

TEST REPORT

Reference No. : WTD24D03066054W002
FCC ID..... : ZLZ-MRR8860
Applicant..... : Shenzhen Mindray Bio-Medical Electronics Co., Ltd.
Address : Mindray Building, Keji 12th Road South, Hi-tech Ind, Shenzhen China
Product Name : Wireless LAN Router
Model No. : MRR8860
Standards..... : FCC 47CFR Part 15 Section 15.407
Date of Receipt sample..... : 2024-03-28
Date of Test..... : 2024-03-28 to 2024-04-19
Date of Issue : 2024-09-12
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company.
The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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3 Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTD24D03066054W002	2024-03-28	2024-03-28 to 2024-04-19	2024-09-12	Original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	Wireless LAN Router
Model(s):	MRR8860
Test Sample No.:	1-1/2
Model Description:	N/A
Wi-Fi Specification:	802.11a/ n(HT20/40)/ac VHT(20/40/80)
Hardware Version:	N/A
Software Version:	N/A

4.2 Details of E.U.T.

Operation Frequency:	U-NII-1 802.11a/n (HT20) /ac (HT20), 5180-5240MHz 4CH 802.11n (HT40) /ac (HT40), 5190-5230MHz 2CH 802.11ac (HT80), 5210MHz 1CH U-NII-3 802.11a/n (HT20)/ac (HT20), 5745-5825MHz 5CH 802.11n (HT40)/ ac (HT40), 5755-5795MHz 2CH 802.11ac (HT80), 5775MHz 1CH												
Max. RF output power:	U-NII-1 Ant. 0: 20.37dBm, Ant. 1: 20.27 dBm, Total: 23.12 dBm U-NII-3: Ant. 0: 20.37dBm, Ant. 1: 20.16 dBm, Total: 23.28 dBm												
Type of Modulation:	802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)												
Antenna installation:	External Antenna with Reverse Thread SMA connector												
Antenna Gain:	<table><tr><th rowspan="2">Ant.</th><th colspan="2">Operation Frequencies (MHz) /Antenna Gain (dBi)</th></tr><tr><th>5150~5250</th><th>5725~5850</th></tr><tr><td>0</td><td>3.3</td><td>3.9</td></tr><tr><td>1</td><td>3.3</td><td>3.9</td></tr></table>		Ant.	Operation Frequencies (MHz) /Antenna Gain (dBi)		5150~5250	5725~5850	0	3.3	3.9	1	3.3	3.9
Ant.	Operation Frequencies (MHz) /Antenna Gain (dBi)												
	5150~5250	5725~5850											
0	3.3	3.9											
1	3.3	3.9											

Note:

#: The antenna gain is provided by the applicant, and the applicant should be responsible for its authenticity, WALTEK lab has not verified the authenticity of its information.

Ratings: DC 9V~48V

4.3 Channel List

U-NII-1 (5.15-5.25GHz)			
channel	Frequency(MHz)	channel	Frequency(MHz)
36	5180	38	5190
40	5200	42	5210
44	5220	46	5230
48	5240		

U-NII-3 (5.725-5.85GHz)			
channel	Frequency(MHz)	channel	Frequency(MHz)
149	5745	151	5755
153	5765	155	5775
157	5785	159	5795
161	5805	165	5825

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

For 802.11a/n (HT20):

channel	Frequency(MHz)	channel	Frequency(MHz)
36	5180	40	5200
48	5240		

channel	Frequency(MHz)	channel	Frequency(MHz)
149	5745	157	5785
165	5825		

For 802.11n (HT40):

channel	Frequency(MHz)	channel	Frequency(MHz)
38	5190	46	5230

channel	Frequency(MHz)	channel	Frequency(MHz)
151	5755	159	5795

4.4 Test Mode Description

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

The duty cycle of transmitting is maximum.

The software is QRCT Version3.0.295.0.

Test Items	Mode	Data Rate	TX/RX
Radiated Emissions	802.11a (HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
Duty Cycle	802.11a (HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
Band Edge	802.11a (HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
6dB Bandwidth	802.11a (HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
26dB Bandwidth and 99% Occupied Bandwidth	802.11a (HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
Conducted Output Power	802.11a (HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
Power Spectral Density	802.11a (HT20)	6 Mbps	TX
	802.11n(HT20/40)	MCS0	TX
Frequency Stability	Un-modulation	/	TX

4.5 Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group 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 number 523476, September 10, 2019.

5 Equipment Used during Test

5.1 Equipments List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal. Date	Calibration Due Date
Conducted Emissions 2#						
1	EMI Test Receiver	R&S	ESCI	101155	2023-07-27	2024-07-26
2	LISN	SCHWARZBECK	NSLK 8128	8128-259	2023-10-31	2024-10-30
3	Pulse Limiter	CYBERTEK	EM5010	261115-001-0024	2023-07-27	2024-07-26
4	Cable	Laplace	RF300	-	2023-07-27	2024-07-26
3m Semi-anechoic Chamber for Radiation Emissions 1#						
1	Spectrum Analyzer	R&S	FSP30	100091	2023-04-24	2024-04-23
2	Amplifier	Agilent	8447D	2944A10178	2023-07-27	2024-07-26
3	Tri-log Broadband Antenna	SCHWARZBECK	VULB9163	336	2023-08-07	2024-08-06
4	Coaxial Cable	Top	TYPE16(13M)	-	2023-04-24	2024-04-23
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120D	667	2024-01-23	2025-01-22
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	2023-07-27	2024-07-26
7	Broadband Preamplifier	COMPLIANCE	PAP-1G18	2004	2023-08-07	2024-08-06
8	Coaxial Cable	Top	ZT26-NJ-NJ-8M/FA	-	2023-04-24	2024-04-23
9	Microwave Amplifier	SCHWARZBECK	BBV 9721	100472	2023-07-27	2024-07-26
10	Coaxial Cable	Top	ZT40-2.92J-2.92J-2.0M	17100919	2023-04-24	2024-04-23
3m Semi-anechoic Chamber for Radiation Emissions 2#						
1	Test Receiver	R&S	ESCI	101296	2023-04-24	2024-04-23
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2023-11-04	2024-11-03
3	Active Loop Antenna	Com-Power	AL-130R	10160007	2023-05-07	2024-05-06
4	Amplifier	ANRITSU	MH648A	M43381	2023-04-24	2024-04-23
5	Cable	HUBER+SUHNER	CBL2	525178	2023-04-24	2024-04-23
RF Conducting						
1	Spectrum Analyzer	R&S	FSP40	100501	2023-07-27	2024-07-26
2	Spectrum Analyzer	Agilent	N9020A	MY49100060	2023-07-27	2024-07-26

Test Software:

Test Item	Software name	Software version
Conducted Emission Radiated Emission(3m)	EZ-EMC	EZ-EMC(RA-03A1-1)

5.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
Adapter	POWERHK	AU12-120C150	/

5.3 Measurement Uncertainty

Parameter	Uncertainty
Conducted Emission	± 3.64dB (AC mains 150KHz~30MHz)
Radiated Spurious Emissions	± 5.08dB (Bilog antenna 30M~1000MHz)
	± 5.47 dB (Horn antenna 1000M~25000MHz)
Radio Frequency	± 1 x 10 ⁻⁷ Hz
RF Power	± 0.42 dB
RF Power Density	± 0.7dB
Conducted Spurious Emissions	± 2.76 dB (9kHz~26500MHz)
Confidence interval: 95%. Confidence factor: k=2	

5.4 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R. China.

6 Test Summary

Test Items	Test Requirement	Result
Conducted Emissions	15.207(a)	PASS
Radiated Emissions	15.407(a) 15.205(a) 15.209(a)	PASS
Duty Cycle	KDB 789033	PASS
6dB Bandwidth	15.407(a)	PASS
26 dB Emission Bandwidth & 99% Occupied Bandwidth	15.407(a)	PASS
Maximum Conducted Output Power	15.407(a)	PASS
Power Spectral Density	15.407(a)	PASS
Restricted bands around fundamental frequency	15.407(a)	PASS
Antenna Requirement	15.203	PASS
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	PASS
Note: Pass=Compliance; NC=Not Compliance; NT=Not Tested; N/A=Not Applicable		

7 Duty cycle

Test Requirement: FCC 47CFR Part 15 Section 15.407
KDB789033 D02 General U-NII Test Procedures New Rules v02r01,
Section (B)

Test Method: ANSI C63.10: 2013

Test Limit: N/A

Test Result: PASS

Remark: N/A

7.1 Summary of Test Results

Ant0

Type of Modulation	On time ms	Period ms	Duty Cycle linear	Duty Cycle %	Duty Cycle Factor(dB)	Average Factor(dB)
U-NII-1 802.11a	2.055	2.140	0.96	96.03	0.18	-0.35
U-NII-1 802.11n(HT20)	4.995	5.090	0.98	98.13	0.08	-0.16
U-NII-1 802.11n(HT40)	2.390	2.505	0.95	95.41	0.20	-0.41
U-NII-1 802.11ac (HT20)	5.000	5.095	0.98	98.14	0.08	-0.16
U-NII-1 802.11ac (HT40)	2.395	2.515	0.95	95.23	0.21	-0.42
U-NII-1 802.11ac (HT80)	1.110	1.225	0.91	90.61	0.43	-0.86
U-NII-3 802.11a	2.055	2.145	0.96	95.80	0.19	-0.37
U-NII-3 802.11n(HT20)	4.990	5.090	0.98	98.04	0.09	-0.17
U-NII-3 802.11n(HT40)	2.395	2.510	0.95	95.42	0.20	-0.41
U-NII-3 802.11ac (HT20)	4.990	5.090	0.98	98.04	0.09	-0.17
U-NII-3 802.11ac (HT40)	2.395	2.510	0.95	95.42	0.20	-0.41
U-NII-3 802.11ac (HT80)	1.115	1.230	0.91	90.65	0.43	-0.85

Ant1

Type of Modulation	On time ms	Period ms	Duty Cycle linear	Duty Cycle %	Duty Cycle Factor(dB)	Average Factor(dB)
U-NII-1 802.11a	2.050	2.145	0.96	95.57	0.20	-0.39
U-NII-1 802.11n(HT20)	4.975	5.070	0.98	98.13	0.08	-0.16
U-NII-1 802.11n(HT40)	2.400	2.520	0.95	95.24	0.21	-0.42
U-NII-1 802.11ac (HT20)	5.000	5.095	0.98	98.14	0.08	-0.16
U-NII-1 802.11ac (HT40)	2.405	2.525	0.95	95.25	0.21	-0.42
U-NII-1 802.11ac (HT80)	1.115	1.220	0.91	91.39	0.39	-0.78
U-NII-3 802.11a	2.055	2.140	0.96	96.03	0.18	-0.35
U-NII-3 802.11n(HT20)	4.980	5.080	0.98	98.03	0.09	-0.17
U-NII-3 802.11n(HT40)	2.390	2.505	0.95	95.41	0.20	-0.41
U-NII-3 802.11ac (HT20)	5.000	5.090	0.98	98.23	0.08	-0.15
U-NII-3 802.11ac (HT40)	2.395	2.515	0.95	95.23	0.21	-0.42
U-NII-3 802.11ac (HT80)	1.105	1.225	0.90	90.20	0.45	-0.90

Remark:

Duty cycle=On Time/period;

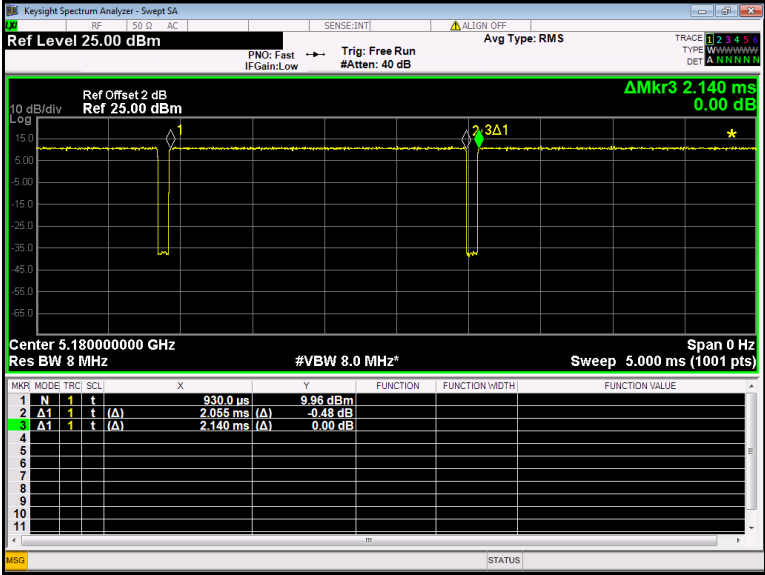
Duty cycle factor=10*log (1/Duty cycle);

Average factor=20log₁₀Duty cycle

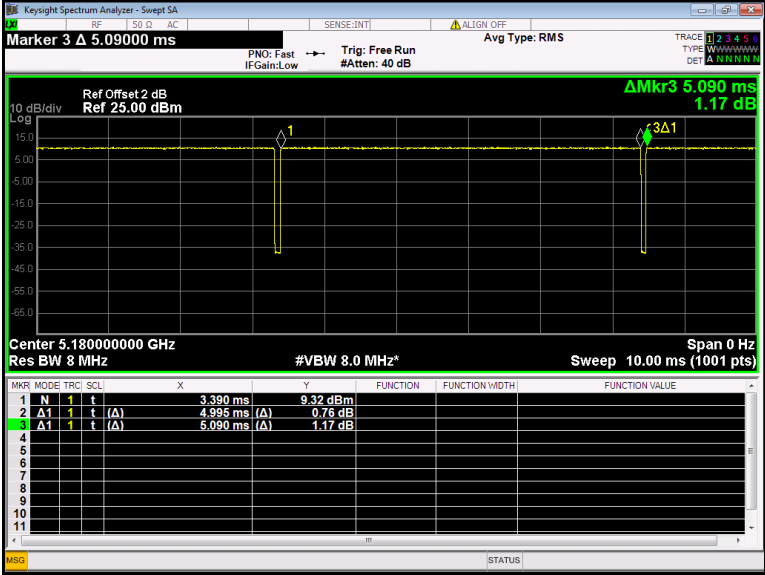
Test result plots shown as follows:

Ant0

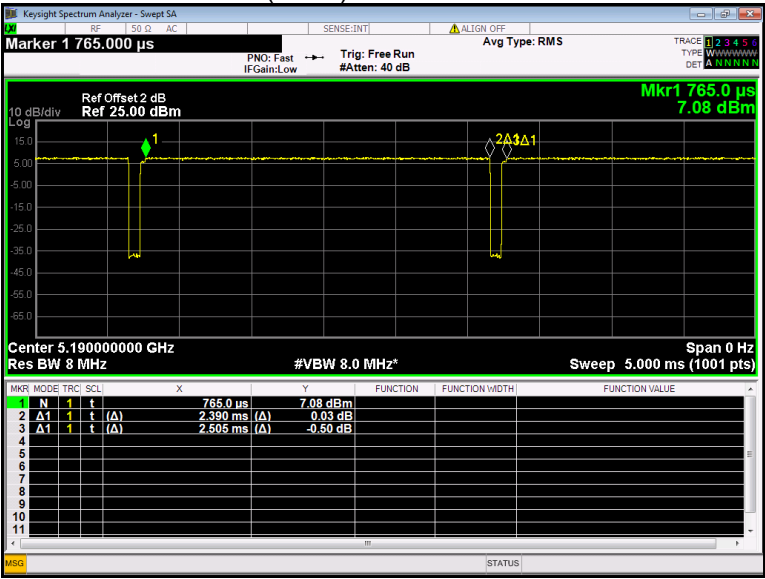
802.11a U-NII-1 Low channel



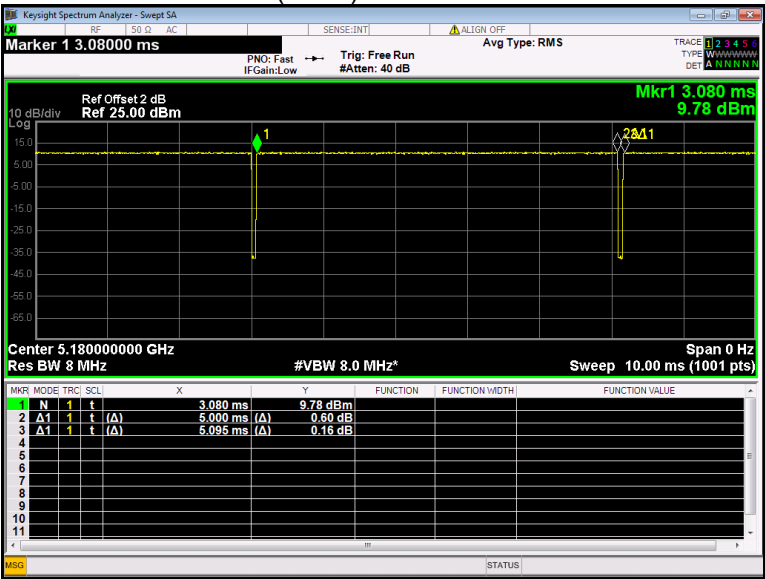
802.11n(HT20) U-NII-1 Low channel



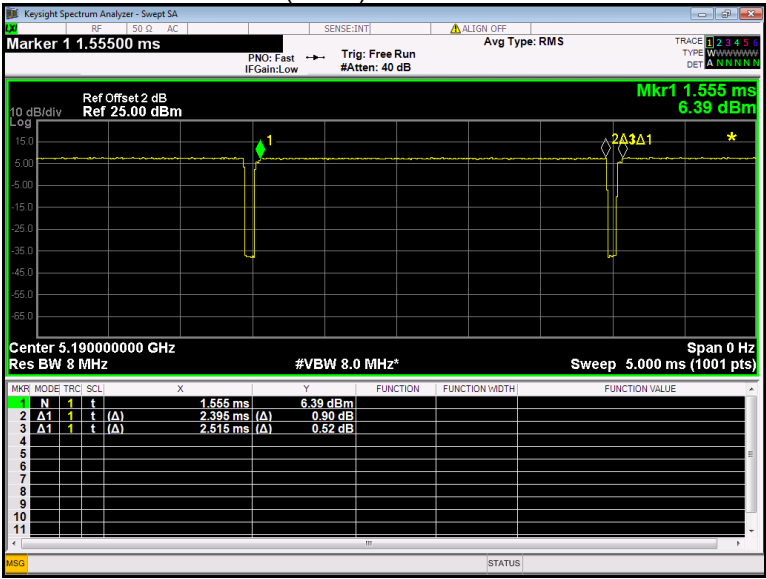
802.11n(HT40) U-NII-1 Low channel



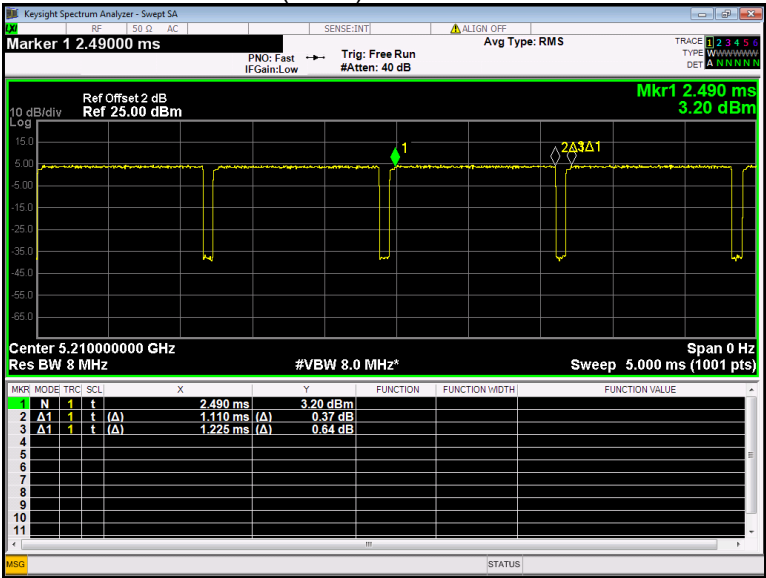
802.11ac (HT20) U-NII-1 Low channel



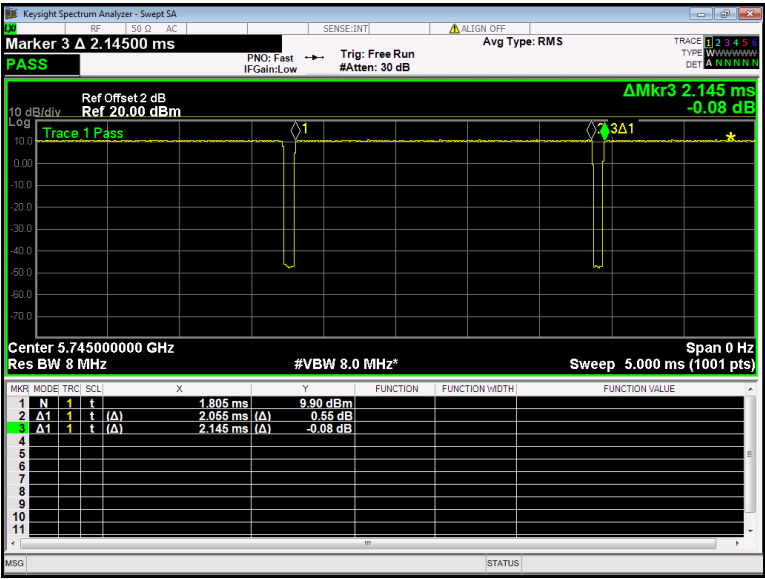
802.11 ac (HT40) U-NII-1 Low channel



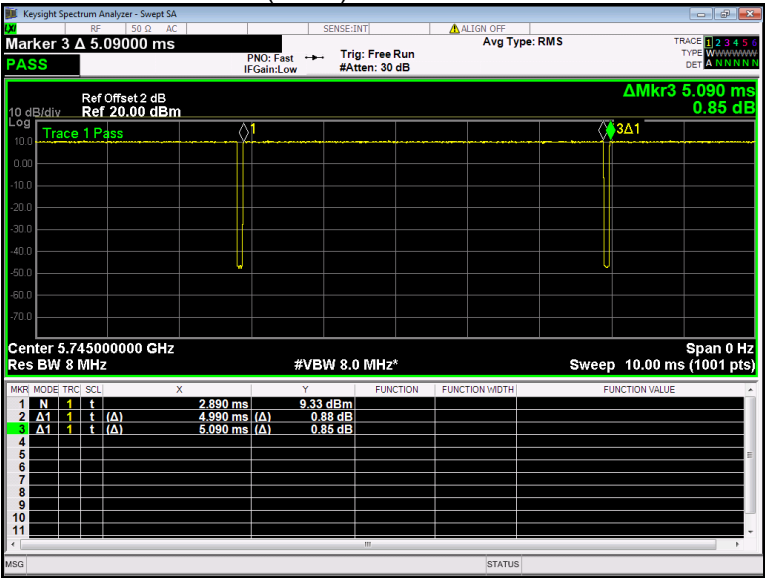
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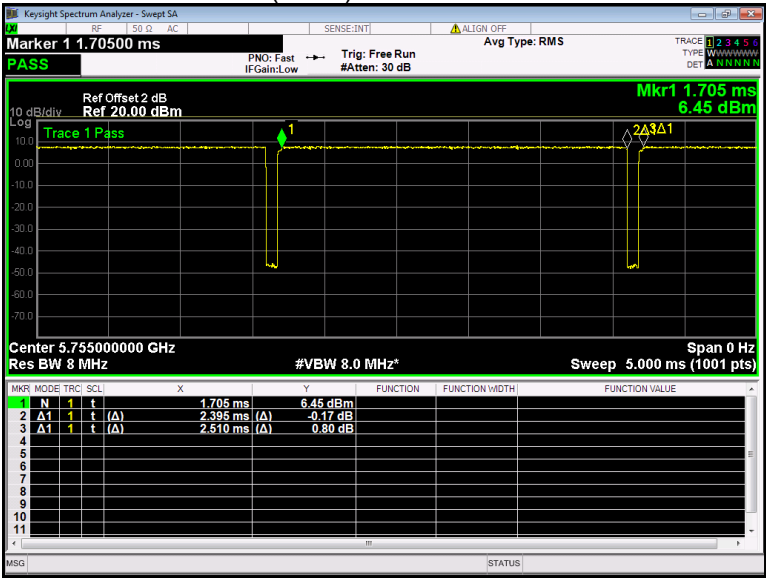
802.11a U-NII-3 Low channel



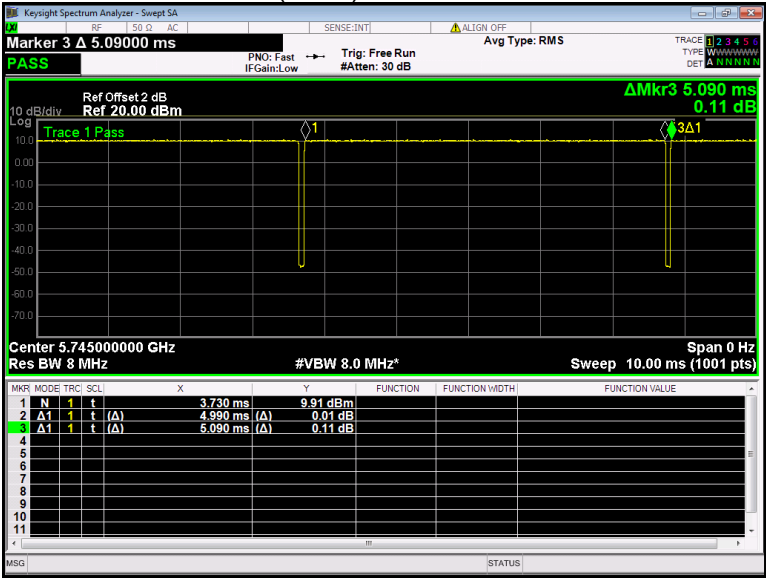
802.11n(HT20) U-NII-3 Low channel



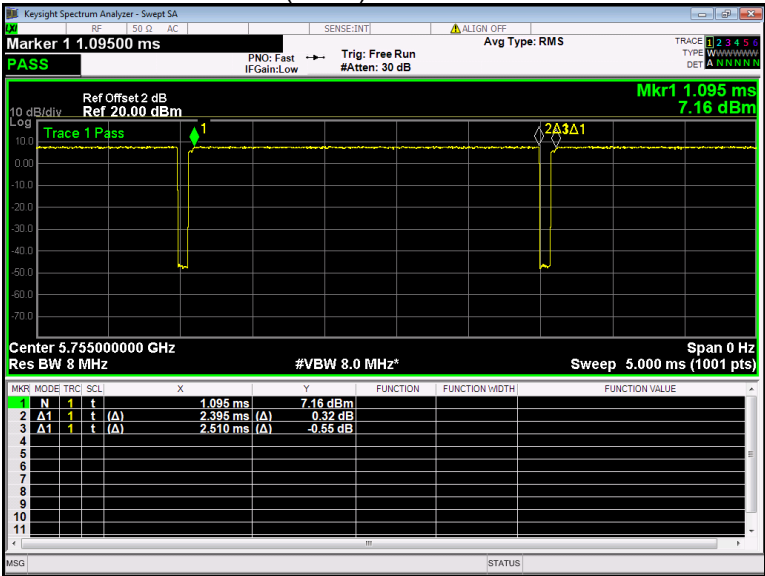
802.11n(HT40) U-NII-3 Low channel



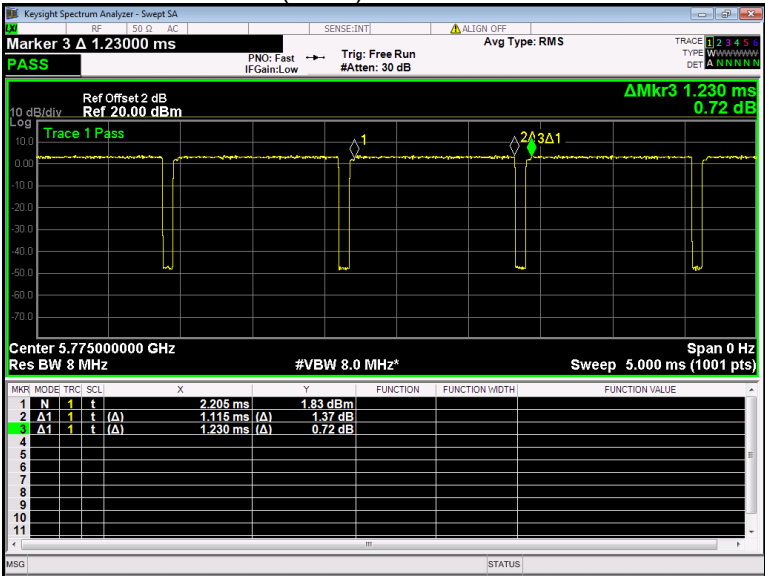
802.11ac (HT20) U-NII-3 Low channel



802.11 ac (HT40) U-NII-3 Low channel

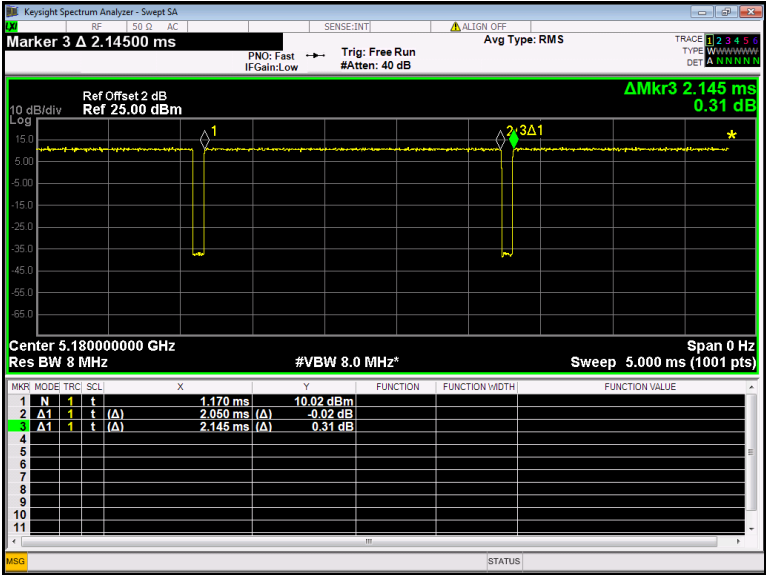


802.11 ac (HT80) U-NII-3 Low channel

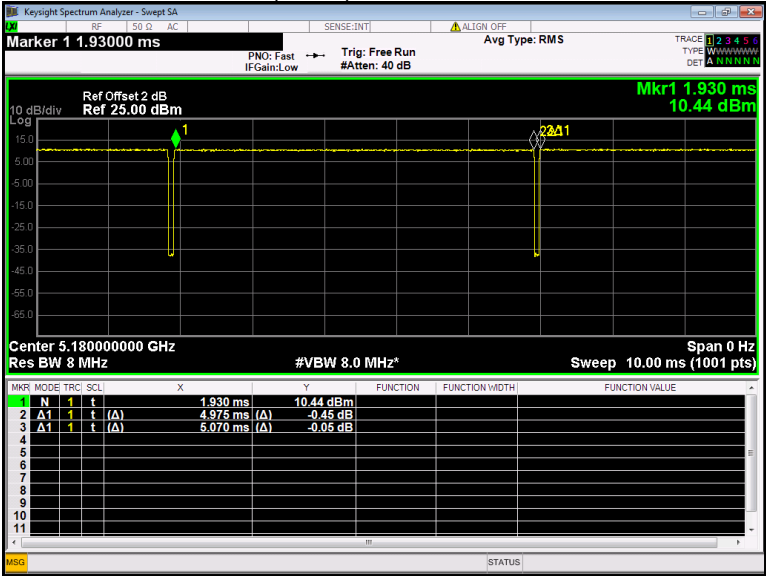


Ant1

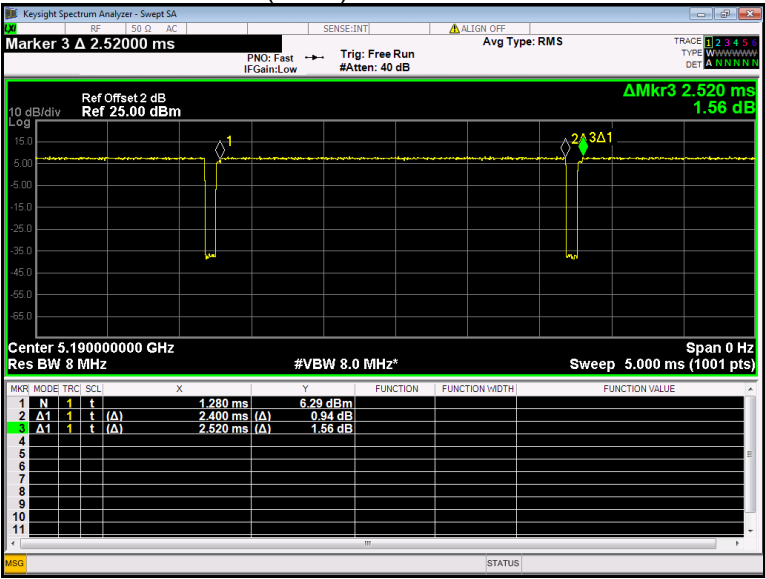
802.11a U-NII-1 Low channel



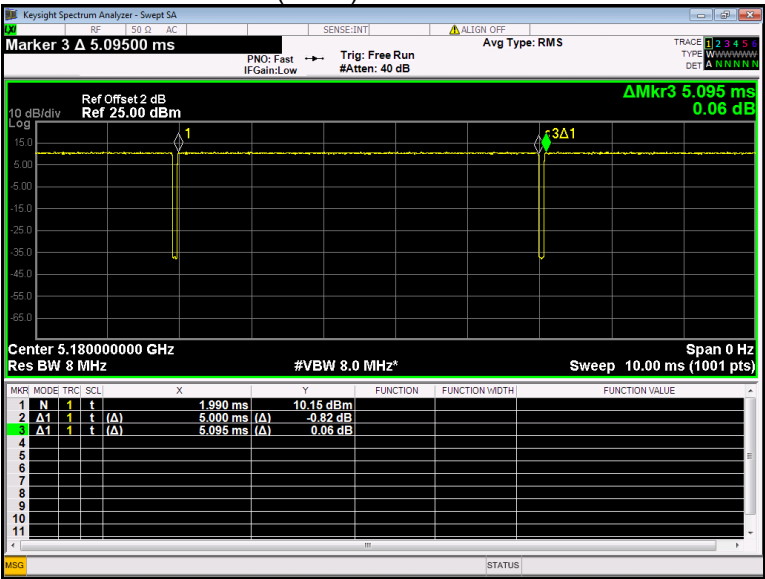
802.11n(HT20) U-NII-1 Low channel



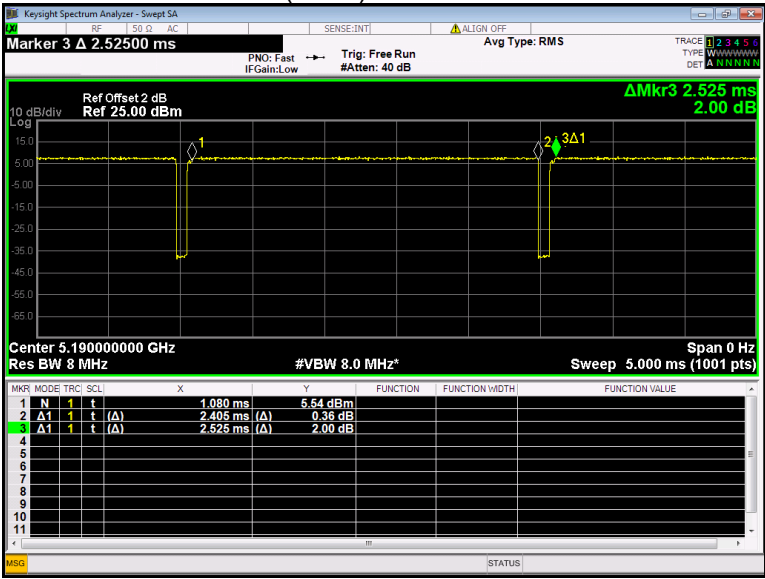
802.11n(HT40) U-NII-1 Low channel



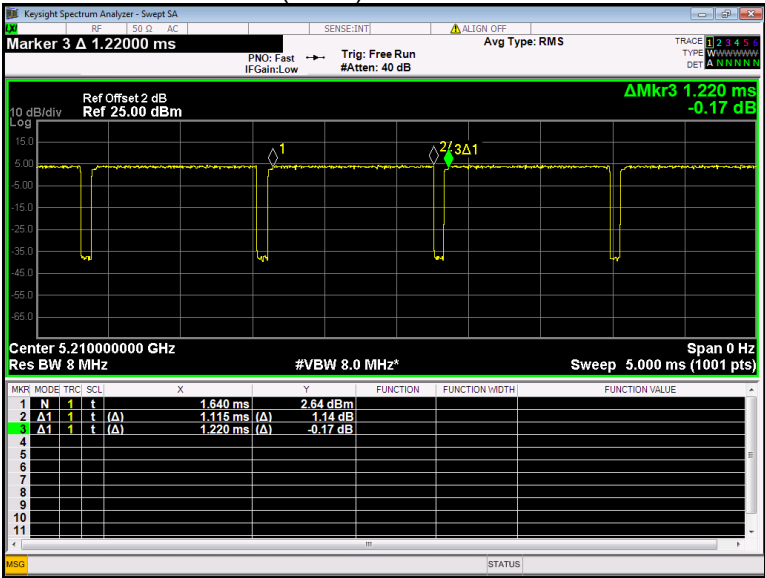
802.11ac (HT20) U-NII-1 Low channel



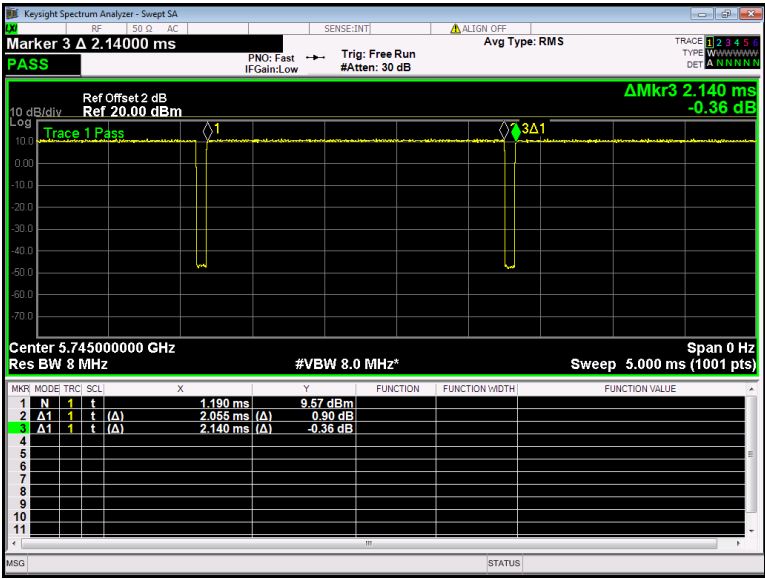
802.11 ac (HT40) U-NII-1 Low channel



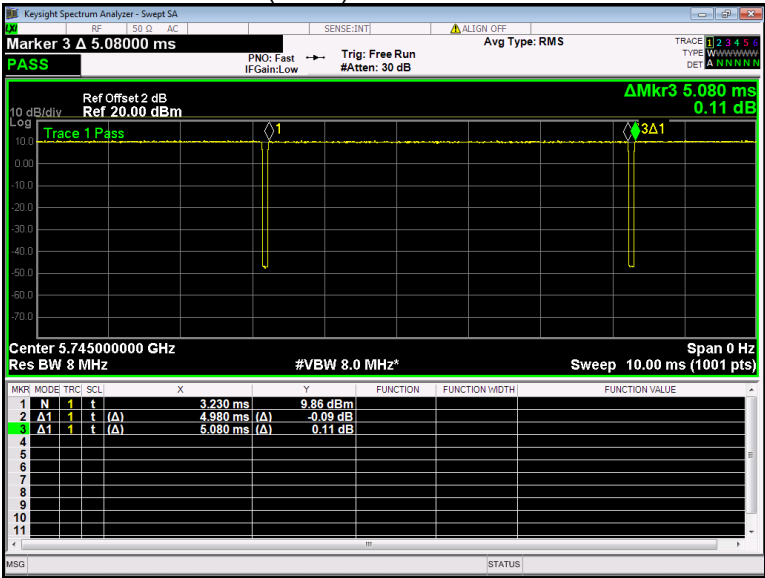
802.11 ac (HT80) U-NII-1 Low channel



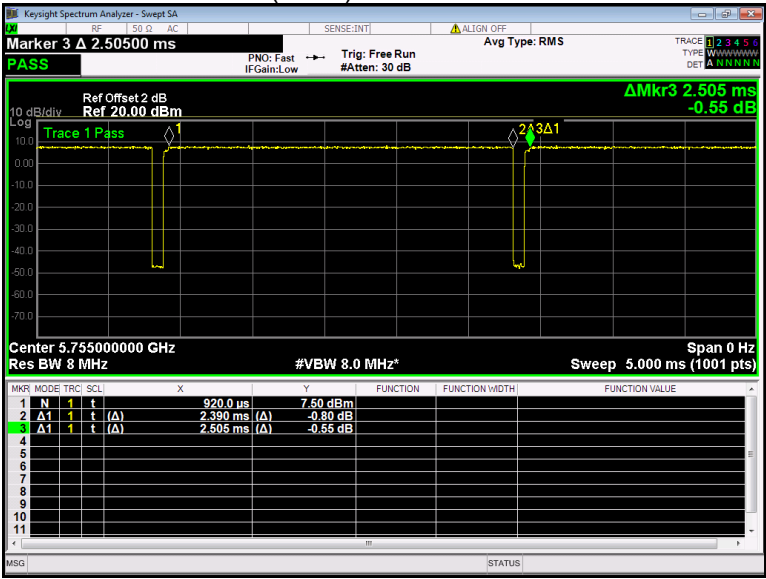
802.11a U-NII-3 Low channel



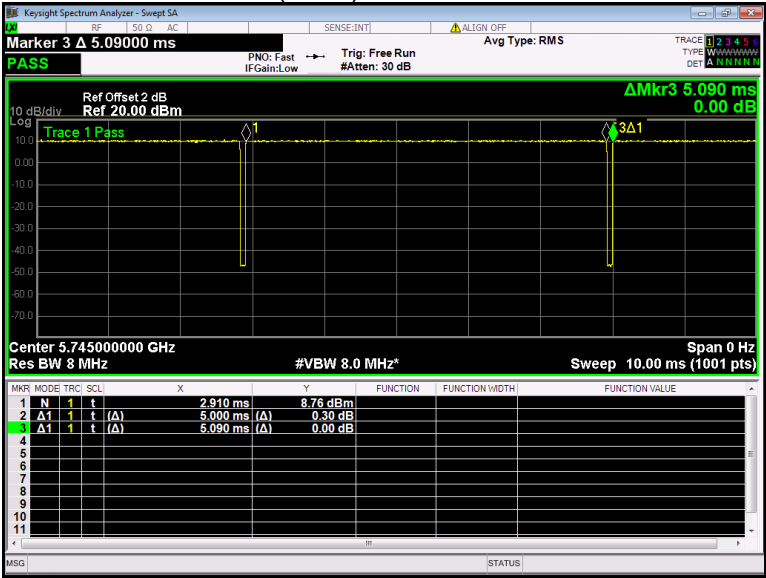
802.11n(HT20) U-NII-3 Low channel



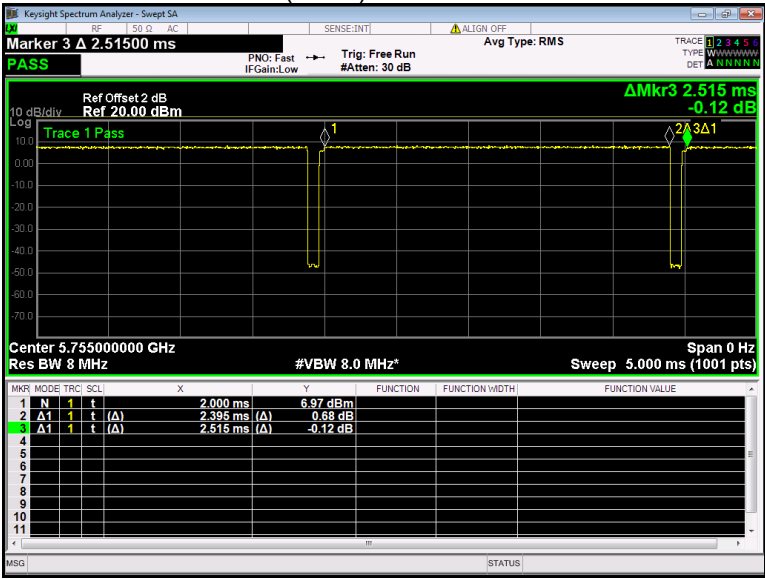
802.11n(HT40) U-NII-3 Low channel



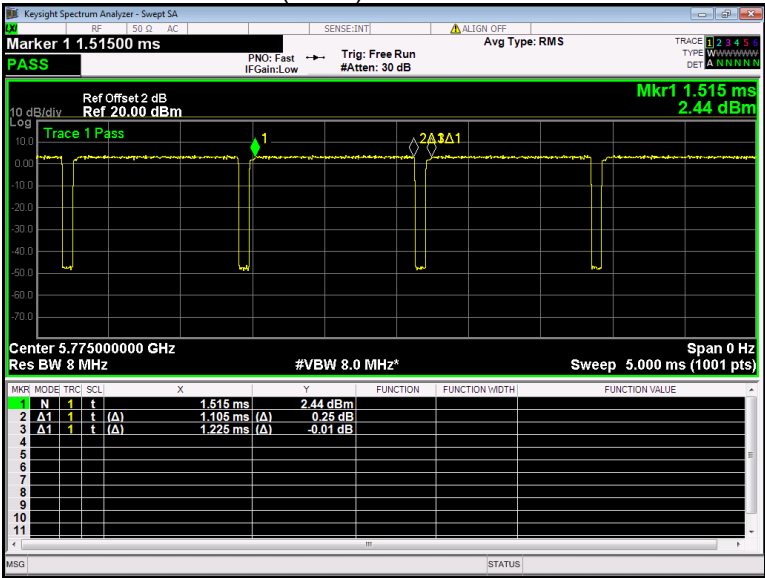
802.11ac (HT20) U-NII-3 Low channel



802.11 ac (HT40) U-NII-3 Low channel



802.11 ac (HT80) U-NII-3 Low channel



8 Conducted Emission

Test Requirement: 47CFR FCC Part15 Subpart C §15.207

Test Method: ANSI C63.10:2013

Test Result: PASS

Frequency Range: 150kHz to 30MHz

Limit:

Frequency (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0. to 0.5	66 to 56*	56 to 46*
0.5 to 5.0	56	46
5.0 to 30	60	50

*Decreases with the logarithm of the frequency.

8.1 E.U.T. Operation

Operating Environment:

Temperature: 26.6 °C

Humidity: 58.6 % RH

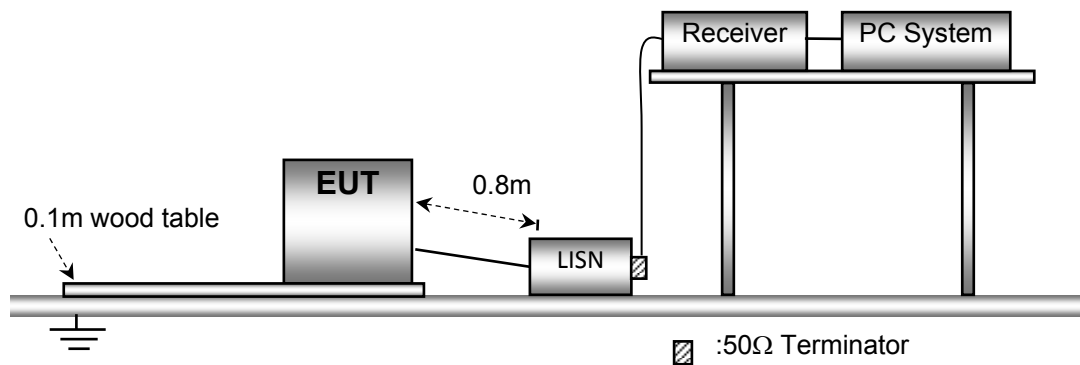
Atmospheric Pressure: 101.6kPa

EUT Operation:

The test was performed in Transmitting mode, the worst test data were shown in the report.

8.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10:2013.



8.3 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

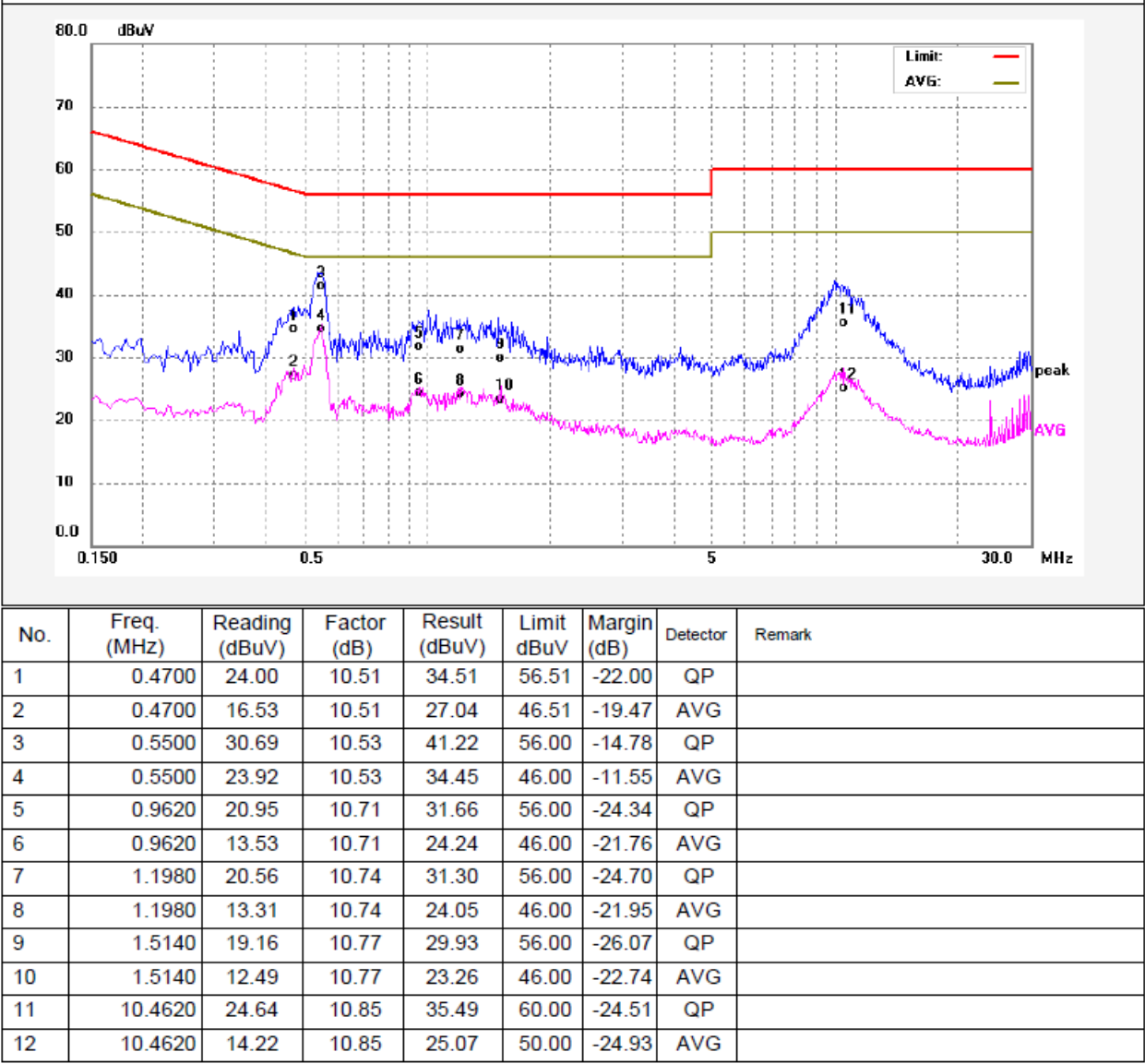
Waltek Testing Group Co., Ltd.

<http://www.waltek.com.cn>

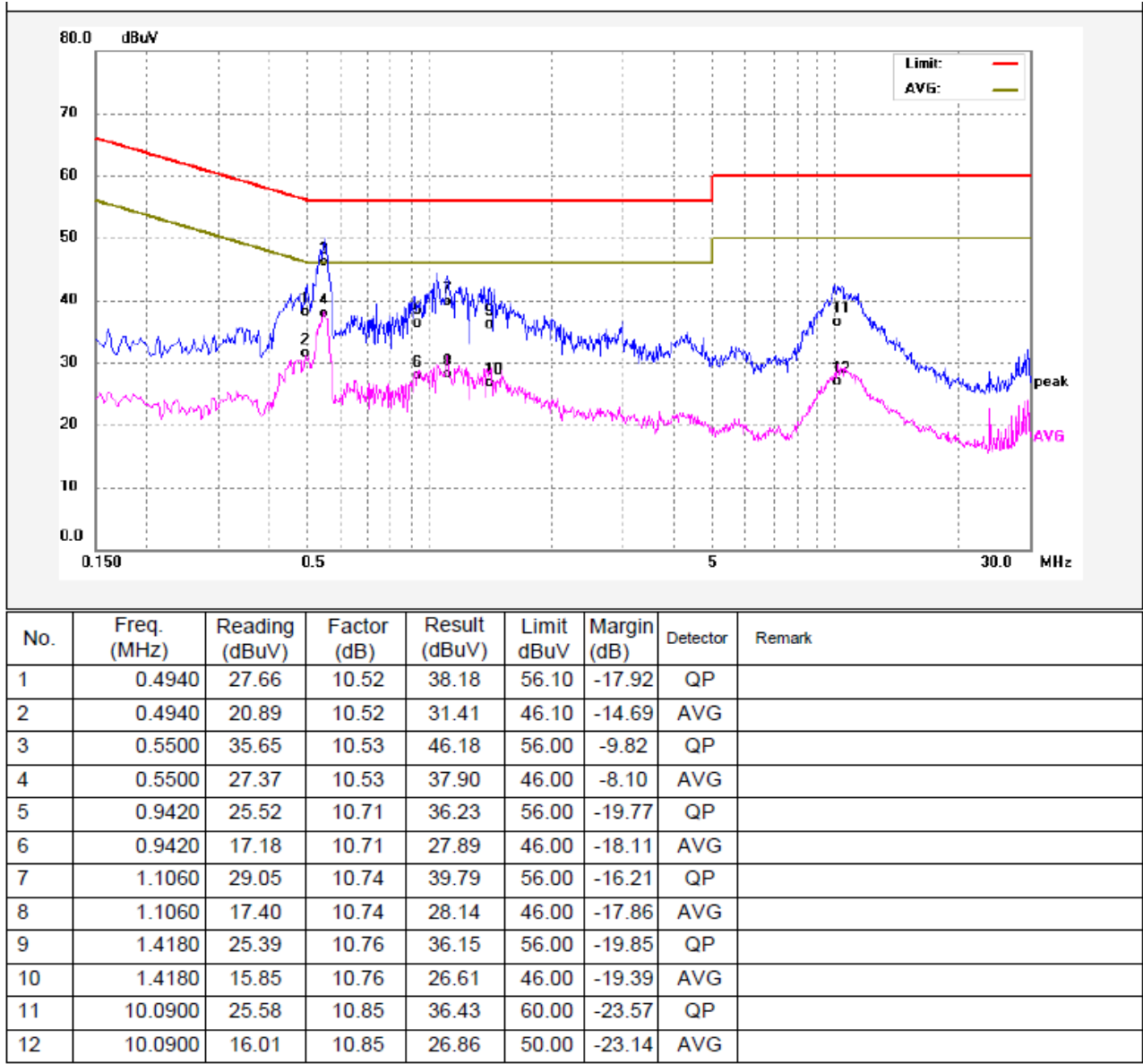
8.4 Conducted Emission Test Result

Remark: only the worst data (U-NII-1 802.11ac (HT20) High channel mode) were reported

Live line:



Neutral line:



9 Radiated Emissions

Test Requirement: FCC 47CFR Part 15 Section 15.209 & 15.407

Test Method: ANSI C63.10:2013

Test Result: PASS

Measurement Distance: 3m

Limit:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Distance	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	$2400/F(\text{kHz})$	300	$10000 * 2400/F(\text{kHz})$	$20\log^{(2400/F(\text{kHz}))} + 80$
0.490 ~ 1.705	$24000/F(\text{kHz})$	30	$100 * 24000/F(\text{kHz})$	$20\log^{(24000/F(\text{kHz}))} + 40$
1.705 ~ 30	30	30	$100 * 30$	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

9.1 EUT Operation

Operating Environment :

Temperature: 23.5 °C

Humidity: 52.1 % RH

Atmospheric Pressure: 101.2kPa

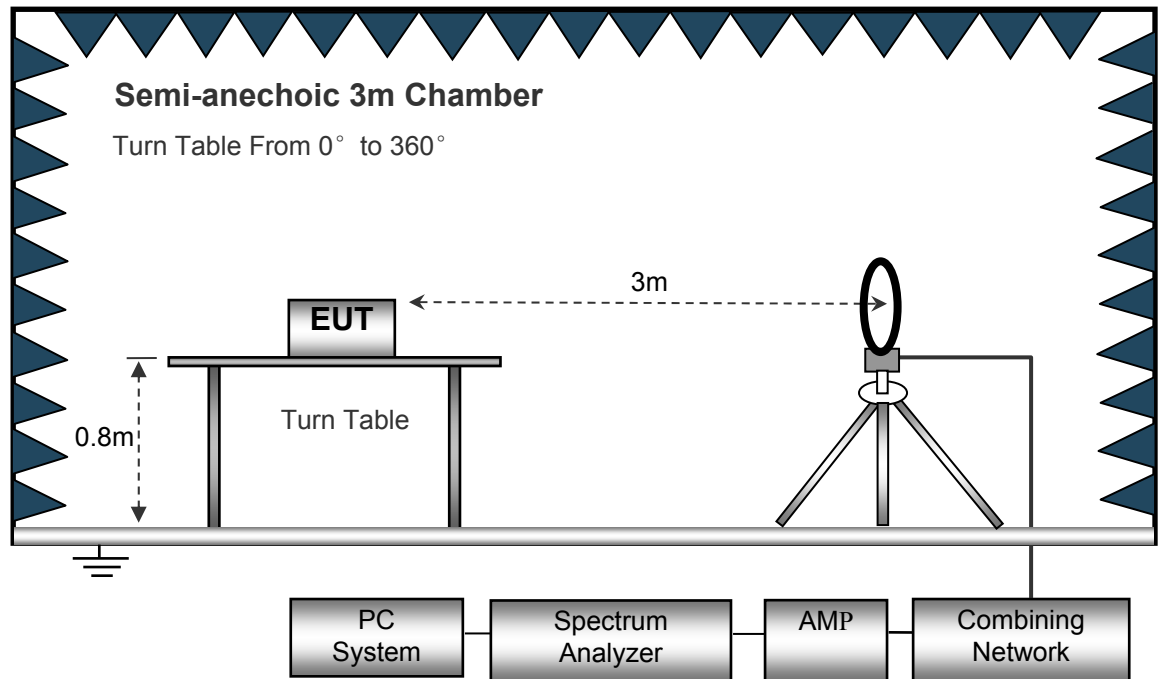
EUT Operation :

The test was performed in transmitting mode, the test data were shown in the report.

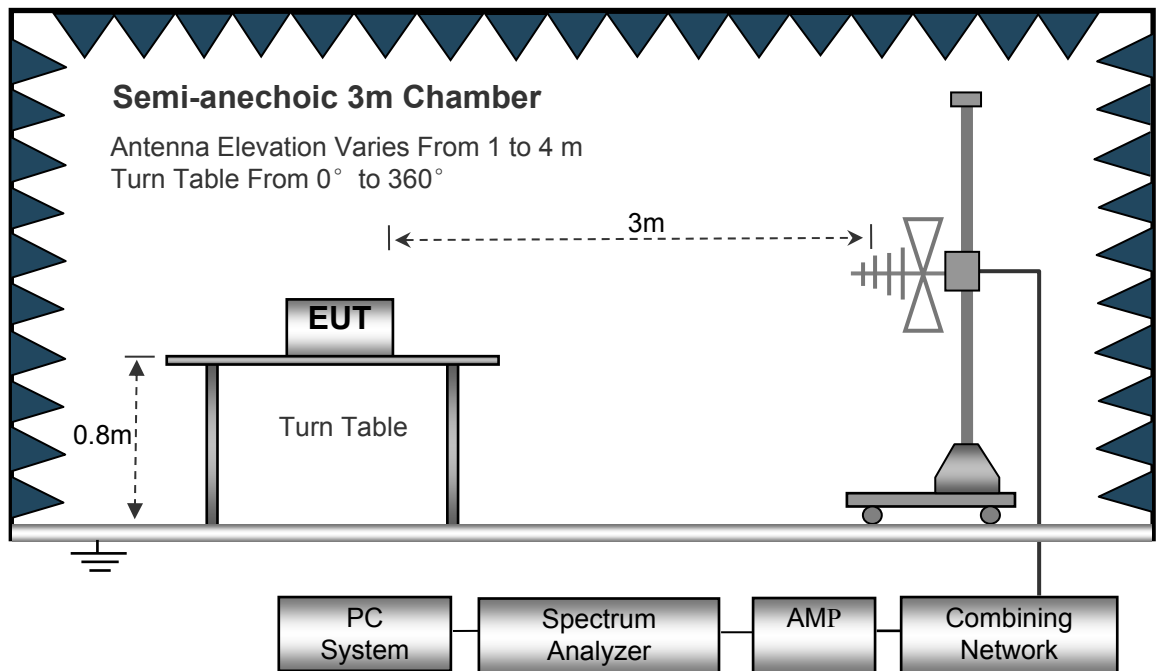
9.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10: 2013.

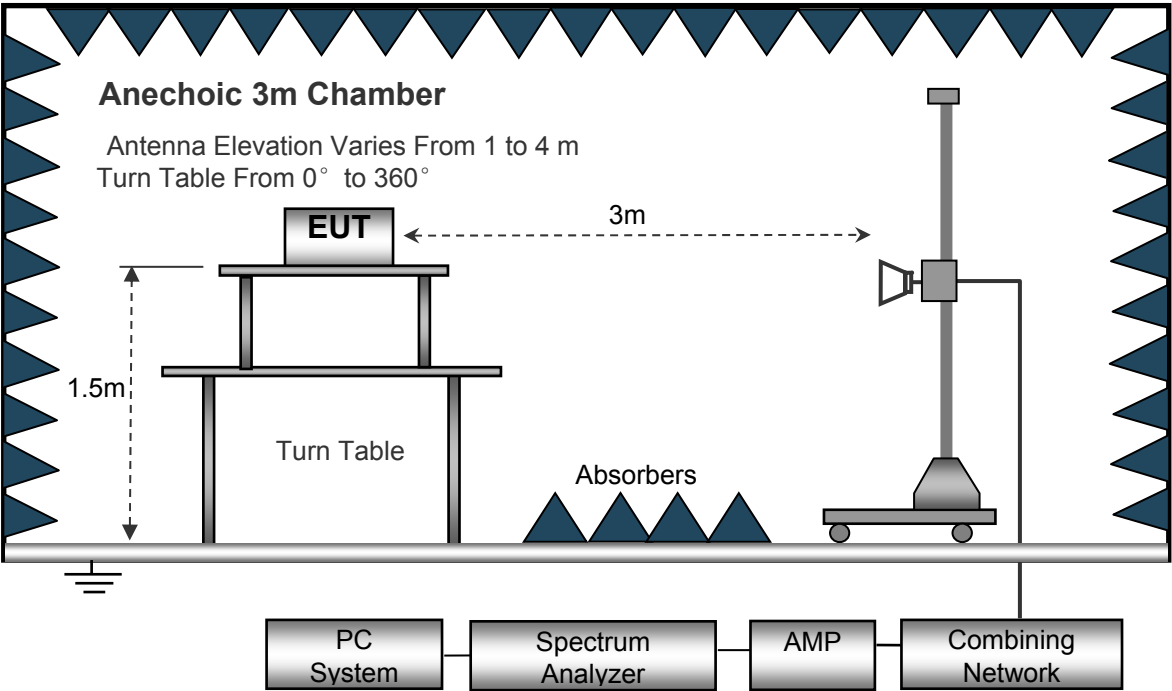
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



9.3 Spectrum Analyzer Setup

Below 30MHz

Sweep Speed Auto
IF Bandwidth.....10kHz
Video Bandwidth.....10kHz
Resolution Bandwidth.....10kHz

30MHz ~ 1GHz

Sweep Speed Auto
DetectorPK
Resolution Bandwidth.....100kHz
Video Bandwidth.....300kHz

Above 1GHz

Sweep Speed Auto
DetectorPK
Resolution Bandwidth.....1MHz
Video Bandwidth.....3MHz
DetectorAve.
Resolution Bandwidth.....1MHz
Video Bandwidth.....10Hz

9.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in X axis,so the worst data were shown as follow.
8. A 2.4GHz high –pass filter is used during radiated emissions above 1GHz measurement.

9.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Limit}$$

9.6 Summary of Test Results

Note:

All test mode were tested, and only the worst-case were record in the report.

Test Mode: TX (Ant. 1+ Ant. 2)

Test Frequency: 9KHz~30MHz

The measurements were more than 20 dB below the limit and not reported.

Test Frequency : 30MHz ~ 18GHz

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11a U-NII-1 Low Channel 5180MHz									
260.36	40.26	QP	331	1.3	H	-11.62	28.64	46.00	-17.36
260.36	42.18	QP	179	1.8	V	-11.62	30.56	46.00	-15.44
4534.24	53.57	PK	346	1.0	H	-2.03	51.54	74.00	-22.46
4534.24	43.60	Ave	346	1.0	H	-2.03	41.57	54.00	-12.43
5121.90	52.81	PK	81	1.1	H	-1.02	51.79	74.00	-22.21
5121.90	42.36	Ave	81	1.1	H	-1.02	41.34	54.00	-12.66
10360.00	41.10	PK	212	1.8	H	5.33	46.43	74.00	-27.57
10360.00	37.60	Ave	212	1.8	H	5.33	42.93	54.00	-11.07
802.11a U-NII-1 Middle channel 5200MHz									
260.36	39.56	QP	207	1.2	H	-11.62	27.94	46.00	-18.06
260.36	42.03	QP	125	1.4	V	-11.62	30.41	46.00	-15.59
4522.75	53.98	PK	249	1.3	H	-1.94	52.04	74.00	-21.96
4522.75	42.24	Ave	249	1.3	H	-1.94	40.30	54.00	-13.70
5132.19	54.53	PK	9	1.9	H	-1.06	53.47	74.00	-20.53
5132.19	43.41	Ave	9	1.9	H	-1.06	42.35	54.00	-11.65
10400.00	40.07	PK	94	1.5	H	5.21	45.28	74.00	-28.72
10400.00	37.90	Ave	94	1.5	H	5.21	43.11	54.00	-10.89

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11a U-NII-1 High channel 5240MHz									
260.36	39.08	QP	17	1.1	H	-11.62	27.46	46.00	-18.54
260.36	40.65	QP	47	1.6	V	-11.62	29.03	46.00	-16.97
4507.55	55.47	PK	256	1.9	H	-2.24	53.23	74.00	-20.77
4507.55	45.71	Ave	256	1.9	H	-2.24	43.47	54.00	-10.53
5123.81	57.32	PK	194	1.4	H	-1.09	56.23	74.00	-17.77
5123.81	40.26	Ave	194	1.4	H	-1.09	39.17	54.00	-14.83
10480.00	40.62	PK	329	1.1	H	5.14	45.76	74.00	-28.24
10480.00	35.80	Ave	329	1.1	H	5.14	40.94	54.00	-13.06
802.11a U-NII-3 Low Channel 5745MHz									
260.36	38.06	QP	278	1.1	H	-11.62	26.44	46.00	-19.56
260.36	41.64	QP	267	1.3	V	-11.62	30.02	46.00	-15.98
4535.46	54.75	PK	320	1.3	H	-2.03	52.72	74.00	-21.28
4535.46	41.26	Ave	320	1.3	H	-2.03	39.23	54.00	-14.77
5121.99	52.86	PK	43	1.3	H	-1.02	51.84	74.00	-22.16
5121.99	39.04	Ave	43	1.3	H	-1.02	38.02	54.00	-15.98
10520.00	41.10	PK	268	1.0	H	5.33	46.43	74.00	-27.57
10520.00	33.61	Ave	268	1.0	H	5.33	38.94	54.00	-15.06

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11a U-NII-3 middle channel 5785MHz									
260.36	37.72	QP	359	1.3	H	-11.62	26.10	46.00	-19.90
260.36	42.32	QP	131	1.5	V	-11.62	30.70	46.00	-15.30
4519.97	55.53	PK	215	1.1	H	-1.94	53.59	74.00	-20.41
4519.97	41.40	Ave	215	1.1	H	-1.94	39.46	54.00	-14.54
5145.43	53.91	PK	114	1.4	H	-1.06	52.85	74.00	-21.15
5145.43	39.20	Ave	114	1.4	H	-1.06	38.14	54.00	-15.86
10560.00	40.33	PK	68	1.1	H	5.21	45.54	74.00	-28.46
10560.00	33.26	Ave	68	1.1	H	5.21	38.47	54.00	-15.53
802.11a U-NII-3 High channel 5825MHz									
260.36	36.61	QP	251	1.5	H	-11.62	24.99	46.00	-21.01
260.36	43.65	QP	313	1.4	V	-11.62	32.03	46.00	-13.97
4517.03	55.45	PK	188	1.8	H	-2.24	53.21	74.00	-20.79
4517.03	41.83	Ave	188	1.8	H	-2.24	39.59	54.00	-14.41
5148.20	53.69	PK	335	1.8	H	-1.09	52.60	74.00	-21.40
5148.20	40.24	Ave	335	1.8	H	-1.09	39.15	54.00	-14.85
10640.00	39.95	PK	297	1.3	H	5.14	45.09	74.00	-28.91
10640.00	34.27	Ave	297	1.3	H	5.14	39.41	54.00	-14.59

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11n(HT20) U-NII-1 Low Channel 5180MHz									
260.36	38.81	QP	231	1.4	H	-11.62	27.19	46.00	-18.81
260.36	39.39	QP	320	1.8	V	-11.62	27.77	46.00	-18.23
4534.53	52.78	PK	138	1.8	H	-2.03	50.75	74.00	-23.25
4534.53	40.26	Ave	138	1.8	H	-2.03	38.23	54.00	-15.77
5148.69	53.68	PK	298	1.4	H	-1.02	52.66	74.00	-21.34
5148.69	39.10	Ave	298	1.4	H	-1.02	38.08	54.00	-15.92
11000.00	41.82	PK	294	1.2	H	5.33	47.15	74.00	-26.85
11000.00	36.86	Ave	294	1.2	H	5.33	42.19	54.00	-11.81
802.11n(HT20) U-NII-1 Middle channel 5200MHz									
260.36	40.12	QP	78	2.0	H	-11.62	28.50	46.00	-17.50
260.36	40.60	QP	349	1.8	V	-11.62	28.98	46.00	-17.02
4536.60	52.88	PK	178	1.1	H	-1.94	50.94	74.00	-23.06
4536.60	39.71	Ave	178	1.1	H	-1.94	37.77	54.00	-16.23
5136.66	52.89	PK	317	1.2	H	-1.06	51.83	74.00	-22.17
5136.66	38.12	Ave	317	1.2	H	-1.06	37.06	54.00	-16.94
11200.00	40.79	PK	121	1.3	H	5.21	46.00	74.00	-28.00
11200.00	35.86	Ave	121	1.3	H	5.21	41.07	54.00	-12.93

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11n(HT20) U-NII-1 High channel 5240MHz									
260.36	39.68	QP	53	1.5	H	-11.62	28.06	46.00	-17.94
260.36	41.97	QP	64	1.0	V	-11.62	30.35	46.00	-15.65
4517.26	52.35	PK	212	1.3	H	-2.24	50.11	74.00	-23.89
4517.26	38.37	Ave	212	1.3	H	-2.24	36.13	54.00	-17.87
5128.55	54.15	PK	138	1.1	H	-1.09	53.06	74.00	-20.94
5128.55	39.98	Ave	138	1.1	H	-1.09	38.89	54.00	-15.11
11400.00	41.48	PK	214	1.7	H	5.14	46.62	74.00	-27.38
11400.00	37.00	Ave	214	1.7	H	5.14	42.14	54.00	-11.86
802.11n(HT20) U-NII-3 Low Channel 5745MHz									
260.36	39.49	QP	305	1.1	H	-11.62	27.87	46.00	-18.13
260.36	42.37	QP	59	1.5	V	-11.62	30.75	46.00	-15.25
4537.30	51.29	PK	186	1.3	H	-2.06	49.23	74.00	-24.77
4537.30	42.32	Ave	186	1.3	H	-2.06	40.26	54.00	-13.74
5361.40	42.22	PK	284	1.6	H	5.93	48.15	74.00	-25.85
5361.40	32.54	Ave	284	1.6	H	5.93	38.47	54.00	-15.53
11490.00	45.41	PK	22	2.0	H	-1.25	44.16	74.00	-29.84
11490.00	38.82	Ave	22	2.0	H	-1.25	37.57	54.00	-16.43

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11n(HT20) U-NII-3 middle channel 5785MHz									
260.36	39.24	QP	296	1.8	H	-11.62	27.62	46.00	-18.38
260.36	43.52	QP	93	1.2	V	-11.62	31.90	46.00	-14.10
4526.63	49.97	PK	39	1.3	H	-2.03	47.94	74.00	-26.06
4526.63	42.86	Ave	39	1.3	H	-2.03	40.83	54.00	-13.17
5361.58	40.50	PK	51	1.8	H	5.81	46.31	74.00	-27.69
5361.58	36.69	Ave	51	1.8	H	5.81	42.50	54.00	-11.50
11570.00	45.74	PK	332	1.0	H	-1.22	44.52	74.00	-29.48
11570.00	37.88	Ave	332	1.0	H	-1.22	36.66	54.00	-17.34
802.11n(HT20) U-NII-3 High channel 5825MHz									
260.36	39.27	QP	241	2.0	H	-11.62	27.65	46.00	-18.35
260.36	43.13	QP	187	1.9	V	-11.62	31.51	46.00	-14.49
4503.64	50.84	PK	43	1.6	H	-1.84	49.00	74.00	-25.00
4503.64	43.36	Ave	43	1.6	H	-1.84	41.52	54.00	-12.48
5350.49	42.30	PK	63	1.6	H	5.84	48.14	74.00	-25.86
5350.49	36.44	Ave	63	1.6	H	5.84	42.28	54.00	-11.72
11650.00	46.85	PK	53	1.9	H	-1.30	45.55	74.00	-28.45
11650.00	37.08	Ave	53	1.9	H	-1.30	35.78	54.00	-18.22

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11n(HT40) U-NII-1 Low Channel 5190MHz									
260.36	39.44	QP	150	1.7	H	-11.62	27.82	46.00	-18.18
260.36	44.25	QP	132	1.6	V	-11.62	32.63	46.00	-13.37
4516.98	51.49	PK	138	1.0	H	-2.14	49.35	74.00	-24.65
4516.98	42.66	Ave	138	1.0	H	-2.14	40.52	54.00	-13.48
5137.17	45.74	PK	102	1.7	H	-1.06	44.68	74.00	-29.32
5137.17	39.34	Ave	102	1.7	H	-1.06	38.28	54.00	-15.72
10360.00	42.81	PK	100	1.6	H	5.33	48.14	74.00	-25.86
10360.00	38.41	Ave	100	1.6	H	5.33	43.74	54.00	-10.26
802.11n(HT40) U-NII-1 High channel 5230MHz									
260.36	40.34	QP	348	1.0	H	-11.62	28.72	46.00	-17.28
260.36	43.23	QP	244	1.5	V	-11.62	31.61	46.00	-14.39
4517.05	51.16	PK	55	1.6	H	-2.12	49.04	74.00	-24.96
4517.05	41.54	Ave	55	1.6	H	-2.12	39.42	54.00	-14.58
5146.68	46.79	PK	12	1.9	H	-1.06	45.73	74.00	-28.27
5146.68	40.39	Ave	12	1.9	H	-1.06	39.33	54.00	-14.67
10400.00	40.89	PK	327	1.4	H	5.21	46.10	74.00	-27.90
10400.00	38.31	Ave	327	1.4	H	5.21	43.52	54.00	-10.48

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.407/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
802.11n(HT40) U-NII-3 Low Channel 5755MHz									
260.36	40.81	QP	217	1.3	H	-11.62	29.19	46.00	-16.81
260.36	43.93	QP	149	1.9	V	-11.62	32.31	46.00	-13.69
4511.02	52.60	PK	197	1.0	H	-1.96	50.64	74.00	-23.36
4511.02	40.66	Ave	197	1.0	H	-1.96	38.70	54.00	-15.30
5127.94	46.44	PK	327	1.6	H	-1.06	45.38	74.00	-28.62
5127.94	39.89	Ave	327	1.6	H	-1.06	38.83	54.00	-15.17
10480.00	40.99	PK	200	1.5	H	5.14	46.13	74.00	-27.87
10480.00	35.48	Ave	200	1.5	H	5.14	40.62	54.00	-13.38
802.11n(HT40) U-NII-3 High Channel 5795MHz									
260.36	40.66	QP	198	1.2	H	-11.62	29.04	46.00	-16.96
260.36	43.29	QP	156	1.3	V	-11.62	31.67	46.00	-14.33
4504.14	53.34	PK	301	1.3	H	-1.96	51.38	74.00	-22.62
4504.14	45.57	Ave	301	1.3	H	-1.96	43.61	54.00	-10.39
5110.25	46.26	PK	12	1.9	H	-1.06	45.20	74.00	-28.80
5110.25	43.42	Ave	12	1.9	H	-1.06	42.36	54.00	-11.64
10480.00	41.03	PK	331	1.2	H	5.14	46.17	74.00	-27.83
10480.00	38.11	Ave	331	1.2	H	5.14	43.25	54.00	-10.75

Test Frequency: 12GHz~40GHz

The measurements were more than 20 dB below the limit and not reported.

10 Band Edge

Test Requirement:	FCC 47CFR Part 15 Section 15.407
Test Method:	ANSI C63.10 2013
Test Limit:	For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27dBm/MHz. For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz. For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz. For transmitters operating in the 5.725-5.85 GHz band: (i) 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. (ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.
Test Result:	PASS

10.1 Test Produce

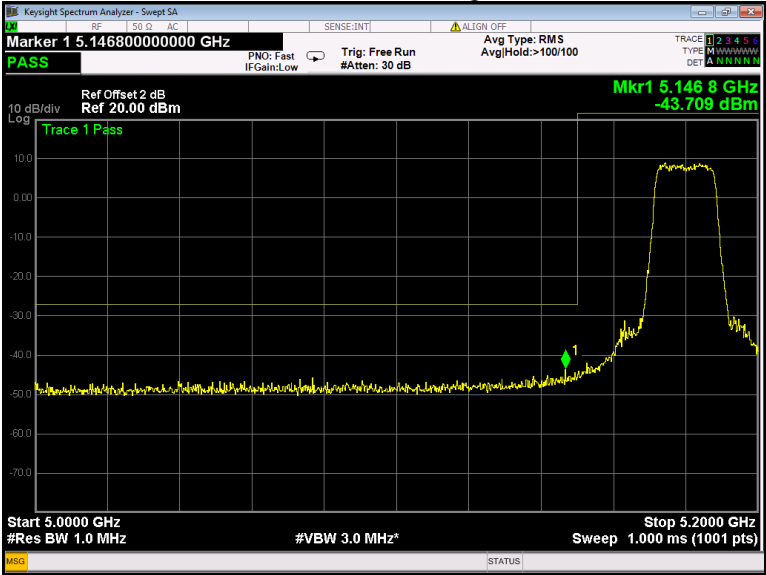
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

10.2 Test Result

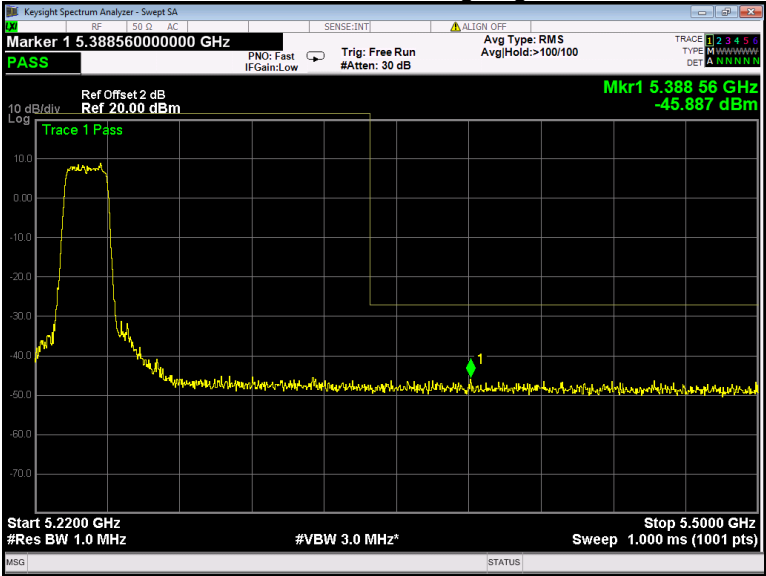
Test result plots shown as follows:

Ant0

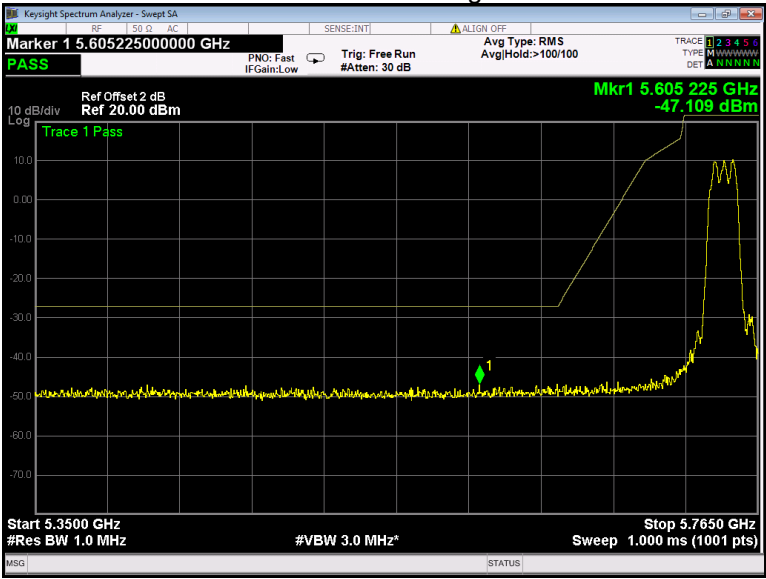
802.11a U-NII-1 Band edge-left side



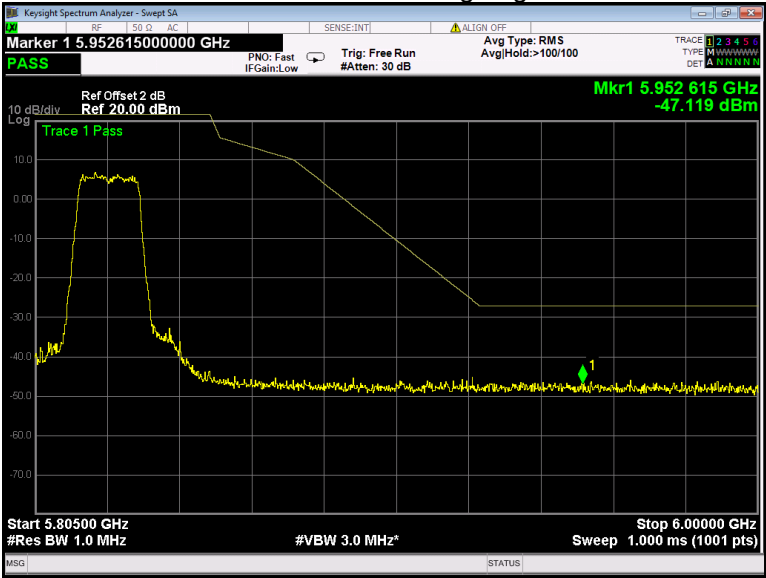
802.11a U-NII-1 Band edge-right side



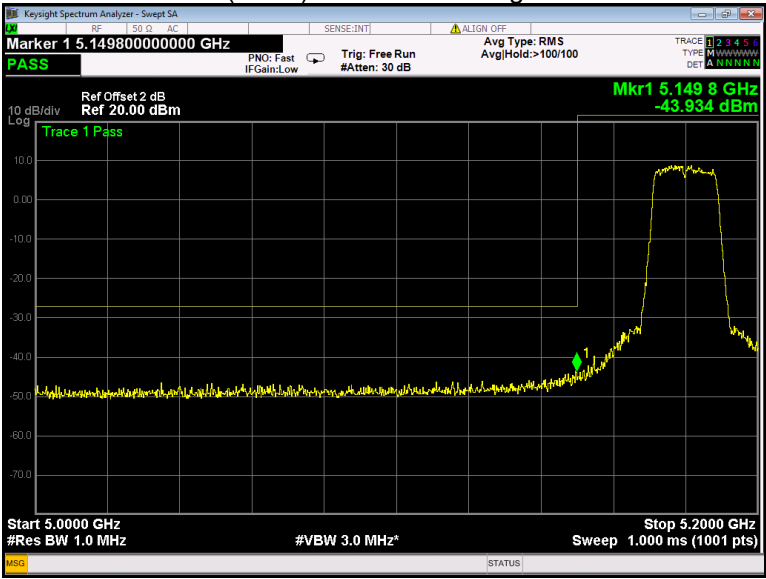
802.11a U-NII-3 Band edge-left side



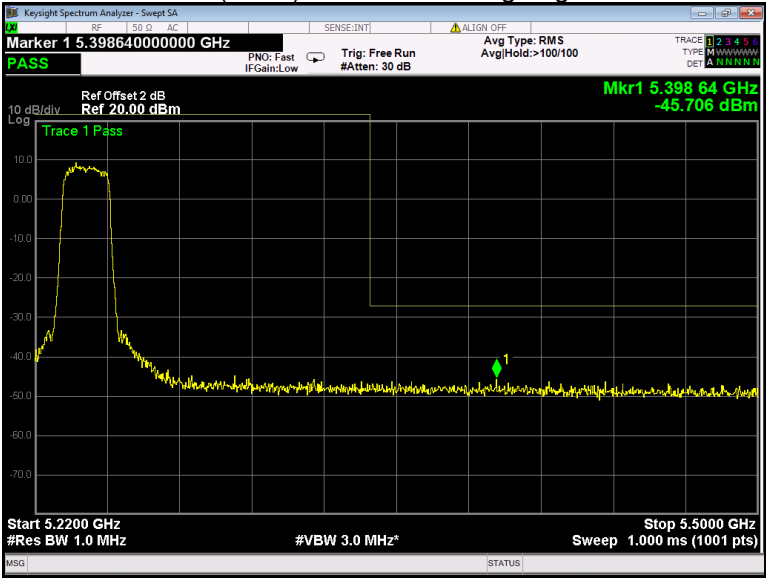
802.11a U-NII-3 Band edge-right side



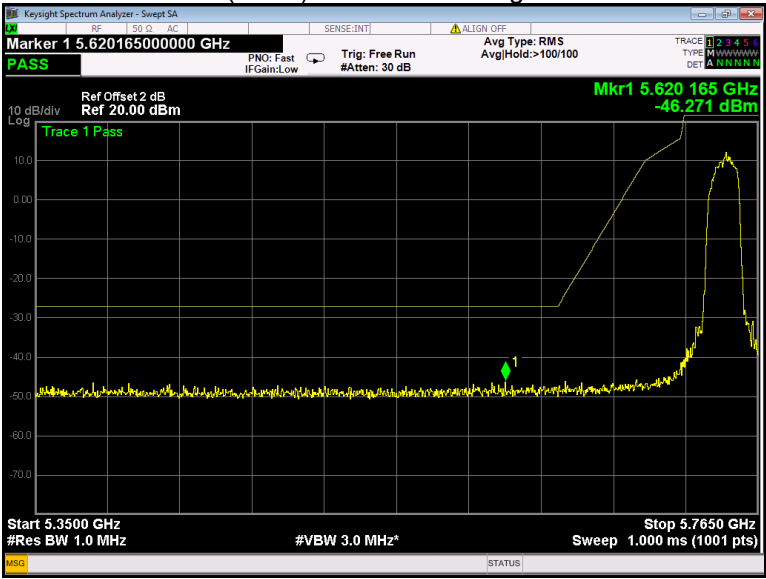
802.11n(HT20) U-NII-1 Band edge-left side



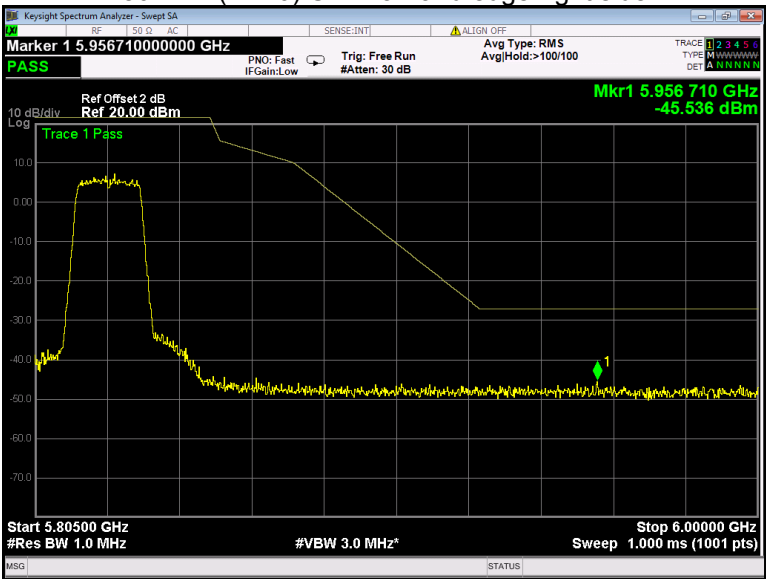
802.11n(HT20) U-NII-1 Band edge-right side



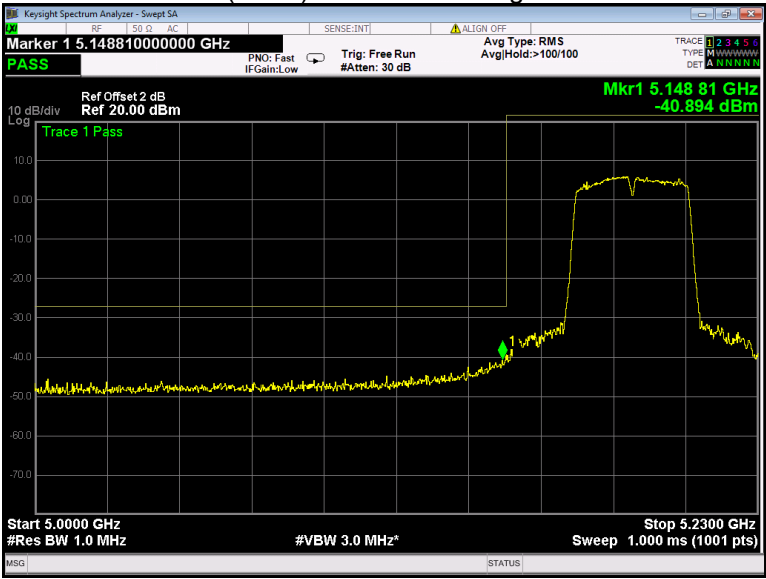
802.11n(HT20) U-NII-3 Band edge-left side



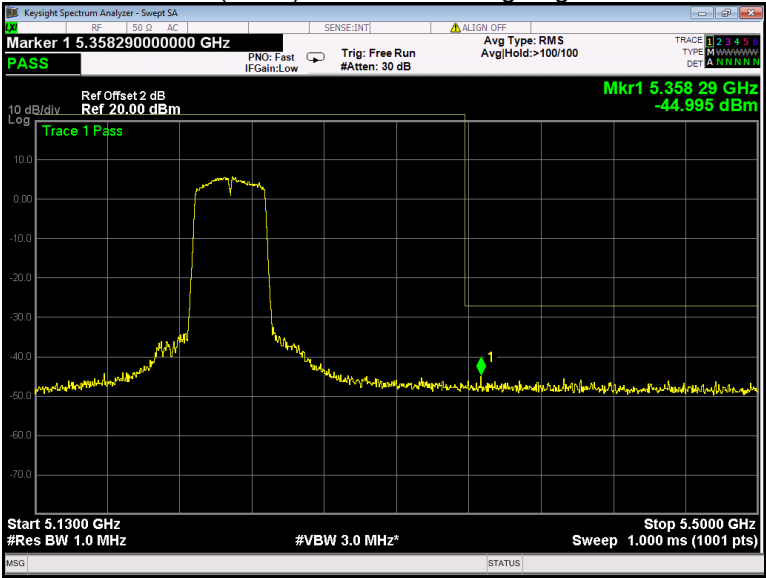
802.11n(HT20) U-NII-3 Band edge-right side



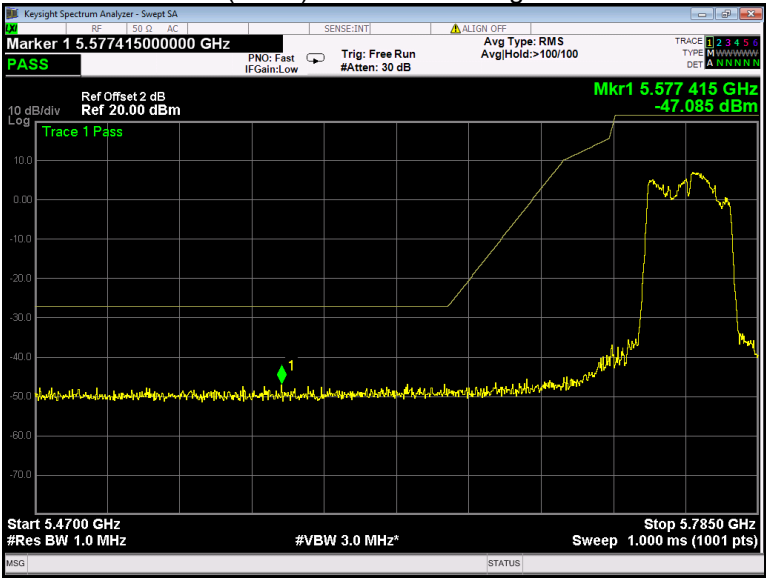
802.11n(HT40) U-NII-1 Band edge-left side



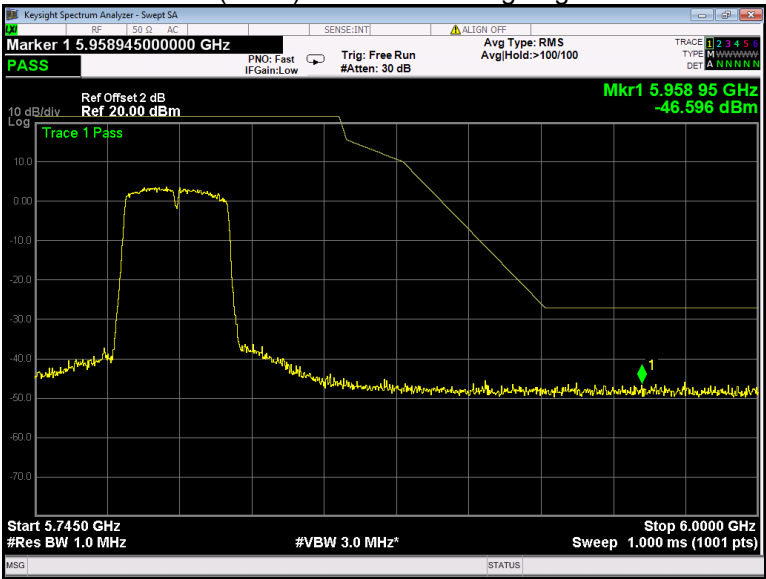
802.11n(HT40) U-NII-1 Band edge-right side



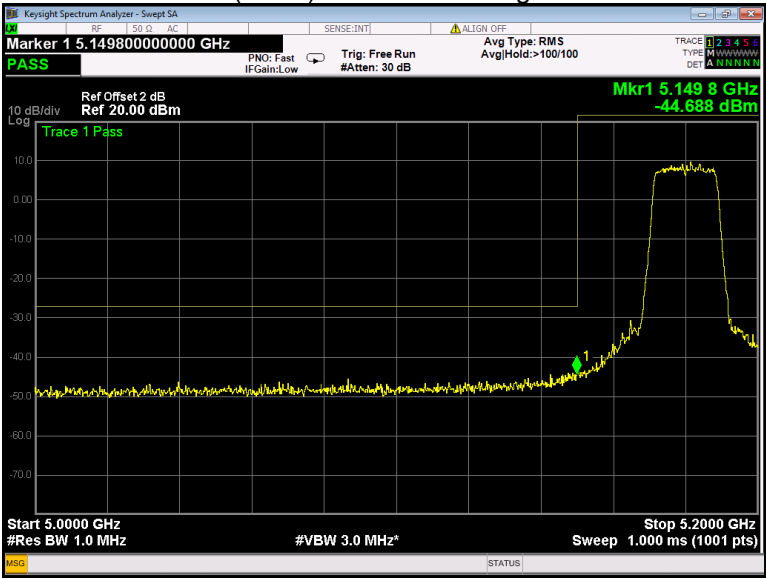
802.11n(HT40) U-NII-3 Band edge-left side



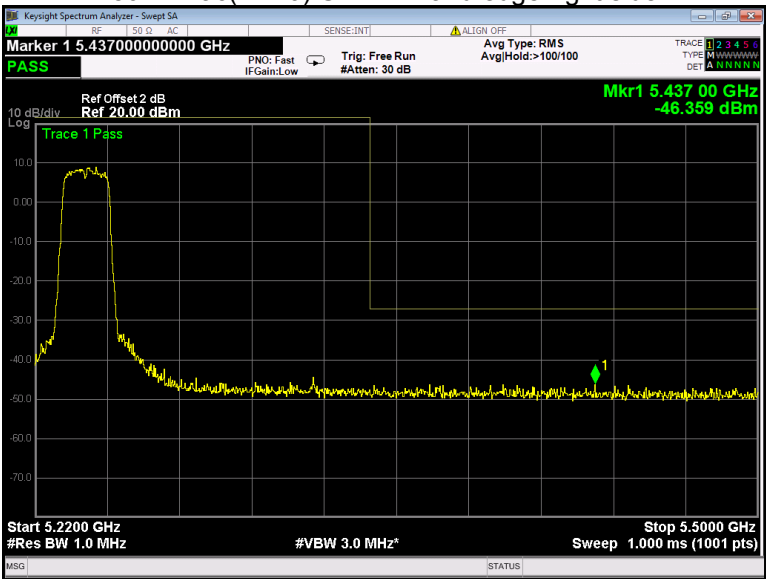
802.11n(HT40) U-NII-3 Band edge-right side



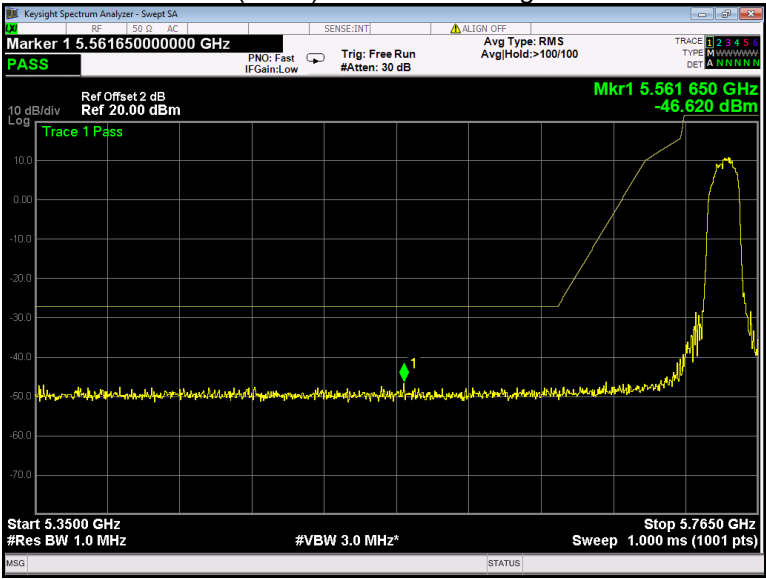
802.11ac(HT20) U-NII-1 Band edge-left side



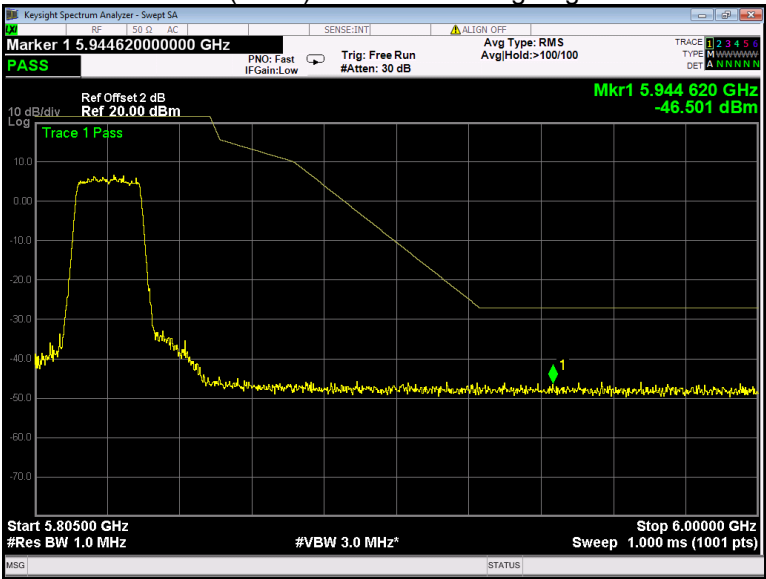
802.11 ac(HT20) U-NII-1 Band edge-right side



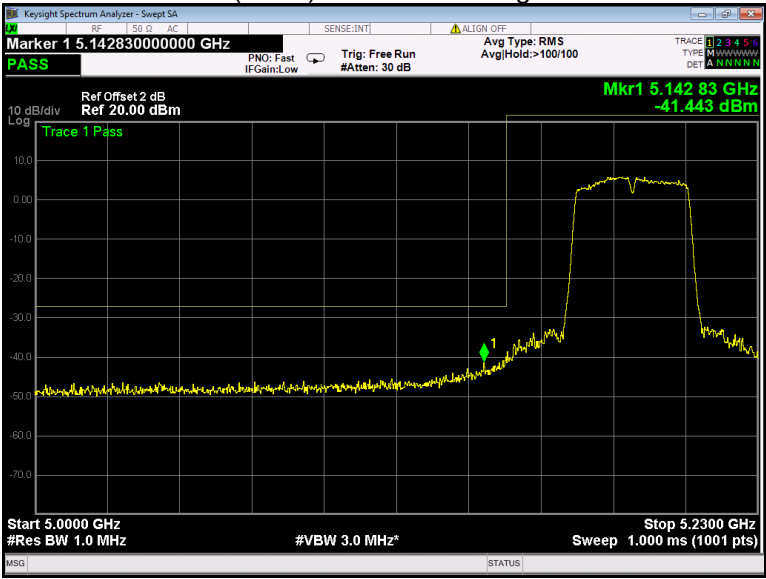
802.11 ac(HT20) U-NII-3 Band edge-left side



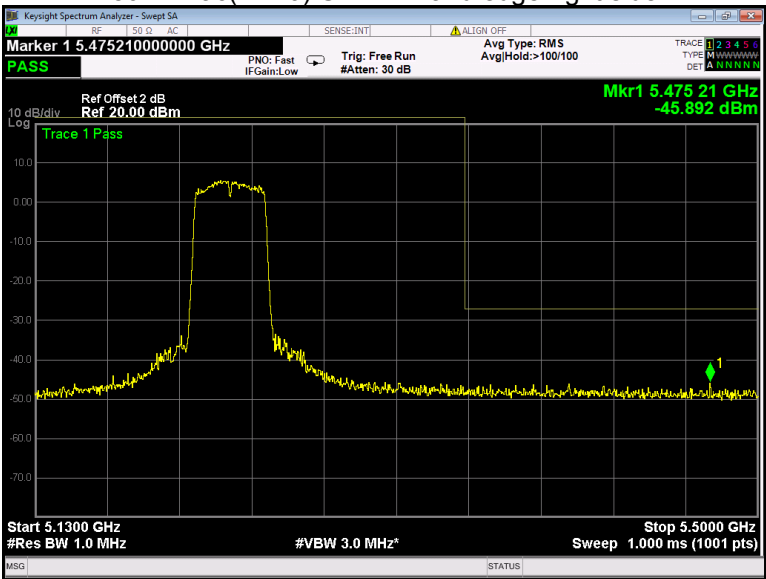
802.11 ac(HT20) U-NII-3 Band edge-right side



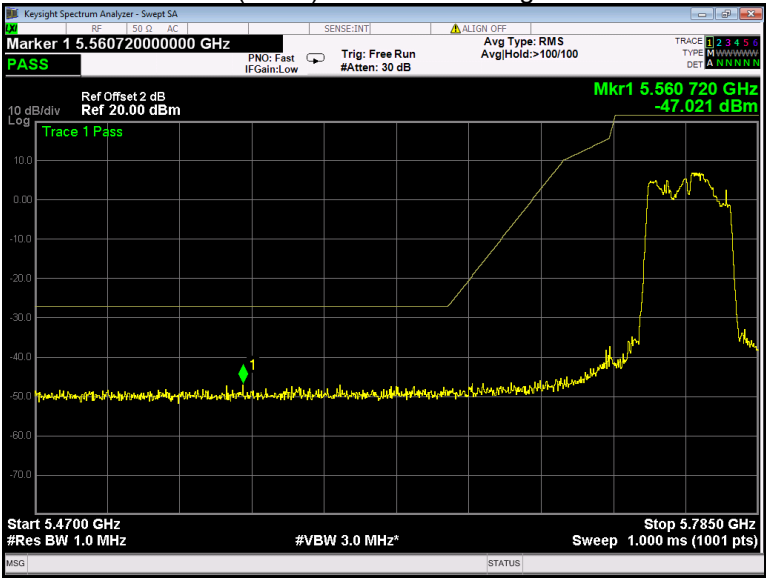
802.11ac(HT40) U-NII-1 Band edge-left side



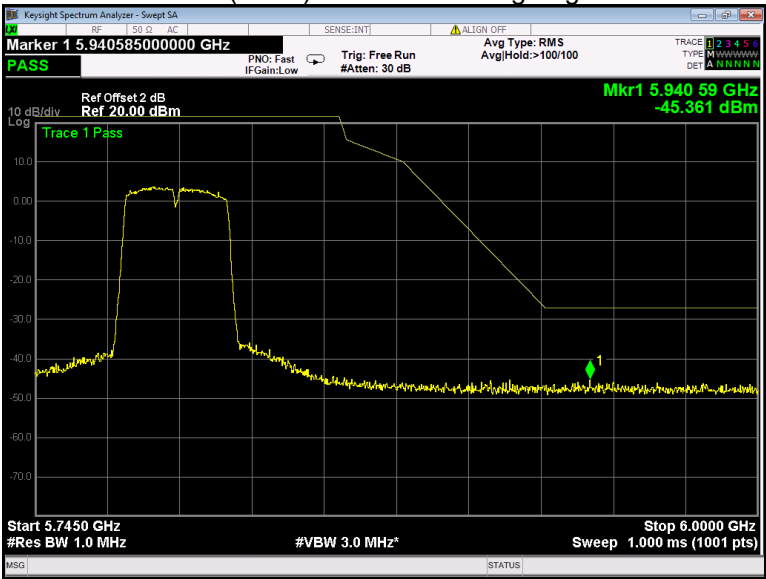
802.11 ac(HT40) U-NII-1 Band edge-right side



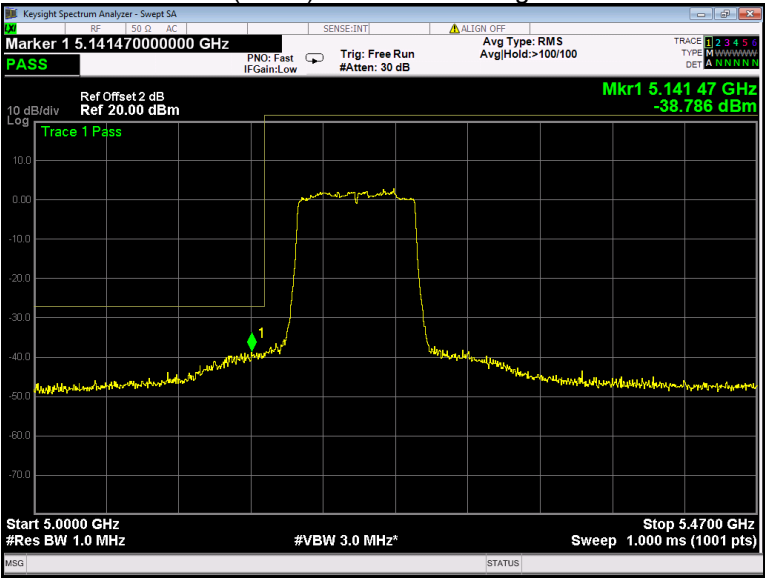
802.11 ac(HT40) U-NII-3 Band edge-left side



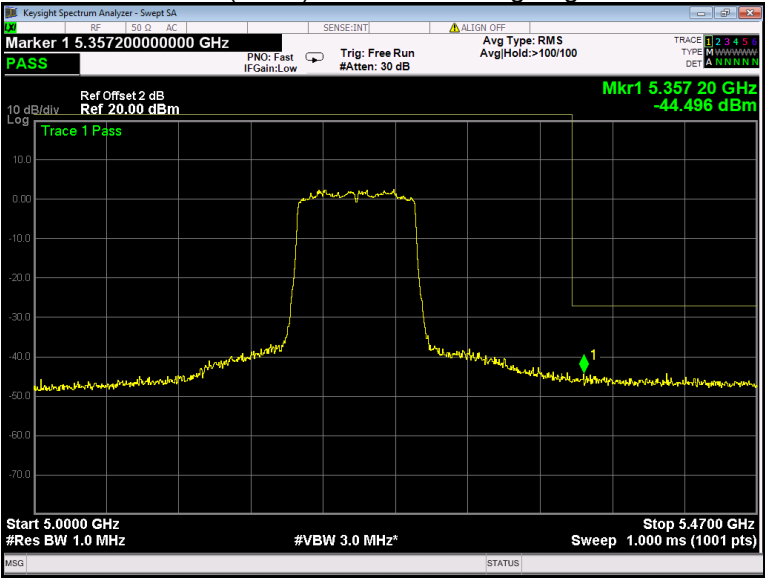
802.11 ac(HT40) U-NII-3 Band edge-right side



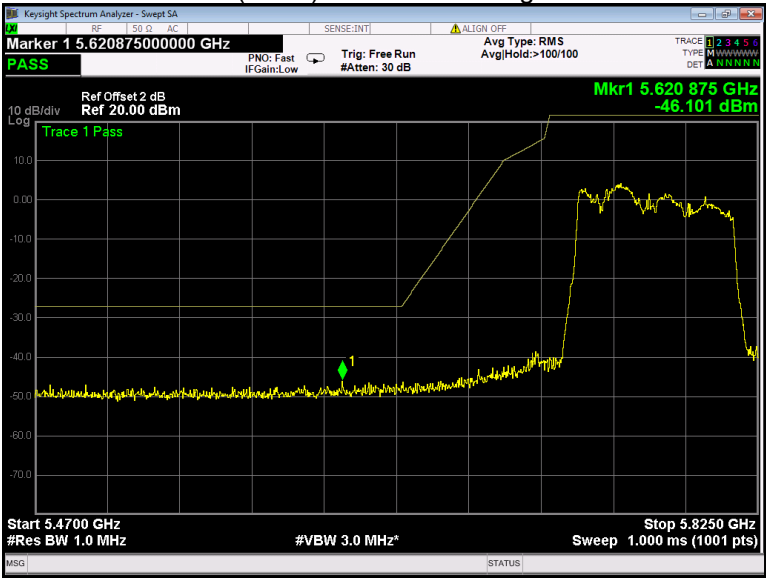
802.11ac(HT80) U-NII-1 Band edge-left side



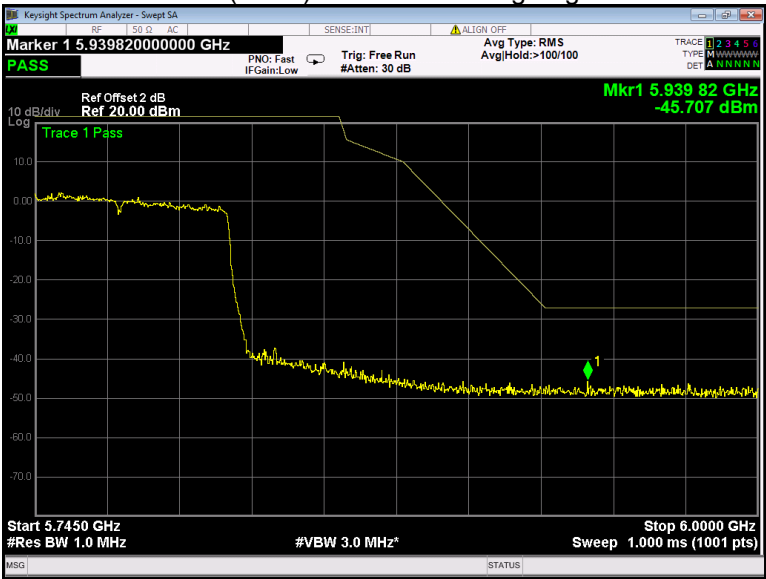
802.11 ac(HT80) U-NII-1 Band edge-right side



802.11 ac(HT80) U-NII-3 Band edge-left side

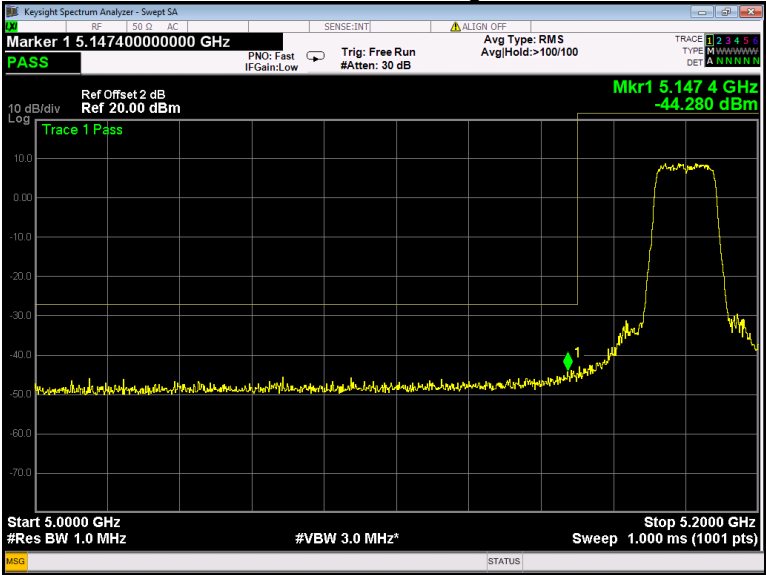


802.11 ac(HT80) U-NII-3 Band edge-right side

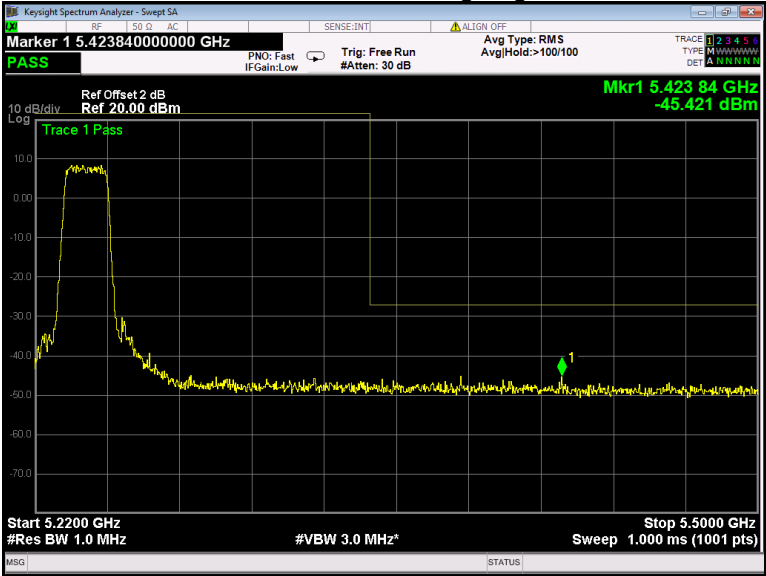


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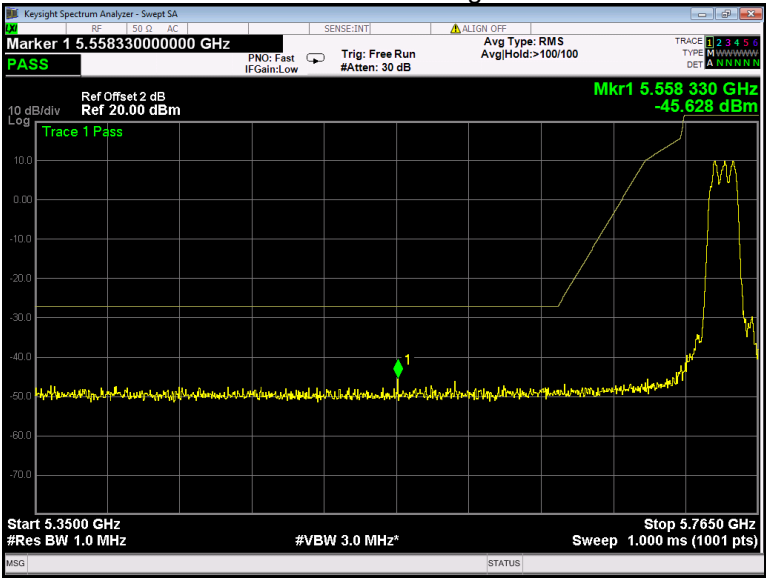
802.11a U-NII-1 Band edge-left side



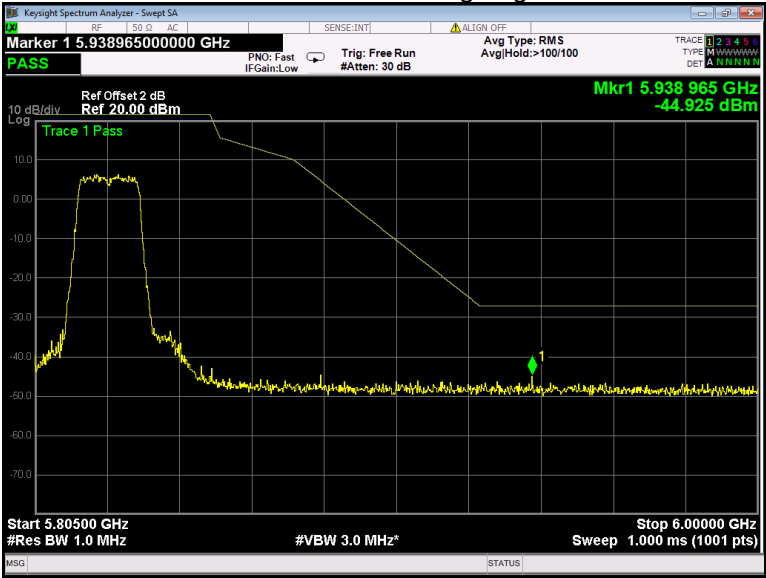
802.11a U-NII-1 Band edge-right side



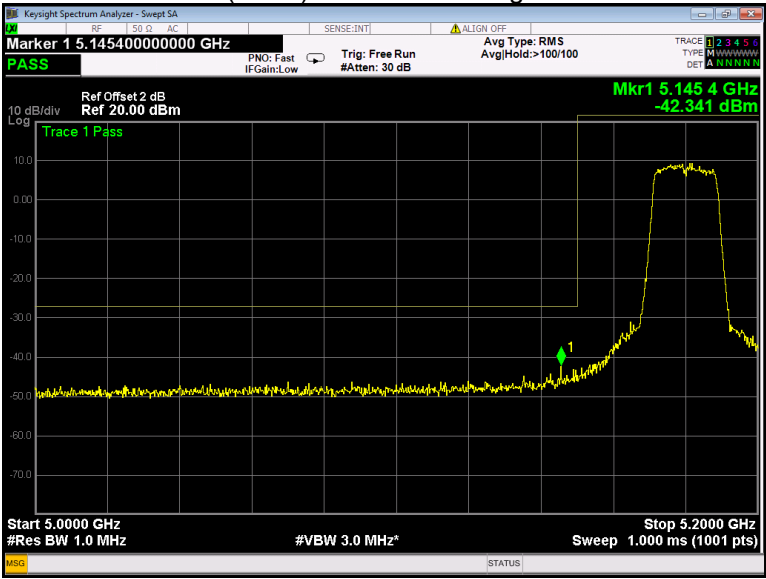
802.11a U-NII-3 Band edge-left side



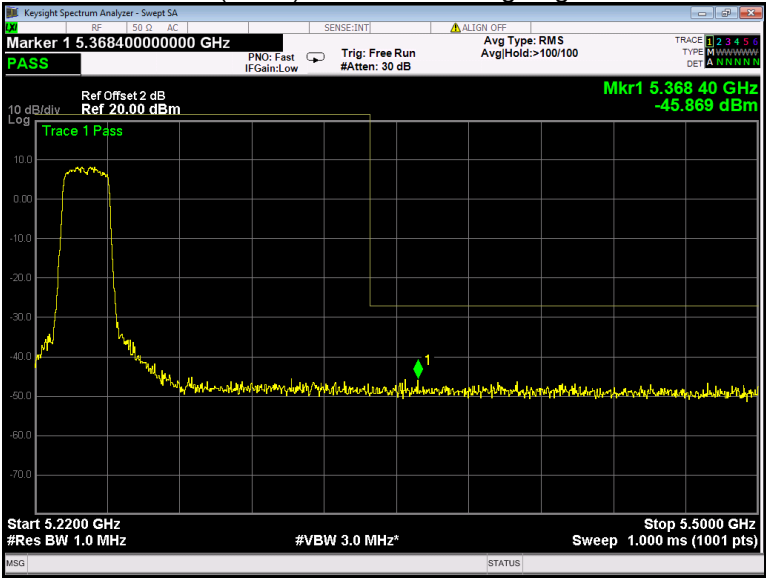
802.11a U-NII-3 Band edge-right side



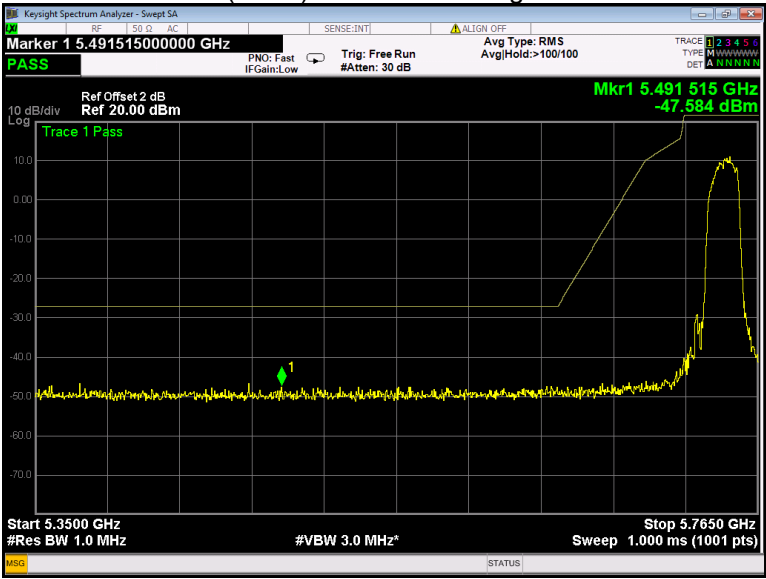
802.11n(HT20) U-NII-1 Band edge-left side



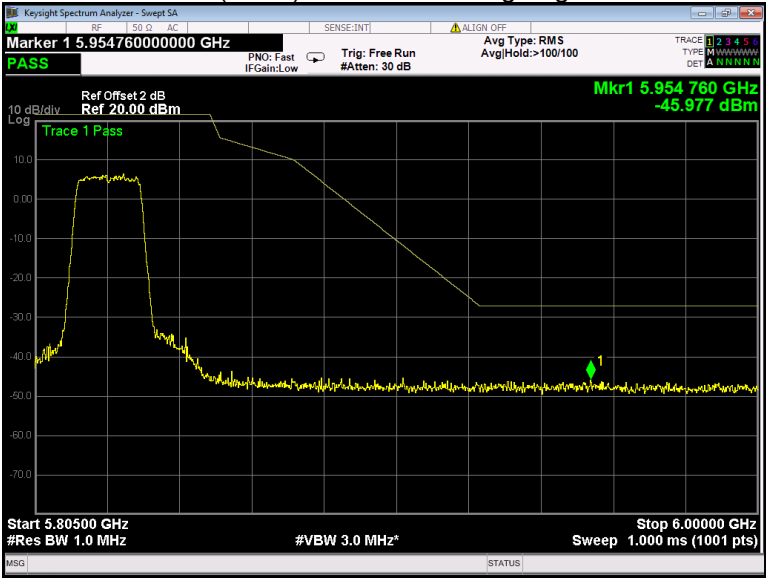
802.11n(HT20) U-NII-1 Band edge-right side



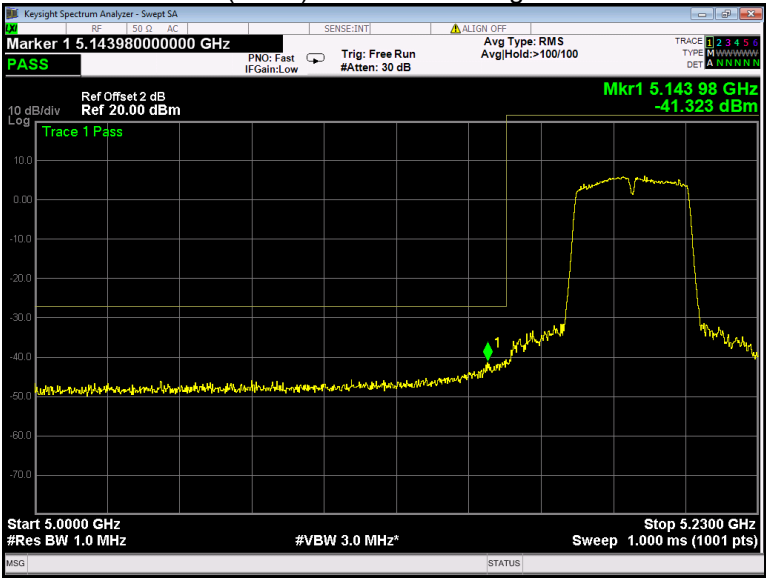
802.11n(HT20) U-NII-3 Band edge-left side



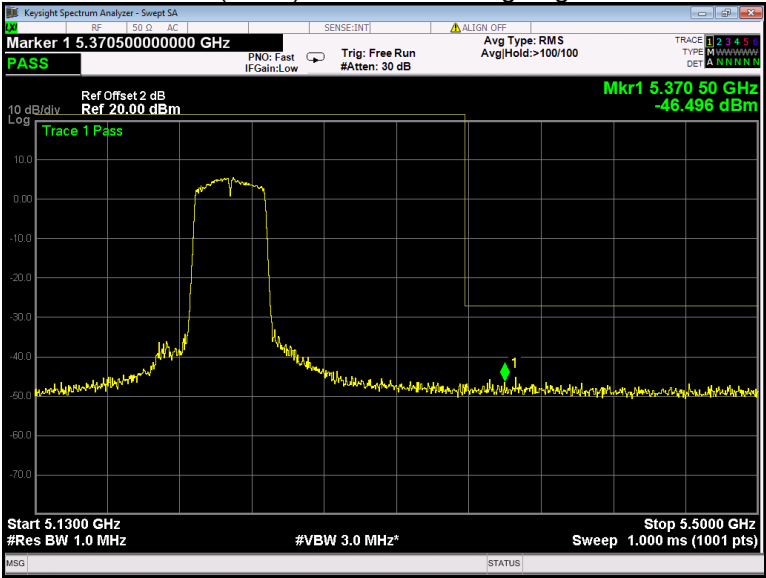
802.11n(HT20) U-NII-3 Band edge-right side



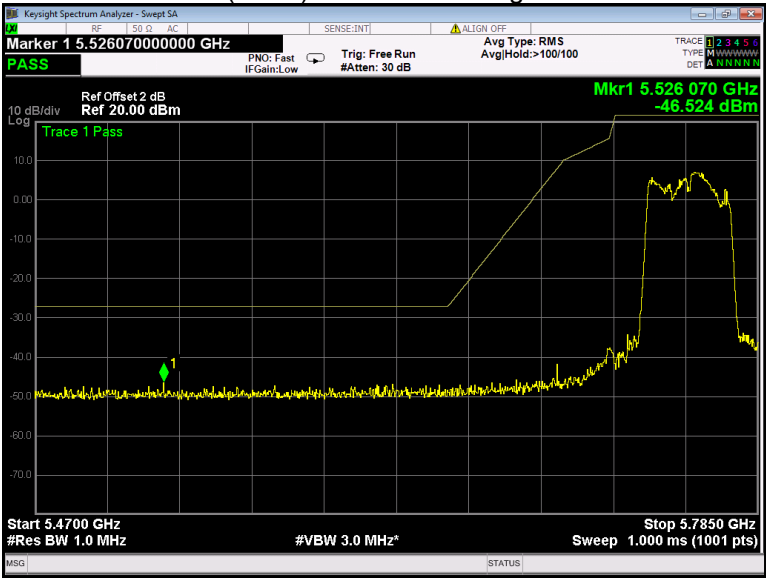
802.11n(HT40) U-NII-1 Band edge-left side



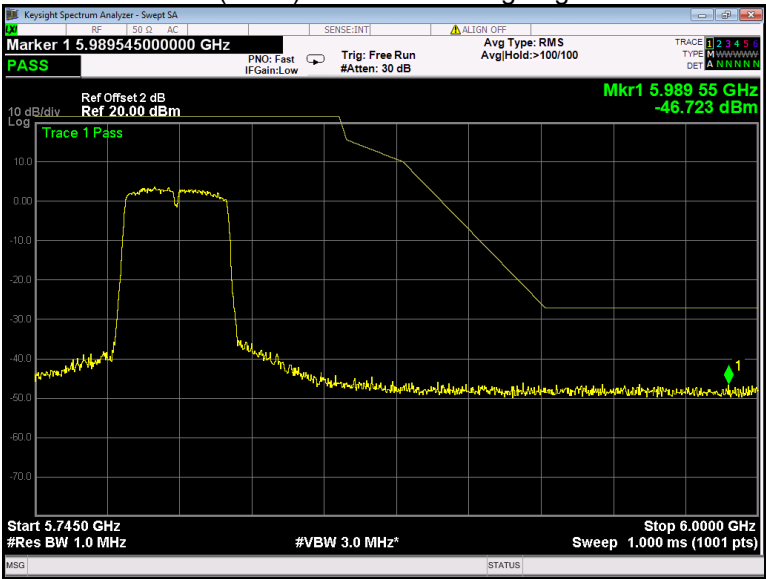
802.11n(HT40) U-NII-1 Band edge-right side



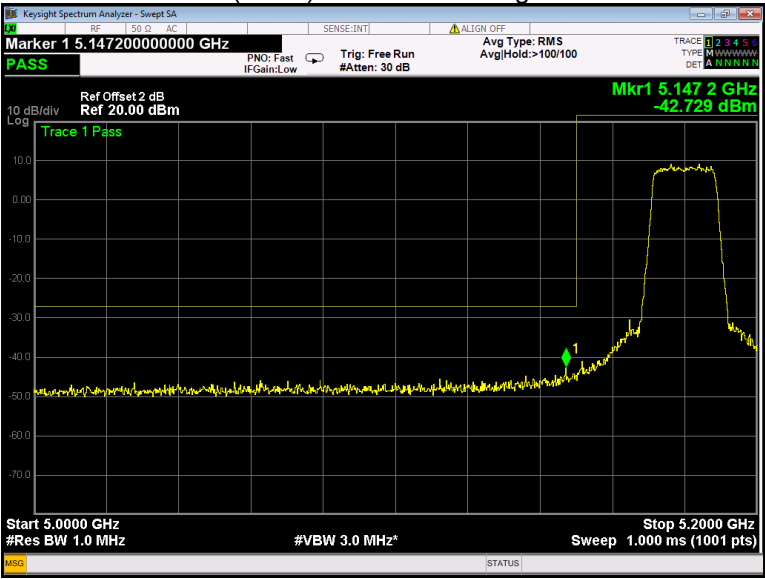
802.11n(HT40) U-NII-3 Band edge-left side



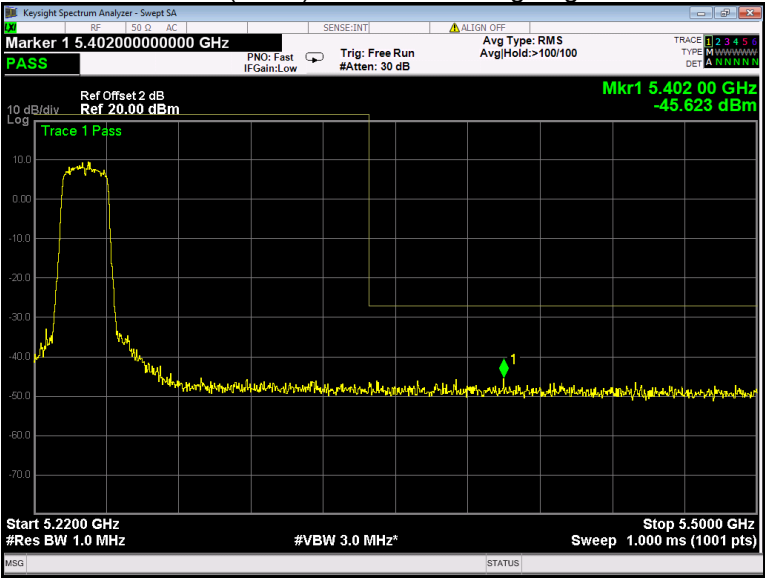
802.11n(HT40) U-NII-3 Band edge-right side



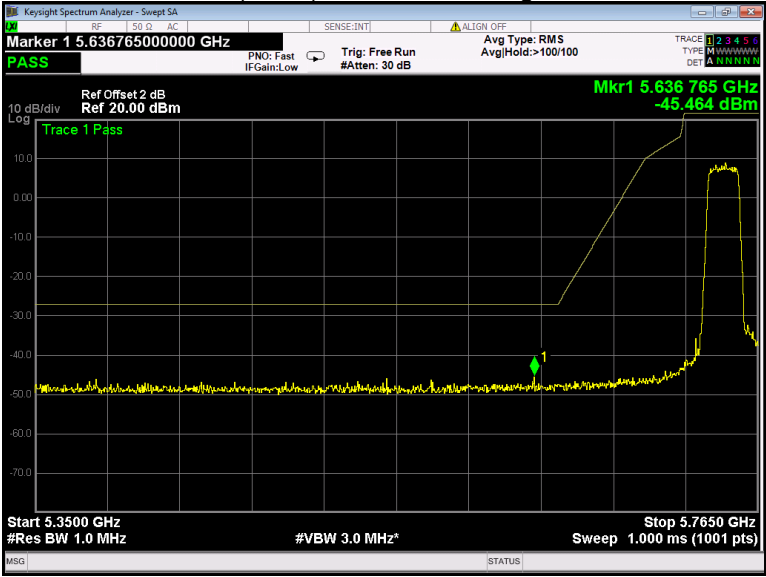
802.11ac(HT20) U-NII-1 Band edge-left side



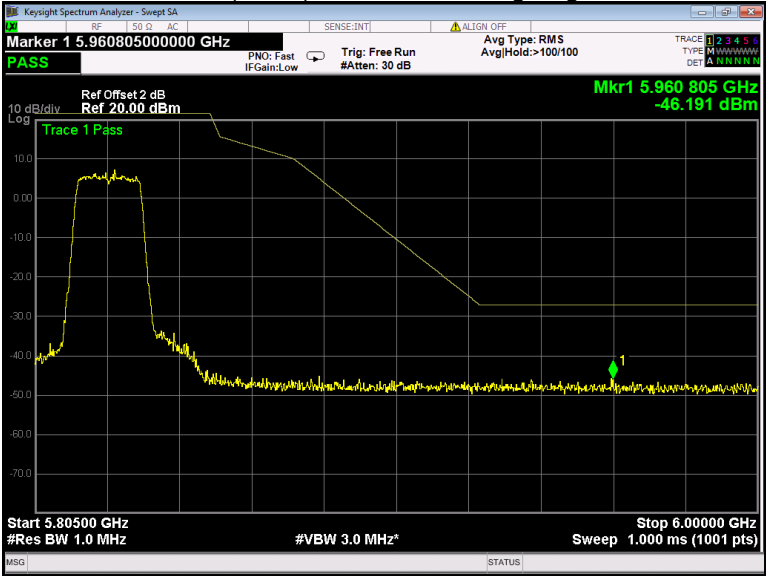
802.11 ac(HT20) U-NII-1 Band edge-right side



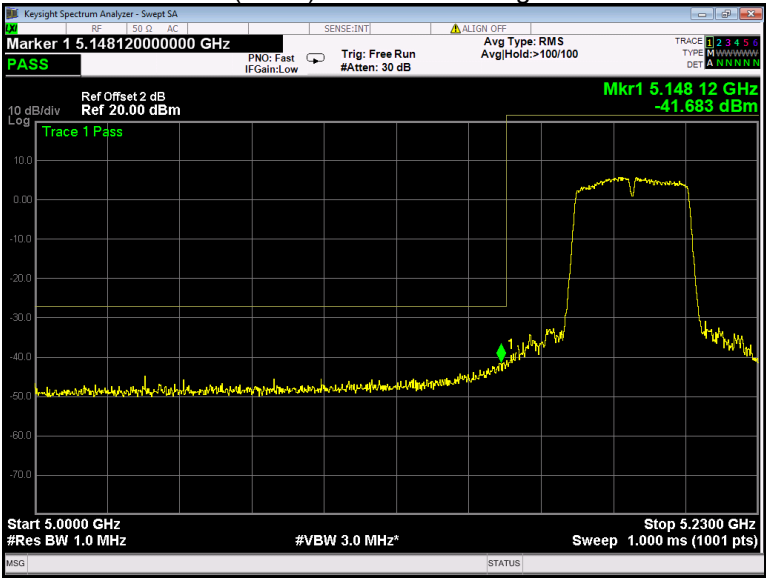
802.11 ac(HT20) U-NII-3 Band edge-left side



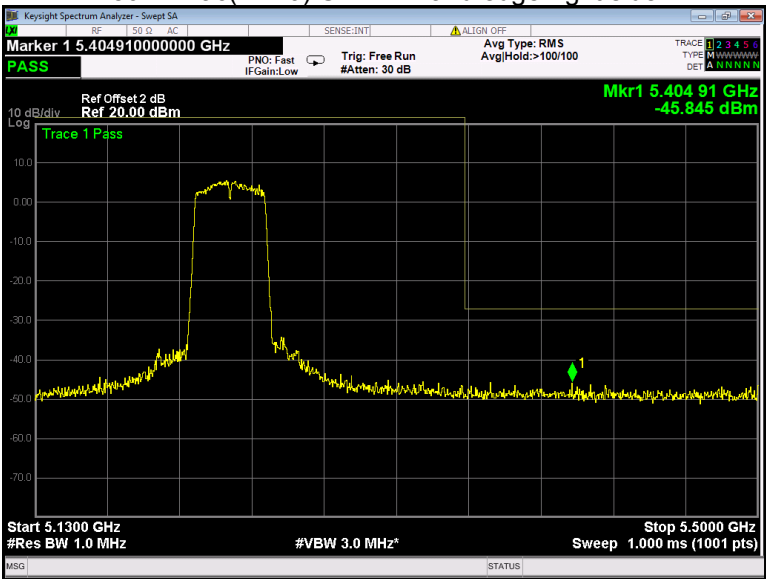
802.11 ac(HT20) U-NII-3 Band edge-right side



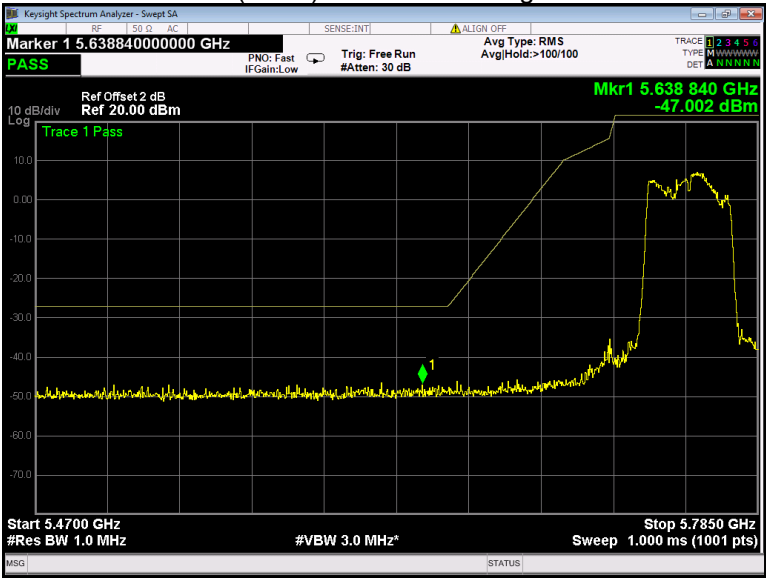
802.11ac(HT40) U-NII-1 Band edge-left side



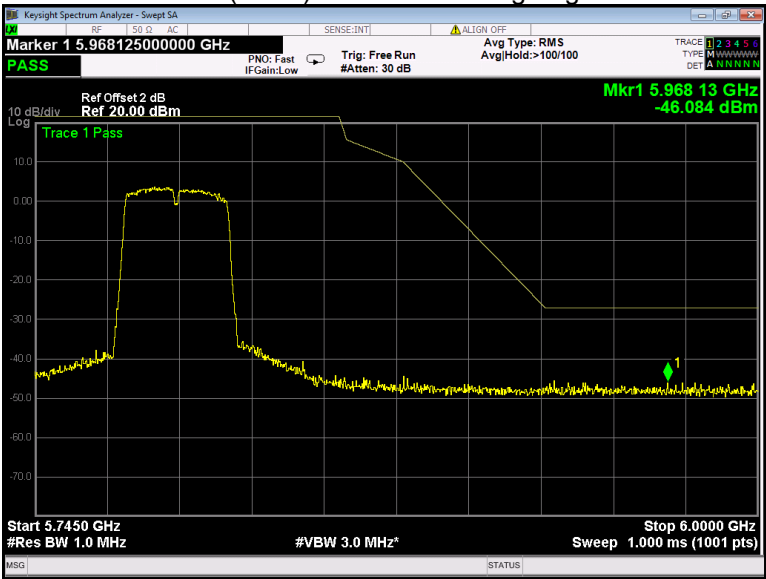
802.11 ac(HT40) U-NII-1 Band edge-right side



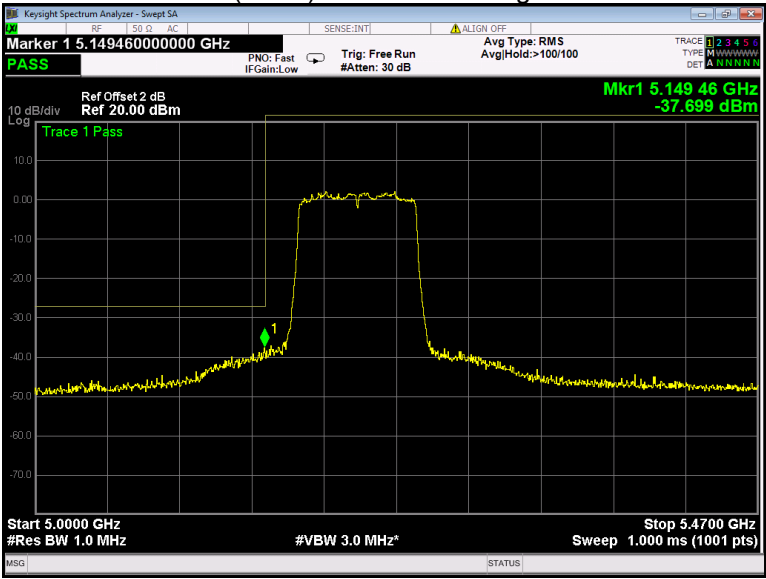
802.11 ac(HT40) U-NII-3 Band edge-left side



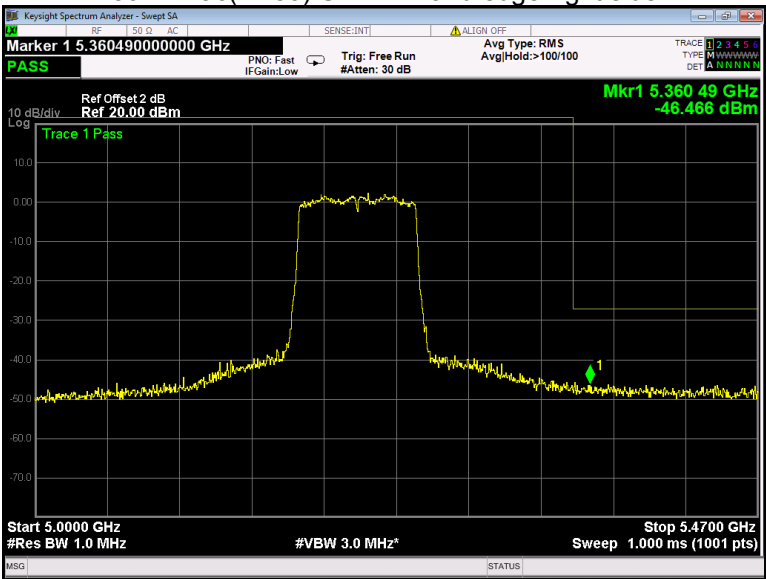
802.11 ac(HT40) U-NII-3 Band edge-right side



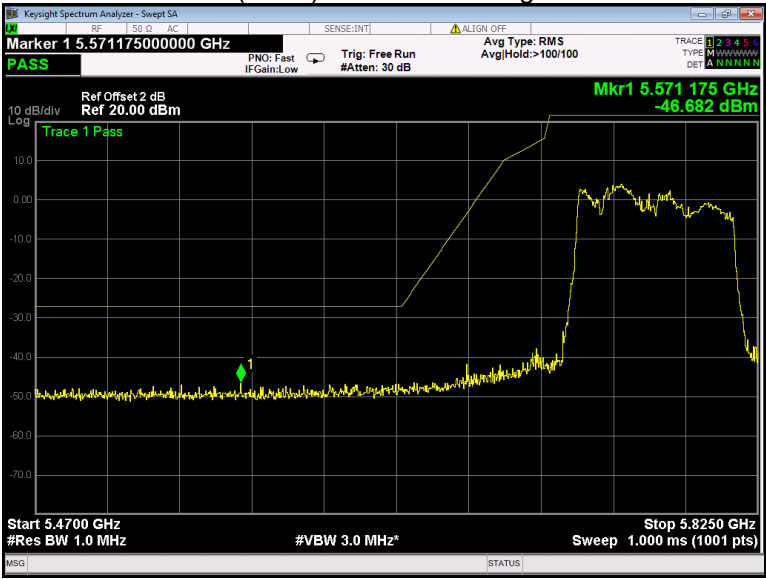
802.11ac(HT80) U-NII-1 Band edge-left side



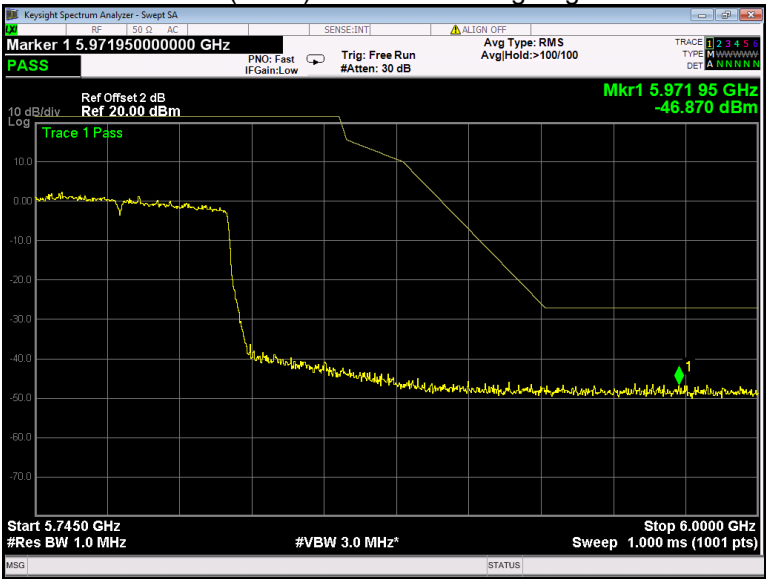
802.11 ac(HT80) U-NII-1 Band edge-right side



802.11 ac(HT80) U-NII-3 Band edge-left side



802.11 ac(HT80) U-NII-3 Band edge-right side



11 6 dB Bandwidth

Test Requirement:	FCC 47CFR Part 15 Section 15.407(e) KDB662911 D01 Multiple Transmitter Output v02r01
Test Method:	KDB789033 D02 General U-NII Test Procedures New Rules v02r01 Section C
Test Limit:	≥ 500 kHz
Test Result:	PASS

11.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz

11.2 Test Result

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Band	Operation mode	6 dB Bandwidth (MHz)		
		Low	Middle	High
U-NII-3	802.11a	13.86	15.70	16.34
	802.11n(HT20)	13.75	16.01	17.59
	802.11n(HT40)	35.66		35.73
	802.11ac(HT20)	14.69	15.96	17.55
	802.11ac(HT40)	35.62		35.72
	802.11ac(HT80)		75.75	

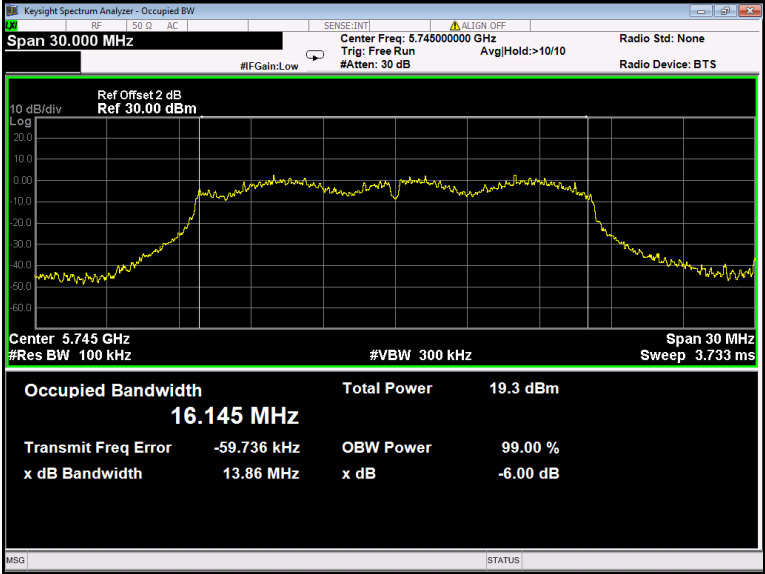
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Band	Operation mode	6 dB Bandwidth (MHz)		
		Low	Middle	High
U-NII-3	802.11a	13.58	15.42	16.33
	802.11n(HT20)	14.81	15.89	17.53
	802.11n(HT40)	34.42	/	35.63
	802.11ac(HT20)	14.70	14.84	17.56
	802.11ac(HT40)	35.71	/	35.73
	802.11ac(HT80)	/	75.76	/

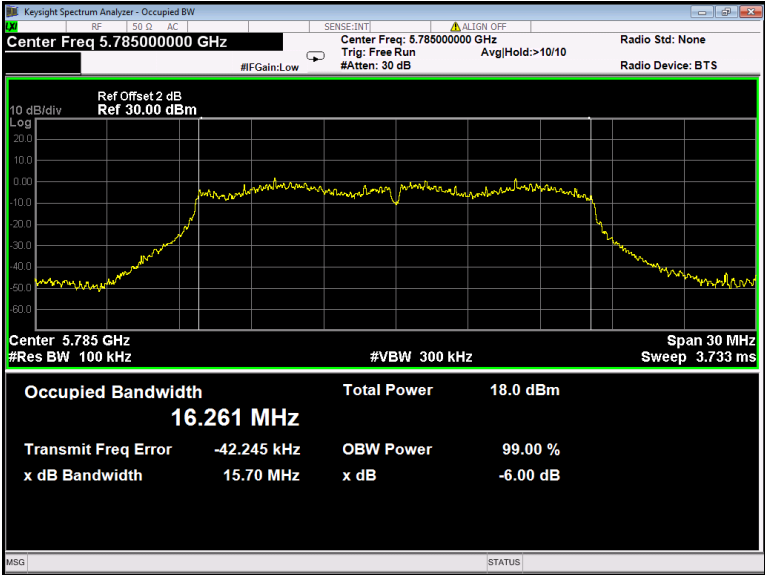
Test result plots shown as follows:

Ant0

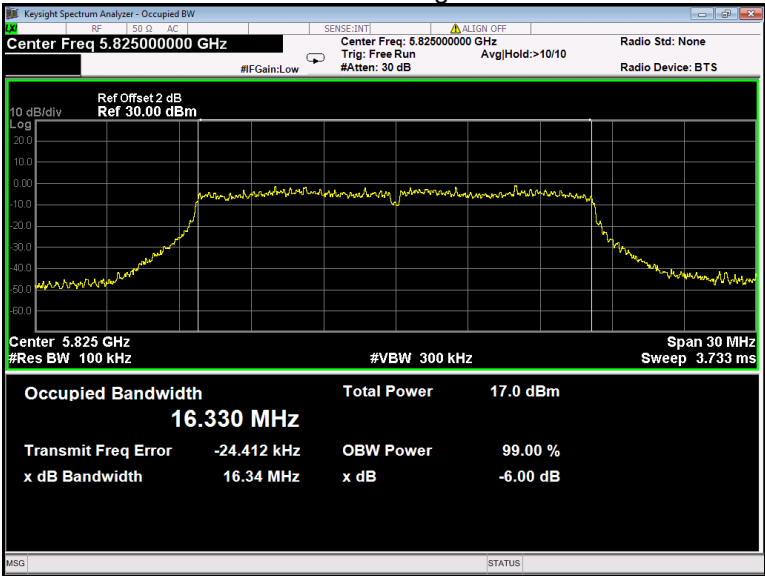
802.11a U-NII-3 Low channel



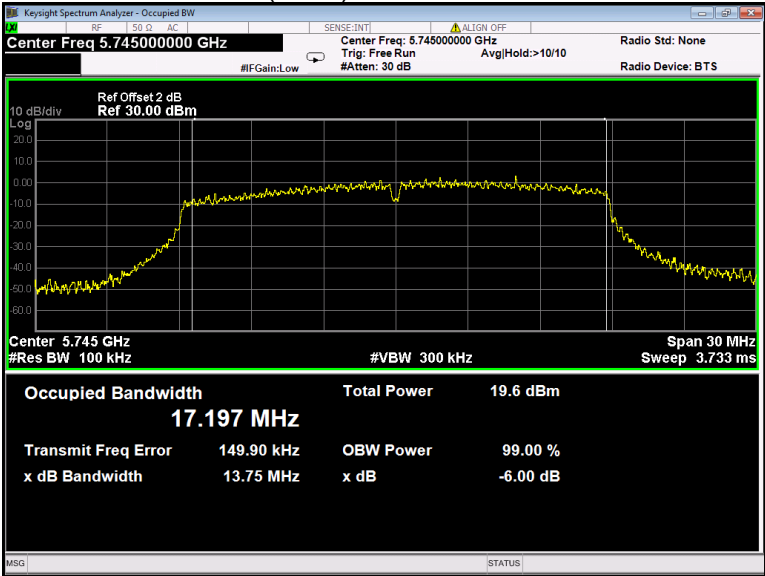
802.11a U-NII-3 Middle channel



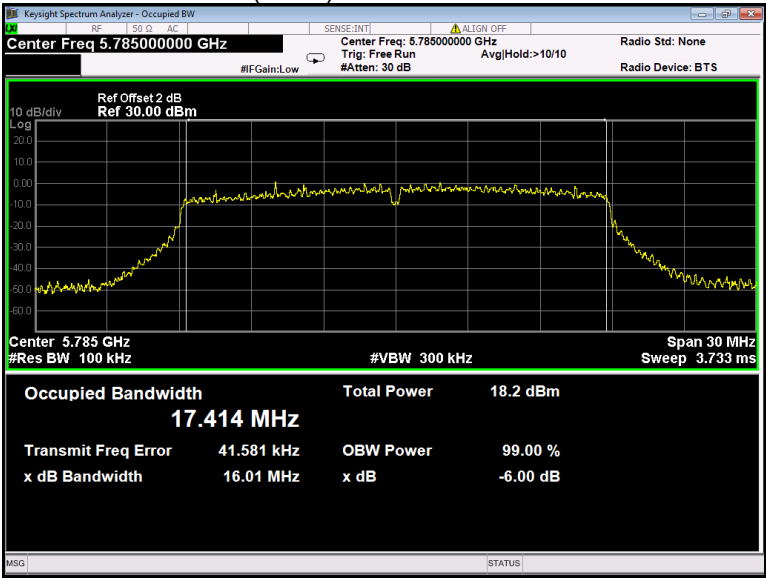
802.11a U-NII-3 High channel



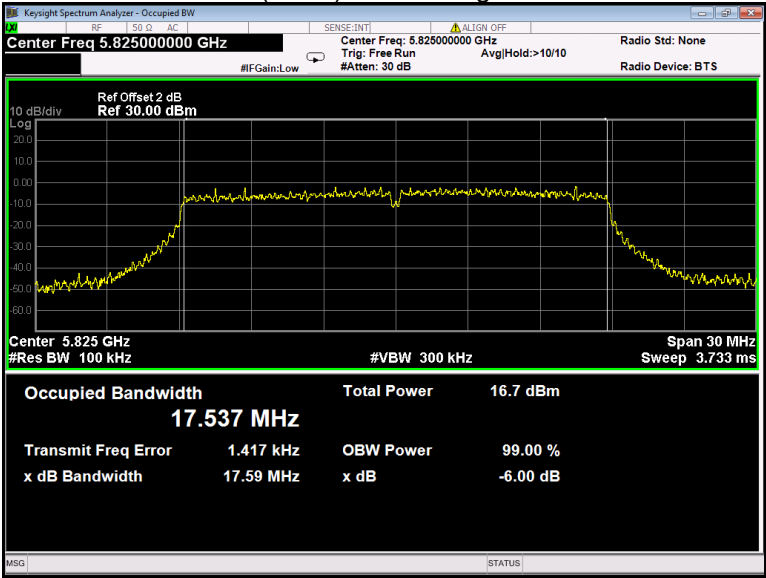
802.11n(HT20) U-NII-3 Low channel



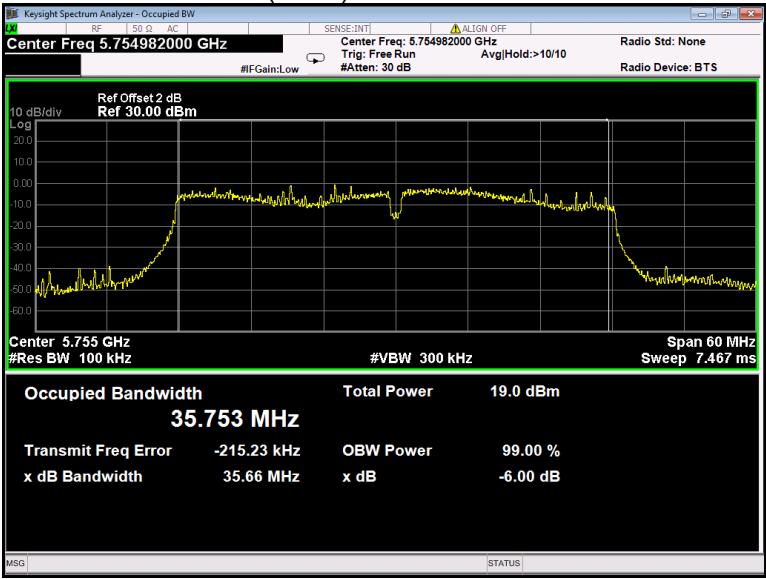
802.11n(HT20) U-NII-3 Middle channel



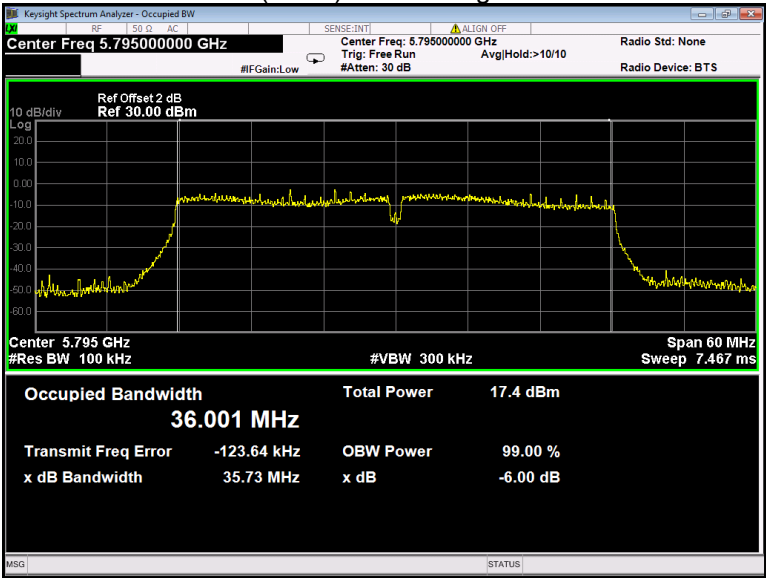
802.11n(HT20) U-NII-3 High channel



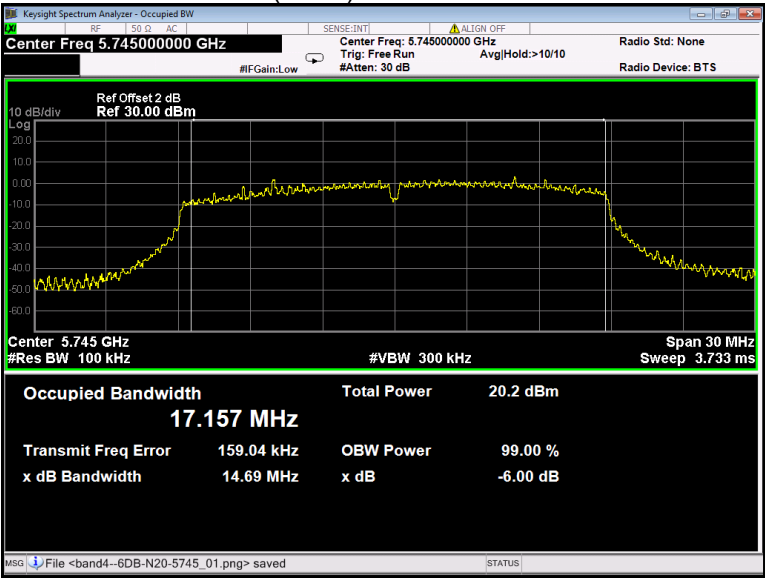
802.11n(HT40) U-NII-3 Low channel



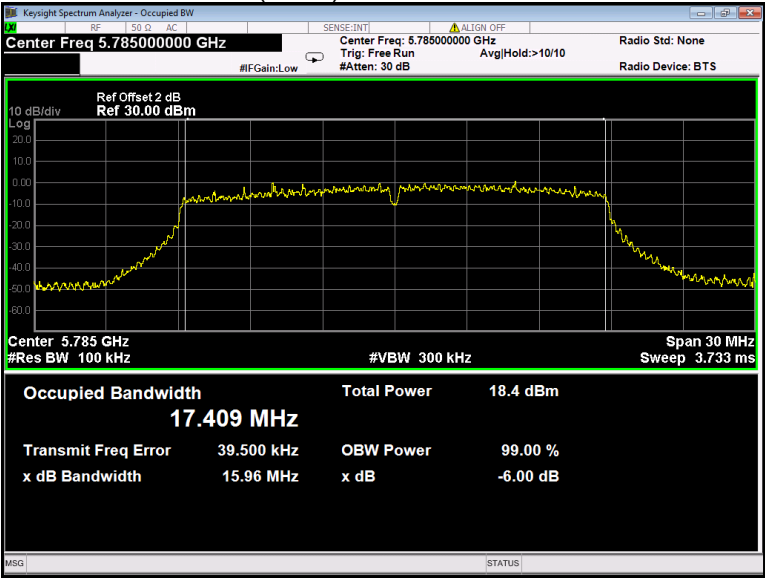
802.11n(HT40) U-NII-3 High channel



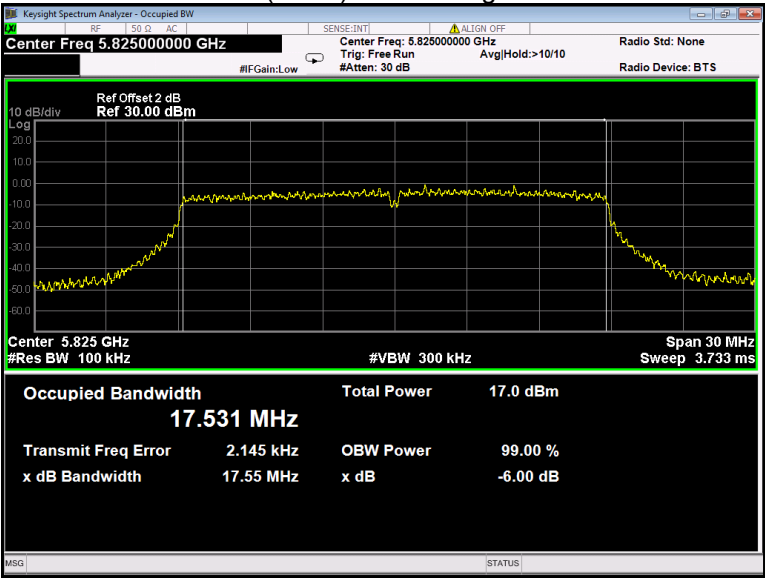
802.11ac(HT20) U-NII-3 Low channel



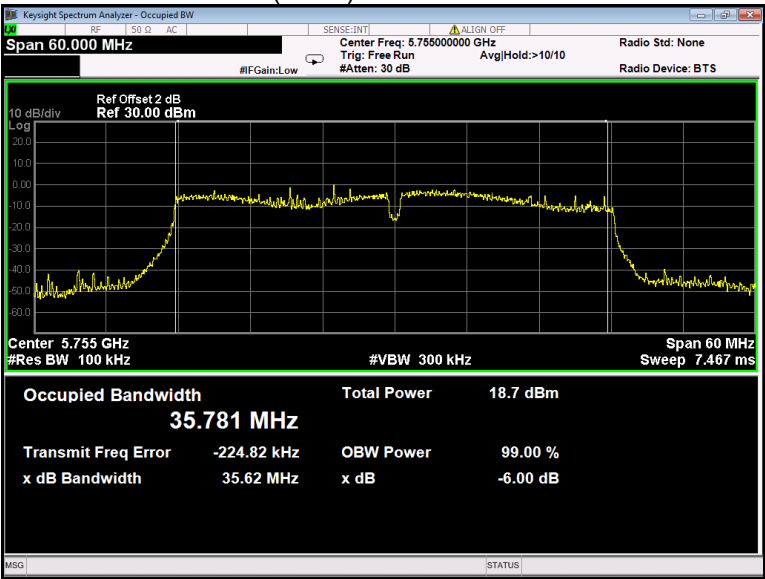
802.11ac(HT20) U-NII-3 Middle channel



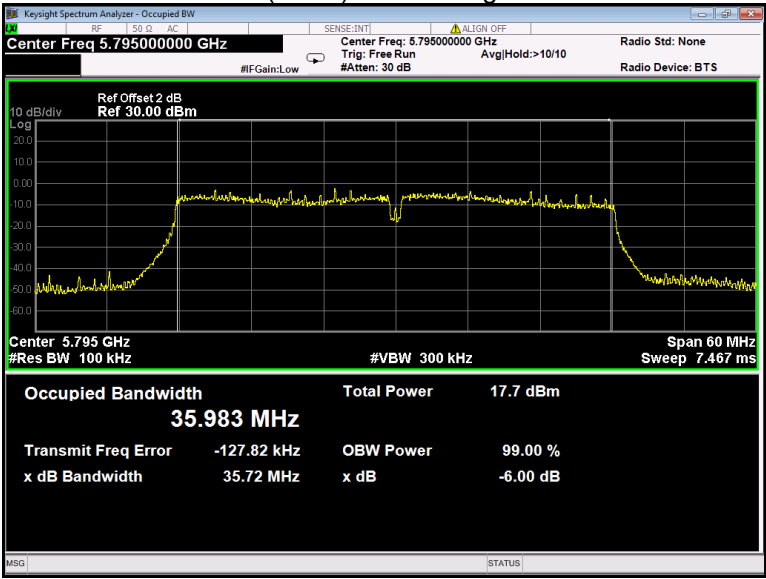
802.11ac(HT20) U-NII-3 High channel



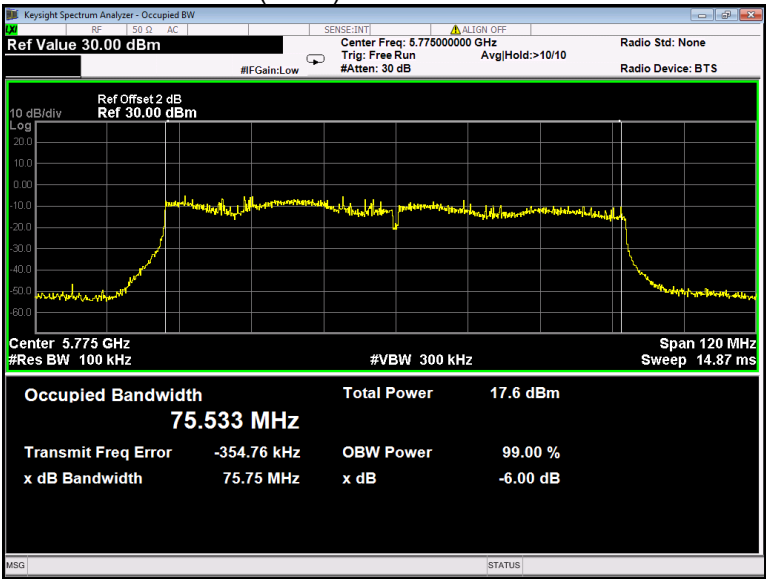
802.11ac(HT40) U-NII-3 Low channel



802.11ac(HT40) U-NII-3 High channel

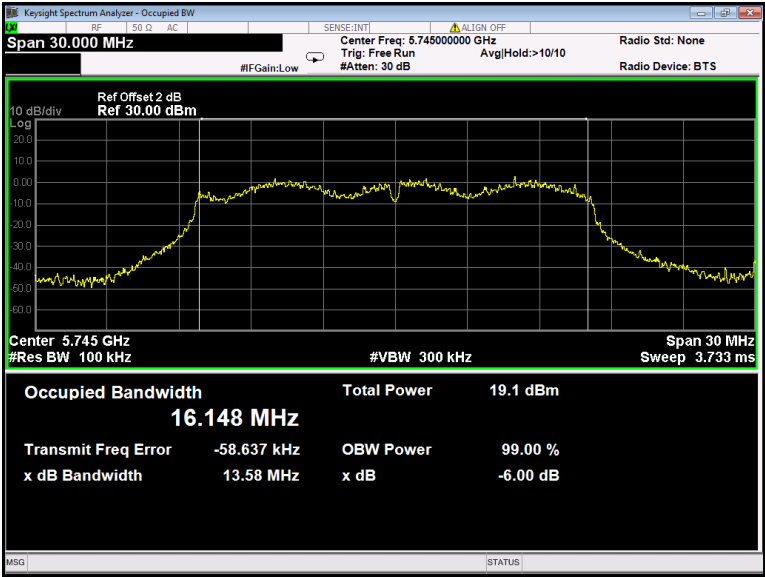


802.11ac(HT80) U-NII-3 Middle channel

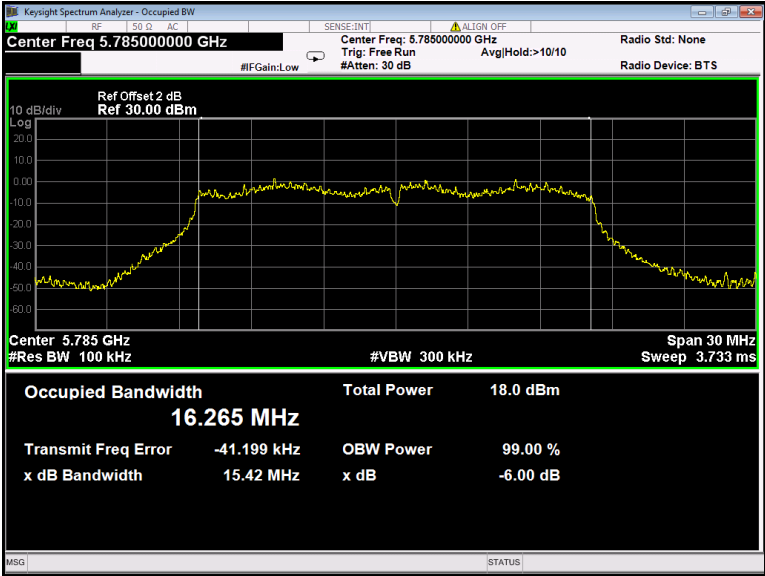


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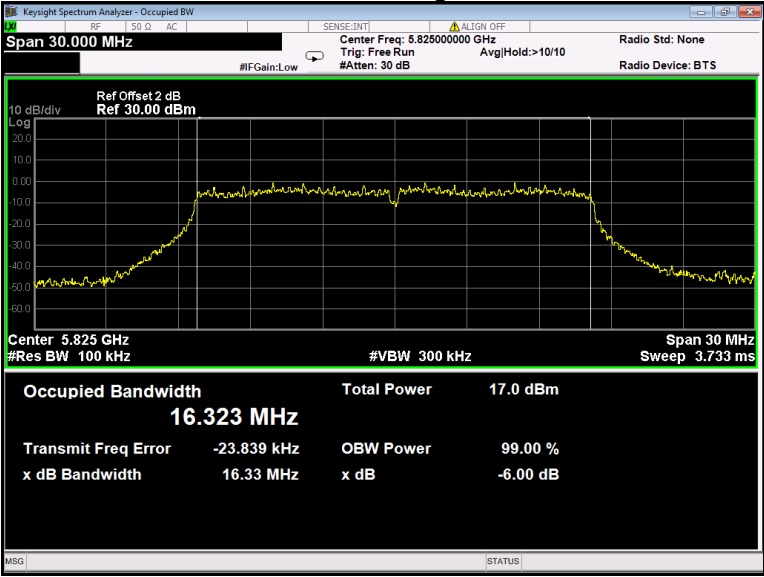
802.11a U-NII-3 Low channel



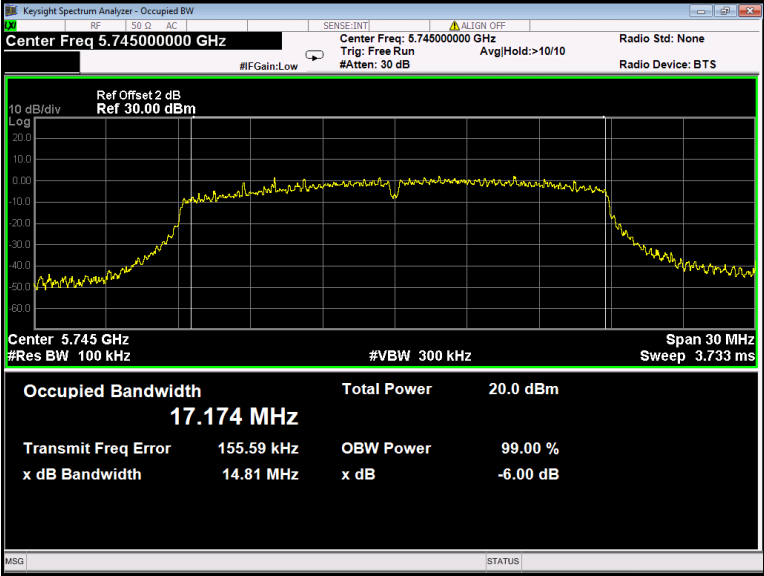
802.11a U-NII-3 Middle channel



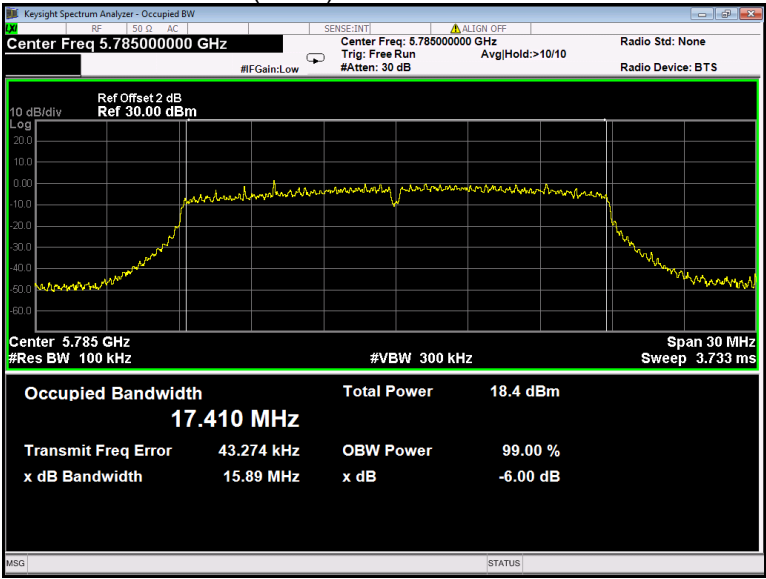
802.11a U-NII-3 High channel



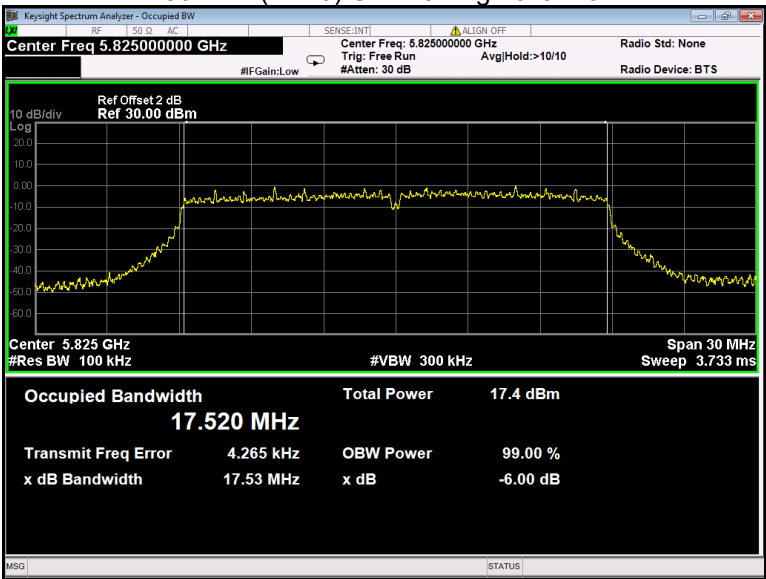
802.11n(HT20) U-NII-3 Low channel



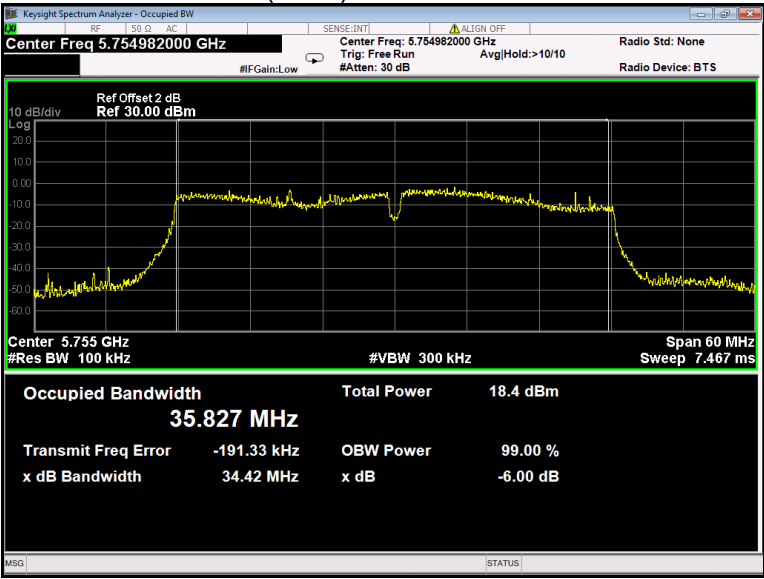
802.11n(HT20) U-NII-3 Middle channel



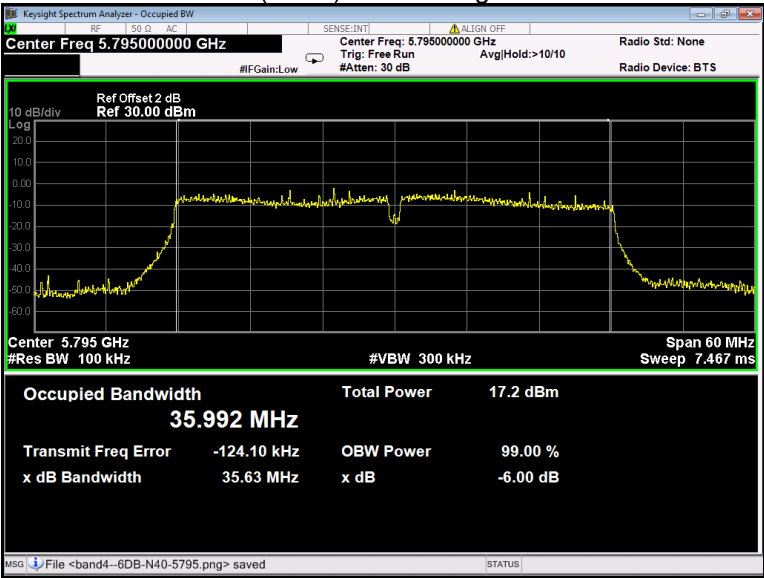
802.11n(HT20) U-NII-3 High channel



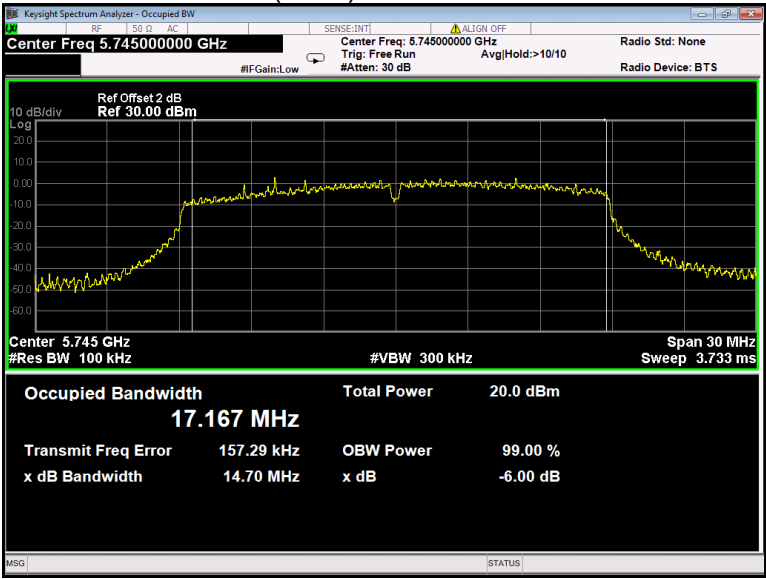
802.11n(HT40) U-NII-3 Low channel



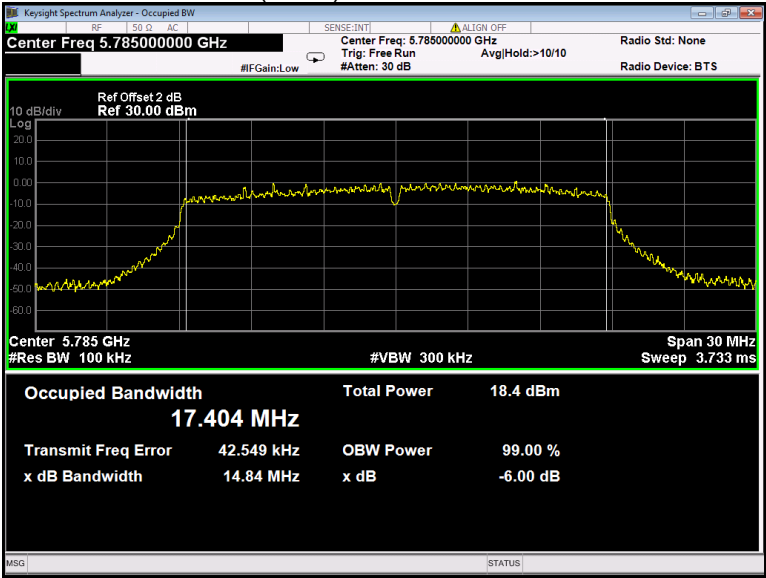
802.11n(HT40) U-NII-3 High channel



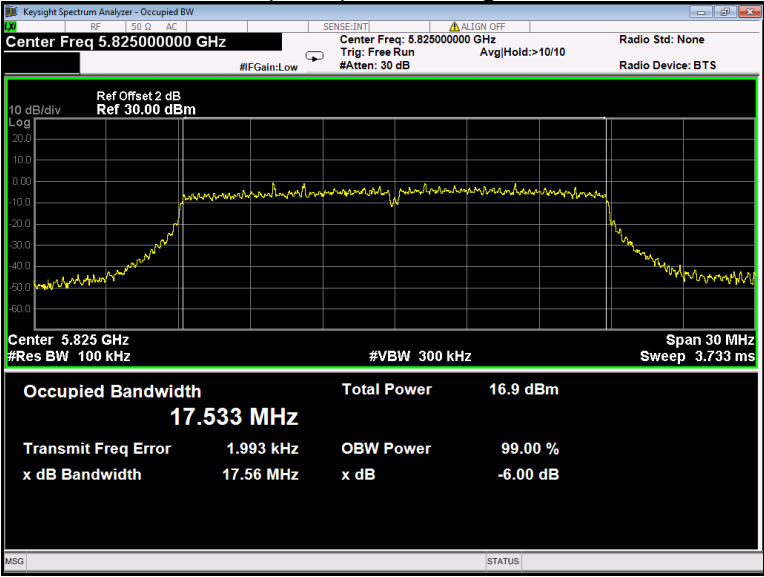
802.11ac(HT20) U-NII-3 Low channel



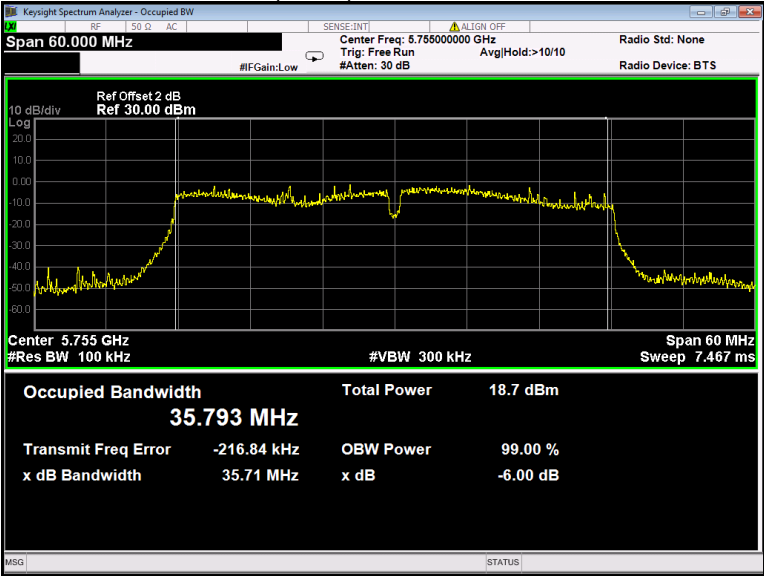
802.11ac(HT20) U-NII-3 Middle channel



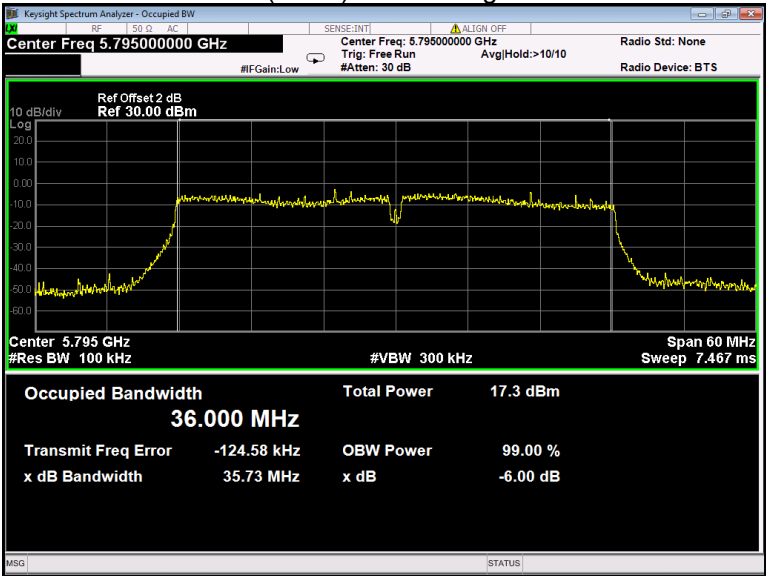
802.11ac(HT20) U-NII-3 High channel



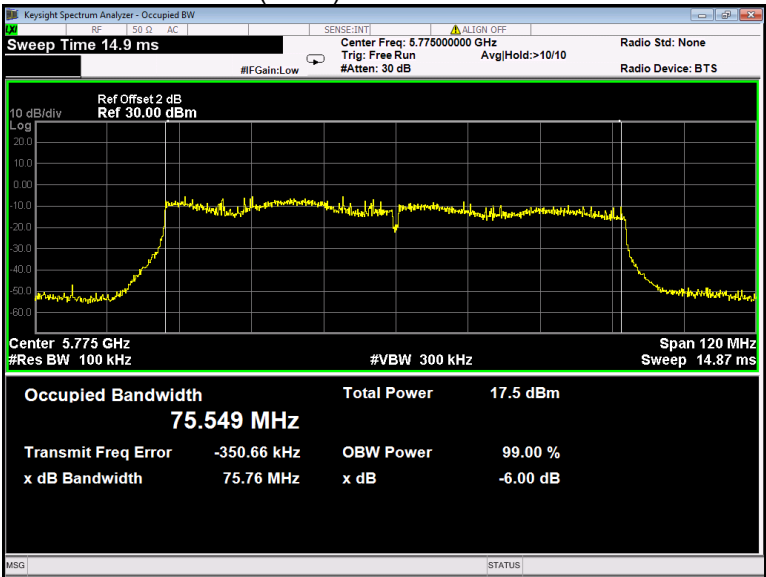
802.11ac(HT40) U-NII-3 Low channel



802.11ac(HT40) U-NII-3 High channel



802.11ac(HT80) U-NII-3 Middle channel



12 26 dB Bandwidth and 99% Occupied Bandwidth

Test Requirement:	FCC 47CFR Part 15 Section 15.407 (a) KDB662911 D01 Multiple Transmitter Output v02r01
Test Method:	KDB789033 D02 General U-NII Test Procedures New Rules v02r01 Section D
Test Limit:	No restriction limits
Test Result:	PASS

12.1 Test Procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 1% to 5% of the OBW, VBW = 3x RBW

12.2 Test Result

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Band	Operation mode	26 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-1	802.11a	27.92	29.86	22.72	16.533	16.535	16.444
	802.11n(HT20)	28.32	29.33	25.10	17.665	17.659	17.604
	802.11n(HT40)	58.92	/	48.05	36.063	/	35.991
	802.11ac(HT20)	28.06	27.96	24.03	17.665	17.672	17.608
	802.11ac(HT40)	57.68	/	54.31	36.058	/	35.990
	802.11ac(HT80)	/	84.14	/	/	75.815	/

Band	Operation mode	99% Bandwidth (MHz)		
		Low	Middle	High
U-NII-3	802.11a	16.189	16.272	16.349
	802.11n(HT20)	17.194	17.398	17.513
	802.11n(HT40)	35.738	/	35.971
	802.11ac(HT20)	17.188	17.380	17.527
	802.11ac(HT40)	35.714	/	35.984
	802.11ac(HT80)	/	75.567	/

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Band	Operation mode	26 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-1	802.11a	27.73	19.06	21.22	16.527	16.362	16.445
	802.11n(HT20)	29.16	29.79	23.50	17.651	17.664	17.607
	802.11n(HT40)	59.29	/	53.29	36.070	/	35.999
	802.11ac(HT20)	27.62	29.33	24.11	17.678	17.656	17.618
	802.11ac(HT40)	58.49	/	50.66	36.050	/	36.017
	802.11ac(HT80)	/	93.55	/	/	75.788	/

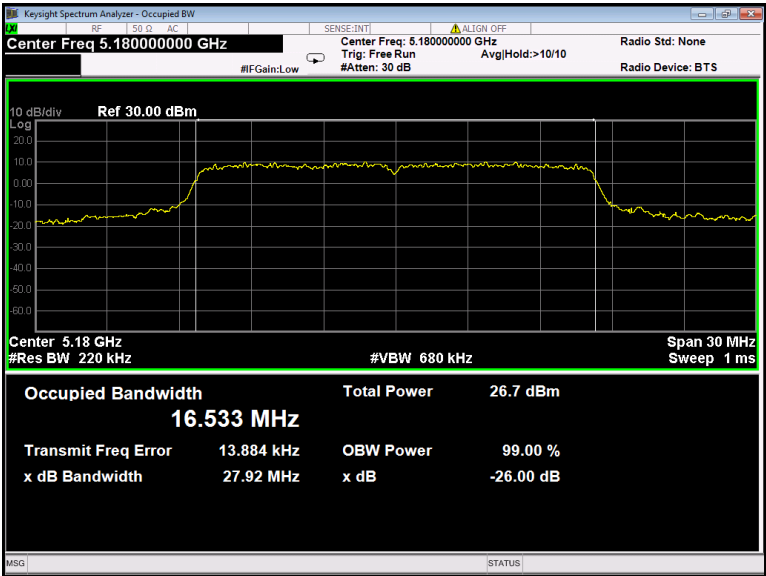
Band	Operation mode	99% Bandwidth (MHz)		
		Low	Middle	High
U-NII-3	802.11a	16.177	16.290	16.356
	802.11n(HT20)	17.182	17.397	17.535
	802.11n(HT40)	35.745	/	35.966
	802.11ac(HT20)	17.177	17.411	17.518
	802.11ac(HT40)	35.746	/	35.995
	802.11ac(HT80)	/	75.571	/

Test result plots shown as follows:

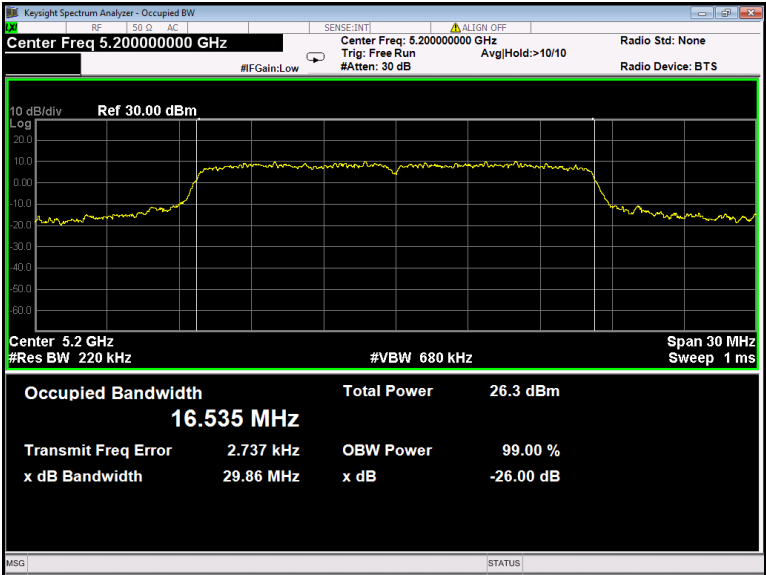
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26 dB Bandwidth and 99% Occupied Bandwidth

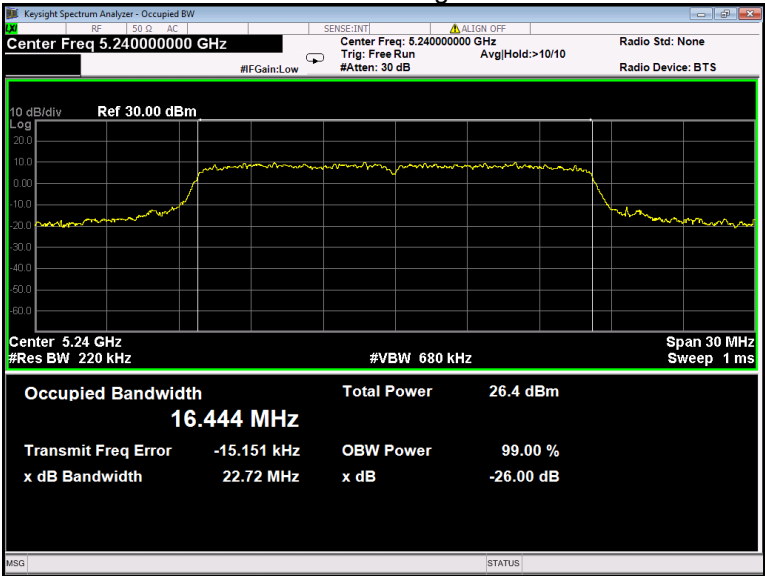
802.11a U-NII-1 Low channel



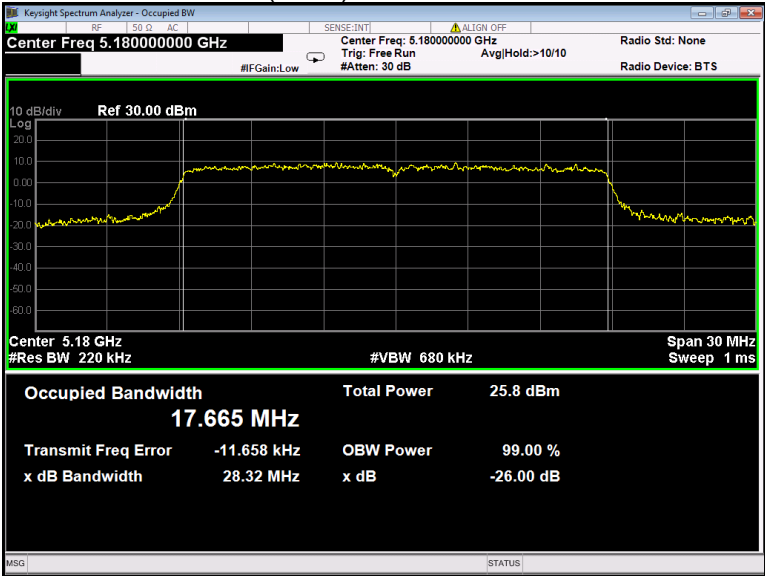
802.11a U-NII-1 Middle channel



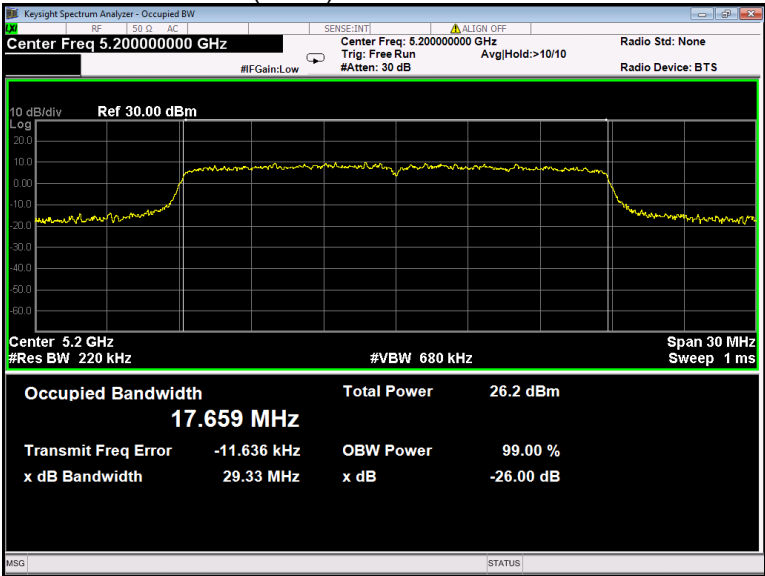
802.11a U-NII-1 High channel



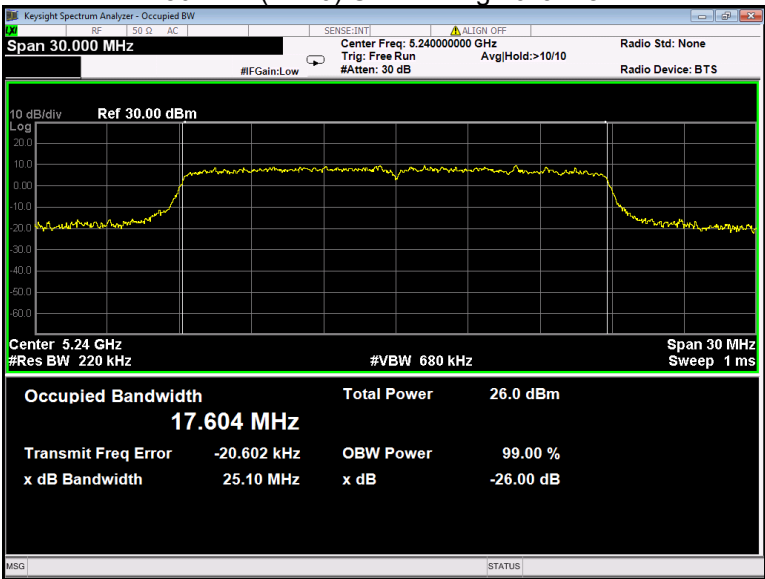
802.11n(HT20) U-NII-1 Low channel



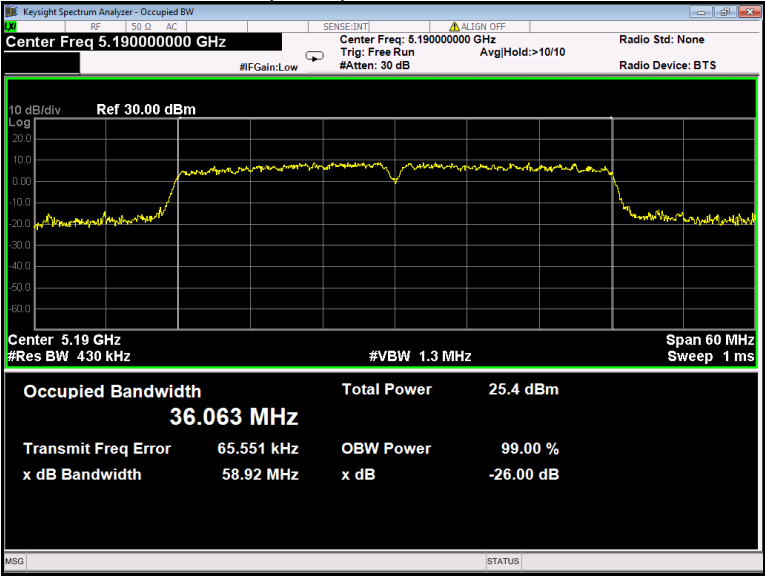
802.11n(HT20) U-NII-1 Middle channel



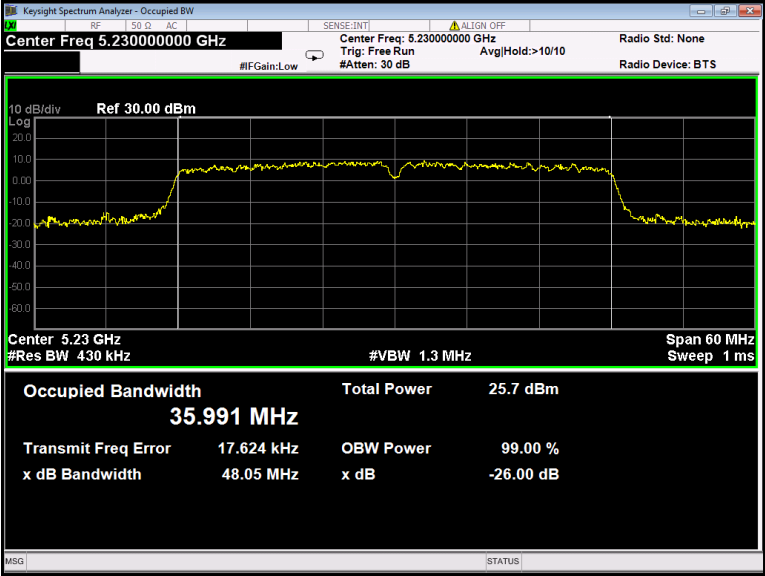
802.11n(HT20) U-NII-1 High channel



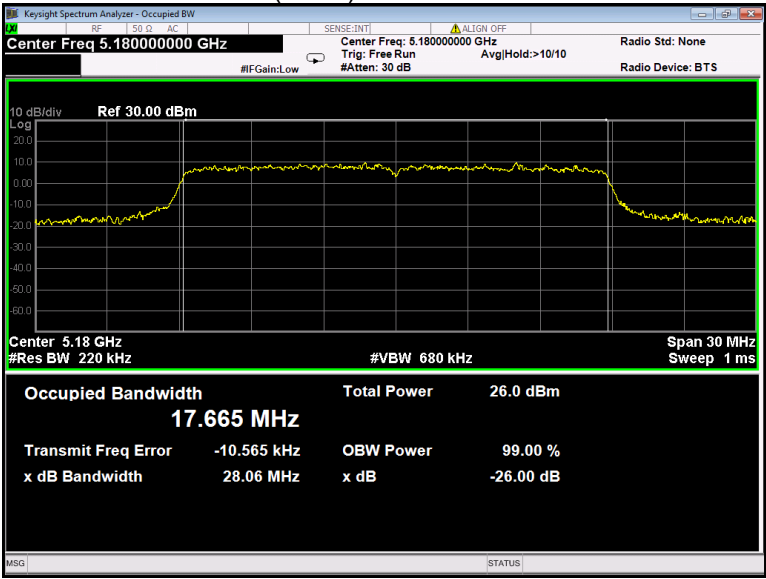
802.11n(HT40) U-NII-1 Low channel



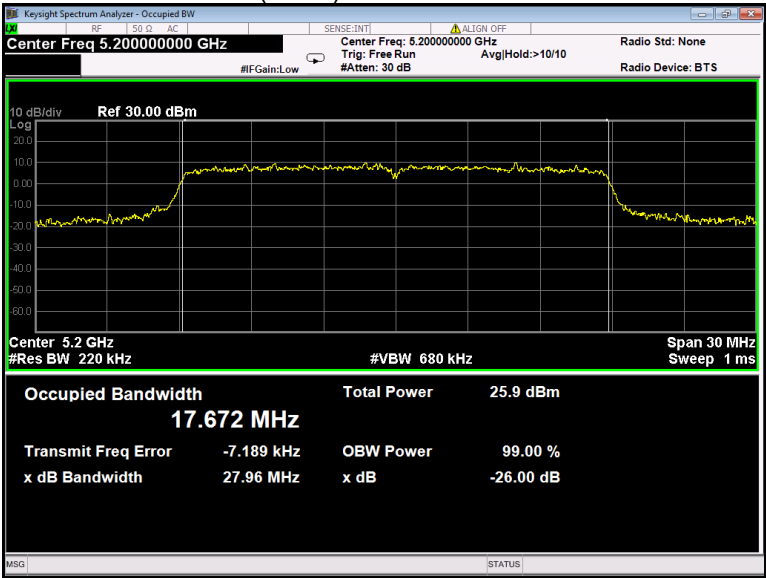
802.11n(HT40) U-NII-1 High channel



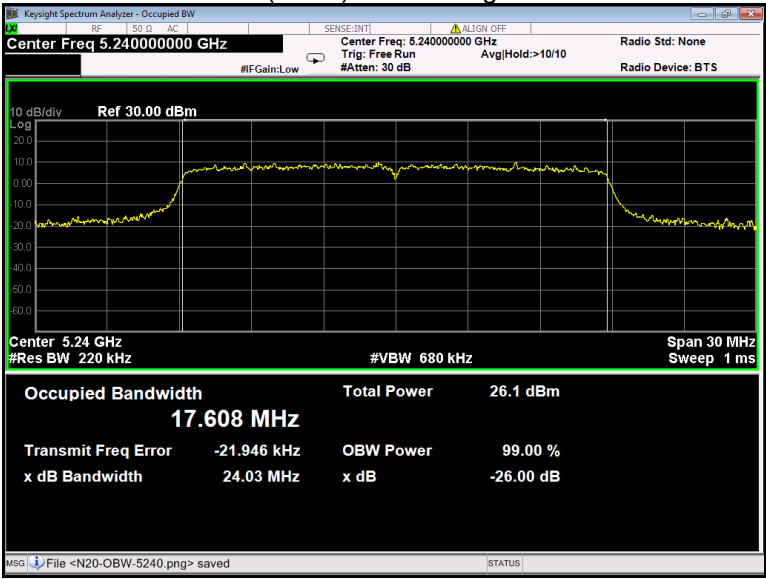
802.11ac(HT20) U-NII-1 Low channel



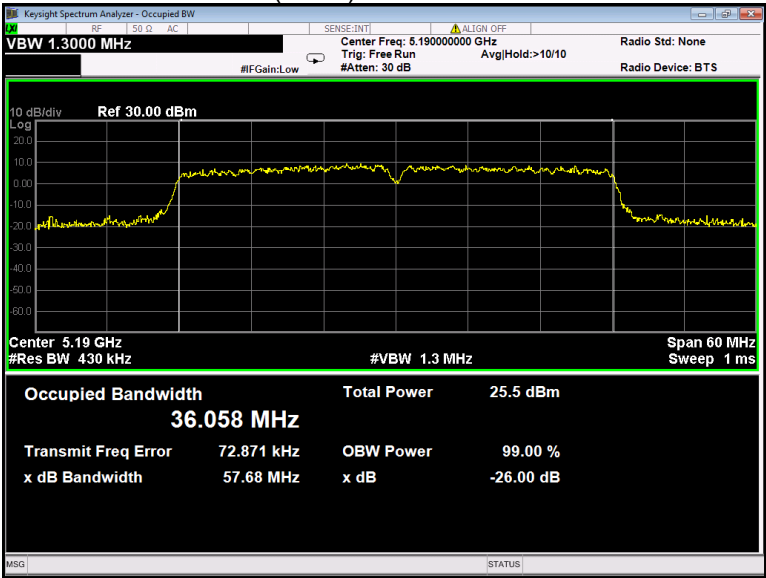
802.11ac(HT20) U-NII-1 Middle channel



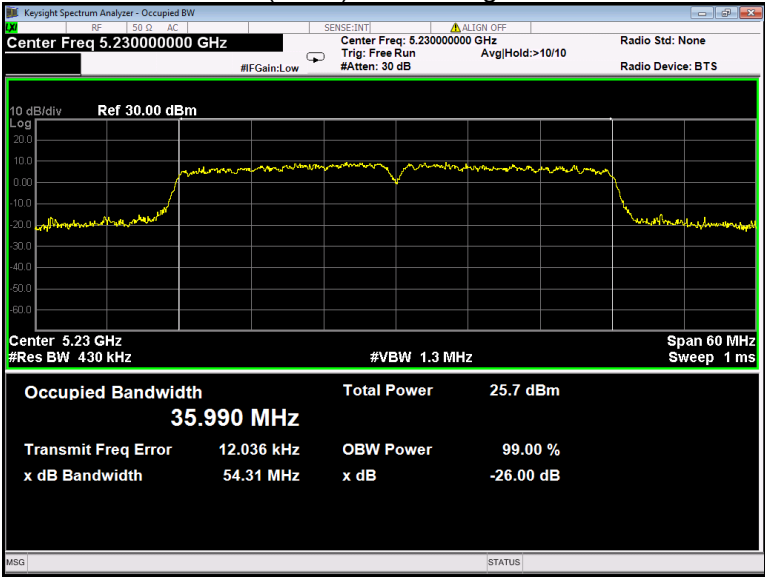
802.11ac(HT20) U-NII-1 High channel



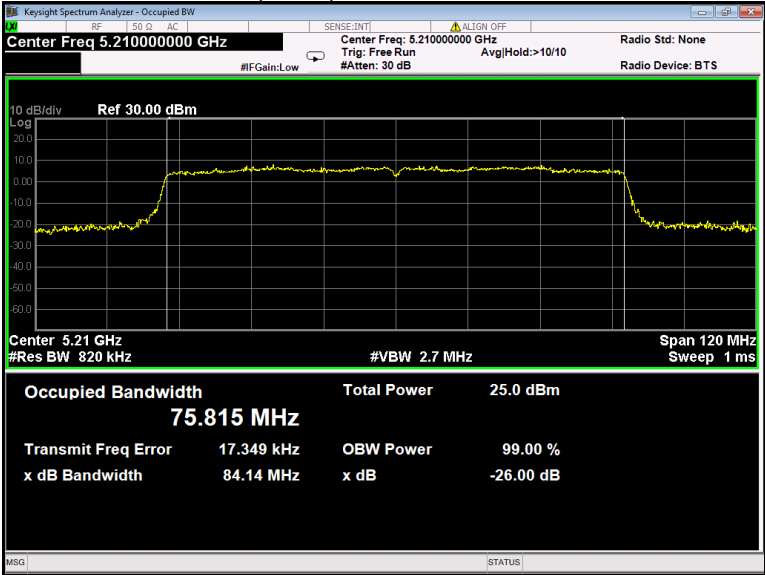
802.11ac(HT40) U-NII-1 Low channel



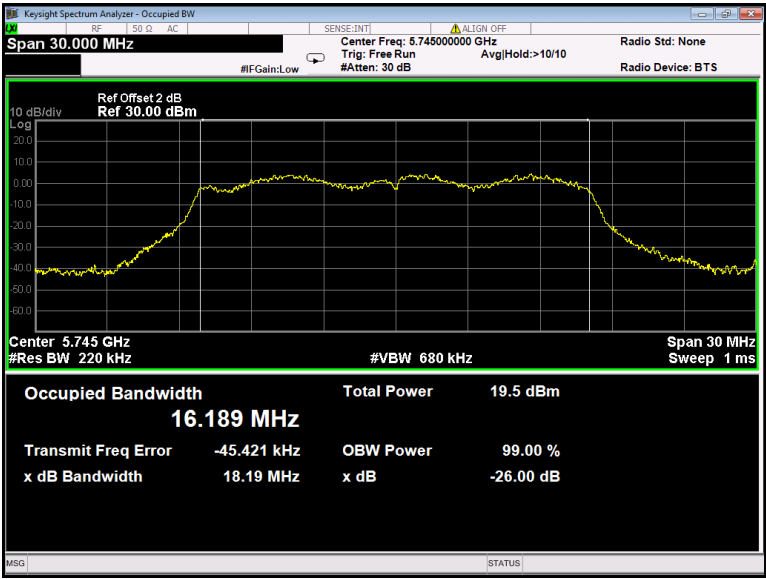
802.11ac(HT40) U-NII-1 High channel



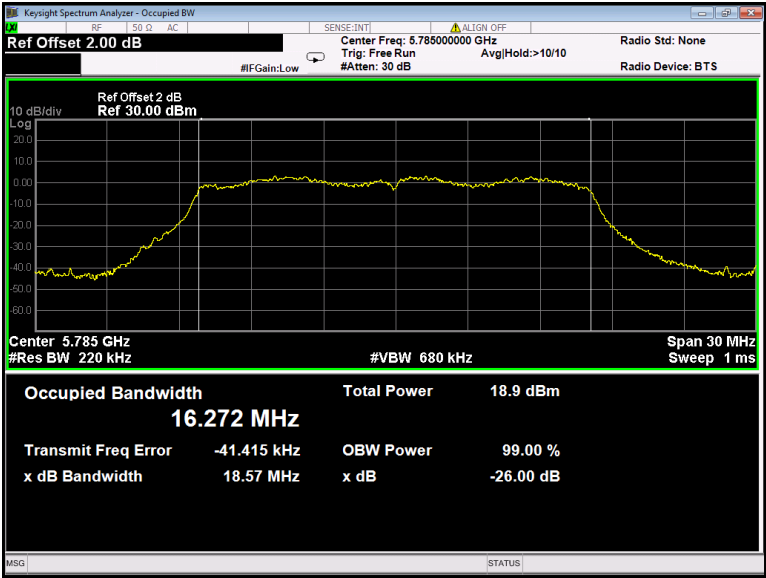
802.11ac(HT80) U-NII-1 Middle channel



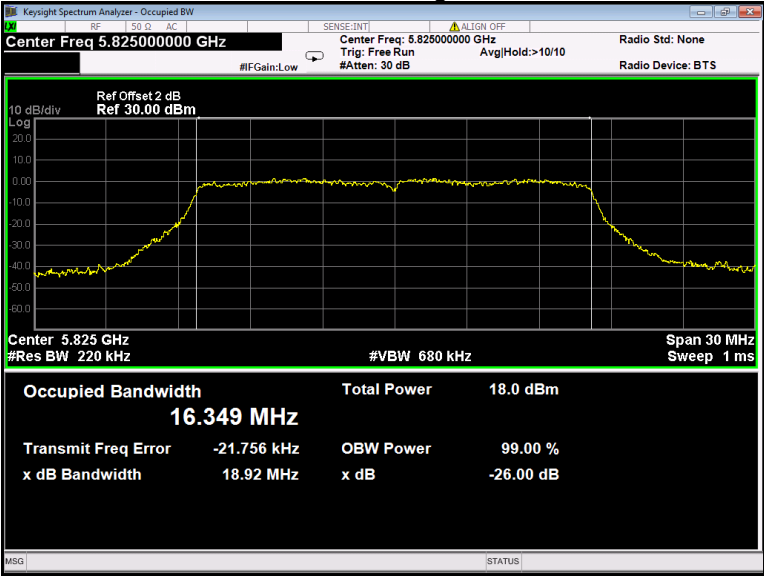
802.11a U-NII-3 Low channel



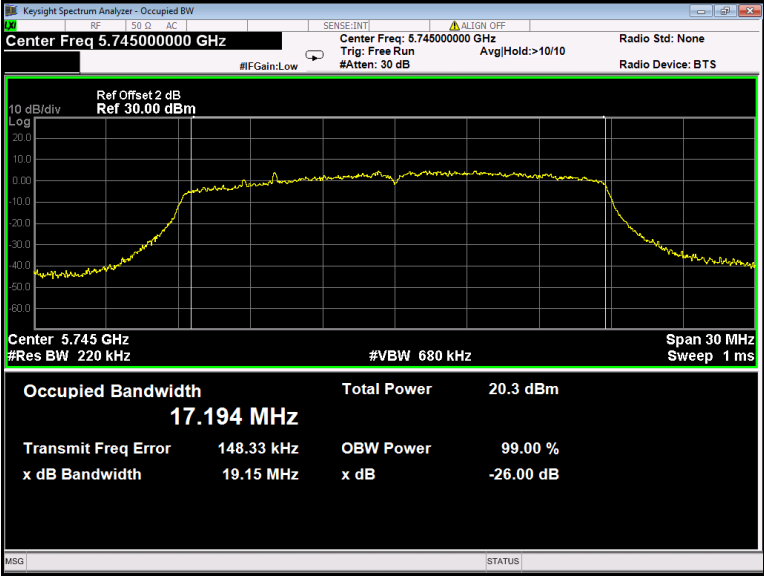
802.11a U-NII-3 Middle channel



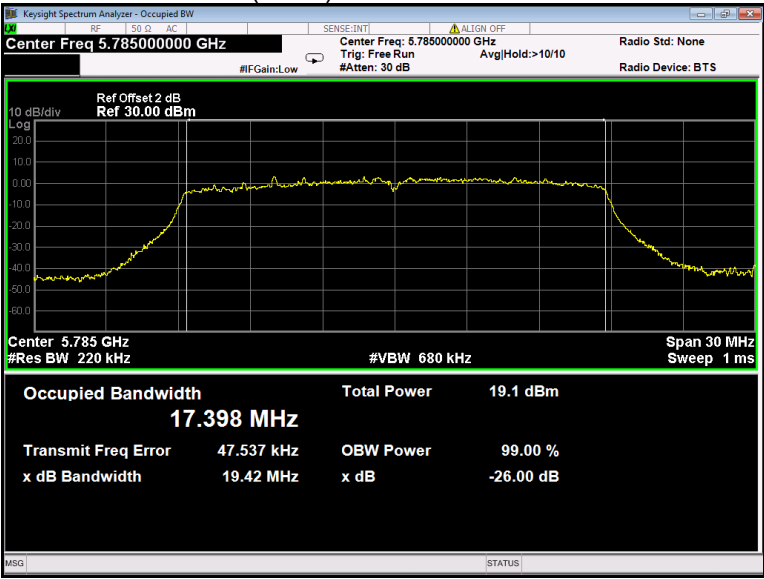
802.11a U-NII-3 High channel



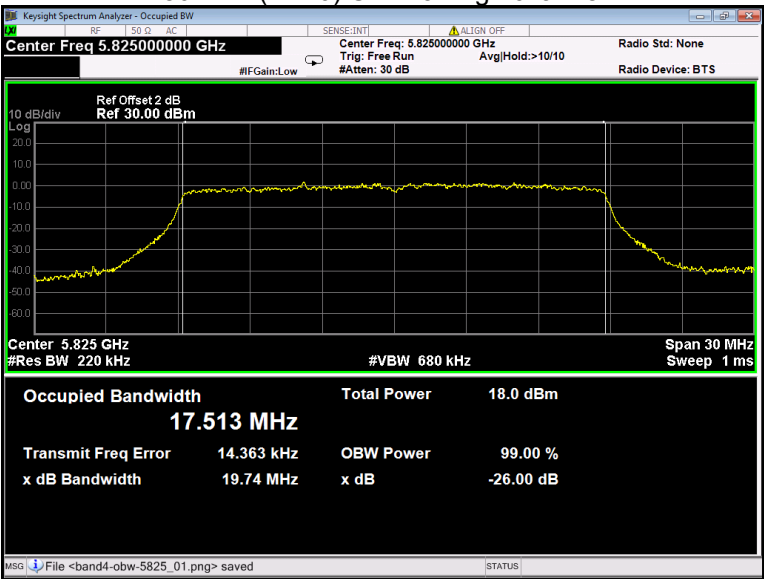
802.11n(HT20) U-NII-3 Low channel



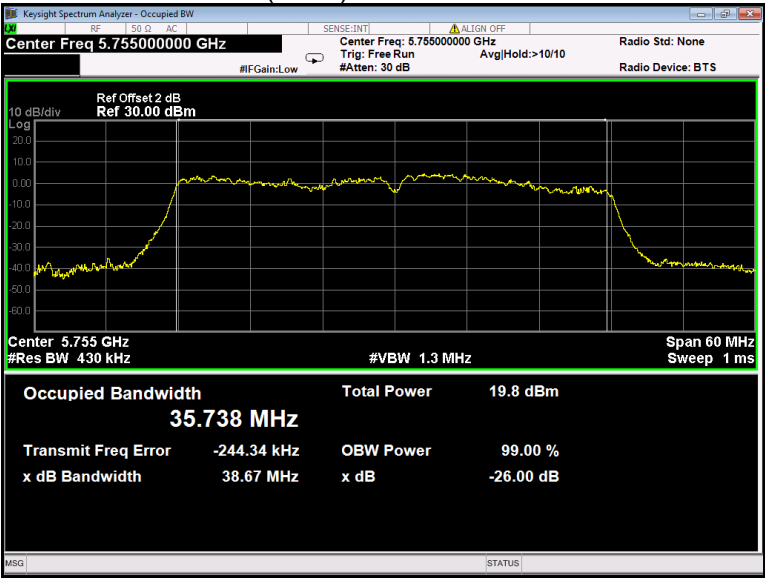
802.11n(HT20) U-NII-3 Middle channel



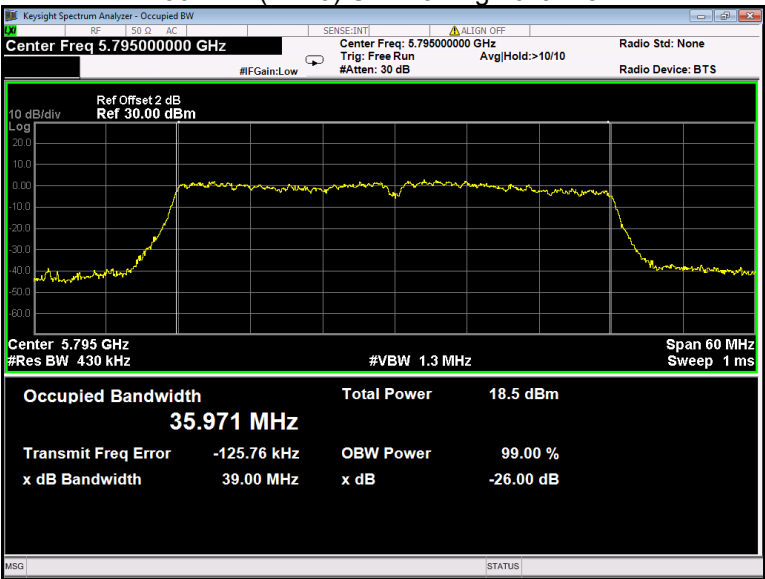
802.11n(HT20) U-NII-3 High channel



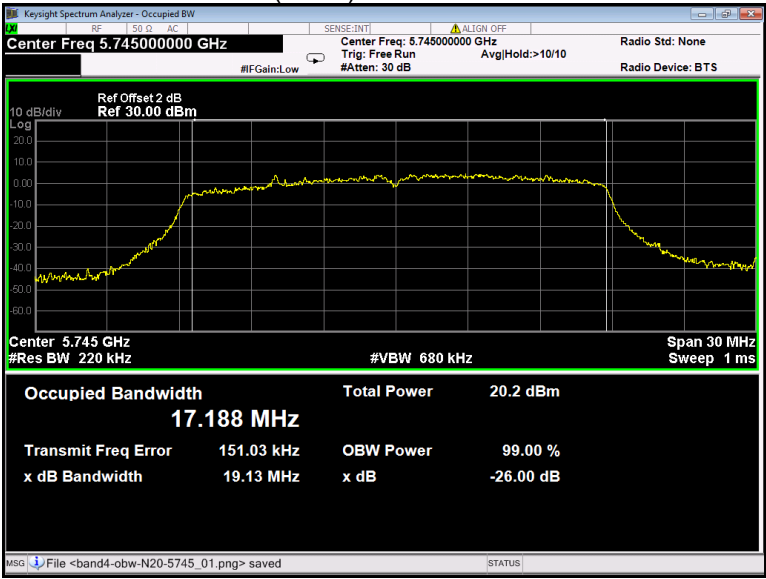
802.11n(HT40) U-NII-3 Low channel



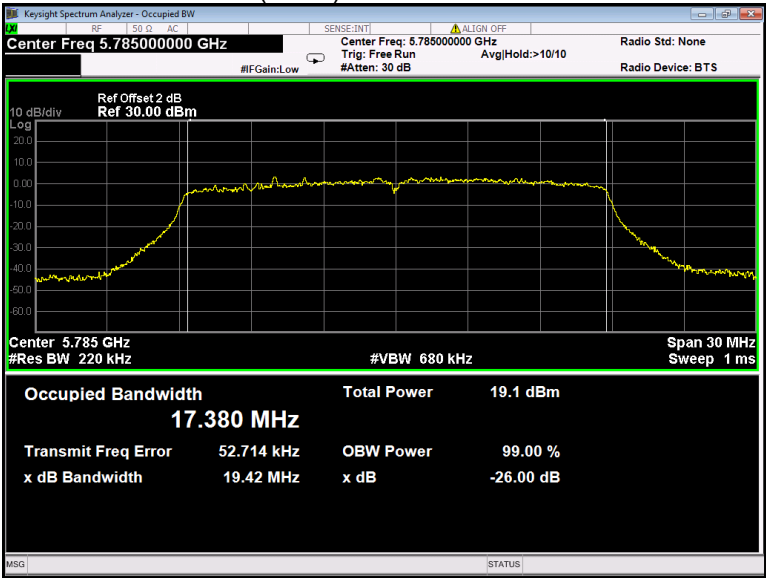
802.11n(HT40) U-NII-3 High channel



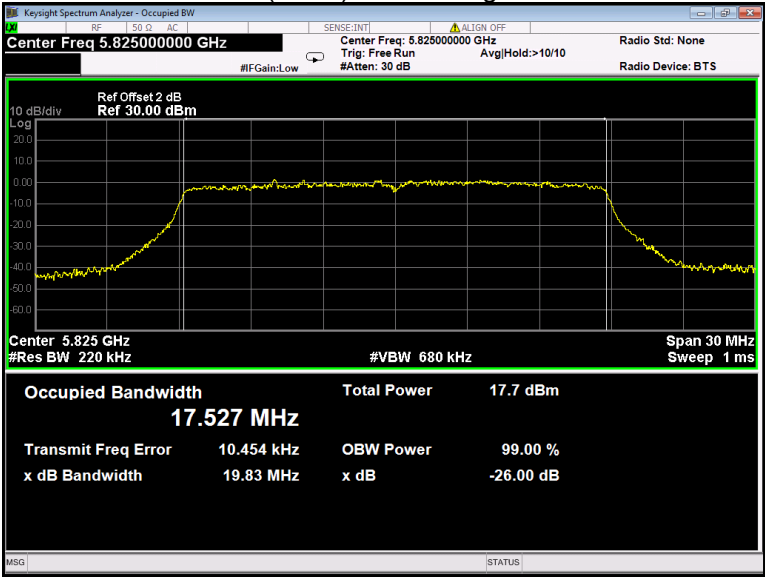
802.11ac(HT20) U-NII-3 Low channel



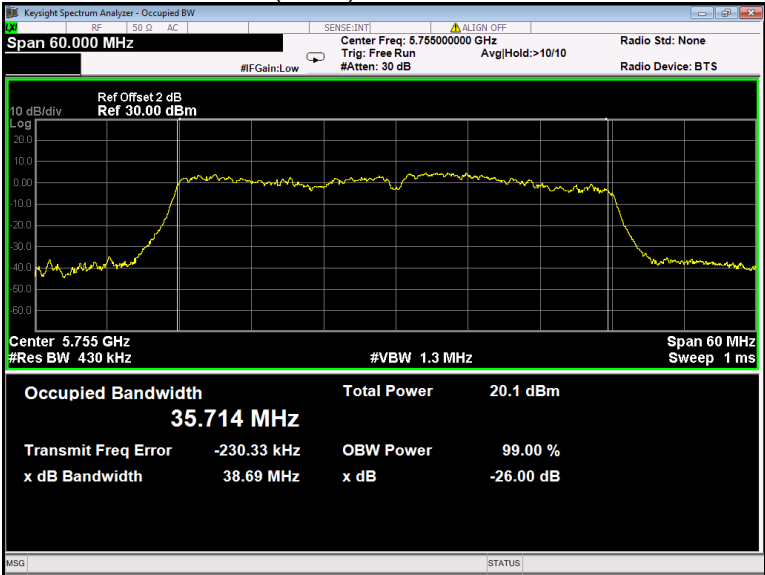
802.11ac(HT20) U-NII-3 Middle channel



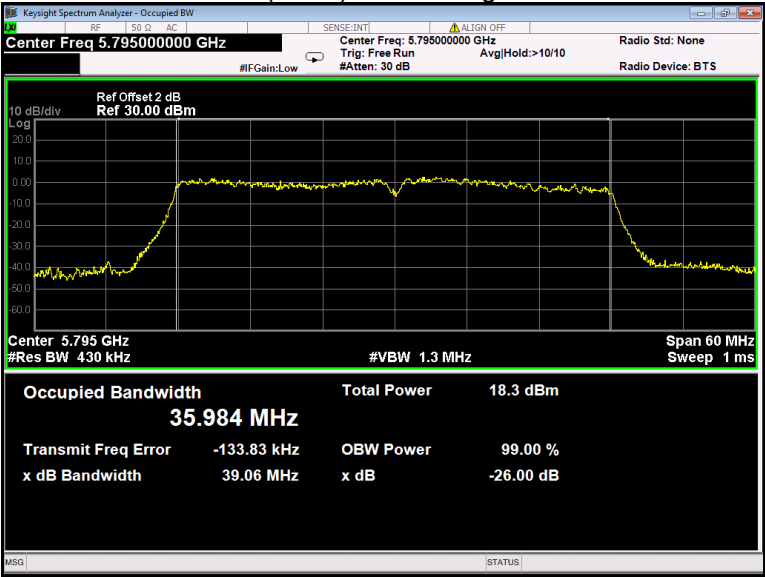
802.11ac(HT20) U-NII-3 High channel



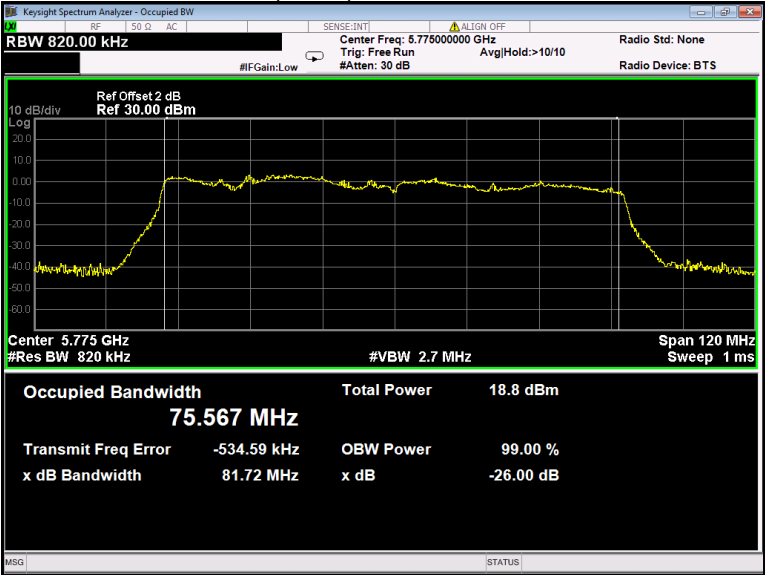
802.11ac(HT40) U-NII-3 Low channel



802.11ac(HT40) U-NII-3 High channel



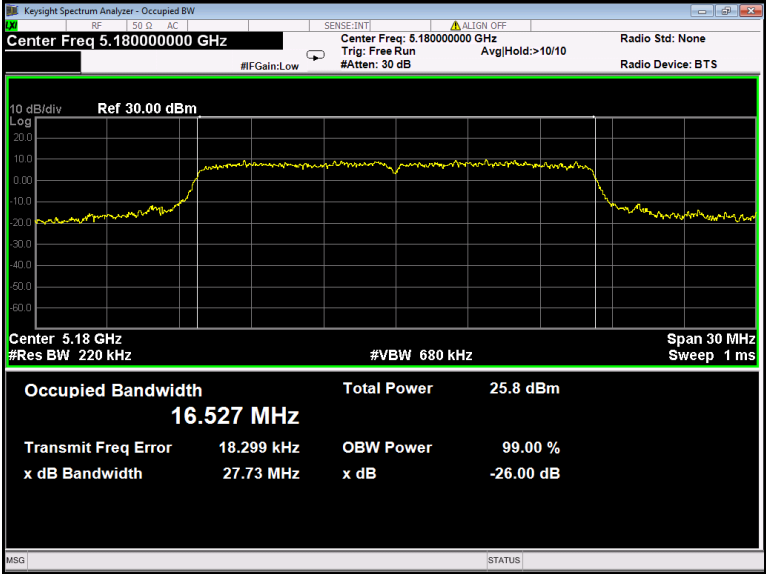
802.11ac(HT80) U-NII-3 Low channel



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26 dB Bandwidth and 99% Occupied Bandwidth

802.11a U-NII-1 Low channel



802.11a U-NII-1 Middle channel

