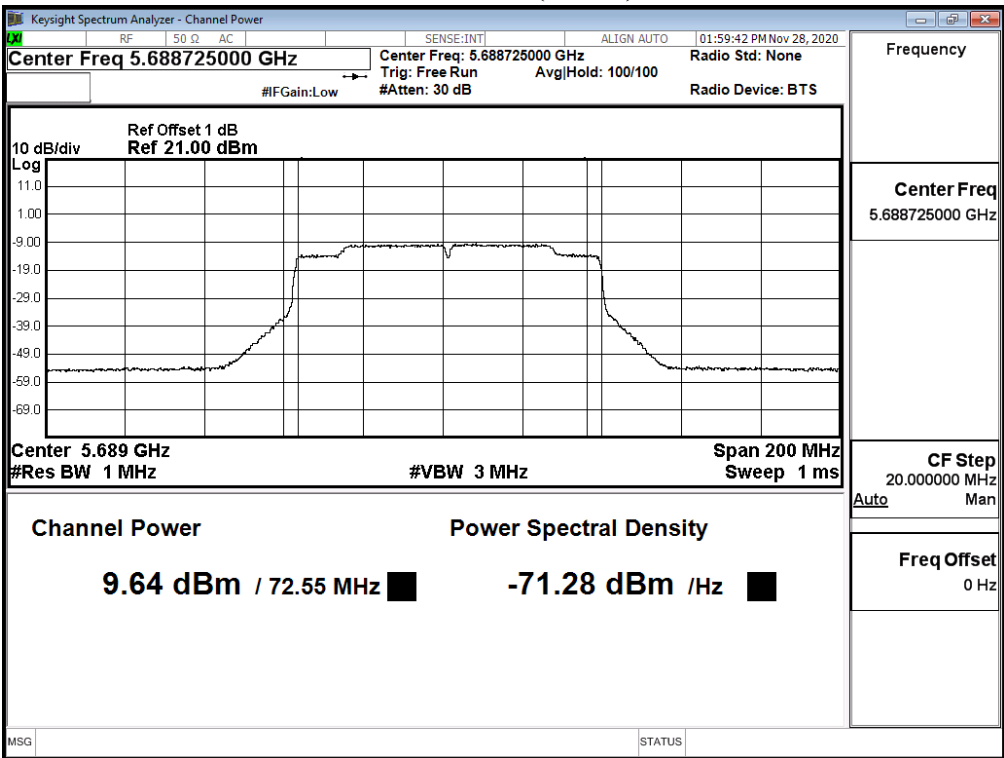
Channel 122



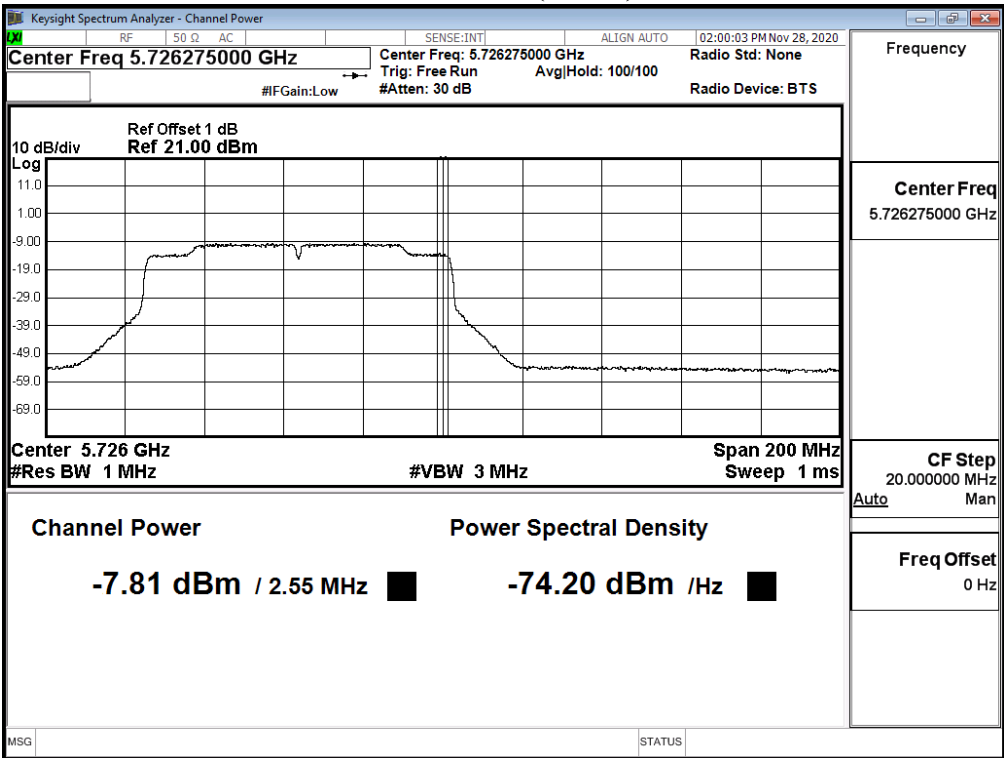
Channel 138



Maximum conducted output power:
Channel 138 (Band3)



Maximum conducted output power:
Channel 138 (Band4)



Product : Notebook Computers
 Test Item : Maximum conducted output power
 Test Date : 2020/11/19
 Test Mode : Mode 14 SISO B: Transmit (802.11ac-160BW_65Mbps)

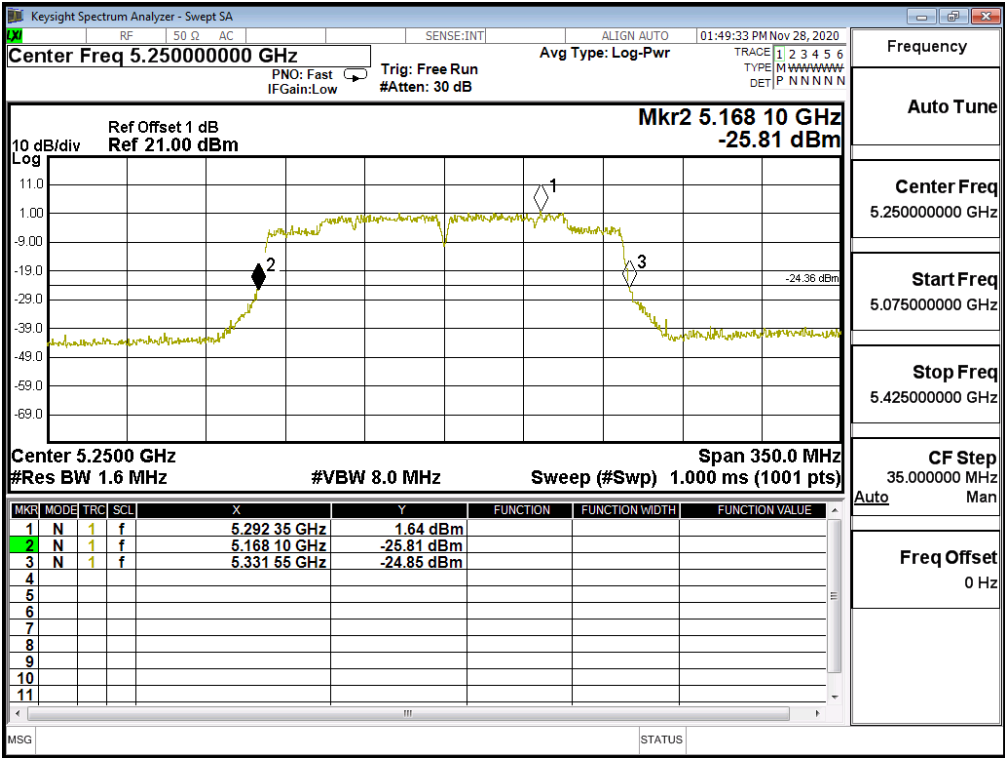
Cable loss=1dB		Maximum conducted output power									
Channel No	Frequency (MHz)	Data Rate (Mbps)									
		VHT0	VHT1	VHT2	VHT3	VHT4	VHT5	VHT6	VHT7	VHT8	VHT9
50ac160(Band1)	5250	7.59	7.49	7.45	7.36	7.26	7.20	7.10	7.01	6.94	6.89
50ac160(Band2)	5250	8.28	8.25	8.19	8.10	8.06	7.99	7.91	7.83	7.75	7.69
114ac160	5570	9.77	9.72	9.64	9.58	9.53	9.49	9.40	9.32	9.23	9.14

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

Maximum conducted output power Measurement:

Channel No	Frequency Range (MHz)	26dB Bandwidth (MHz)	Output Power (dBm)	Output Power Limit		Result
				(dBm)	dBm+10log(BW)	
50ac160(Band1)	5250	--	7.59	24	--	Pass
80ac160(Band2)	5250	81.550	8.28	24	30.11	Pass
114ac160	5570	162.900	9.77	24	33.12	Pass

26dB Occupied Bandwidth:
Channel 50



Channel 114

