TEST REPORT

Reference No.	:	WTS18S12133823-6W
FCC ID	:	2AC88-ELTS18A02
Applicant	:	HONGKONG UCLOUDLINK NETWORK TECHNOLOGY LIMITED
Address	:	Suite 603, 6/F, Laws Commercial Plaza, 788 Cheung Sha Wan Road, Kowloon, Hong Kong
Manufacturer	:	The same as above
Address	:	The same as above
Product	:	Smart Phone
Model(s)	:	ELTS18A02
Brand Name	:	GlocalMe
Standards	:	FCC CFR 47 Part 15 C Section 15.407: 2018
Date of Receipt sample	:	2018-12-25
Date of Test	:	2018-12-26 to 2019-03-20
Date of Issue	:	2019-03-21
Test Result	:	**Pass**

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

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2 Laboratories Introduction

Waltek Services (Shenzhen) Co., Ltd is a professional third-party testing and certification laboratory with multi-year product testing and certification experience, established strictly in accordance with ISO/IEC 17025 requirements, and accredited by ILAC (International Laboratory Accreditation Cooperation) member. A2LA (American Association for Laboratory Accreditation, the certification number is 4243.01) of USA, CNAS (China National Accreditation Service for Conformity Assessment, the registration number is L3110) of China. Meanwhile, Waltek has got recognition as registration and accreditation laboratory from EMSD (Electrical and Mechanical Services Department), and American Energy star, FCC (The Federal Communications Commission), CEC (California energy efficiency), ISED (Innovation, Science and Economic Development Canada). It's the strategic partner and data recognition laboratory of international authoritative organizations, such as Intertek (ETL-SEMKO), TÜV Rheinland, TÜV SÜD, etc.

Waltek Services (Shenzhen) Co., Ltd is one of the largest and the most comprehensive third party testing laboratory in China. Our test capability covered four large fields: safety test. Electro Magnetic Compatibility (EMC), and energy performance, wireless radio. As a professional, comprehensive, justice international test organization, we still keep the scientific and rigorous work attitude to help each client satisfy the international standards and assist their product enter into globe market smoothly.

Test Facility:

A. Accreditations for Conformity Assessment (International)

Country/Region	Scope Covered By	Scope	Note
USA	ISO/IEC 17025	FCC ID \ DOC \ VOC	1
Canada		IC ID \ VOC	2
Japan		MIC-T \ MIC-R	-
Europe		EMCD \ RED	-
Taiwan		NCC	-
Hong Kong		OFCA	-
Australia		RCM	-
India		WPC	-
Thailand		NTC	-
Singapore		IDA	-
Note: 1. FCC Designation No.: CN1201. Test Firm Registration No.: 523476. 2. ISED CAB identifier: CN0013			

B. TCBs and Notify Bodies Recognized Testing Laboratory.

Recognized Testing Laboratory of …	Notify body number
TUV Rheinland	Optional.
Intertek	
TUV SUD	
SGS	
Phoenix Testlab GmbH	0700
Element Materials Technology Warwick Ltd	0891
Timco Engineering, Inc.	1177
Eurofins Product Service GmbH	0681

3 Contents

4 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS18S12133823-6W	2018-12-25	2018-12-26 to 2019-03-20	2019-03-21	original	-	Valid

5 General Information

5.1 General Description of E.U.T.

Product:	Smart Phone
Model(s):	ELTS18A02
Model Description:	N/A
GSM Band(s):	GSM 850/900/1800/1900MHz
GPRS/EGPRS Class:	12
WCDMA Band(s):	FDD Band I/II/IV/V/VIII
CDMA Band(s):	BC0/ BC1
LTE Band(s):	FDD Band 2/4/5/7/12/13/17/26 TDD Band 41
Wi-Fi Specification:	2.4G-802.11b/g/n HT20/n HT40 5G-802.11a/ n(HT20/40)/ac(HT20/40/80)
Bluetooth Version:	Bluetooth v4.1 with BLE
GPS:	Support
NFC:	Support
Hardware Version:	S20i_M_VB
Software Version:	S20iQ19_C00_TSV1.4001.001.190226 userdebug release-keys
Highest frequency (Exclude Radio):	1.8GHz
Storage Location:	Internal Storage
Note:	N/A

5.2 Details of E.U.T.

Operation Frequency:	802.11a/n/ac (HT20): U-NII-1: 5150-5250MHz, U-NII-2A: 5250-5350MHz(DFS), U-NII-2C: 5470-5725MHz(DFS), U-NII-3:5725-5850MHz 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: 14.57dBm U-NII-2A: 15.39dBm U-NII-2C: 15.56dBm U-NII-3: 15.44dBm
Type of Modulation:	OFDM
Antenna installation:	internal permanent antenna
Antenna Gain:	3.3dBi

Ratings:	Battery DC 3.85V, 2000mAh DC 5V, 2.0A charging from adapter 1 (Adapter Input: 100-240V~50/60Hz 0.3A) DC 5V, 2.0A charging from adapter 2 (Adapter Input: 100-240V~50/60Hz MAX 0.35A)
Adapter 1:	Manufacturer: ShenZhen HuaJin Electronics CO.,LTD Model No.: HJ-0502000W2-US
Adapter 2:	Manufacturer: Shenzhen Flypower Technology Co., Ltd. Model No.: PS10J050K2000UU

5.3 Channel List

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

U-NII-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	106	5530
108	5540	110	5550
112	5560	116	5580
118	5590	120	5600
122	5610	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 only the lowest frequency was shown in report 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):

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

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

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

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

For 802.11ac(HT80):

channel	Frequency(MHz)	channel	Frequency(MHz)
42	5210		

channel	Frequency(MHz)	channel	Frequency(MHz)
58	5290		

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

channel	Frequency(MHz)	channel	Frequency(MHz)
155	5775		

6 Equipment Used during Test

6.1 Equipments List

Conducted Emissions Test Site 1#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMI Test Receiver	R&S	ESCI	100947	2018-09-14	2019-09-13
2.	LISN	R&S	ENV216	101215	2018-09-14	2019-09-13
3.	Cable	Top	TYPE16(3.5M)	-	2018-09-14	2019-09-13
Conducted Emissions Test Site 2#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMI Test Receiver	R&S	ESCI	101155	2018-09-14	2019-09-13
2.	LISN	SCHWARZBECK	NSLK 8128	8128-289	2018-09-14	2019-09-13
3.	Limiter	York	MTS-IMP-136	261115-001-0024	2018-09-14	2019-09-13
4.	Cable	LARGE	RF300	-	2018-09-14	2019-09-13
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	2018-09-14	2019-09-13
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	2018-09-14	2019-09-13
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	2018-09-14	2019-09-13
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	2018-09-14	2019-09-13
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	2018-09-14	2019-09-13
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	2018-09-14	2019-09-13
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	2018-09-14	2019-09-13
8	Coaxial Cable (above 1GHz)	Top	1GHz-25GHz	EW02014-7	2018-09-14	2019-09-13
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	2018-09-14	2019-09-13
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2018-09-14	2019-09-13
3	Amplifier	Compliance pirection systems inc	PAP-0203	22024	2018-09-14	2019-09-13
4	Cable	HUBER+SUHNER	CBL2	525178	2018-09-14	2019-09-13

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	2018-09-14	2019-09-13
2.	Spectrum Analyzer (9k-6GHz)	R&S	FSL6	100959	2018-09-14	2019-09-13
3.	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	2018-09-14	2019-09-13

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	PASS
Radiated Emissions	15.407 15.205(a) 15.209(a)	PASS
Duty Cycle	KDB 789033	PASS
6dB Bandwidth	15.407	PASS
26 dB Emission Bandwidth & 99% Occupied Bandwidth	15.407	PASS
Maximum Conducted Output Power	15.407	PASS
Power Spectral Density	15.407	PASS
Restricted bands around fundamental frequency	15.407	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:

Frequency (MHz)	Limit (dBμV)	
	Quasi-peak	Average
0.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5	56	46
5 o 30	60	50

8.1 E.U.T. Operation

Operating Environment **:**

Temperature: 21.5 °C

Humidity: 51.9 % RH

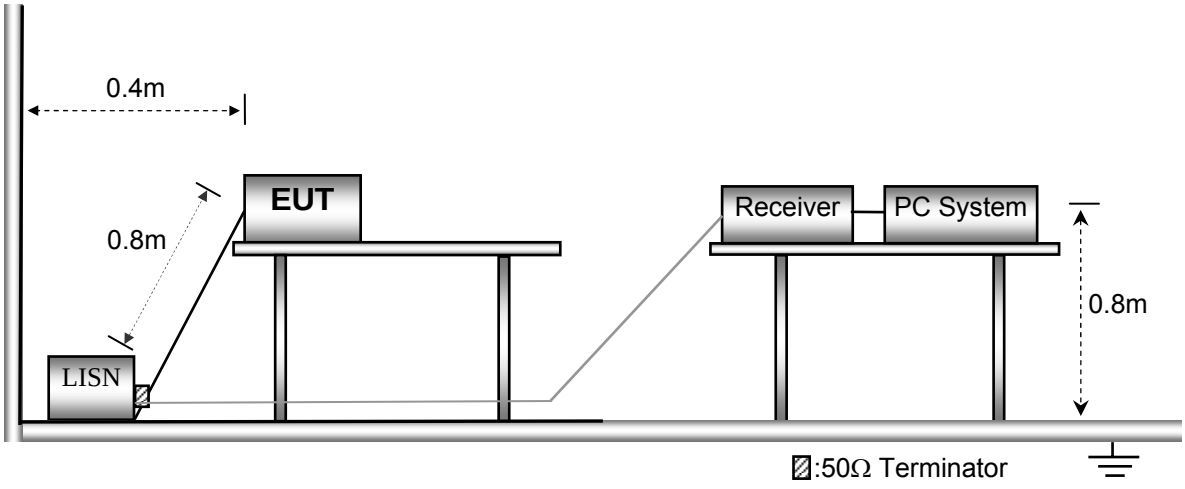
Atmospheric Pressure: 101.2kPa

EUT Operation **:**

The test was performed in TX 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 C63.4.



8.3 Measurement Description

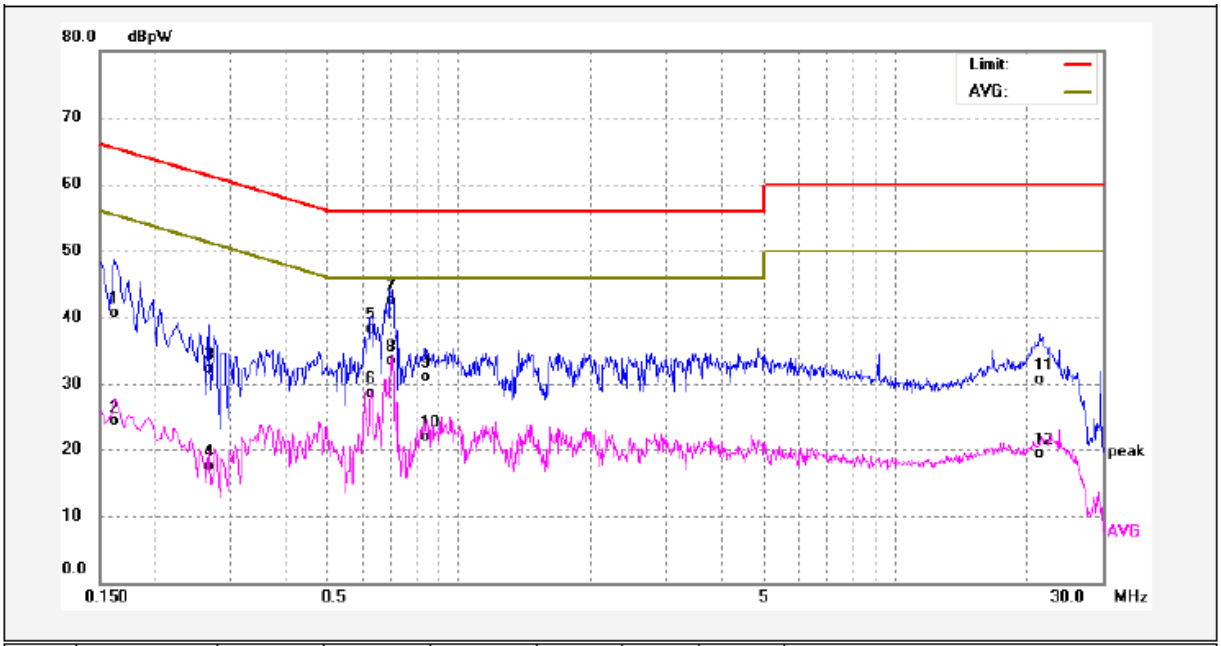
The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

8.4 Conducted Emission Test Result

An initial pre-scan was performed on the live and neutral lines. only the worst data (802.11n20 mode low channel) were reported.

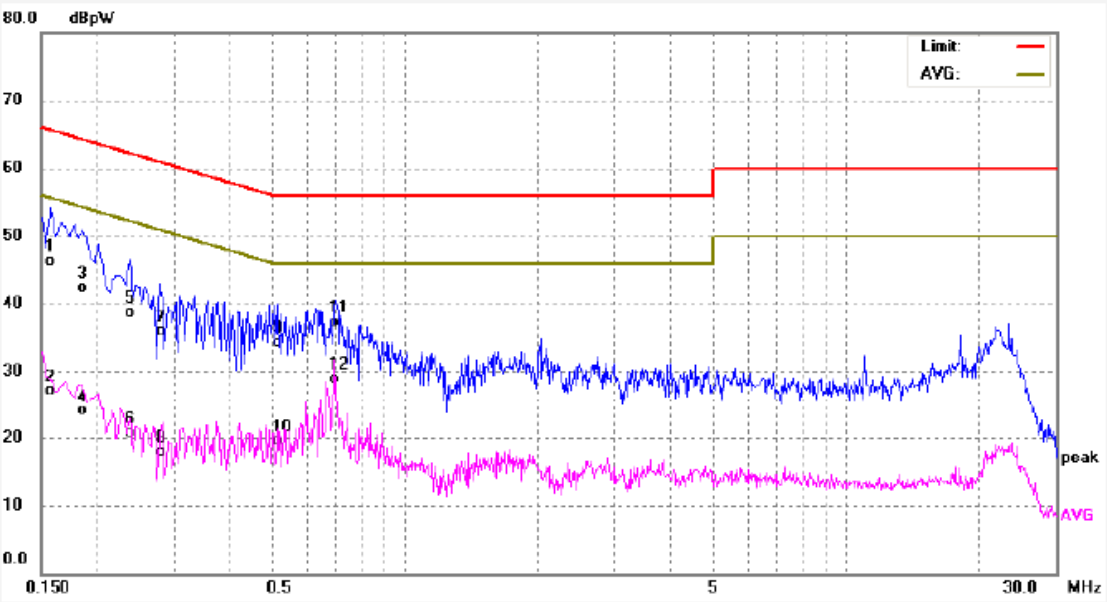
Adapter 1

Live line:



No.	Freq. (MHz)	Reading (dBpW)	Factor (dB)	Result (dBpW)	Limit dBpW	Margin (dB)	Detector	Remark
1	0.1620	30.90	9.77	40.67	65.36	-24.69	QP	
2	0.1620	14.52	9.77	24.29	55.36	-31.07	AVG	
3	0.2660	22.50	9.78	32.28	61.24	-28.96	QP	
4	0.2660	7.81	9.78	17.59	51.24	-33.65	AVG	
5	0.6300	28.51	9.84	38.35	56.00	-17.65	QP	
6	0.6300	18.93	9.84	28.77	46.00	-17.23	AVG	
7	0.6980	32.68	9.83	42.51	56.00	-13.49	QP	
8	0.6980	23.59	9.83	33.42	46.00	-12.58	AVG	
9	0.8340	21.21	9.86	31.07	56.00	-24.93	QP	
10	0.8340	12.07	9.86	21.93	46.00	-24.07	AVG	
11	21.5020	20.34	10.30	30.64	60.00	-29.36	QP	
12	21.5020	8.94	10.30	19.24	50.00	-30.76	AVG	

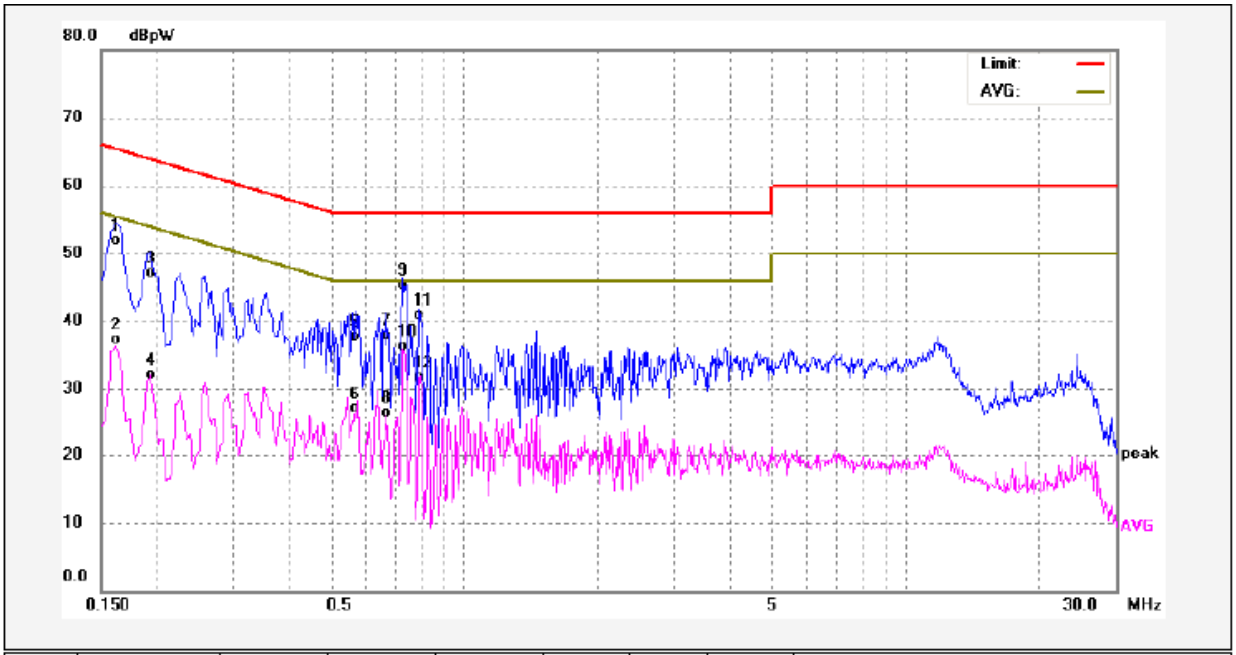
Neutral line:



No.	Freq. (MHz)	Reading (dBpW)	Factor (dB)	Result (dBpW)	Limit dBpW	Margin (dB)	Detector	Remark
1	0.1580	36.64	9.76	46.40	65.56	-19.16	QP	
2	0.1580	17.44	9.76	27.20	55.56	-28.36	AVG	
3	0.1884	32.52	9.77	42.29	64.10	-21.81	QP	
4	0.1884	14.40	9.77	24.17	54.10	-29.93	AVG	
5	0.2380	28.87	9.76	38.63	62.16	-23.53	QP	
6	0.2380	10.85	9.76	20.61	52.16	-31.55	AVG	
7	0.2779	26.06	9.79	35.85	60.88	-25.03	QP	
8	0.2779	8.10	9.79	17.89	50.88	-32.99	AVG	
9	0.5140	24.45	9.81	34.26	56.00	-21.74	QP	
10	0.5140	9.61	9.81	19.42	46.00	-26.58	AVG	
11	0.6980	27.55	9.83	37.38	56.00	-18.62	QP	
12	0.6980	19.07	9.83	28.90	46.00	-17.10	AVG	

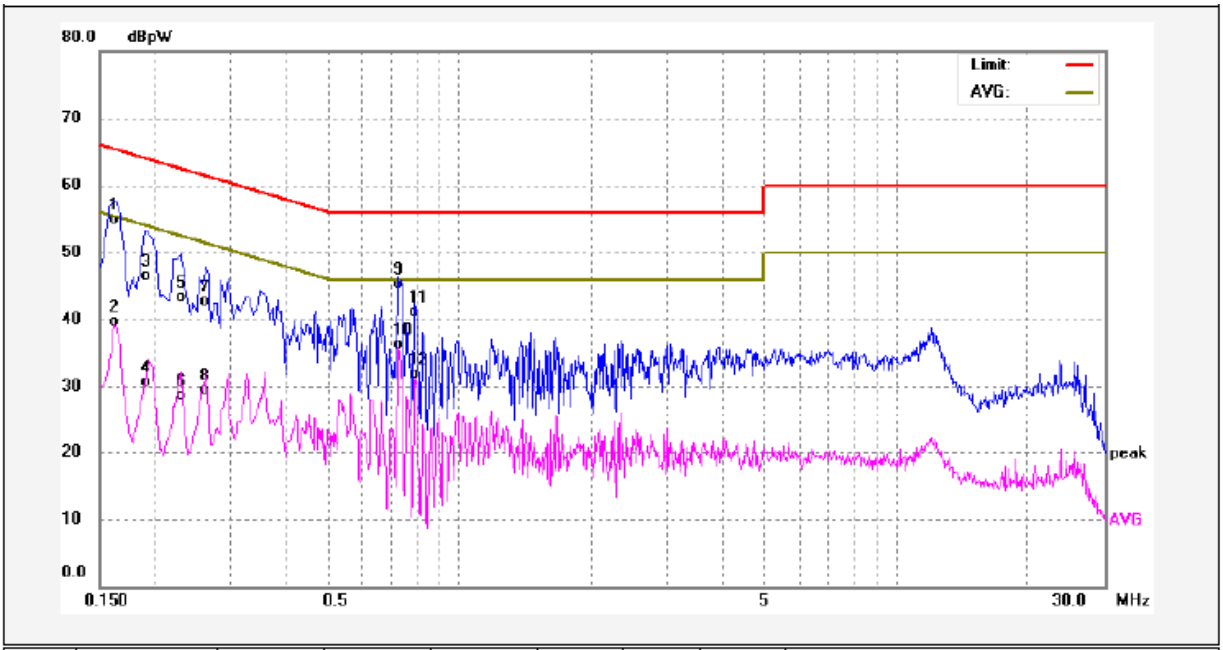
Adapter 2

Live line:



No.	Freq. (MHz)	Reading (dBpW)	Factor (dB)	Result (dBpW)	Limit dBpW	Margin (dB)	Detector	Remark
1	0.1620	42.22	9.77	51.99	65.36	-13.37	QP	
2	0.1620	27.61	9.77	37.38	55.36	-17.98	AVG	
3	0.1940	37.34	9.77	47.11	63.86	-16.75	QP	
4	0.1940	22.41	9.77	32.18	53.86	-21.68	AVG	
5	0.5660	27.79	9.83	37.62	56.00	-18.38	QP	
6	0.5660	17.27	9.83	27.10	46.00	-18.90	AVG	
7	0.6620	28.16	9.83	37.99	56.00	-18.01	QP	
8	0.6620	16.72	9.83	26.55	46.00	-19.45	AVG	
9	0.7260	35.44	9.84	45.28	56.00	-10.72	QP	
10	0.7260	26.45	9.84	36.29	46.00	-9.71	AVG	
11	0.7900	31.06	9.86	40.92	56.00	-15.08	QP	
12	0.7900	21.83	9.86	31.69	46.00	-14.31	AVG	

Neutral line:



No.	Freq. (MHz)	Reading (dBpW)	Factor (dB)	Result (dBpW)	Limit dBpW	Margin (dB)	Detector	Remark
1	0.1620	45.14	9.77	54.91	65.36	-10.45	QP	
2	0.1620	29.84	9.77	39.61	55.36	-15.75	AVG	
3	0.1900	36.70	9.77	46.47	64.03	-17.56	QP	
4	0.1900	20.94	9.77	30.71	54.03	-23.32	AVG	
5	0.2300	33.56	9.76	43.32	62.45	-19.13	QP	
6	0.2300	18.89	9.76	28.65	52.45	-23.80	AVG	
7	0.2620	32.85	9.77	42.62	61.36	-18.74	QP	
8	0.2620	19.71	9.77	29.48	51.36	-21.88	AVG	
9	0.7260	35.44	9.84	45.28	56.00	-10.72	QP	
10	0.7260	26.46	9.84	36.30	46.00	-9.70	AVG	
11	0.7900	31.29	9.86	41.15	56.00	-14.85	QP	
12	0.7900	22.02	9.86	31.88	46.00	-14.12	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 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	$20\log^{(500)}$

9.1 EUT Operation

Operating Environment **:**

Temperature: 23.5 °C

Humidity: 52.1 % RH

Atmospheric Pressure: 101.2kPa

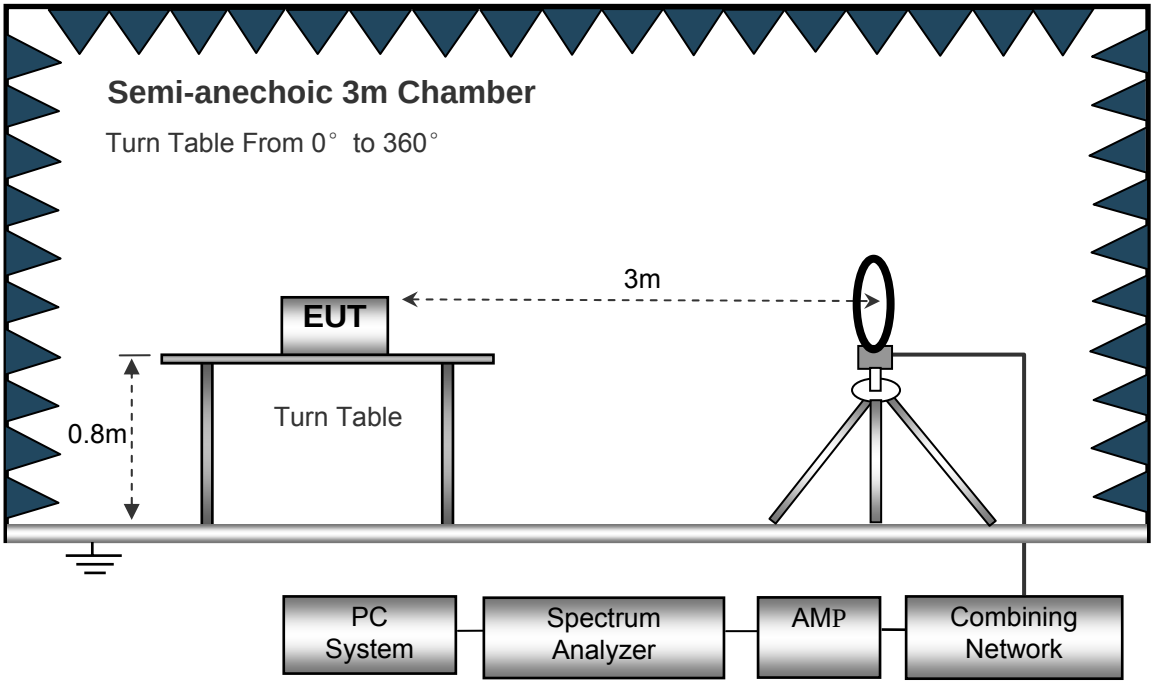
EUT Operation **:**

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

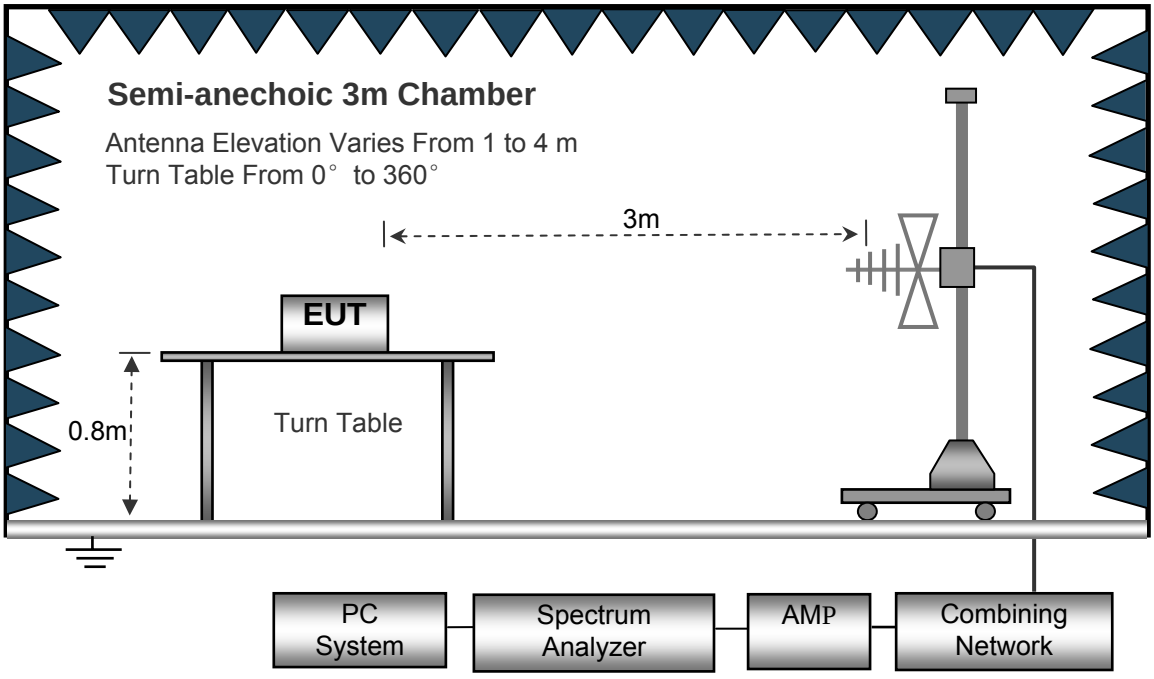
9.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4.

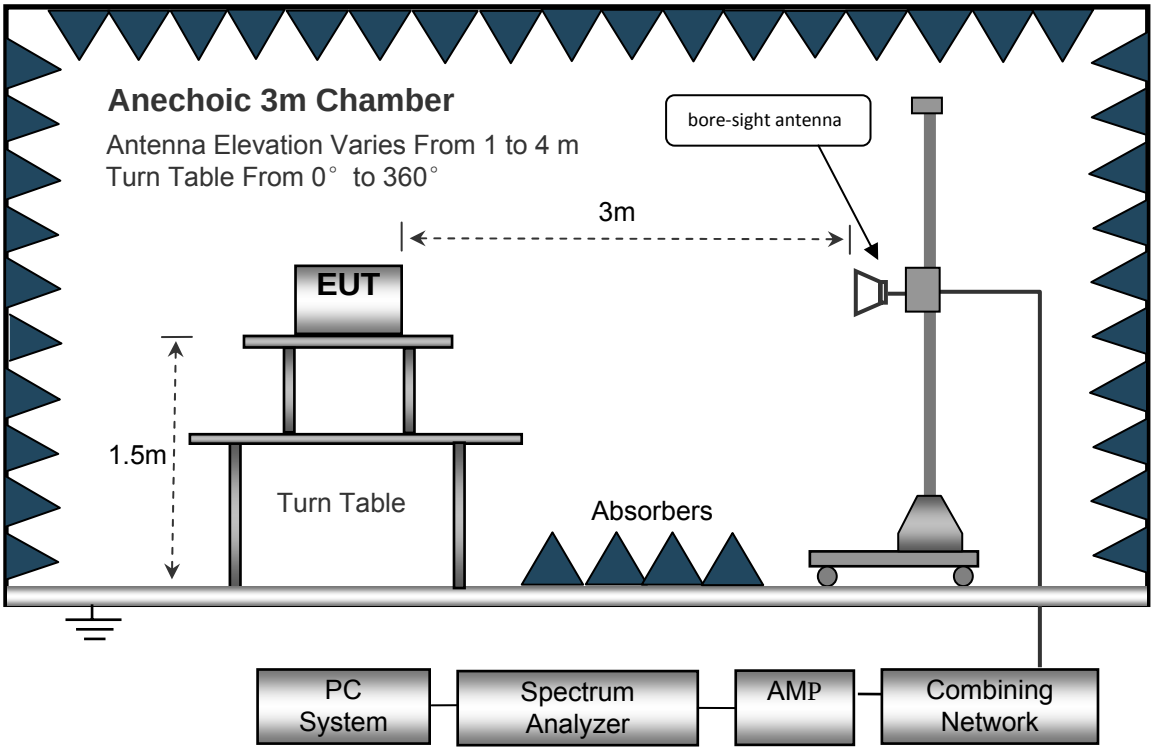
The test setup for emission measurement below 30MHz.



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 Z axis,so the worst data were shown as follow.
8. A 2.4GHz high –pass filter is used druing radiated emissions above 1GHz measurement.

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

9.5 Summary of Test Results

Test Frequency: 9KHz~30MHz

Remark :All band measurement for low/middle/high/channel, only the worst case (low channel for each band) were shown follow:

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	25.34	QP	21.84	40.00	7.18	29.54	-22.36
15.730	25.36	QP	21.35	40.00	6.71	29.54	-22.83
25.680	25.18	QP	20.67	40.00	5.85	29.54	-23.69
U-NII-1:802.11n20 5180MHz							
6.021	25.30	QP	21.84	40.00	7.14	29.54	-22.40
15.730	25.12	QP	21.35	40.00	6.47	29.54	-23.07
25.680	25.34	QP	20.67	40.00	6.01	29.54	-23.53
U-NII-1:802.11ac20 5180MHz							
6.021	25.52	QP	21.84	40.00	7.36	29.54	-22.18
15.730	24.85	QP	21.35	40.00	6.20	29.54	-23.34
25.680	25.16	QP	20.67	40.00	5.83	29.54	-23.71
U-NII-1:802.11n40 5190MHz							
6.021	25.63	QP	21.84	40.00	7.47	29.54	-22.07
15.730	24.87	QP	21.35	40.00	6.22	29.54	-23.32
25.680	24.96	QP	20.67	40.00	5.63	29.54	-23.91
U-NII-1:802.11ac40 5190MHz							
6.021	25.61	QP	21.84	40.00	7.45	29.54	-22.09
15.730	25.20	QP	21.35	40.00	6.55	29.54	-22.99
25.680	24.97	QP	20.67	40.00	5.64	29.54	-23.90
U-NII-1:802.11ac80 5210MHz							
6.021	25.10	QP	21.84	40.00	6.94	29.54	-22.60
15.730	24.52	QP	21.35	40.00	5.87	29.54	-23.67

25.680	24.65	QP	20.67	40.00	5.32	29.54	-24.22

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	25.98	QP	21.84	40.00	7.82	29.54	-21.72
15.730	24.33	QP	21.35	40.00	5.68	29.54	-23.86
25.680	24.75	QP	20.67	40.00	5.42	29.54	-24.12
U-NII-2A:802.11n20 5260MHz							
6.021	25.02	QP	21.84	40.00	6.86	29.54	-22.68
15.730	24.63	QP	21.35	40.00	5.98	29.54	-23.56
25.680	24.19	QP	20.67	40.00	4.86	29.54	-24.68
U-NII-2A:802.11ac20 5260MHz							
6.021	25.38	QP	21.84	40.00	7.22	29.54	-22.32
15.730	24.71	QP	21.35	40.00	6.06	29.54	-23.48
25.680	24.56	QP	20.67	40.00	5.23	29.54	-24.31
U-NII-2A:802.11n40 5270MHz							
6.021	25.08	QP	21.84	40.00	6.92	29.54	-22.62
15.730	24.55	QP	21.35	40.00	5.90	29.54	-23.64
25.680	25.70	QP	20.67	40.00	6.37	29.54	-23.17
U-NII-2A:802.11ac40 5270MHz							
6.021	25.10	QP	21.84	40.00	6.94	29.54	-22.60
15.730	24.88	QP	21.35	40.00	6.23	29.54	-23.31
25.680	24.25	QP	20.67	40.00	4.92	29.54	-24.62
U-NII-2A:802.11ac80 5290MHz							
6.021	24.59	QP	21.84	40.00	6.43	29.54	-23.11
15.730	25.13	QP	21.35	40.00	6.48	29.54	-23.06
25.680	24.87	QP	20.67	40.00	5.54	29.54	-24.00

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	25.18	QP	21.84	40.00	7.02	29.54	-22.52
15.730	24.50	QP	21.35	40.00	5.85	29.54	-23.69
25.680	24.98	QP	20.67	40.00	5.65	29.54	-23.89
U-NII-2C:802.11n20 5500MHz							
6.021	25.11	QP	21.84	40.00	6.95	29.54	-22.59
15.730	24.87	QP	21.35	40.00	6.22	29.54	-23.32
25.680	25.31	QP	20.67	40.00	5.98	29.54	-23.56
U-NII-2C:802.11ac20 5500MHz							
6.021	25.66	QP	21.84	40.00	7.50	29.54	-22.04
15.730	24.83	QP	21.35	40.00	6.18	29.54	-23.36
25.680	25.34	QP	20.67	40.00	6.01	29.54	-23.53
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

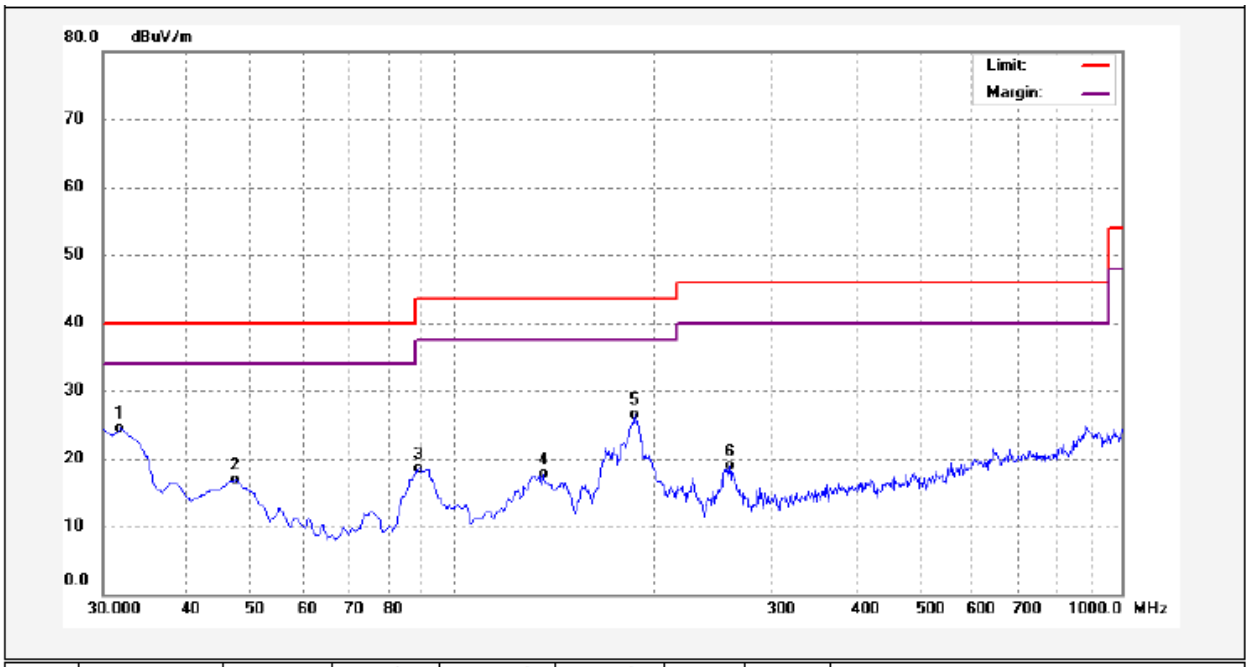
Frequency	Measurement results dBμV @3m	Detector PK/QP	Correct factor dB/m	Extrapolation factor dB	Measurement results (calculated) dBμV/m @30m	Limits dBμV/m @30m	Margin dB
(MHz)	Measurement results	Detector	Correct factor	Extrapolation factor	Measurement results (calculated)	Limits	Margin
802.11a 5745MHz							
6.021	24.57	QP	21.84	40.00	6.41	29.54	-23.13
15.730	25.15	QP	21.35	40.00	6.50	29.54	-23.04
25.680	25.69	QP	20.67	40.00	6.36	29.54	-23.18
802.11n20 5745MHz							
6.021	24.58	QP	21.84	40.00	6.42	29.54	-23.12
15.730	25.43	QP	21.35	40.00	6.78	29.54	-22.76
25.680	24.25	QP	20.67	40.00	4.92	29.54	-24.62
802.11ac20 5745MHz							
6.021	24.17	QP	21.84	40.00	6.01	29.54	-23.53
15.730	25.34	QP	21.35	40.00	6.69	29.54	-22.85
25.680	24.38	QP	20.67	40.00	5.05	29.54	-24.49
802.11n40 5755MHz							
6.021	24.50	QP	21.84	40.00	6.34	29.54	-23.20
15.730	24.64	QP	21.35	40.00	5.99	29.54	-23.55
25.680	24.36	QP	20.67	40.00	5.03	29.54	-24.51
802.11ac40 5755MHz							
6.021	25.28	QP	21.84	40.00	7.12	29.54	-22.42
15.730	24.37	QP	21.35	40.00	5.72	29.54	-23.82
25.680	24.19	QP	20.67	40.00	4.86	29.54	-24.68
802.11ac80 5775MHz							
6.021	25.13	QP	21.84	40.00	6.97	29.54	-22.57
15.730	24.57	QP	21.35	40.00	5.92	29.54	-23.62
25.680	25.16	QP	20.67	40.00	5.83	29.54	-23.71

Test Frequency: 30MHz ~ 1GHz

Remark: only the worst data (802.11a HT20 Low Channel mode) were reported.

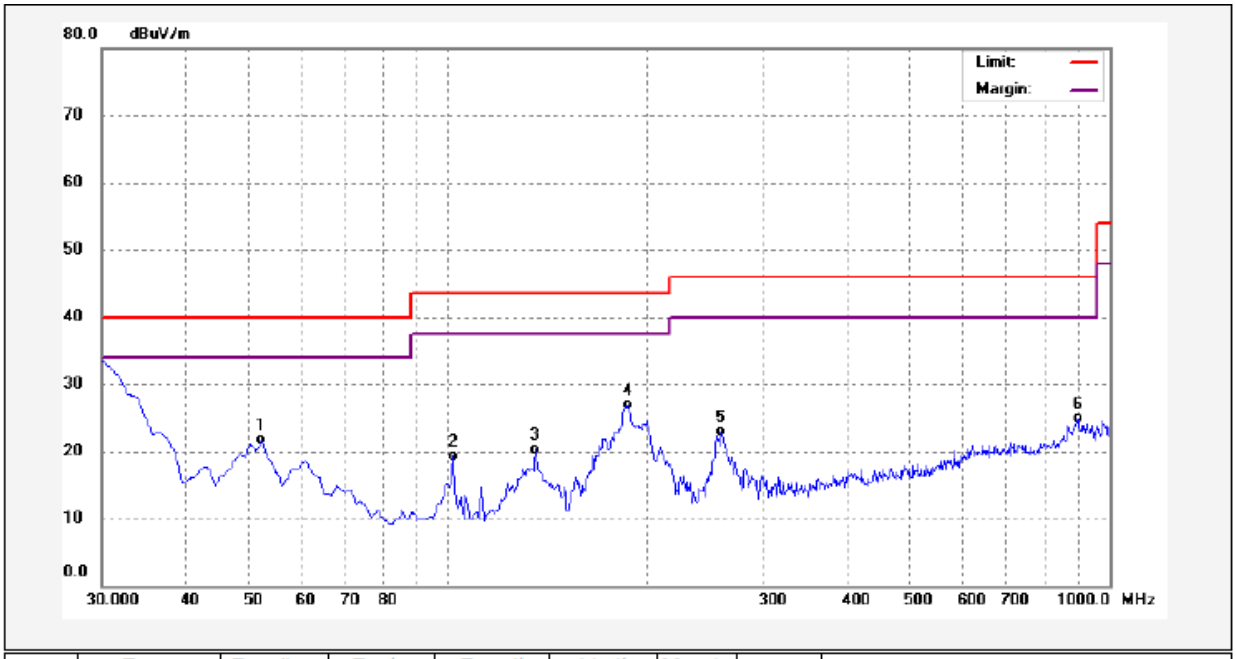
Adapter 1

Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	31.9400	40.46	-15.98	24.48	40.00	-15.52	QP	
2	47.4600	28.54	-11.69	16.85	40.00	-23.15	QP	
3	89.1700	38.41	-19.94	18.47	43.50	-25.03	QP	
4	136.7000	33.96	-16.29	17.67	43.50	-25.83	QP	
5	187.1400	43.68	-17.11	26.57	43.50	-16.93	QP	
6	259.8900	33.52	-14.57	18.95	46.00	-27.05	QP	

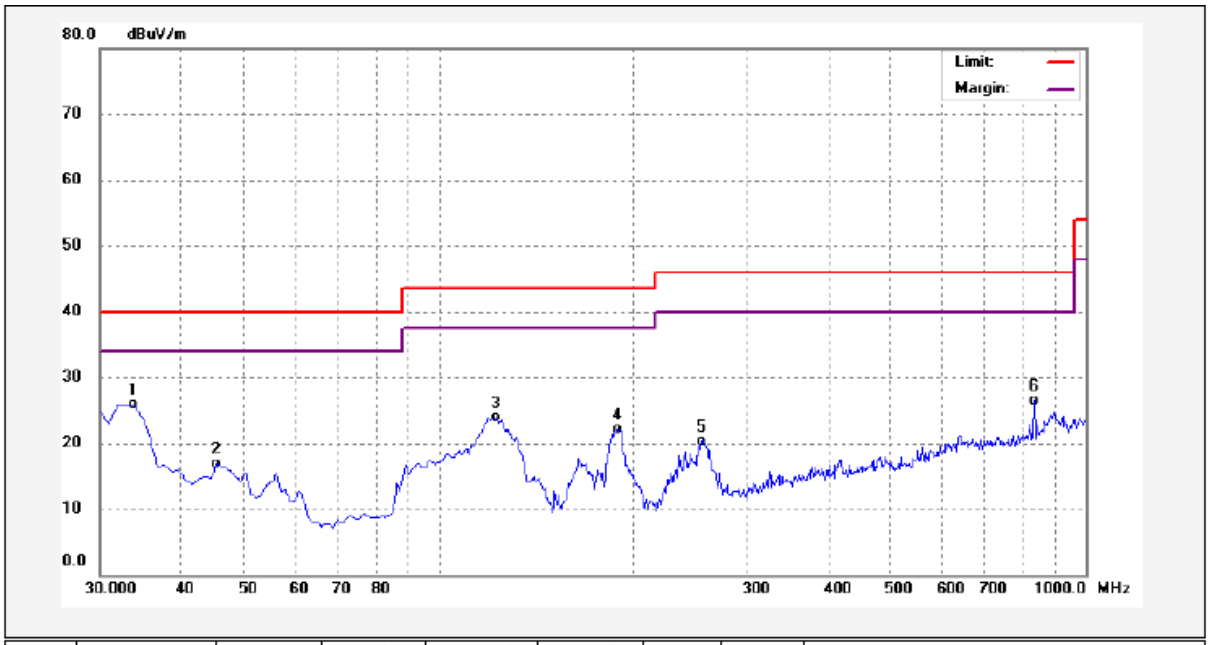
Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	52.3100	37.40	-15.70	21.70	40.00	-18.30	QP	
2	101.7800	36.27	-16.96	19.31	43.50	-24.19	QP	
3	135.7300	36.82	-16.46	20.36	43.50	-23.14	QP	
4	187.1400	43.82	-17.01	26.81	43.50	-16.69	QP	
5	258.9200	37.37	-14.56	22.81	46.00	-23.19	QP	
6	895.2400	28.09	-3.27	24.82	46.00	-21.18	QP	

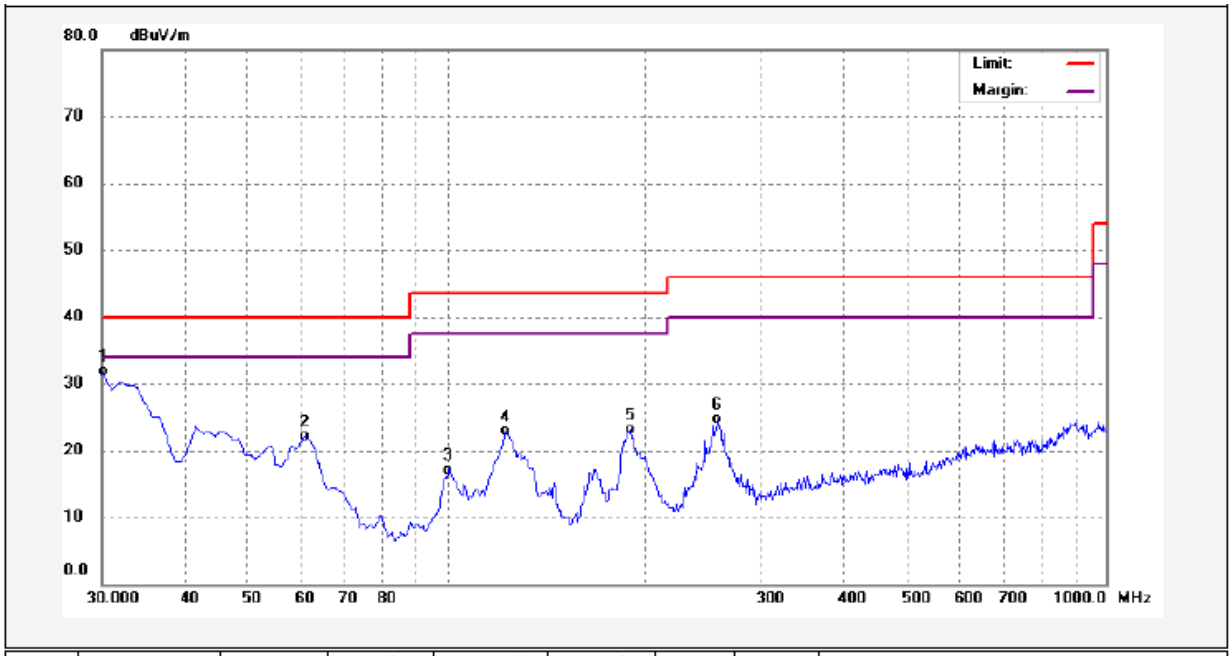
Adapter 2

Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	33.8800	40.58	-14.58	26.00	40.00	-14.00	QP	
2	45.5200	28.20	-11.38	16.82	40.00	-23.18	QP	
3	123.1200	39.32	-15.50	23.82	43.50	-19.68	QP	
4	189.0800	38.89	-16.74	22.15	43.50	-21.35	QP	
5	255.0400	34.97	-14.71	20.26	46.00	-25.74	QP	
6	833.1599	32.30	-5.88	26.42	46.00	-19.58	QP	

Vertical



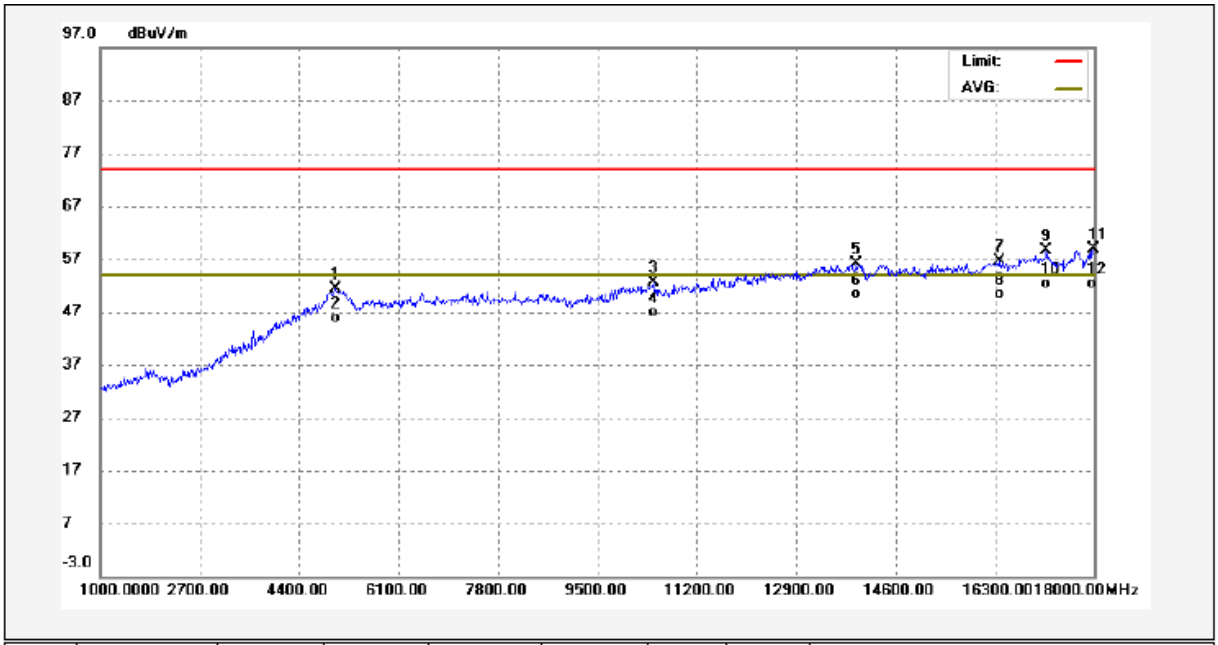
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	30.0000	49.74	-17.83	31.91	40.00	-8.09	QP	
2	61.0399	40.40	-18.36	22.04	40.00	-17.96	QP	
3	100.8100	34.21	-17.01	17.20	43.50	-26.30	QP	
4	123.1200	38.40	-15.52	22.88	43.50	-20.62	QP	
5	190.0500	39.45	-16.44	23.01	43.50	-20.49	QP	
6	257.9499	39.20	-14.55	24.65	46.00	-21.35	QP	

Test Frequency: Above 1GHz

Remark: only the worst data (802.11a HT20 Low Channel mode) were reported

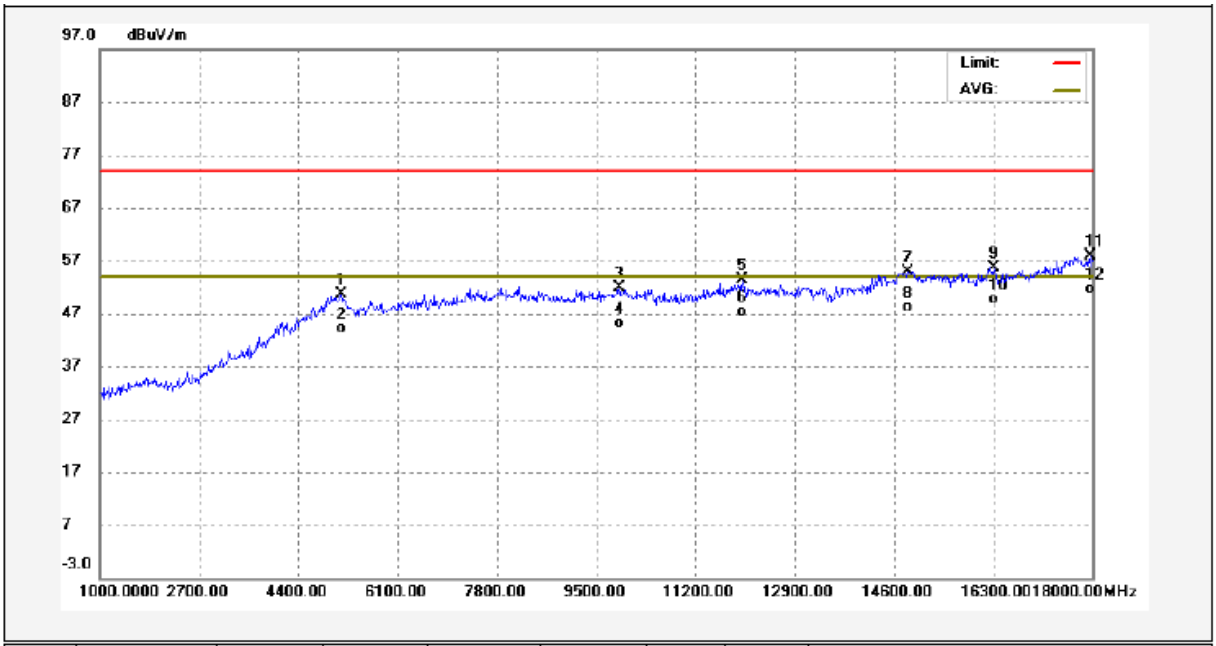
Adapter 1

Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	5029.000	48.52	2.87	51.39	74.00	-22.61	peak	
2	5029.000	43.08	2.87	45.95	54.00	-8.05	AVG	
3	10452.000	46.87	5.79	52.66	74.00	-21.34	peak	
4	10452.000	41.12	5.79	46.91	54.00	-7.09	AVG	
5	13937.000	46.11	10.09	56.20	74.00	-17.80	peak	
6	13937.000	40.27	10.09	50.36	54.00	-3.64	AVG	
7	16385.000	45.53	11.05	56.58	74.00	-17.42	peak	
8	16385.000	39.21	11.05	50.26	54.00	-3.74	AVG	
9	17167.000	44.61	14.09	58.70	74.00	-15.30	peak	
10	17167.000	38.22	14.09	52.31	54.00	-1.69	AVG	
11	17983.000	41.97	16.94	58.91	74.00	-15.09	peak	
12	17983.000	35.52	16.94	52.46	54.00	-1.54	AVG	

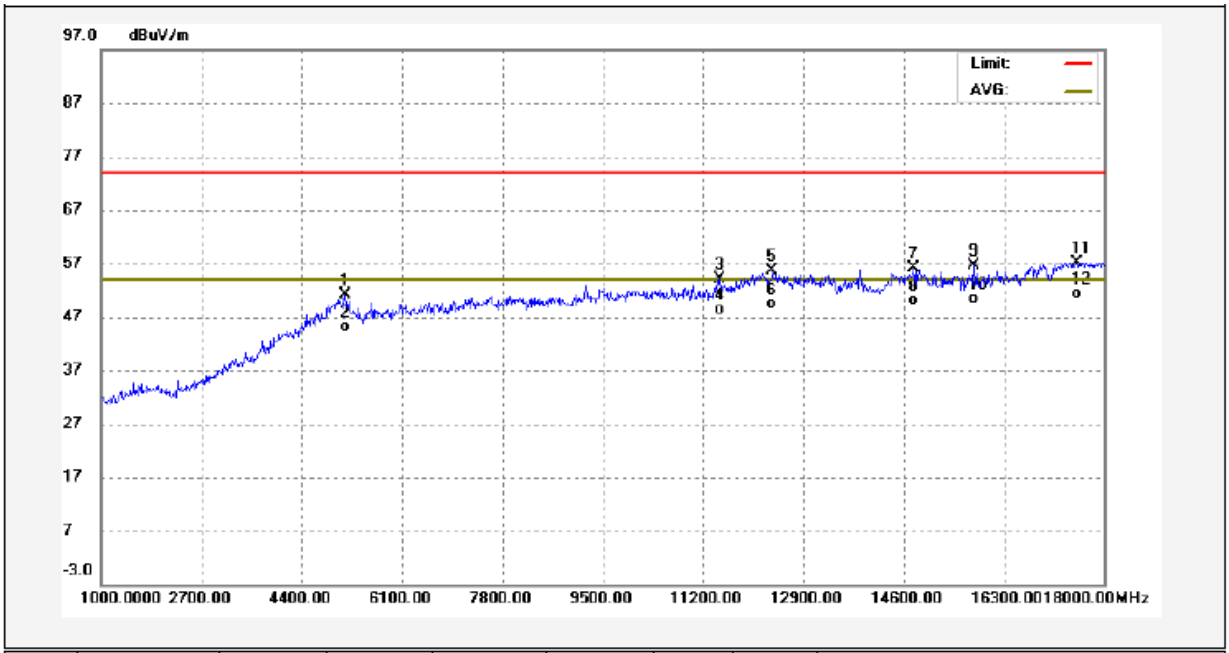
Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	5131.000	48.39	2.32	50.71	74.00	-23.29	peak	
2	5131.000	41.83	2.32	44.15	54.00	-9.85	AVG	
3	9891.000	46.87	4.93	51.80	74.00	-22.20	peak	
4	9891.000	40.23	4.93	45.16	54.00	-8.84	AVG	
5	11999.000	45.81	7.46	53.27	74.00	-20.73	peak	
6	11999.000	39.87	7.46	47.33	54.00	-6.67	AVG	
7	14838.000	43.77	11.09	54.86	74.00	-19.14	peak	
8	14838.000	37.03	11.09	48.12	54.00	-5.88	AVG	
9	16317.000	44.84	10.80	55.64	74.00	-18.36	peak	
10	16317.000	38.74	10.80	49.54	54.00	-4.46	AVG	
11	17966.000	40.91	16.89	57.80	74.00	-16.20	peak	
12	17966.000	34.74	16.89	51.63	54.00	-2.37	AVG	

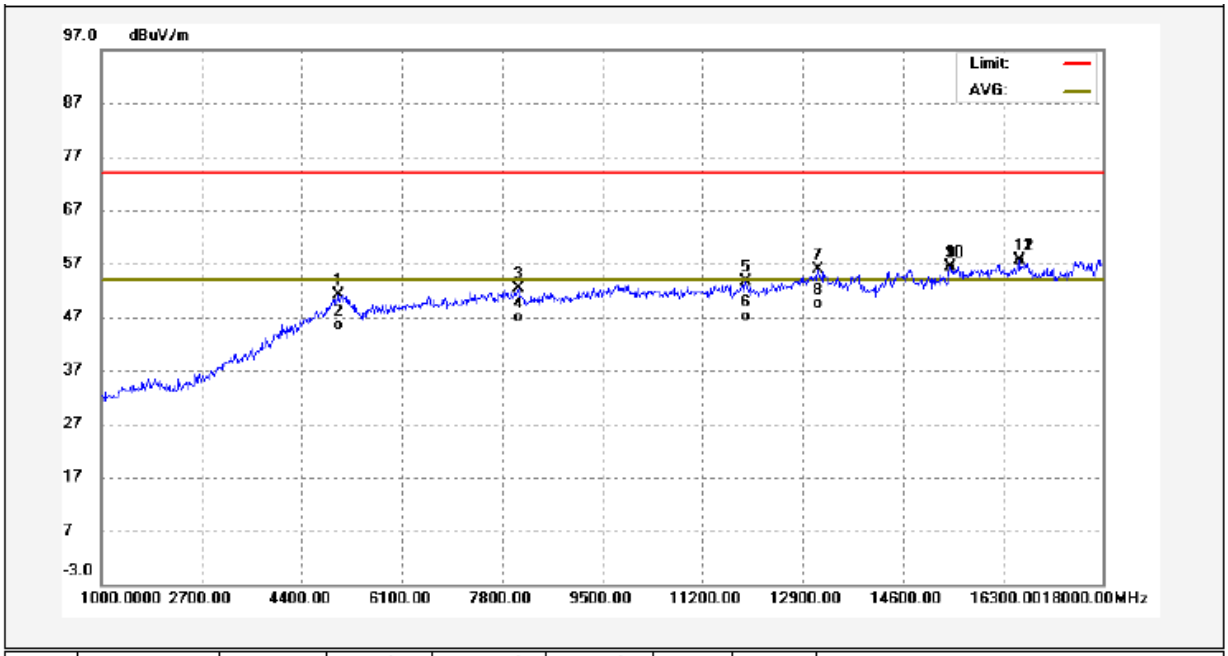
Adapter 2

Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	5131.000	48.84	2.32	51.16	74.00	-22.84	peak	
2	5131.000	42.84	2.32	45.16	54.00	-8.84	AVG	
3	11472.000	46.76	7.39	54.15	74.00	-19.85	peak	
4	11472.000	40.98	7.39	48.37	54.00	-5.63	AVG	
5	12373.000	47.62	8.04	55.66	74.00	-18.34	peak	
6	12373.000	41.29	8.04	49.33	54.00	-4.67	AVG	
7	14770.000	44.99	11.18	56.17	74.00	-17.83	peak	
8	14770.000	38.94	11.18	50.12	54.00	-3.88	AVG	
9	15790.000	46.76	9.90	56.66	74.00	-17.34	peak	
10	15790.000	40.46	9.90	50.36	54.00	-3.64	AVG	
11	17541.000	41.73	15.51	57.24	74.00	-16.76	peak	
12	17541.000	35.83	15.51	51.34	54.00	-2.66	AVG	

Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	5029.000	48.36	2.87	51.23	74.00	-22.77	peak	
2	5029.000	42.46	2.87	45.33	54.00	-8.67	AVG	
3	8072.000	48.14	4.18	52.32	74.00	-21.68	peak	
4	8072.000	42.71	4.18	46.89	54.00	-7.11	AVG	
5	11931.000	46.16	7.45	53.61	74.00	-20.39	peak	
6	11931.000	39.76	7.45	47.21	54.00	-6.79	AVG	
7	13155.000	45.98	9.87	55.85	74.00	-18.15	peak	
8	13155.000	39.48	9.87	49.35	54.00	-4.65	AVG	
9	15399.000	45.83	10.44	56.27	74.00	-17.73	peak	
10	15399.000	45.87	10.44	56.31	54.00	2.31	AVG	
11	16572.000	45.94	11.76	57.70	74.00	-16.30	peak	
12	16572.000	45.94	11.76	57.70	54.00	3.70	AVG	

Test Frequency: 18GHz~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

Test Method: ANSI C63.10: 2013

Test Limit: N/A

Test Result: PASS

Remark: N/A

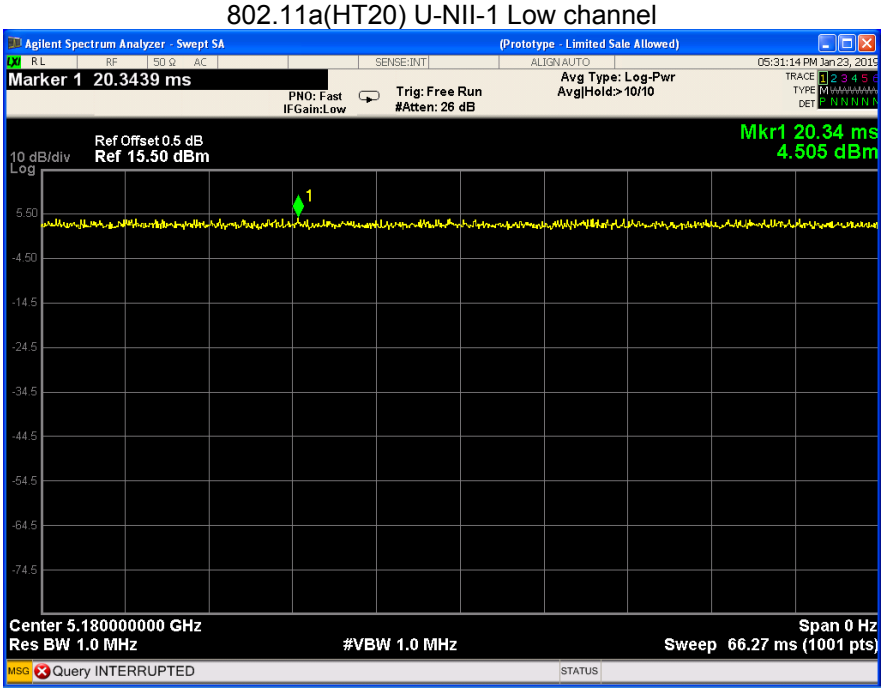
10.1 Summary of Test Results

802.11a(HT20) mode			
channel	On time(ms)	Period(ms)	Duty Cycle(%)
36	100	100	100
52	100	100	100
100	100	100	100
149	100	100	100
802.11n(HT20) mode			
channel	On time(ms)	Period(ms)	Duty Cycle(%)
36	100	100	100
52	100	100	100
100	100	100	100
149	100	100	100
802.11ac(HT20) mode			
channel	On time(ms)	Period(ms)	Duty Cycle(%)
36	100	100	100
52	100	100	100
100	100	100	100
149	100	100	100
802.11n(HT40) mode			
channel	On time(ms)	Period(ms)	Duty Cycle(%)
38	100	100	100
54	100	100	100
102	100	100	100
151	100	100	100

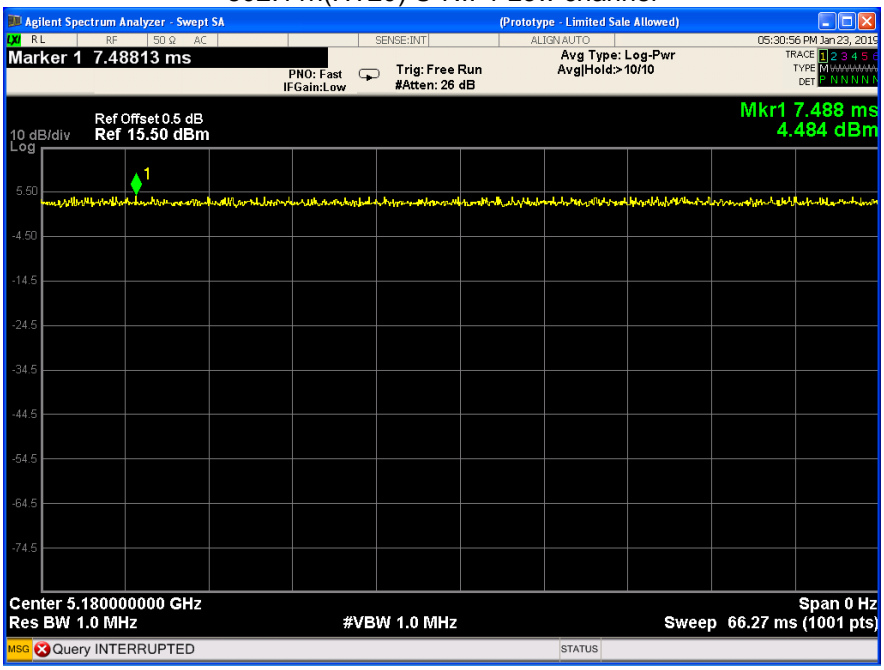
802.11ac(HT40) mode			
channel	On time(ms)	Period(ms)	Duty Cycle(%)
38	100	100	100
54	100	100	100
102	100	100	100
151	100	100	100
802.11ac(HT80) mode			
channel	On time(ms)	Period(ms)	Duty Cycle(%)
42	100	100	100
58	100	100	100
106	100	100	100
155	100	100	100

Test result plots shown as follows:

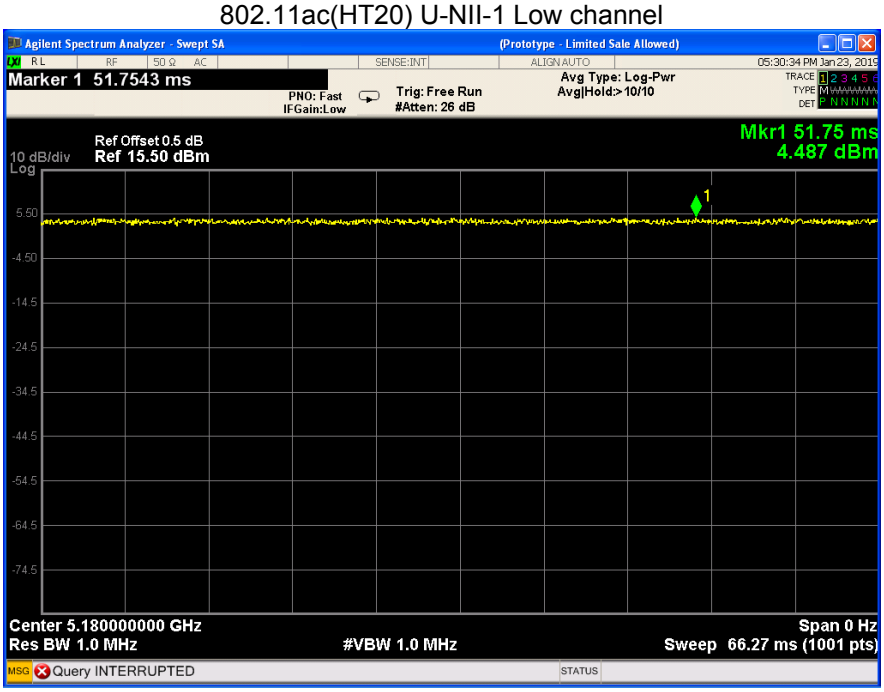
802.11a(HT20) U-NII-1 Low channel



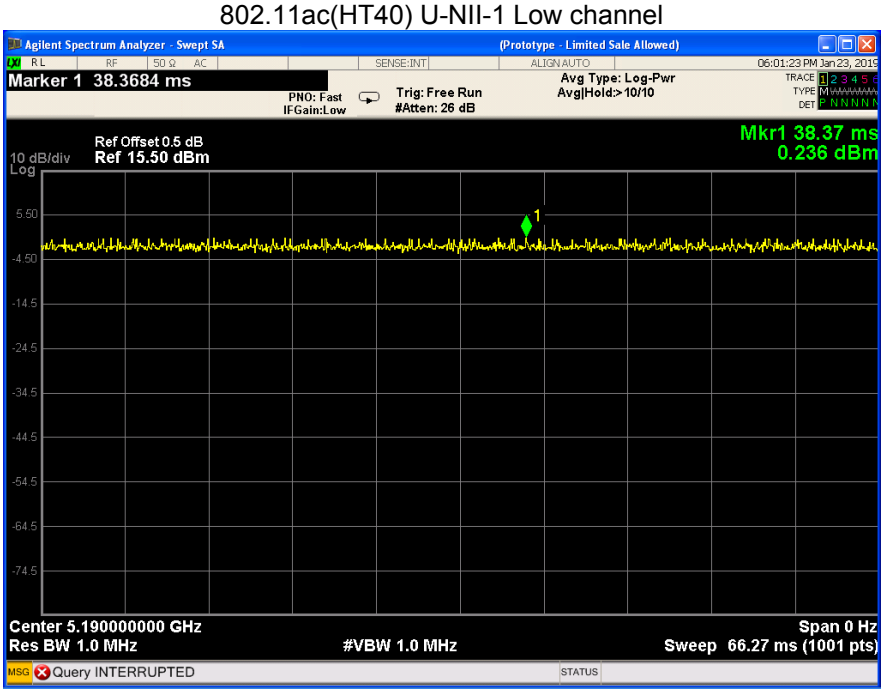
802.11n(HT20) U-NII-1 Low channel



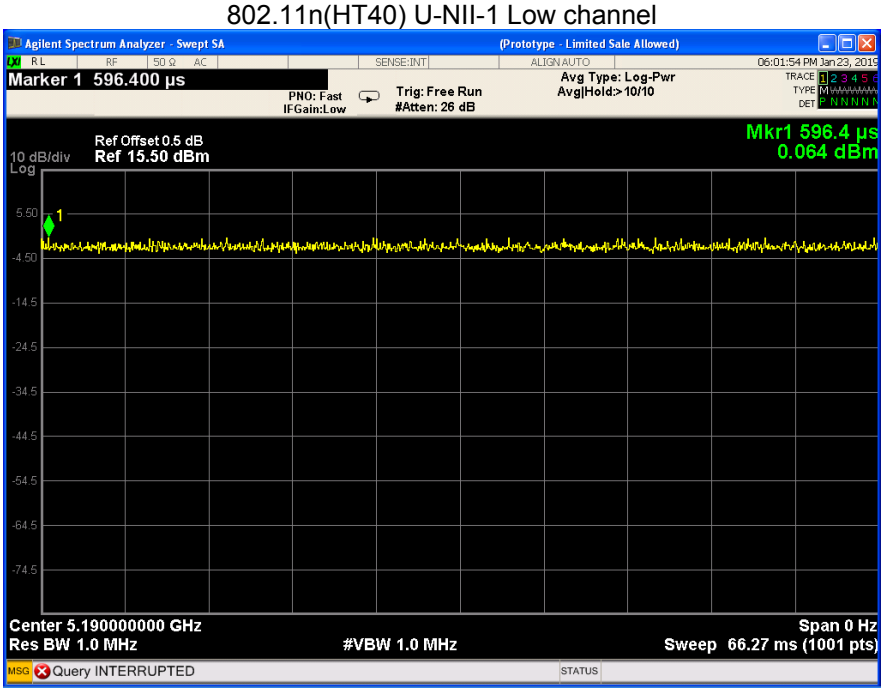
802.11ac(HT20) U-NII-1 Low channel



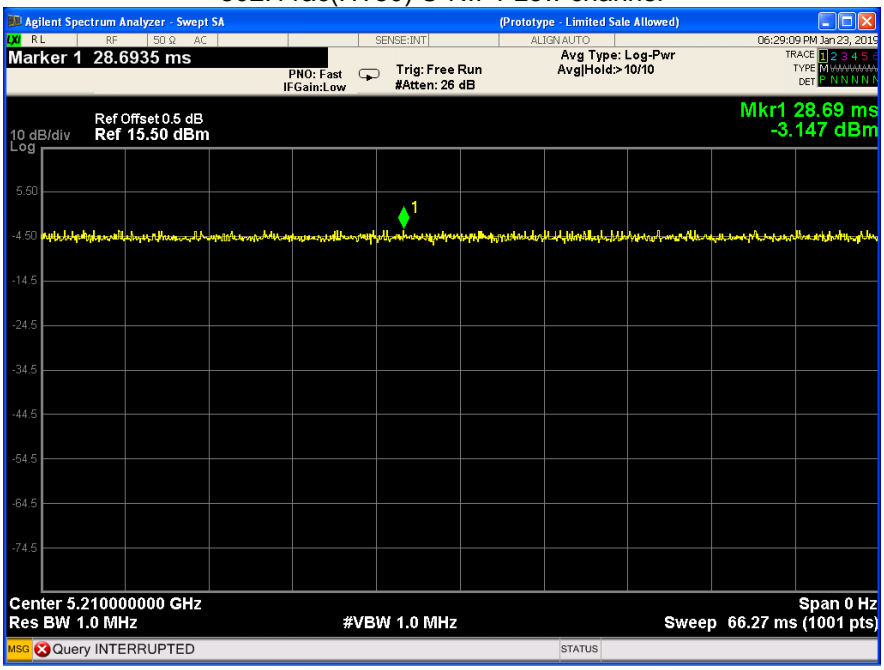
802.11ac(HT40) U-NII-1 Low channel



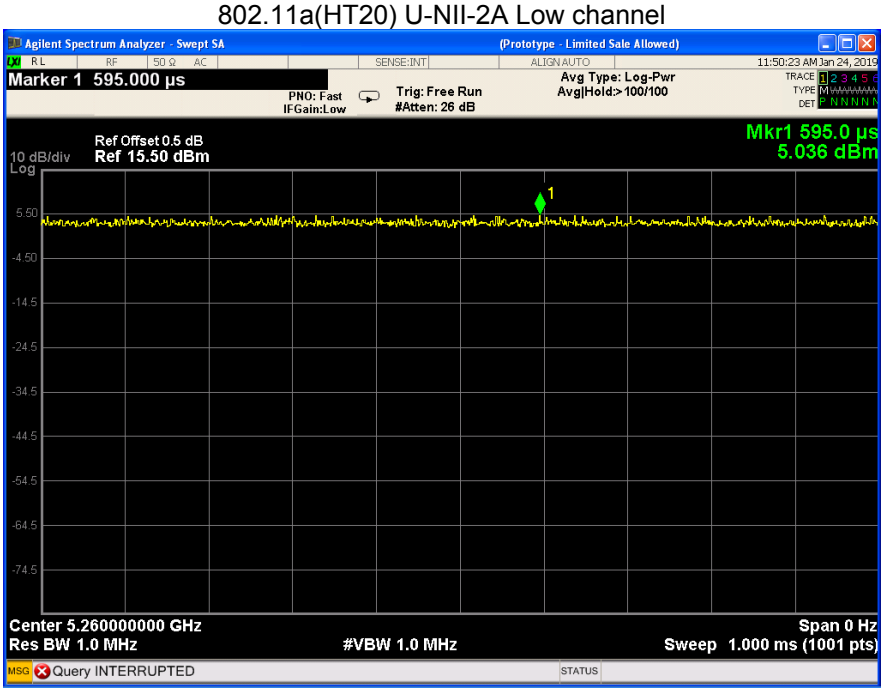
802.11n(HT40) U-NII-1 Low channel



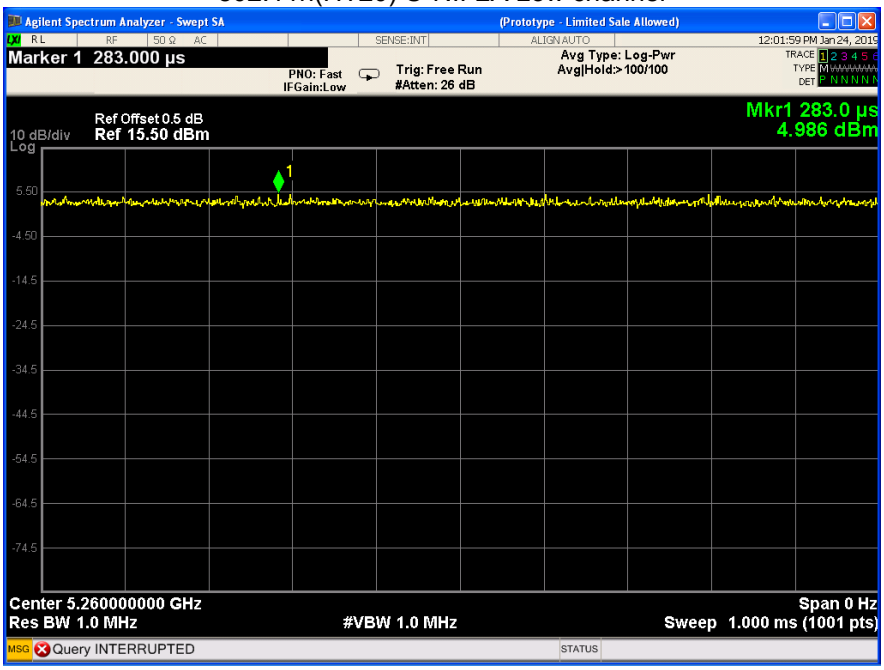
802.11ac(HT80) U-NII-1 Low channel



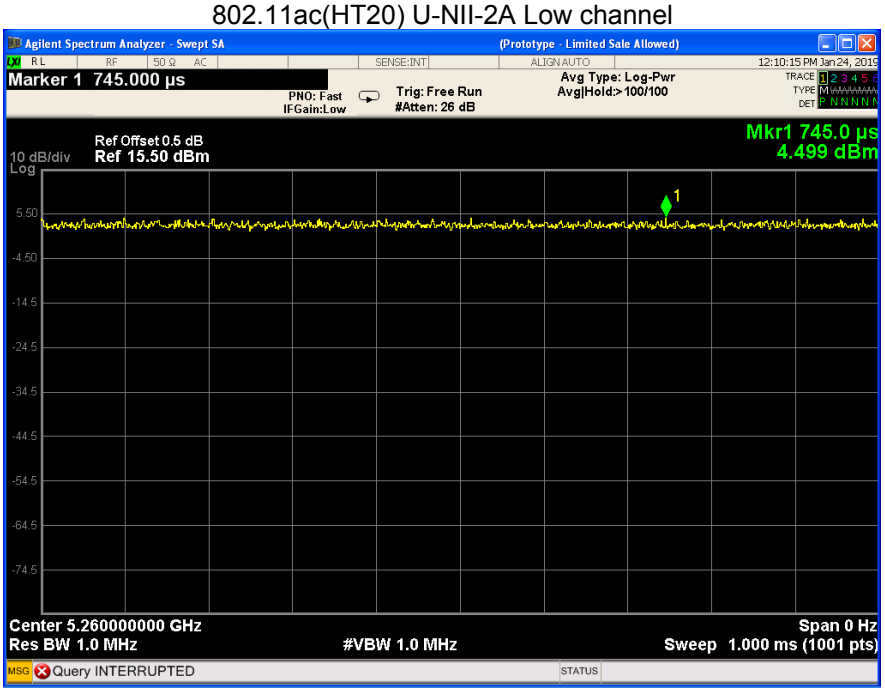
802.11a(HT20) U-NII-2A Low channel



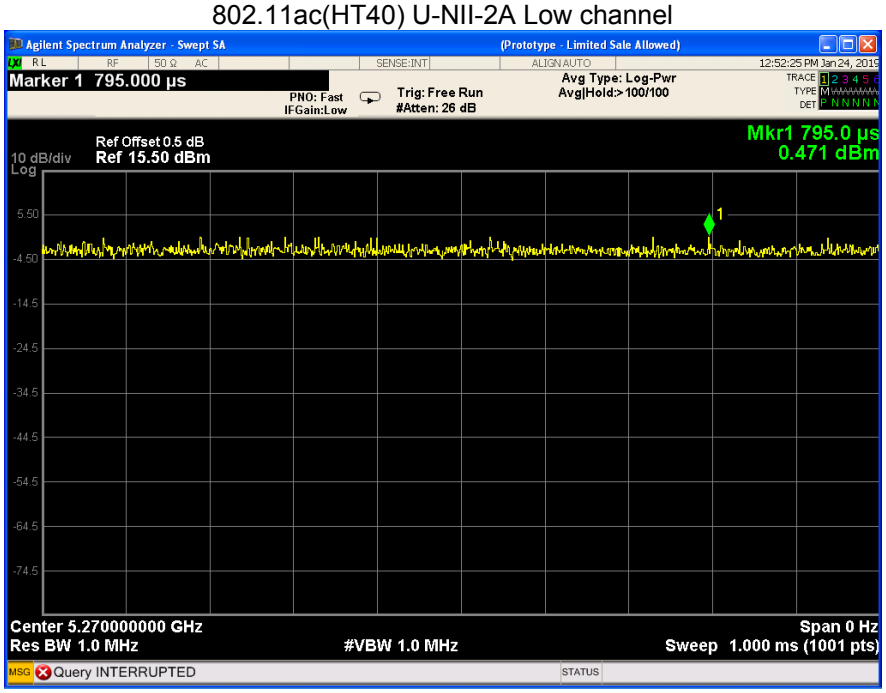
802.11n(HT20) U-NII-2A Low channel



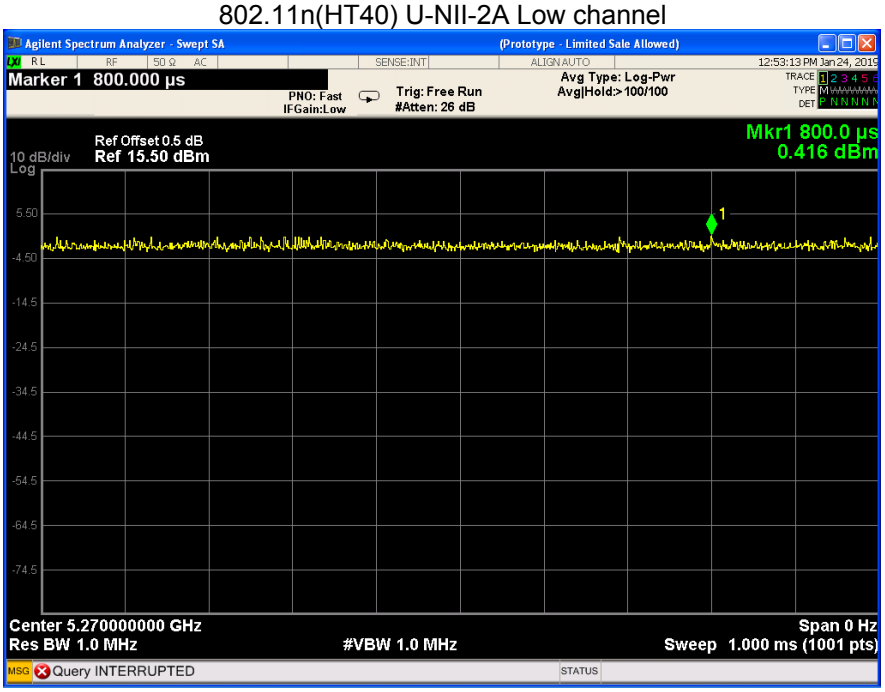
802.11ac(HT20) U-NII-2A Low channel



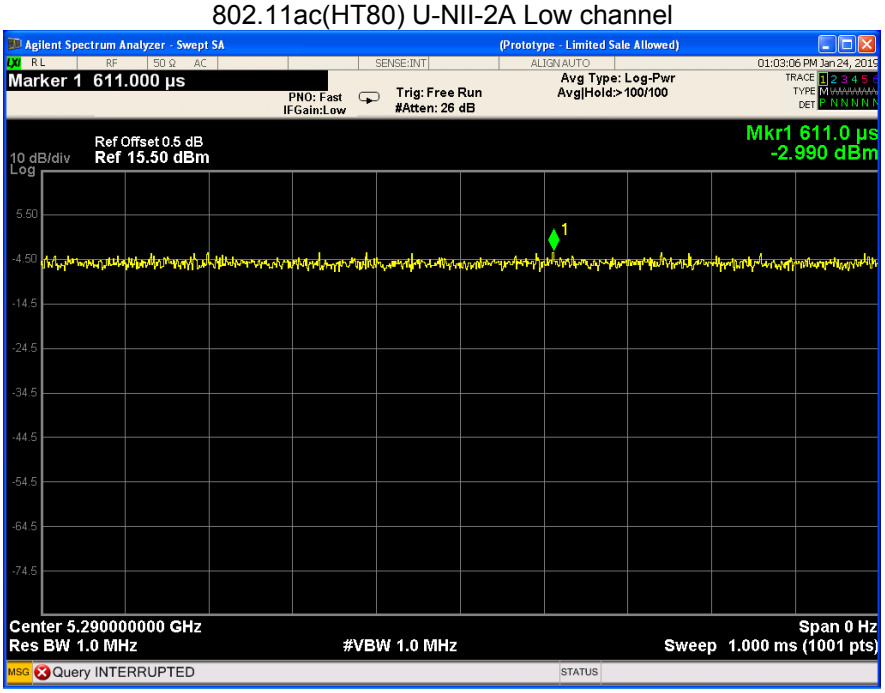
802.11ac(HT40) U-NII-2A Low channel



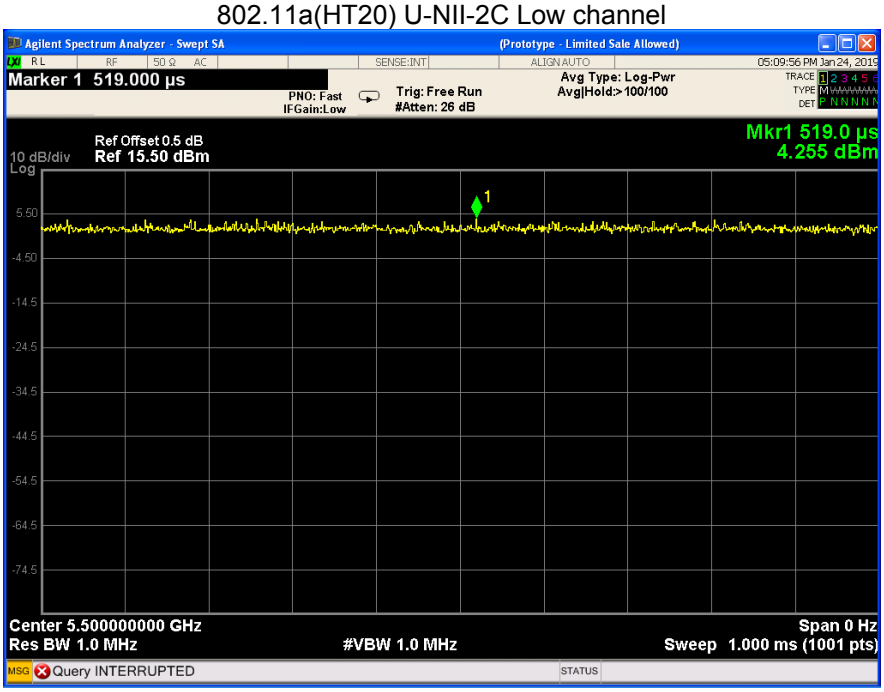
802.11n(HT40) U-NII-2A Low channel



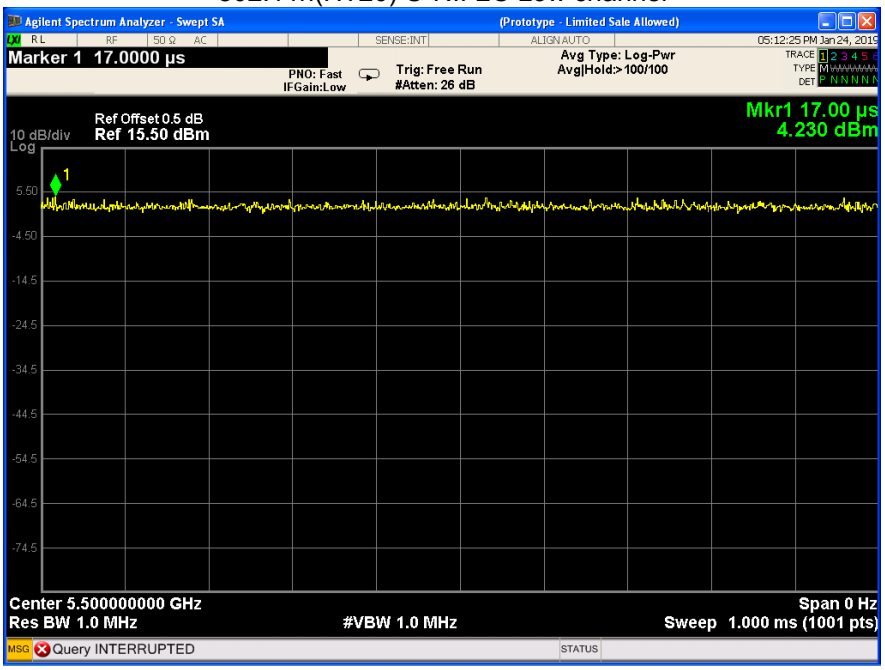
802.11ac(HT80) U-NII-2A Low channel



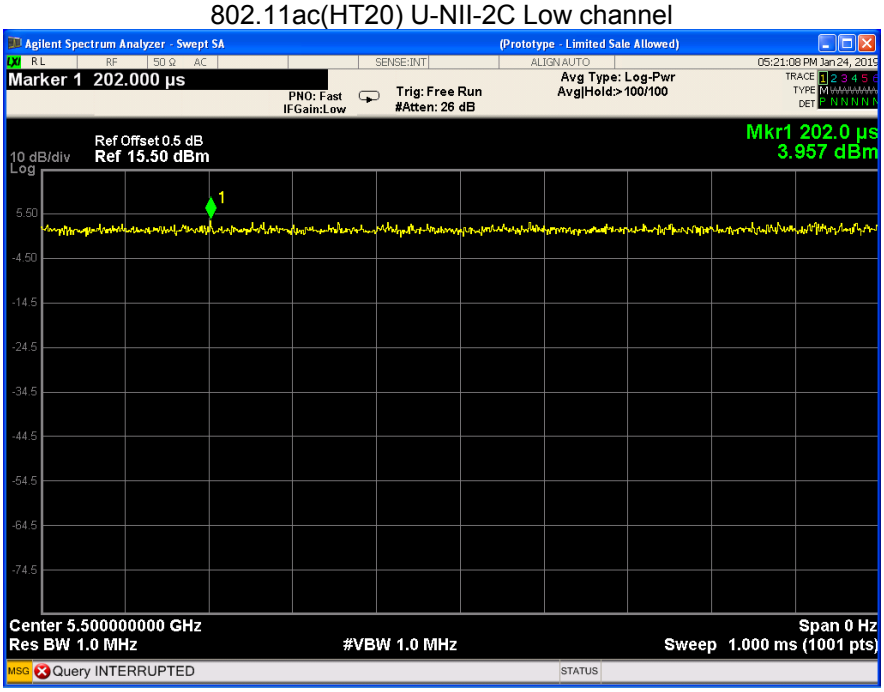
802.11a(HT20) U-NII-2C Low channel



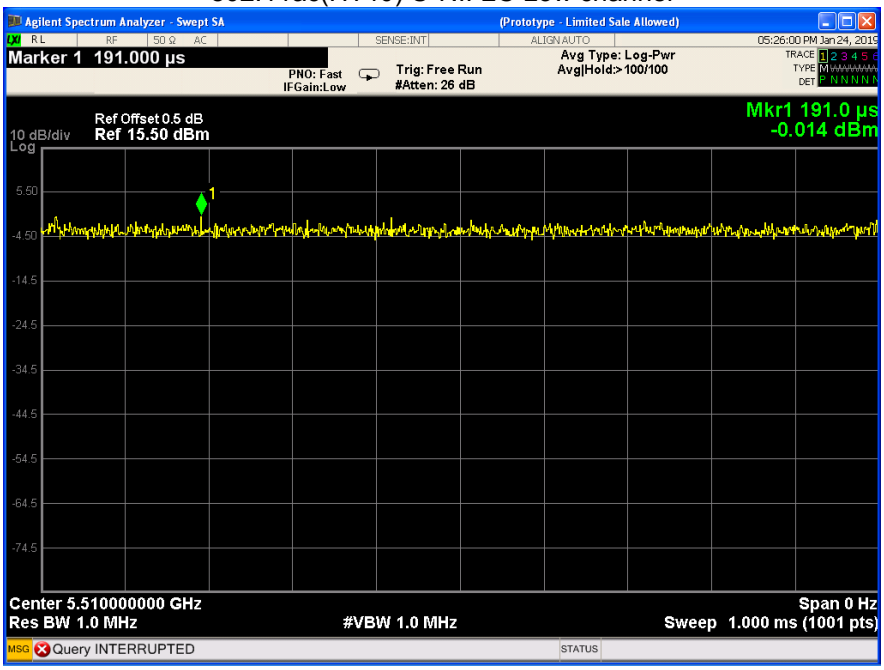
802.11n(HT20) U-NII-2C Low channel



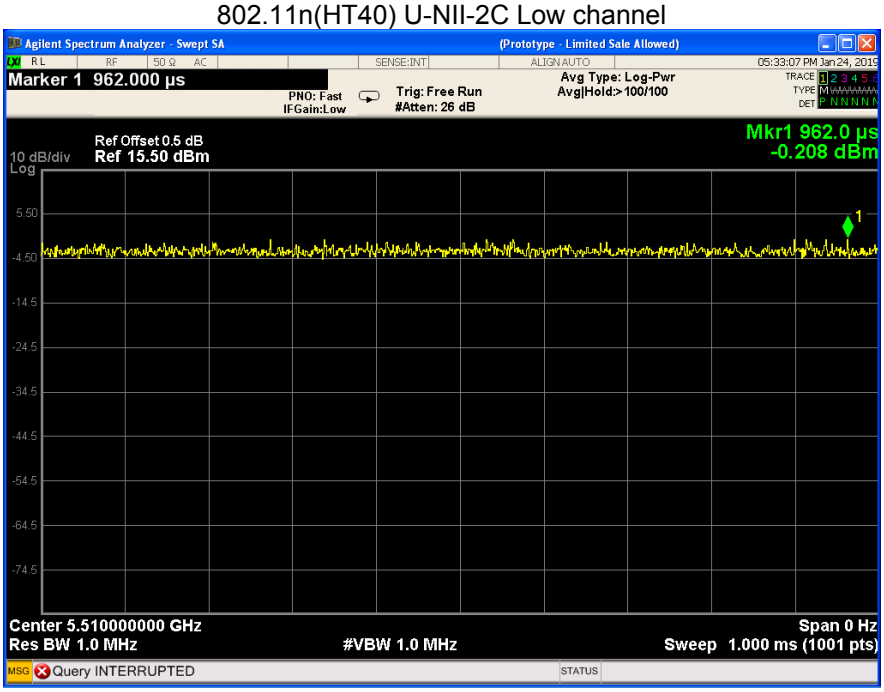
802.11ac(HT20) U-NII-2C Low channel



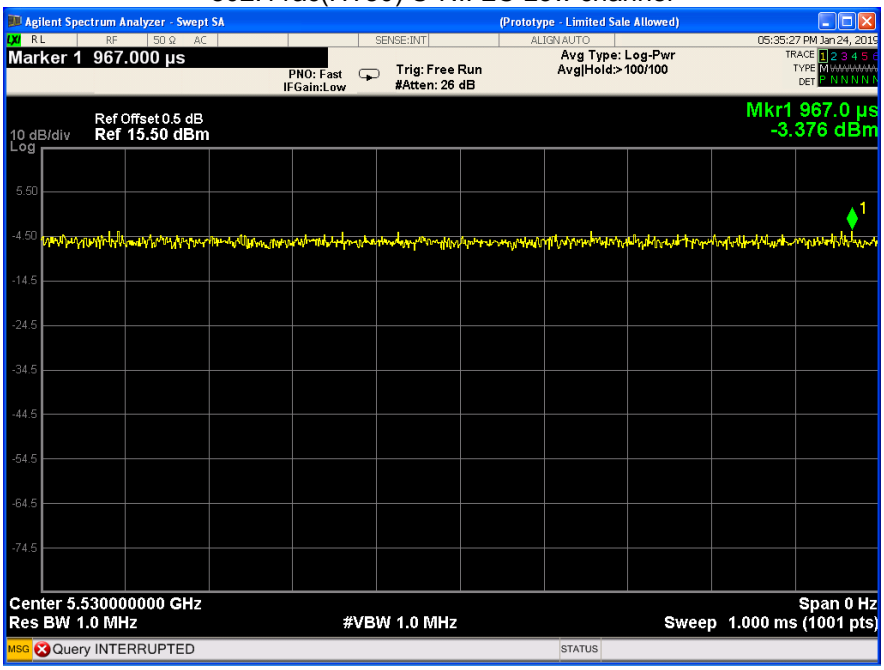
802.11ac(HT40) U-NII-2C Low channel



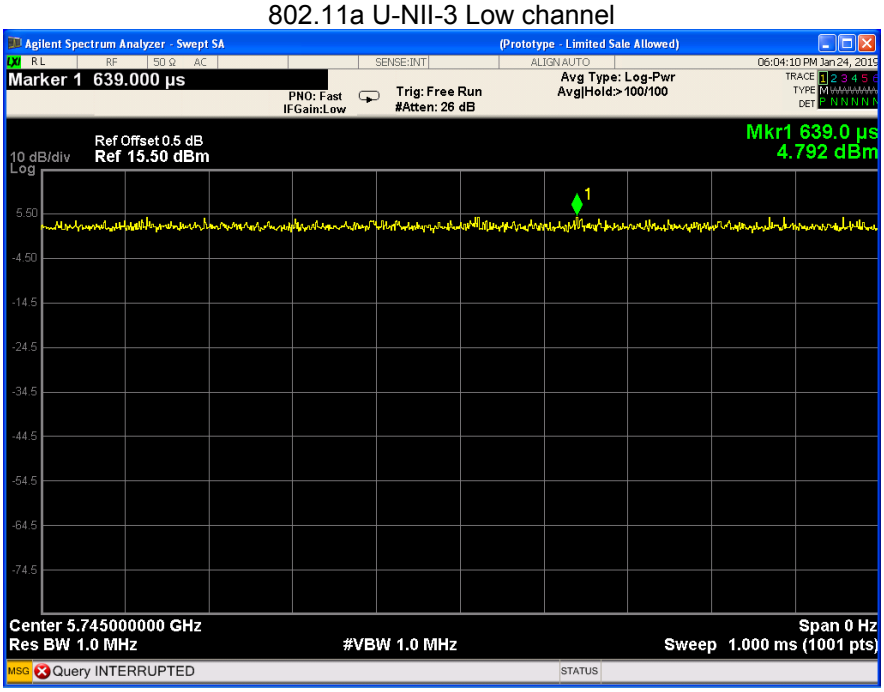
802.11n(HT40) U-NII-2C Low channel



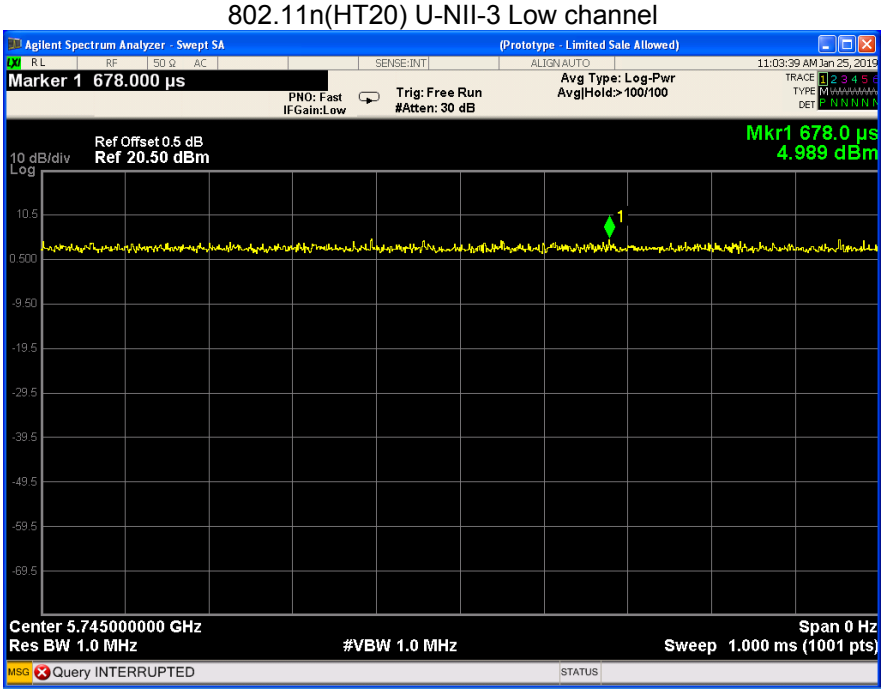
802.11ac(HT80) U-NII-2C Low channel



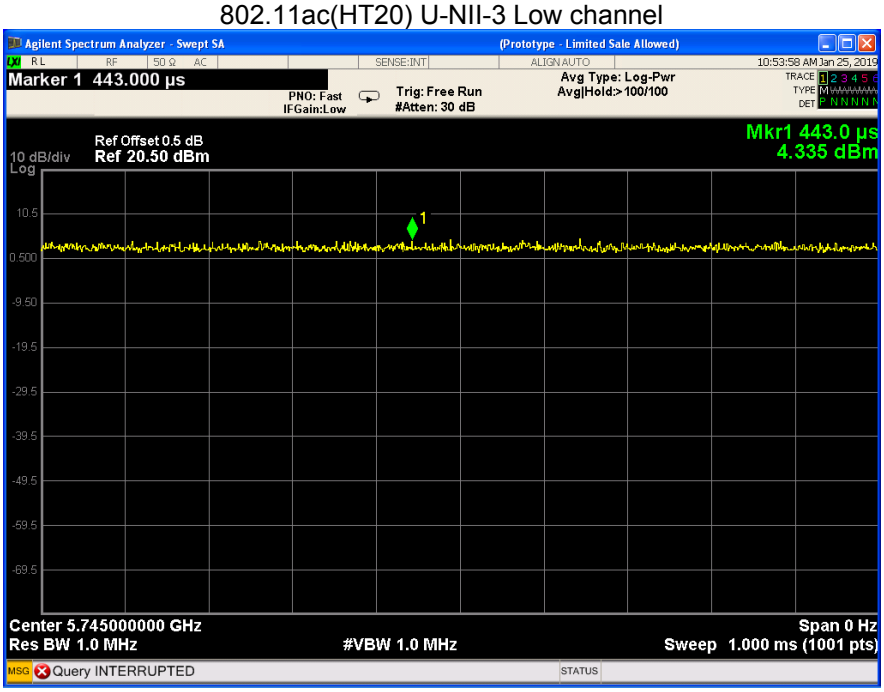
802.11a U-NII-3 Low channel



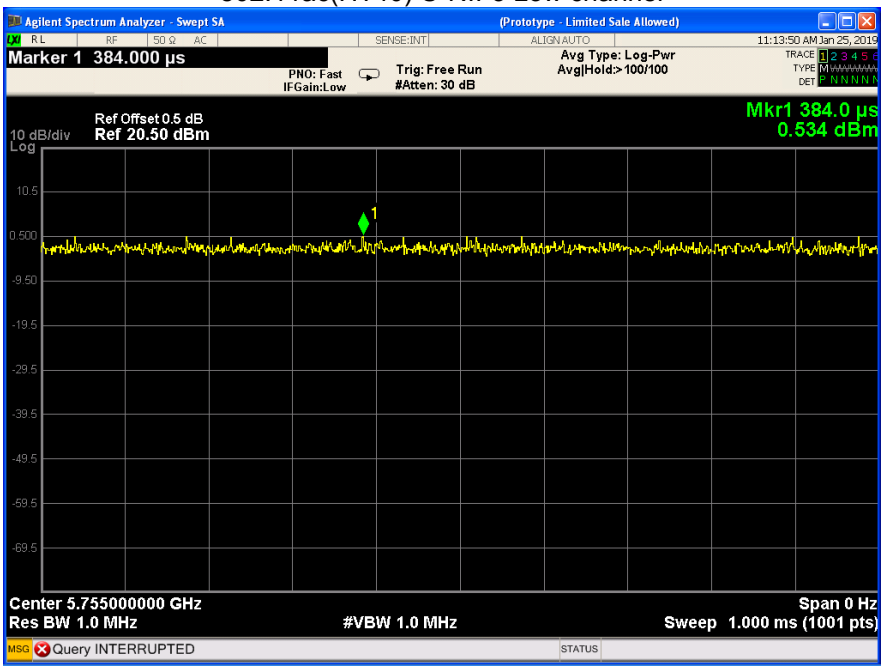
802.11n(HT20) U-NII-3 Low channel



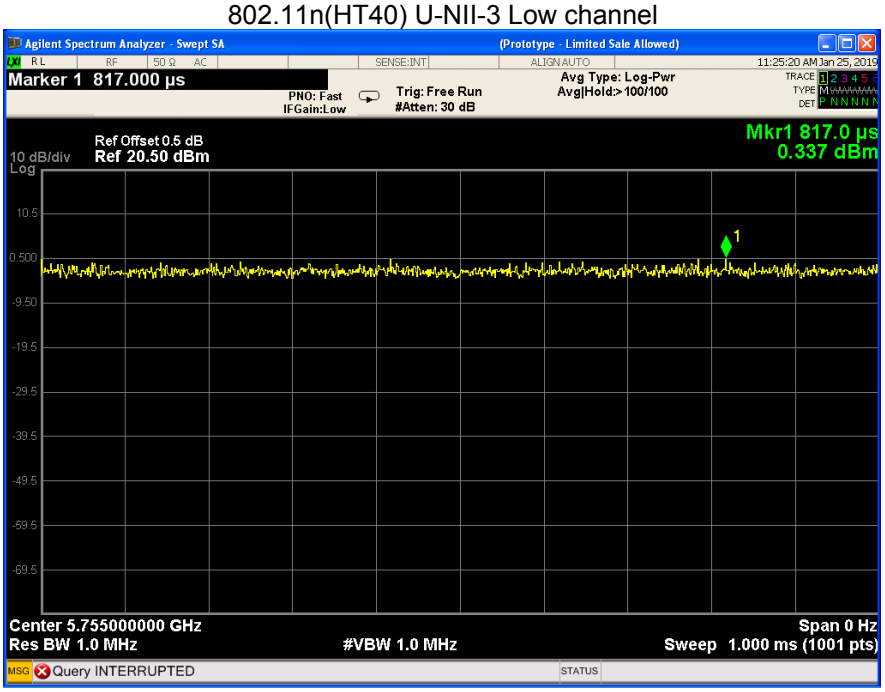
802.11ac(HT20) U-NII-3 Low channel



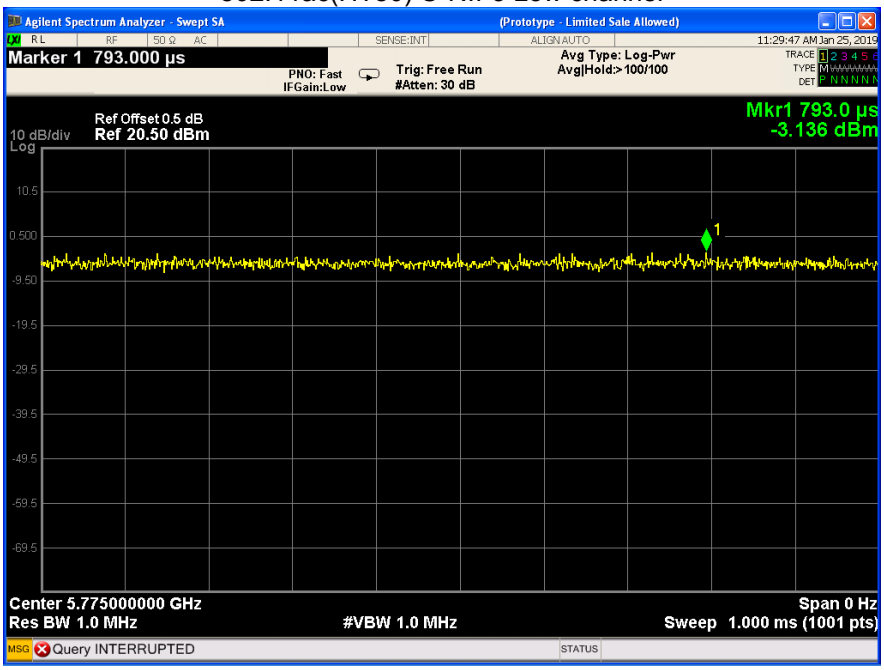
802.11ac(HT40) U-NII-3 Low channel



802.11n(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:	For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27dBm/MHz. For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz. For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz. For transmitters operating in the 5.725-5.85 GHz band: (i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. (ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.
Test Result:	PASS

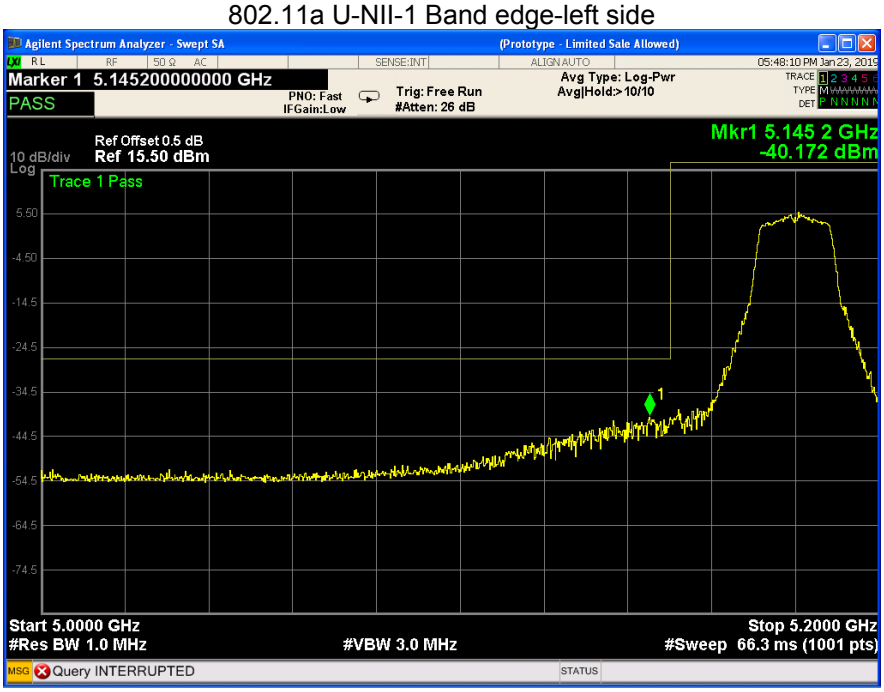
11.1 Test Produce

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 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.

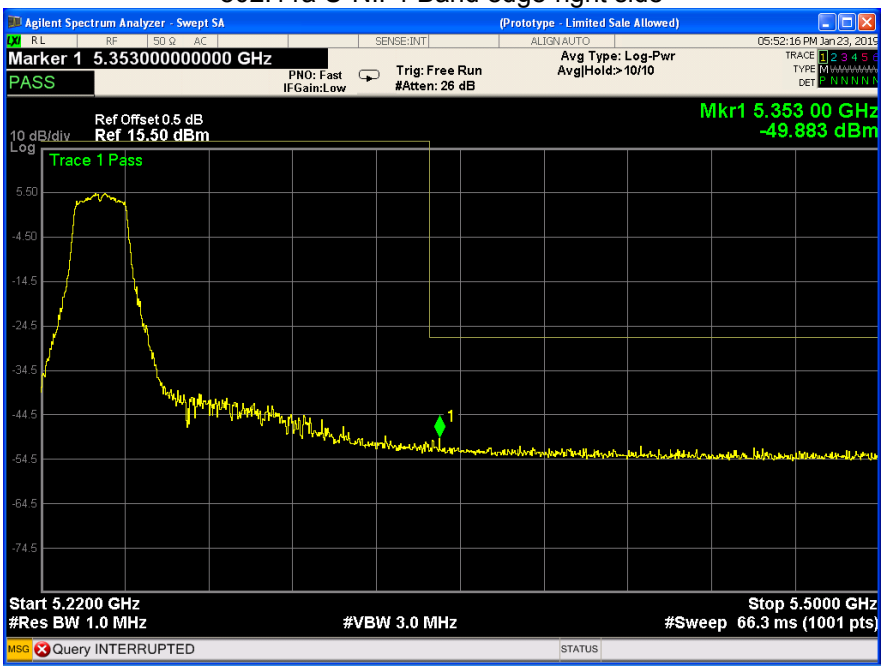
11.2 Test Result

Test result plots shown as follows:

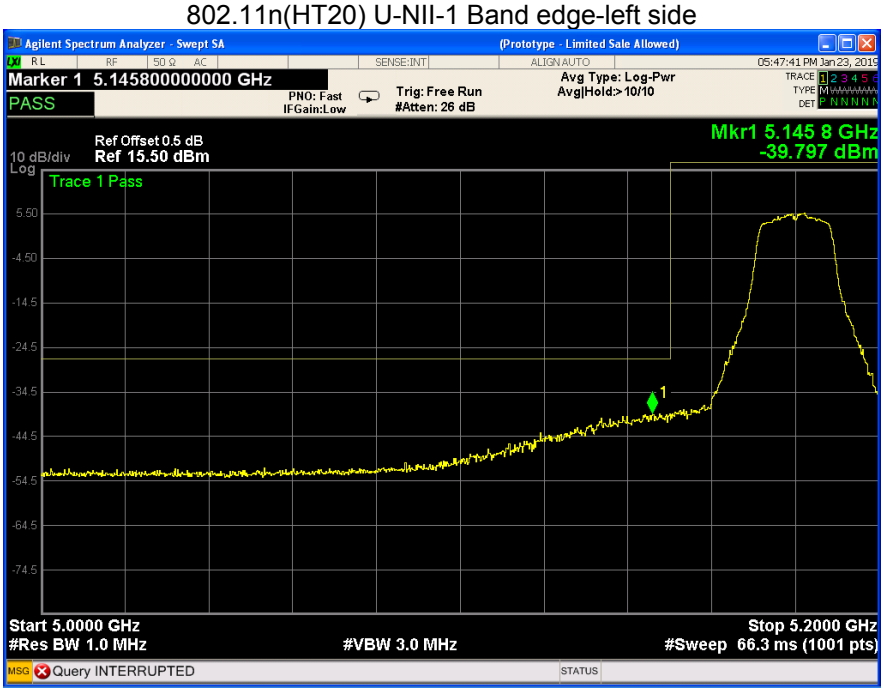
802.11a U-NII-1 Band edge-left side



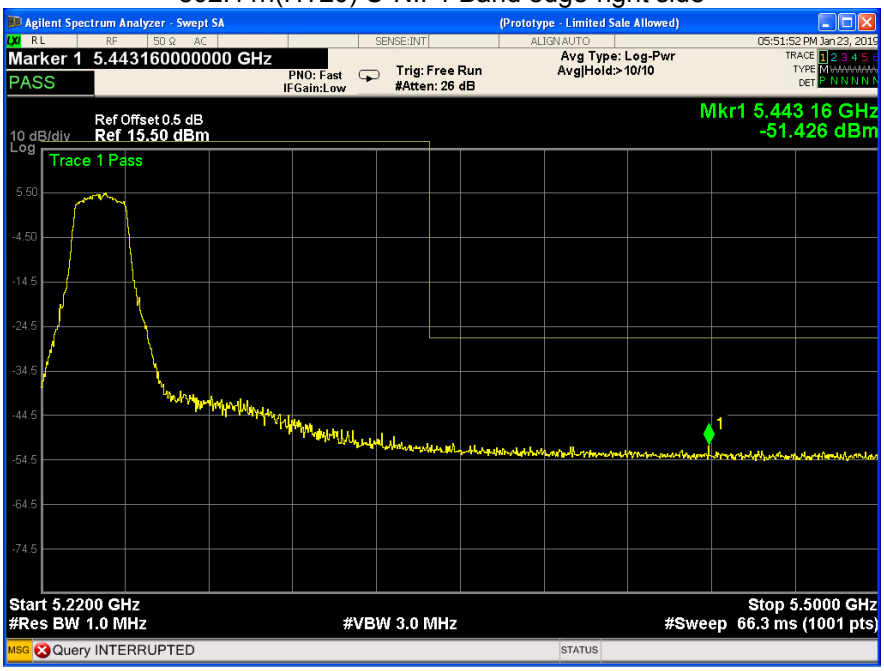
802.11a U-NII-1 Band edge-right side



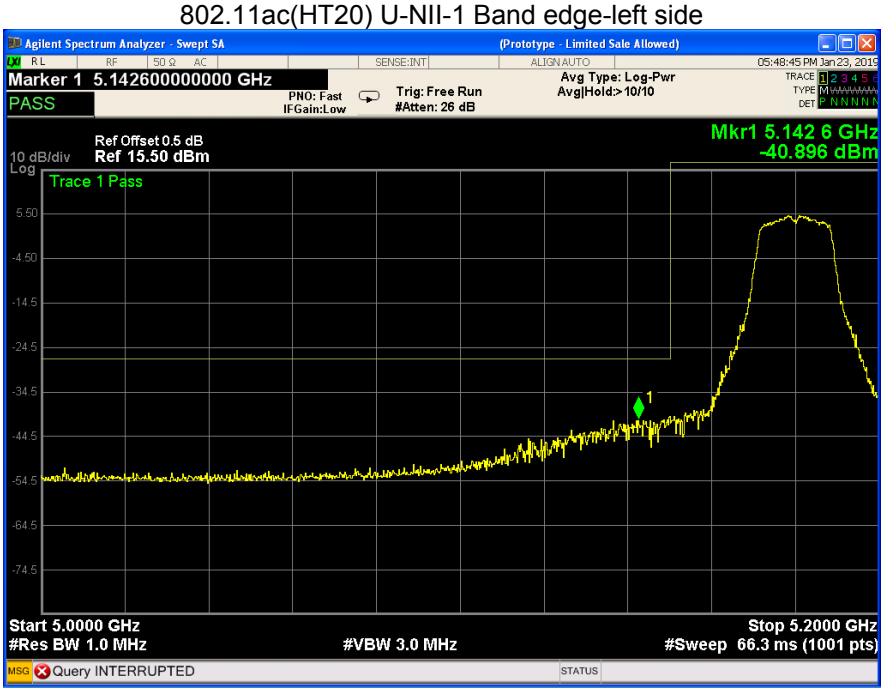
802.11n(HT20) U-NII-1 Band edge-left side



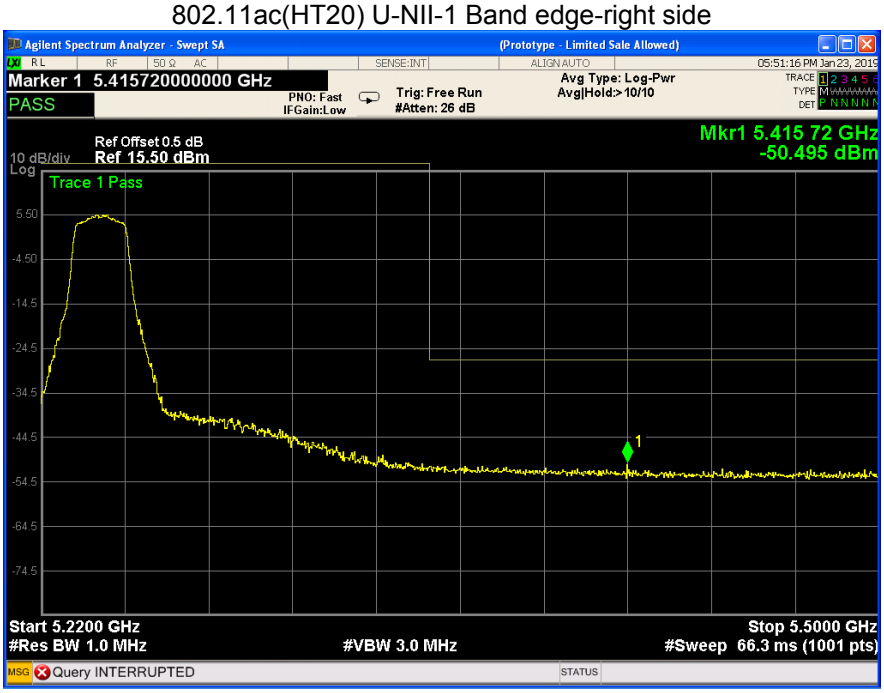
802.11n(HT20) U-NII-1 Band edge-right side



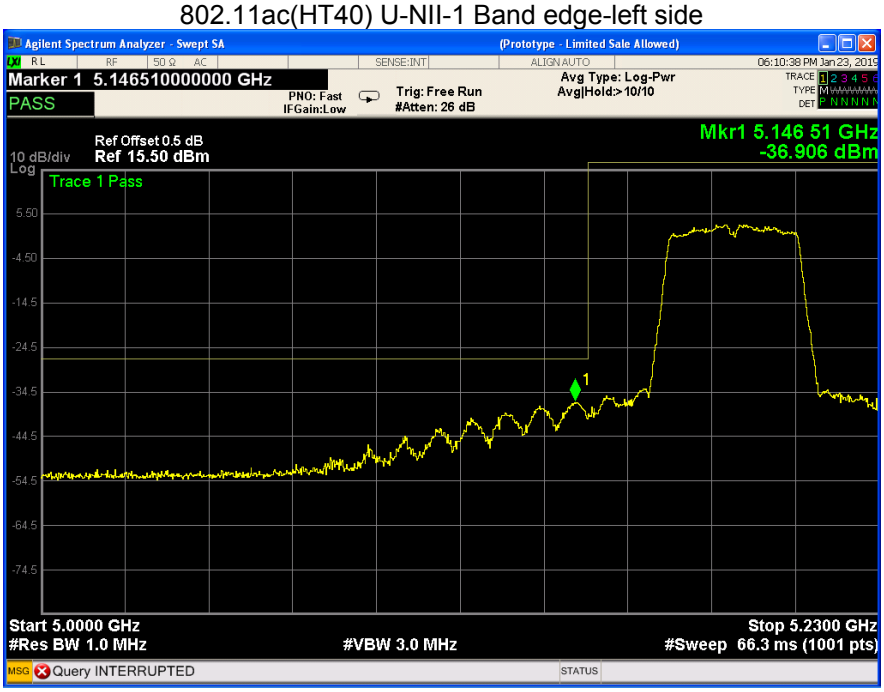
802.11ac(HT20) U-NII-1 Band edge-left side



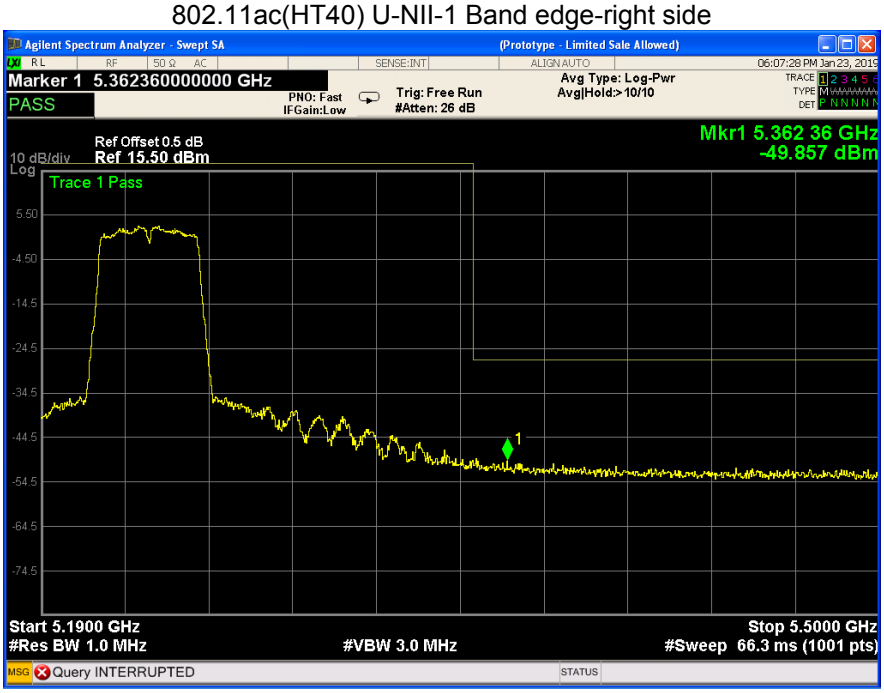
802.11ac(HT20) U-NII-1 Band edge-right side



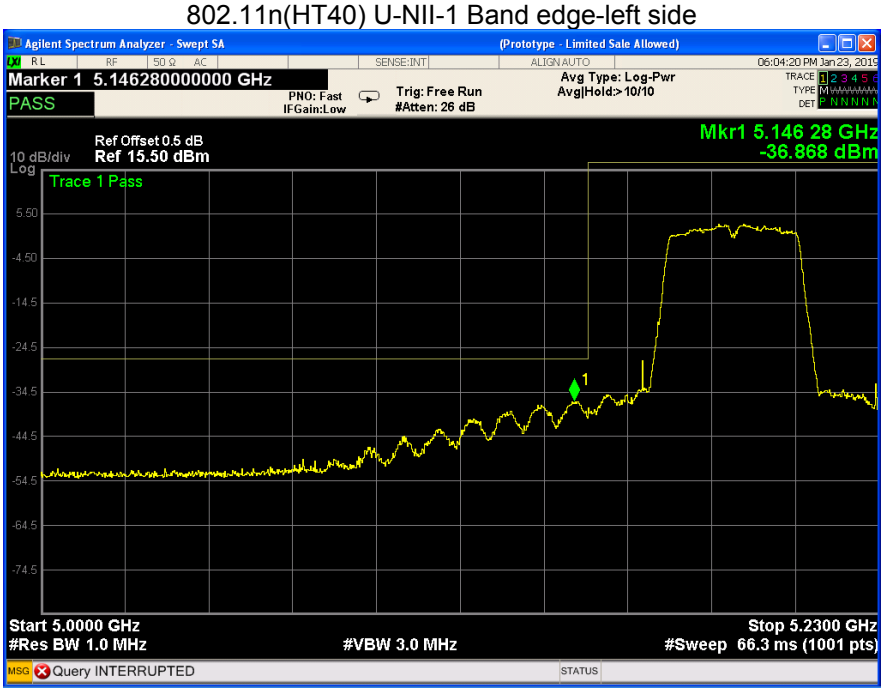
802.11ac(HT40) U-NII-1 Band edge-left side



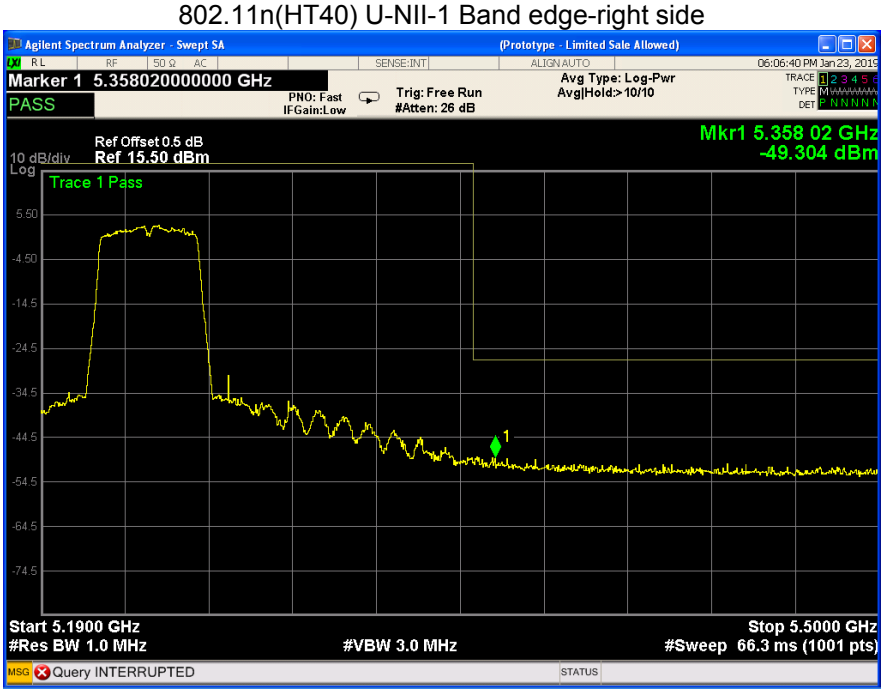
802.11ac(HT40) U-NII-1 Band edge-right side



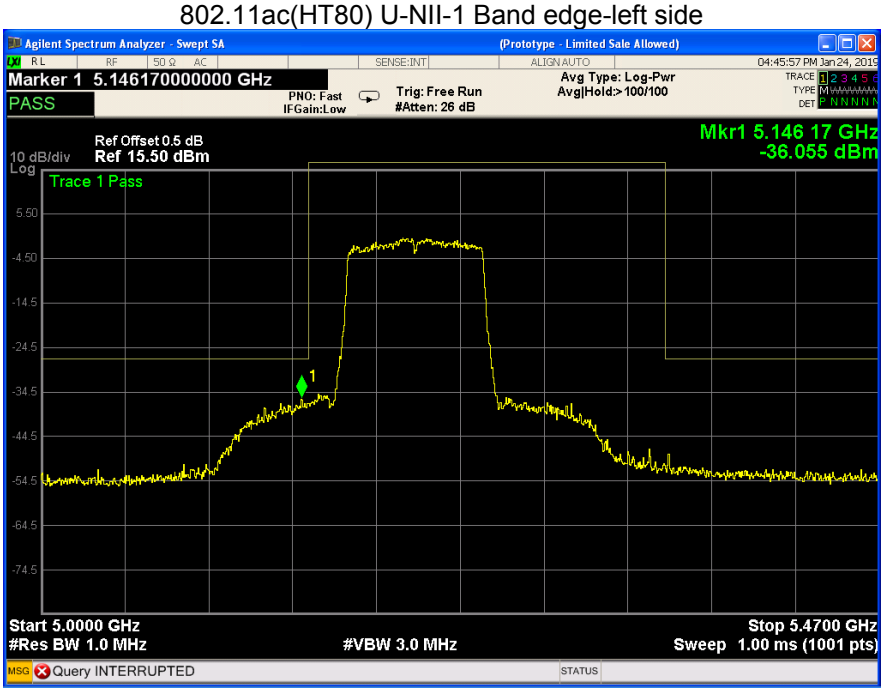
802.11n(HT40) U-NII-1 Band edge-left side



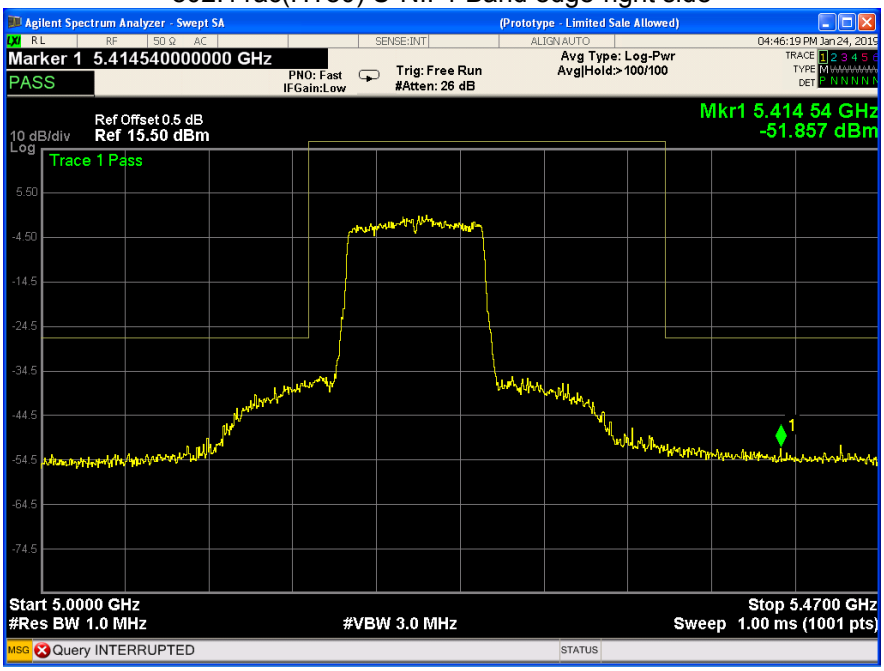
802.11n(HT40) U-NII-1 Band edge-right side



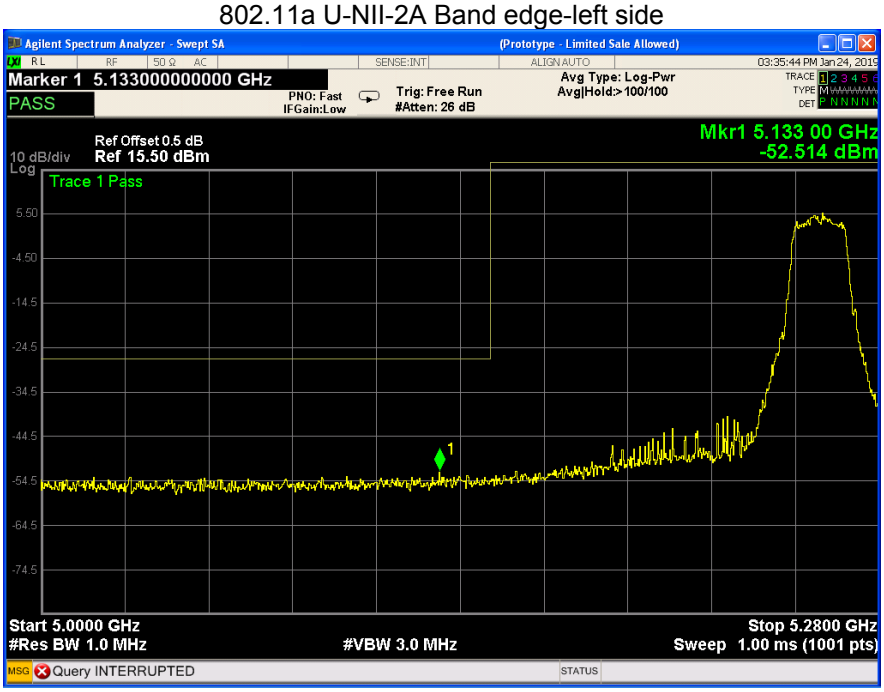
802.11ac(HT80) U-NII-1 Band edge-left side



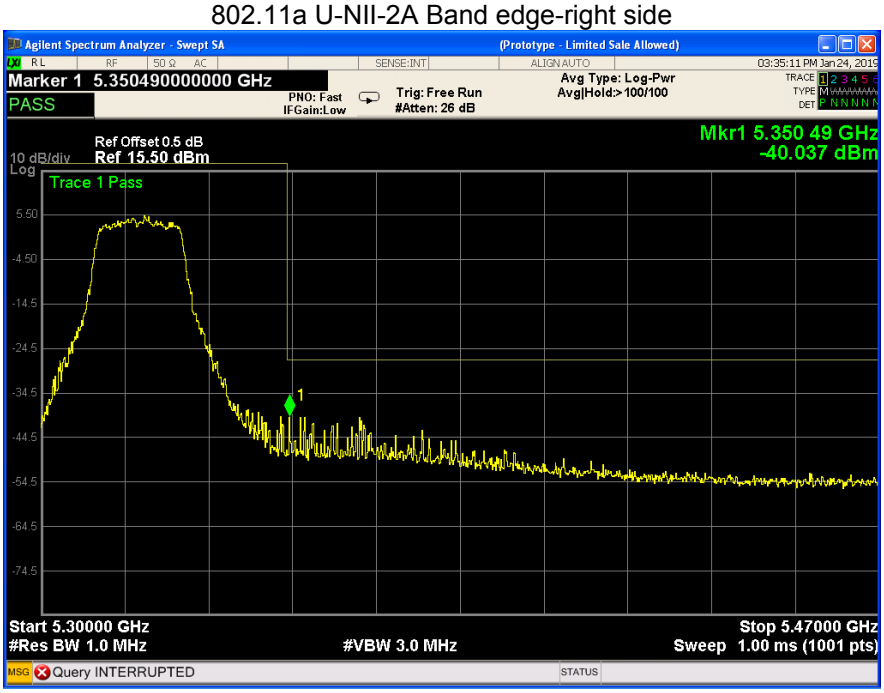
802.11ac(HT80) U-NII-1 Band edge-right side



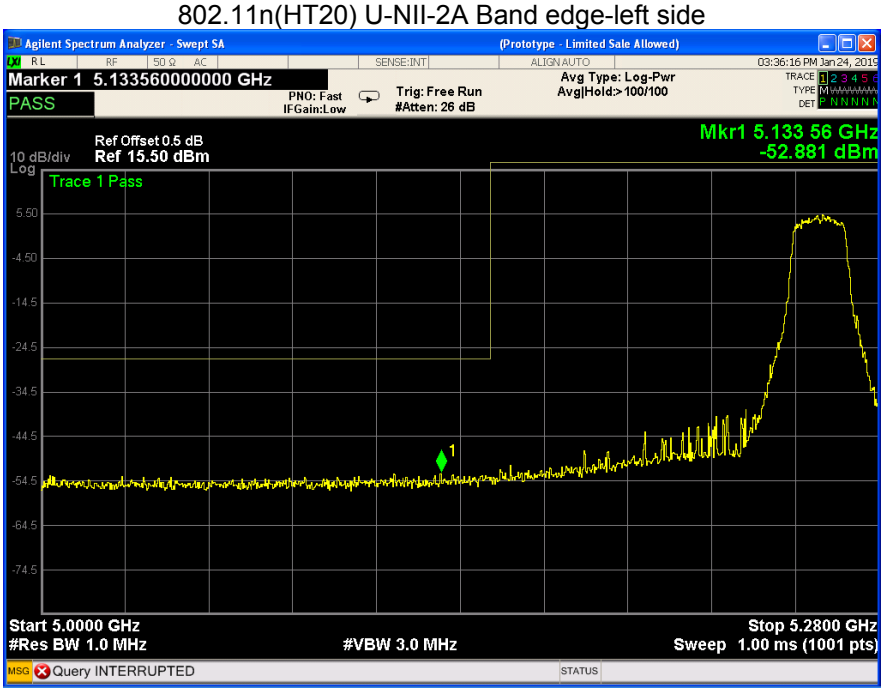
802.11a U-NII-2A Band edge-left side



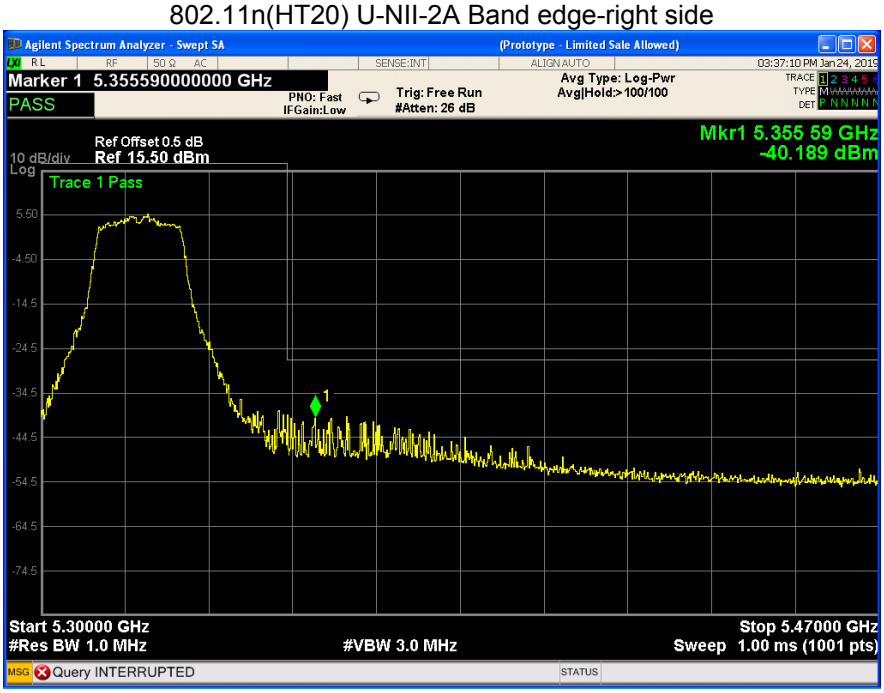
802.11a U-NII-2A Band edge-right side



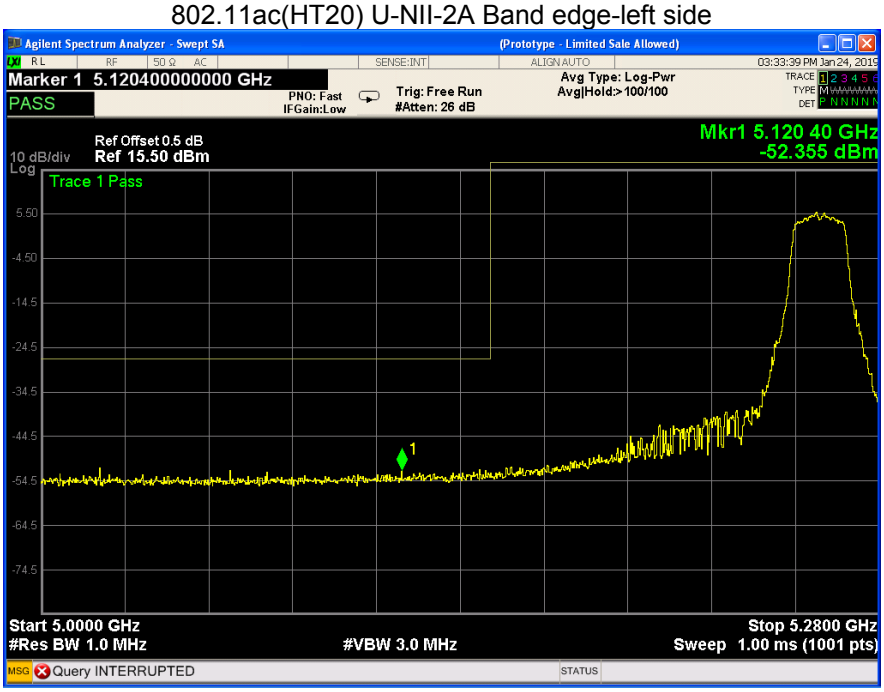
802.11n(HT20) U-NII-2A Band edge-left side



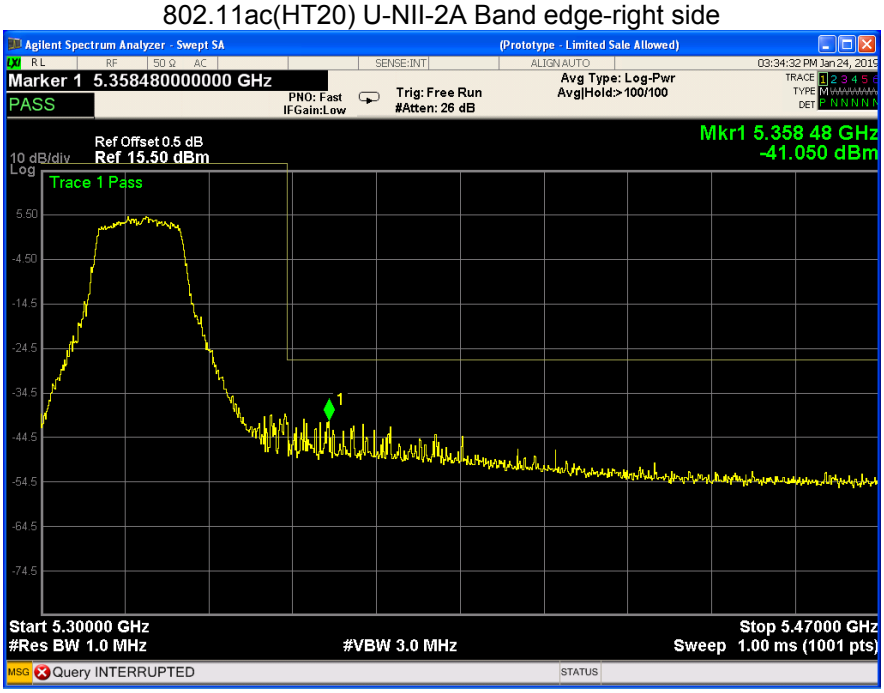
802.11n(HT20) U-NII-2A Band edge-right side



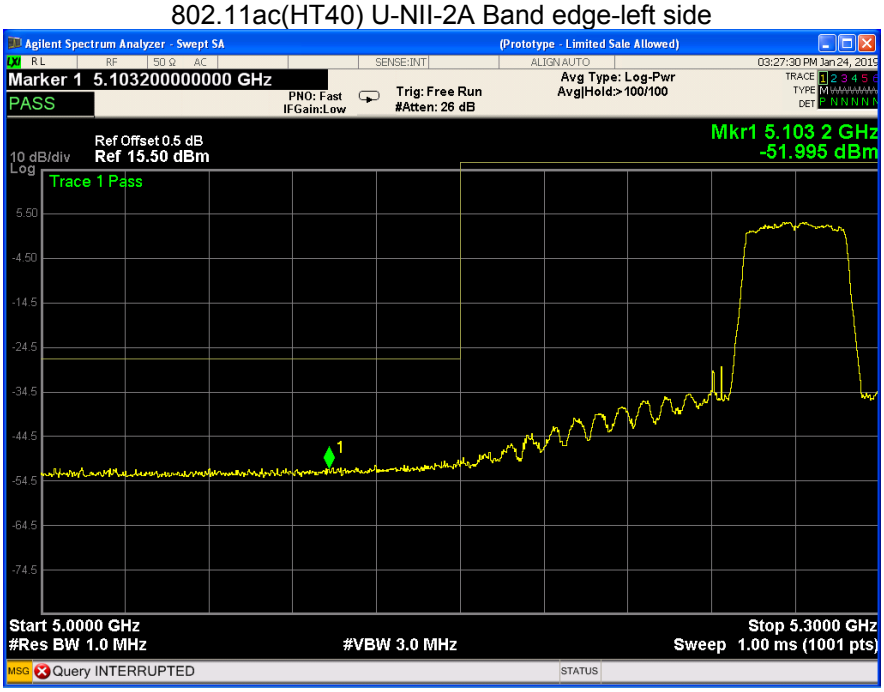
802.11ac(HT20) U-NII-2A Band edge-left side



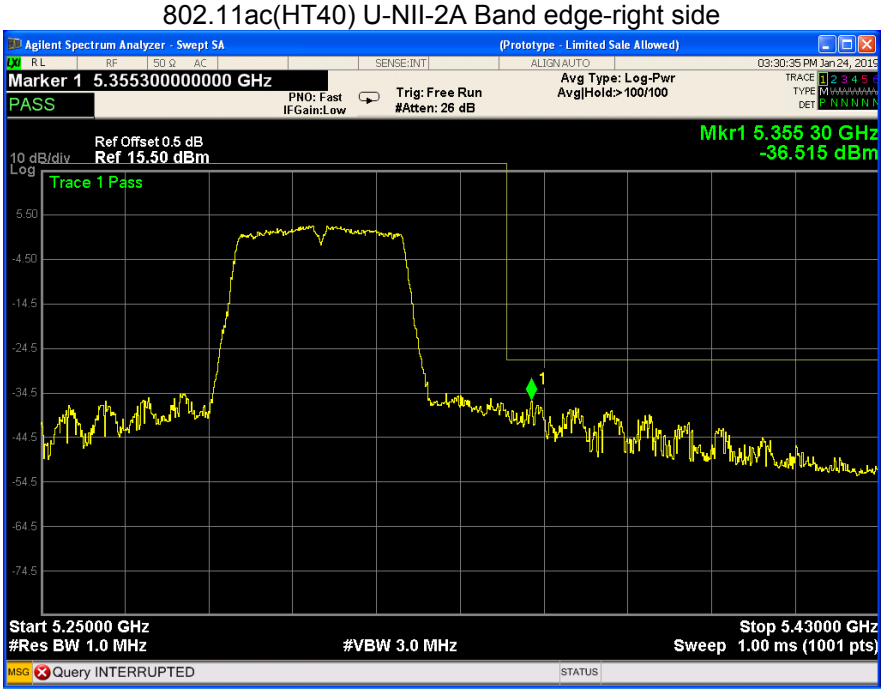
802.11ac(HT20) U-NII-2A Band edge-right side



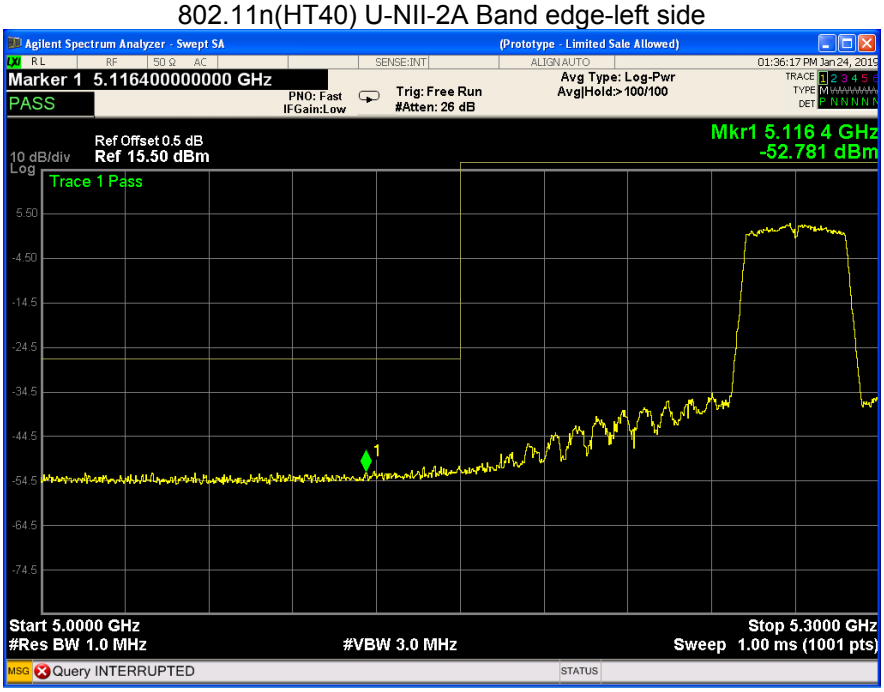
802.11ac(HT40) U-NII-2A Band edge-left side



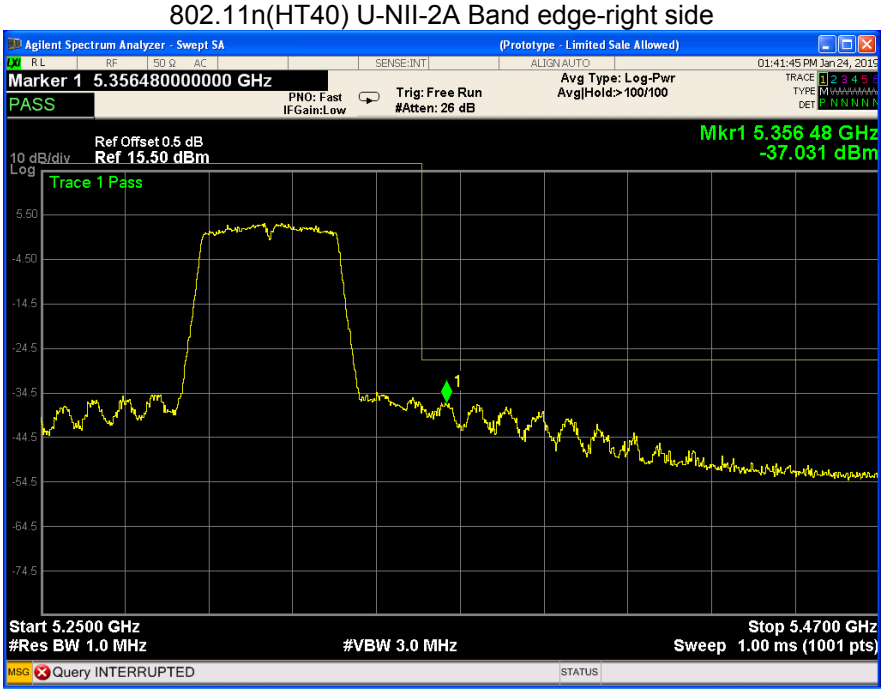
802.11ac(HT40) U-NII-2A Band edge-right side



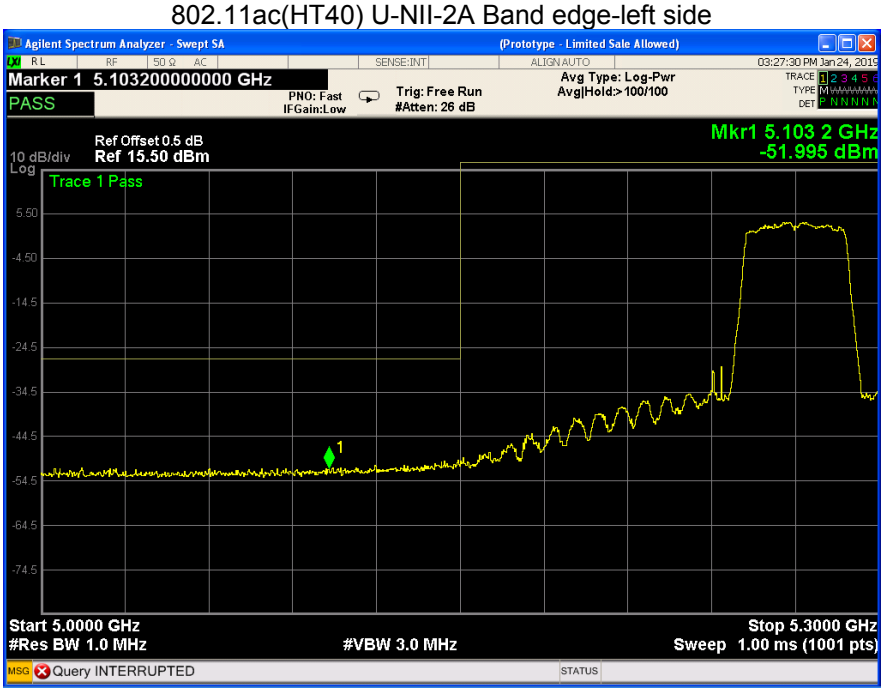
802.11n(HT40) U-NII-2A Band edge-left side



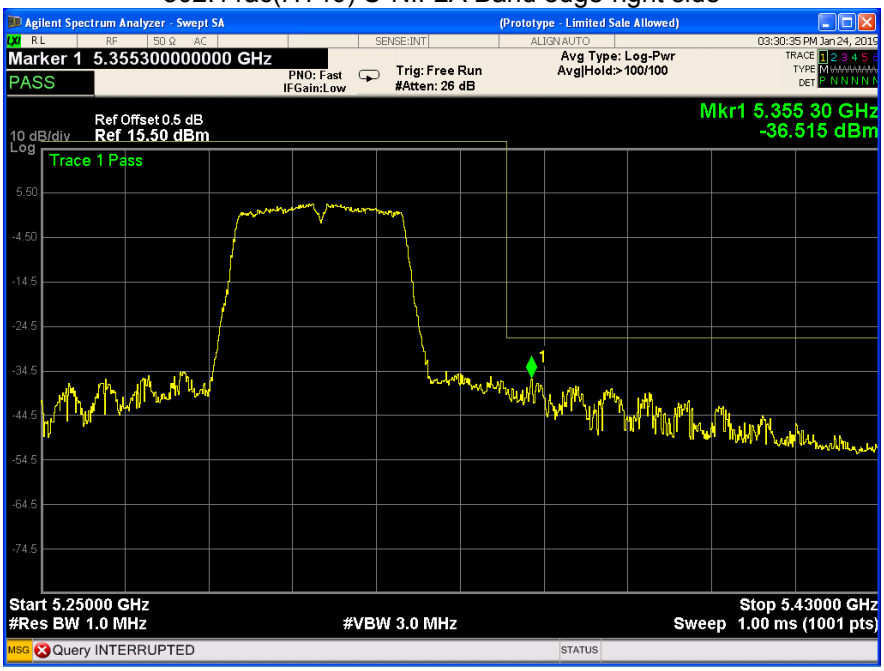
802.11n(HT40) U-NII-2A Band edge-right side



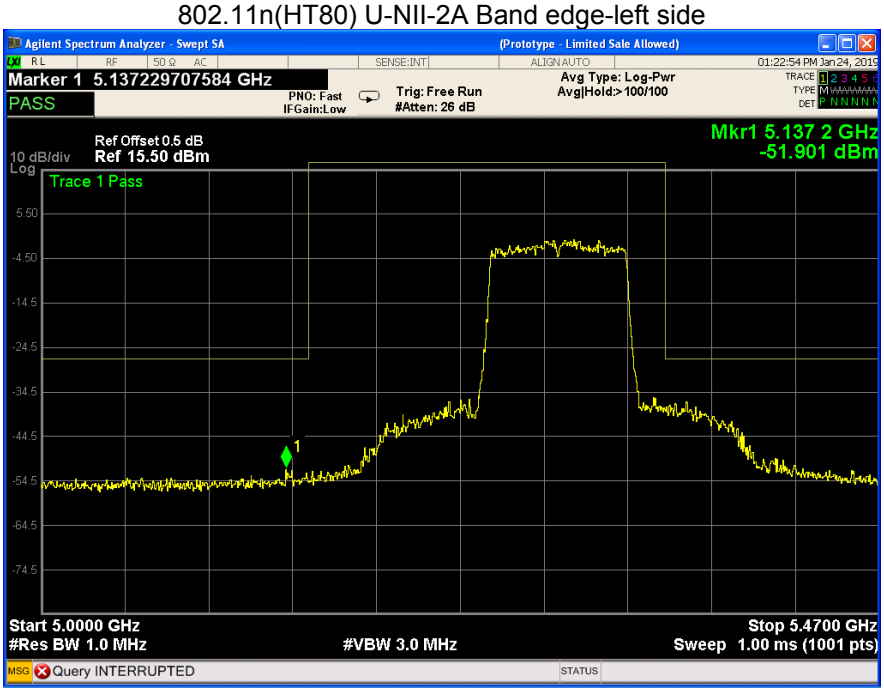
802.11ac(HT40) U-NII-2A Band edge-left side



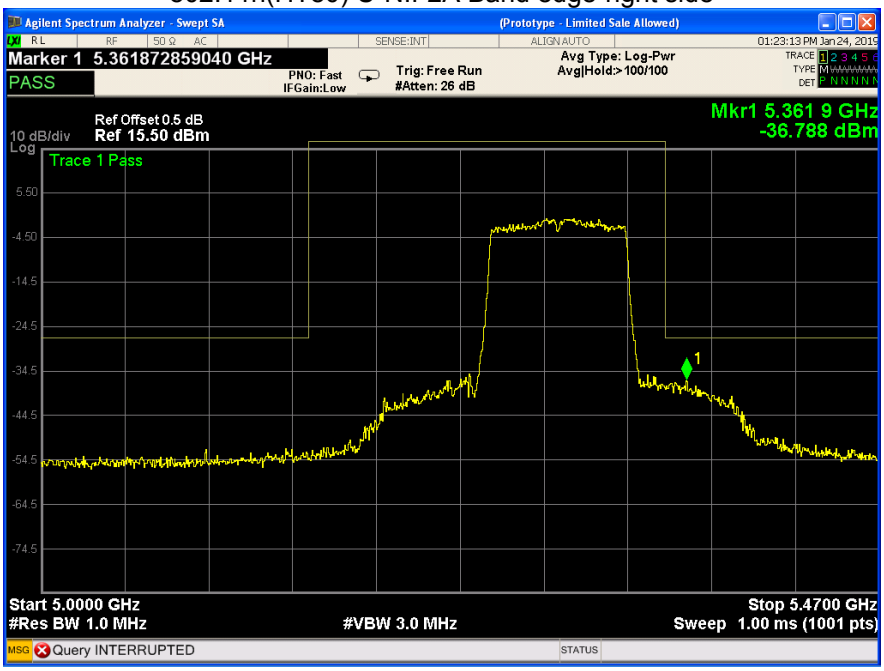
802.11ac(HT40) U-NII-2A Band edge-right side



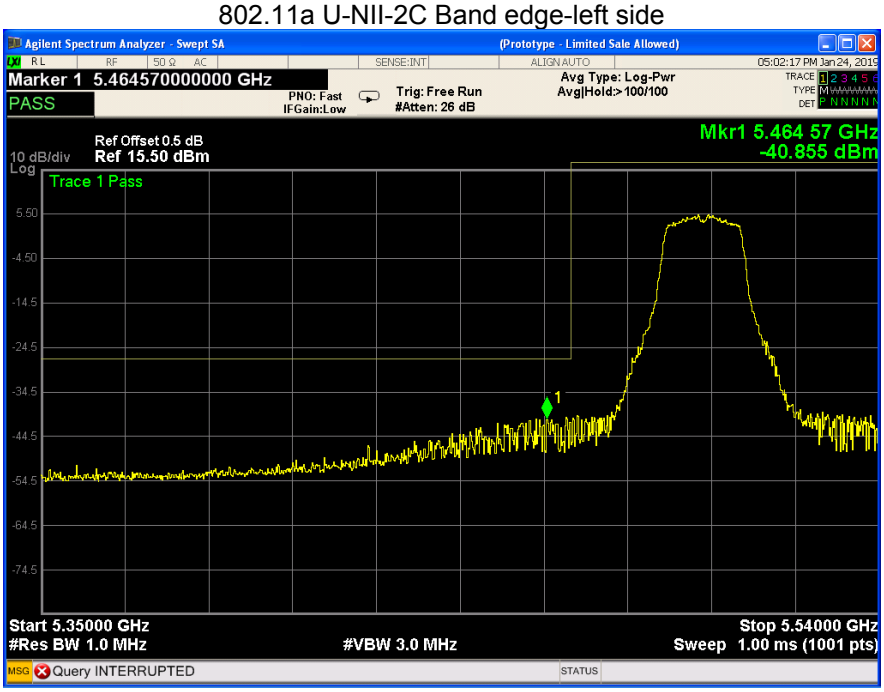
802.11n(HT80) U-NII-2A Band edge-left side



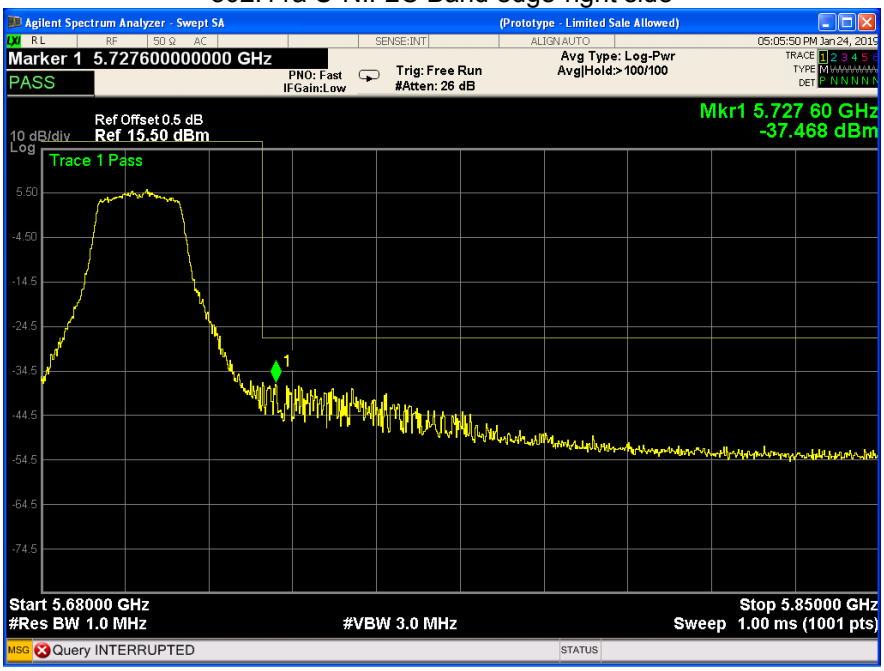
802.11n(HT80) U-NII-2A Band edge-right side



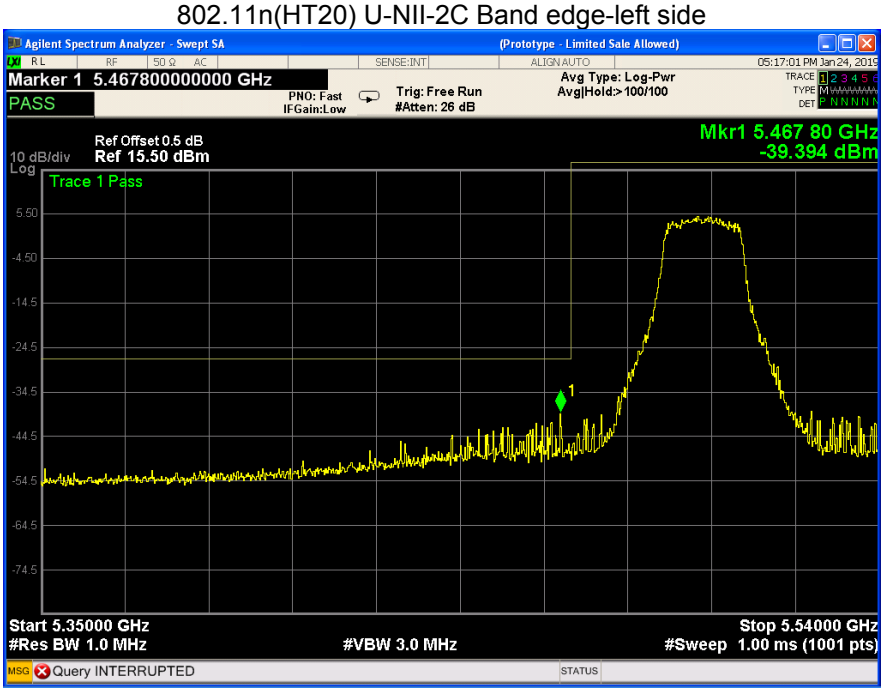
802.11a U-NII-2C Band edge-left side



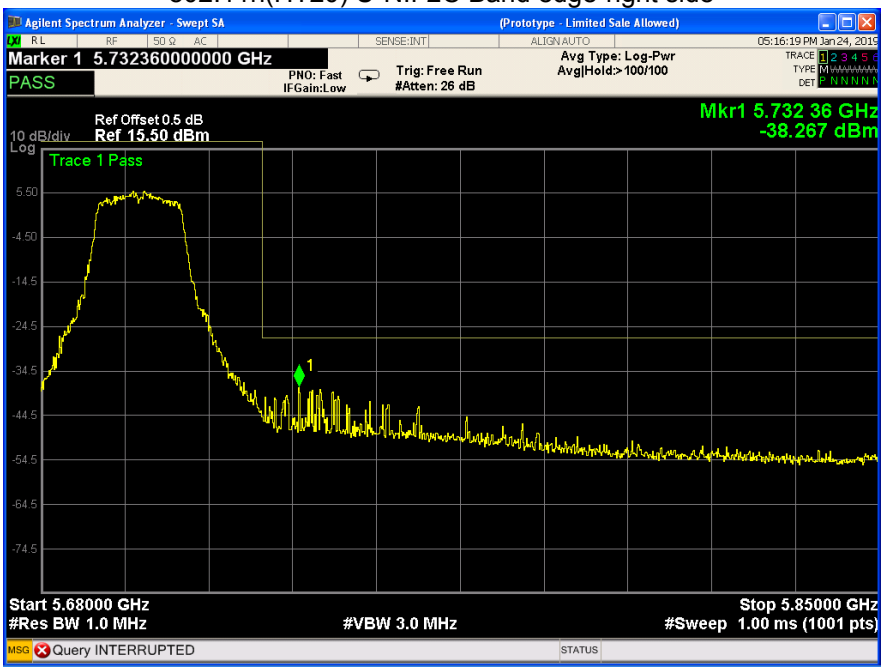
802.11a U-NII-2C Band edge-right side



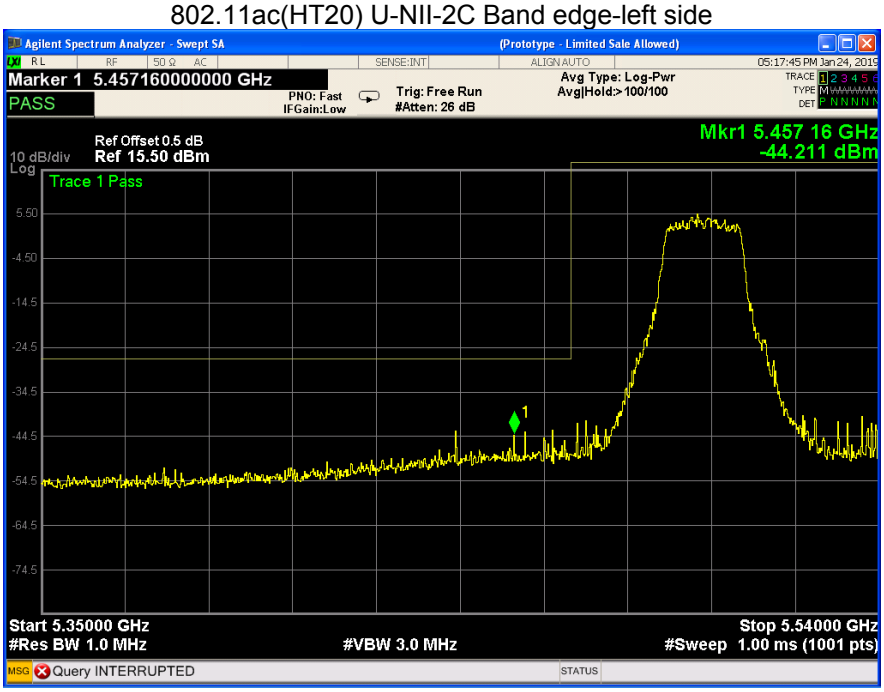
802.11n(HT20) U-NII-2C Band edge-left side



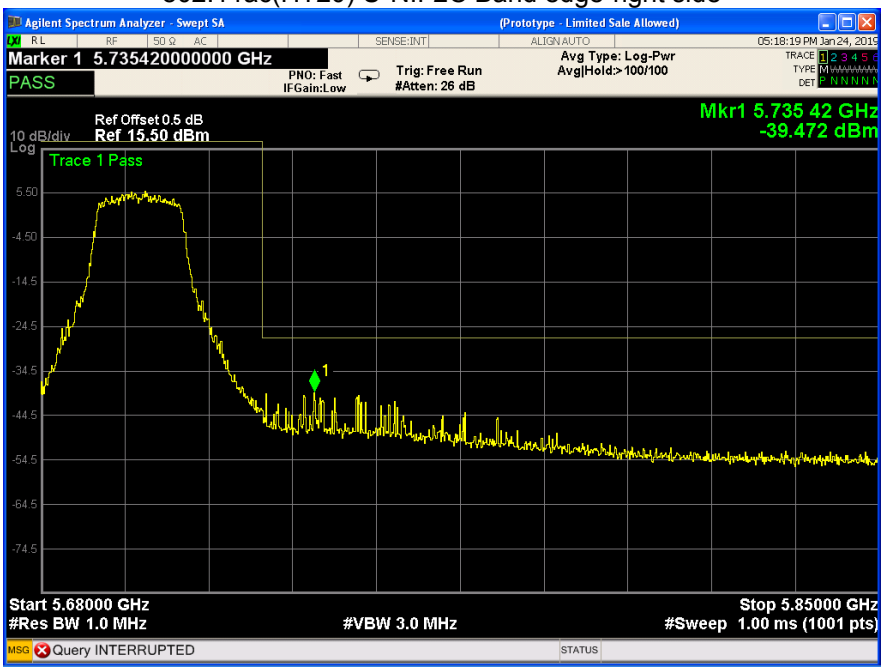
802.11n(HT20) U-NII-2C Band edge-right side



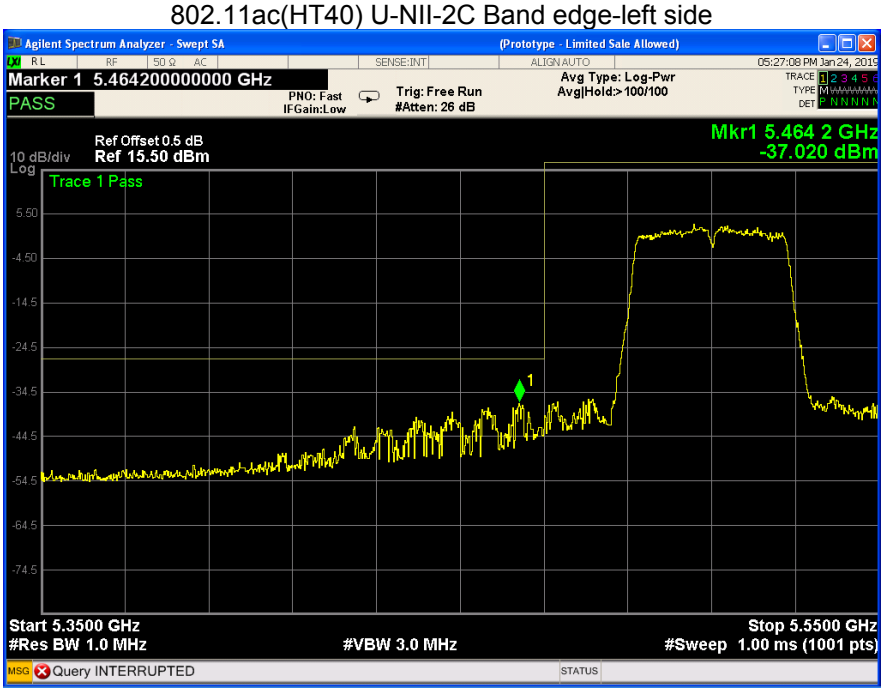
802.11ac(HT20) U-NII-2C Band edge-left side



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

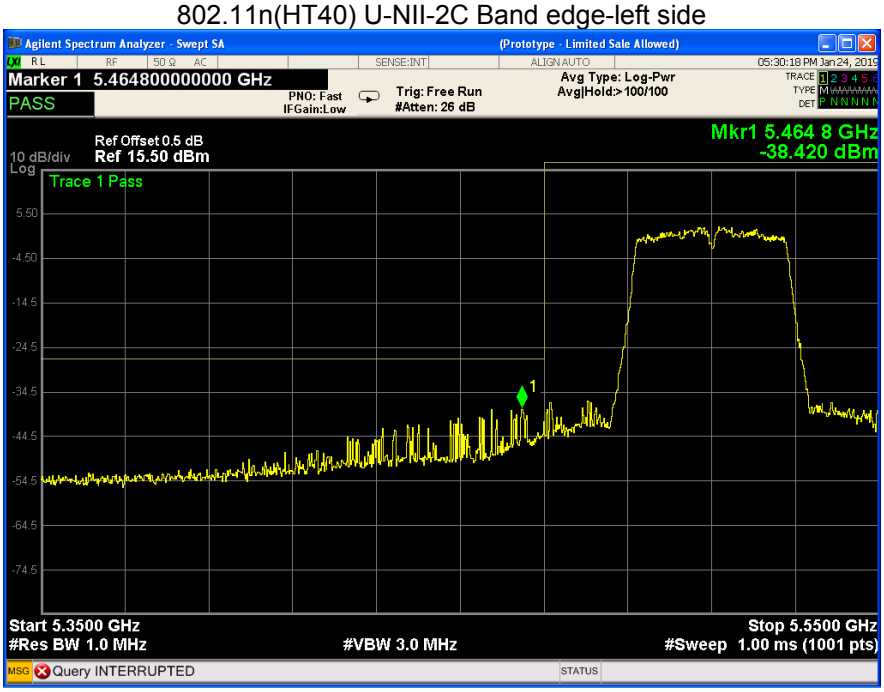


802.11ac(HT40) U-NII-2C Band edge-left side

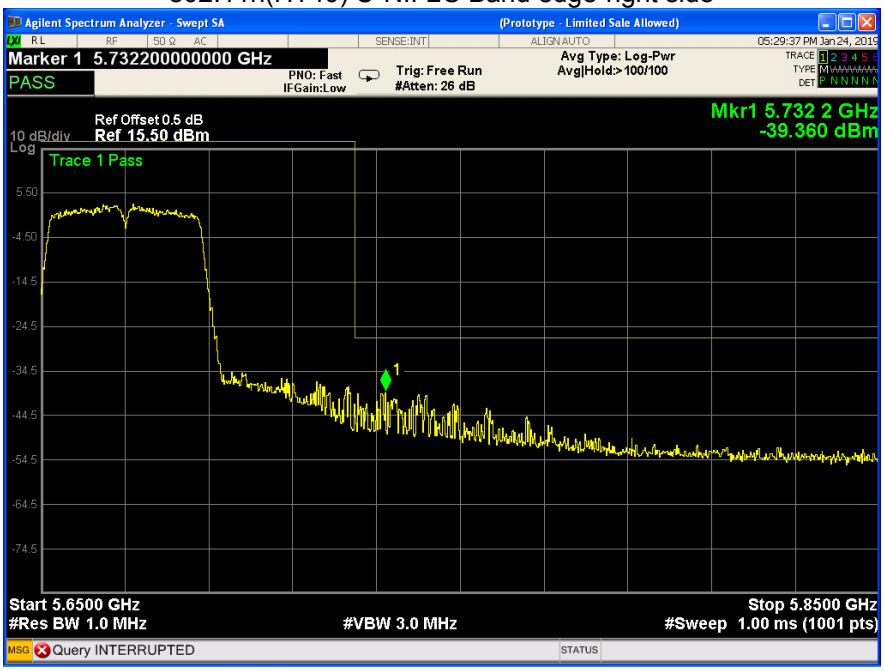


802.11ac(HT40) U-NII-2C Band edge-right side

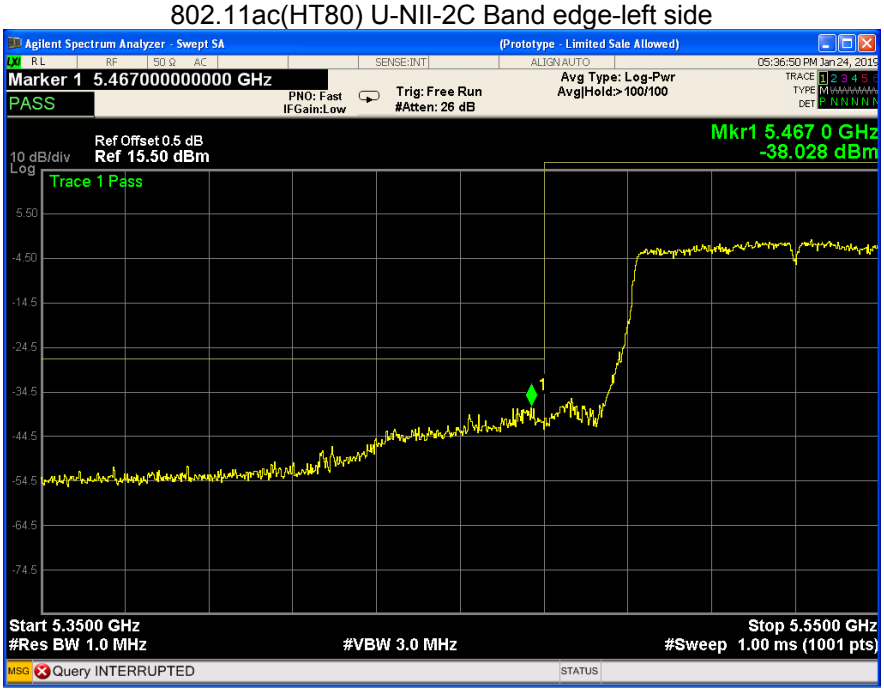
802.11n(HT40) U-NII-2C Band edge-left side



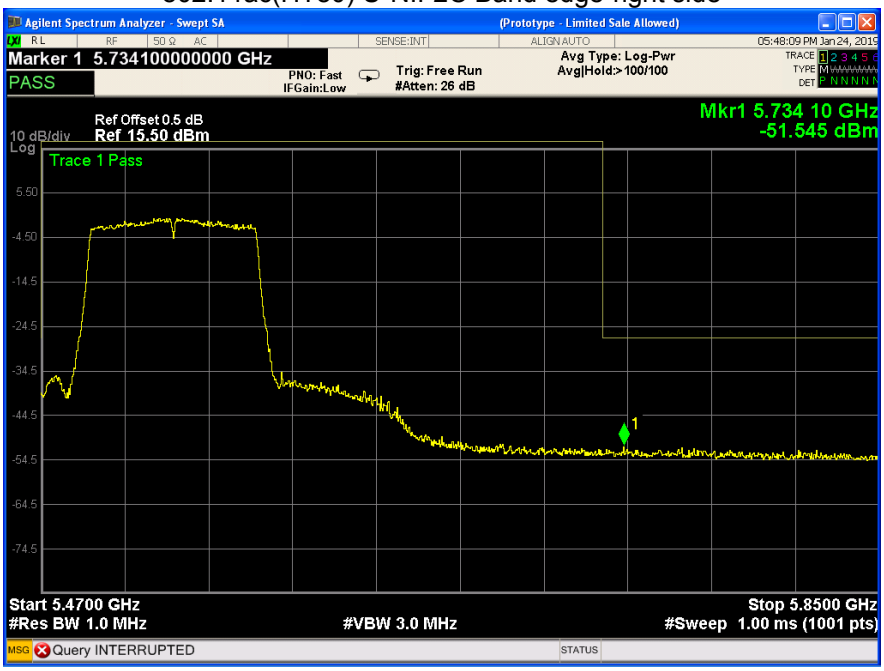
802.11n(HT40) U-NII-2C Band edge-right side



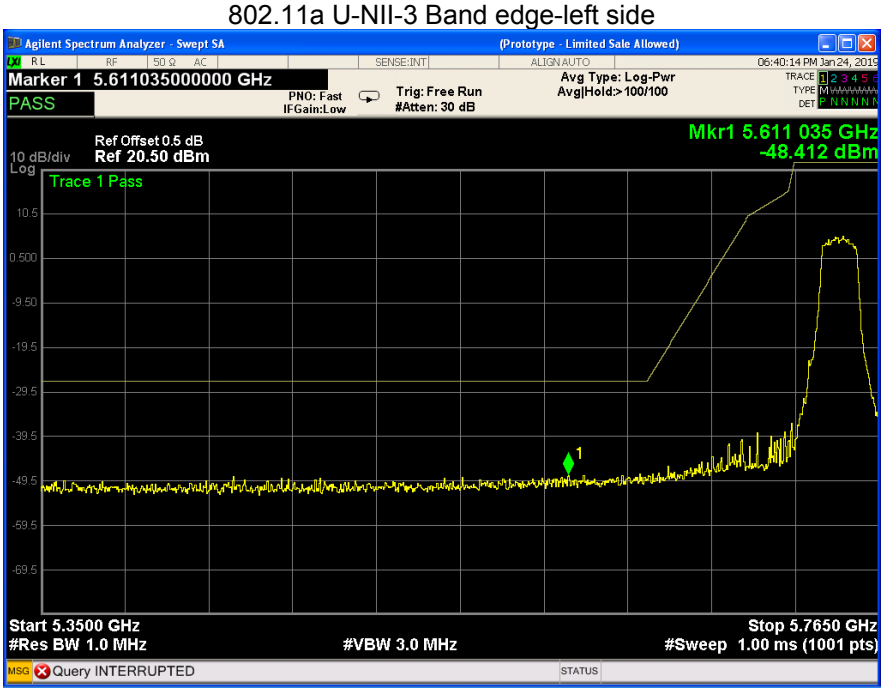
802.11ac(HT80) U-NII-2C Band edge-left side



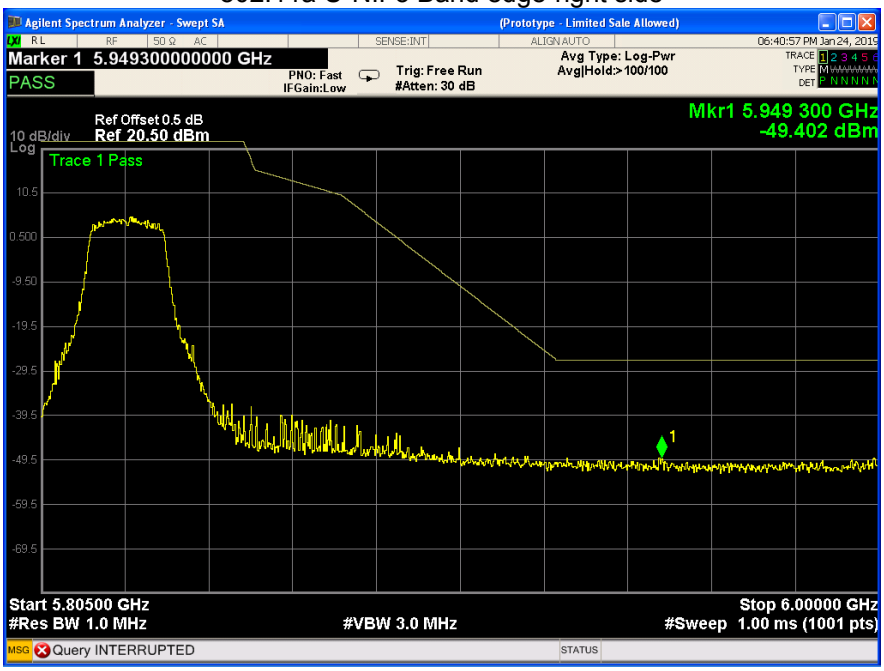
802.11ac(HT80) U-NII-2C Band edge-right side



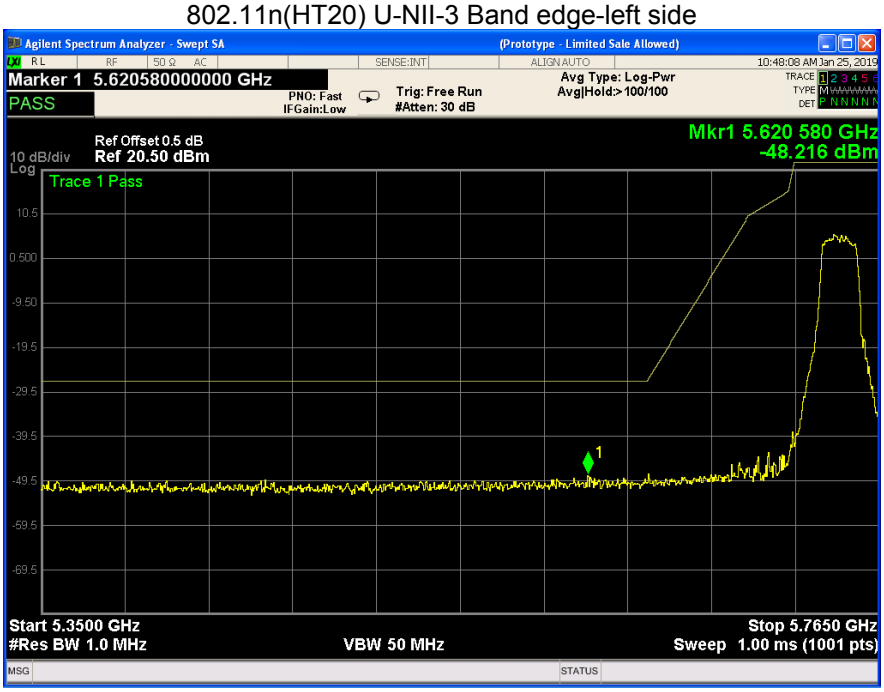
802.11a U-NII-3 Band edge-left side



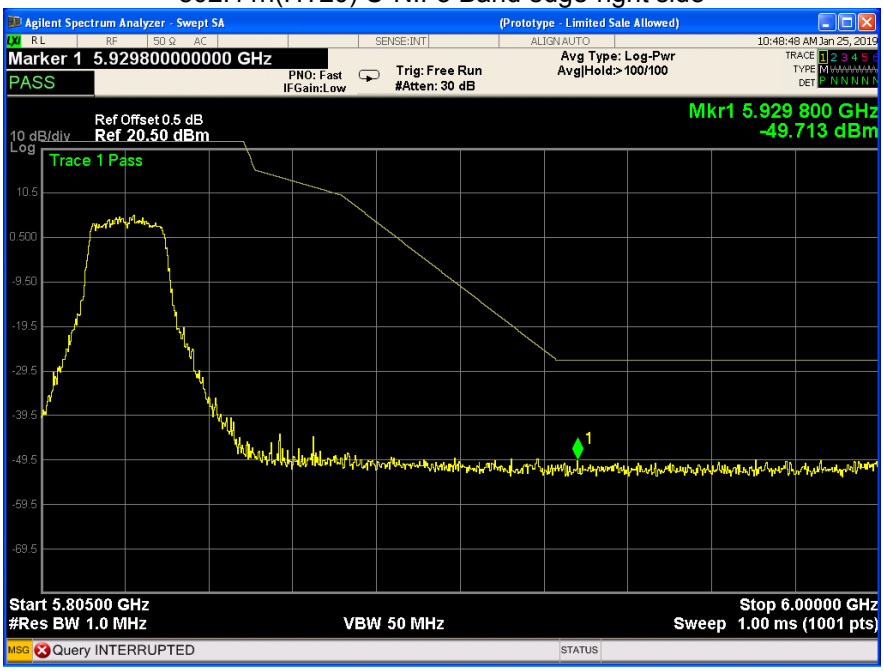
802.11a U-NII-3 Band edge-right side



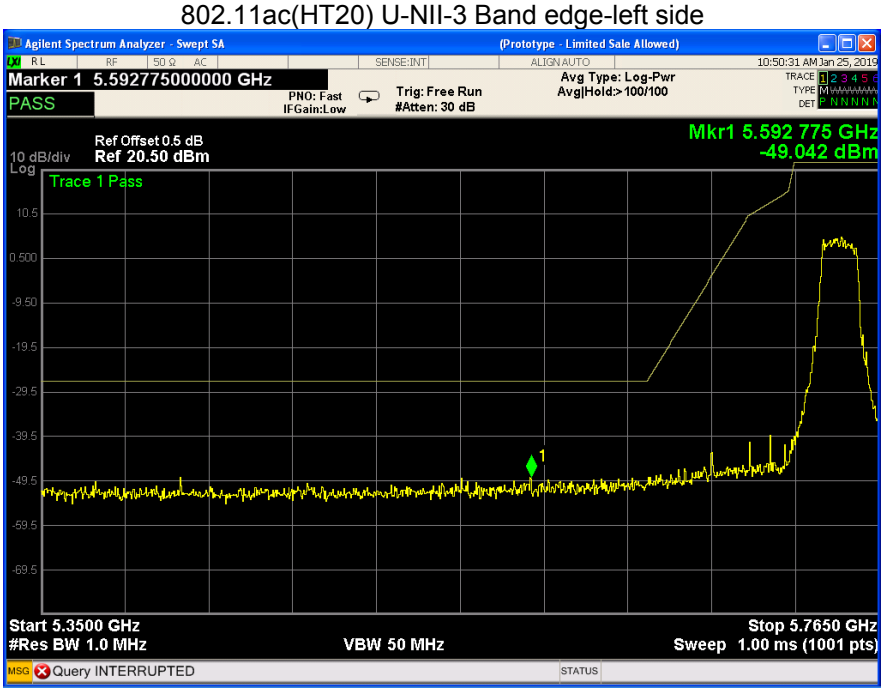
802.11n(HT20) U-NII-3 Band edge-left side



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

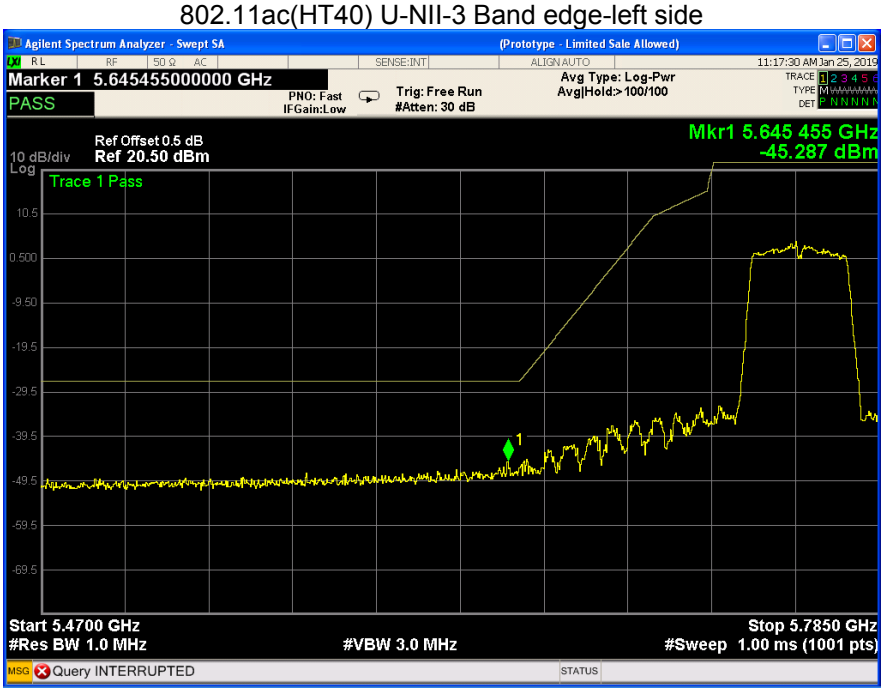


802.11ac(HT20) U-NII-3 Band edge-left side

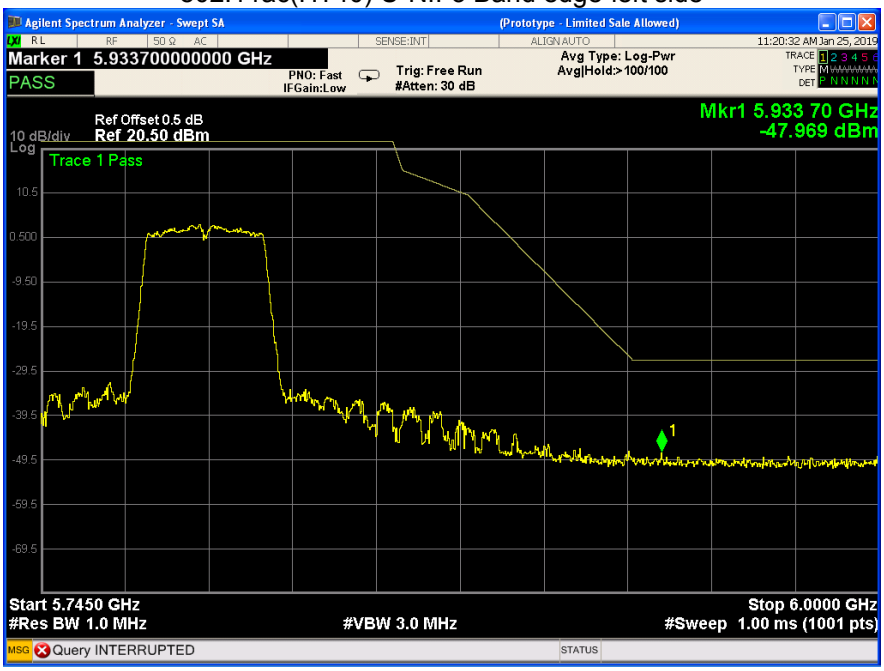


802.11ac(HT20) U-NII-3 Band edge-right side

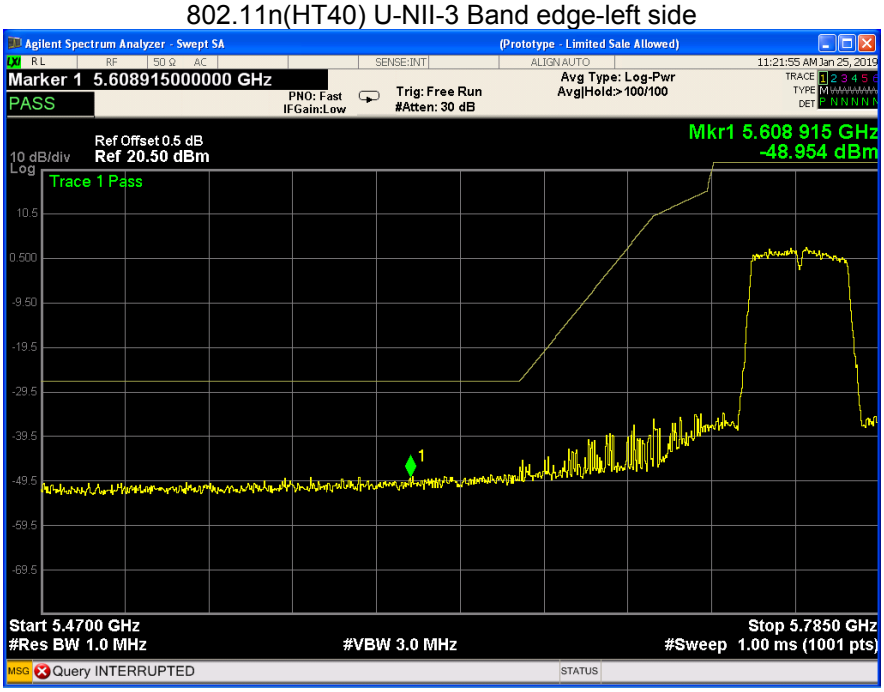
802.11ac(HT40) U-NII-3 Band edge-left side



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

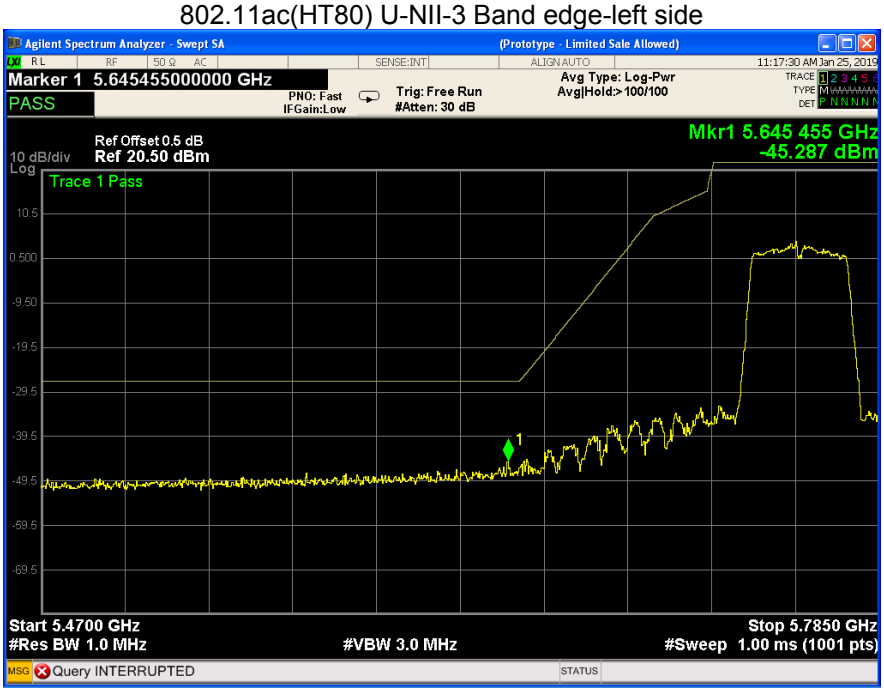


802.11n(HT40) U-NII-3 Band edge-left side

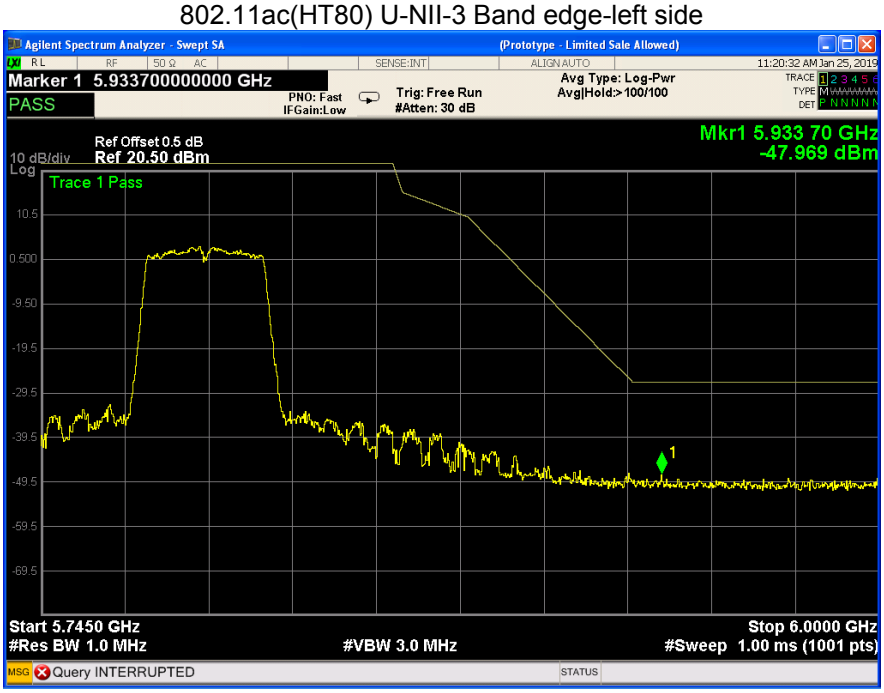


802.11n(HT40) U-NII-3 Band edge-right side

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



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



12 26 dB Bandwidth and 99% Occupied Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.407
Test Method:	KDB 789033 D02 General U-NII Test Procedures New Rules v02r01
Test Limit:	No restriction limits for U-NII-1/II/III. Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.
Test Result:	PASS

12.1 Test Procedure:

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;

2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz

12.2 Test Result:

Band	Operation mode	26 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-1	802.11a	23.44	23.54	23.05	17.761	17.775	17.744
	802.11n(HT20)	22.67	24.15	23.35	17.770	17.771	17.762
	802.11ac(HT20)	22.99	23.84	22.99	17.753	17.748	17.767
	802.11n(HT40)	40.95	/	41.53	36.186	/	36.210
	802.11ac(HT40)	40.89	/	41.15	36.213	/	36.207
	802.11ac(HT80)	82.74	/	/	75.518	/	/

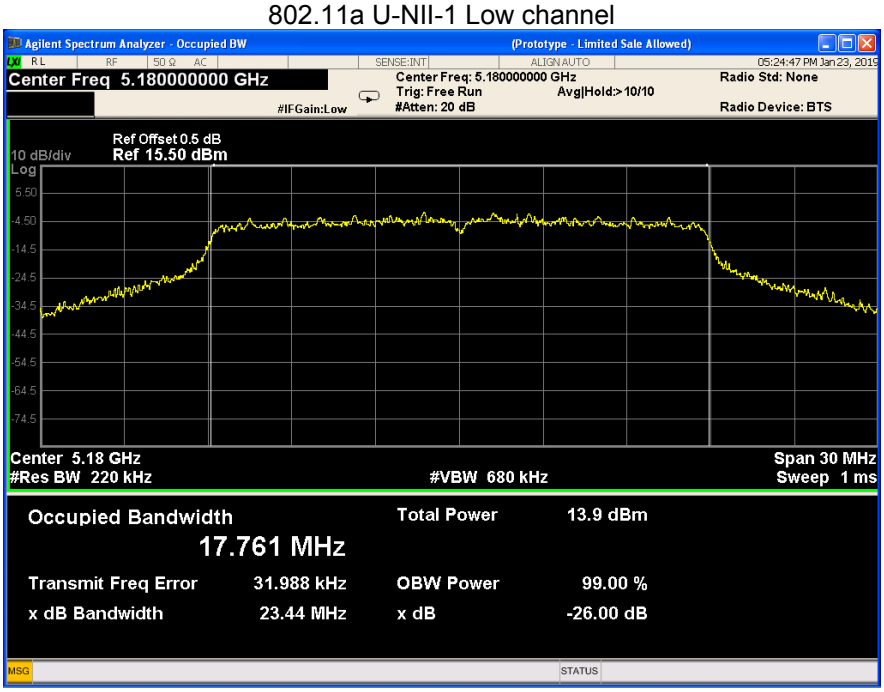
Band	Operation mode	26 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-2A	802.11a	23.80	23.65	24.06	17.785	17.779	17.778
	802.11n(HT20)	22.81	23.72	23.28	17.768	17.783	17.789
	802.11ac(HT20)	24.95	23.16	22.97	17.767	17.775	17.767
	802.11n(HT40)	41.29	/	41.24	36.208	/	36.219
	802.11ac(HT40)	41.39	/	41.18	36.223	/	36.234
	802.11ac(HT80)	82.82	/	/	75.615	/	/

Band	Operation mode	26 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-2C	802.11a	23.07	23.65	23.89	17.764	17.774	17.788
	802.11n(HT20)	23.24	23.66	23.08	17.793	17.767	17.787
	802.11ac(HT20)	24.61	24.31	23.70	17.793	17.783	17.806
	802.11n(HT40)	40.57	41.27	41.21	36.216	36.171	36.203
	802.11ac(HT40)	40.98	41.37	40.66	36.228	36.192	36.158
	802.11ac(HT80)	83.51	/	82.92	75.609	/	75.597

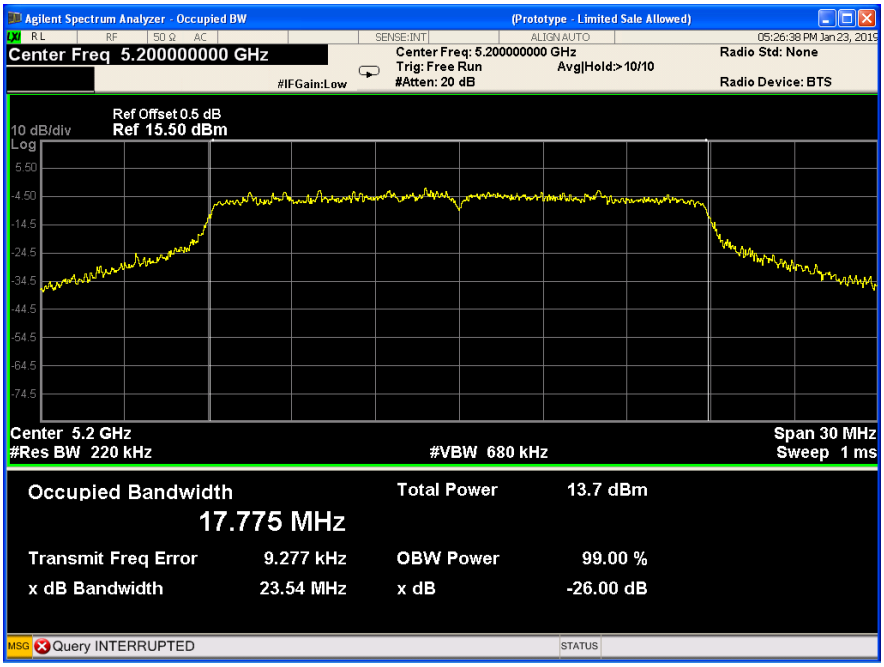
Band	Operation mode	26 dB Bandwidth (MHz)			6 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High	Low	Middle	High
U-NII-3	802.11a	23.38	22.95	23.42	15.05	13.85	14.30	17.781	17.769	17.789
	802.11n(HT20)	23.83	23.85	23.23	15.88	16.24	15.15	17.758	17.801	17.768
	802.11ac(HT20)	23.07	23.86	23.85	17.54	15.14	13.78	17.789	17.775	17.831
	802.11n(HT40)	41.26	/	41.14	36.02	/	35.68	36.211	/	36.240
	802.11ac(HT40)	41.34	/	41.17	35.43	/	35.89	36.238	/	36.214
	802.11ac(HT80)	83.60	/	/	76.02	/	/	75.688	/	/

Test result plots shown as follows:

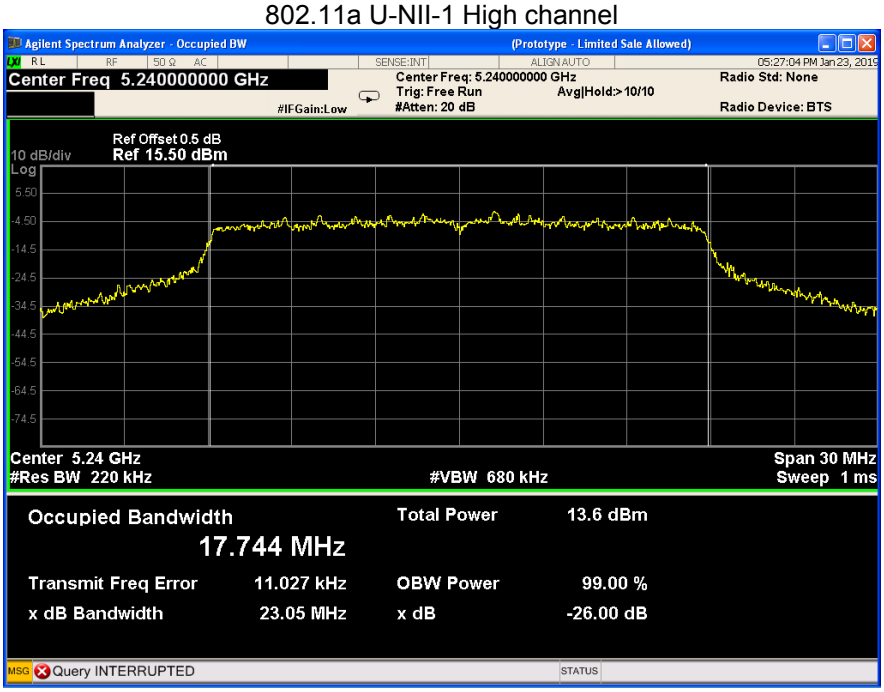
802.11a U-NII-1 Low channel



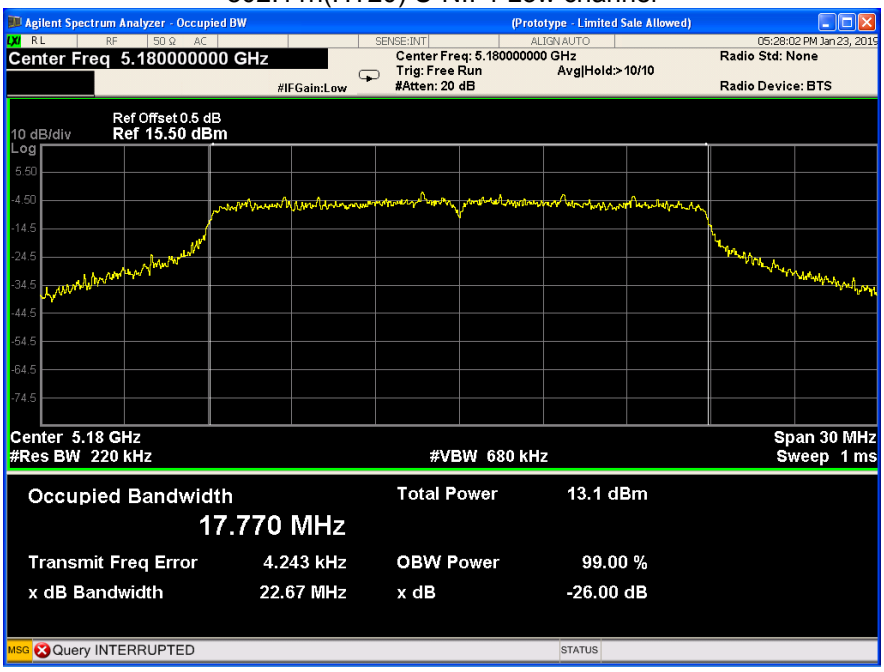
802.11a U-NII-1 Middle channel



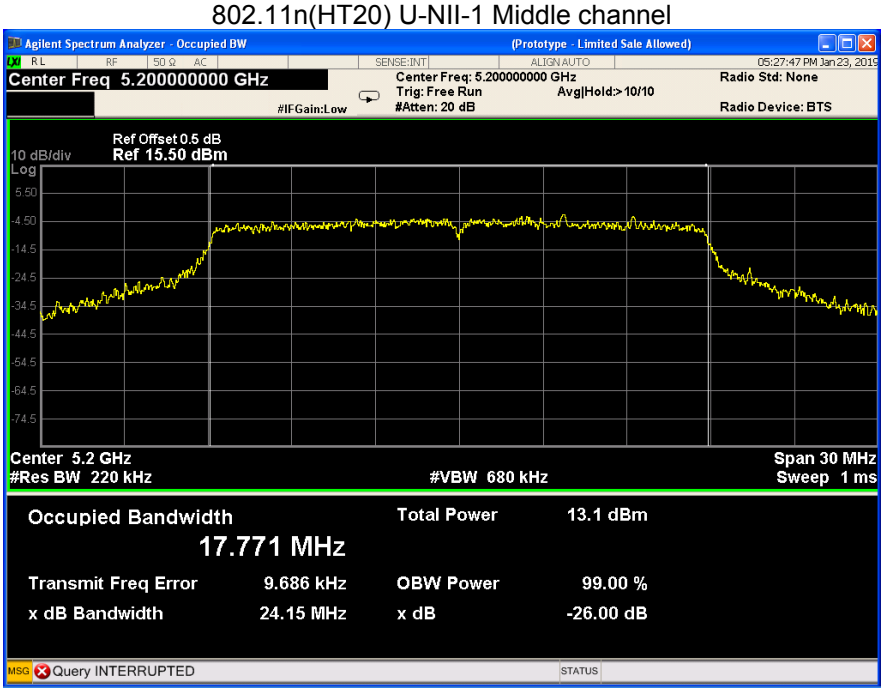
802.11a U-NII-1 High channel



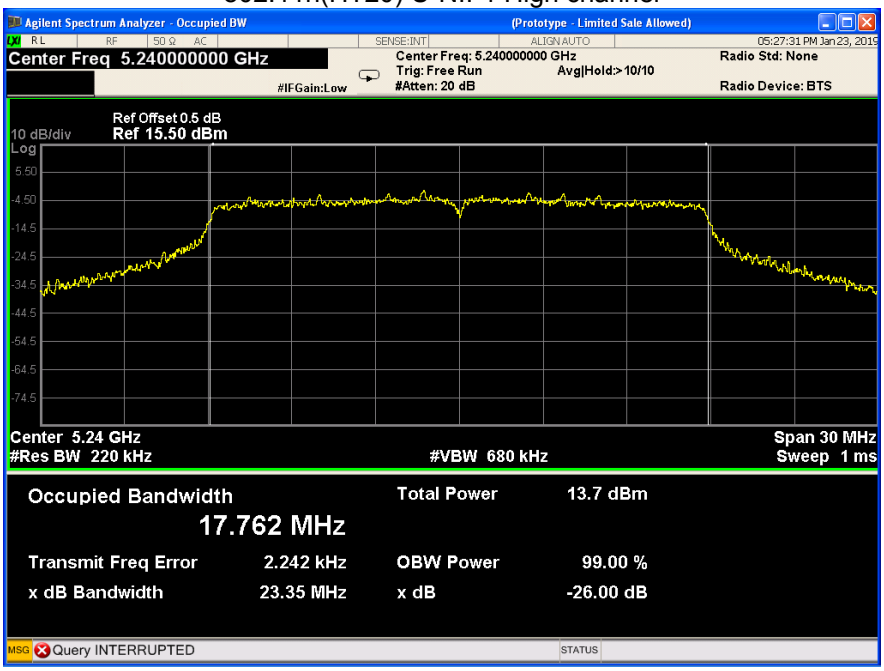
802.11n(HT20) U-NII-1 Low channel



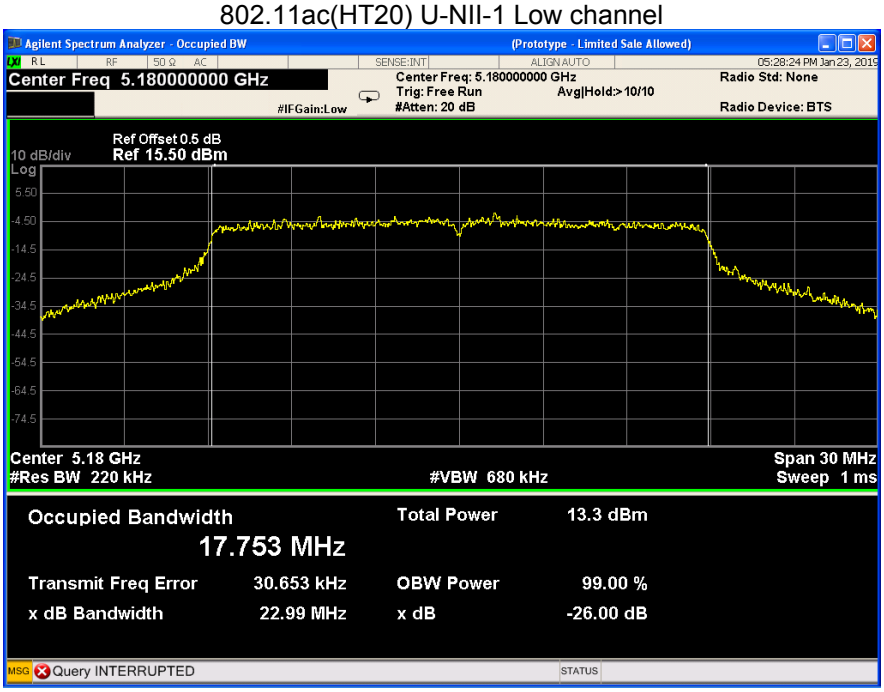
802.11n(HT20) U-NII-1 Middle channel



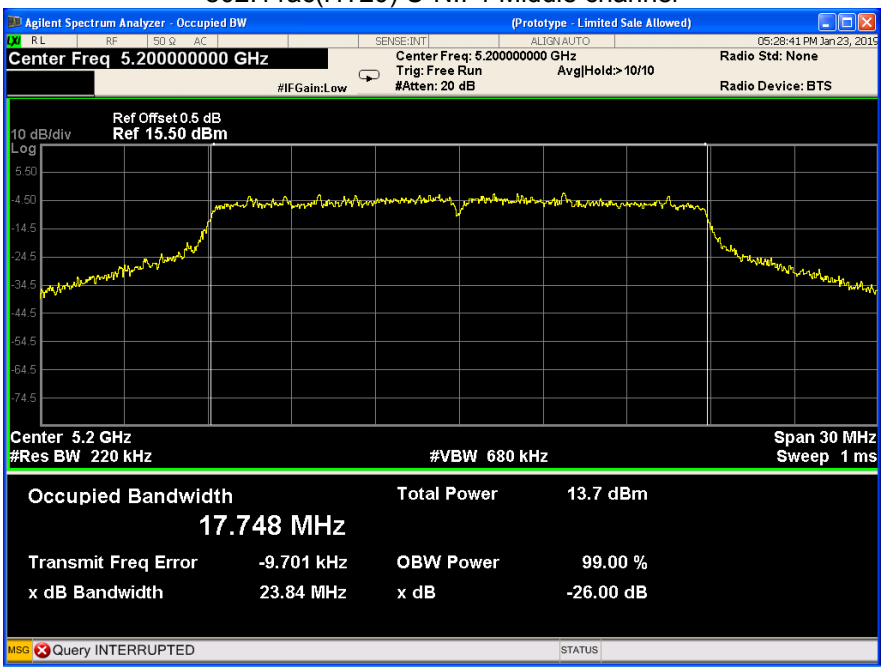
802.11n(HT20) U-NII-1 High channel



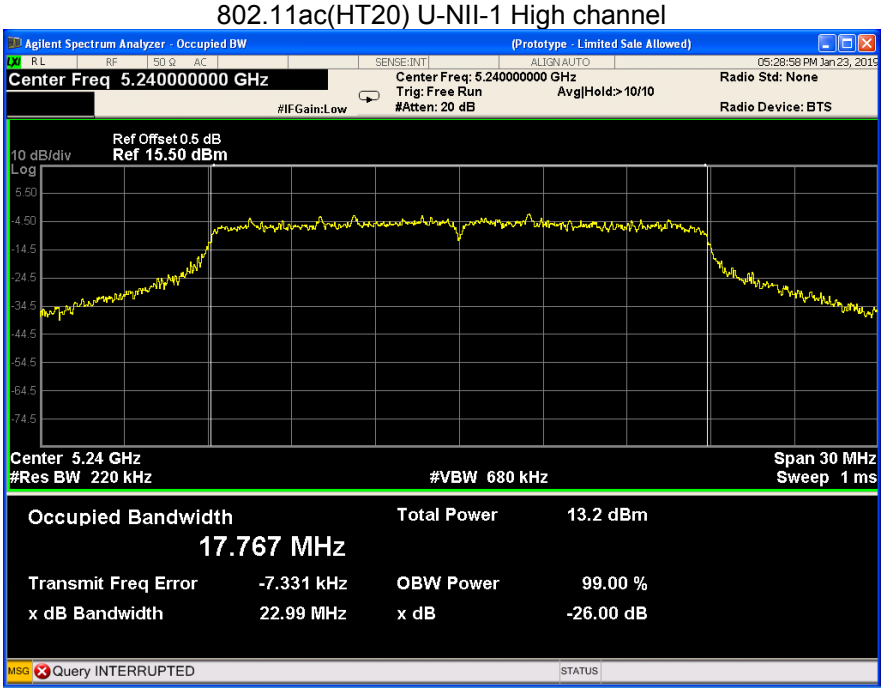
802.11ac(HT20) U-NII-1 Low channel



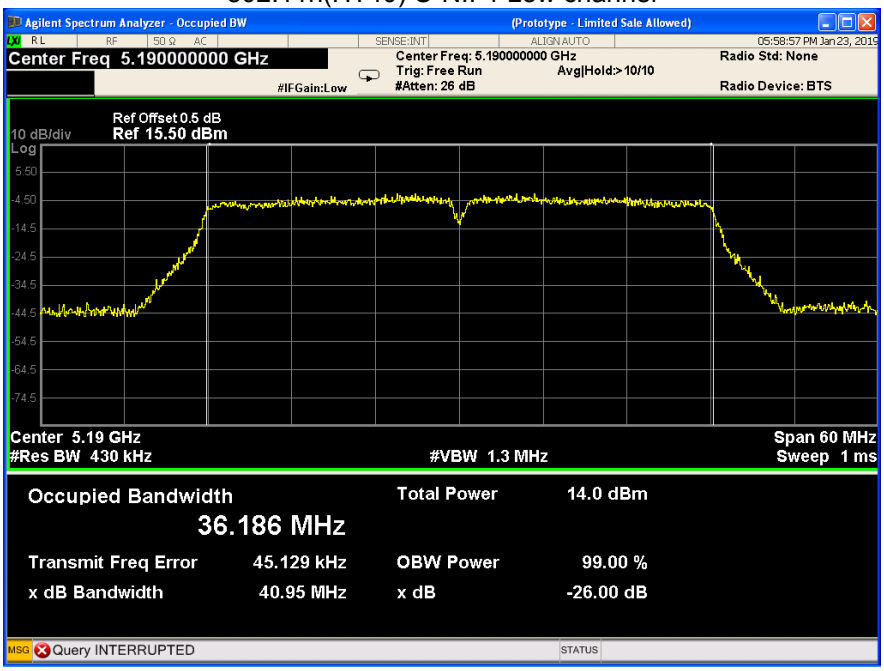
802.11ac(HT20) U-NII-1 Middle channel



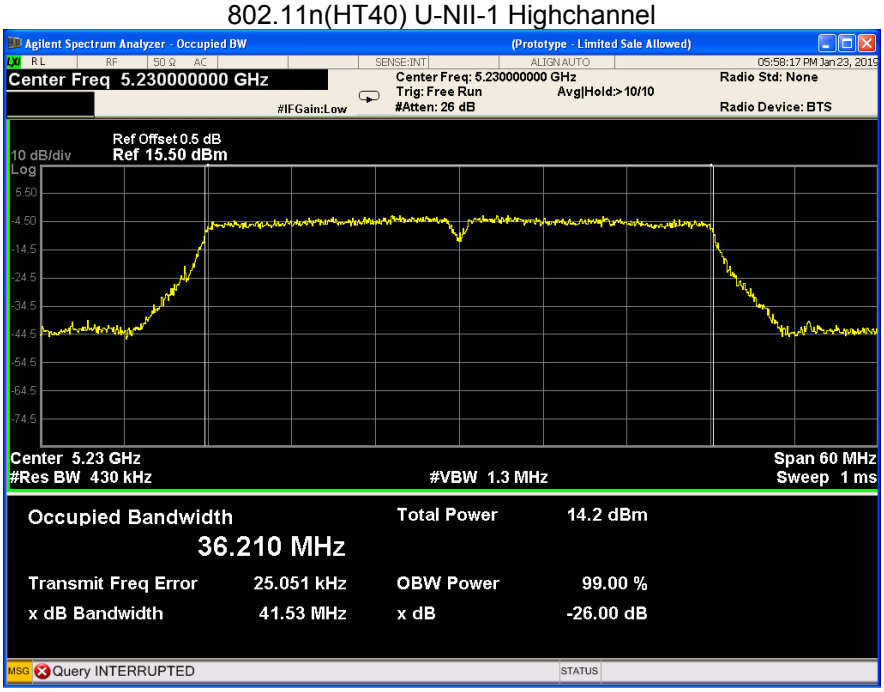
802.11ac(HT20) U-NII-1 High channel



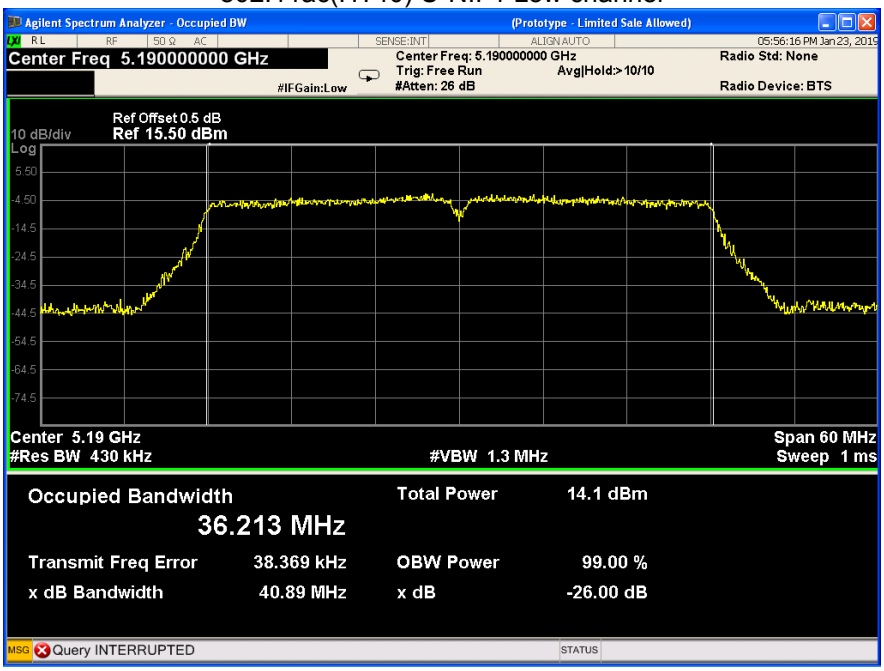
802.11n(HT40) U-NII-1 Low channel



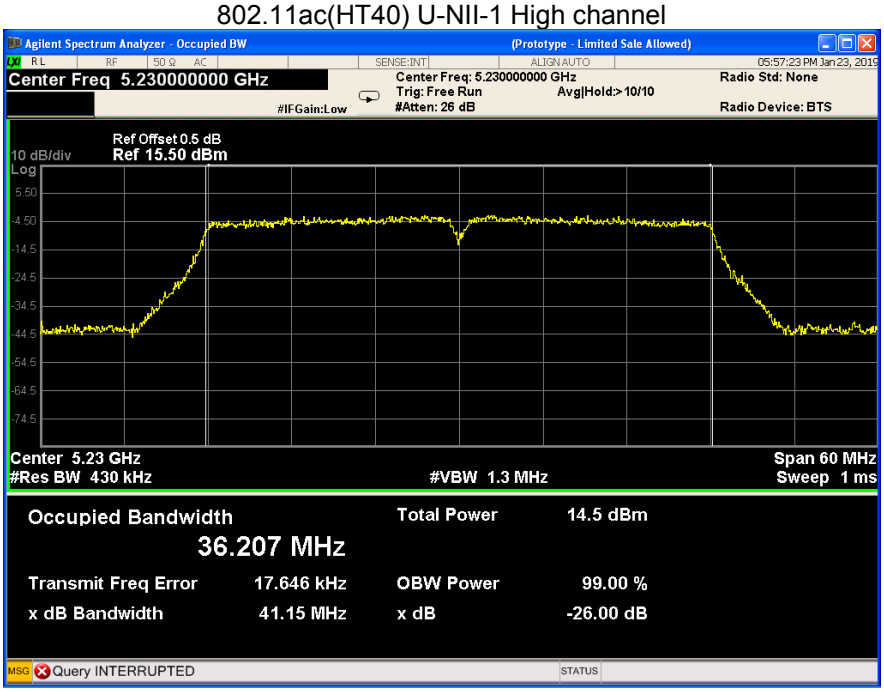
802.11n(HT40) U-NII-1 Highchannel



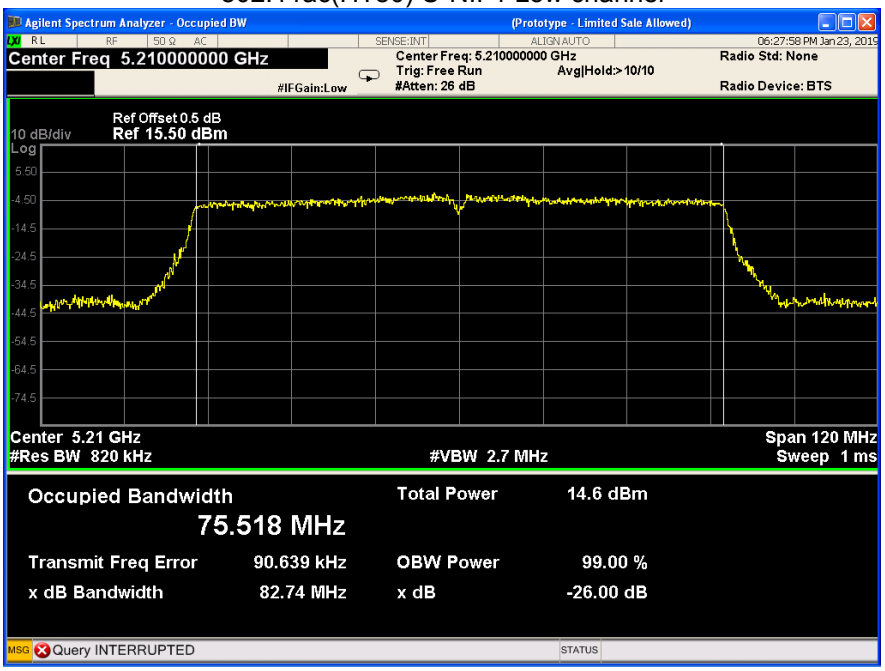
802.11ac(HT40) U-NII-1 Low channel



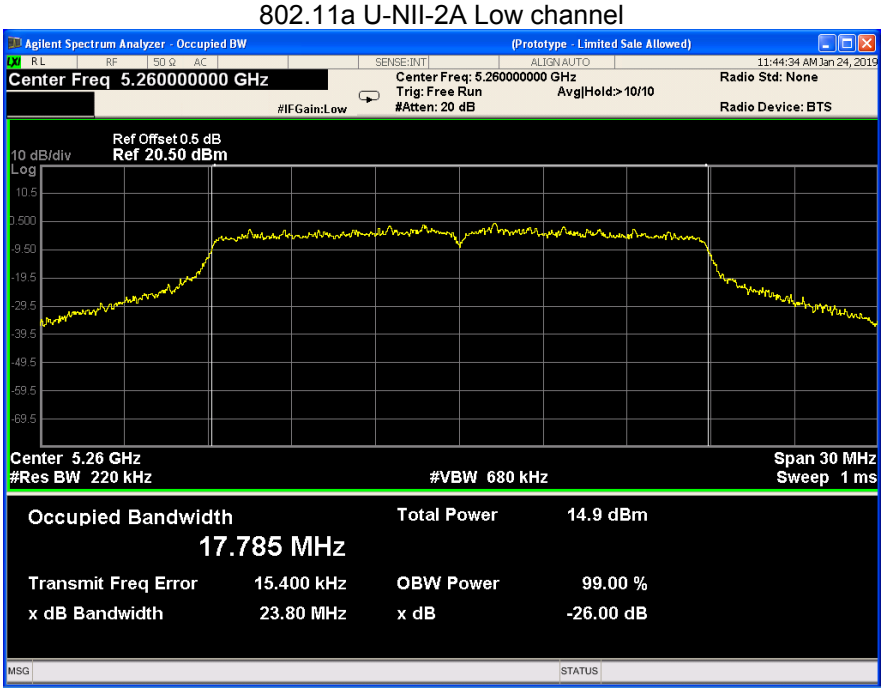
802.11ac(HT40) U-NII-1 High channel



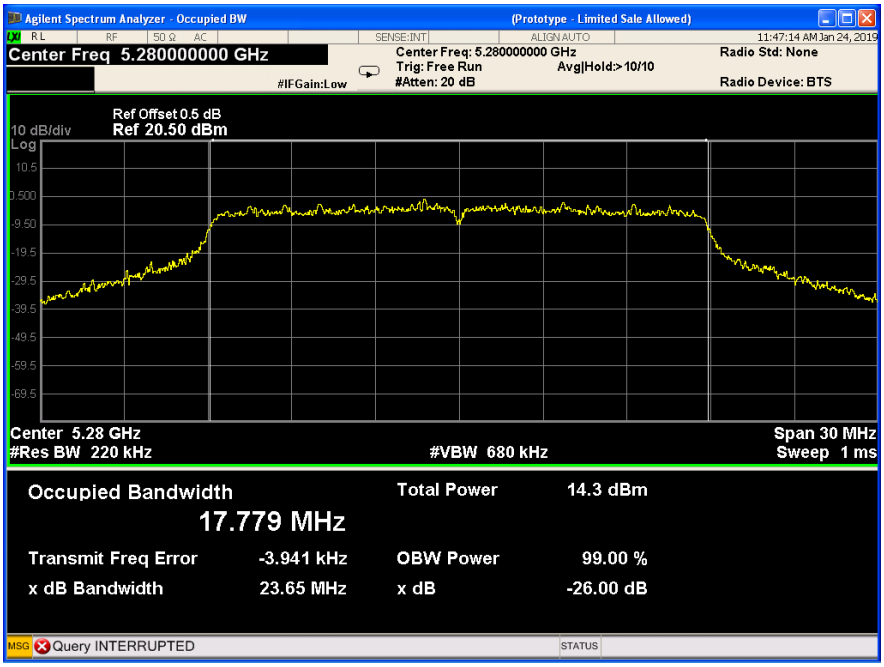
802.11ac(HT80) U-NII-1 Low channel



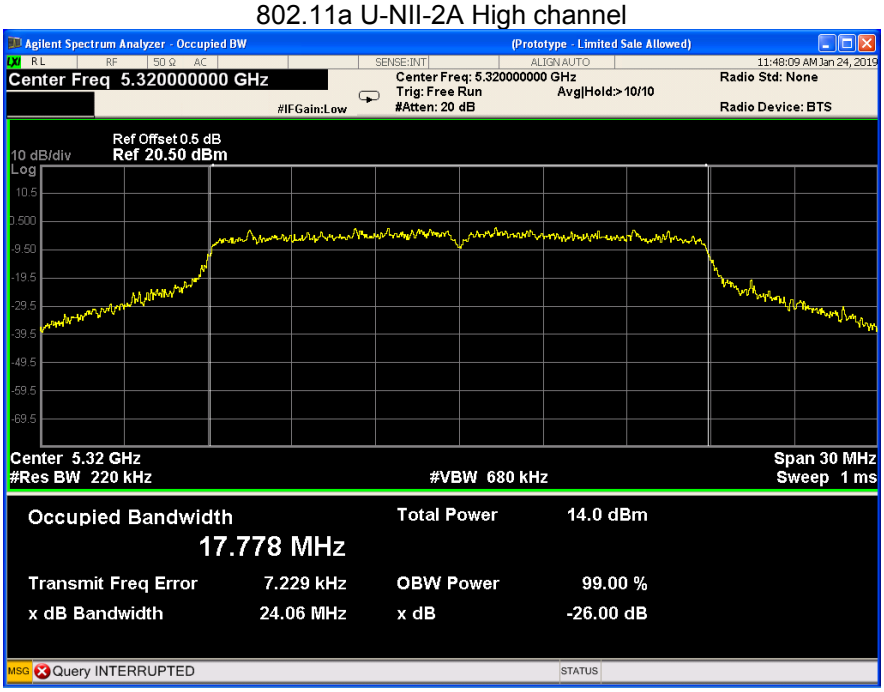
802.11a U-NII-2A Low channel



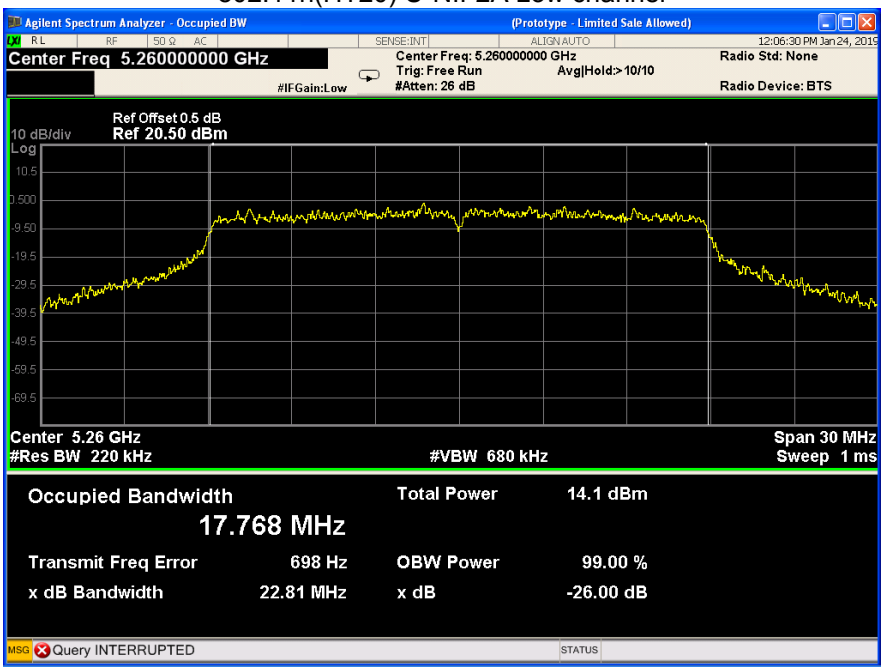
802.11a U-NII-2A Middle channel



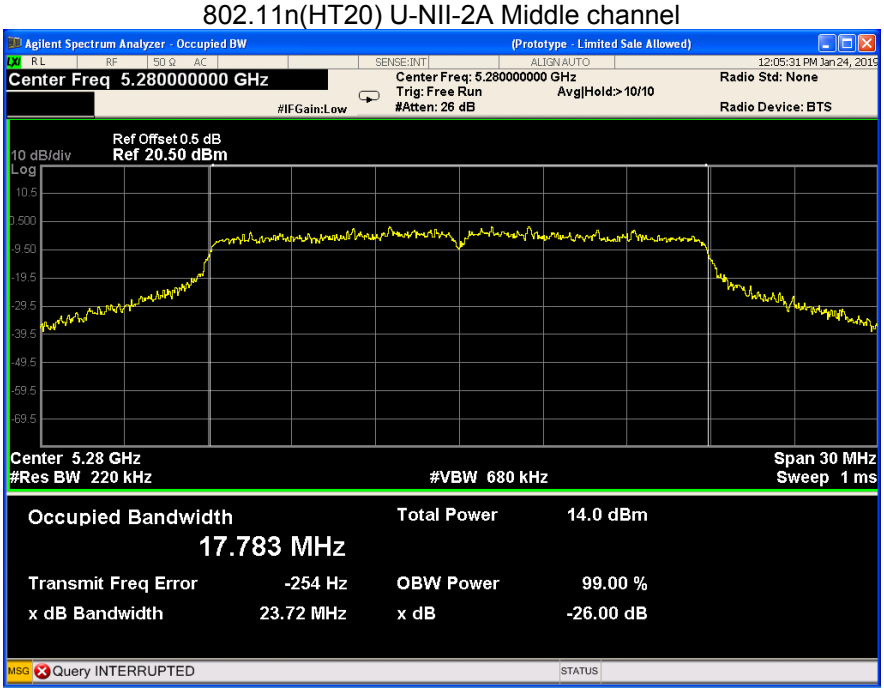
802.11a U-NII-2A High channel



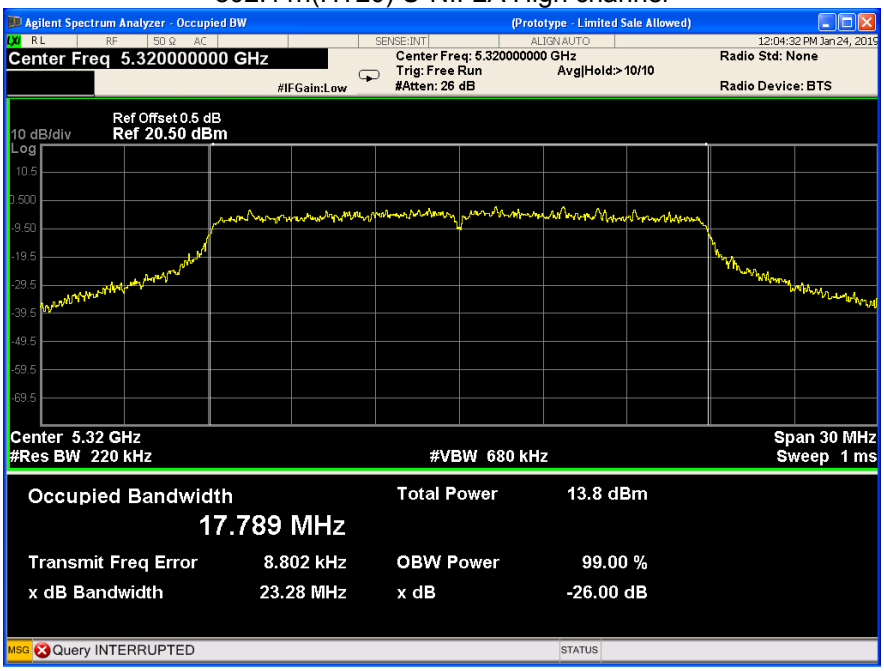
802.11n(HT20) U-NII-2A Low channel



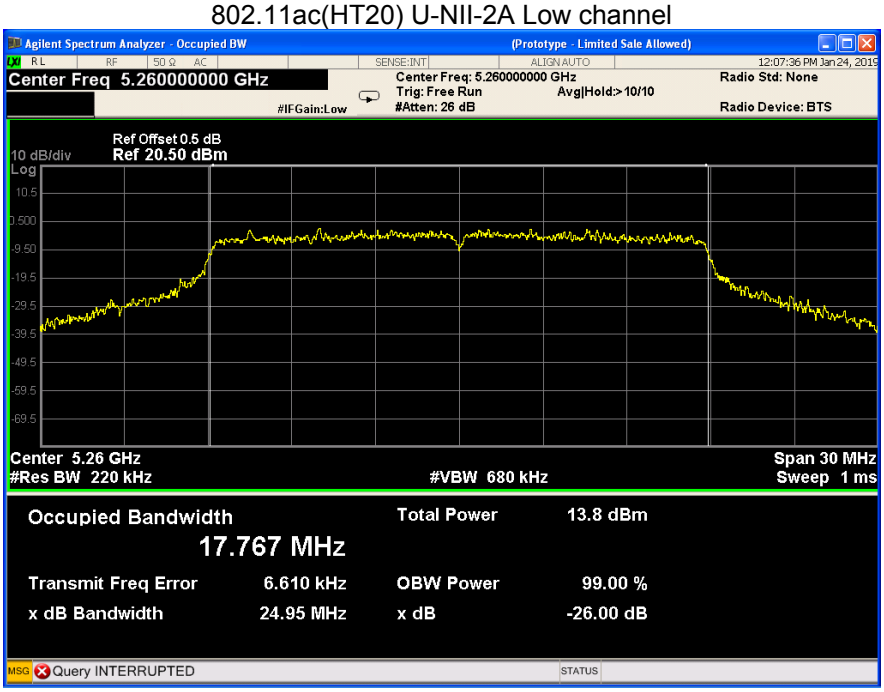
802.11n(HT20) U-NII-2A Middle channel



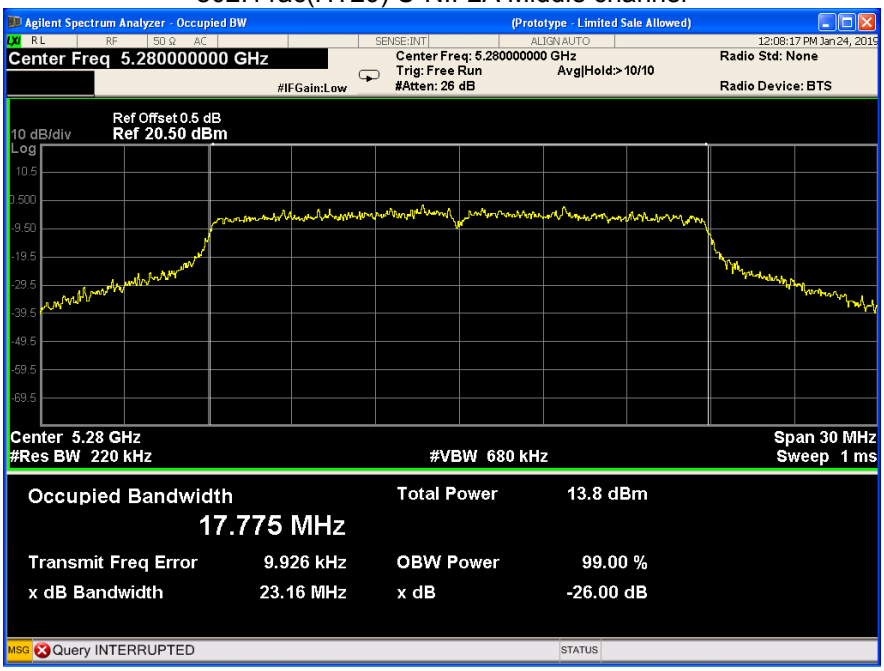
802.11n(HT20) U-NII-2A High channel



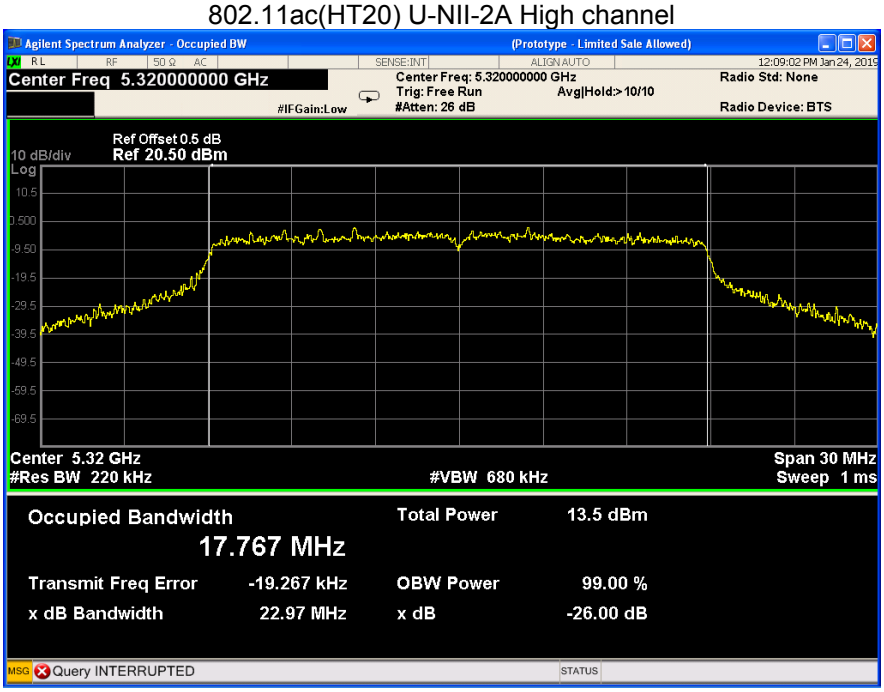
802.11ac(HT20) U-NII-2A Low channel



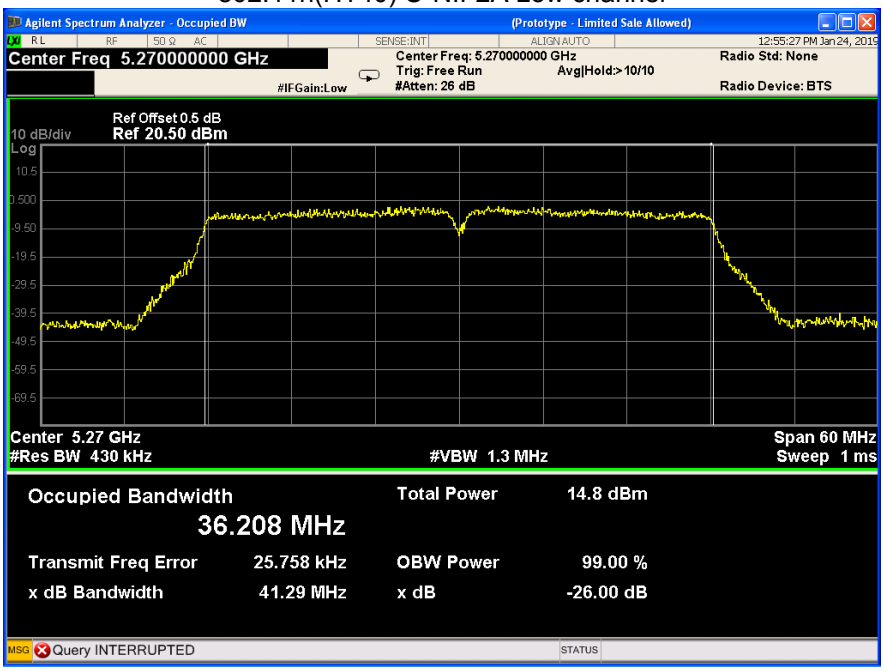
802.11ac(HT20) U-NII-2A Middle channel



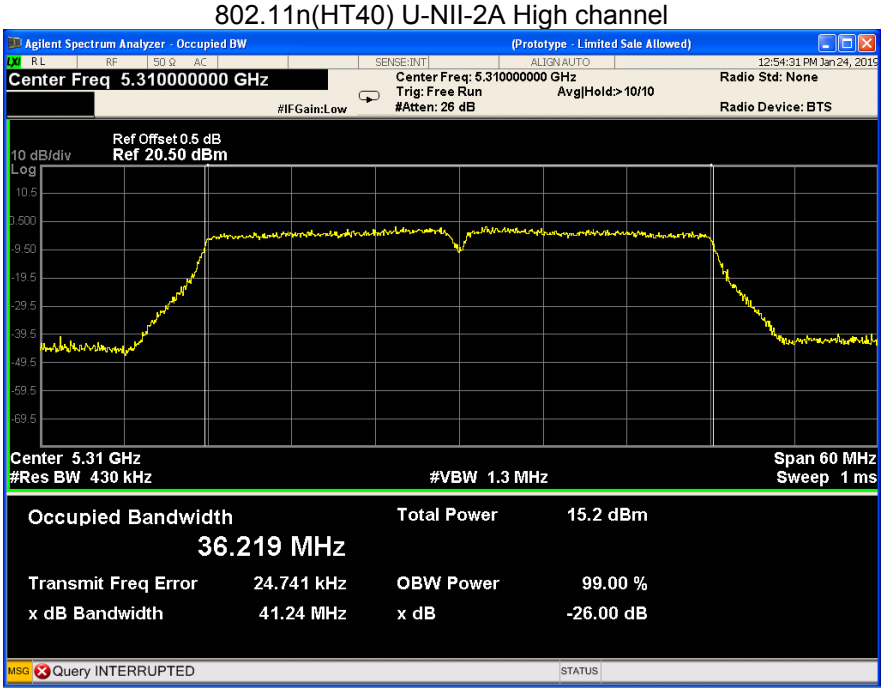
802.11ac(HT20) U-NII-2A High channel



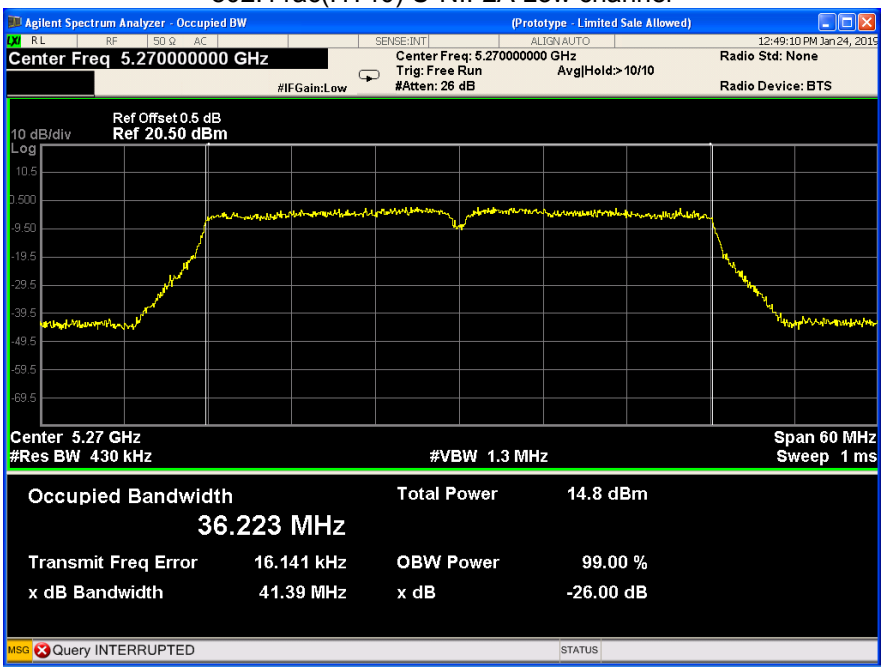
802.11n(HT40) U-NII-2A Low channel



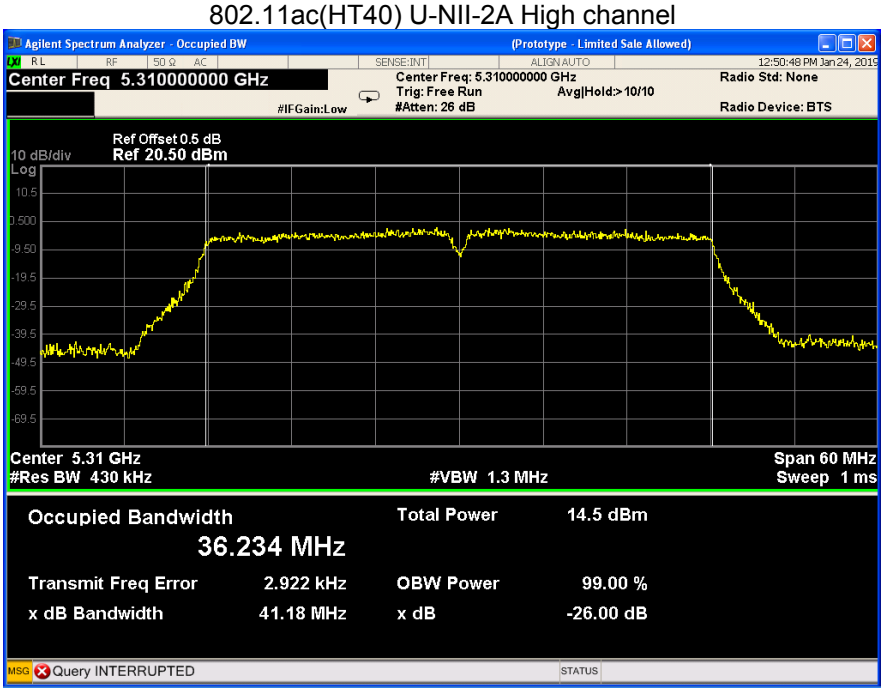
802.11n(HT40) U-NII-2A High channel



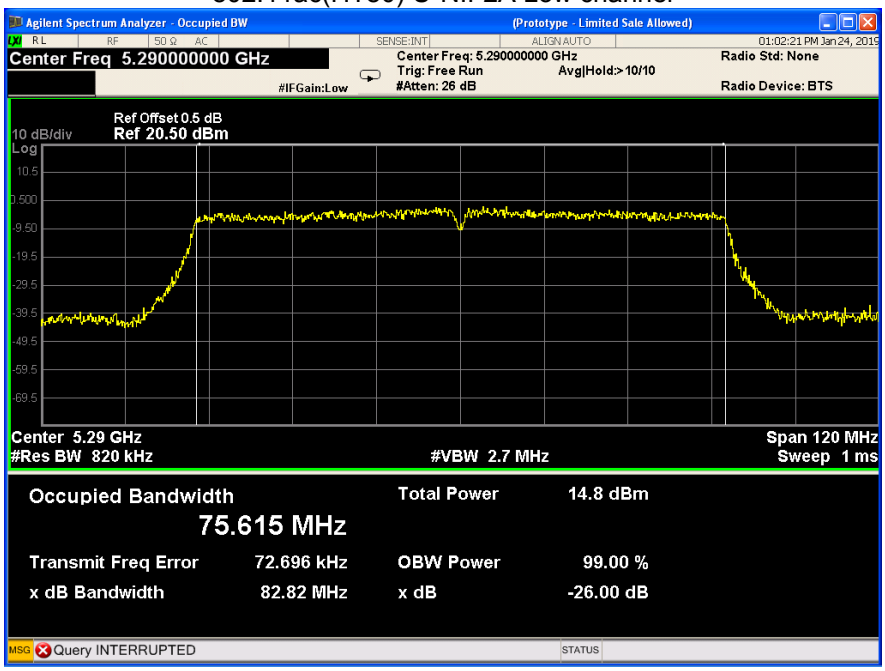
802.11ac(HT40) U-NII-2A Low channel



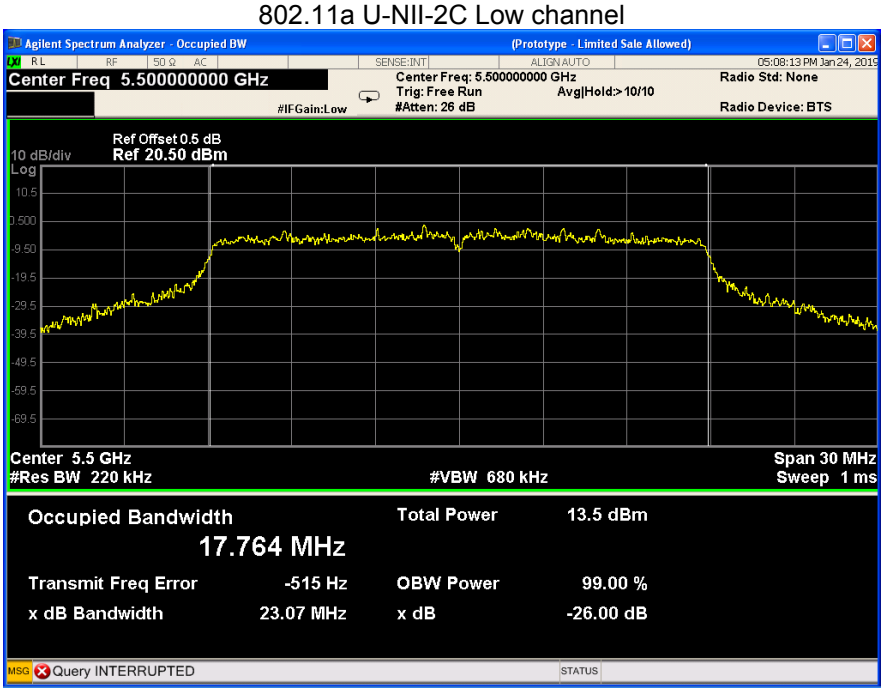
802.11ac(HT40) U-NII-2A High channel



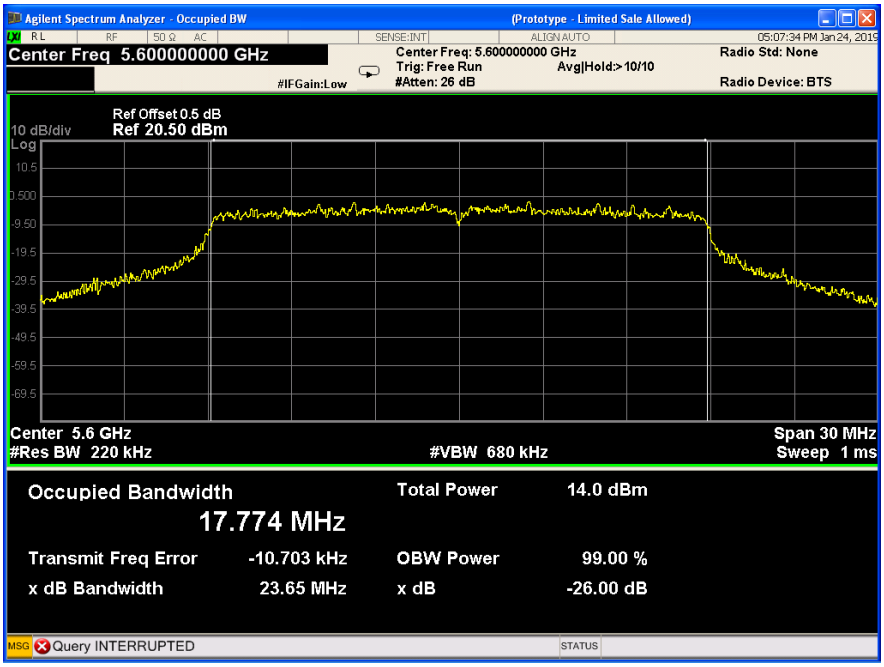
802.11ac(HT80) U-NII-2A Low channel



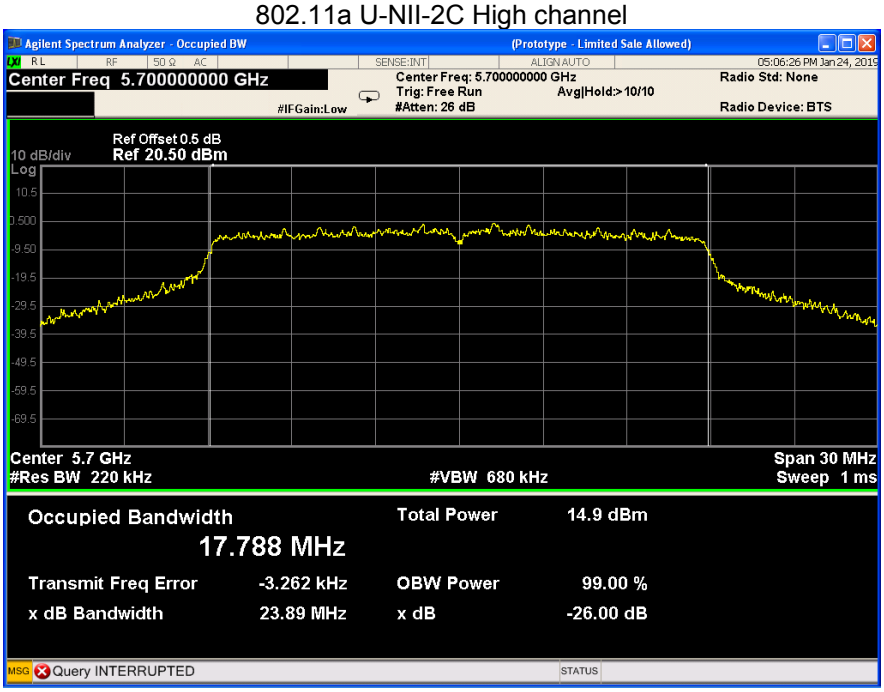
802.11a U-NII-2C Low channel



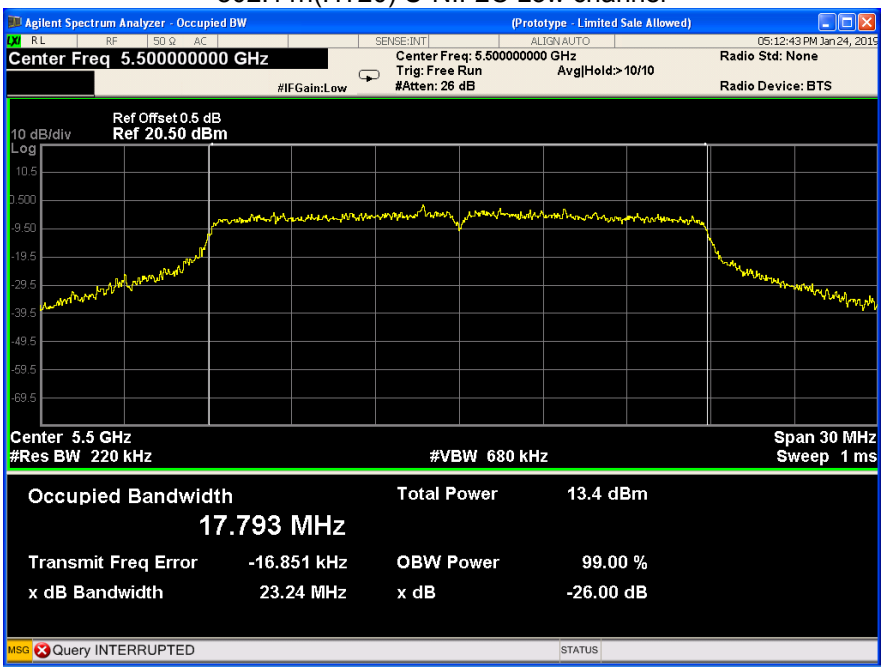
802.11a U-NII-2C Middle channel



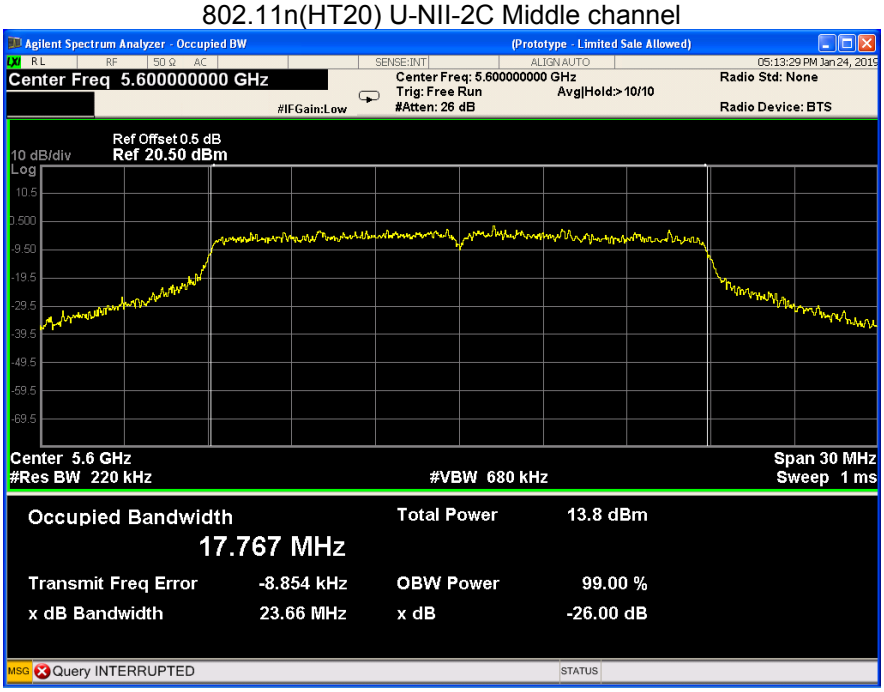
802.11a U-NII-2C High channel



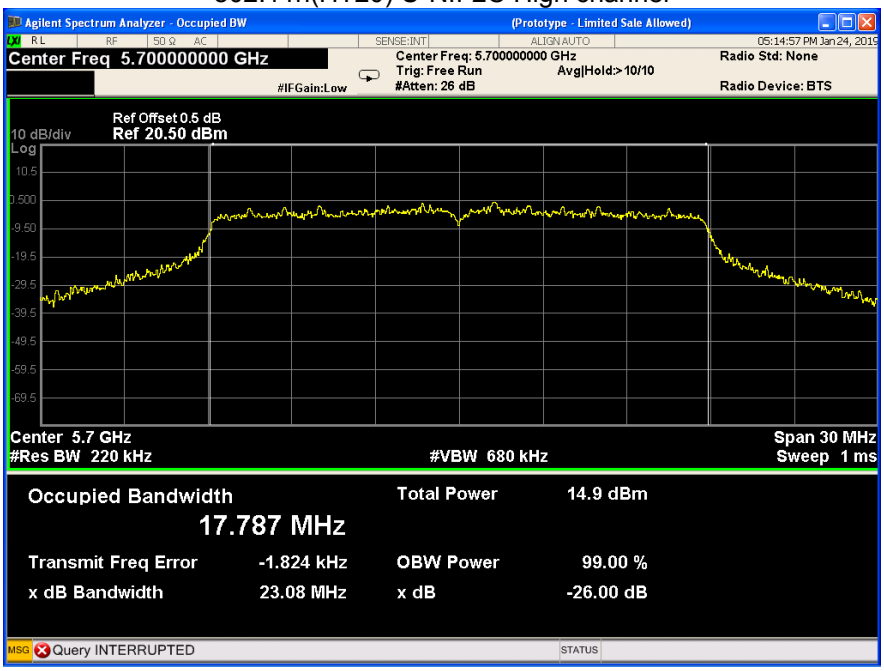
802.11n(HT20) U-NII-2C Low channel



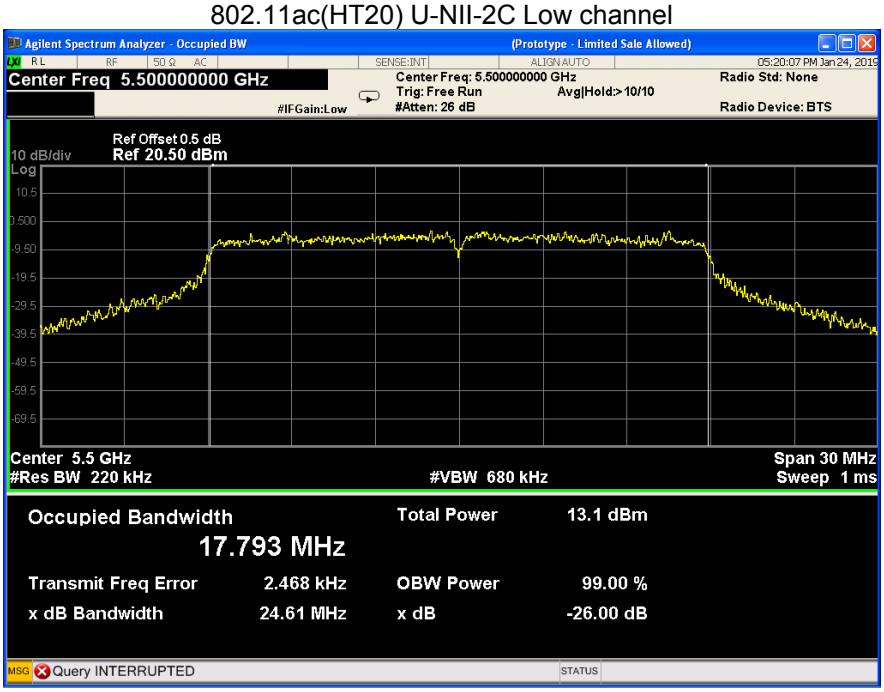
802.11n(HT20) U-NII-2C Middle channel



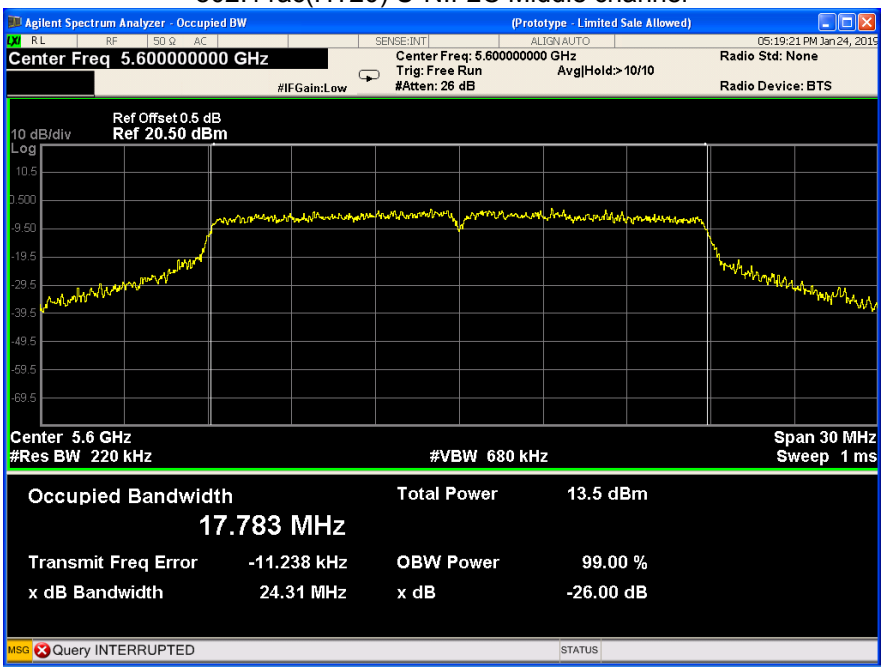
802.11n(HT20) U-NII-2C High channel



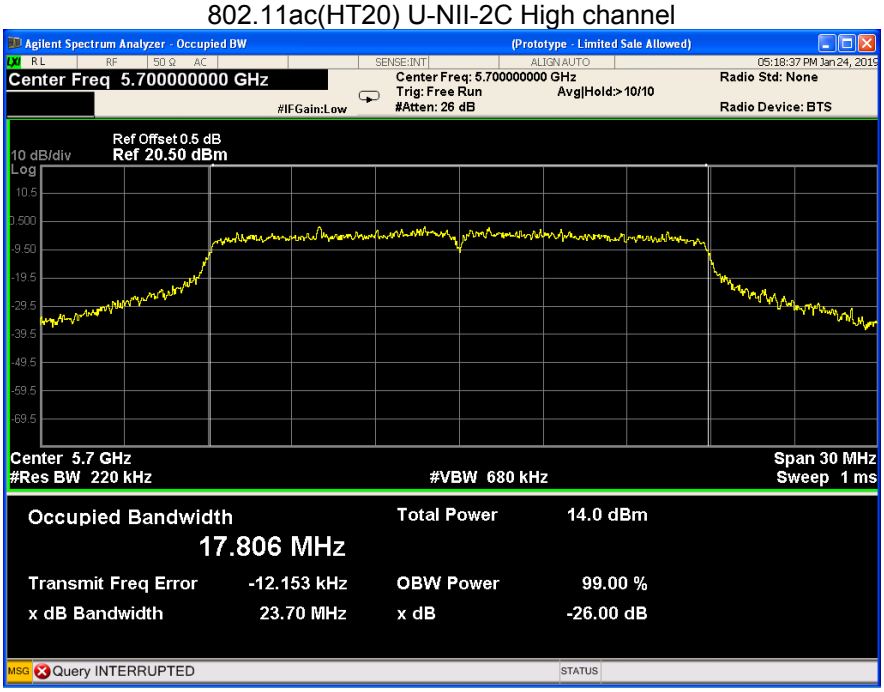
802.11ac(HT20) U-NII-2C Low channel



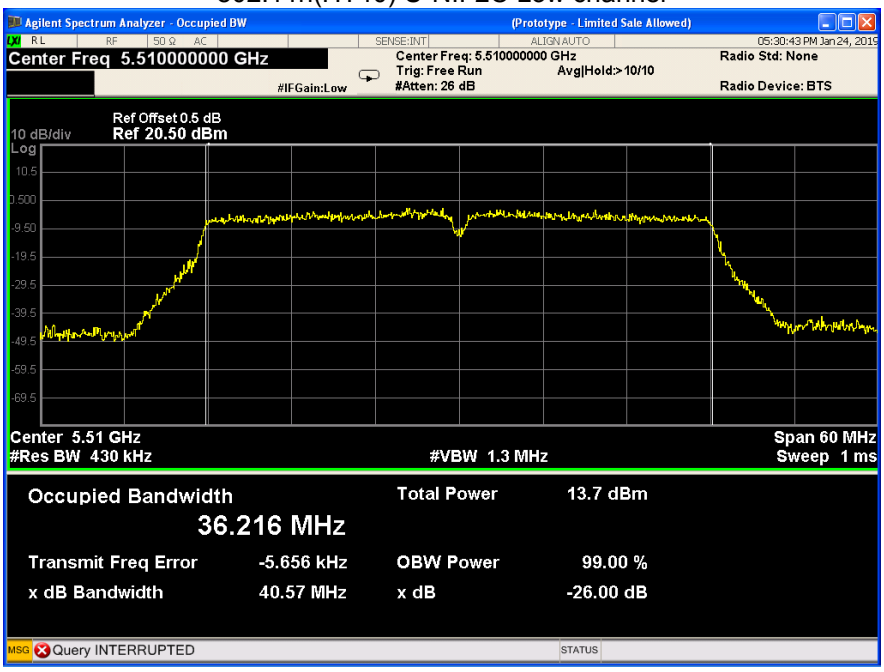
802.11ac(HT20) U-NII-2C Middle channel



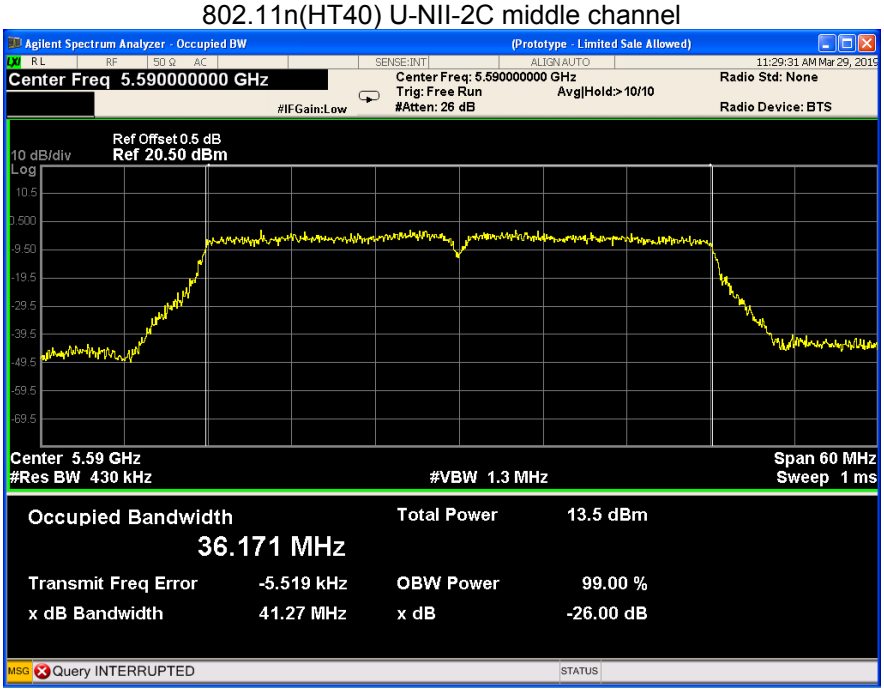
802.11ac(HT20) U-NII-2C High channel



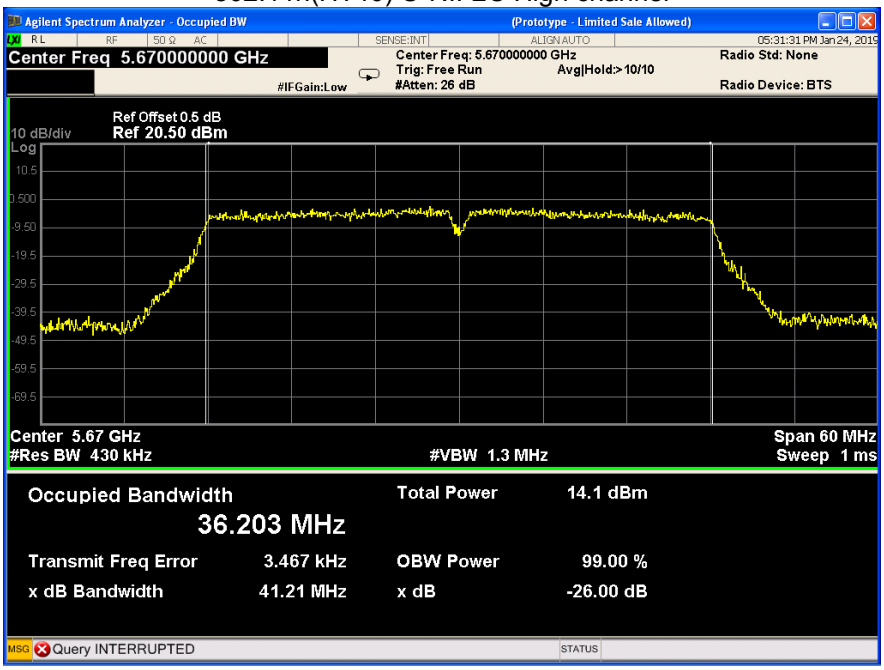
802.11n(HT40) U-NII-2C Low channel



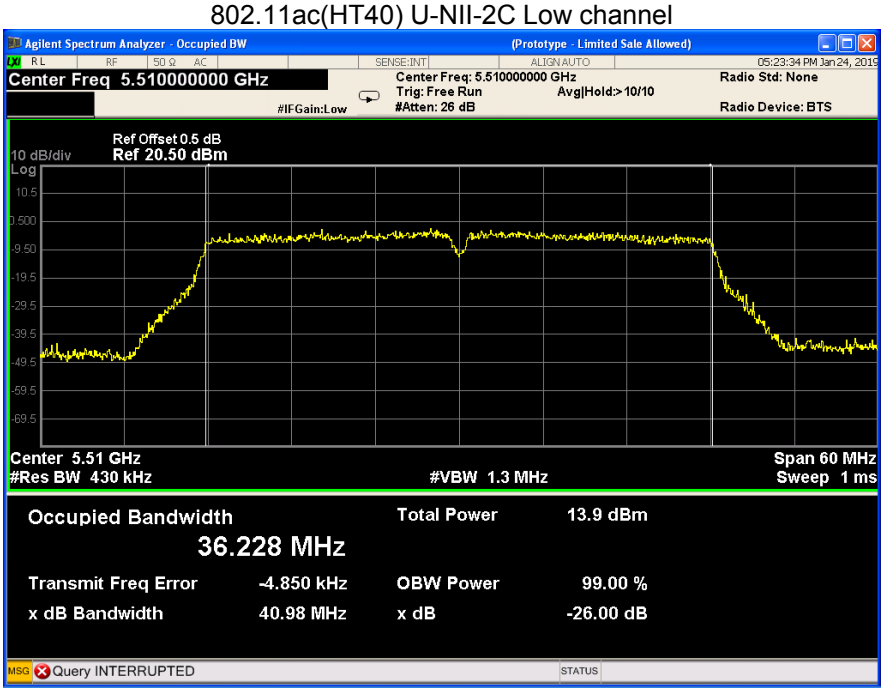
802.11n(HT40) U-NII-2C middle channel



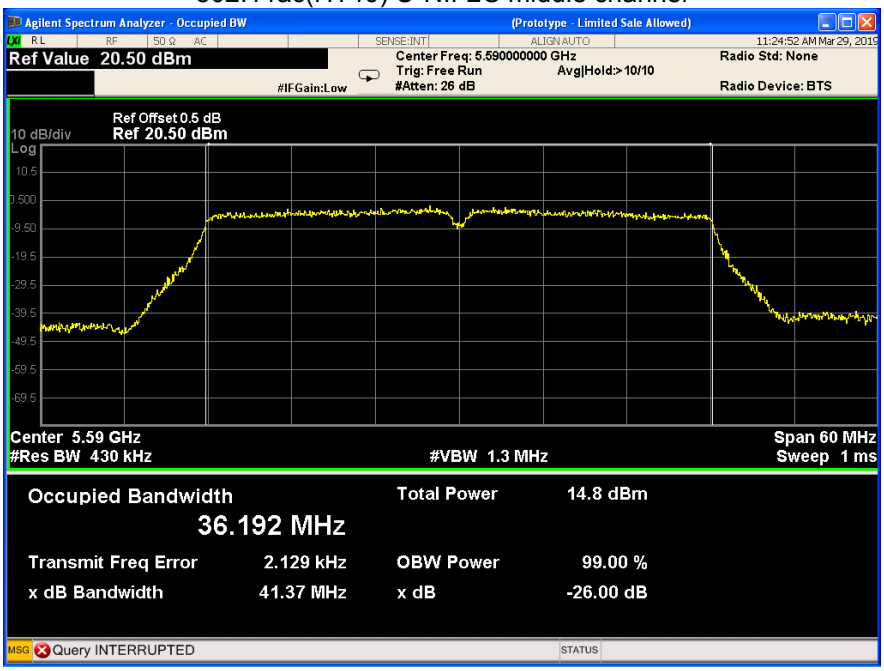
802.11n(HT40) U-NII-2C High channel



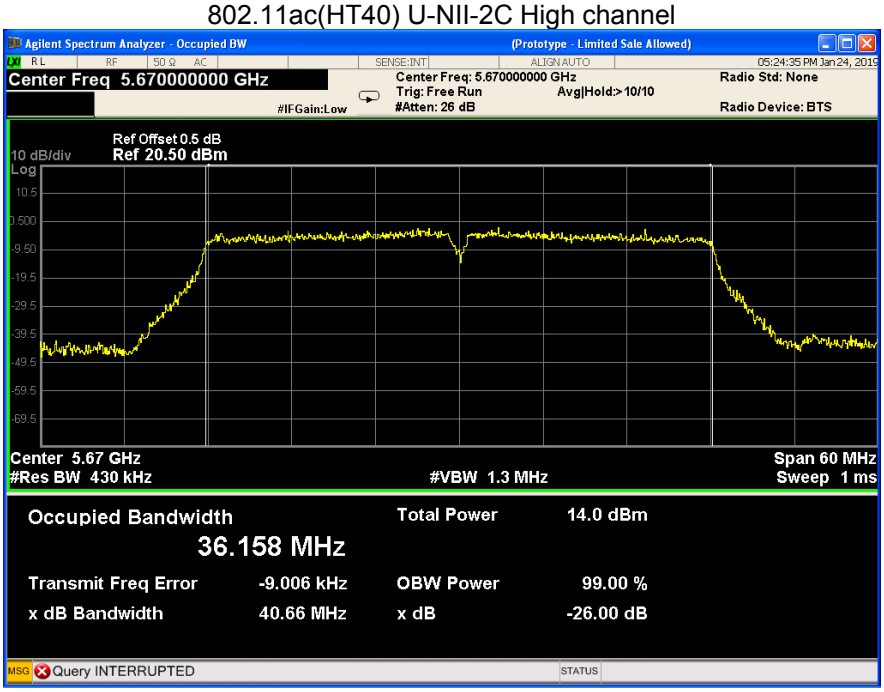
802.11ac(HT40) U-NII-2C Low channel



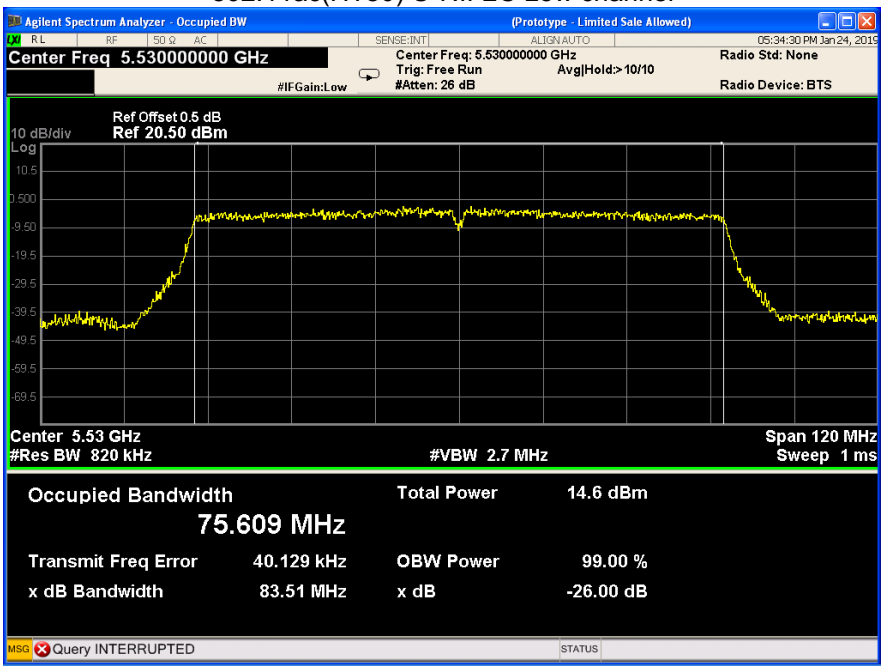
802.11ac(HT40) U-NII-2C middle channel



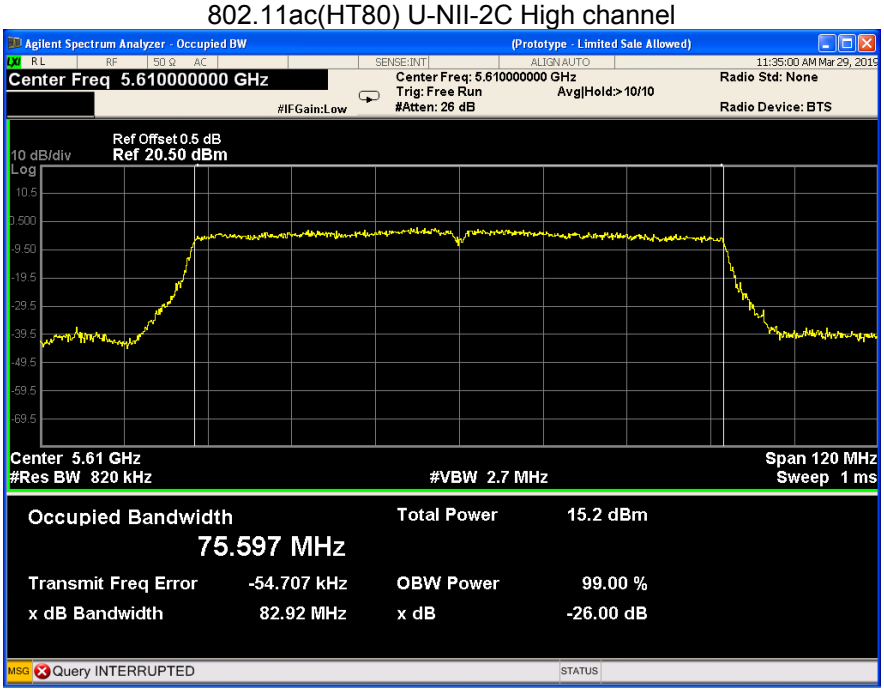
802.11ac(HT40) U-NII-2C High channel



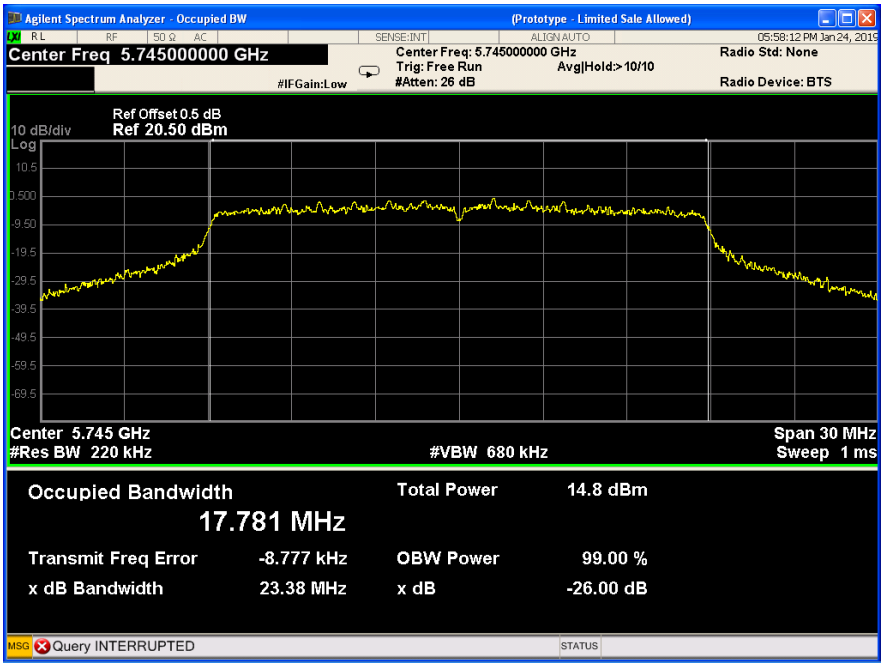
802.11ac(HT80) U-NII-2C Low channel



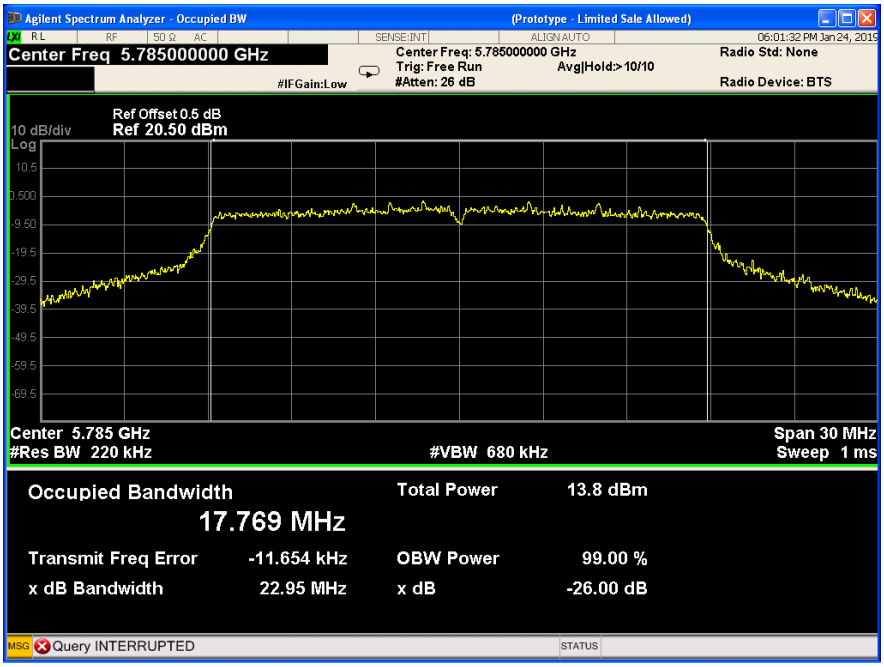
802.11ac(HT80) U-NII-2C High channel



802.11a U-NII-3 Low channel



802.11a U-NII-3 Middle channel



802.11a U-NII-3 High channel