
FCC Test Report

Report No.: AGC02802190501FE06

FCC ID : PANCM8822CU
APPLICATION PURPOSE : Original Equipment
PRODUCT DESIGNATION : ac2x2+BT5.0 USB2.0 module
BRAND NAME : CC&C
MODEL NAME : CM-8822CU
CLIENT : CC&C Technologies, Inc.
DATE OF ISSUE : Jun. 12, 2019
STANDARD(S) : FCC Part 15.407
TEST PROCEDURE(S) : KDB 789033 D02 v02r01
REPORT VERSION : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jun. 12, 2019	Valid	Initial Release

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1. VERIFICATION OF CONFORMITY

Applicant	CC&C Technologies, Inc.
Address	8F, No.150, Jian Yi Rd, Zhonghe District, New Taipei City, 235, Taiwan
Manufacturer	CC&C Technologies, Inc.
Address	8F, No.150, Jian Yi Rd, Zhonghe District, New Taipei City, 235, Taiwan
Factory	Kunshan CC&C Technologies, Co., Ltd
Address	No.9 building, 3rd Main Street, Kunshan Free Trade Zone, Jiangsu Province, P. R. China
Product Designation	ac2x2+BT5.0 USB2.0 module
Brand Name	CC&C
Test Model	CM-8822CU
Date of test	May 28, 2019 to Jun. 12, 2019
Deviation	None
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.

Tested By



Draven Li(Li Ming Liang)

Jun. 11, 2019

Reviewed By



Max Zhang(Zhang Yi)

Jun. 11, 2019

Approved By



Forrest Lei(Lei Yonggang)
Authorized Officer

Jun. 11, 2019

2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as “ac2x2+BT5.0 USB2.0 module”. It is designed by way of utilizing the OFDM technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	5150 MHz~5250MHz;5725 MHz~5850MHz
Output Power	IEEE 802.11a20:15.58Bm IEEE 802.11n(20):16.87dBm; IEEE802.11n(40):16.90Bm IEEE802.11ac(20):14.26Bm IEEE802.11ac(40):14.42Bm IEEE802.11ac(80):14.23Bm
Modulation	BPSK, QPSK, 16QAM, 64QAM, 128QAM, 256QAM,OFDM
Number of channels	15
Hardware Version	0A
Software Version	V1.0
Antenna Designation	Dipole Antenna
Number of transmit chain	2(802.11n20/n40/a/ac all used two antennas,but 802.11a support SISO and 802.11n20/n40/ac support MIMO)
Directional gain	All transmit signals are completely uncorrelated with each other
Antenna Gain	ANT1: 3.77dBi ANT2: 3.3dBi
Power Supply	DC 3.3V

2.2. TABLE OF CARRIER FREQUENCIES

Frequency Band	Channel Number	Frequency	Frequency Band	Channel Number	Frequency
5150 GHz~ 5250GHz	36	5180 MHz	5725 GHz~ 5850GHz	149	5745 MHz
	38	5190 MHz		151	5755 MHz
	40	5200 MHz		153	5765 MHz
	42	5210 MHz		155	5775MHz
	44	5220 MHz		157	5785 MHz
	46	5230 MHz		159	5795 MHz
	48	5240 MHz		161	5805 MHz
				165	5825MHz

Note: For 20MHZ bandwidth system use Channel 36,40,44,48,149,153,157,161,165; For 40MHZ bandwidth system use Channel 38,46,151,159; For 80MHZ bandwidth system use Channel 42,155

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

This submittal(s) (test report) is intended for **FCC ID: PANCM8822CU** 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, $U_c = \pm 3.2$ dB
- Uncertainty of Radiated Emission below 1GHz, $U_c = \pm 3.9$ dB
- Uncertainty of Radiated Emission above 1GHz, $U_c = \pm 4.8$ dB

4. DESCRIPTION OF TEST MODES

Mode	Available channel	Tested channel	Modulation	Date rate(Mbps)
802.11a/n20/ac20	36,40,44,48,149,153,157,161,165	36,38,48,149, 157,165	OFDM	6/6.5
802.11n40/ac40	38,46,151,159	38,46, 151,159	OFDM	13.5
802.11ac80	42,155	42,155	OFDM	13.5

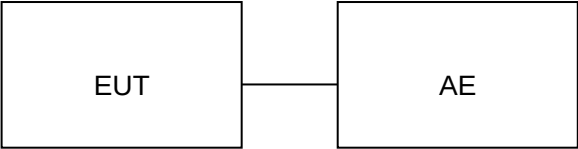
Note:

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 REALTEK 11n 8188FU 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	ac2x2+BT5.0 USB2.0 module	CM-8822CU	PANCM8822CU	EUT
2	PC	Xiaomi	Air 13.3	AE
3	Adapter	Xiaomi	ADC6501TM	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	Jun. 11, 2019	Jun. 12, 2020
LISN	R&S	ESH2-Z5	100086	Aug. 28, 2018	Aug. 27, 2019

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Jun. 11, 2019	Jun. 12, 2020
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 20, 2018	Dec. 19, 2019
Power sensor	Aglient	U2021XA	MY54110007	Dec. 20, 2018	Dec. 19, 2019
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep. 21, 2017	Sep. 20, 2020
preamplifier	ChengYi	EMC184045SE	980508	Sep. 21, 2017	Sep. 20, 2020
Active loop antenna (9K-30MHz)	A.H.	SAS-562B	CC&C	May. 26, 2018	May. 25, 2020
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May. 26, 2018	May. 25, 2020
Broadband Preamplifier	SCHWARZBECK	BBV 9718	9718-205	Sep. 28, 2017	Sep. 27, 2019
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep. 28, 2017	Sep. 27, 2019

7. MAXIMUM CONDUCTED OUTPUT POWER

7.1. MEASUREMENT PROCEDURE

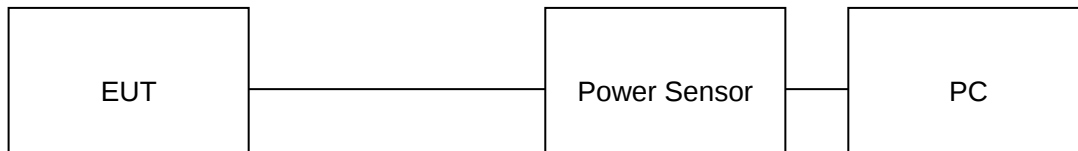
For average power test:

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	15.58	15.51	N/A	30	Pass
5200	15.47	15.42	N/A	30	Pass
5240	15.52	15.38	N/A	30	Pass
5745	15.41	15.46	N/A	30	Pass
5785	15.33	15.31	N/A	30	Pass
5825	15.42	15.49	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	13.71	13.86	16.80	30	Pass
5200	13.84	13.77	16.82	30	Pass
5240	13.88	13.83	16.87	30	Pass
5745	13.79	13.80	16.81	30	Pass
5785	13.81	13.79	16.81	30	Pass
5825	13.76	13.68	16.73	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	11.26	11.23	14.26	30	Pass
5200	11.35	11.13	14.25	30	Pass
5240	11.31	11.08	14.21	30	Pass
5745	11.29	11.15	14.23	30	Pass
5785	11.23	11.01	14.13	30	Pass
5825	11.27	11.11	14.20	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	13.91	13.79	16.86	30	Pass
5230	13.89	13.88	16.90	30	Pass
5755	13.77	13.76	16.78	30	Pass
5795	13.69	13.82	16.77	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	11.47	11.34	14.42	30	Pass
5230	11.22	11.21	14.23	30	Pass
5755	11.36	11.30	14.34	30	Pass
5795	11.45	11.26	14.37	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	11.25	11.19	14.23	30	Pass
5775	11.14	11.07	14.12	30	Pass

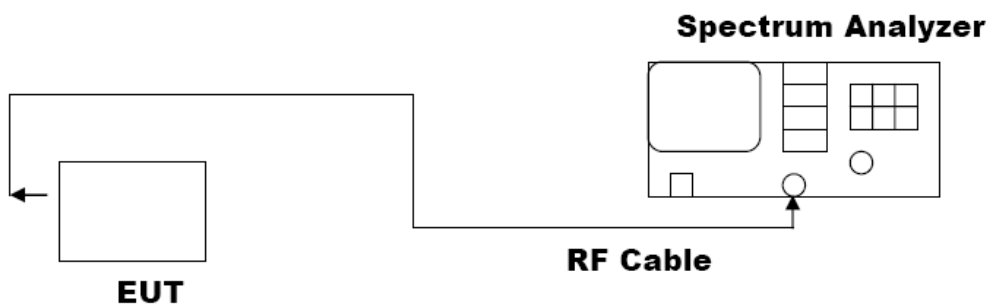
8. 6dB BANDWIDTH

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 $\geq 3 \times \text{RBW}$. 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

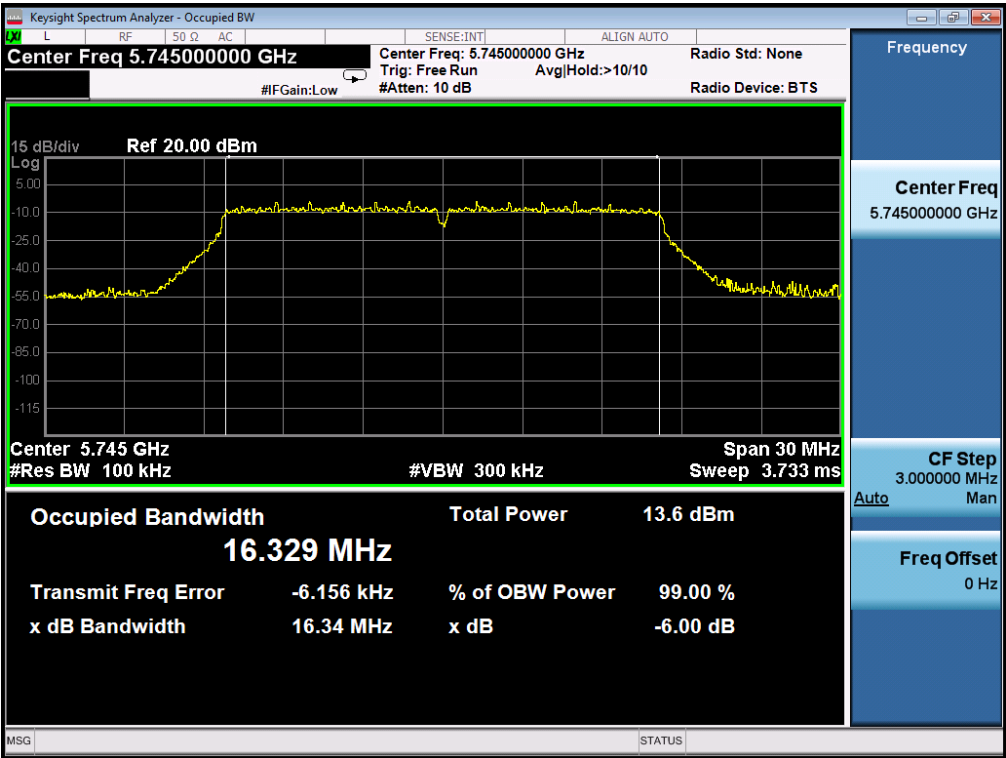
LIMITS AND MEASUREMENT RESULT FOR 802.11A20 MODULATION			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
>500KHZ	5745MHz	16.34	PASS
	5785MHz	16.32	PASS
	5825MHz	16.35	PASS

LIMITS AND MEASUREMENT RESULT FOR 802.11N20/40 MODULATION			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
>500KHZ	5745MHz	17.54	PASS
	5785MHz	17.59	PASS
	5825MHz	17.55	PASS
	5755MHz	36.28	PASS
	5795MHz	35.47	PASS

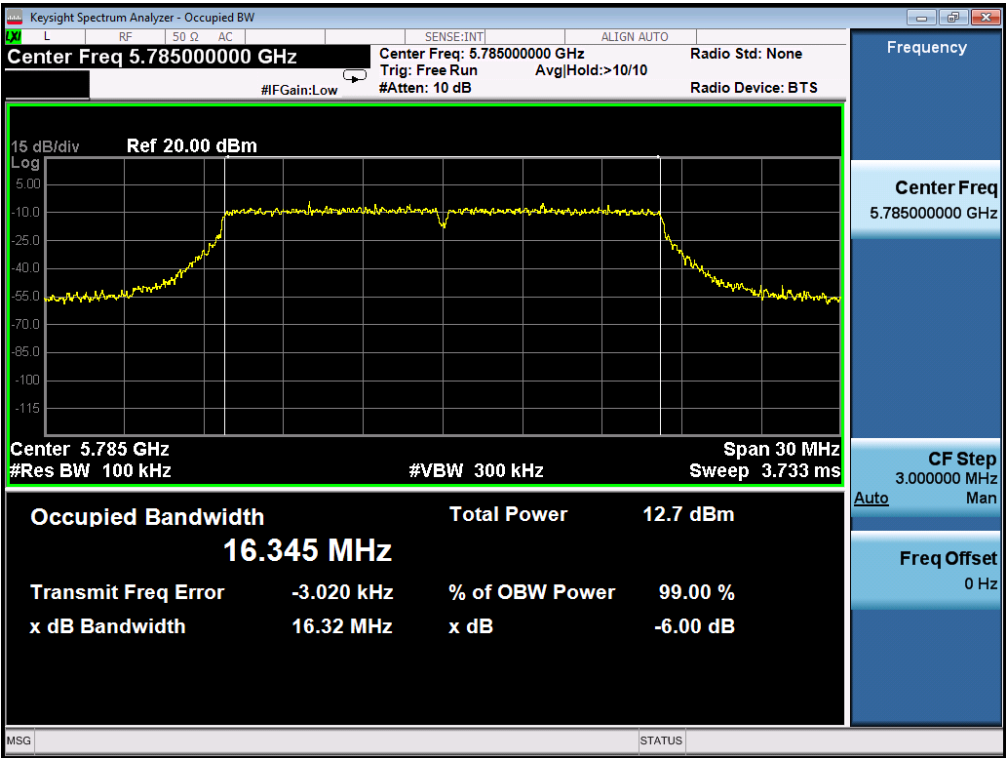
LIMITS AND MEASUREMENT RESULT FOR 802.11AC20/40/80 MODULATION			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
>500KHZ	5745MHz	17.32	PASS
	5785MHz	16.70	PASS
	5825MHz	17.21	PASS
	5755MHz	35.38	PASS
	5795MHz	35.17	PASS
	5775MHz	72.57	PASS

802.11a20 TEST RESULT

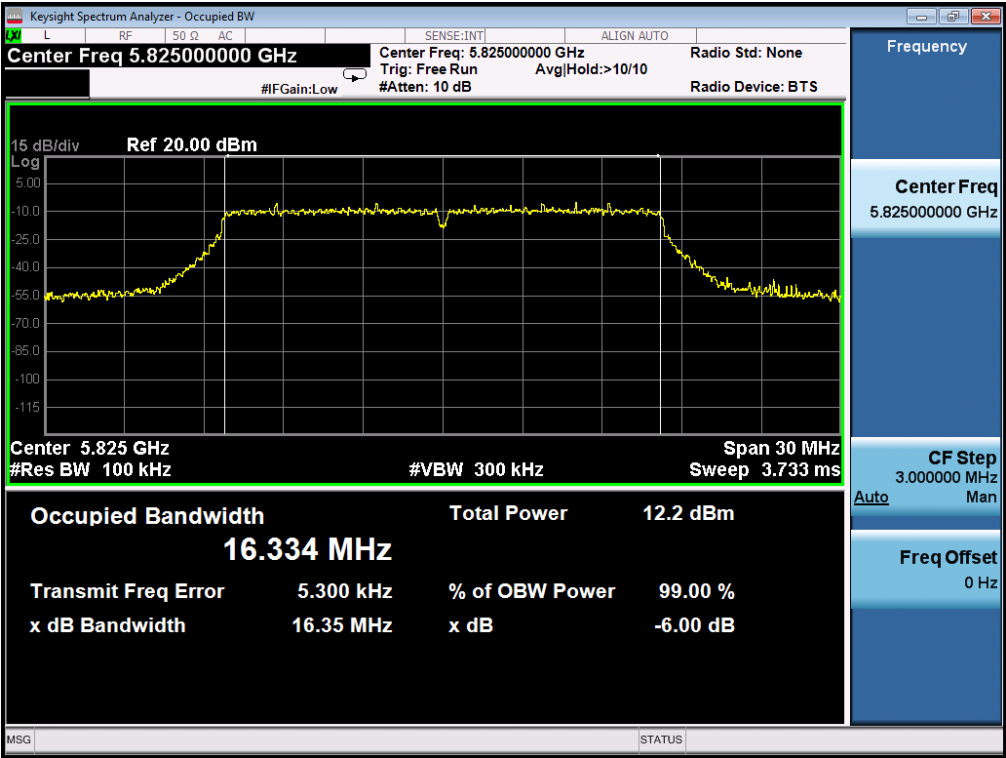
TEST PLOT OF BANDWIDTH FOR 5745MHZ



TEST PLOT OF BANDWIDTH FOR 5785MHZ

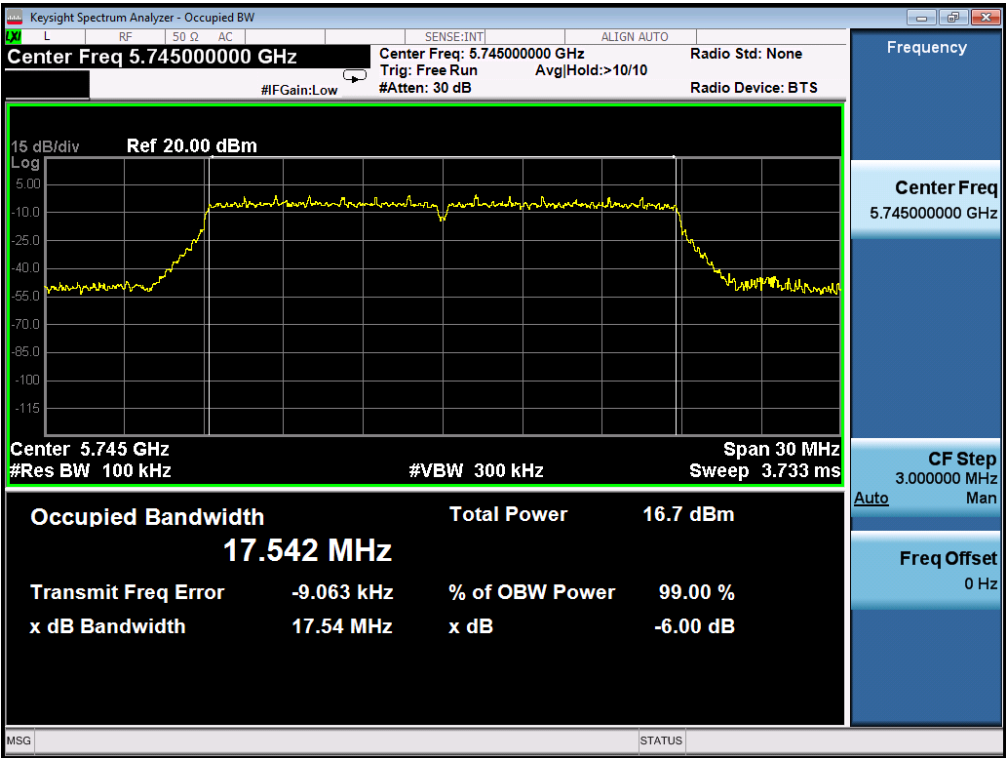


TEST PLOT OF BANDWIDTH FOR 5825MHz

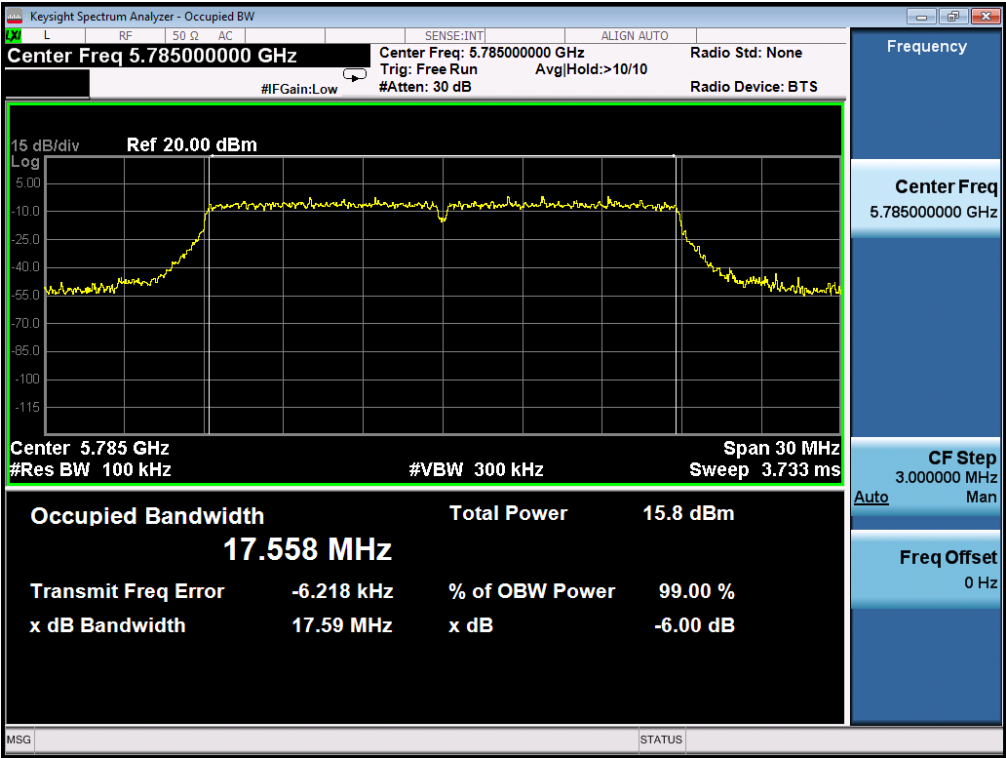


802.11n20/40 TEST RESULT

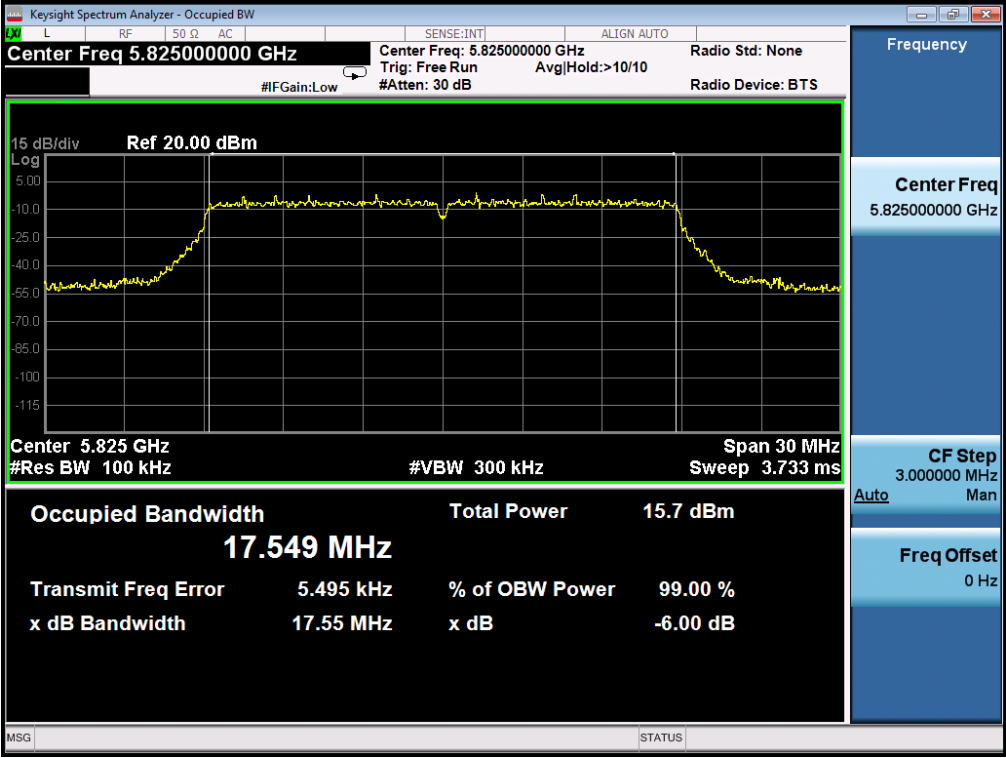
TEST PLOT OF BANDWIDTH FOR 5745MHz



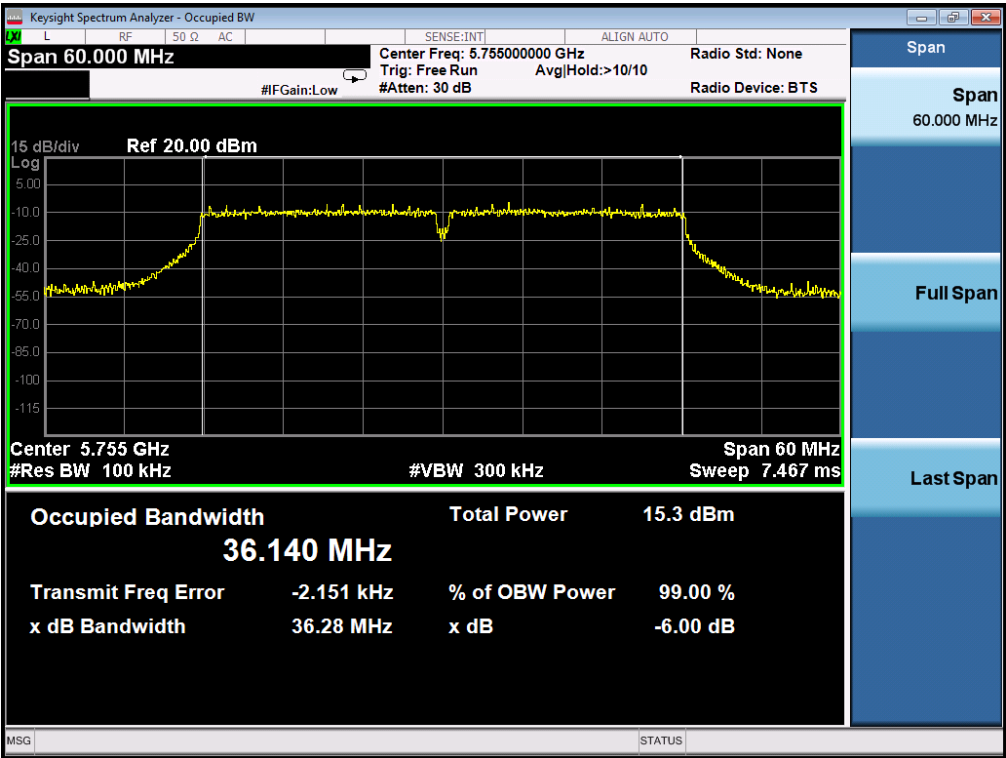
TEST PLOT OF BANDWIDTH FOR 5785MHz



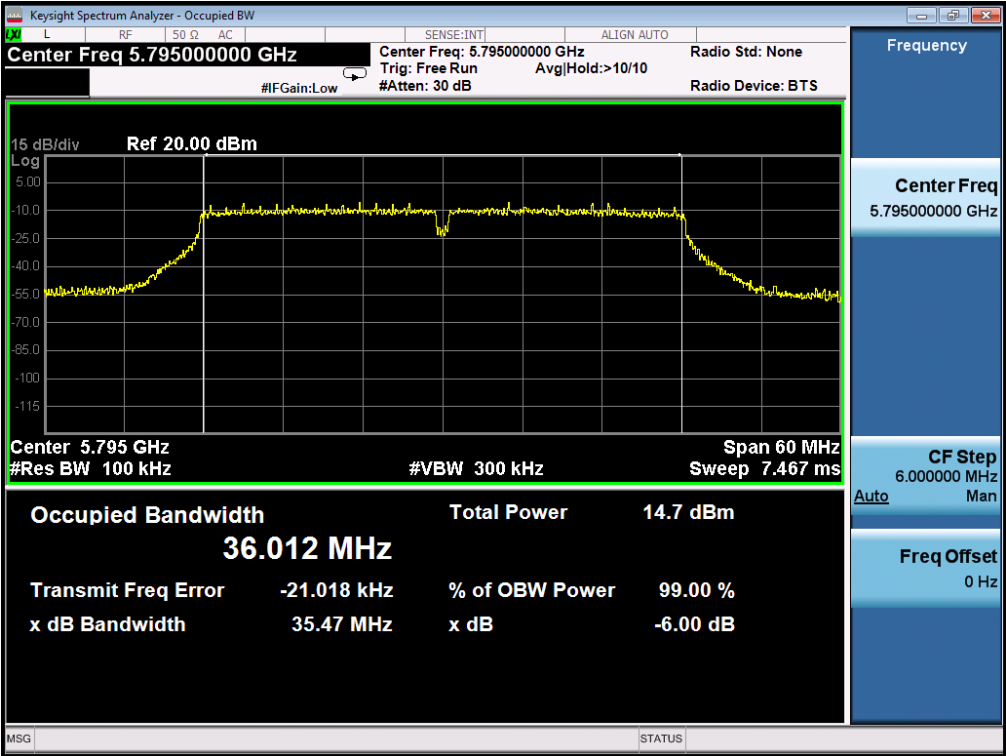
TEST PLOT OF BANDWIDTH FOR 5825MHz



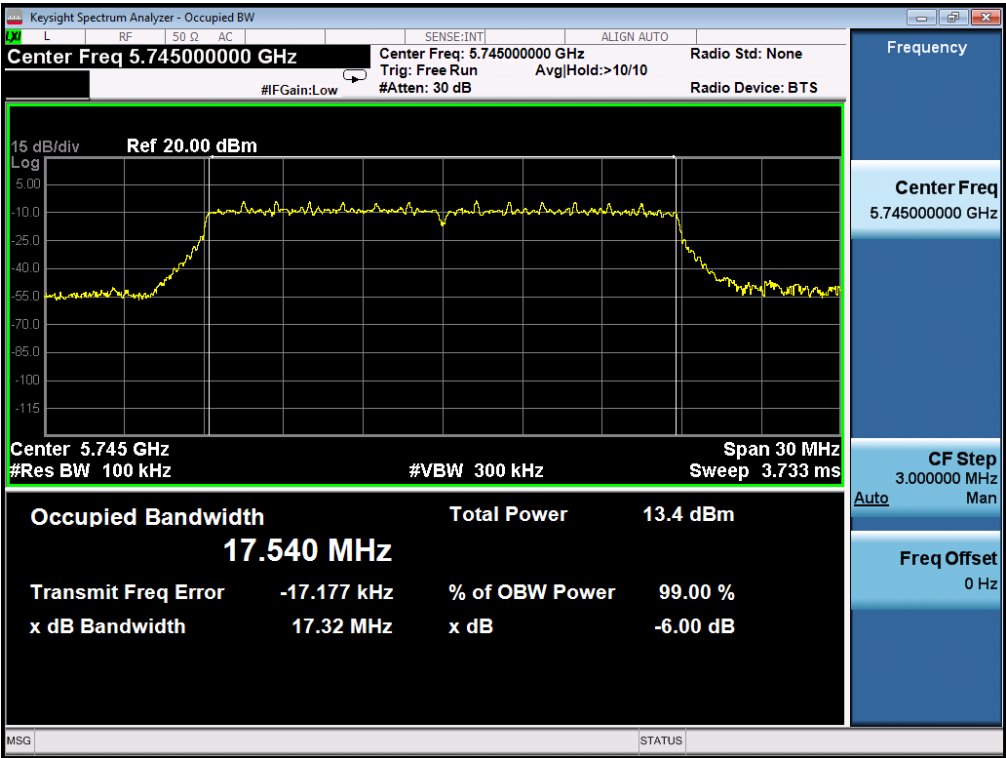
802.11n40 TEST RESULT
TEST PLOT OF BANDWIDTH FOR 5755MHz



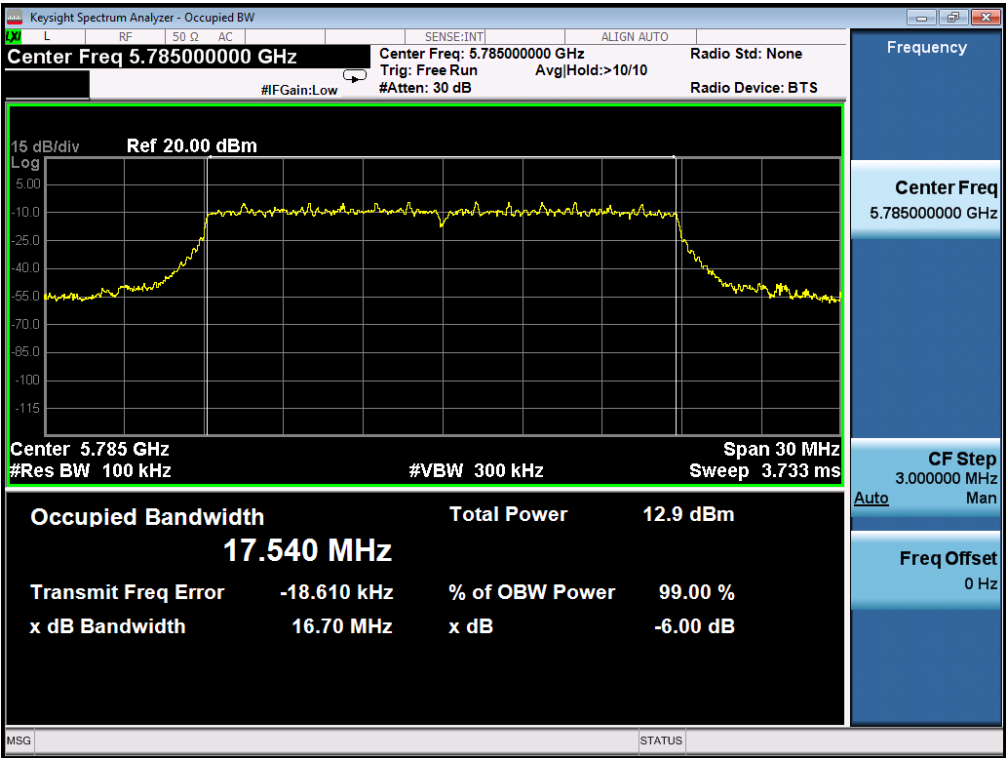
TEST PLOT OF BANDWIDTH FOR 5795MHz



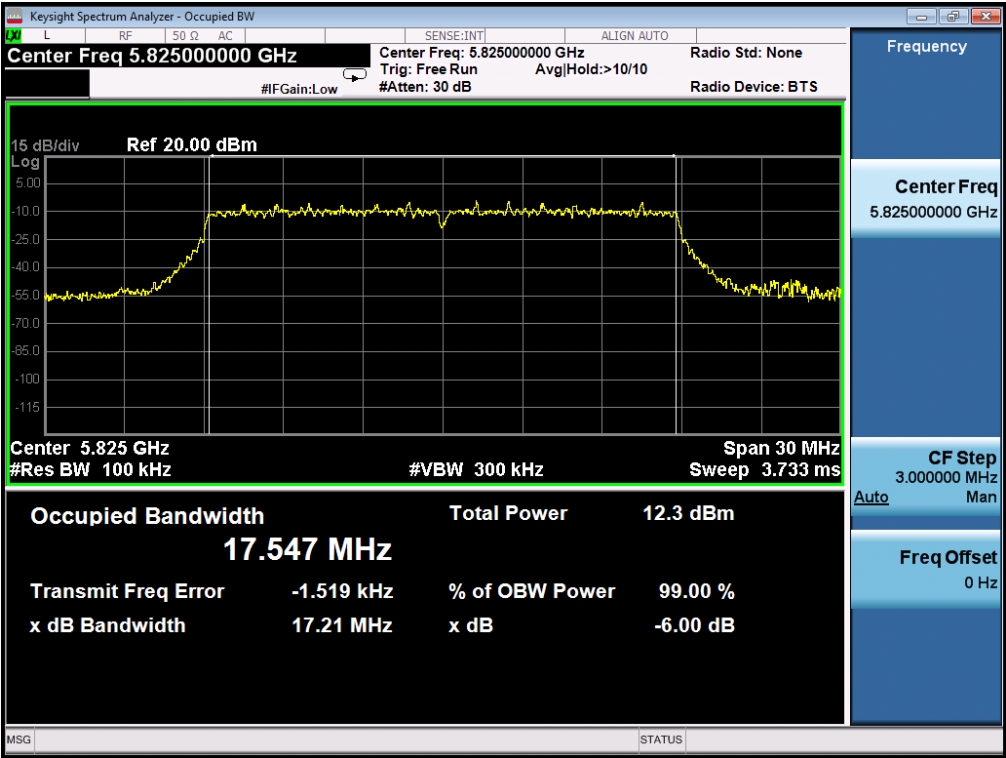
802.11ac20 TEST RESULT
TEST PLOT OF BANDWIDTH FOR 5745MHZ



TEST PLOT OF BANDWIDTH FOR 5785MHZ

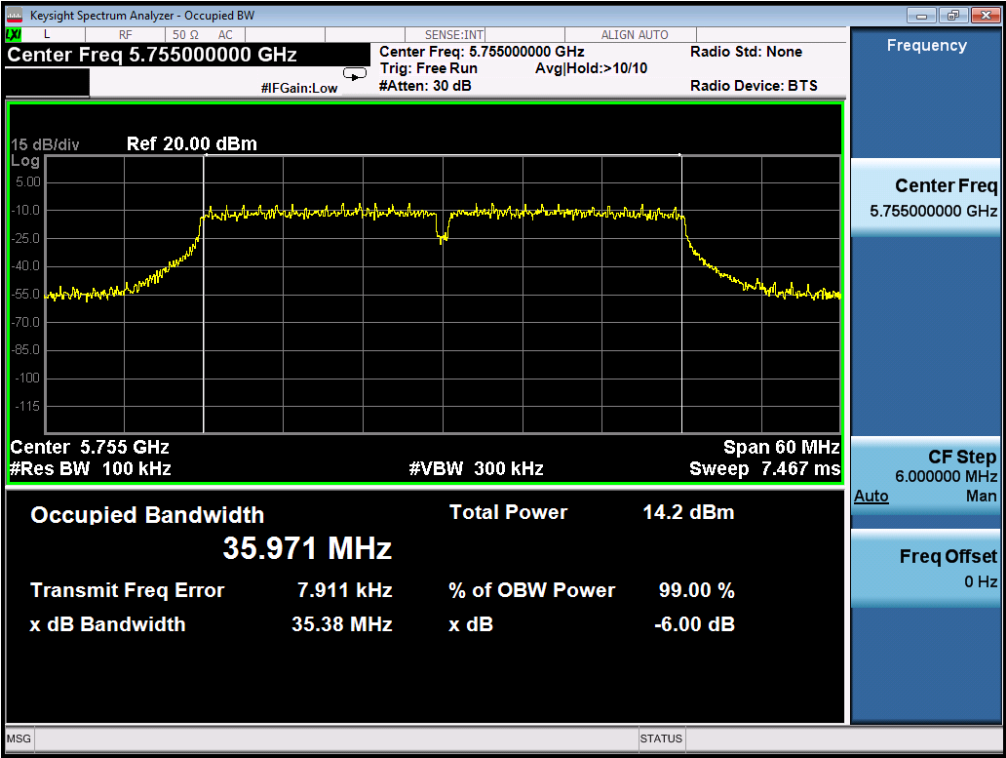


TEST PLOT OF BANDWIDTH FOR 5825MHz

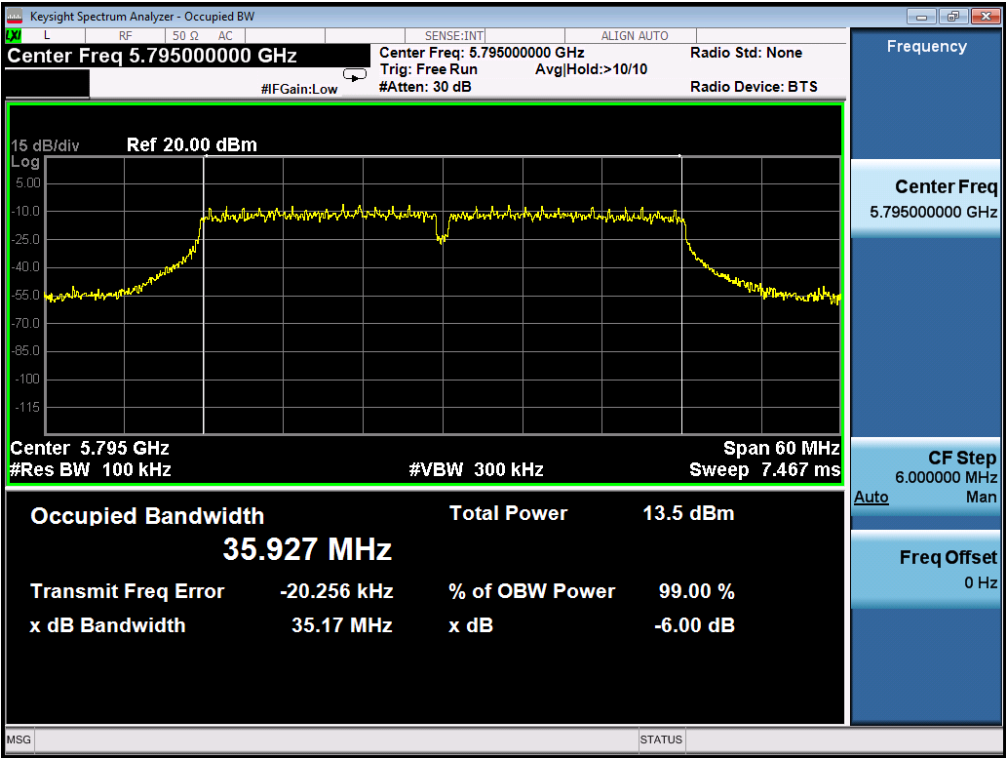


802.11ac40 TEST RESULT

TEST PLOT OF BANDWIDTH FOR 5755MHz

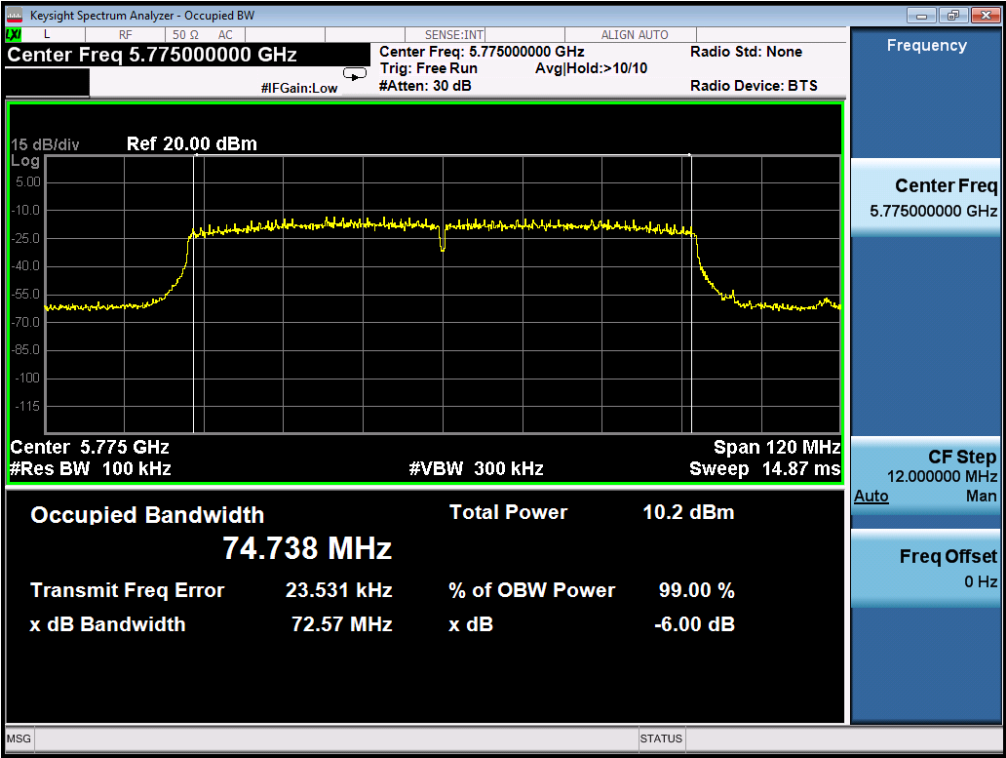


TEST PLOT OF BANDWIDTH FOR 5795MHz



802.11ac80 TEST RESULT

TEST PLOT OF BANDWIDTH FOR 5775MHz



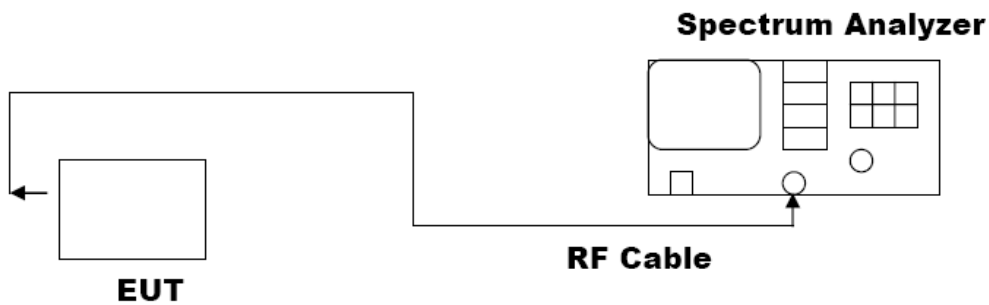
9. EMISSION BANDWIDTH

9.1. MEASUREMENT PROCEDURE

- Set RBW = approximately 1% of the emission bandwidth.
 - Set the VBW > RBW.
 - Detector = Peak.
 - Trace mode = max hold.
 - 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

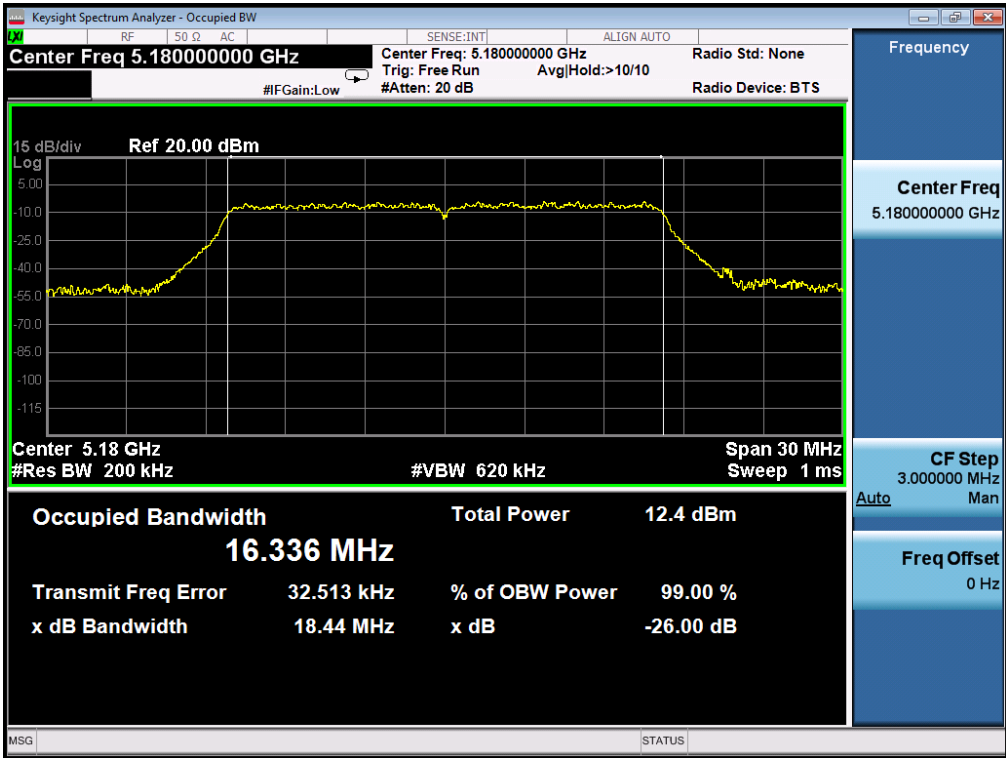
LIMITS AND MEASUREMENT RESULT FOR 802.11A20 MODULATION			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
Within the Band	5180MHz	18.44	PASS
	5200MHz	18.33	PASS
	5240MHz	18.50	PASS

LIMITS AND MEASUREMENT RESULT FOR 802.11N20/40 MODULATION			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
Within the Band	5180MHz	19.25	PASS
	5200MHz	19.17	PASS
	5240MHz	19.18	PASS
	5190MHz	40.24	PASS
	5230MHz	40.71	PASS

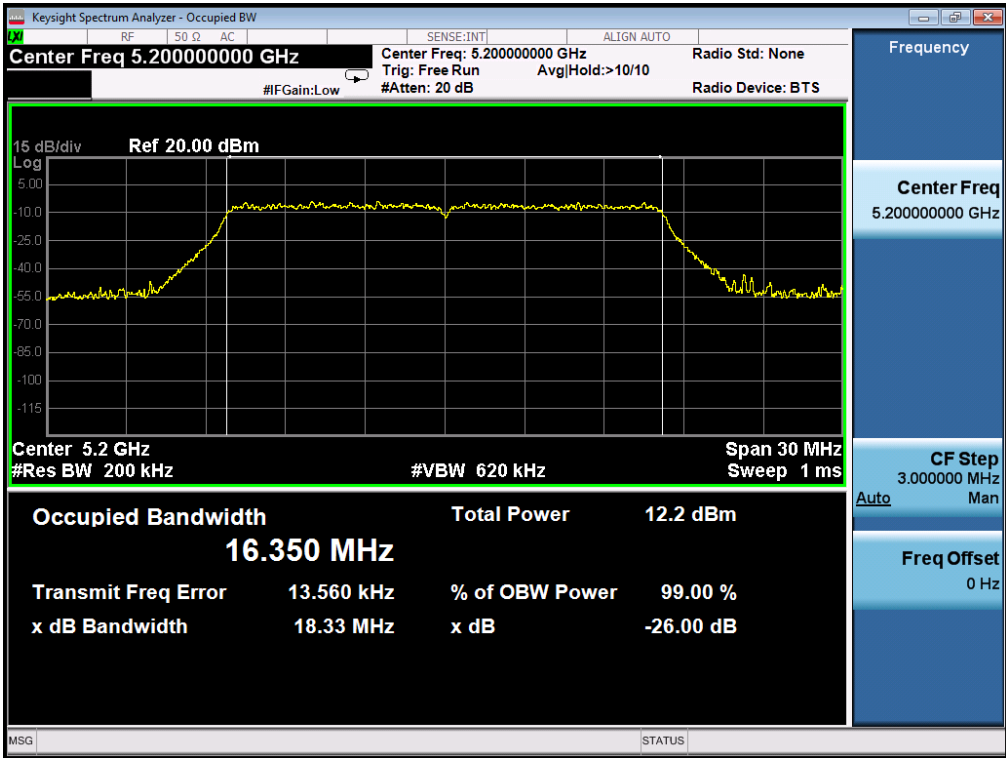
LIMITS AND MEASUREMENT RESULT FOR 802.11AC80 MODULATION			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
Within the Band	5180MHz	18.98	PASS
	5200MHz	18.99	PASS
	5240MHz	18.93	PASS
	5190MHz	39.47	PASS
	5230MHz	39.77	PASS
	5210MHz	80.63	PASS

802.11a20 TEST RESULT

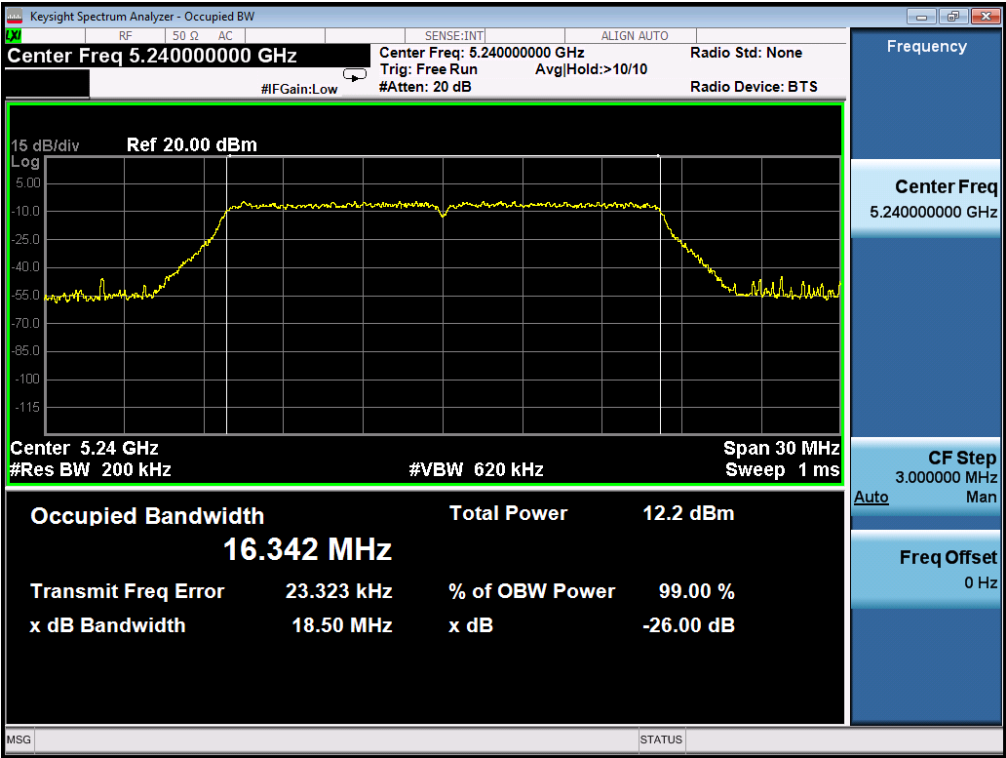
TEST PLOT OF BANDWIDTH FOR 5180MHz



TEST PLOT OF BANDWIDTH FOR 5200MHz

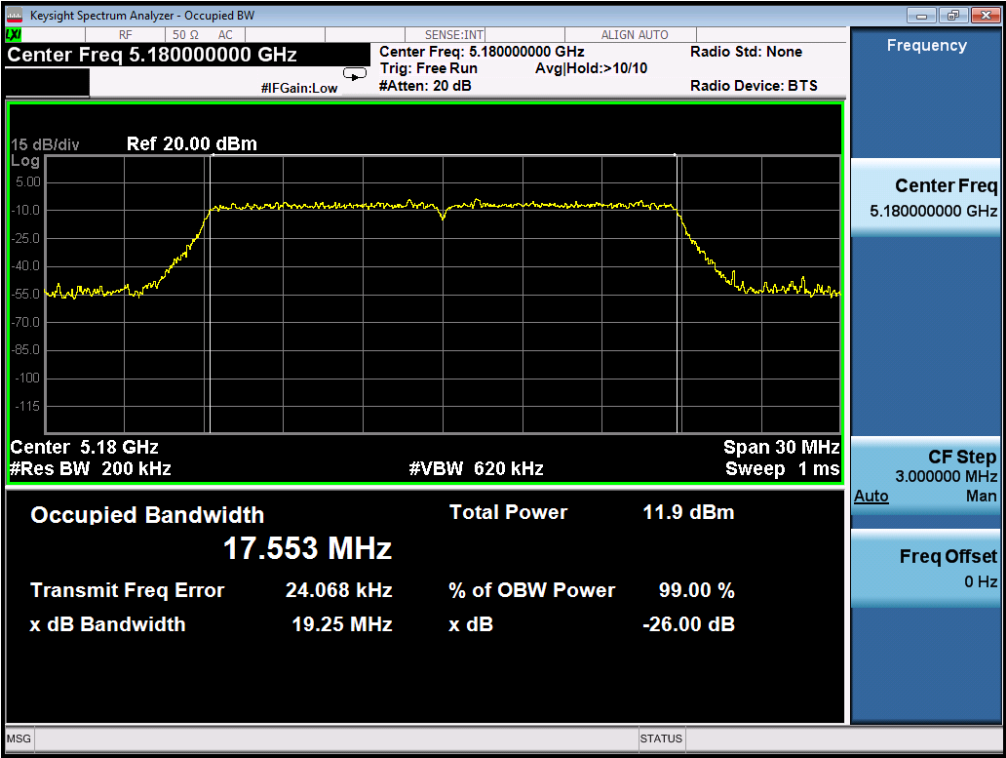


TEST PLOT OF BANDWIDTH FOR 5240MHz

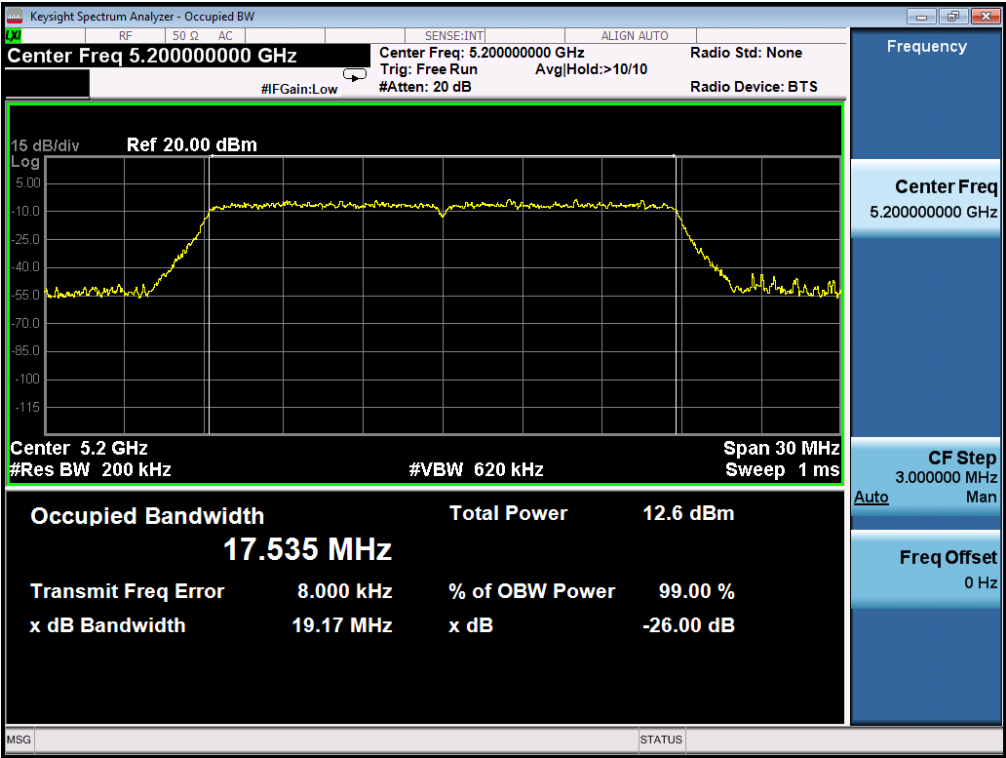


802.11n20 TEST RESULT

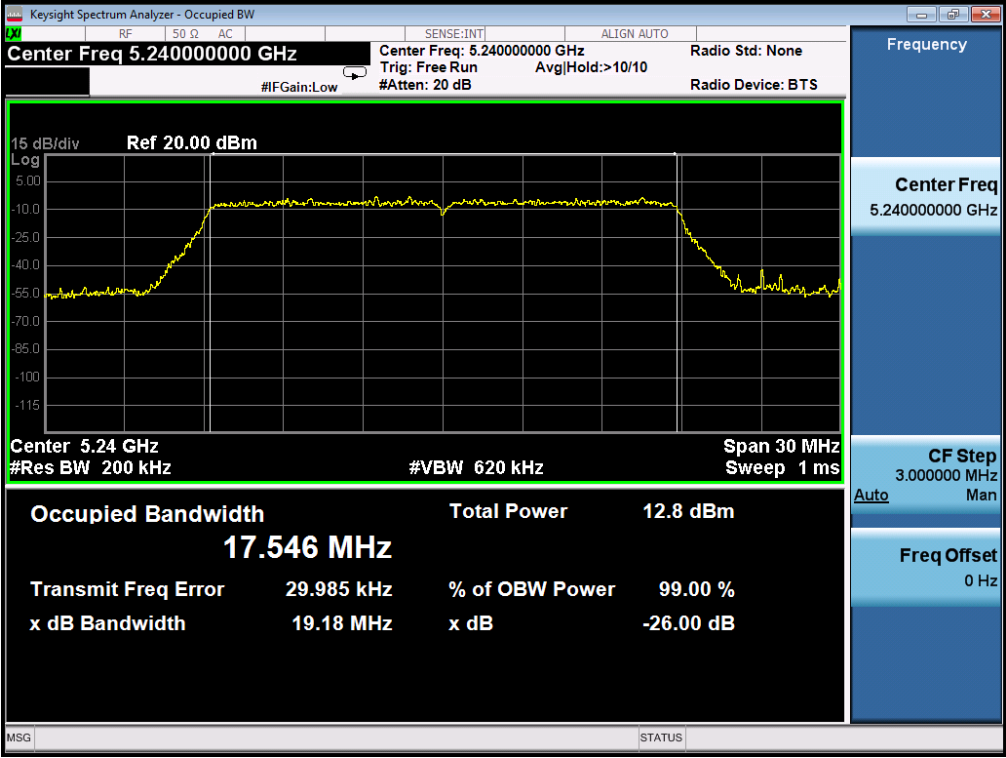
TEST PLOT OF BANDWIDTH FOR 5180MHz



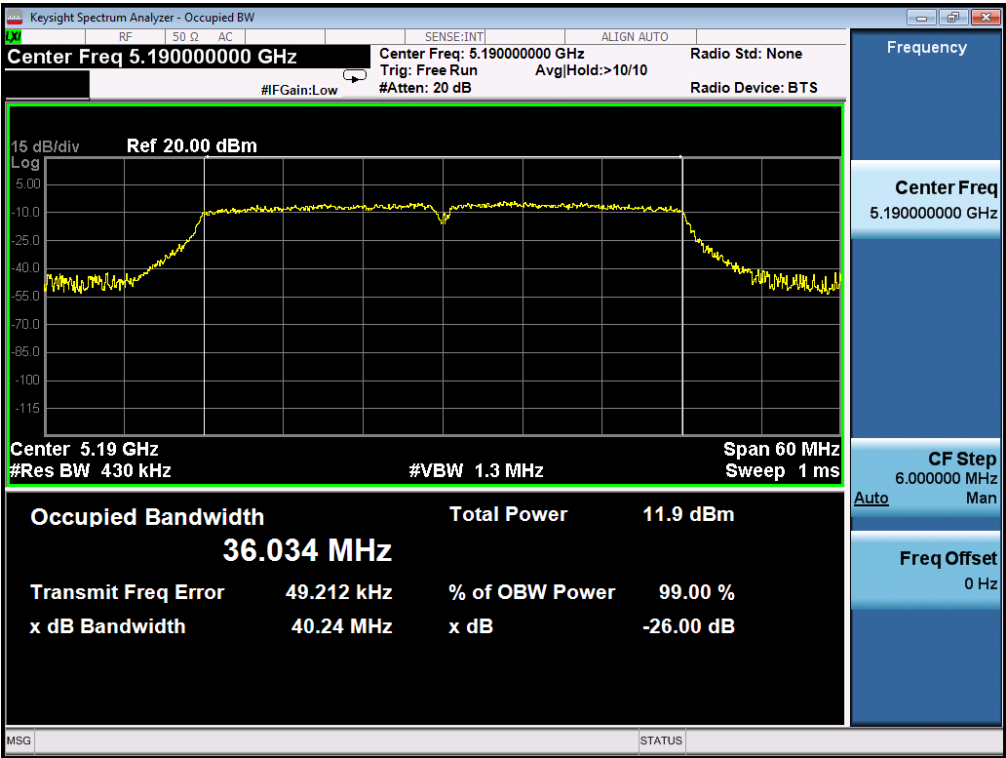
TEST PLOT OF BANDWIDTH FOR 5200MHz



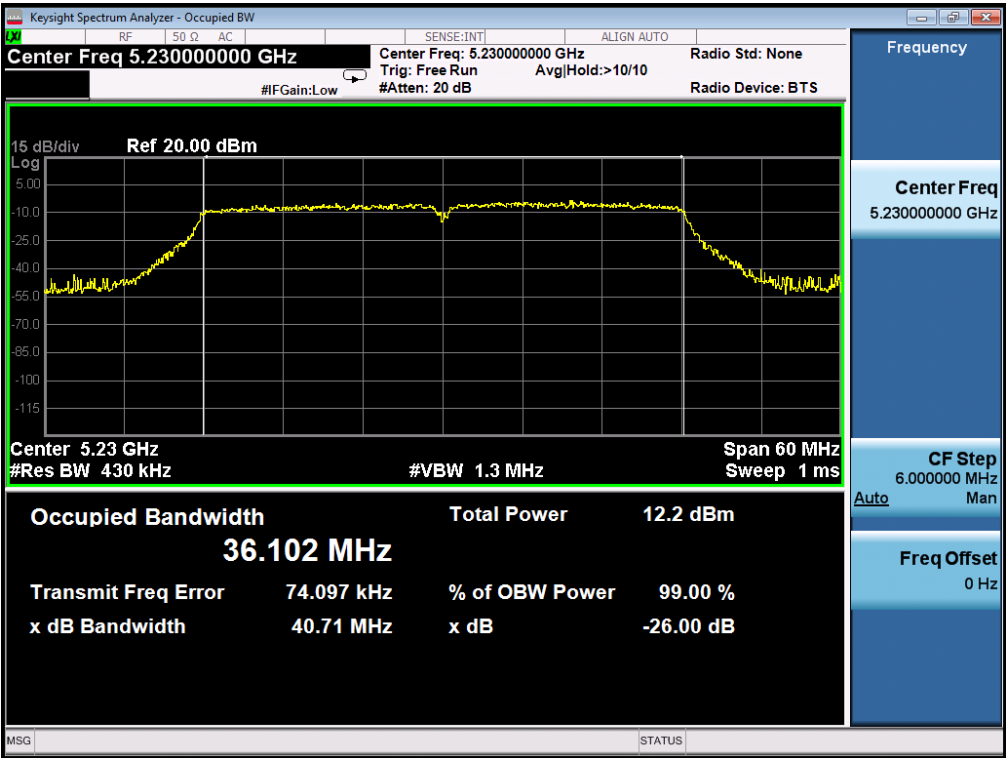
TEST PLOT OF BANDWIDTH FOR 5240MHz



802.11n40 TEST RESULT
TEST PLOT OF BANDWIDTH FOR 5190MHz

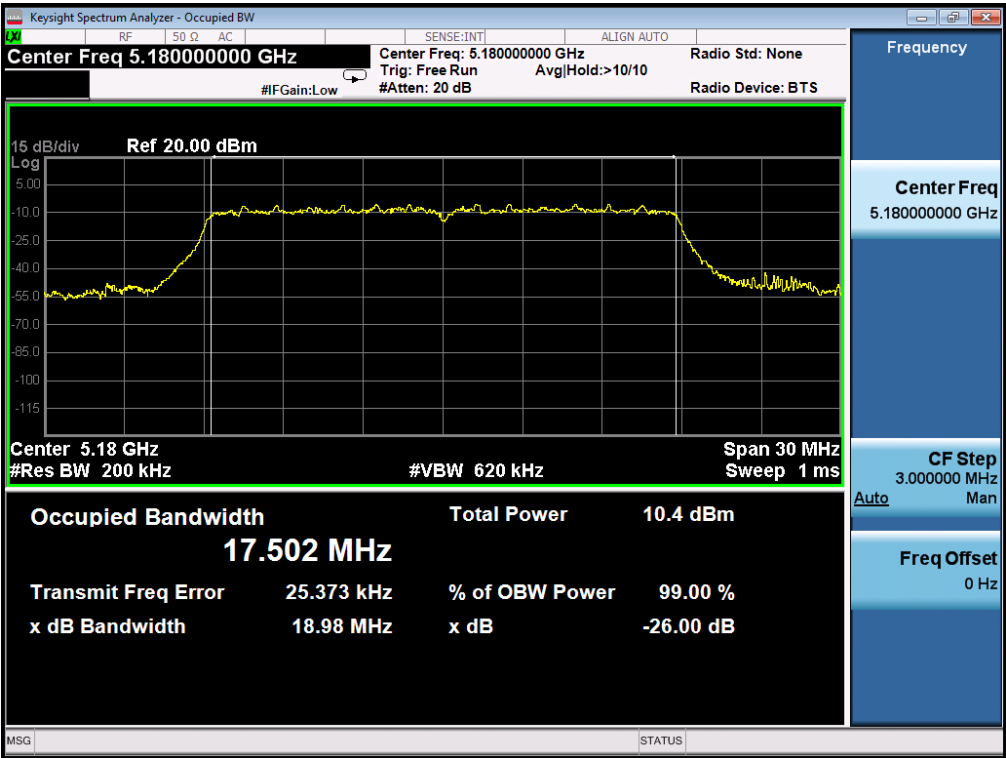


TEST PLOT OF BANDWIDTH FOR 5230MHz

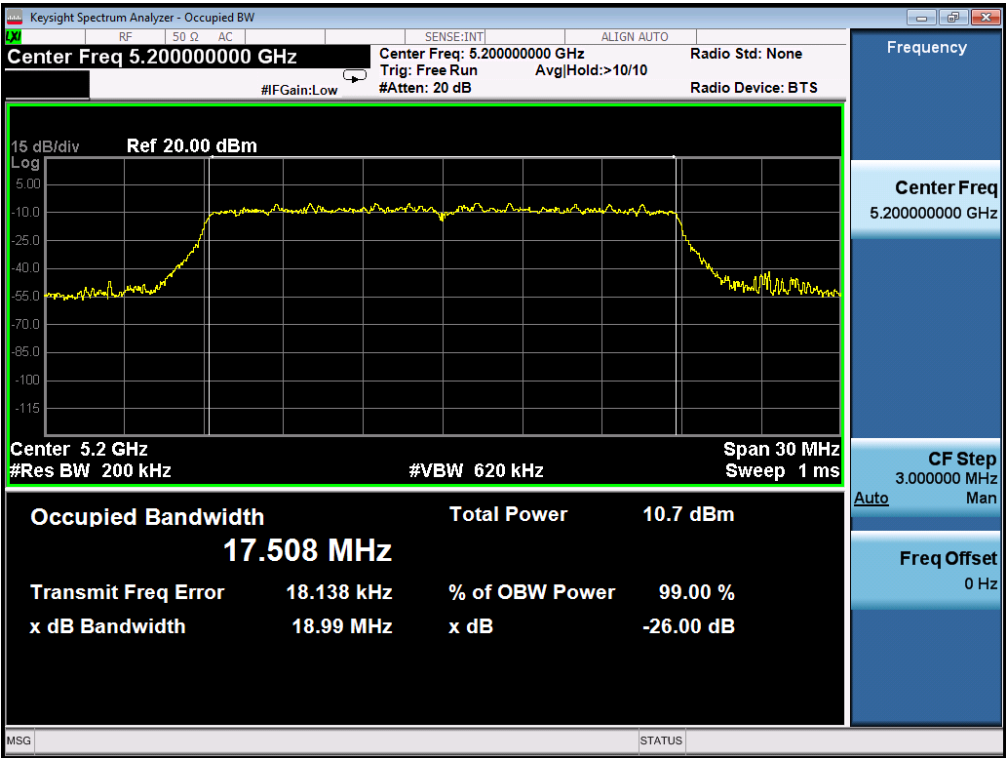


802.11ac20 TEST RESULT

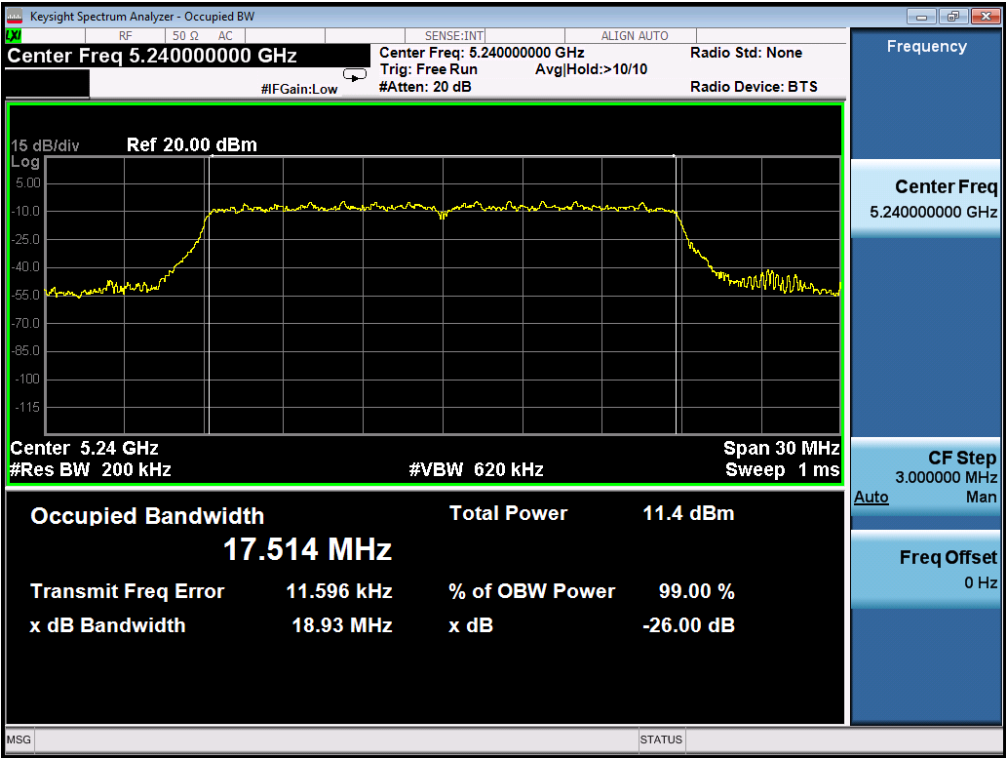
TEST PLOT OF BANDWIDTH FOR 5180MHz



TEST PLOT OF BANDWIDTH FOR 5200MHz

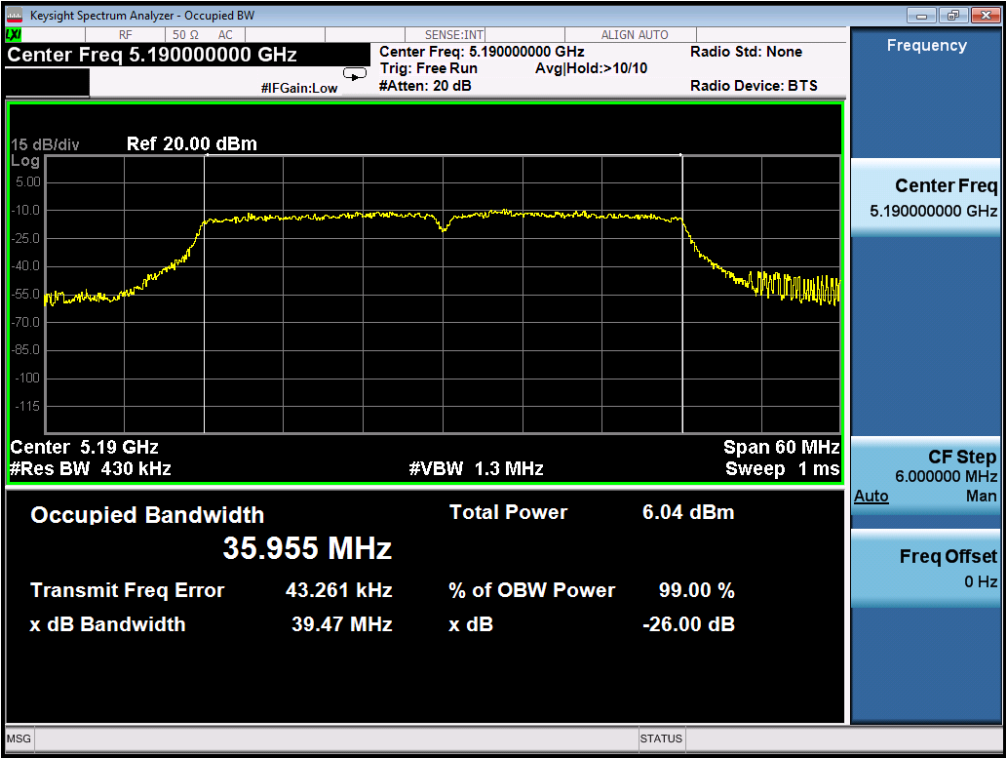


TEST PLOT OF BANDWIDTH FOR 5240MHz

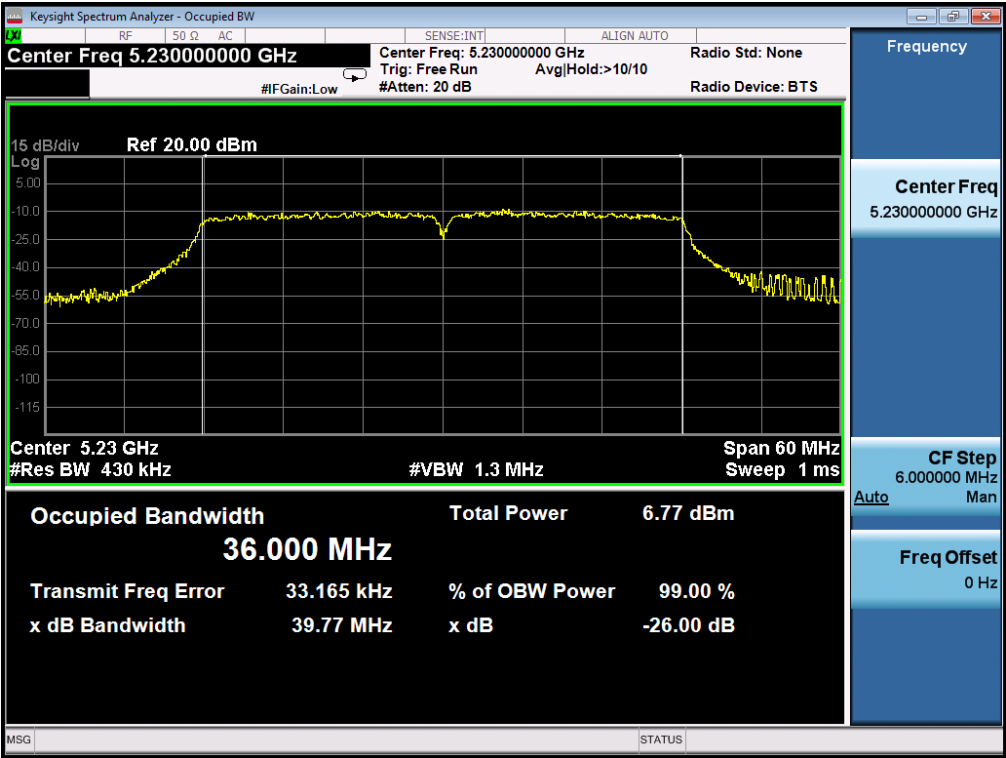


802.11ac40 TEST RESULT

TEST PLOT OF BANDWIDTH FOR 5190MHz

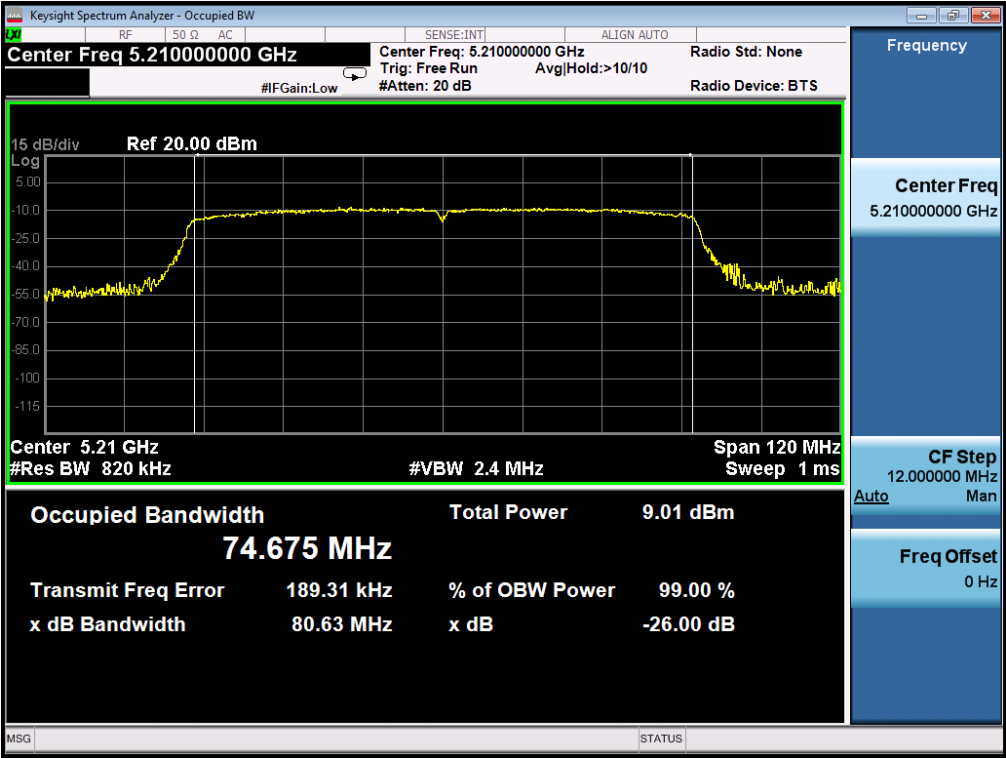


TEST PLOT OF BANDWIDTH FOR 5230MHz



802.11ac80 TEST RESULT

TEST PLOT OF BANDWIDTH FOR 5210MHz



10. MAXIMUM CONDUCTED OUTPUT PEAK POWER SPECTRAL DENSITY**10.1 MEASUREMENT PROCEDURE**

Refer to KDB 789033 section F

10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer To Section 8.2.

10.3 MEASUREMENT EQUIPMENT USED

Refer To Section 6.

10.4 LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT FOR 802.11A20 MODULATION					
Frequency (MHz)	Power density Chain 0 (dBm/MHz)	Power density Chain 1 (dBm/MHz)	Power density Total (dBm/MHz)	Applicable Limits (dBm)	Pass or Fail
5180	4.719	4.049	N/A	17	Pass
5200	4.548	4.483	N/A	17	Pass
5240	4.621	4.531	N/A	17	Pass
Frequency (MHz)	Power density Chain 0 (dBm/500kHz)	Power density Chain 1 (dBm/500kHz)	Power density Total (dBm/500kHz)	Applicable Limits (dBm)	Pass or Fail
5745	1.468	1.899	N/A	30	Pass
5785	1.637	1.421	N/A	30	Pass
5825	1.586	1.044	N/A	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11N20/40 MODULATION					
Frequency (MHz)	Power density Chain 0 (dBm/MHz)	Power density Chain 1 (dBm/MHz)	Power density Total (dBm/MHz)	Applicable Limits (dBm)	Pass or Fail
5180	3.347	3.232	6.300	17	Pass
5200	4.065	4.008	7.047	17	Pass
5240	4.459	4.265	7.373	17	Pass
5190	0.717	0.609	3.674	17	Pass
5230	0.895	0.871	3.893	17	Pass
Frequency (MHz)	Power density Chain 0 (dBm/500kHz)	Power density Chain 1 (dBm/500kHz)	Power density Total (dBm/500kHz)	Applicable Limits (dBm)	Pass or Fail
5745	1.520	1.414	4.478	30	Pass
5785	1.207	0.972	4.101	30	Pass
5825	0.735	0.838	3.797	30	Pass
5755	-1.771	-1.984	1.134	30	Pass
5795	-2.869	-2.790	0.181	30	Pass

LIMITS AND MEASUREMENT RESULT FOR 802.11AC20/40/80 MODULATION					
Frequency (MHz)	Power density Chain 0 (dBm/MHz)	Power density Chain 1 (dBm/MHz)	Power density Total (dBm/MHz)	Applicable Limits (dBm)	Pass or Fail
5180	3.687	3.472	6.591	17	Pass
5200	4.415	4.363	7.399	17	Pass
5240	4.755	4.310	7.548	17	Pass
5190	0.639	0.611	3.635	17	Pass
5230	0.954	0.886	3.930	17	Pass
5210	-4.795	-4.810	-1.792	17	Pass
Frequency (MHz)	Power density Chain 0 (dBm/500kHz)	Power density Chain 1 (dBm/500kHz)	Power density Total (dBm/500kHz)	Applicable Limits (dBm)	Pass or Fail
5745	1.267	1.116	4.202	30	Pass
5785	1.208	1.200	4.214	30	Pass
5825	1.226	1.133	4.190	30	Pass
5755	-2.404	-2.434	0.591	30	Pass
5795	-2.833	-2.781	0.203	30	Pass
5775	-5.791	-5.965	-2.867	30	Pass

802.11a20 TEST RESULT
TEST PLOT OF SPECTRAL DENSITY FOR 5180MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5180MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5200MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5200MHz AT CHAIN 1



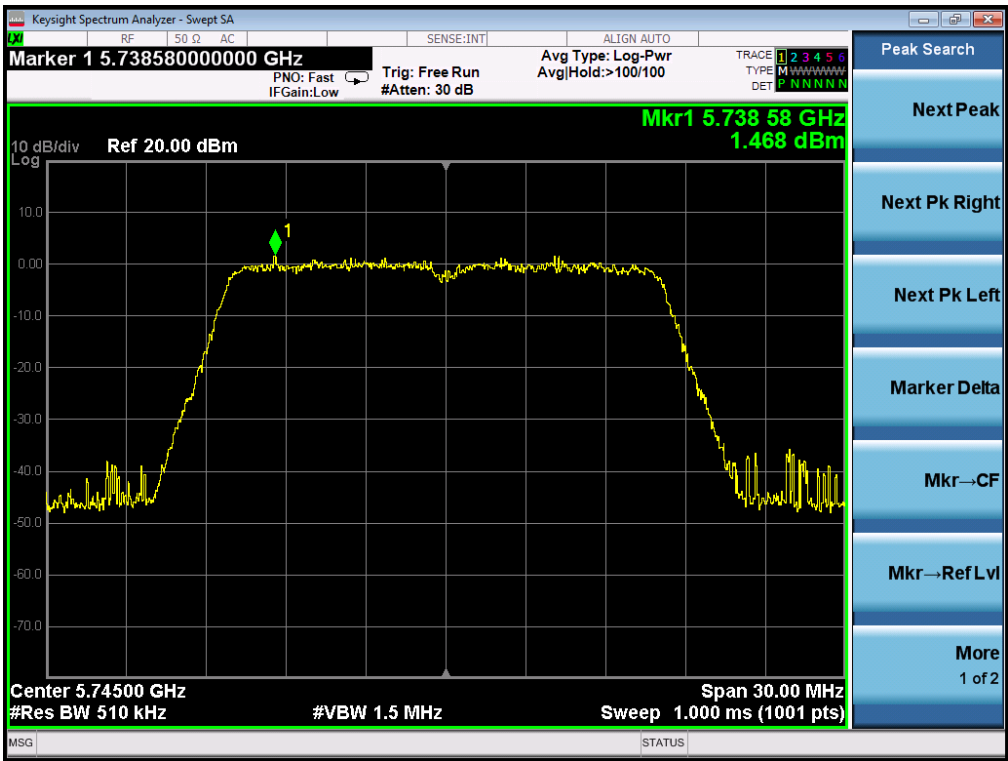
TEST PLOT OF SPECTRAL DENSITY FOR 5240MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5240MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5745MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5745MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5785MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5785MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5825MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5825MHz AT CHAIN 1



802.11n20 TEST RESULT
TEST PLOT OF SPECTRAL DENSITY FOR 5180MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5180MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5200MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5200MHz AT CHAIN 1



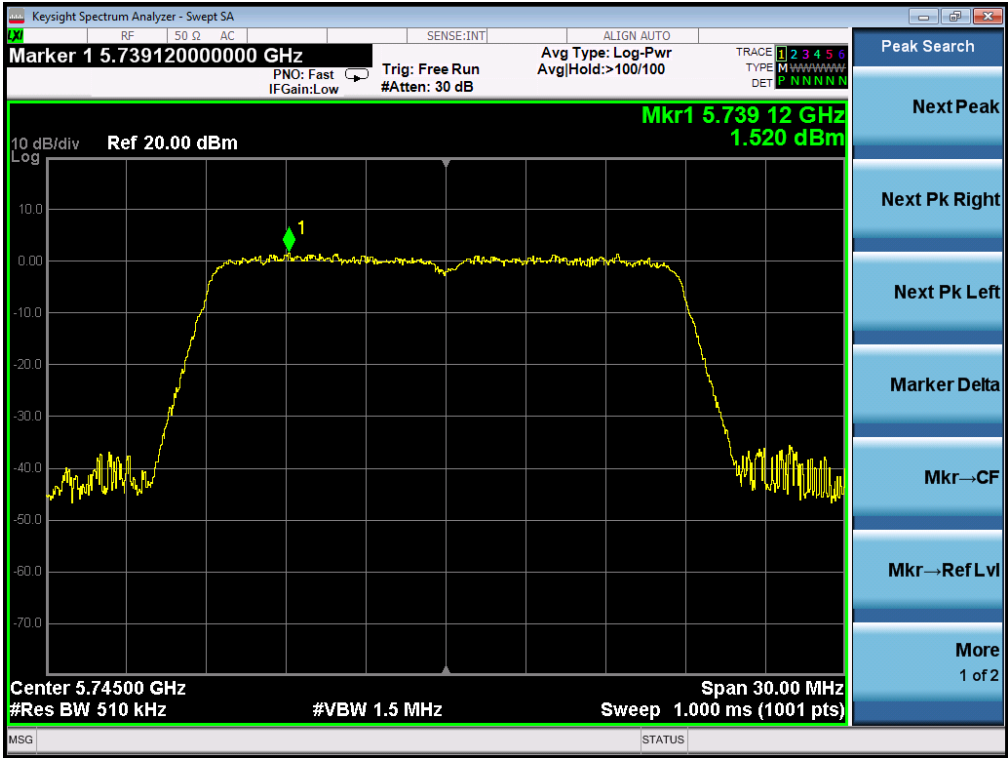
TEST PLOT OF SPECTRAL DENSITY FOR 5240MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5240MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5745MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5745MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5785MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5785MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5825MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5825MHz AT CHAIN 1



802.11n40 TEST RESULT
TEST PLOT OF SPECTRAL DENSITY FOR 5190MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5190MHz AT CHAIN 1



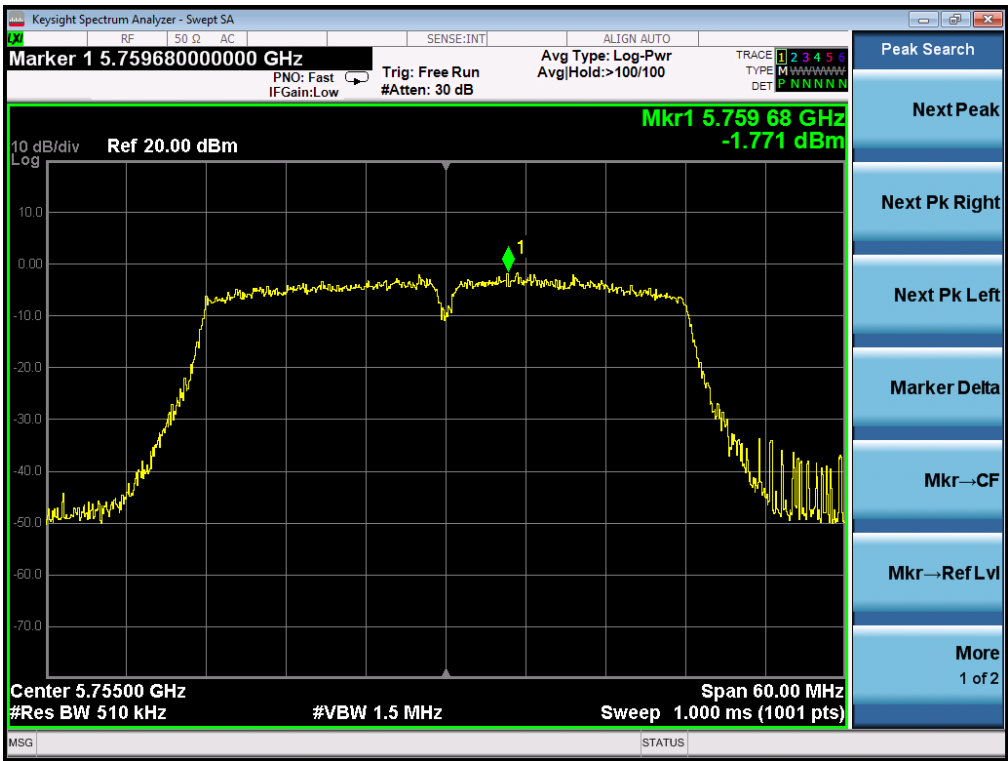
TEST PLOT OF SPECTRAL DENSITY FOR 5230MHz AT CHAIN 0



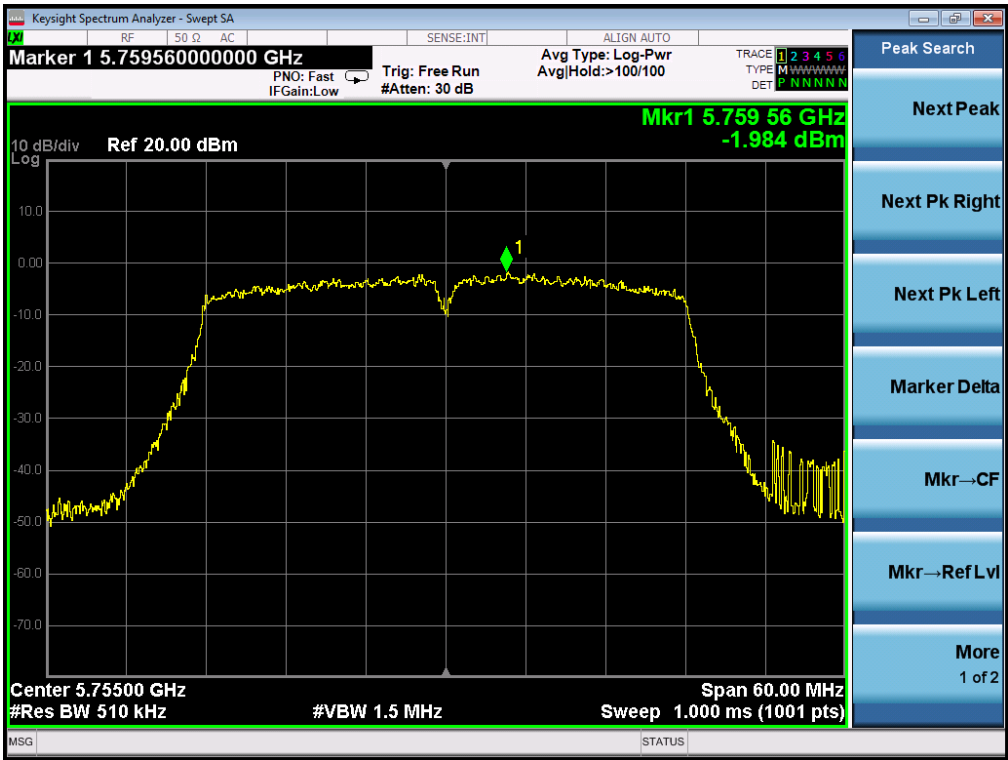
TEST PLOT OF SPECTRAL DENSITY FOR 5230MHz AT CHAIN 1



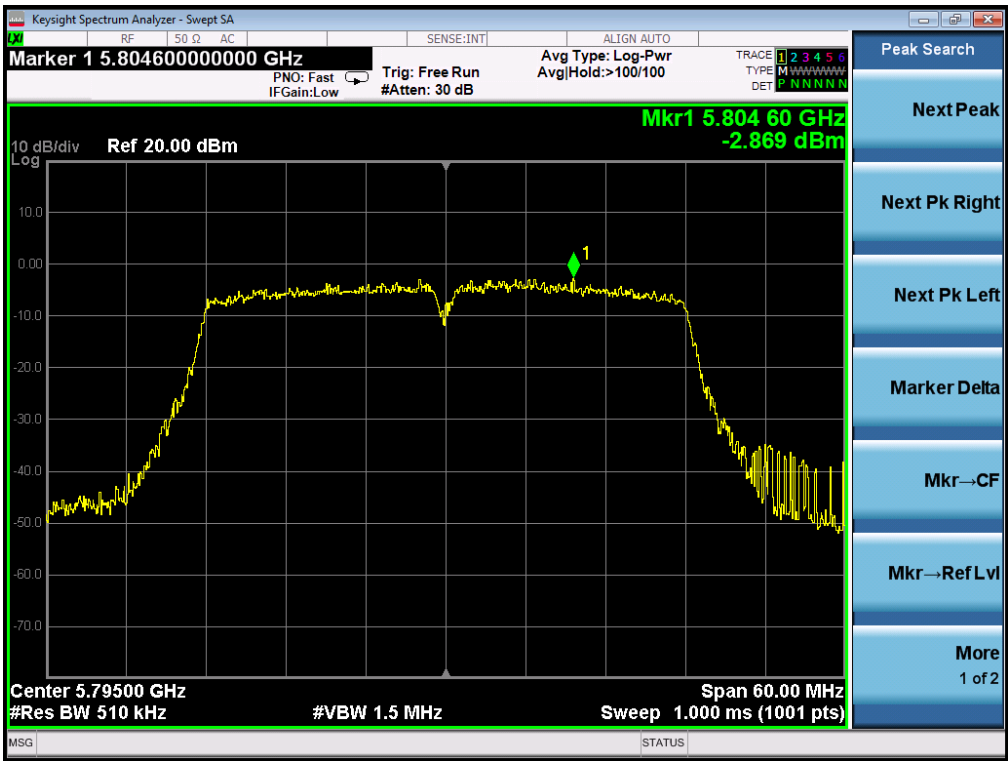
TEST PLOT OF SPECTRAL DENSITY FOR 5755MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5755MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5795MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5795MHz AT CHAIN 1



802.11ac20 TEST RESULT
TEST PLOT OF SPECTRAL DENSITY FOR 5180MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5180MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5200MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5200MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5240MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5240MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5745MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5745MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5785MHz AT CHAIN 0



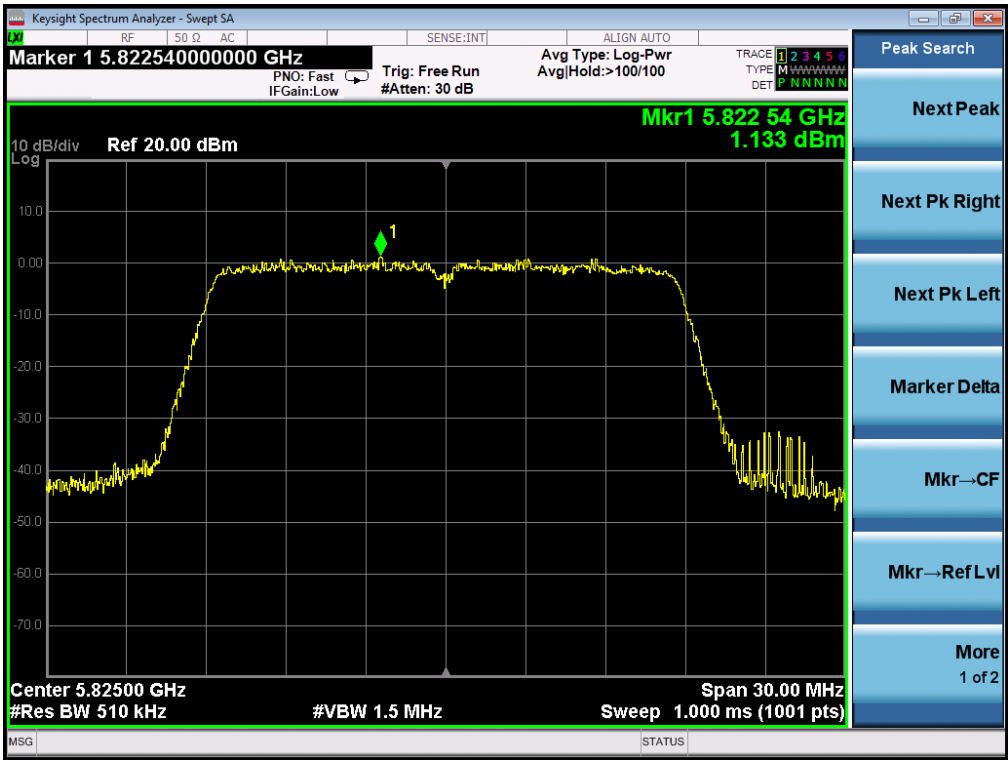
TEST PLOT OF SPECTRAL DENSITY FOR 5785MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5825MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5825MHz AT CHAIN 1



802.11ac40 TEST RESULT
TEST PLOT OF SPECTRAL DENSITY FOR 5190MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5190MHz AT CHAIN 1



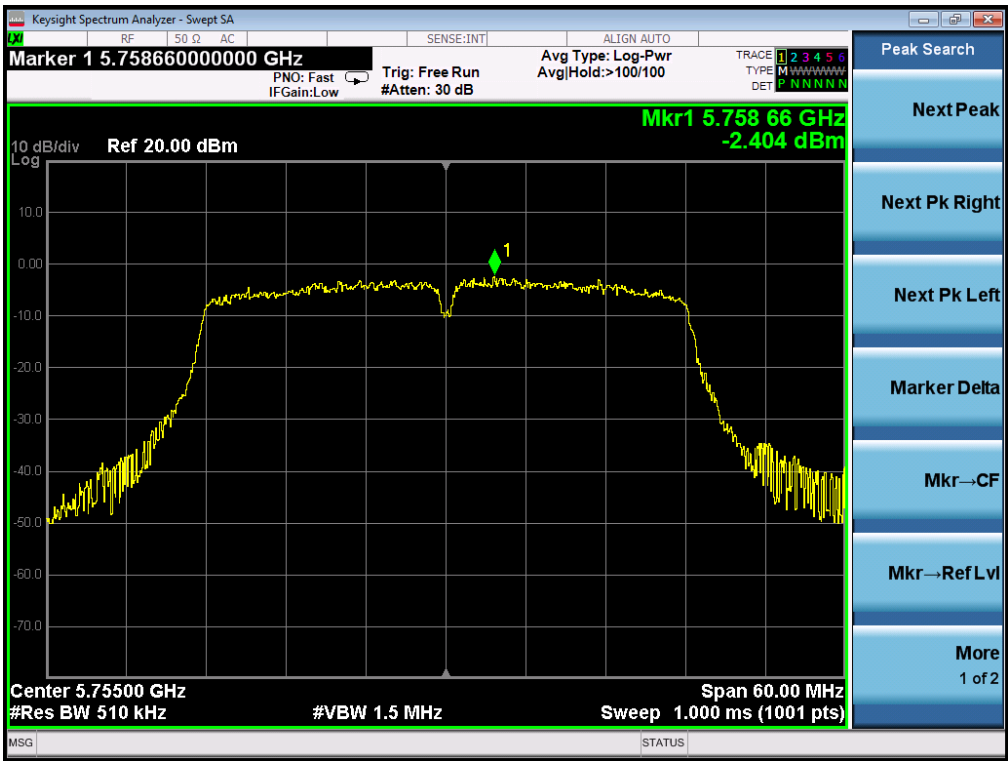
TEST PLOT OF SPECTRAL DENSITY FOR 5230MHz AT CHAIN 0



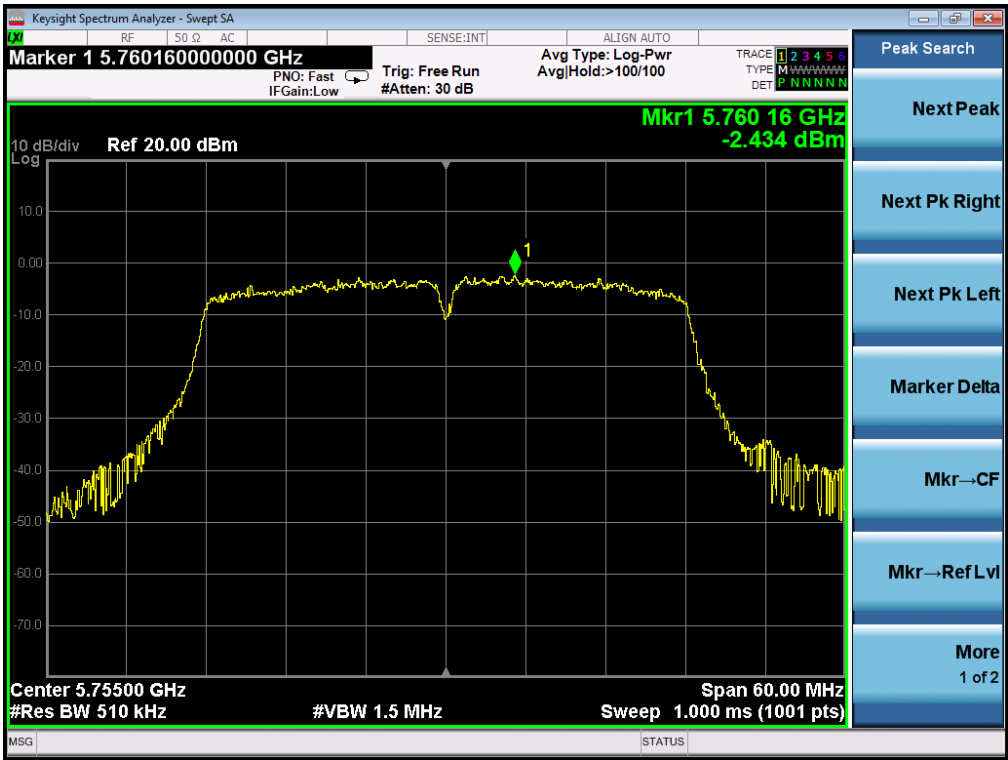
TEST PLOT OF SPECTRAL DENSITY FOR 5230MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5755MHz AT CHAIN 0



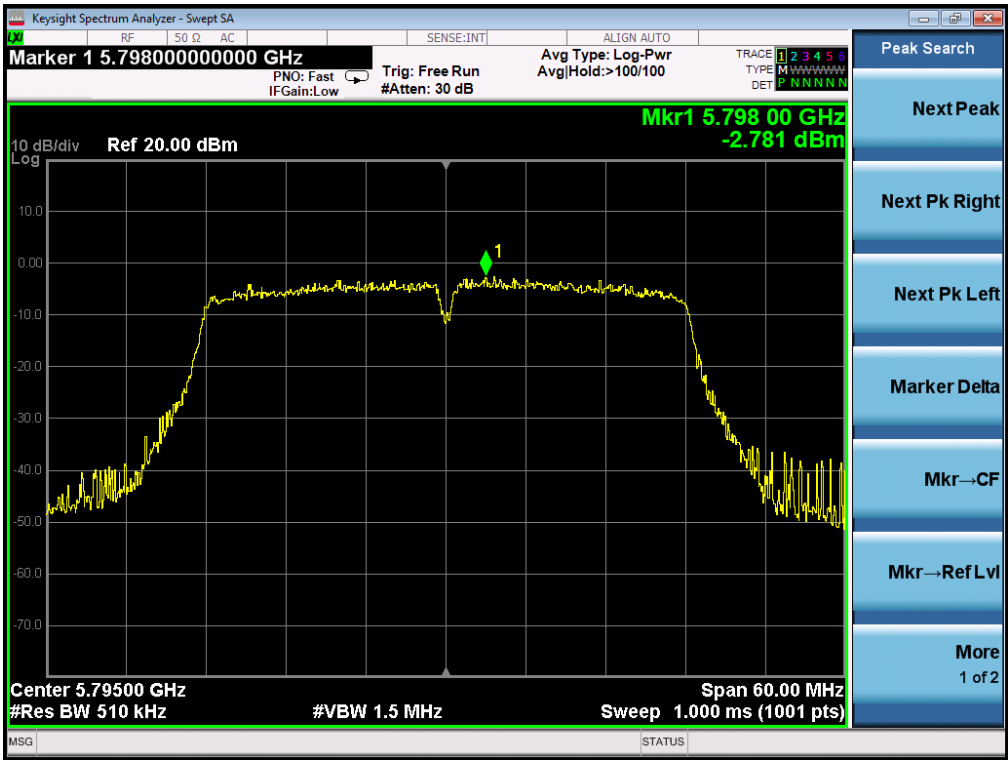
TEST PLOT OF SPECTRAL DENSITY FOR 5755MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5795MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5795MHz AT CHAIN 1



802.11ac80 TEST RESULT
TEST PLOT OF SPECTRAL DENSITY FOR 5210MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5210MHz AT CHAIN 1



TEST PLOT OF SPECTRAL DENSITY FOR 5775MHz AT CHAIN 0



TEST PLOT OF SPECTRAL DENSITY FOR 5775MHz AT CHAIN 1



11. CONDUCTED SPURIOUS EMISSION

11.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Trace 1 Max hold, then View.

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

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

The same as described in section 8.2.

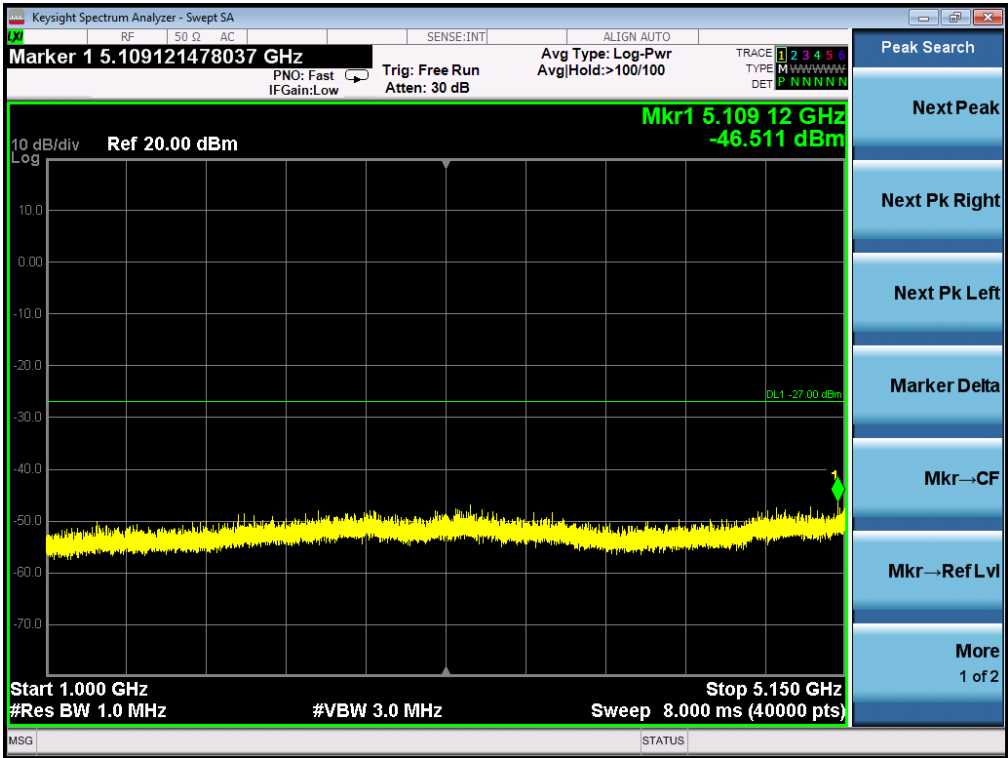
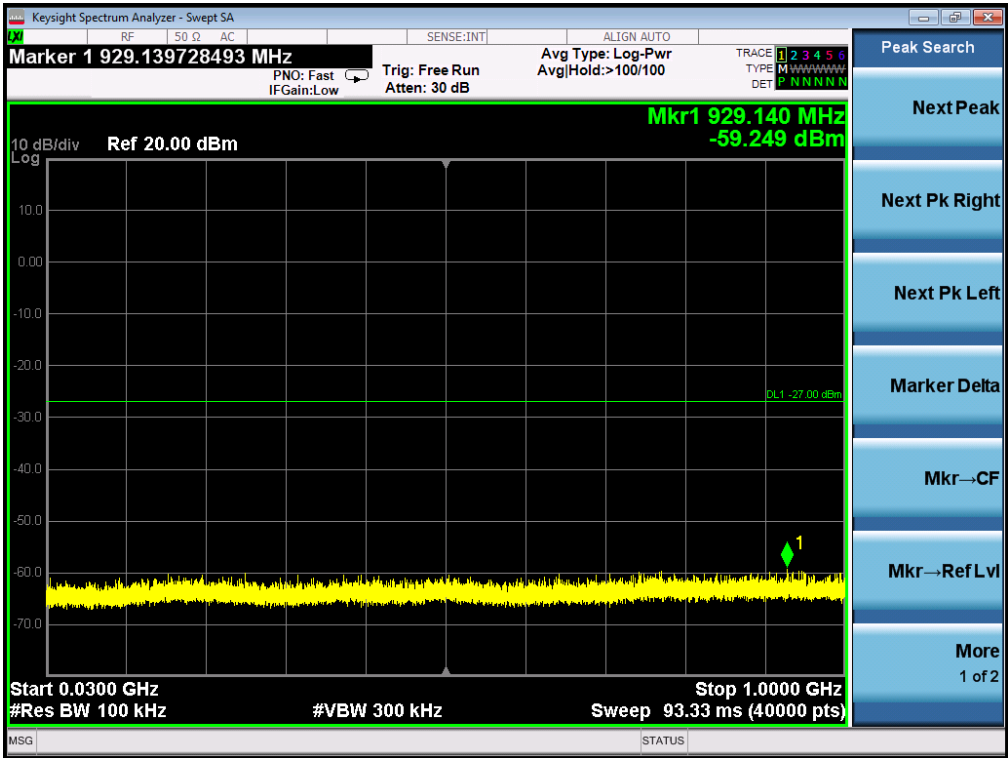
11.3. MEASUREMENT EQUIPMENT USED

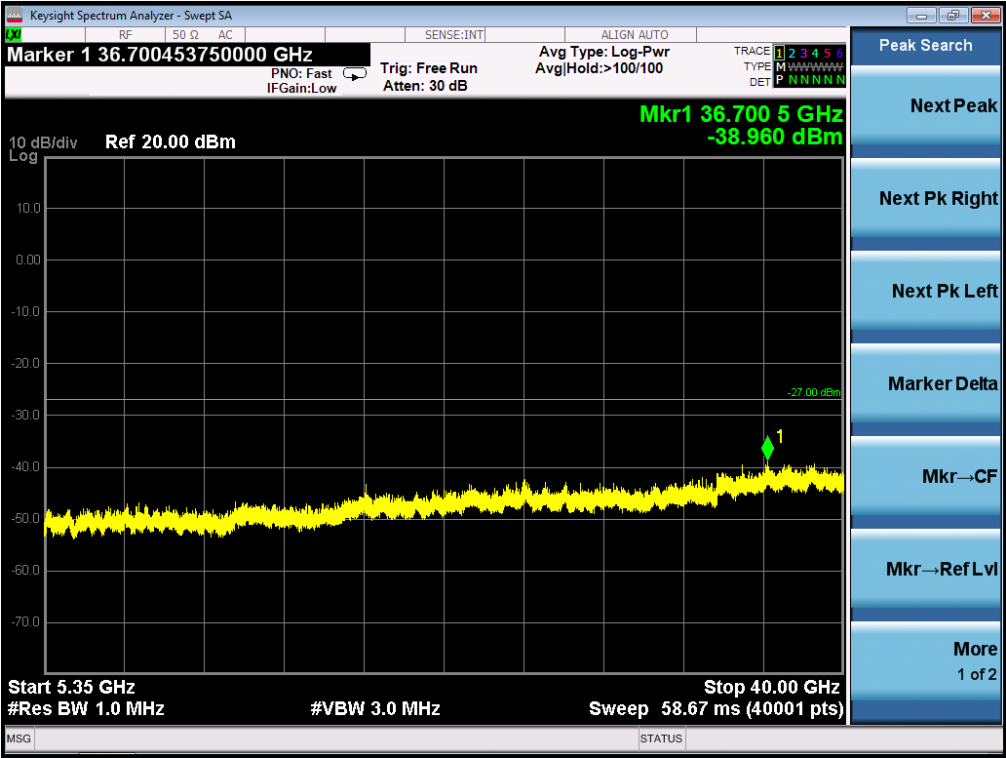
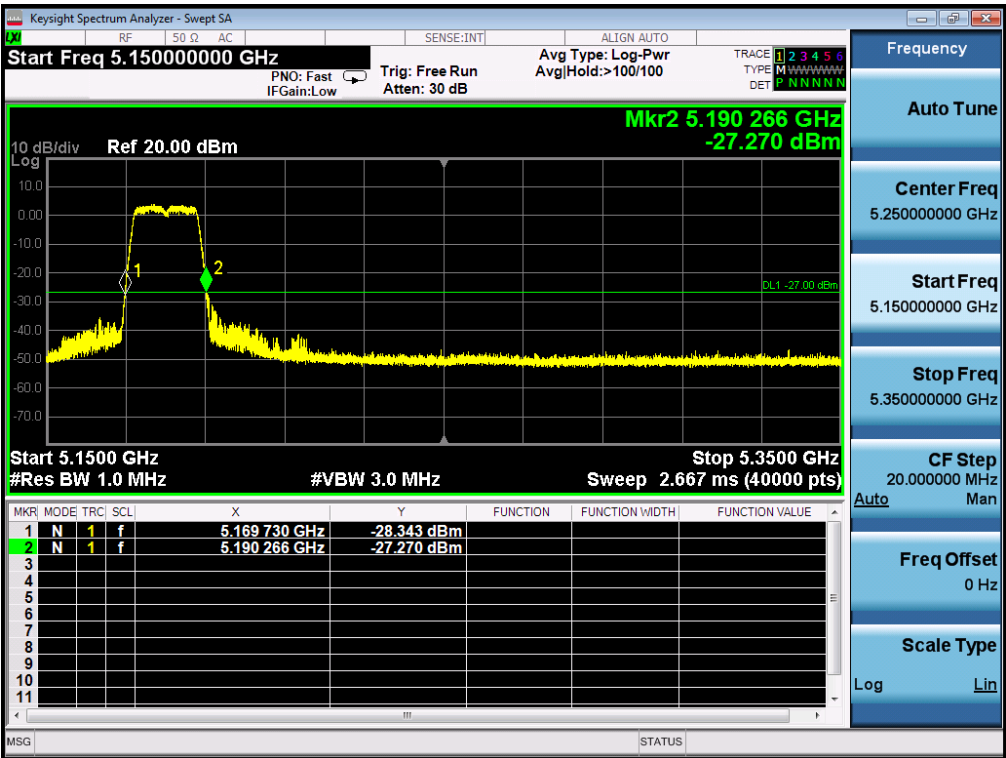
The same as described in section 6.

11.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT		
Applicable Limits	Measurement Result	
	Test channel	Criteria
-27dBm/MHz	5150MHz-5250MHz	PASS
All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	5725MHz-5850MHz	PASS

FOR 802.11A20 MODULATION
TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5180MHZ





Keysight Spectrum Analyzer - Swept SA

Marker 1 517.703942599 MHz
PNO: Fast IFGain: Low Trig: Free Run Atten: 30 dB
Avg Type: Log-Pwr AvgHold: >100/100
TRACE TYPE M DET P NNNNNN

10 dB/div Ref 20.00 dBm
Log

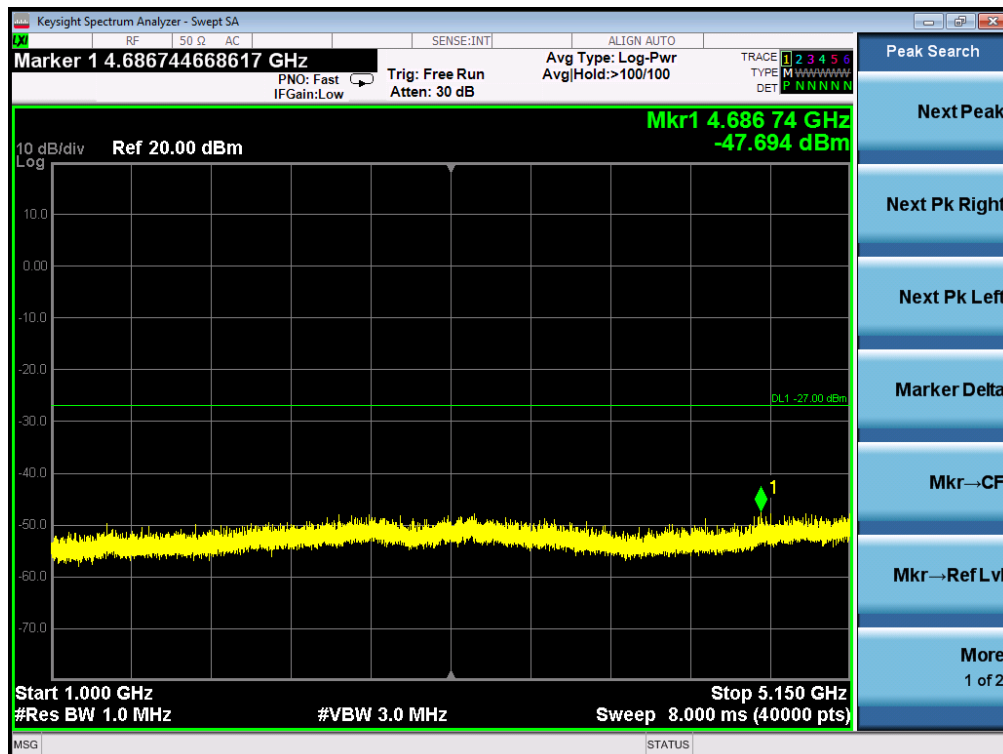
Mkr1 517.704 MHz
-59.598 dBm

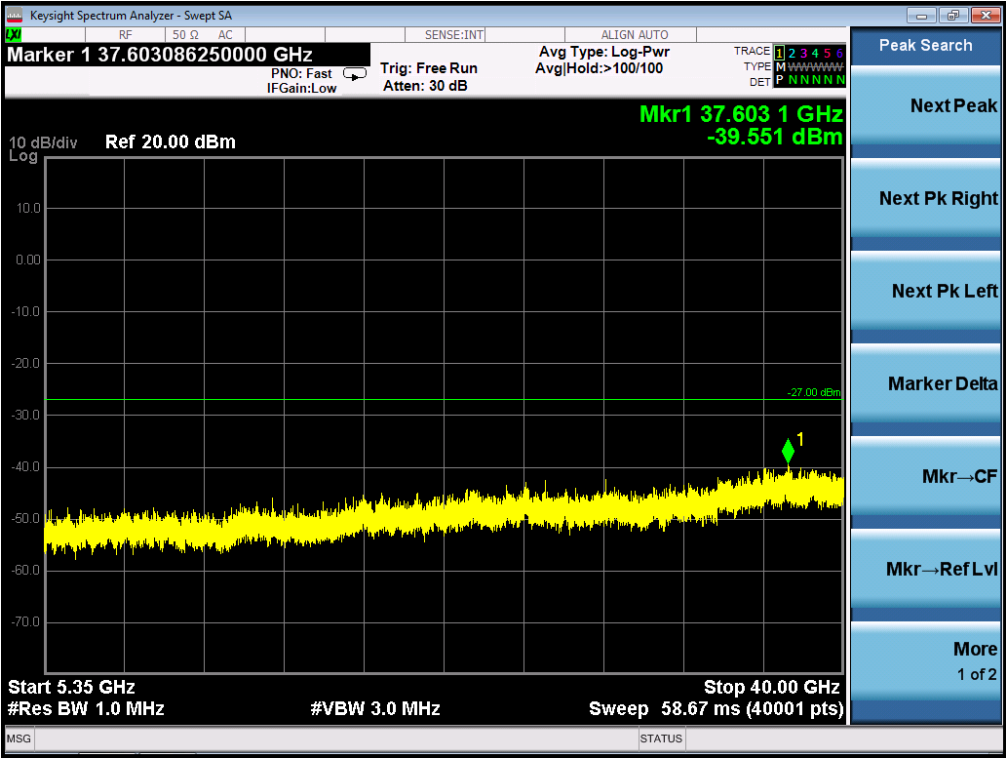
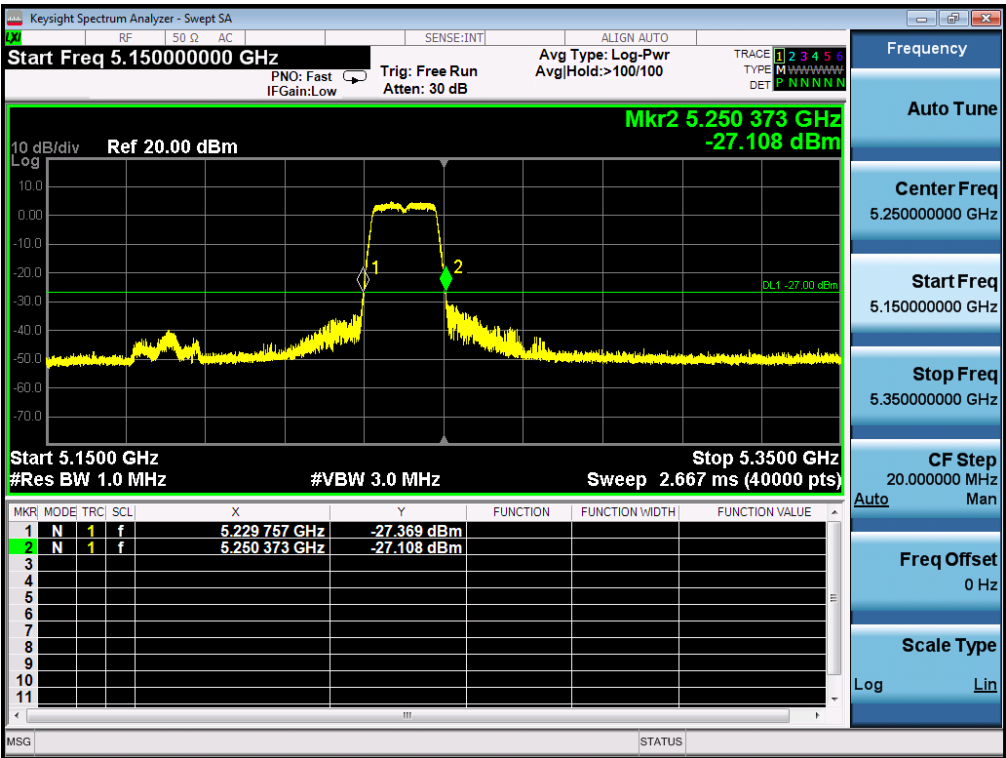
DL1 -27.00 dBm

Start 0.0300 GHz Stop 1.0000 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 93.33 ms (40000 pts)

MSG STATUS

Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2





TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5745MHz

