



# FCC TEST REPORT

Prepared for :

Shenzhen Yunlink Technology Co., Ltd.  
B3 Building, An'le Industrial Zone, Hangcheng Road, Gushu,  
Xixiang Town, Bao'an, Shenzhen Guangdong Province, China

**FCC ID: 2ADUG-XD3200**

**Product: Wireless Access Point**

**Trade Name: N/A**

**Model Name: XD3200 ;  
Serial Model(s) See Page 2**

**Date of Test: Apr.18, 2016 – Apr.28 2016**

**Date of Report: Apr.28 2016**

**Report Number: HUAKE160429056-2E**

Prepared By :

Shenzhen HUAKE Testing Technology Co., Ltd.  
F1-008, Tai Yi Building, No.1, Haicheng West Road, Xixiang Street, Bao'an  
District, Shenzhen City, China

TEL: +86-755-2302 9901 FAX: +86-755-2302 9901

E-mail: [service@cer-mark.com](mailto:service@cer-mark.com) <http://www.cer-mark.com>



## TEST REPORT VERIFICATION

Applicant : Shenzhen Yunlink Technology Co., Ltd.  
 Address : B3 Building, An'le Industrial Zone, Hangcheng Road, Gushu,  
 Xixiang Town, Bao'an, Shenzhen Guangdong Province, China  
 Manufacturer : Shenzhen Yunlink Technology Co., Ltd.  
 Address : B3 Building, An'le Industrial Zone, Hangcheng Road, Gushu,  
 Xixiang Town, Bao'an, Shenzhen Guangdong Province, China  
 EUT Description : Wireless Access Point  
 (A) Model No. : XD3200  
 (B) Serial No. : XD1200, XD8508HR, XD750, XD751, CPE3200, CPE1200,  
 HWAP80, HWAP70, RP750, PW750, A930, A750, AC3000,  
 AC6000  
 (C) Power Supply : DC 12V,1.5A from adapter

**Standards**.....FCC CFR47 Part 15 C Section 15.407:2014, ANSI C63.10:2013

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.

Test Result ..... **Pass**

Testing Engineer :

(Eric Xie)

Technical Manager :

(Dora Qin)

Authorized Signatory :

(Kait Chen)



## 2 Test Summary

FCC Rules	Description of Test	Result
Section 15.207(a)	Conducted Emissions	Compliant
Section 15.407(a) Section 15.205(a) Section 15.209(a) And Part 2.1051, Part 2.1053, Part 2.1057	Radiated Emissions	Compliant
KDB 789033	Duty Cycle	-----
Section 15.407 And Part 2.1051, Part 2.1057	Band Edge	Compliant
Section 15.407(a) And Part 2.1049	6dB Bandwidth	Compliant
Section 15.407(a)	26 dB Emission Bandwidth & 99% Occupied Bandwidth	Compliant
Section 15.407(a) And Part 2.1046	Maximum Conducted Output Power	Compliant
Section 15.407(a)	Power Spectral Density	Compliant
Section 15.407(a)	Restricted bands around fundamental frequency	Compliant
Section 15.203	Antenna Requirement	Compliant
1.1307(b)(1)	Maximum Permissible Exposure (Exposure of Humans to RF Fields)	Compliant



### 3 Contents

	<b>Page</b>
<b>1 COVER PAGE</b> .....	<b>1</b>
<b>2 TEST SUMMARY</b> .....	<b>2</b>
<b>3 CONTENTS</b> .....	<b>3</b>
<b>4 GENERAL INFORMATION</b> .....	<b>5</b>
4.1 GENERAL DESCRIPTION OF E.U.T. ....	5
4.2 DETAILS OF E.U.T. ....	6
4.3 CHANNEL LIST .....	6
4.4 TEST FACILITY .....	7
<b>5 EQUIPMENT USED DURING TEST</b> .....	<b>8</b>
5.1 EQUIPMENTS LIST .....	8
5.2 DESCRIPTION OF SUPPORT UNITS .....	9
5.3 MEASUREMENT UNCERTAINTY .....	9
5.4 TEST EQUIPMENT CALIBRATION .....	9
<b>6 CONDUCTED EMISSION</b> .....	<b>10</b>
6.1 E.U.T. OPERATION .....	10
6.2 EUT SETUP .....	10
6.3 MEASUREMENT DESCRIPTION .....	10
6.4 CONDUCTED EMISSION TEST RESULT .....	11
<b>7 RADIATED EMISSIONS</b> .....	<b>13</b>
7.1 EUT OPERATION.....	13
7.2 TEST SETUP .....	14
7.3 SPECTRUM ANALYZER SETUP .....	15
7.4 TEST PROCEDURE .....	16
7.5 CORRECTED AMPLITUDE & MARGIN CALCULATION .....	16
7.6 SUMMARY OF TEST RESULTS .....	17
<b>8 DUTY CYCLE</b> .....	<b>31</b>
8.1 SUMMARY OF TEST RESULTS .....	31
<b>9 BAND EDGE</b> .....	<b>44</b>
9.1 TEST PROCEDURE.....	44
9.2 TEST RESULT .....	45
<b>10 6 DB BANDWIDTH</b> .....	<b>69</b>
10.1 TEST PROCEDURE:.....	69
10.2 TEST RESULT: .....	69
<b>11 26 DB BANDWIDTH AND 99% OCCUPIED BANDWIDTH</b> .....	<b>84</b>
11.1 TEST PROCEDURE:.....	84
11.2 TEST RESULT: .....	85
<b>12 CONDUCTED OUTPUT POWER</b> .....	<b>114</b>
12.1 TEST PROCEDURE:.....	114
12.2 TEST RESULT : .....	115
<b>13 POWER SPECTRAL DENSITY</b> .....	<b>144</b>
13.1 TEST PROCEDURE:.....	144
13.2 TEST RESULT: .....	145
<b>14 ANTENNA REQUIREMENT</b> .....	<b>175</b>
<b>15 RF EXPOSURE</b> .....	<b>176</b>
15.1 REQUIREMENTS.....	176



15.2	THE PROCEDURES / LIMIT .....	176
15.3	MPE CALCULATION METHOD .....	177



## 4 General Information

### 4.1 General Description of E.U.T.

Product Name:	Wireless Access Point
Model No.:	XD3200, XD1200, XD8508HR, XD750, XD751, CPE3200, CPE1200, HWAP80, HWAP70, RP750, PW750, A930, A750, AC3000, AC6000
Model Description:	Only the model names are different, The XD3200 is tested model.
Operation Frequency:	IEEE 802.11b/g/n(HT20):2412MHz ~ 2462MHz IEEE 802.11n(HT40):2422MHz~2452MHz IEEE 802.11a/ n(HT20/40)/ac(HT20/40/80): 5150MHz to 5250MHz IEEE 802.11a/ n(HT20/40)/ac(HT20/40/80): 5725MHz to 5850MHz
Antenna Gain:	5.2GHz WIFI:2.8 dBi 5.8GHz WIFI:4.5 dBi
Type of modulation:	IEEE 802.11b DSSS(CCK/QPSK/BPSK) IEEE 802.11g OFDM(BPSK/QPSK/16QAM/64QAM) IEEE 802.11n OFDM(BPSK/QPSK/16QAM/64QAM) IEEE for 802.11a: OFDM(BPSK/QPSK/16QAM/64QAM) IEEE for 802.11n : OFDM(BPSK/QPSK/16QAM/64QAM) IEEE for 802.11ac : OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)
Antenna Type	MIMO Antenna



## 4.2 Details of E.U.T.

Technical Data: AC 120V~60Hz

## 4.3 Channel List

Band I (5.15-5.25GHz)		Band IV (5.725-5.85GHz)	
channel	Frequency(MHz)	channel	Frequency(MHz)
36	5180	149	5745
38	5190	151	5755
40	5200	153	5765
42	5210	155	5775
44	5220	157	5785
46	5230	159	5795
48	5240	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)/ac(HT20):

channel	Frequency(MHz)	channel	Frequency(MHz)
36	5180	149	5745
40	5200	157	5785
48	5240	165	5825

For 802.11 n(HT40)/ac(HT40):

channel	Frequency(MHz)	channel	Frequency(MHz)
38	5190	151	5755
46	5230	159	5795

For 802.11 ac(HT80):

channel	Frequency(MHz)	channel	Frequency(MHz)
42	5210	155	5775



#### 4.4 Test Facility

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

- **FCC Test Site – Registration No.: 939433**

Shenzhen WST Testing Technology 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 939433





## 5 Equipment Used during Test

### 5.1 Equipments List

<b>Conducted Emissions Test Site</b>						
<b>Item</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Last Calibration Date</b>	<b>Calibration Due Date</b>
1.	EMI Test Receiver	R&S	ESCI	101155	Sep.14,2015	Sep.13,2016
2.	LISN	SCHWARZBECK	NSLK 8128	8128-289	Sep.14,2015	Sep.13,2016
3.	Limiter	York	MTS-IMP-136	261115-001-0024	Sep.14,2015	Sep.13,2016
4.	Cable	LARGE	RF300	-	Sep.14,2015	Sep.13,2016
<b>3m Semi-anechoic Chamber for Radiation Emissions Test site 1#</b>						
<b>Item</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Last Calibration Date</b>	<b>Calibration Due Date</b>
1	EMC Analyzer	Agilent	E7405A	MY45114943	Sep.14,2015	Sep.13,2016
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	Sep.14,2015	Sep.13,2016
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	Apr.19,2016	Apr.18,2017
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	Sep.14,2015	Sep.13,2016
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	Apr.19,2016	Apr.18,2017
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	Apr.19,2016	Apr.18,2017
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	Mar.17,2015	Mar.16,2016
8	Coaxial Cable (above 1GHz)	Top	1GHz-25GHz	EW02014-7	Apr.10,2016	Apr.09,2017
<b>3m Semi-anechoic Chamber for Radiation Emissions Test site 2#</b>						
<b>Item</b>	<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No</b>	<b>Last Calibration Date</b>	<b>Calibration Due Date</b>
1	Test Receiver	R&S	ESCI	101296	Sep.14,2015	Sep.13,2016
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	Sep.14,2015	Sep.13,2016
3	Amplifier	Compliance pirection systems inc	PAP-0203	22024	Sep.14,2015	Sep.13,2016
4	Cable	HUBER+SUHNER	CBL2	525178	Sep.14,2015	Sep.13,2016
<b>RF Conducted Testing</b>						



Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1.	EMC Analyzer (9k~26.5GHz)	Agilent	E7405A	MY45114943	Sep.14,2015	Sep.13,2016
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	Sep.14,2015	Sep.13,2016
3.	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	Sep.14,2015	Sep.13,2016

## 5.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
/	/	/	/

## 5.3 Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-6}$
RF Power	$\pm 1.0$ dB
RF Power Density	$\pm 2.2$ dB
Radiated Spurious Emissions test	$\pm 5.03$ dB (30M~1000MHz)
	$\pm 5.47$ dB (1000M~25000MHz)
Conducted Spurious Emissions test	$\pm 3.64$ dB (AC mains 150KHz~30MHz)

## 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 Conducted Emission

Test Requirement:	FCC CFR 47 Part 15 Section 15.207
Test Method:	ANSI C63.10:2013.
Test Result:	PASS
Frequency Range:	150kHz to 30MHz
Class/Severity:	Class B
Limit:	66-56 dB $\mu$ V between 0.15MHz & 0.5MHz 56 dB $\mu$ V between 0.5MHz & 5MHz 60 dB $\mu$ V between 5MHz & 30MHz
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth)

### 6.1 E.U.T. Operation

Operating Environment :

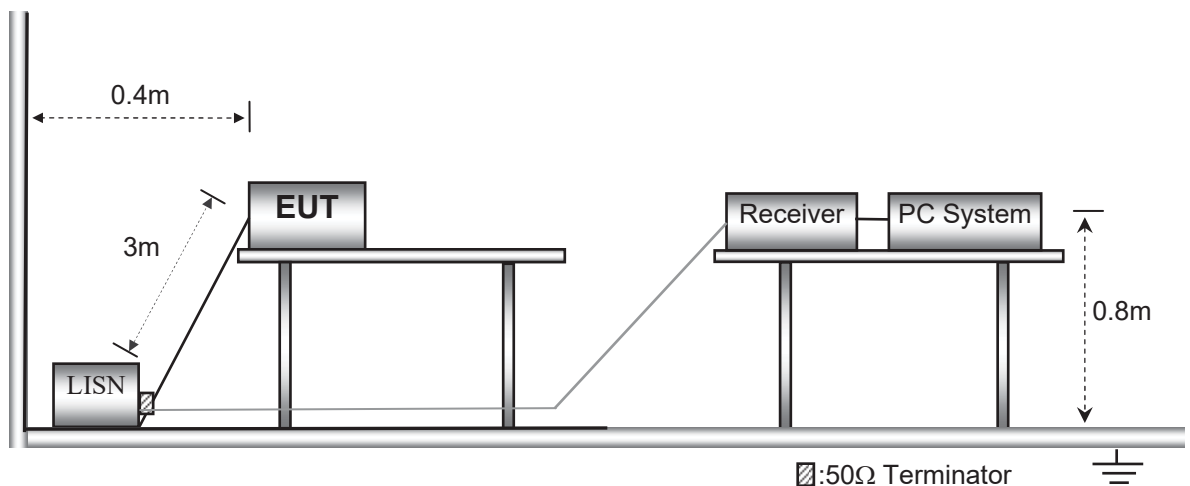
Temperature:	21.5 °C
Humidity:	51.9 % RH
Atmospheric Pressure:	101.2kPa

EUT Operation :

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

### 6.2 EUT Setup

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



### 6.3 Measurement Description

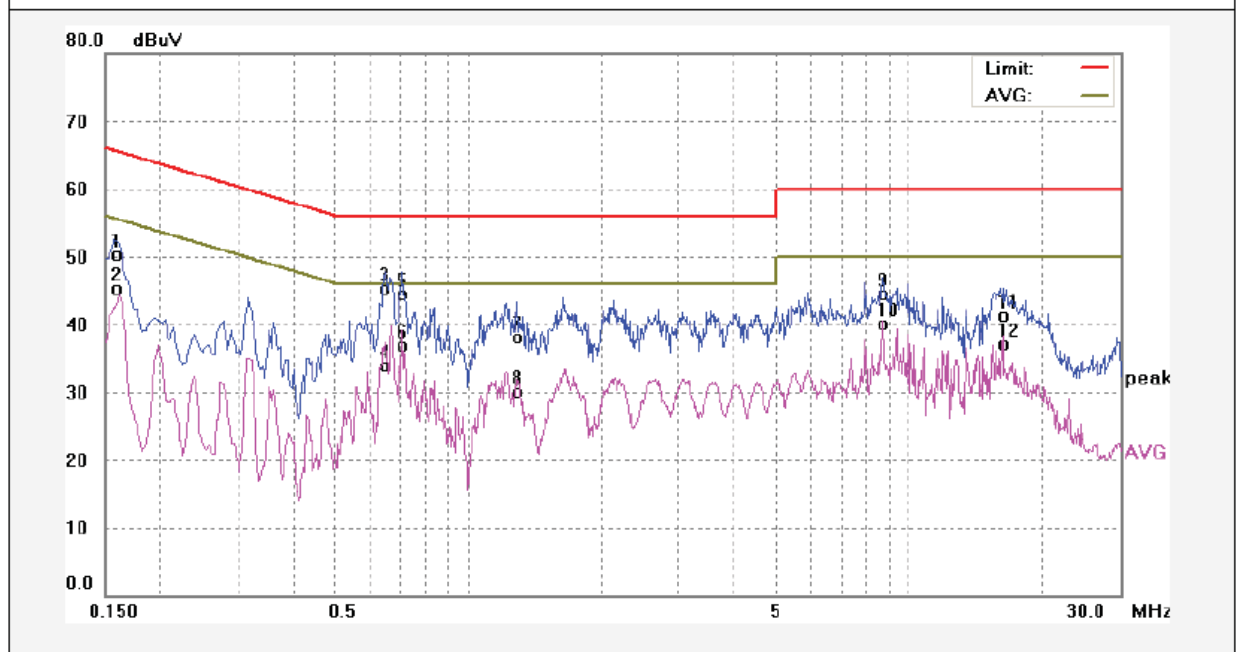
The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.



### 6.4 Conducted Emission Test Result

An initial pre-scan was performed on the live and neutral lines.

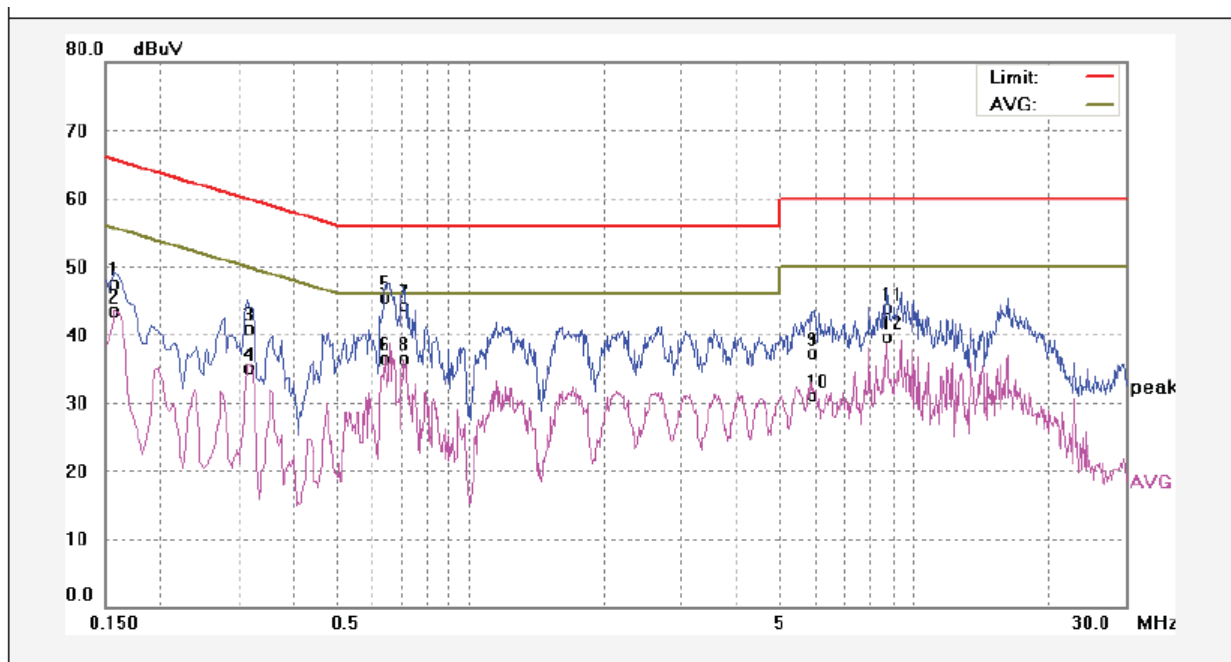
Live line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1580	40.18	10.13	50.31	65.56	-15.25	QP	
2	0.1580	35.15	10.13	45.28	55.56	-10.28	AVG	
3	0.6460	35.03	10.20	45.23	56.00	-10.77	QP	
4	0.6460	23.72	10.20	33.92	46.00	-12.08	AVG	
5	0.7100	34.34	10.21	44.55	56.00	-11.45	QP	
6	0.7100	26.63	10.21	36.84	46.00	-9.16	AVG	
7	1.2900	27.90	10.23	38.13	56.00	-17.87	QP	
8	1.2900	19.90	10.23	30.13	46.00	-15.87	AVG	
9	8.7180	34.03	10.51	44.54	60.00	-15.46	QP	
10	8.7180	29.68	10.51	40.19	50.00	-9.81	AVG	
11	16.2300	30.58	10.70	41.28	60.00	-18.72	QP	
12	16.2300	26.49	10.70	37.19	50.00	-12.81	AVG	



Neutral line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1580	37.44	10.13	47.57	65.56	-17.99	QP	
2	0.1580	33.43	10.13	43.56	55.56	-12.00	AVG	
3	0.3140	30.73	10.17	40.90	59.86	-18.96	QP	
4	0.3140	24.86	10.17	35.03	49.86	-14.83	AVG	
5	0.6419	35.33	10.20	45.53	56.00	-10.47	QP	
6	0.6419	26.32	10.20	36.52	46.00	-9.48	AVG	
7	0.7100	34.05	10.21	44.26	56.00	-11.74	QP	
8	0.7100	26.39	10.21	36.60	46.00	-9.40	AVG	
9	5.9699	27.02	10.37	37.39	60.00	-22.61	QP	
10	5.9699	20.69	10.37	31.06	50.00	-18.94	AVG	
11	8.7180	33.41	10.51	43.92	60.00	-16.08	QP	
12	8.7180	29.15	10.51	39.66	50.00	-10.34	AVG	



## 7 Radiated Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.205 & 15.407  
And Part 2.1051, Part 2.1053, Part 2.1057

Test Method: ANSI C63.10:2013

Test Result: PASS

Measurement Distance: 3m

Limit:

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

### 7.1 EUT Operation

Operating Environment :

Temperature: 23.5 °C  
Humidity: 52.1 % RH  
Atmospheric Pressure: 101.2kPa

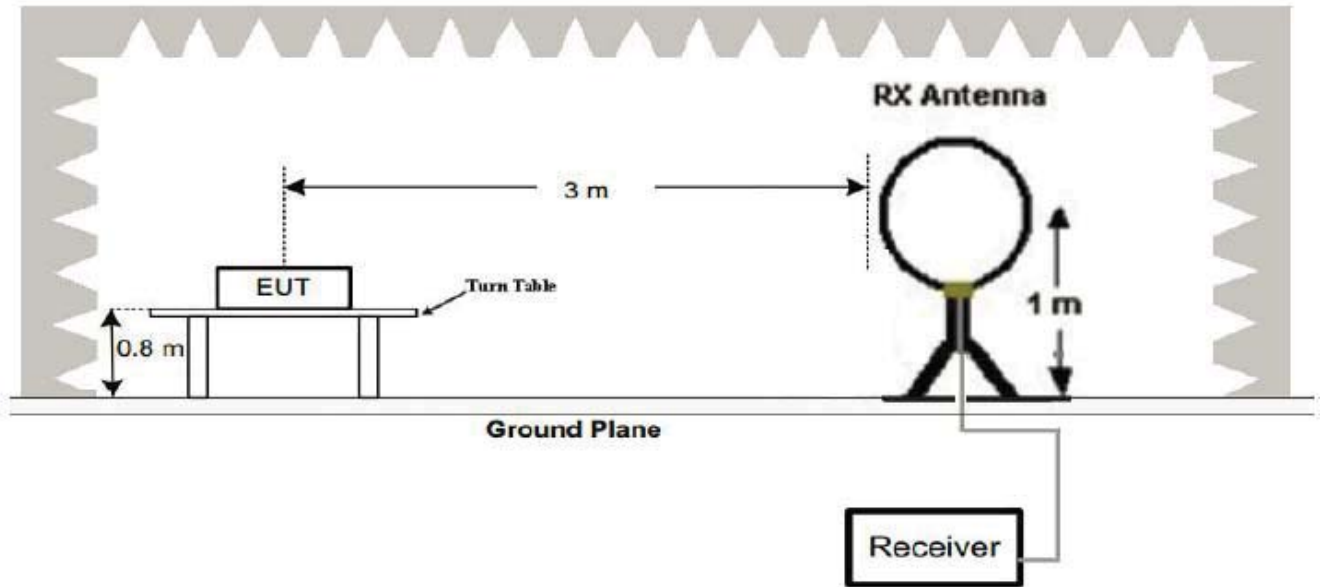
EUT Operation :

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

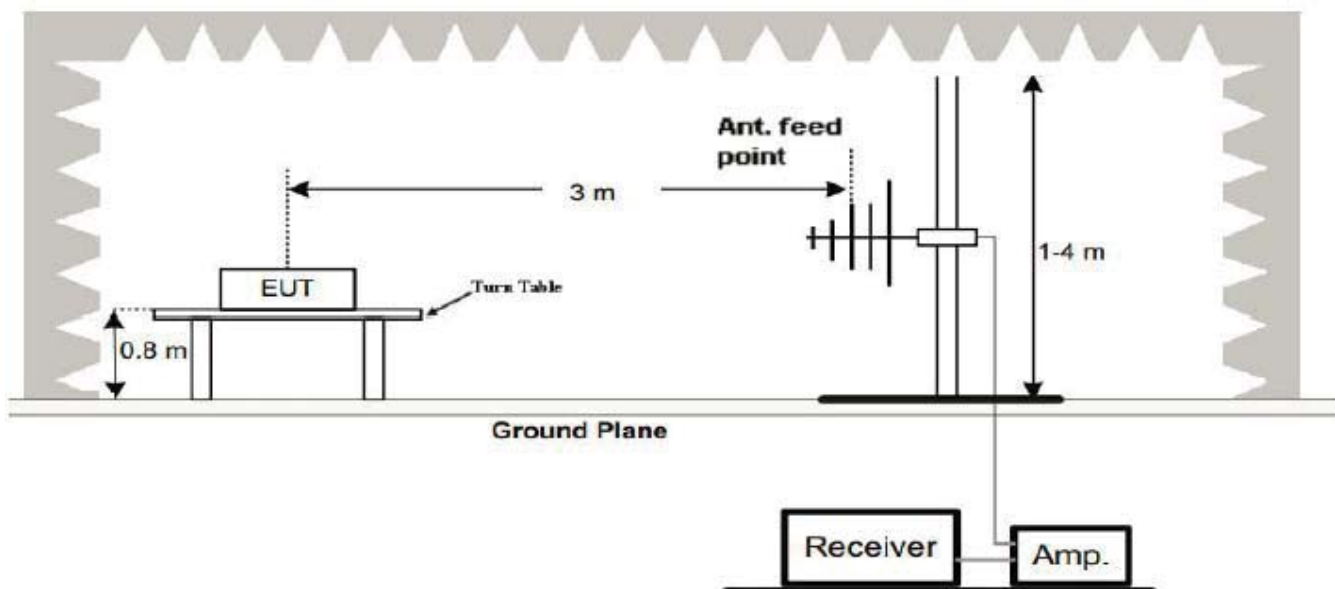
## 7.2 Test Setup

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

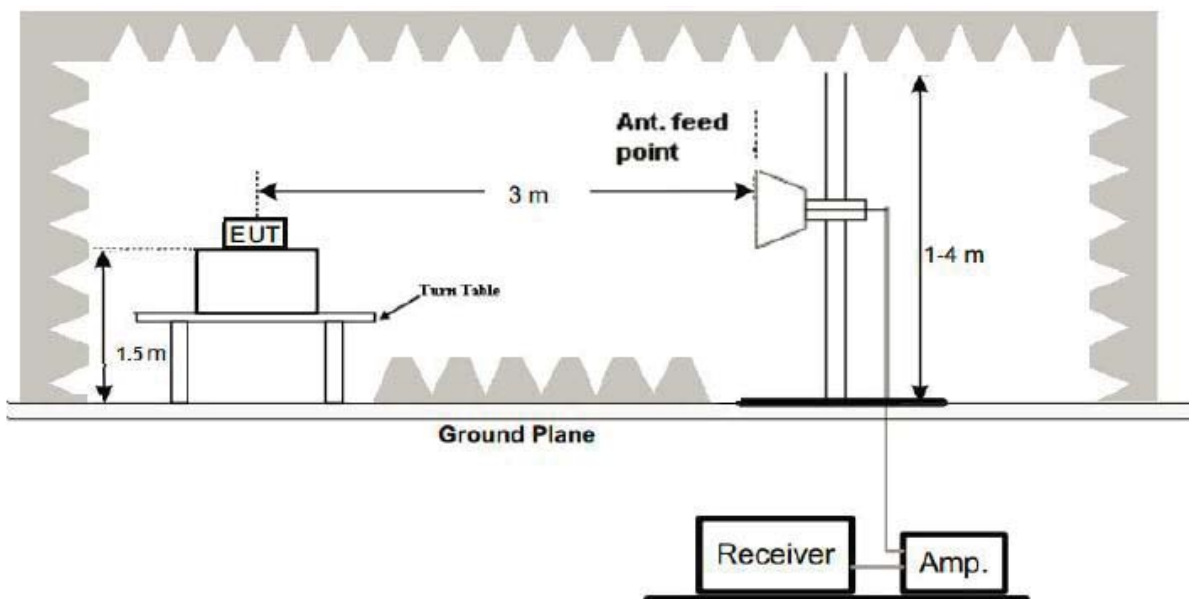
The test setup for emission measurement below 30MHz.



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



The test setup for emission measurement above 1 GHz.



### 7.3 Spectrum Analyzer Setup

Below 30MHz

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

30MHz ~ 1GHz

Sweep Speed ..... Auto  
 Detector ..... PK  
 Resolution Bandwidth..... 100kHz  
 Video Bandwidth..... 300kHz

Above 1GHz

Sweep Speed ..... Auto  
 Detector ..... PK  
 Resolution Bandwidth..... 1MHz  
 Video Bandwidth..... 3MHz  
 Detector ..... Ave.  
 Resolution Bandwidth..... 1MHz  
 Video Bandwidth..... 10Hz





## 7.4 Test Procedure

- 1, The EUT is placed on a turntable, which is 0.8m above ground plane below 1GHz and 1.5m above ground plane 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 varied from 1m to 4m to find out the highest emissions
- 4, For the radiated emission test above 1GHz: Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 5, Maximum procedure was performed on the six highest emissions to ensure EUT compliance
- 6, And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical
- 7, Repeat above procedures until the measurements for all frequencies are complete.
- 8, Based on the Frequency Generator in the device include 16MHz. The test frequency range from 9KHz to 25GHz per FCC PART 15.33(a)

Note:

For battery operated equipment, the equipment tests shall be performed using a new battery.

## 7.5 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:

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



### 7.6 Summary of Test Results

#### 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 band I Low Channel 5180MHz									
223.49	41.06	QP	319	1.7	H	-11.62	29.44	46.00	-16.56
223.49	36.25	QP	230	2.0	V	-11.62	24.63	46.00	-21.37
4520.10	51.47	PK	88	1.8	H	-2.03	49.44	74.00	-24.56
4520.10	46.32	Ave	88	1.8	H	-2.03	44.29	54.00	-9.71
5114.24	52.53	PK	138	1.7	H	-1.02	51.51	74.00	-22.49
5114.24	48.18	Ave	138	1.7	H	-1.02	47.16	54.00	-6.84
10360.00	41.06	PK	256	1.4	H	5.33	46.39	74.00	-27.61
10360.00	36.85	Ave	256	1.4	H	5.33	42.18	54.00	-11.82
802.11a band I middle channel 5200MHz									
223.49	42.41	QP	76	1.2	H	-11.62	30.79	46.00	-15.21
223.49	36.00	QP	36	1.9	V	-11.62	24.38	46.00	-21.62
4519.51	51.52	PK	309	1.1	H	-1.94	49.58	74.00	-24.42
4519.51	47.28	Ave	309	1.1	H	-1.94	45.34	54.00	-8.66
5112.30	53.01	PK	102	1.9	H	-1.06	51.95	74.00	-22.05
5112.30	48.54	Ave	102	1.9	H	-1.06	47.48	54.00	-6.52
10400.00	40.56	PK	51	1.6	H	5.21	45.77	74.00	-28.23
10400.00	35.60	Ave	51	1.6	H	5.21	40.81	54.00	-13.19



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 band I High channel 5240MHz									
223.49	41.67	QP	192	1.5	H	-11.62	30.05	46.00	-15.95
223.49	35.61	QP	329	1.8	V	-11.62	23.99	46.00	-22.01
4533.39	50.67	PK	315	1.3	H	-2.24	48.43	74.00	-25.57
4533.39	47.31	Ave	315	1.3	H	-2.24	45.07	54.00	-8.93
5141.34	53.20	PK	189	2.0	H	-1.09	52.11	74.00	-21.89
5141.34	49.90	Ave	189	2.0	H	-1.09	48.81	54.00	-5.19
10480.00	39.59	PK	245	1.9	H	5.14	44.73	74.00	-29.27
10480.00	37.48	Ave	245	1.9	H	5.14	42.62	54.00	-11.38
802.11a band IV low Channel 5745MHz									
223.49	41.89	QP	104	1.1	H	-11.62	30.27	46.00	-15.73
223.49	35.90	QP	194	1.5	V	-11.62	24.28	46.00	-21.72
4504.45	51.44	PK	248	1.4	H	-2.06	49.38	74.00	-24.62
4504.45	46.84	Ave	248	1.4	H	-2.06	44.78	54.00	-9.22
11490.00	39.81	PK	109	1.2	H	5.93	45.74	74.00	-28.26
11490.00	35.59	Ave	109	1.2	H	5.93	41.52	54.00	-12.48
5371.16	45.41	PK	109	1.2	H	-1.25	44.16	74.00	-29.84
5371.16	39.08	Ave	109	1.2	H	-1.25	37.83	54.00	-16.17



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 band IV middle channel 5785MHz									
223.49	42.65	QP	275	1.5	H	-11.62	31.03	46.00	-14.97
223.49	36.26	QP	285	1.4	V	-11.62	24.64	46.00	-21.36
4511.00	51.85	PK	102	1.8	H	-2.03	49.82	74.00	-24.18
4511.00	45.71	Ave	102	1.8	H	-2.03	43.68	54.00	-10.32
11570.00	39.66	PK	199	1.8	H	5.81	45.47	74.00	-28.53
11570.00	37.56	Ave	199	1.8	H	5.81	43.37	54.00	-10.63
5358.04	45.45	PK	43	1.7	H	-1.22	44.23	74.00	-29.77
5358.04	37.19	Ave	43	1.7	H	-1.22	35.97	54.00	-18.03
802.11a band IV High channel 5825MHz									
223.49	42.47	QP	332	1.4	H	-11.62	30.85	46.00	-15.15
223.49	36.42	QP	54	1.0	V	-11.62	24.80	46.00	-21.20
4520.42	52.57	PK	117	1.9	H	-1.84	50.73	74.00	-23.27
4520.42	46.71	Ave	117	1.9	H	-1.84	44.87	54.00	-9.13
11650.00	40.35	PK	244	1.9	H	5.84	46.19	74.00	-27.81
11650.00	35.65	Ave	244	1.9	H	5.84	41.49	54.00	-12.51
5373.15	46.48	PK	129	1.6	H	-1.30	45.18	74.00	-28.82
5373.15	38.69	Ave	129	1.6	H	-1.30	37.39	54.00	-16.61



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) band I low Channel 5180MHz									
223.49	42.86	QP	191	1.6	H	-11.62	31.24	46.00	-14.76
223.49	35.78	QP	338	1.6	V	-11.62	24.16	46.00	-21.84
4514.47	53.57	PK	353	1.2	H	-2.14	51.43	74.00	-22.57
4514.47	47.48	Ave	353	1.2	H	-2.14	45.34	54.00	-8.66
5142.23	47.53	PK	236	1.8	H	-1.06	46.47	74.00	-27.53
5142.23	38.81	Ave	236	1.8	H	-1.06	37.75	54.00	-16.25
10360.00	41.54	PK	78	1.8	H	5.33	46.87	74.00	-27.13
10360.00	35.76	Ave	78	1.8	H	5.33	41.09	54.00	-12.91
802.11n(HT20) band I middle channel 5200MHz									
223.49	43.62	QP	230	2.0	H	-11.62	32.00	46.00	-14.00
223.49	34.67	QP	199	1.5	V	-11.62	23.05	46.00	-22.95
4528.91	54.14	PK	255	1.1	H	-2.12	52.02	74.00	-21.98
4528.91	47.85	Ave	255	1.1	H	-2.12	45.73	54.00	-8.27
5122.77	47.63	PK	247	1.3	H	-1.06	46.57	74.00	-27.43
5122.77	40.69	Ave	247	1.3	H	-1.06	39.63	54.00	-14.37
10400.00	41.42	PK	166	1.8	H	5.21	46.63	74.00	-27.37
10400.00	37.87	Ave	166	1.8	H	5.21	43.08	54.00	-10.92



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) band I High channel 5240MHz									
223.49	44.41	QP	281	1.9	H	-11.62	32.79	46.00	-13.21
223.49	35.99	QP	266	1.4	V	-11.62	24.37	46.00	-21.63
4504.11	55.09	PK	233	1.1	H	-1.96	53.13	74.00	-20.87
4504.11	49.13	Ave	233	1.1	H	-1.96	47.17	54.00	-6.83
5124.39	47.70	PK	48	1.1	H	-1.06	46.64	74.00	-27.36
5124.39	40.13	Ave	48	1.1	H	-1.06	39.07	54.00	-14.93
10480.00	40.22	PK	44	1.1	H	5.14	45.36	74.00	-28.64
10480.00	35.39	Ave	44	1.1	H	5.14	40.53	54.00	-13.47
802.11n(HT20) band IV low Channel 5745MHz									
223.49	43.04	QP	149	1.1	H	-11.62	31.42	46.00	-14.58
223.49	37.21	QP	104	2.0	V	-11.62	25.59	46.00	-20.41
4539.19	52.81	PK	45	1.1	H	-1.85	50.96	74.00	-23.04
4539.19	47.05	Ave	45	1.1	H	-1.85	45.20	54.00	-8.80
11490.00	38.76	PK	359	1.3	H	5.93	44.69	74.00	-29.31
11490.00	34.63	Ave	359	1.3	H	5.93	40.56	54.00	-13.44
5354.28	46.89	PK	206	1.8	H	-1.01	45.88	74.00	-28.12
5354.28	39.22	Ave	206	1.8	H	-1.01	38.21	54.00	-15.79



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) band IV middle channel 5785MHz									
223.49	43.77	QP	311	1.2	H	-11.62	32.15	46.00	-13.85
223.49	36.50	QP	88	1.3	V	-11.62	24.88	46.00	-21.12
4522.78	52.82	PK	34	1.1	H	-1.89	50.93	74.00	-23.07
4522.78	47.89	Ave	34	1.1	H	-1.89	46.00	54.00	-8.00
11570.00	40.06	PK	162	1.6	H	5.81	45.87	74.00	-28.13
11570.00	37.36	Ave	162	1.6	H	5.81	43.17	54.00	-10.83
5351.98	45.33	PK	49	1.7	H	-1.04	44.29	74.00	-29.71
5351.98	37.18	Ave	49	1.7	H	-1.04	36.14	54.00	-17.86
802.11n(HT20) band IV High channel 5825MHz									
223.49	43.71	QP	71	1.1	H	-11.62	32.09	46.00	-13.91
223.49	37.34	QP	70	1.4	V	-11.62	25.72	46.00	-20.28
4513.06	52.06	PK	257	1.1	H	-1.97	50.09	74.00	-23.91
4513.06	48.23	Ave	257	1.1	H	-1.97	46.26	54.00	-7.74
11650.00	40.34	PK	55	1.3	H	5.84	46.18	74.00	-27.82
11650.00	37.52	Ave	55	1.3	H	5.84	43.36	54.00	-10.64
5385.71	45.83	PK	290	1.5	H	-1.12	44.71	74.00	-29.29
5385.71	38.24	Ave	290	1.5	H	-1.12	37.12	54.00	-16.88



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)
802.11ac(HT20) band I low Channel 5180MHz									
223.49	43.61	QP	312	1.5	H	-11.62	31.99	46.00	-14.01
223.49	36.06	QP	14	1.6	V	-11.62	24.44	46.00	-21.56
4533.54	50.98	PK	313	1.3	H	-1.86	49.12	74.00	-24.88
4533.54	46.36	Ave	313	1.3	H	-1.86	44.50	54.00	-9.50
5111.70	47.52	PK	239	1.7	H	-1.06	46.46	74.00	-27.54
5111.70	39.06	Ave	239	1.7	H	-1.06	38.00	54.00	-16.00
10360.00	39.20	PK	29	1.3	H	5.33	44.53	74.00	-29.47
10360.00	35.42	Ave	29	1.3	H	5.33	40.75	54.00	-13.25
802.11ac(HT20) band I middle channel 5200MHz									
223.49	44.10	QP	95	1.6	H	-11.62	32.48	46.00	-13.52
223.49	36.51	QP	311	1.1	V	-11.62	24.89	46.00	-21.11
4506.03	50.26	PK	345	1.6	H	-1.82	48.44	74.00	-25.56
4506.03	45.79	Ave	345	1.6	H	-1.82	43.97	54.00	-10.03
5139.70	48.85	PK	240	1.9	H	-1.06	47.79	74.00	-26.21
5139.70	39.81	Ave	240	1.9	H	-1.06	38.75	54.00	-15.25
10400.00	41.73	PK	7	1.6	H	5.21	46.94	74.00	-27.06
10400.00	37.68	Ave	7	1.6	H	5.21	42.89	54.00	-11.11





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)
802.11ac(HT20) band I High channel 5240MHz									
223.49	43.94	QP	279	1.8	H	-11.62	32.32	46.00	-13.68
223.49	36.69	QP	243	1.5	V	-11.62	25.07	46.00	-20.93
4502.52	49.63	PK	172	1.7	H	-1.81	47.82	74.00	-26.18
4502.52	45.01	Ave	172	1.7	H	-1.81	43.20	54.00	-10.80
5116.18	50.36	PK	358	1.8	H	-1.06	49.30	74.00	-24.70
5116.18	41.27	Ave	358	1.8	H	-1.06	40.21	54.00	-13.79
10480.00	40.87	PK	116	2.0	H	5.14	46.01	74.00	-27.99
10480.00	37.47	Ave	116	2.0	H	5.14	42.61	54.00	-11.39
802.11ac(HT20) band IV low Channel 5745MHz									
223.49	42.69	QP	329	1.5	H	-11.62	31.07	46.00	-14.93
223.49	36.91	QP	260	1.5	V	-11.62	25.29	46.00	-20.71
4505.77	48.42	PK	6	1.1	H	-1.92	46.50	74.00	-27.50
4505.77	43.61	Ave	6	1.1	H	-1.92	41.69	54.00	-12.31
11490.00	38.96	PK	80	1.0	H	5.93	44.89	74.00	-29.11
11490.00	35.62	Ave	80	1.0	H	5.93	41.55	54.00	-12.45
5382.79	46.16	PK	137	1.2	H	-1.03	45.13	74.00	-28.87
5382.79	39.44	Ave	137	1.2	H	-1.03	38.41	54.00	-15.59



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)
802.11ac(HT20) band IV middle channel 5785MHz									
223.49	43.68	QP	117	1.1	H	-11.62	32.06	46.00	-13.94
223.49	37.25	QP	266	1.9	V	-11.62	25.63	46.00	-20.37
4523.68	47.92	PK	18	1.4	H	-1.97	45.95	74.00	-28.05
4523.68	44.55	Ave	18	1.4	H	-1.97	42.58	54.00	-11.42
11570.00	40.09	PK	142	1.6	H	5.81	45.90	74.00	-28.10
11570.00	36.68	Ave	142	1.6	H	5.81	42.49	54.00	-11.51
5373.15	46.86	PK	223	1.6	H	-1.05	45.81	74.00	-28.19
5373.15	39.97	Ave	223	1.6	H	-1.05	38.92	54.00	-15.08
802.11ac(HT20) band IV High channel 5825MHz									
223.49	43.52	QP	211	2.0	H	-11.62	31.90	46.00	-14.10
223.49	37.51	QP	16	1.4	V	-11.62	25.89	46.00	-20.11
4503.53	48.28	PK	286	1.3	H	-1.88	46.40	74.00	-27.60
4503.53	45.53	Ave	286	1.3	H	-1.88	43.65	54.00	-10.35
11650.00	41.26	PK	294	1.9	H	5.84	47.10	74.00	-26.90
11650.00	36.56	Ave	294	1.9	H	5.84	42.40	54.00	-11.60
5384.97	46.74	PK	223	1.7	H	-1.06	45.68	74.00	-28.32
5384.97	38.06	Ave	223	1.7	H	-1.06	37.00	54.00	-17.00



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) band I low Channel 5190MHz									
223.49	44.15	QP	275	2.0	H	-11.62	32.53	46.00	-13.47
223.49	36.40	QP	289	1.3	V	-11.62	24.78	46.00	-21.22
4534.56	46.79	PK	13	1.4	H	-1.89	44.90	74.00	-29.10
4534.56	43.77	Ave	13	1.4	H	-1.89	41.88	54.00	-12.12
5126.59	44.33	PK	98	1.8	H	-1.06	43.27	74.00	-30.73
5126.59	39.39	Ave	98	1.8	H	-1.06	38.33	54.00	-15.67
10380.00	38.54	PK	15	1.6	H	5.26	43.80	74.00	-30.20
10380.00	34.42	Ave	15	1.6	H	5.26	39.68	54.00	-14.32
802.11n(HT40) band I High channel 5230MHz									
223.49	43.87	QP	138	1.4	H	-11.62	32.25	46.00	-13.75
223.49	35.86	QP	178	1.9	V	-11.62	24.24	46.00	-21.76
4514.37	45.82	PK	166	1.8	H	-1.94	43.88	74.00	-30.12
4514.37	43.27	Ave	166	1.8	H	-1.94	41.33	54.00	-12.67
5132.11	45.65	PK	8	1.6	H	-1.06	44.59	74.00	-29.41
5132.11	40.33	Ave	8	1.6	H	-1.06	39.27	54.00	-14.73
10460.00	41.94	PK	310	1.9	H	5.28	47.22	74.00	-26.78
10460.00	36.62	Ave	310	1.9	H	5.28	41.90	54.00	-12.10



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) band IV low Channel 5755MHz									
223.49	43.67	QP	359	1.9	H	-11.62	32.05	46.00	-13.95
223.49	34.50	QP	50	1.0	V	-11.62	22.88	46.00	-23.12
4524.60	43.12	PK	296	1.5	H	-1.96	41.16	74.00	-32.84
4524.60	41.89	Ave	296	1.5	H	-1.96	39.93	54.00	-14.07
11510.00	39.91	PK	168	1.8	H	5.88	45.79	74.00	-28.21
11510.00	33.94	Ave	168	1.8	H	5.88	39.82	54.00	-14.18
5357.81	46.42	PK	243	1.3	H	-1.01	45.41	74.00	-28.59
5357.81	39.74	Ave	243	1.3	H	-1.01	38.73	54.00	-15.27
802.11n(HT40) band IV High channel 5795MHz									
223.49	44.38	QP	202	1.6	H	-11.62	32.76	46.00	-13.24
223.49	34.63	QP	211	1.3	V	-11.62	23.01	46.00	-22.99
4511.44	42.26	PK	224	1.9	H	-1.92	40.34	74.00	-33.66
4511.44	41.74	Ave	224	1.9	H	-1.92	39.82	54.00	-14.18
11590.00	42.02	PK	177	1.5	H	5.63	47.65	74.00	-26.35
11590.00	36.11	Ave	177	1.5	H	5.63	41.74	54.00	-12.26
5350.97	45.90	PK	72	1.9	H	-1.04	44.86	74.00	-29.14
5350.97	39.44	Ave	72	1.9	H	-1.04	38.40	54.00	-15.60



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)
802.11ac(HT40) band I low Channel 5190MHz									
223.49	44.02	QP	73	1.2	H	-11.62	32.40	46.00	-13.60
223.49	33.35	QP	42	1.0	V	-11.62	21.73	46.00	-24.27
4518.89	39.86	PK	156	1.5	H	-1.91	37.95	74.00	-36.05
4518.89	39.40	Ave	156	1.5	H	-1.91	37.49	54.00	-16.51
5122.07	46.91	PK	229	1.6	H	-1.06	45.85	74.00	-28.15
5122.07	41.24	Ave	229	1.6	H	-1.06	40.18	54.00	-13.82
10380.00	39.16	PK	174	1.3	H	5.26	44.42	74.00	-29.58
10380.00	35.76	Ave	174	1.3	H	5.26	41.02	54.00	-12.98
802.11ac(HT40) band I High channel 5230MHz									
223.49	43.12	QP	270	1.5	H	-11.62	31.50	46.00	-14.50
223.49	33.08	QP	297	1.9	V	-11.62	21.46	46.00	-24.54
4527.89	39.08	PK	346	1.4	H	-1.93	37.15	74.00	-36.85
4527.89	38.69	Ave	346	1.4	H	-1.93	36.76	54.00	-17.24
5119.04	48.79	PK	339	1.0	H	-1.06	47.73	74.00	-26.27
5119.04	42.54	Ave	339	1.0	H	-1.06	41.48	54.00	-12.52
10460.00	40.83	PK	236	1.3	H	5.28	46.11	74.00	-27.89
10460.00	37.24	Ave	236	1.3	H	5.28	42.52	54.00	-11.48



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)
802.11ac(HT40) band IV low Channel 5755MHz									
223.49	42.15	QP	132	1.5	H	-11.62	30.53	46.00	-15.47
223.49	32.75	QP	114	1.7	V	-11.62	21.13	46.00	-24.87
4500.76	37.08	PK	2	1.2	H	-1.92	35.16	74.00	-38.84
4500.76	36.63	Ave	2	1.2	H	-1.92	34.71	54.00	-19.29
11510.00	38.36	PK	246	1.1	H	5.88	44.24	74.00	-29.76
11510.00	34.33	Ave	246	1.1	H	5.88	40.21	54.00	-13.79
5372.74	45.28	PK	358	1.2	H	-1.07	44.21	74.00	-29.79
5372.74	37.38	Ave	358	1.2	H	-1.07	36.31	54.00	-17.69
802.11ac(HT40) band IV High channel 5795MHz									
223.49	41.38	QP	123	1.0	H	-11.62	29.76	46.00	-16.24
223.49	32.42	QP	189	1.5	V	-11.62	20.80	46.00	-25.20
4526.07	37.68	PK	245	1.6	H	-1.86	35.82	74.00	-38.18
4526.07	37.12	Ave	245	1.6	H	-1.86	35.26	54.00	-18.74
11590.00	40.58	PK	29	1.7	H	5.63	46.21	74.00	-27.79
11590.00	36.24	Ave	29	1.7	H	5.63	41.87	54.00	-12.13
5360.82	45.46	PK	94	1.5	H	-1.03	44.43	74.00	-29.57
5360.82	38.02	Ave	94	1.5	H	-1.03	36.99	54.00	-17.01



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)
802.11ac(HT80) band I low Channel 5210MHz									
223.49	33.15	QP	40	1.5	H	-11.62	21.53	46.00	-24.47
223.49	38.00	QP	279	1.6	V	-11.62	26.38	46.00	-19.62
4530.49	37.44	PK	45	1.3	H	-1.88	35.56	74.00	-38.44
4530.49	39.71	Ave	45	1.3	H	-1.88	37.83	54.00	-16.17
5121.94	35.78	PK	13	1.2	H	-1.06	34.72	74.00	-39.28
5121.94	46.37	Ave	13	1.2	H	-1.06	45.31	54.00	-8.69
10420.00	40.86	PK	257	1.8	H	4.65	45.51	74.00	-28.49
10420.00	36.24	Ave	257	1.8	H	4.65	40.89	54.00	-13.11
802.11ac(HT80) band IV low Channel 5775MHz									
223.49	37.38	QP	109	1.5	H	-11.62	25.76	46.00	-20.24
223.49	37.78	QP	86	1.6	V	-11.62	26.16	46.00	-19.84
4508.84	39.15	PK	335	1.4	H	-1.85	37.30	74.00	-36.70
4508.84	41.67	Ave	335	1.4	H	-1.85	39.82	54.00	-14.18
11550.00	41.82	PK	170	1.1	H	4.83	46.65	74.00	-27.35
11550.00	37.17	Ave	170	1.1	H	4.83	42.00	54.00	-12.00
5372.04	45.41	PK	106	1.5	H	-1.14	44.27	74.00	-29.73
5372.04	37.72	Ave	106	1.5	H	-1.14	36.58	54.00	-17.42

**Test Frequency: 18GHz~40GHz**

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



## 8 Duty cycle

Test Requirement:	47 CFR Part 15C 15.407 and 789033 D02 General UNII Test Procedures New Rules v01, Section (B)
Test Method:	ANSI C63.10: 2013
Test Limit:	N/A
Test Result:	PASS
Remark:	Through Pre-scan, and found 802.11a at lowest channel is the worst case. Only the worst case is recorded in the report.

### 8.1 Summary of Test Results

802.11a mode			
channel	On time(ms)	Period(ms)	Duty Cycle(%)
36	100	100	100
149	100	100	100
802.11n(HT20) mode			
channel	On time(ms)	Period(ms)	Duty Cycle(%)
36	100	100	100
149	100	100	100
802.11n(HT40) mode			
channel	On time(ms)	Period(ms)	Duty Cycle(%)
38	100	100	100
151	100	100	100
802.11ac(HT20) mode			
channel	On time(ms)	Period(ms)	Duty Cycle(%)
36	100	100	100
149	100	100	100
802.11ac(HT40) mode			
channel	On time(ms)	Period(ms)	Duty Cycle(%)
38	100	100	100
151	100	100	100
802.11ac(HT80) mode			
channel	On time(ms)	Period(ms)	Duty Cycle(%)
42	100	100	100
155	100	100	100





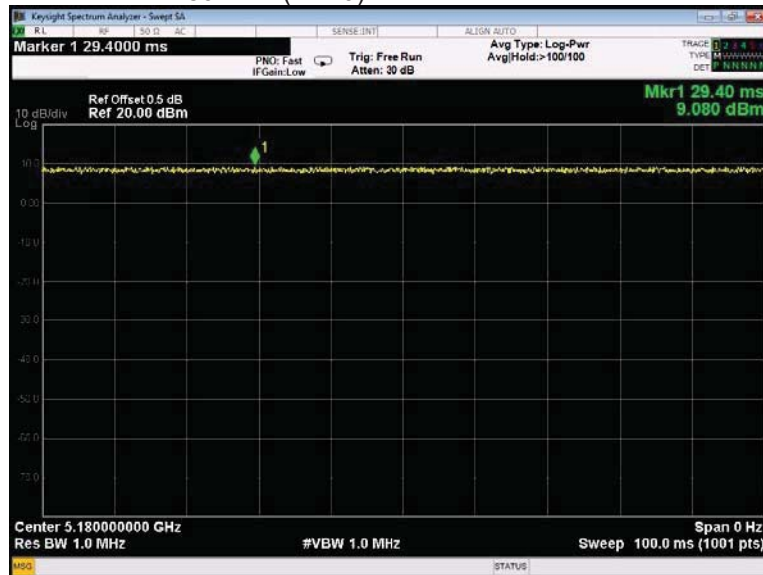
Test result plots shown as follows:

### ANT0

#### 802.11a band I Low channel

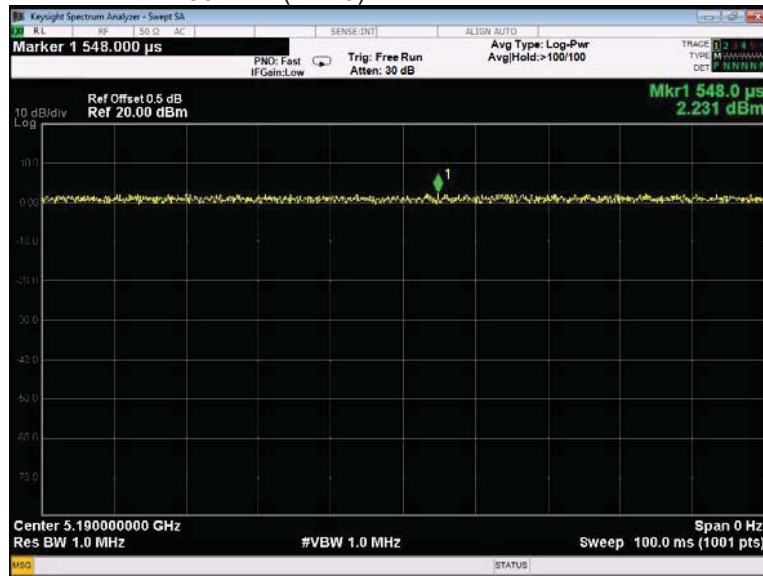


#### 802.11n(HT20) band I Low channel

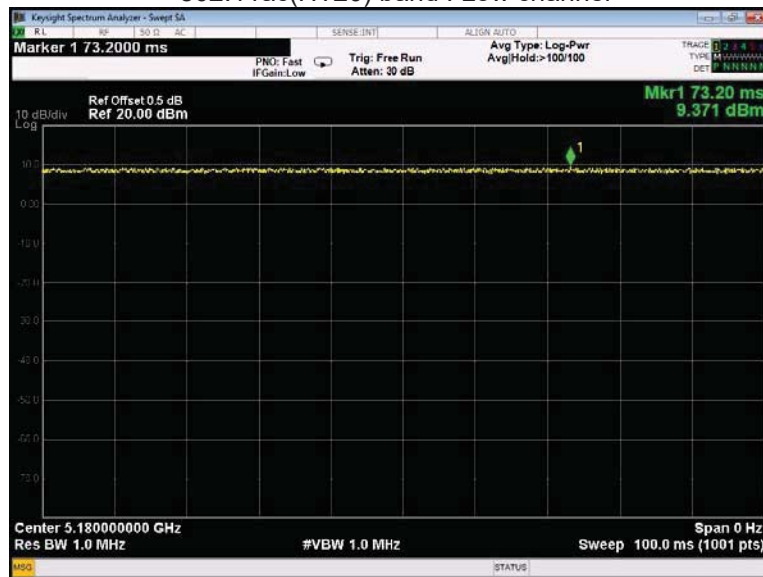




### 802.11n(HT40) band I Low channel

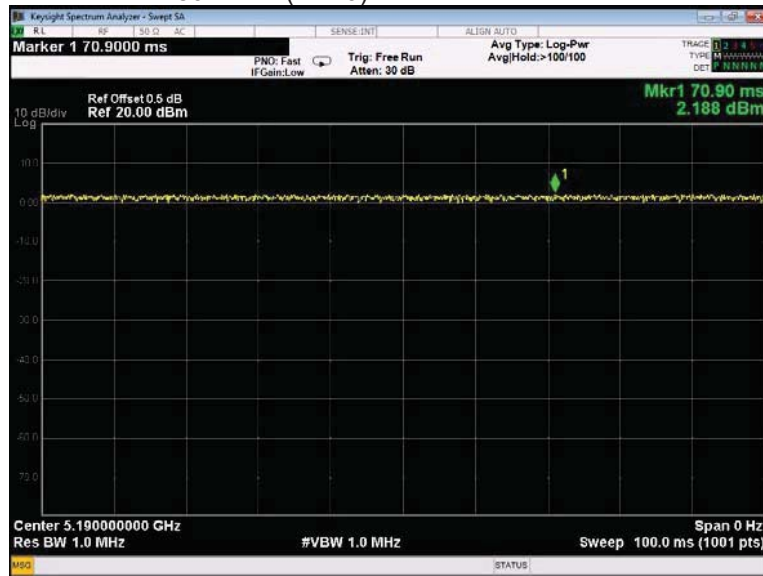


### 802.11ac(HT20) band I Low channel

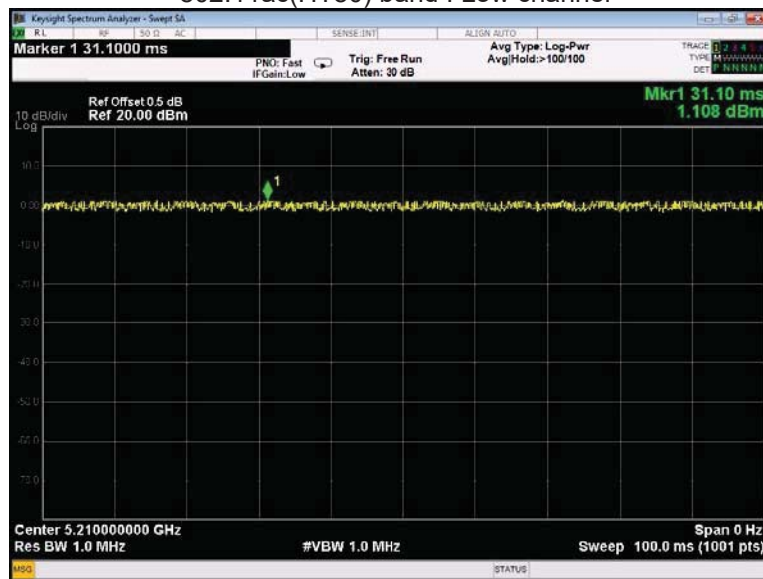




### 802.11ac(HT40) band I Low channel

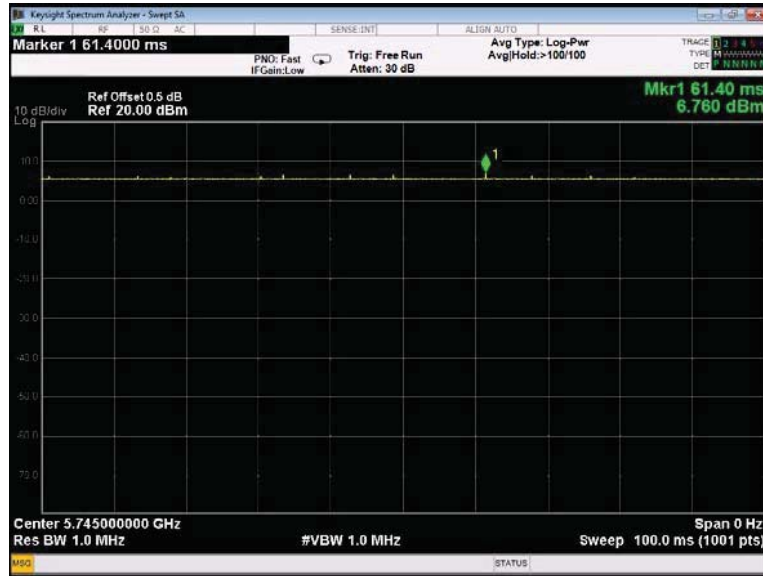


### 802.11ac(HT80) band I Low channel

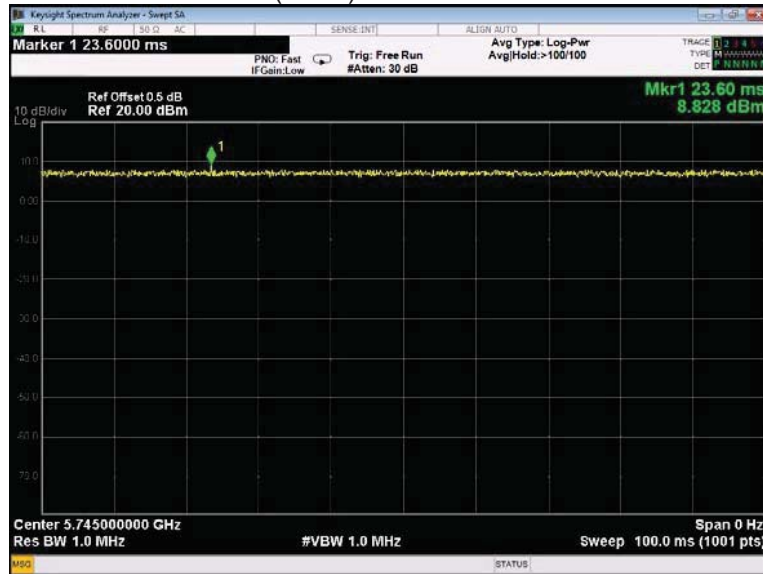




### 802.11a band IV Low channel

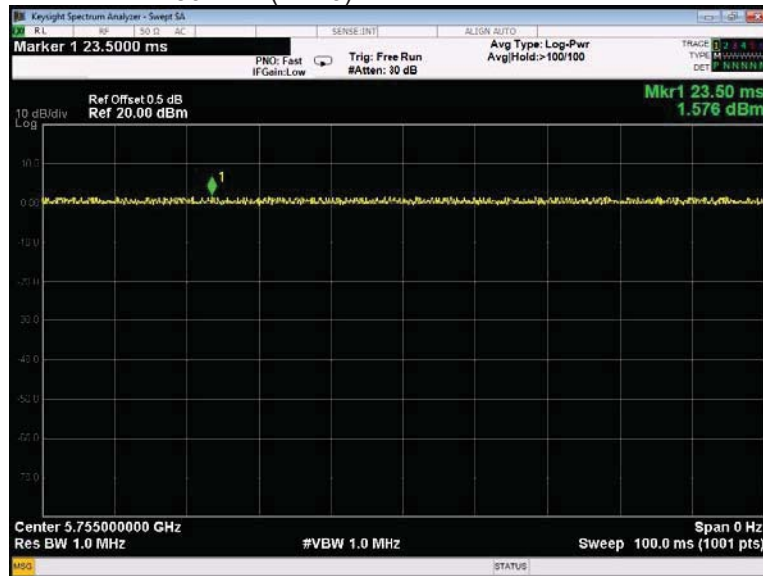


### 802.11n(HT20) band IV Low channel





### 802.11n(HT40) band IV Low channel



### 802.11ac(HT20) band IV Low channel





### 802.11ac(HT40) band IV Low channel



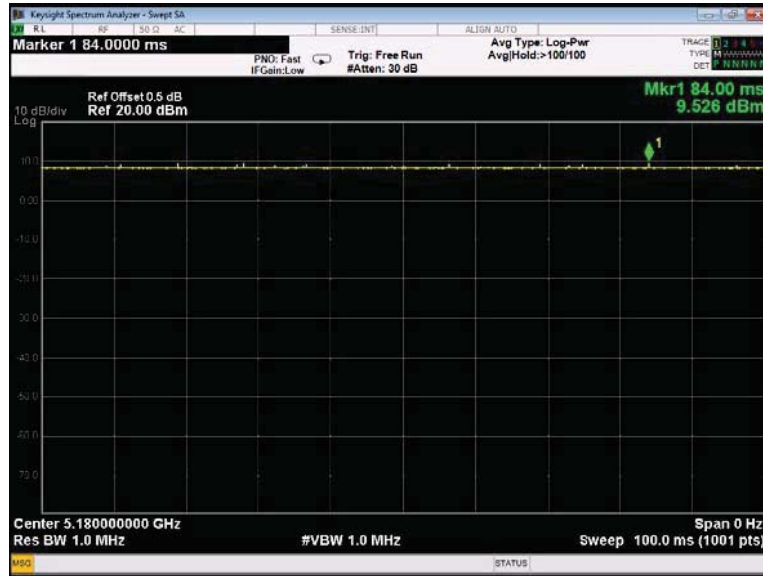
### 802.11ac(HT80) band IV Low channel



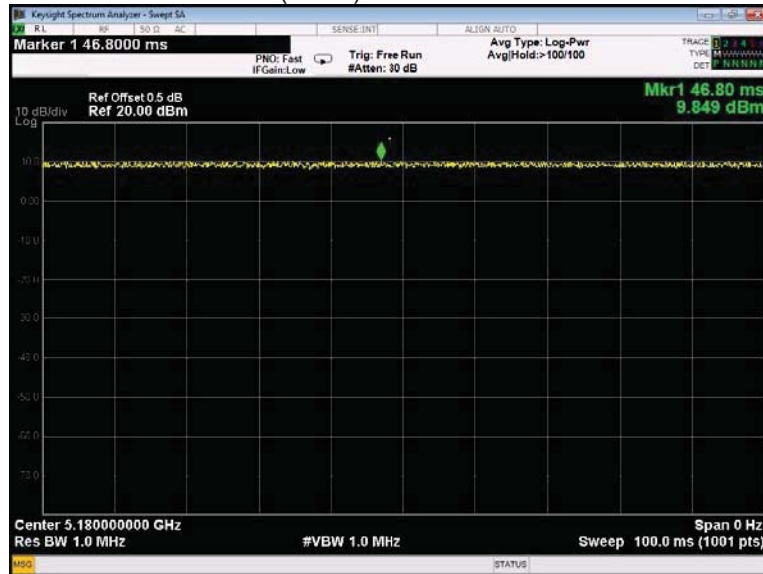


### ANT1

#### 802.11a band I Low channel

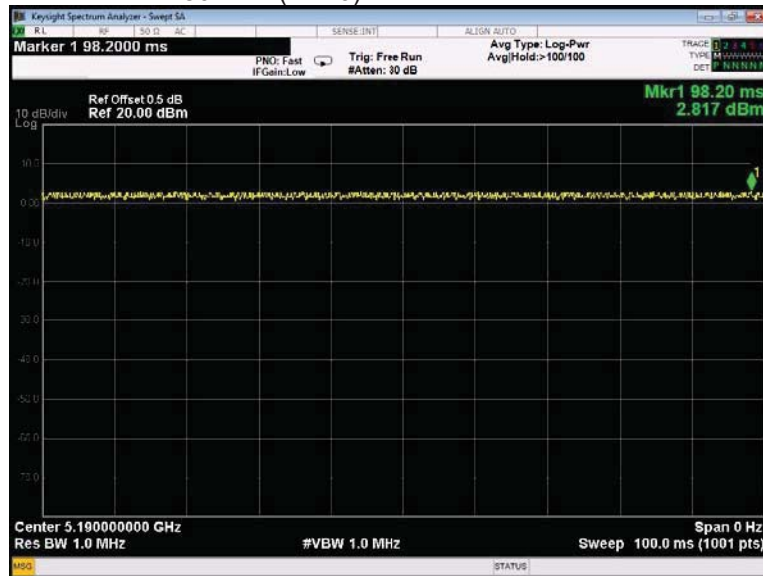


#### 802.11n(HT20) band I Low channel





### 802.11n(HT40) band I Low channel



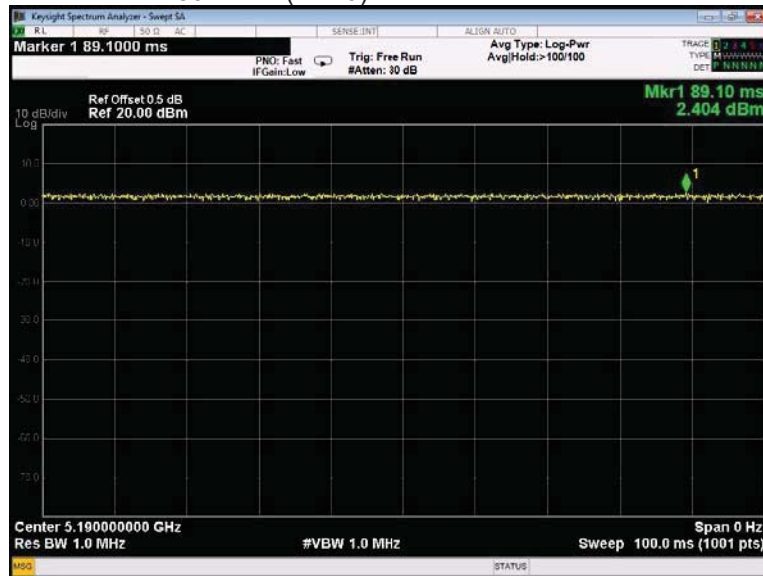
### 802.11ac(HT20) band I Low channel



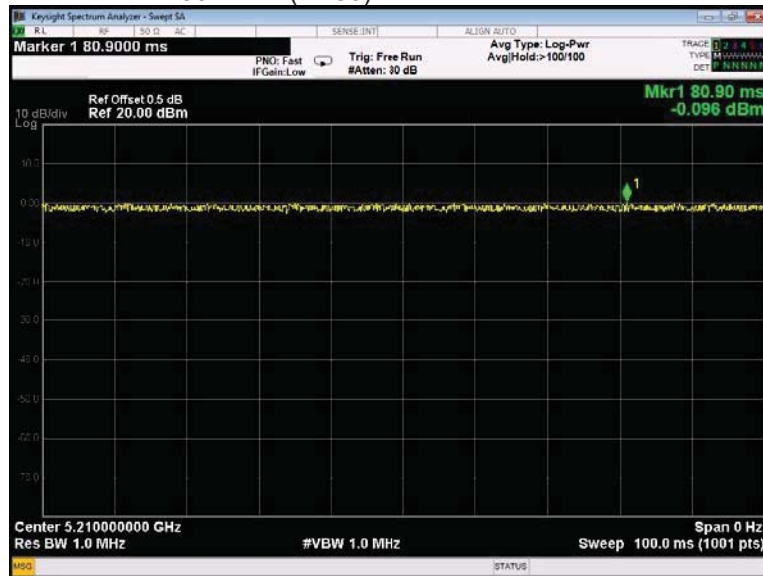




### 802.11ac(HT40) band I Low channel

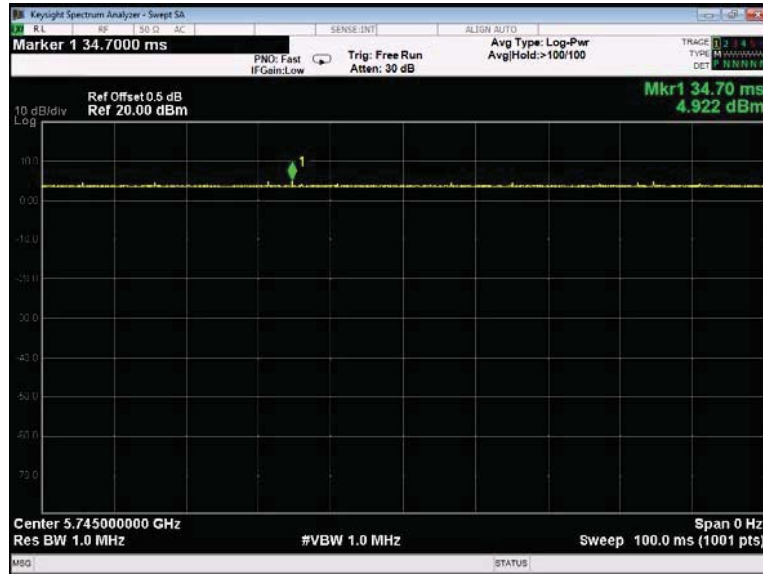


### 802.11ac(HT80) band I Low channel

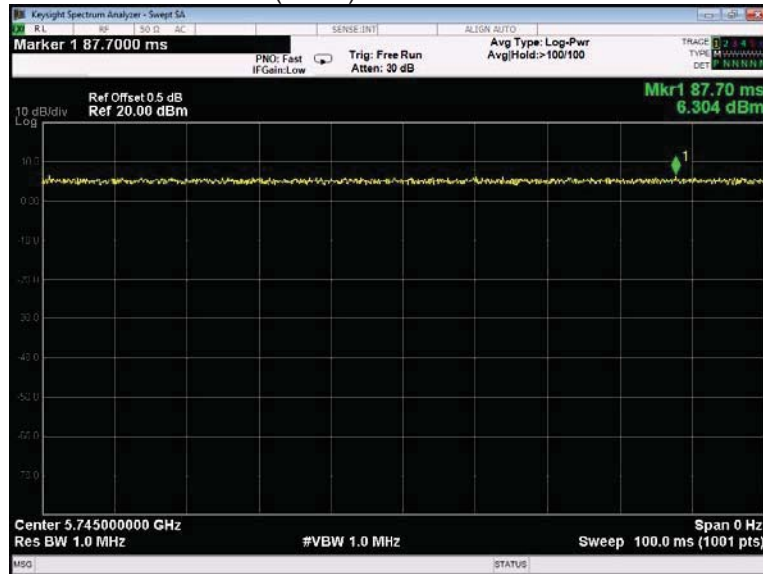




### 802.11a band IV Low channel

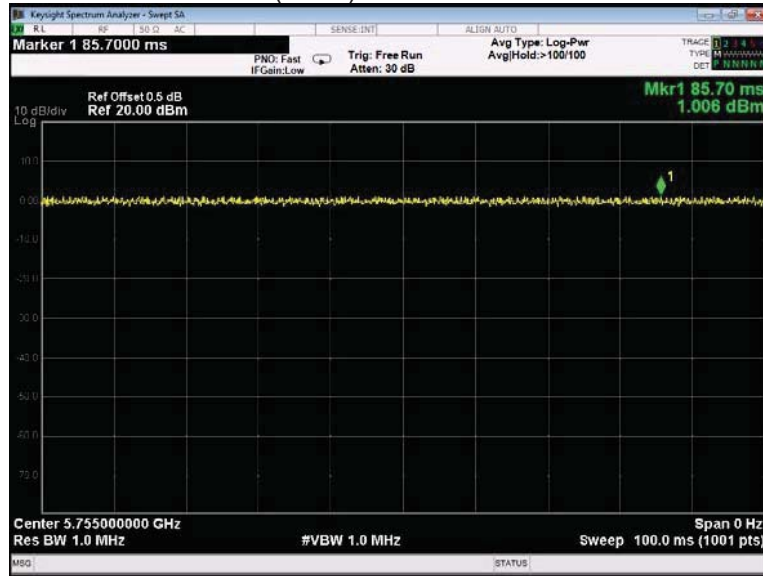


### 802.11n(HT20) band IV Low channel

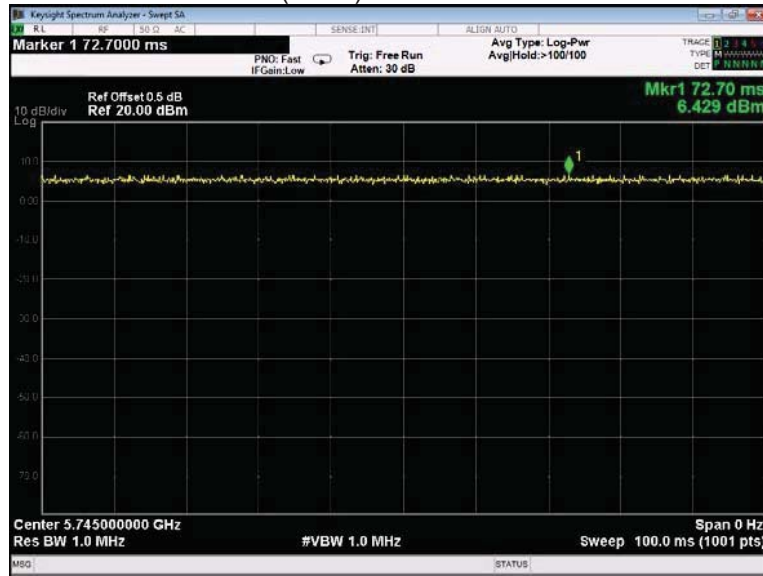




### 802.11n(HT40) band IV Low channel

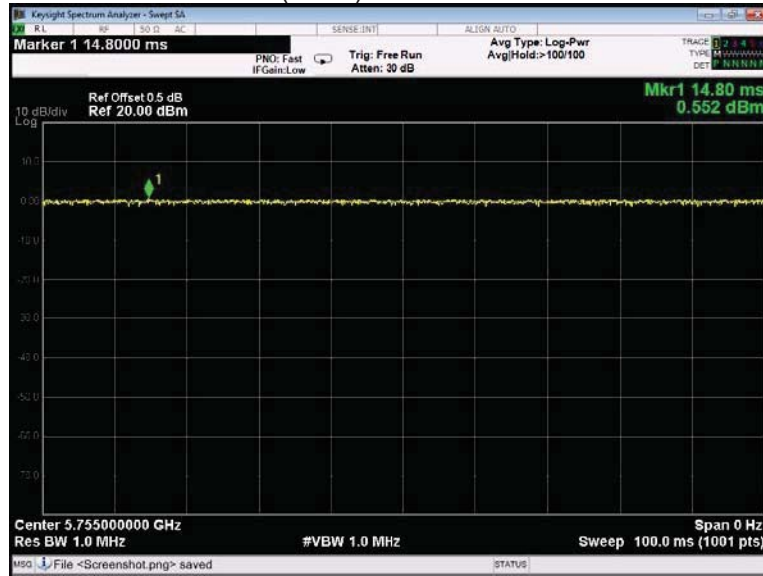


### 802.11ac(HT20) band IV Low channel





### 802.11ac(HT40) band IV Low channel



### 802.11ac(HT80) band IV Low channel





## 9 Band Edge

Test Requirement:	FCC CFR47 Part 15 Section 15.407 and Part 2.1051, Part 2.1057
Test Method:	ANSI C63.10:2013
Test Limit:	(1) 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 $-27\text{dBm/MHz}$ . (2) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of $-17\text{dBm/MHz}$ ; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of $-27\text{dBm/MHz}$ .
Test Result:	PASS

### 9.1 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.

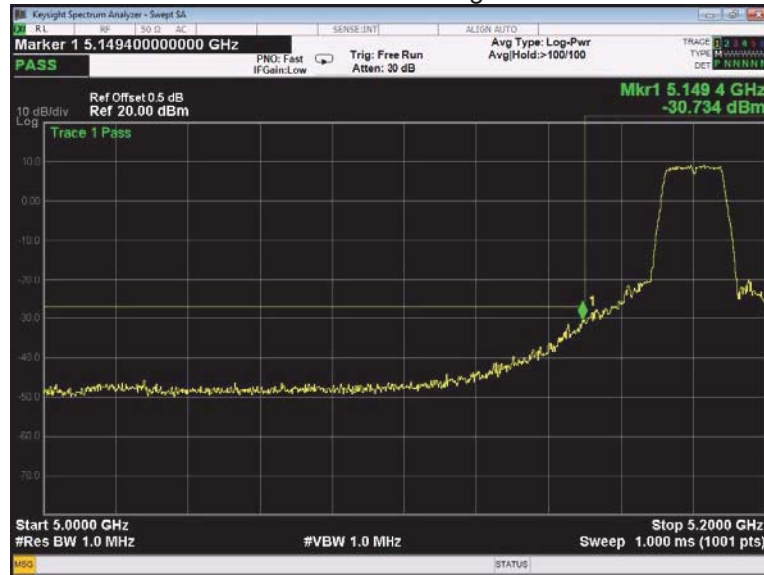


## 9.2 Test Result

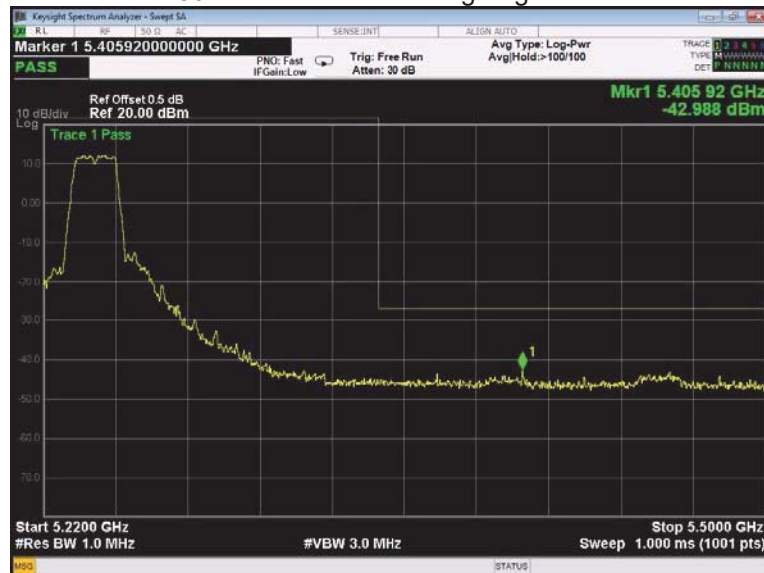
Test result plots shown as follows:

### ANT0

802.11a band I Band edge-left side

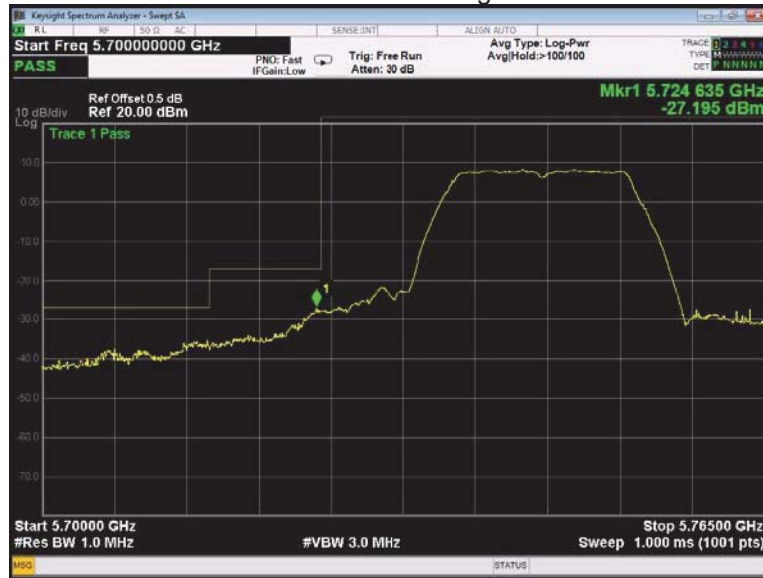


802.11a band I Band edge-right side





802.11a band IV Band edge-left side

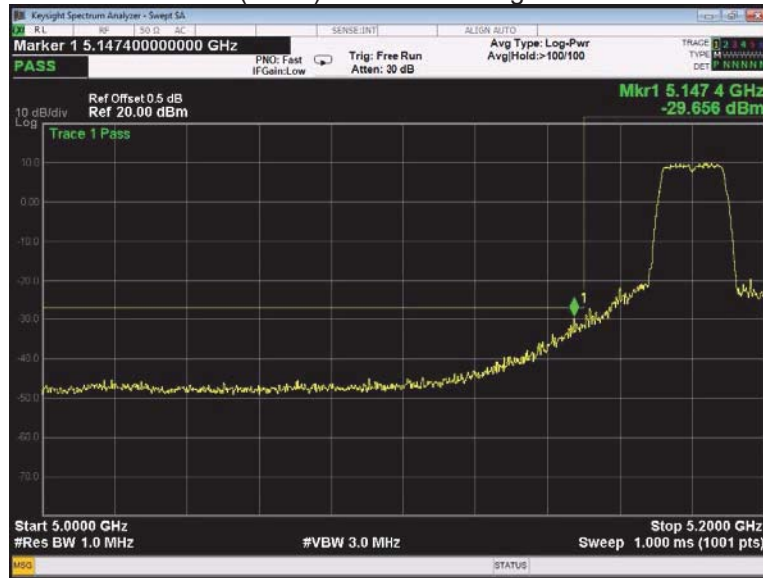


802.11a band IV Band edge-right side





### 802.11n(HT20) band I Band edge-left side



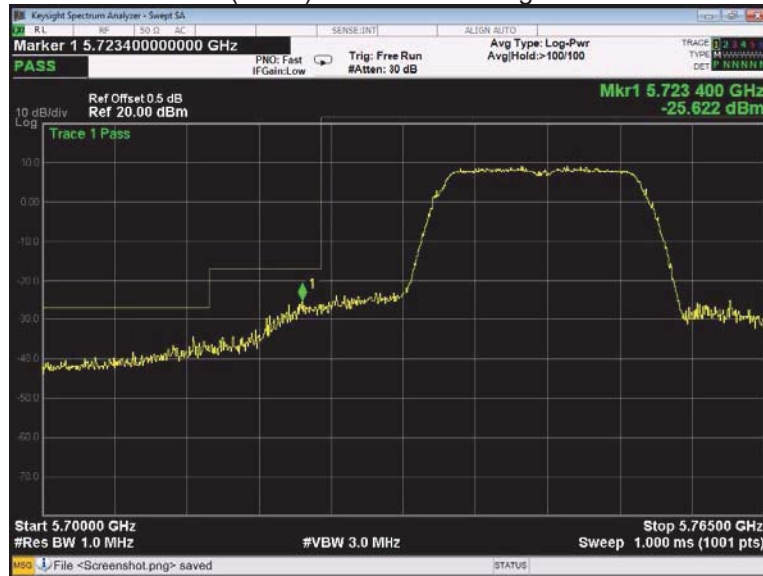
### 802.11n(HT20) band I Band edge-right side



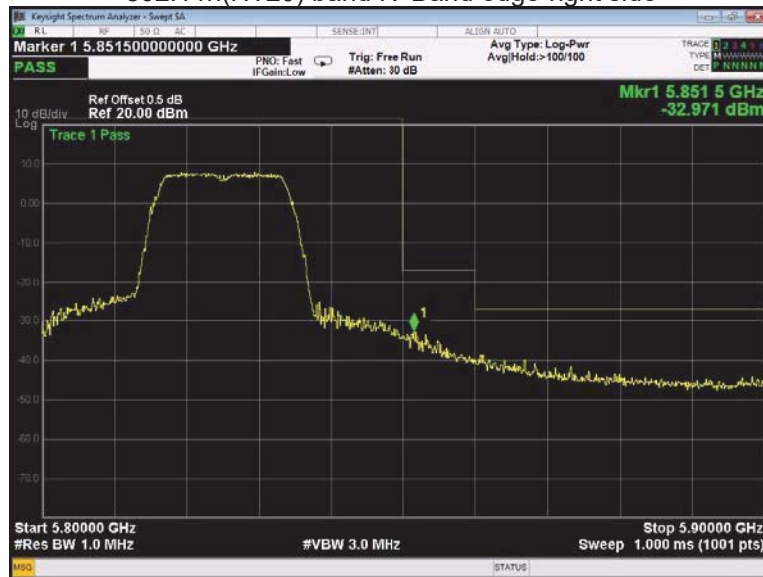




802.11n(HT20) band IV Band edge-left side

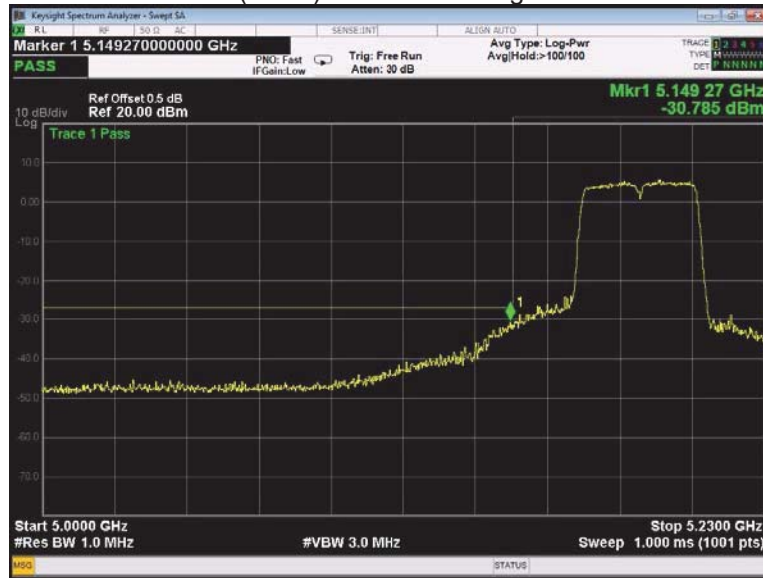


802.11n(HT20) band IV Band edge-right side





### 802.11n(HT40) band I Band edge-left side



### 802.11n(HT40) band I Band edge-right side

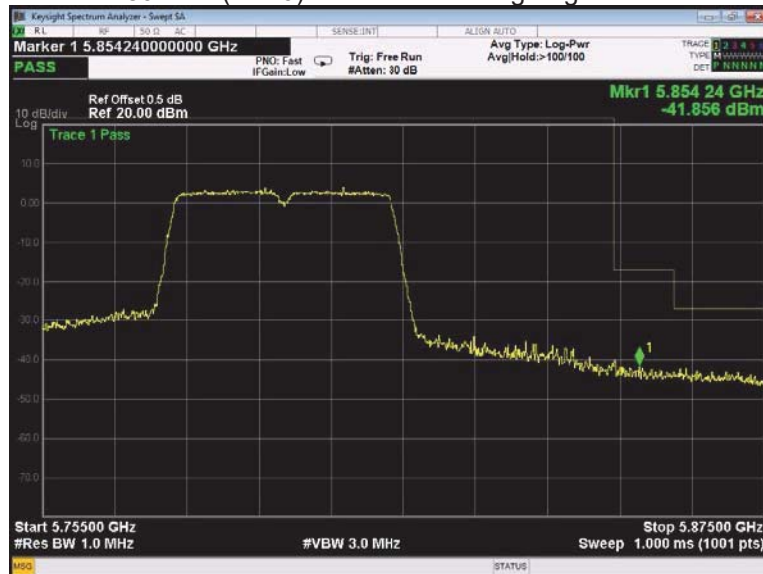




802.11n(HT40) band IV Band edge-left side

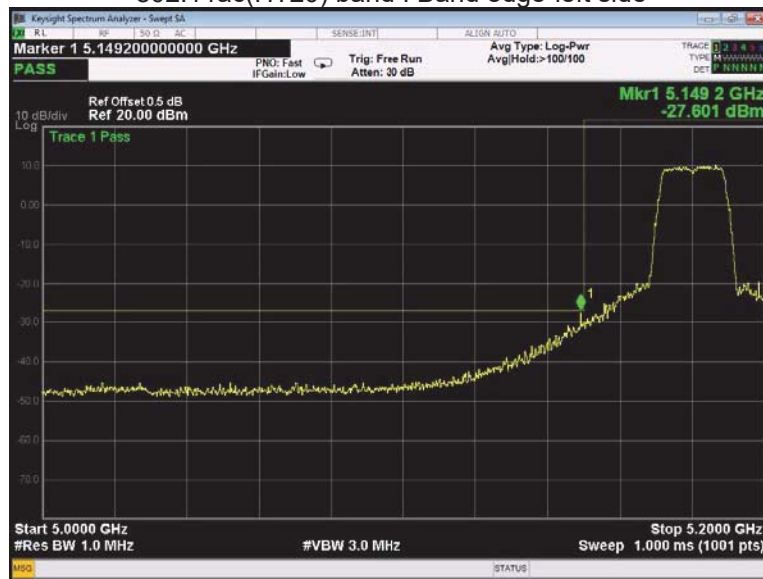


802.11n(HT40) band IV Band edge-right side

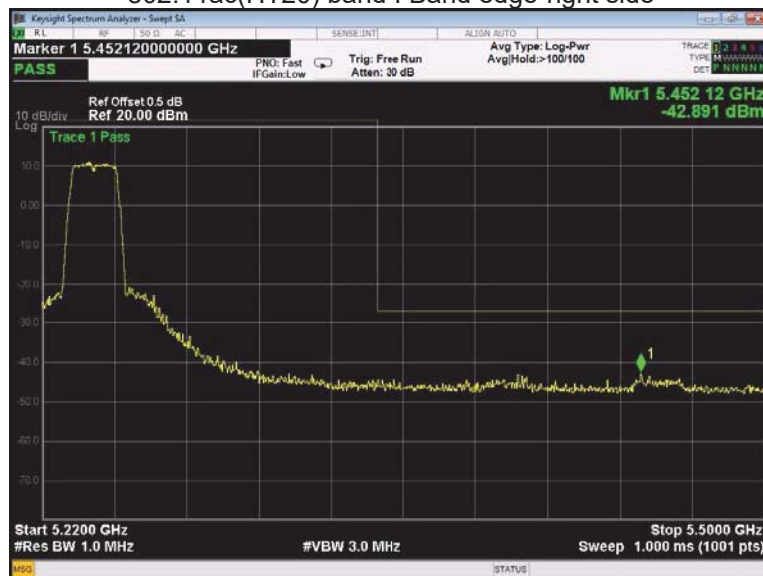




### 802.11ac(HT20) band I Band edge-left side

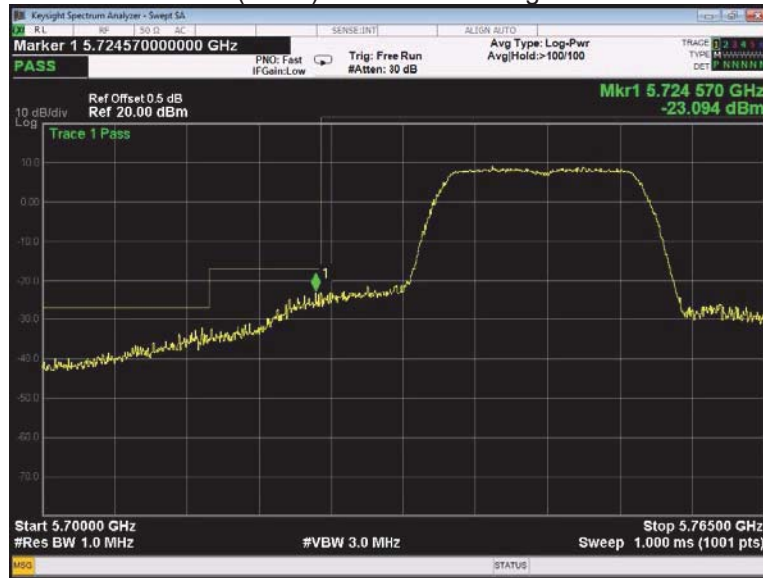


### 802.11ac(HT20) band I Band edge-right side

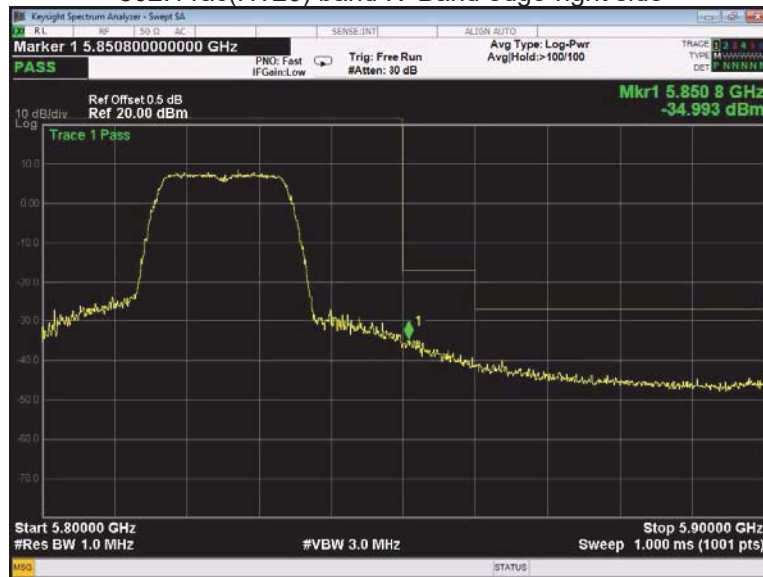




802.11ac(HT20) band IV Band edge-left side

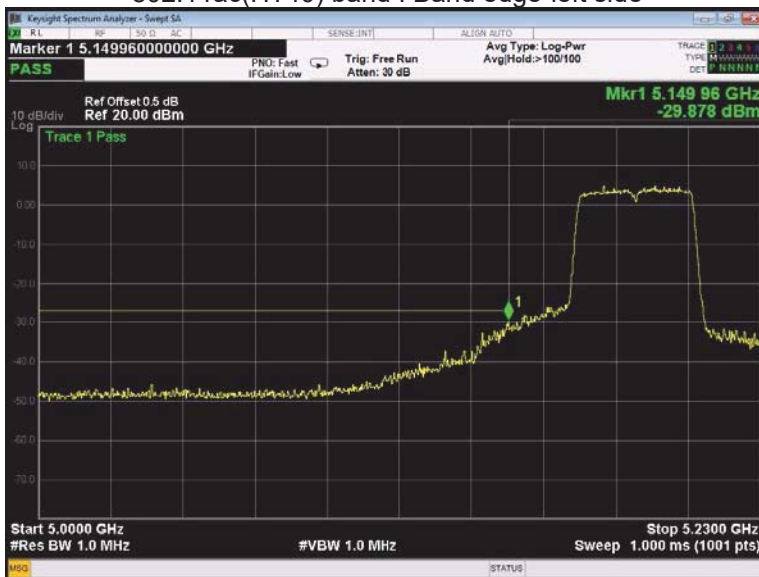


802.11ac(HT20) band IV Band edge-right side

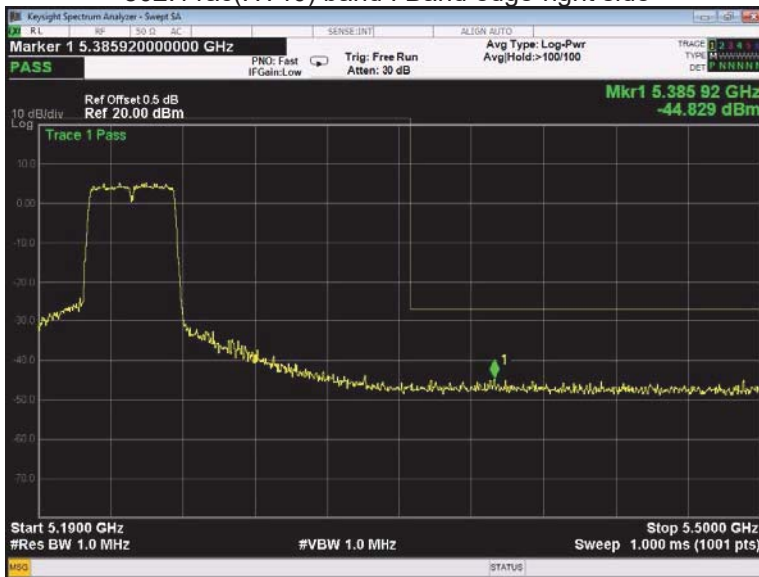




### 802.11ac(HT40) band I Band edge-left side



### 802.11ac(HT40) band I Band edge-right side





802.11ac(HT40) band IV Band edge-left side

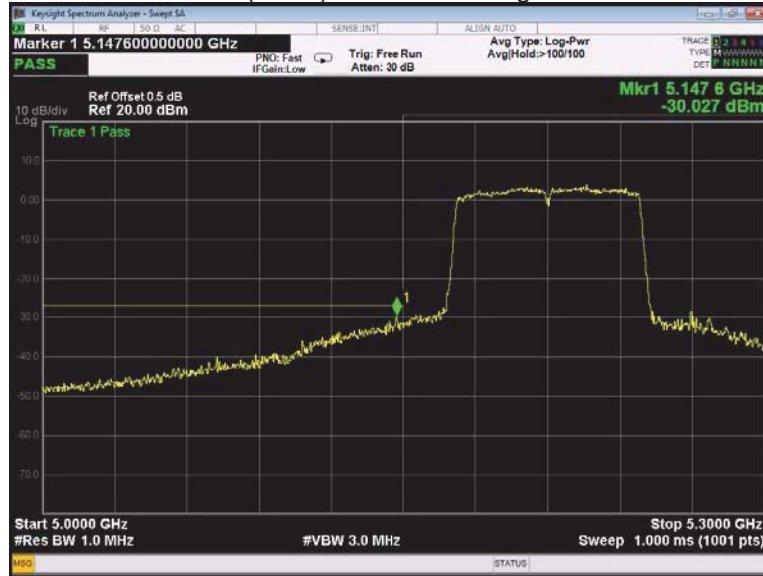


802.11ac(HT40) band IV Band edge-right side

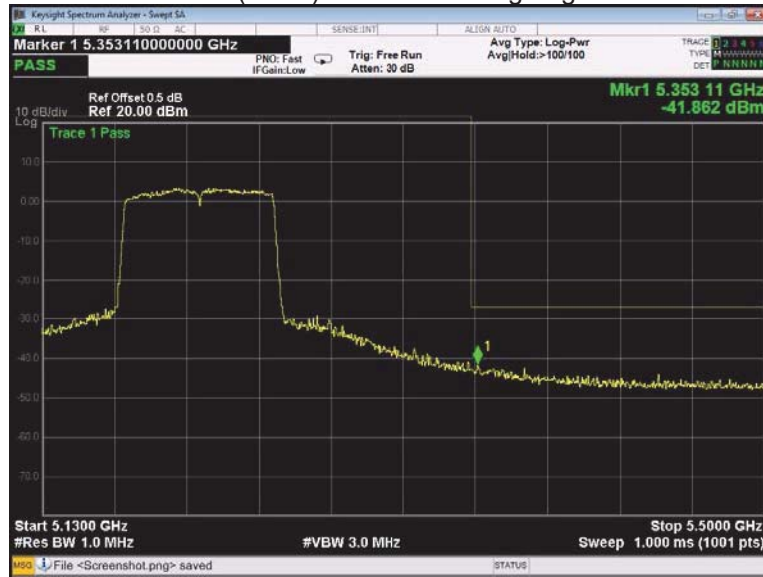




### 802.11ac(HT80) band I Band edge-left side



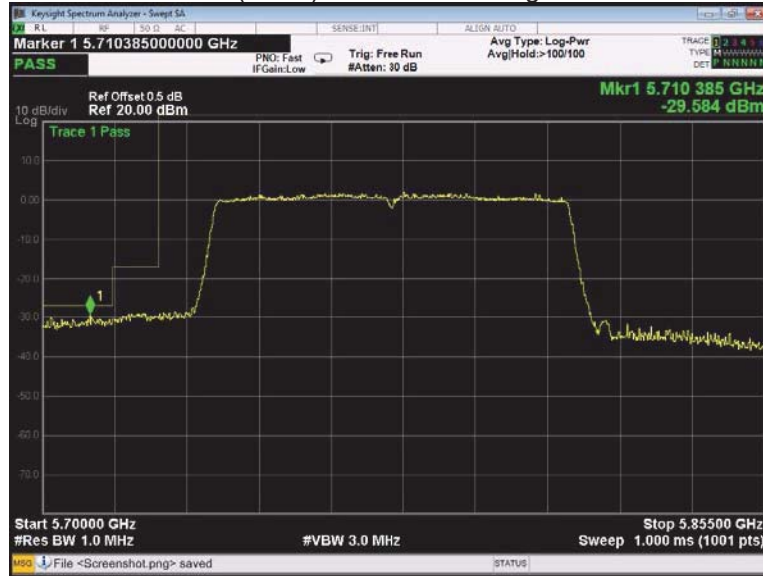
### 802.11ac(HT80) band I Band edge-right side



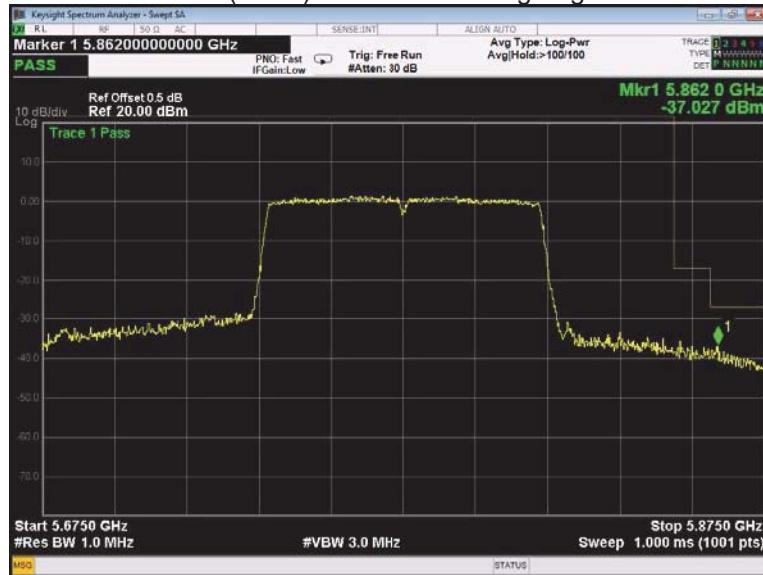




802.11ac(HT80) band IV Band edge-left side



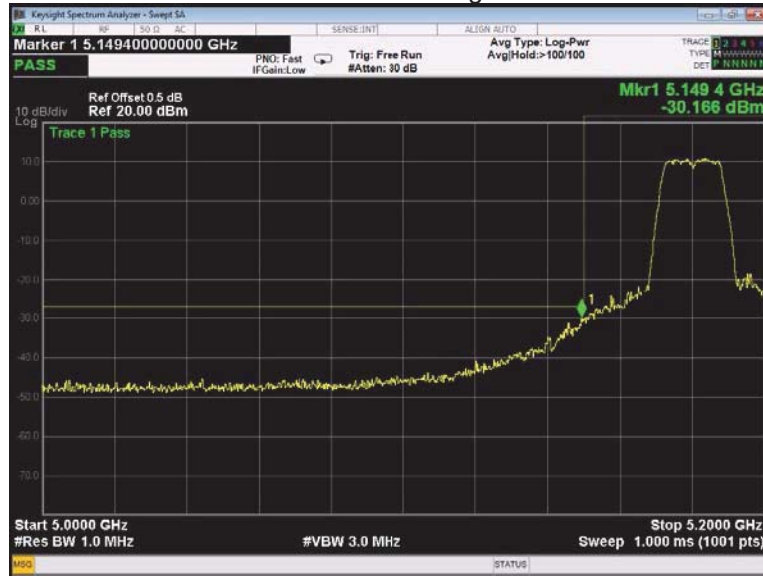
802.11ac(HT80) band IV Band edge-right side



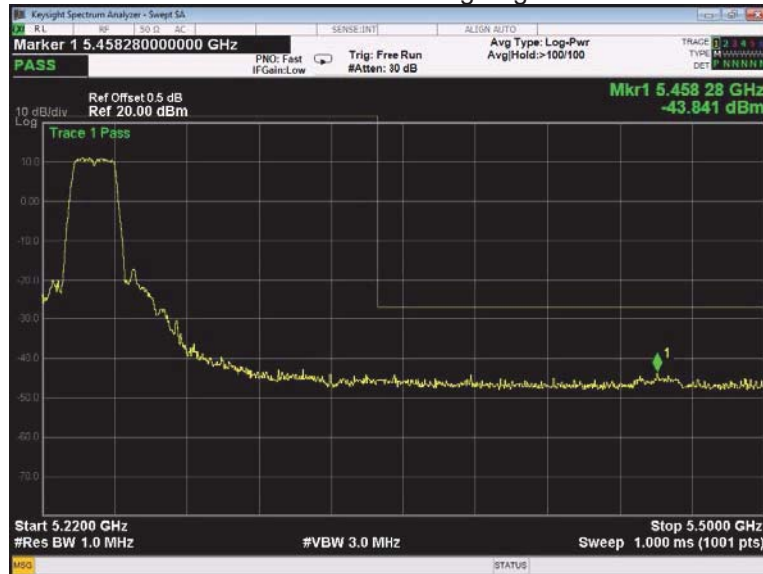


### ANT1

#### 802.11a band I Band edge-left side

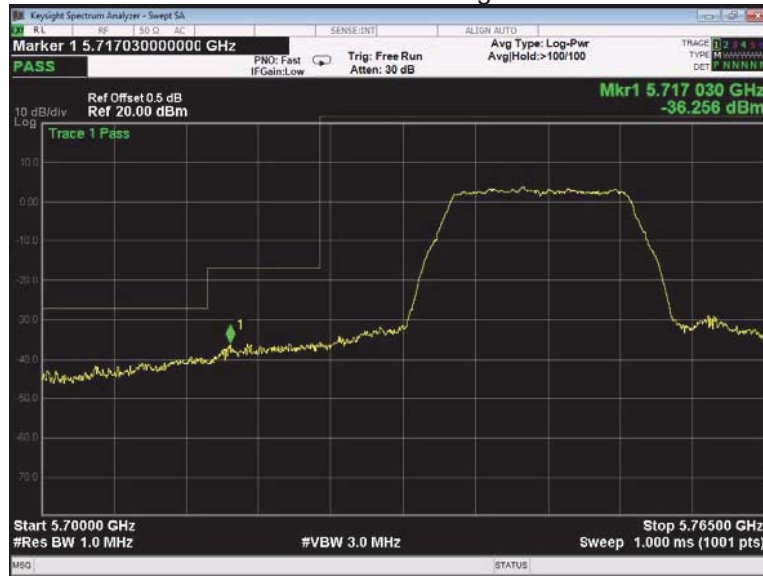


#### 802.11a band I Band edge-right side

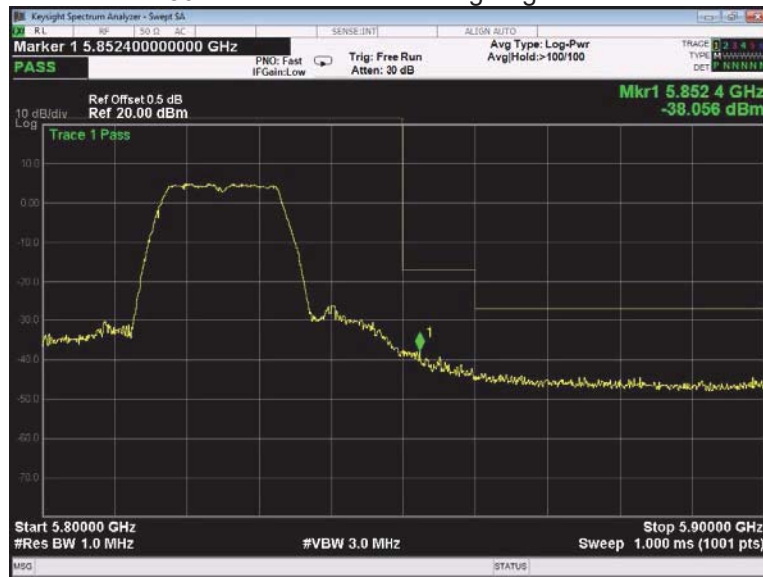




802.11a band IV Band edge-left side

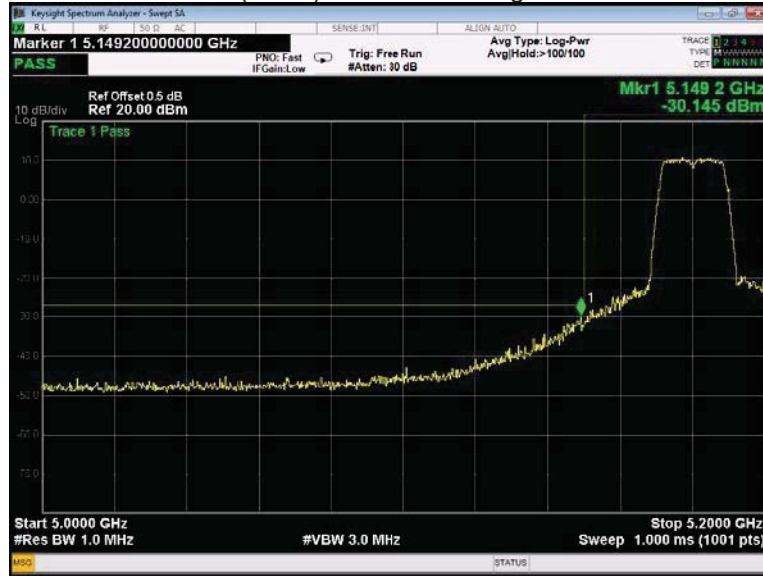


802.11a band IV Band edge-right side

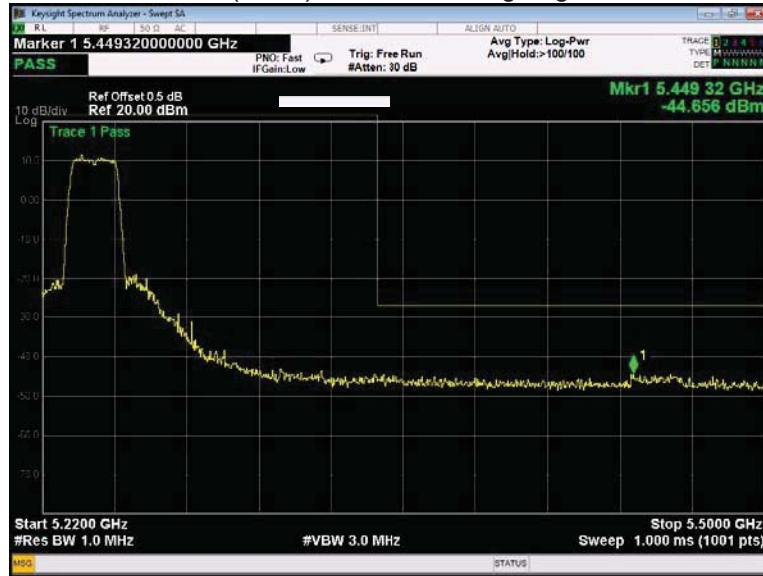




### 802.11n(HT20) band I Band edge-left side

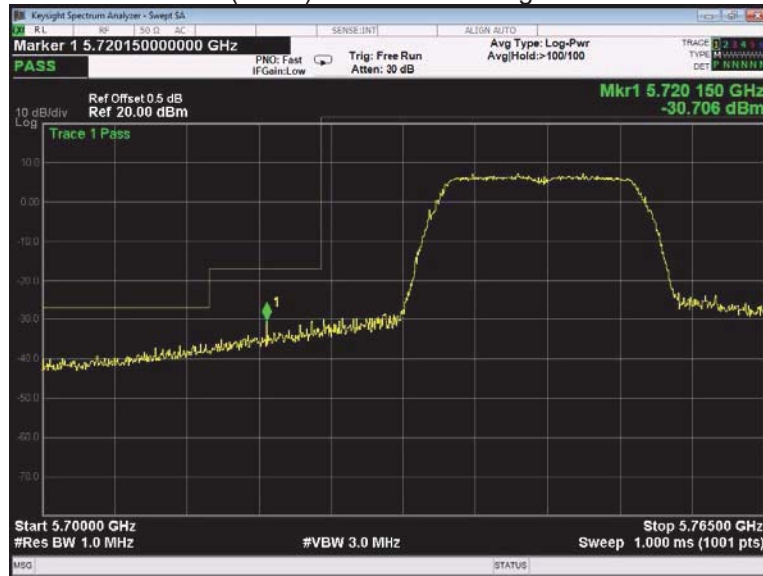


### 802.11n(HT20) band I Band edge-right side

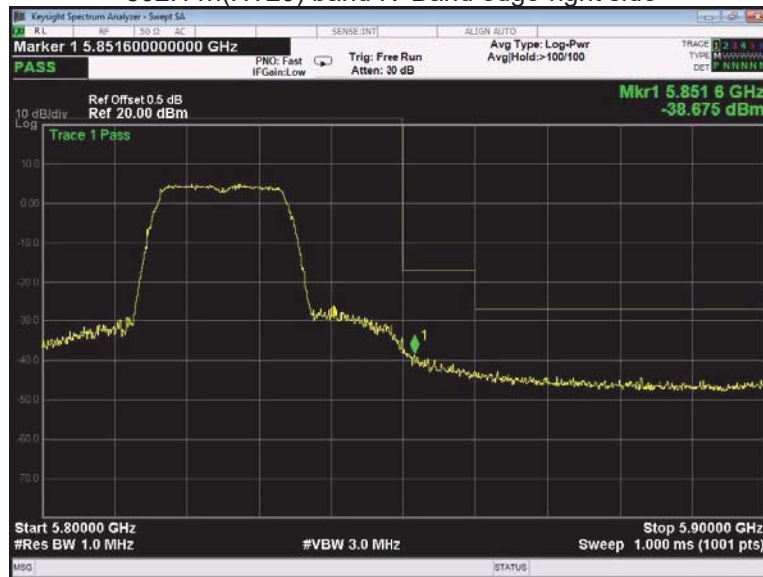




### 802.11n(HT20) band IV Band edge-left side

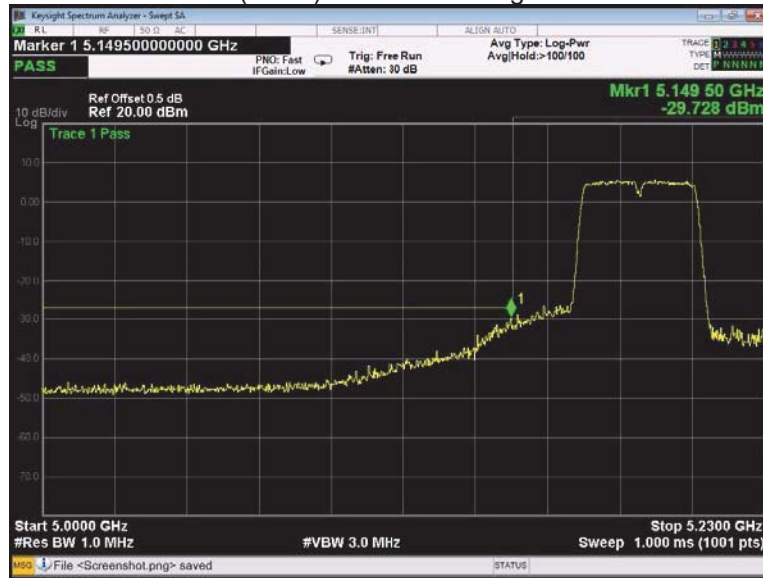


### 802.11n(HT20) band IV Band edge-right side

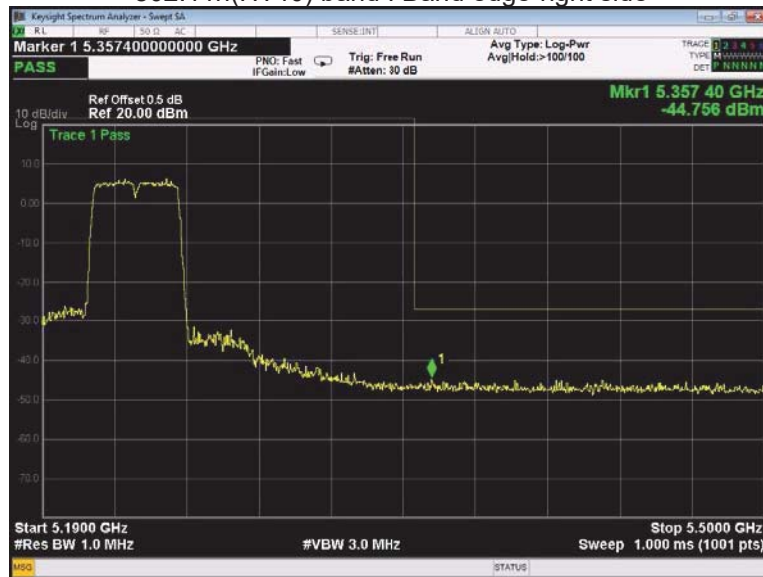




### 802.11n(HT40) band I Band edge-left side

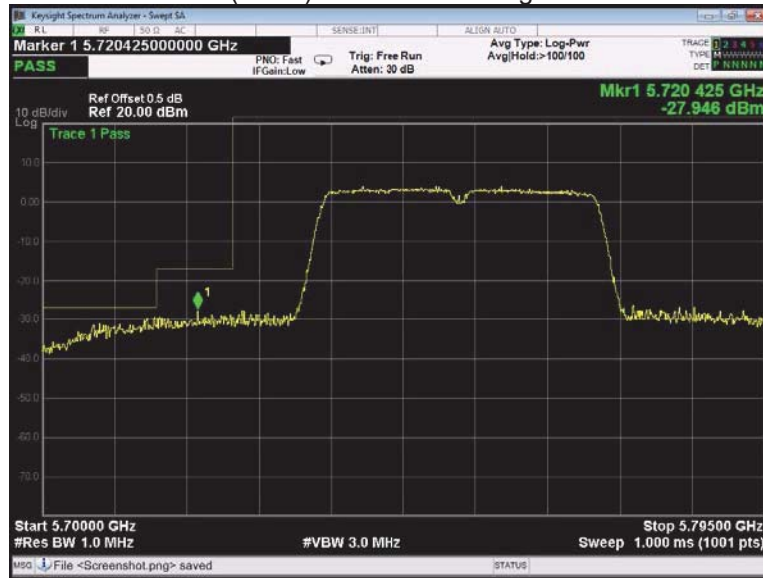


### 802.11n(HT40) band I Band edge-right side





### 802.11n(HT40) band IV Band edge-left side

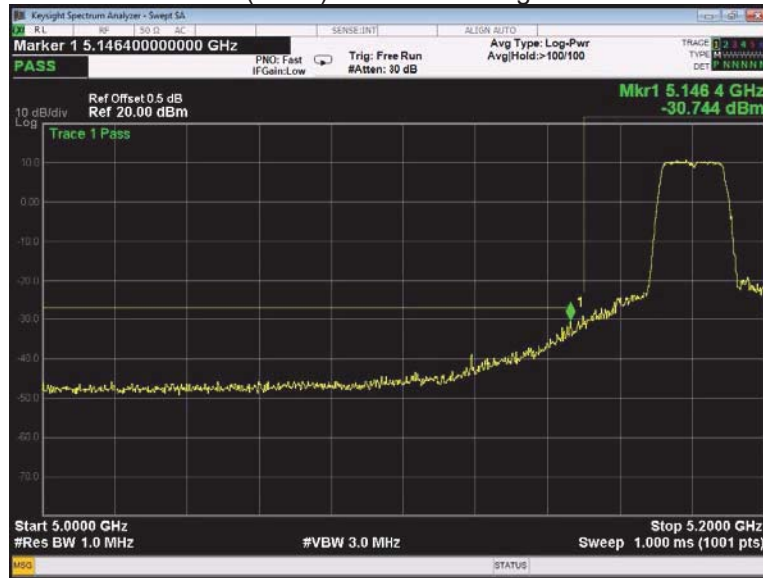


### 802.11n(HT40) band IV Band edge-right side

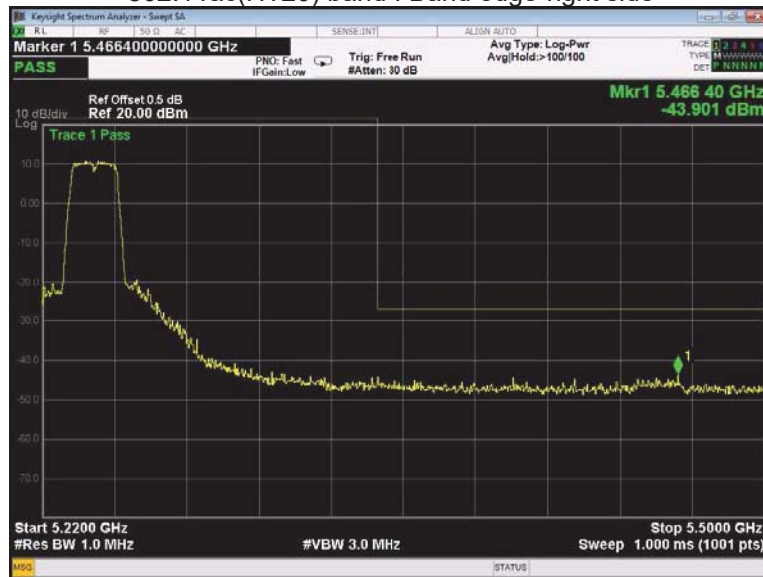




### 802.11ac(HT20) band I Band edge-left side



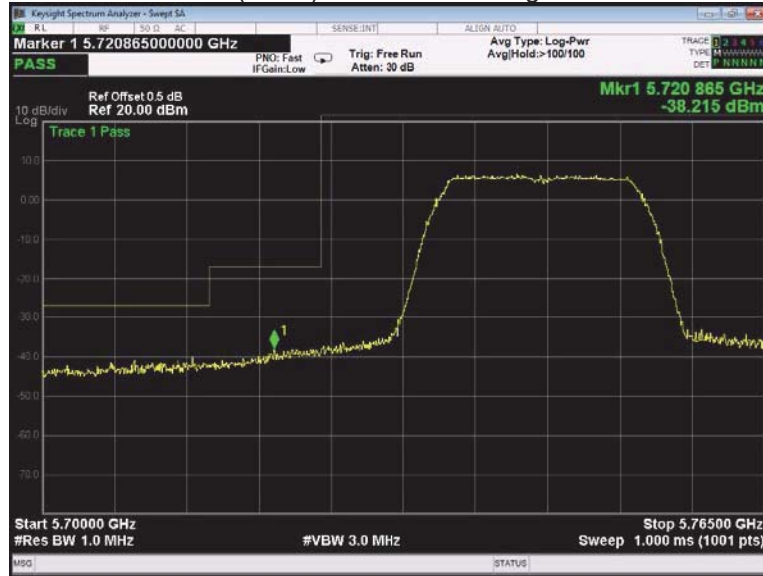
### 802.11ac(HT20) band I Band edge-right side



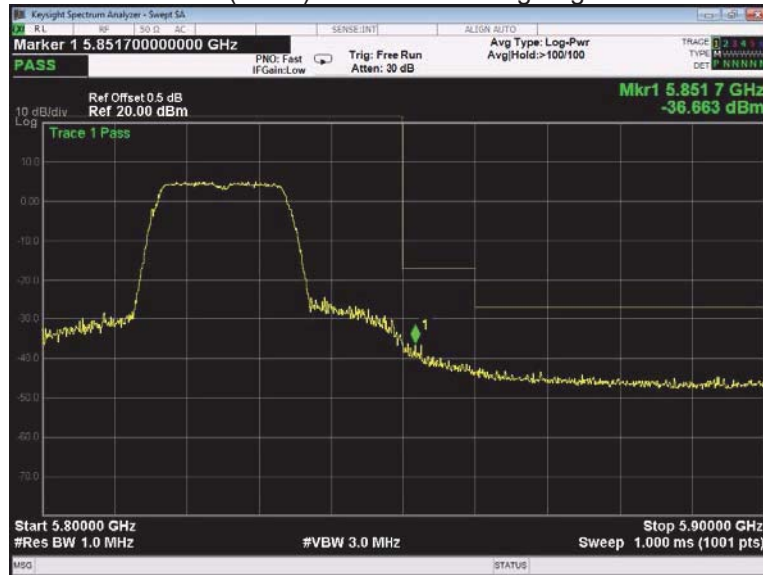




802.11ac(HT20) band IV Band edge-left side

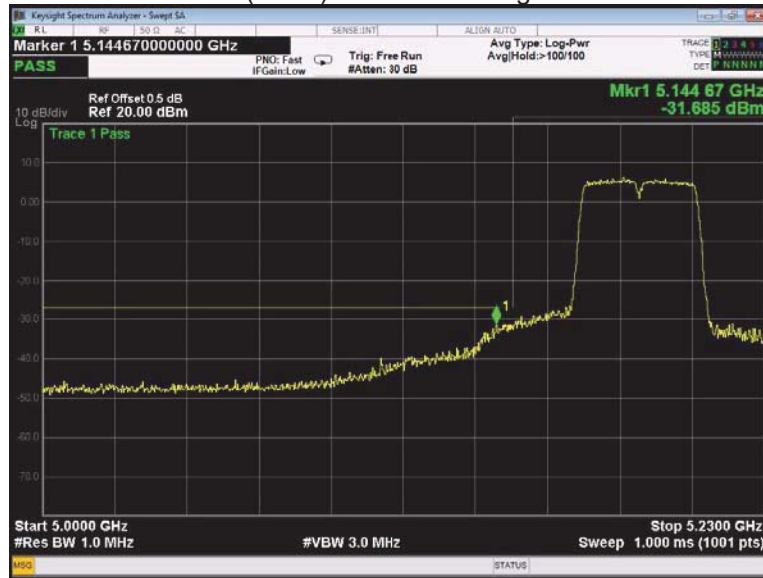


802.11ac(HT20) band IV Band edge-right side

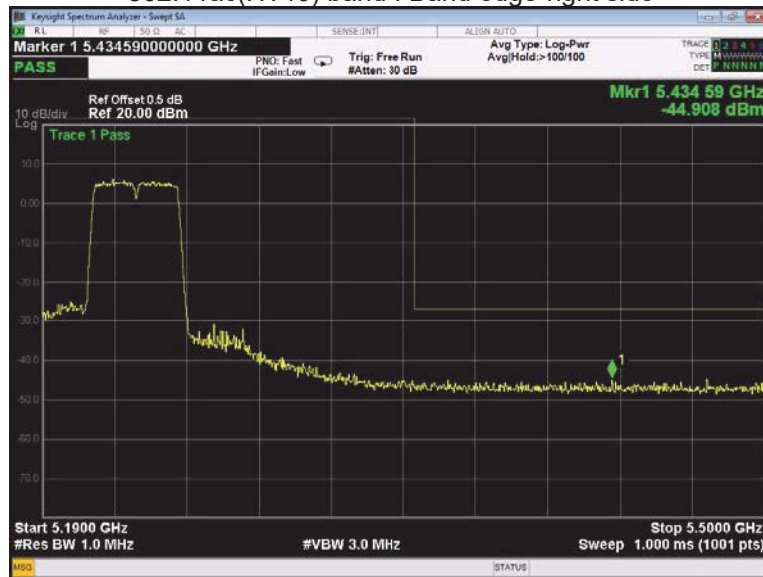




### 802.11ac(HT40) band I Band edge-left side



### 802.11ac(HT40) band I Band edge-right side





### 802.11ac(HT40) band IV Band edge-left side

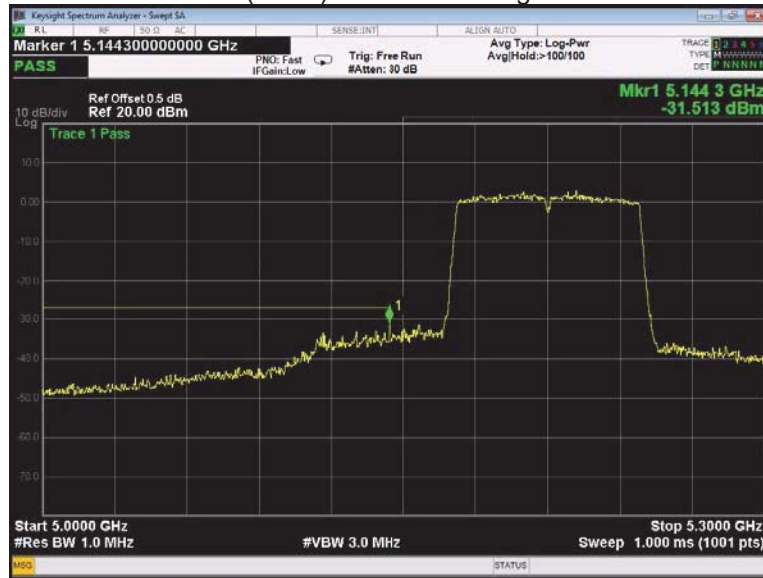


### 802.11ac(HT40) band IV Band edge-right side

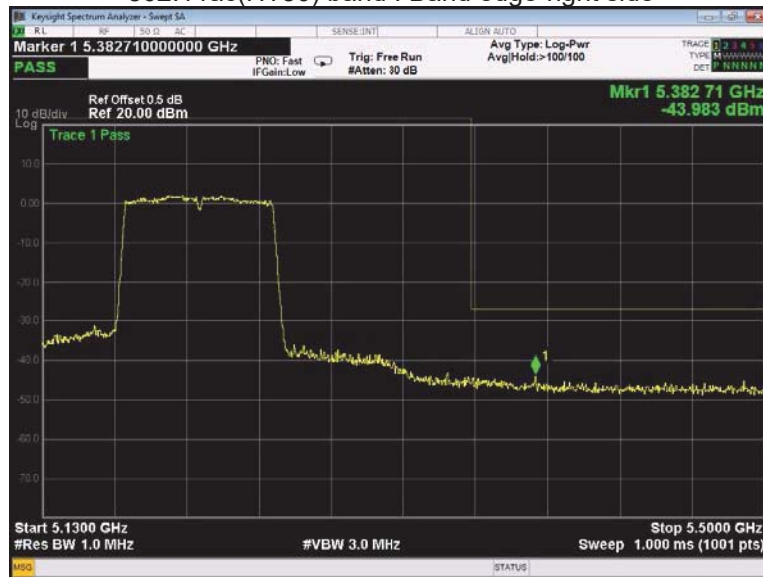




### 802.11ac(HT80) band I Band edge-left side

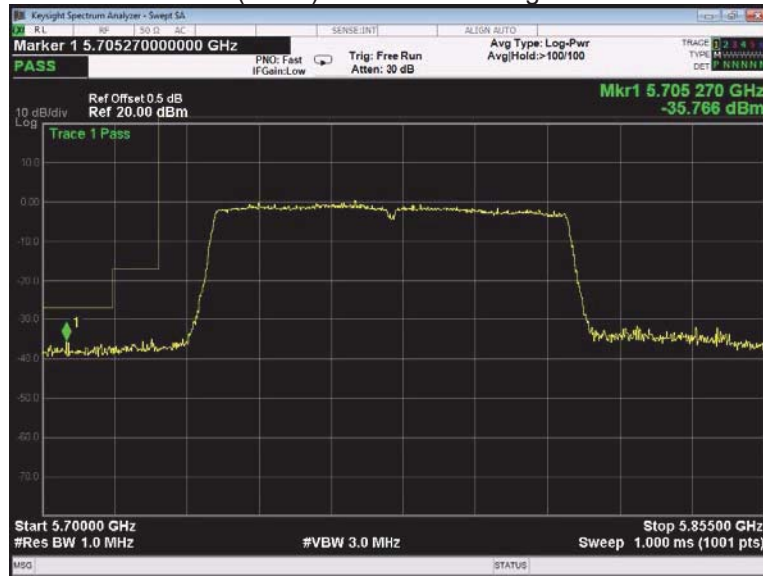


### 802.11ac(HT80) band I Band edge-right side





802.11ac(HT80) band IV Band edge-left side



802.11ac(HT80) band IV Band edge-right side

