TEST REPORT

Reference No.	:	WTF21D12149221W003
FCC ID	:	BRWSPMR14000
Applicant	:	Horizon Hobby, LLC.
Address	:	2904 Research Rd, Champaign, IL 61822 United States
Manufacturer	:	Horizon Hobby, LLC.
Address	:	2904 Research Rd., Champaign, IL, 61822 United States
Product	:	iX14
Model(s)	:	SPMR14000, SPMR140001
Standards	:	FCC CFR47 Part 15 E Section 15.407
Date of Receipt sample	:	2021-12-30
Date of Test	:	2021-12-30 to 2022-03-01
Date of Issue	:	2022-03-15
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.

Prepared By:
Waltek Testing Group Co., Ltd.
Address: No. 77, Houjie Section, Guantai Road, Houjie Town, Dongguan City, Guangdong, China
Tel: +86-769-2267 6998
Fax: +86-769-2267 6828

Compiled by:

Andy Feng / Project Engineer

Approved by:

WALTEK TESTING GROUP CO.,LTD. WALTEK TEST REPORT

Daniel Liu / Designated Reviewer

2 Contents

3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTF21D12149221W003	2021-12-30	2021-12-30 to 2022-03-01	2022-03-15	Original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	iX14
Model(s):	SPMR14000, SPMR140001
Model Description:	Only the model name are difference. Model SPMR14000 was tested in this report.
Wi-Fi Specification:	2.4G-802.11b/g/n HT20/n HT40 5G-802.11a/n/ac HT20 /n/ac HT40 / ac HT80
Bluetooth Version:	Bluetooth v5.0
Hardware Version:	X14_SOM_3566_V02
Software Version:	rk3566_r-userdebug 11 RQ1D.210105.003 eng.work.20211123.195427 release-keys

4.2 Details of E.U.T.

Operation Frequency:	802.11a/n/ac (HT20): U-NII-1: 5180-5240MHz, U-NII-2A: 5260-5320MHz(DFS), U-NII-2C: 5500-5700MHz(DFS), U-NII-3:5745-5825MHz 802.11n/ac (HT40): U-NII-1: 5190-5230MHz, U-NII-2A: 5270-5310MHz(DFS), U-NII-2C: 5510-5670MHz(DFS), U-NII-3: 5755-5795MHz 802.11ac (HT80): U-NII-1: 5210MHz, U-NII-2A: 5290MHz(DFS), U-NII-2C: 5530-5610MHz(DFS), U-NII-3: 5775MHz
Max. RF output power:	U-NII-1: 15.99dBm U-NII-2A: 16.97dBm U-NII-2C: 16.23dBm U-NII-3: 14.96dBm
Type of Modulation:	OFDM
Antenna installation:	internal permanent antenna
Antenna Gain:	U-NII-1: 2.2dbi U-NII-2A: 2.3dbi U-NII-2C: 2.5dbi U-NII-3: 2.1dbi
Ratings:	Battery DC 3.7V, 10500mAh

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	50	5250

U-NII-2A (5.25-5.35GHz)			
channel	**Frequency(MHz)**	**channel**	**Frequency(MHz)**
52	5260	54	5270
56	5280	58	5290
60	5300	62	5310
64	5320		

U-NII-2C (5.47-5.725GHz)			
channel	**Frequency(MHz)**	**channel**	**Frequency(MHz)**
100	5500	102	5510
104	5520	108	5540
110	5550	112	5560
114	5570	116	5580
118	5590	120	5600
124	5620	126	5630
128	5640	132	5660
134	5670	136	5680
140	5700		

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/ac(HT20):

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

channel	Frequency(MHz)	channel	Frequency(MHz)
52	5260	56	5280
64	5320		

channel	Frequency(MHz)	channel	Frequency(MHz)
100	5500	120	5600
140	5700		

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

For 802.11n/ac(HT40)/ ac(HT80):

channel	Frequency(MHz)	channel	Frequency(MHz)
38	5190	42	5210
46	5230		

channel	Frequency(MHz)	channel	Frequency(MHz)
54	5270	58	5290
62	5310		

channel	Frequency(MHz)	channel	Frequency(MHz)
102	5510	110	5550
134	5670		

channel	Frequency(MHz)	channel	Frequency(MHz)
106	5530	122	5610

channel	Frequency(MHz)	channel	Frequency(MHz)
151	5755	155	5775
159	5795		

5 Test Mode Description:

Test Items	Mode	Data Rate	TX/RX
Radiated Emissions	802.11a (HT20)	6 Mbps	TX
	802.11n (HT20/40) 802.11ac(HT20/40/80) 802.11ac(HT80+ HT80)	MCS0	TX
Duty Cycle	802.11a (HT20)	6 Mbps	TX
	802.11n (HT20/40) 802.11ac(HT20/40/80) 802.11ac(HT80+ HT80)	MCS0	TX
Band Edge	802.11a (HT20)	6 Mbps	TX
	802.11n (HT20/40) 802.11ac(HT20/40/80) 802.11ac(HT80+ HT80)	MCS0	TX
6dB Bandwidth	802.11a (HT20)	6 Mbps	TX
	802.11n (HT20/40) 802.11ac(HT20/40/80) 802.11ac(HT80+ HT80)	MCS0	TX
26dB Bandwidth and 99% Occupied Bandwidth	802.11a (HT20)	6 Mbps	TX
	802.11n (HT20/40) 802.11ac(HT20/40/80) 802.11ac(HT80+ HT80)	MCS0	TX
Conducted Output Power	802.11a (HT20)	6 Mbps	TX
	802.11n (HT20/40) 802.11ac(HT20/40/80) 802.11ac(HT80+ HT80)	MCS0	TX
Power Spectral Density	802.11a (HT20)	6 Mbps	TX
	802.11n (HT20/40) 802.11ac(HT20/40/80) 802.11ac(HT80+ HT80)	MCS0	TX
Frequency Stability	Un-modulation	/	TX

5.1 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.

6 Equipment Used during Test

6.1 Equipments List

3m Semi-anechoic Chamber for Radiation Emissions Test site 1#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	EMC Analyzer	Agilent	E7405A	MY45114943	2021-04-26	2022-04-25
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	2021-04-26	2022-04-25
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	2021-08-23	2022-08-22
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	2021-04-26	2022-04-25
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	2021-04-26	2022-04-25
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	2021-07-30	2022-07-29
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	2021-07-26	2022-07-25
8	Coaxial Cable (above 1GHz)	ZT26-NJ-NJ-8M/FA	1GHz-18GHz	NA	2021-04-26	2022-04-25
3m Semi-anechoic Chamber for Radiation Emissions Test site 2#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No**	**Last Calibration Date**	**Calibration Due Date**
1	Test Receiver	R&S	ESCI	101296	2021-04-26	2022-04-25
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2021-10-28	2022-10-27
3	Amplifier	Compliance pirection systems inc	PAP-0203	22024	2021-04-26	2022-04-25
4	Cable	HUBER+SUHNER	CBL2	525178	2021-04-26	2022-04-25
RF Conducted Testing						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMC Analyzer (9k~26.5GHz)	Agilent	E7405A	MY45114943	2021-04-26	2022-04-25
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	2021-04-26	2022-04-25
3.	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	2021-04-26	2022-04-25

6.2 Description of Support Units

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

6.3 Measurement Uncertainty

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

6.4 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.

7 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	--
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
Unwanted Emissions that fall Outside of the Restricted Bands	15.407(a)	PASS
Antenna Requirement	15.203	PASS
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	PASS

8 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 dBμV between 0.15MHz & 0.5MHz
	56 dBμV between 0.5MHz & 5MHz
	60 dBμV between 5MHz & 30MHz
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth)

8.1 E.U.T. Operation

Operating Environment **:**

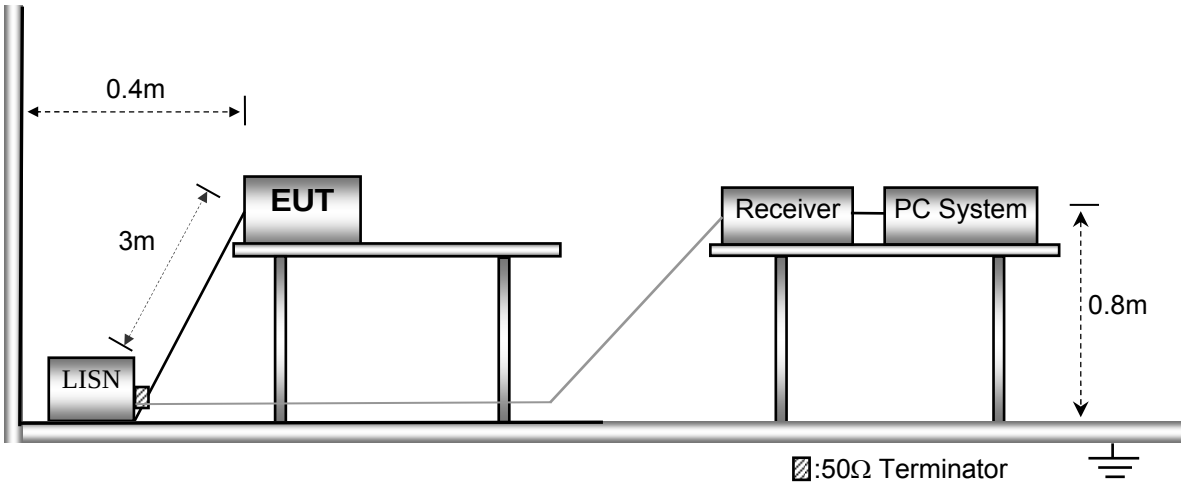
Temperature:	21.5 °C
Humidity:	51.9 % RH
Atmospheric Pressure:	101.2kPa

EUT Operation **:**

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

8.2 EUT Setup

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



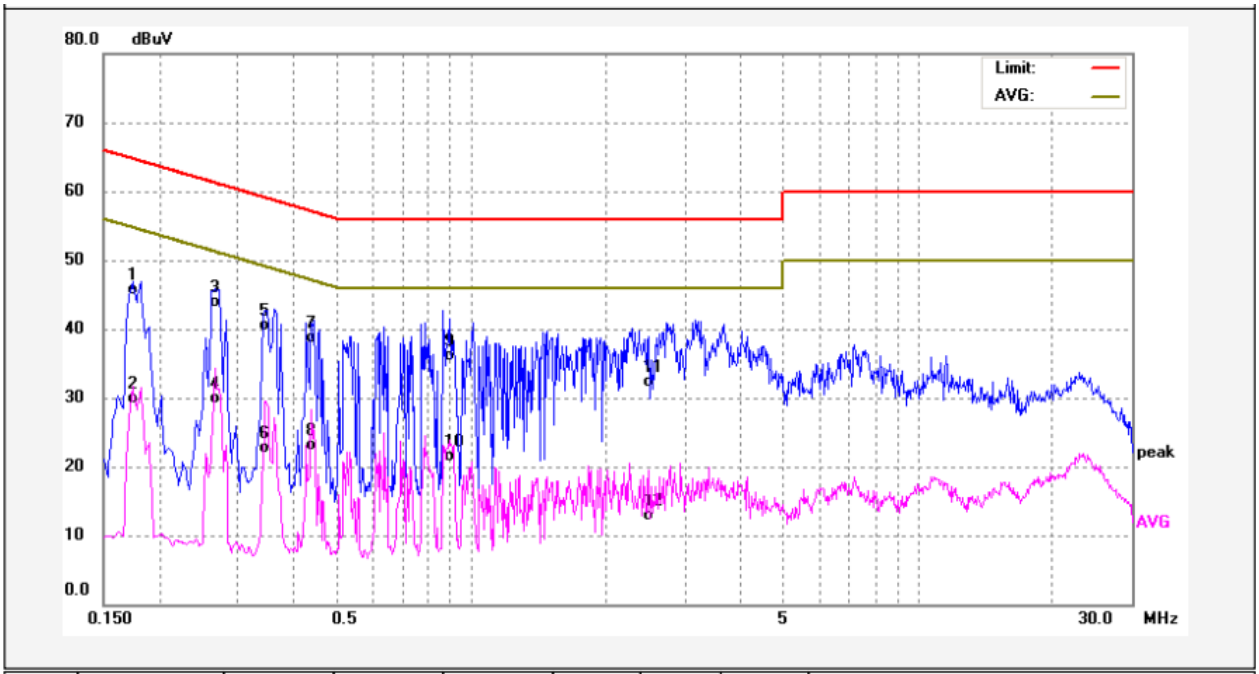
8.3 Measurement Description

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.

8.4 Conducted Emission Test Result

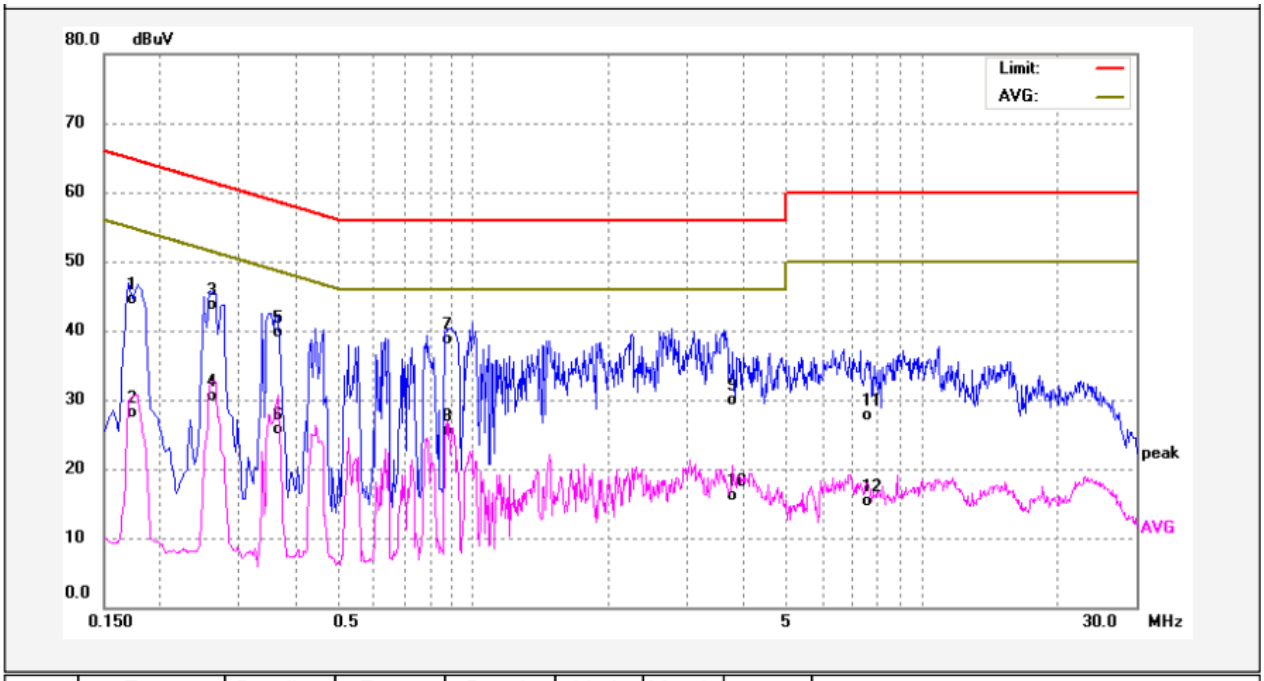
An initial pre-scan was performed on the live and neutral lines.

Live line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1740	33.72	12.00	45.72	64.76	-19.04	QP	
2	0.1740	17.91	12.00	29.91	54.76	-24.85	AVG	
3	0.2660	32.02	11.81	43.83	61.24	-17.41	QP	
4	0.2660	18.16	11.81	29.97	51.24	-21.27	AVG	
5	0.3460	28.69	11.74	40.43	59.06	-18.63	QP	
6	0.3460	10.94	11.74	22.68	49.06	-26.38	AVG	
7	0.4380	26.93	11.74	38.67	57.10	-18.43	QP	
8	0.4380	11.32	11.74	23.06	47.10	-24.04	AVG	
9	0.8900	24.25	11.90	36.15	56.00	-19.85	QP	
10	0.8900	9.60	11.90	21.50	46.00	-24.50	AVG	
11	2.4900	20.40	12.00	32.40	56.00	-23.60	QP	
12	2.4900	0.88	12.00	12.88	46.00	-33.12	AVG	

Neutral line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1722	33.04	11.45	44.49	64.85	-20.36	QP	
2	0.1722	16.71	11.45	28.16	54.85	-26.69	AVG	
3	0.2620	32.42	11.28	43.70	61.36	-17.66	QP	
4	0.2620	19.30	11.28	30.58	51.36	-20.78	AVG	
5	0.3660	28.59	11.21	39.80	58.59	-18.79	QP	
6	0.3660	14.48	11.21	25.69	48.59	-22.90	AVG	
7	0.8780	27.42	11.30	38.72	56.00	-17.28	QP	
8	0.8780	14.30	11.30	25.60	46.00	-20.40	AVG	
9	3.7860	18.27	11.54	29.81	56.00	-26.19	QP	
10	3.7860	4.48	11.54	16.02	46.00	-29.98	AVG	
11	7.5300	16.35	11.34	27.69	60.00	-32.31	QP	
12	7.5300	4.01	11.34	15.35	50.00	-34.65	AVG	

9 Radiated Emissions

Test Requirement: FCC CFR47 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(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	$20\log^{(500)}$

9.1 EUT Operation

Operating Environment **:**

Temperature: 23.5 °C

Humidity: 52.1 % RH

Atmospheric Pressure: 101.2kPa

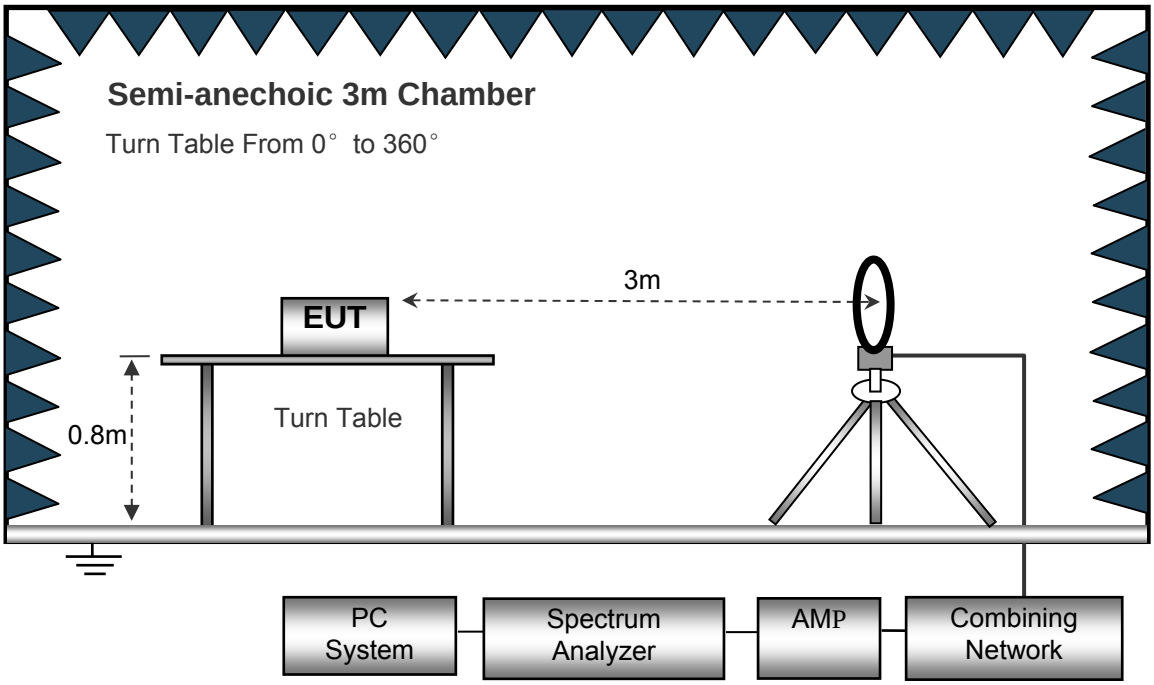
EUT Operation **:**

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

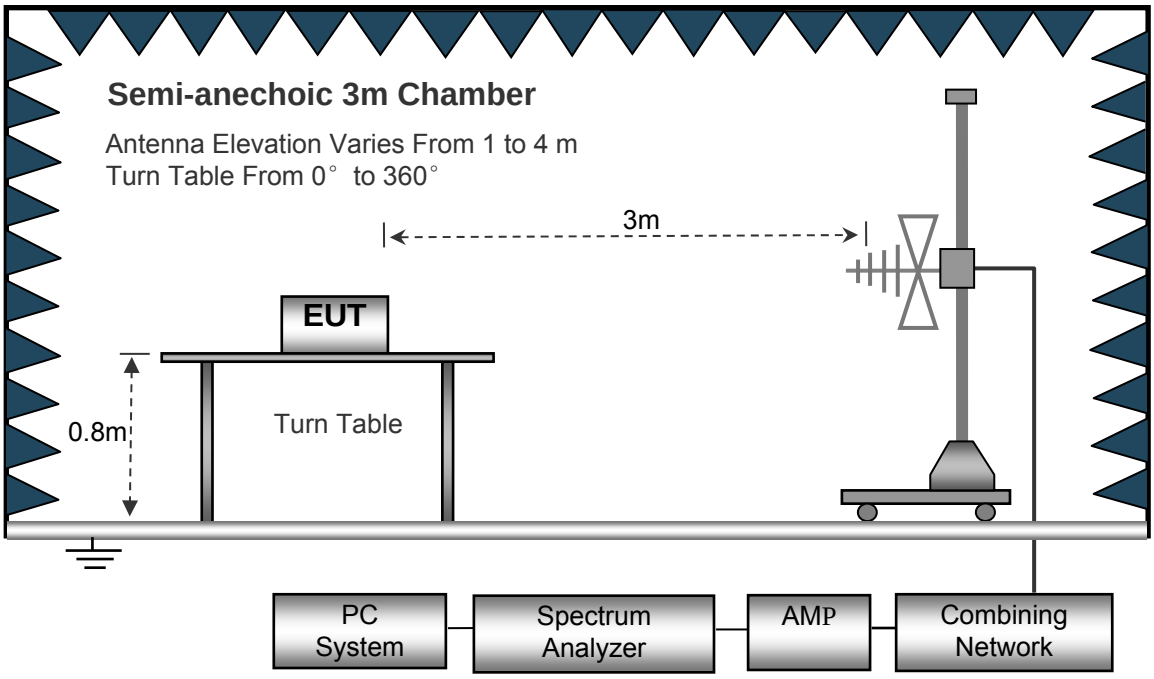
9.2 Test Setup

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

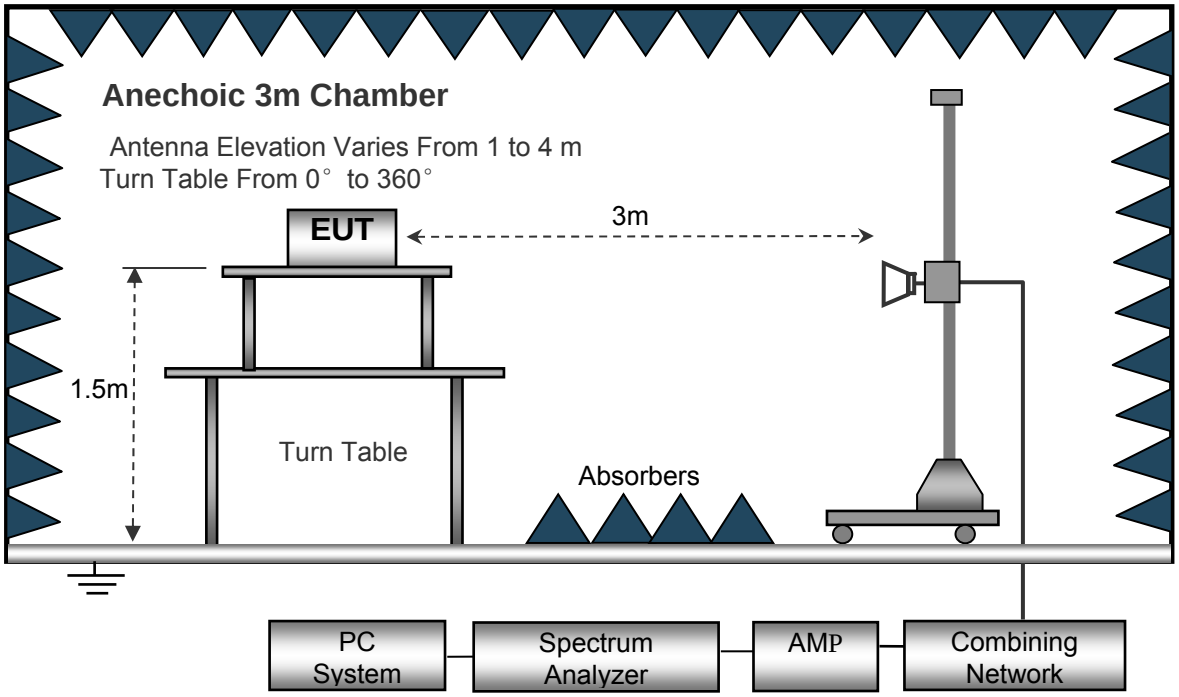
The test setup for emission measurement below 30MHz.



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
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

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 druing 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:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - 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:

Margin = Corr. Ampl. – Limit

9.6 Summary of Test Results

Test Frequency: 9KHz~30MHz

Frequency	Measurement results dBμV @3m	Detector PK/QP	Correct factor dB/m	Extrapolation factor dB	Measurement results (calculated) dBμV/m @30m	Limits dBμV/m @30m	Margin dB
(MHz)	Measurement results	Detector	Correct factor	Extrapolation factor	Measurement results (calculated)	Limits	Margin
U-NII-1:802.11a 5180MHz							
6.021	25.12	QP	21.84	40.00	6.96	29.54	-22.58
15.730	25.34	QP	21.35	40.00	6.69	29.54	-22.85
25.680	25.27	QP	20.67	40.00	5.94	29.54	-23.60
U-NII-1:802.11n20 5180MHz							
6.021	25.42	QP	21.84	40.00	7.26	29.54	-22.28
15.730	25.36	QP	21.35	40.00	6.71	29.54	-22.83
25.680	25.22	QP	20.67	40.00	5.89	29.54	-23.65
U-NII-1:802.11ac 20 5180MHz							
6.021	26.47	QP	21.84	40.00	8.31	29.54	-21.23
15.730	26.16	QP	21.35	40.00	7.51	29.54	-22.03
25.680	25.24	QP	20.67	40.00	5.91	29.54	-23.63
U-NII-1:802.11n40 5190MHz							
6.021	26.37	QP	21.84	40.00	8.21	29.54	-21.33
15.730	26.46	QP	21.35	40.00	7.81	29.54	-21.73
25.680	25.29	QP	20.67	40.00	5.96	29.54	-23.58
U-NII-1:802.11ac40 5190MHz							
6.021	25.32	QP	21.84	40.00	7.16	29.54	-22.38
15.730	25.41	QP	21.35	40.00	6.76	29.54	-22.78
25.680	24.19	QP	20.67	40.00	4.86	29.54	-24.68
U-NII-1:802.11ac80 5210MHz							
6.021	25.07	QP	21.84	40.00	6.91	29.54	-22.63
15.730	25.43	QP	21.35	40.00	6.78	29.54	-22.76
25.680	24.17	QP	20.67	40.00	4.84	29.54	-24.70

Frequency	Measurement results dBμV @3m	Detector PK/QP	Correct factor dB/m	Extrapolation factor dB	Measurement results (calculated) dBμV/m @30m	Limits dBμV/m @30m	Margin dB
(MHz)	Measurement results	Detector	Correct factor	Extrapolation factor	Measurement results (calculated)	Limits	Margin
U-NII-2A:802.11a 5260MHz							
6.021	25.17	QP	21.84	40.00	7.01	29.54	-22.53
15.730	24.53	QP	21.35	40.00	5.88	29.54	-23.66
25.680	24.47	QP	20.67	40.00	5.14	29.54	-24.40
U-NII-2A:802.11n20 5260MHz							
6.021	25.67	QP	21.84	40.00	7.51	29.54	-22.03
15.730	24.51	QP	21.35	40.00	5.86	29.54	-23.68
25.680	24.40	QP	20.67	40.00	5.07	29.54	-24.47
U-NII-2A:802.11ac 5260MHz							
6.021	25.57	QP	21.84	40.00	7.41	29.54	-22.13
15.730	25.31	QP	21.35	40.00	6.66	29.54	-22.88
25.680	24.64	QP	20.67	40.00	5.31	29.54	-24.23
U-NII-2A:802.11n40 5270MHz							
6.021	25.50	QP	21.84	40.00	7.34	29.54	-22.20
15.730	25.35	QP	21.35	40.00	6.70	29.54	-22.84
25.680	24.62	QP	20.67	40.00	5.29	29.54	-24.25
U-NII-2A:802.11ac40 5270MHz							
6.021	25.25	QP	21.84	40.00	7.09	29.54	-22.45
15.730	24.33	QP	21.35	40.00	5.68	29.54	-23.86
25.680	25.28	QP	20.67	40.00	5.95	29.54	-23.59
U-NII-2A:802.11ac80 5290MHz							
6.021	25.55	QP	21.84	40.00	7.39	29.54	-22.15
15.730	24.39	QP	21.35	40.00	5.74	29.54	-23.80
25.680	25.68	QP	20.67	40.00	6.35	29.54	-23.19

Frequency	Measurement results dBμV @3m	Detector PK/QP	Correct factor dB/m	Extrapolation factor dB	Measurement results (calculated) dBμV/m @30m	Limits dBμV/m @30m	Margin dB
(MHz)	Measurement results	Detector	Correct factor	Extrapolation factor	Measurement results (calculated)	Limits	Margin
U-NII-2C:802.11a 5500MHz							
6.021	24.34	QP	21.84	40.00	6.18	29.54	-23.36
15.730	24.50	QP	21.35	40.00	5.85	29.54	-23.69
25.680	25.06	QP	20.67	40.00	5.73	29.54	-23.81
U-NII-2C:802.11n20 5500MHz							
6.021	24.11	QP	21.84	40.00	5.95	29.54	-23.59
15.730	24.74	QP	21.35	40.00	6.09	29.54	-23.45
25.680	25.10	QP	20.67	40.00	5.77	29.54	-23.77
U-NII-2C:802.11ac20 5500MHz							
6.021	24.13	QP	21.84	40.00	5.97	29.54	-23.57
15.730	24.75	QP	21.35	40.00	6.10	29.54	-23.44
25.680	25.91	QP	20.67	40.00	6.58	29.54	-22.96
U-NII-2C:802.11n40 5510MHz							
6.021	25.44	QP	21.84	40.00	7.28	29.54	-22.26
15.730	25.68	QP	21.35	40.00	7.03	29.54	-22.51
25.680	25.12	QP	20.67	40.00	5.79	29.54	-23.75
U-NII-2C:802.11ac40 5510MHz							
6.021	25.63	QP	21.84	40.00	7.47	29.54	-22.07
15.730	24.58	QP	21.35	40.00	5.93	29.54	-23.61
25.680	25.33	QP	20.67	40.00	6.00	29.54	-23.54
U-NII-2C:802.11ac80 5530MHz							
6.021	24.58	QP	21.84	40.00	6.42	29.54	-23.12
15.730	25.17	QP	21.35	40.00	6.52	29.54	-23.02
25.680	24.56	QP	20.67	40.00	5.23	29.54	-24.31

Frequency	Measurement results dBμV @3m	Detector PK/QP	Correct factor dB/m	Extrapolation factor dB	Measurement results (calculated) dBμV/m @30m	Limits dBμV/m @30m	Margin dB
(MHz)	Measurement results	Detector	Correct factor	Extrapolation factor	Measurement results (calculated)	Limits	Margin
U-NII-3 802.11a 5745MHz							
6.021	25.45	QP	21.84	40.00	7.29	29.54	-22.25
15.730	25.31	QP	21.35	40.00	6.66	29.54	-22.88
25.680	25.48	QP	20.67	40.00	6.15	29.54	-23.39
U-NII-3 802.11n20 5745MHz							
6.021	25.44	QP	21.84	40.00	7.28	29.54	-22.26
15.730	25.61	QP	21.35	40.00	6.96	29.54	-22.58
25.680	25.38	QP	20.67	40.00	6.05	29.54	-23.49
U-NII-3 802.11ac 5745MHz							
6.021	25.74	QP	21.84	40.00	7.58	29.54	-21.96
15.730	25.49	QP	21.35	40.00	6.84	29.54	-22.70
25.680	25.88	QP	20.67	40.00	6.55	29.54	-22.99
U-NII-3 802.11n40 5755MHz							
6.021	24.84	QP	21.84	40.00	6.68	29.54	-22.86
15.730	24.40	QP	21.35	40.00	5.75	29.54	-23.79
25.680	25.86	QP	20.67	40.00	6.53	29.54	-23.01
U-NII-3 802.11ac40 5755MHz							
6.021	24.14	QP	21.84	40.00	5.98	29.54	-23.56
15.730	24.09	QP	21.35	40.00	5.44	29.54	-24.10
25.680	25.16	QP	20.67	40.00	5.83	29.54	-23.71
U-NII-3 802.11ac80 5775MHz							
6.021	25.06	QP	21.84	40.00	6.90	29.54	-22.64
15.730	24.09	QP	21.35	40.00	5.44	29.54	-24.10
25.680	25.18	QP	20.67	40.00	5.85	29.54	-23.69

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									
223.45	41.09	QP	324	1.9	H	-11.62	29.47	46.00	-16.53
223.45	36.76	QP	224	1.5	V	-11.62	25.14	46.00	-20.86
4533.83	50.48	PK	56	1.4	H	-2.03	48.45	74.00	-25.55
4533.83	41.12	Ave	56	1.4	H	-2.03	39.09	54.00	-14.91
5143.88	52.55	PK	169	1.5	H	-1.02	51.53	74.00	-22.47
5143.88	40.19	Ave	169	1.5	H	-1.02	39.17	54.00	-14.83
10360.00	41.06	PK	334	1.2	H	5.33	46.39	74.00	-27.61
10360.00	36.25	Ave	334	1.2	H	5.33	41.58	54.00	-12.42
802.11a U-NII-1 Middle channel 5200MHz									
223.45	39.74	QP	310	1.4	H	-11.62	28.12	46.00	-17.88
223.45	35.82	QP	120	1.5	V	-11.62	24.20	46.00	-21.80
4511.07	50.24	PK	319	1.2	H	-1.94	48.30	74.00	-25.70
4511.07	42.48	Ave	319	1.2	H	-1.94	40.54	54.00	-13.46
5134.48	53.49	PK	110	1.1	H	-1.06	52.43	74.00	-21.57
5134.48	39.74	Ave	110	1.1	H	-1.06	38.68	54.00	-15.32
10400.00	39.99	PK	284	1.3	H	5.21	45.20	74.00	-28.80
10400.00	35.78	Ave	284	1.3	H	5.21	40.99	54.00	-13.01

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)
802.11a U-NII-1 High channel 5240MHz									
223.45	40.34	QP	179	1.6	H	-11.62	28.72	46.00	-17.28
223.45	37.27	QP	90	1.0	V	-11.62	25.65	46.00	-20.35
4539.25	50.14	PK	216	1.9	H	-2.24	47.90	74.00	-26.10
4539.25	41.55	Ave	216	1.9	H	-2.24	39.31	54.00	-14.69
5149.51	52.91	PK	111	1.4	H	-1.09	51.82	74.00	-22.18
5149.51	40.94	Ave	111	1.4	H	-1.09	39.85	54.00	-14.15
10480.00	42.19	PK	88	1.1	H	5.14	47.33	74.00	-26.67
10480.00	35.89	Ave	88	1.1	H	5.14	41.03	54.00	-12.97
802.11a U-NII-2A Low Channel 5260MHz									
223.45	41.05	QP	305	1.3	H	-11.62	29.43	46.00	-16.57
223.45	36.26	QP	285	1.4	V	-11.62	24.64	46.00	-21.36
4500.60	50.44	PK	52	1.2	H	-2.03	48.41	74.00	-25.59
4500.60	46.32	Ave	52	1.2	H	-2.03	44.29	54.00	-9.71
5144.53	52.53	PK	297	1.2	H	-1.02	51.51	74.00	-22.49
5144.53	41.18	Ave	297	1.2	H	-1.02	40.16	54.00	-13.84
10520.00	41.08	PK	221	1.3	H	5.33	46.41	74.00	-27.59
10520.00	36.85	Ave	221	1.3	H	5.33	42.18	54.00	-11.82

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-2A middle channel 5280MHz									
223.45	40.95	QP	23	1.5	H	-11.62	29.33	46.00	-16.67
223.45	35.72	QP	147	1.9	V	-11.62	24.10	46.00	-21.90
4522.51	51.74	PK	360	1.5	H	-1.94	49.80	74.00	-24.20
4522.51	46.33	Ave	360	1.5	H	-1.94	44.39	54.00	-9.61
5133.50	52.25	PK	131	1.9	H	-1.06	51.19	74.00	-22.81
5133.50	40.55	Ave	131	1.9	H	-1.06	39.49	54.00	-14.51
10560.00	41.45	PK	91	1.2	H	5.21	46.66	74.00	-27.34
10560.00	36.65	Ave	91	1.2	H	5.21	41.86	54.00	-12.14
802.11a U-NII-2A High channel 5320MHz									
223.45	41.98	QP	49	1.6	H	-11.62	30.36	46.00	-15.64
223.45	36.51	QP	242	1.5	V	-11.62	24.89	46.00	-21.11
4524.63	51.35	PK	307	1.6	H	-2.24	49.11	74.00	-24.89
4524.63	45.52	Ave	307	1.6	H	-2.24	43.28	54.00	-10.72
5145.33	52.02	PK	48	1.5	H	-1.09	50.93	74.00	-23.07
5145.33	41.64	Ave	48	1.5	H	-1.09	40.55	54.00	-13.45
10640.00	40.91	PK	331	1.5	H	5.14	46.05	68.20	-22.15
10640.00	37.61	Ave	331	1.5	H	5.14	42.75	54.00	-11.25

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-2C Low Channel 5500MHz									
223.45	41.53	QP	46	1.2	H	-11.62	29.91	46.00	-16.09
223.45	36.23	QP	74	1.6	V	-11.62	24.61	46.00	-21.39
4515.12	50.40	PK	176	1.7	H	-2.03	48.37	74.00	-25.63
4515.12	42.37	Ave	176	1.7	H	-2.03	40.34	54.00	-13.66
5112.17	52.55	PK	104	2.0	H	-1.02	51.53	74.00	-22.47
5112.17	44.88	Ave	104	2.0	H	-1.02	43.86	54.00	-10.14
11000.00	41.09	PK	271	1.3	H	5.33	46.42	68.20	-21.78
11000.00	36.85	Ave	271	1.3	H	5.33	42.18	54.00	-11.82
802.11a U-NII-2C Middle channel 5600MHz									
223.45	42.87	QP	190	1.9	H	-11.62	31.25	46.00	-14.75
223.45	37.44	QP	44	1.3	V	-11.62	25.82	46.00	-20.18
4528.25	51.20	PK	244	1.4	H	-1.94	49.26	74.00	-24.74
4528.25	41.94	Ave	244	1.4	H	-1.94	40.00	54.00	-14.00
5120.09	53.31	PK	61	1.2	H	-1.06	52.25	74.00	-21.75
5120.09	45.21	Ave	61	1.2	H	-1.06	44.15	54.00	-9.85
11200.00	40.85	PK	313	1.5	H	5.21	46.06	68.20	-22.14
11200.00	37.37	Ave	313	1.5	H	5.21	42.58	54.00	-11.42

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-2C High channel 5700MHz									
223.45	42.50	QP	59	1.0	H	-11.62	30.88	46.00	-15.12
223.45	37.40	QP	176	1.9	V	-11.62	25.78	46.00	-20.22
4523.92	50.03	PK	97	1.7	H	-2.24	47.79	74.00	-26.21
4523.92	41.98	Ave	97	1.7	H	-2.24	39.74	54.00	-14.26
5136.12	54.41	PK	328	1.2	H	-1.09	53.32	74.00	-20.68
5136.12	46.72	Ave	328	1.2	H	-1.09	45.63	54.00	-8.37
11400.00	39.60	PK	302	1.8	H	5.14	44.74	68.20	-23.46
11400.00	37.73	Ave	302	1.8	H	5.14	42.87	54.00	-11.13
802.11a U-NII-3 Low Channel 5745MHz									
223.45	44.15	QP	248	1.9	H	-11.62	32.53	46.00	-13.47
223.45	34.33	QP	53	1.5	V	-11.62	22.71	46.00	-23.29
4503.15	49.23	PK	284	1.6	H	-2.06	47.17	74.00	-26.83
4503.15	41.36	Ave	284	1.6	H	-2.06	39.30	54.00	-14.70
11490.00	41.57	PK	276	1.5	H	5.93	47.50	68.20	-20.70
11490.00	37.02	Ave	276	1.5	H	5.93	42.95	54.00	-11.05
5360.09	46.06	PK	308	1.6	H	-1.25	44.81	74.00	-29.19
5360.09	39.06	Ave	308	1.6	H	-1.25	37.81	54.00	-16.19

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 U-NII-3 middle channel 5785MHz									
223.45	44.39	QP	287	1.8	H	-11.62	32.77	46.00	-13.23
223.45	35.06	QP	15	1.8	V	-11.62	23.44	46.00	-22.56
4532.67	47.97	PK	216	1.8	H	-2.03	45.94	74.00	-28.06
4532.67	40.52	Ave	216	1.8	H	-2.03	38.49	54.00	-15.51
11570.00	40.08	PK	259	1.1	H	5.81	45.89	68.20	-22.31
11570.00	37.32	Ave	259	1.1	H	5.81	43.13	54.00	-10.87
5380.94	45.03	PK	8	1.8	H	-1.22	43.81	74.00	-30.19
5380.94	38.18	Ave	8	1.8	H	-1.22	36.96	54.00	-17.04
802.11a U-NII-3 High channel 5825MHz									
223.45	44.37	QP	7	1.3	H	-11.62	32.75	46.00	-13.25
223.45	36.11	QP	82	1.9	V	-11.62	24.49	46.00	-21.51
4519.94	47.98	PK	230	1.2	H	-1.84	46.14	74.00	-27.86
4519.94	41.04	Ave	230	1.2	H	-1.84	39.20	54.00	-14.80
11650.00	39.83	PK	17	1.2	H	5.84	45.67	68.20	-22.53
11650.00	35.03	Ave	17	1.2	H	5.84	40.87	54.00	-13.13
5384.66	45.19	PK	336	1.2	H	-1.30	43.89	74.00	-30.11
5384.66	38.34	Ave	336	1.2	H	-1.30	37.04	54.00	-16.96

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									
223.45	45.26	QP	255	1.0	H	-11.62	33.64	46.00	-12.36
223.45	35.38	QP	201	1.2	V	-11.62	23.76	46.00	-22.24
4529.99	48.01	PK	102	1.9	H	-2.14	45.87	74.00	-28.13
4529.99	39.91	Ave	102	1.9	H	-2.14	37.77	54.00	-16.23
5143.80	45.79	PK	76	1.1	H	-1.06	44.73	74.00	-29.27
5143.80	39.30	Ave	76	1.1	H	-1.06	38.24	54.00	-15.76
10360.00	41.04	PK	357	1.0	H	5.33	46.37	74.00	-27.63
10360.00	35.24	Ave	357	1.0	H	5.33	40.57	54.00	-13.43
802.11n(HT20) U-NII-1 Middle channel 5200MHz									
223.45	46.02	QP	244	1.9	H	-11.62	34.40	46.00	-11.60
223.45	34.60	QP	282	1.8	V	-11.62	22.98	46.00	-23.02
4534.98	46.63	PK	276	1.3	H	-2.12	44.51	74.00	-29.49
4534.98	40.33	Ave	276	1.3	H	-2.12	38.21	54.00	-15.79
5139.67	46.40	PK	298	1.3	H	-1.06	45.34	74.00	-28.66
5139.67	39.55	Ave	298	1.3	H	-1.06	38.49	54.00	-15.51
10400.00	40.91	PK	312	1.9	H	5.21	46.12	74.00	-27.88
10400.00	35.02	Ave	312	1.9	H	5.21	40.23	54.00	-13.77

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									
223.45	42.35	QP	345	1.8	H	-11.62	30.73	46.00	-15.27
223.45	39.87	QP	20	2.0	V	-11.62	28.25	46.00	-17.75
4533.79	53.93	PK	37	1.2	H	-1.96	51.97	74.00	-22.03
4533.79	38.42	Ave	37	1.2	H	-1.96	36.46	54.00	-17.54
5133.53	46.14	PK	356	1.8	H	-1.06	45.08	74.00	-28.92
5133.53	42.33	Ave	356	1.8	H	-1.06	41.27	54.00	-12.73
10480.00	39.62	PK	322	1.4	H	5.14	44.76	74.00	-29.24
10480.00	35.52	Ave	322	1.4	H	5.14	40.66	54.00	-13.34
802.11n(HT20) U-NII-2A Low Channel 5260MHz									
223.45	44.56	QP	317	1.5	H	-11.62	32.94	46.00	-13.06
223.45	35.01	QP	343	1.8	V	-11.62	23.39	46.00	-22.61
4520.24	46.25	PK	59	1.3	H	-2.03	44.22	74.00	-29.78
4520.24	41.36	Ave	59	1.3	H	-2.03	39.33	54.00	-14.67
5132.99	46.86	PK	311	1.8	H	-1.02	45.84	74.00	-28.16
5132.99	40.70	Ave	311	1.8	H	-1.02	39.68	54.00	-14.32
10520.00	42.39	PK	302	1.1	H	5.33	47.72	74.00	-26.28
10520.00	37.48	Ave	302	1.1	H	5.33	42.81	54.00	-11.19

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)
802.11n(HT20) U-NII-2A middle channel 5280MHz									
223.45	44.05	QP	178	1.5	H	-11.62	32.43	46.00	-13.57
223.45	33.82	QP	303	1.1	V	-11.62	22.20	46.00	-23.80
4535.52	46.13	PK	26	1.6	H	-1.94	44.19	74.00	-29.81
4535.52	41.05	Ave	26	1.6	H	-1.94	39.11	54.00	-14.89
5142.03	46.51	PK	122	1.0	H	-1.06	45.45	74.00	-28.55
5142.03	40.93	Ave	122	1.0	H	-1.06	39.87	54.00	-14.13
10560.00	43.65	PK	333	1.5	H	5.21	48.86	74.00	-25.14
10560.00	37.94	Ave	333	1.5	H	5.21	43.15	54.00	-10.85
802.11n(HT20) U-NII-2A High channel 5320MHz									
223.45	42.69	QP	269	1.1	H	-11.62	31.07	46.00	-14.93
223.45	33.40	QP	34	1.8	V	-11.62	21.78	46.00	-24.22
4526.90	45.86	PK	300	1.4	H	-2.24	43.62	74.00	-30.38
4526.90	40.67	Ave	300	1.4	H	-2.24	38.43	54.00	-15.57
5146.80	47.94	PK	92	1.4	H	-1.09	46.85	74.00	-27.15
5146.80	41.95	Ave	92	1.4	H	-1.09	40.86	54.00	-13.14
10640.00	43.13	PK	166	1.7	H	5.14	48.27	68.20	-19.93
10640.00	38.84	Ave	166	1.7	H	5.14	43.98	54.00	-10.02

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-2C Low Channel 5500MHz									
223.45	43.01	QP	227	1.4	H	-11.62	31.39	46.00	-14.61
223.45	33.21	QP	301	1.2	V	-11.62	21.59	46.00	-24.41
4509.05	45.43	PK	188	1.6	H	-2.03	43.40	74.00	-30.60
4509.05	40.65	Ave	188	1.6	H	-2.03	38.62	54.00	-15.38
5130.27	48.62	PK	335	1.2	H	-1.02	47.60	74.00	-26.40
5130.27	40.97	Ave	335	1.2	H	-1.02	39.95	54.00	-14.05
11000.00	42.87	PK	259	1.2	H	5.33	48.20	68.20	-20.00
11000.00	40.03	Ave	259	1.2	H	5.33	45.36	54.00	-8.64
802.11n(HT20) U-NII-2C Middle channel 5600MHz									
223.45	43.61	QP	260	2.0	H	-11.62	31.99	46.00	-14.01
223.45	34.22	QP	321	1.4	V	-11.62	22.60	46.00	-23.40
4506.48	44.73	PK	299	1.8	H	-1.94	42.79	74.00	-31.21
4506.48	41.72	Ave	299	1.8	H	-1.94	39.78	54.00	-14.22
5110.45	50.38	PK	64	1.2	H	-1.06	49.32	74.00	-24.68
5110.45	41.71	Ave	64	1.2	H	-1.06	40.65	54.00	-13.35
11200.00	42.92	PK	339	1.3	H	5.21	48.13	68.20	-20.07
11200.00	38.59	Ave	339	1.3	H	5.21	43.80	54.00	-10.20

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-2C High channel 5700MHz									
223.45	42.35	QP	286	2.0	H	-11.62	30.73	46.00	-15.27
223.45	33.89	QP	322	1.6	V	-11.62	22.27	46.00	-23.73
4516.20	44.17	PK	79	1.3	H	-2.24	41.93	74.00	-32.07
4516.20	42.51	Ave	79	1.3	H	-2.24	40.27	54.00	-13.73
5125.69	51.79	PK	298	1.2	H	-1.09	50.70	74.00	-23.30
5125.69	42.14	Ave	298	1.2	H	-1.09	41.05	54.00	-12.95
11400.00	41.91	PK	110	1.1	H	5.14	47.05	68.20	-21.15
11400.00	40.40	Ave	110	1.1	H	5.14	45.54	54.00	-8.46
802.11n(HT20) U-NII-3 Low Channel 5745MHz									
223.45	35.04	QP	327	1.4	H	-11.62	23.42	46.00	-22.58
223.45	47.89	QP	53	1.4	V	-11.62	36.27	46.00	-9.73
4519.68	36.94	PK	154	1.6	H	-2.06	34.88	74.00	-39.12
4519.68	46.95	Ave	154	1.6	H	-2.06	44.89	54.00	-9.11
11490.00	35.08	PK	282	1.4	H	5.93	41.01	68.20	-27.19
11490.00	45.86	Ave	282	1.4	H	5.93	51.79	54.00	-2.21
5357.96	45.14	PK	152	1.6	H	-1.25	43.89	74.00	-30.11
5357.96	37.97	Ave	152	1.6	H	-1.25	36.72	54.00	-17.28

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									
223.45	35.23	QP	31	1.7	H	-11.62	23.61	46.00	-22.39
223.45	48.17	QP	306	1.8	V	-11.62	36.55	46.00	-9.45
4527.37	37.22	PK	256	1.4	H	-2.03	35.19	74.00	-38.81
4527.37	46.17	Ave	256	1.4	H	-2.03	44.14	54.00	-9.86
11570.00	36.17	PK	202	1.3	H	5.81	41.98	68.20	-26.22
11570.00	47.51	Ave	202	1.3	H	5.81	53.32	54.00	-0.68
5378.49	45.91	PK	105	1.6	H	-1.22	44.69	74.00	-29.31
5378.49	39.53	Ave	105	1.6	H	-1.22	38.31	54.00	-15.69
802.11n(HT20) U-NII-3 High channel 5825MHz									
223.45	35.75	QP	110	1.7	H	-11.62	24.13	46.00	-21.87
223.45	48.17	QP	315	1.6	V	-11.62	36.55	46.00	-9.45
4528.55	37.75	PK	39	1.7	H	-1.84	35.91	74.00	-38.09
4528.55	46.80	Ave	39	1.7	H	-1.84	44.96	54.00	-9.04
11650.00	34.60	PK	309	1.9	H	5.84	40.44	68.20	-27.76
11650.00	47.48	Ave	309	1.9	H	5.84	53.32	54.00	-0.68
5389.41	45.88	PK	331	1.8	H	-1.30	44.58	74.00	-29.42
5389.41	37.97	Ave	331	1.8	H	-1.30	36.67	54.00	-17.33

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) U-NII-1 Low Channel 5180MHz									
223.45	35.87	QP	125	1.6	H	-11.62	24.25	46.00	-21.75
223.45	47.45	QP	214	1.7	V	-11.62	35.83	46.00	-10.17
4537.00	46.39	PK	279	1.7	H	-1.86	44.53	74.00	-29.47
4537.00	38.90	Ave	279	1.7	H	-1.86	37.04	54.00	-16.96
5111.51	37.69	PK	273	1.8	H	-1.06	36.63	74.00	-37.37
5111.51	34.88	Ave	273	1.8	H	-1.06	33.82	54.00	-20.18
10360.00	45.98	PK	118	2.0	H	5.33	51.31	74.00	-22.69
10360.00	38.74	Ave	118	2.0	H	5.33	44.07	54.00	-9.93
802.11ac(HT20) U-NII-1 Middle channel 5200MHz									
223.45	36.53	QP	136	1.1	H	-11.62	24.91	46.00	-21.09
223.45	47.52	QP	98	1.3	V	-11.62	35.90	46.00	-10.10
4507.28	47.37	PK	222	1.9	H	-1.82	45.55	74.00	-28.45
4507.28	38.56	Ave	222	1.9	H	-1.82	36.74	54.00	-17.26
5139.57	37.39	PK	92	1.4	H	-1.06	36.33	74.00	-37.67
5139.57	33.95	Ave	92	1.4	H	-1.06	32.89	54.00	-21.11
10400.00	40.69	PK	160	1.8	H	5.21	45.90	74.00	-28.10
10400.00	36.61	Ave	160	1.8	H	5.21	41.82	54.00	-12.18

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) U-NII-1 High channel 5240MHz									
223.45	36.57	QP	322	1.3	H	-11.62	24.95	46.00	-21.05
223.45	47.15	QP	89	1.4	V	-11.62	35.53	46.00	-10.47
4509.75	46.71	PK	223	1.1	H	-1.81	44.90	74.00	-29.10
4509.75	38.08	Ave	223	1.1	H	-1.81	36.27	54.00	-17.73
5115.41	38.47	PK	46	1.7	H	-1.06	37.41	74.00	-36.59
5115.41	33.92	Ave	46	1.7	H	-1.06	32.86	54.00	-21.14
10480.00	40.80	PK	134	1.9	H	5.14	45.94	74.00	-28.06
10480.00	35.33	Ave	134	1.9	H	5.14	40.47	54.00	-13.53
802.11ac(HT20) U-NII-2A Low Channel 5260MHz									
223.45	36.98	QP	6	1.7	H	-11.62	25.36	46.00	-20.64
223.45	34.33	QP	296	1.2	V	-11.62	22.71	46.00	-23.29
4508.96	41.09	PK	74	1.4	H	-2.03	39.06	74.00	-34.94
4508.96	33.99	Ave	74	1.4	H	-2.03	31.96	54.00	-22.04
5115.84	44.18	PK	1	1.8	H	-1.02	43.16	74.00	-30.84
5115.84	40.66	Ave	1	1.8	H	-1.02	39.64	54.00	-14.36
10520.00	38.74	PK	336	1.7	H	5.33	44.07	74.00	-29.93
10520.00	34.62	Ave	336	1.7	H	5.33	39.95	54.00	-14.05

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) U-NII-2A middle channel 5280MHz									
223.45	37.58	QP	259	1.1	H	-11.62	25.96	46.00	-20.04
223.45	34.57	QP	34	1.6	V	-11.62	22.95	46.00	-23.05
4515.11	42.06	PK	355	1.9	H	-1.94	40.12	74.00	-33.88
4515.11	33.33	Ave	355	1.9	H	-1.94	31.39	54.00	-22.61
5148.20	44.34	PK	358	1.4	H	-1.06	43.28	74.00	-30.72
5148.20	42.11	Ave	358	1.4	H	-1.06	41.05	54.00	-12.95
10560.00	39.55	PK	35	1.6	H	5.21	44.76	74.00	-29.24
10560.00	33.92	Ave	35	1.6	H	5.21	39.13	54.00	-14.87
802.11ac(HT20) U-NII-2A High channel 5320MHz									
223.45	38.25	QP	150	1.1	H	-11.62	26.63	46.00	-19.37
223.45	33.48	QP	60	1.3	V	-11.62	21.86	46.00	-24.14
4508.24	41.65	PK	61	2.0	H	-2.24	39.41	74.00	-34.59
4508.24	32.56	Ave	61	2.0	H	-2.24	30.32	54.00	-23.68
5126.64	44.13	PK	183	1.2	H	-1.09	43.04	74.00	-30.96
5126.64	44.08	Ave	183	1.2	H	-1.09	42.99	54.00	-11.01
10640.00	37.91	PK	98	1.5	H	5.14	43.05	68.20	-25.15
10640.00	34.02	Ave	98	1.5	H	5.14	39.16	54.00	-14.84

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) U-NII-2C Low Channel 5500MHz									
223.45	38.87	QP	155	1.4	H	-11.62	27.25	46.00	-18.75
223.45	33.44	QP	248	1.4	V	-11.62	21.82	46.00	-24.18
4504.85	42.37	PK	63	1.4	H	-2.03	40.34	74.00	-33.66
4504.85	32.29	Ave	63	1.4	H	-2.03	30.26	54.00	-23.74
5133.05	43.71	PK	101	1.1	H	-1.02	42.69	74.00	-31.31
5133.05	44.20	Ave	101	1.1	H	-1.02	43.18	54.00	-10.82
11000.00	38.38	PK	78	1.9	H	5.33	43.71	68.20	-24.49
11000.00	34.32	Ave	78	1.9	H	5.33	39.65	54.00	-14.35
802.11ac(HT20) U-NII-2C Middle channel 5600MHz									
223.45	37.58	QP	290	1.1	H	-11.62	25.96	46.00	-20.04
223.45	33.57	QP	186	1.6	V	-11.62	21.95	46.00	-24.05
4526.53	42.73	PK	275	1.1	H	-1.94	40.79	74.00	-33.21
4526.53	33.35	Ave	275	1.1	H	-1.94	31.41	54.00	-22.59
5112.01	44.77	PK	216	1.4	H	-1.06	43.71	74.00	-30.29
5112.01	46.01	Ave	216	1.4	H	-1.06	44.95	54.00	-9.05
11200.00	38.07	PK	127	1.1	H	5.21	43.28	68.20	-24.92
11200.00	33.24	Ave	127	1.1	H	5.21	38.45	54.00	-15.55

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) U-NII-2C High channel 5700MHz									
223.45	36.49	QP	66	1.4	H	-11.62	24.87	46.00	-21.13
223.45	34.20	QP	194	1.8	V	-11.62	22.58	46.00	-23.42
4510.87	43.10	PK	16	1.2	H	-2.24	40.86	74.00	-33.14
4510.87	32.60	Ave	16	1.2	H	-2.24	30.36	54.00	-23.64
5129.27	45.91	PK	235	1.2	H	-1.09	44.82	74.00	-29.18
5129.27	47.14	Ave	235	1.2	H	-1.09	46.05	54.00	-7.95
11400.00	38.04	PK	248	1.4	H	5.14	43.18	68.20	-25.02
11400.00	33.82	Ave	248	1.4	H	5.14	38.96	54.00	-15.04
802.11ac(HT20) U-NII-3 Low Channel 5745MHz									
223.45	37.18	QP	87	1.4	H	-11.62	25.56	46.00	-20.44
223.45	45.07	QP	88	1.4	V	-11.62	33.45	46.00	-12.55
4509.56	40.59	PK	261	2.0	H	-1.92	38.67	74.00	-35.33
4509.56	37.42	Ave	261	2.0	H	-1.92	35.50	54.00	-18.50
11490.00	38.13	PK	9	1.5	H	5.93	44.06	68.20	-24.14
11490.00	33.72	Ave	9	1.5	H	5.93	39.65	54.00	-14.35
5373.77	45.50	PK	100	1.1	H	-1.03	44.47	74.00	-29.53
5373.77	38.59	Ave	100	1.1	H	-1.03	37.56	54.00	-16.44

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) U-NII-3 middle channel 5785MHz									
223.45	36.43	QP	103	1.0	H	-11.62	24.81	46.00	-21.19
223.45	45.55	QP	78	1.9	V	-11.62	33.93	46.00	-12.07
4525.17	40.96	PK	189	1.3	H	-1.97	38.99	74.00	-35.01
4525.17	37.60	Ave	189	1.3	H	-1.97	35.63	54.00	-18.37
11570.00	40.85	PK	9	1.4	H	5.81	46.66	68.20	-21.54
11570.00	37.08	Ave	9	1.4	H	5.81	42.89	54.00	-11.11
5368.46	46.50	PK	228	1.8	H	-1.05	45.45	74.00	-28.55
5368.46	38.39	Ave	228	1.8	H	-1.05	37.34	54.00	-16.66
802.11ac(HT20) U-NII-3 High channel 5825MHz									
223.45	36.98	QP	197	1.3	H	-11.62	25.36	46.00	-20.64
223.45	45.60	QP	64	1.3	V	-11.62	33.98	46.00	-12.02
4524.55	40.66	PK	284	1.7	H	-1.88	38.78	74.00	-35.22
4524.55	37.82	Ave	284	1.7	H	-1.88	35.94	54.00	-18.06
11650.00	40.06	PK	229	1.5	H	5.84	45.90	68.20	-22.30
11650.00	36.21	Ave	229	1.5	H	5.84	42.05	54.00	-11.95
5376.10	46.74	PK	149	1.1	H	-1.06	45.68	74.00	-28.32
5376.10	37.11	Ave	149	1.1	H	-1.06	36.05	54.00	-17.95

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									
223.45	38.00	QP	1	1.2	H	-11.62	26.38	46.00	-19.62
223.45	44.56	QP	261	1.5	V	-11.62	32.94	46.00	-13.06
4528.60	38.72	PK	293	2.0	H	-1.89	36.83	74.00	-37.17
4528.60	36.04	Ave	293	2.0	H	-1.89	34.15	54.00	-19.85
5118.10	46.76	PK	287	1.1	H	-1.06	45.70	74.00	-28.30
5118.10	40.26	Ave	287	1.1	H	-1.06	39.20	54.00	-14.80
10380.00	39.71	PK	7	1.5	H	5.26	44.97	74.00	-29.03
10380.00	33.91	Ave	7	1.5	H	5.26	39.17	54.00	-14.83
802.11n(HT40) U-NII-1 High channel 5230MHz									
223.45	37.56	QP	280	2.0	H	-11.62	25.94	46.00	-20.06
223.45	45.49	QP	323	1.1	V	-11.62	33.87	46.00	-12.13
4504.29	39.41	PK	114	1.5	H	-1.94	37.47	74.00	-36.53
4504.29	35.64	Ave	114	1.5	H	-1.94	33.70	54.00	-20.30
5145.51	45.85	PK	260	1.3	H	-1.06	44.79	74.00	-29.21
5145.51	41.27	Ave	260	1.3	H	-1.06	40.21	54.00	-13.79
10460.00	41.19	PK	199	1.8	H	5.28	46.47	74.00	-27.53
10480.00	36.84	Ave	199	1.8	H	5.28	42.12	54.00	-11.88

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)
802.11n(HT40) U-NII-2A Low Channel 5270MHz									
223.45	45.18	QP	339	1.2	H	-11.62	33.56	46.00	-12.44
223.45	42.14	QP	100	1.8	V	-11.62	30.52	46.00	-15.48
4536.07	40.59	PK	308	1.3	H	-1.89	38.70	74.00	-35.30
4536.07	36.52	Ave	308	1.3	H	-1.89	34.63	54.00	-19.37
5117.00	45.49	PK	207	1.9	H	-1.06	44.43	74.00	-29.57
5117.00	37.38	Ave	207	1.9	H	-1.06	36.32	54.00	-17.68
10540.00	47.36	PK	22	1.1	H	5.26	52.62	74.00	-21.38
10540.00	36.97	Ave	22	1.1	H	5.26	42.23	54.00	-11.77
802.11n(HT40) U-NII-2A High channel 5310MHz									
223.45	45.36	QP	13	1.7	H	-11.62	33.74	46.00	-12.26
223.45	43.10	QP	311	1.2	V	-11.62	31.48	46.00	-14.52
4528.22	41.43	PK	35	1.6	H	-1.94	39.49	74.00	-34.51
4528.22	37.30	Ave	35	1.6	H	-1.94	35.36	54.00	-18.64
5146.57	45.69	PK	49	1.9	H	-1.06	44.63	74.00	-29.37
5146.57	39.10	Ave	49	1.9	H	-1.06	38.04	54.00	-15.96
10620.00	40.31	PK	129	1.7	H	5.28	45.59	68.20	-22.61
10620.00	36.43	Ave	129	1.7	H	5.28	41.71	54.00	-12.29

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-2C Low Channel 5510MHz									
223.45	46.31	QP	314	1.5	H	-11.62	34.69	46.00	-11.31
223.45	38.15	QP	353	1.3	V	-11.62	26.53	46.00	-19.47
4533.73	40.75	PK	360	1.0	H	-1.89	38.86	74.00	-35.14
4533.73	36.59	Ave	360	1.0	H	-1.89	34.70	54.00	-19.30
5122.49	47.03	PK	82	1.1	H	-1.06	45.97	74.00	-28.03
5122.49	40.61	Ave	82	1.1	H	-1.06	39.55	54.00	-14.45
11020.00	44.87	PK	42	1.7	H	5.26	50.13	68.20	-18.07
11020.00	38.69	Ave	42	1.7	H	5.26	43.95	54.00	-10.05
802.11n(HT40) U-NII-2C Middle channel 5550MHz									
223.45	46.25	QP	318	1.7	H	-11.62	34.63	46.00	-11.37
223.45	38.60	QP	36	1.5	V	-11.62	26.98	46.00	-19.02
4520.02	40.52	PK	308	1.2	H	-1.94	38.58	74.00	-35.42
4520.02	36.97	Ave	308	1.2	H	-1.94	35.03	54.00	-18.97
5146.31	48.85	PK	29	1.3	H	-1.06	47.79	74.00	-26.21
5146.31	41.93	Ave	29	1.3	H	-1.06	40.87	54.00	-13.13
11100.00	46.52	PK	298	1.0	H	5.28	51.80	68.20	-16.40
11100.00	38.10	Ave	298	1.0	H	5.28	43.38	54.00	-10.62
802.11n(HT40) U-NII-2C High channel 5670MHz									
223.45	47.09	QP	235	1.7	H	-11.62	35.47	46.00	-10.53
223.45	39.21	QP	238	1.0	V	-11.62	27.59	46.00	-18.41
4500.87	40.45	PK	242	1.9	H	-1.94	38.51	74.00	-35.49
4500.87	37.32	Ave	242	1.9	H	-1.94	35.38	54.00	-18.62
5129.50	47.95	PK	305	1.9	H	-1.06	46.89	74.00	-27.11
5129.50	43.85	Ave	305	1.9	H	-1.06	42.79	54.00	-11.21
11340.00	41.44	PK	240	1.2	H	5.28	46.72	68.20	-21.48
11340.00	36.25	Ave	240	1.2	H	5.28	41.53	54.00	-12.47

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									
223.45	38.22	QP	287	1.2	H	-11.62	26.60	46.00	-19.40
223.45	44.87	QP	75	1.7	V	-11.62	33.25	46.00	-12.75
4529.87	38.18	PK	28	1.9	H	-1.96	36.22	74.00	-37.78
4529.87	33.18	Ave	28	1.9	H	-1.96	31.22	54.00	-22.78
11510.00	38.72	PK	35	1.3	H	5.88	44.60	68.20	-23.60
11510.00	33.45	Ave	35	1.3	H	5.88	39.33	54.00	-14.67
5387.32	45.48	PK	288	1.5	H	-1.01	44.47	74.00	-29.53
5387.32	39.18	Ave	288	1.5	H	-1.01	38.17	54.00	-15.83
802.11n(HT40) U-NII-3 High Channel 5795MHz									
223.45	38.09	QP	172	1.0	H	-11.62	26.47	46.00	-19.53
223.45	45.59	QP	291	2.0	V	-11.62	33.97	46.00	-12.03
4524.79	38.60	PK	218	1.5	H	-1.92	36.68	74.00	-37.32
4524.79	33.24	Ave	218	1.5	H	-1.92	31.32	54.00	-22.68
11590.00	41.45	PK	43	1.1	H	5.63	47.08	68.20	-21.12
11590.00	36.13	Ave	43	1.1	H	5.63	41.76	54.00	-12.24
5354.69	45.43	PK	123	1.4	H	-1.04	44.39	74.00	-29.61
5354.69	37.82	Ave	123	1.4	H	-1.04	36.78	54.00	-17.22

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)
802.11ac(HT40) U-NII-1 Low Channel 5190MHz									
223.45	39.13	QP	111	1.1	H	-11.62	27.51	46.00	-18.49
223.45	46.20	QP	243	1.5	V	-11.62	34.58	46.00	-11.42
4519.12	35.96	PK	191	1.4	H	-1.91	34.05	74.00	-39.95
4519.12	30.88	Ave	191	1.4	H	-1.91	28.97	54.00	-25.03
5110.98	47.41	PK	29	1.6	H	-1.06	46.35	74.00	-27.65
5110.98	36.97	Ave	29	1.6	H	-1.06	35.91	54.00	-18.09
10380.00	38.16	PK	37	1.4	H	5.26	43.42	74.00	-30.58
10380.00	34.87	Ave	37	1.4	H	5.26	40.13	54.00	-13.87
802.11ac(HT40) U-NII-1 High channel 5230MHz									
223.45	38.61	QP	351	1.1	H	-11.62	26.99	46.00	-19.01
223.45	46.17	QP	221	1.9	V	-11.62	34.55	46.00	-11.45
4502.11	36.67	PK	26	1.7	H	-1.93	34.74	74.00	-39.26
4502.11	31.51	Ave	26	1.7	H	-1.93	29.58	54.00	-24.42
5148.52	49.38	PK	185	1.3	H	-1.06	48.32	74.00	-25.68
5148.52	36.34	Ave	185	1.3	H	-1.06	35.28	54.00	-18.72
10460.00	41.60	PK	78	1.5	H	5.28	46.88	74.00	-27.12
10480.00	35.99	Ave	78	1.5	H	5.28	41.27	54.00	-12.73

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) U-NII-2A Low Channel 5270MHz									
223.45	48.53	QP	197	1.0	H	-11.62	36.91	46.00	-9.09
223.45	35.44	QP	52	1.0	V	-11.62	23.82	46.00	-22.18
4522.55	41.74	PK	208	1.7	H	-1.89	39.85	74.00	-34.15
4522.55	35.56	Ave	208	1.7	H	-1.89	33.67	54.00	-20.33
5130.32	48.29	PK	138	1.9	H	-1.06	47.23	74.00	-26.77
5130.32	41.01	Ave	138	1.9	H	-1.06	39.95	54.00	-14.05
10540.00	36.93	PK	202	1.7	H	5.26	42.19	74.00	-31.81
10540.00	52.45	Ave	202	1.7	H	5.26	57.71	54.00	3.71
802.11ac(HT40) U-NII-2A High channel 5310MHz									
223.45	49.18	QP	131	1.6	H	-11.62	37.56	46.00	-8.44
223.45	38.77	QP	203	1.3	V	-11.62	27.15	46.00	-18.85
4533.82	36.19	PK	262	1.6	H	-1.94	34.25	74.00	-39.75
4533.82	50.04	Ave	262	1.6	H	-1.94	48.10	54.00	-5.90
5140.20	47.40	PK	338	2.0	H	-1.06	46.34	74.00	-27.66
5140.20	38.45	Ave	338	2.0	H	-1.06	37.39	54.00	-16.61
10620.00	37.79	PK	224	1.9	H	5.28	43.07	68.20	-25.13
10620.00	53.36	Ave	224	1.9	H	5.28	58.64	54.00	4.64

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) U-NII-2C Low Channel 5510MHz									
223.45	46.93	QP	204	1.1	H	-11.62	35.31	46.00	-10.69
223.45	39.42	QP	286	1.7	V	-11.62	27.80	46.00	-18.20
4507.69	37.08	PK	248	1.8	H	-1.89	35.19	74.00	-38.81
4507.69	54.18	Ave	248	1.8	H	-1.89	52.29	54.00	-1.71
5110.33	48.02	PK	208	1.7	H	-1.06	46.96	74.00	-27.04
5110.33	38.12	Ave	208	1.7	H	-1.06	37.06	54.00	-16.94
11020.00	35.35	PK	255	1.7	H	5.26	40.61	68.20	-27.59
11020.00	51.14	Ave	255	1.7	H	5.26	56.40	54.00	2.40
802.11ac(HT40) U-NII-2C Middle channel 5550MHz									
223.45	47.92	QP	145	2.0	H	-11.62	36.30	46.00	-9.70
223.45	40.35	QP	303	1.3	V	-11.62	28.73	46.00	-17.27
4539.09	37.42	PK	333	1.5	H	-1.94	35.48	74.00	-38.52
4539.09	54.61	Ave	333	1.5	H	-1.94	52.67	54.00	-1.33
5121.64	48.72	PK	13	1.5	H	-1.06	47.66	74.00	-26.34
5121.64	38.90	Ave	13	1.5	H	-1.06	37.84	54.00	-16.16
11100.00	35.38	PK	183	1.0	H	5.28	40.66	68.20	-27.54
11100.00	51.93	Ave	183	1.0	H	5.28	57.21	54.00	3.21
802.11ac(HT40) U-NII-2C High channel 5670MHz									
223.45	48.38	QP	122	1.6	H	-11.62	36.76	46.00	-9.24
223.45	39.94	QP	166	1.3	V	-11.62	28.32	46.00	-17.68
4504.56	37.50	PK	17	1.6	H	-1.94	35.56	74.00	-38.44
4504.56	53.82	Ave	17	1.6	H	-1.94	51.88	54.00	-2.12
5113.55	50.27	PK	34	1.7	H	-1.06	49.21	74.00	-24.79
5113.55	40.32	Ave	34	1.7	H	-1.06	39.26	54.00	-14.74
11340.00	0.39	PK	9	1.4	H	5.28	5.67	68.20	-62.53
11340.00	43.24	Ave	9	1.4	H	5.28	48.52	54.00	-5.48

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) U-NII-3 Low Channel 5755MHz									
223.45	35.19	QP	274	1.4	H	-11.62	23.57	46.00	-22.43
223.45	45.76	QP	101	1.0	V	-11.62	34.14	46.00	-11.86
4500.67	33.18	PK	317	1.3	H	-1.92	31.26	74.00	-42.74
4500.67	27.75	Ave	317	1.3	H	-1.92	25.83	54.00	-28.17
11510.00	40.01	PK	112	1.6	H	5.88	45.89	68.20	-22.31
11510.00	33.99	Ave	112	1.6	H	5.88	39.87	54.00	-14.13
5363.92	46.93	PK	8	1.3	H	-1.07	45.86	74.00	-28.14
5363.92	37.88	Ave	8	1.3	H	-1.07	36.81	54.00	-17.19
802.11ac(HT40) U-NII-3 High Channel 5795MHz									
223.45	35.99	QP	195	1.1	H	-11.62	24.37	46.00	-21.63
223.45	45.02	QP	108	1.5	V	-11.62	33.40	46.00	-12.60
4512.48	33.40	PK	146	1.9	H	-1.86	31.54	74.00	-42.46
4512.48	28.34	Ave	146	1.9	H	-1.86	26.48	54.00	-27.52
11590.00	41.71	PK	254	1.9	H	5.63	47.34	68.20	-20.86
11590.00	36.29	Ave	254	1.9	H	5.63	41.92	54.00	-12.08
5378.95	45.26	PK	65	2.0	H	-1.03	44.23	74.00	-29.77
5378.95	39.05	Ave	65	2.0	H	-1.03	38.02	54.00	-15.98

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) U-NII-1 Low Channel 5210MHz									
4512.48	33.37	QP	12	1.7	H	-11.62	21.75	46.00	-24.25
4524.33	27.93	QP	225	1.0	V	-11.62	16.31	46.00	-29.69
4521.30	40.98	PK	6	1.5	H	-1.88	39.10	74.00	-34.90
4521.30	37.68	Ave	6	1.5	H	-1.88	35.80	54.00	-18.20
5134.64	44.95	PK	140	1.4	H	-1.06	43.89	74.00	-30.11
5134.64	39.23	Ave	140	1.4	H	-1.06	38.17	54.00	-15.83
10580.00	36.09	PK	212	1.0	H	4.65	40.74	74.00	-33.26
10580.00	45.59	Ave	212	1.0	H	4.65	50.24	54.00	-3.76
802.11ac(HT80) U-NII-2A Low Channel 5290MHz									
4524.33	27.45	QP	284	1.8	H	-11.62	15.83	46.00	-30.17
4521.30	41.36	QP	223	1.1	V	-11.62	29.74	46.00	-16.26
4525.31	37.24	PK	6	1.4	H	-1.88	35.36	74.00	-38.64
4525.31	45.93	Ave	6	1.4	H	-1.88	44.05	54.00	-9.95
5145.46	39.78	PK	4	1.5	H	-1.06	38.72	74.00	-35.28
5145.46	36.40	Ave	4	1.5	H	-1.06	35.34	54.00	-18.66
11060.00	44.30	PK	85	1.0	H	4.65	48.95	68.20	-19.25
11060.00	38.89	Ave	85	1.0	H	4.65	43.54	54.00	-10.46

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) U-NII-2C Low Channel 5530MHz									
4512.48	33.39	QP	170	1.3	H	-11.62	21.77	46.00	-24.23
4524.33	28.71	QP	127	1.5	V	-11.62	17.09	46.00	-28.91
4506.31	41.19	PK	156	1.5	H	-1.85	39.34	74.00	-34.66
4506.31	41.09	Ave	156	1.5	H	-1.85	39.24	54.00	-14.76
11550.00	40.21	PK	102	1.2	H	4.83	45.04	68.20	-23.16
11550.00	36.75	Ave	102	1.2	H	4.83	41.58	54.00	-12.42
5373.47	45.34	PK	50	1.2	H	-1.14	44.20	74.00	-29.80
5373.47	38.33	Ave	50	1.2	H	-1.14	37.19	54.00	-16.81
802.11ac(HT80) U-NII-3 Low channel 5775MHz									
4520.14	36.18	QP	271	1.4	H	-11.62	24.56	46.00	-21.44
4517.18	31.26	QP	8	1.9	V	-11.62	19.64	46.00	-26.36
4520.47	42.09	PK	258	1.0	H	-1.85	40.24	74.00	-33.76
4520.47	43.13	Ave	258	1.0	H	-1.85	41.28	54.00	-12.72
11550.00	41.51	PK	125	1.2	H	4.83	46.34	68.20	-21.86
11550.00	37.66	Ave	125	1.2	H	4.83	42.49	54.00	-11.51
5378.76	46.68	PK	262	1.8	H	-1.14	45.54	74.00	-28.46
5378.76	37.63	Ave	262	1.8	H	-1.14	36.49	54.00	-17.51

Test Frequency: 12GHz~40GHz

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

10 Duty cycle

Test Requirement:	47 CFR Part 15C 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:	Through Pre-scan, The duty cycle set for channel low, middle and high are same, and the duty cycle test is performed at channel low only

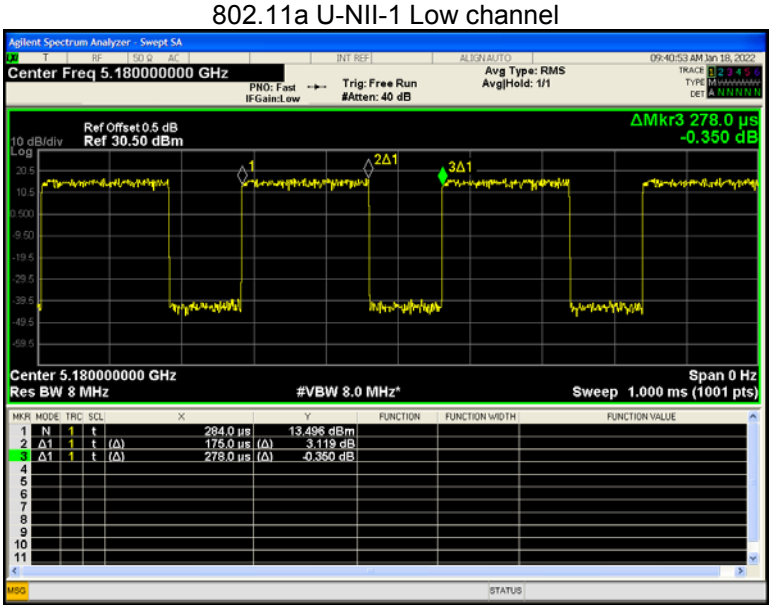
10.1 Summary of Test Results

802.11a(HT20) mode			
channel	On time(us)	Period(us)	Duty Cycle(%)
36	175	278	62.95
52	176	278	63.31
100	176	279	63.08
149	175	278	62.95
802.11n(HT20) mode			
channel	On time(us)	Period(us)	Duty Cycle(%)
36	161	265	60.75
52	164	266	61.65
100	163	266	61.28
149	162	266	60.90
802.11ac(HT20) mode			
channel	On time(us)	Period(us)	Duty Cycle(%)
36	147	251	58.57
52	146	250	58.40
100	146	249	58.63
149	147	250	58.80
802.11n(HT40) mode			
channel	On time(us)	Period(us)	Duty Cycle(%)
38	97	201	48.26
54	99	202	49.01
102	99	202	49.01
151	100	204	49.02
802.11ac(HT40) mode			
channel	On time(us)	Period(us)	Duty Cycle(%)
38	87	190	45.79
54	87	190	45.79
102	87	190	45.79
151	87	190	45.79
802.11ac(HT80) mode			

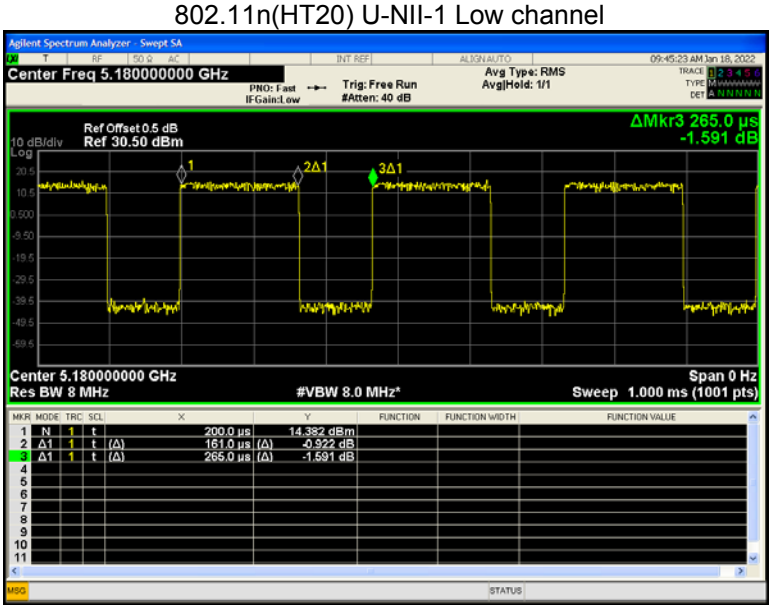
channel	On time(us)	Period(us)	Duty Cycle(%)
42	63.83	165.8	38.50
58	62	165	37.58
106	64	166	38.55
155	63	166	37.95

Test result plots shown as follows:

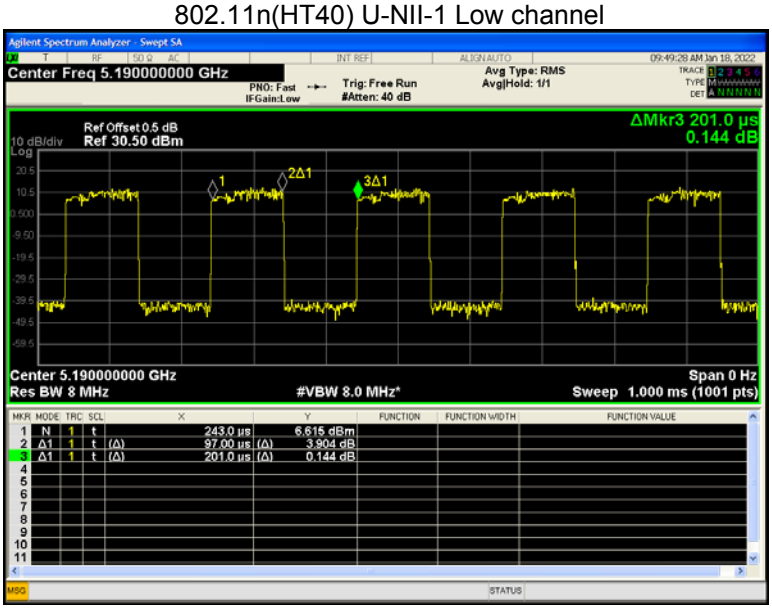
802.11a U-NII-1 Low channel



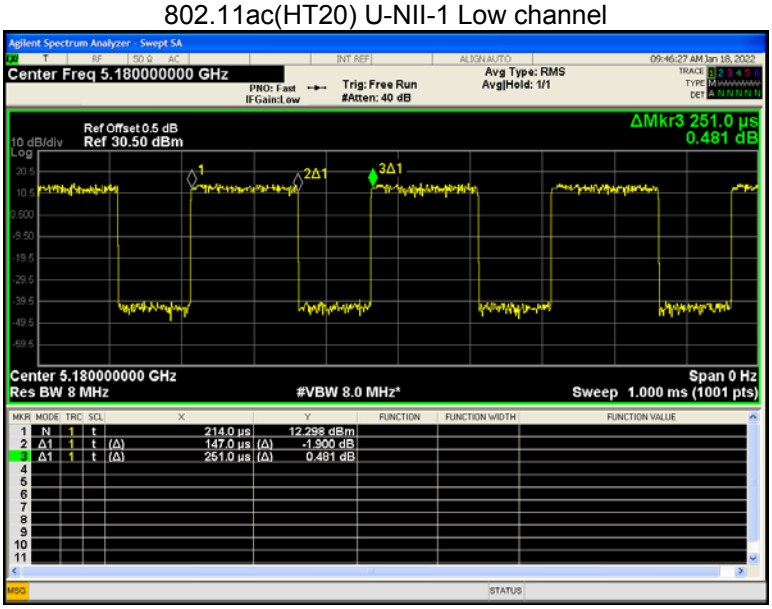
802.11n(HT20) U-NII-1 Low channel



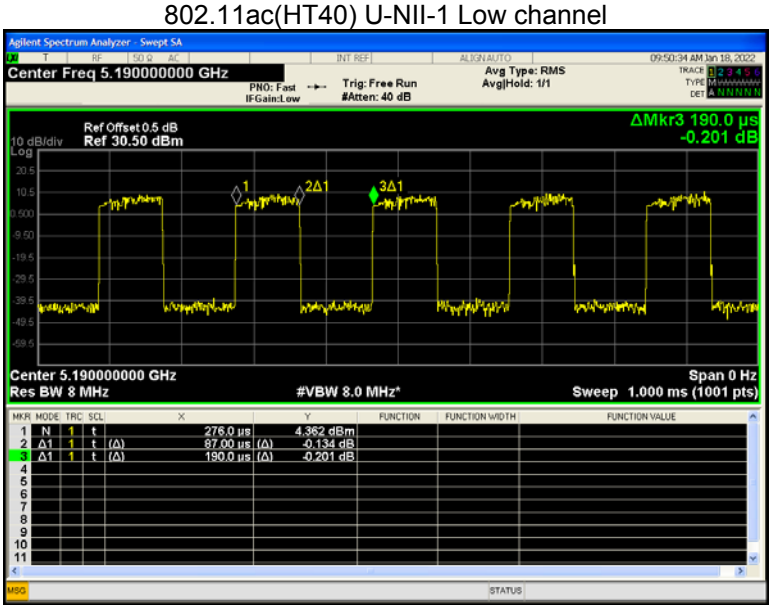
802.11n(HT40) U-NII-1 Low channel



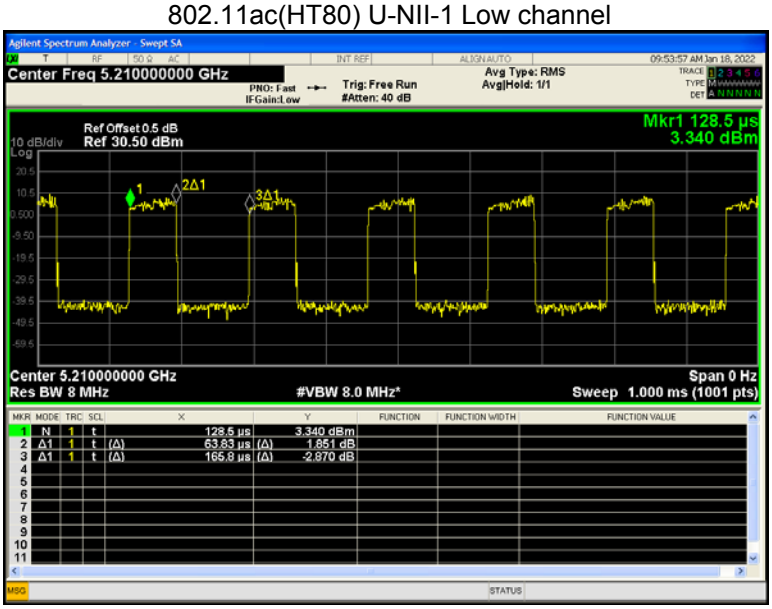
802.11ac(HT20) U-NII-1 Low channel



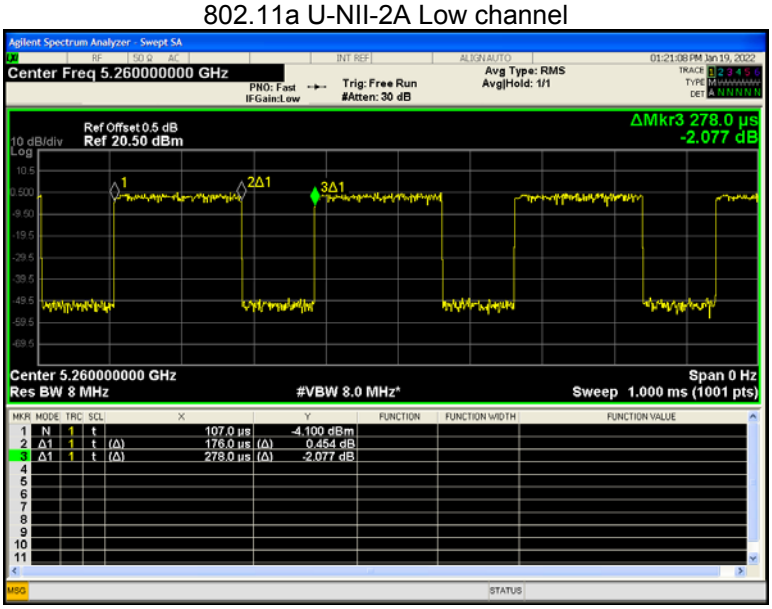
802.11ac(HT40) U-NII-1 Low channel



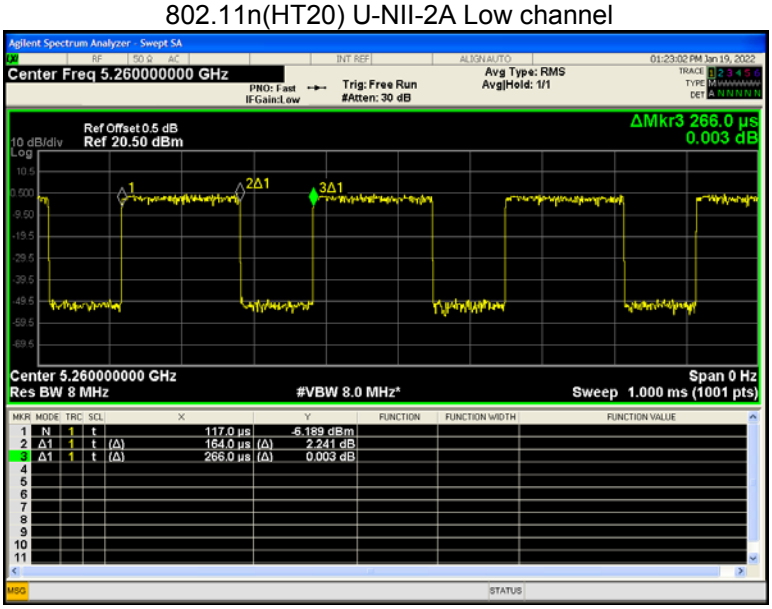
802.11ac(HT80) U-NII-1 Low channel



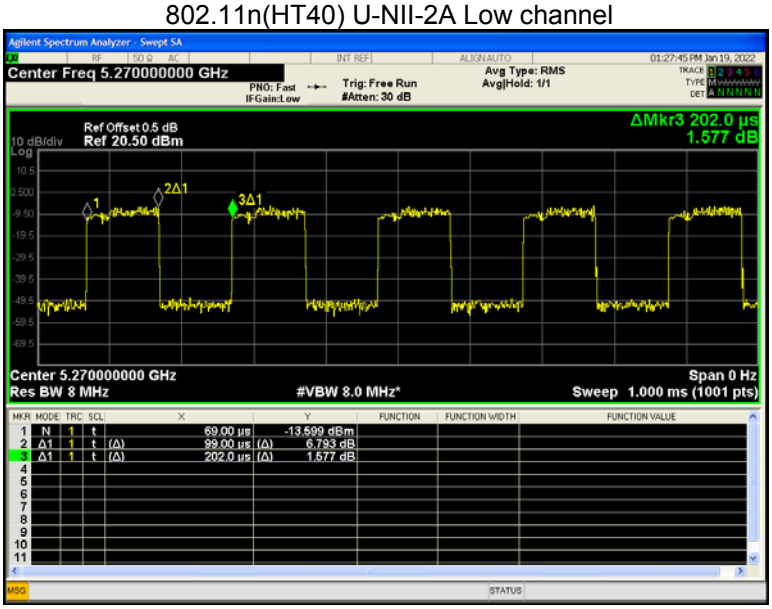
802.11a U-NII-2A Low channel



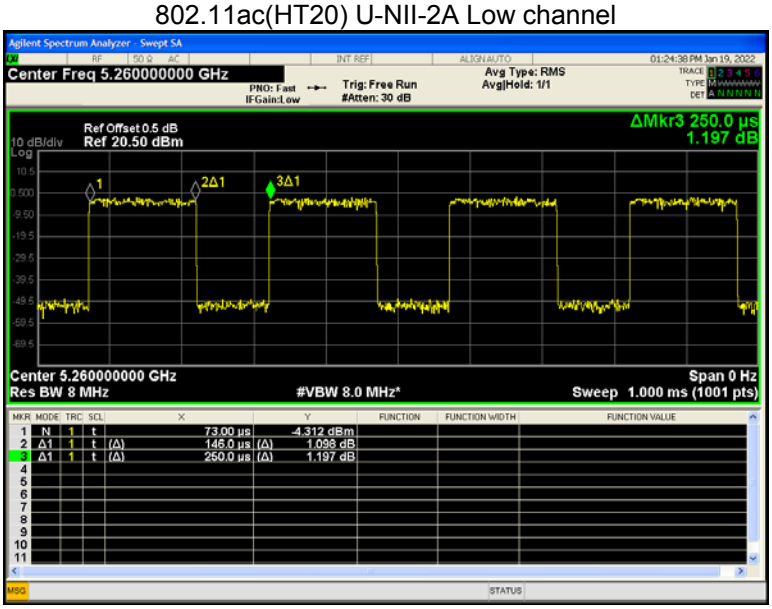
802.11n(HT20) U-NII-2A Low channel



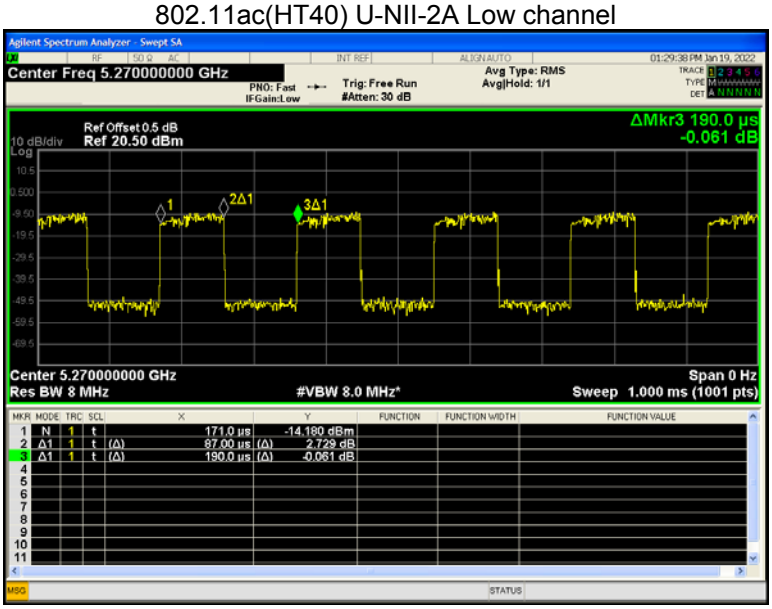
802.11n(HT40) U-NII-2A Low channel



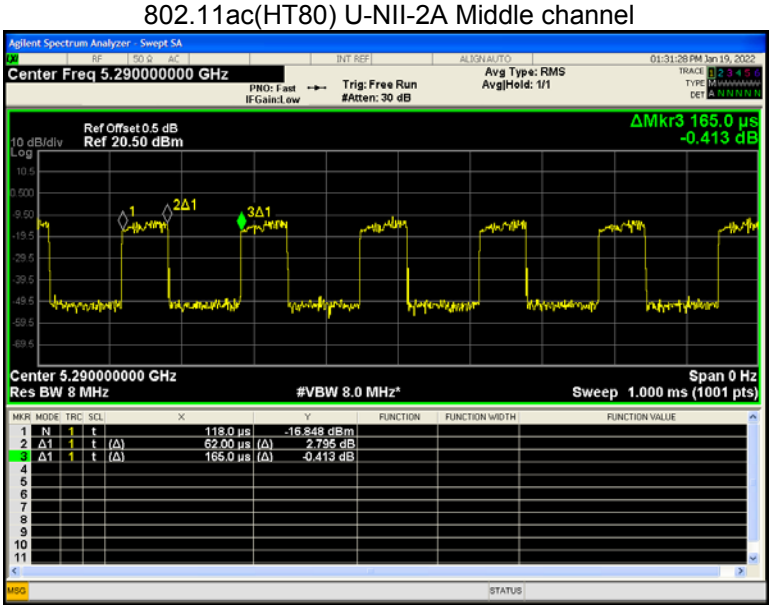
802.11ac(HT20) U-NII-2A Low channel



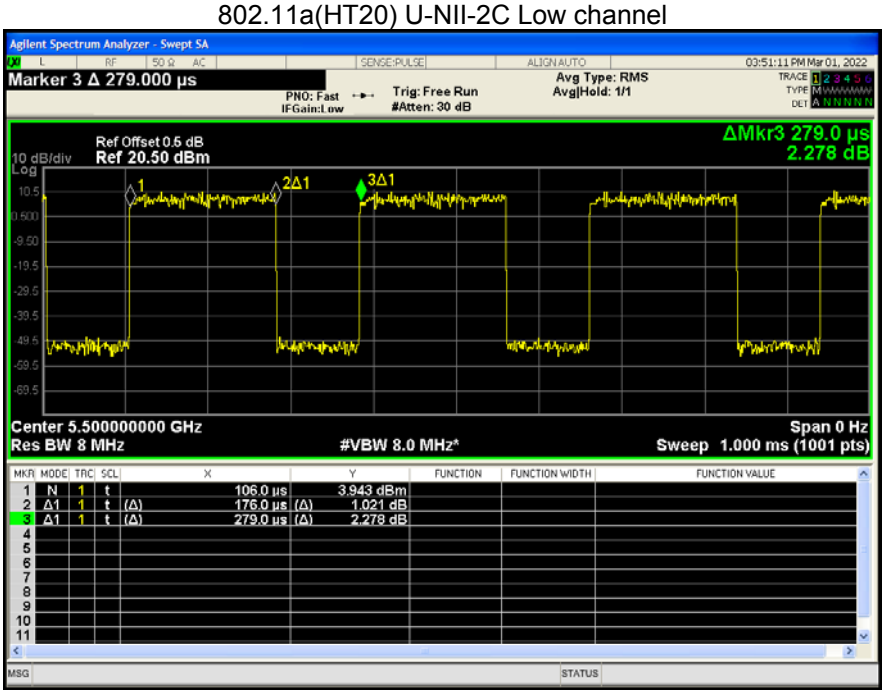
802.11ac(HT40) U-NII-2A Low channel



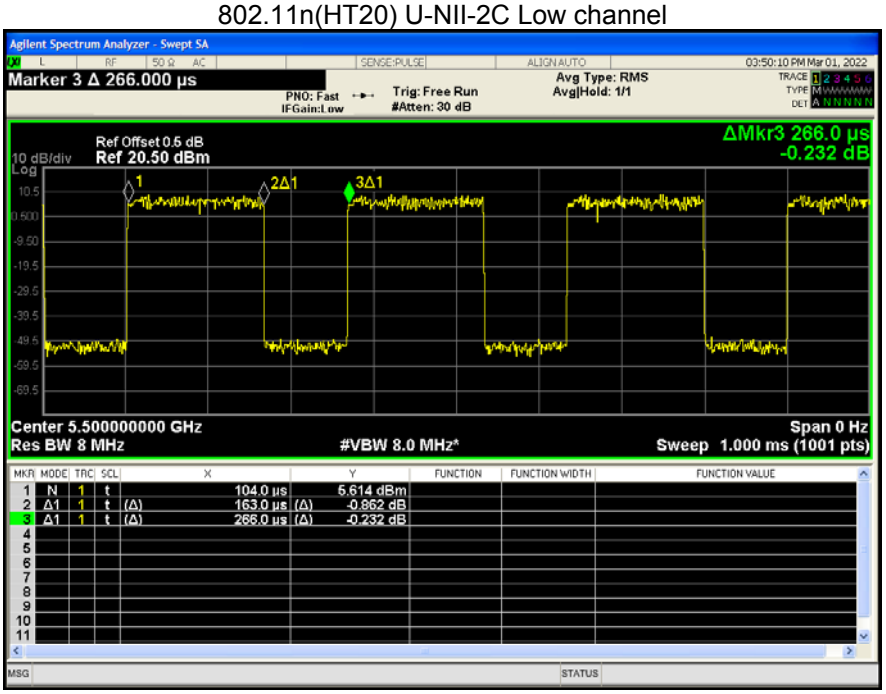
802.11ac(HT80) U-NII-2A Middle channel



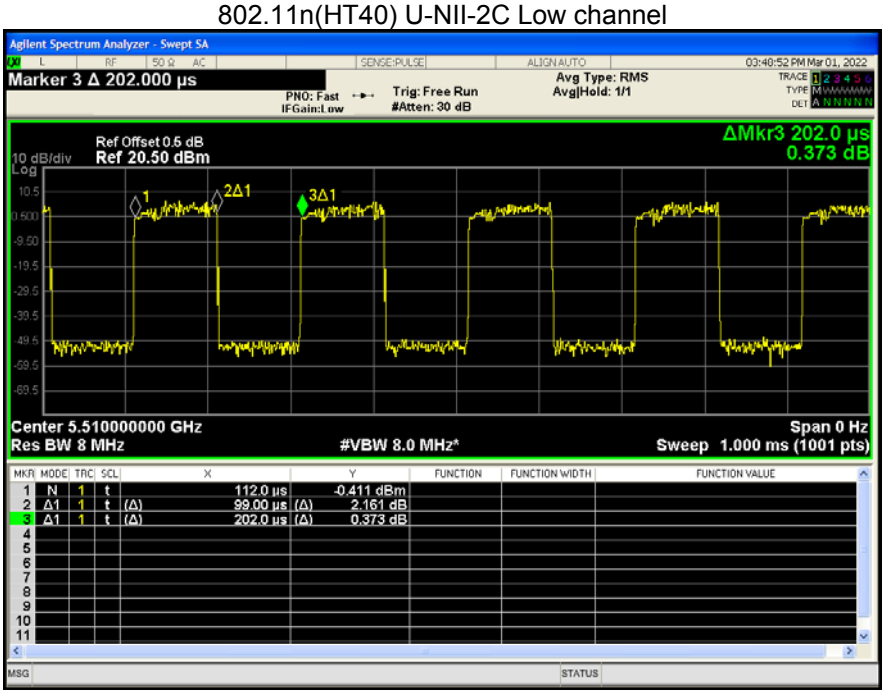
802.11a(HT20) U-NII-2C Low channel



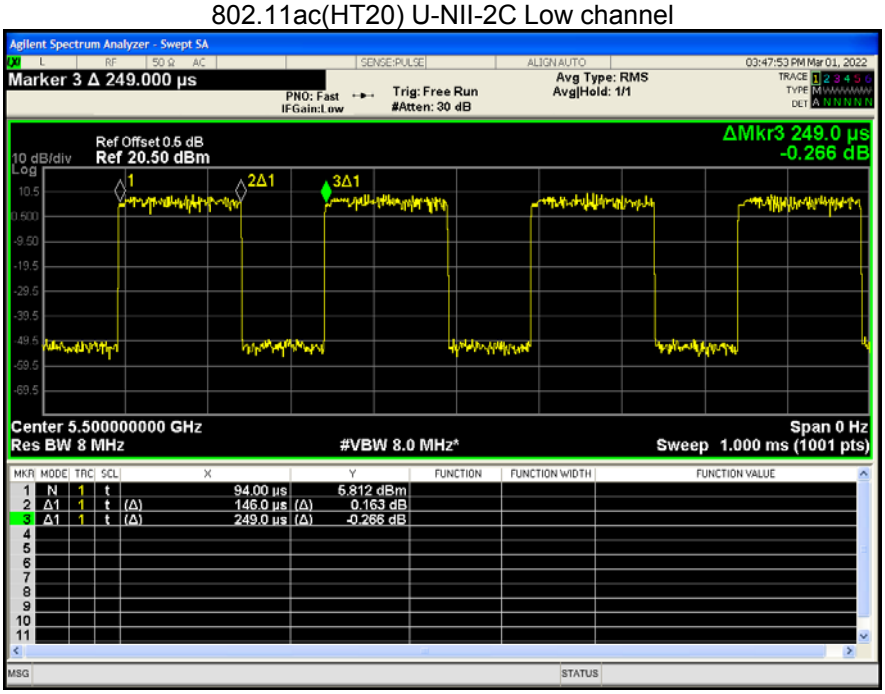
802.11n(HT20) U-NII-2C Low channel



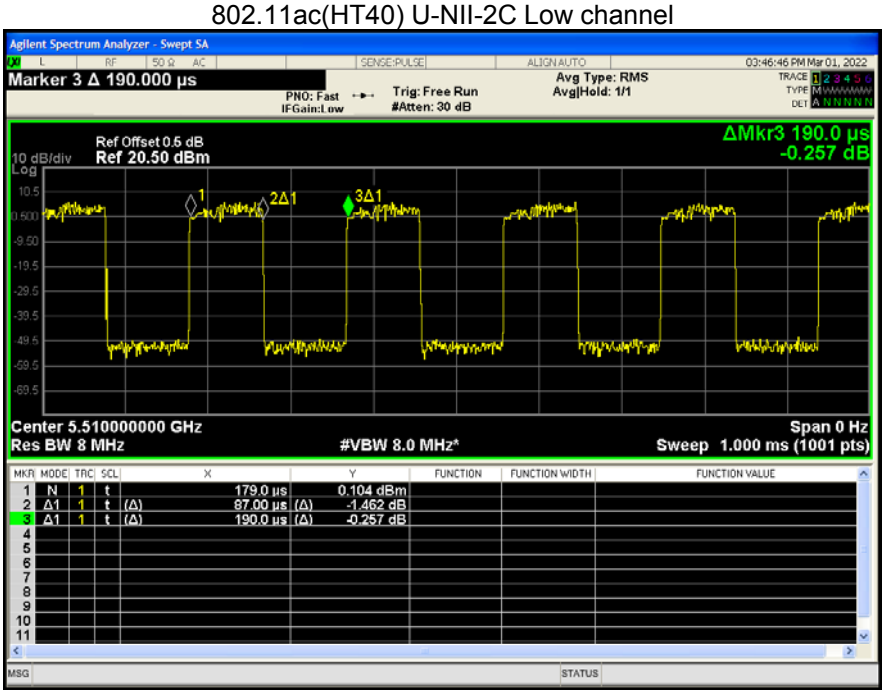
802.11n(HT40) U-NII-2C Low channel



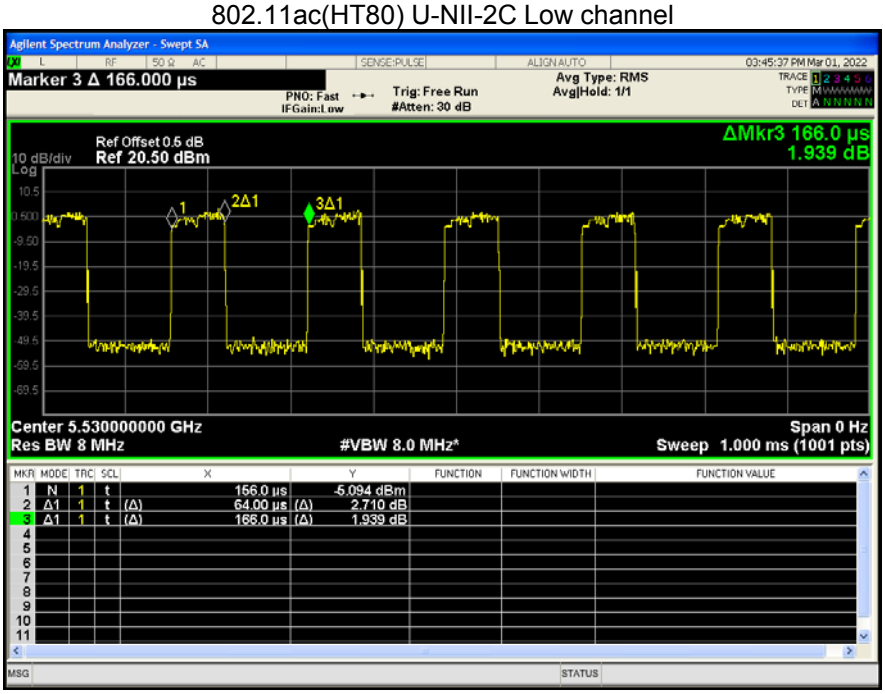
802.11ac(HT20) U-NII-2C Low channel



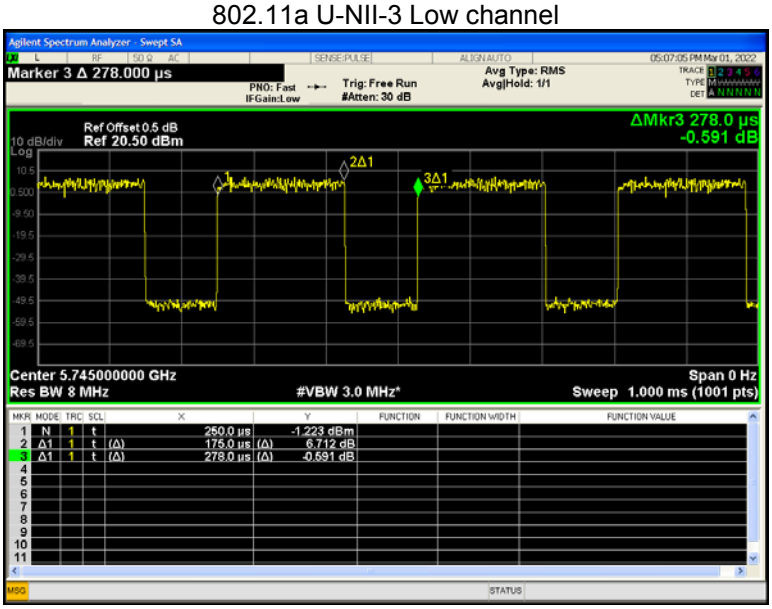
802.11ac(HT40) U-NII-2C Low channel



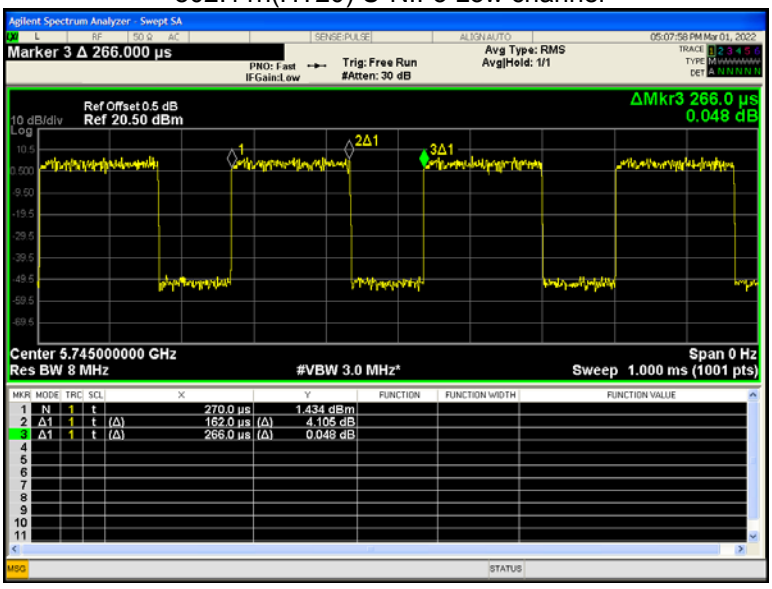
802.11ac(HT80) U-NII-2C Low channel



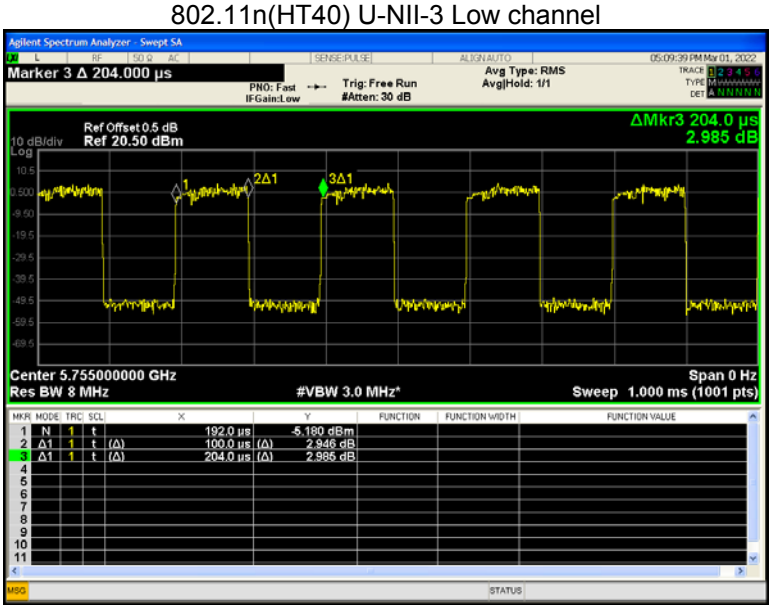
802.11a U-NII-3 Low channel



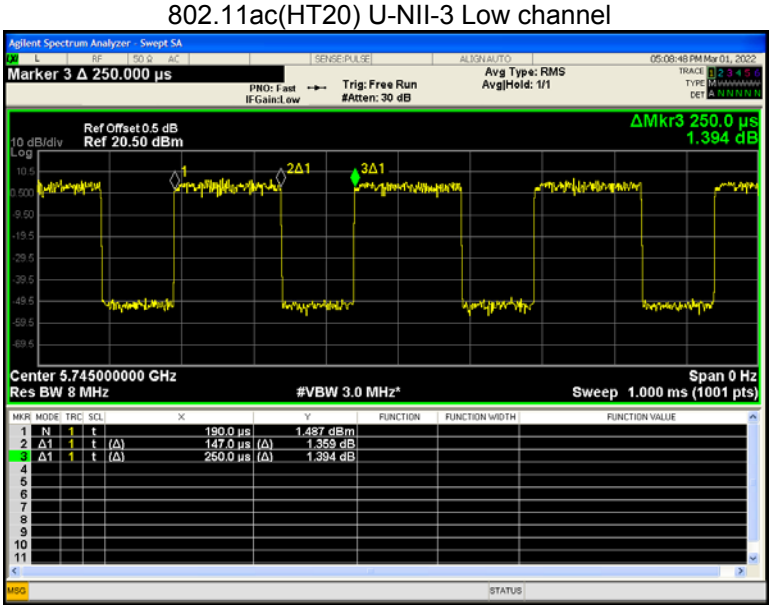
802.11n(HT20) U-NII-3 Low channel



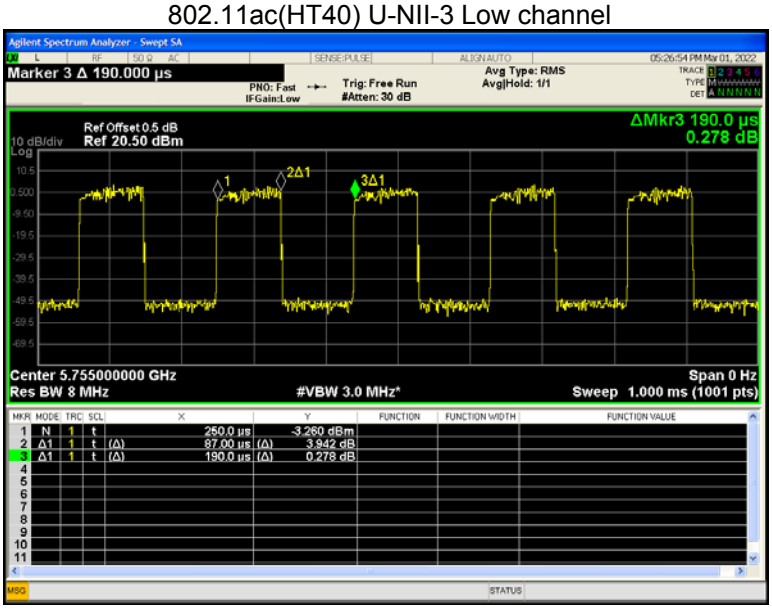
802.11n(HT40) U-NII-3 Low channel



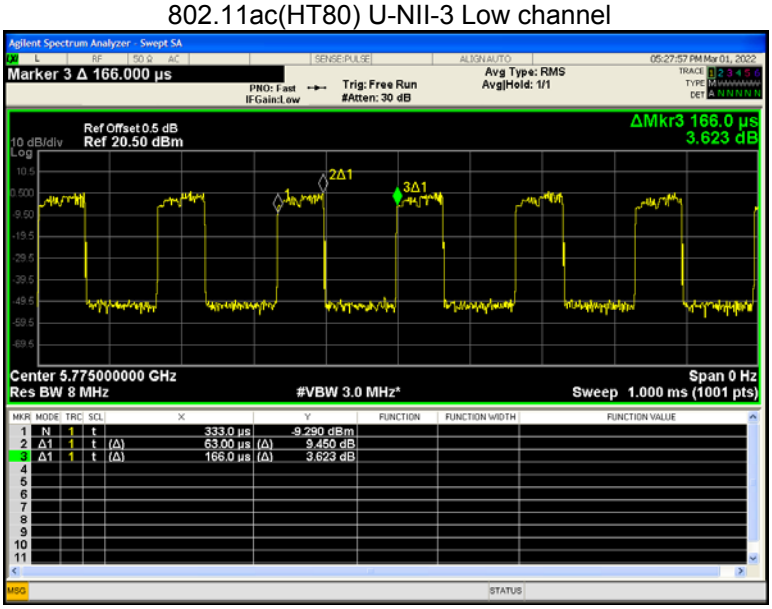
802.11ac(HT20) U-NII-3 Low channel



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



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



11 Band Edge

Test Requirement:	FCC CFR47 Part 15 Section 15.407
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 dBm/MHz. (2) 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. (3) 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. (4) 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

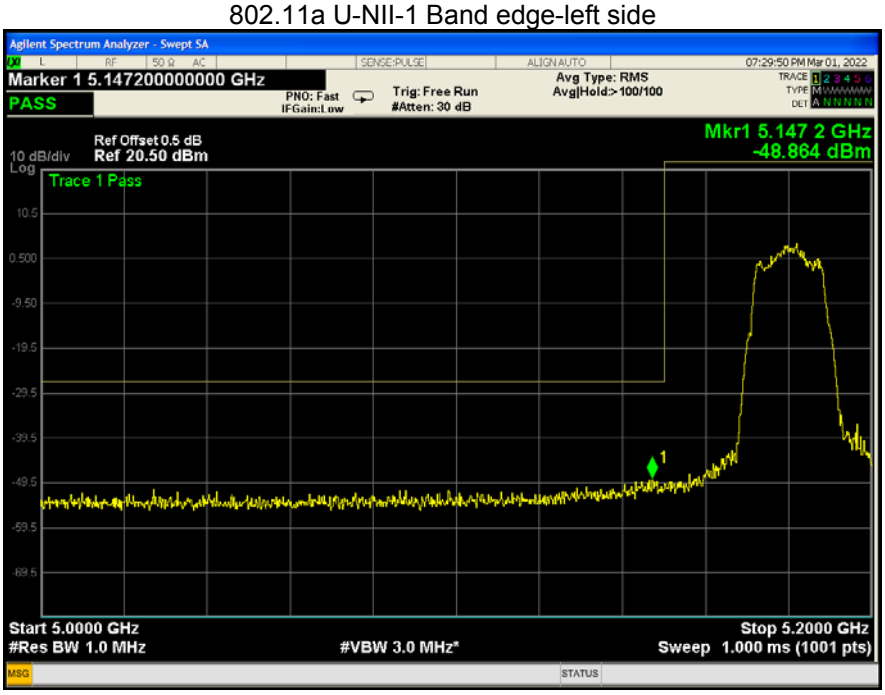
11.1 Test Produce

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 1000 kHz and VBW of spectrum analyzer to 3000 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.

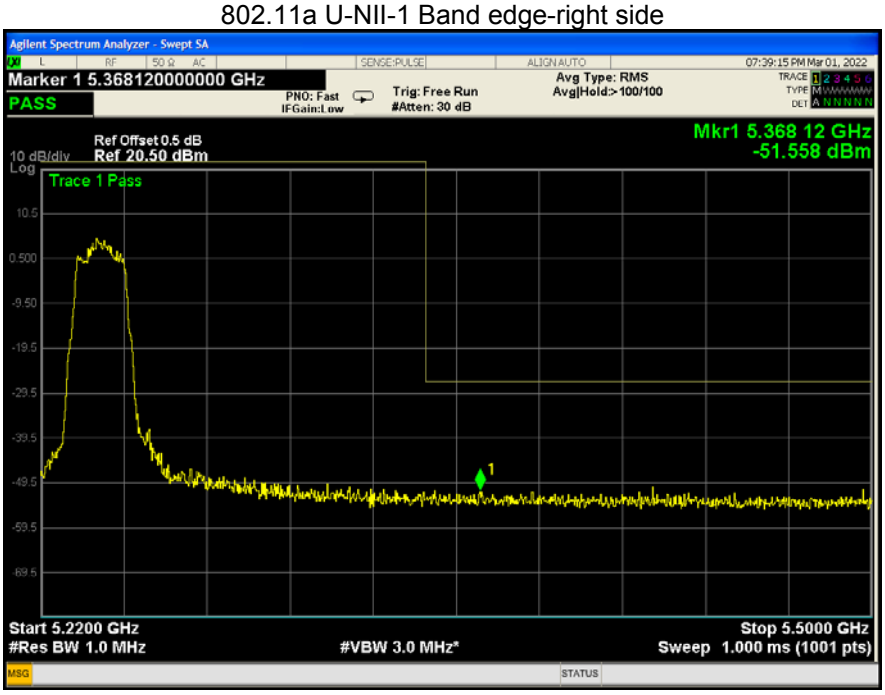
11.2 Test Result

Test result plots shown as follows:

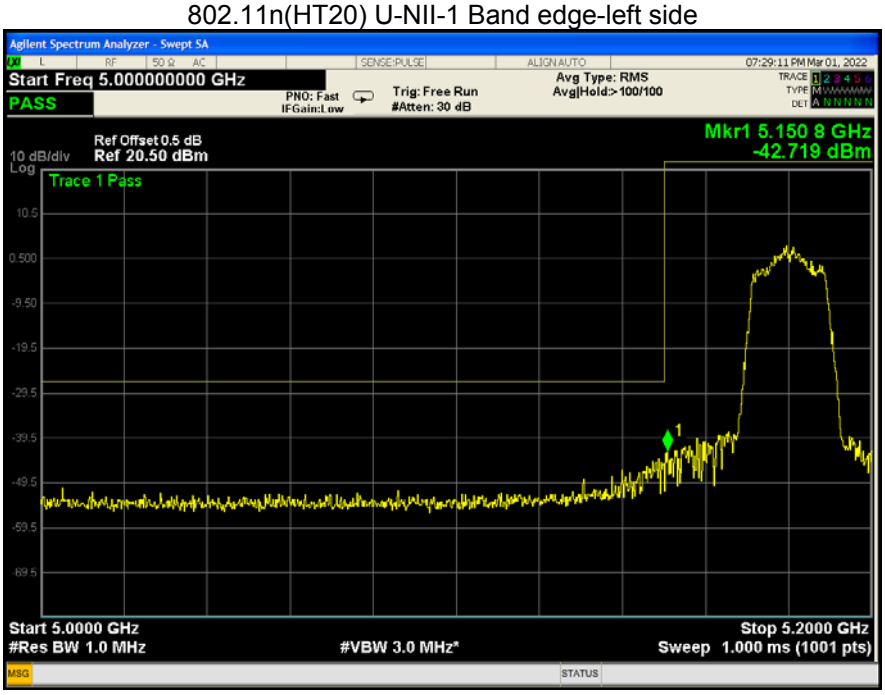
802.11a U-NII-1 Band edge-left side



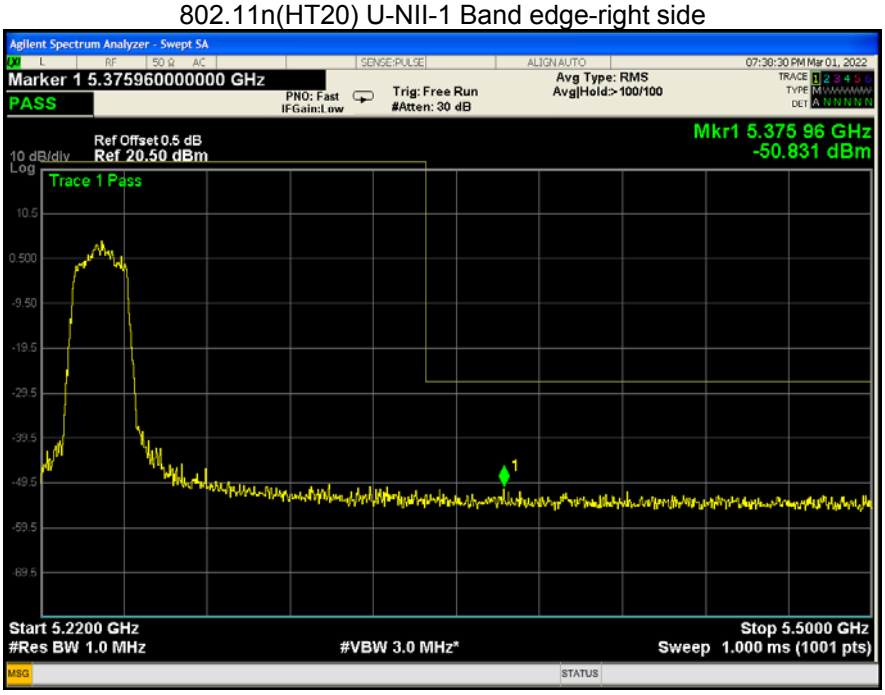
802.11a U-NII-1 Band edge-right side



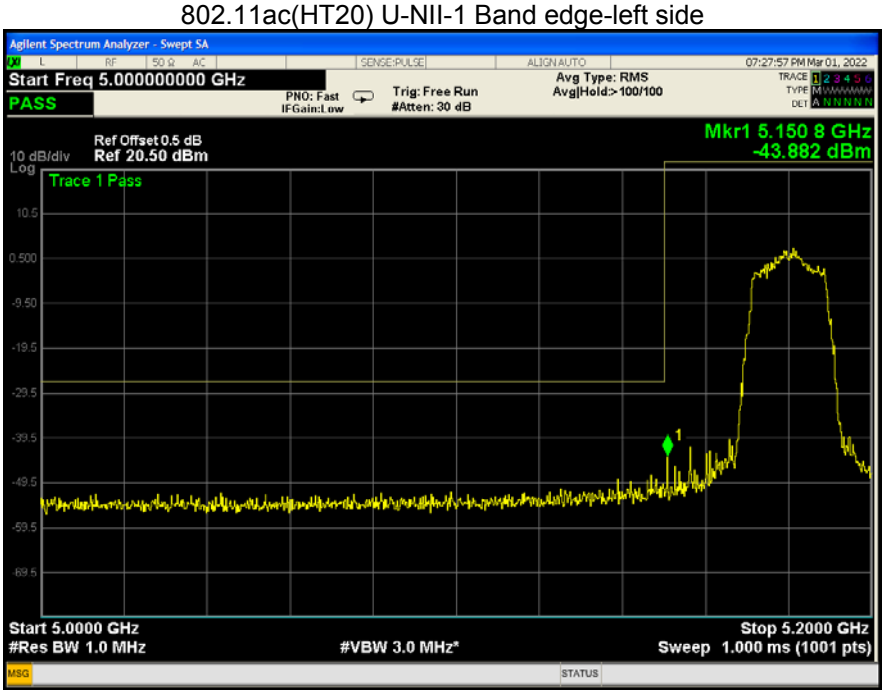
802.11n(HT20) U-NII-1 Band edge-left side



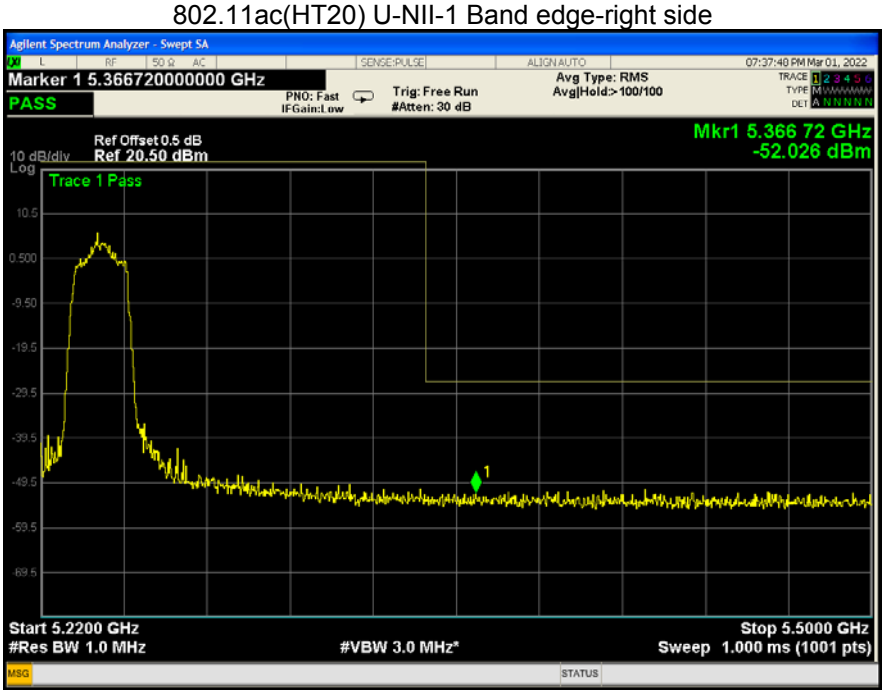
802.11n(HT20) U-NII-1 Band edge-right side



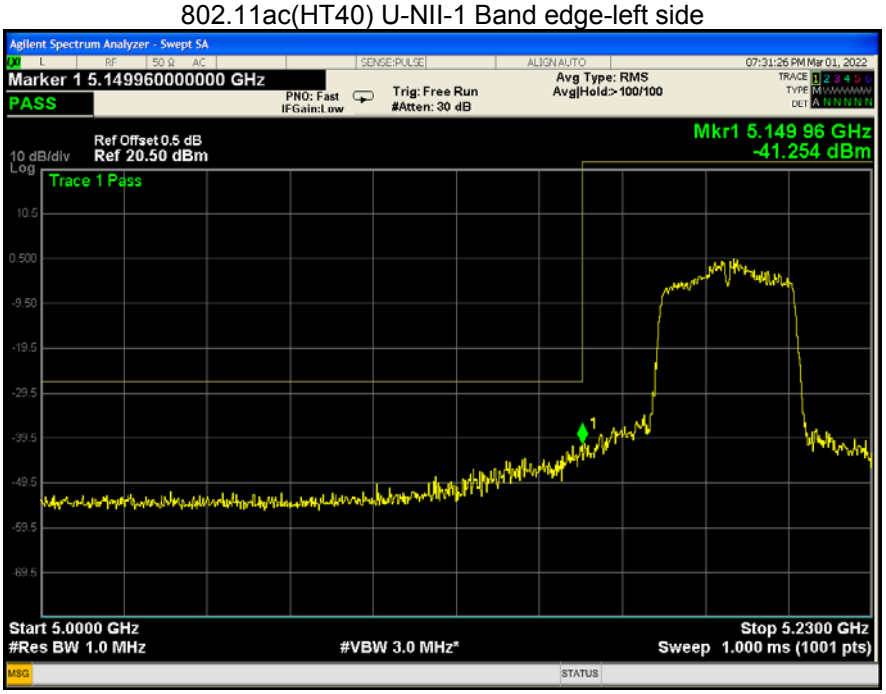
802.11ac(HT20) U-NII-1 Band edge-left side



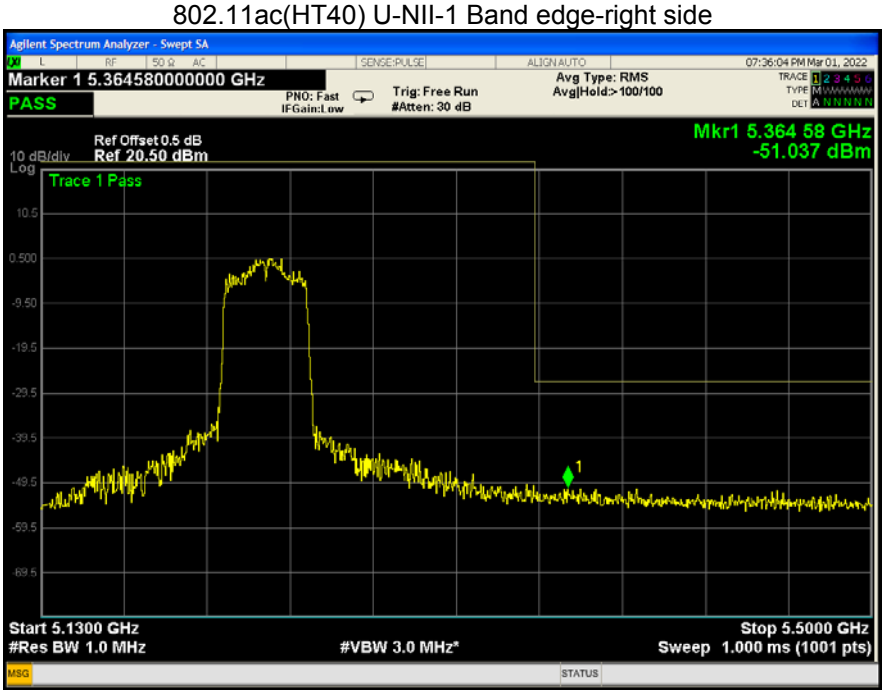
802.11ac(HT20) U-NII-1 Band edge-right side



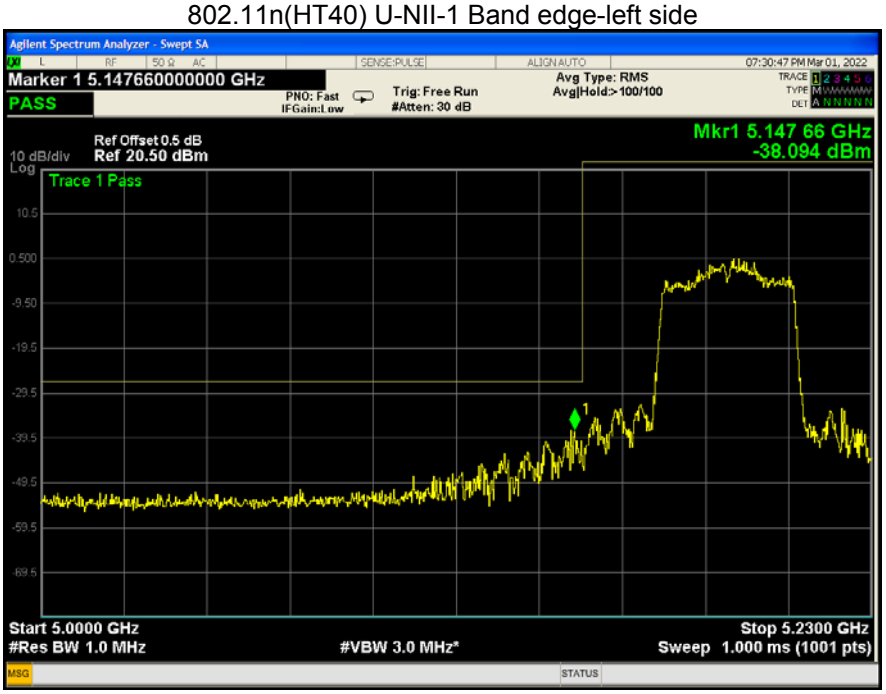
802.11ac(HT40) U-NII-1 Band edge-left side



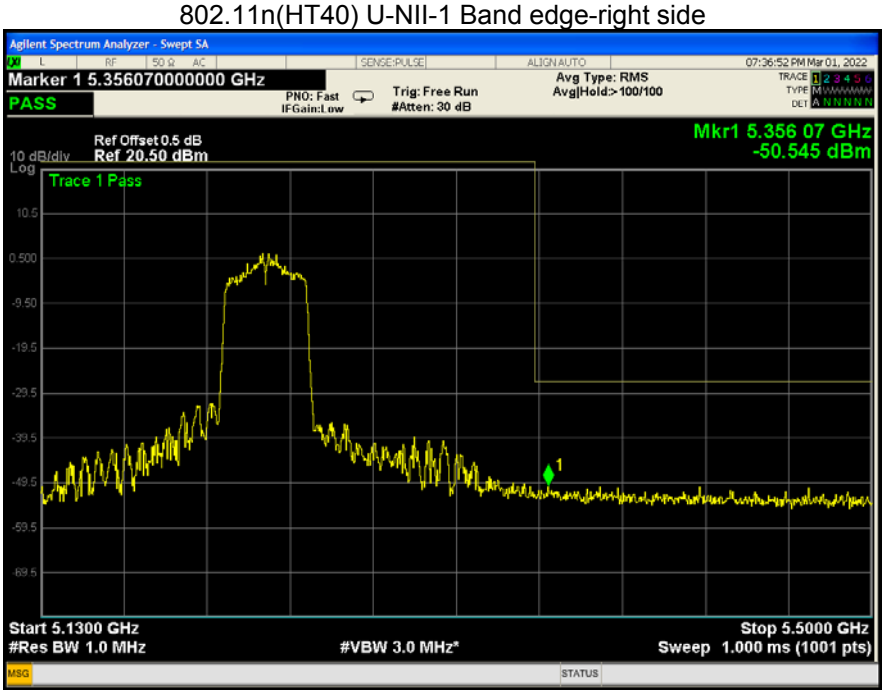
802.11ac(HT40) U-NII-1 Band edge-right side



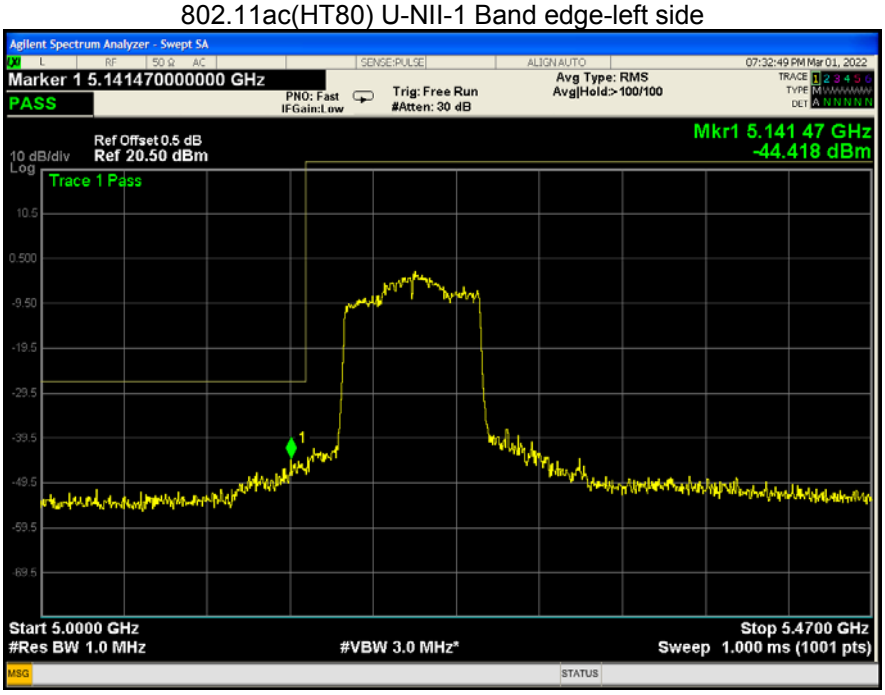
802.11n(HT40) U-NII-1 Band edge-left side



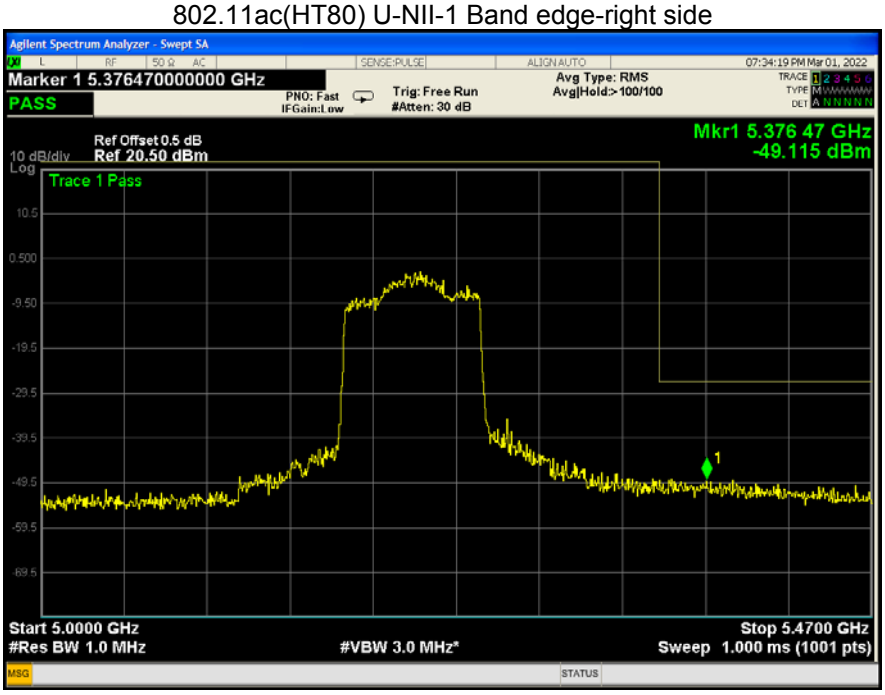
802.11n(HT40) U-NII-1 Band edge-right side



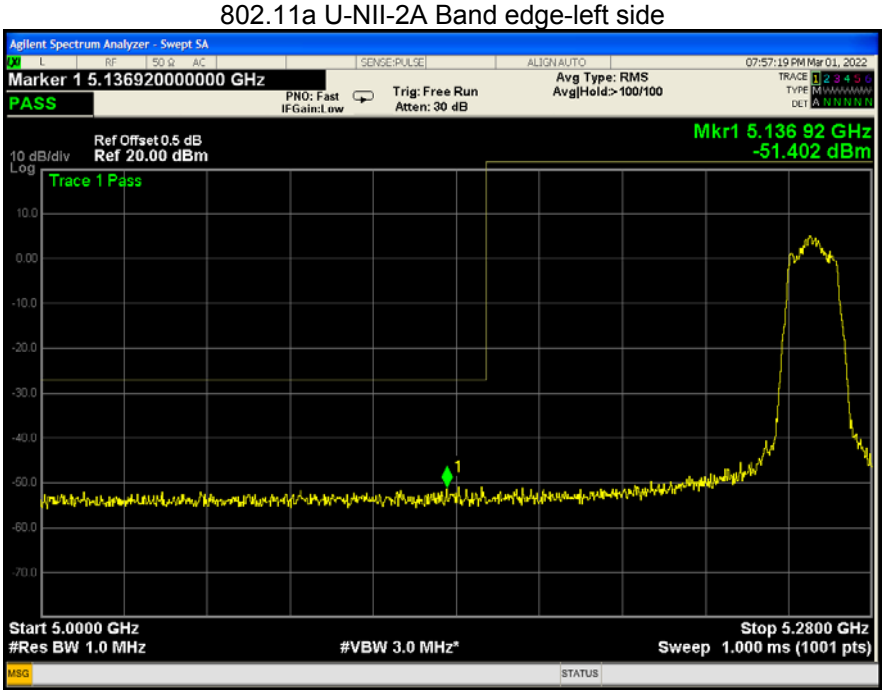
802.11ac(HT80) U-NII-1 Band edge-left side



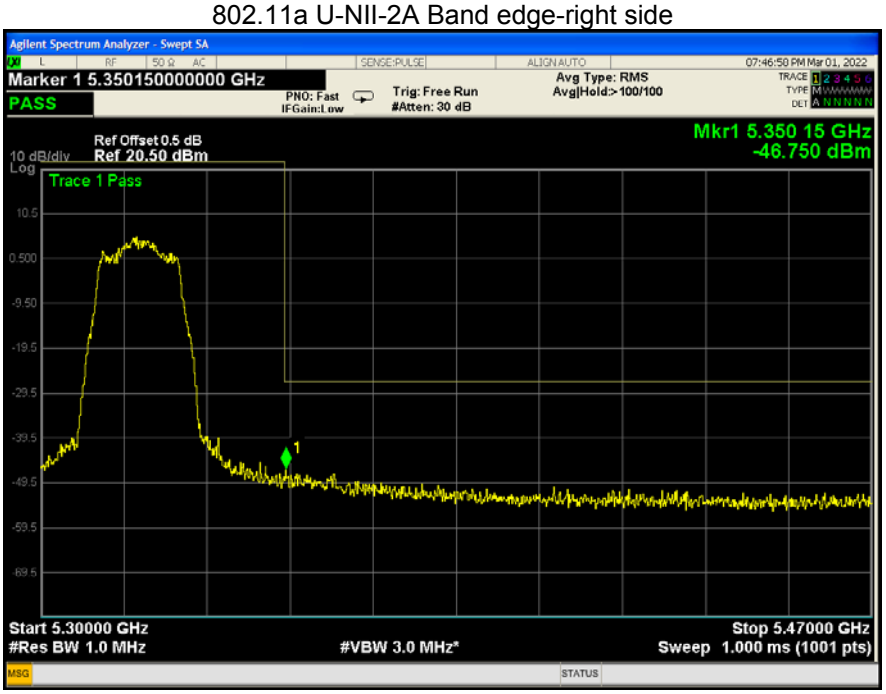
802.11ac(HT80) U-NII-1 Band edge-right side



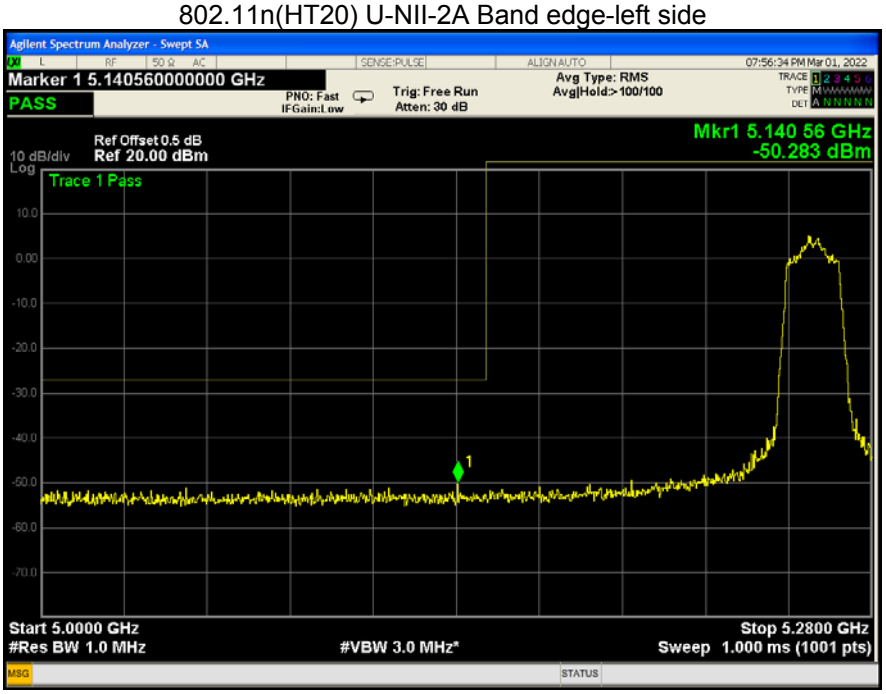
802.11a U-NII-2A Band edge-left side



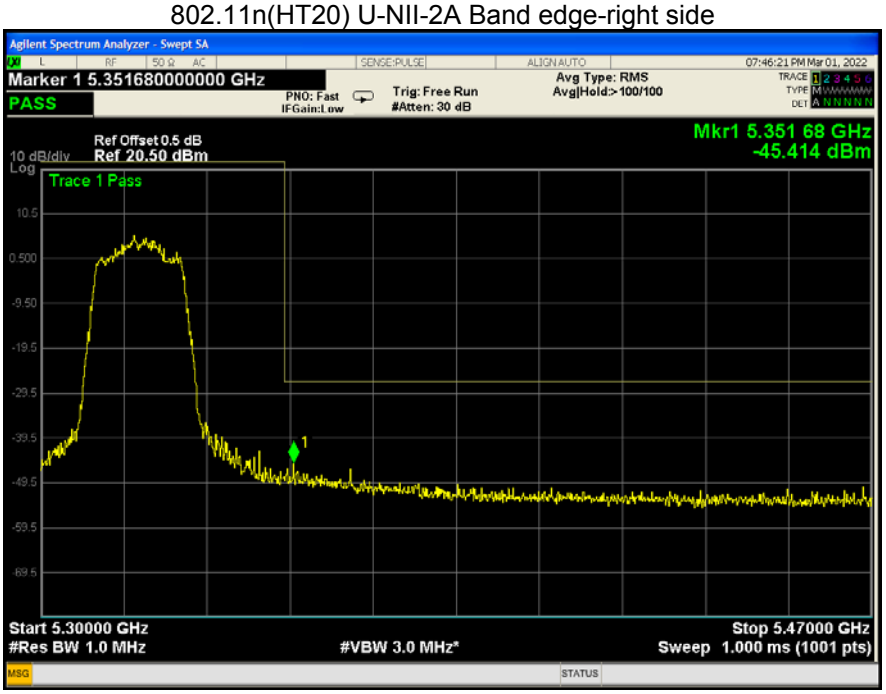
802.11a U-NII-2A Band edge-right side



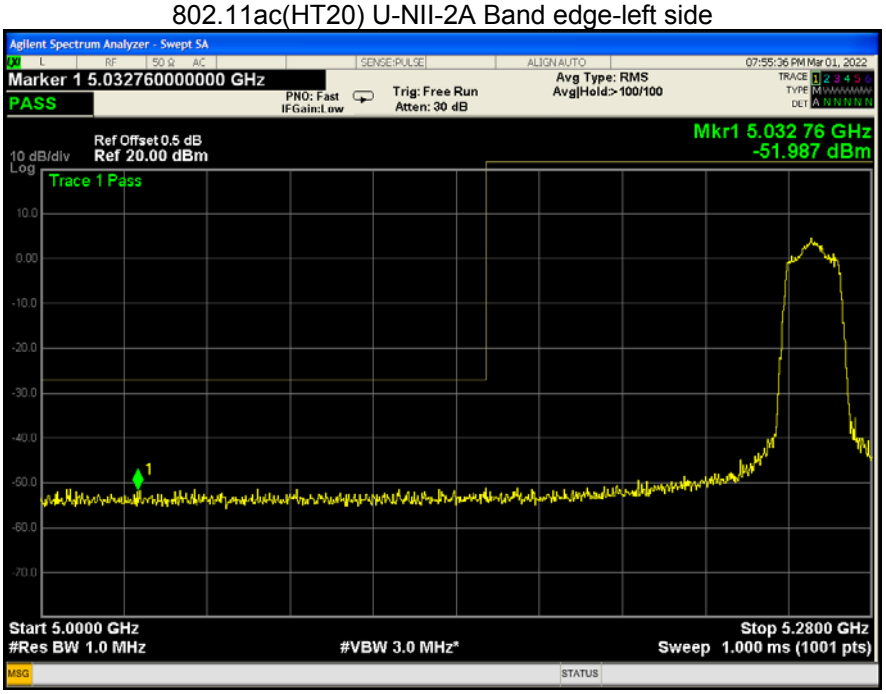
802.11n(HT20) U-NII-2A Band edge-left side



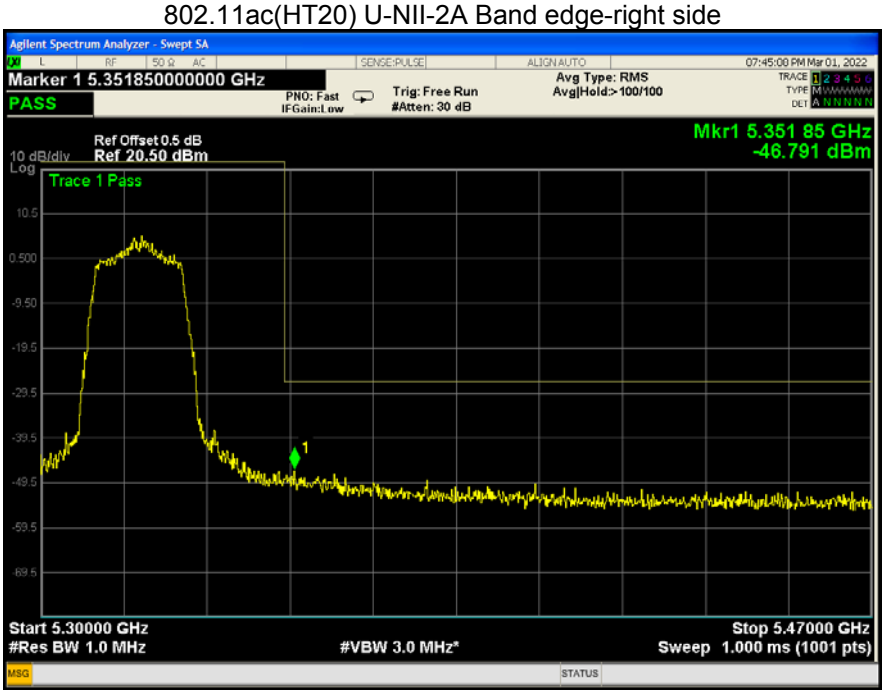
802.11n(HT20) U-NII-2A Band edge-right side



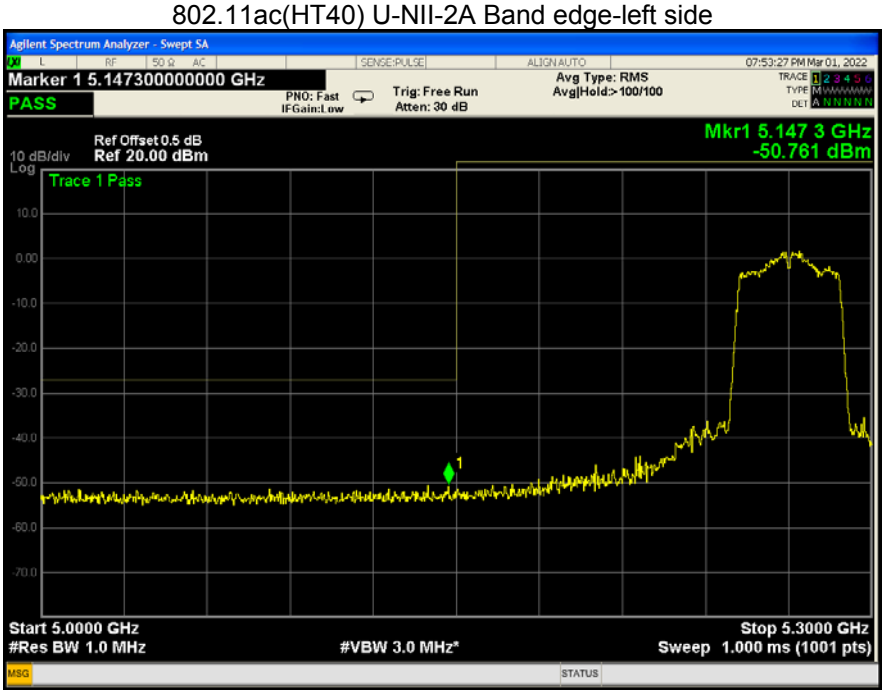
802.11ac(HT20) U-NII-2A Band edge-left side



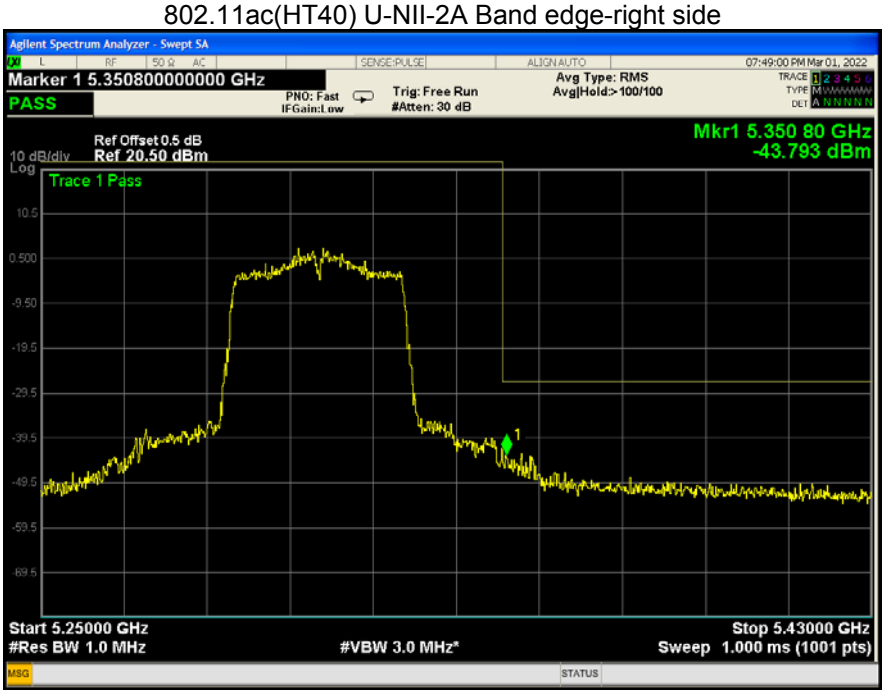
802.11ac(HT20) U-NII-2A Band edge-right side



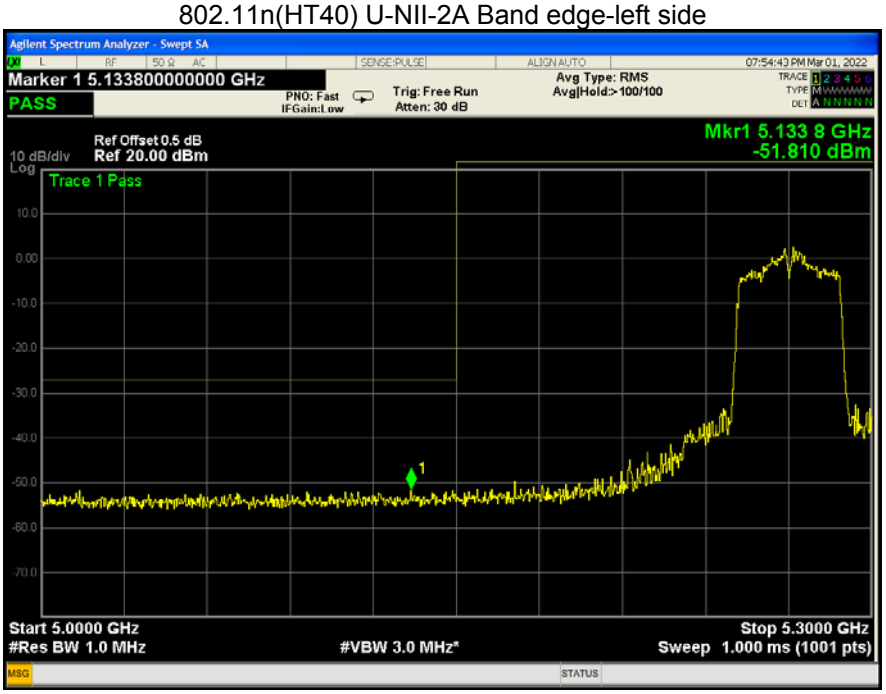
802.11ac(HT40) U-NII-2A Band edge-left side



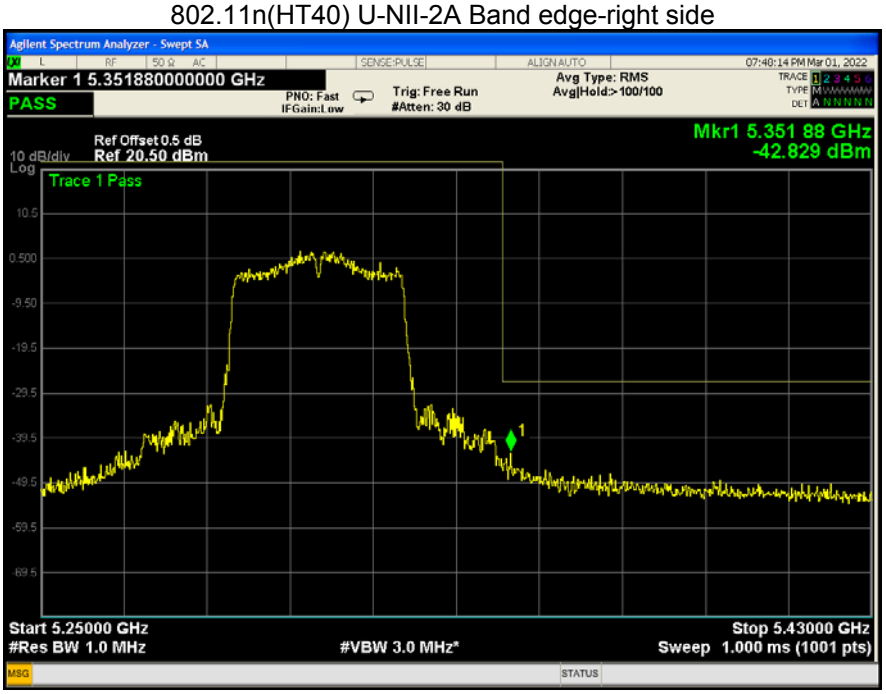
802.11ac(HT40) U-NII-2A Band edge-right side



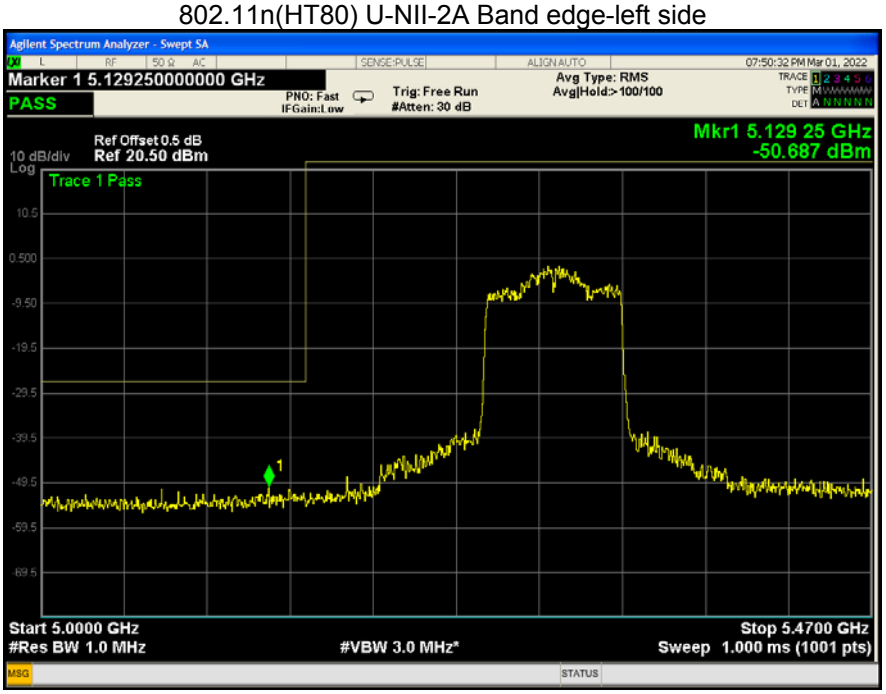
802.11n(HT40) U-NII-2A Band edge-left side



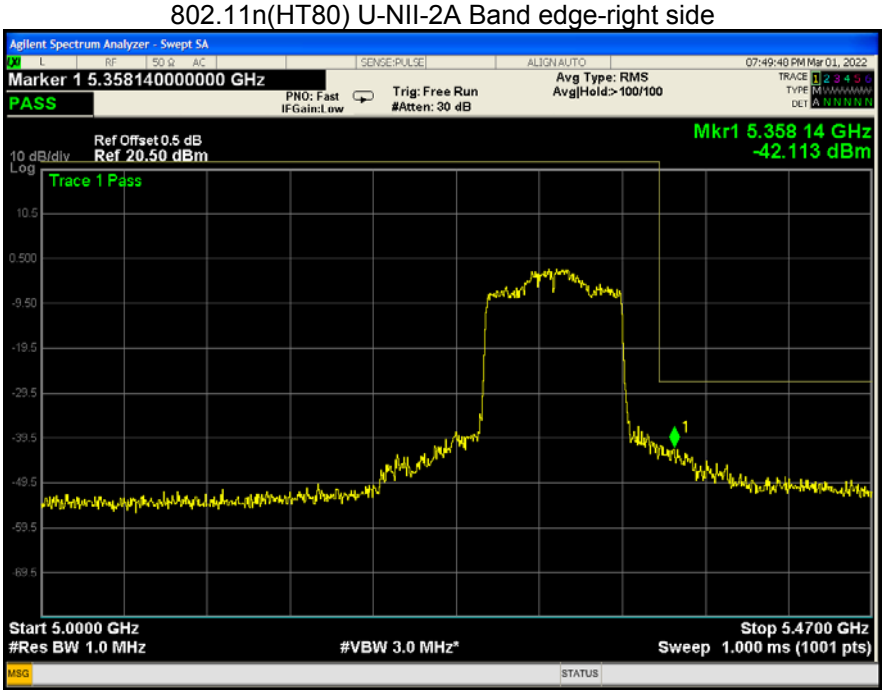
802.11n(HT40) U-NII-2A Band edge-right side



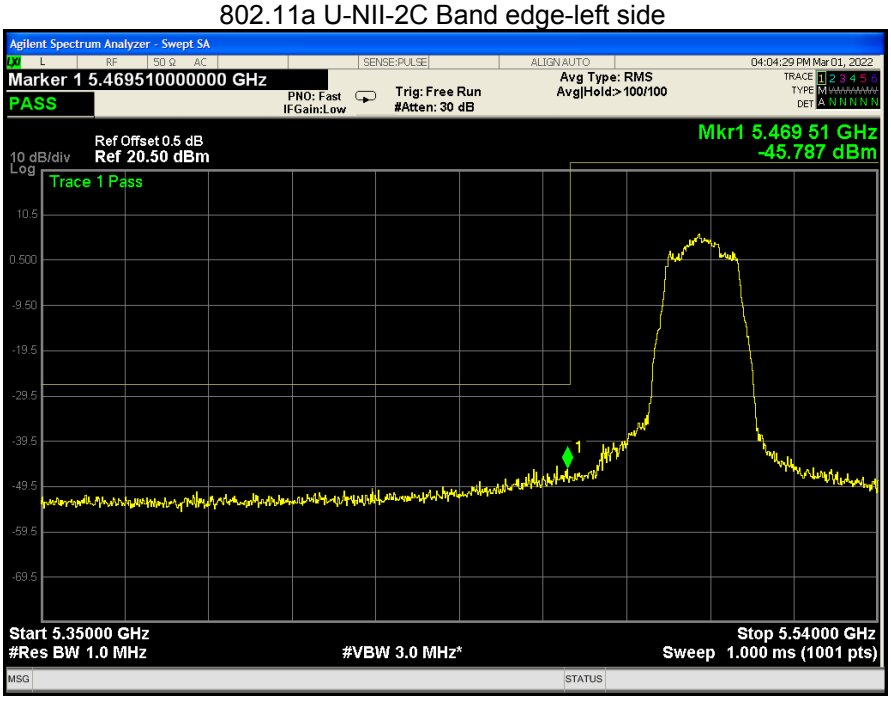
802.11n(HT80) U-NII-2A Band edge-left side



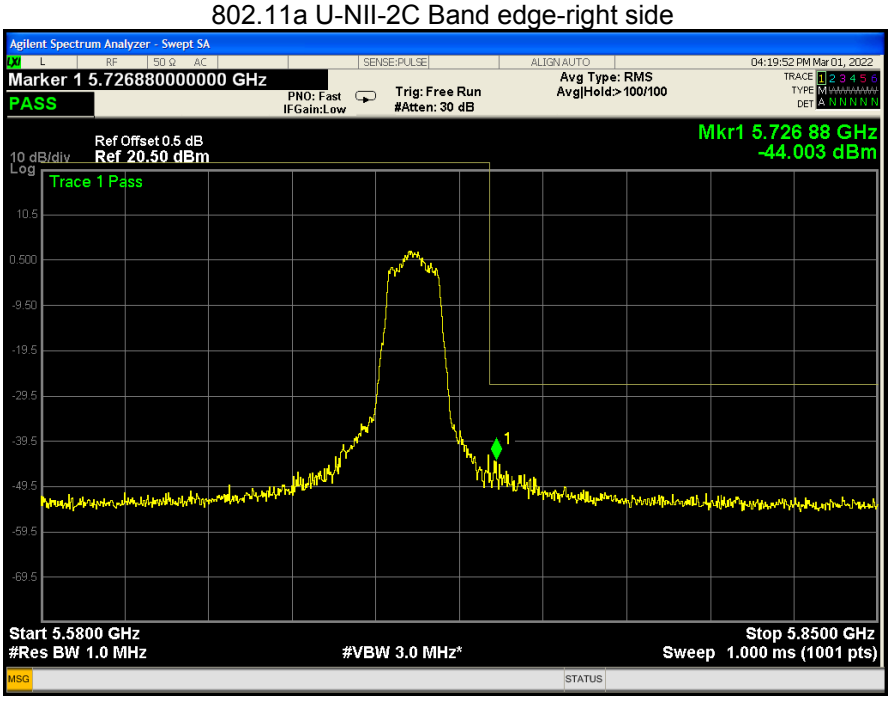
802.11n(HT80) U-NII-2A Band edge-right side



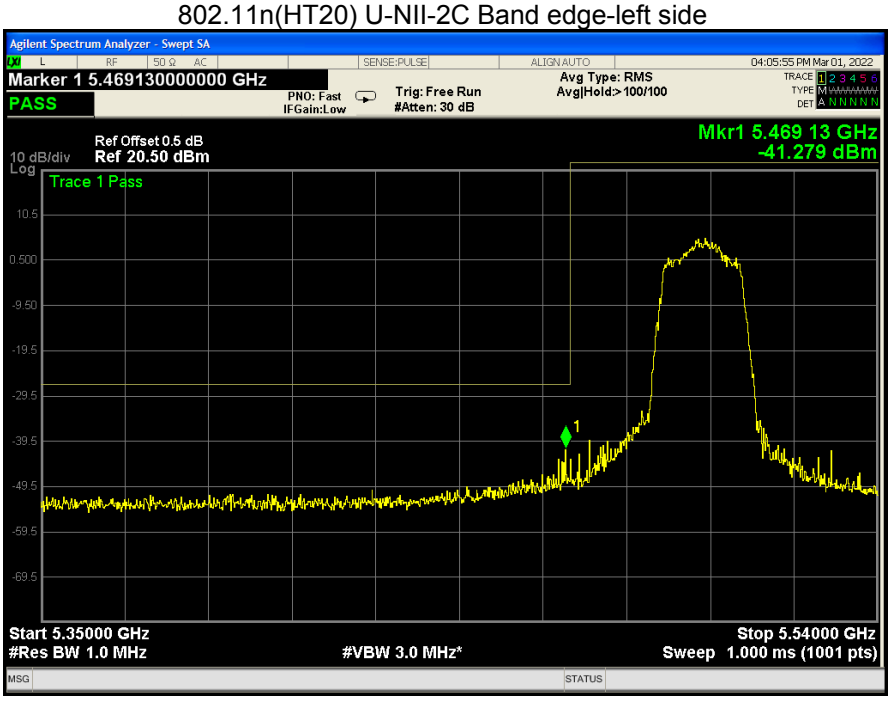
802.11a U-NII-2C Band edge-left side



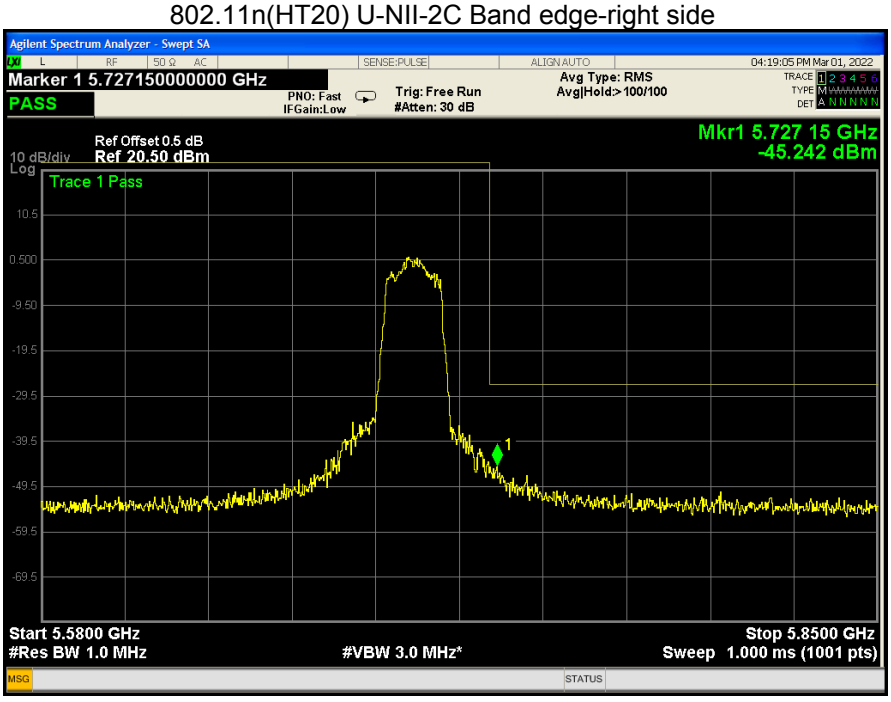
802.11a U-NII-2C Band edge-right side



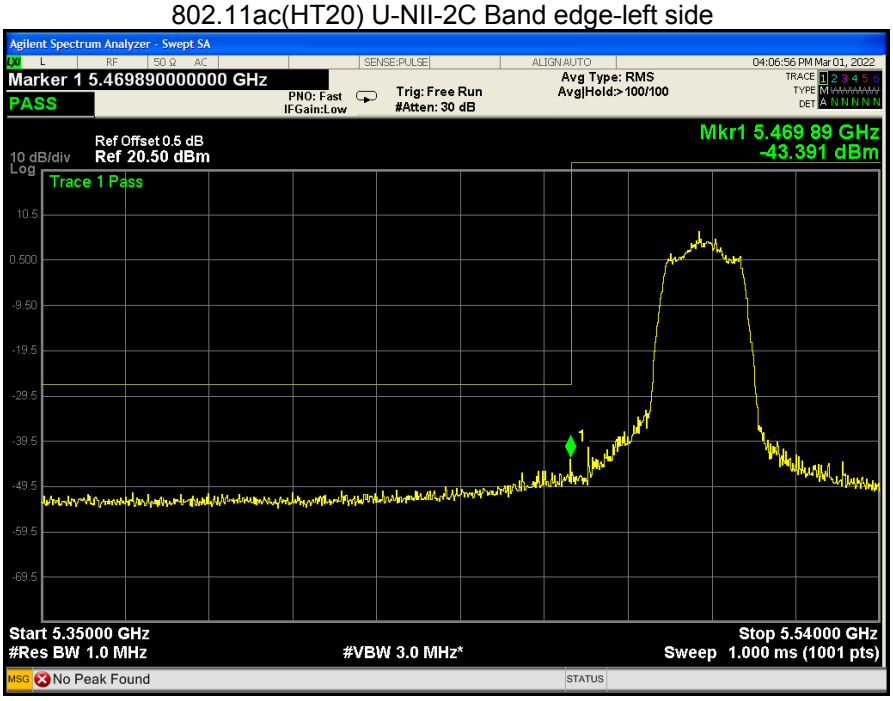
802.11n(HT20) U-NII-2C Band edge-left side



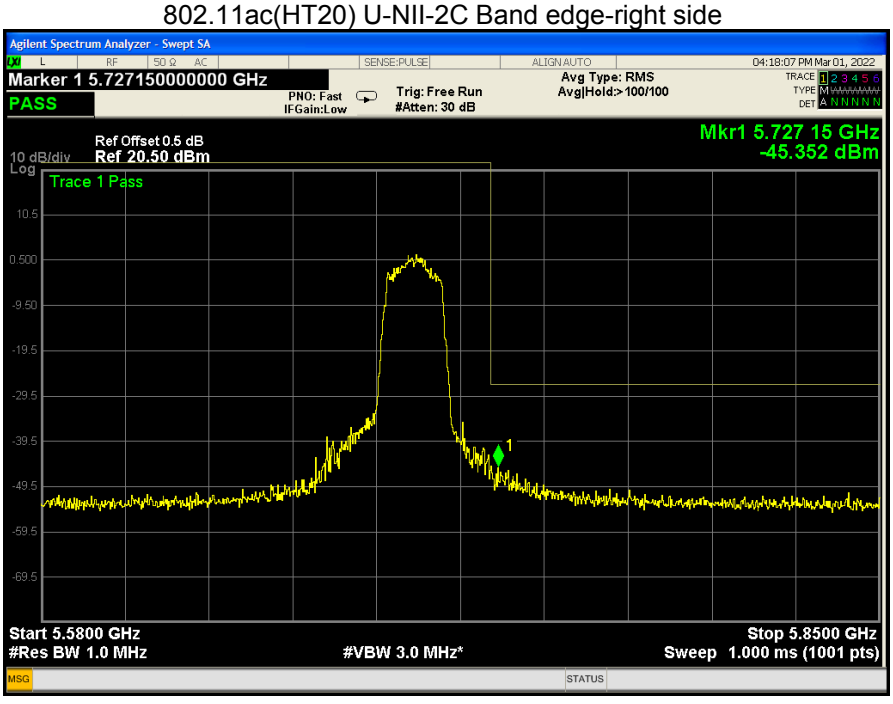
802.11n(HT20) U-NII-2C Band edge-right side



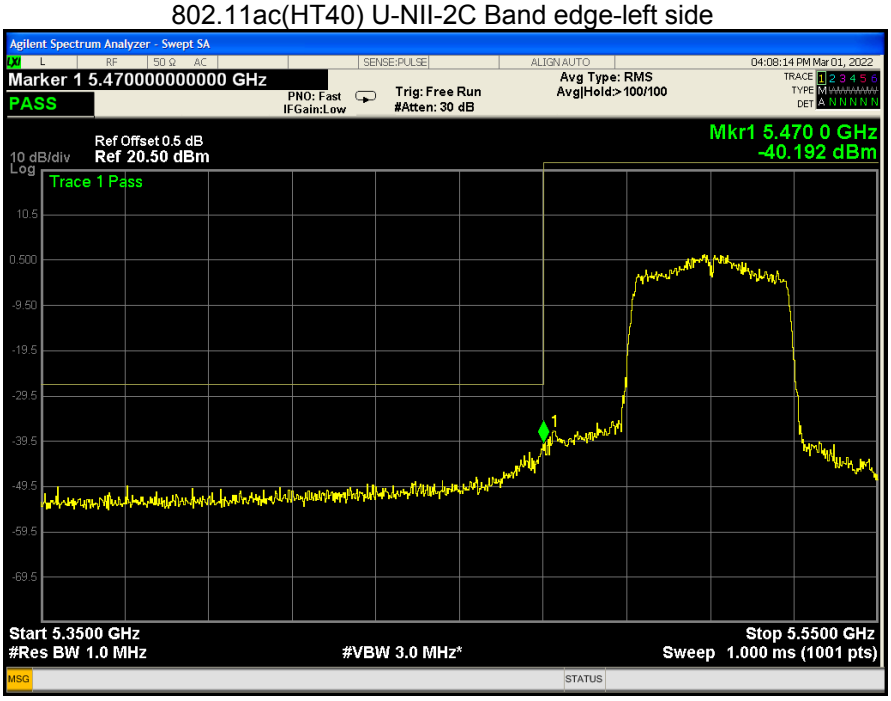
802.11ac(HT20) U-NII-2C Band edge-left side



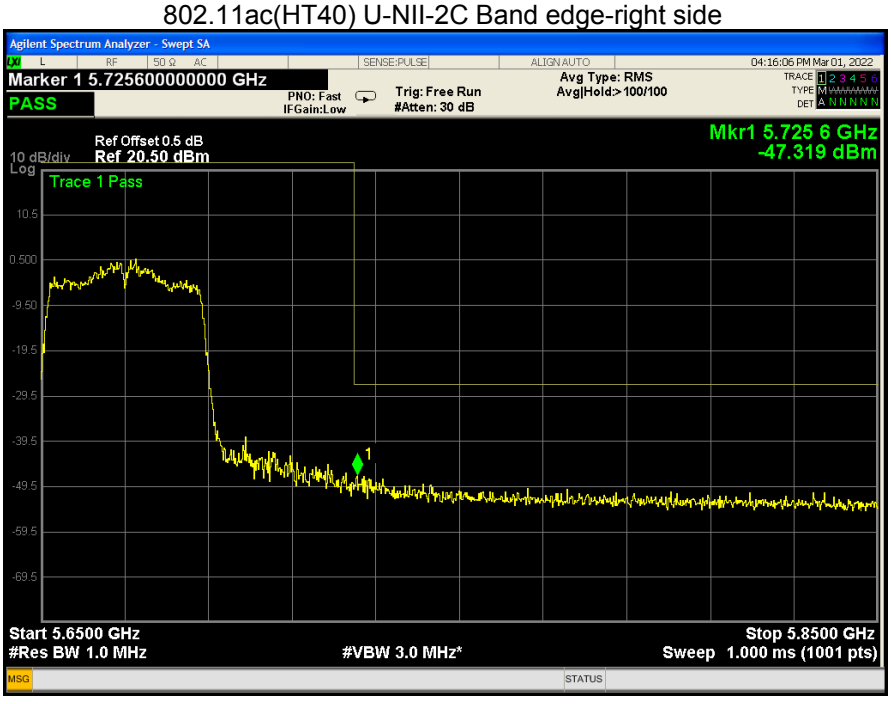
802.11ac(HT20) U-NII-2C Band edge-right side



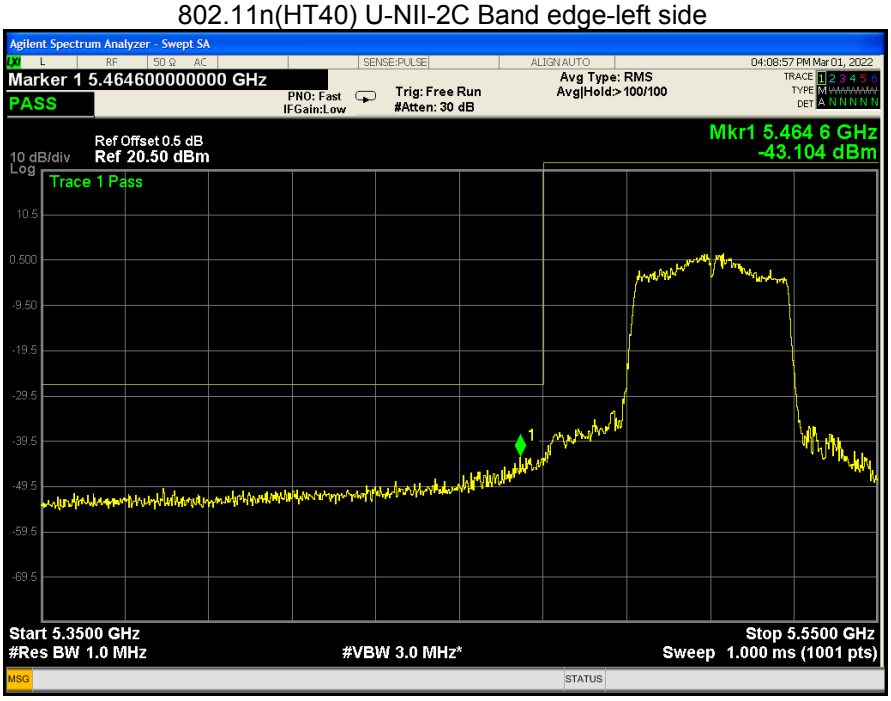
802.11ac(HT40) U-NII-2C Band edge-left side



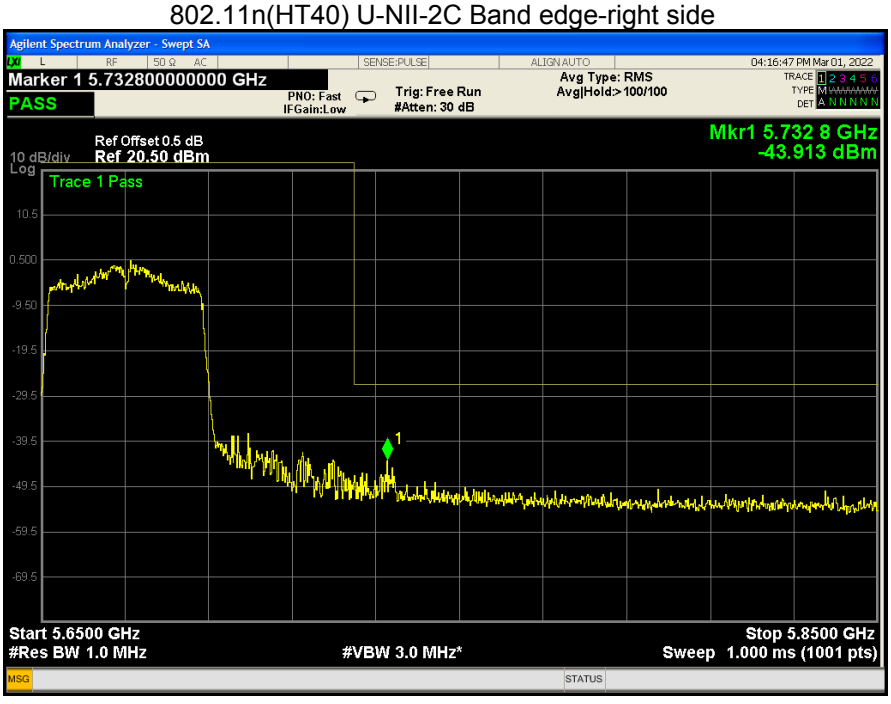
802.11ac(HT40) U-NII-2C Band edge-right side



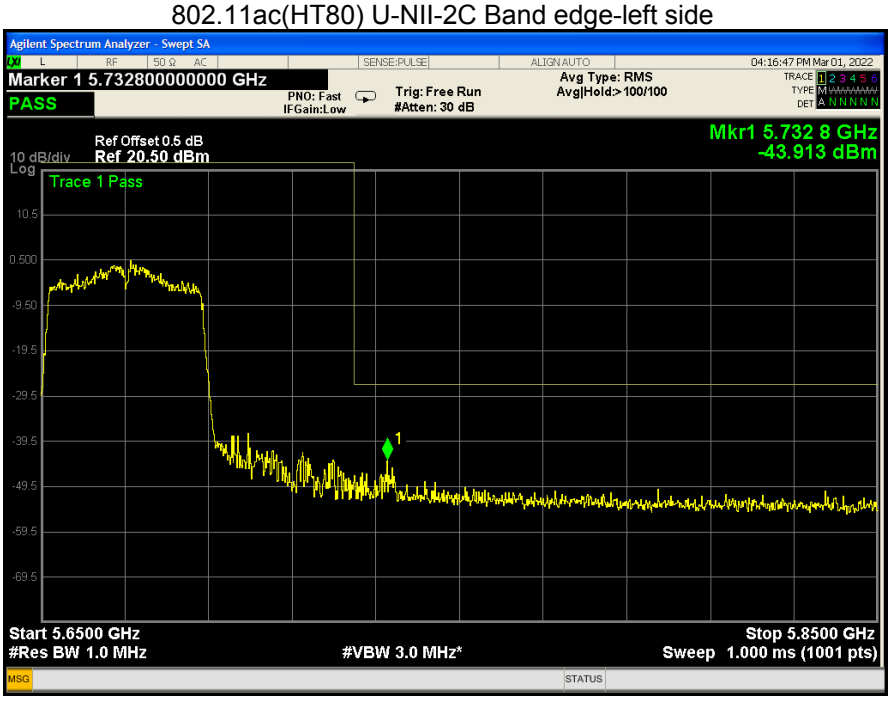
802.11n(HT40) U-NII-2C Band edge-left side



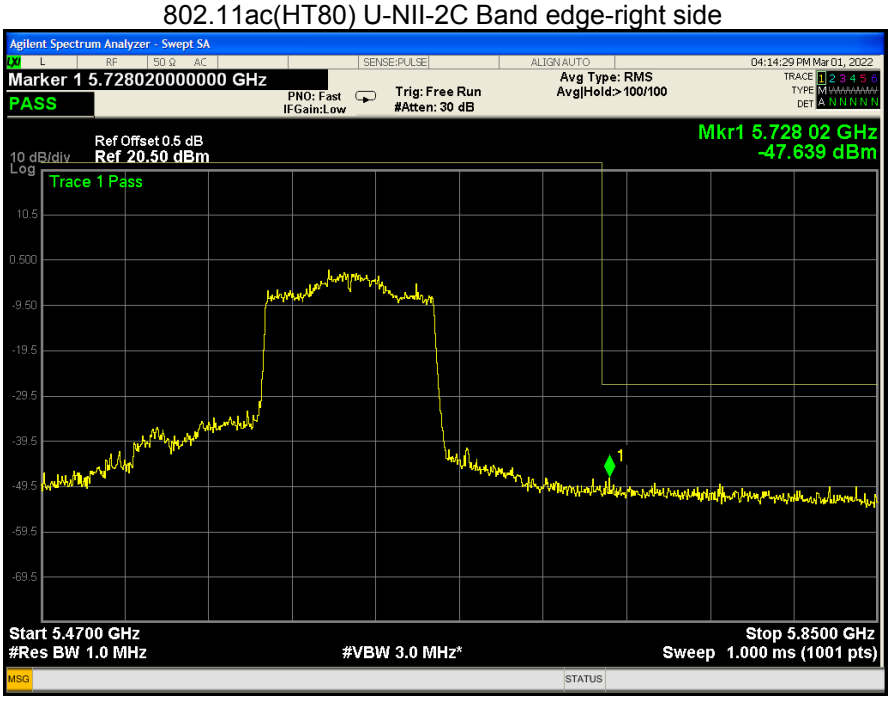
802.11n(HT40) U-NII-2C Band edge-right side



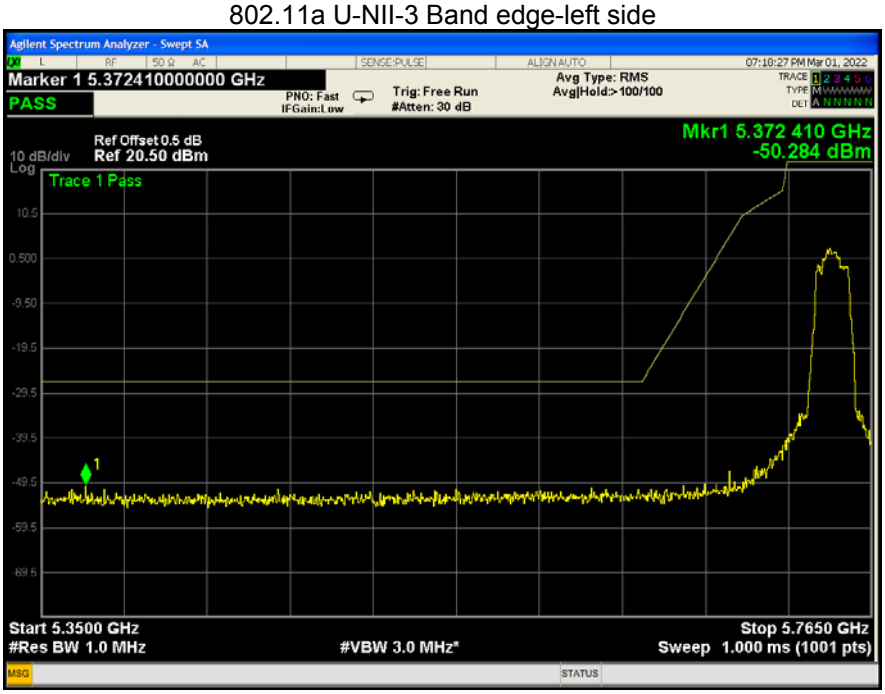
802.11ac(HT80) U-NII-2C Band edge-left side



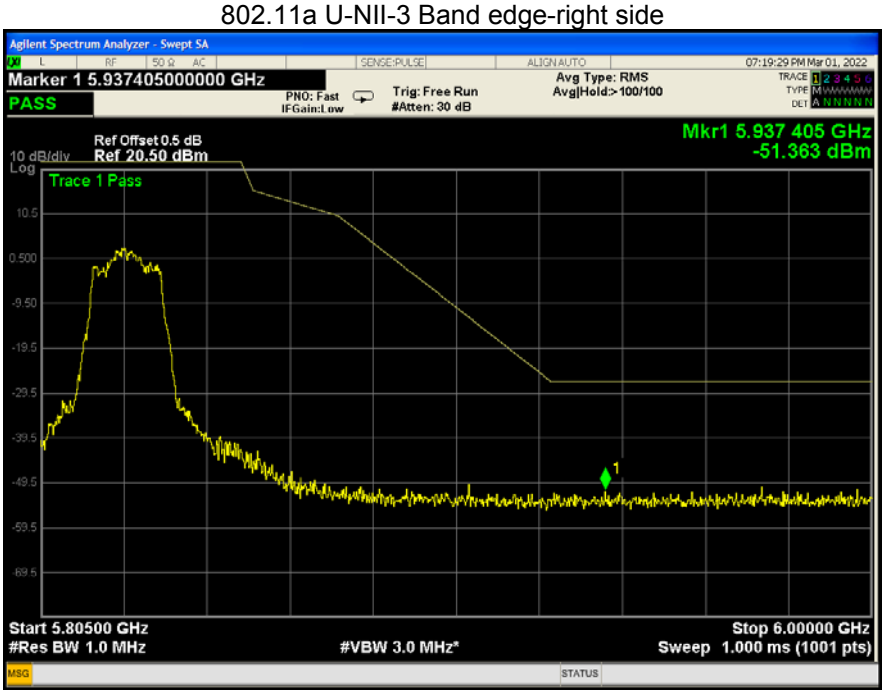
802.11ac(HT80) U-NII-2C Band edge-right side



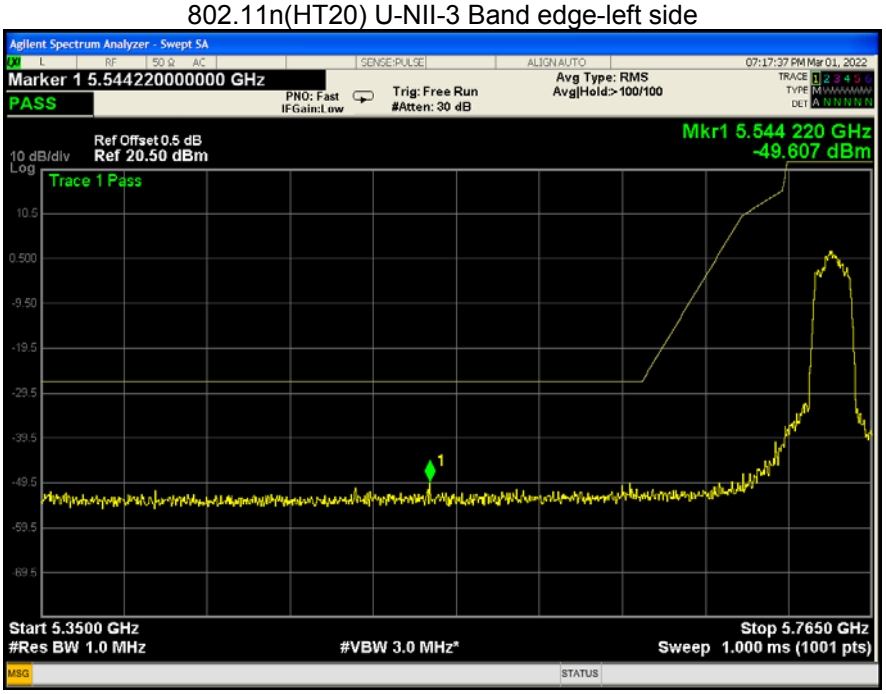
802.11a U-NII-3 Band edge-left side



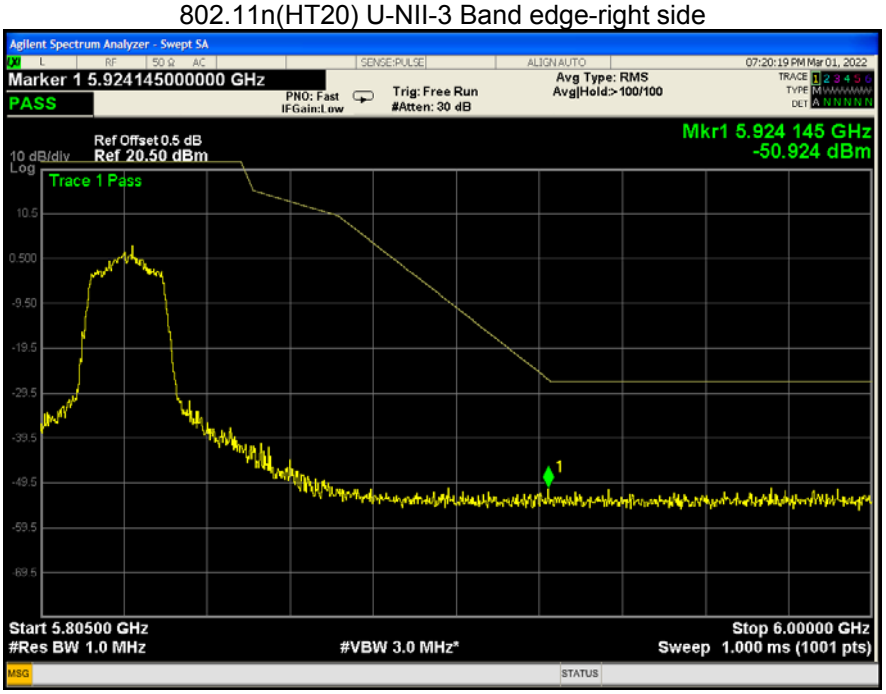
802.11a U-NII-3 Band edge-right side



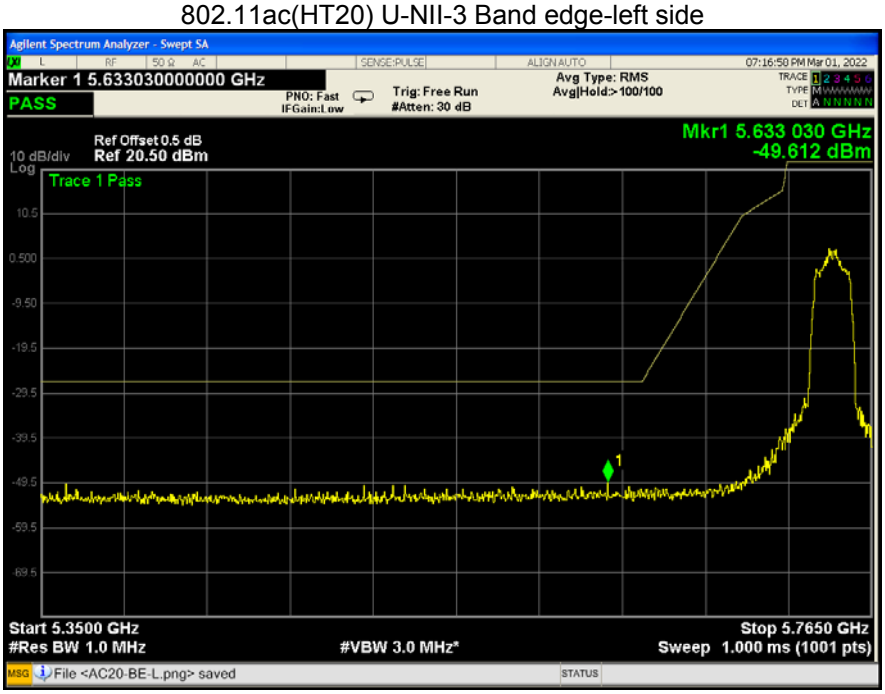
802.11n(HT20) U-NII-3 Band edge-left side



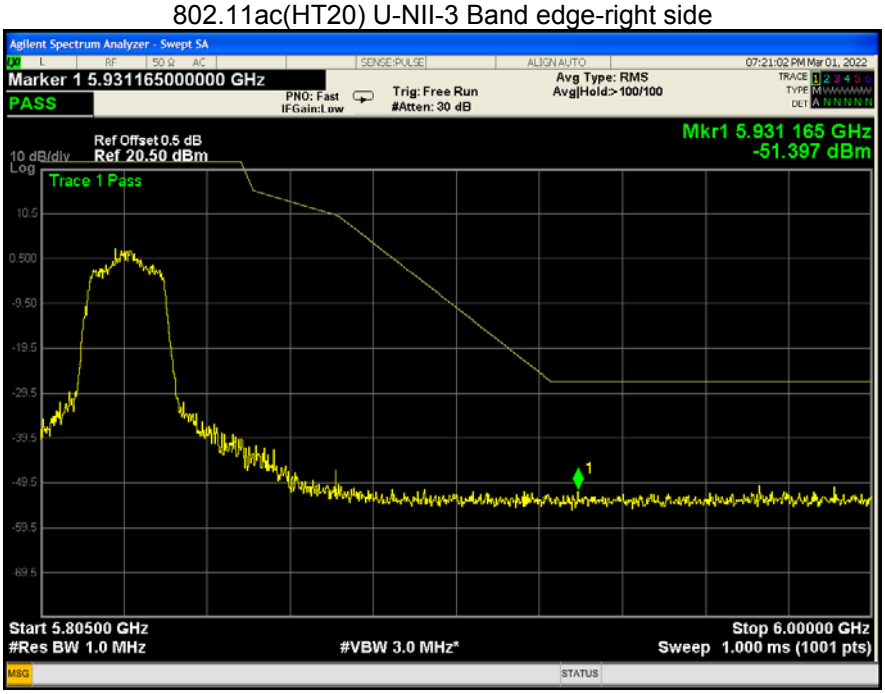
802.11n(HT20) U-NII-3 Band edge-right side



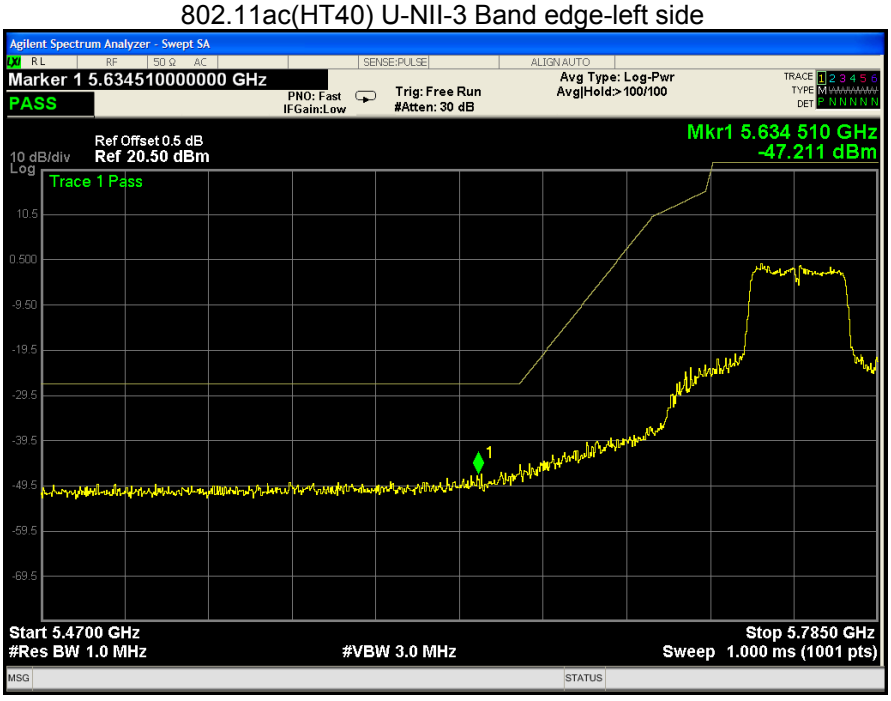
802.11ac(HT20) U-NII-3 Band edge-left side



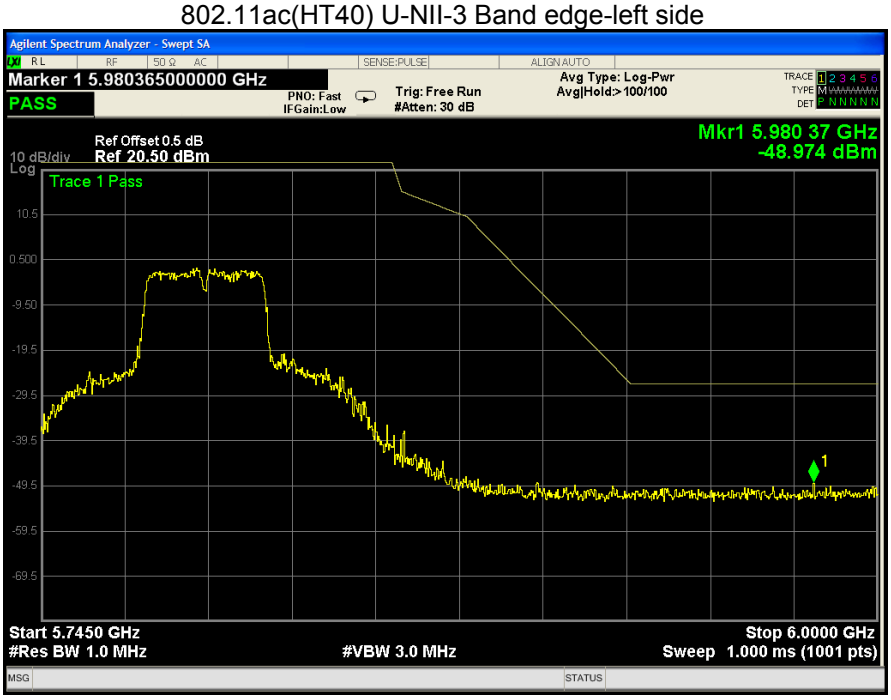
802.11ac(HT20) U-NII-3 Band edge-right side



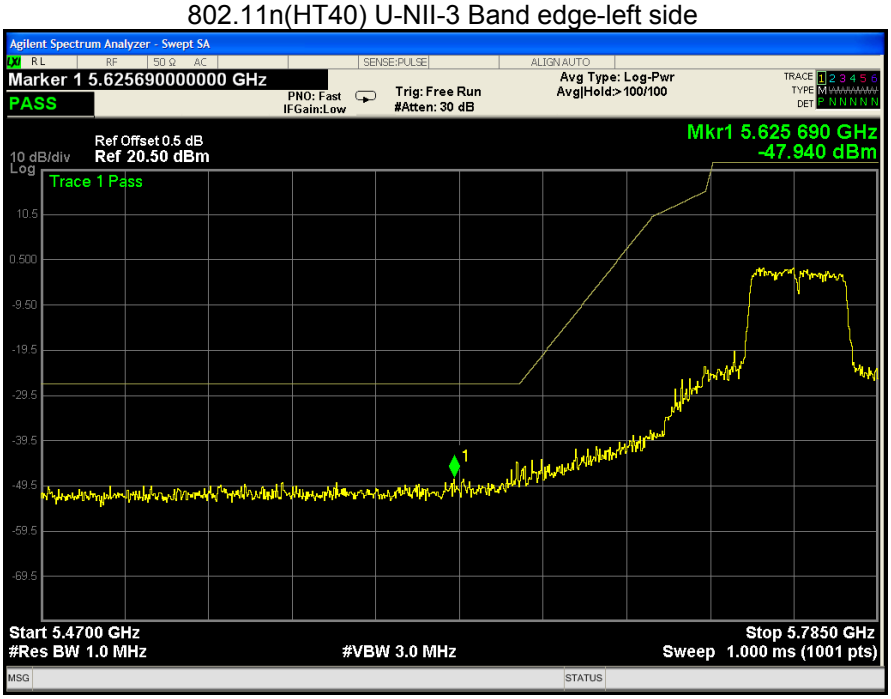
802.11ac(HT40) U-NII-3 Band edge-left side



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



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



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