RF TEST REPORT

Report No.:	SET2016-17303
Product Name:	WiFi Module
FCC ID:	2AGM4-WUS14
IC:	20960-WUS14
Model No. :	WUS-AC14
Applicant:	Dongguan Digital AV Technology Corp., Ltd.
Address:	4th,5th&6th floor, building A, No. 39 Haibin Road, Wusha, Chang'an Dongguan China
Dates of Testing:	08/26/2016 — 10/20/2016
Issued by:	CCIC-SET
Lab Location:	Building 28/29, East of Shigu, Xili Industrial Zone, Xili Road, Nanshan District, Shenzhen, Guangdong, China **Tel:** 86 755 26627338 **Fax:** 86 755 26627238

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Test Report

Product Name ..... :	WiFi Module
Brand Name ..... :	OPPO
Trade Name ..... :	OPPO
Applicant ..... :	Dongguan Digital AV Technology Corp., Ltd.
Applicant Address ..... :	4th,5th&6th floor, building A, No. 39 Haibin Road, Wusha, Chang'an Dongguan China
Manufacturer ..... :	Dongguan Digital AV Technology Corp., Ltd.
Manufacturer Address ..... :	4th,5th&6th floor, building A, No. 39 Haibin Road, Wusha, Chang'an Dongguan China
Test Standards ..... :	47 CFR Part 15 Subpart E §15.407 IC RSS-Gen(Issue 4, November 2014) IC RSS-247(Issue 1, May 2015)
Test Result ..... :	PASS
Tested by ..... :	Candy Liu 2016.10.20 Candy Liu, Test Engineer
Reviewed by ..... :	Zhu Qi 2016.10.20 Zhu Qi, Senior Egineer
Approved by ..... :	Wu Lian 2016.10.20 Wu Li'an, Manager

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Change History		
Issue	Date	Reason for change
1.0	2016.10.20	First edition

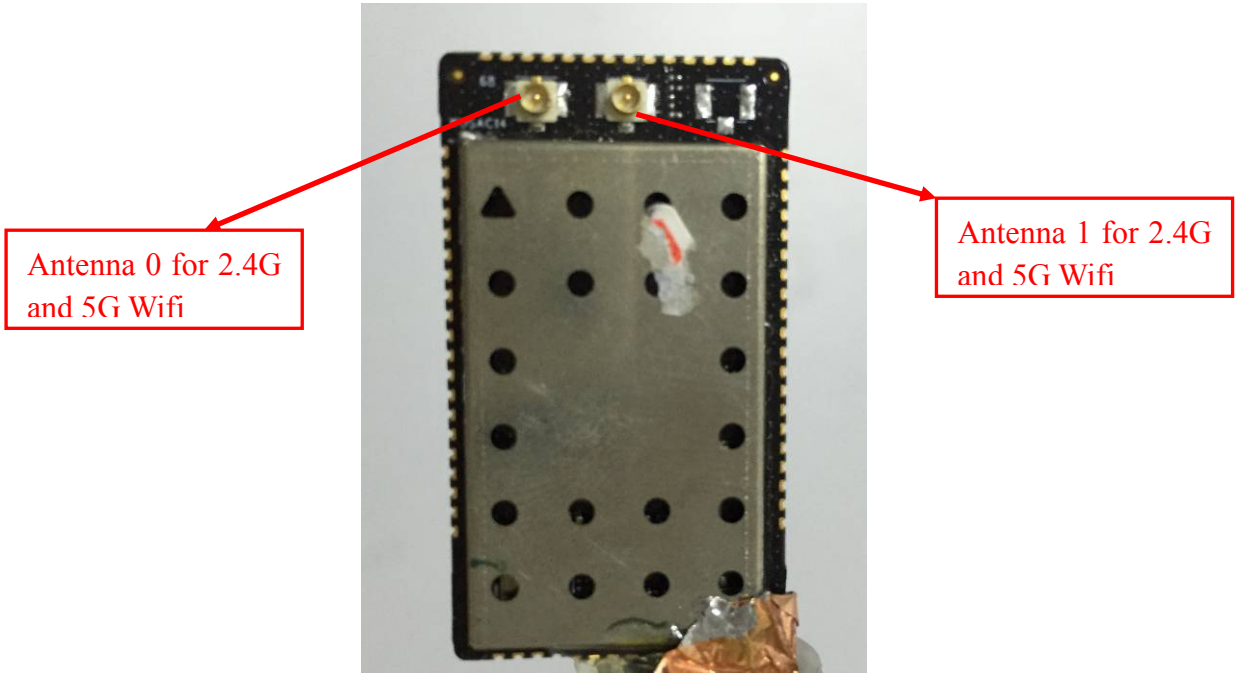
1. General Information

1.1. EUT Description

EUT Type	WiFi Module
Hardware Version	2UDP1603-0
Software Version	UDP20X-02-0729
EUT supports Radios application	WLAN2.4GHz 802.11b/g/n (HT20/HT40) WLAN5.0GHz 802.11a/n (HT20/40)/ac(VHT20/40/80)
Product Type	Indoor
Modulation Type	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM,16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only
Transfer Rate	802.11a: 54/48/36/24/18/12/9/6 Mbps 802.11n : up to 135 Mbps 802.11ac: up to V9
Frequency Range	Band UNII-1: 5150 ~ 5250MHz Band UNII-2A: 5250 ~ 5350MHz Band UNII-2C: 5470 ~ 5725MHz Band UNII-3: 5725 ~ 5850MHz
Channel Bandwidth	802.11a: 20MHz 802.11n: 20MHz/40MHz 802.11ac: 20MHz/40MHz/80MHz
Channel Number	5150 MHz ~ 5250MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5250 MHz ~ 5350MHz: 4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5470 MHz ~ 5725MHz: 11 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 5 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80) 5725 MHz ~ 5850MHz: 5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20) 2 for 802.11n (HT40), 802.11ac (VHT40) 1 for 802.11ac (VHT80)
Antenna Type	PCB Antenna
Antenna Gain	Antenna 0: 3.0dBi Antenna 1: 3.0dBi ;

Product Type	Refer to note
Output Power (Max.)	Band UNII-1: 16.74 Band UNII-2A: 16.83 Band UNII-2C: 19.50 Band UNII-3: 21.96

Frequency	Modulation Mode	TX / RX Function
5.0GHz	802.11a	1TX / 1RX
	802.11n (HT20)	1TX / 1RX or 2TX / 2RX
	802.11n (HT40)	1TX / 1RX or 2TX / 2RX
	802.11ac (VHT20)	1TX / 1RX or 2TX / 2RX
	802.11ac (VHT40)	1TX / 1RX or 2TX / 2RX
	802.11ac (VHT80)	1TX / 1RX or 2TX / 2RX



1.2. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart E for the EUT FCC Certification:

No.	Identity	Document Title
1	47 CFR Part 15 Subpart E § 15.407	Radio Frequency Devices
2	KDB Publication 789033D02v01	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E
3	KDB Publication 662911 D01v02r01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band (e.g., MIMO, Smart Antenna, etc)
4	IC RSS-Gen (Issue 4, Nov. 2014)	General Requirements for Compliance of Radio Apparatus
5	IC RSS-247 (Issue 1, May 2015	Digital Transmission Systems (DTSs), Frequency Hopping Systems(FHSs) and Licence-Exemp Local Area Network (LE-LAN) Devices
6	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

Test detailed items/section required by FCC rules, IC rules and results are as below:

No.	FCC Rule	IC Rule	Description	Result
1	15.203	-	Antenna Requirement	PASS
2	15.407(a)	RSS-247, 6.2	Maximum Conducted Output Power	PASS
3	15.407(a)	-	Emission Bandwidth（26 dB Bandwidth）	PASS
	15.407(e)	RSS-247, 6.2	Emission Bandwidth（6 dB Bandwidth）	PASS
	-	RSS GEN (6.6)	Emission Bandwidth（99%）	PASS
4	15.407(a)	RSS-247, 6.2	Power spectral density (PSD)	PASS
5	15.207	RSS-Gen, 8.8	AC Power Line Conducted Emission	N/A
6	15.209 15.407(b)	RSS-247, 6.2	Radiated Band Edges and Spurious Emission	PASS
7	15.407(g)	--	Frequency Stability	PASS

1.3. Channel List

Operated band in 5150 MHz ~ 5250MHz

4 channels are provided for 802.11a, 802.11n-HT20, and 802.11ac-VHT20

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n-HT40 and 802.11ac-VHT40

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel are provided for 802.11ac-VHT80

Channel	Frequency	Channel	Frequency
42	5210 MHz	/	/

Operated band in 5250 MHz ~ 5350MHz

4 channels are provided for 802.11a, 802.11n-HT20, and 802.11ac-VHT20

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n-HT40 and 802.11ac-VHT40

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel are provided for 802.11ac-VHT80

Channel	Frequency	Channel	Frequency
58	5290 MHz	/	/

Operated band in 5470 MHz ~ 5725MHz

11 channels are provided for 802.11a, 802.11n-HT20, and 802.11ac-VHT20

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz

116	5580 MHz	140	5700 MHz
120	5600 MHz		

5 channels are provided for 802.11n-HT40 and 802.11ac-VHT40

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz		

1 channel are provided for 802.11ac-VHT80

Channel	Frequency	Channel	Frequency
106	5530 MHz	\	\

Operated band in 5725 MHz ~ 5850MHz

5 channels are provided for 802.11a, 802.11n-HT20 and 802.11ac-VHT20

Channel	Frequency	Channel	Frequency
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz	/	/

2 channels are provided for 802.11n-HT40 and 802.11ac-VHT40

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel are provided for 802.11ac-VHT80

Channel	Frequency	Channel	Frequency
155	5775 MHz	/	/

1.4. Test environment and mode

Operating Environment	
Temperature	24℃
Humidity	57 % RH
Atmospheric Pressure	1010 mbar
Test mode:	
Continuously transmitting mode	Keeps the EUT in 100% duty cycle transmitting with modulation in SISO and MIMO mode, duty cycle factor is not required.

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

For Frequency band 5150 ~ 5250 MHz			
Mode	Modulation scheme / bandwidth		
	5180 MHz	5220 MHz	5240 MHz
802.11a	6 Mbps	6 Mbps	6 Mbps
802.11n/ac – HT20	MCS 0	MCS 0	MCS 0
Frequency	5190 MHz	5230 MHz	
802.11n/ac – HT40	MCS 0	MCS 0	
Frequency	5210 MHz		
802.11ac – VHT80	MCS 0		

For Frequency band 5250 ~ 5350 MHz			
Mode	Modulation scheme / bandwidth		
	5260 MHz	5300 MHz	5320 MHz
802.11a	6 Mbps	6 Mbps	6 Mbps
802.11n/ac – HT20	MCS 0	MCS 0	MCS 0
Frequency	5270 MHz	5310 MHz	
802.11n/ac – HT40	MCS 0	MCS 0	
Frequency	5290 MHz		
802.11ac – VHT80	MCS 0		

For Frequency band 5470 ~ 5725 MHz			
Mode	Modulation scheme / bandwidth		
	5500 MHz	5580 MHz	5700 MHz
802.11a	6 Mbps	6 Mbps	6 Mbps
802.11n/ac – HT20	MCS 0	MCS 0	MCS 0
Frequency	5510 MHz		5670 MHz
802.11n/ac – HT40	MCS 0		MCS 0
Frequency	5530 MHz		
802.11ac – VHT80	MCS 0		

For Frequency band 5725 ~ 5850 MHz			
Mode	Modulation scheme / bandwidth		
	5745 MHz	5785 MHz	5825 MHz
802.11a	6 Mbps	6 Mbps	6 Mbps
802.11n/ac – HT20	MCS 0	MCS 0	MCS 0
Frequency	5755 MHz		5795 MHz
802.11n/ac – HT40	MCS 0		MCS 0
Frequency	5775 MHz		
802.11ac – VHT80	MCS 0		

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation modes or test configuration modes mentioned above was evaluated respectively.

Pretest Test Mode	Description
Mode 1	TX A Mode / CH36, CH44, CH48 (UNII-1)
Mode 2	TX N20 Mode / CH36, CH44, CH48 (UNII-1)
Mode 3	TX N40 Mode / CH38, CH46 (UNII-1)
Mode 4	TX AC20 Mode / CH36, CH44, CH48 (UNII-1)
Mode 5	TX AC40 Mode / CH38, CH46 (UNII-1)
Mode 6	TX AC80 Mode / CH42 (UNII-1)
Mode 7	TX A Mode / CH52, CH60, CH64 (UNII-2A)
Mode 8	TX N20 Mode / CH52, CH60, CH64 (UNII-2A)
Mode 9	TX N40 Mode / CH54, CH62 (UNII-2A)
Mode 10	TX AC20 Mode / CH52, CH60, CH64 (UNII-2A)
Mode 11	TX AC40 Mode / CH54, CH62 (UNII-2A)
Mode 12	TX AC80 Mode / CH58 (UNII-2A)
Mode 13	TX A Mode / CH100, CH116, CH140 (UNII-2C)
Mode 14	TX N20 Mode / CH100, CH116, CH140 (UNII-2C)
Mode 15	TX N40 Mode / CH102, CH134 (UNII-2C)
Mode 16	TX AC20 Mode / CH100, CH116, CH140 (UNII-2C)
Mode 17	TX AC40 Mode / CH102, CH134 (UNII-2C)
Mode 18	TX AC80 Mode / CH106, (UNII-2C)
Mode 19	TX A Mode / CH149, CH157, CH165 (UNII-3)
Mode 20	TX N20 Mode / CH149, CH157, CH165 (UNII-3)
Mode 21	TX N40 Mode / CH151, CH159 (UNII-3)
Mode 22	TX AC20 Mode / CH149, CH157, CH165 (UNII-3)
Mode 23	TX AC40 Mode / CH151, CH159 (UNII-3)
Mode 24	TX AC80 Mode / CH155 (UNII-3)
Mode 25	TX Mode

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Test	
Final Test Mode	Description
Mode 25	TX Mode

For Radiated Test	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH44, CH48 (UNII-1)
Mode 2	TX N20 Mode / CH36, CH44, CH48 (UNII-1)
Mode 3	TX N40 Mode / CH38, CH46 (UNII-1)
Mode 4	TX AC20 Mode / CH36, CH44, CH48 (UNII-1)
Mode 5	TX AC40 Mode / CH38, CH46 (UNII-1)
Mode 6	TX AC80 Mode / CH42 (UNII-1)
Mode 7	TX A Mode / CH52, CH60, CH64 (UNII-2A)
Mode 8	TX N20 Mode / CH52, CH60, CH64 (UNII-2A)
Mode 9	TX N40 Mode / CH54, CH62 (UNII-2A)
Mode 10	TX AC20 Mode / CH52, CH60, CH64 (UNII-2A)
Mode 11	TX AC40 Mode / CH54, CH62 (UNII-2A)
Mode 12	TX AC80 Mode / CH58 (UNII-2A)
Mode 13	TX A Mode / CH100, CH116, CH140 (UNII-2C)
Mode 14	TX N20 Mode / CH100, CH116, CH140 (UNII-2C)
Mode 15	TX N40 Mode / CH102, CH134 (UNII-2C)
Mode 16	TX AC20 Mode / CH100, CH116, CH140 (UNII-2C)
Mode 17	TX AC40 Mode / CH102, CH134 (UNII-2C)
Mode 18	TX AC80 Mode / CH106, (UNII-2C)
Mode 19	TX A Mode / CH149, CH157, CH165 (UNII-3)
Mode 20	TX N20 Mode / CH149, CH157, CH165 (UNII-3)
Mode 21	TX N40 Mode / CH151, CH159 (UNII-3)
Mode 22	TX AC20 Mode / CH149, CH157, CH165 (UNII-3)
Mode 23	TX AC40 Mode / CH151, CH159 (UNII-3)
Mode 24	TX AC80 Mode / CH155 (UNII-3)

1.5. Power level setup in software

Power level setup in software for 5G wifi			
UNII-1（Antenna 0）			
Frequency（MHz）	5180	5220	5240
A mode	15	15	15
Frequency（MHz）	5180	5220	5240
N20 mode	13	13	13
Frequency（MHz）	5190	5230	\
N40 mode	14	14	\
Frequency（MHz）	5180	5220	5240
AC20 mode	13	13	13
Frequency（MHz）	5190	5230	\
AC40 mode	14	14	\
Frequency（MHz）	5210	\	\
AC80 mode	16	\	\

Power level setup in software for 5G wifi			
UNII-1（Antenna 1）			
Frequency（MHz）	5180	5220	5240
A mode	19	19	19
Frequency（MHz）	5180	5220	5240
N20 mode	17	17	17
Frequency（MHz）	5190	5230	\
N40 mode	19	19	\
Frequency（MHz）	5180	5220	5240
AC20 mode	17	17	
Frequency（MHz）	5190	5230	\
AC40 mode	19	19	\
Frequency（MHz）	5210	\	\
AC80 mode	1A	\	\

Power level setup in software for 5G wifi			
UNII-2A（Antenna 0）			
Frequency（MHz）	5260	5300	5320
A mode	14	14	14
Frequency（MHz）	5260	5300	5320
N20 mode	14	14	14
Frequency（MHz）	5270	5310	\
N40 mode	14	14	\
Frequency（MHz）	5260	5300	5320
AC20 mode	14	14	14
Frequency（MHz）	5270	5310	\
AC40 mode	14	14	\
Frequency（MHz）	5290	\	\
AC80 mode	16	\	\

Power level setup in software for 5G wifi			
UNII-2A（Antenna 1）			
Frequency（MHz）	5260	5300	5320
A mode	18	18	18
Frequency（MHz）	5260	5300	5320
N20 mode	18	18	18
Frequency（MHz）	5270	5310	\
N40 mode	19	19	\
Frequency（MHz）	5260	5300	5320
AC20 mode	18	18	18
Frequency（MHz）	5270	5310	\
AC40 mode	19	19	\
Frequency（MHz）	5290	\	\
AC80 mode	1A	\	\

Power level setup in software for 5G wifi			
UNII-2C（Antenna 0）			
Frequency（MHz）	5500	5580	5700
A mode	15	15	15
Frequency（MHz）	5500	5580	5700
N20 mode	16	16	16
Frequency（MHz）	5510	5670	\
N40 mode	1B	1B	\
Frequency（MHz）	5500	5580	5700
AC20 mode	16	16	16
Frequency（MHz）	5510	5670	\
AC40 mode	1B	1B	\
Frequency（MHz）	5530	\	\
AC80 mode	1E	\	\

Power level setup in software for 5G wifi			
UNII-2C（Antenna 1）			
Frequency（MHz）	5500	5580	5700
A mode	18	18	18
Frequency（MHz）	5500	5580	5700
N20 mode	19	19	19
Frequency（MHz）	5510	5670	\
N40 mode	1E	1E	\
Frequency（MHz）	5500	5580	5700
AC20 mode	19	19	19
Frequency（MHz）	5510	5670	\
AC40 mode	1E	1E	\
Frequency（MHz）	5530	\	\
AC80 mode	21	\	\

Power level setup in software for 5G wifi			
UNII-3（Antenna 0）			
Frequency（MHz）	5745	5785	5825
A mode	20	20	20
Frequency（MHz）	5745	5785	5825
N20 mode	21	21	21
Frequency（MHz）	5755	5795	\
N40 mode	21	21	\
Frequency（MHz）	5745	5785	5825
AC20 mode	21	21	21
Frequency（MHz）	5755	5795	\
AC40 mode	21	21	\
Frequency（MHz）	5775	\	\
AC80 mode	22	\	\

Power level setup in software for 5G wifi			
UNII-3（Antenna 1）			
Frequency（MHz）	5745	5785	5825
A mode	22	22	22
Frequency（MHz）	5745	5785	5825
N20 mode	23	23	23
Frequency（MHz）	5755	5795	\
N40 mode	23	23	\
Frequency（MHz）	5745	5785	5825
AC20 mode	23	23	23
Frequency（MHz）	5755	5795	\
AC40 mode	23	23	\
Frequency（MHz）	5775	\	\
AC80 mode	24	\	\

1.6. Laboratory Facilities

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories

(identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories, Date of Registration: February 28, 2015. Valid time is until February 27, 2018.

FCC-Registration No.: 317478

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 317478, Renewal date Jul. 18, 2014, valid time is until Jul. 18, 2017.

IC-Registration No.: 5377B

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377B on Dec.03, 2014, valid time is until Dec.03, 2017.

2. 47 CFR Part 15C Requirements

2.1. Antenna requirement

2.1.1. Applicable Standard

According to FCC 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

And according to FCC 47 CFR Section 15.407(c), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

2.1.2. Antenna Information

Antenna System	Cyclic Delay Diversity(CDD)
	2 antennas are correlated with each other
Antenna Type	PCB

2.1.3. Antenna Gain

Antenna	Gain(dBi)
0	3
1	3
0+1	6.01

Note: 1. for 802.11n/ac mode, antenna 0, 1 can transmit/receive simultaneously (MIMO mode), for 802.11a, both antennas 0, 1 can transmit/receive at single mode (SISO mode)

2. Directional gain = $G_{ANT} + 10\log(N_{ANT})$ dBi

2.1.4. Result: comply

The EUT has a permanently and irreplaceable attached antenna. Please refer to the EUT internal photos.

2.2. Output Power

2.2.1. Limit of Output Power

FCC 15.407(a)

The maximum conducted output power should not exceed:

Band	EUT Category	Limit
U-NII-1	☐Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≤ 125mW(21dBm) at any elevation angle above 30 degrees as measured from the horizon)
	☐Fixed point-to-point Access device	1 Watt (30 dBm)
	☐Indoor Access Point	1 Watt (30 dBm)
	☒Mobile and portable client device	250mW (24 dBm)
U-NII-2A	☒	250mW (24 dBm) or 11dBm+10logB* Whichever is less.
U-NII-2C	☒	250mW (24 dBm) or 11dBm+10logB* Whichever is less.
U-NII-3	☒	1 Watt (30 dBm)
Note: B* is the 26 dB emission bandwidth in MHz.		

RSS-247, 6.2

The maximum conducted output power shall not exceed:

Band	EUT Category	Limit
U-NII-1	☒	N/A
U-NII-2A	☒	250mW (24 dBm) or 11dBm+10logB* Whichever is less.
U-NII-2C	☒	250mW (24 dBm) or 11dBm+10logB* Whichever is less.
U-NII-3	☒	1 Watt (30 dBm)
Note: B* is the 99% emission bandwidth in MHz.		

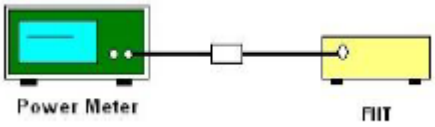
The maximum e.i.r.p. shall not exceed:

Band	EUT Category	Limit
U-NII-1	☒	200mW(23dBm) or 10dBm+10log B* Whichever is less.
U-NII-2A	☒	1W (30 dBm) or 17dBm+10logB* Whichever is less.
U-NII-2C	☒	1W (30 dBm) or 17dBm+10logB* Whichever is less.
U-NII-3	☒	N/A
Note: B* is the 99% emission bandwidth in MHz.		

2.2.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.2.3. Test Setup



2.2.4. Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.

2. The RF output of EUT was connected to the broadband average RF power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.

3. Set to the maximum power setting and enable the EUT transmit continuously.

4. Measure the conducted output power and record the results in the test report.

2.2.5. Test Result

Conducted Power Test results of band U-NII-1 (5150 ~ 5250 MHz)

802.11a mode					
Frequency (MHz)	Conducted Output Power (dBm)		FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1			
5180	14.15	13.95	24	/	PASS
5220	13.97	14.08	24	/	PASS
5240	13.92	13.84	24	/	PASS

802.11n-HT20 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5180	13.12	13.02	16.08	23.99	/	PASS
5220	12.95	13.06	16.02	23.99	/	PASS
5240	13.04	13.11	16.09	23.99	/	PASS

802.11n-HT40 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5190	13.33	13.58	16.47	23.99	/	PASS
5230	13.51	13.69	16.61	23.99	/	PASS

802.11ac-VHT20 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5180	13.02	13.21	16.13	23.99	/	PASS
5220	13.10	13.09	16.11	23.99	/	PASS
5240	13.05	12.98	16.03	23.99	/	PASS

802.11ac-VHT40 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5190	13.46	13.71	16.60	23.99	/	PASS
5230	13.55	13.91	16.74	23.99	/	PASS

802.11ac-VHT80 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5210	13.56	13.49	16.54	23.99	/	PASS

Note：The MIMO antenna gain is 6.01dBi，the final FCC limit = 250mW(24dBm) – (6.1-6.0) dBi

Conducted Power Test results of band U-NII-2A (5250 ~ 5350 MHz)

802.11a mode					
Frequency (MHz)	Conducted Output Power (dBm)		FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1			
5260	13.84	13.83	23.99	23.23	PASS
5300	14.06	13.69	23.99	23.23	PASS
5320	14.04	13.86	23.99	23.23	PASS

802.11n-HT20 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5260	13.87	13.24	16.58	23.99	23.46	PASS
5300	13.90	13.65	16.79	23.99	23.46	PASS
5320	13.76	13.59	16.69	23.99	23.46	PASS

802.11n-HT40 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5270	13.61	13.99	16.81	23.99	23.99	PASS
5310	13.87	13.76	16.83	23.99	23.99	PASS

802.11ac-VHT20 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5260	13.75	13.70	16.74	23.99	23.46	PASS
5300	13.85	13.46	16.67	23.99	23.46	PASS
5320	13.63	13.34	16.50	23.99	23.46	PASS

802.11ac-VHT40 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5270	13.49	13.89	16.70	23.99	23.99	PASS
5310	13.72	13.92	16.83	23.99	23.99	PASS

802.11ac-VHT80 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5290	13.63	13.39	16.52	23.99	23.99	PASS

Note：The MIMO antenna gain is 6.01dBi，the final FCC limit = {250mW(24dBm) or 11dBm + 10log B, whichever is less} – (6.1-6.0) dBi

In FCC Standard, where “B” is the 26dB emissions bandwidth in MHz

In IC Standard, where “B” is the 99% emissions bandwidth in MHz

Conducted Power Test results of band U-NII-2C (5470 ~ 5725 MHz)

802.11a mode					
Frequency (MHz)	Conducted Output Power (dBm)		FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1			
5500	13.57	13.67	23.98	23.22	PASS
5580	13.60	13.64	23.98	23.22	PASS
5700	13.63	13.37	23.98	23.22	PASS

802.11n-HT20 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5500	13.28	13.37	16.34	23.99	23.46	PASS
5580	13.54	13.46	16.51	23.99	23.46	PASS
5700	13.69	13.65	16.68	23.99	23.46	PASS

802.11n-HT40 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5510	15.92	15.83	18.89	23.99	23.99	PASS
5670	15.41	15.78	18.61	23.99	23.99	PASS

802.11ac-VHT20 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5500	13.24	13.55	16.41	23.99	23.46	PASS
5580	13.38	13.29	16.35	23.99	23.46	PASS
5700	13.69	13.34	16.53	23.99	23.46	PASS

802.11ac-VHT40 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5510	15.79	15.73	18.77	23.99	23.99	PASS
5670	15.73	15.80	18.78	23.99	23.99	PASS

802.11ac-VHT80 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5530	16.55	16.42	19.50	23.99	23.99	PASS

Note：The MIMO antenna gain is 6.01dBi，the final FCC limit = {250mW(24dBm) or 11dBm + 10log B, whichever is less} – (6.1-6.0) dBi

In FCC Standard, where “B” is the 26dB emissions bandwidth in MHz

In IC Standard, where “B” is the 99% emissions bandwidth in MHz

Conducted Power Test results of band U-NII-3 (5725 ~ 5850 MHz)

802.11a mode					
Frequency (MHz)	Conducted Output Power (dBm)		FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1			
5745	18.46	18.26	30	30	PASS
5785	18.96	18.34	30	30	PASS
5825	18.85	18.92	30	30	PASS

802.11n-HT20 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5745	18.48	18.27	21.39	29.99	29.99	PASS
5785	18.63	18.44	21.55	29.99	29.99	PASS
5825	18.84	18.76	21.81	29.99	29.99	PASS

802.11n-HT40 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5755	18.98	18.74	21.87	29.99	29.99	PASS
5795	19.06	18.83	21.96	29.99	29.99	PASS

802.11ac-VHT20 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5745	18.58	18.22	21.41	29.99	29.99	PASS
5785	18.83	18.26	21.56	29.99	29.99	PASS
5825	18.86	18.67	21.78	29.99	29.99	PASS

802.11ac-VHT40 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5755	18.90	18.65	21.79	29.99	29.99	PASS
5795	18.95	18.89	21.93	29.99	29.99	PASS

802.11ac-VHT80 mode						
Test Frequency (MHz)	Conducted Output Power (dBm)			FCC Limit (dBm)	IC Limit (dBm)	Result
	Antenna 0	Antenna 1	Total			
5775	18.09	17.97	21.04	29.99	29.99	PASS

Note：The MIMO antenna gain is 6.01dBi，the final FCC limit = 1W(30dBm) – (6.1-6.0) dBi

EIRP Power Test results of band U-NII-1 (5150 ~ 5250 MHz)

802.11a mode					
Frequency (MHz)	Max. Conducted Power (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5180	14.15	3.0	17.15	22.22	PASS
5220	14.08	3.0	17.08	22.22	PASS
5240	13.92	3.0	16.92	22.22	PASS
802.11n-HT20 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5180	16.08	6.01	22.09	22.46	PASS
5220	16.02	6.01	22.03	22.46	PASS
5240	16.09	6.01	22.10	22.46	PASS
802.11n-HT40 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5190	16.47	6.01	22.48	22.99	PASS
5230	16.61	6.01	22.62	22.99	PASS
802.11ac-VHT20 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5180	16.13	6.01	22.14	22.46	PASS
5220	16.11	6.01	22.12	22.46	PASS
5240	16.03	6.01	22.04	22.46	PASS
802.11ac-VHT40 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5190	16.60	6.01	22.61	22.99	PASS
5230	16.74	6.01	22.75	22.99	PASS

802.11ac-VHT80 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5210	16.54	6.01	22.55	22.99	PASS

Note：The MIMO antenna gain is 6.01dBi，the final FCC limit = {200mW(23dBm) or 10dBm + 10log B, whichever is less} – (6.1-6.0) dBi

In IC Standard, where “B” is the 99% emissions bandwidth in MHz

EIRP Power Test results of band U-NII-2A (5250 ~ 5350 MHz)

802.11a mode					
Frequency (MHz)	Max. Conducted Power (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5260	13.84	3.0	16.74	29.23	PASS
5300	14.06	3.0	17.06	29.23	PASS
5320	14.04	3.0	17.04	29.23	PASS
802.11n-HT20 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5260	16.58	6.01	22.59	29.46	PASS
5300	16.79	6.01	22.80	29.46	PASS
5320	16.69	6.01	22.70	29.46	PASS
802.11n-HT40 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5270	16.81	6.01	22.82	29.99	PASS
5310	16.83	6.01	22.84	29.99	PASS
802.11ac-VHT20 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5260	16.74	6.01	22.75	29.46	PASS
5300	16.67	6.01	22.68	29.46	PASS
5320	16.50	6.01	22.51	29.46	PASS
802.11ac-VHT40 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5270	16.70	6.01	22.71	29.99	PASS
5310	16.83	6.01	22.84	29.99	PASS

802.11ac-VHT80 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5290	16.52	6.01	22.53	29.99	PASS

Note：The MIMO antenna gain is 6.01dBi，the final FCC limit = {1W(30dBm) or 17dBm + 10log B, whichever is less} – (6.1-6.0) dBi

In IC Standard, where “B” is the 99% emissions bandwidth in MHz

EIRP Power Test results of band U-NII-2C (5470 ~ 5725 MHz)

802.11a mode					
Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5500	13.67	3.0	16.67	29.22	PASS
5580	13.64	3.0	16.64	29.22	PASS
5700	13.63	3.0	16.63	29.22	PASS
802.11n-HT20 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5500	16.34	6.01	22.35	29.46	PASS
5580	16.51	6.01	22.52	29.46	PASS
5700	16.68	6.01	22.69	29.46	PASS
802.11n-HT40 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5510	18.89	6.01	24.90	29.99	PASS
5670	18.61	6.01	24.62	29.99	PASS
802.11ac-VHT20 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5500	16.41	6.01	22.42	29.46	PASS
5580	16.35	6.01	22.36	29.46	PASS
5700	16.53	6.01	22.54	29.46	PASS
802.11ac-VHT40 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5510	18.77	6.01	24.78	29.99	PASS
5670	18.78	6.01	24.79	29.99	PASS

802.11ac-VHT80 mode					
Test Frequency (MHz)	Conducted Power Total (dBm)	Antenna Gain(dBi)	EIRP Power Total (dBm)	IC Limit (dBm)	Result
5530	19.50	6.01	25.51	29.99	PASS

Note：The MIMO antenna gain is 6.01dBi，the final FCC limit = {1W(30dBm) or 17dBm + 10log B, whichever is less} – (6.1-6.0) dBi

In IC Standard, where “B” is the 99% emissions bandwidth in MHz

2.3. Emission Bandwidth

2.3.1. Limit of Bandwidth

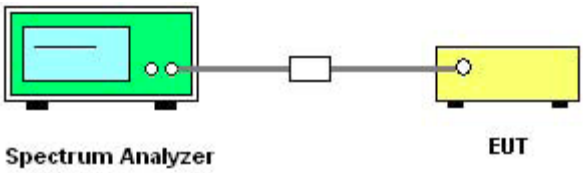
There is no limit bandwidth for bandU-NII-1, U-NII-2A and U-NII-2C.

The minimum of 6dB bandwidth measurement is 0.5 MHz for U-NII-3.

2.3.2. Measuring Instruments

The measuring equipment is listed in the section 3 of this test report.

2.3.3. Test Setup



2.3.4. Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.

2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.

3. Set to the maximum power setting and enable the EUT transmit continuously.

4. For 26dB bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = approximately 1%EBW, VBW⩾3RBW , Detector = Peak, Trace mode = max hold
Span ＞26 dB bandwidth and Sweep time = auto

5. Mark the peak frequency and -26dB (upper and lower) frequency.

6. For 6 Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) =100kHz VBW = 300 kHz, Detector = Peak, Trace mode = max hold

7. Mark the peak frequency and -6dB (upper and lower) frequency.

8. For 99% Occupied Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) =1% to 5% of the OBW, VBW ⩾3RBW, Detector = Peak, Trace mode = max hold，Span= 1.5 times to 5 times the OBW.

8. Measure and record the worst results in the test report.

2.3.5. Test Results Bandwidth

Test results of band U-NII-1 (5150 ~ 5250 MHz)

802.11a mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	19.97	16.66	20.32	16.84
5220	20.02	16.69	20.11	16.76
5240	20.12	16.74	20.31	16.92
802.11n-HT20 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	20.25	17.65	20.26	17.65
5220	20.11	17.65	20.30	17.64
5240	19.91	17.64	20.26	17.64
802.11n-HT40 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5190	39.98	36.04	39.52	36.12
5230	39.76	36.05	39.98	35.97
802.11ac-VHT20 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5180	19.93	17.65	20.21	17.66
5220	20.12	17.68	20.14	17.63
5240	20.03	17.64	20.25	17.65

802.11ac-VHT40 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5190	40.01	36.09	39.77	36.08
5230	39.65	36.07	39.85	36.12
802.11ac-VHT80 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5210	80.80	74.88	80.83	74.83

Test results of band U-NII-2A (5250 ~ 5350 MHz)

802.11a mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5260	20.06	16.71	19.93	16.75
5300	20.18	16.68	20.18	16.75
5320	20.04	16.84	19.89	16.87
802.11n-HT20 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5260	20.04	17.67	20.20	17.65
5300	20.15	17.64	20.20	17.67
5320	20.09	17.65	20.03	17.66
802.11n-HT40 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5270	40.26	36.10	39.87	36.11
5310	40.07	36.07	39.67	36.01
802.11ac-VHT20 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5260	20.22	17.65	20.16	17.65
5300	20.13	17.67	20.19	17.64
5320	20.04	17.67	20.20	17.66

802.11ac-VHT40 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5270	39.86	36.09	39.82	36.09
5310	39.79	36.09	39.76	36.10
802.11ac-VHT80 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5290	81.27	74.94	81.03	74.90

Test results of band U-NII-2C (5470 ~ 5725 MHz)

802.11a mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5500	19.88	16.74	20.27	16.93
5580	20.13	16.74	20.29	16.86
5700	20.04	16.69	20.03	16.77
802.11n-HT20 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5500	20.23	17.65	20.19	17.64
5580	20.15	17.65	20.06	17.65
5700	20.09	17.65	20.14	17.66
802.11n-HT40 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5510	40.02	36.07	39.34	36.02
5670	39.62	36.13	39.58	36.16
802.11ac-VHT20 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5500	20.04	17.66	20.08	17.66
5580	20.19	17.67	20.14	17.66
5700	20.21	17.64	20.10	17.65

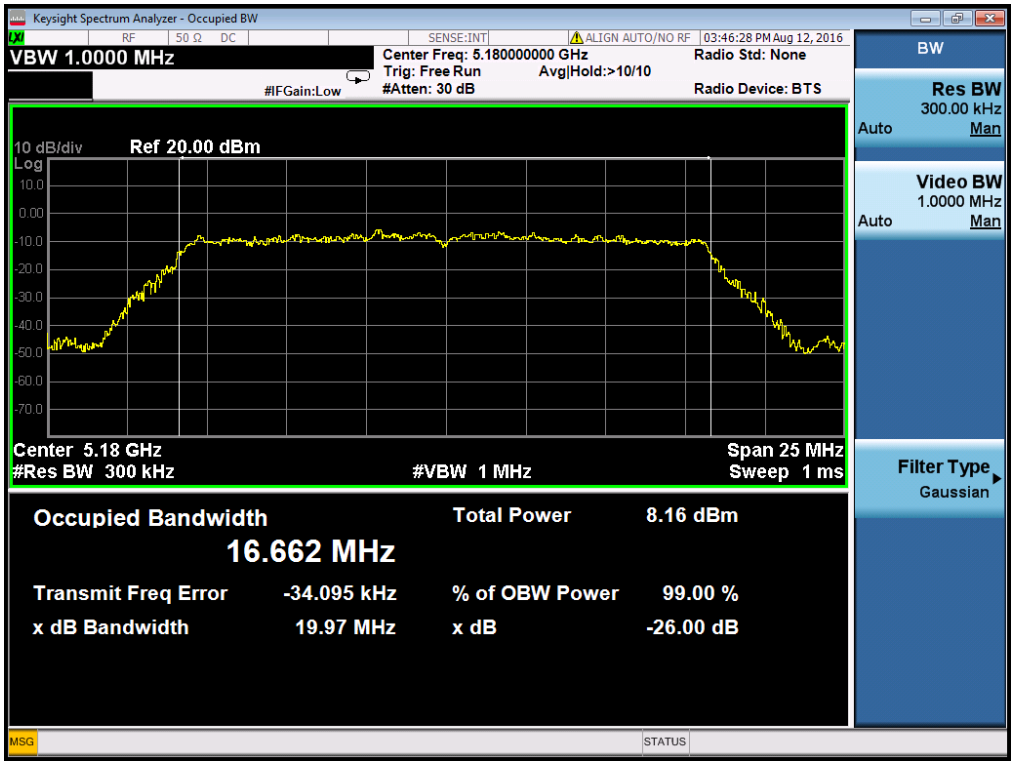
802.11ac-VHT40 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5510	40.01	36.07	40.28	36.16
5670	39.74	36.05	40.34	36.11
802.11ac-VHT80 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5530	81.00	74.87	80.67	74.81

Test results of band U-NII-3 (5725 ~ 5850 MHz)

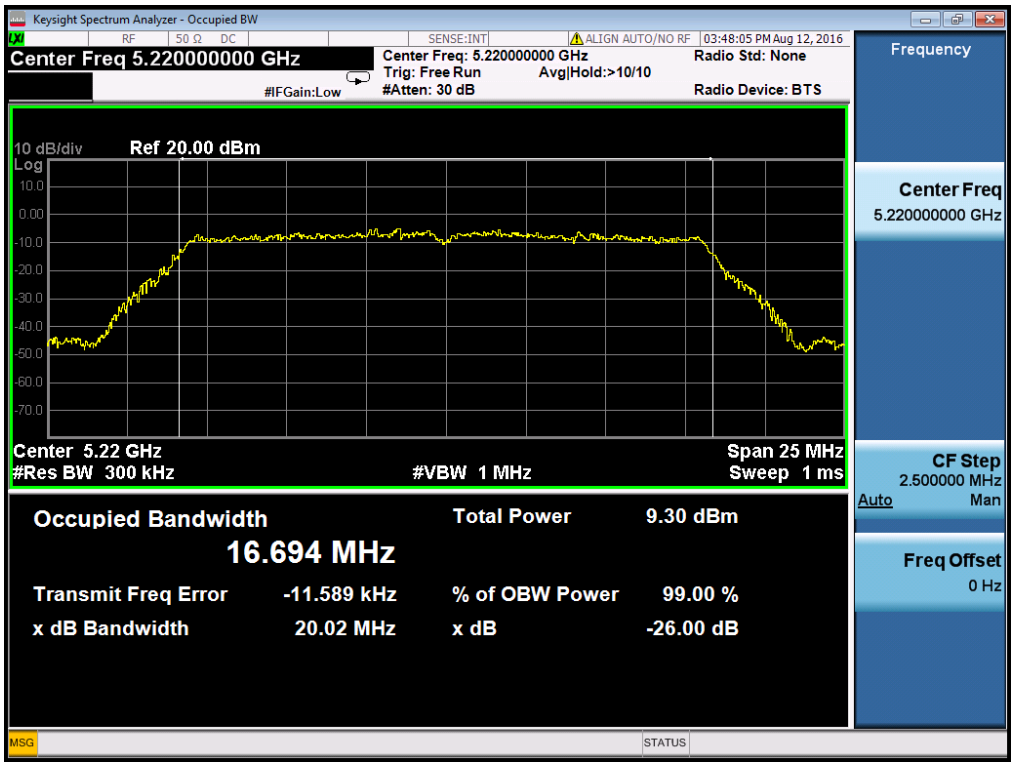
802.11a mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5745	16.50	16.83	16.53	16.91
5785	16.42	16.81	16.47	16.90
5825	16.41	16.76	16.48	17.04
802.11n-HT20 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5745	17.64	17.81	17.64	17.84
5785	17.65	17.78	17.63	17.87
5825	17.63	17.79	17.64	17.82
802.11n-HT40 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5755	36.37	36.25	36.40	36.39
5792	36.39	36.23	36.37	36.32
802.11ac-VHT20 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5745	17.65	17.77	17.64	17.94
5785	17.65	17.77	17.62	17.85
5825	17.63	17.75	17.63	17.86

802.11ac-VHT40 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5755	39.00	36.22	36.41	36.23
5792	38.92	36.24	36.36	36.31
802.11ac-VHT80 mode				
Test Frequency (MHz)	Antenna 0		Antenna 1	
	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
5775	75.54	75.09	75.72	75.24

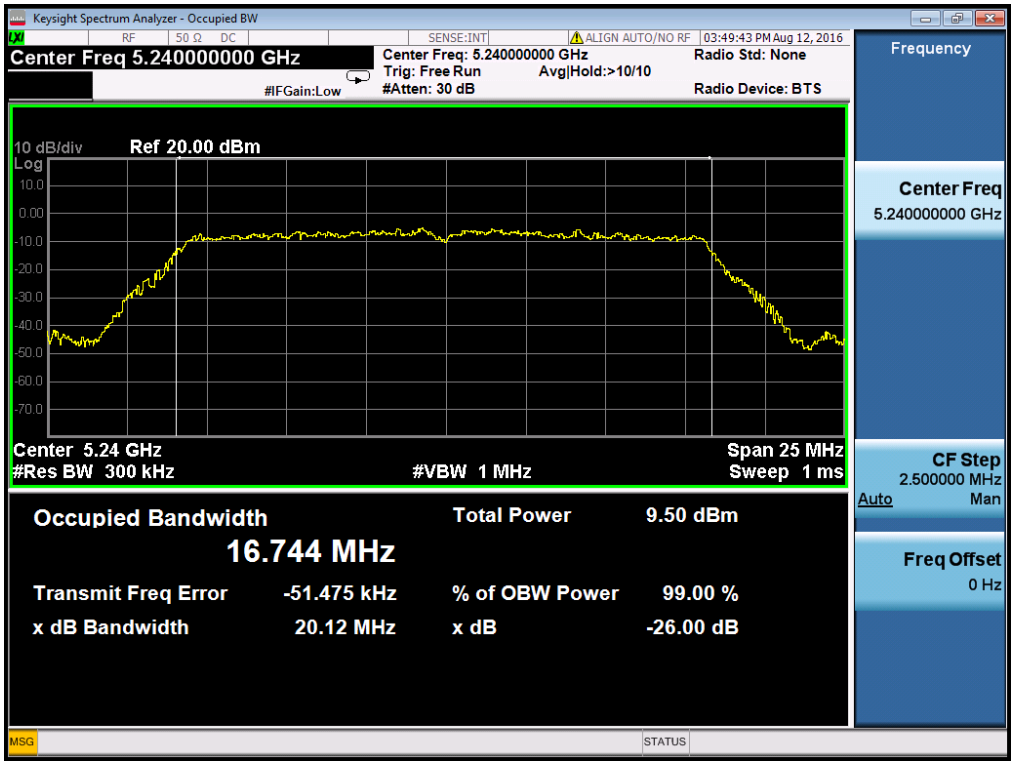
2.3.6. Test Results (plots) of Bandwidth



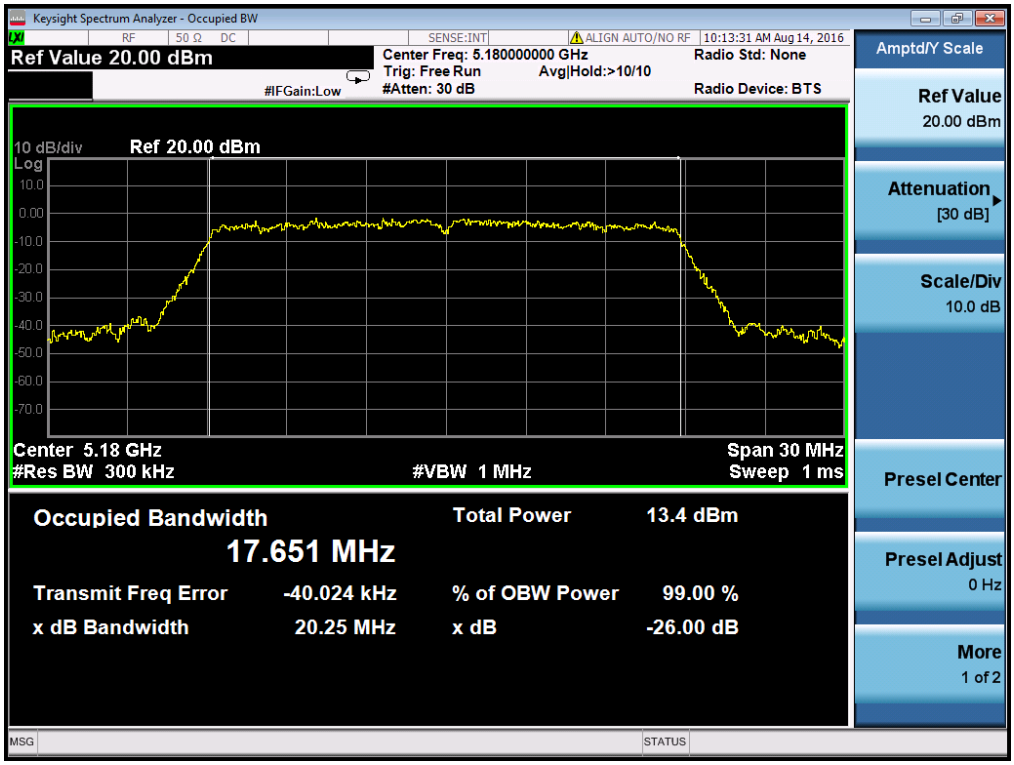
Antenna 0 - 802.11a - Bandwidth - 5180MHz



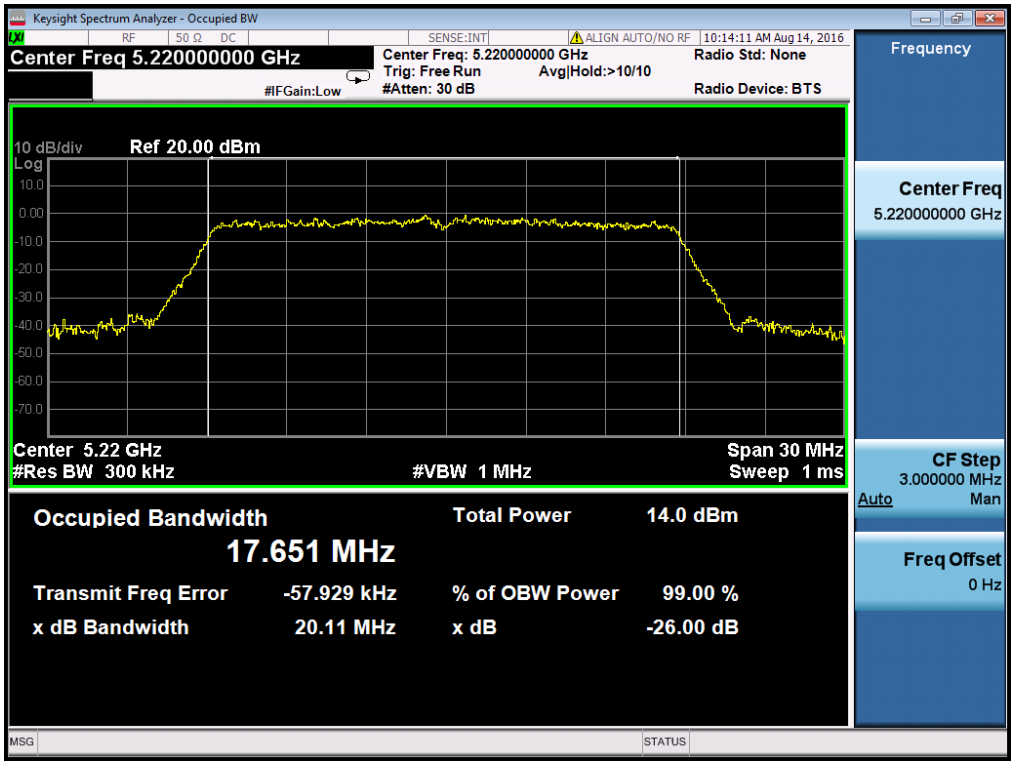
Antenna 0 - 802.11a – Bandwidth – 5220MHz



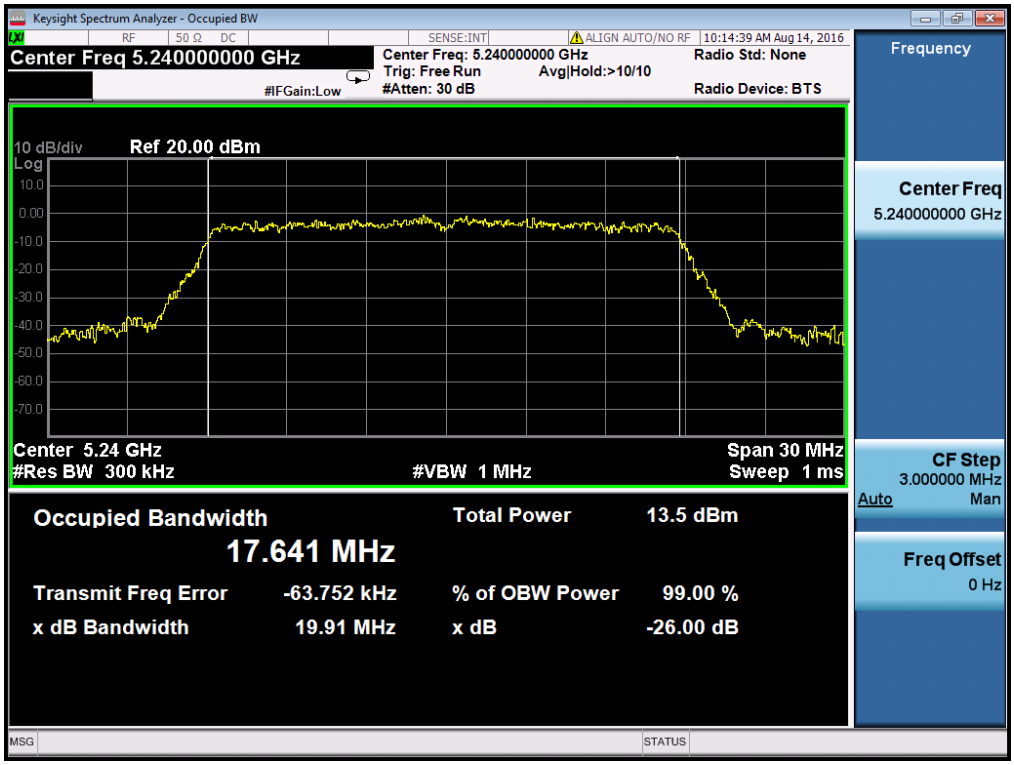
Antenna 0 - 802.11a – Bandwidth – 5240MHz



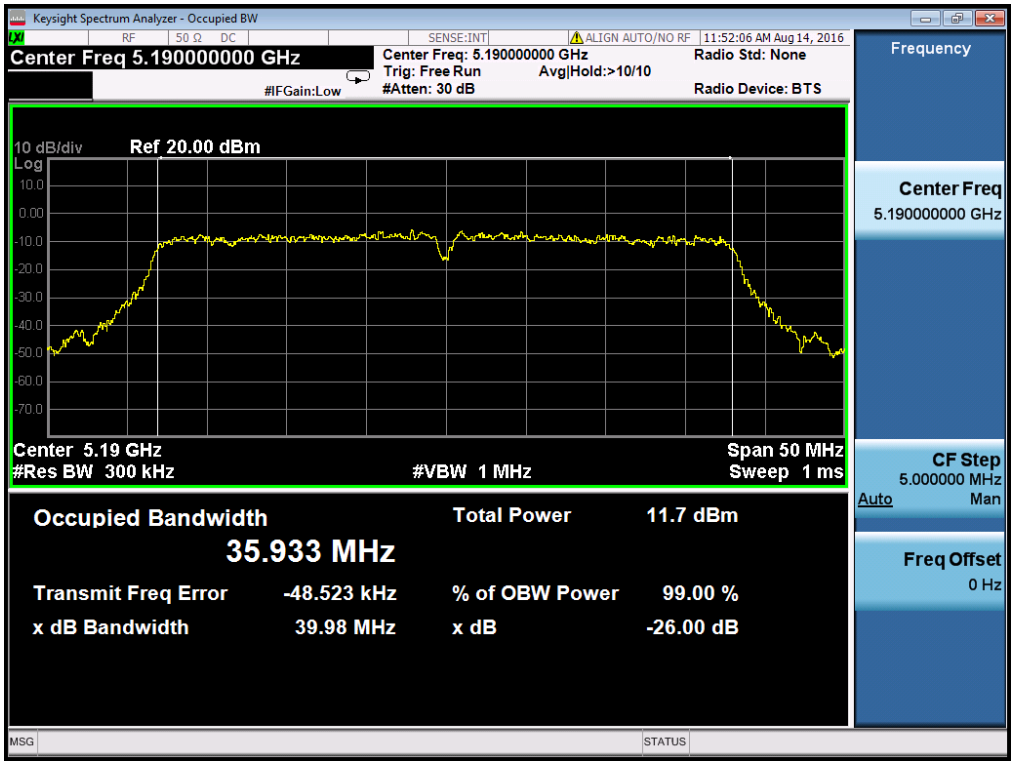
Antenna 0 - 802.11n-HT20 - Bandwidth – 5180MHz



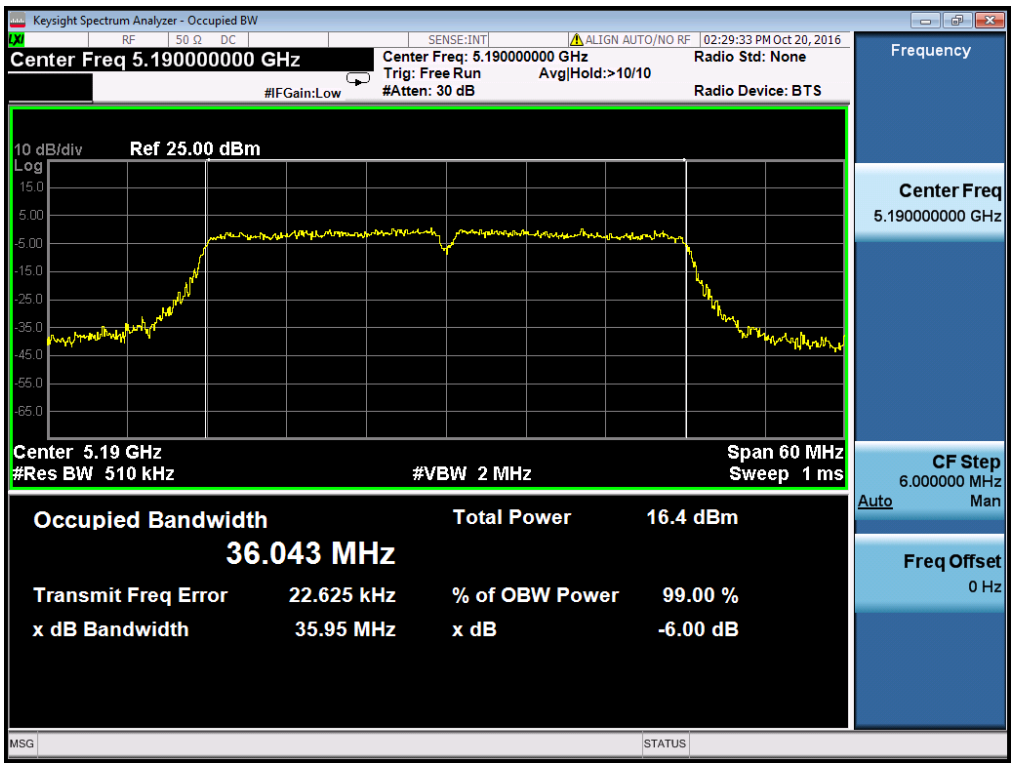
Antenna 0 - 802.11n-HT20 - Bandwidth – 5220MHz



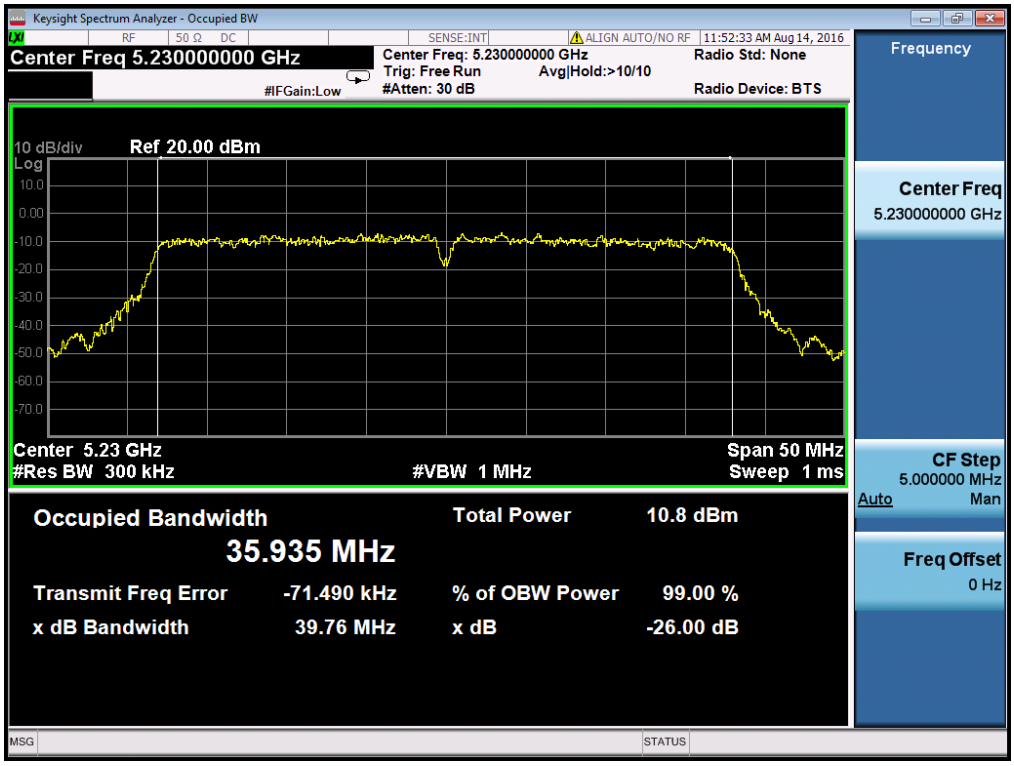
Antenna 0 - 802.11n-HT20 - Bandwidth – 5240MHz



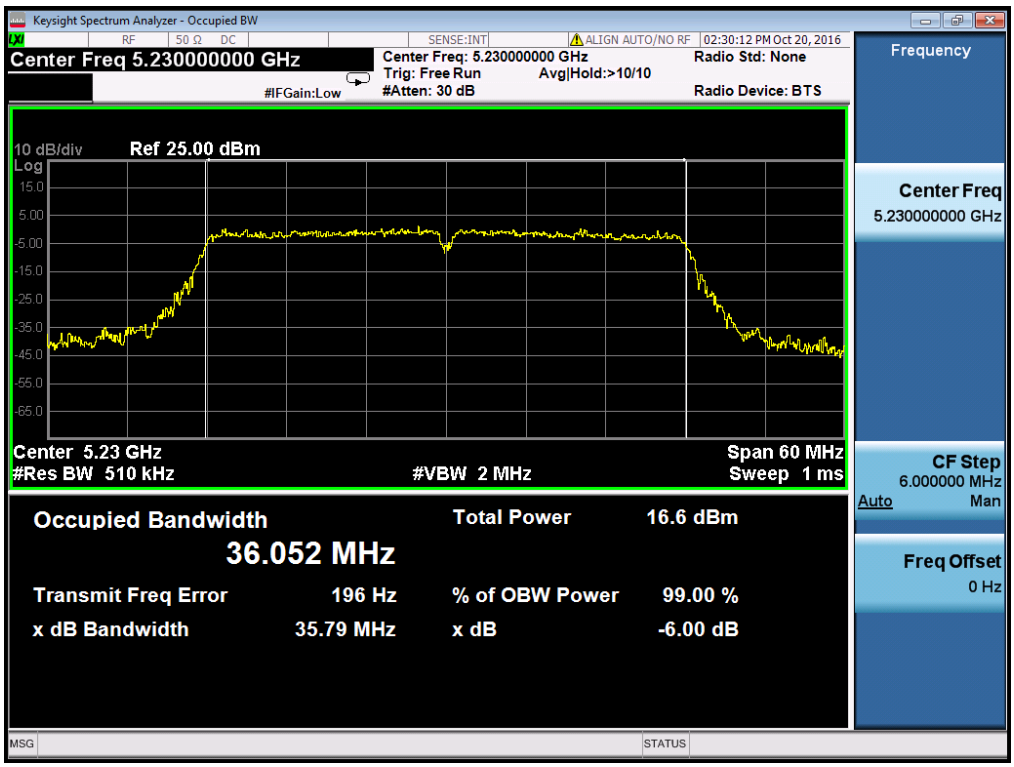
Antenna 0 - 802.11n-HT40 – 26dB Bandwidth– 5190MHz



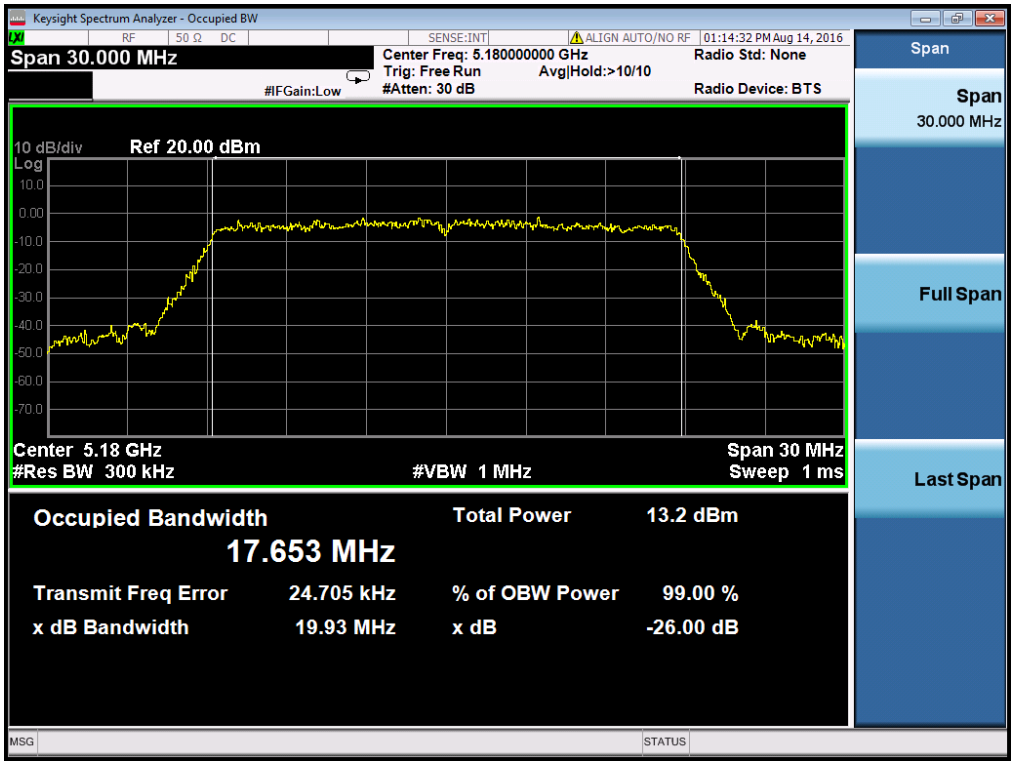
Antenna 0 - 802.11n-HT40 – 99% Bandwidth– 5190MHz



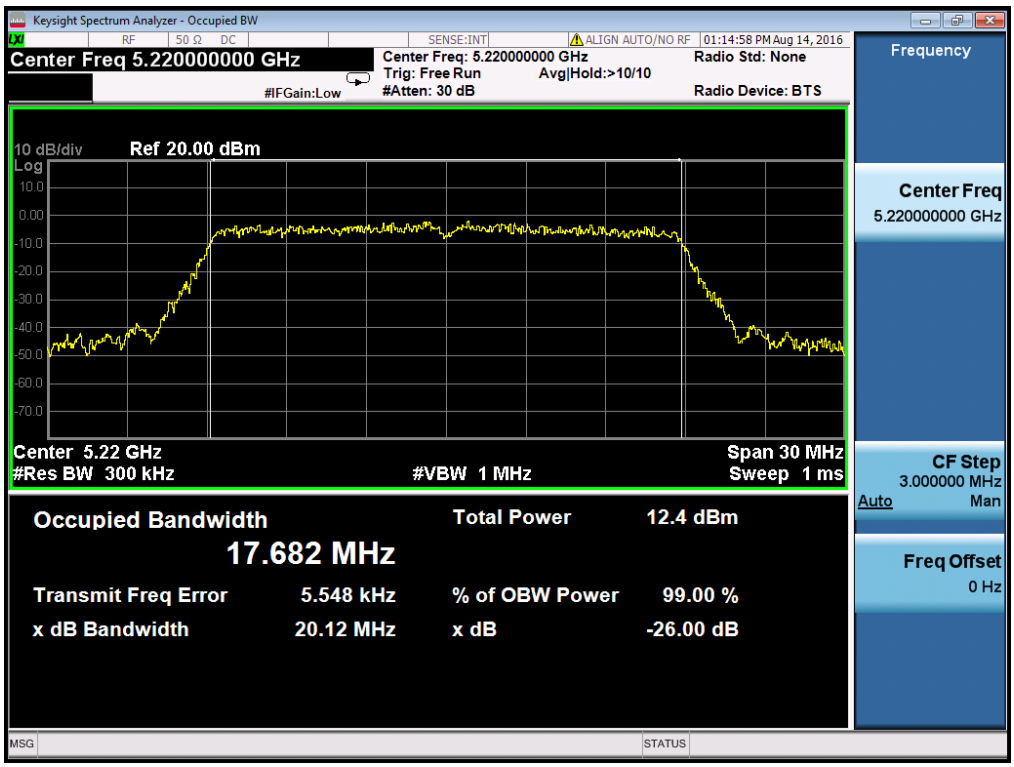
Antenna 0 - 802.11n-HT40 – 26dB Bandwidth– 5230MHz



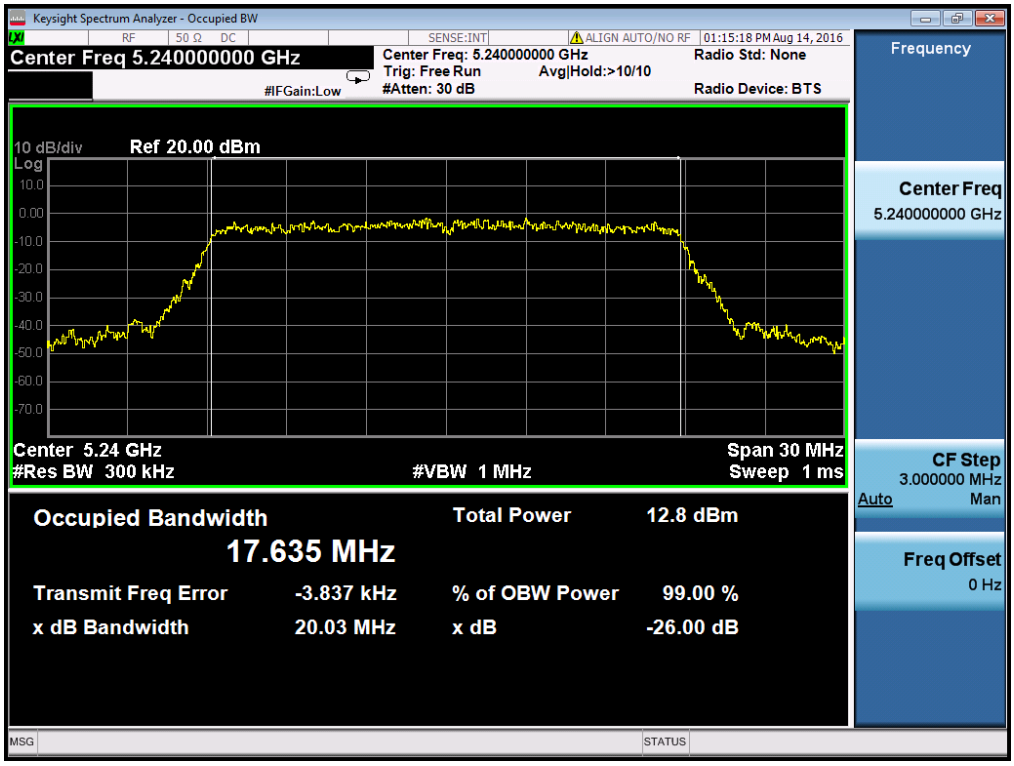
Antenna 0 - 802.11n-HT40 – 99% Bandwidth– 5230MHz



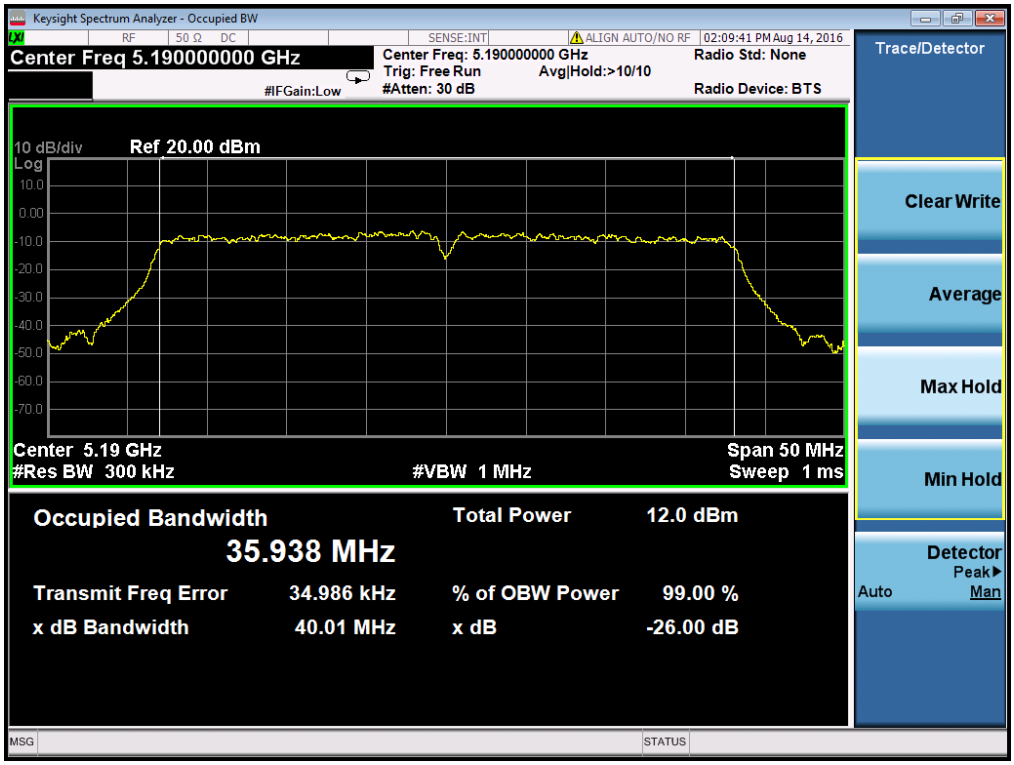
Antenna 0 - 802.11ac-VHT20 –Bandwidth – 5180MHz



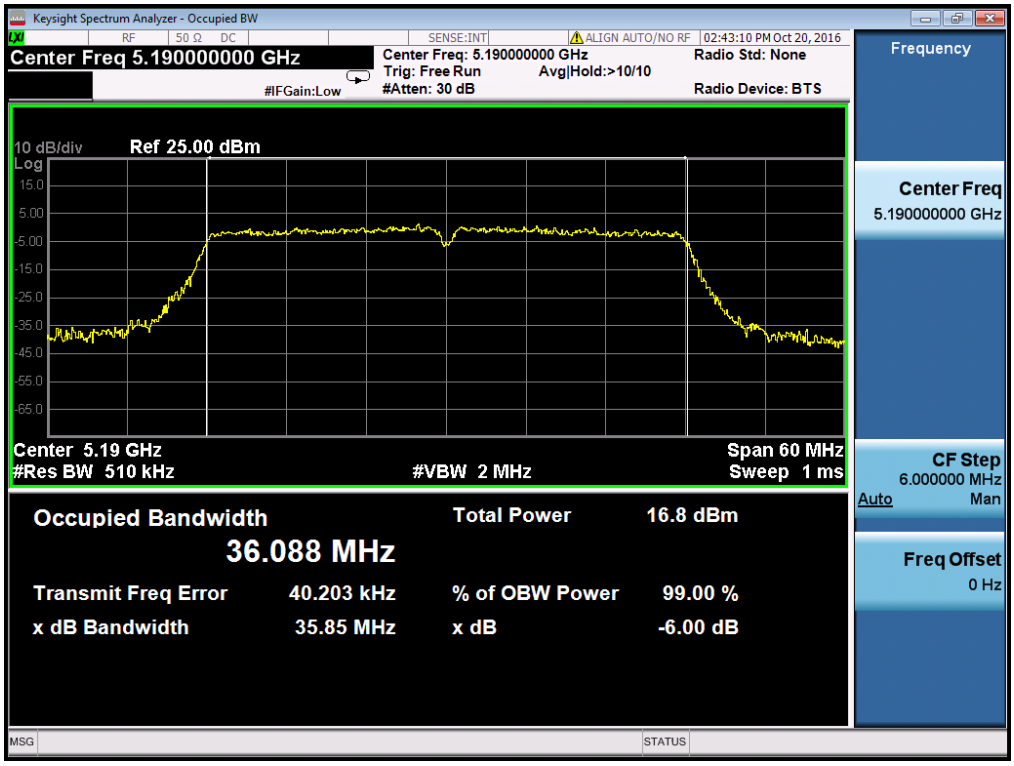
Antenna 0 - 802.11ac-VHT20 –Bandwidth– 5220MHz



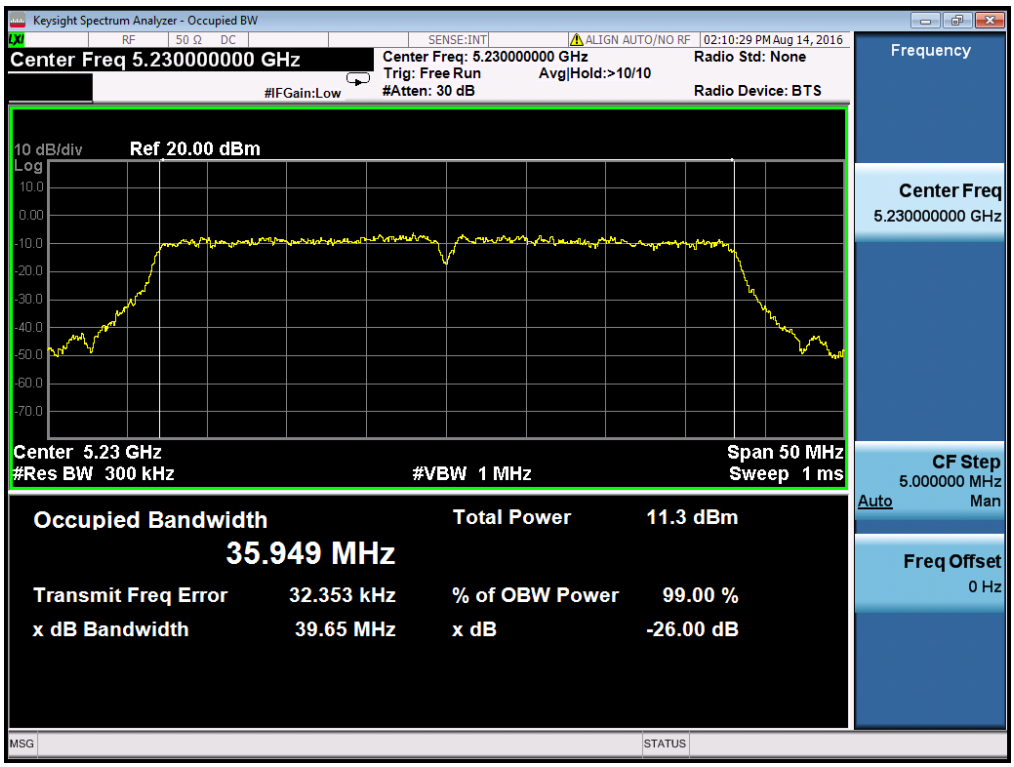
Antenna 0 - 802.11ac-VHT20 –Bandwidth– 5240MHz



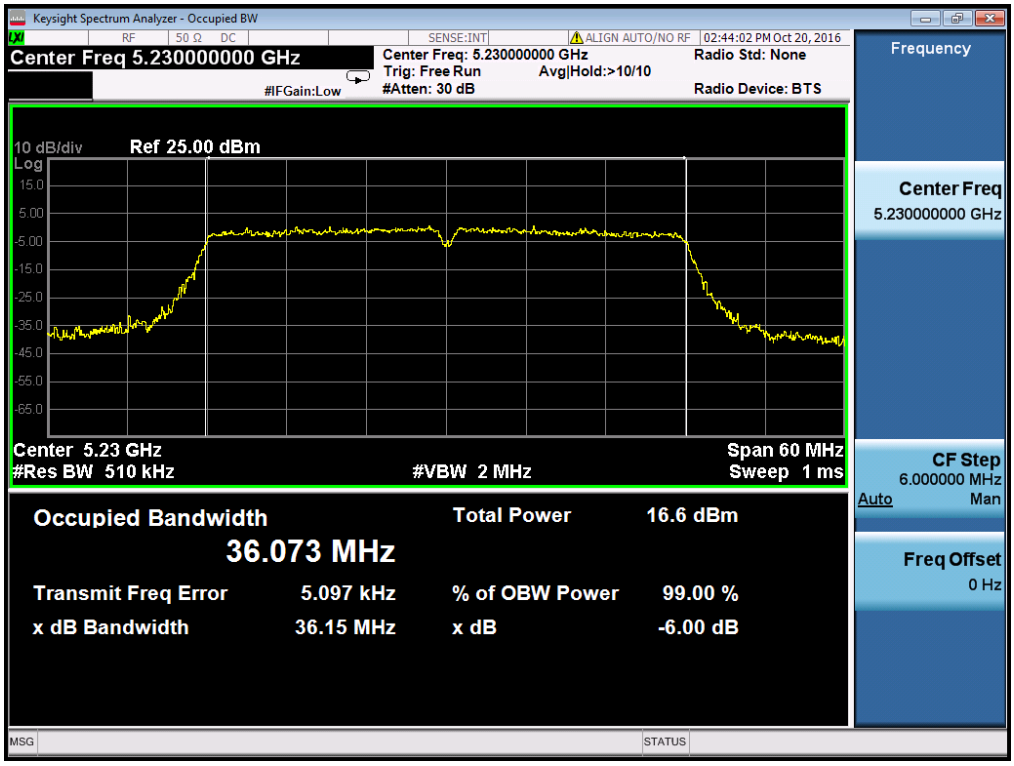
Antenna 0 - 802.11ac-VHT40 – 26dB Bandwidth– 5190MHz



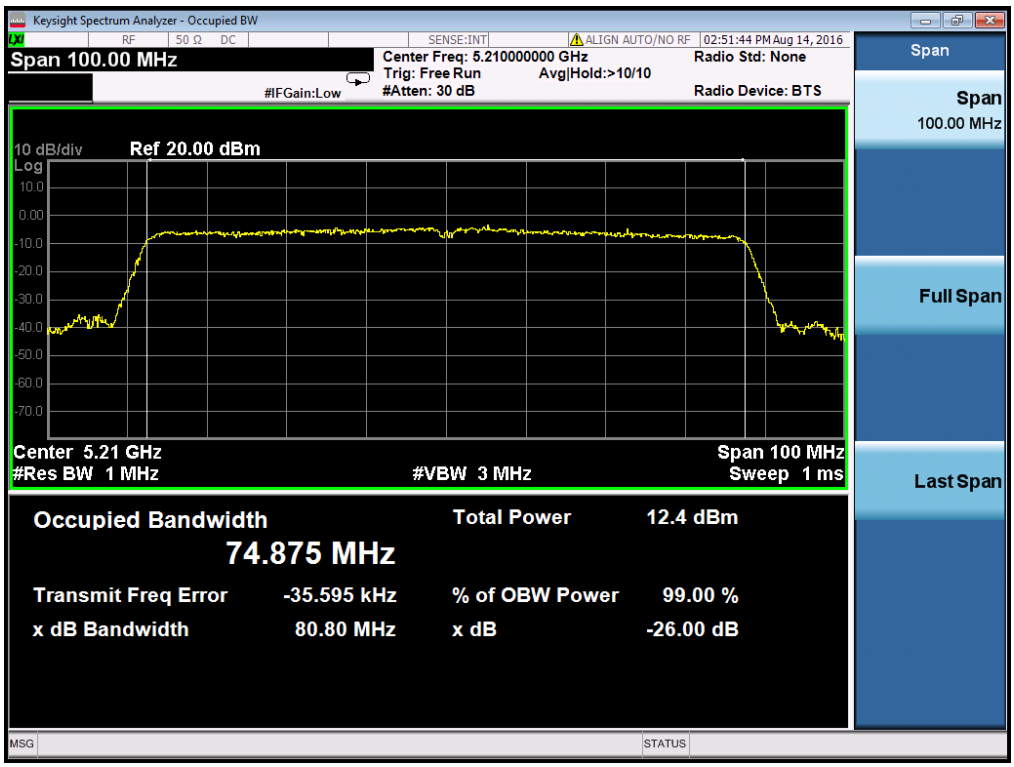
Antenna 0 - 802.11ac-VHT40 – 99% Bandwidth– 5190MHz



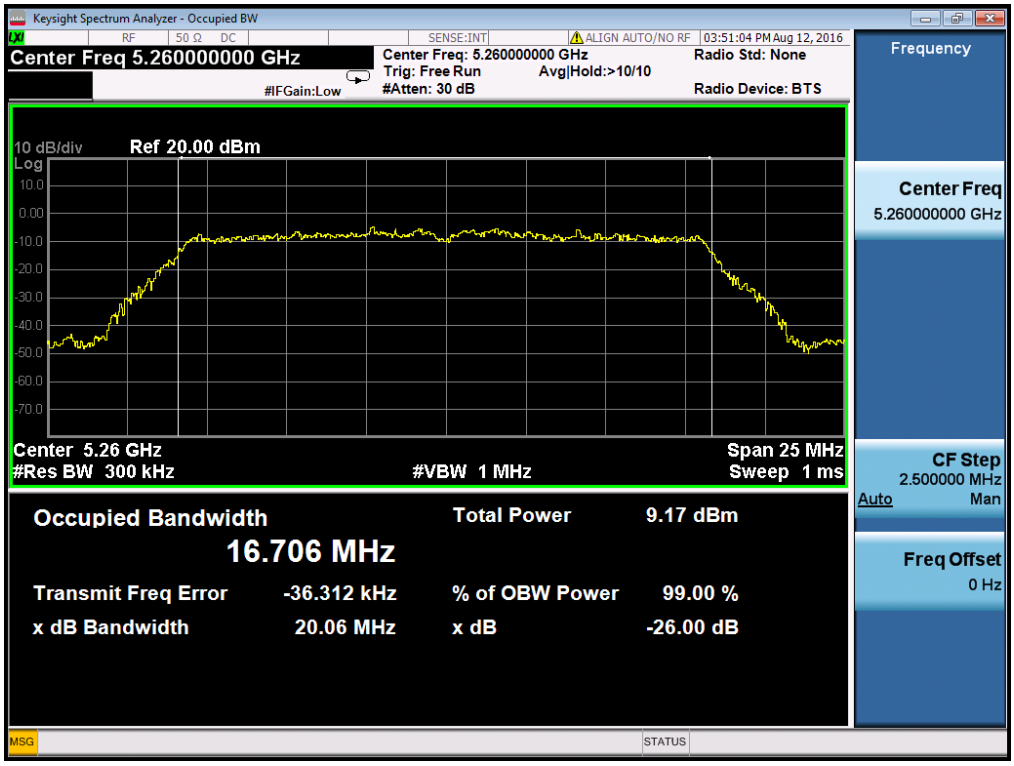
Antenna 0 - 802.11ac-VHT40 – 26dB Bandwidth – 5230MHz



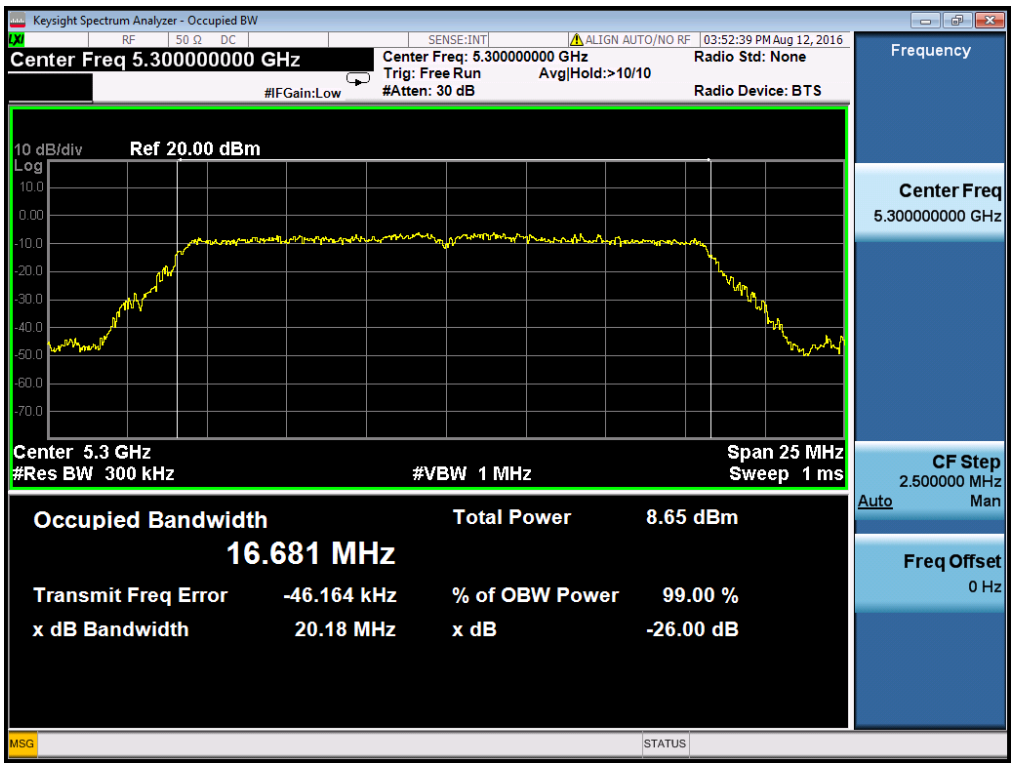
Antenna 0 - 802.11ac-VHT40 – 99% Bandwidth – 5230MHz



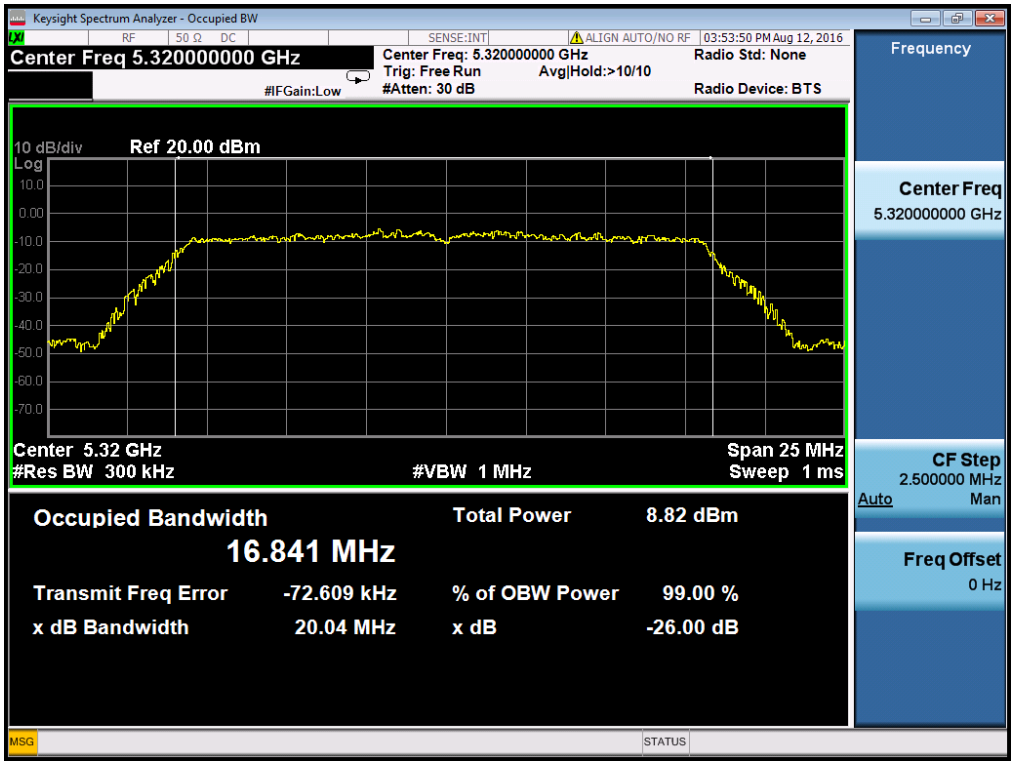
Antenna 0 - 802.11ac-VHT80 - 26dB Bandwidth – 5210MHz



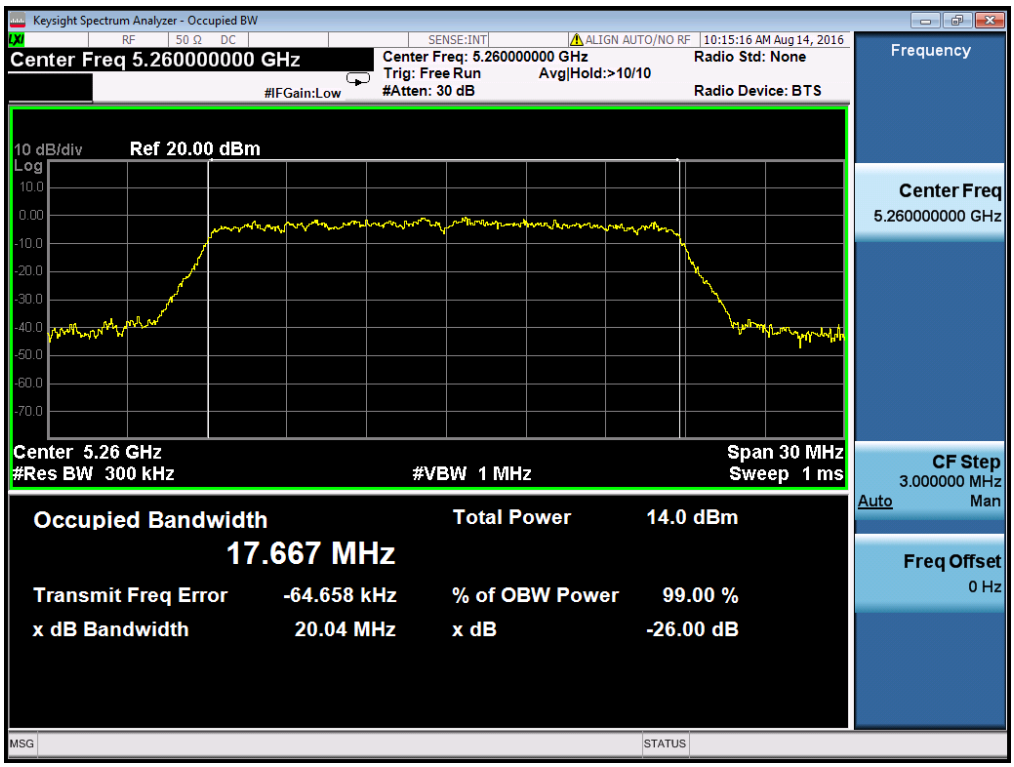
Antenna 0 - 802.11a –Bandwidth-5260MHz



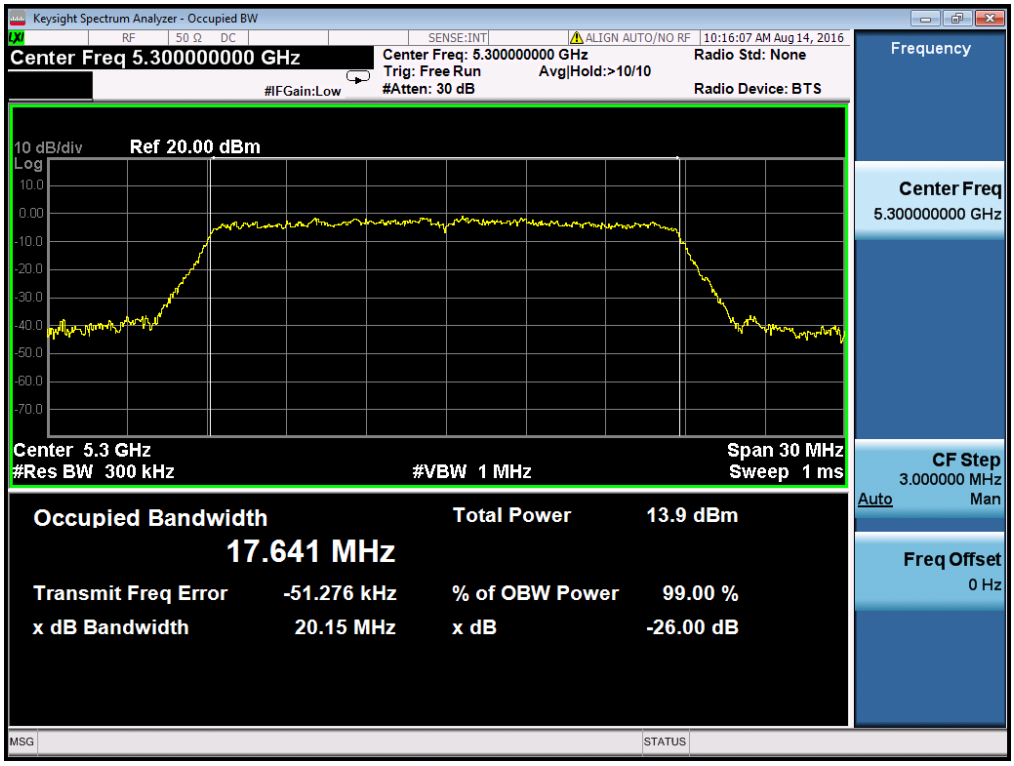
Antenna 0 - 802.11a –Bandwidth – 5300MHz



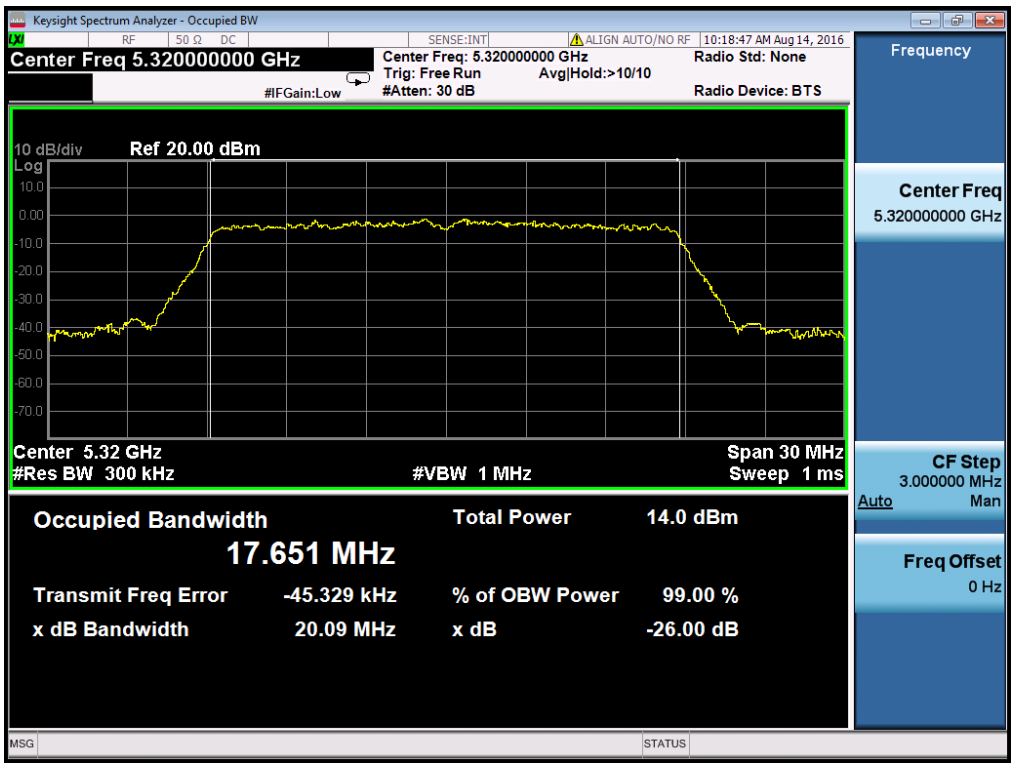
Antenna 0 - 802.11a –Bandwidth – 5320MHz



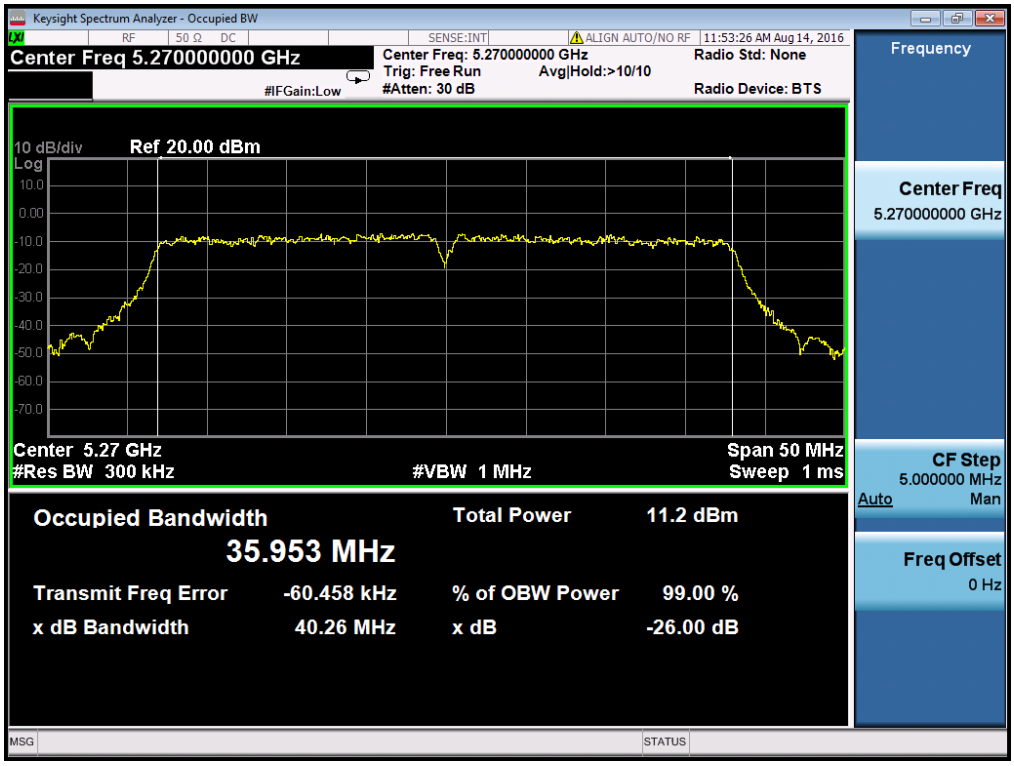
Antenna 0 - 802.11n-HT20 –Bandwidth – 5260MHz



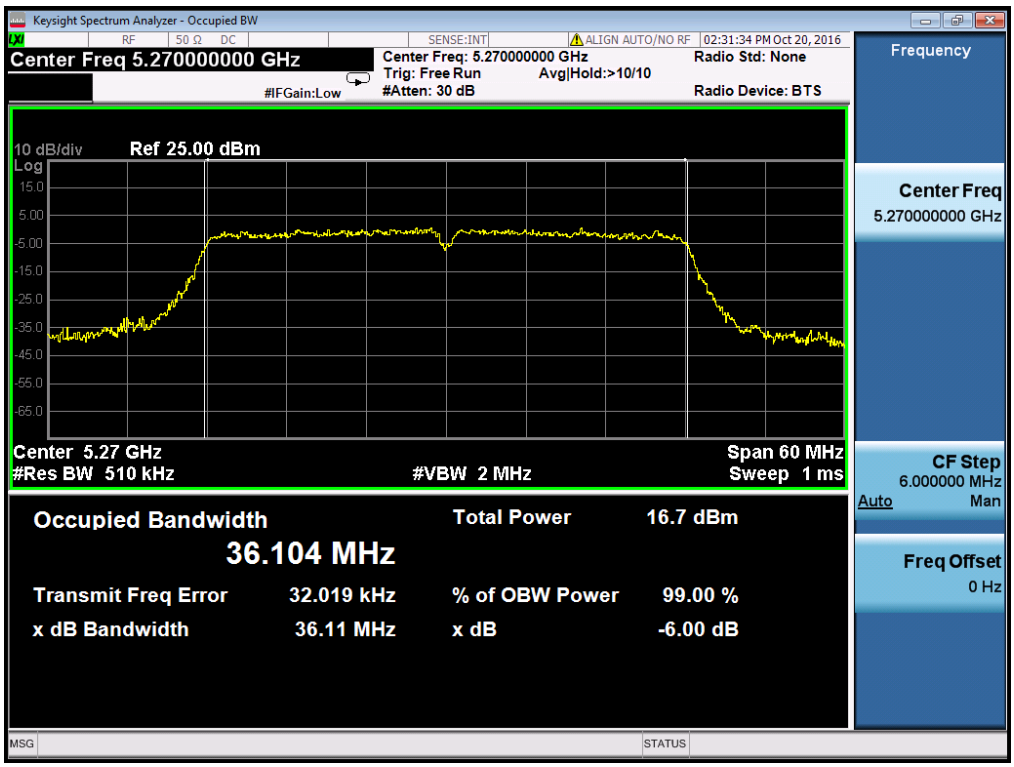
Antenna 0 - 802.11n-HT20 –Bandwidth – 5300MHz



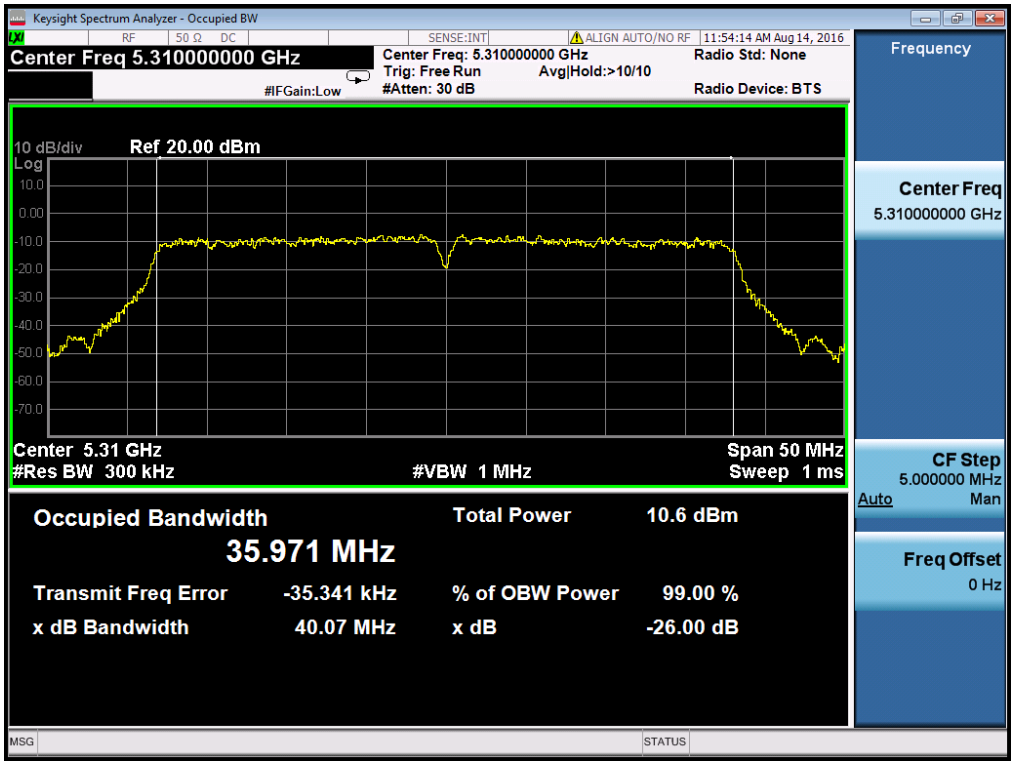
Antenna 0 - 802.11n-HT20 –Bandwidth – 5320MHz



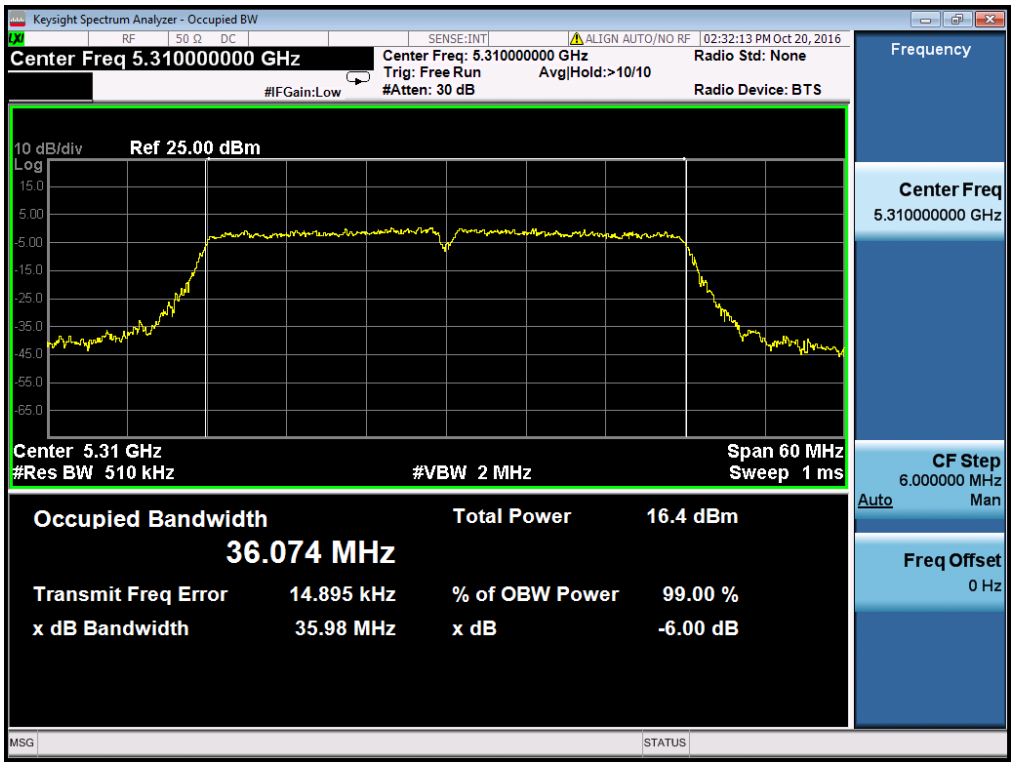
Antenna 0 - 802.11n-HT40 - 26dB Bandwidth – 5270MHz



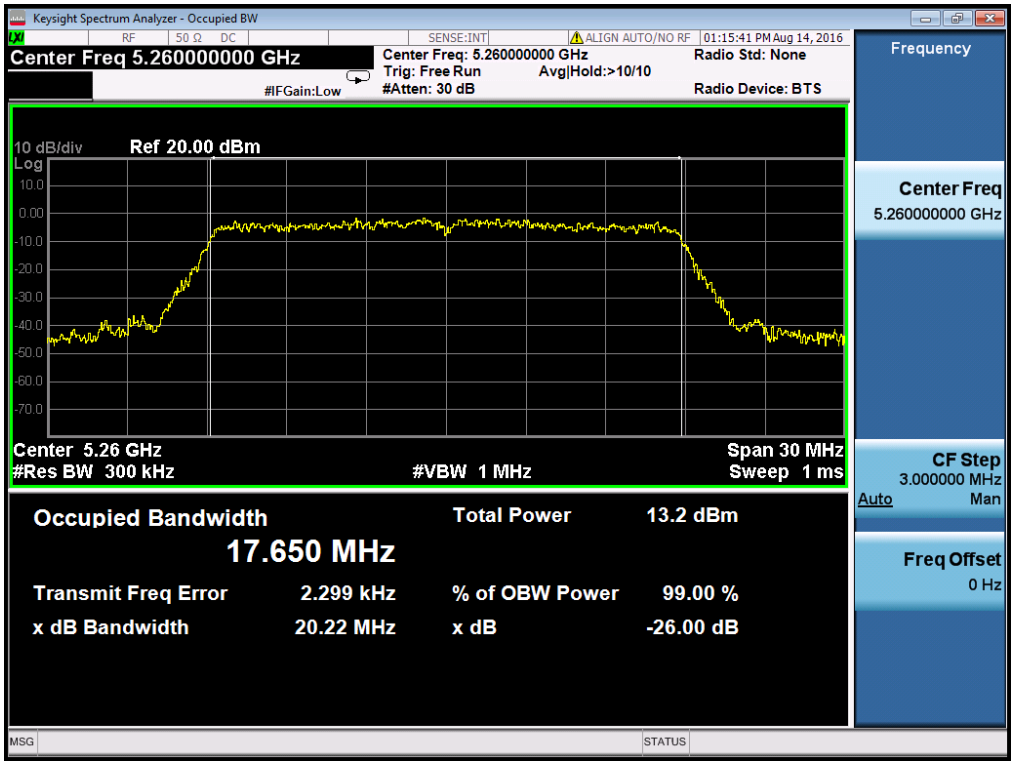
Antenna 0 - 802.11n-HT40 – 99% Bandwidth – 5270MHz



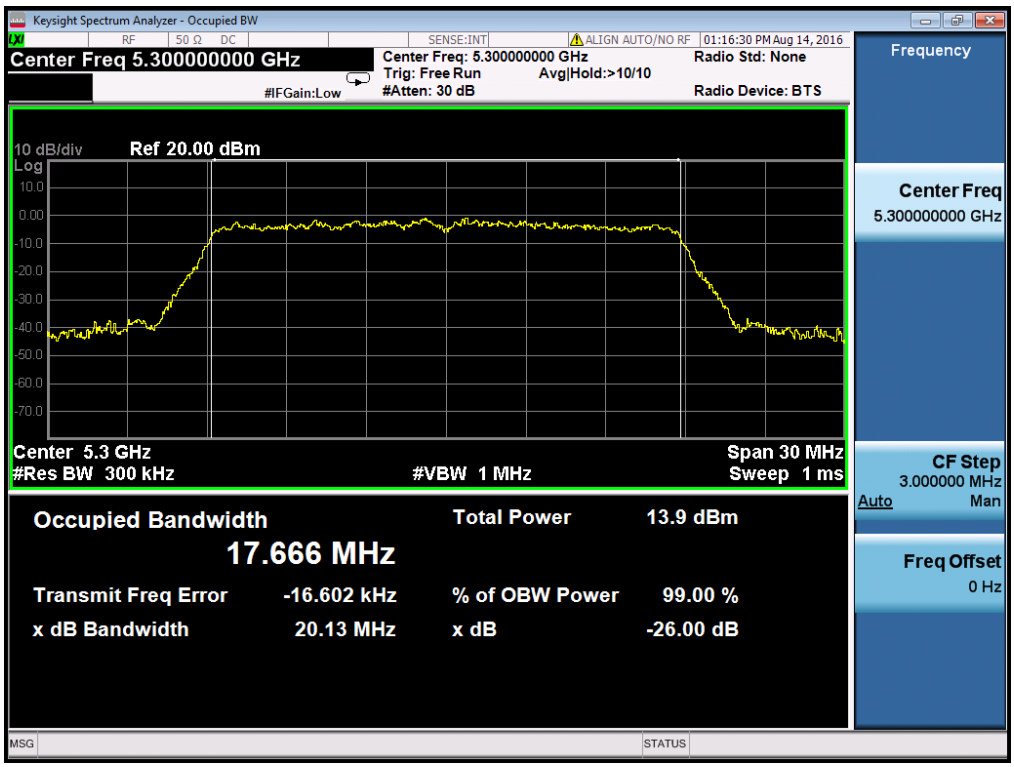
Antenna 0 - 802.11n-HT40- 26dB Bandwidth – 5310MHz



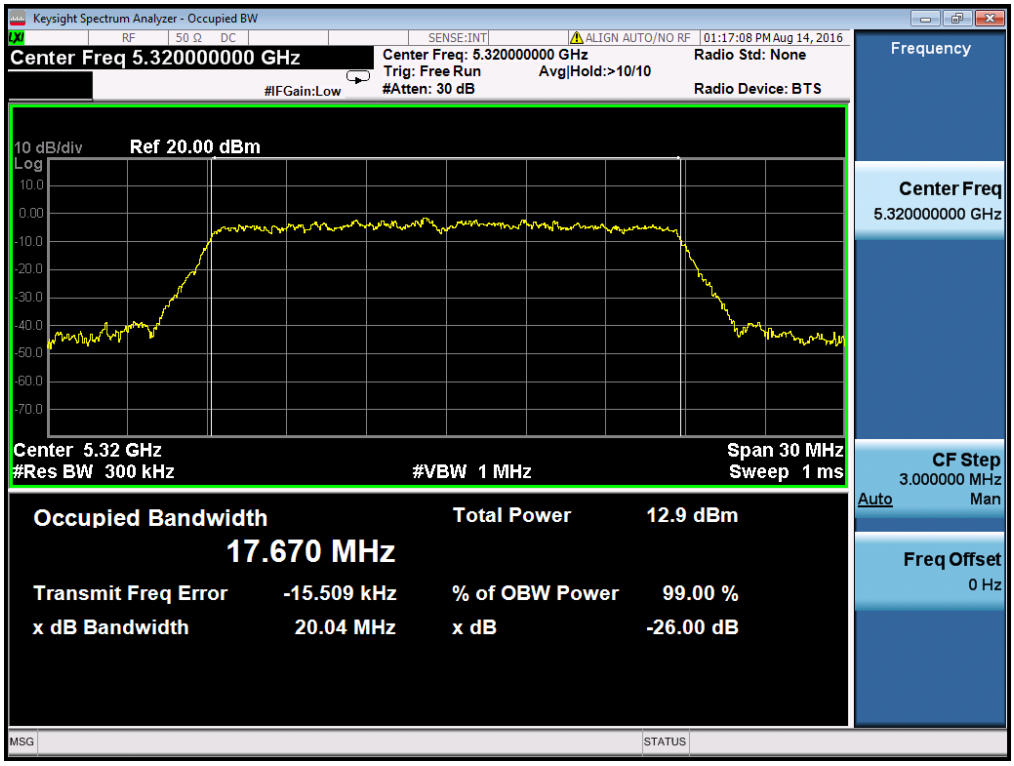
Antenna 0 - 802.11n-HT40- 99% Bandwidth – 5310MHz



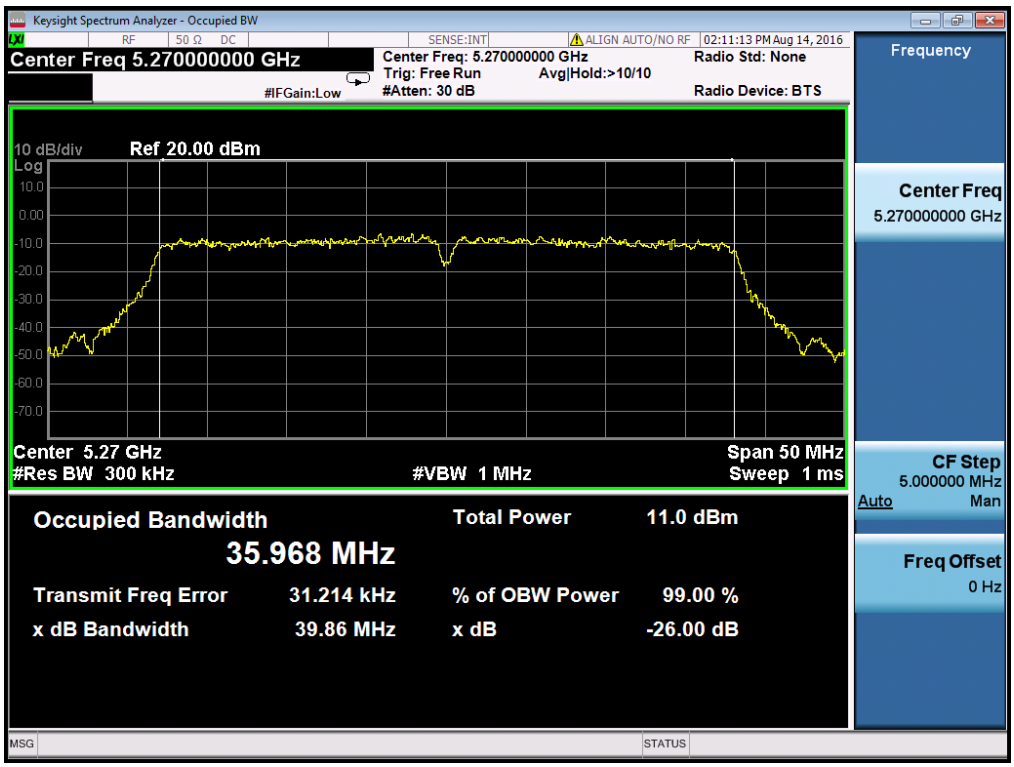
Antenna 0 - 802.11ac-VHT20 - Bandwidth– 5260MHz



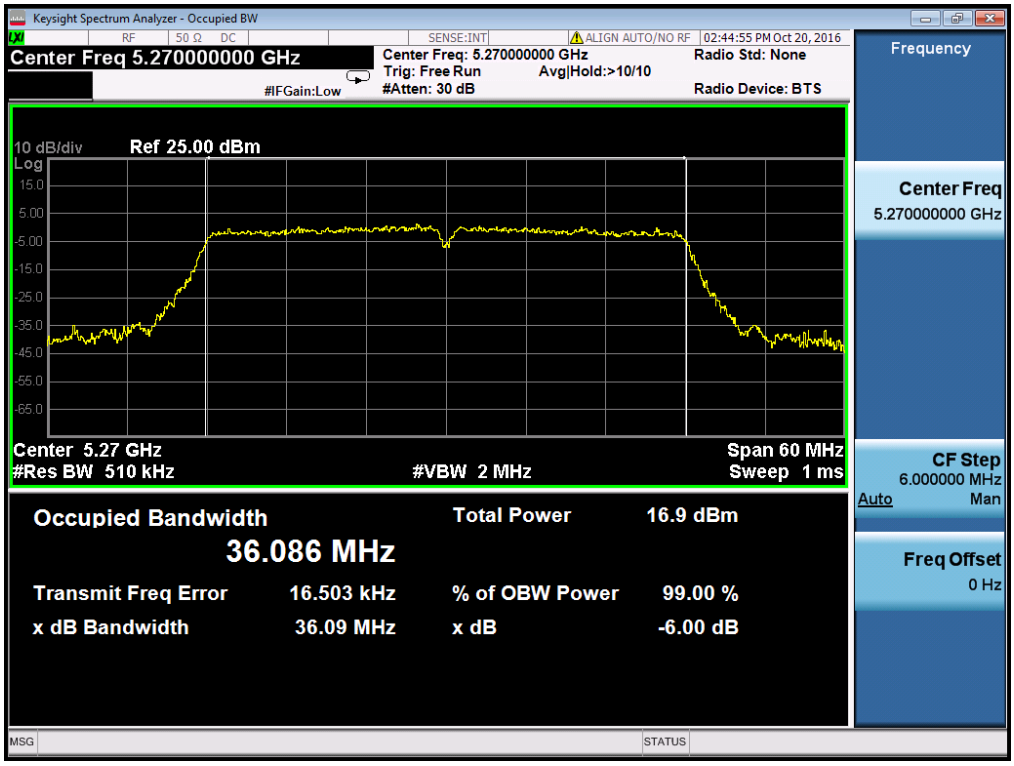
Antenna 0 - 802.11ac-VHT20 - Bandwidth – 5300MHz



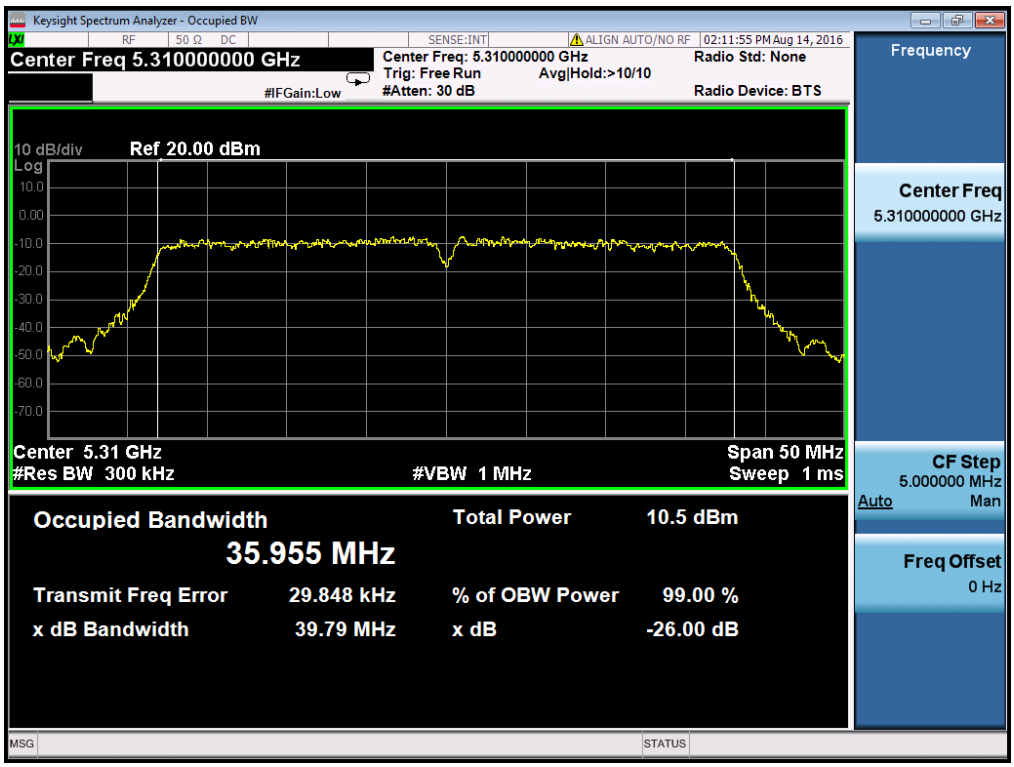
Antenna 0 - 802.11ac-VHT20 - Bandwidth – 5320MHz



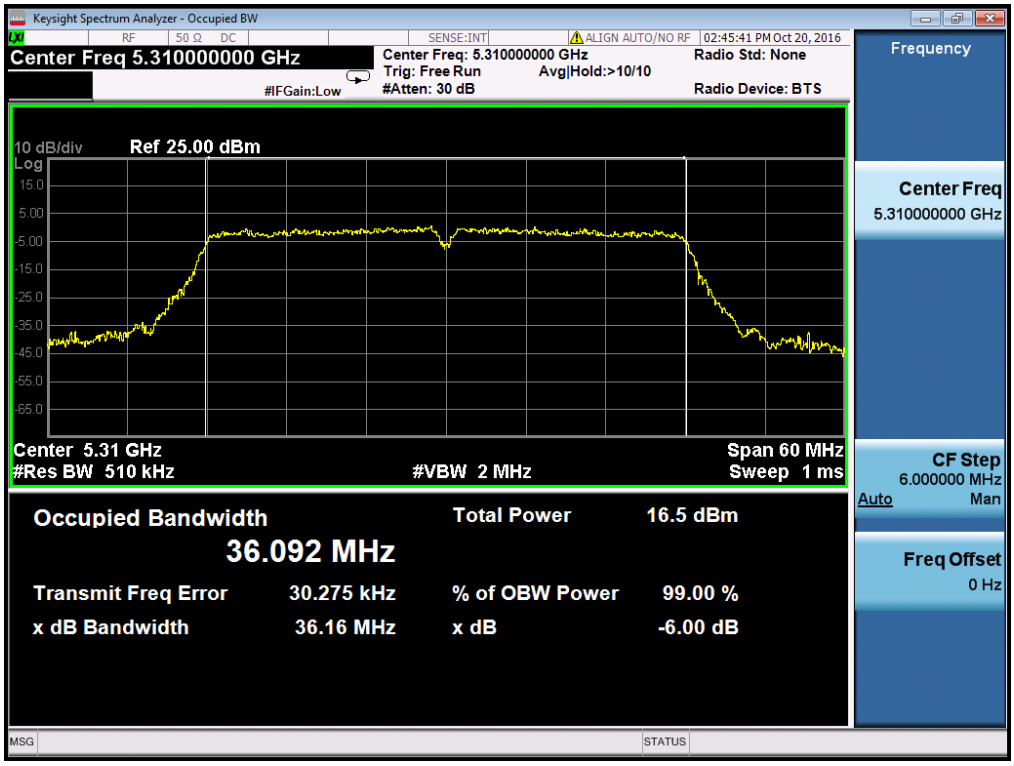
Antenna 0 - 802.11ac-VHT40- 26dB Bandwidth – 5270MHz



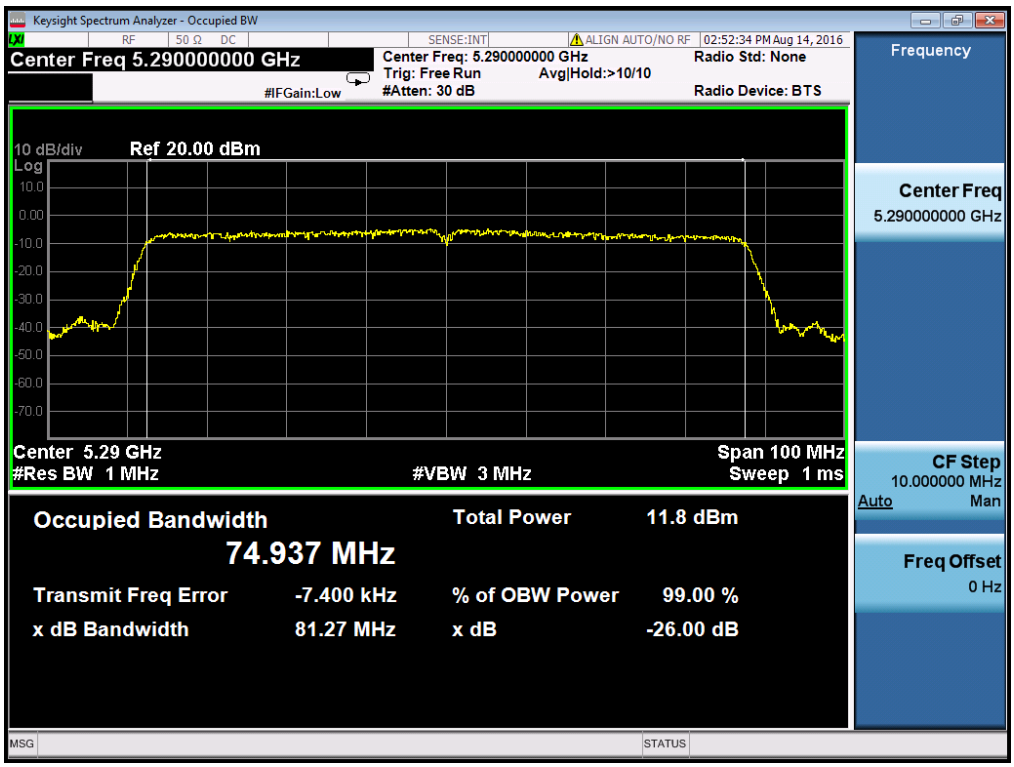
Antenna 0 - 802.11ac-VHT40- 99% Bandwidth – 5270MHz



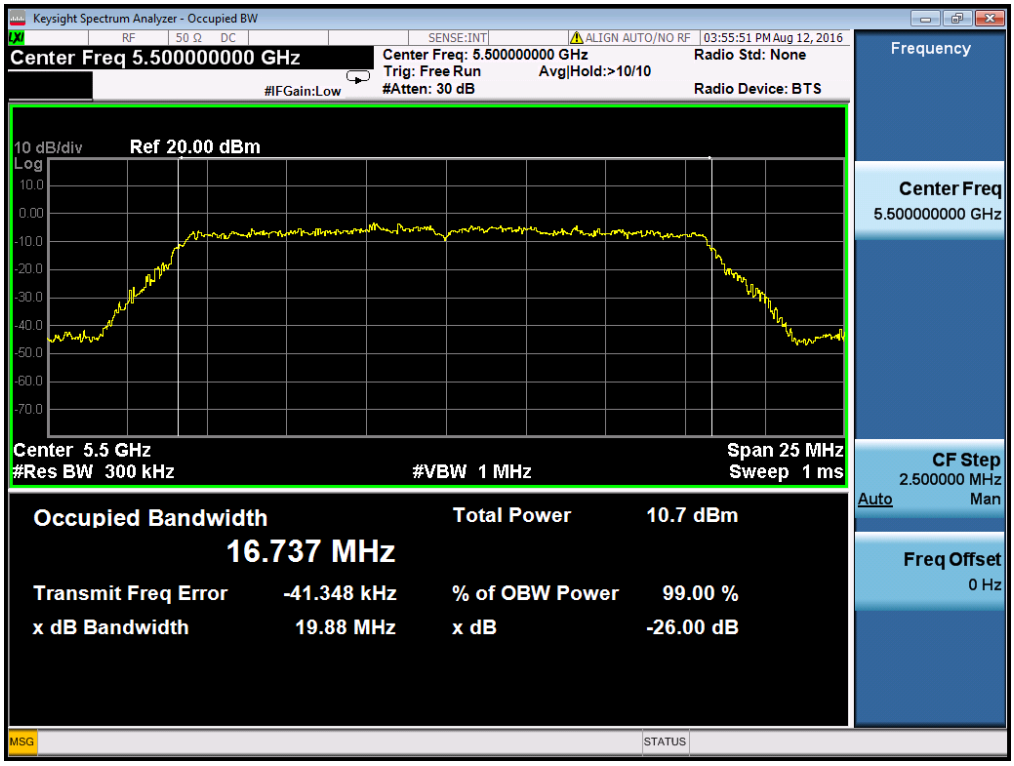
Antenna 0 - 802.11ac-VHT40- 26dB Bandwidth – 5310MHz



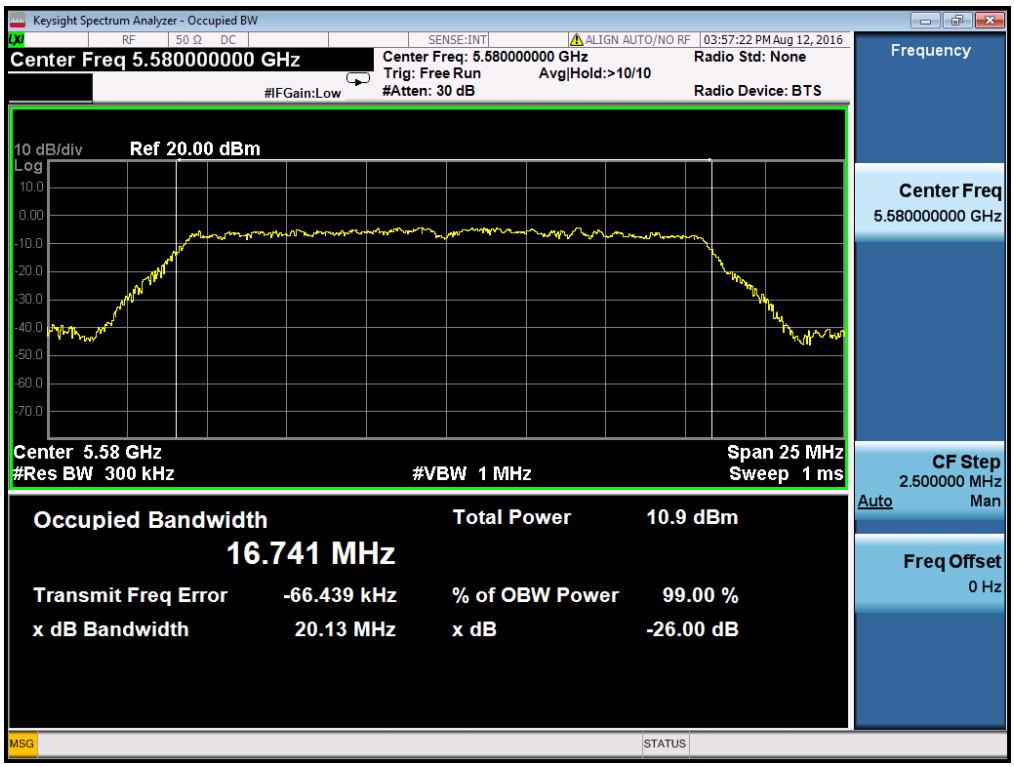
Antenna 0 - 802.11ac-VHT40- 99% Bandwidth – 5310MHz



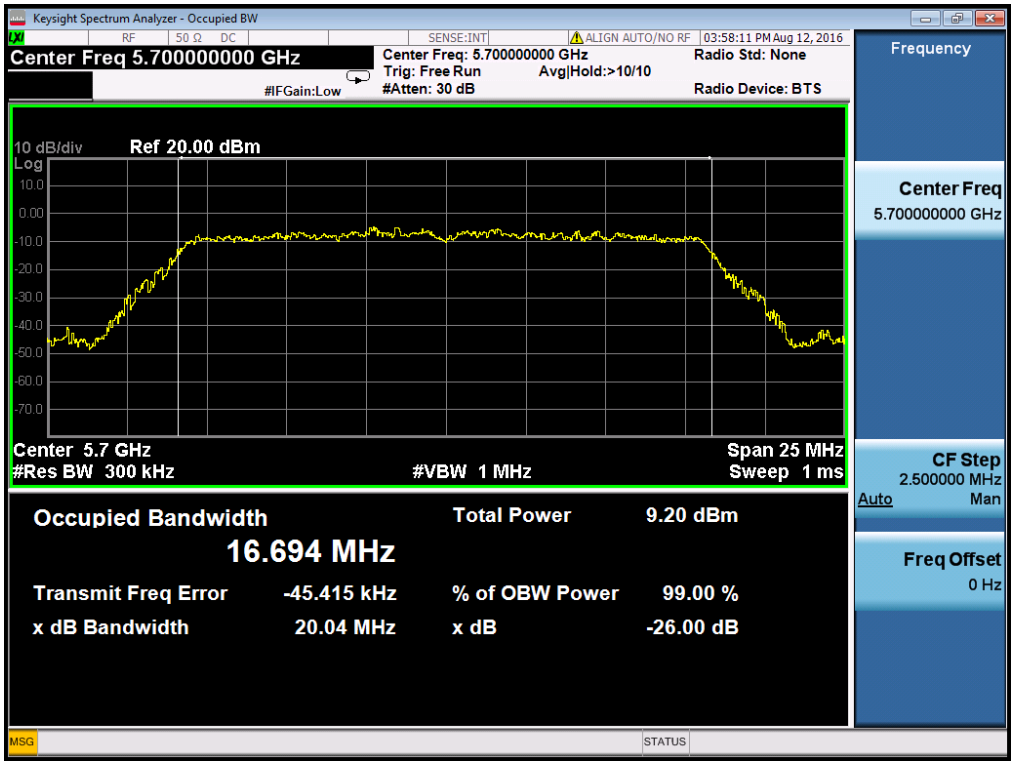
Antenna 0 - 802.11ac-VHT80- Bandwidth – 5290MHz



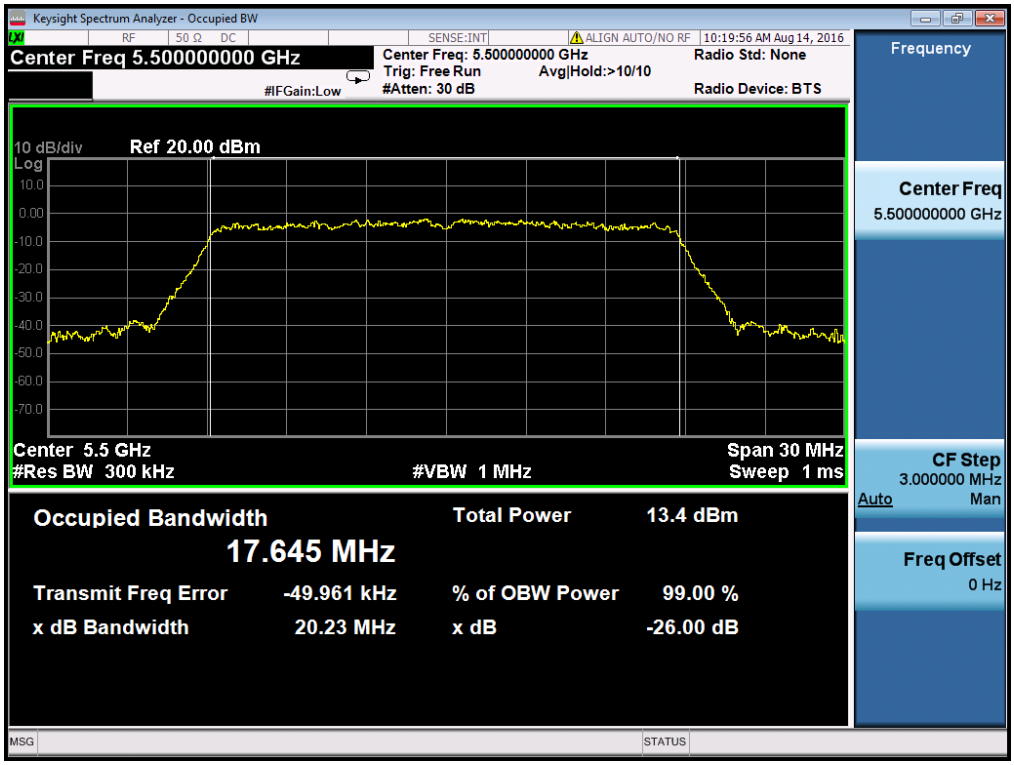
Antenna 0 - 802.11a- Bandwidth – 5500MHz



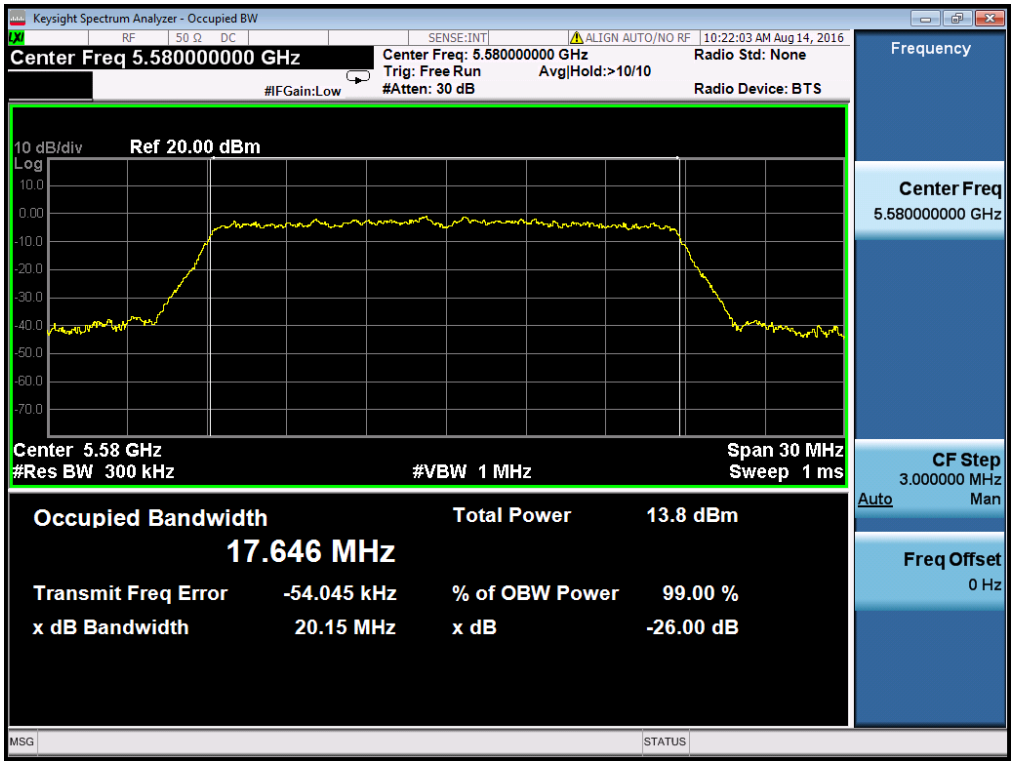
Antenna 0 - 802.11a- Bandwidth – 5580MHz



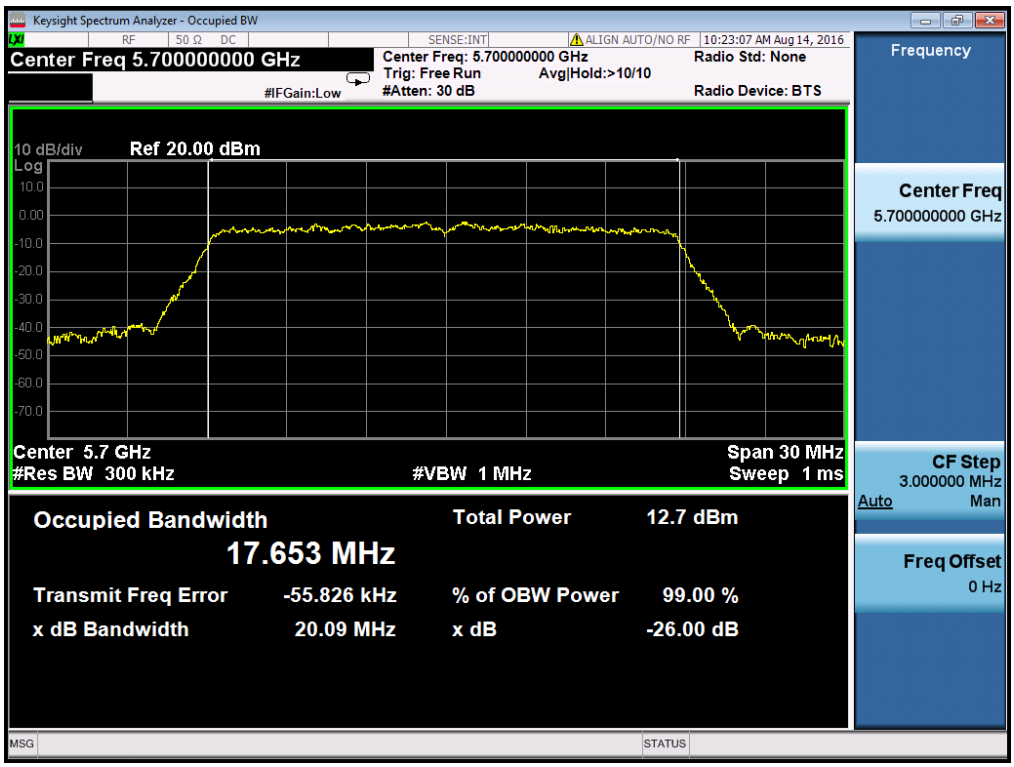
Antenna 0 - 802.11a- Bandwidth – 5700MHz



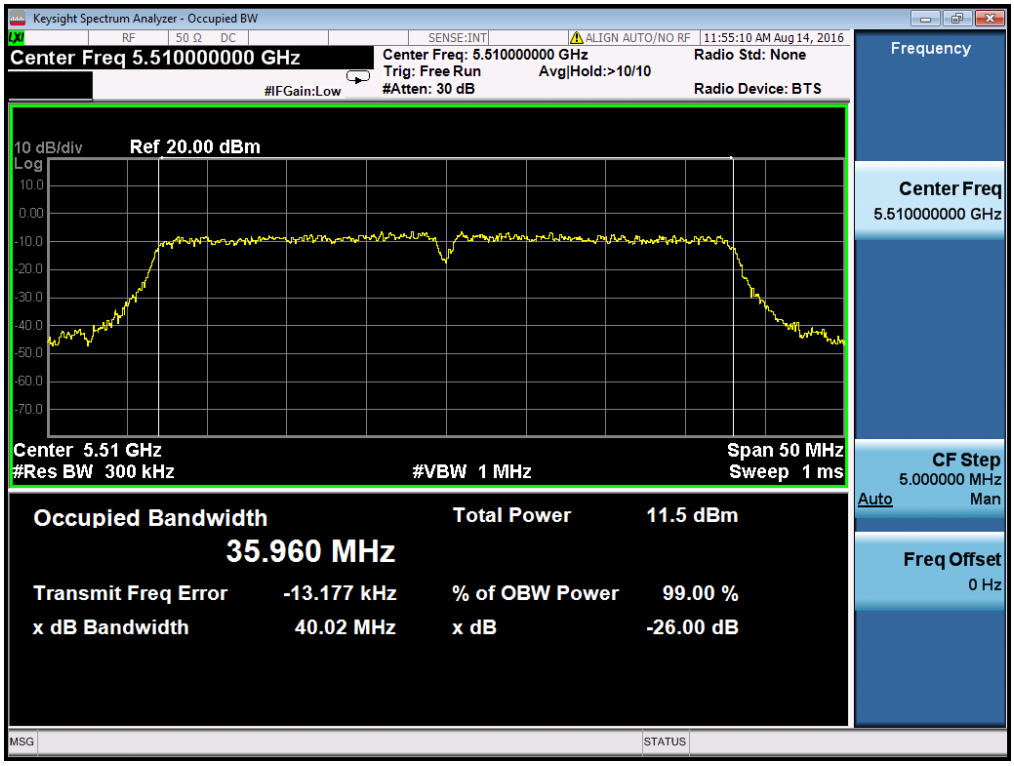
Antenna 0 - 802.11n-HT20- Bandwidth – 5500MHz



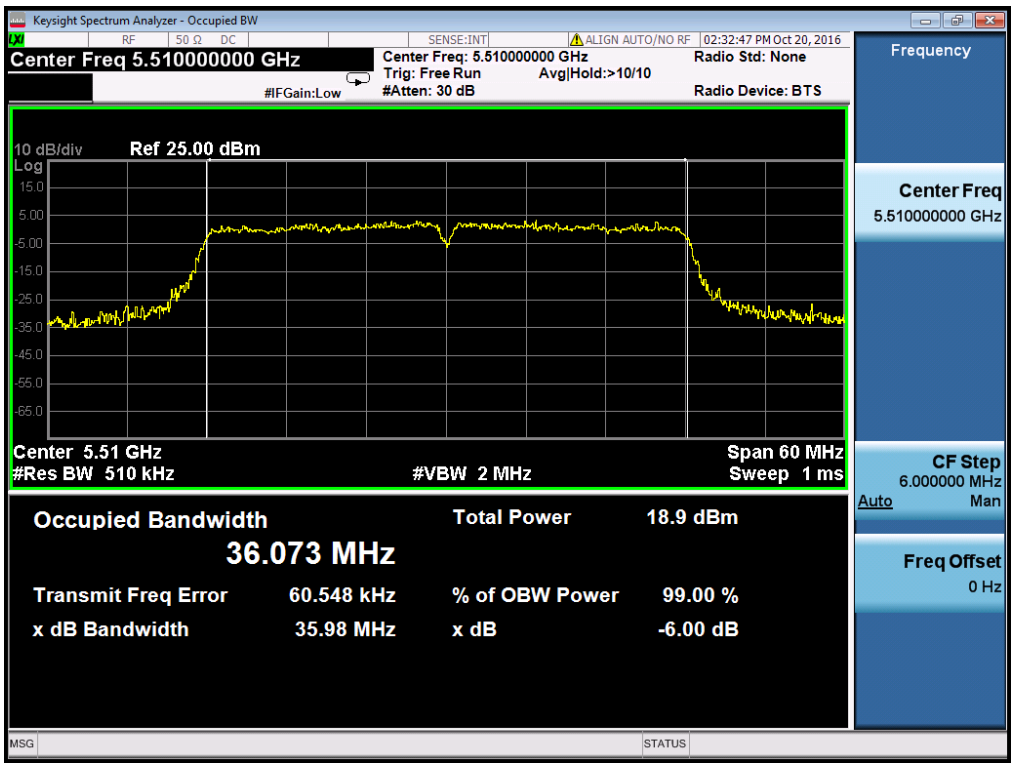
Antenna 0 - 802.11n-HT20- Bandwidth – 5580MHz



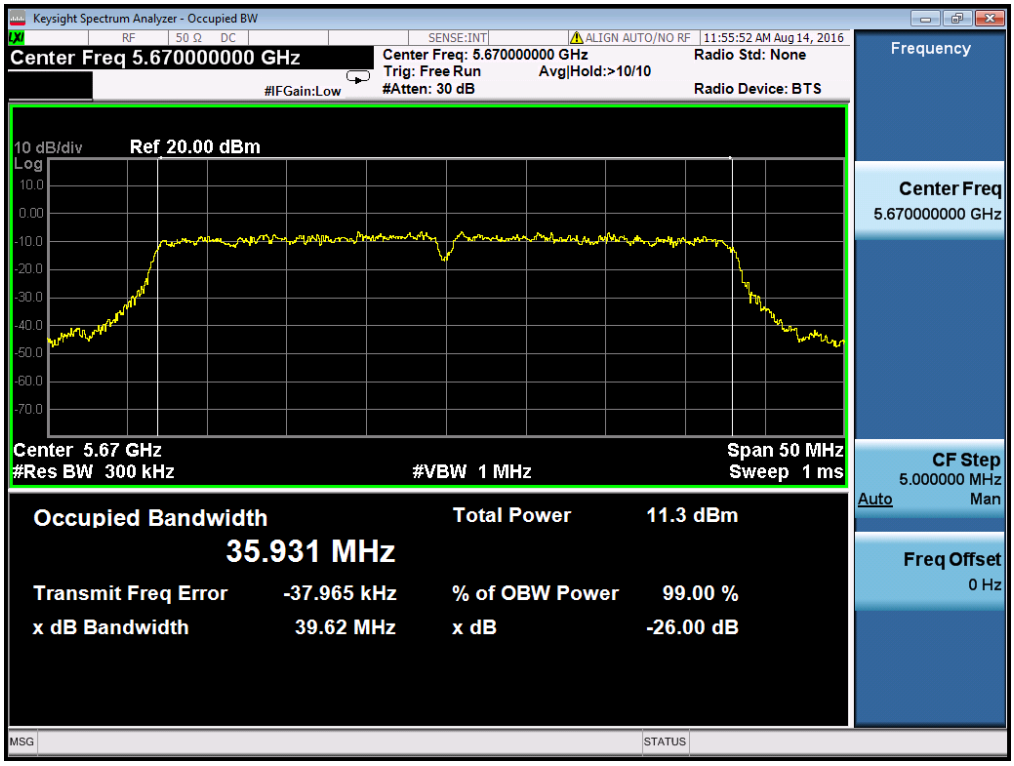
Antenna 0 - 802.11n-HT20- Bandwidth – 5700MHz



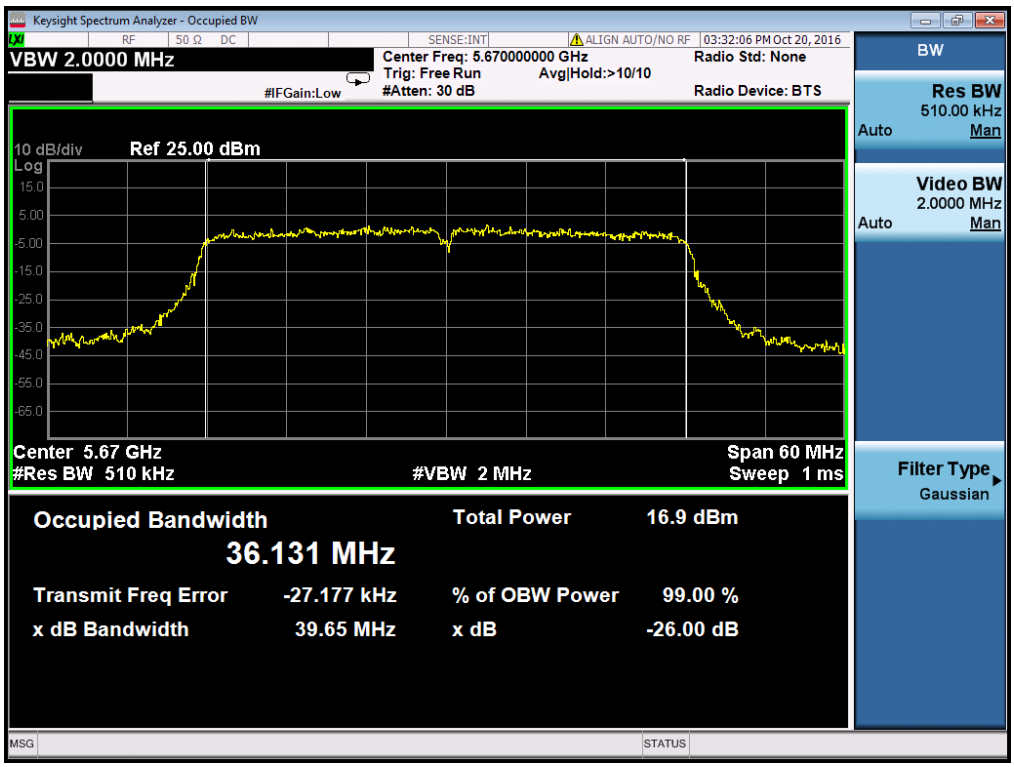
Antenna 0 - 802.11n-HT40 - 26dB Bandwidth– 5510MHz



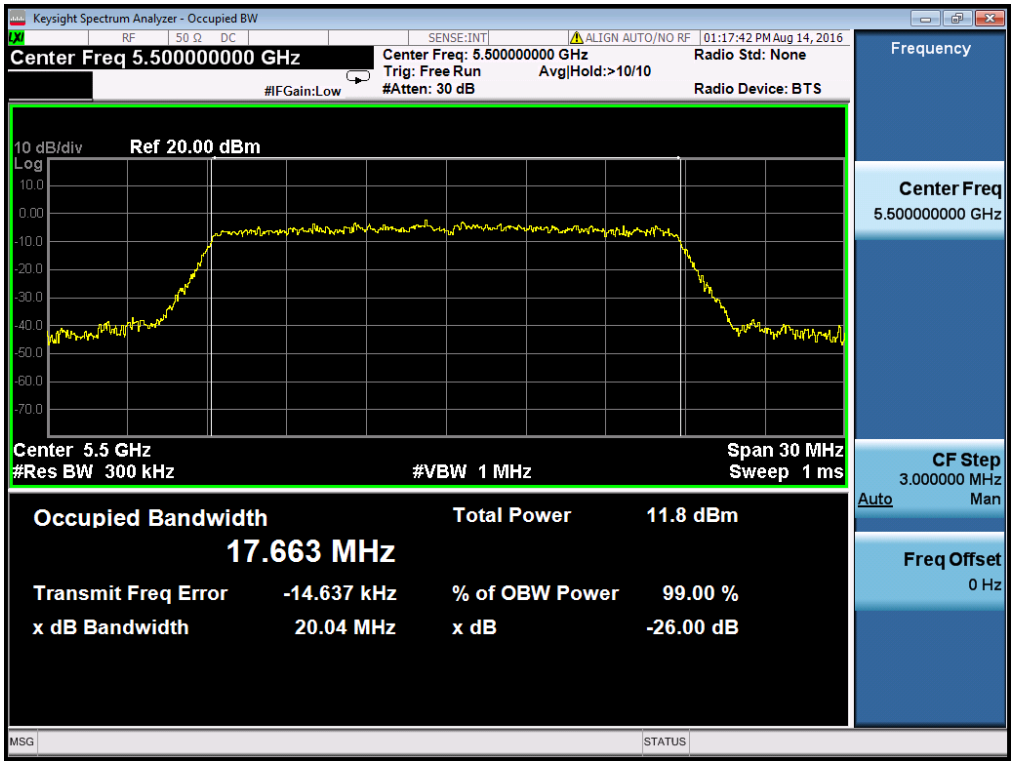
Antenna 0 - 802.11n-HT40 – 99% Bandwidth– 5510MHz



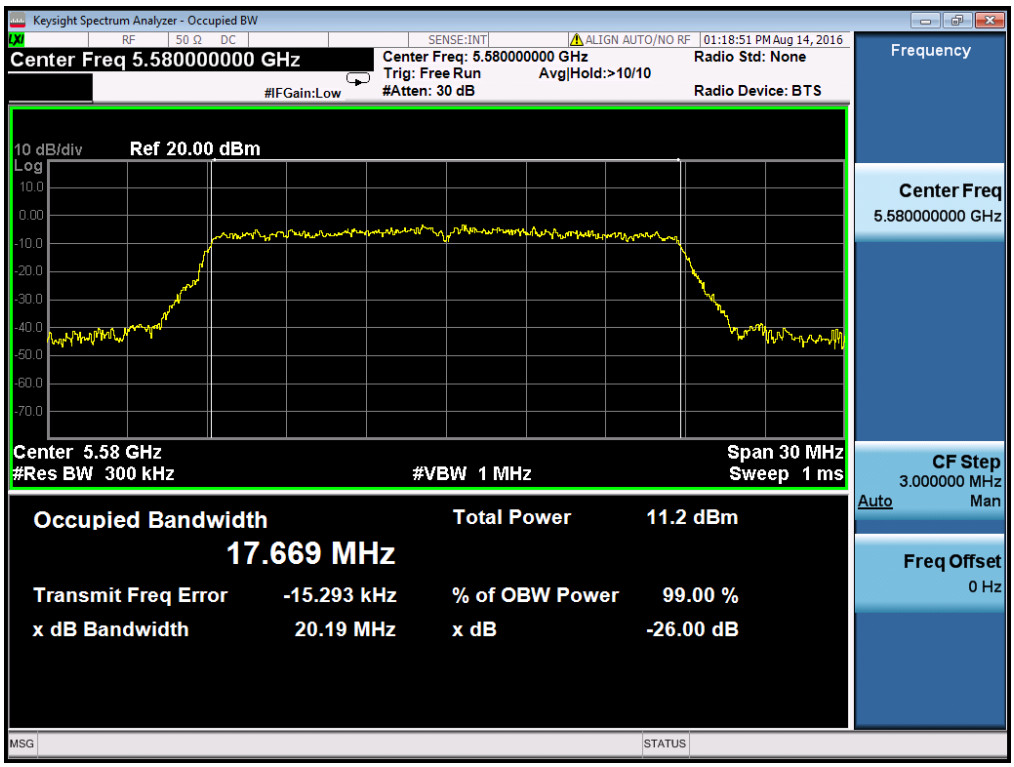
Antenna 0 - 802.11n-HT40- 26dB Bandwidth – 5670MHz



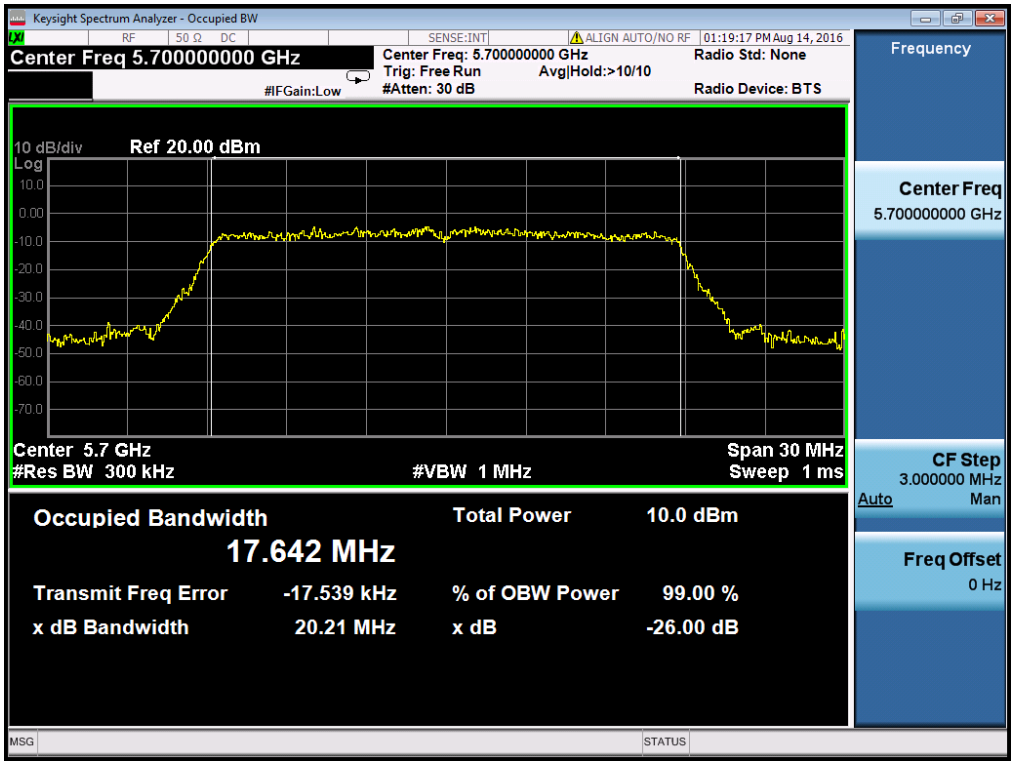
Antenna 0 - 802.11n-HT40- 99% Bandwidth – 5670MHz



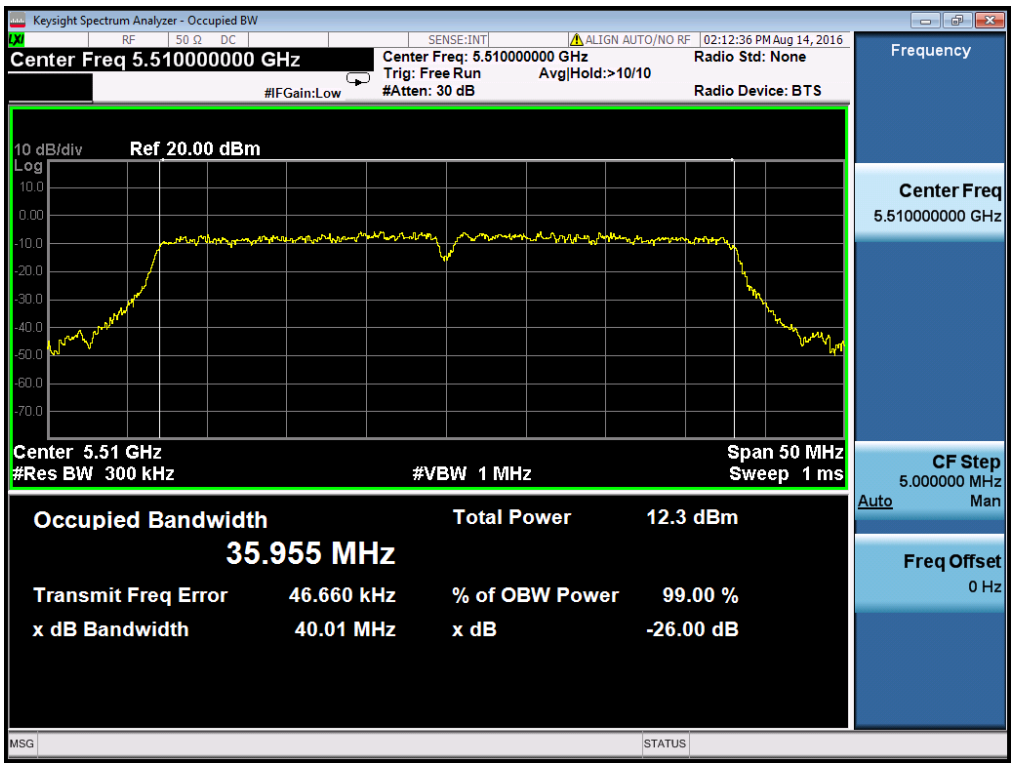
Antenna 0 - 802.11ac-VHT20- Bandwidth – 5500MHz



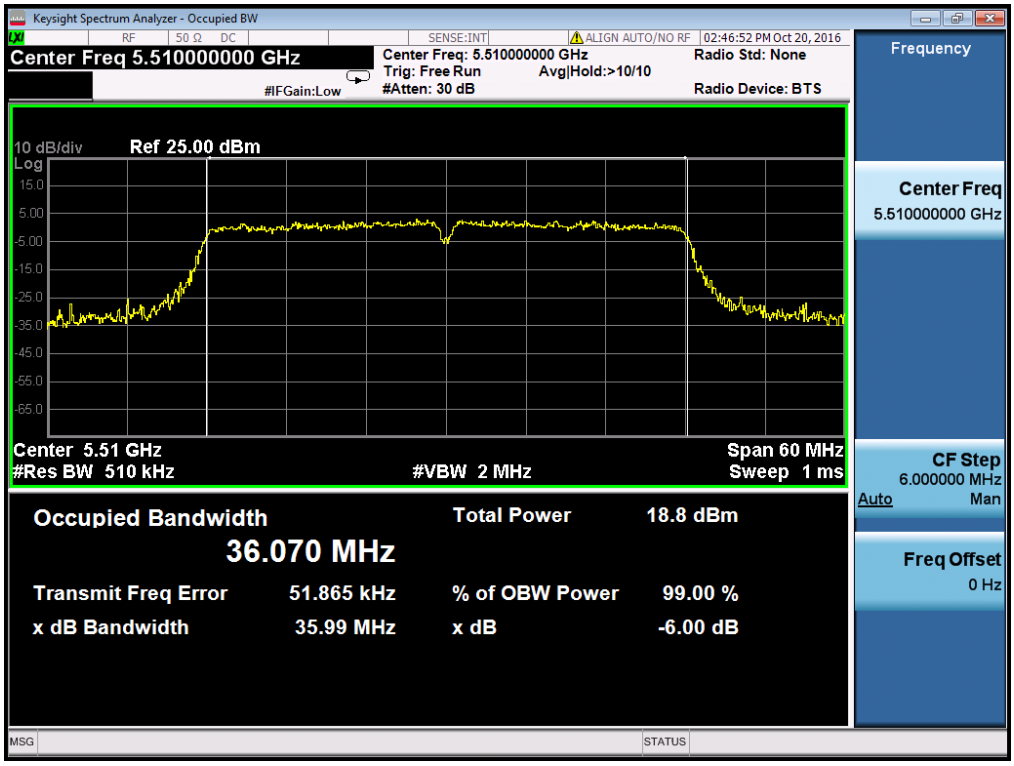
Antenna 0 - 802.11ac-VHT20- Bandwidth – 5580MHz



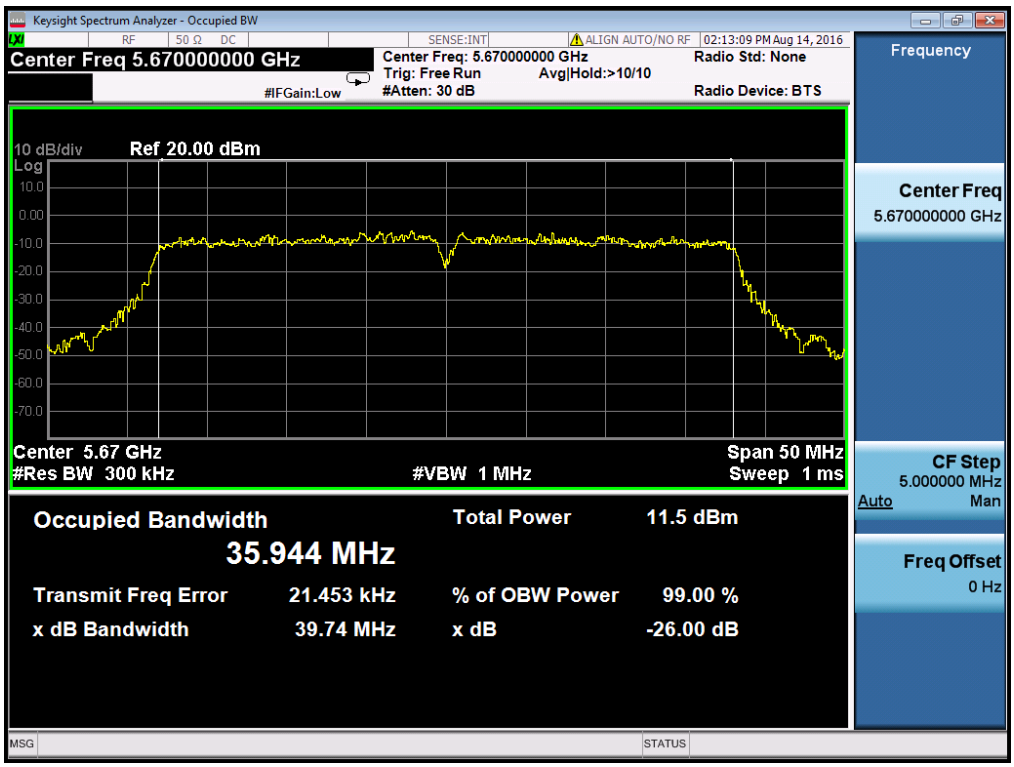
Antenna 0 - 802.11ac-VHT20- Bandwidth – 5700MHz



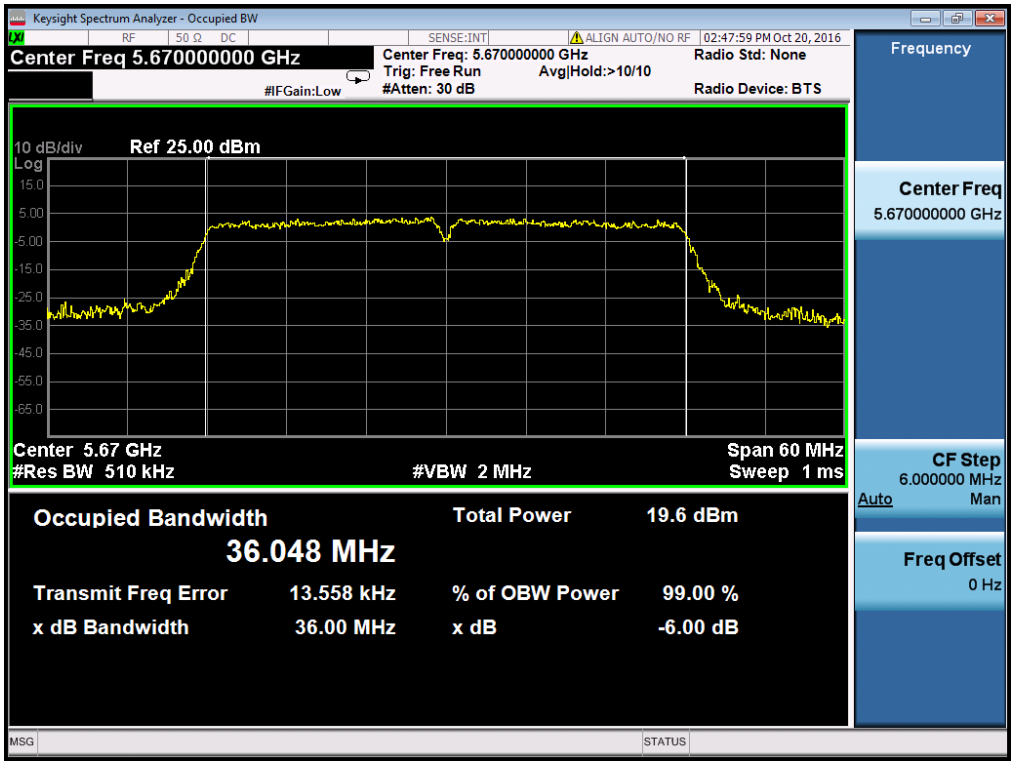
Antenna 0 - 802.11ac-VHT40 - 26dB Bandwidth– 5510MHz



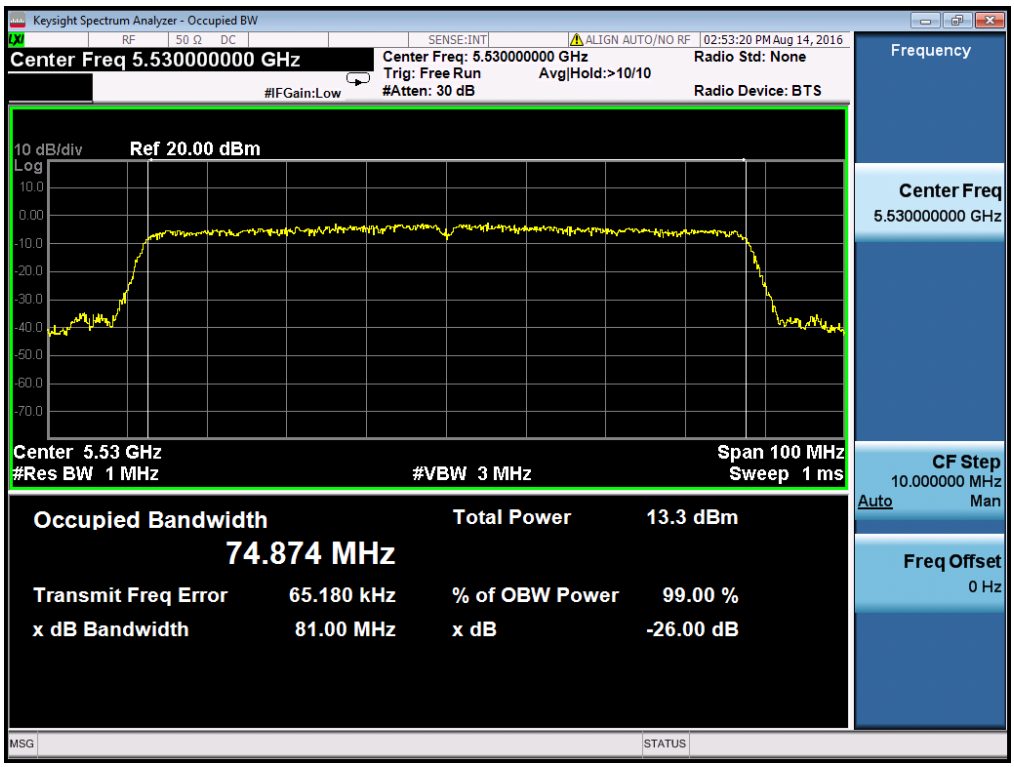
Antenna 0 - 802.11ac-VHT40 – 99% Bandwidth– 5510MHz



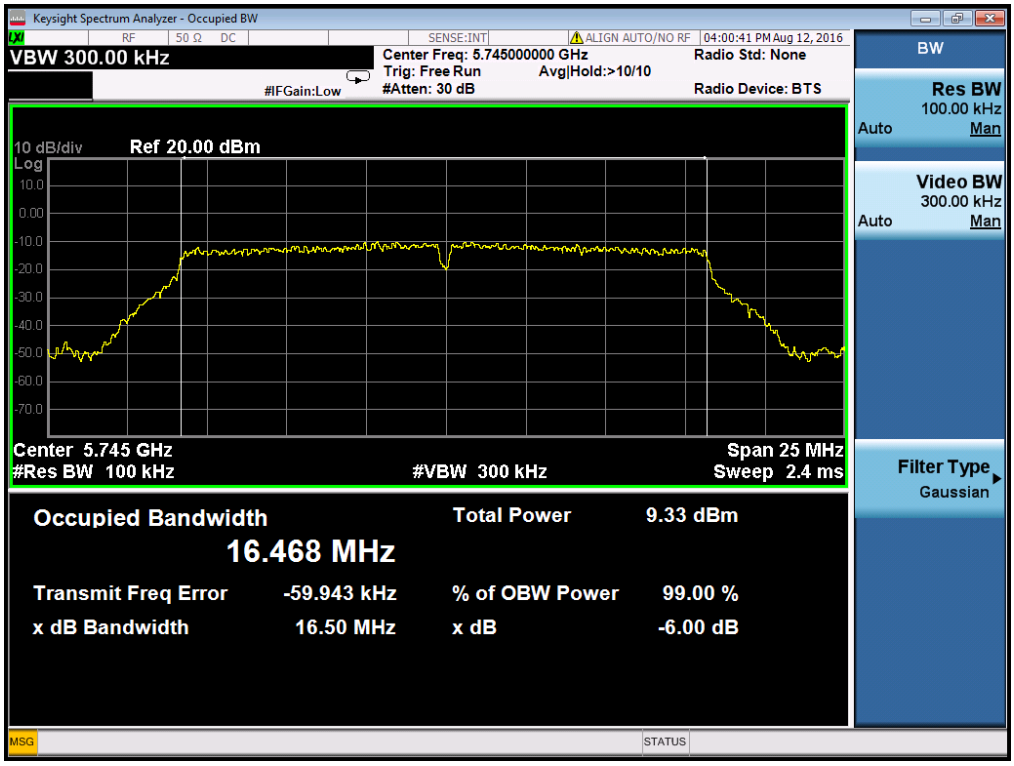
Antenna 0 - 802.11ac-VHT40 - 26dB Bandwidth– 5670MHz



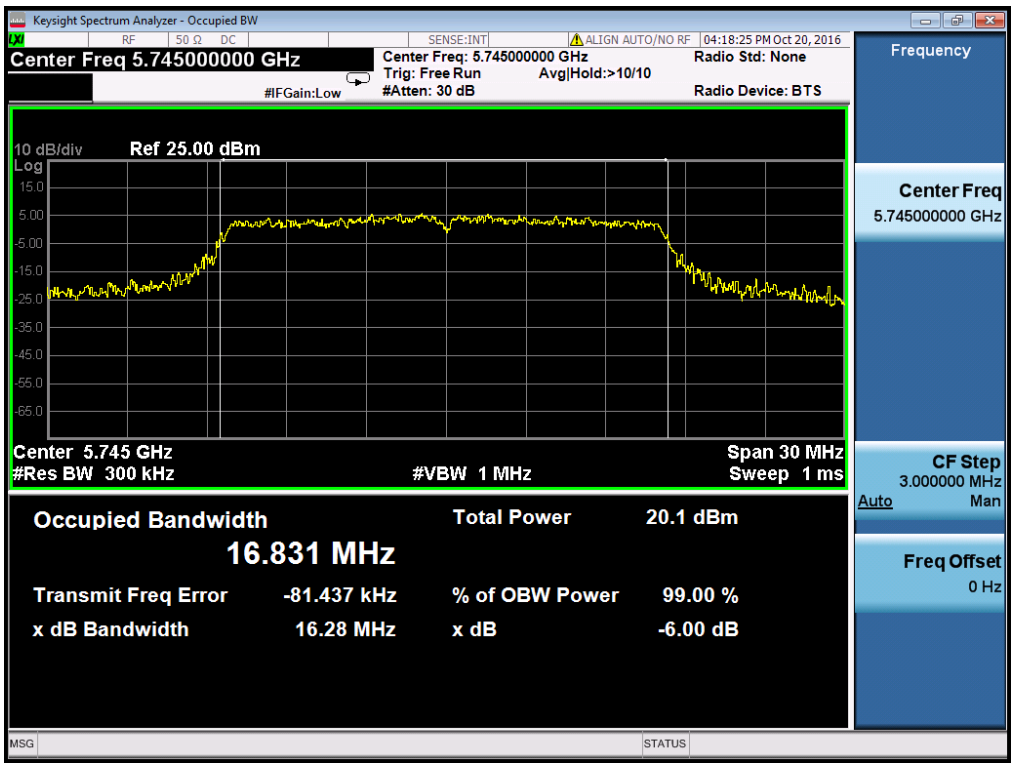
Antenna 0 - 802.11ac-VHT40 – 99% Bandwidth– 5670MHz



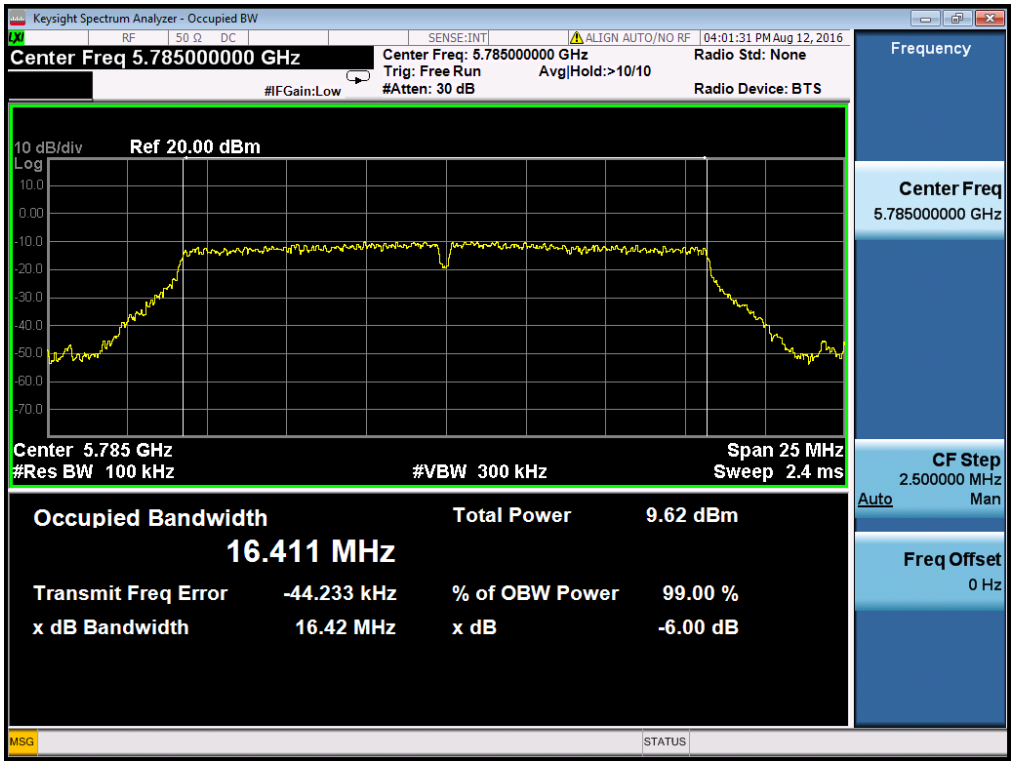
Antenna 0 - 802.11ac-VHT80- Bandwidth – 5530MHz



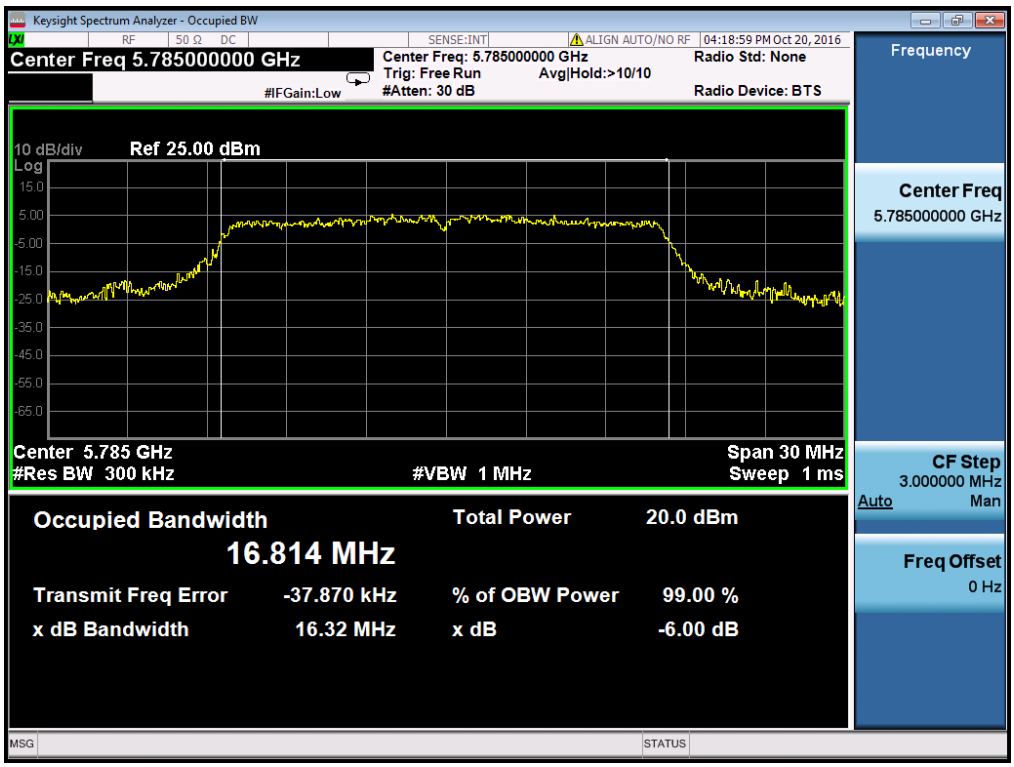
Antenna 0 - 802.11a - 6dB Bandwidth– 5745MHz



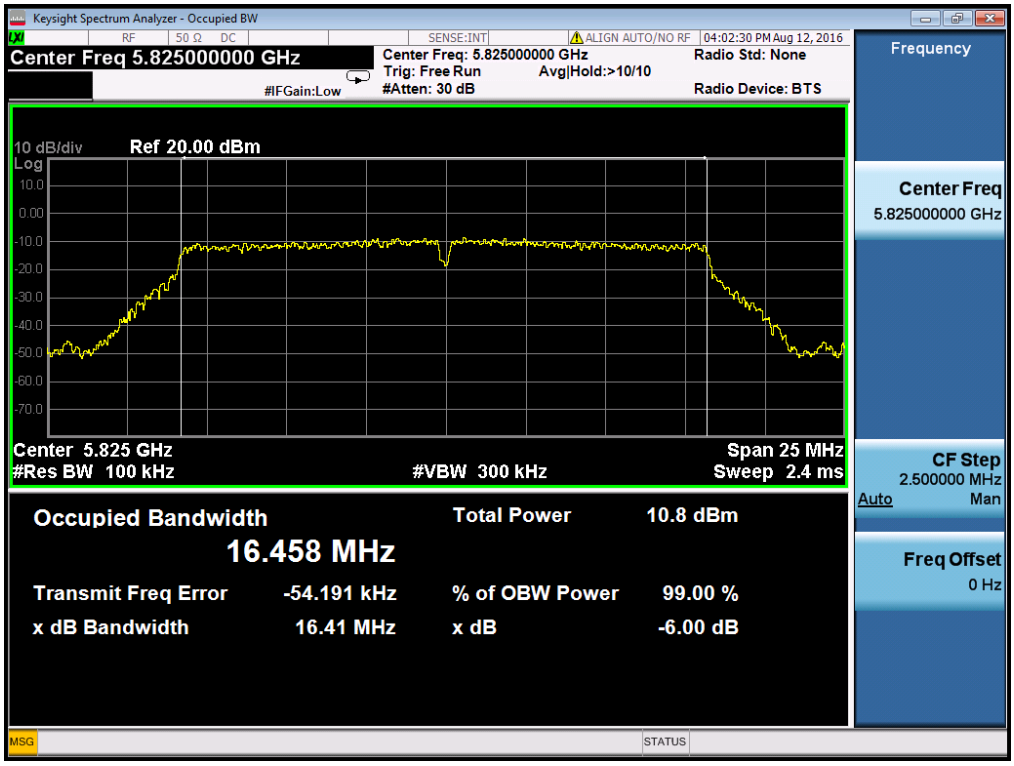
Antenna 0 - 802.11a – 99% Bandwidth– 5745MHz



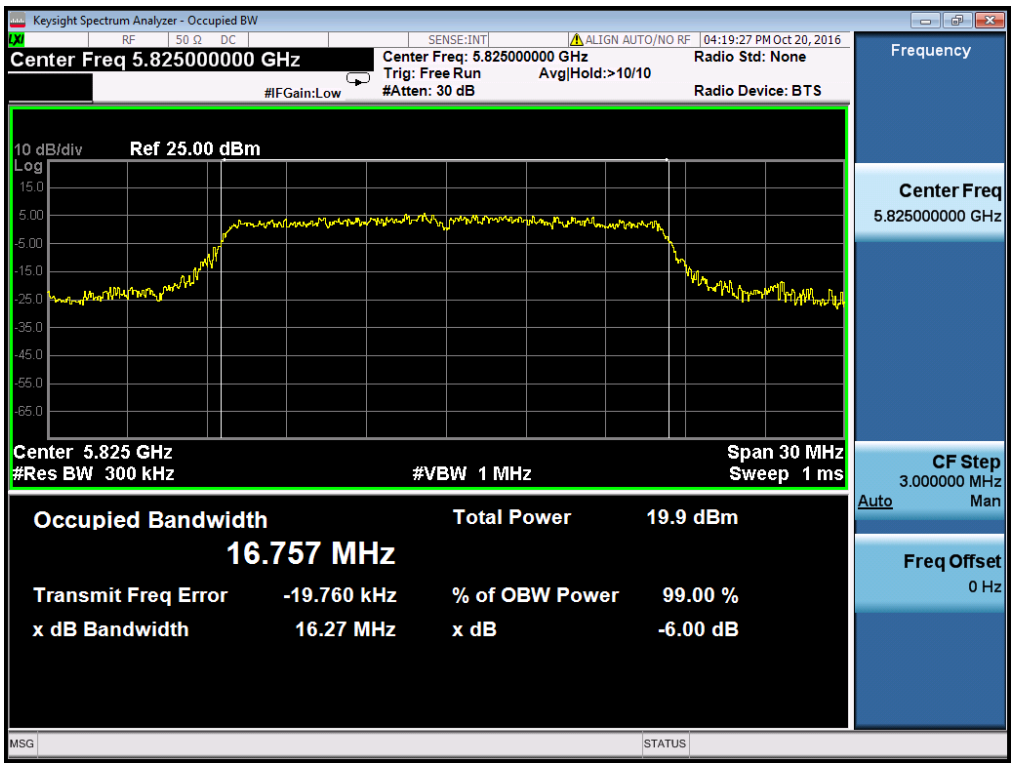
Antenna 0 - 802.11a - 6dB Bandwidth – 5785MHz



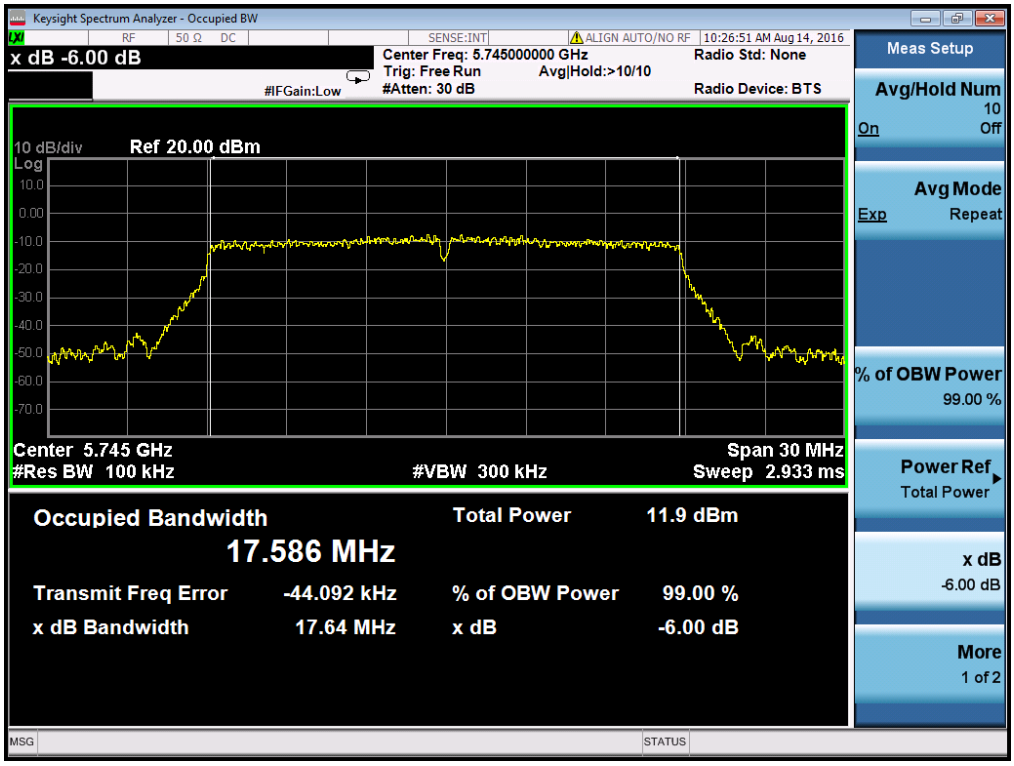
Antenna 0 - 802.11a – 99% Bandwidth – 5785MHz



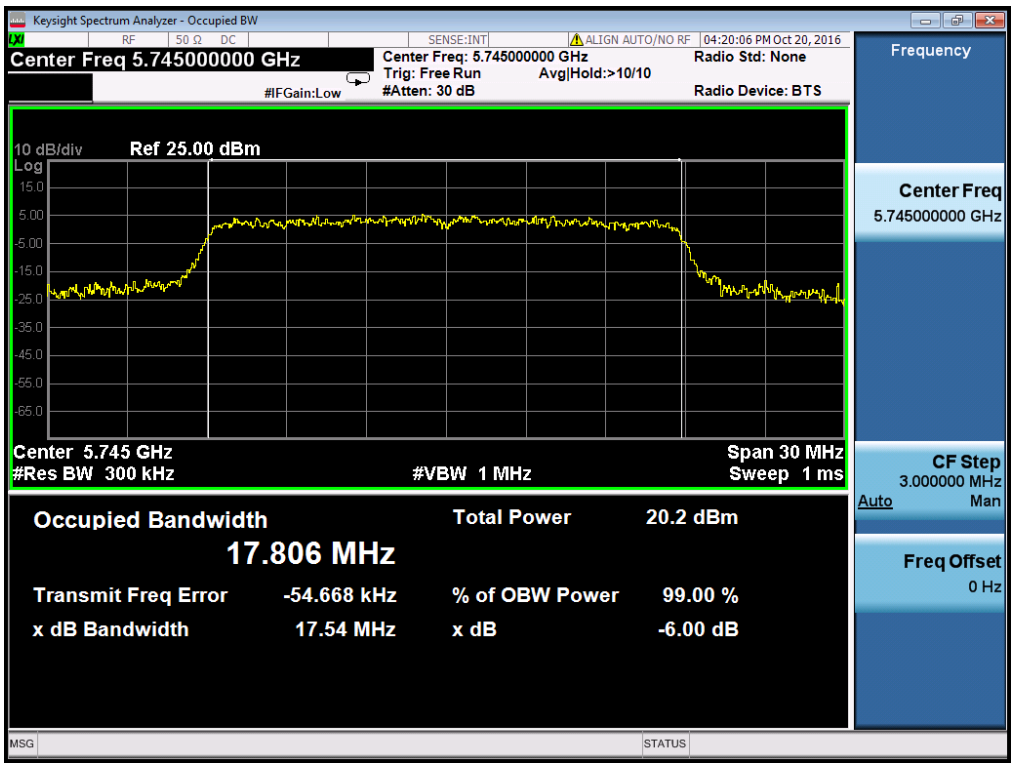
Antenna 0 - 802.11a - 6dB Bandwidth – 5825MHz



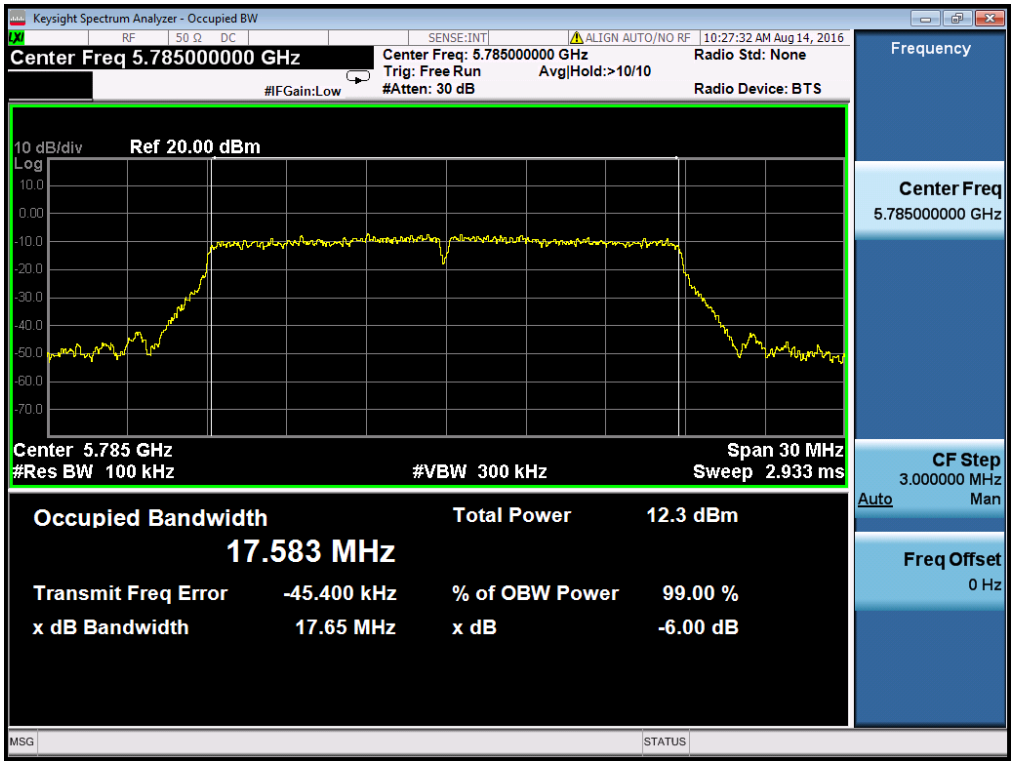
Antenna 0 - 802.11a – 99% Bandwidth – 5825MHz



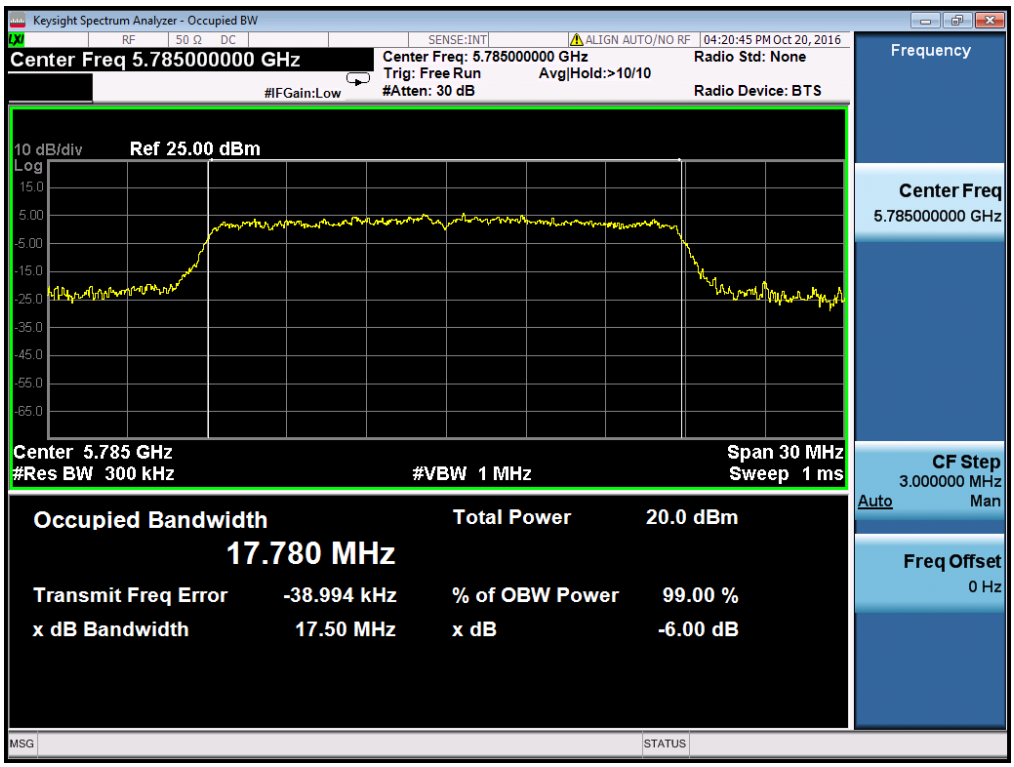
Antenna 0 - 802.11n-HT20 - 6dB Bandwidth– 5745MHz



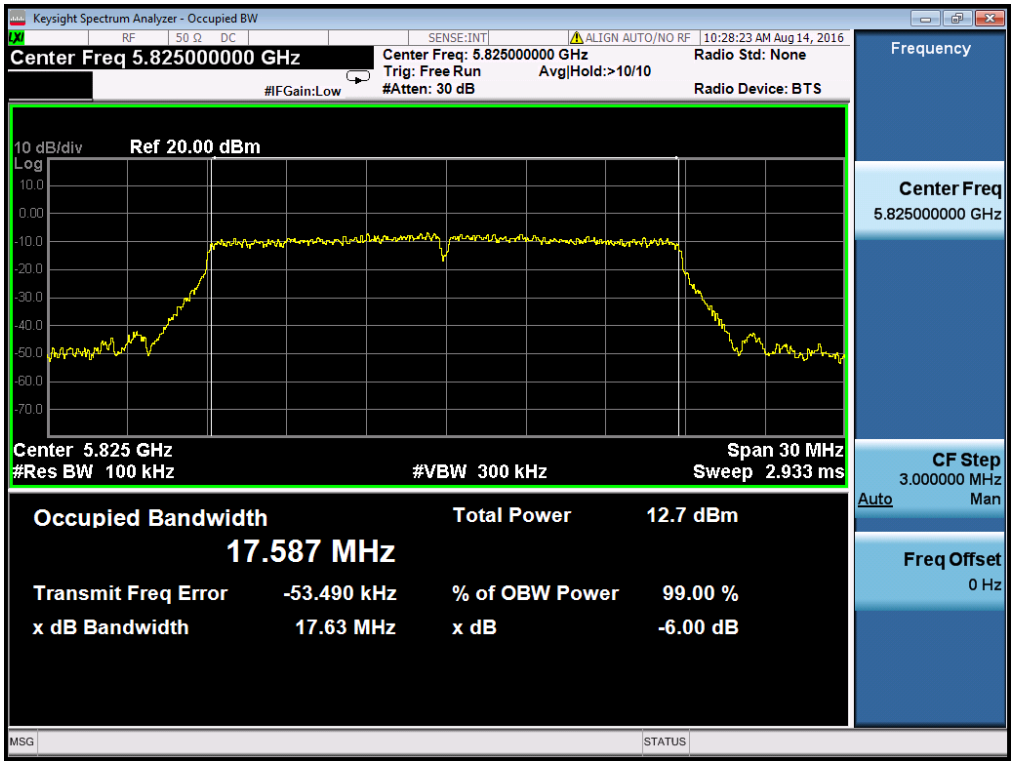
Antenna 0 - 802.11n-HT20 – 99% Bandwidth– 5745MHz



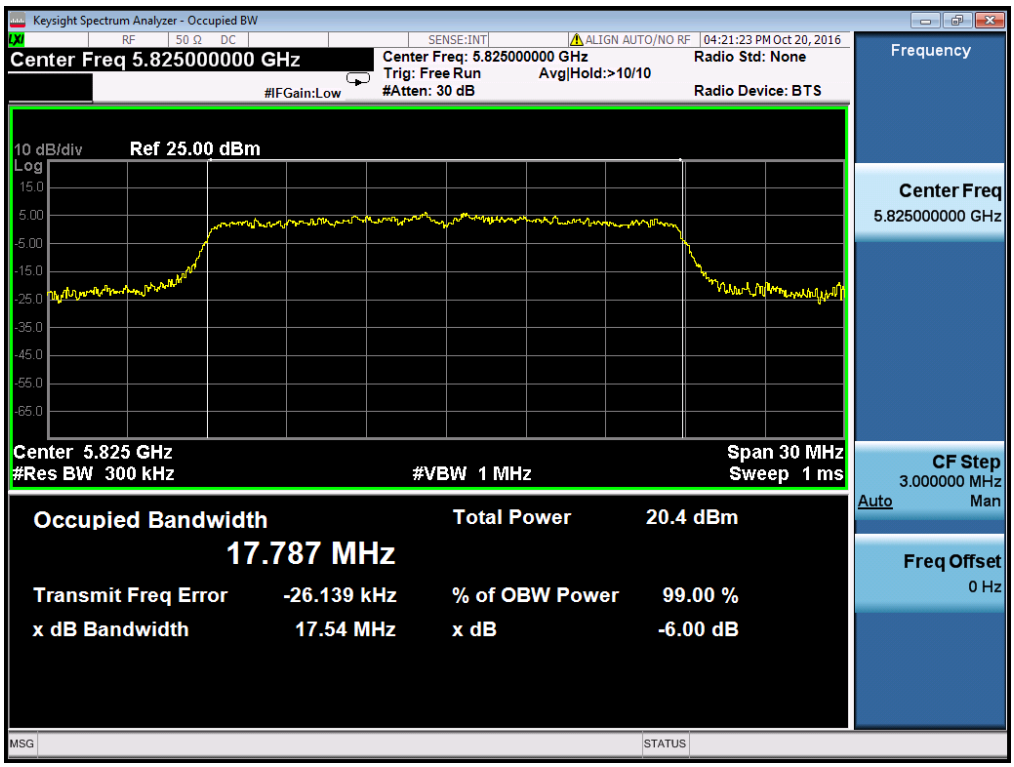
Antenna 0 - 802.11n-HT20 - 6dB Bandwidth – 5785MHz



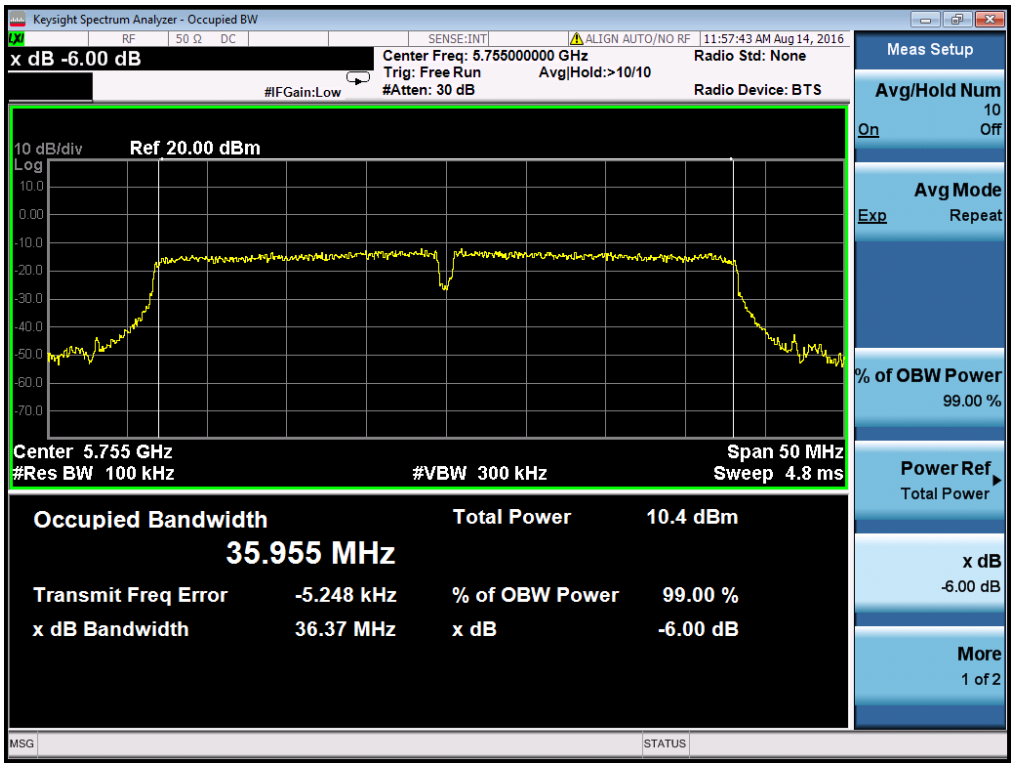
Antenna 0 - 802.11n-HT20 – 99% Bandwidth – 5785MHz



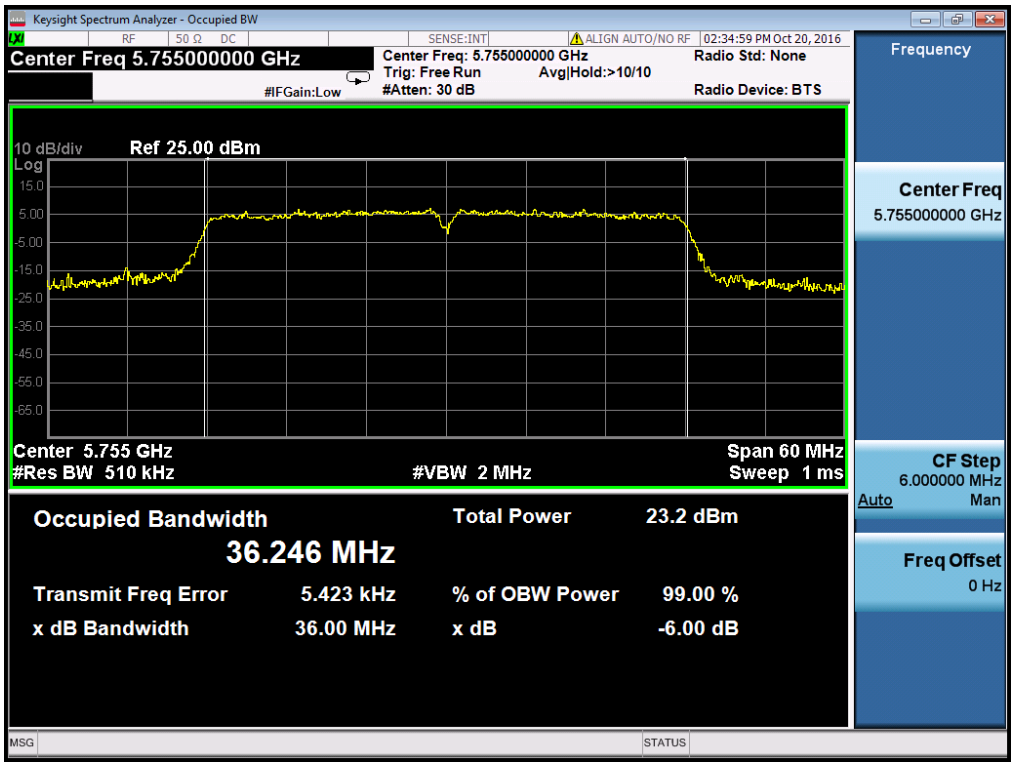
Antenna 0 - 802.11n-HT20 - 6dB Bandwidth – 5825MHz



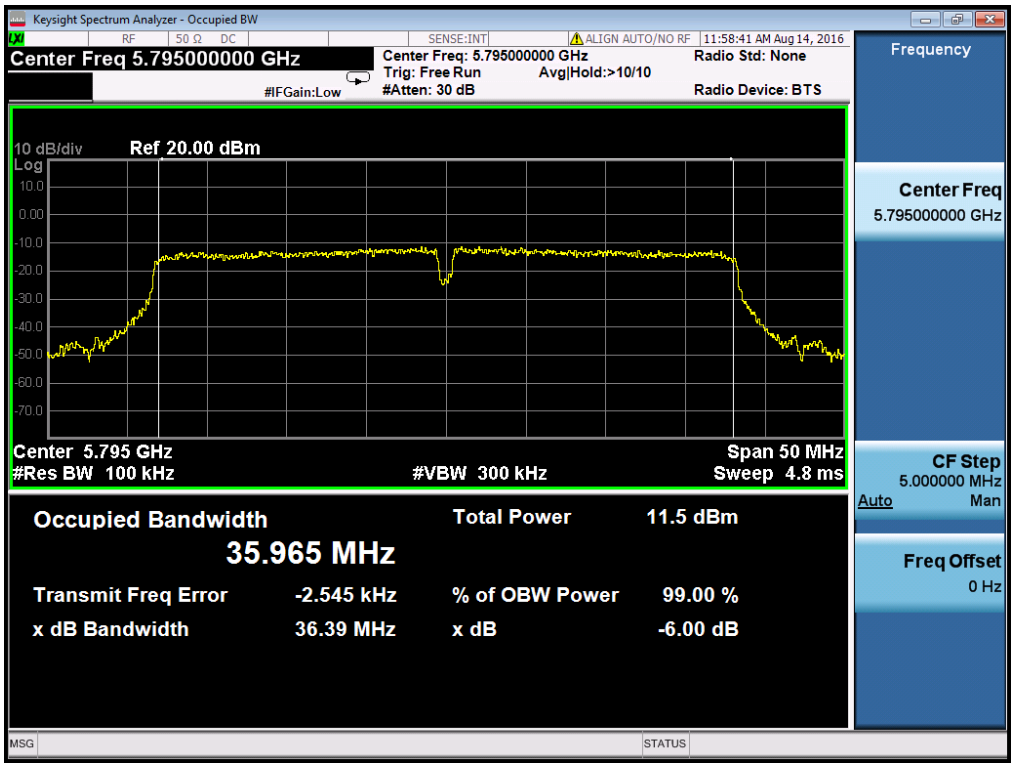
Antenna 0 - 802.11n-HT20 – 99% Bandwidth – 5825MHz



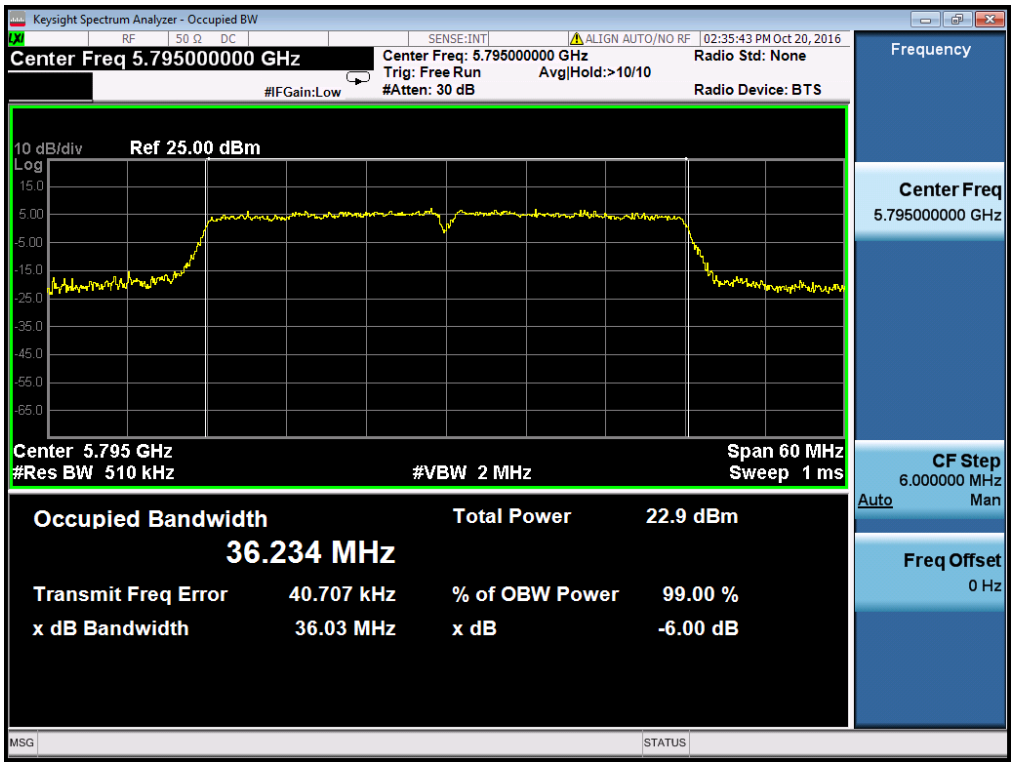
Antenna 0 - 802.11n-HT40 - 6dB Bandwidth– 5755MHz



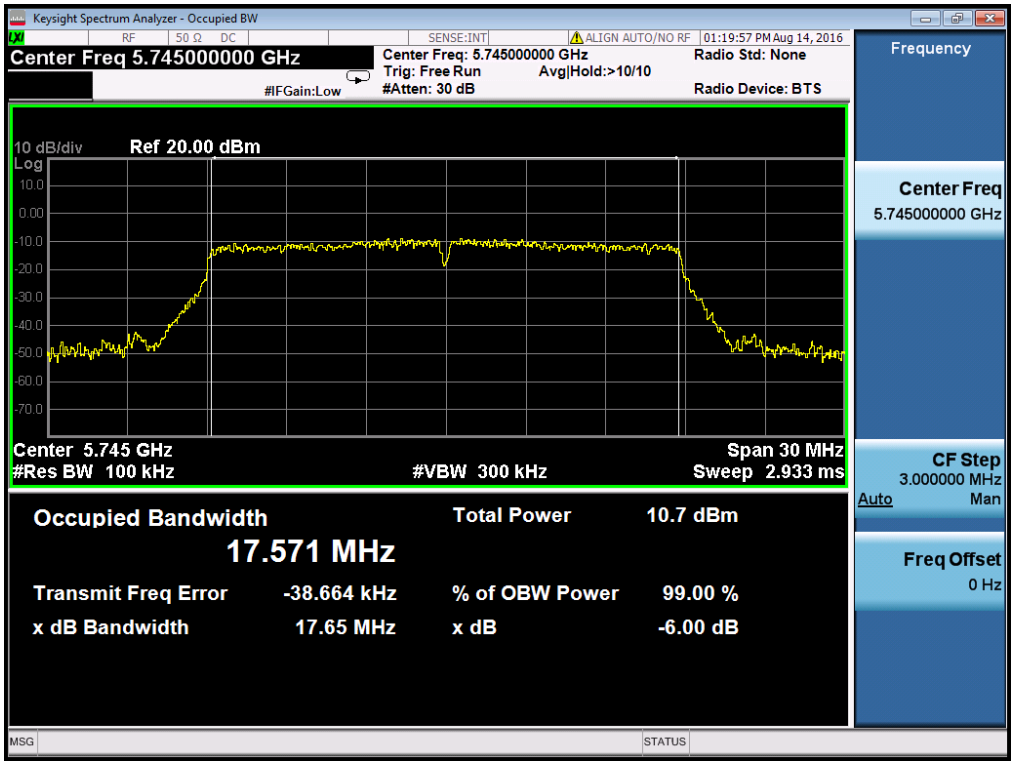
Antenna 0 - 802.11n-HT40 – 99% Bandwidth– 5755MHz



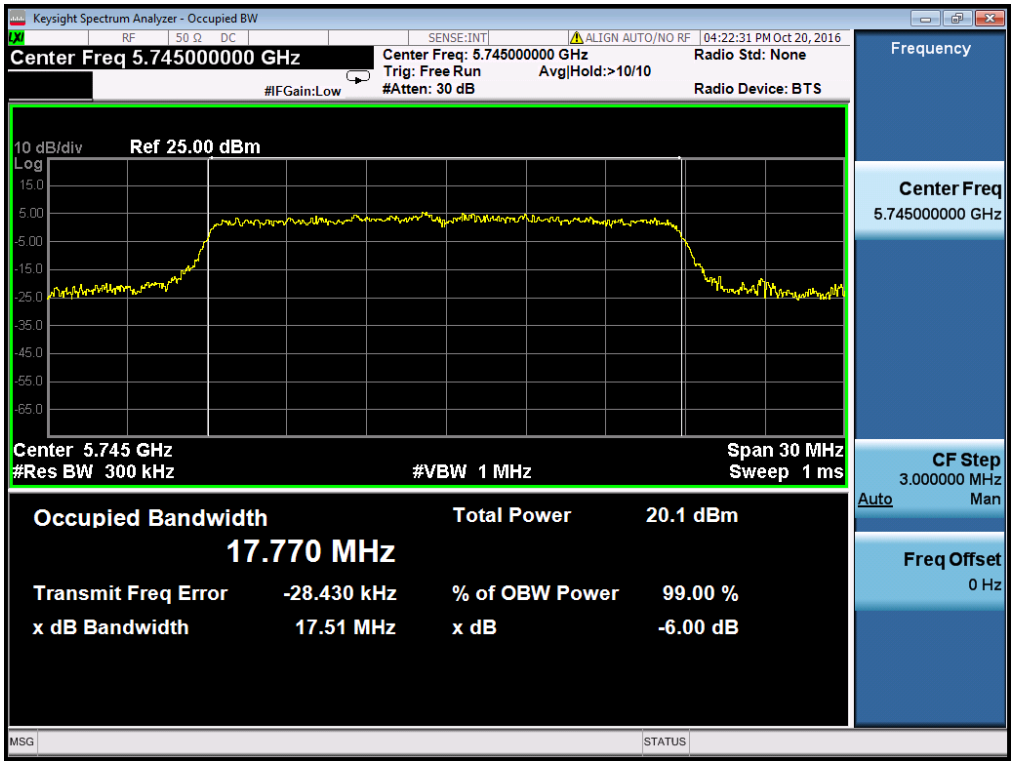
Antenna 0 - 802.11n-HT40 - 6dB Bandwidth– 5795MHz



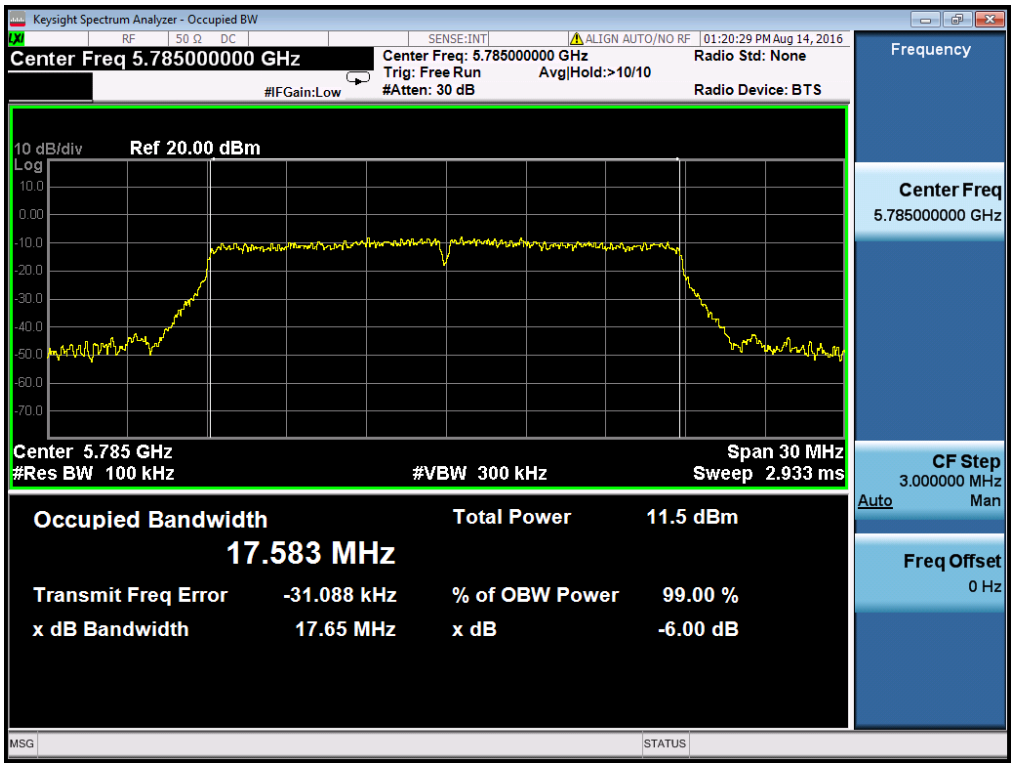
Antenna 0 - 802.11n-HT40 – 99% Bandwidth– 5795MHz



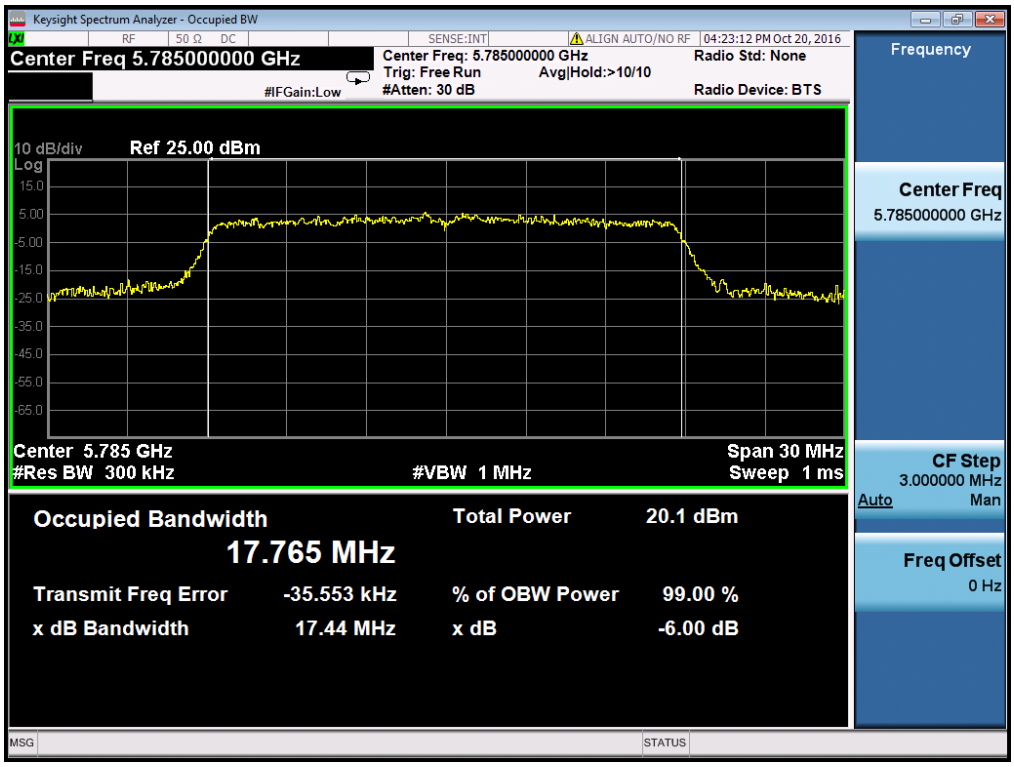
Antenna 0 - 802.11ac-VHT20 - 6dB Bandwidth – 5745MHz



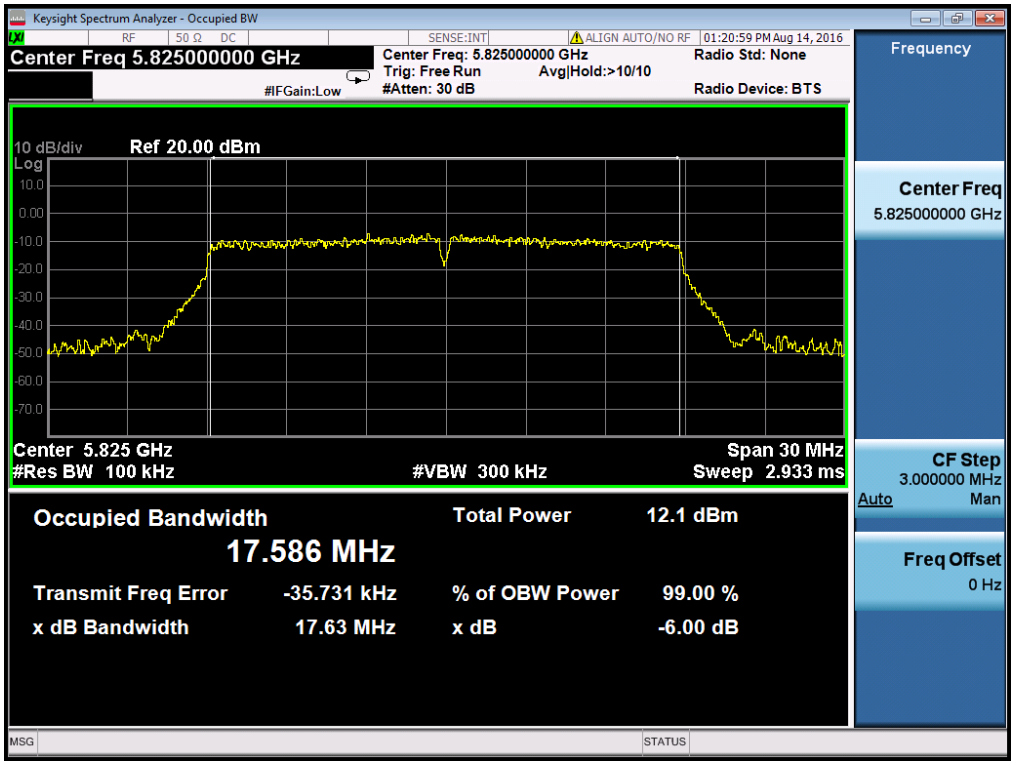
Antenna 0 - 802.11ac-VHT20 – 99% Bandwidth – 5745MHz



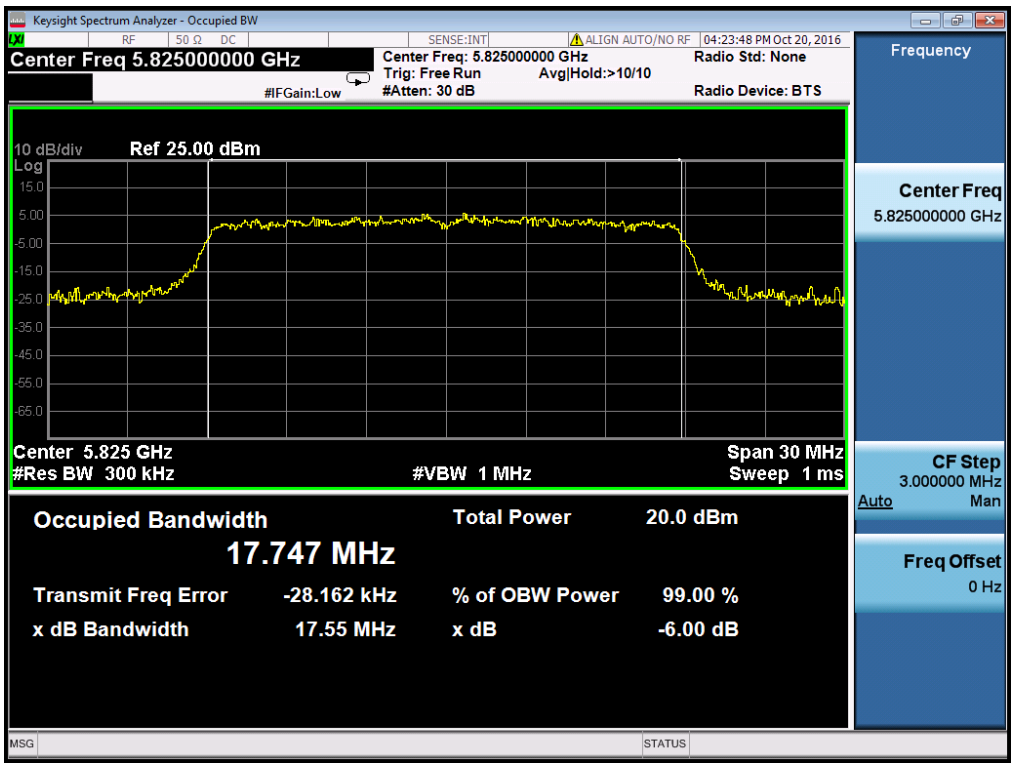
Antenna 0 - 802.11ac-VHT20 - 6dB Bandwidth– 5785MHz



Antenna 0 - 802.11ac-VHT20 – 99% Bandwidth– 5785MHz

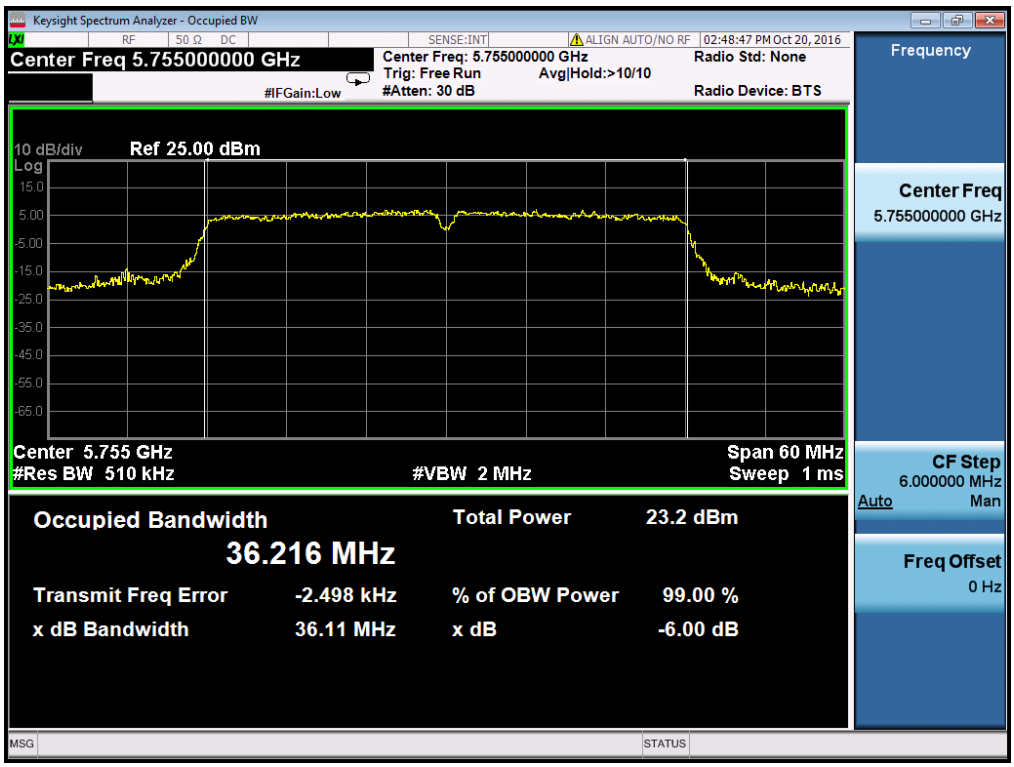


Antenna 0 - 802.11ac-VHT20 - 6dB Bandwidth – 5825MHz

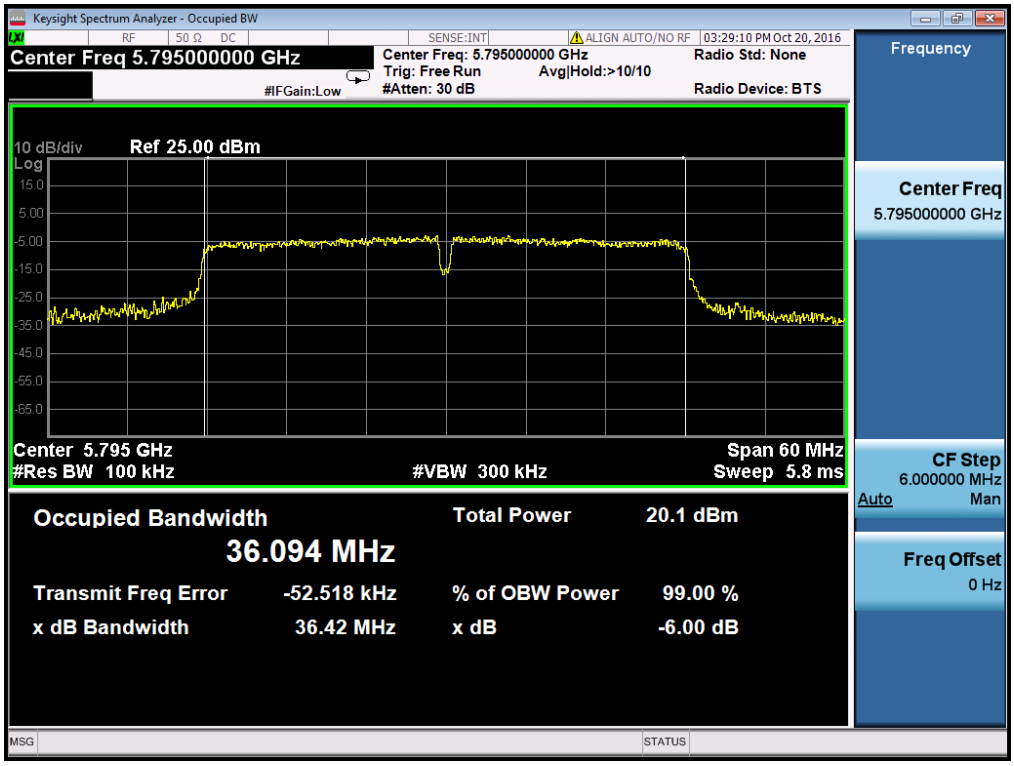


Antenna 0 - 802.11ac-VHT20 – 99% Bandwidth – 5825MHz

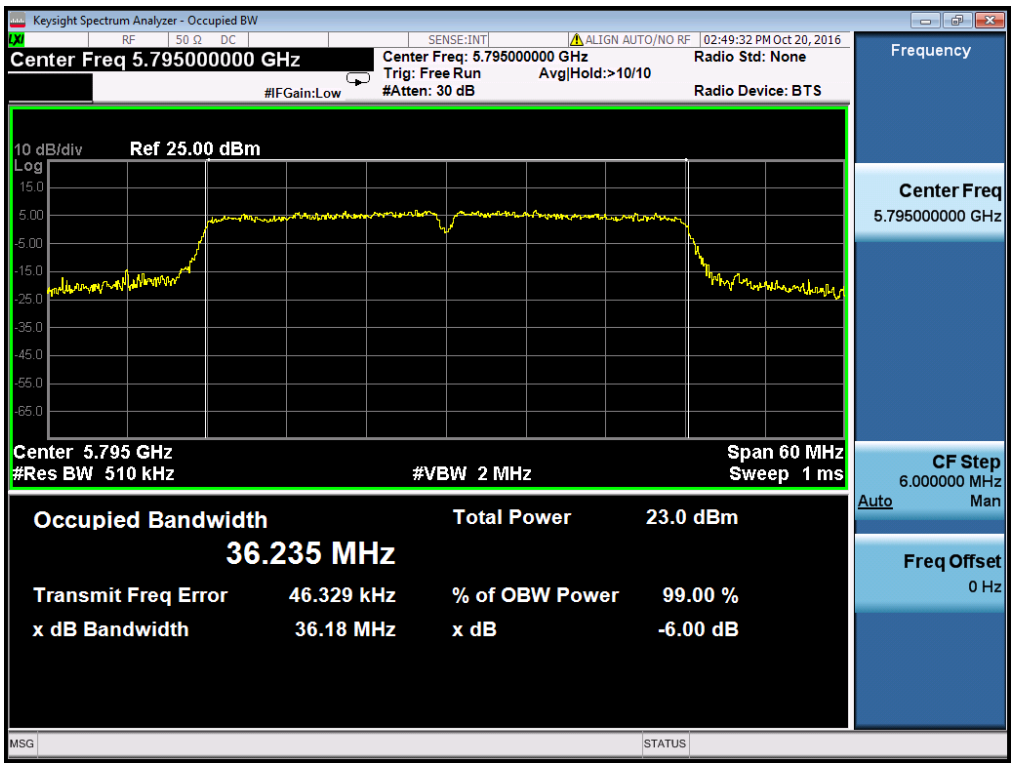
Antenna 0 - 802.11ac-VHT40 - 6dB Bandwidth– 5755MHz



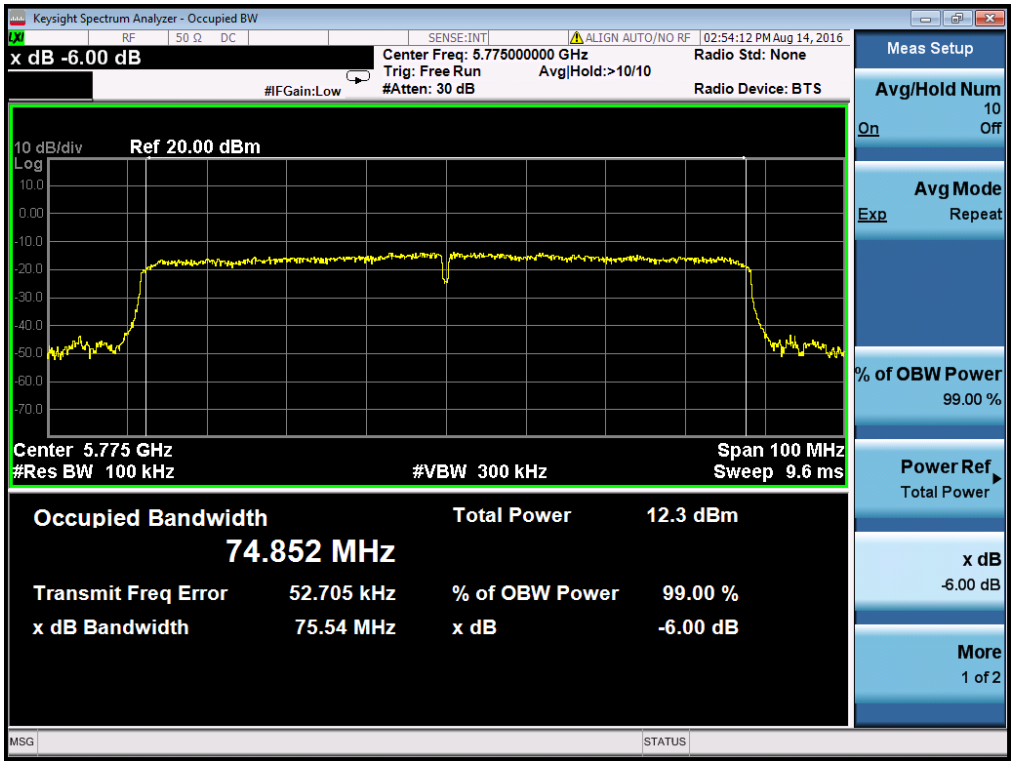
Antenna 0 - 802.11ac-VHT40 – 99% Bandwidth– 5755MHz



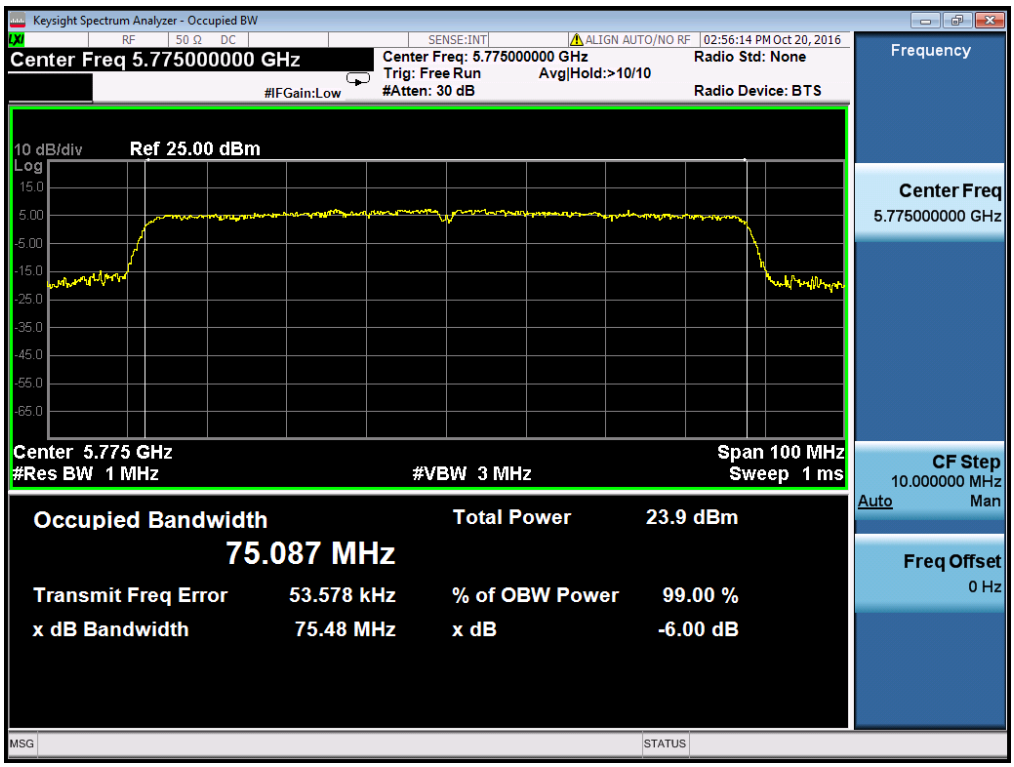
Antenna 0 - 802.11ac-VHT40 - 6dB Bandwidth– 5795MHz



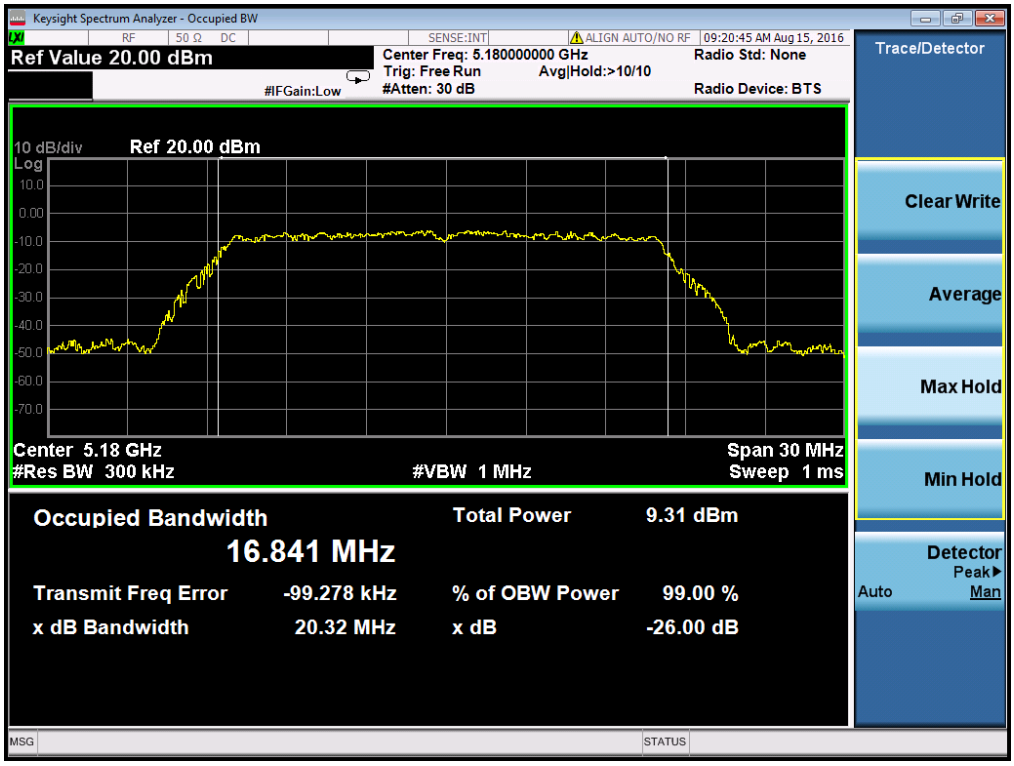
Antenna 0 - 802.11ac-VHT40 – 99% Bandwidth– 5795MHz



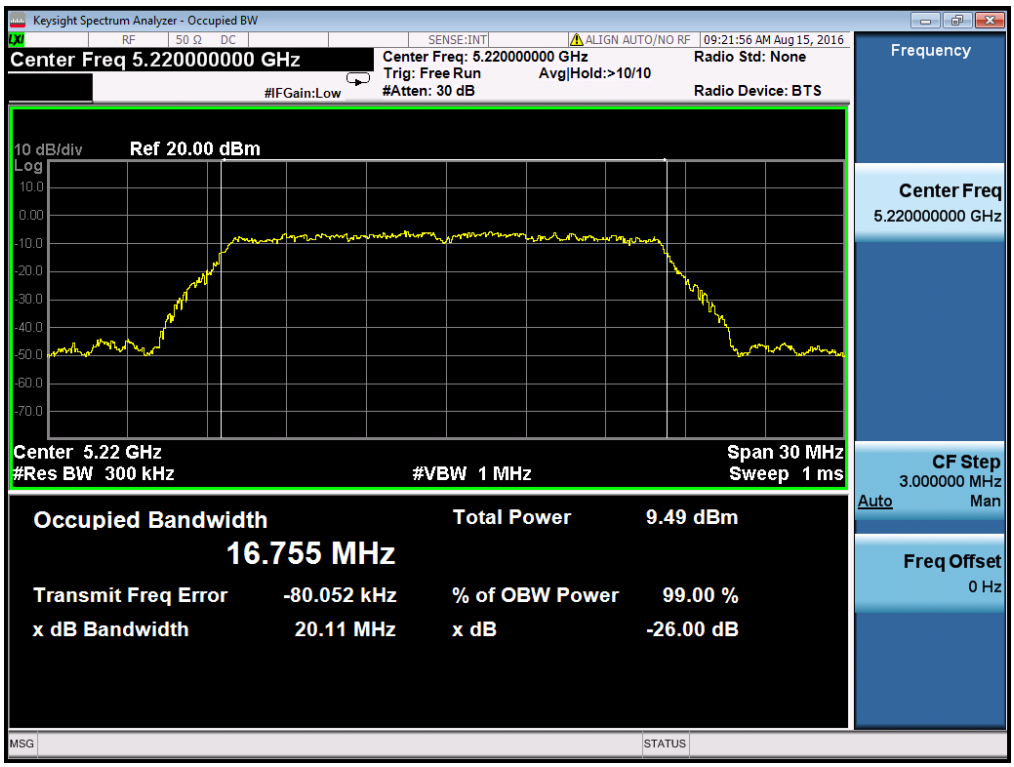
Antenna 0 - 802.11ac-VHT80 - 6dB Bandwidth– 5775MHz



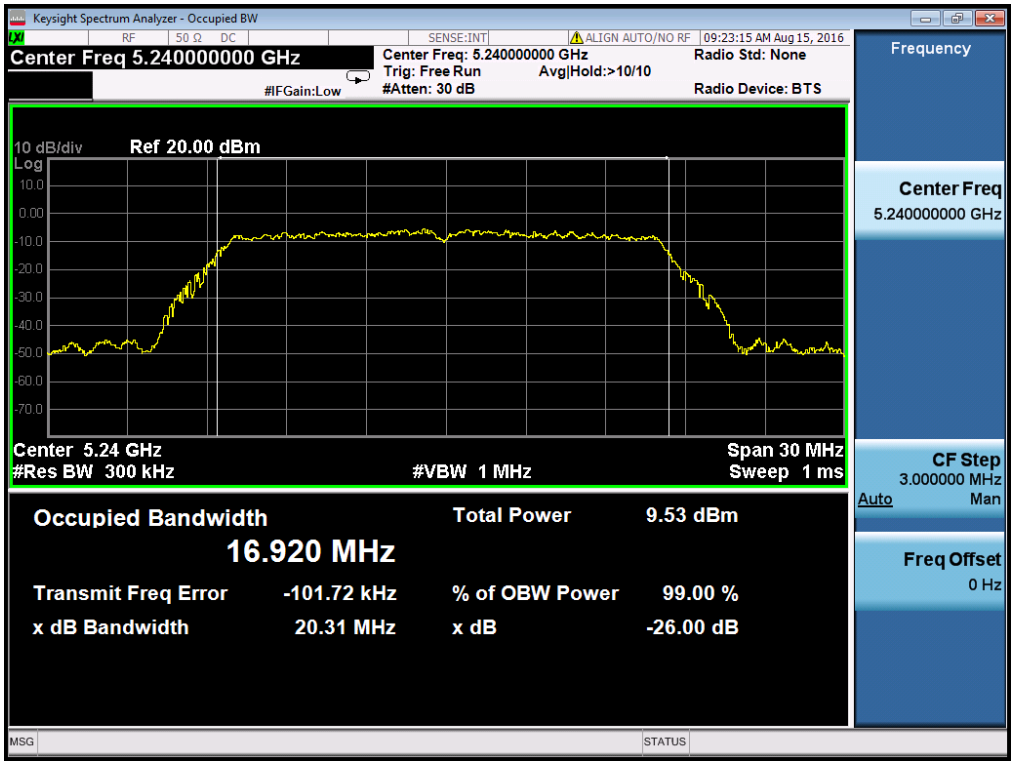
Antenna 0 - 802.11ac-VHT80 – 99% Bandwidth– 5775MHz



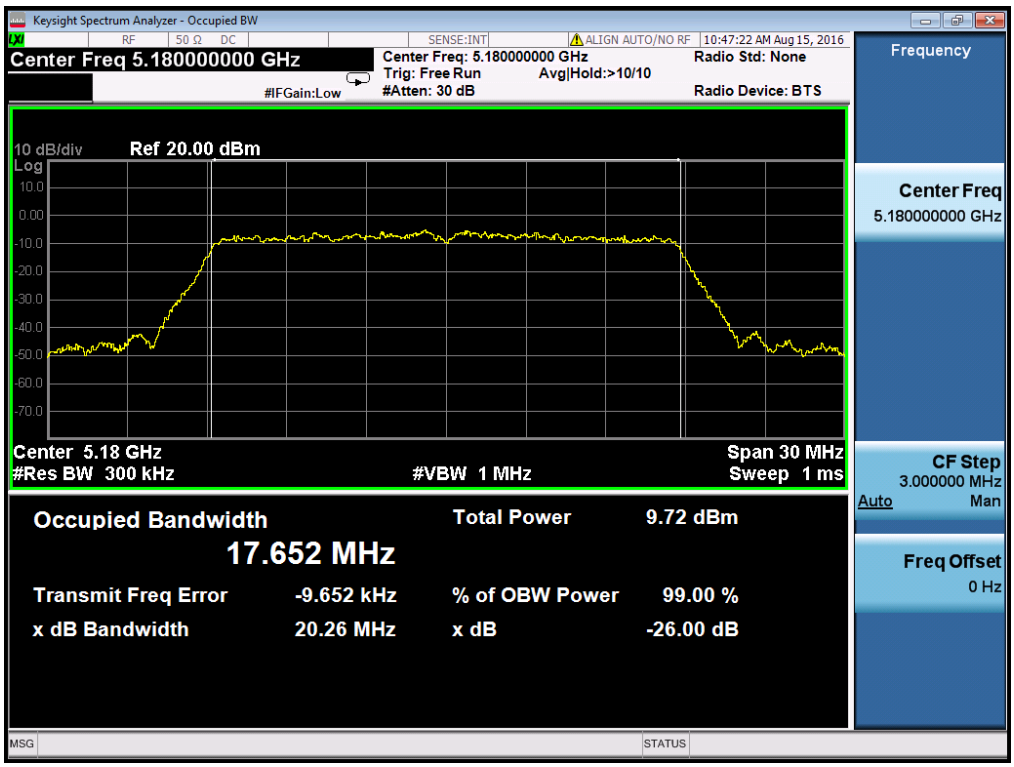
Antenna 1 - 802.11a – Bandwidth– 5180MHz



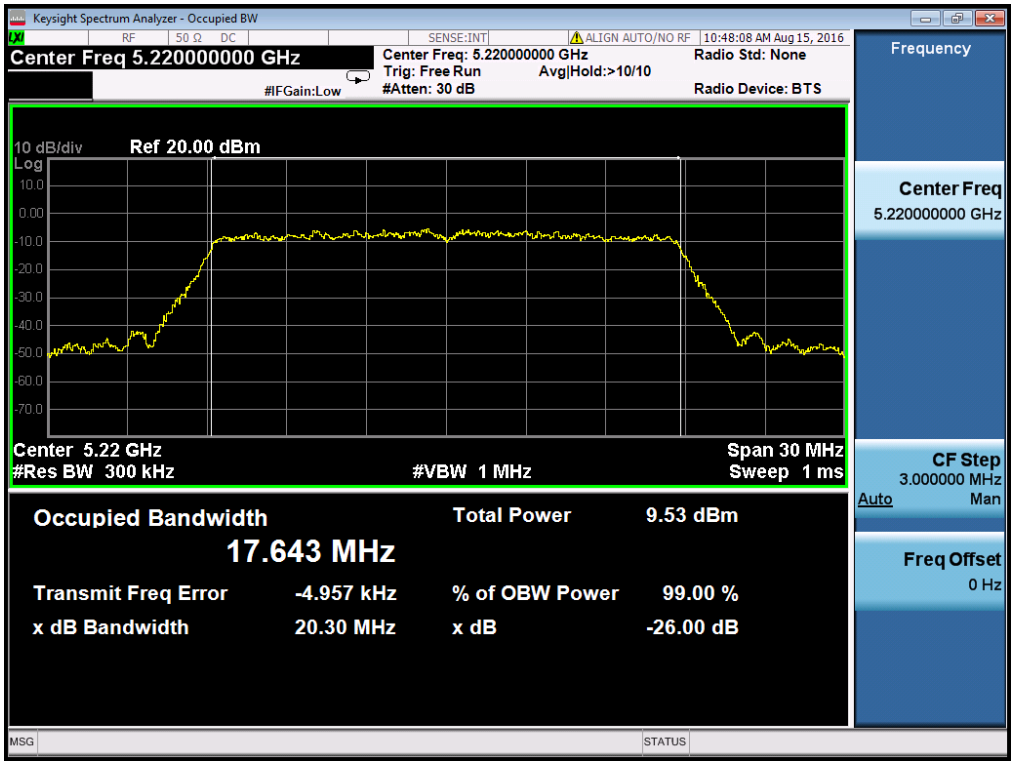
Antenna 1 - 802.11a – Bandwidth– 5220MHz



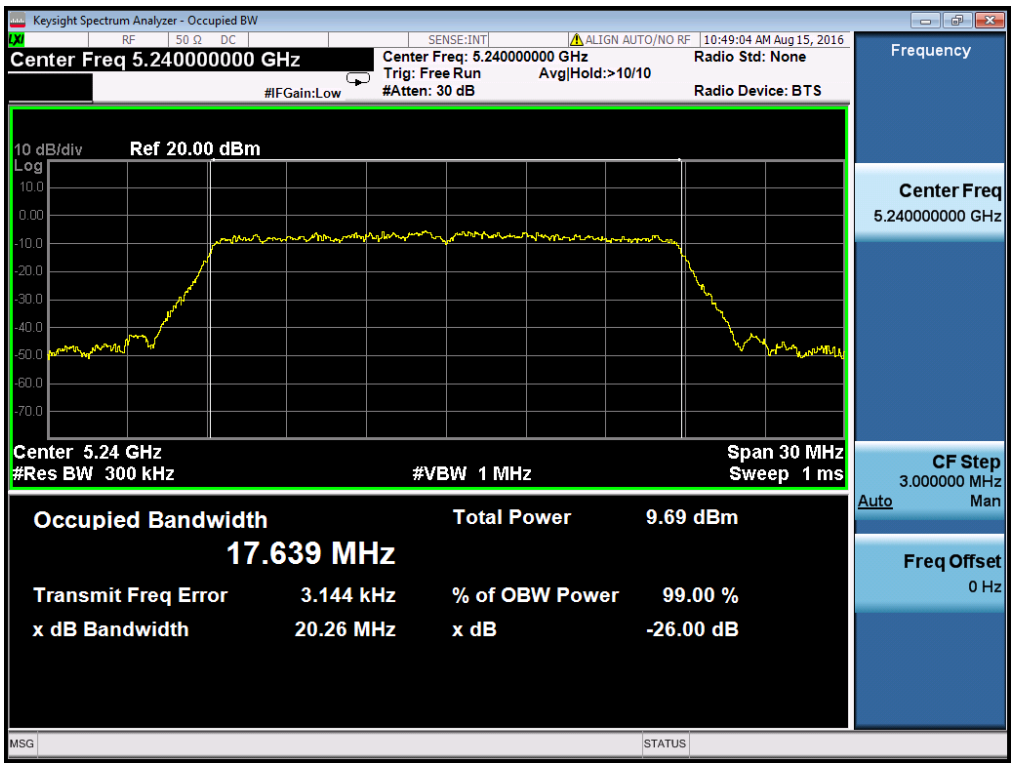
Antenna 1 - 802.11a – Bandwidth– 5240MHz



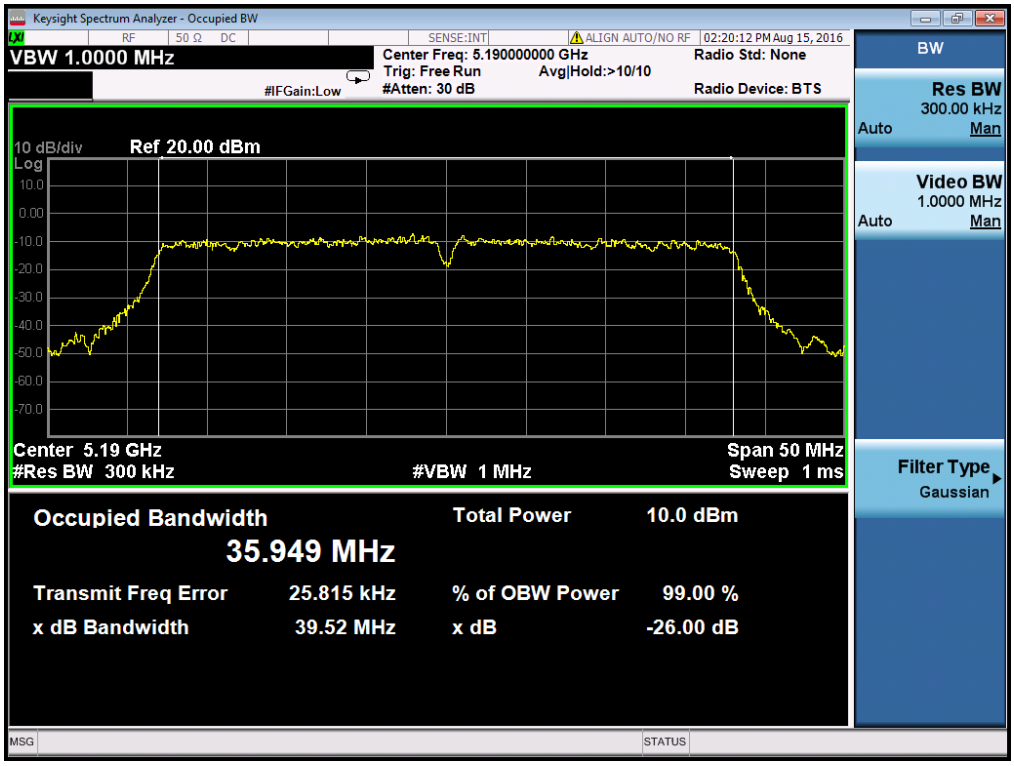
Antenna 1 - 802.11n-HT20 – Bandwidth– 5180MHz



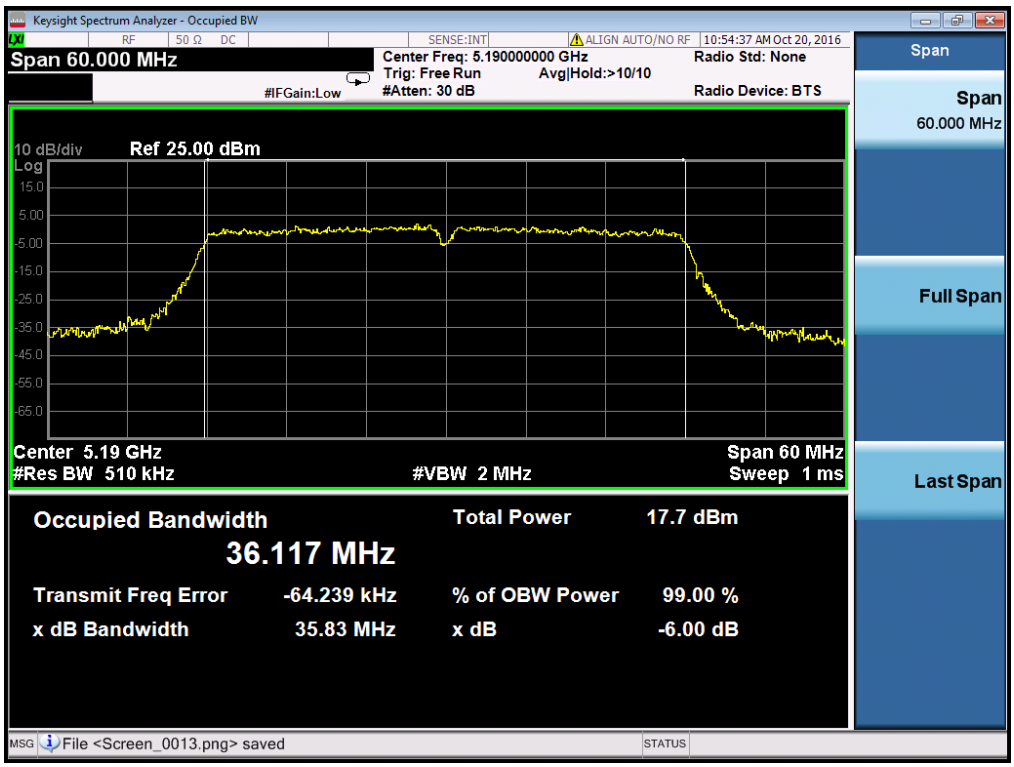
Antenna 1 - 802.11n-HT20 – Bandwidth– 5220MHz



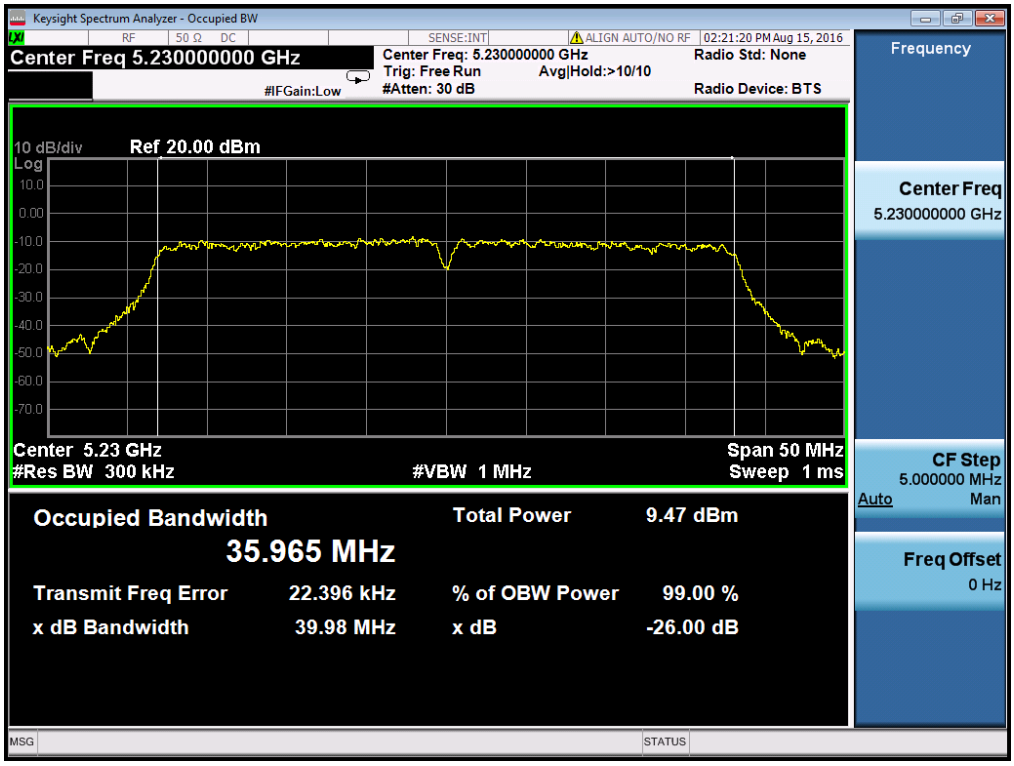
Antenna 1 - 802.11n-HT20 – Bandwidth– 5240MHz



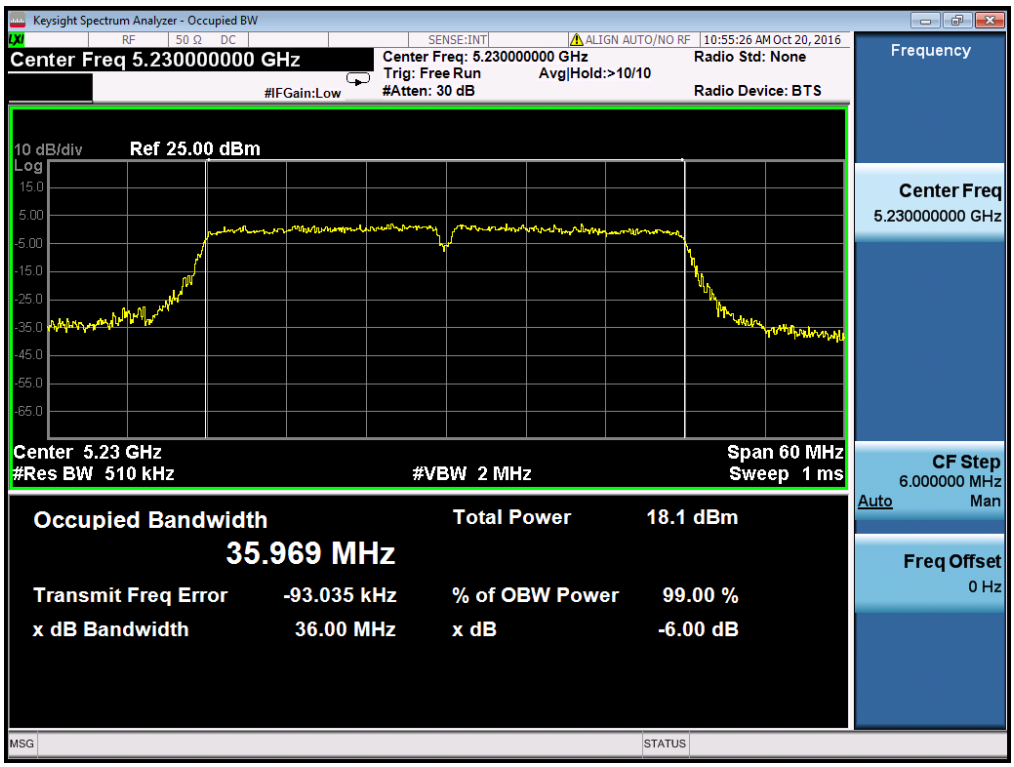
Antenna 1 - 802.11n-HT40 - 26dB Bandwidth– 5190MHz



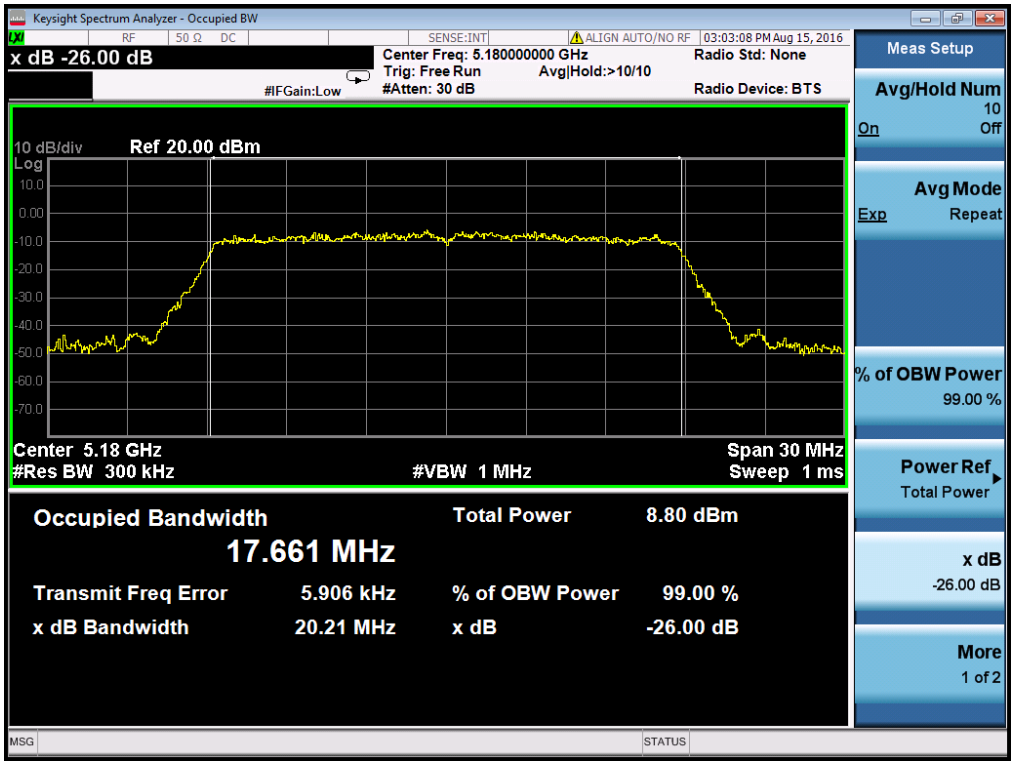
Antenna 1 - 802.11n-HT40 – 99% Bandwidth– 5190MHz



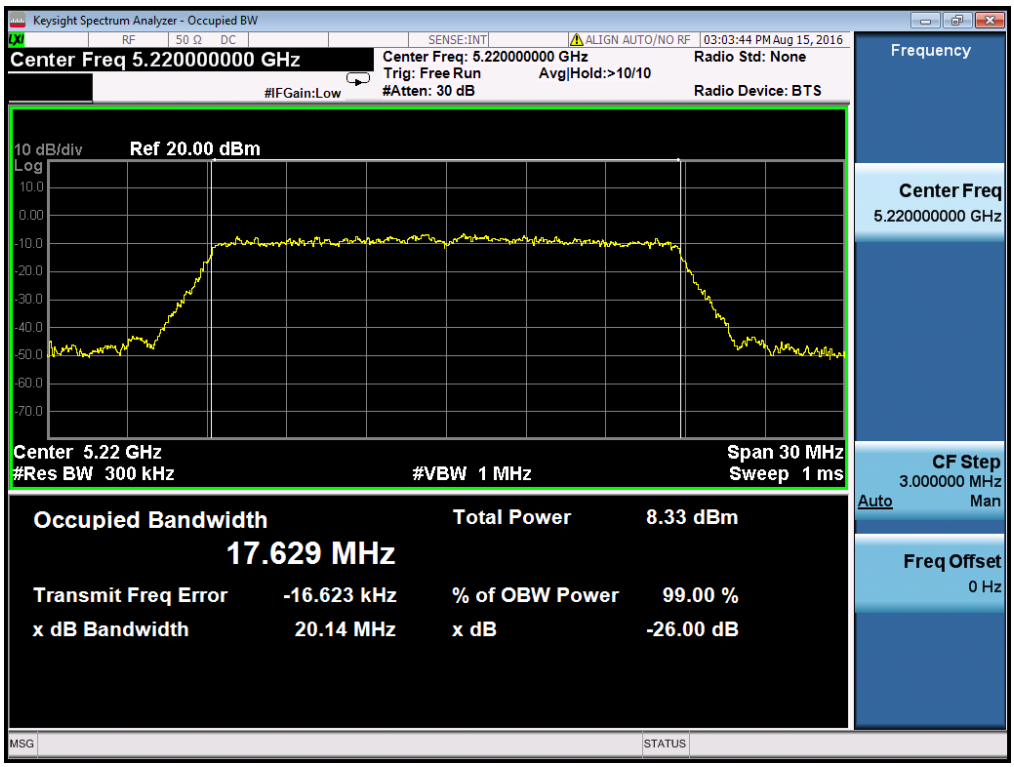
Antenna 1 - 802.11n-HT40 - 26dB Bandwidth – 5230MHz



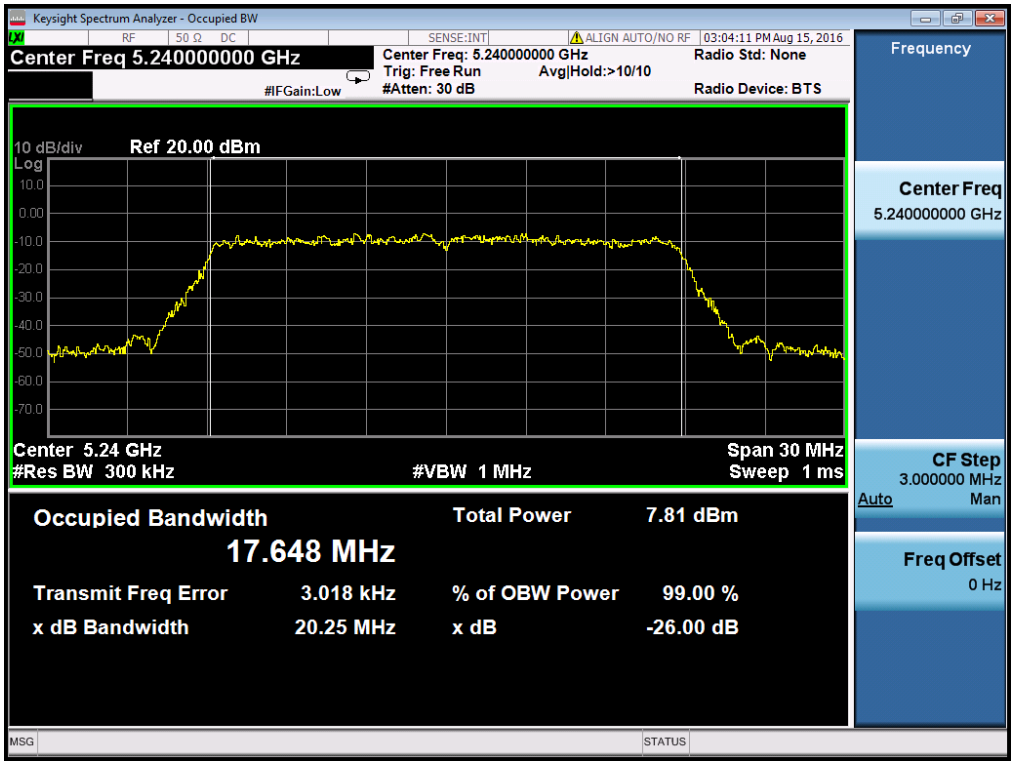
Antenna 1 - 802.11n-HT40 – 99% Bandwidth – 5230MHz



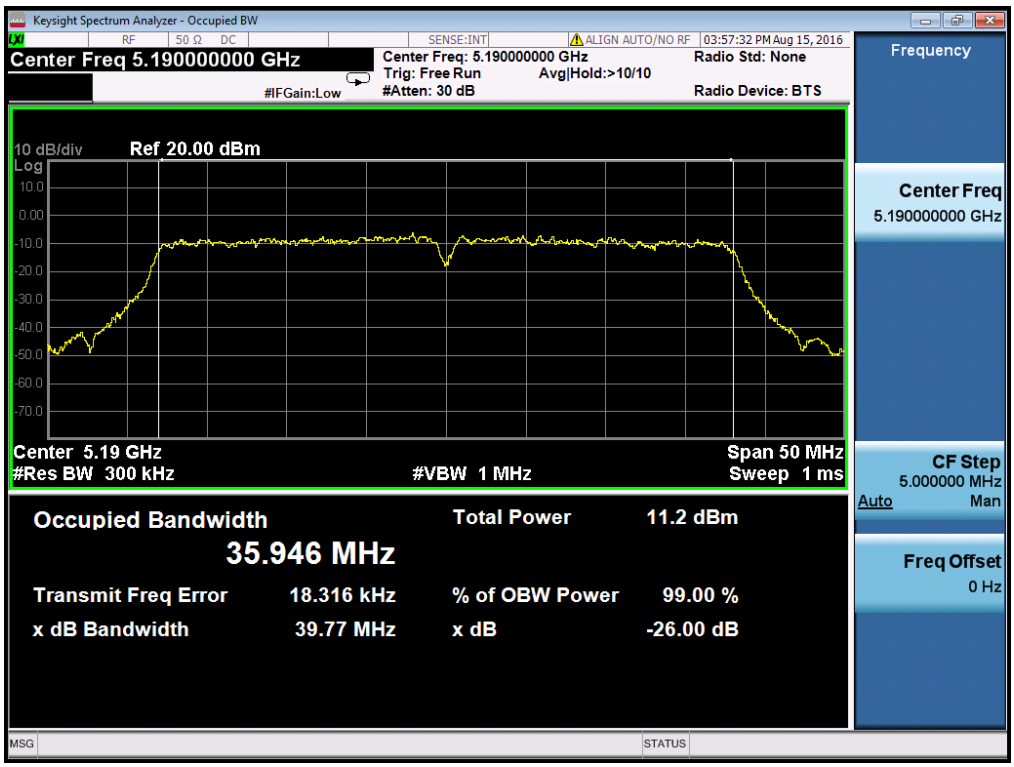
Antenna 1 - 802.11ac-VHT20 – Bandwidth– 5180MHz



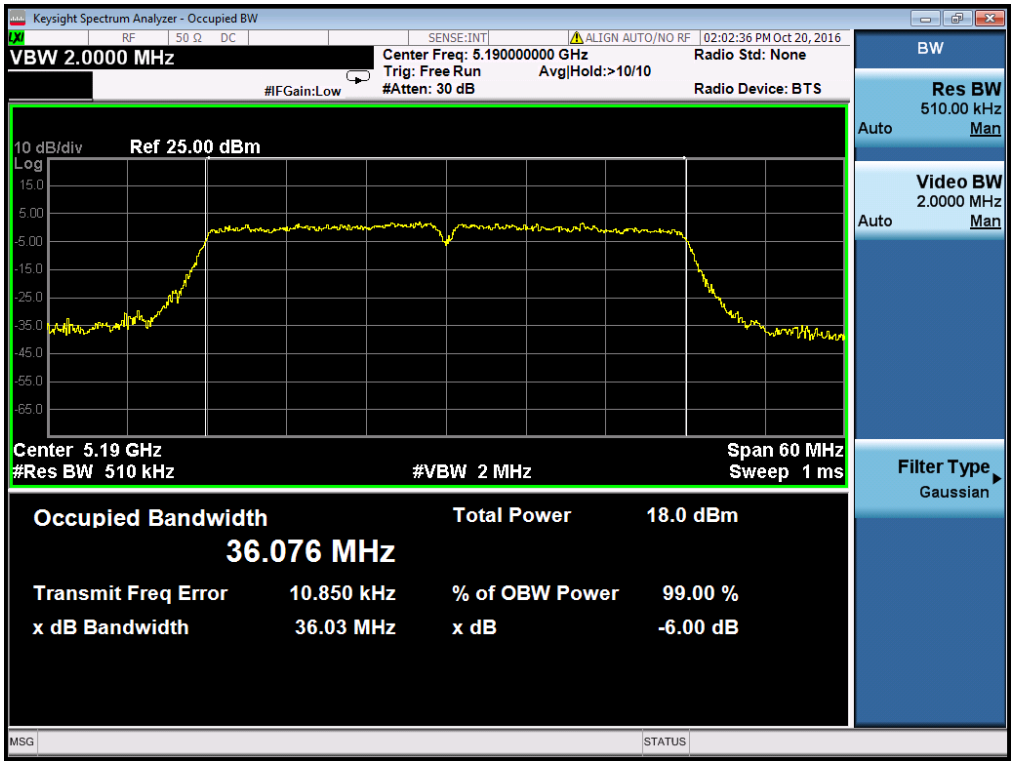
Antenna 1 - 802.11ac-VHT20 – Bandwidth– 5220MHz



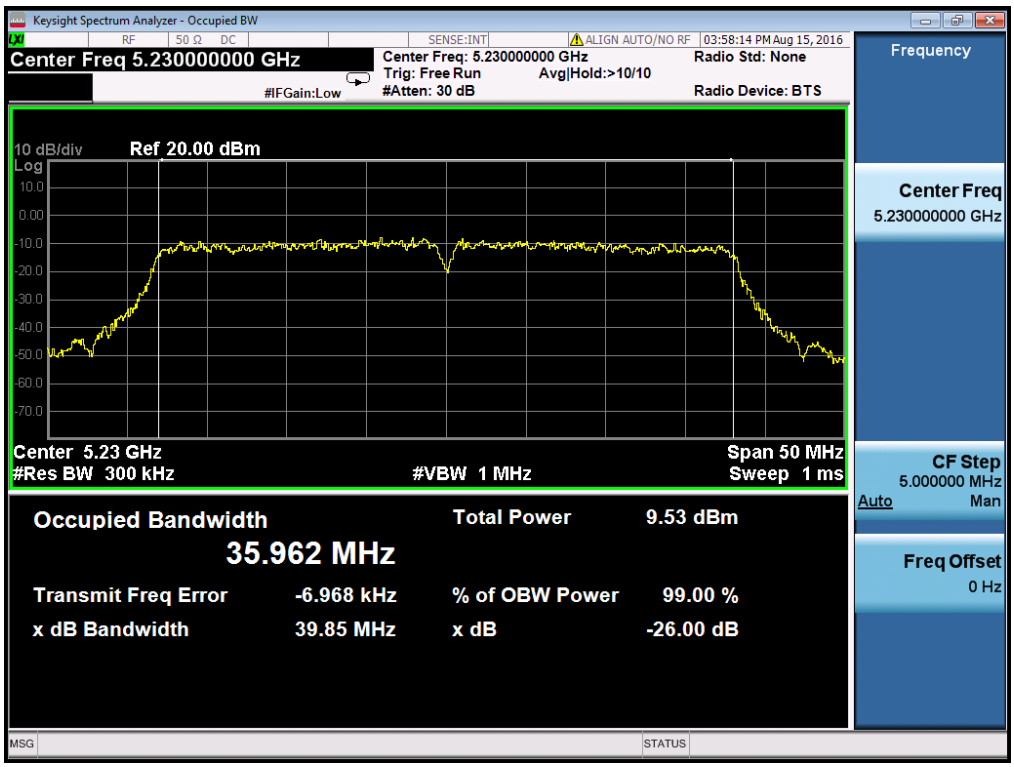
Antenna 1 - 802.11ac-VHT20 – Bandwidth– 5240MHz



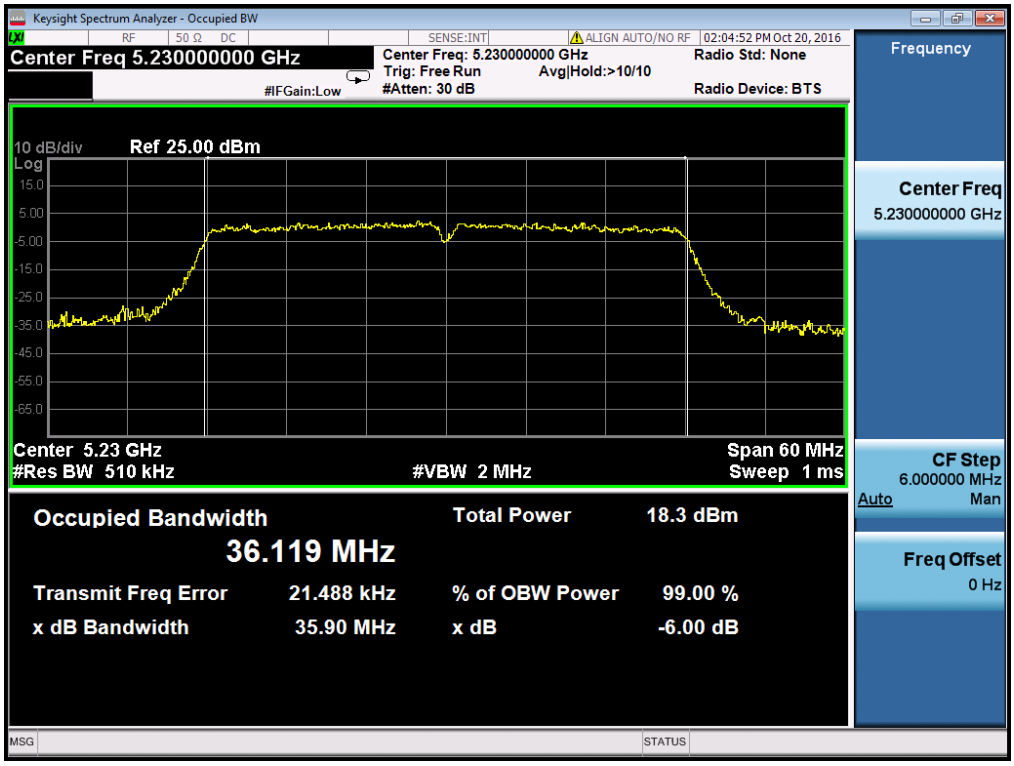
Antenna 1 - 802.11ac-VHT40 - 26dB Bandwidth – 5190MHz



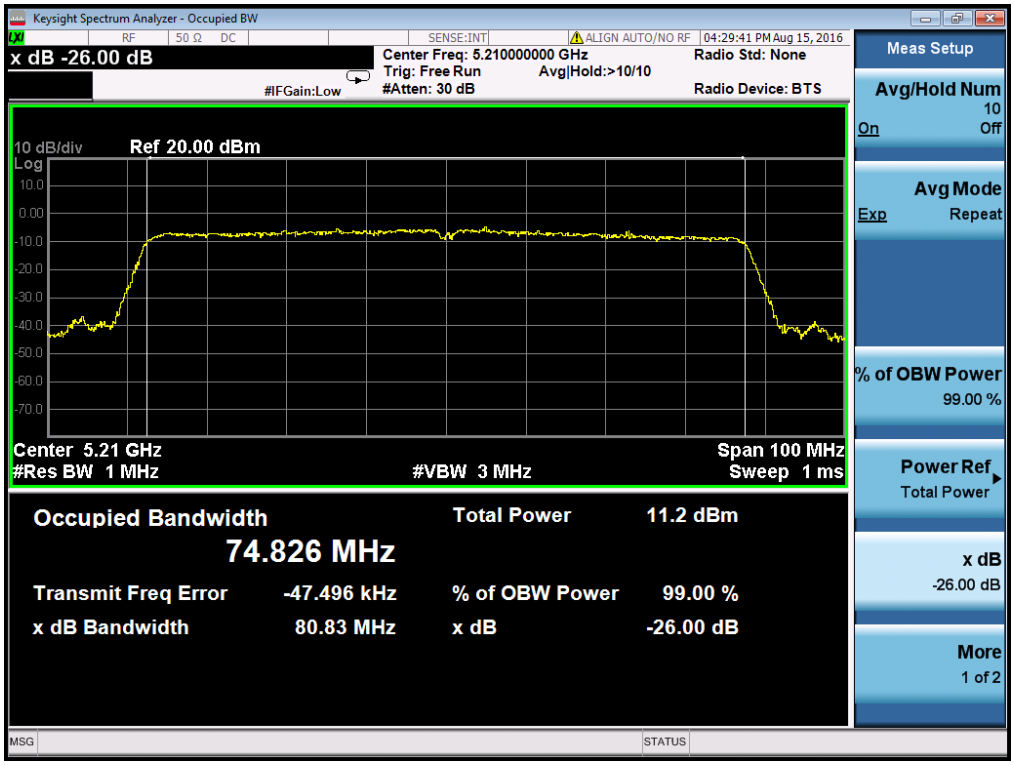
Antenna 1 - 802.11ac-VHT40 – 99% Bandwidth – 5190MHz



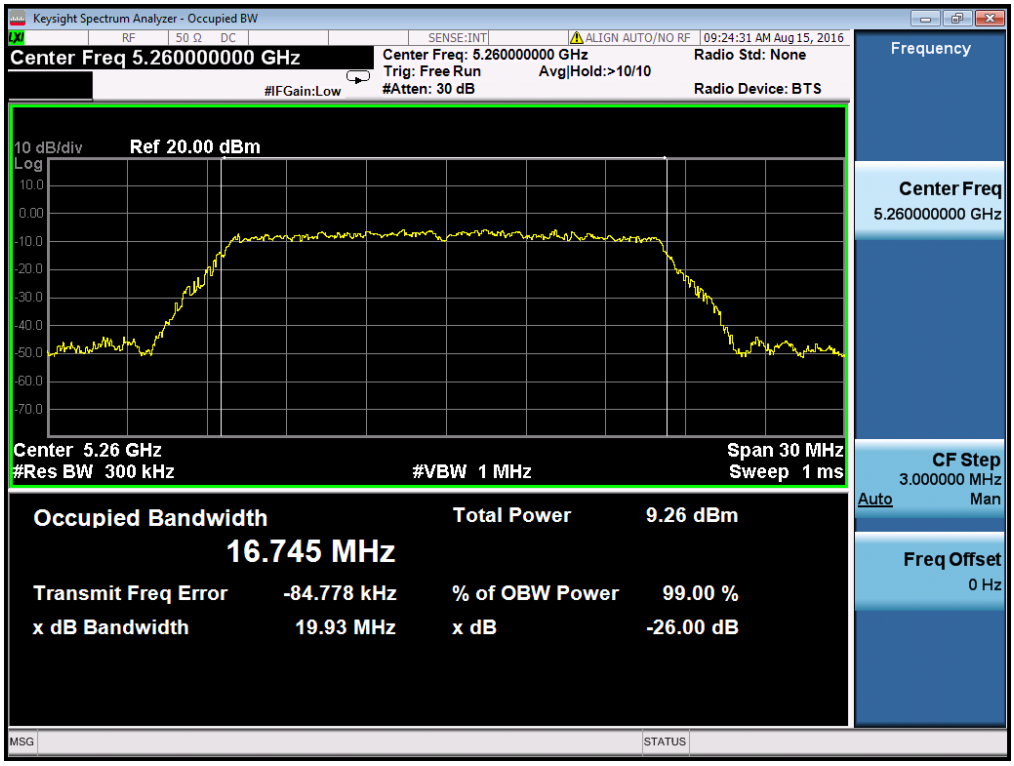
Antenna 1 - 802.11ac-VHT40 - 26dB Bandwidth – 5230MHz



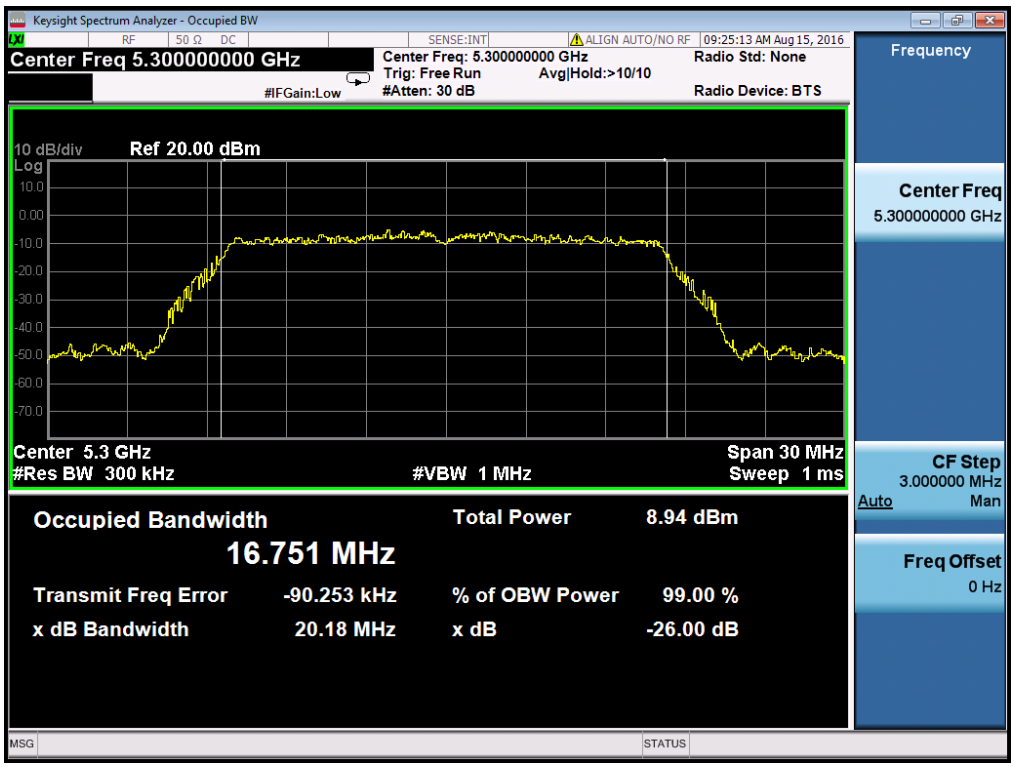
Antenna 1 - 802.11ac-VHT40 – 99% Bandwidth – 5230MHz



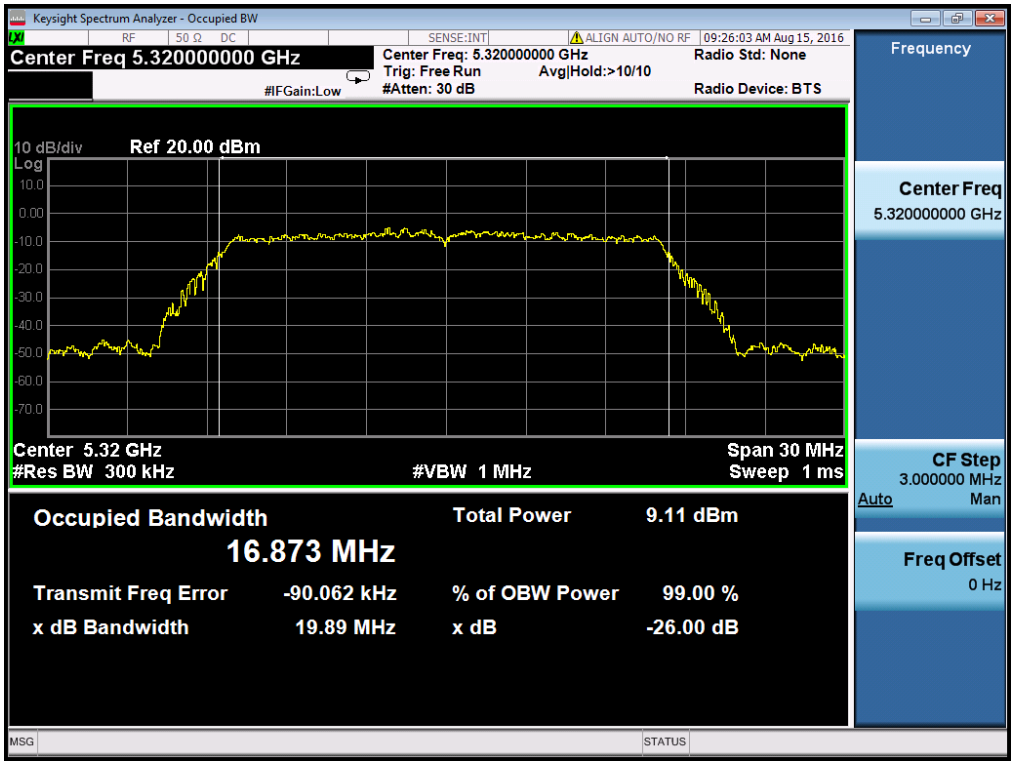
Antenna 1 - 802.11ac-VHT80 - Bandwidth – 5210MHz



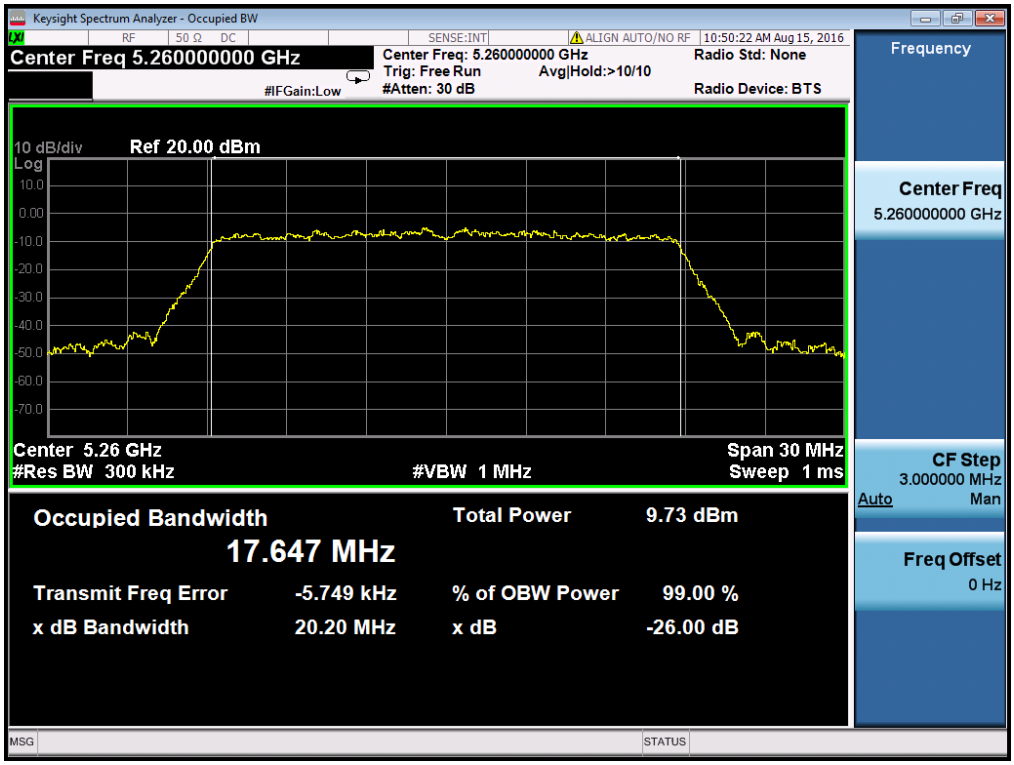
Antenna 1 - 802.11a – Bandwidth– 5260MHz



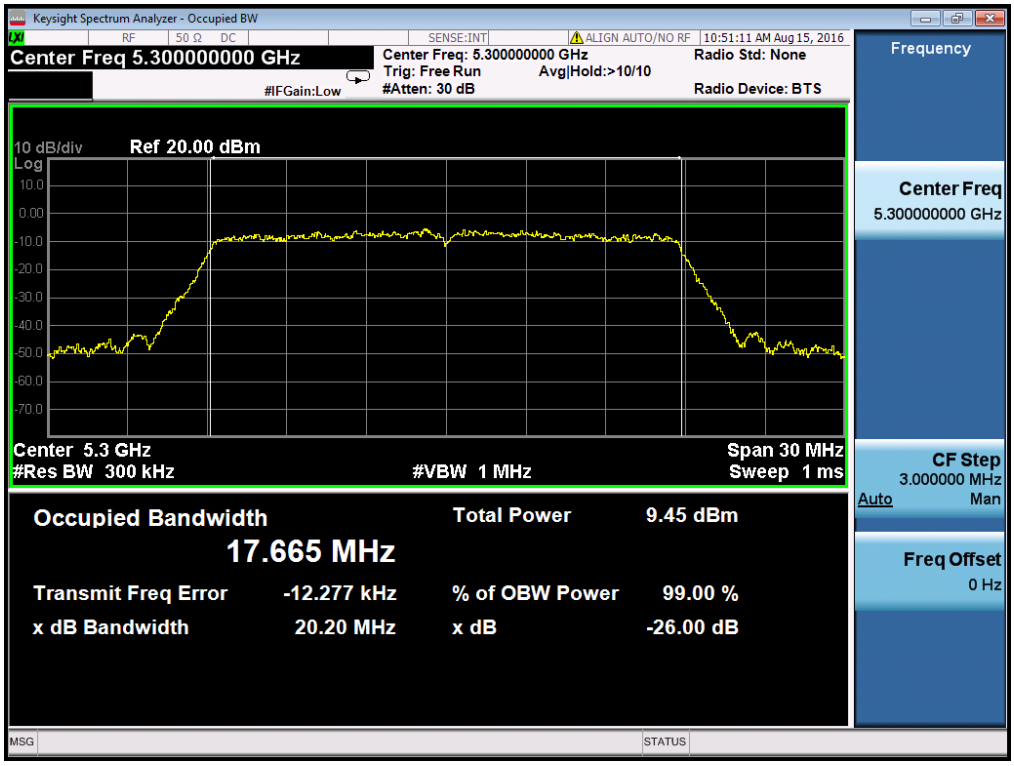
Antenna 1 - 802.11a – Bandwidth– 5300MHz



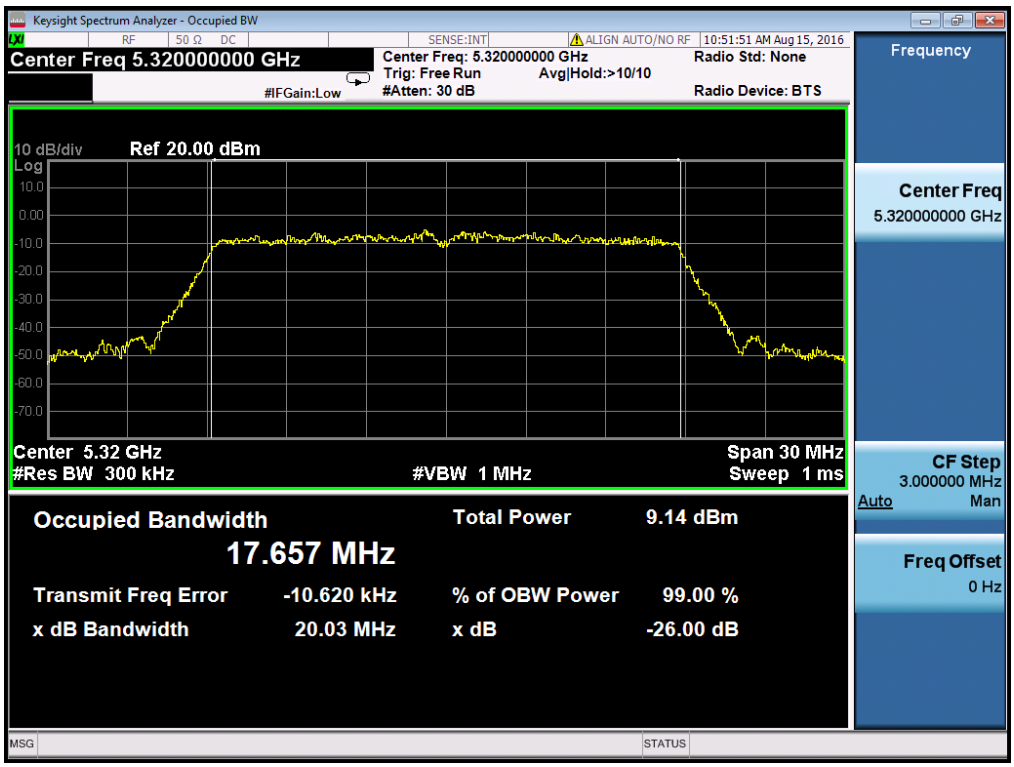
Antenna 1 - 802.11a – Bandwidth– 5320MHz



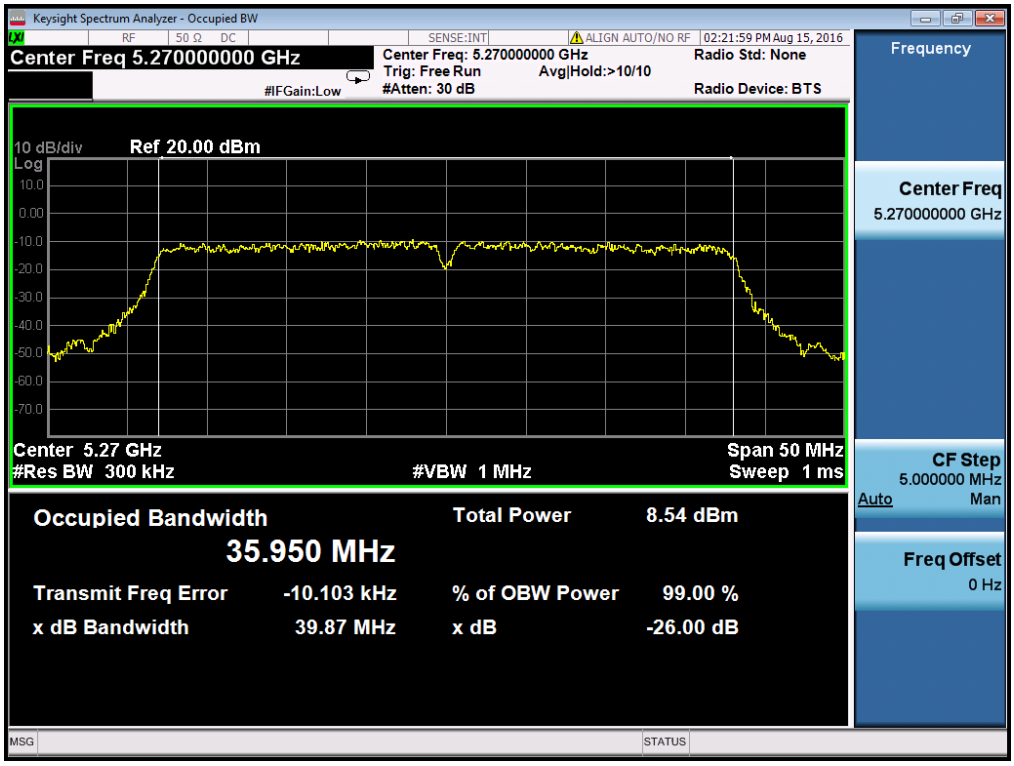
Antenna 1 - 802.11n-HT20 – Bandwidth– 5260MHz



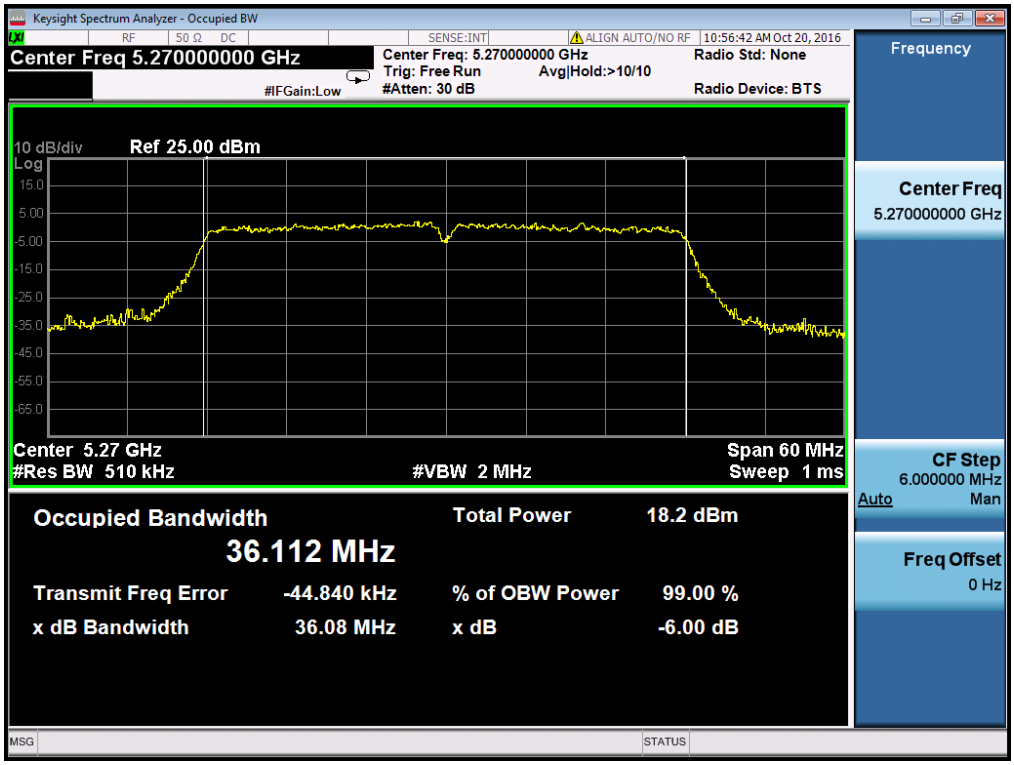
Antenna 1 - 802.11n-HT20 – Bandwidth– 5300MHz



Antenna 1 - 802.11n-HT20 – Bandwidth– 5320MHz



Antenna 1 - 802.11n-HT40 - 26dB Bandwidth– 5270MHz



Antenna 1 - 802.11n-HT40 – 99% Bandwidth– 5270MHz