FCC Test Report

Report No.: AGC00210200519FE06

FCC ID	:	2AVUHTT-ND001
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	AC3000 Tri-Band Mesh Router
BRAND NAME	:	TAOTRONICS
MODEL NAME	:	TT-ND001
APPLICANT	:	Shenzhen NearbyExpress Technology Development Company Limited
DATE OF ISSUE	:	Jul. 09, 2020
STANDARD(S) **TEST PROCEDURE(S)**	:	FCC Part 15.407 KDB 789033 D02 v02r01
REPORT VERSION	:	V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

CAUTION:
This report shall not be reproduced except in full without the written permission of the test laboratory and shall not be quoted out of context.

REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jul. 09, 2020	Valid	Initial Release

TABLE OF CONTENTS

1. VERIFICATION OF CONFORMITY 5

2. GENERAL INFORMATION 6

2.1. PRODUCT DESCRIPTION 6
2.2. TABLE OF CARRIER FREQUENCYS 7
2.3. RELATED SUBMITTAL(S) / GRANT (S) 8
2.4. TEST METHODOLOGY 8
2.5. SPECIAL ACCESSORIES 8
2.6. EQUIPMENT MODIFICATIONS 8

3. MEASUREMENT UNCERTAINTY 9

4. DESCRIPTION OF TEST MODES 10

5. SYSTEM TEST CONFIGURATION 11

5.1. CONFIGURATION OF EUT SYSTEM 11
5.2. EQUIPMENT USED IN EUT SYSTEM 11
5.3. SUMMARY OF TEST RESULTS 11

6. TEST FACILITY 12

7. MAXIMUM CONDUCTED OUTPUT POWER 13

7.1. MEASUREMENT PROCEDURE 13
7.2. TEST SET-UP 13
7.3. LIMITS AND MEASUREMENT RESULT 14

8. 6DB BANDWIDTH 19

8.1. MEASUREMENT PROCEDURE 19
8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 19
8.3. LIMITS AND MEASUREMENT RESULTS 20

9. EMISSION BANDWIDTH 28

9.1. MEASUREMENT PROCEDURE 28
9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 28
9.3. LIMITS AND MEASUREMENT RESULTS 29

10. MAXIMUM CONDUCTED OUTPUT AVERAGE POWER SPECTRAL DENSITY 55

10.1 MEASUREMENT PROCEDURE 55
10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 55
10.3 MEASUREMENT EQUIPMENT USED 55
10.4 LIMITS AND MEASUREMENT RESULT 55

11. CONDUCTED SPURIOUS EMISSION 151

11.1. MEASUREMENT PROCEDURE 151
11.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 151
11.3. MEASUREMENT EQUIPMENT USED 151
11.4. LIMITS AND MEASUREMENT RESULT 151

12. RADIATED EMISSION 205

12.1. MEASUREMENT PROCEDURE 205
12.2. TEST SETUP 206
12.3. LIMITS AND MEASUREMENT RESULT 207
12.4. TEST RESULT 207

13. BAND EDGE EMISSION 218

13.1. MEASUREMENT PROCEDURE 218
13.2. TEST SET-UP 218
13.3. TEST RESULT 219

14. FREQUENCY STABILITY 237

14.1. MEASUREMENT PROCEDURE 237
14.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) 237
14.3. MEASUREMENT RESULTS 238

15. FCC LINE CONDUCTED EMISSION TEST 249

15.1. LIMITS OF LINE CONDUCTED EMISSION TEST 249
15.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST 249
15.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST 250
15.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST 250
15.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST 251

APPENDIX A: PHOTOGRAPHS OF TEST SETUP 253

APPENDIX B: PHOTOGRAPHS OF EUT 255

1. VERIFICATION OF CONFORMITY

Applicant	Shenzhen NearbyExpress Technology Development Company Limited
Address	Room 701, 702, 703, 705, 706, 708, 709, Building E, Galaxy World Phase II, Minle Community, Minzhi Street, Longhua District, Shenzhen, Guangdong, China 518000
Manufacturer	Shenzhen NearbyExpress Technology Development Company Limited
Address	Room 701, 702, 703, 705, 706, 708, 709, Building E, Galaxy World Phase II, Minle Community, Minzhi Street, Longhua District, Shenzhen, Guangdong, China 518000
Factory	Shenzhen Dazoo Technologies Co., Ltd
Address	Room 506, Building 2A, Skyworth Innovation Valley, Baoan District, Shenzhen, Guangdong, China
Product Designation	AC3000 Tri-Band Mesh Router
Brand Name	TAOTRONICS
Test Model	TT-ND001
Date of test	Jun. 03, 2020 to Jul. 09, 2020
Deviation	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Report Template	AGCRT-US-BGN/RF

We hereby certify that:
The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with requirement of FCC Part 15 Rules requirement.

Prepared By	Sky Dong (Project Engineer)	Jul. 09, 2020
Reviewed By	Max Zhang (Reviewer)	Jul. 09, 2020
Approved By	Forrest Lei (Authorized Officer)	Jul. 09, 2020

2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as “AC3000 Tri-Band Mesh Router”. It is designed by way of utilizing the OFDM technology to achieve the system operation.It is a Indoor master device.

A major technical description of EUT is described as following

Operation Frequency	5150 MHz～5250MHz; 5250 MHz～5350MHz, 5470 MHz～5725MHz, 5725 MHz～5850MHz
Output Power	IEEE 802.11a20:14.37dBm; IEEE 802.11n(20):20.49dBm; IEEE 802.11ac(20):20.28dBm; IEEE802.11n(40):19.33dBm; IEEE802.11ac(40):18.70dBm; IEEE802.11ac(80):17.53dBm
Modulation	BPSK, QPSK, 16QAM, 64QAM, 128QAM, 256QAM,OFDM
Number of channels	39
Hardware Version	D9-WIFI
Software Version	ND001_1.0.0.8
Antenna Designation	Integral Antenna
Number of transmit chain	6(5150MHz-5250MHz&5250-5350 used two antennas, 5470MHz-5725MHz&5725-5850 used four antennas, 802.11a support SISO and 802.11n/ac support MIMO)
Directional gain	All transmit signals are completely uncorrelated with each other
Antenna Gain	IN 5150MHz-5250MHz&5250MHz-5350MHz, antenna 0:4.65dBi ;antenna 1:4.73dBi IN 5470MHz-5725MHz&5725MHz-5850MHz, antenna 0:4.12dBi; antenna 1:4.12dBi ;antenna 2:3.93dBi; antenna 3:3.97dBi
Power Supply	DC 12V by adapter

2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency	Frequency Band	Channel Number	Frequency
5150 MHz～5250MHz	36	5180 MHz	5470 MHz～5725MHz	112	5560 MHz
	38	5190 MHz		116	5580 MHz
	40	5200 MHz		118	5590 MHz
	42	5210 MHz		120	5600 MHz
	44	5220 MHz		122	5610 MHz
	46	5230 MHz		124	5620 MHz
	48	5240 MHz		126	5630 MHz
5250 MHz～5350MHz	52	5260 MHz		128	5640 MHz
	54	5270 MHz		132	5660 MHz
	56	5280 MHz		134	5670 MHz
	58	5290 MHz		136	5680 MHz
	60	5300 MHz		140	5700 MHz
	62	5310 MHz	5725 MHz～5850MHz	149	5745 MHz
	64	5320 MHz		151	5755 MHz
5470 MHz～5725MHz	100	5500 MHz		153	5765 MHz
	102	5510 MHz		155	5775 MHz
	104	5520 MHz		157	5785 MHz
	106	5530 MHz		159	5795 MHz
	108	5540 MHz		165	5825MHz
	110	5550 MHz			

Note: For 20MHZ bandwidth system use Channel 36,40,44,48,52,56,60,64,100,104,108,112,116,120,124,128,132,136,140,149,153,157,161,165; For 40MHZ bandwidth system use Channel 38,46,54,62,102,110,118,126,134,151,159; For 80MHZ bandwidth system use Channel 42,58,106,122,155

2.3. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2AVUHTT-ND001** filing to comply with the FCC Part 15 requirements.

2.4. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013).
Radiated testing was performed at an antenna to EUT distance 3 meters.
Others testing (listed at item 5.3) was performed according to the procedures in FCC Part 15.407 rules KDB 789033 D02

2.5. SPECIAL ACCESSORIES

Refer to section 5.2.

2.6. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

3. MEASUREMENT UNCERTAINTY

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in measurement” (GUM) published by CISPR and ANSI.

- Uncertainty of Conducted Emission, Uc = ±3.2 dB
- Uncertainty of Radiated Emission below 1GHz, Uc = ±3.9 dB
- Uncertainty of Radiated Emission above 1GHz, Uc = ±4.8 dB

4. DESCRIPTION OF TEST MODES

Mode	Available channel	Tested channel	Modulation	Date rate(Mbps)
802.11a/n20	36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165	36, 40, 48, 52, 60, 64, 100, 120, 140, 149, 157, 165	OFDM	6Mbps/MCS0
802.11n40	38, 46, 54, 62, 102, 110, 118, 126, 134, 151, 159;	38, 46, 54, 62, 102, 118, 134, 151, 159	OFDM	MCS0
802.11ac80	42, 58, 106, 122, 155	42, 58, 106, 122, 155	OFDM	MCS0

Note:

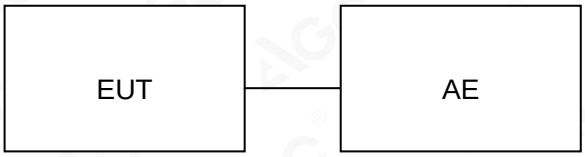
1. The EUT has been set to operate continuously on tested channel individually, and the EUT is operating at its maximum duty cycle>or equal 98%
2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.

3. The test software is the IWPRIV which can set the EUT into the individual test modes.

5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configure 1:



5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	AC3000 Tri-Band Mesh Router	TT-ND001	2AVUHTT-ND001	EUT
2	Adapter	GQ15-050300-ZU	Input:100-240V, 50/60Hz, 0.5A Output:5.0V, 3.0A	Market with EUT
3	RJ45 Cabel	20160	1m	AE
4.	PC	MateBook 14	100012950506	AE
5	U-disk	DataTraveler SE9 16G	N/A	AE

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.407	6dB Bandwidth	Compliant
§15.407	Emission Bandwidth	Compliant
§15.407	Maximum conducted output power	Compliant
§15.407	Conducted Spurious Emission	Compliant
§15.407	Maximum Conducted Output Power Density	Compliant
§15.209	Radiated Emission	Compliant
§15.407	Band Edges	Compliant
§15.207	Line Conduction Emission	Compliant

6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Designation Number	CN1259
FCC Test Firm Registration Number	975832
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA

TEST EQUIPMENT OF CONDUCTED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESPI	101206	May 15, 2020	May 14, 2022
LISN	R&S	ESH2-Z5	100086	Aug. 26, 2019	Aug. 25, 2020
Test software	R&S	ES-K1 (Ver V1.71)	N/A	N/A	N/A

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	May 15, 2020	May 14, 2022
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 12, 2019	Dec. 11, 2020
Power sensor	Aglient	U2021XA	MY54110007	Sep. 10, 2019	Sep. 09, 2020
5GHz Fliter	Micro-tronics	N/A	N/A	Mar. 23, 2020	Mar. 22, 2022
Attenuator	Weinachel Corp	58-30-33	N/A	Sep. 09, 2019	Sep. 08, 2020
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep.21, 2019	Sep. 20, 2021
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	May 22, 2020	May 21, 2022
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May. 17, 2019	May. 16, 2021
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Oct. 15, 2019	Oct. 16, 2020
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep. 20, 2019	Sep. 19, 2021
Test software	FARA	EZ_EMC (Ver.RA-03A)	N/A	N/A	N/A

7. MAXIMUM CONDUCTED OUTPUT POWER

7.1. MEASUREMENT PROCEDURE

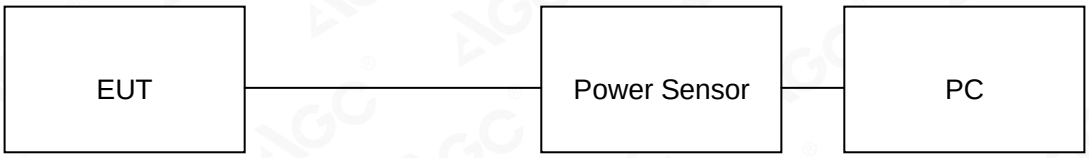
For average power test:

1. Connect EUT RF output port to power sensor through an RF attenuator.
2. Connect the power sensor to the PC.
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Record the maximum power from the software.

Note：The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

7.2. TEST SET-UP

AVERAGE POWER SETUP



7.3. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT FOR 802.11A20 MODULATION							
Frequency (MHz)	Average Power Chain 0(dBm)		Average Power Chain 1(dBm)		Average Power Total(dBm)	Applicable Limits (dBm)	Pass or Fail
5180	13.03		12.98		N/A	30	Pass
5200	9.16		9.01		N/A	30	Pass
5240	11.50		11.43		N/A	30	Pass
5260	7.60		7.52		N/A	23.79	Pass
5300	8.08		7.99		N/A	23.76	Pass
5320	11.06		10.97		N/A	23.79	Pass
Frequency (MHz)	Average Power Chain 0(dBm)	Average Power Chain 1(dBm)	Average Power Chain 2(dBm)	Average Power Chain 3(dBm)	Average Power Total(dBm)	Applicable Limits (dBm)	Pass or Fail
5500	11.53	11.42	11.37	11.26	N/A	23.91	Pass
5600	14.37	14.28	11.29	11.18	N/A	23.76	Pass
5700	13.88	13.79	13.76	13.67	N/A	23.79	Pass
5745	13.80	13.71	13.68	13.59	N/A	30	Pass
5785	13.69	13.58	13.51	13.48	N/A	30	Pass
5825	13.57	13.66	13.62	13.54	N/A	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11N20 MODULATION							
Frequency (MHz)	**Average Power Chain 0(dBm)**		**Average Power Chain 1(dBm)**		**Average Power Total(dBm)**	**Applicable Limits (dBm)**	**Pass or Fail**
5180	12.45		12.34		15.41	30	Pass
5200	11.24		11.11		14.19	30	Pass
5240	10.92		10.86		13.90	30	Pass
5260	8.46		8.41		11.45	23.98	Pass
5300	8.46		8.40		11.44	23.98	Pass
5320	9.05		8.93		12.00	23.98	Pass
Frequency (MHz)	**Average Power Chain 0(dBm)**	**Average Power Chain 1(dBm)**	**Average Power Chain 2(dBm)**	**Average Power Chain 3(dBm)**	**Average Power Total(dBm)**	**Applicable Limits (dBm)**	**Pass or Fail**
5500	13.27	13.15	13.08	13.01	19.15	23.98	Pass
5600	13.74	13.65	13.48	13.52	19.62	23.98	Pass
5700	14.62	14.34	14.51	14.40	20.49	23.98	Pass
5745	13.54	13.51	13.47	13.40	19.50	30	Pass
5785	13.70	13.63	13.51	13.49	19.60	30	Pass
5825	12.88	12.81	12.74	12.69	18.80	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11N40 MODULATION							
Frequency (MHz)	Average Power Chain 0(dBm)		Average Power Chain 1(dBm)		Average Power Total(dBm)	Applicable Limits (dBm)	Pass or Fail
5190	9.46		9.45		12.47	30	Pass
5230	8.93		8.87		11.91	30	Pass
5270	7.35		7.25		10.31	23.98	Pass
5310	8.82		8.71		11.78	23.98	Pass
Frequency (MHz)	Average Power Chain 0(dBm)	Average Power Chain 1(dBm)	Average Power Chain 2(dBm)	Average Power Chain 3(dBm)	Average Power Total(dBm)	Applicable Limits (dBm)	Pass or Fail
5510	13.44	13.24	13.38	13.16	19.33	23.98	Pass
5590	11.74	11.62	11.51	11.39	17.59	23.98	Pass
5670	13.01	12.97	12.56	12.71	18.84	23.98	Pass
5755	12.29	12.18	12.14	12.05	18.19	30	Pass
5795	12.19	12.11	12.04	12.00	18.11	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11AC20 MODULATION							
Frequency (MHz)	Average Power Chain 0(dBm)		Average Power Chain 1(dBm)		Average Power Total(dBm)	Applicable Limits (dBm)	Pass or Fail
5180	12.60		12.48		15.55	30	Pass
5200	11.46		12.31		14.92	30	Pass
5240	10.49		10.22		13.37	30	Pass
5260	8.09		8.01		11.06	23.98	Pass
5300	7.94		7.86		10.91	23.98	Pass
5320	9.03		8.94		12.00	23.98	Pass
Frequency (MHz)	Average Power Chain 0(dBm)	Average Power Chain 1(dBm)	Average Power Chain 2(dBm)	Average Power Chain 3(dBm)	Average Power Total(dBm)	Applicable Limits (dBm)	Pass or Fail
5500	13.17	13.15	13.02	13.05	19.12	23.98	Pass
5600	13.74	13.37	13.41	13.59	19.55	23.98	Pass
5700	14.40	14.23	14.21	14.19	20.28	23.98	Pass
5745	13.58	13.59	13.51	13.49	19.56	30	Pass
5785	13.57	13.41	13.35	13.22	19.41	30	Pass
5825	13.94	13.63	13.51	13.34	19.63	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11AC40 MODULATION							
Frequency (MHz)	Average Power Chain 0(dBm)		Average Power Chain 1(dBm)		Average Power Total(dBm)	Applicable Limits (dBm)	Pass or Fail
5190	10.97		10.87		13.93	30	Pass
5230	9.47		9.41		12.45	30	Pass
5270	7.82		7.83		10.84	23.98	Pass
5310	7.65		7.59		10.63	23.98	Pass
Frequency (MHz)	Average Power Chain 0(dBm)	Average Power Chain 1(dBm)	Average Power Chain 2(dBm)	Average Power Chain 3(dBm)	Average Power Total(dBm)	Applicable Limits (dBm)	Pass or Fail
5510	12.78	12.68	12.61	12.42	18.65	23.98	Pass
5590	12.16	12.01	12.09	11.97	18.08	23.98	Pass
5670	12.80	12.74	12.55	12.61	18.70	23.98	Pass
5755	12.34	12.22	12.15	12.06	18.21	30	Pass
5795	12.18	11.99	12.07	12.01	18.08	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11AC80 MODULATION							
Frequency (MHz)	Average Power Chain 0(dBm)		Average Power Chain 1(dBm)		Average Power Total(dBm)	Applicable Limits (dBm)	Pass or Fail
5210	12.64		12.59		15.63	30	Pass
5290	5.90		8.61		10.47	23.98	Pass
Frequency (MHz)	Average Power Chain 0(dBm)	Average Power Chain 1(dBm)	Average Power Chain 2(dBm)	Average Power Chain 3(dBm)	Average Power Total(dBm)	Applicable Limits (dBm)	Pass or Fail
5530	11.67	11.51	11.49	11.37	17.53	23.98	Pass
5610	10.44	10.14	10.32	10.29	16.32	23.98	Pass
5775	10.10	10.03	9.89	9.81	15.98	30	Pass

Note:

The maximum antenna gain is 4.73dBi in 5GHz band. The device employed Cyclic Delay Diversity (CDD) for 802.11 MIMO transmitting, per KDB 662911 D01 Multiple Transmitter Output v02r01, for power measurements on IEEE 802.11 devices:

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;

So: Directional gain = GANT + Array Gain = 4.73dBi < 6dBi

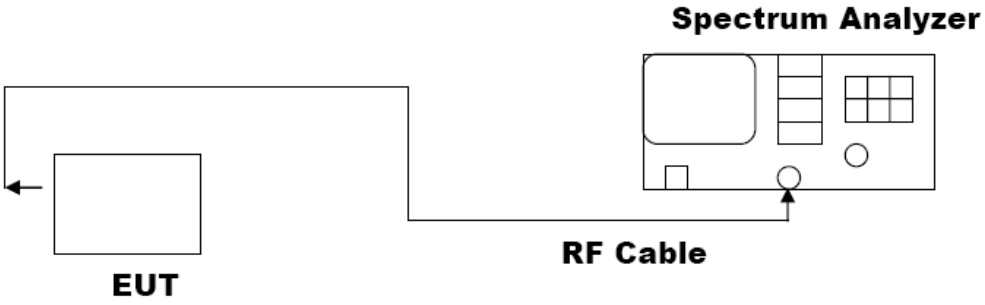
8. 6dB BANDWIDTH

8.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on operation frequency individually.
3. Set RBW = 100kHz.
4. Set the VBW ⩾3*RBW. Detector = Peak. Trace mode = max hold.
5. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.

Note: The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



8.3. LIMITS AND MEASUREMENT RESULTS

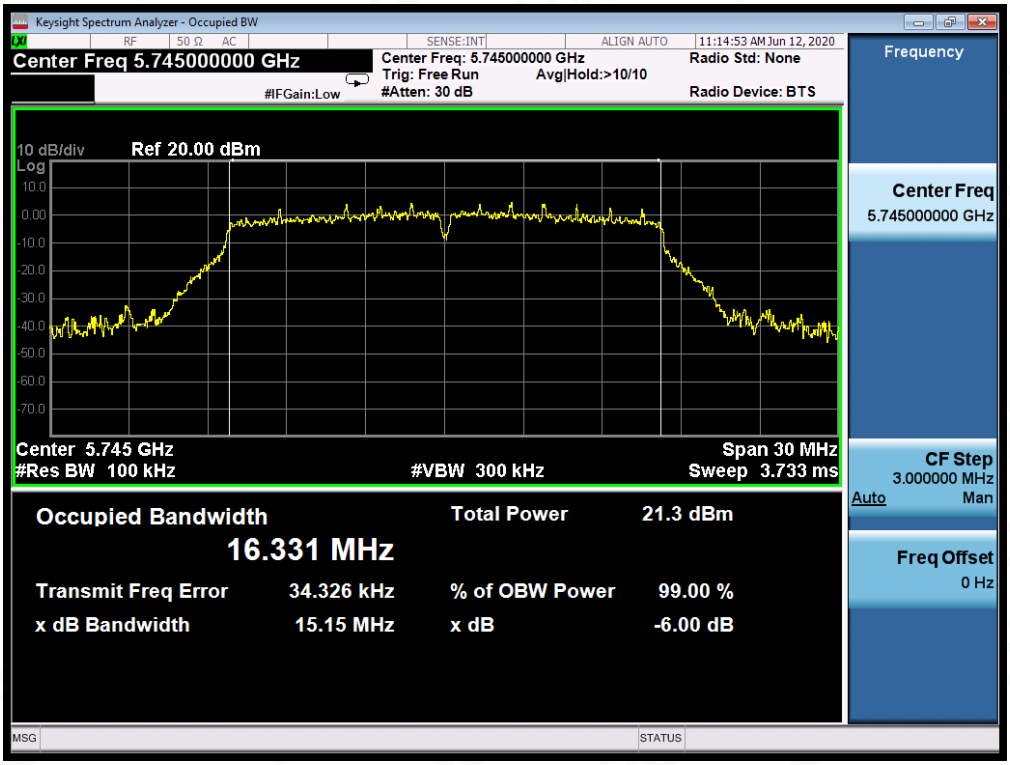
LIMITS AND MEASUREMENT RESULT FOR 802.11A20 MODULATION			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
>500KHZ	5745MHz	15.15	PASS
	5785MHz	14.35	PASS
	5825MHz	13.79	PASS

LIMITS AND MEASUREMENT RESULT FOR 802.11N20/40 MODULATION			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
>500KHZ	5745MHz	15.36	PASS
	5785MHz	11.63	PASS
	5825MHz	13.89	PASS
	5755MHz	35.06	PASS
	5795MHz	32.59	PASS

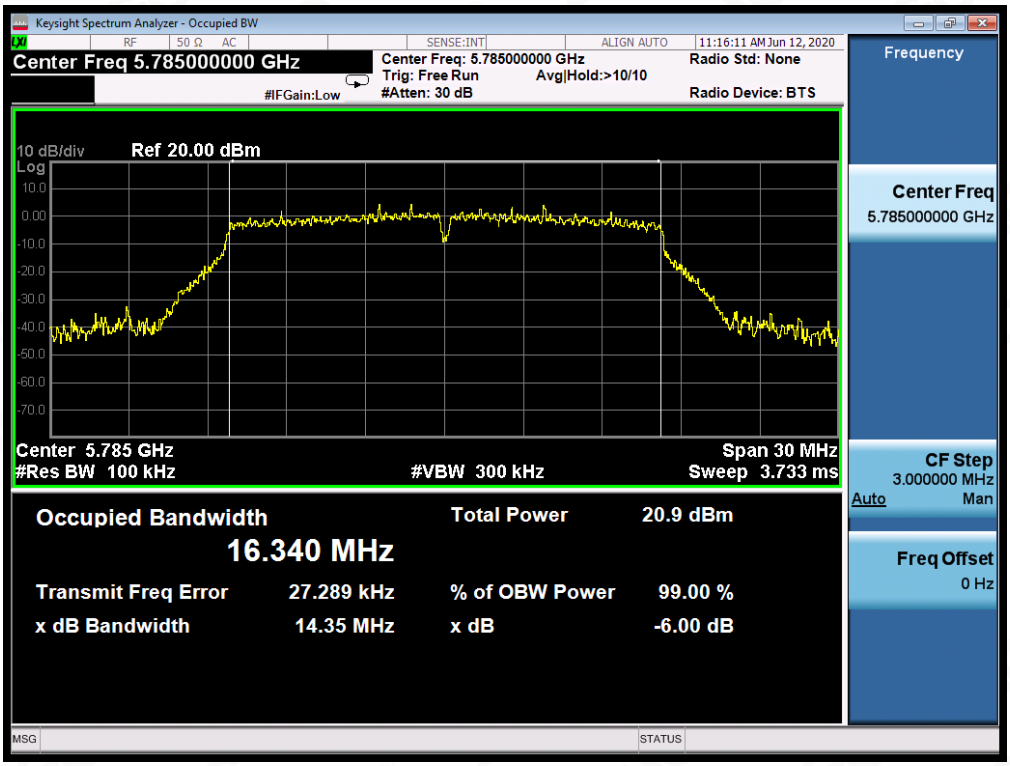
LIMITS AND MEASUREMENT RESULT FOR 802.11AC20/40/80 MODULATION			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
>500KHZ	5745MHz	15.71	PASS
	5785MHz	14.96	PASS
	5825MHz	14.99	PASS
	5755MHz	33.80	PASS
	5795MHz	35.08	PASS
	5775MHz	75.18	PASS

802.11a20 TEST RESULT

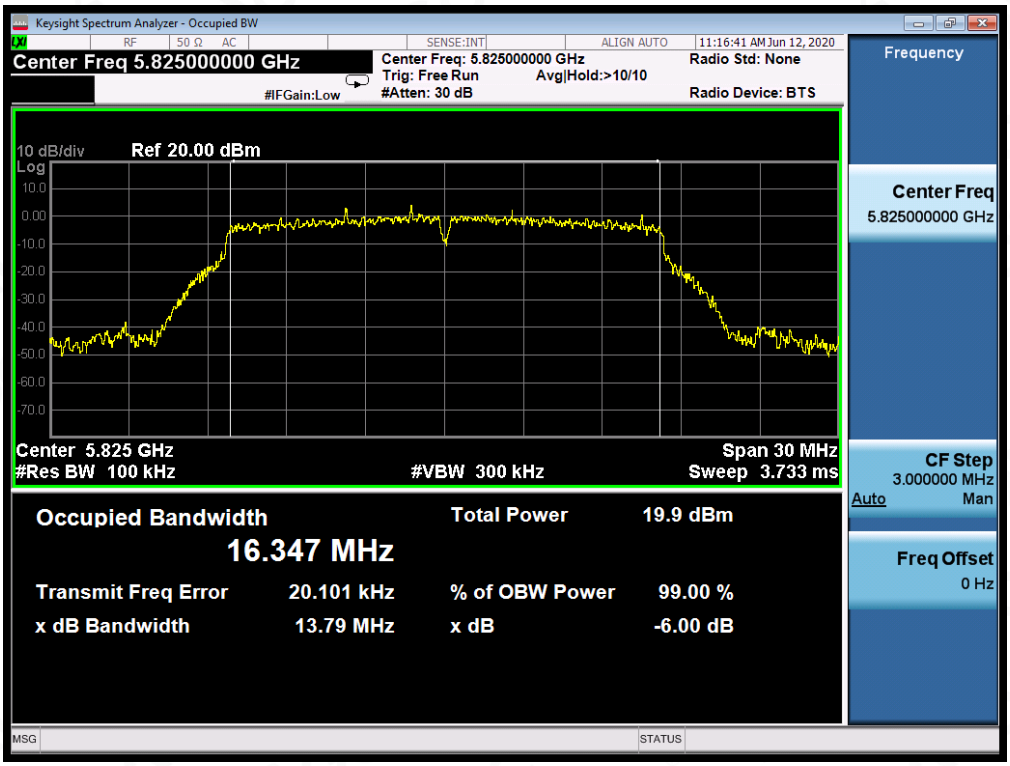
TEST PLOT OF BANDWIDTH FOR 5745MHz



TEST PLOT OF BANDWIDTH FOR 5785MHz

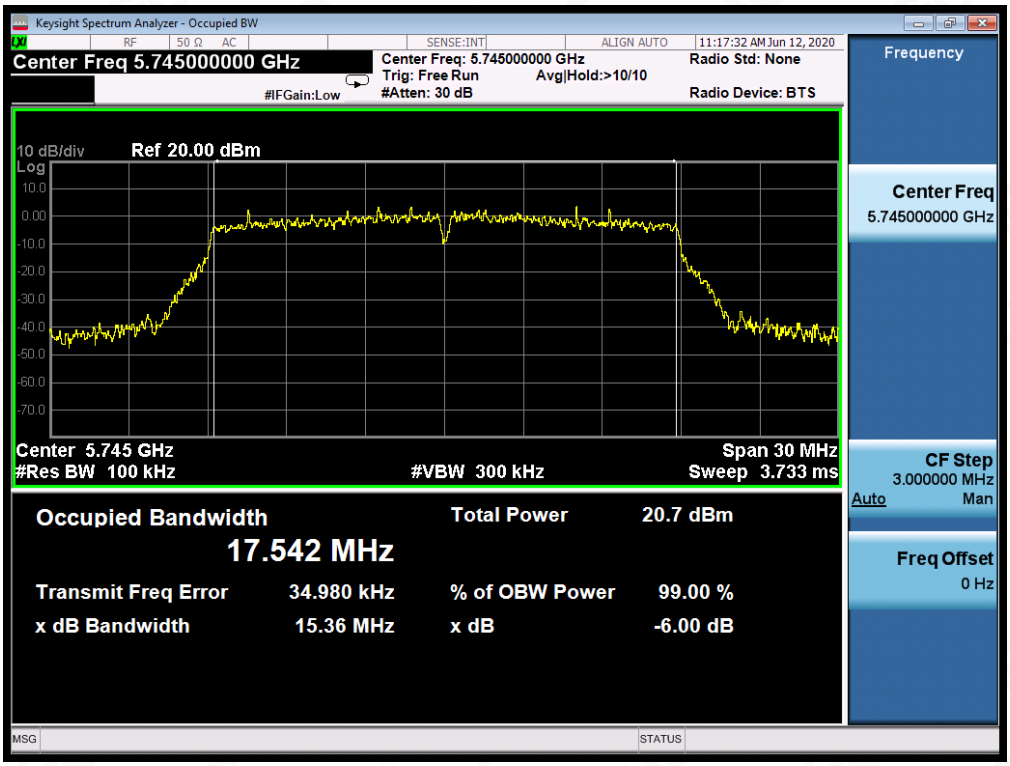


TEST PLOT OF BANDWIDTH FOR 5825MHz

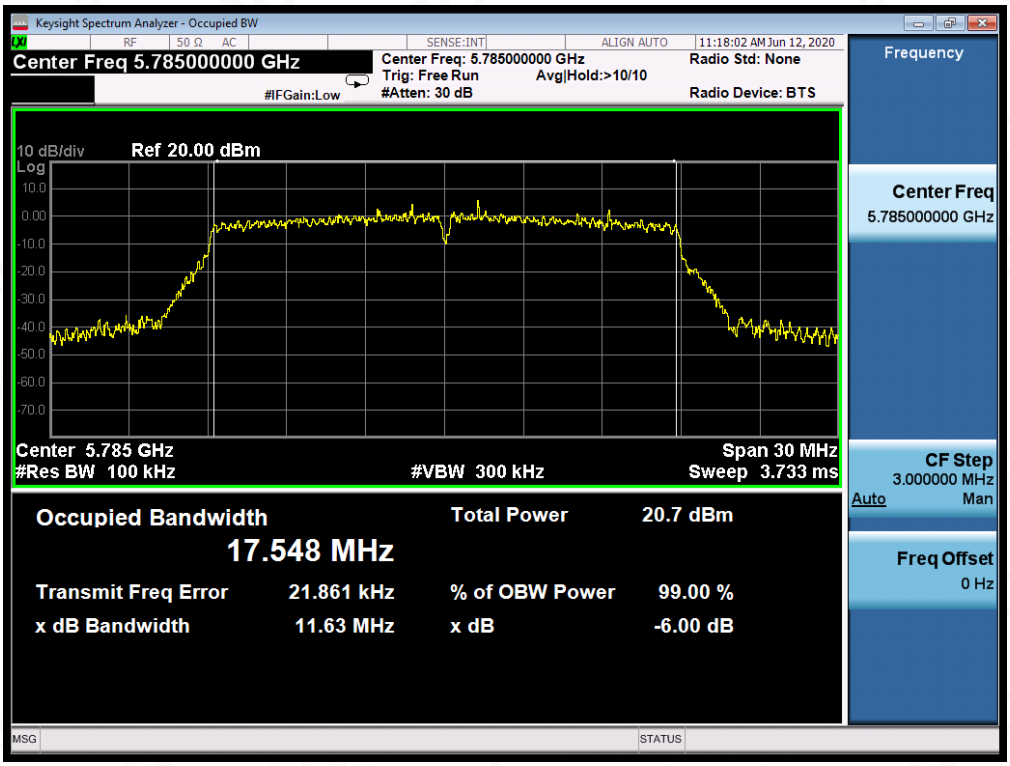


802.11n20 TEST RESULT

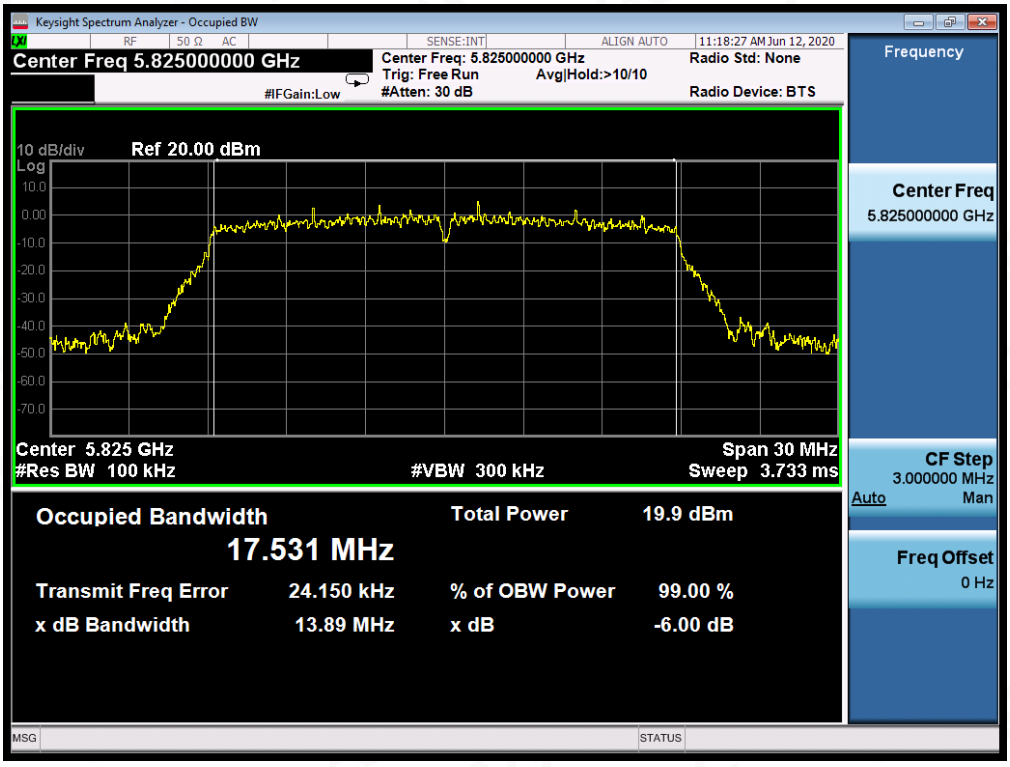
TEST PLOT OF BANDWIDTH FOR 5745MHz



TEST PLOT OF BANDWIDTH FOR 5785MHz

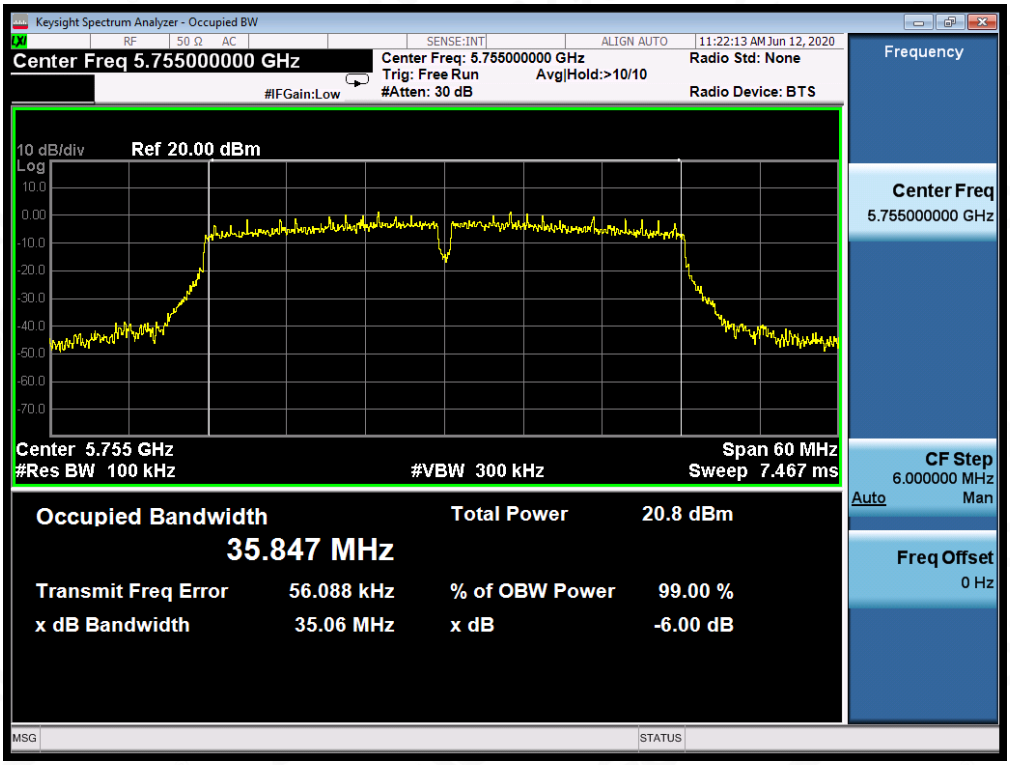


TEST PLOT OF BANDWIDTH FOR 5825MHz



802.11n40 TEST RESULT

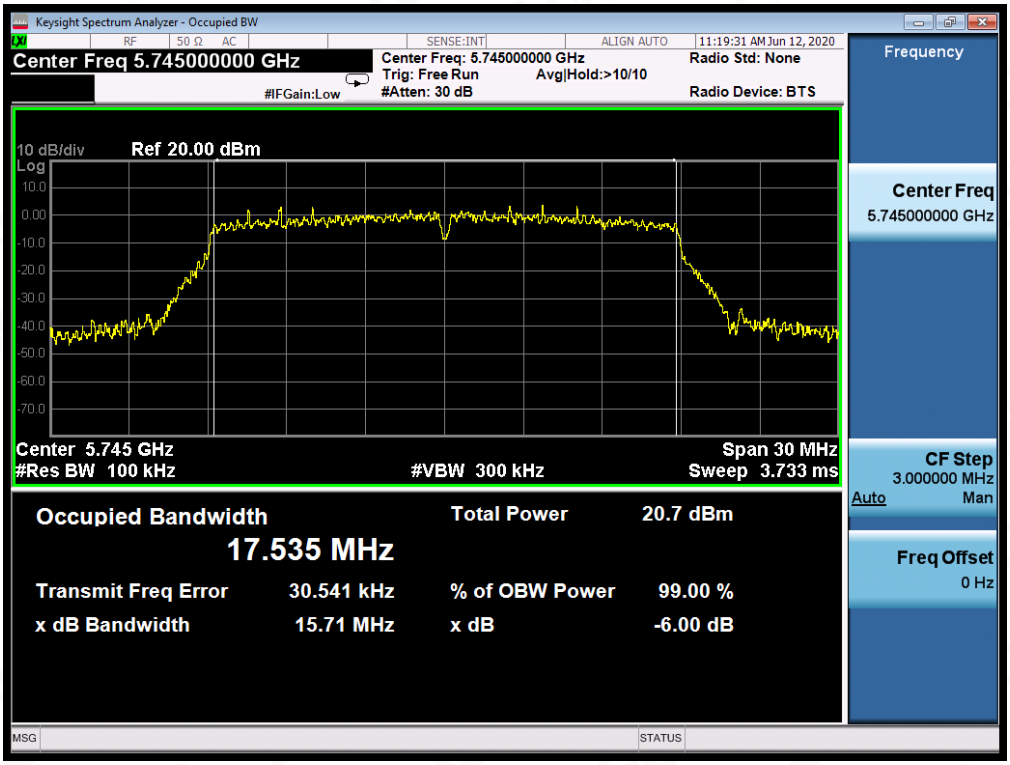
TEST PLOT OF BANDWIDTH FOR 5755MHz



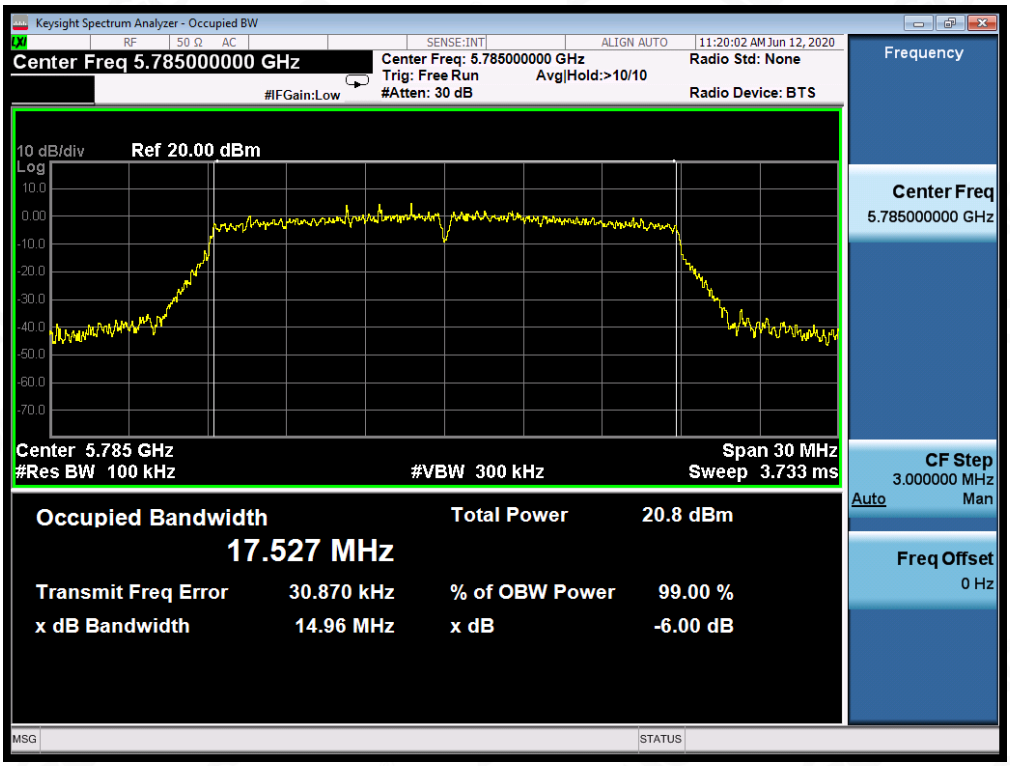
TEST PLOT OF BANDWIDTH FOR 5795MHz

802.11ac20 TEST RESULT

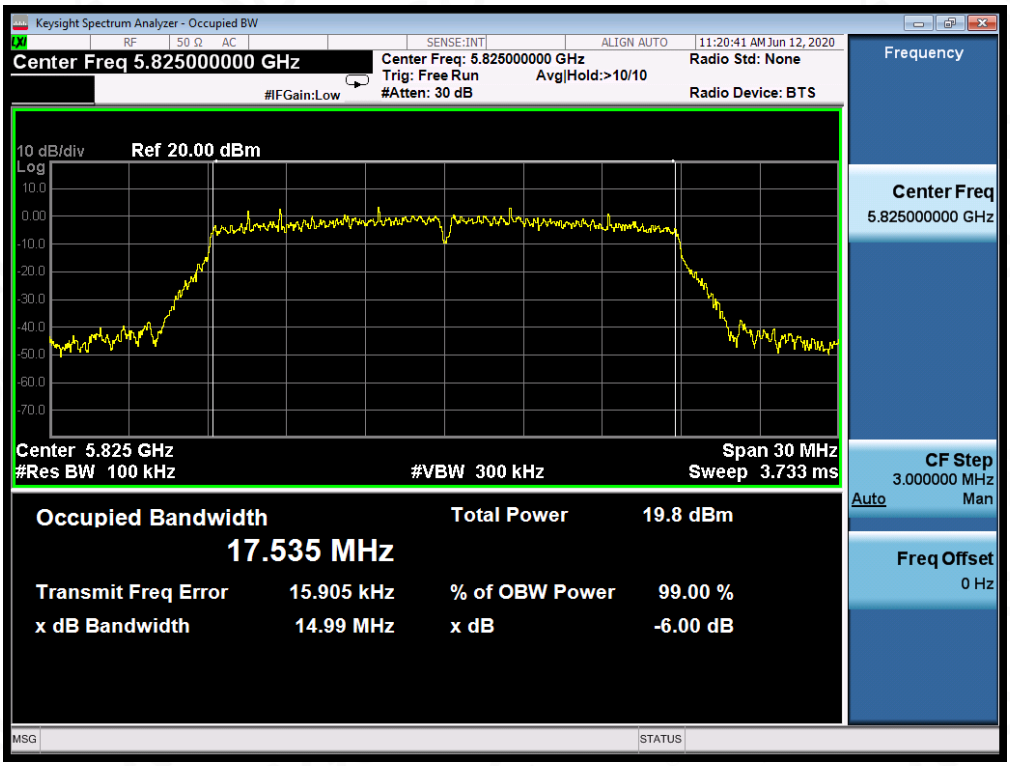
TEST PLOT OF BANDWIDTH FOR 5745MHz



TEST PLOT OF BANDWIDTH FOR 5785MHz

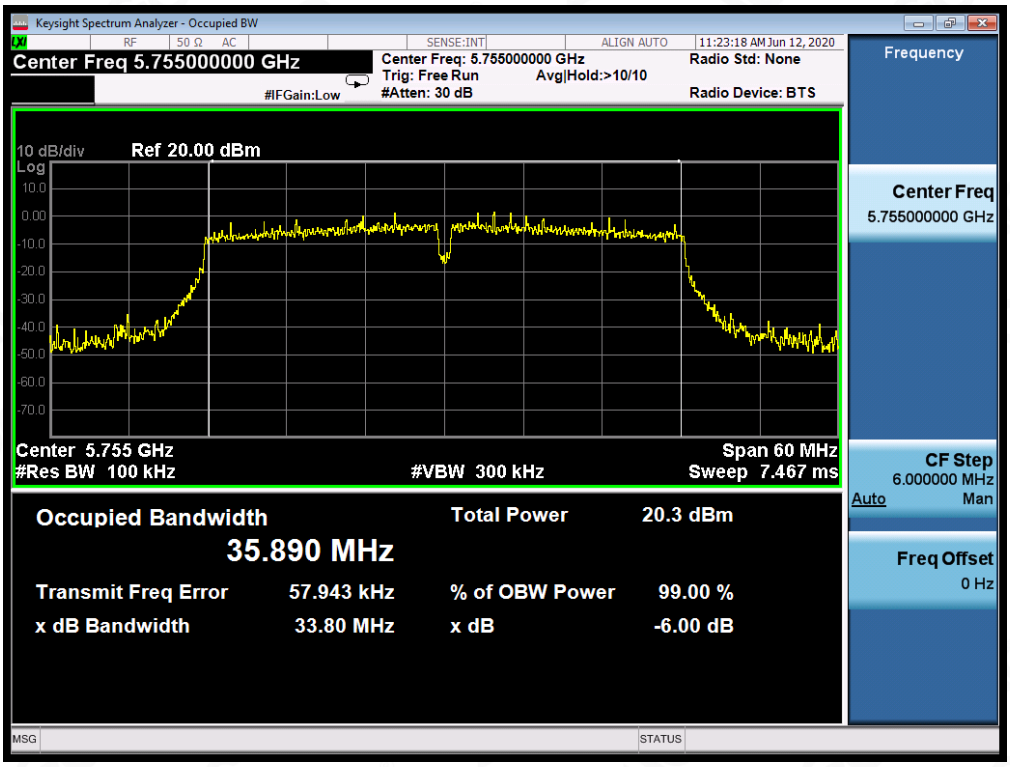


TEST PLOT OF BANDWIDTH FOR 5825MHz

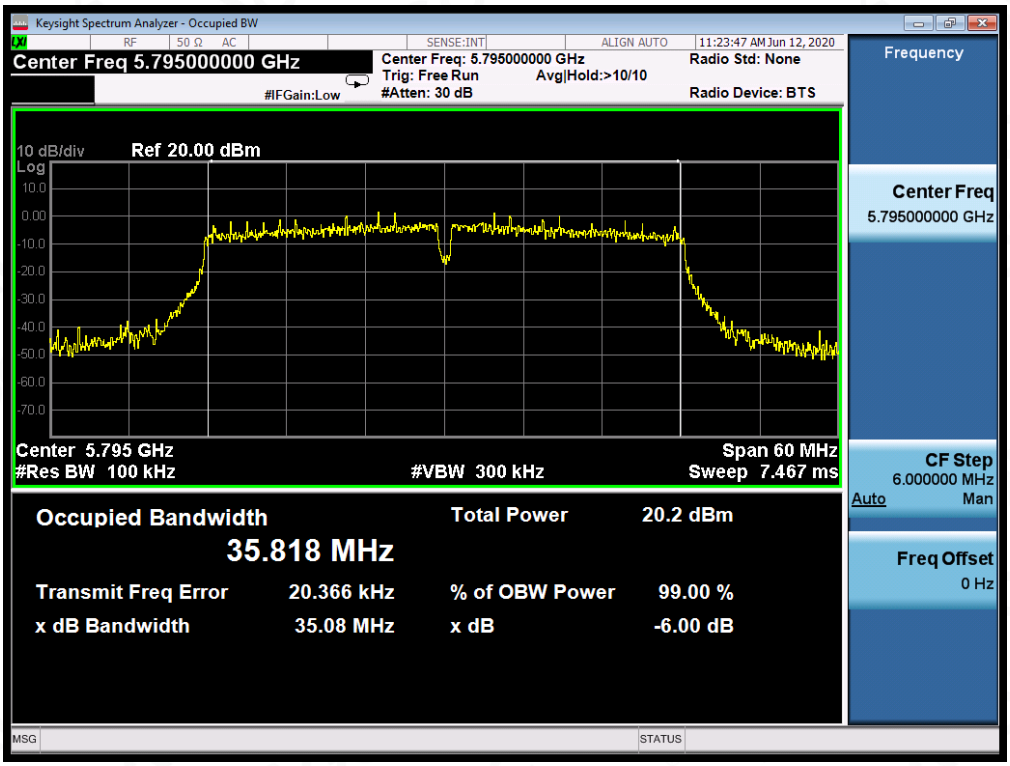


802.11ac40 TEST RESULT

TEST PLOT OF BANDWIDTH FOR 5755MHz

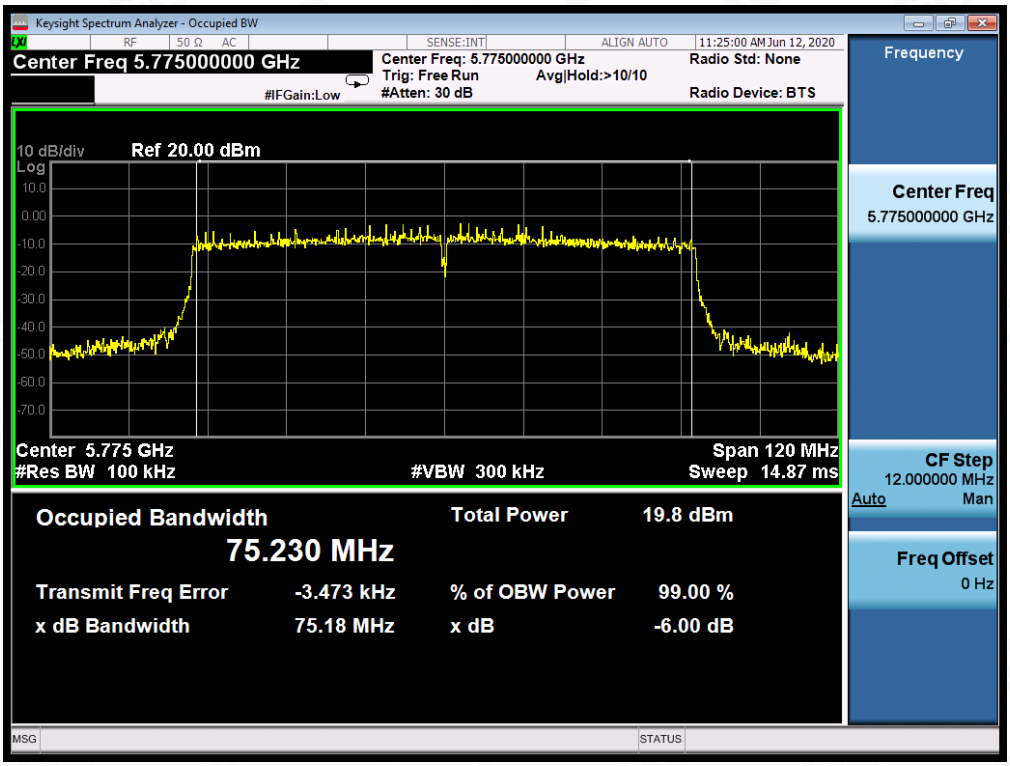


TEST PLOT OF BANDWIDTH FOR 5795MHz



802.11ac80 TEST RESULT

TEST PLOT OF BANDWIDTH FOR 5775MHz



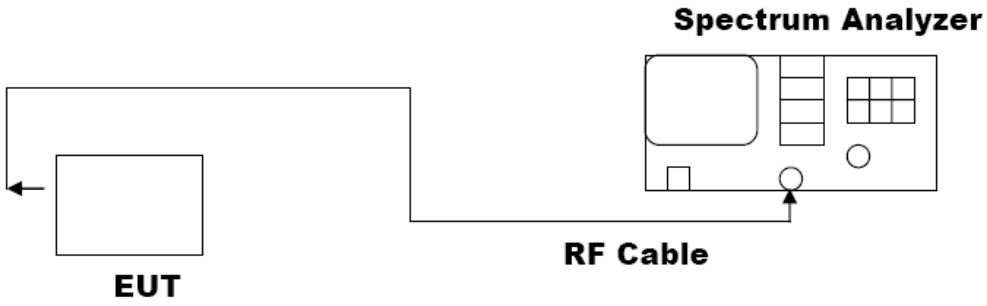
9. EMISSION BANDWIDTH

9.1. MEASUREMENT PROCEDURE

a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

Note: The EUT was tested according to KDB 789033 for compliance to FCC 47CFR 15.407 requirements.

9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



9.3. LIMITS AND MEASUREMENT RESULTS

LIMITS AND MEASUREMENT RESULT FOR 802.11A20 MODULATION				
Applicable Limits	Applicable Limits			
	Test Data (MHz)			Criteria
	Frequency (MHz)	-26dB Bandwidth	99.00% Occupied Bandwidth	
Within the Band	5180MHz	19.33	16.430	PASS
	5200MHz	19.49	16.423	PASS
	5240MHz	19.35	16.432	PASS
	5260MHz	19.00	16.327	PASS
	5300MHz	18.87	16.330	PASS
	5320MHz	19.01	16.319	PASS
	5500MHz	19.53	16.404	PASS
	5600MHz	19.64	16.430	PASS
	5700MHz	19.65	16.414	PASS

LIMITS AND MEASUREMENT RESULT FOR 802.11N20 MODULATION				
Applicable Limits	Applicable Limits			
	Test Data (MHz)			Criteria
	Frequency (MHz)	-26dB Bandwidth	99.00% Occupied Bandwidth	
Within the Band	5180MHz	19.70	17.521	PASS
	5200MHz	19.82	17.542	PASS
	5240MHz	19.87	17.564	PASS
	5260MHz	19.90	17.565	PASS
	5300MHz	19.83	17.572	PASS
	5320MHz	19.73	17.517	PASS
	5500MHz	19.91	17.534	PASS
	5600MHz	19.70	17.562	PASS
	5700MHz	20.02	17.545	PASS

LIMITS AND MEASUREMENT RESULT FOR 802.11N40 MODULATION				
Applicable Limits	Applicable Limits			
	Test Data (MHz)			Criteria
	Frequency (MHz)	-26dB Bandwidth	99.00% Occupied Bandwidth	
Within the Band	5190MHz	39.54	35.854	PASS
	5230MHz	39.74	35.917	PASS
	5270MHz	39.83	35.918	PASS
	5310MHz	39.84	35.904	PASS
	5510MHz	39.72	35.845	PASS
	5590MHz	39.81	35.996	PASS
	5670MHz	39.94	35.982	PASS

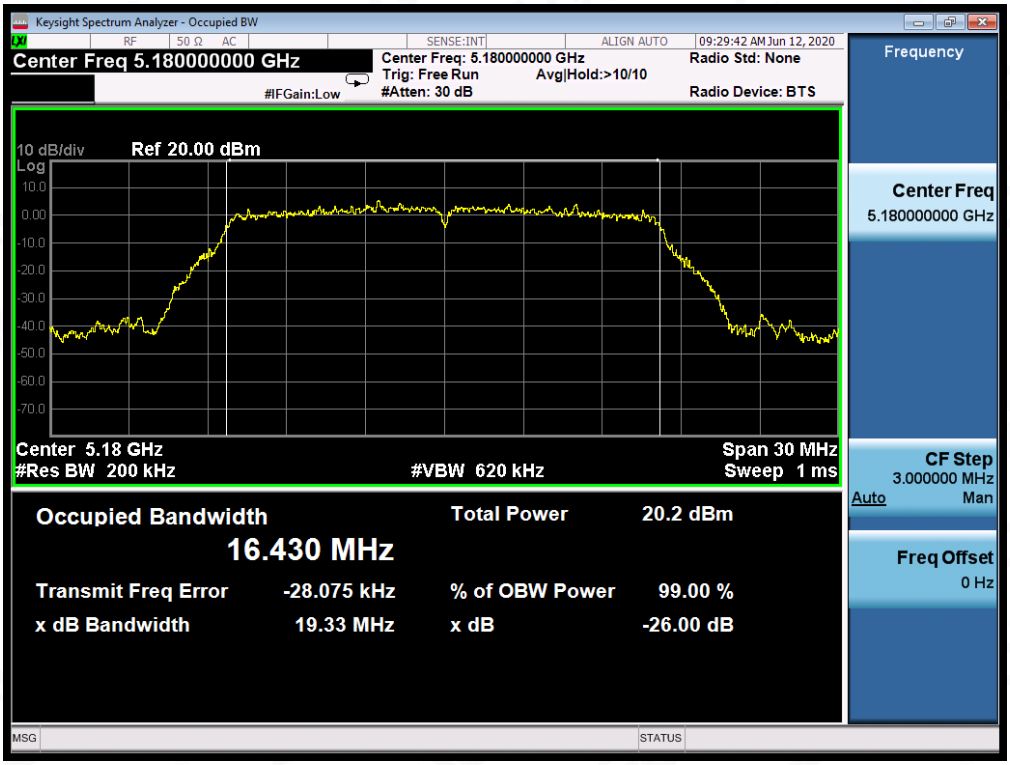
LIMITS AND MEASUREMENT RESULT FOR 802.11AC20 MODULATION				
Applicable Limits	Applicable Limits			
	Test Data (MHz)			Criteria
	Frequency (MHz)	-26dB Bandwidth	99.00% Occupied Bandwidth	
Within the Band	5180MHz	19.93	17.551	PASS
	5200MHz	19.86	17.566	PASS
	5240MHz	19.78	17.546	PASS
	5260MHz	19.80	17.554	PASS
	5300MHz	19.93	17.568	PASS
	5320MHz	19.81	17.530	PASS
	5500MHz	19.97	17.572	PASS
	5600MHz	19.74	17.558	PASS
	5700MHz	19.73	17.559	PASS

LIMITS AND MEASUREMENT RESULT FOR 802.11AC40 MODULATION				
Applicable Limits	Applicable Limits			
	Test Data (MHz)			Criteria
	Frequency (MHz)	-26dB Bandwidth	99.00% Occupied Bandwidth	
Within the Band	5190MHz	39.70	35.875	PASS
	5230MHz	39.94	35.973	PASS
	5270MHz	39.99	36.015	PASS
	5310MHz	39.85	35.911	PASS
	5510MHz	39.56	35.853	PASS
	5590MHz	40.16	35.991	PASS
	5670MHz	39.25	35.961	PASS

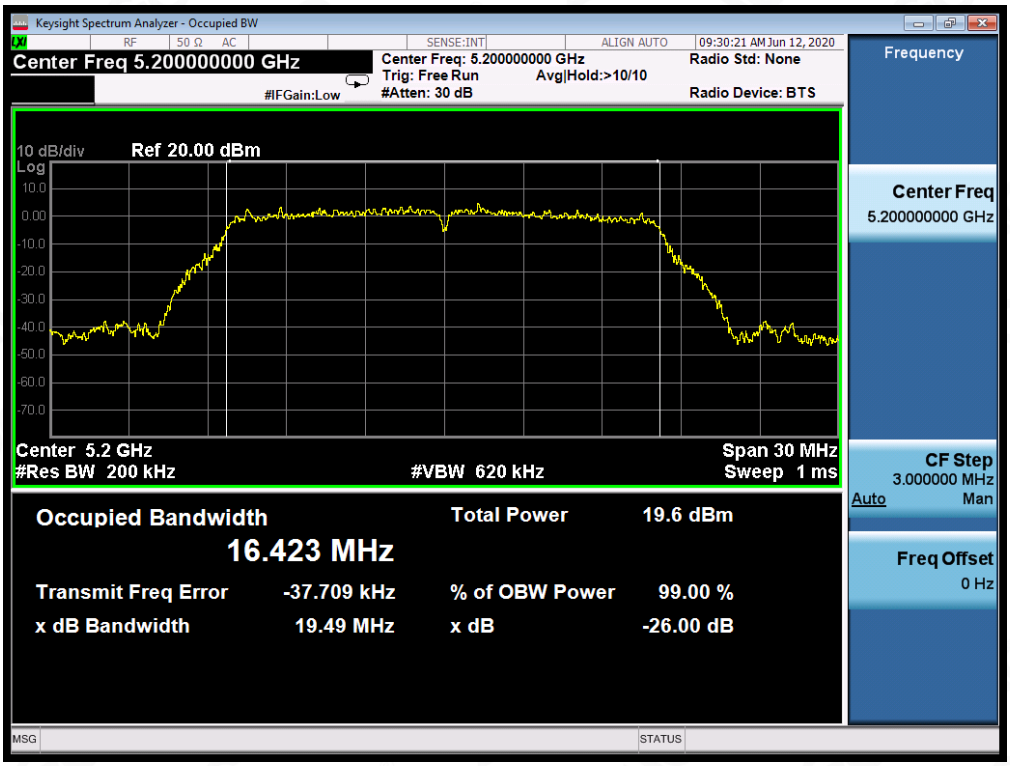
LIMITS AND MEASUREMENT RESULT FOR 802.11AC80 MODULATION				
Applicable Limits	Applicable Limits			
	Test Data (MHz)			Criteria
	Frequency (MHz)	-26dB Bandwidth	99.00% Occupied Bandwidth	
Within the Band	5210MHz	80.37	75.210	PASS
	5290MHz	80.92	75.383	PASS
	5530MHz	80.67	75.447	PASS
	5610MHz	80.49	75.612	PASS

802.11a20 TEST RESULT

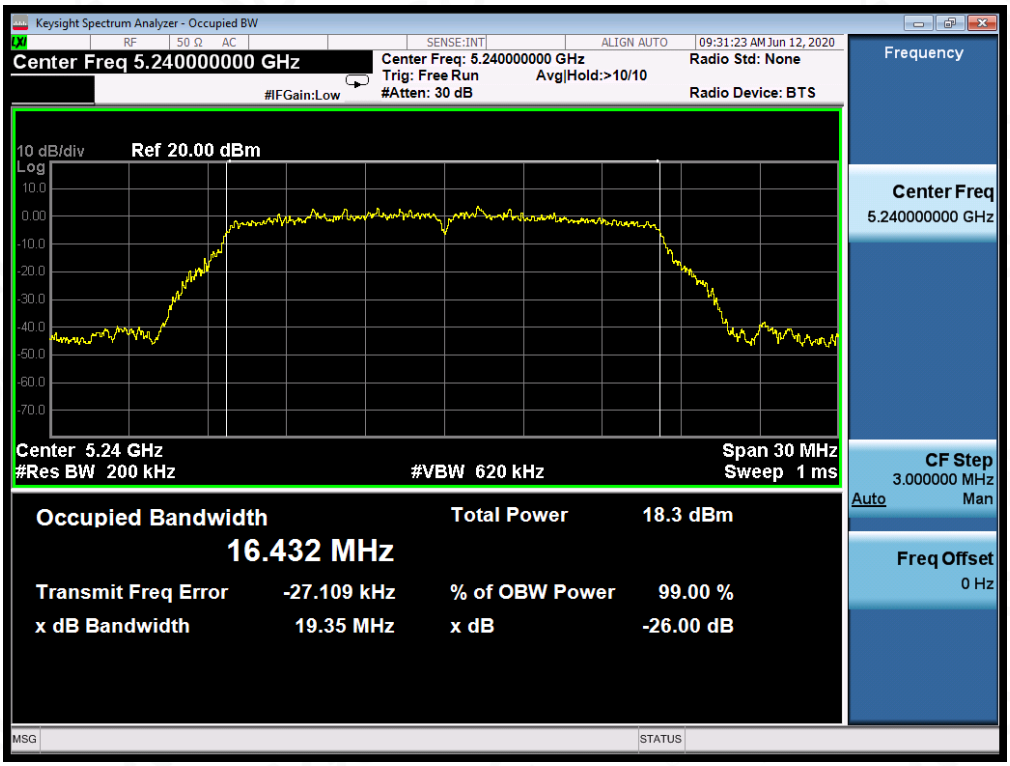
TEST PLOT OF BANDWIDTH FOR 5180MHz



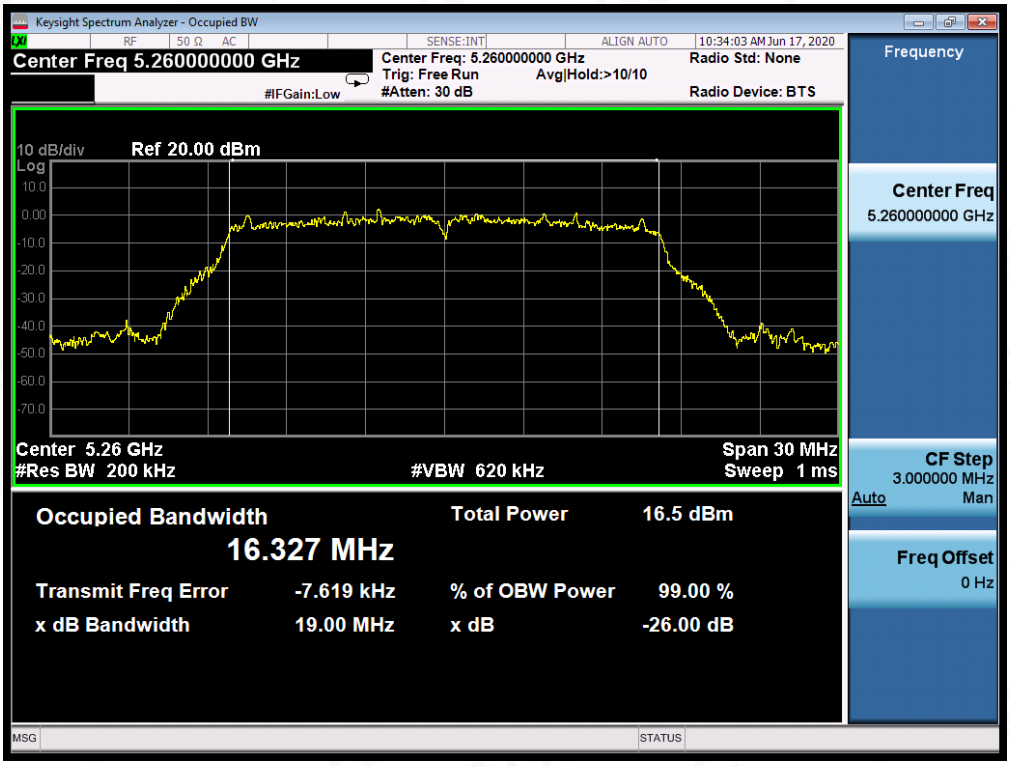
TEST PLOT OF BANDWIDTH FOR 5200MHz



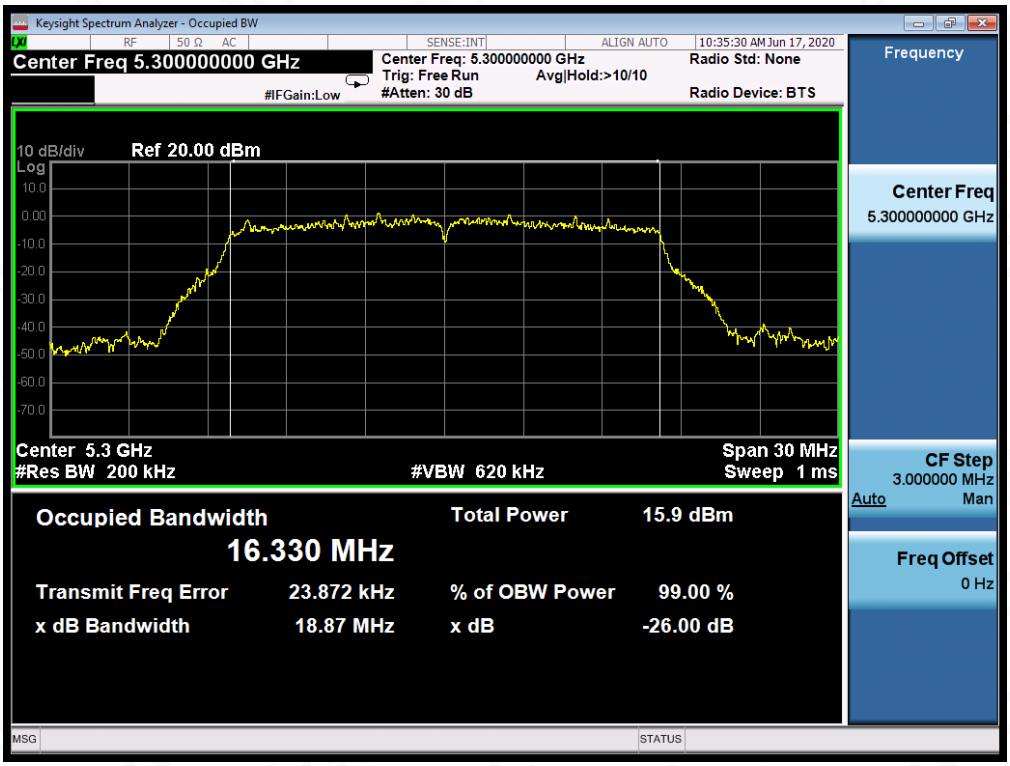
TEST PLOT OF BANDWIDTH FOR 5240MHz



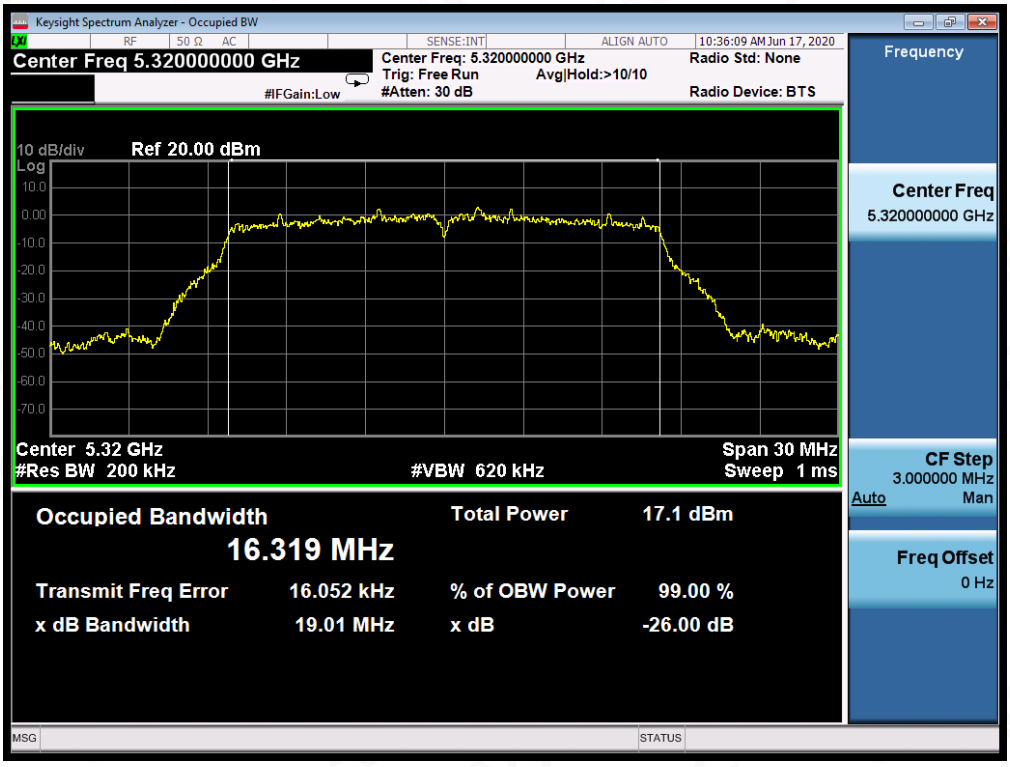
TEST PLOT OF BANDWIDTH FOR 5260MHz



TEST PLOT OF BANDWIDTH FOR 5300MHz

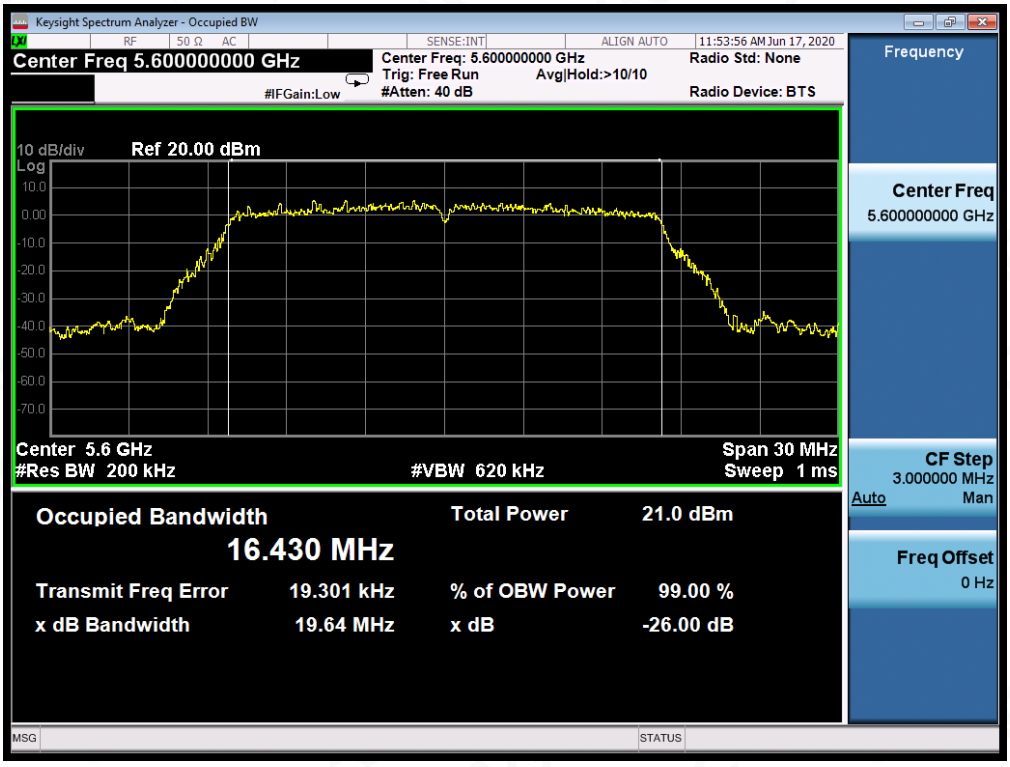


TEST PLOT OF BANDWIDTH FOR 5320MHz

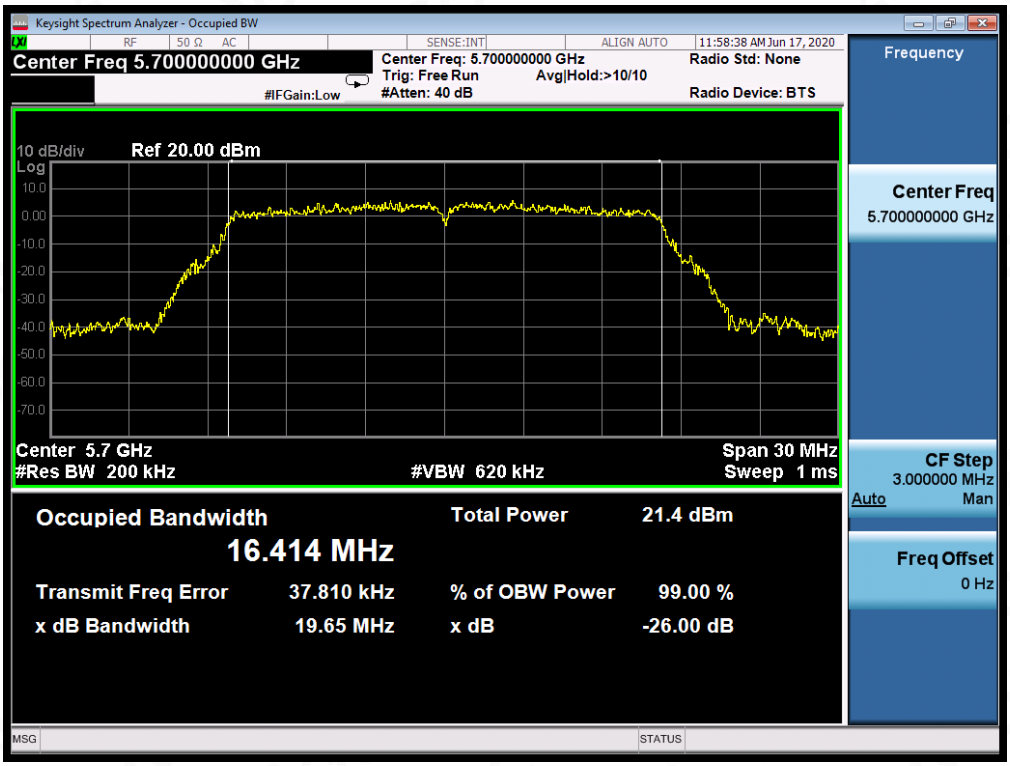


TEST PLOT OF BANDWIDTH FOR 5500MHz

TEST PLOT OF BANDWIDTH FOR 5600MHz

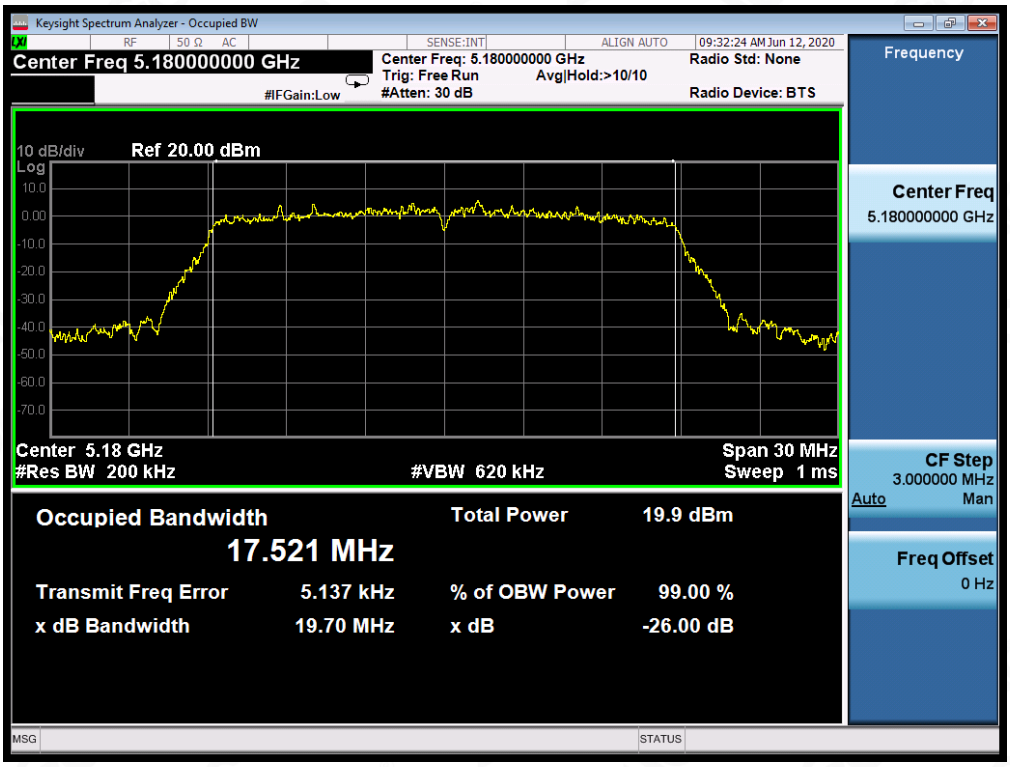


TEST PLOT OF BANDWIDTH FOR 5700MHz

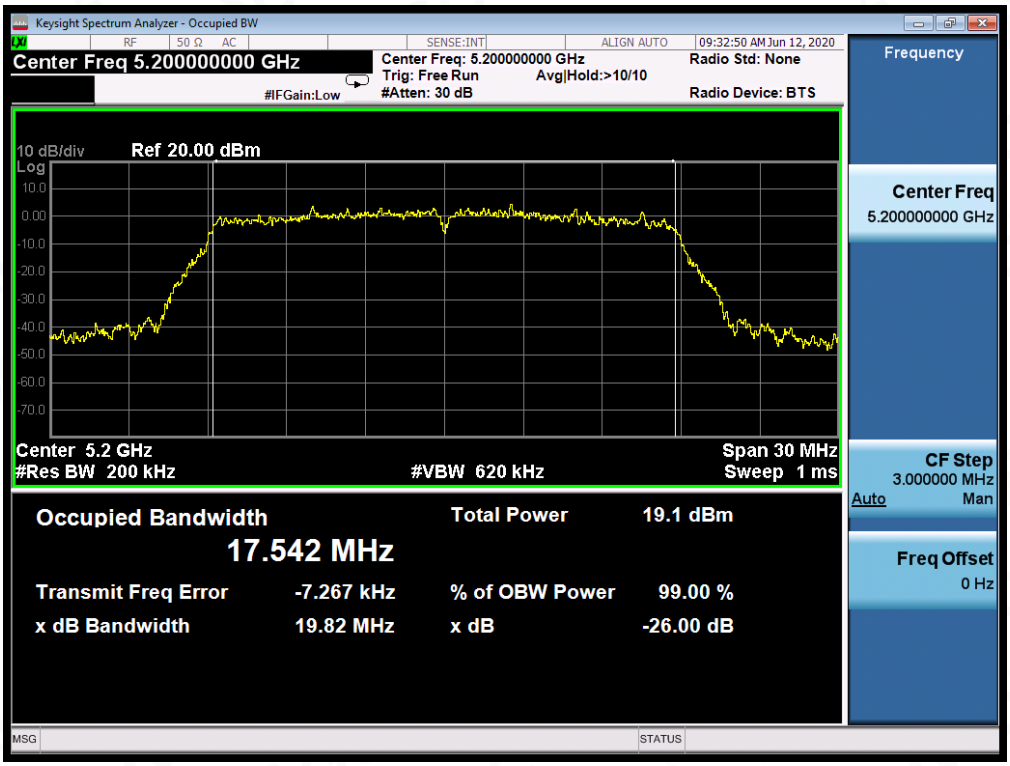


802.11n20 TEST RESULT

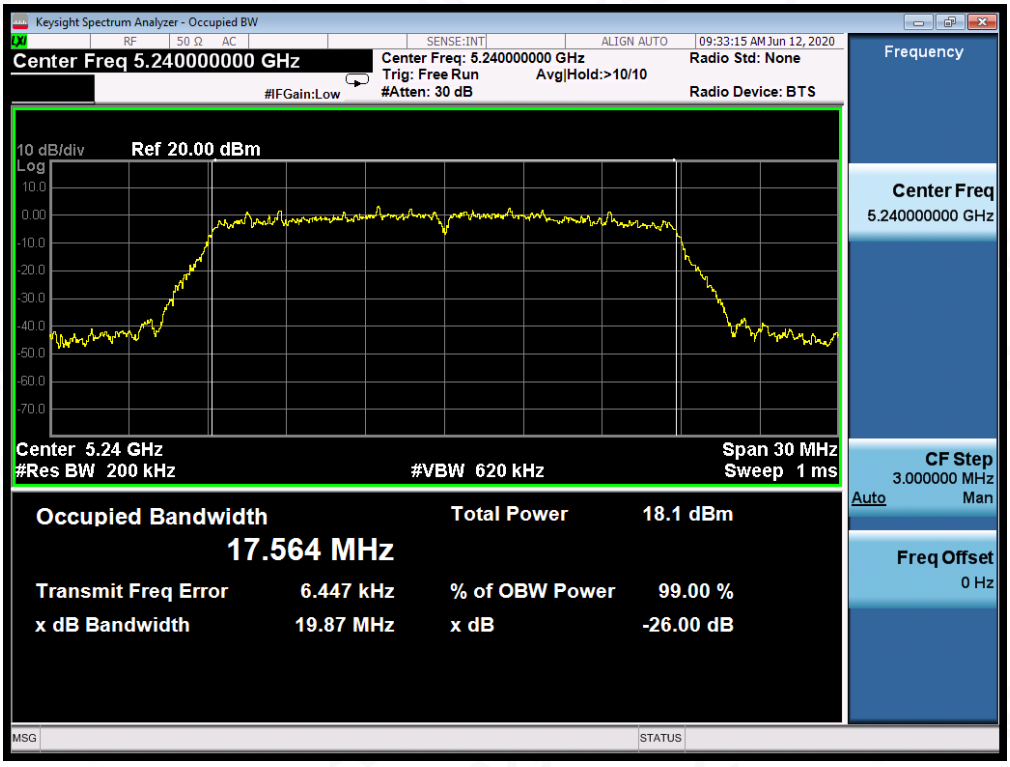
TEST PLOT OF BANDWIDTH FOR 5180MHz



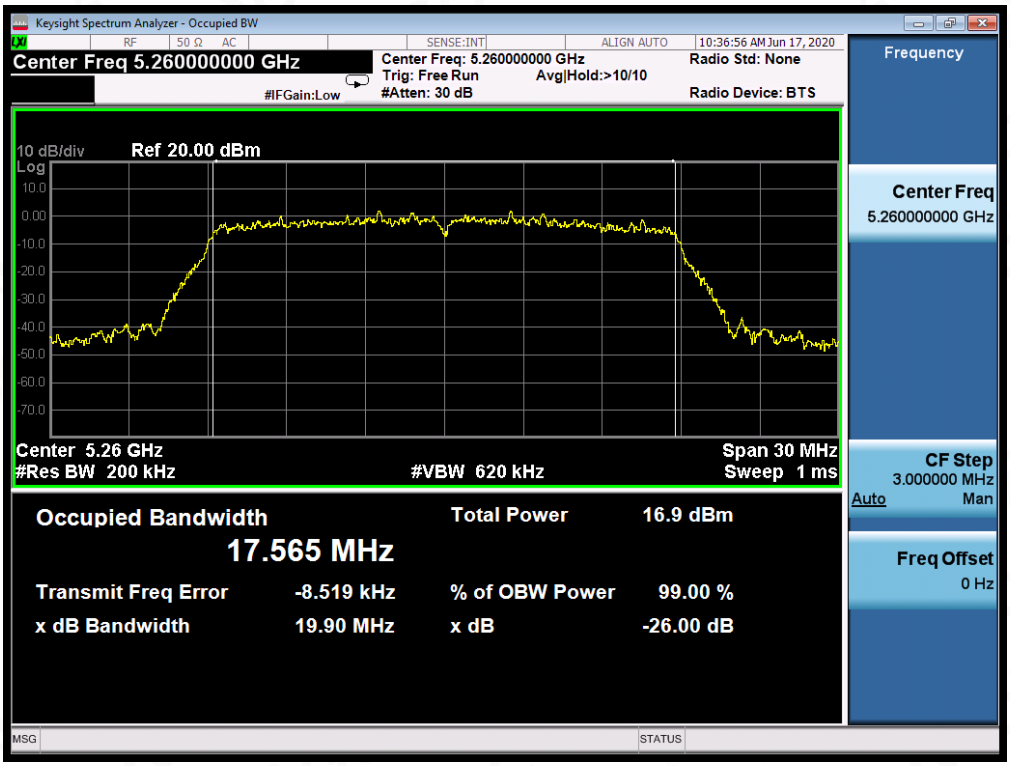
TEST PLOT OF BANDWIDTH FOR 5200MHz



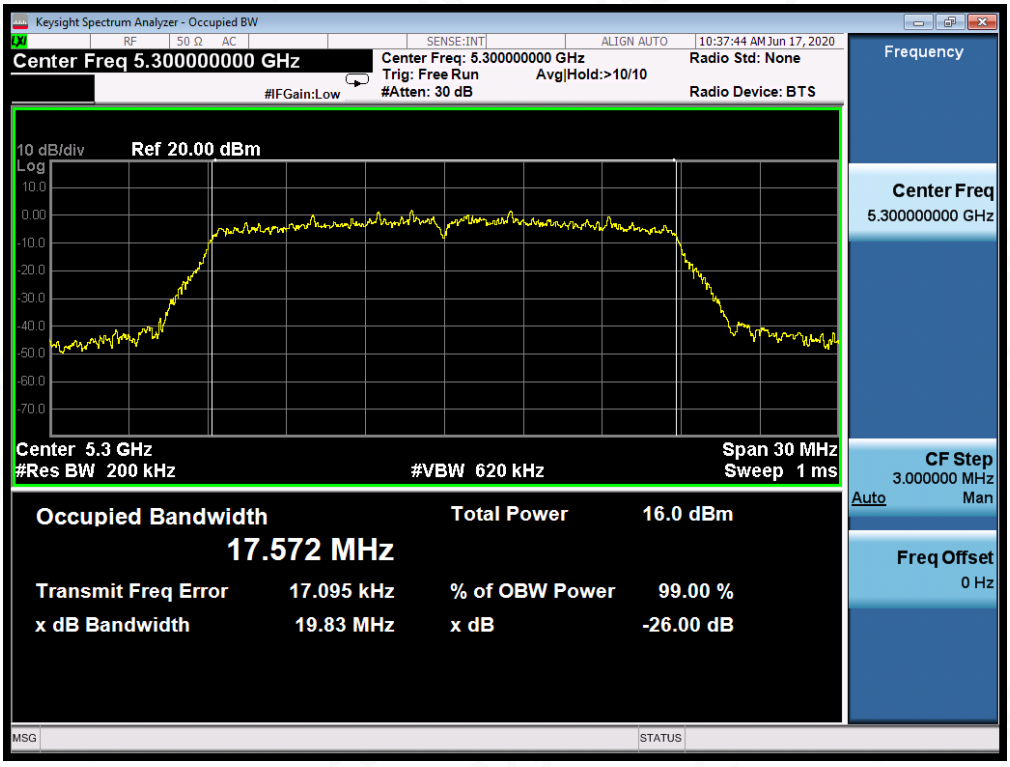
TEST PLOT OF BANDWIDTH FOR 5240MHz



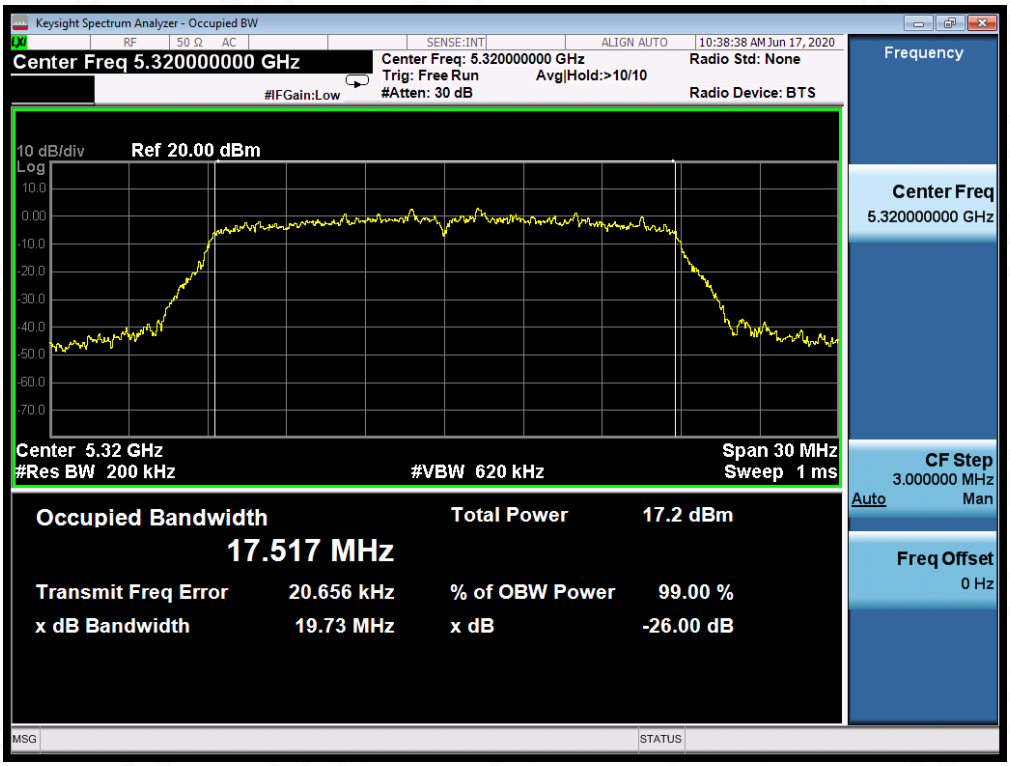
TEST PLOT OF BANDWIDTH FOR 5260MHz



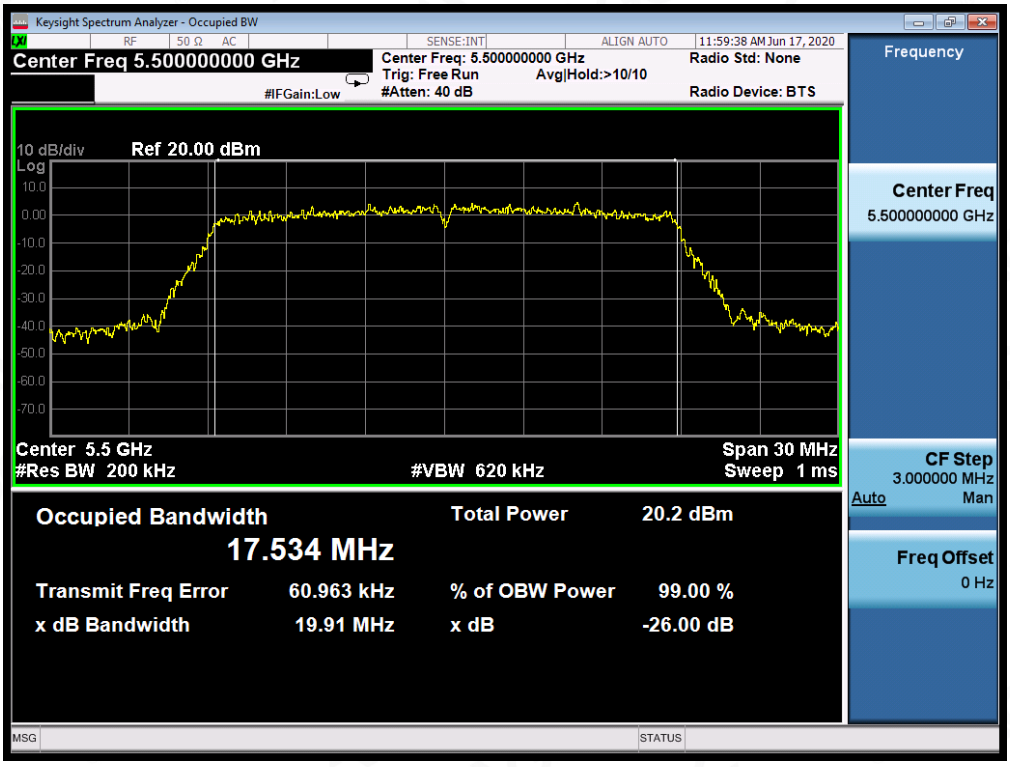
TEST PLOT OF BANDWIDTH FOR 5300MHz



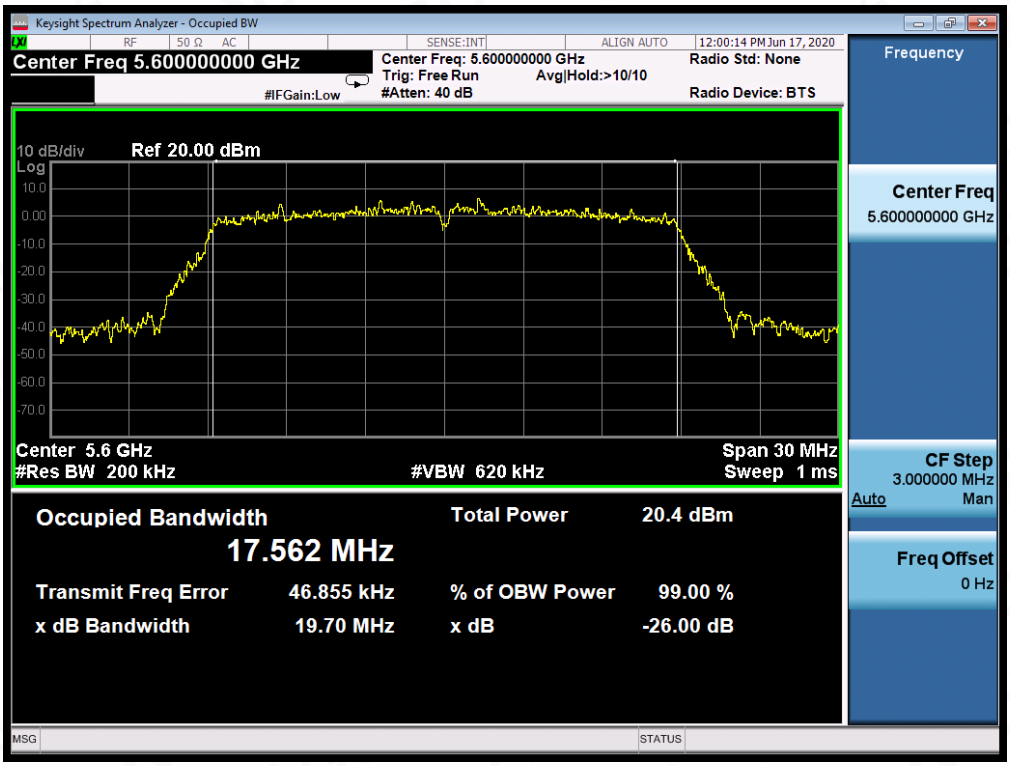
TEST PLOT OF BANDWIDTH FOR 5320MHz



TEST PLOT OF BANDWIDTH FOR 5500MHz



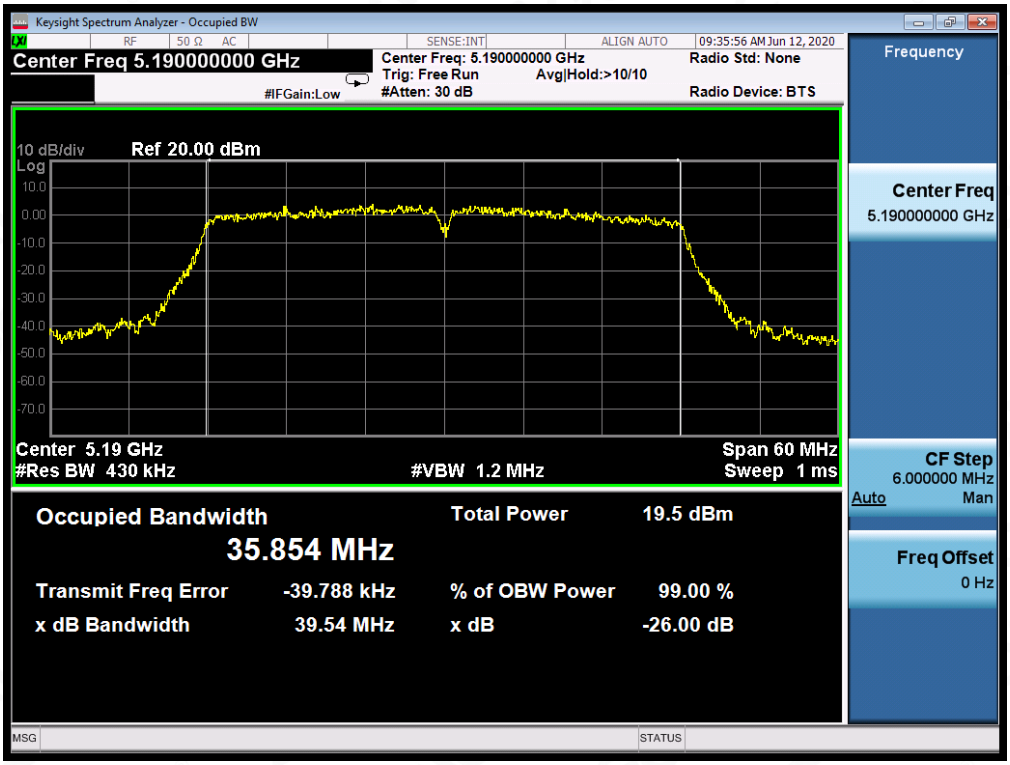
TEST PLOT OF BANDWIDTH FOR 5600MHz



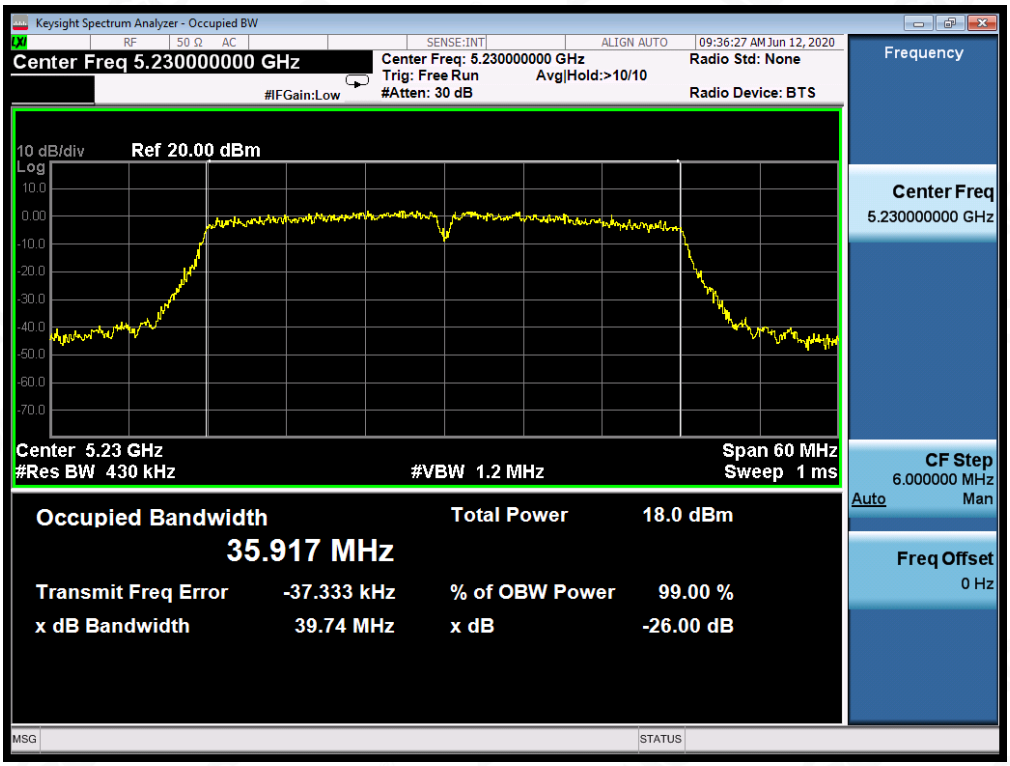
TEST PLOT OF BANDWIDTH FOR 5700MHz

802.11n40 TEST RESULT

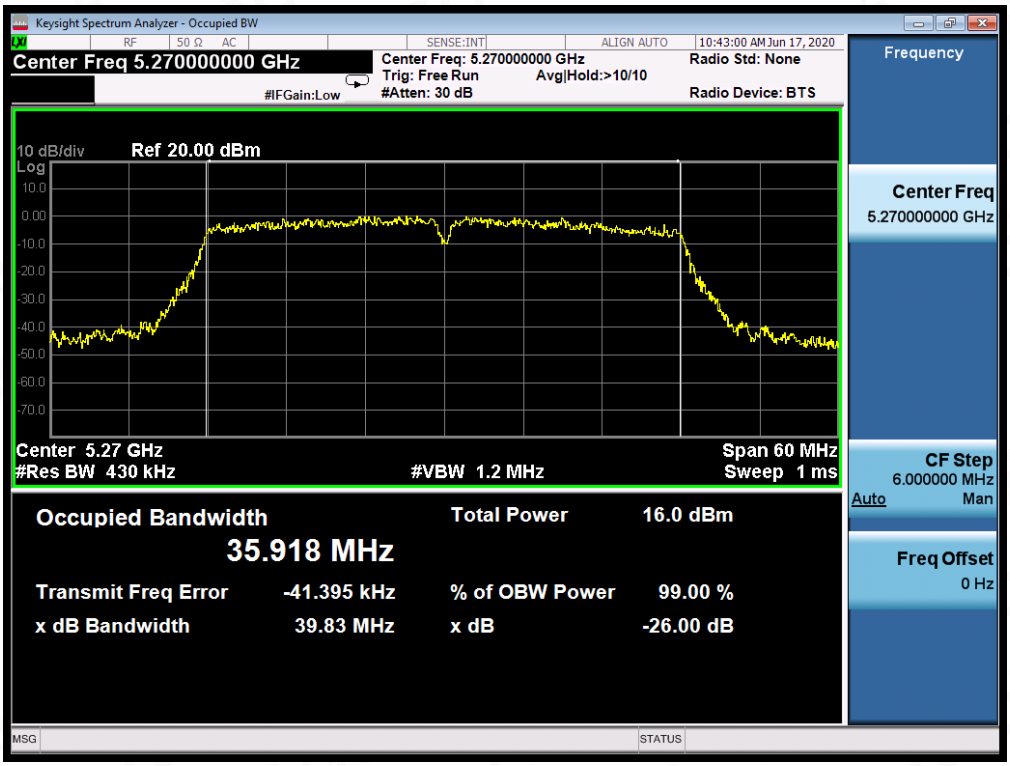
TEST PLOT OF BANDWIDTH FOR 5190MHz



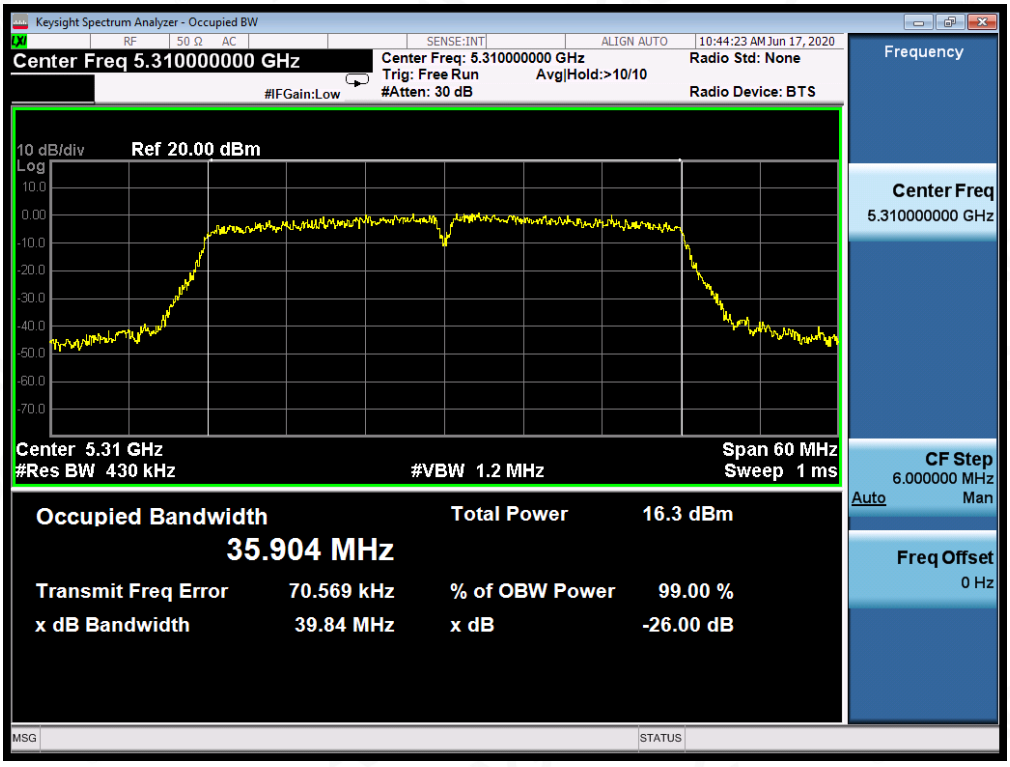
TEST PLOT OF BANDWIDTH FOR 5230MHz



TEST PLOT OF BANDWIDTH FOR 5270MHz

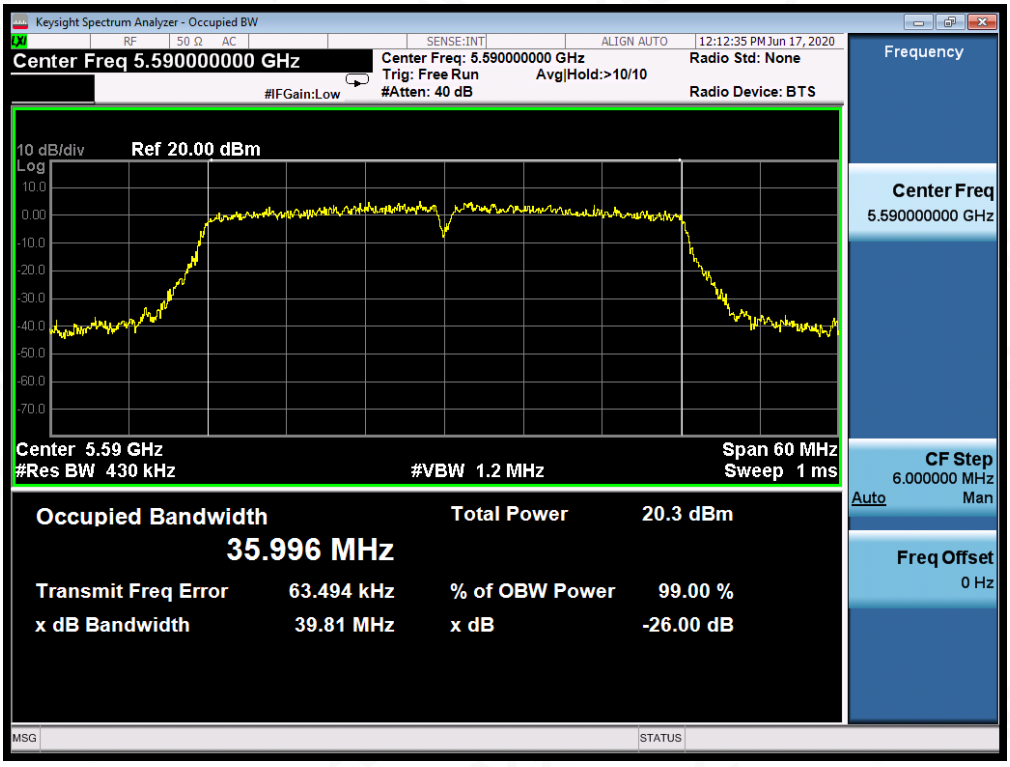


TEST PLOT OF BANDWIDTH FOR 5310MHz

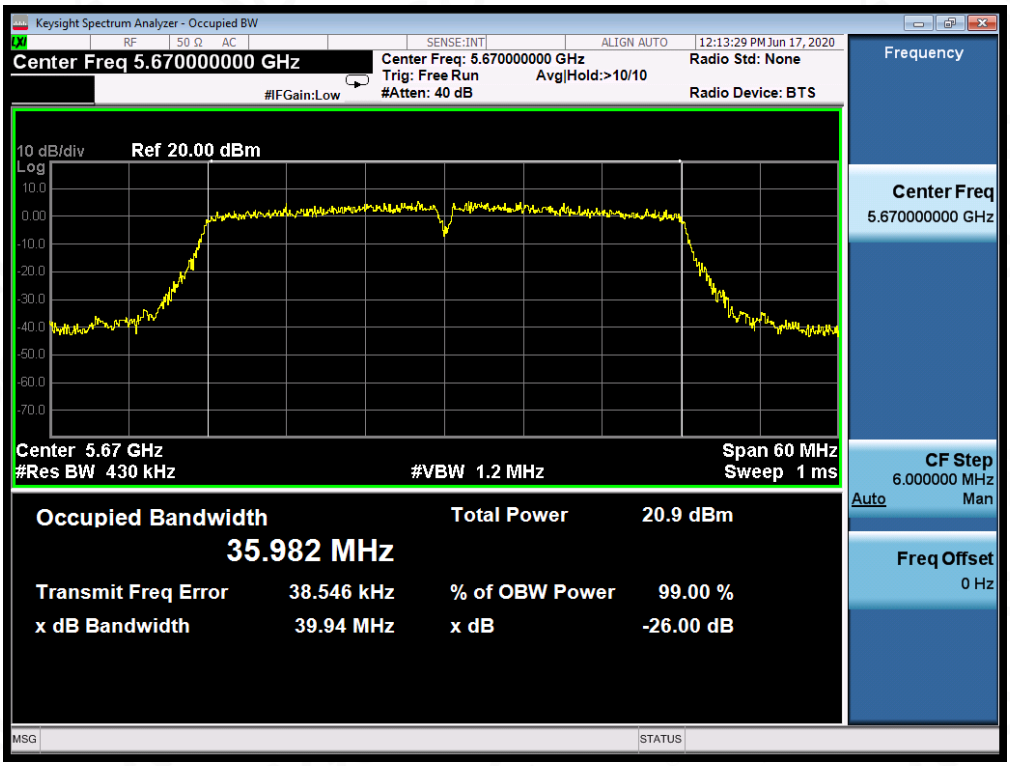


TEST PLOT OF BANDWIDTH FOR 5510MHz

TEST PLOT OF BANDWIDTH FOR 5590MHz

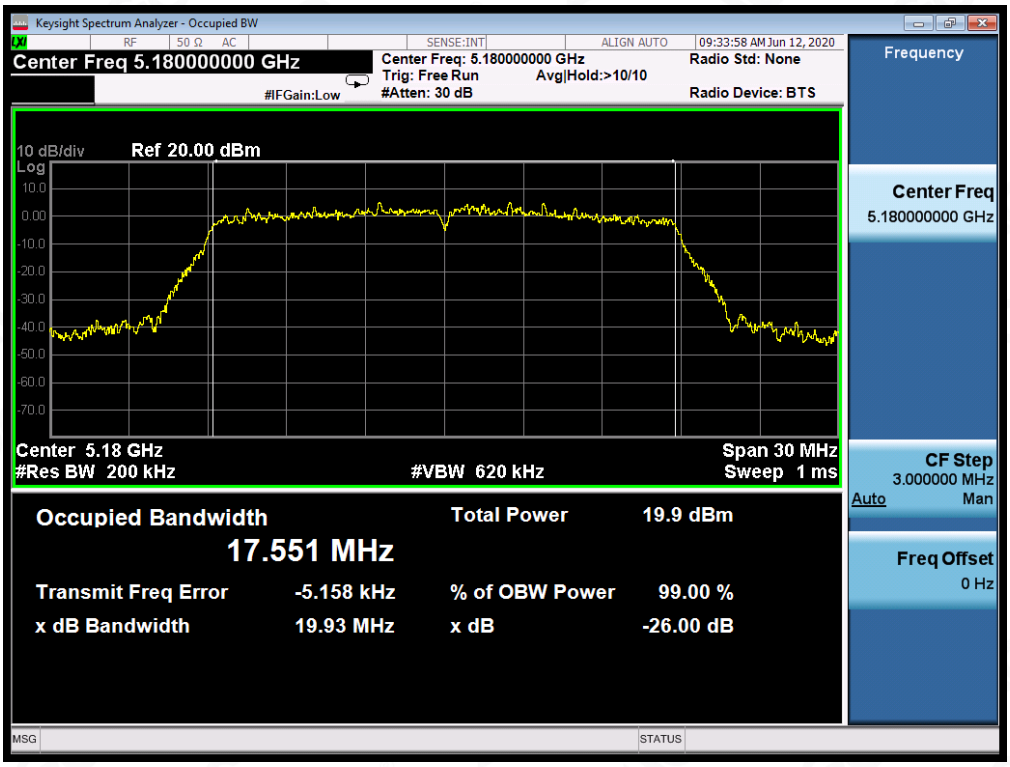


TEST PLOT OF BANDWIDTH FOR 5670MHz

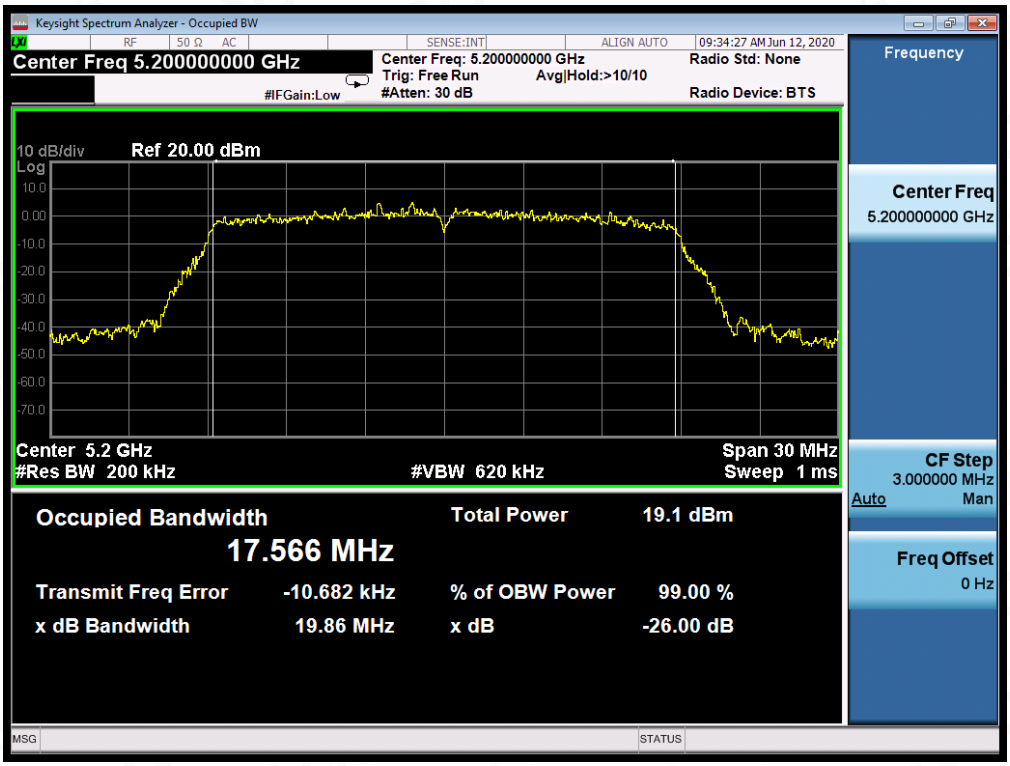


802.11ac20 TEST RESULT

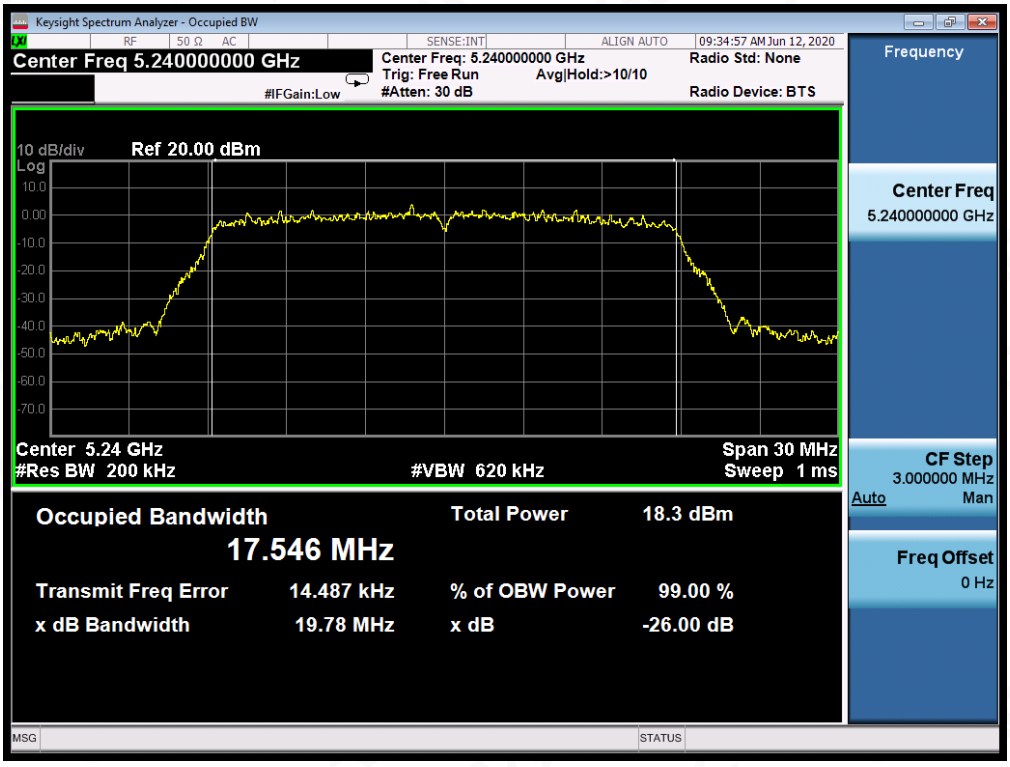
TEST PLOT OF BANDWIDTH FOR 5180MHz



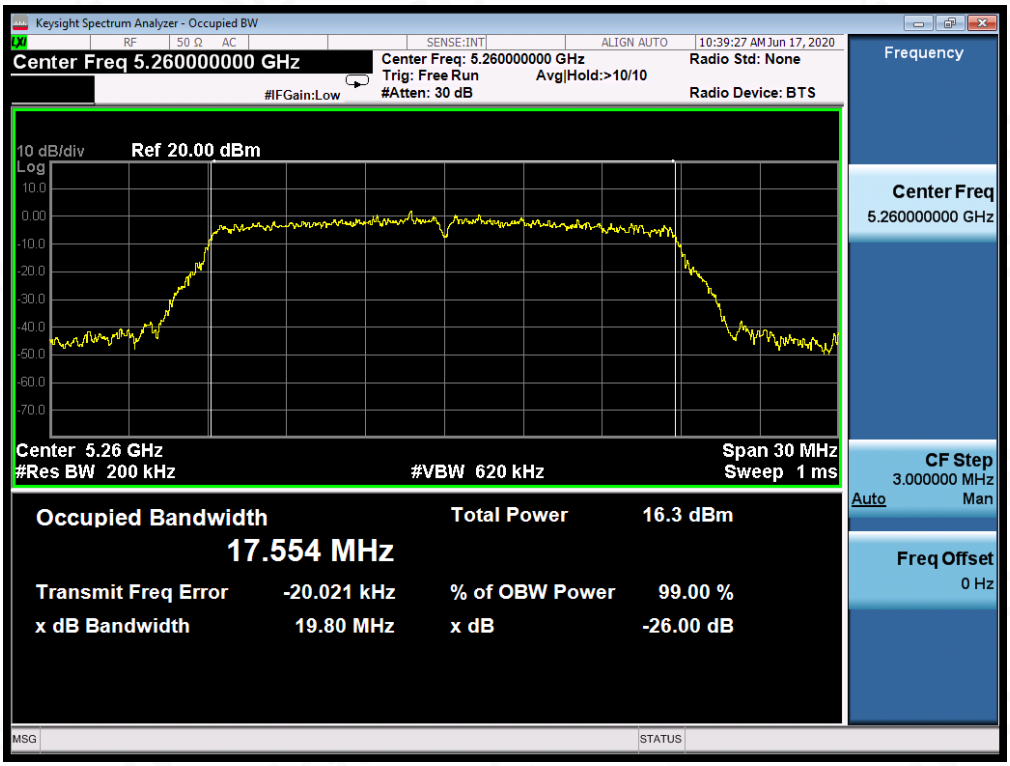
TEST PLOT OF BANDWIDTH FOR 5200MHz



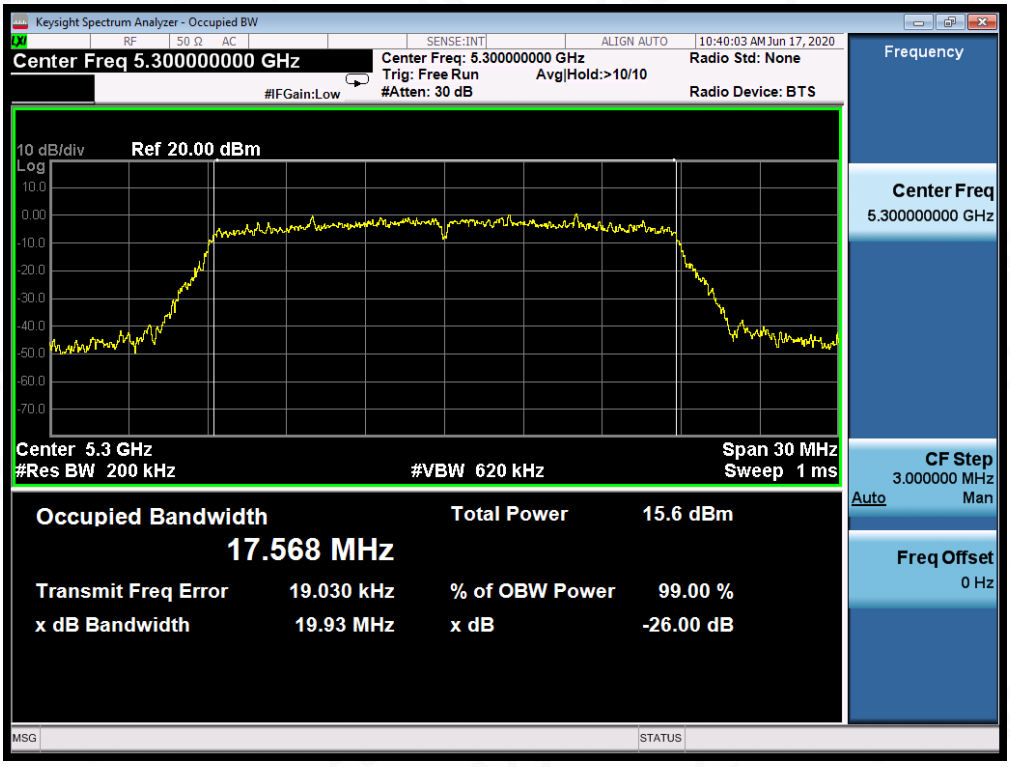
TEST PLOT OF BANDWIDTH FOR 5240MHz



TEST PLOT OF BANDWIDTH FOR 5260MHz

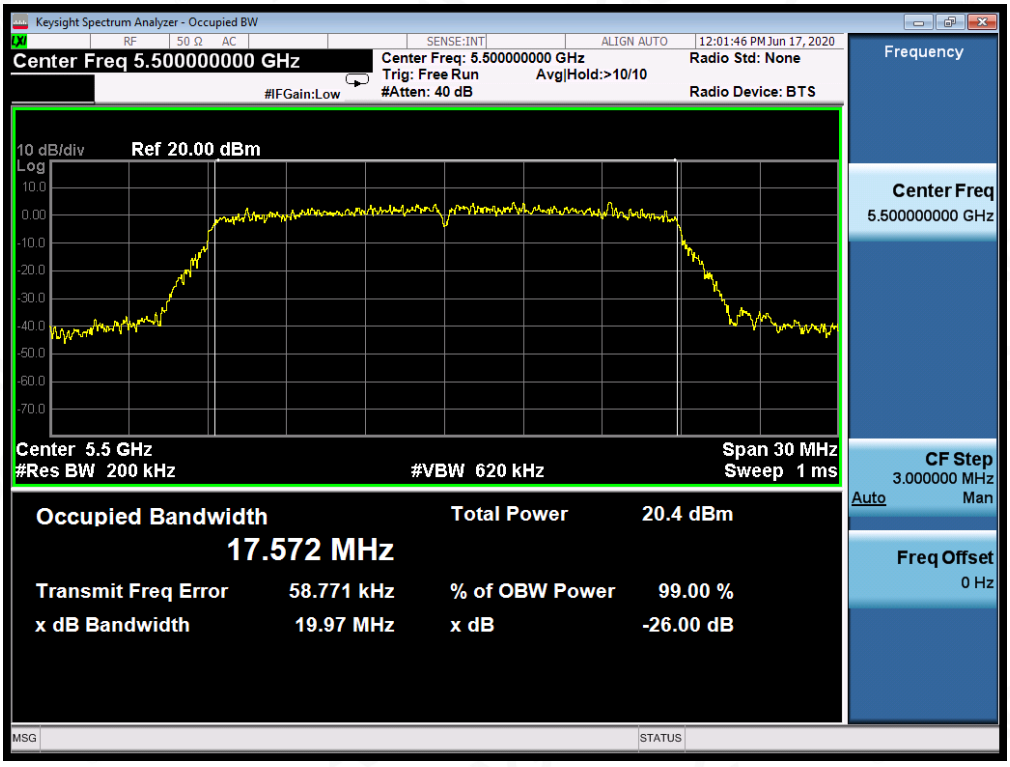


TEST PLOT OF BANDWIDTH FOR 5300MHz

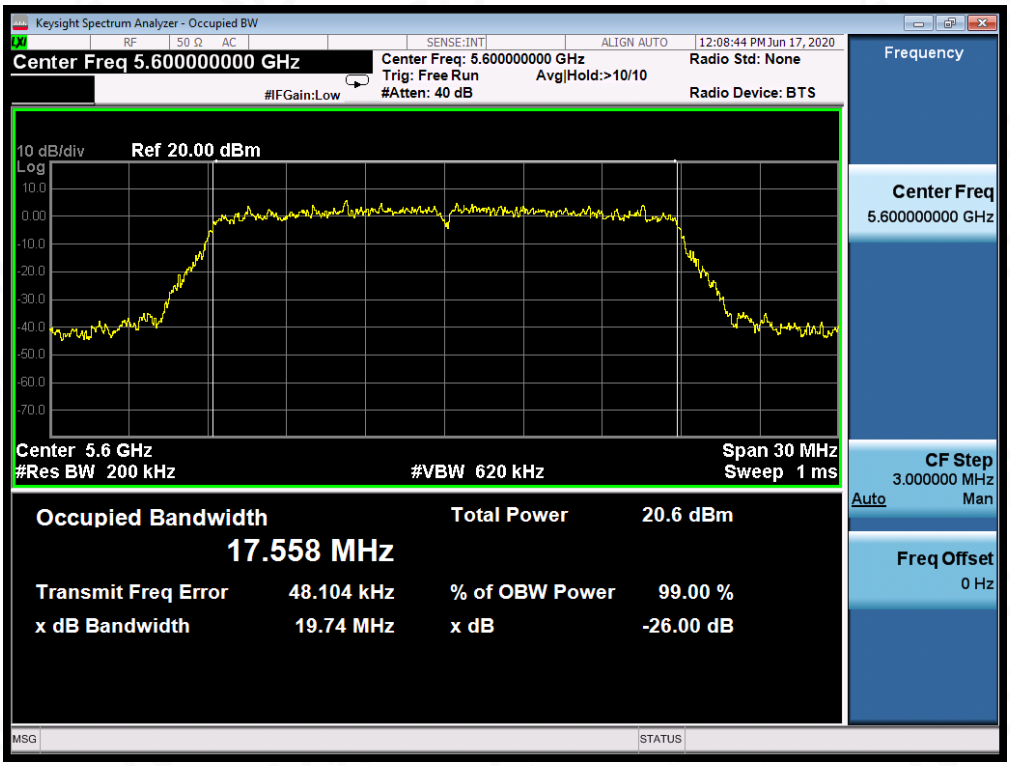


TEST PLOT OF BANDWIDTH FOR 5320MHz

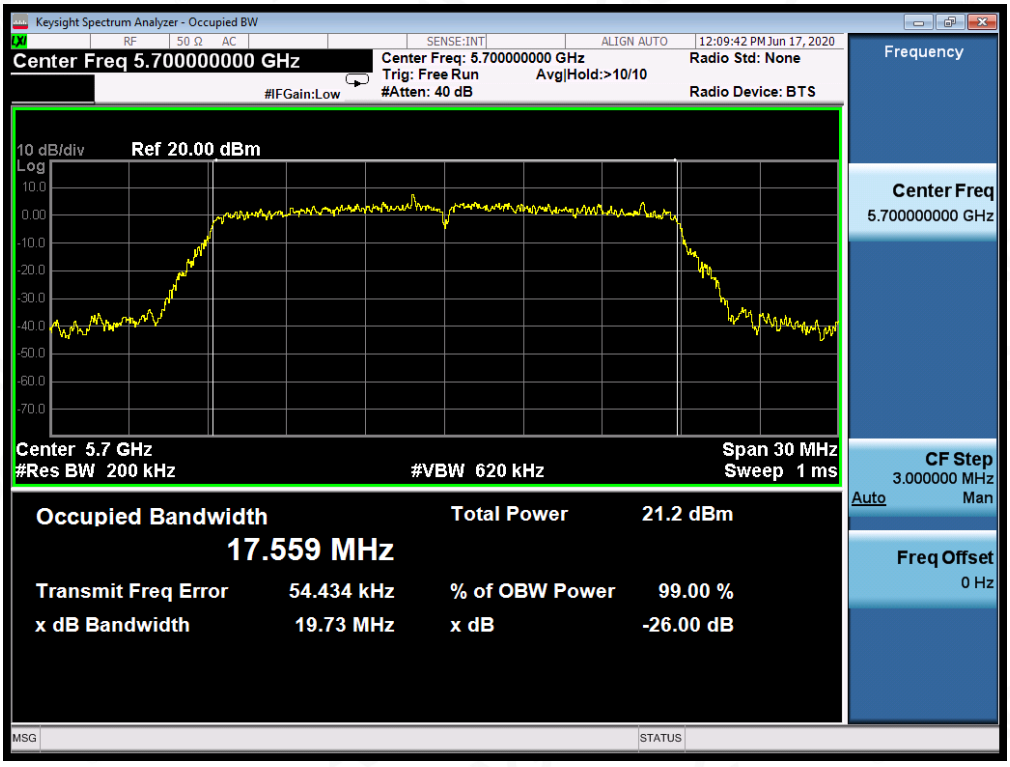
TEST PLOT OF BANDWIDTH FOR 5500MHz



TEST PLOT OF BANDWIDTH FOR 5600MHz



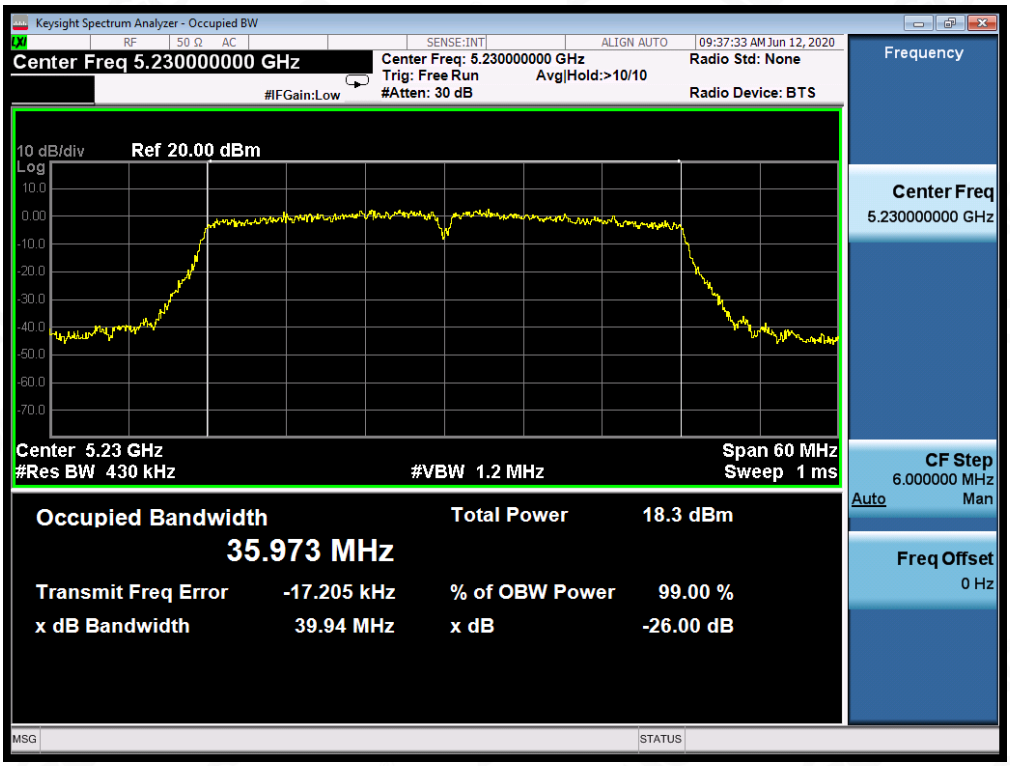
TEST PLOT OF BANDWIDTH FOR 5700MHz



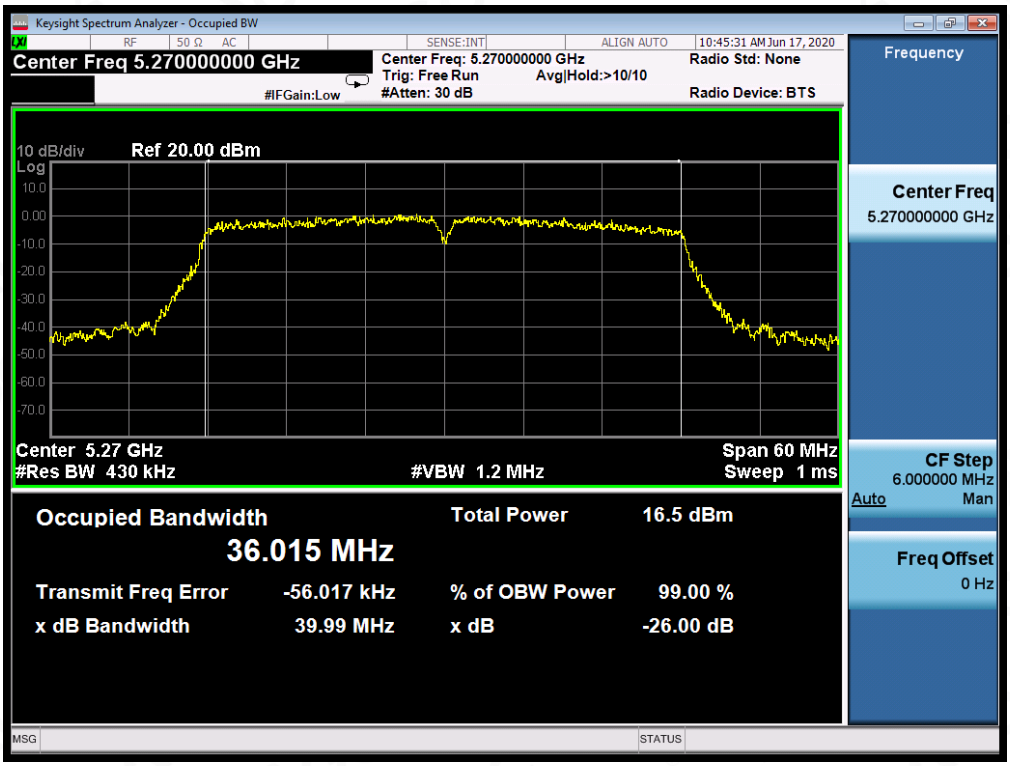
802.11ac40 TEST RESULT

TEST PLOT OF BANDWIDTH FOR 5190MHz

TEST PLOT OF BANDWIDTH FOR 5230MHz



TEST PLOT OF BANDWIDTH FOR 5270MHz



TEST PLOT OF BANDWIDTH FOR 5310MHz