



FCC RADIO TEST REPORT

FCC ID:HHOJHR-AC865

Product : 1200Mb/s 802.11ac Intelligent Dual Band Gigabit
Wireless Router

Trade Name :  **JCG**

Model Name : JHR-AC865

Serial Model : JHR-AC875

Report No. : NTEK-2013NT1202665F

Prepared for

Shenzhen Yichen Technology Development Co.,LTD
5F,NO.1, Honghualing 2nd industrial Zone, Xili Town,Nanshan
District,Shenzhen, China.

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.
1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street
Bao'an District, Shenzhen P.R. China
Tel.: +86-0755-61156588 Fax.: +86-0755-61156599
Website:www.ntek.org.cn

TEST RESULT CERTIFICATION

Applicant's name Shenzhen Yichen Technology Development Co.,LTD
Address 5F,NO.1, Honghualing 2nd industrial Zone, Xili Town,Nanshan District,
Shenzhen, China

Manufacturer's Name... Shenzhen Yichen Technology Development Co.,LTD
Address 5F,NO.1, Honghualing 2nd industrial Zone, Xili Town,Nanshan District,
Shenzhen, China

Product description

Product name 1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router

Model and/or type JHR-AC865
reference

Serial Model N/A

Standards FCC Part15.247

Test procedure ANSI C63.4-2003

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test

Date (s) of performance of tests 02 Dec. 2013 ~16 Dec. 2013

Date of Issue..... 16 Dec. 2013

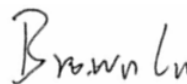
Test Result..... **Pass**

Testing Engineer :



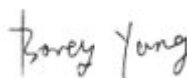
(Polo Cha)

Technical Manager :



(Brown Lu)

Authorized Signatory :



(Bovey Yang)

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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247 (a)(2)	6dB Bandwidth	PASS	
15.247 (b)	Peak Output Power	PASS	
15.247 (c)	Radiated Spurious Emission	PASS	
15.247 (d)	Power Spectral Density	PASS	
15.205	Band Edge Emission	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report

1.1 TEST FACILITY

NTEK Testing Technology Co., Ltd
 Add.:1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.
 FCC Registration No.:238937; IC Registration No.:9270A-1
 CNAS Registration No.:L5516


1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power,conducted	$\pm 0.16\text{dB}$
3	Spurious emissions,conducted	$\pm 0.21\text{dB}$
4	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^\circ\text{C}$
7	Humidity	$\pm 2\%$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	
Trade Name		
Model Name	JHR-AC865	
Product Description	The EUT is a 1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	
	Operation Frequency:	802.11b/g/n(20MHz):2412~2462 MHz 802.11n(40MHz):2422~2452 MHz
	Modulation Type:	CCK/OFDM/DBPSK/DAPSK
	Bit Rate of Transmitter	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6Mbps 802.11n(20MHz):150/144.44/130/117/115.56/104/86.67/78/52/6.5Mbps 802.11n(40MHz):300/270/240/180/150/120/108/90/54 Mbps
	Number Of Channel	802.11b/g/n20MHz:11CH 802.11n40MHz:7CH
	Max.Output Power(Conducted):	20.06 dBm
	Operation Frequency:	5725 MHz ~ 5850 MHz
	Modulation Type:	OFDM (BPSK / QPSK / 16QAM / 64QAM)
	Max.Output Power(Conducted):	19.87dBm
	Antenna Designation:	Please see Note 3.
	Antenna Gain (dBi)	Please see Note 3.
		Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.
Channel List	Please refer to the Note 2.	
Ratings	DC12V, 2A	
Adapter	Adapter Model No.: F18W-120200SPAU AC Power Input: 100-240V~, 50/60Hz, 0.6A Output: 12.0V---, 2.0A	
Battery	N/A	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. 2.4GHz

Channel List for 802.11b/g/n(20 MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452	-	-

Channel List for 802.11n(40MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
03	2422	06	2437	09	2452	-	-
04	2427	07	2442	-	-	-	-
05	2432	08	2447	-	-	-	-

5GHz

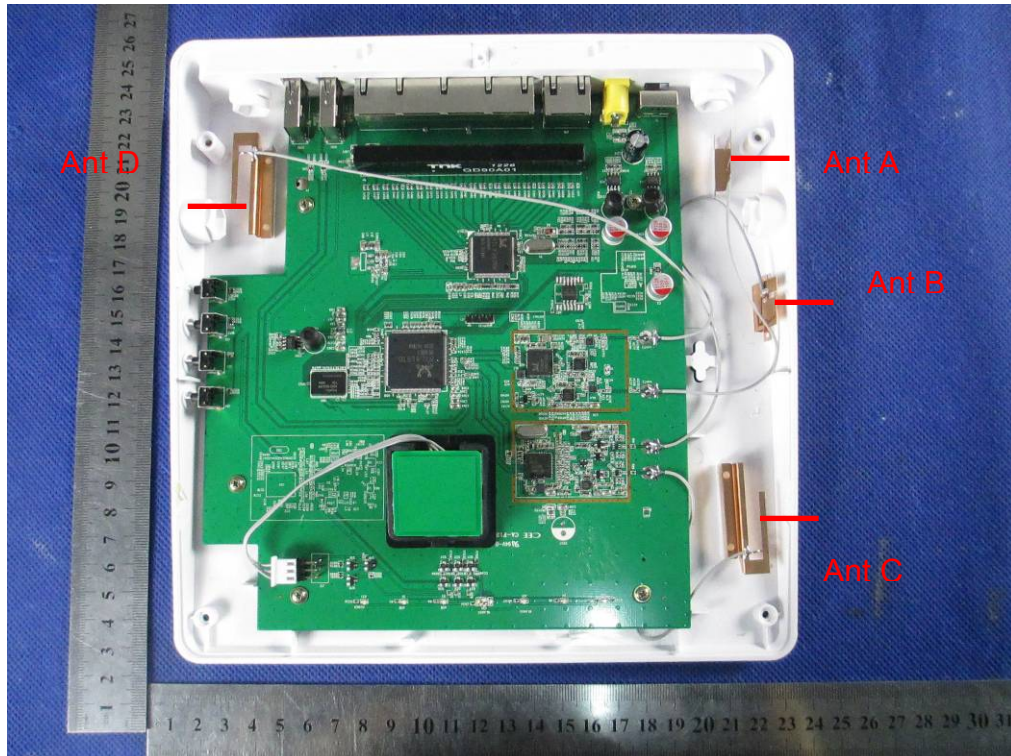
802.11a Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	153	5765	157	5785	161	5805
165	5825	-	-	-	-	-	-

802.11n (BW 20/40MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	153	5765	157	5785	161	5805
165	5825	-	-	-	-	-	-

3.

Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
A	N/A	N/A	external antenna	Reserve SMA-type	2.4G:4.5	Wifi Antenna
B	N/A	N/A	external antenna	Reserve SMA-type	2.4G: 4.5	Wifi Antenna
C	N/A	N/A	external antenna	Reserve SMA-type	5G: 3.5	Wifi Antenna
D	N/A	N/A	external antenna	Reserve SMA-type	5G: 3.5	Wifi Antenna



The Control software(tool_WIFI.exe) can control antenna A B C D ,
 For 2.4GHz mode, antenna A B are transmitting, antenna C D were closed,

For 5GHz mode,antenna C D are transmitting, antenna A B were closed
 two antennas simultaneously transmit. And the data is recorded for radiated emission
 and band edge.

For MIMO mode , Directional gain= $G_{ANT} + 10\log(N)$ dbi =10.52dbi in 2.4GHz
 Directional gain= $G_{ANT} + 10\log(N)$ dbi =9.52dbi in 5GHz
 802.11a/b/g/n 2.4GHz & 5GHz has MIMO mode.

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11
Mode 3	802.11n20 CH1/ CH6/ CH11
Mode 4	802.11n40 CH3/ CH6/ CH9
Mode 5	Link Mode
Mode 5	802.11a /n CH149/ CH157/ CH 165
Mode 6	802.11n40 CH 151 / CH 159

For Conducted Emission	
Final Test Mode	Description
Mode 5	Link Mode

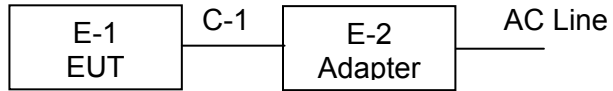
For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11
Mode 3	802.11n20 CH1/ CH6/ CH11
Mode 4	802.11n40 CH3/ CH6/ CH 9
Mode 5	Link Mode
Mode 5	802.11a /n CH149/ CH157/ CH165
Mode 6	802.11n40 CH151 / CH159

Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported


2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted Emission Test



2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Model/Type No.	Series No.	Note
E-1	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router		JHR-AC865	N/A	EUT
E-2	Adapter	N/A	F18W-120200SPAU	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	150cm	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	MY45108040	2013.07.06	2014.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2013.06.07	2014.06.06	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2013.07.06	2014.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2013.06.07	2014.06.06	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2013.06.07	2014.06.06	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	2013.07.06	2014.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2013.07.06	2014.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2012.12.22	2013.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2013.06.08	2014.06.07	1 year
10	Power Meter	R&S	NRVS	100696	2013.07.06	2014.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619.05	2013.07.06	2014.07.05	1 year

Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2013.06.06	2014.06.05	1 year
2	LISN	R&S	ENV216	101313	2013.08.24	2014.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2013.08.24	2014.08.23	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2013.06.07	2014.06.06	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2013.06.07	2014.06.06	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2013.06.08	2014.06.07	1 year

1	Attenuation	MCE	24-10-34	BN9258	2013.06.08	2014.06.07	1 year
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3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)		Standard
	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	73.00	60.00	56.00	46.00	CISPR
5.0 -30.0	73.00	60.00	60.00	50.00	CISPR

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

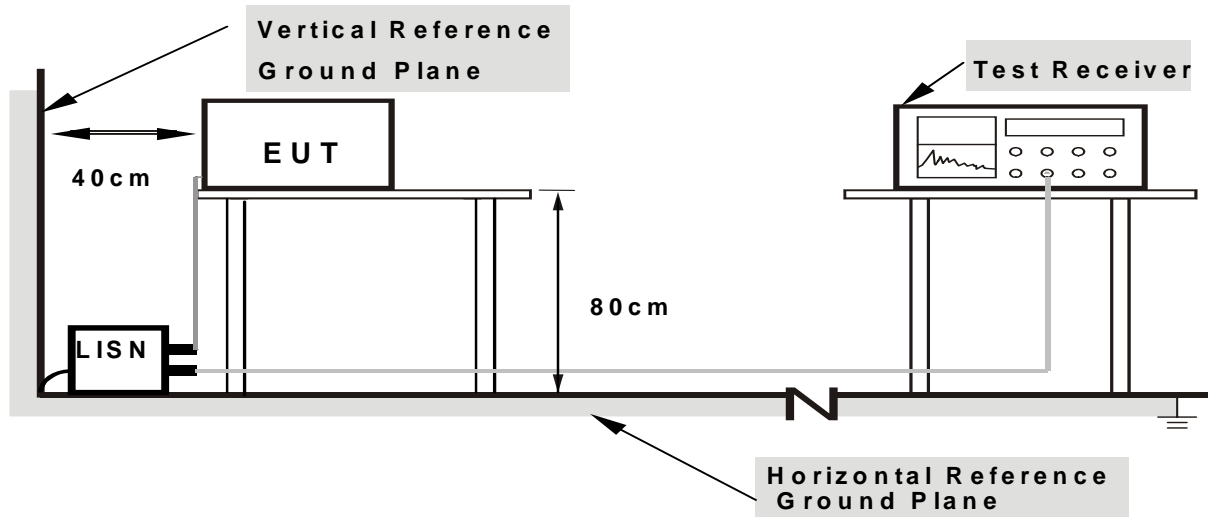
3.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



- Note:**
- 1. Support units were connected to second LISN.
 - 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

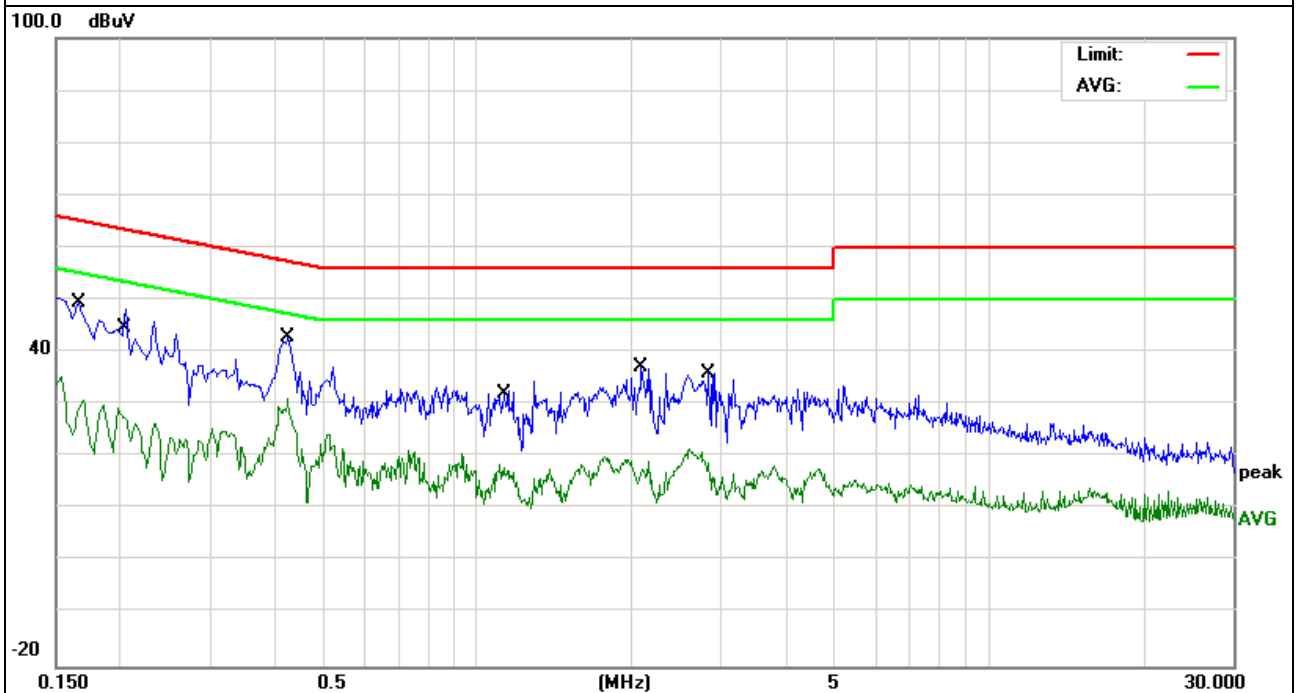
3.1.6 TEST RESULTS

EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name. :	JHR-AC865
Temperature :	26 °C	Relative Humidity :	56%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 12V From Adapter 1 AC120V/60Hz	Test Mode :	Mode 5

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Detector Type
0.1660	39.95	9.59	49.54	65.15	-15.61	QP
0.1660	21.30	9.59	30.89	55.15	-24.26	AVG
0.2006	38.66	9.49	48.15	63.58	-15.43	QP
0.2006	18.73	9.49	28.22	53.58	-25.36	AVG
0.4259	33.48	9.51	42.99	57.33	-14.34	QP
0.4259	21.69	9.51	31.20	47.33	-16.13	AVG
1.1257	23.22	9.53	32.75	56.00	-23.25	QP
1.1257	8.28	9.53	17.81	46.00	-28.19	AVG
2.0979	27.69	9.55	37.24	56.00	-18.76	QP
2.0979	9.65	9.55	19.20	46.00	-26.80	AVG
2.8340	26.46	9.57	36.03	56.00	-19.97	QP
2.8340	9.33	9.57	18.90	46.00	-27.10	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

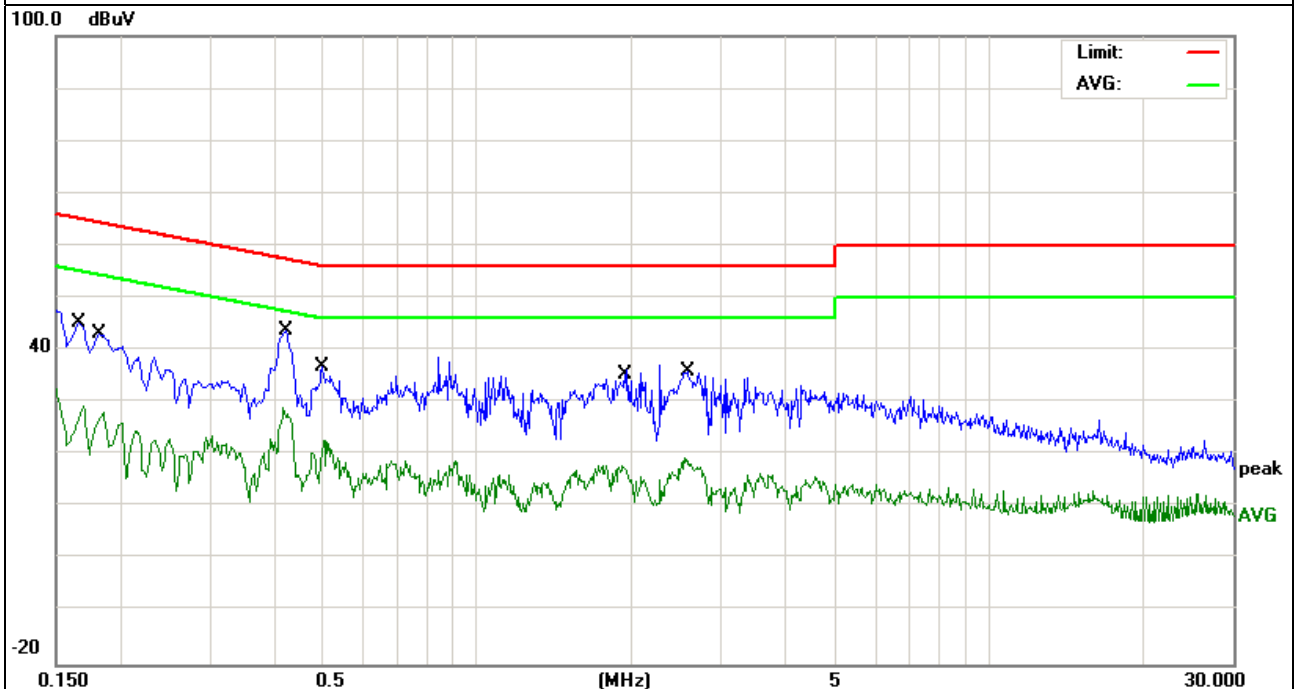


EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name. :	JHR-AC865
Temperature :	26 °C	Relative Humidity :	56%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 12V From Adapter 1 AC120V/60Hz	Test Mode :	Mode 5

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Detector Type
0.1660	35.67	9.61	45.28	65.15	-19.87	QP
0.1660	19.87	9.61	29.48	55.15	-25.67	AVG
0.1819	33.53	9.56	43.09	64.39	-21.30	QP
0.1819	18.55	9.56	28.11	54.39	-26.28	AVG
0.4178	34.11	9.52	43.63	57.49	-13.86	QP
0.4178	19.41	9.52	28.93	47.49	-18.56	AVG
0.4979	27.46	9.53	36.99	56.03	-19.04	QP
0.4979	13.11	9.53	22.64	46.03	-23.39	AVG
1.9217	26.66	9.57	36.23	56.00	-19.77	QP
1.9217	8.49	9.57	18.06	46.00	-27.94	AVG
2.5459	26.27	9.57	35.84	56.00	-20.16	QP
2.5459	9.93	9.57	19.50	46.00	-26.50	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (dBuV/m) (at 3M)		Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80	60	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

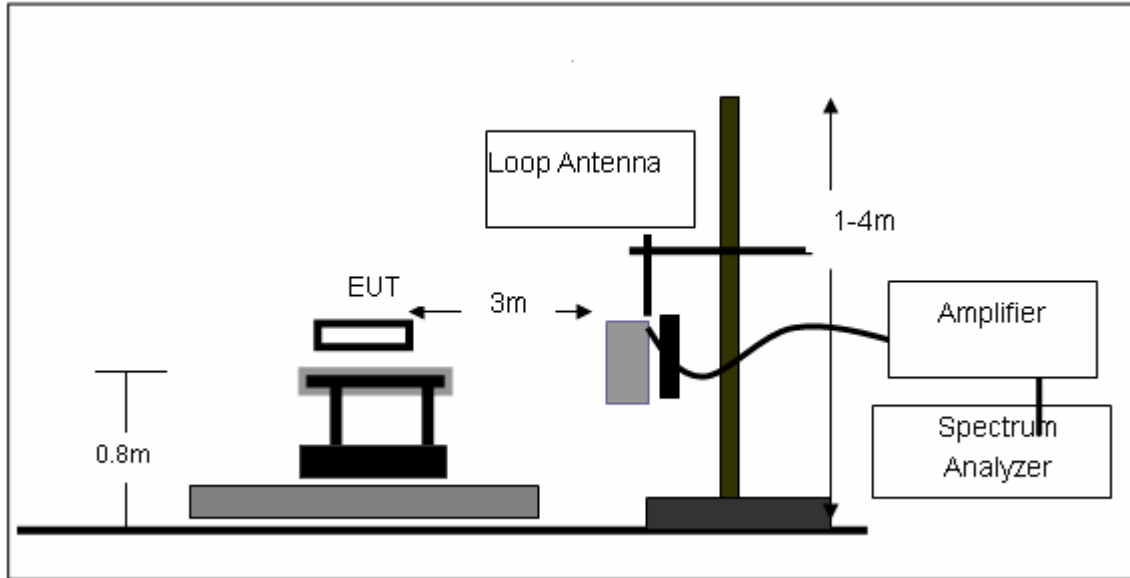
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 DEVIATION FROM TEST STANDARD

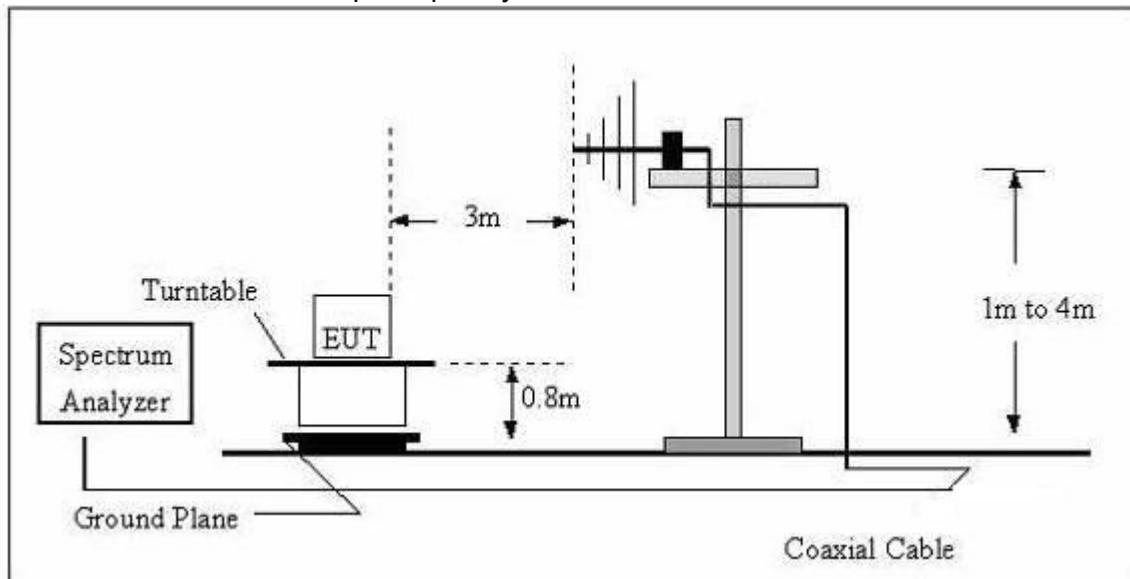
No deviation

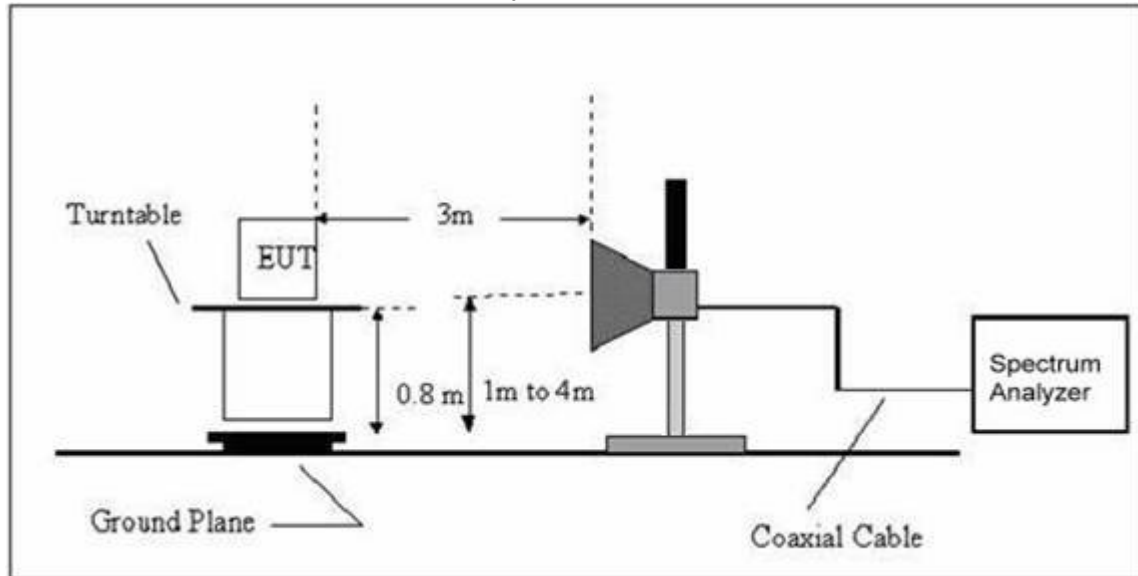
3.2.4 TEST SETUP

(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz**3.2.5 EUT OPERATING CONDITIONS**

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)

EUT:	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name. :	JHR-AC865
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX	Polarization :	--

Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance}/\text{test distance})(\text{dB})$;

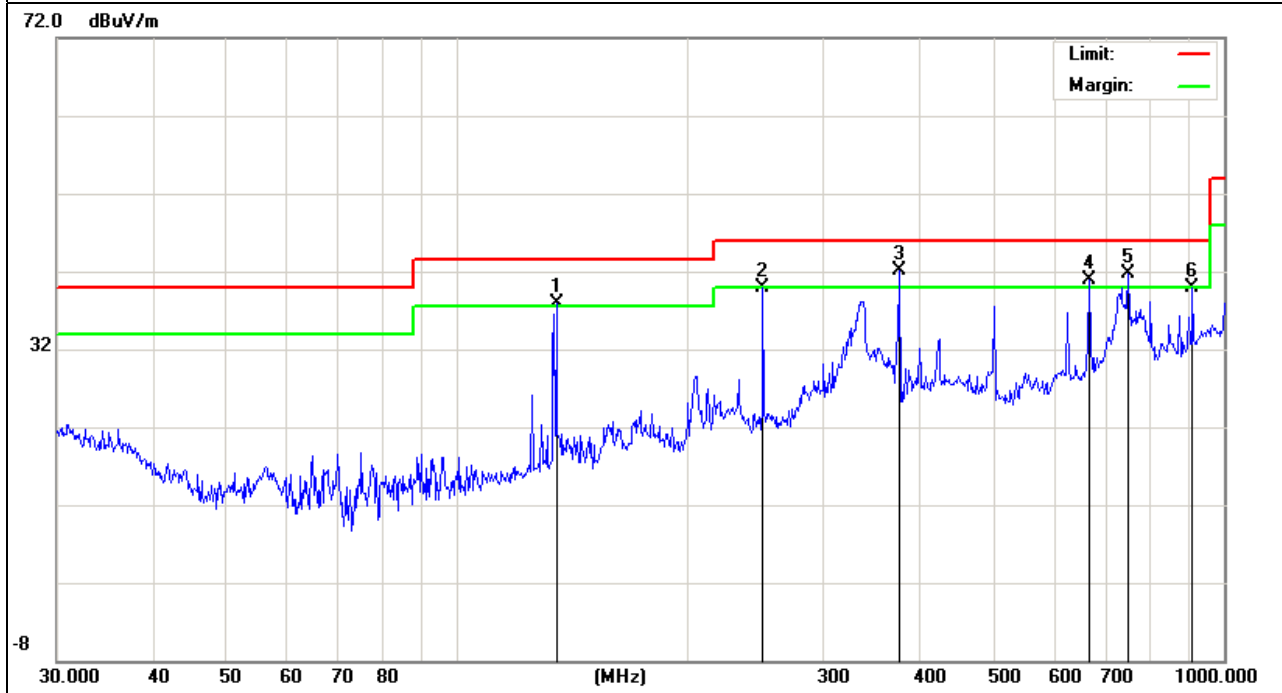
Limit line = specific limits(dBuv) + distance extrapolation factor.

3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX	Polarization :	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type
134.5592	25.69	12.25	37.94	43.50	-5.56	QP
250.3011	26.36	13.54	39.90	46.00	-6.10	QP
377.2590	25.08	17.02	42.10	46.00	-3.90	QP
668.1422	17.06	23.81	40.87	46.00	-5.13	QP
750.1082	15.33	26.39	41.72	46.00	-4.28	QP
909.6666	11.72	28.21	39.93	46.00	-6.07	QP

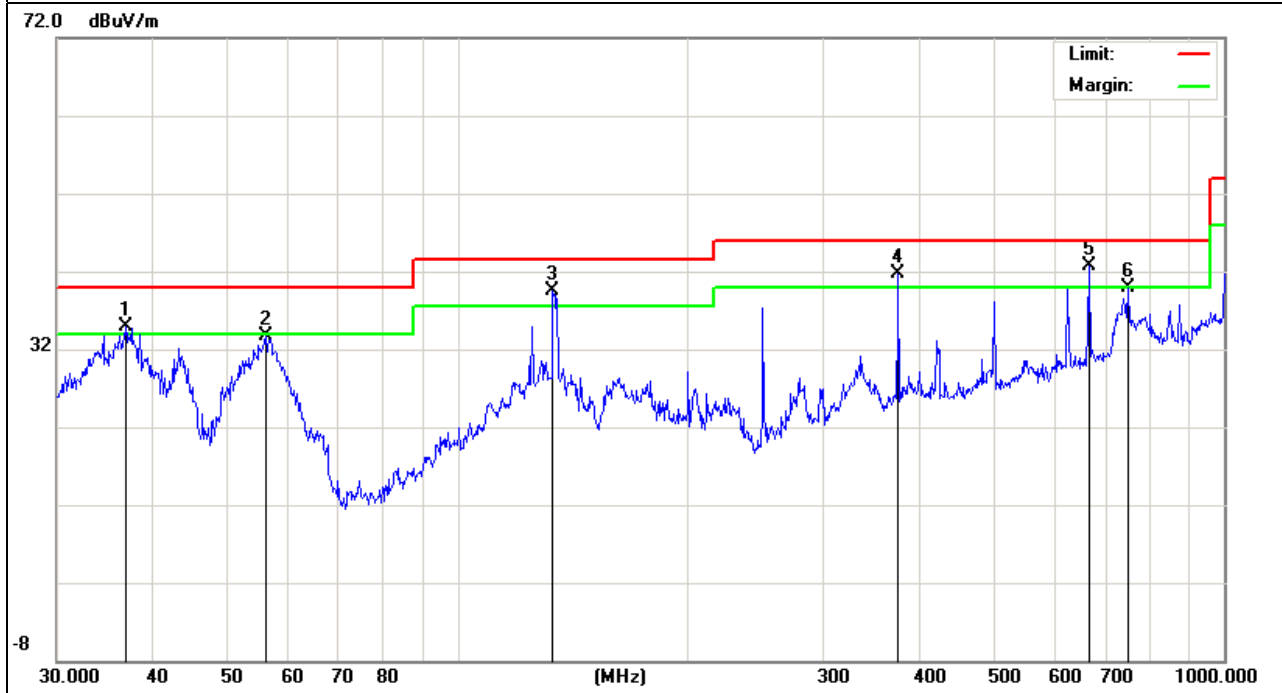
Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX	Polarization :	Vertical

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type
36.8952	19.93	14.93	34.86	40.00	-5.14	QP
56.1974	27.73	5.94	33.67	40.00	-6.33	QP
133.1511	27.33	12.23	39.56	43.50	-3.94	QP
375.9384	24.72	16.96	41.68	46.00	-4.32	QP
665.8034	18.89	23.77	42.66	46.00	-3.34	QP
750.1082	13.54	26.39	39.93	46.00	-6.07	QP

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.



3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

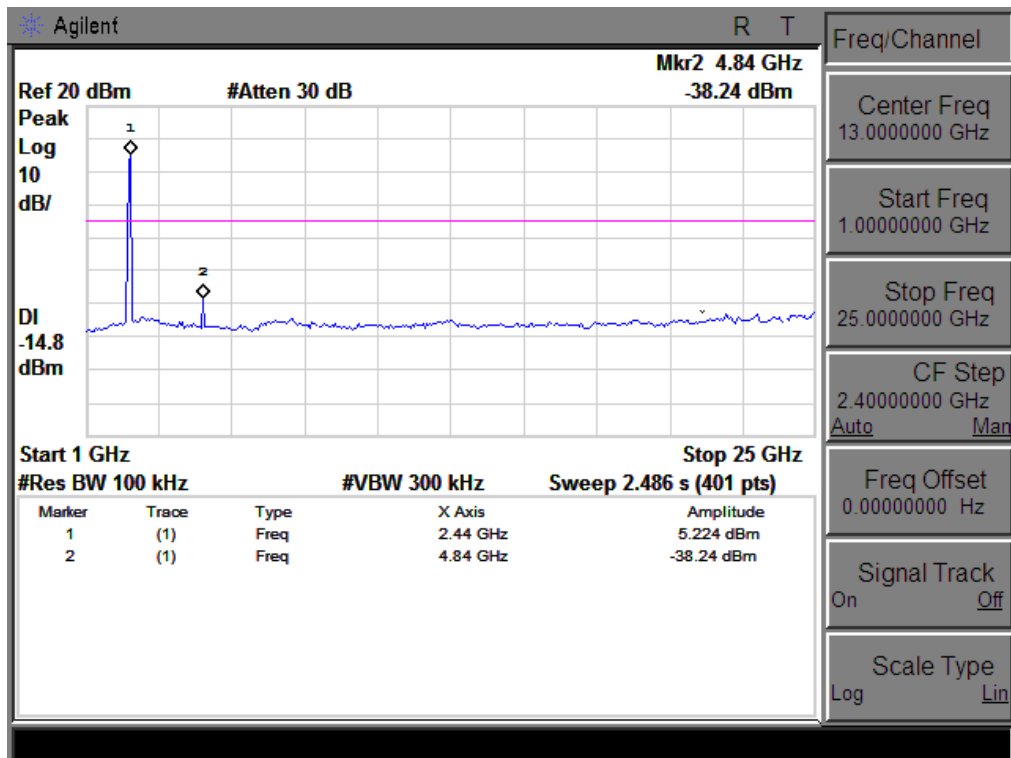
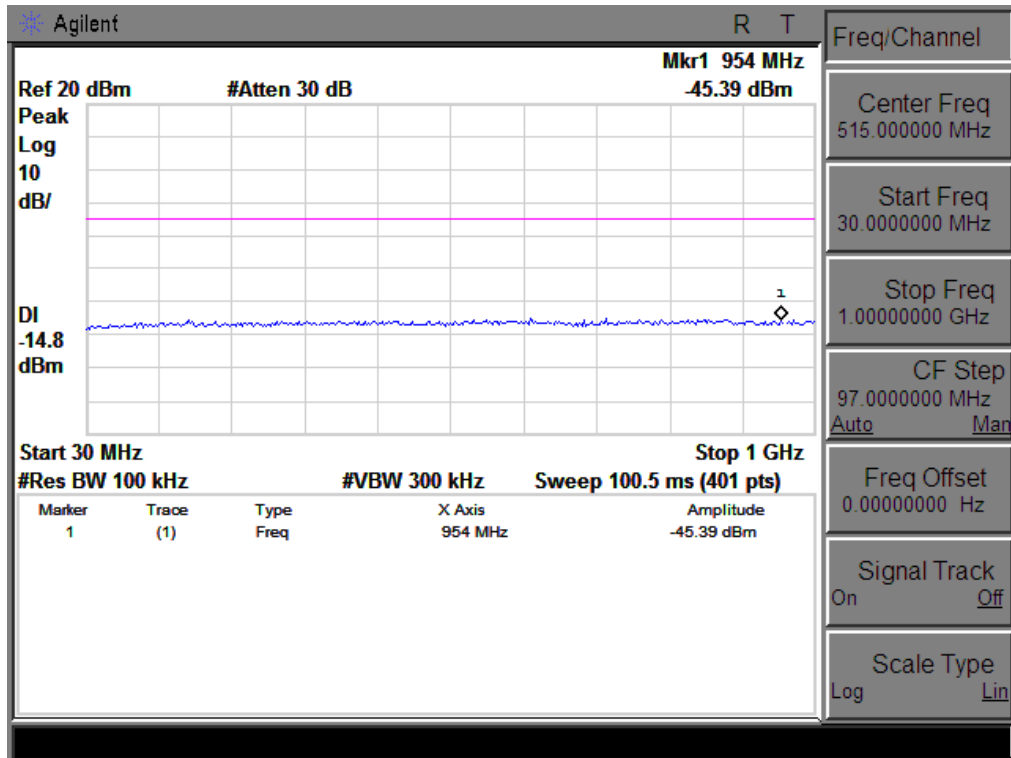
Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (2412 MHz)-Above 1G							
4823.127	42.12	10.43	52.55	74.00	-21.45	Pk	Vertical
7236.624	34.24	12.37	46.61	74.00	-27.39	Pk	Vertical
4823.032	42.66	10.43	53.09	74.00	-20.91	Pk	Horizontal
7235.541	33.20	12.37	45.57	74.00	-28.43	Pk	Horizontal
Mid Channel (2437 MHz)-Above 1G							
4874.541	38.92	10.45	49.37	74.00	-24.63	Pk	Vertical
7312.623	32.95	12.41	45.36	74.00	-28.64	Pk	Vertical
4874.242	38.39	10.45	48.84	74.00	-25.16	Pk	Horizontal
7312.975	32.51	12.41	44.92	74.00	-29.08	Pk	Horizontal
High Channel (2462 MHz)- Above 1G							
4925.623	36.29	10.39	46.68	74.00	-27.32	Pk	Vertical
7386.754	32.30	12.68	44.98	74.00	-29.02	Pk	Vertical
4925.117	37.42	10.39	47.81	74.00	-26.19	Pk	Horizontal
7386.362	31.05	12.68	43.73	74.00	-30.27	Pk	Horizontal

Note:"802.11b" mode is the worst mode. PK value is lower than the Average value limit, So average didn't record.

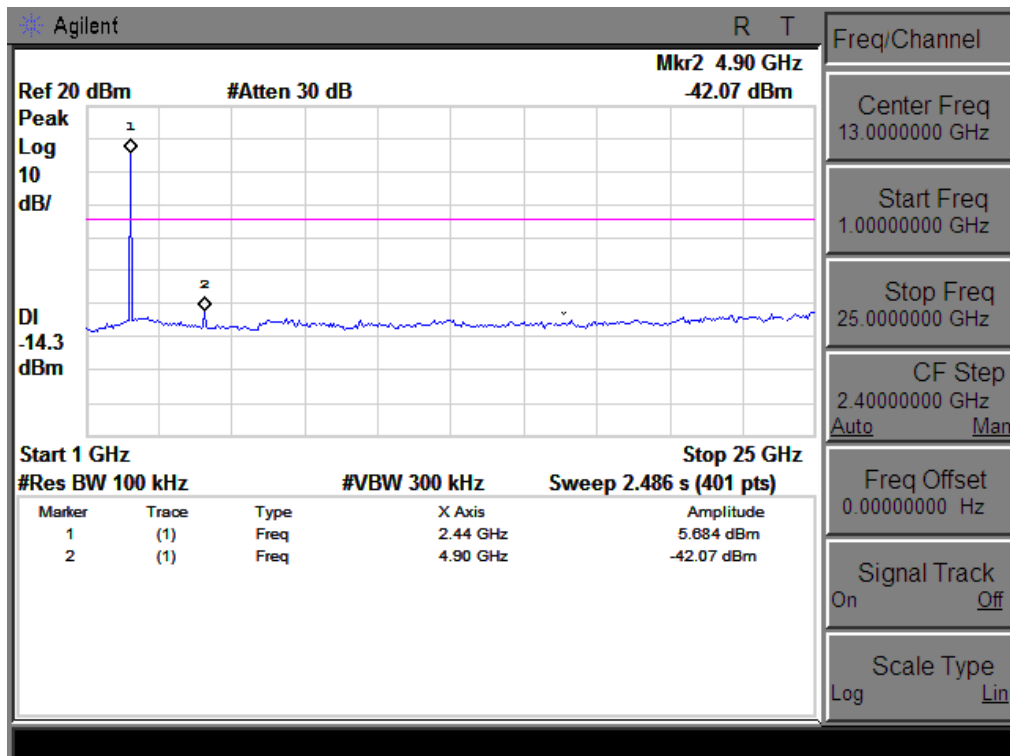
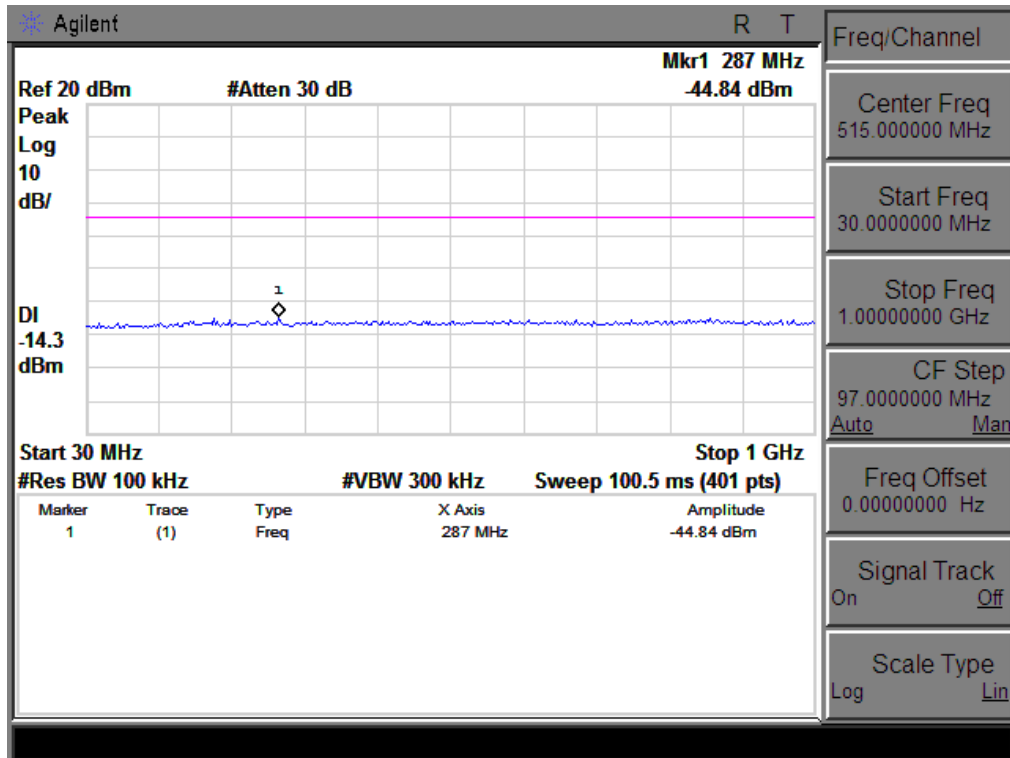
Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5755 MHz)-Above 1G							
11511.426	41.90	10.43	52.33	74.00	-21.67	Pk	Vertical
17265.371	37.79	12.37	50.16	74.00	-23.84	Pk	Vertical
11510.925	42.85	10.43	53.28	74.00	-20.72	Pk	Horizontal
17264.593	38.54	12.37	50.91	74.00	-23.09	Pk	Horizontal
High Channel (5795 MHz)-Above 1G							
11590.206	43.36	10.45	53.81	74.00	-20.19	Pk	Vertical
17385.924	38.13	12.41	50.54	74.00	-23.46	Pk	Vertical
11591.728	41.79	10.45	52.24	74.00	-21.76	Pk	Horizontal
17386.114	40.74	12.41	53.15	74.00	-20.85	Pk	Horizontal

Note:"802.11a(5G)" mode is the worst mode. PK value is lower than the Average value limit, So average didn't record.

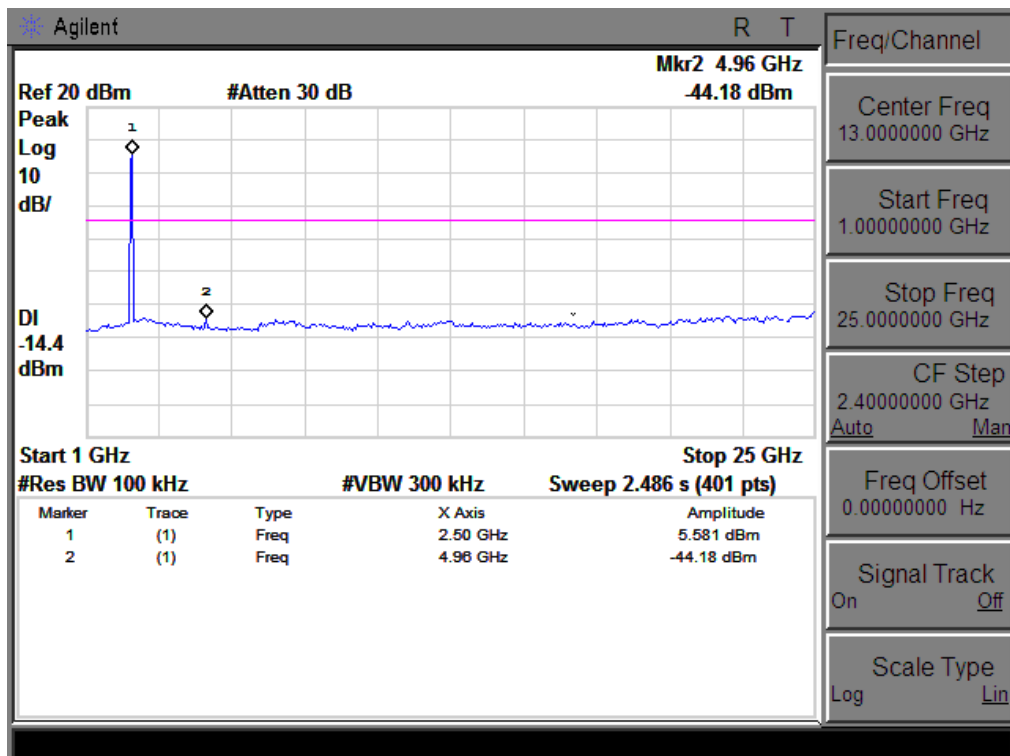
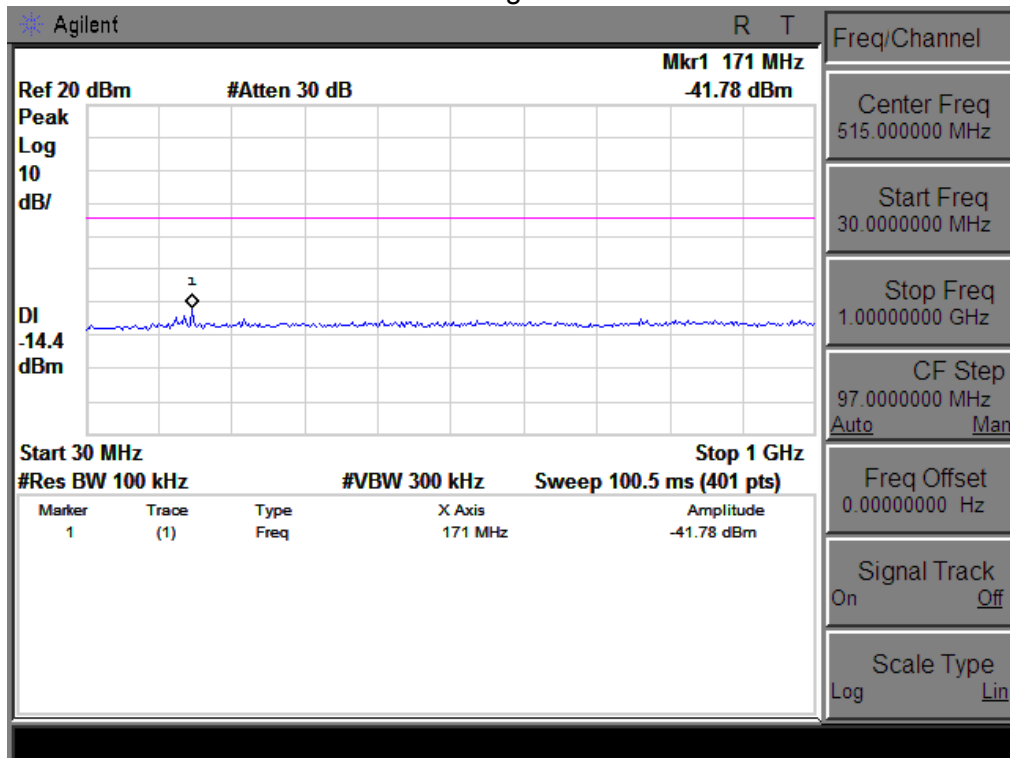
Conducted Spurious Emissions at Antenna Port:
802.11b Low Channel



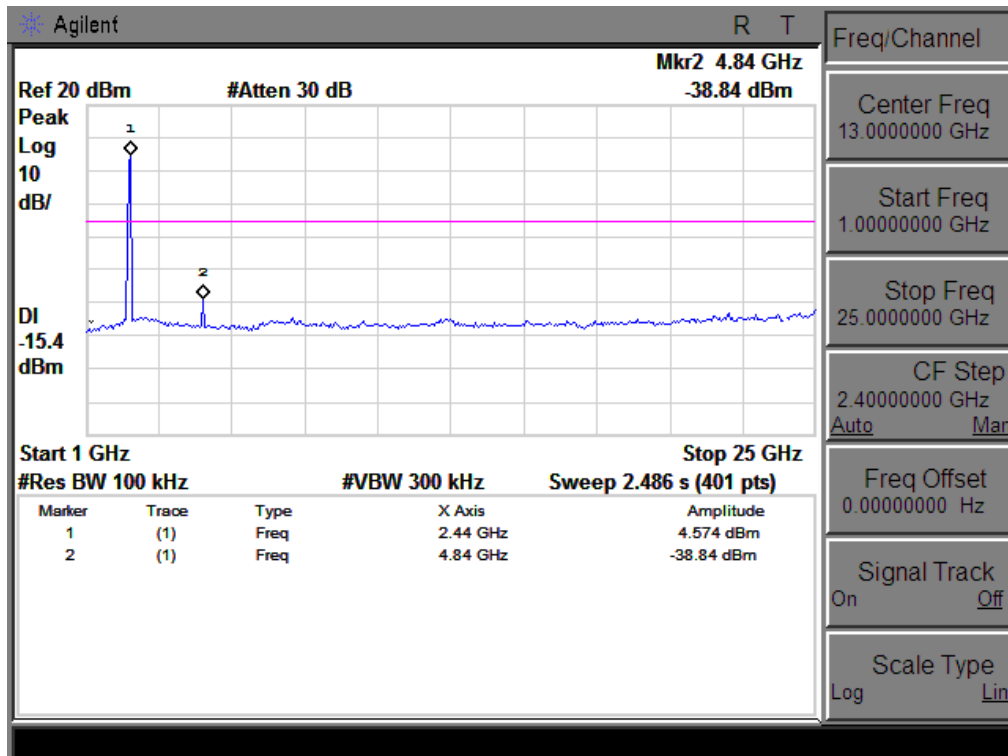
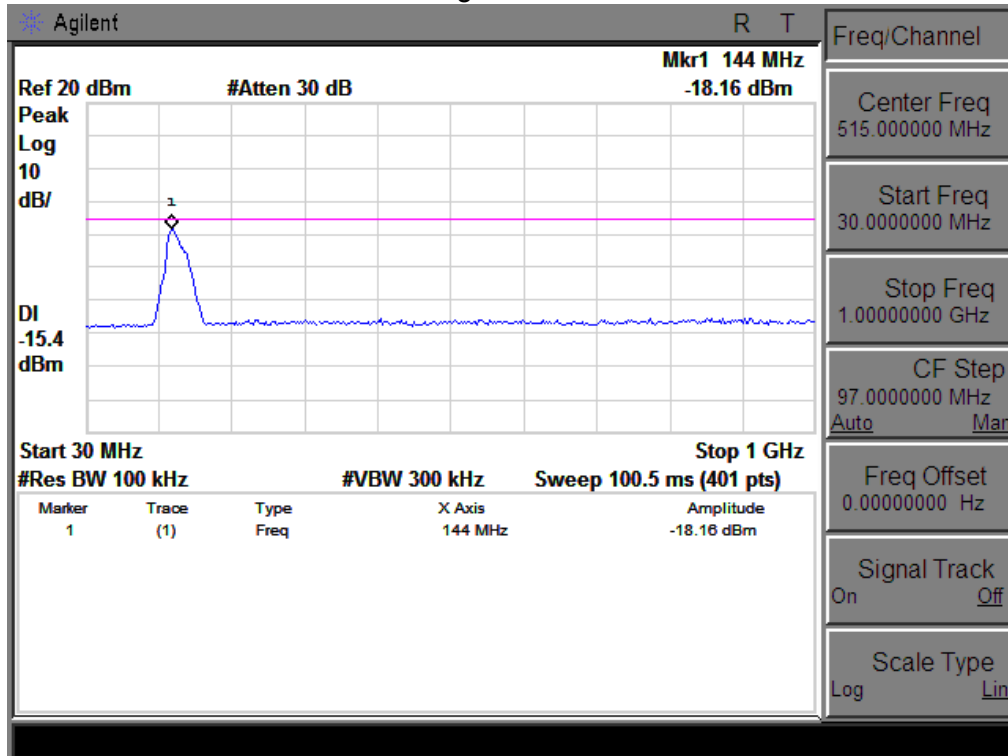
802.11b Middle Channel



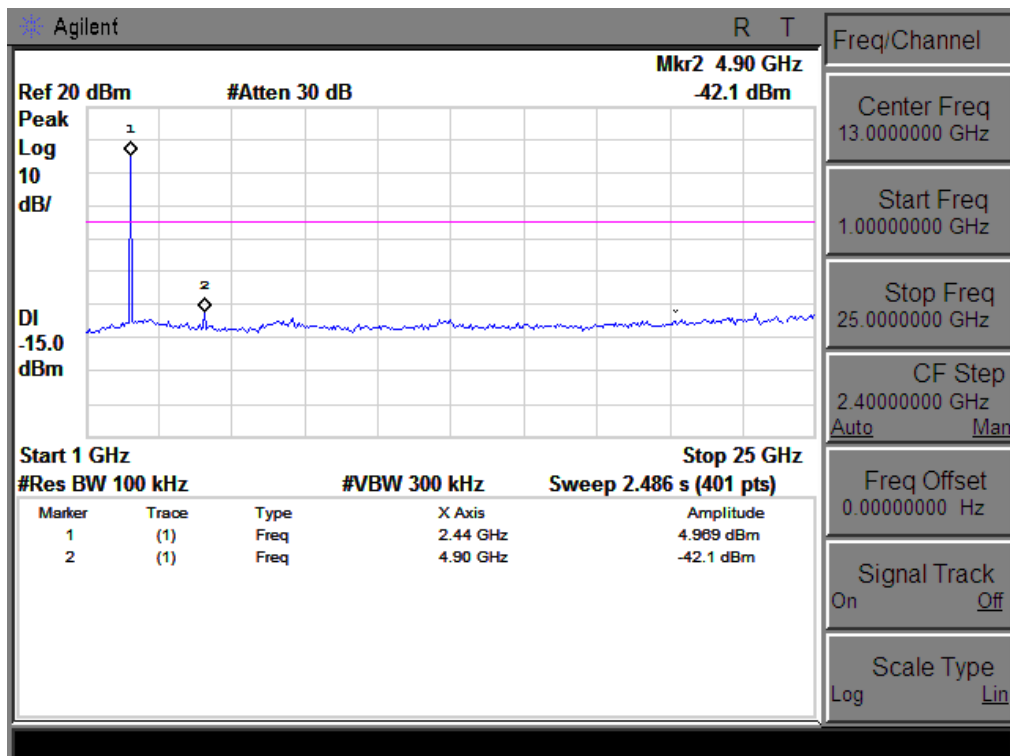
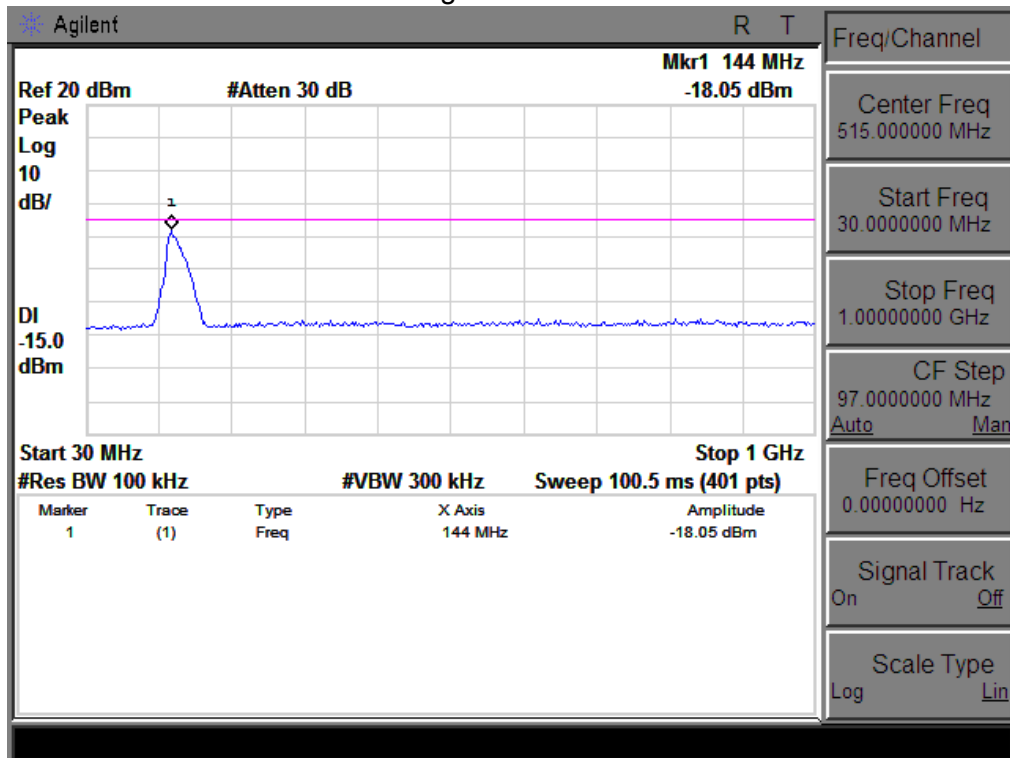
802.11b High Channel



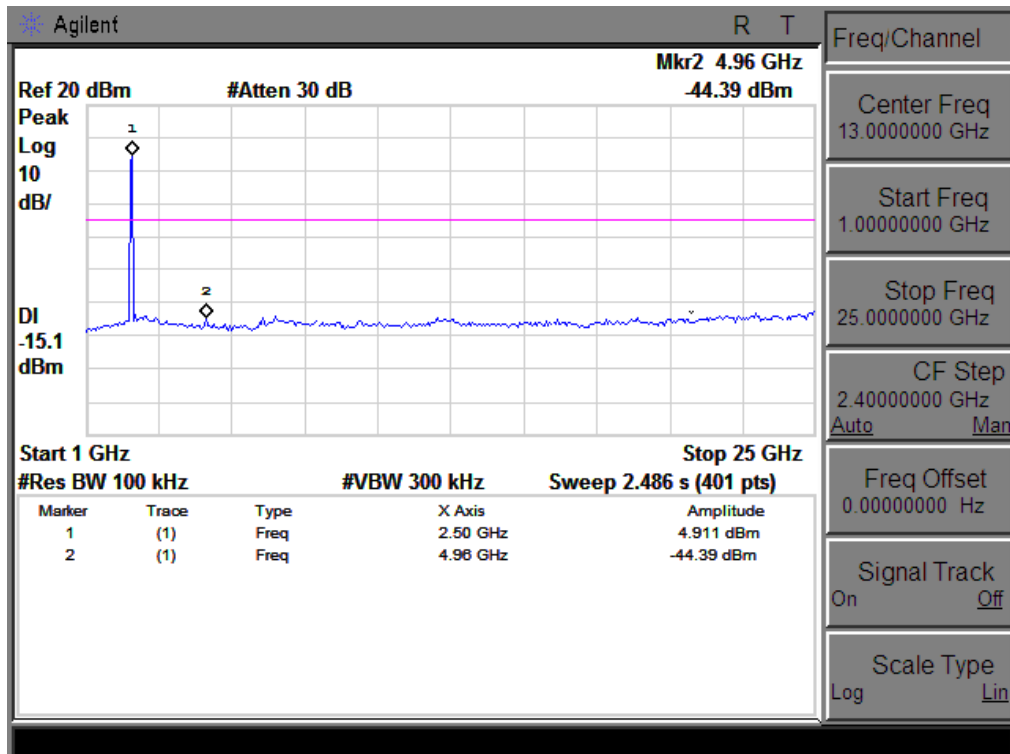
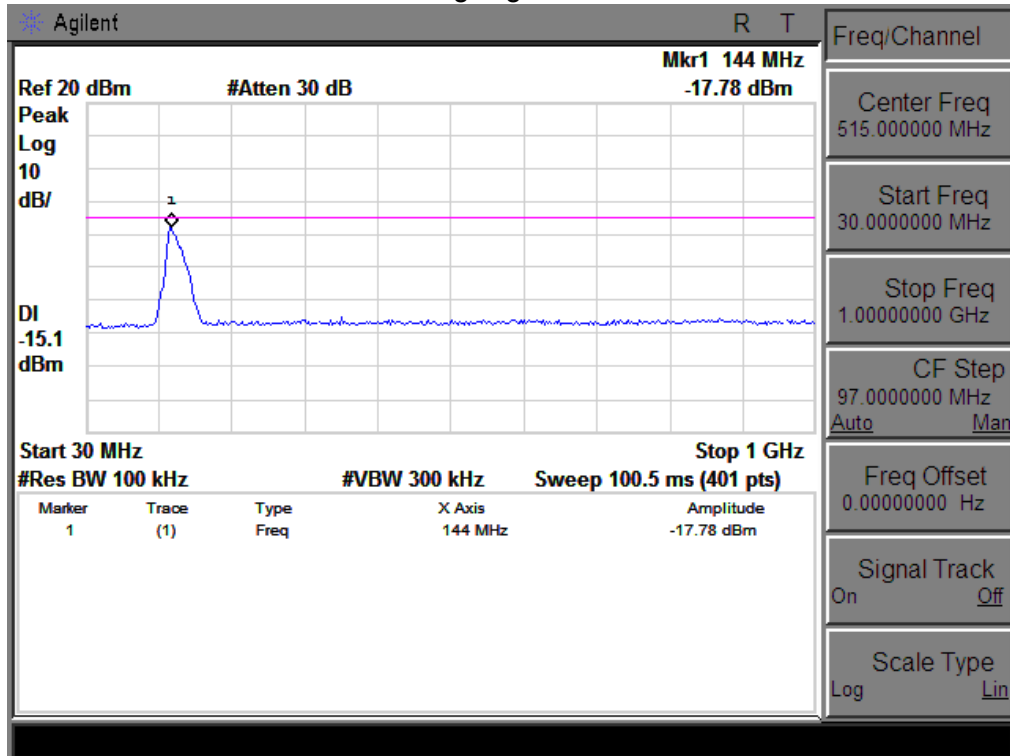
802.11g Low Channel



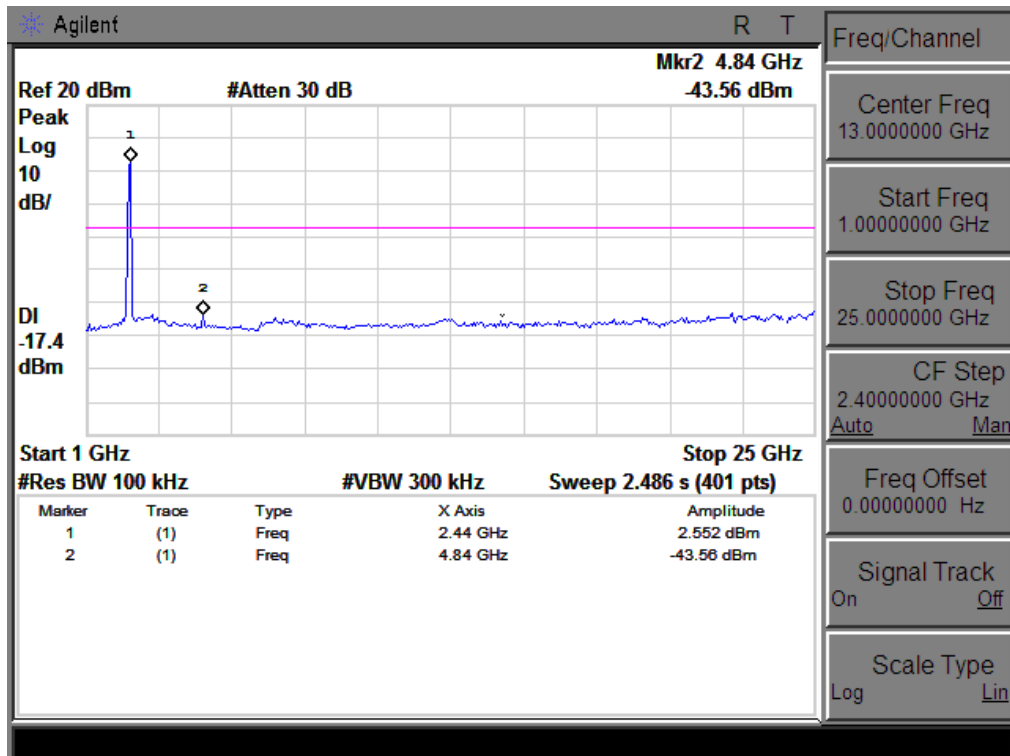
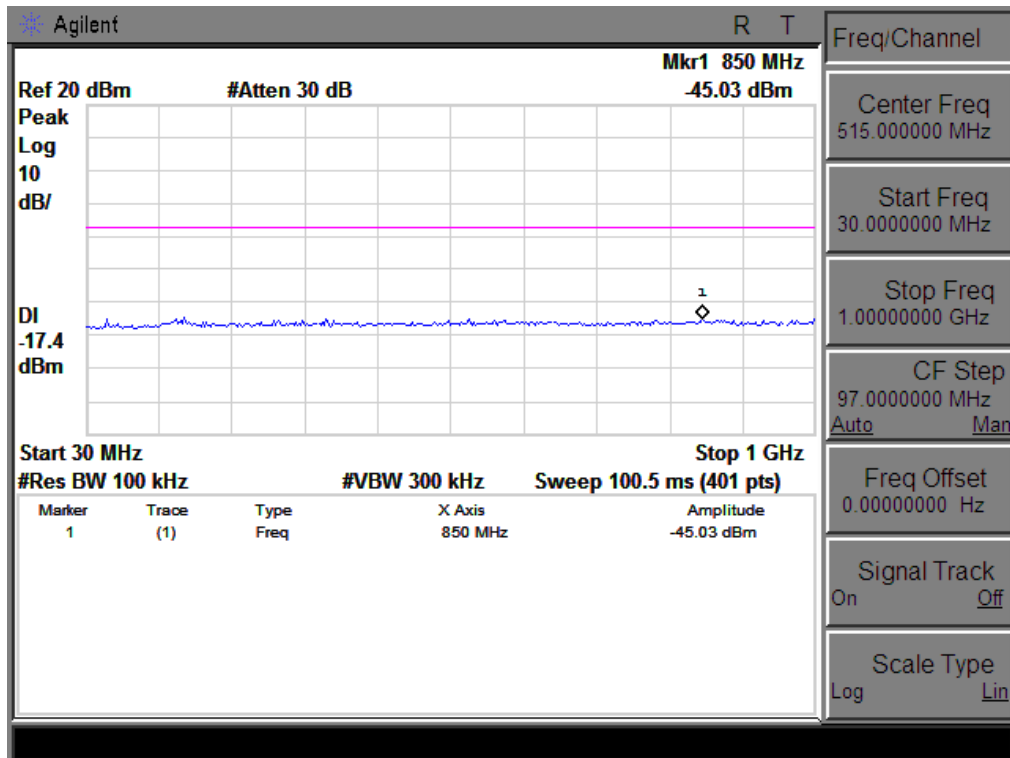
802.11g Middle Channel



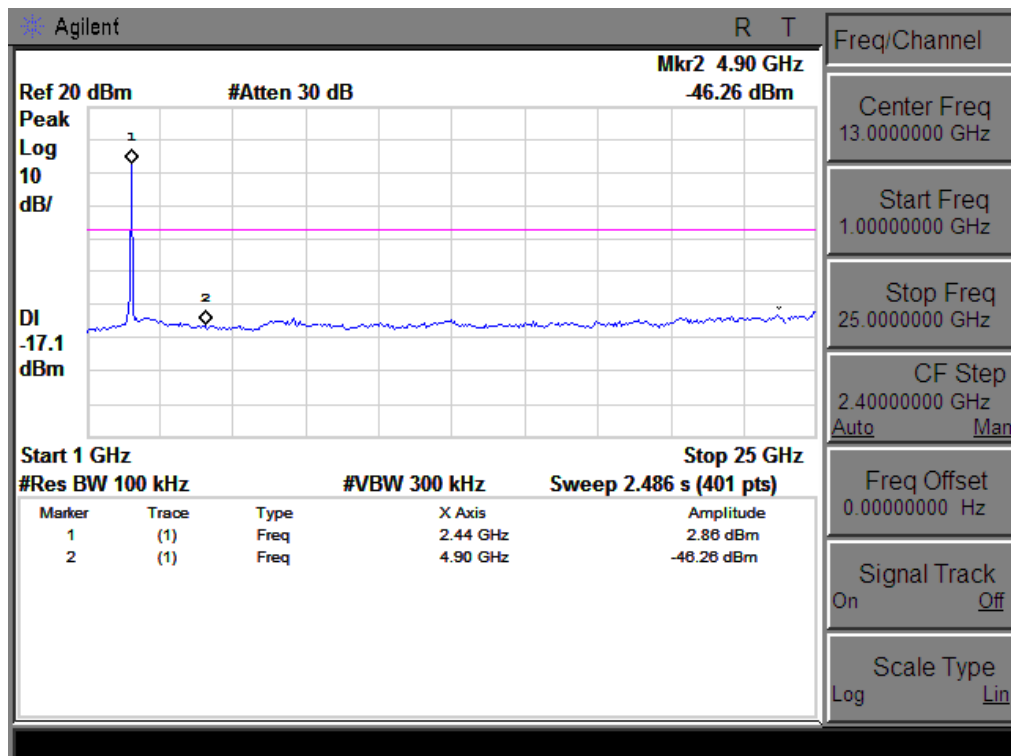
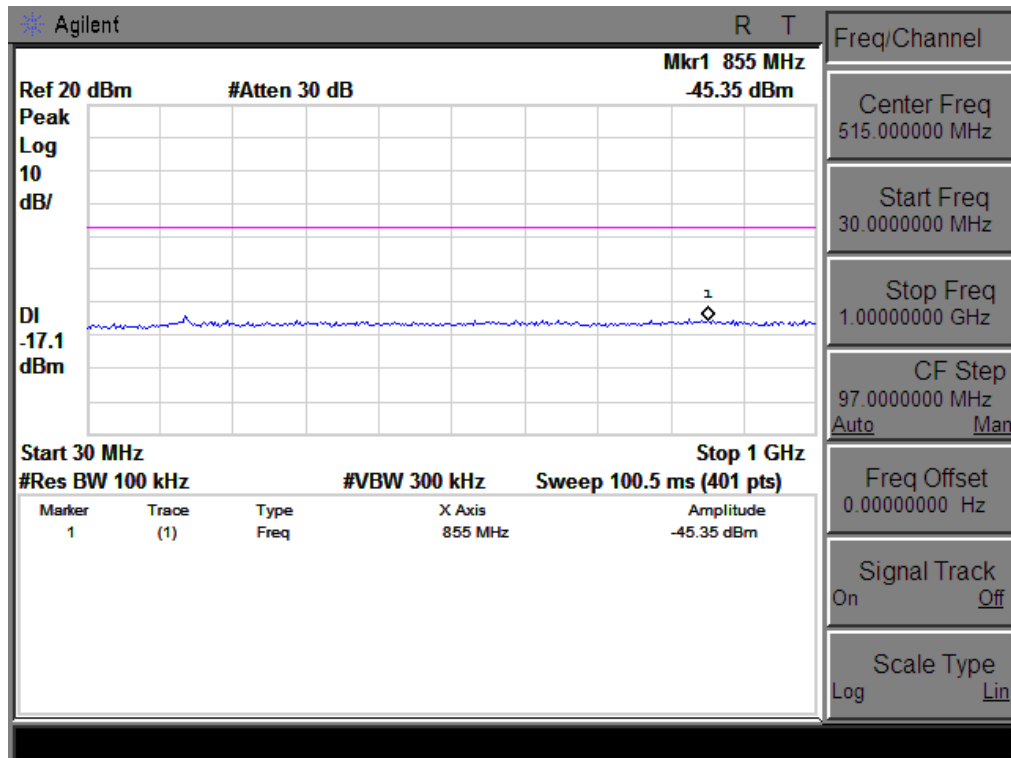
802.11g High Channel



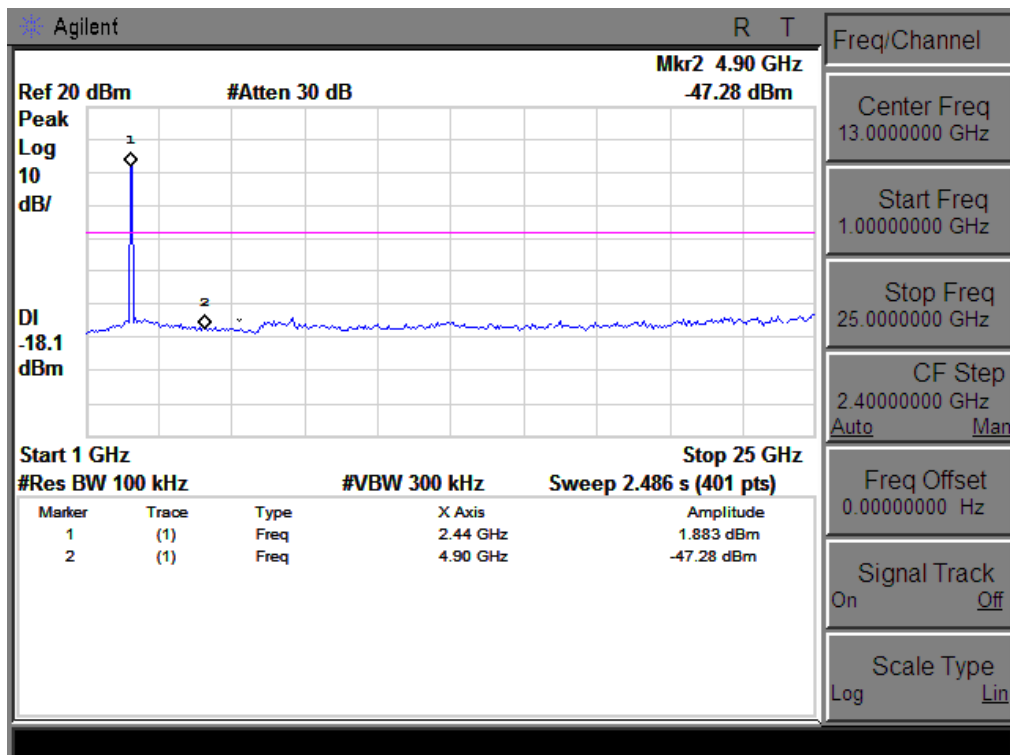
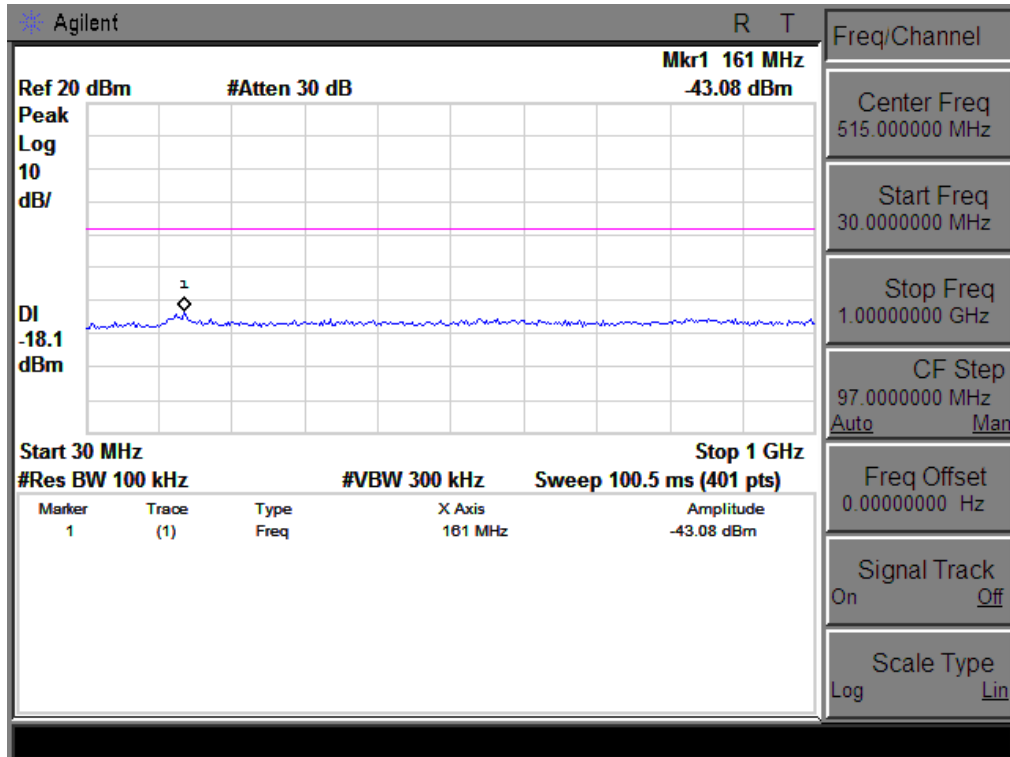
802.11n-HT20 Low Channel



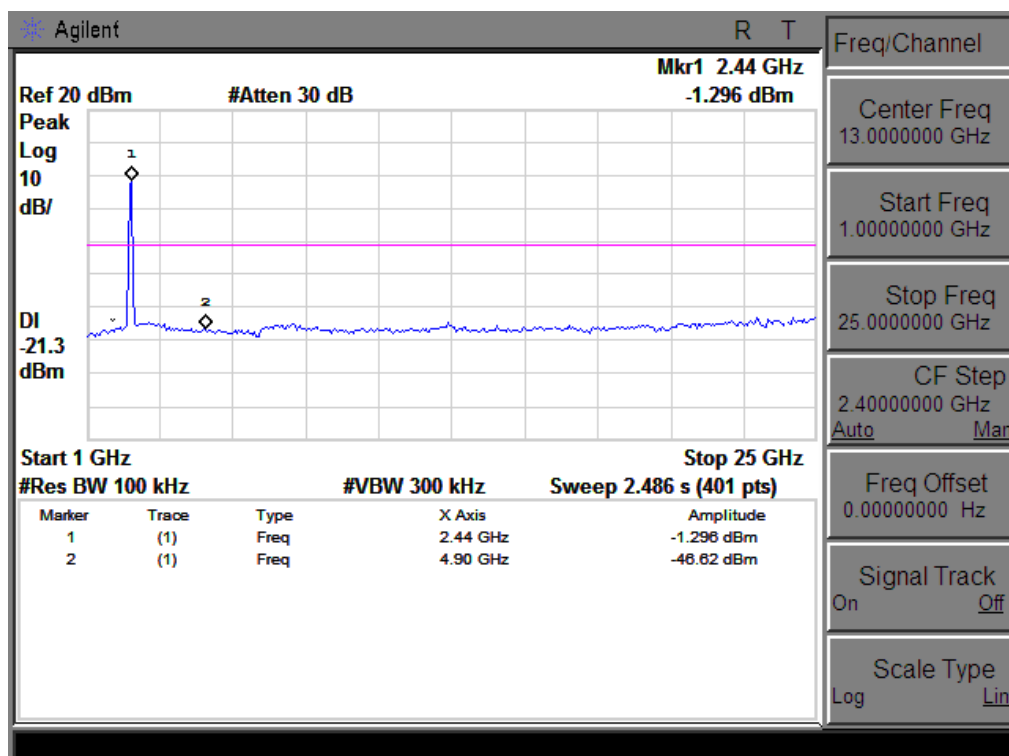
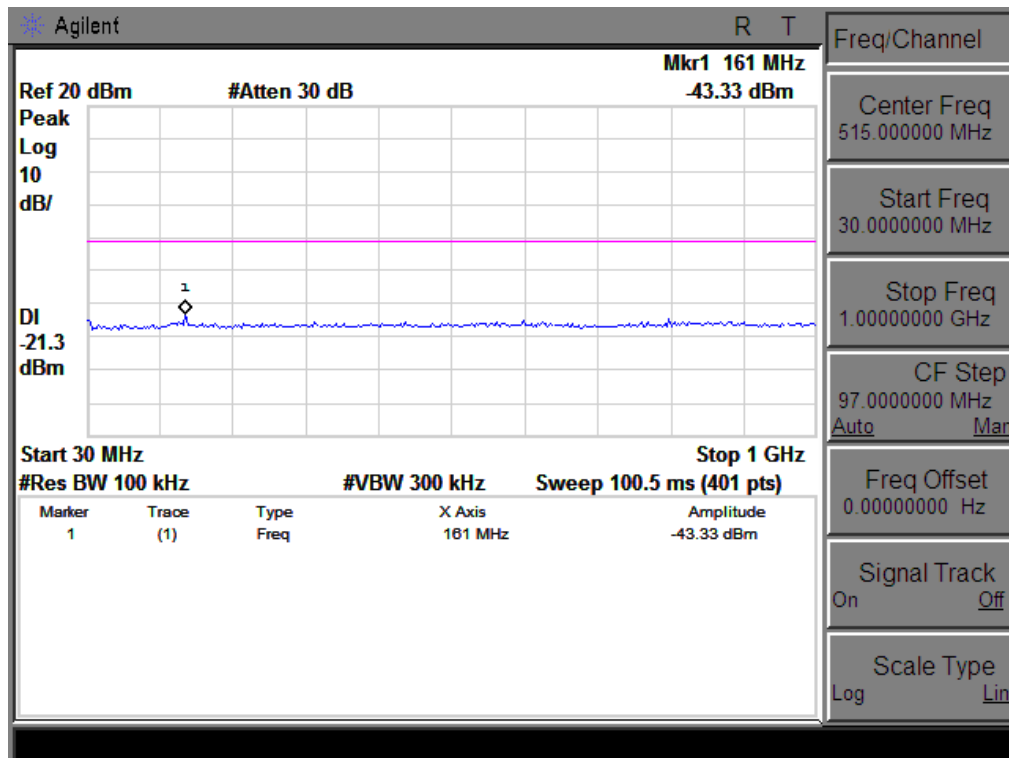
802.11n-HT20 Middle Channel



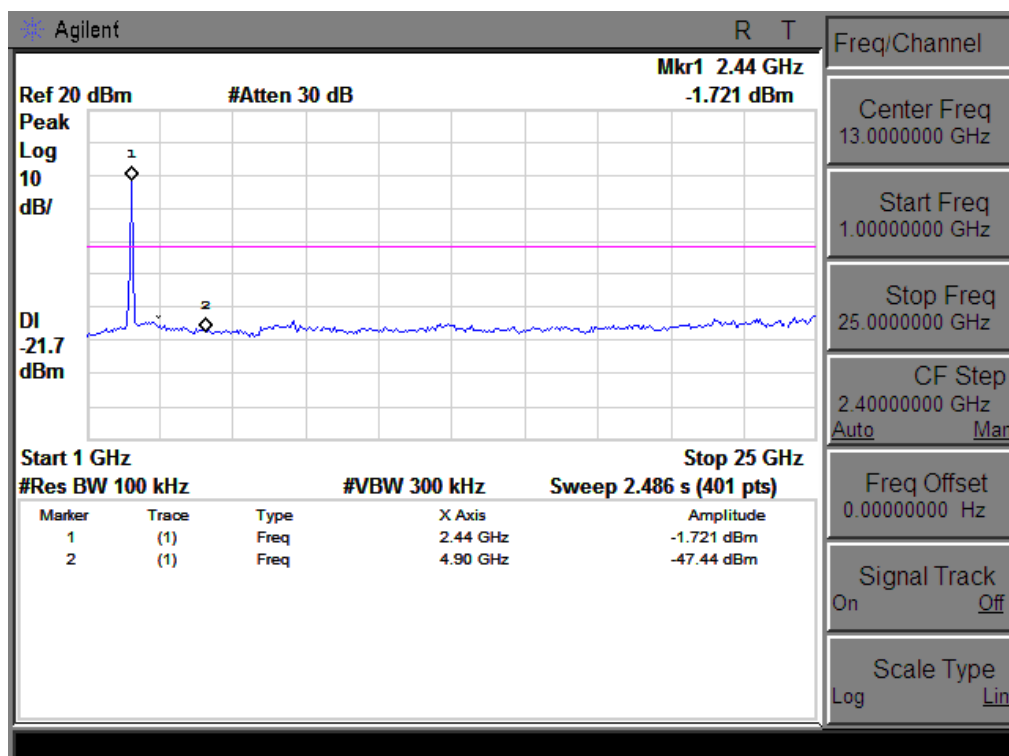
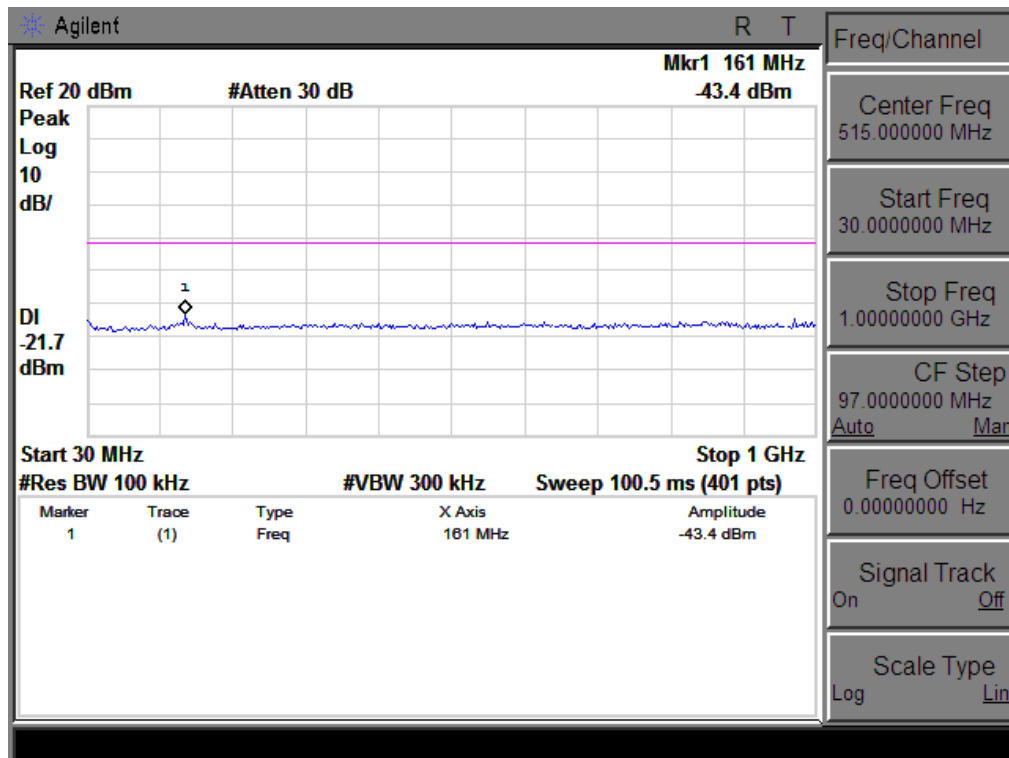
802.11n-HT20 High Channel



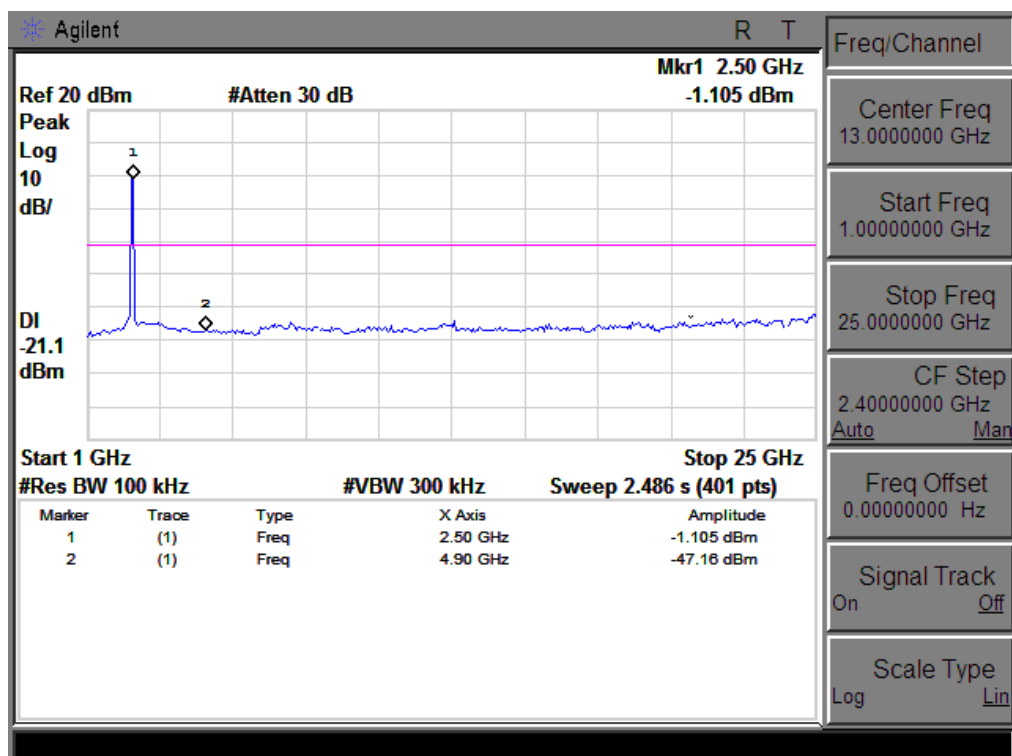
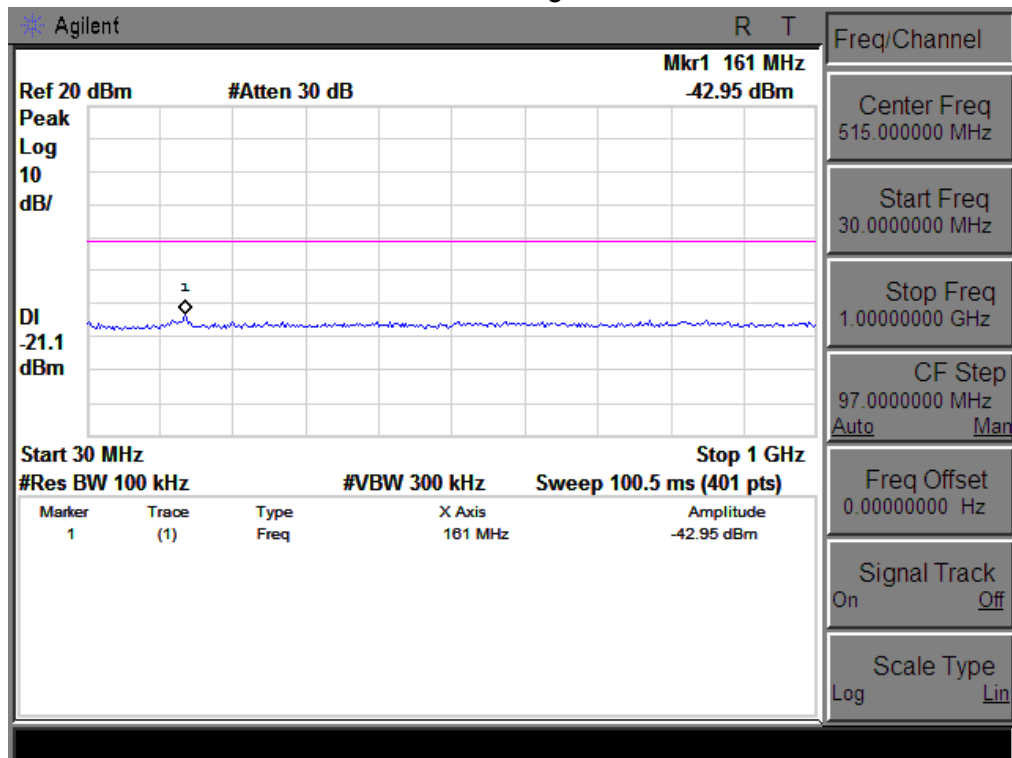
802.11n-HT40 Low Channel



802.11n-HT40 Middle Channel

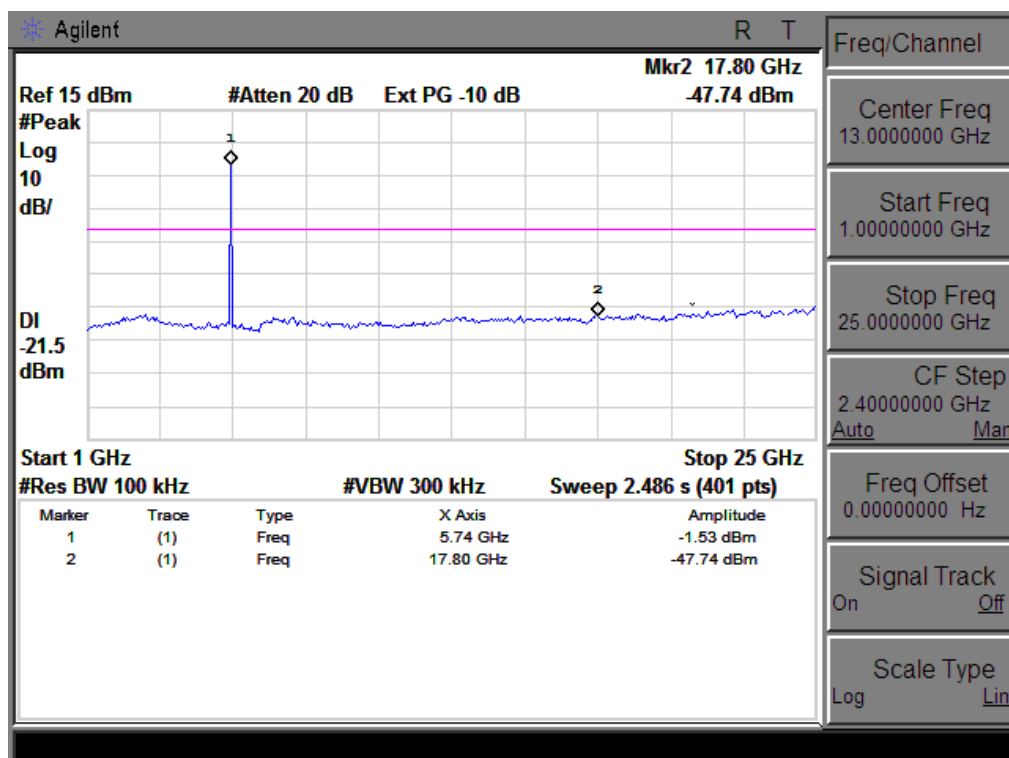
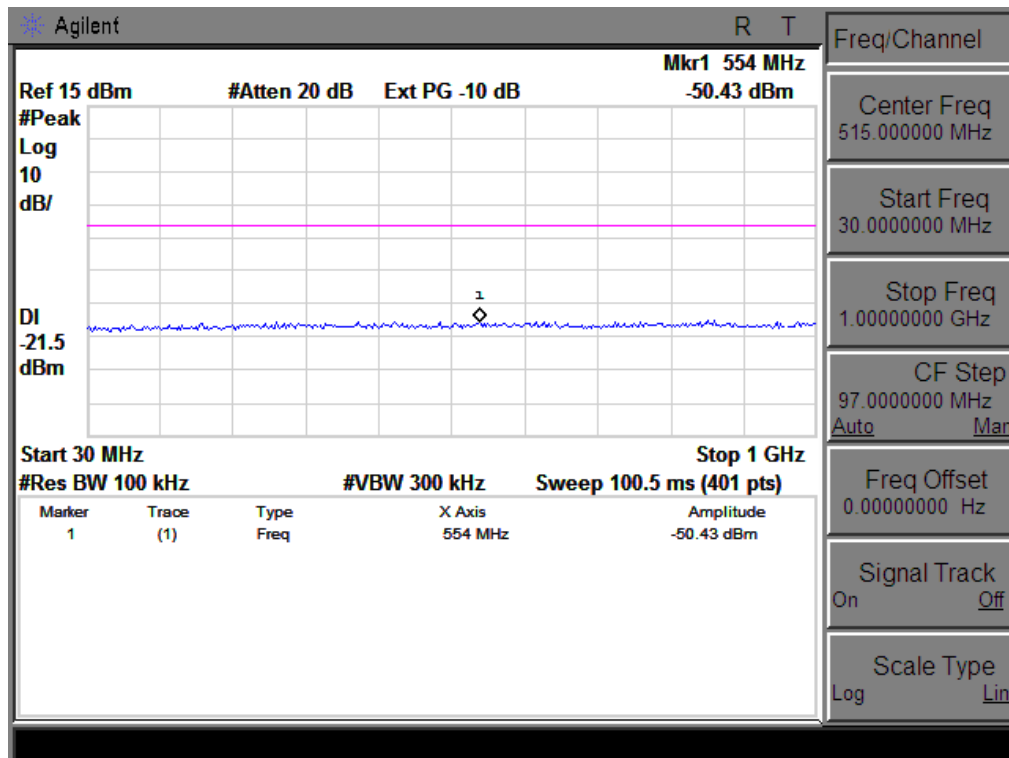


802.11n-HT40 High Channel



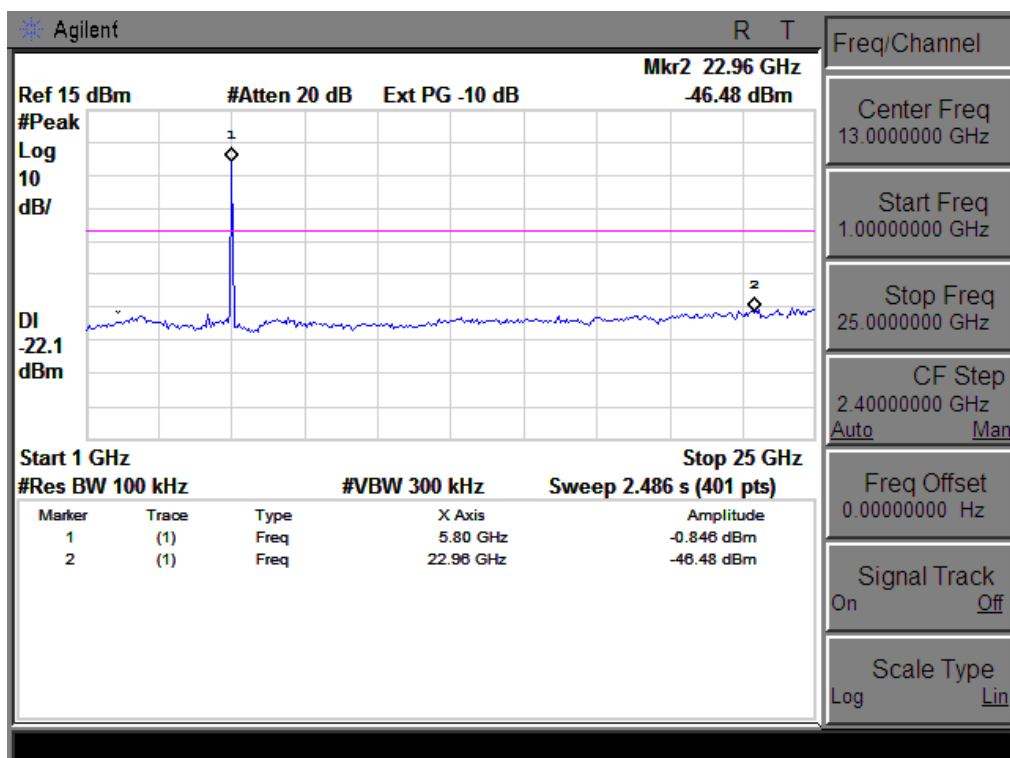
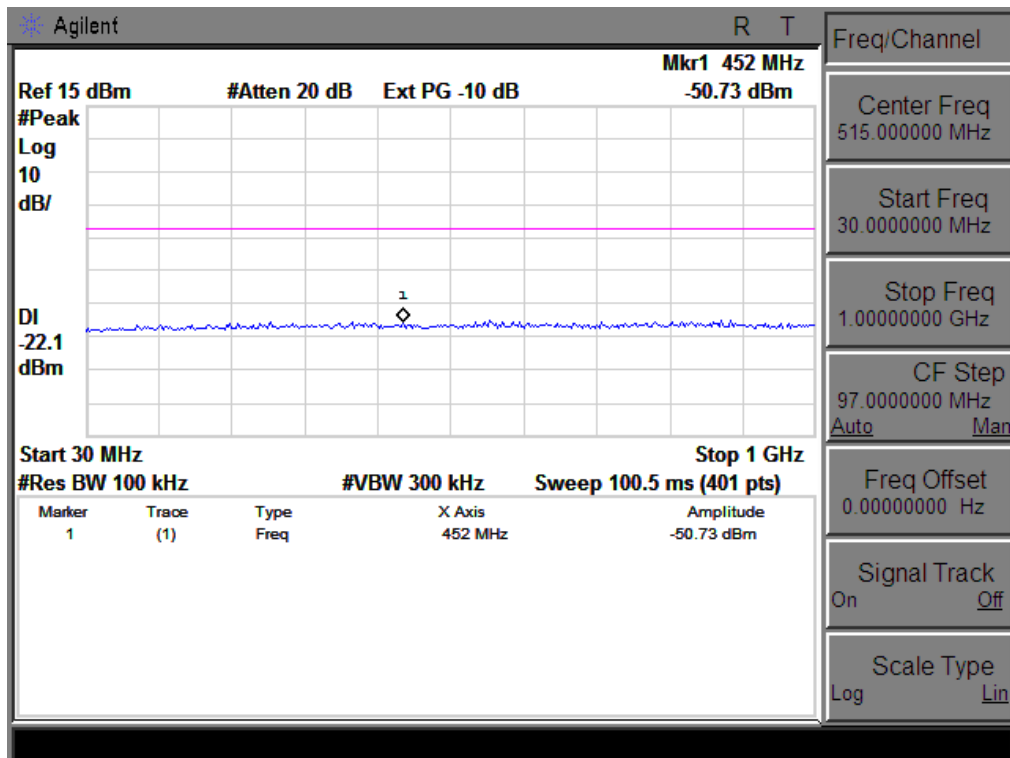
5GHz:

802.11a Low Channel



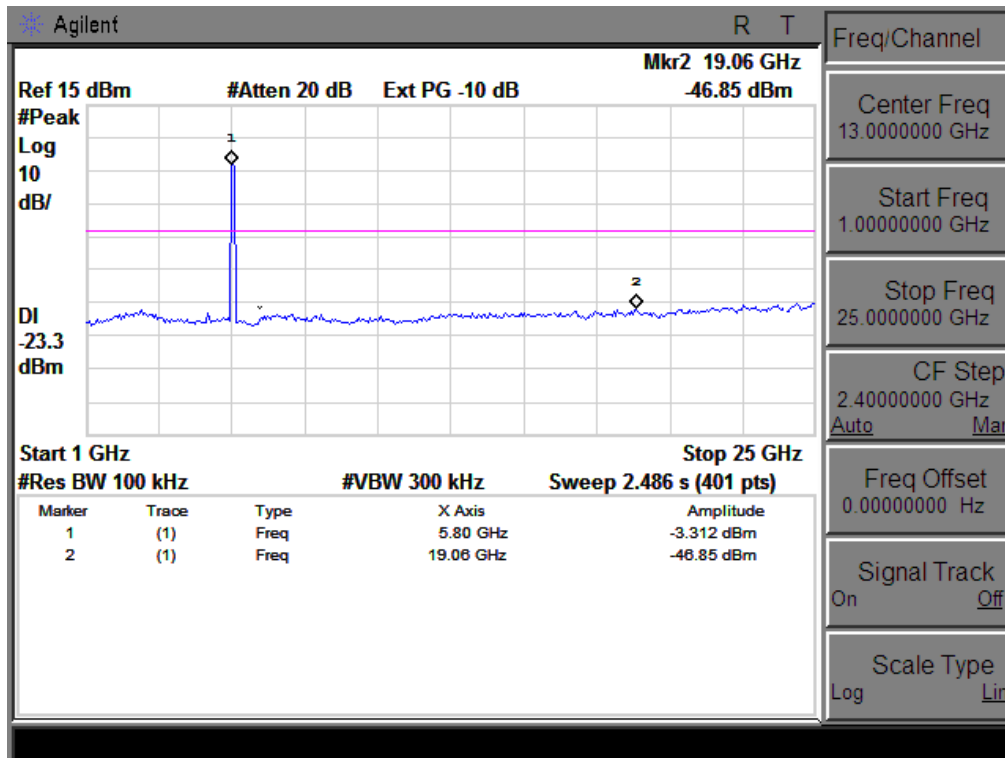
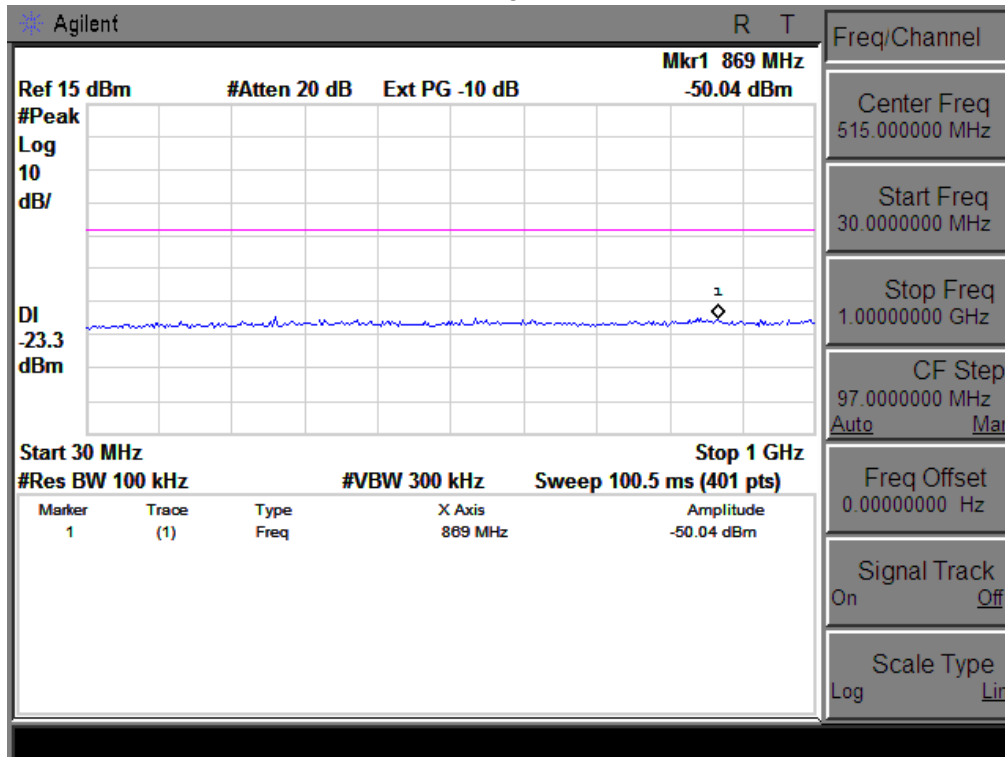
Note: No emission detected above 25GHz

802.11a Middle Channel



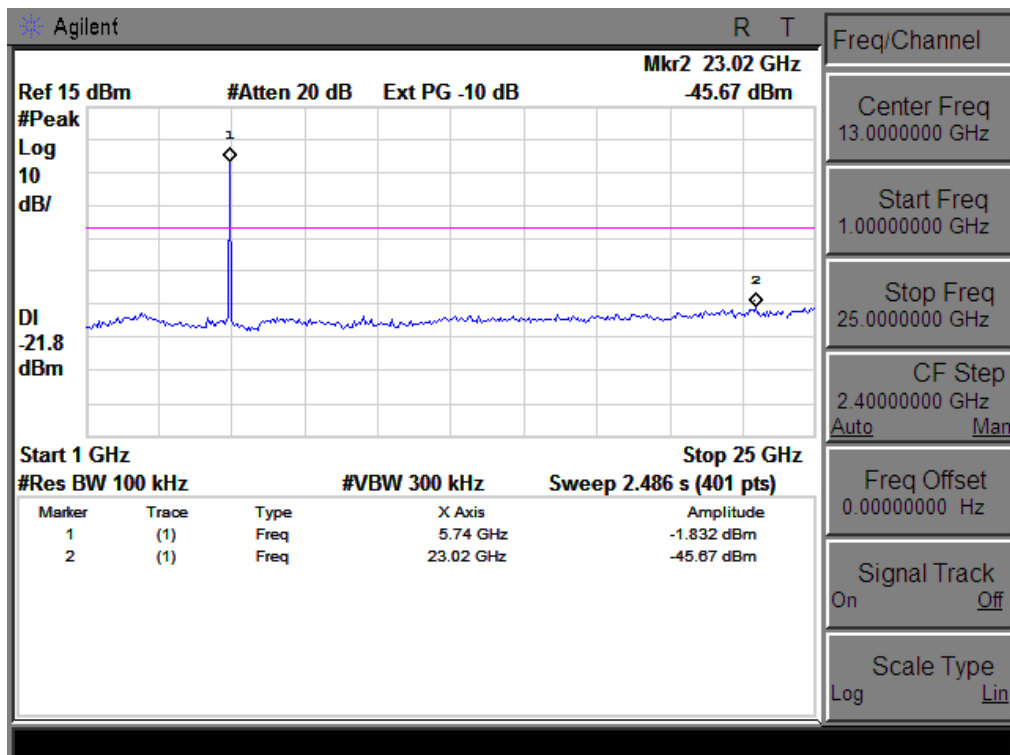
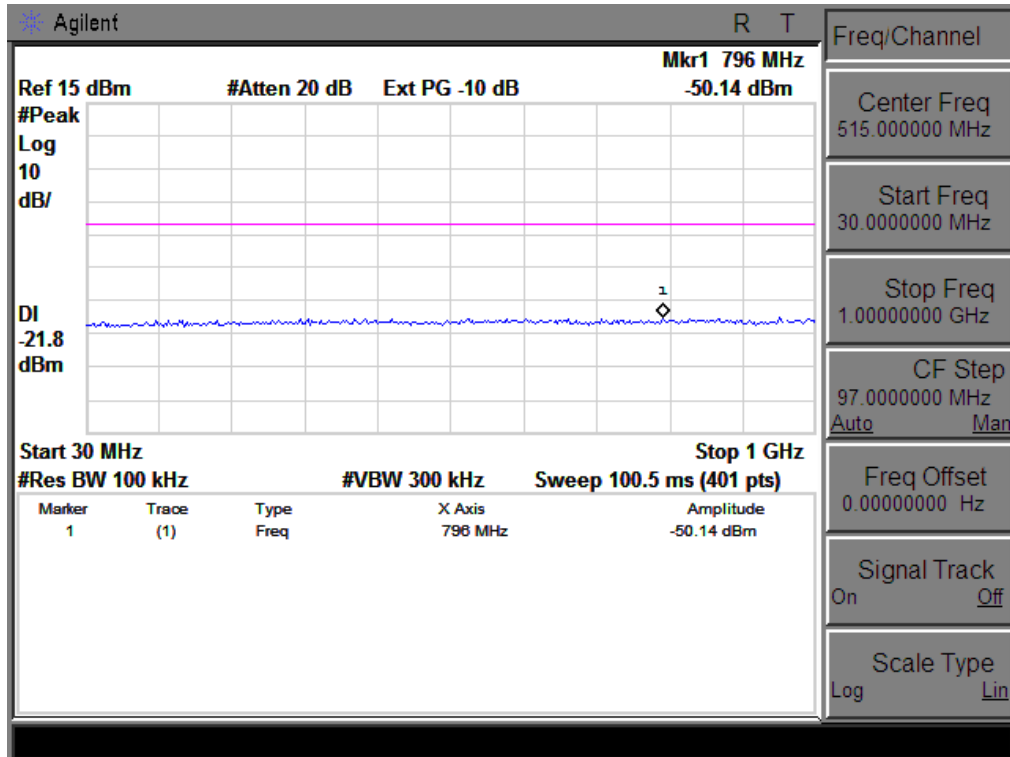
Note: No emission detected above 25GHz

802.11a High Channel



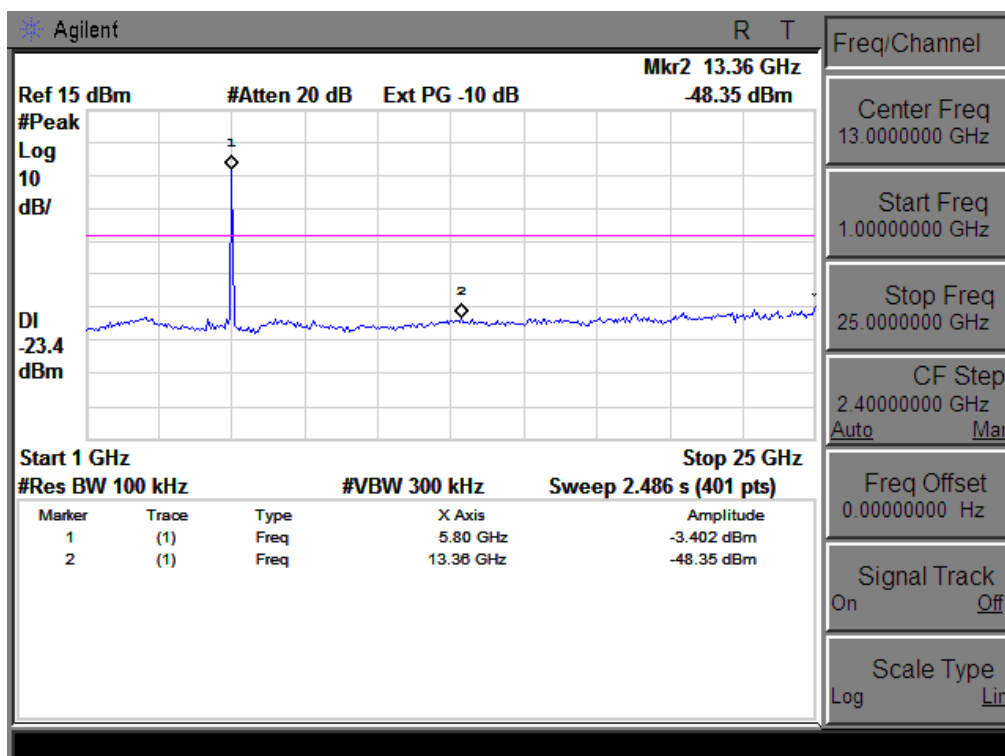
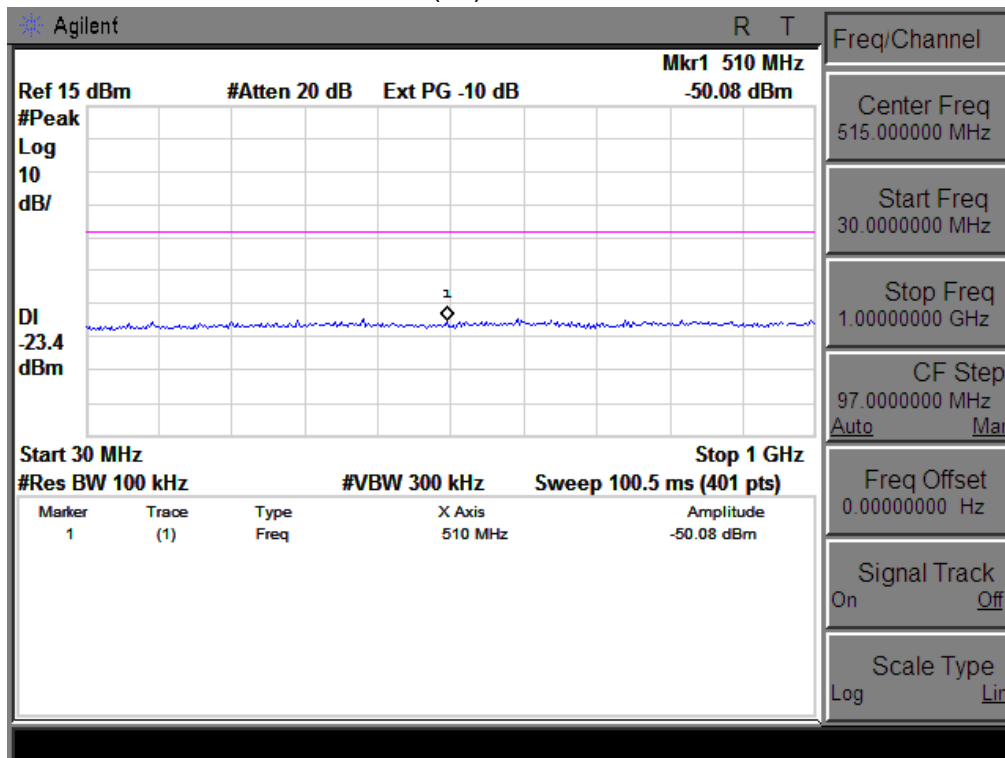
Note: No emission detected above 25GHz

802.11n(20) Low Channel



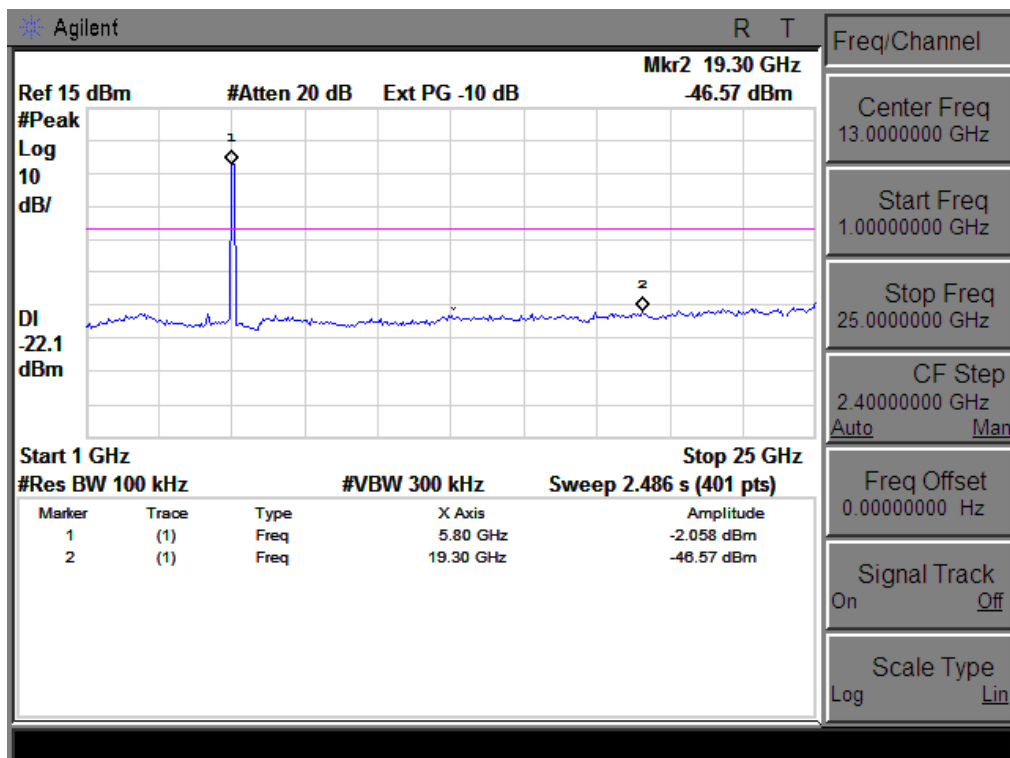
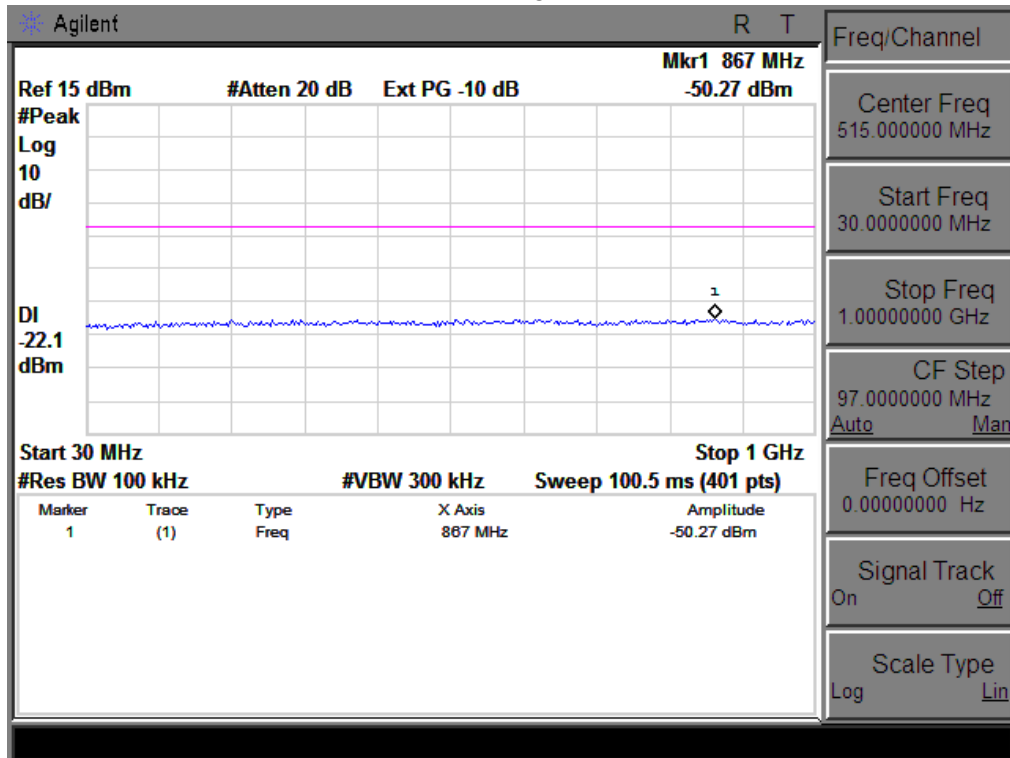
Note: No emission detected above 25GHz

802.11n(20) Middle Channel



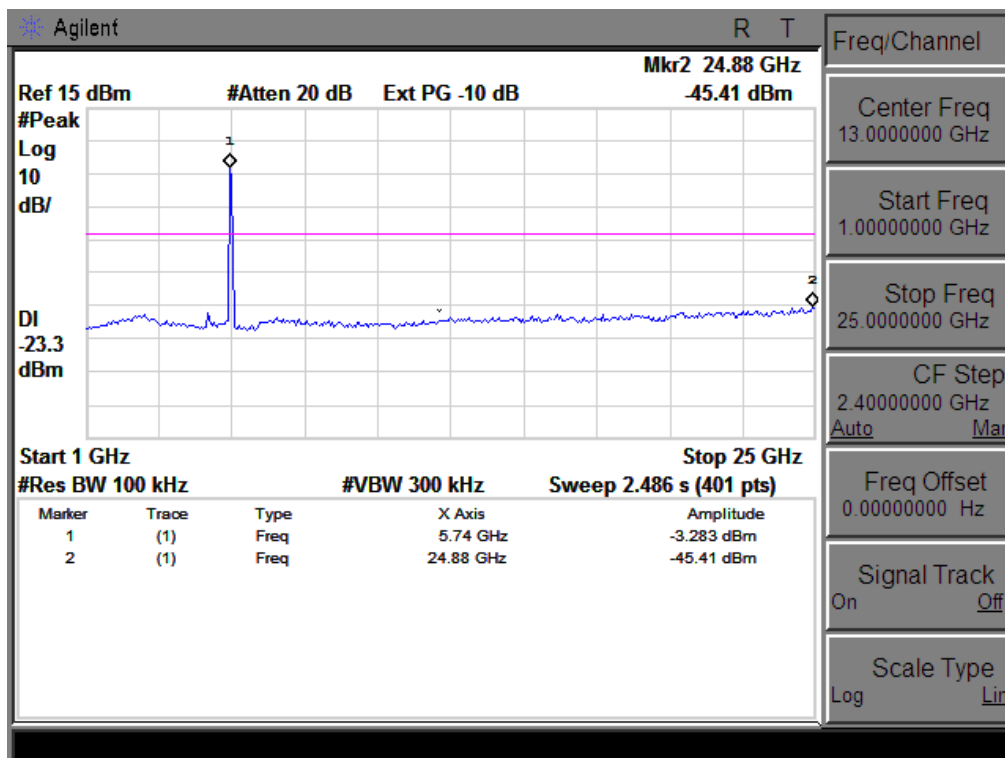
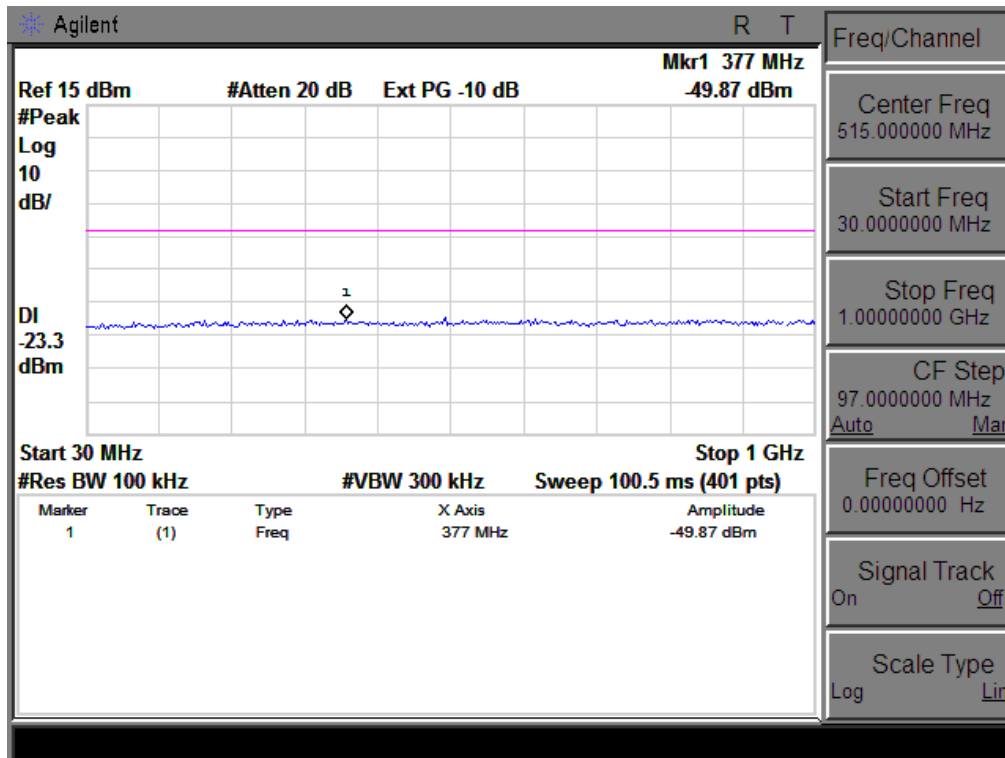
Note: No emission detected above 25GHz

802.11n(20) High Channel



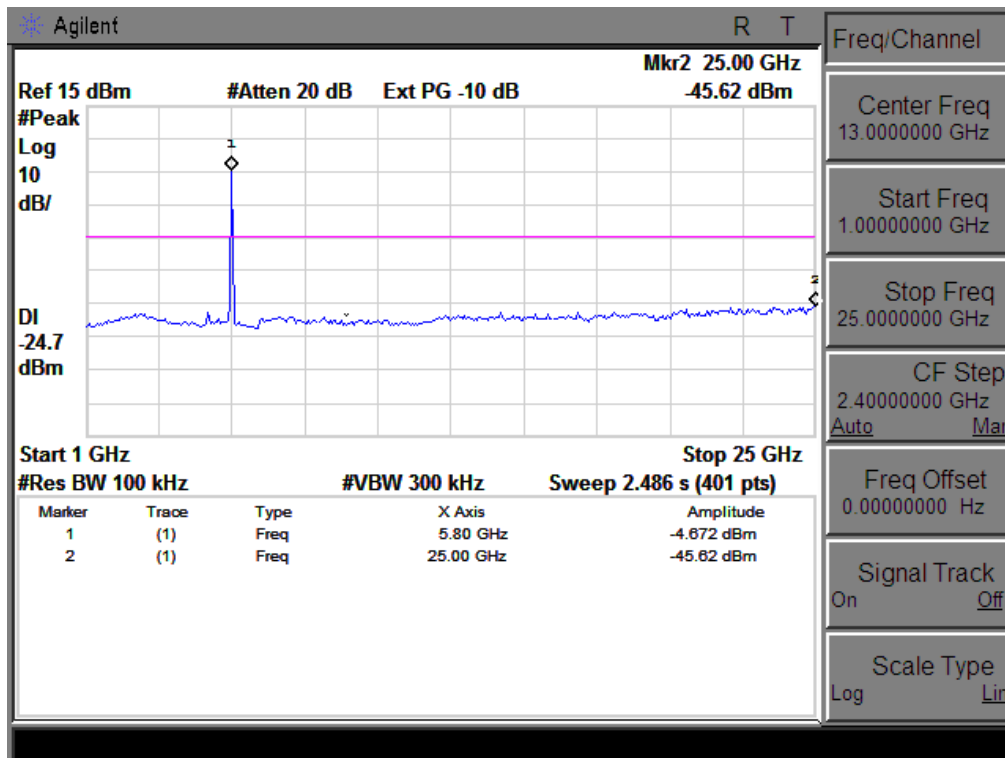
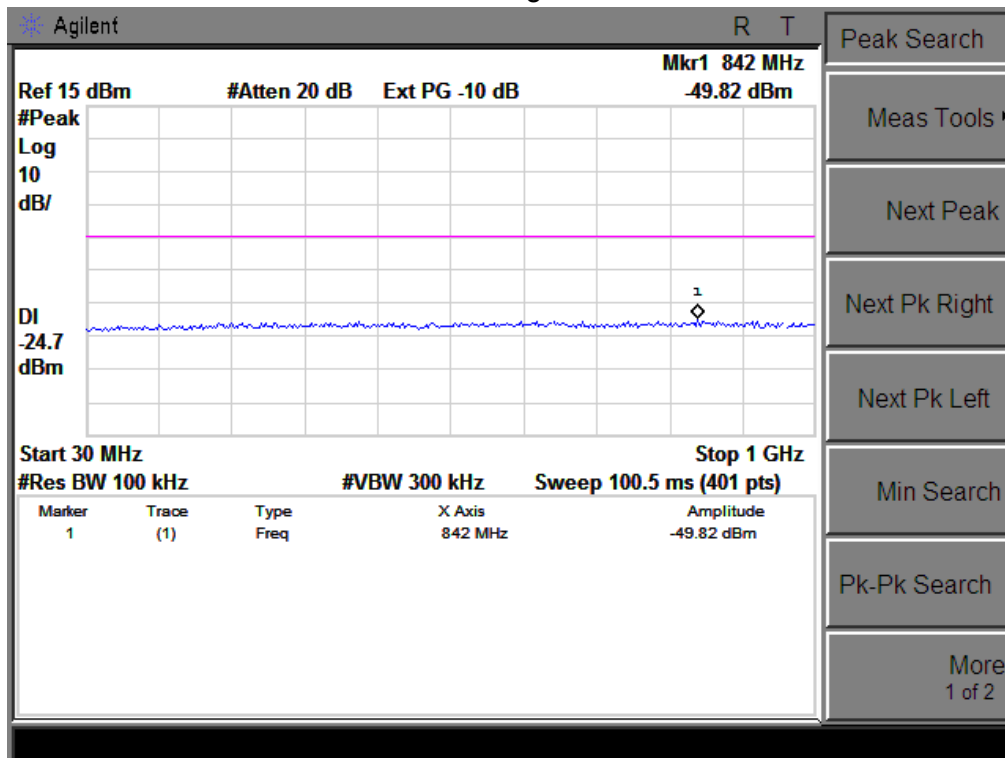
Note: No emission detected above 25GHz

802.11n 40 Low Channel



Note: No emission detected above 25GHz

802.11n 40 High Channel



Note: No emission detected above 25GHz

4. POWER SPECTRAL DENSITY TEST

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

4.1.1 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW \geq 3 kHz.
4. Set the VBW \geq 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



4.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

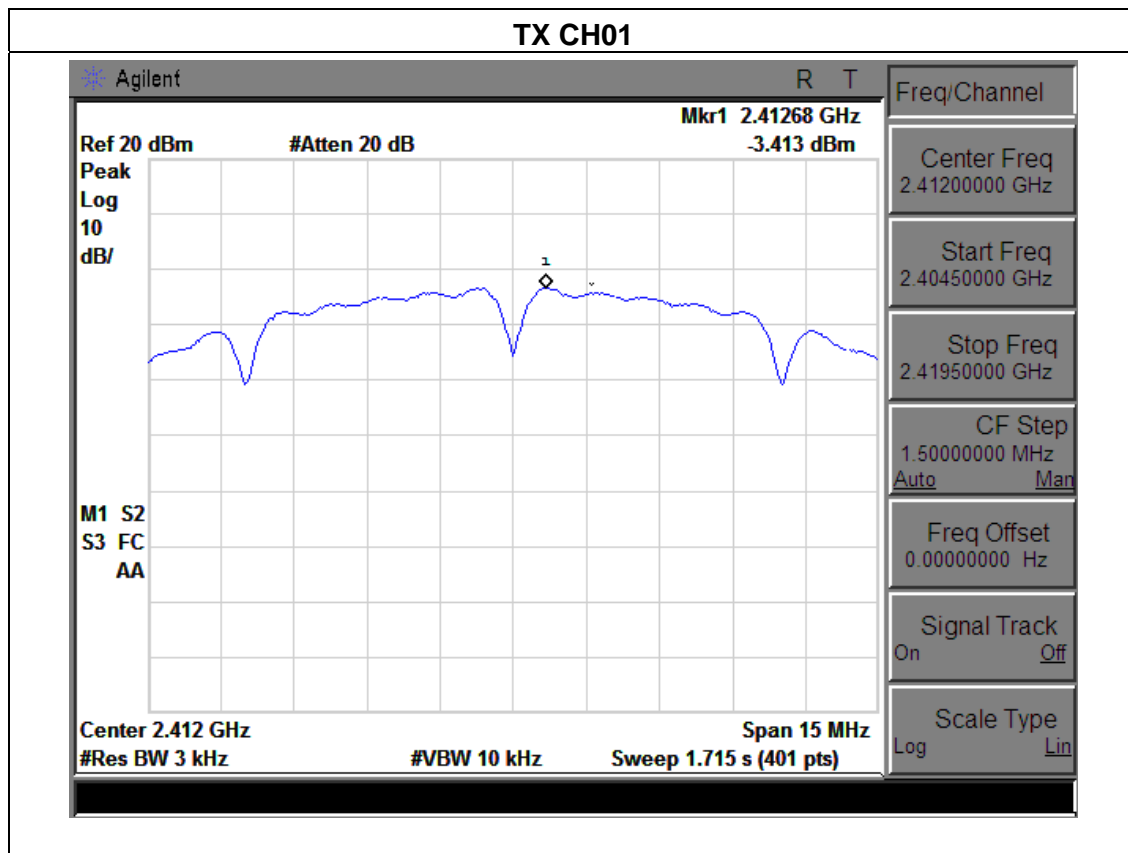
4.1.5 TEST RESULTS

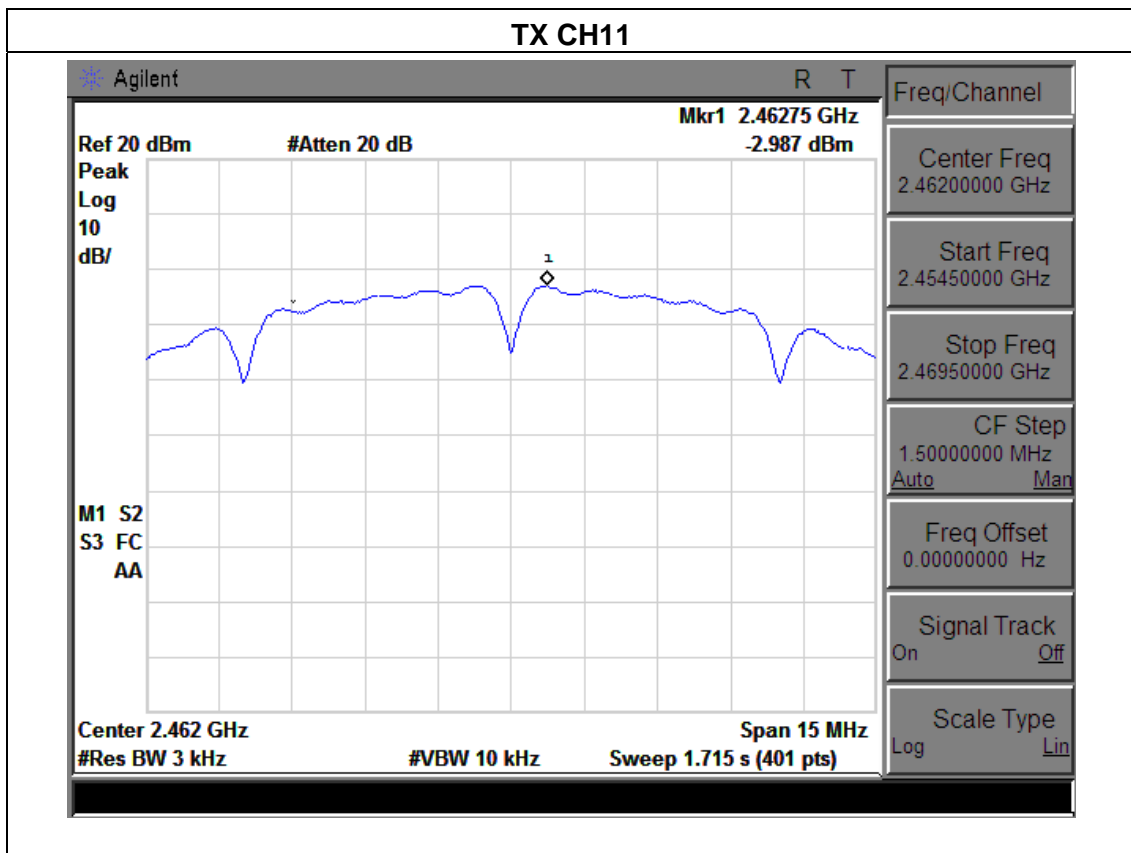
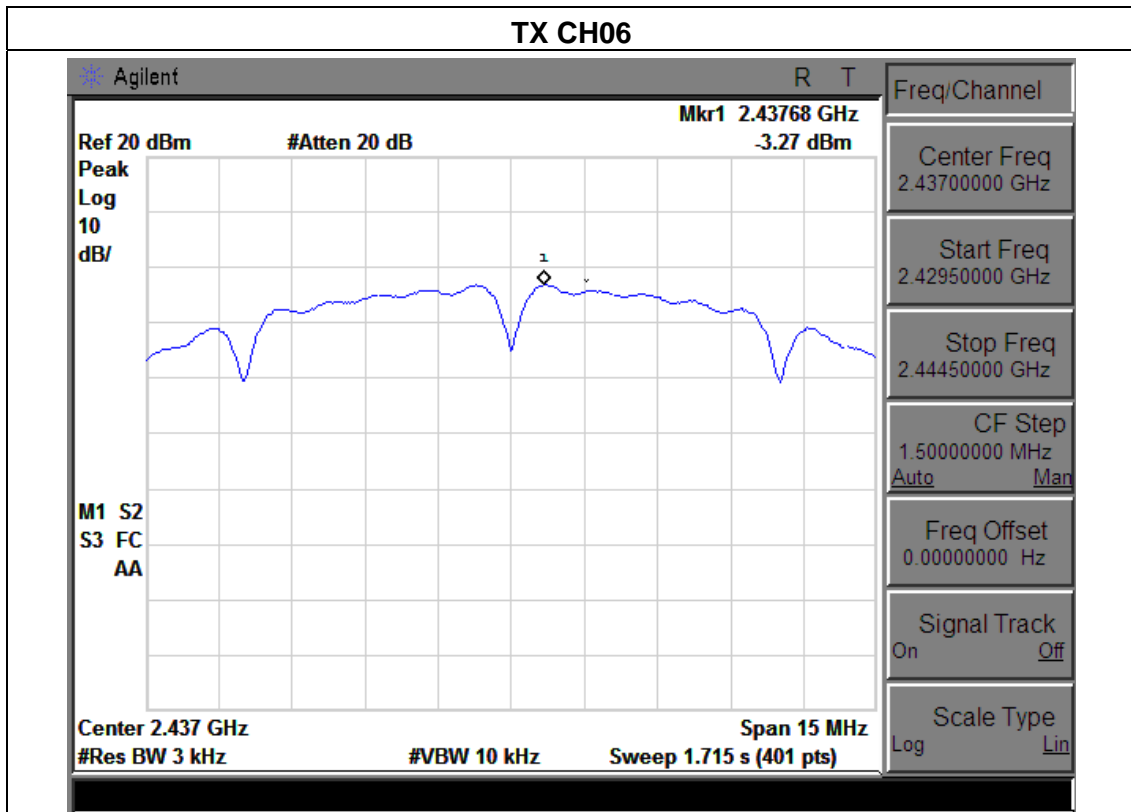
EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX b Mode /CH01, CH06, CH11		

Frequency	Power Density A (dBm)	Power Density B (dBm)	Limit (dBm)	Result
2412 MHz	-3.413	-5.353	3.48	PASS
2437 MHz	-3.270	-5.545	3.48	PASS
2462 MHz	-2.987	-4.460	3.48	PASS

NOTE: A(B) Represent the value of antenna A and B, The worst data is A Antenna a ,only shown Antenna A Plot.

For 2.4G mode , Limit = $8-10.52+6=3.48$ dBm for output power.



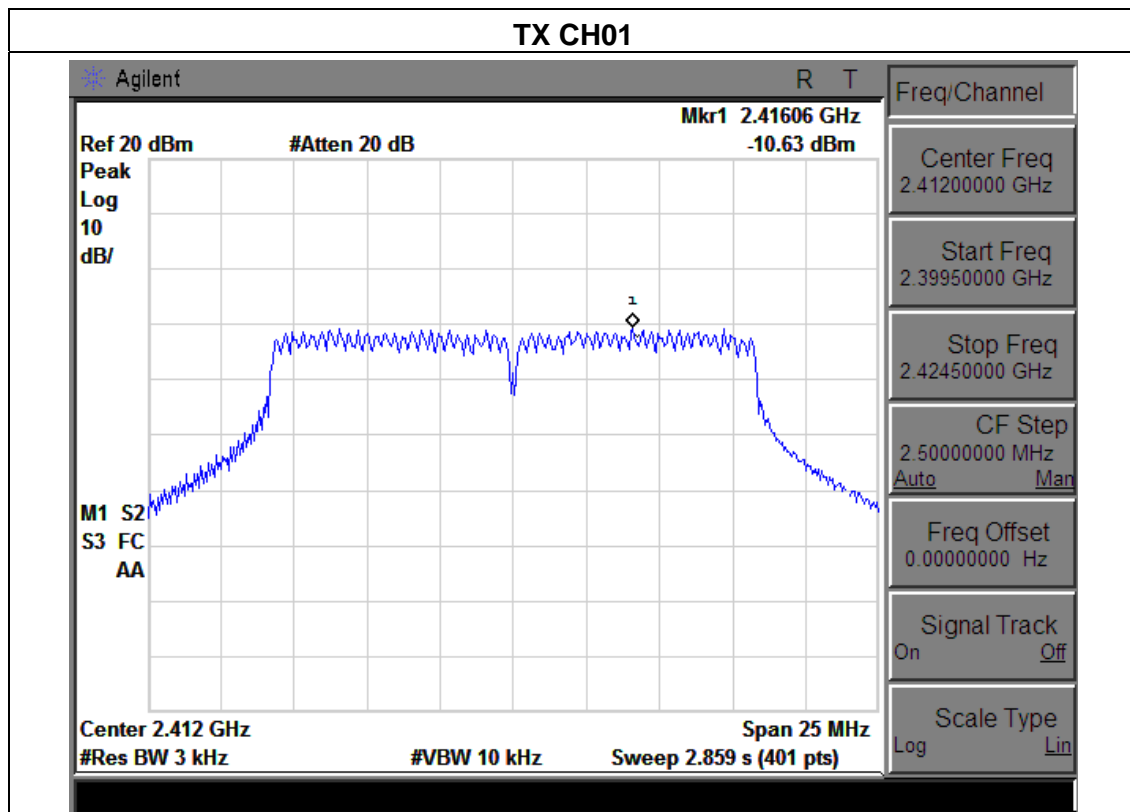


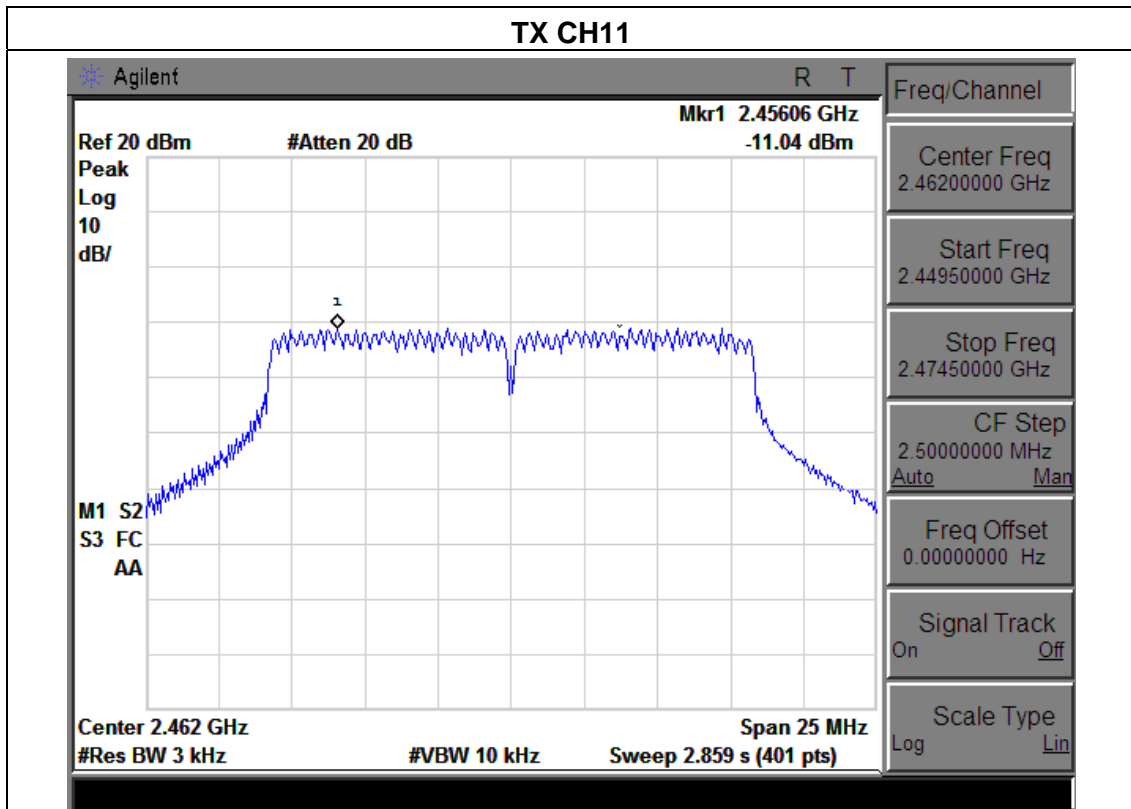
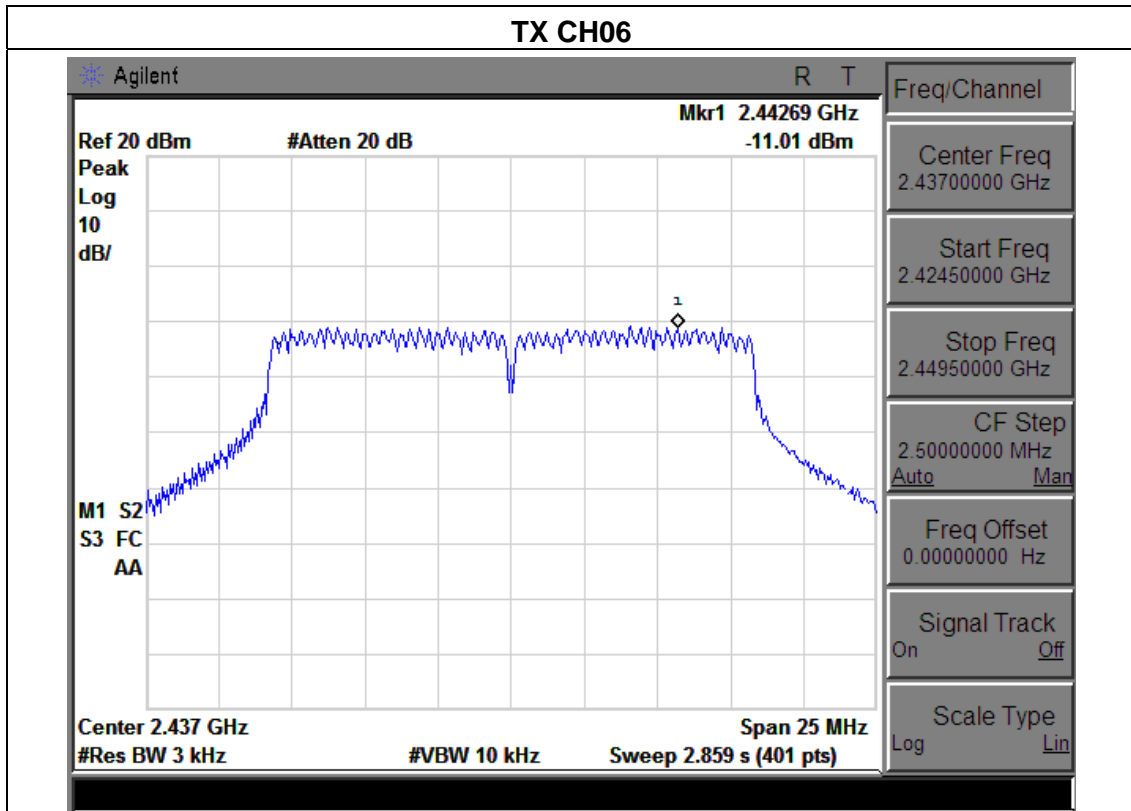
EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX g Mode /CH01, CH06, CH11		

Frequency	Power Density A (dBm)	Power Density B (dBm)	Limit (dBm)	Result
2412 MHz	-10.63	-13.76	3.48	PASS
2437 MHz	-11.01	-13.86	3.48	PASS
2462 MHz	-11.04	-13.96	3.48	PASS

NOTE: A(B) Represent the value of antenna A and B, The worst data is A Antenna a ,only shown Antenna A Plot.

For 2.4G mode , Limit =8-10.52+6=3.48dBm for output power.



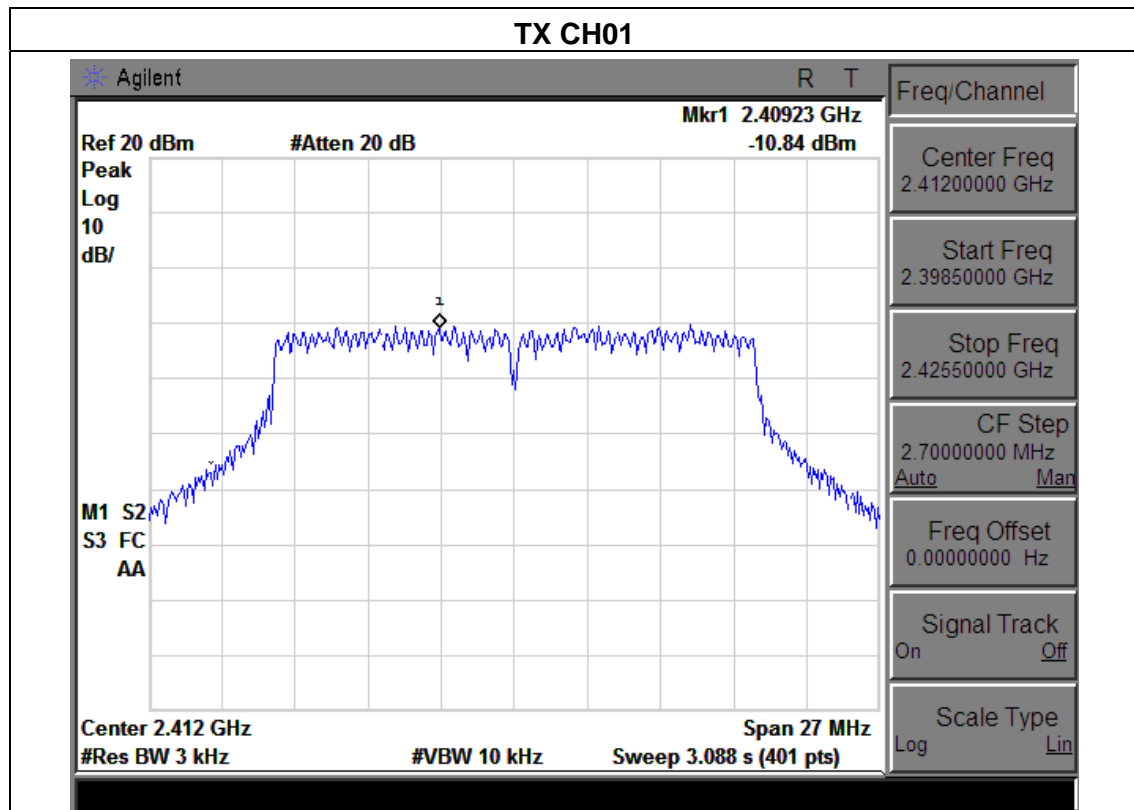


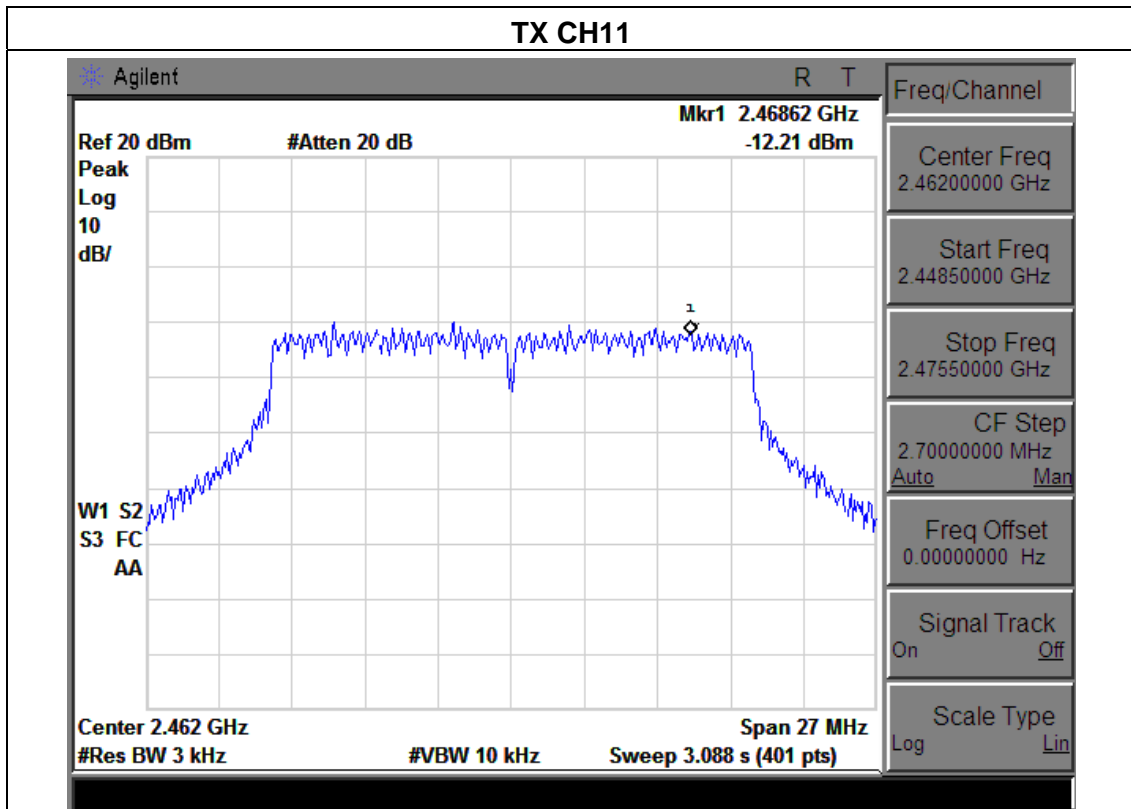
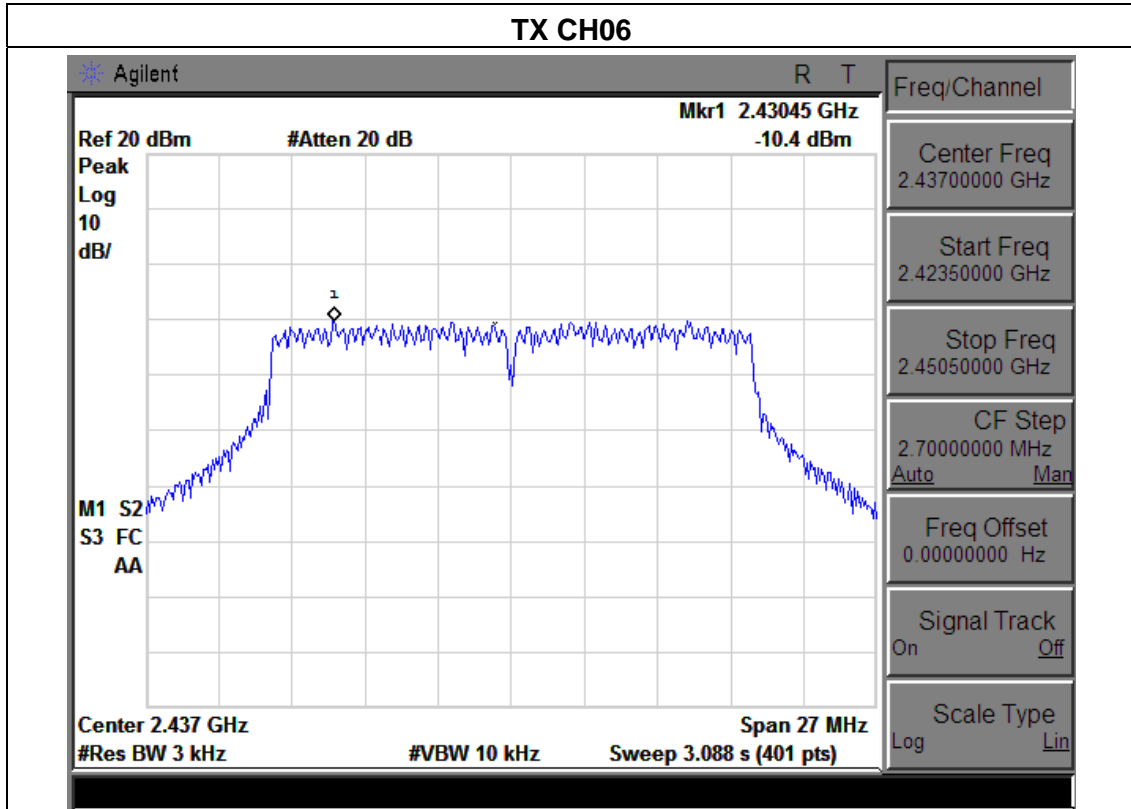
EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX n Mode (20MHz)/CH01, CH06, CH11		

Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
2412 MHz	-10.84	-13.74	-9.04	3.48	PASS
2437 MHz	-10.40	-13.43	-8.65	3.48	PASS
2462 MHz	-12.21	-12.56	-9.37	3.48	PASS

NOTE: A(B) Represent the value of antenna A and B, The worst data is A Antenna a ,only shown Antenna A Plot.

For 2.4G mode , Limit = $8-10.52+6=3.48$ dBm for output power.



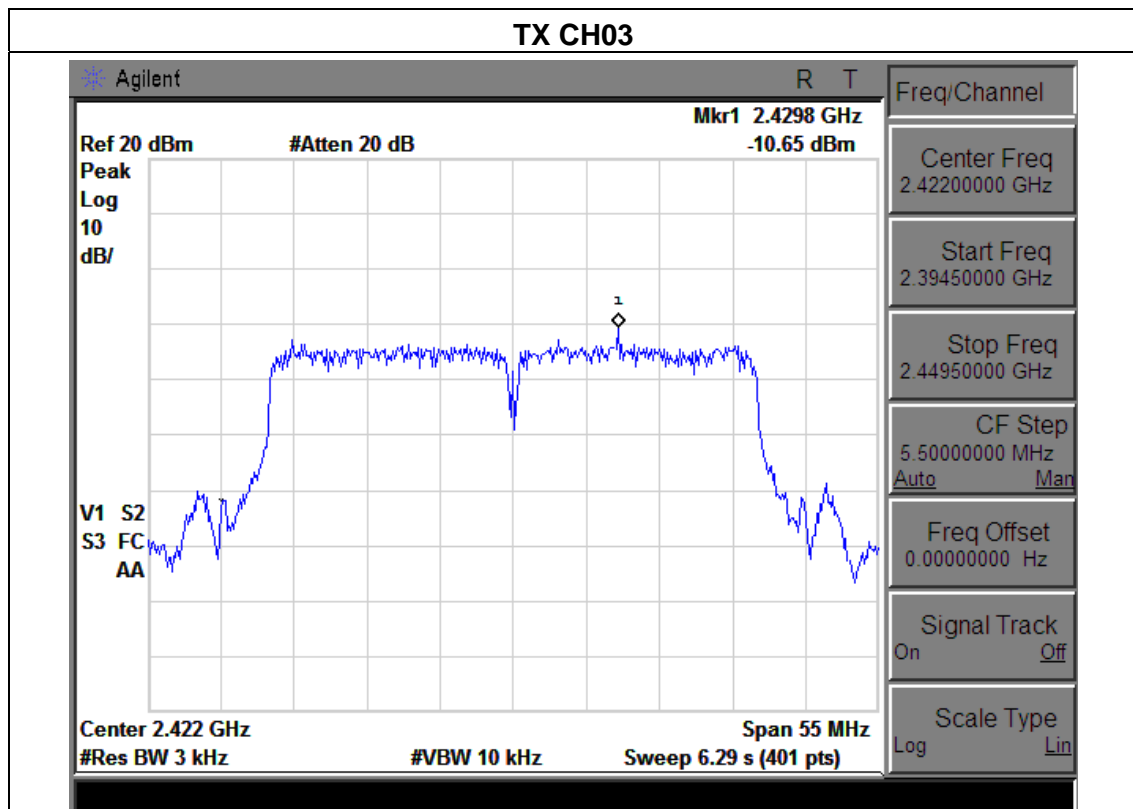


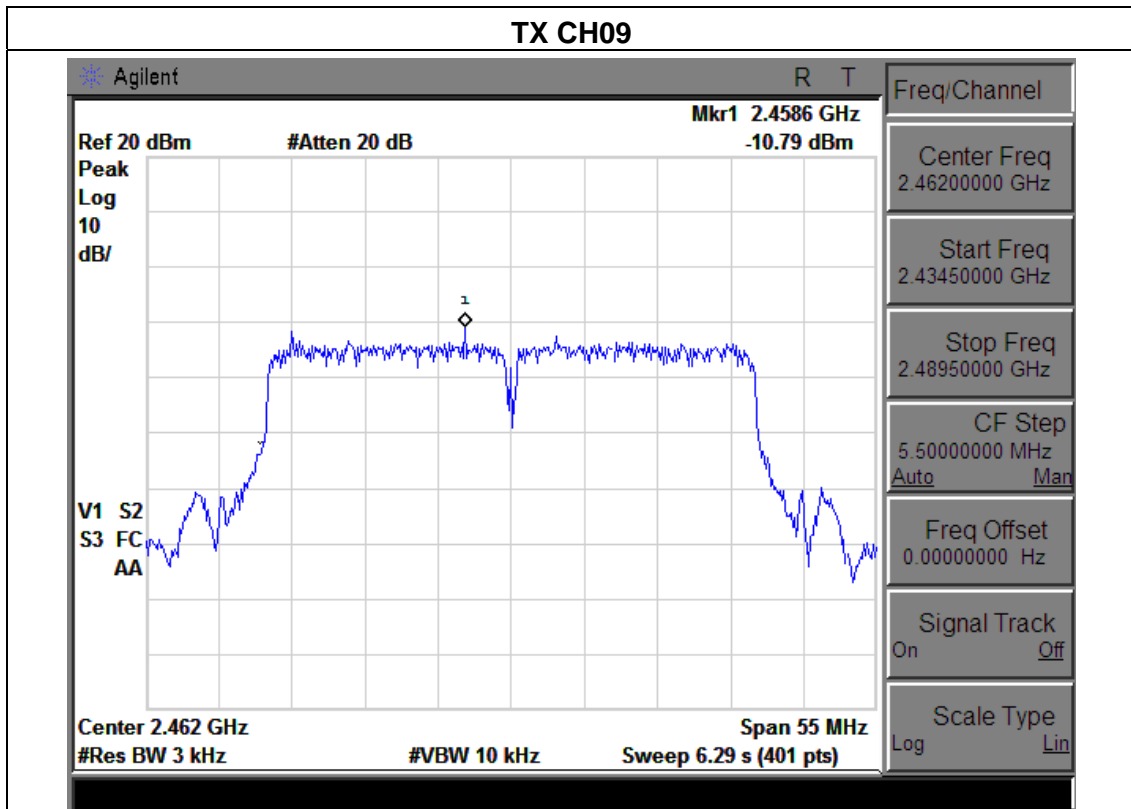
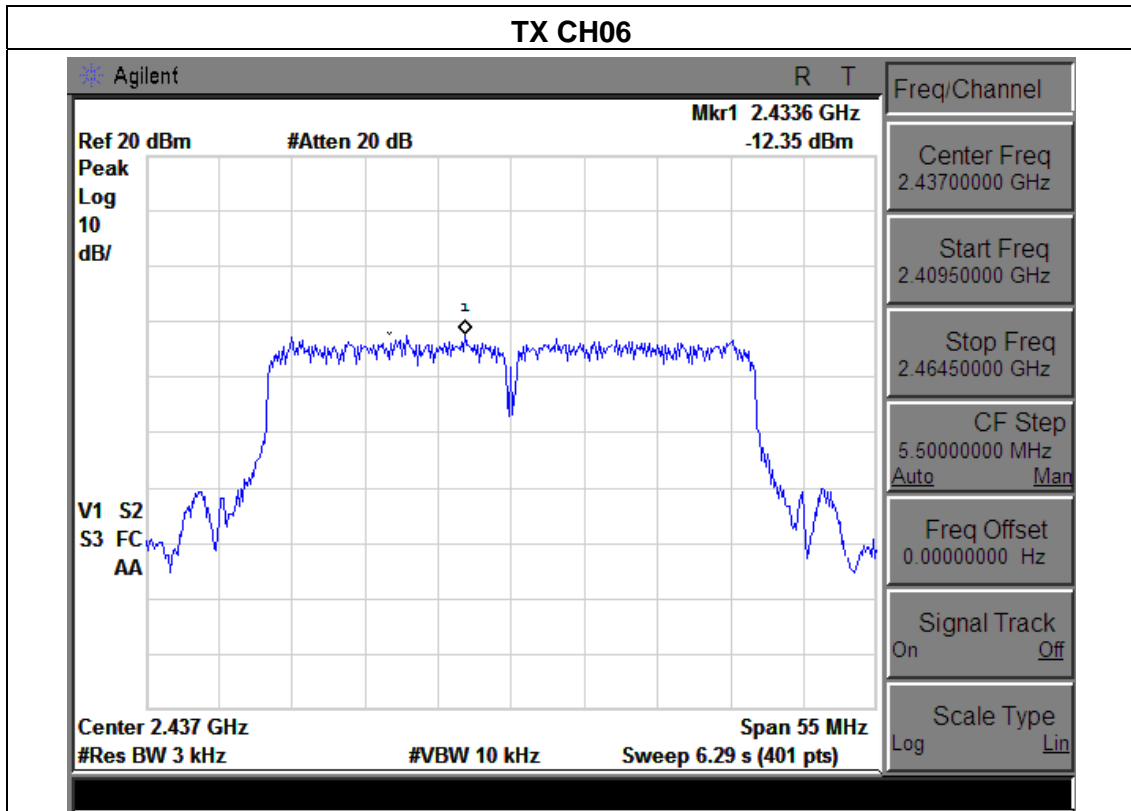
EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX n Mode (40MHz)/CH03, CH06, CH09		

Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
2422 MHz	-10.65	-17.94	-9.91	3.48	PASS
2437 MHz	-12.35	-17.68	-11.23	3.48	PASS
2452 MHz	-10.79	-17.54	-9.96	3.48	PASS

NOTE: A(B) Represent the value of antenna A and B, The worst data is A Antenna a ,only shown Antenna A Plot.

For 2.4G mode , Limit =8-10.52+6=3.48dBm for output power.



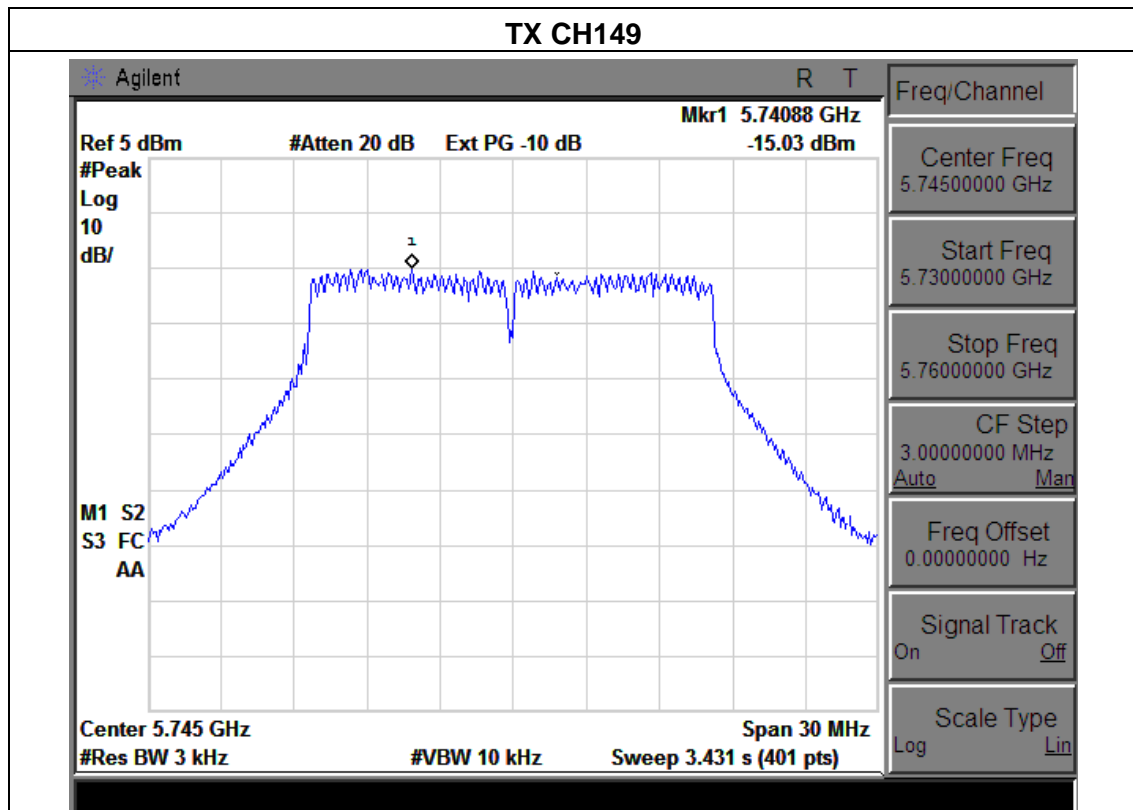


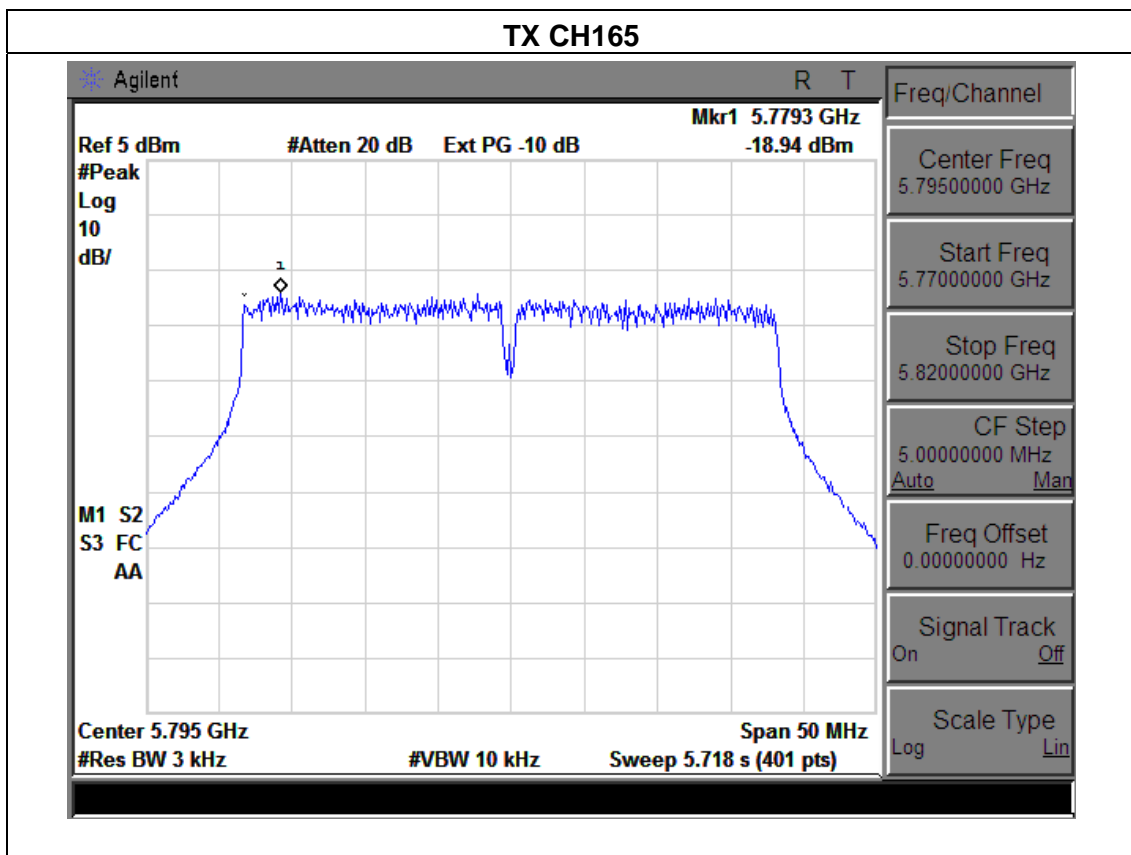
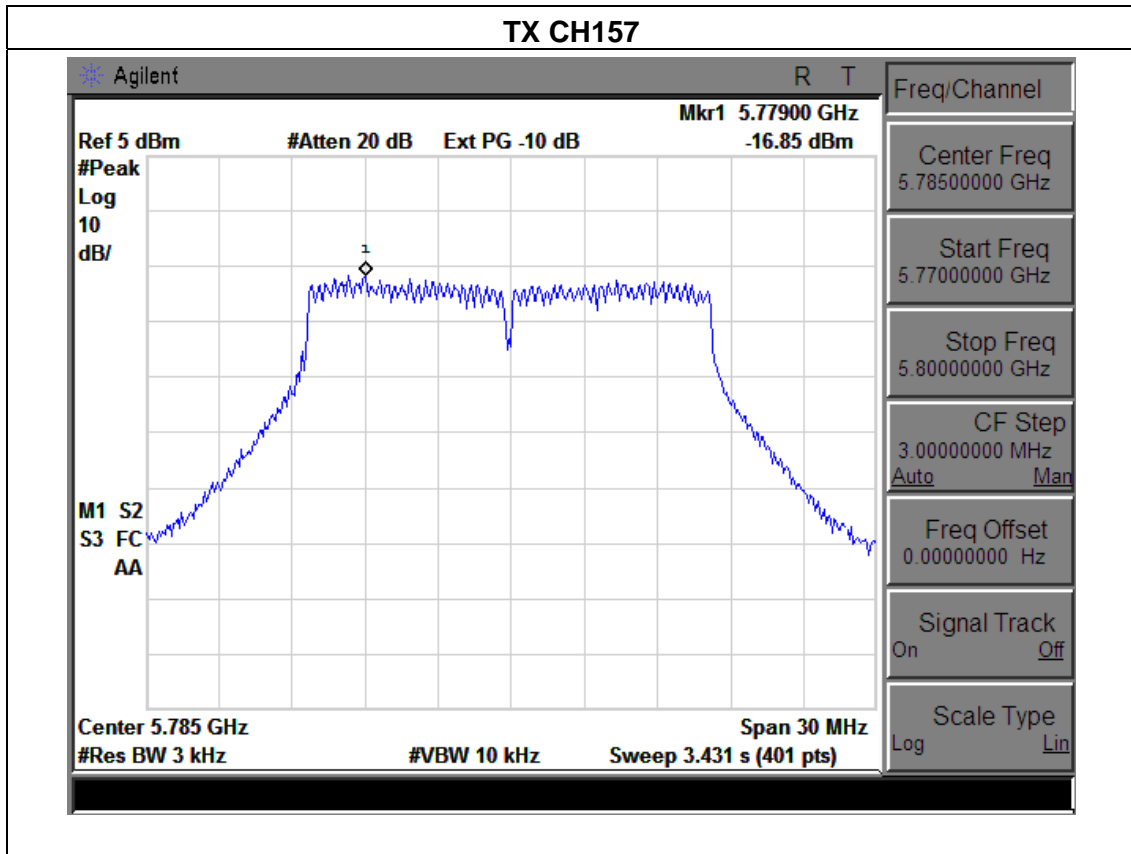
EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX a Mode /CH149, CH157, CH165		

Frequency	Power Density C (dBm)	Power Density D (dBm)	total power density (dBm)	Limit (dBm)	Result
5745MHz	-15.03	-18.24	-13.33	4.48	PASS
5785 MHz	-16.85	-19.63	-15.01	4.48	PASS
5825 MHz	-18.94	-20.51	-16.64	4.48	PASS

Note: C (D) Represent the value of antenna C and D, The worst data is C Antenna a ,only shown Antenna C Plot.

For 5G mode , Limit =8-9.52+6=4.48dBm for output power.



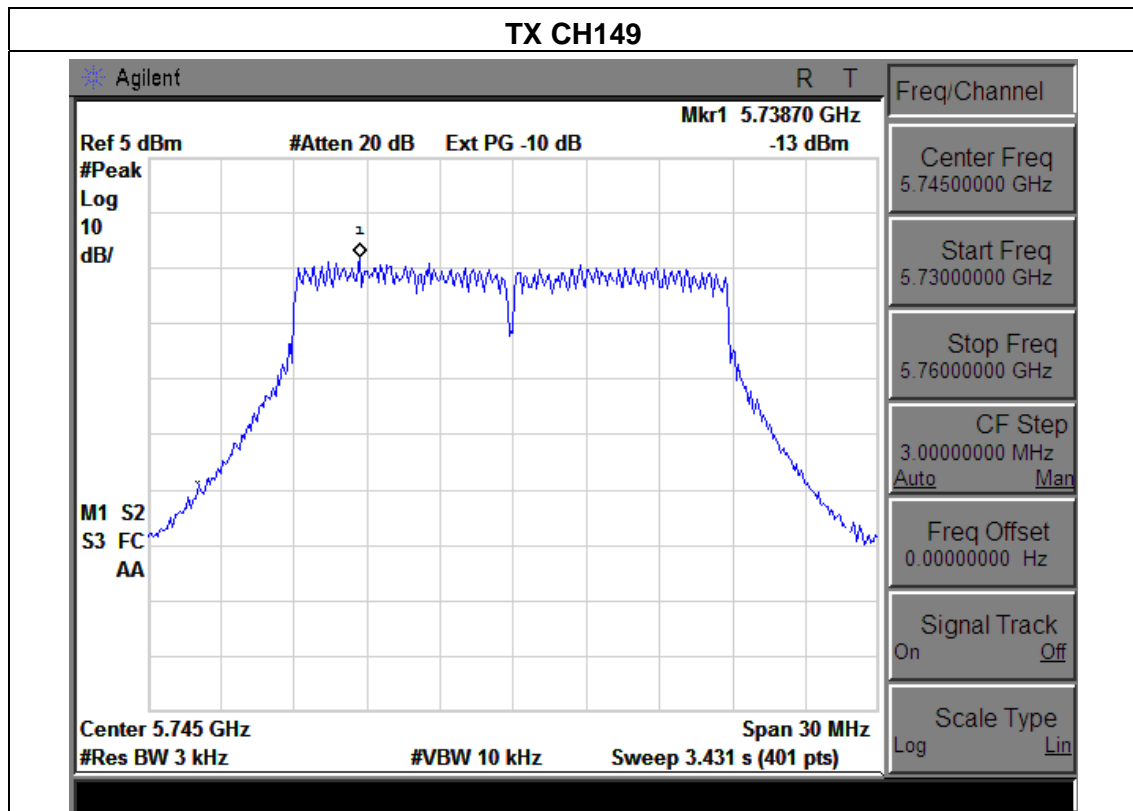


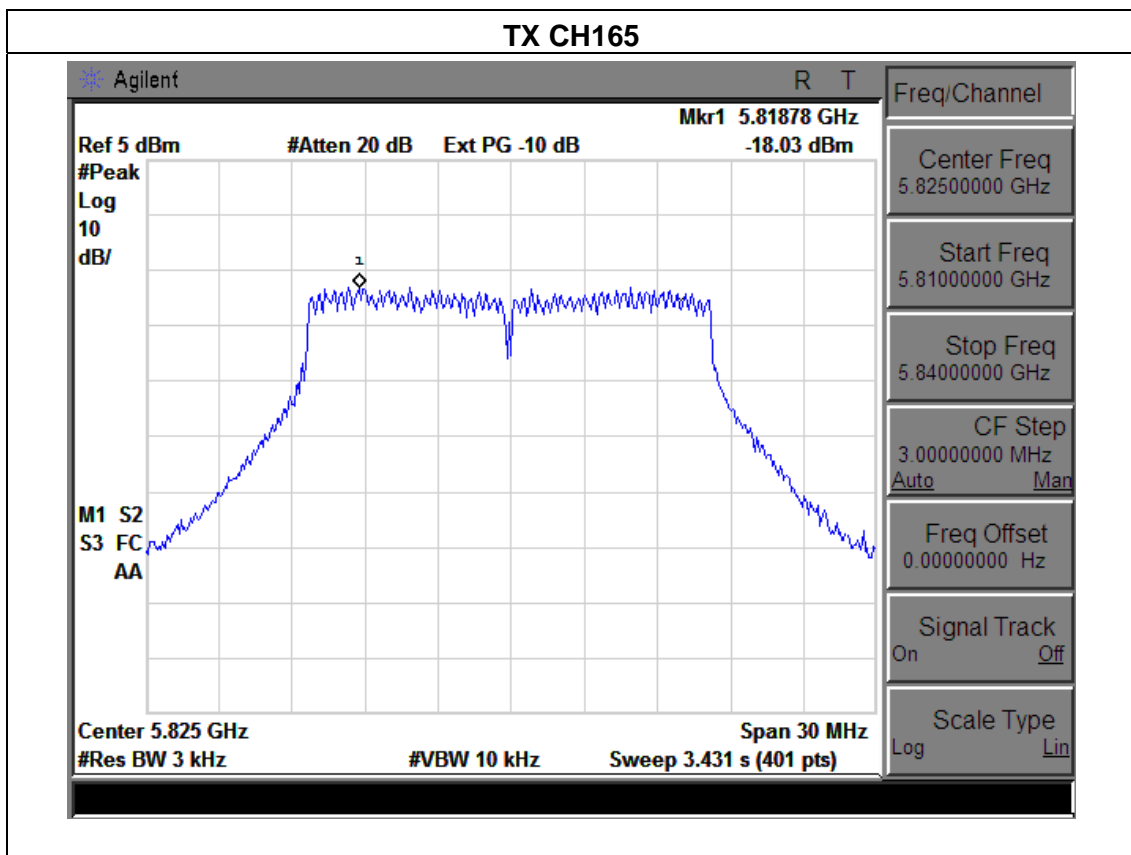
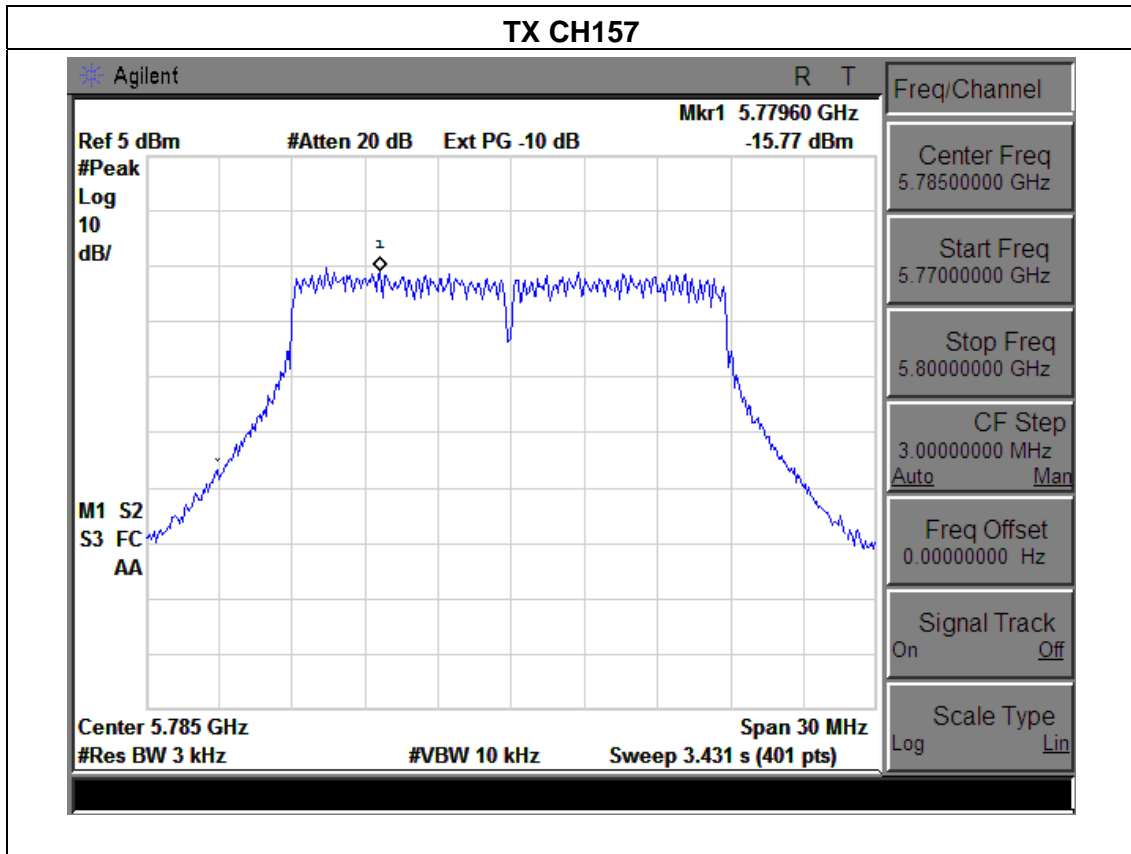
EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX n(20) Mode(5G) /CH149, CH157, CH165		

Frequency	Power Density C (dBm)	Power Density D (dBm)	total power density (dBm)	Limit (dBm)	Result
5745MHz	-13.00	-16.39	-11.36	4.48	PASS
5785 MHz	-15.77	-20.42	-14.49	4.48	PASS
5825 MHz	-18.03	-23.75	-17.00	4.48	PASS

Note: C (D) Represent the value of antenna C and D,The worst data is C Antenna a ,only shown Antenna C Plot.

For 5G mode , Limit =8-9.52+6=4.48dBm for output power.



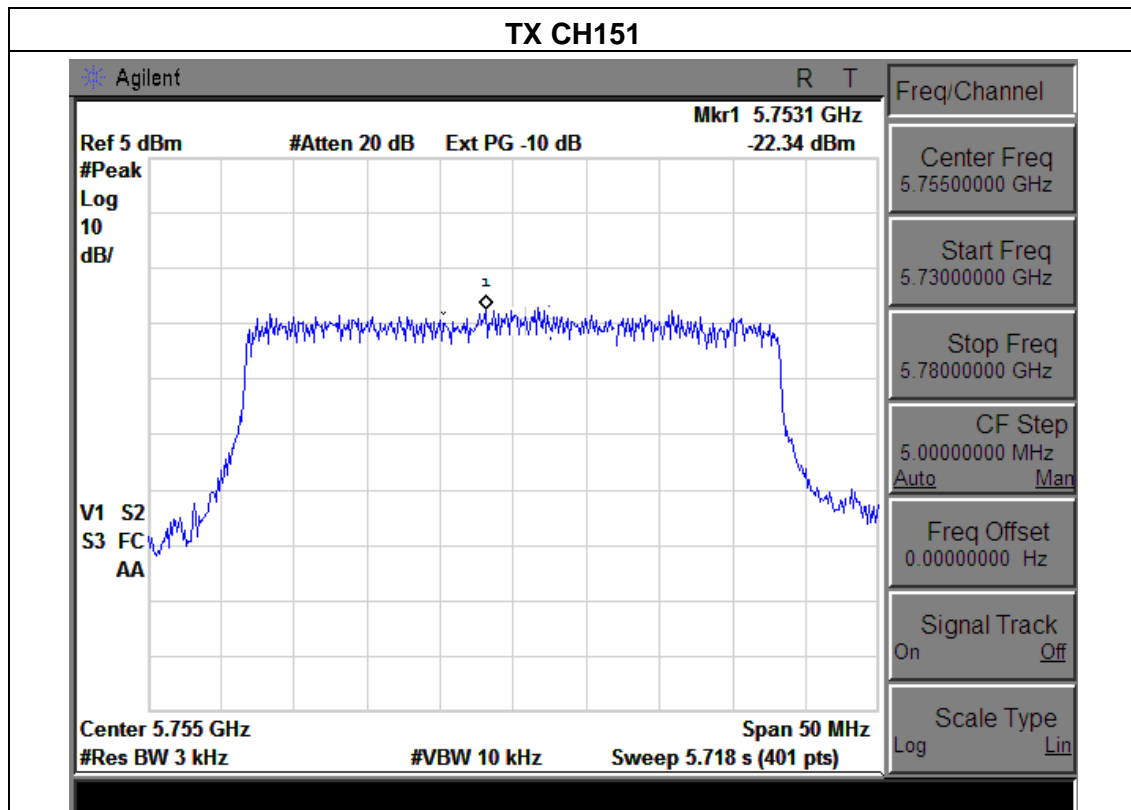


EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX n40 Mode(5G) /CH151, CH159		

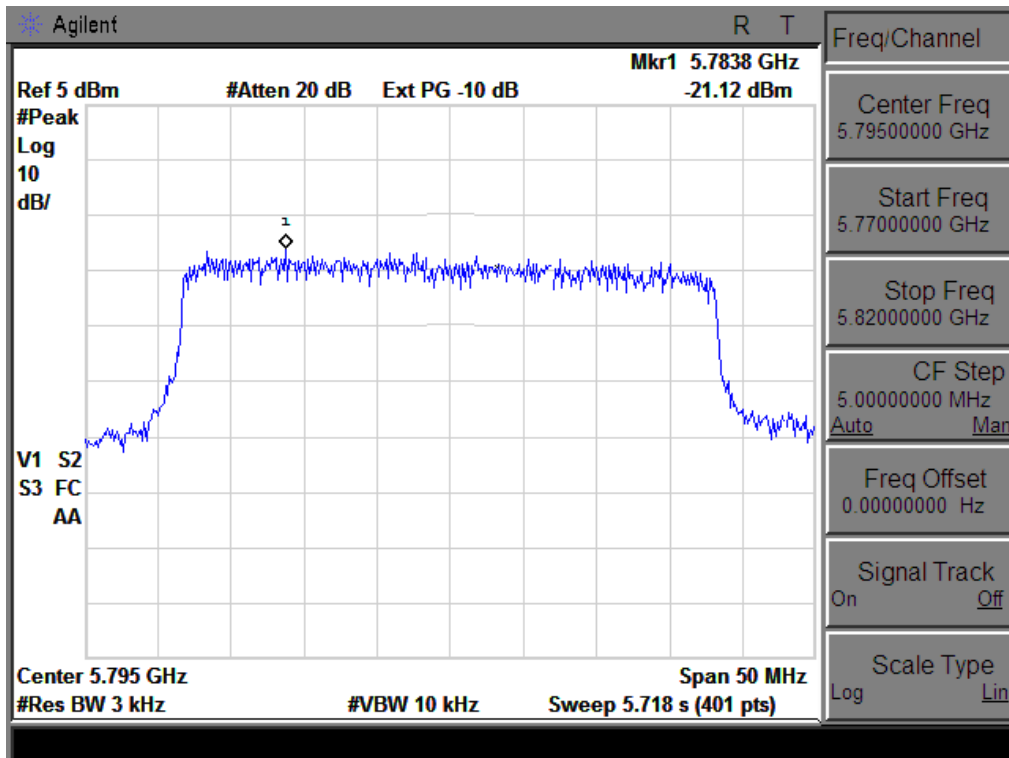
Frequency	Power Density C (dBm)	Power Density D (dBm)	total power density (dBm)	Limit (dBm)	Result
5755 MHz	-22.34	-24.29	-20.20	4.48	PASS
5795 MHz	-21.12	-25.73	-19.83	4.48	PASS

Note: C (D) Represent the value of antenna C and D, The worst data is C Antenna a ,only shown Antenna C Plot.

For 5G mode , Limit = $8-9.52+6=4.48$ dBm for output power.



TX CH159



5. BANDWIDTH TEST

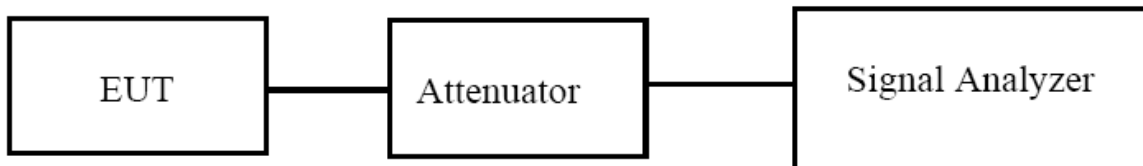
5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

5.1.1 TEST PROCEDURE

According to KDB 558074 D01 DTS Meas Guidance v03r01

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 it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.



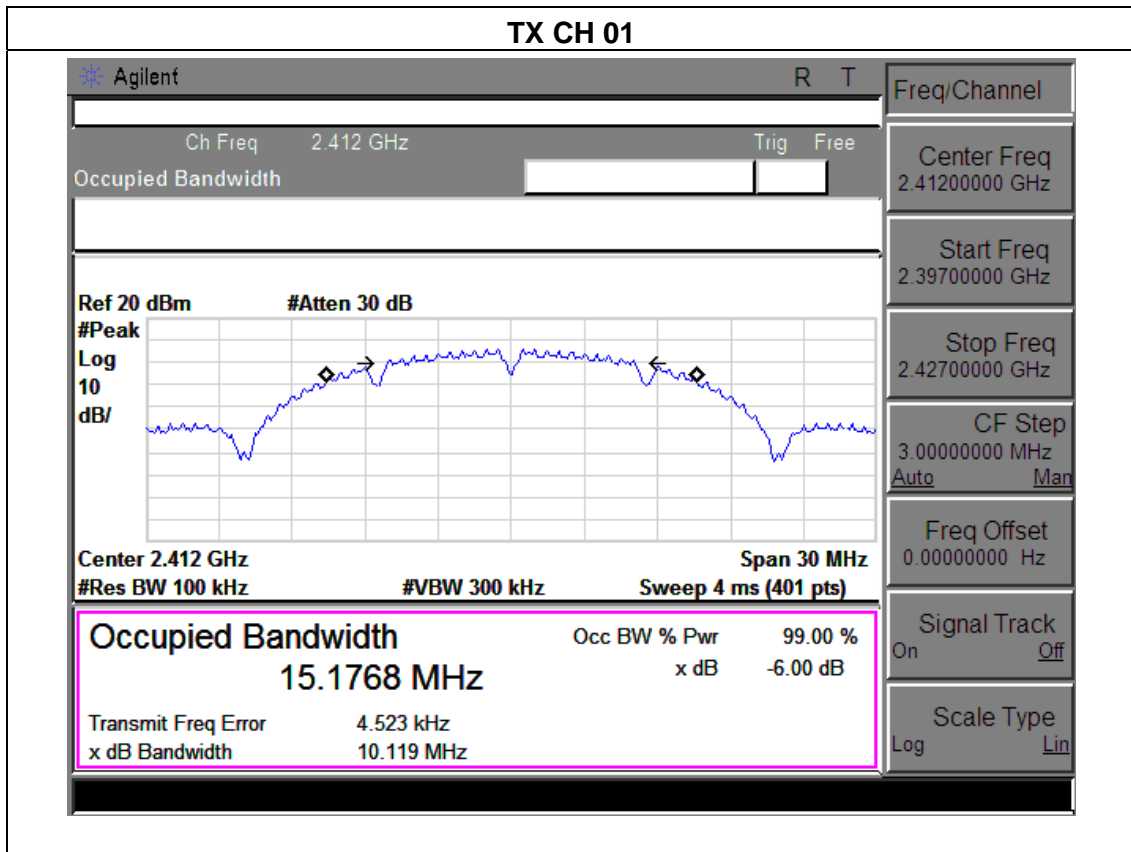
5.1.2 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.3 TEST RESULTS

EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX b Mode /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	10.12	500	Pass
Middle	2437	10.12	500	Pass
High	2462	10.11	500	Pass



TX CH 06

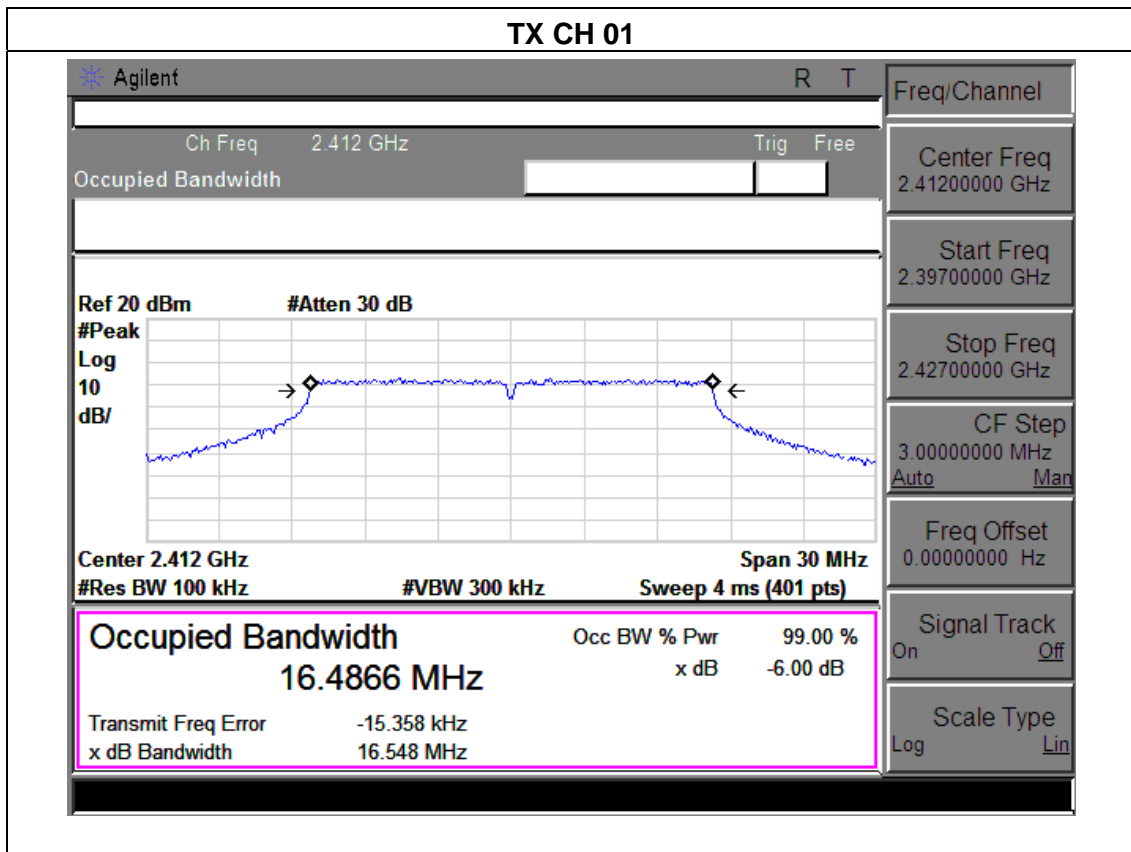
* Agilent		R	T	Freq/Channel	
Ch Freq 2.437 GHz		Trig Free		Center Freq 2.43700000 GHz	
Occupied Bandwidth				Start Freq 2.42200000 GHz	
Ref 20 dBm #Atten 30 dB				Stop Freq 2.45200000 GHz	
				CF Step 3.00000000 MHz Auto Man	
Center 2.437 GHz		Span 30 MHz		Freq Offset 0.00000000 Hz	
#Res BW 100 kHz		#VBW 300 kHz		Sweep 4 ms (401 pts)	
Occupied Bandwidth 15.1826 MHz		Occ BW % Pwr		99.00 %	
		x dB		-6.00 dB	
Transmit Freq Error		-2.060 kHz		Signal Track	
x dB Bandwidth		10.115 MHz		On Off	
				Scale Type	
				Log Lin	

TX CH 11

* Agilent		R	T	Freq/Channel	
Ch Freq 2.462 GHz		Trig Free		Center Freq 2.46200000 GHz	
Occupied Bandwidth				Start Freq 2.44700000 GHz	
Ref 20 dBm #Atten 30 dB				Stop Freq 2.47700000 GHz	
				CF Step 3.00000000 MHz Auto Man	
Center 2.462 GHz		Span 30 MHz		Freq Offset 0.00000000 Hz	
#Res BW 100 kHz		#VBW 300 kHz		Sweep 4 ms (401 pts)	
Occupied Bandwidth 15.1247 MHz		Occ BW % Pwr		99.00 %	
		x dB		-6.00 dB	
Transmit Freq Error		-4.871 kHz		Signal Track	
x dB Bandwidth		10.108 MHz		On Off	
				Scale Type	
				Log Lin	

EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX g Mode /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.55	500	Pass
Middle	2437	16.53	500	Pass
High	2462	16.53	500	Pass



TX CH 06

Agilent R T

Ch Freq 2.437 GHz Trig Free

Occupied Bandwidth

Ref 20 dBm #Atten 30 dB

Center 2.437 GHz Span 30 MHz

#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)

Occupied Bandwidth	Occ BW % Pwr	99.00 %
16.4767 MHz	x dB	-6.00 dB
Transmit Freq Error	-12.246 kHz	
x dB Bandwidth	16.532 MHz	

Freq/Channel

Center Freq
2.43700000 GHz

Start Freq
2.42200000 GHz

Stop Freq
2.45200000 GHz

CF Step
3.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Scale Type
Log Lin

TX CH 11

Agilent R T

Ch Freq 2.462 GHz Trig Free

Occupied Bandwidth

Ref 20 dBm #Atten 30 dB

Center 2.462 GHz Span 30 MHz

#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)

Occupied Bandwidth	Occ BW % Pwr	99.00 %
16.4818 MHz	x dB	-6.00 dB
Transmit Freq Error	-7.771 kHz	
x dB Bandwidth	16.532 MHz	

Freq/Channel

Center Freq
2.46200000 GHz

Start Freq
2.44700000 GHz

Stop Freq
2.47700000 GHz

CF Step
3.00000000 MHz
Auto Man

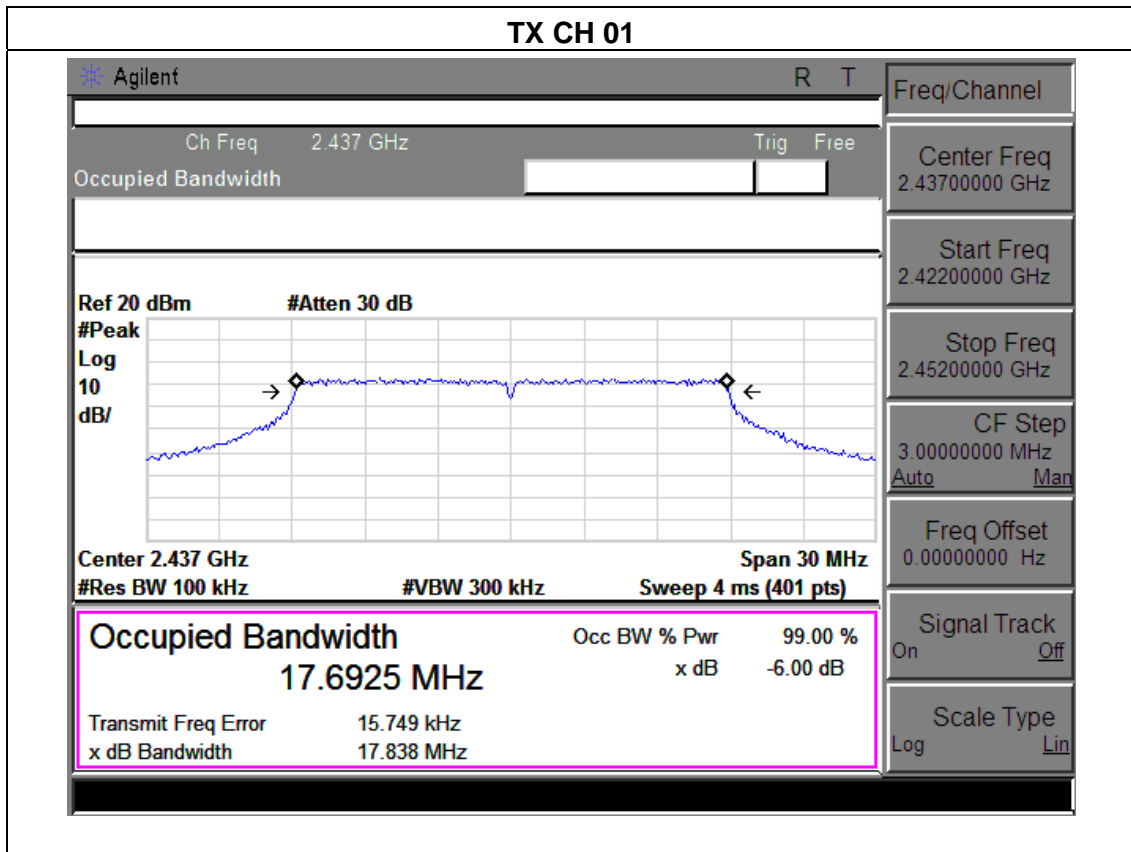
Freq Offset
0.00000000 Hz

Signal Track
On Off

Scale Type
Log Lin

EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX n Mode(20M) /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	17.84	500	Pass
Middle	2437	17.78	500	Pass
High	2462	17.81	500	Pass



TX CH 06

Agilent R T

Ch Freq 2.412 GHz Trig Free

Occupied Bandwidth

Ref 20 dBm #Atten 30 dB

Center 2.412 GHz Span 30 MHz

#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)

Occupied Bandwidth		Occ BW % Pwr	99.00 %
17.6729 MHz		x dB	-6.00 dB
Transmit Freq Error	2.757 kHz		
x dB Bandwidth	17.777 MHz		

Freq/Channel

Center Freq
2.41200000 GHz

Start Freq
2.39700000 GHz

Stop Freq
2.42700000 GHz

CF Step
3.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Scale Type
Log Lin

TX CH 11

Agilent R T

Ch Freq 2.462 GHz Trig Free

Occupied Bandwidth

Ref 20 dBm #Atten 30 dB

Center 2.462 GHz Span 30 MHz

#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)

Occupied Bandwidth		Occ BW % Pwr	99.00 %
17.6996 MHz		x dB	-6.00 dB
Transmit Freq Error	7.328 kHz		
x dB Bandwidth	17.814 MHz		

Freq/Channel

Center Freq
2.46200000 GHz

Start Freq
2.44700000 GHz

Stop Freq
2.47700000 GHz

CF Step
3.00000000 MHz
Auto Man

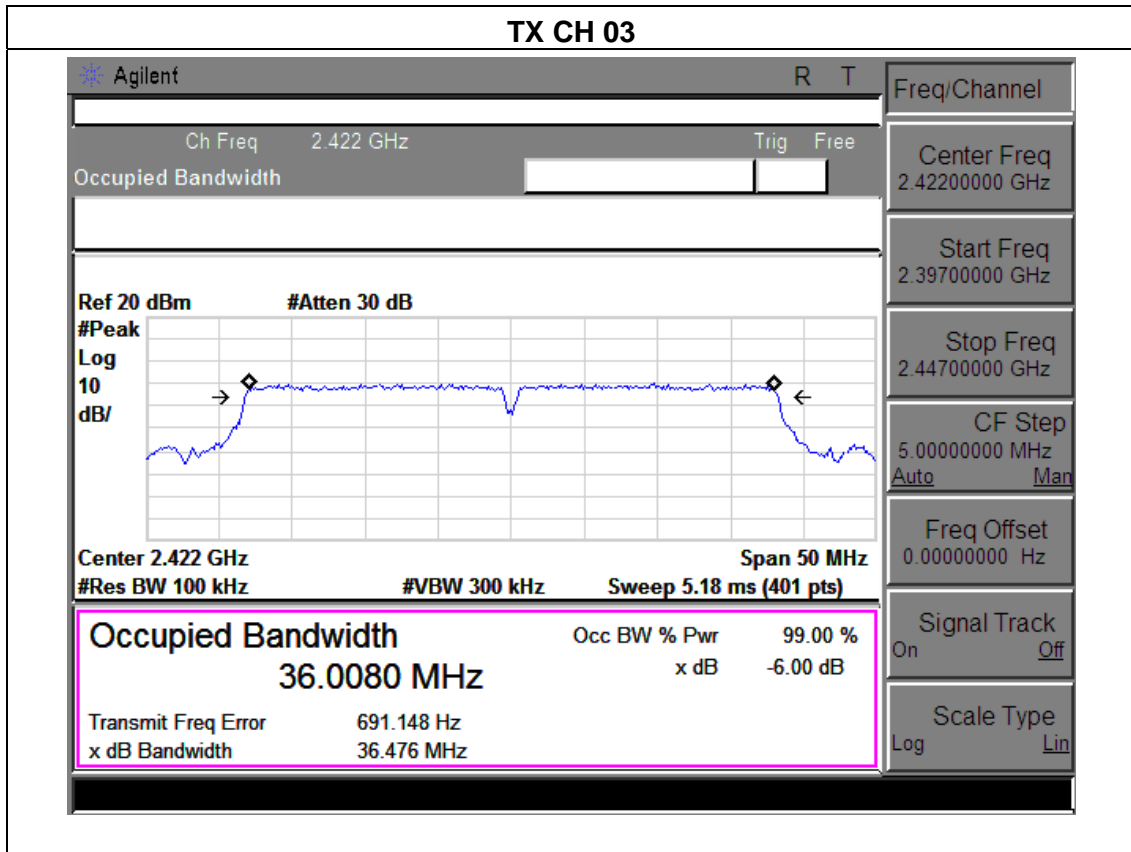
Freq Offset
0.00000000 Hz

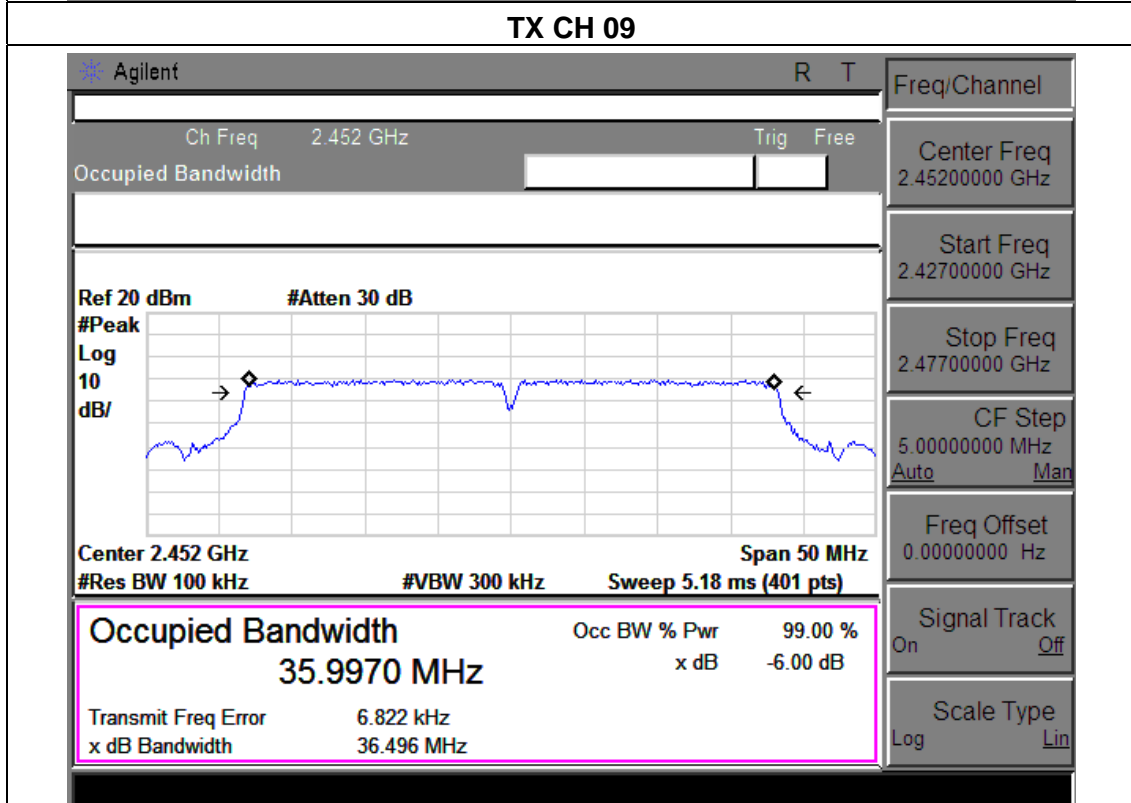
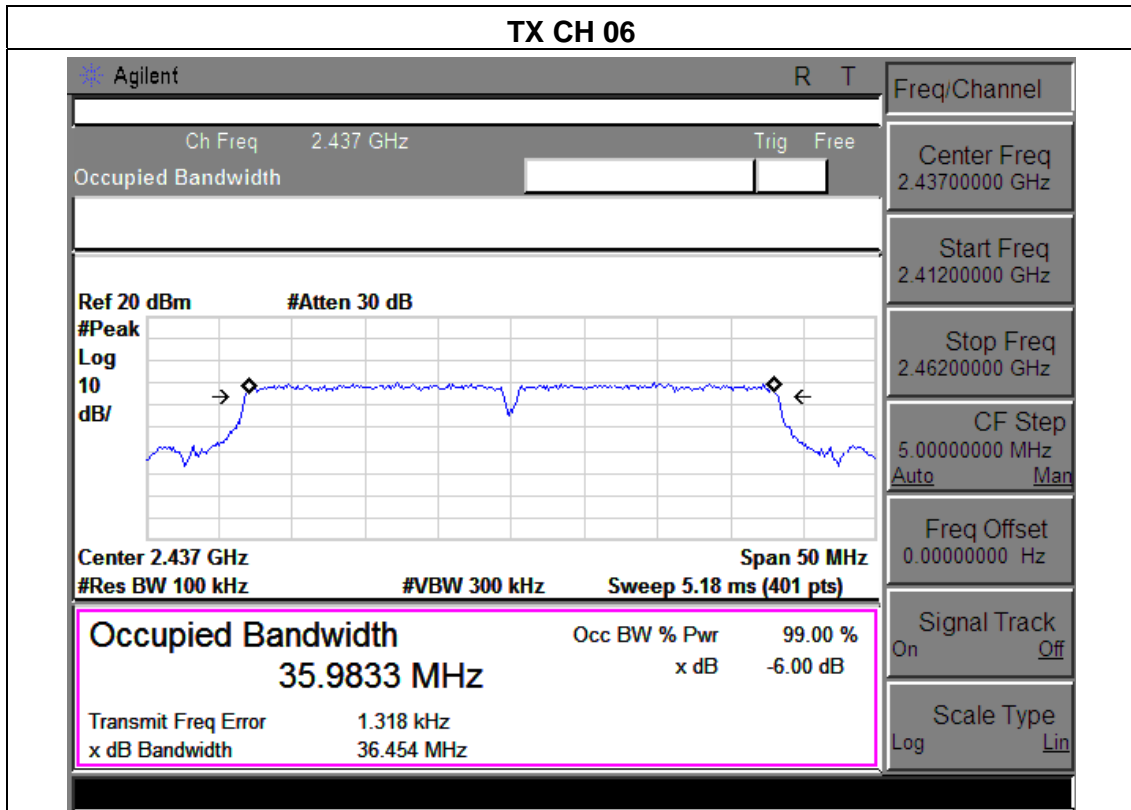
Signal Track
On Off

Scale Type
Log Lin

EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX n Mode(40M) /CH03, CH06, CH09		

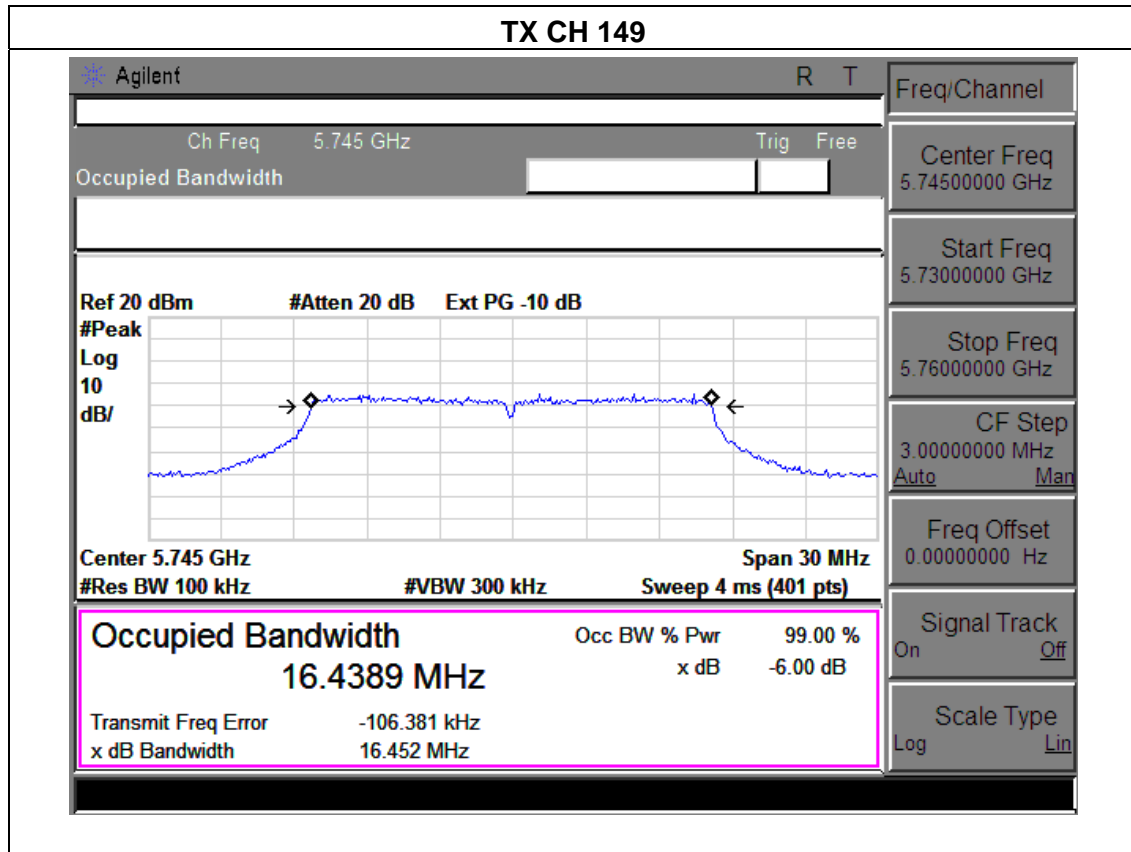
Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2422	36.48	500	Pass
Middle	2437	36.45	500	Pass
High	2452	36.50	500	Pass



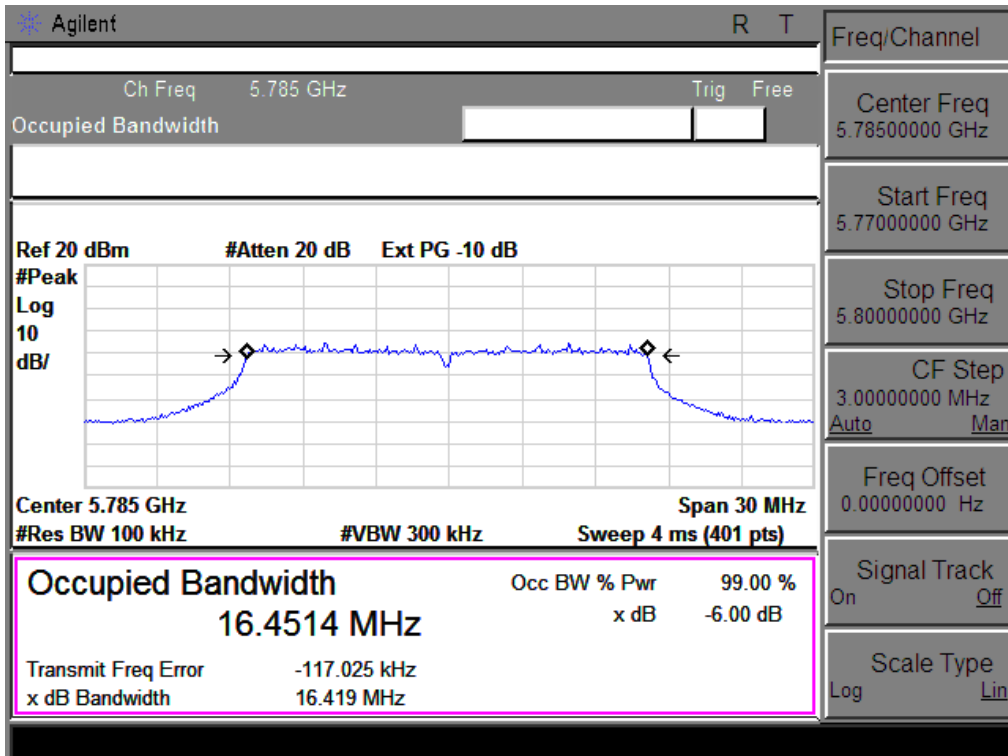


EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX a Mode /CH149, CH157, CH165		

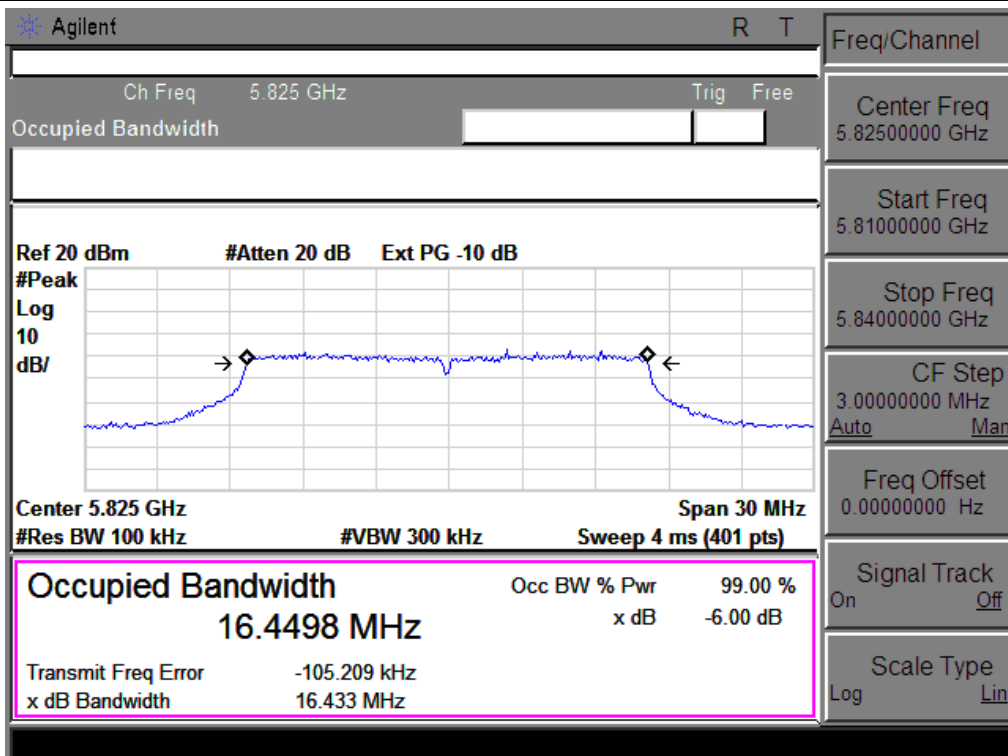
Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	5745	16.45	500	Pass
Middle	5785	16.42	500	Pass
High	5825	16.43	500	Pass



TX CH 157

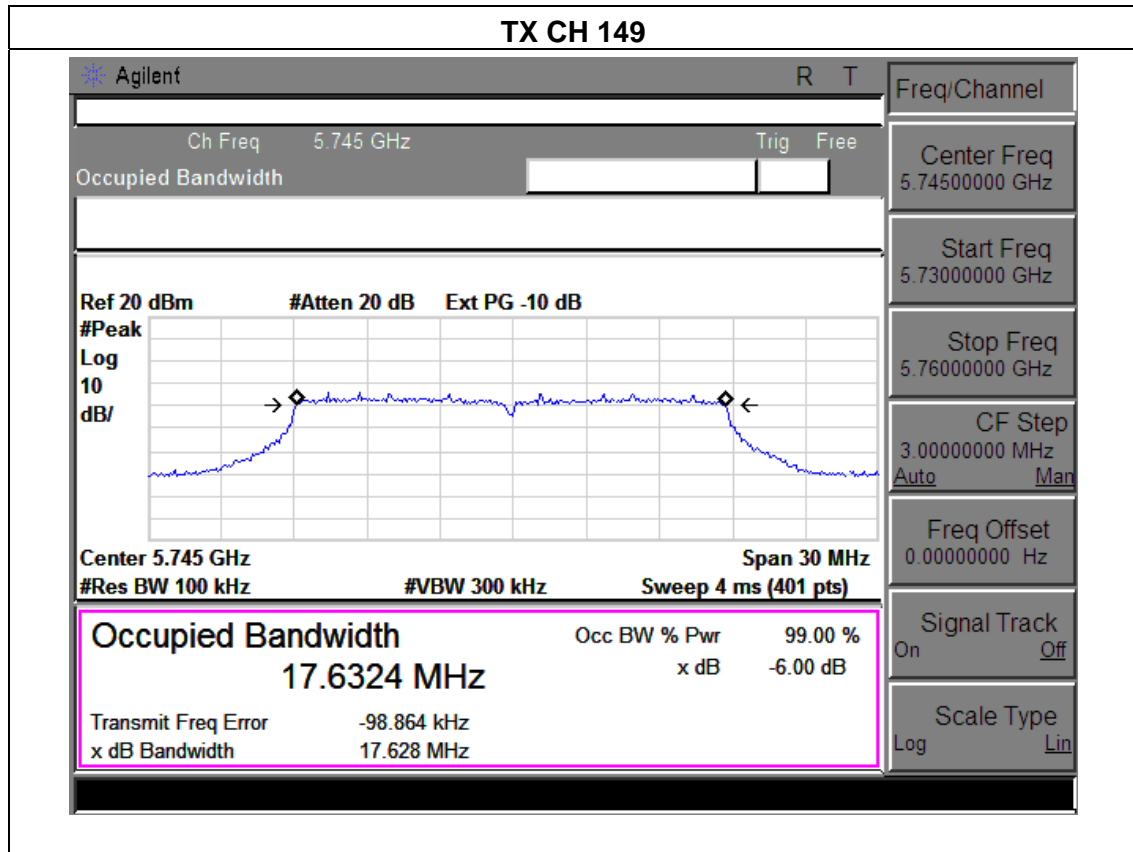


TX CH 165

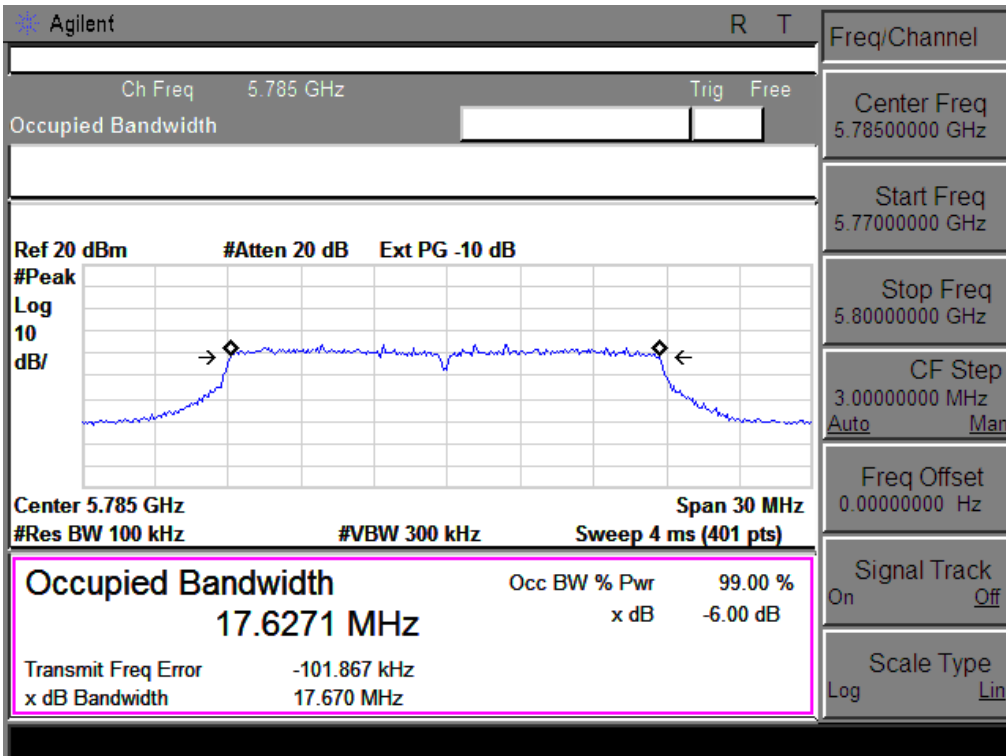


EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX n(20) Mode(5G) /CH149, CH157, CH165		

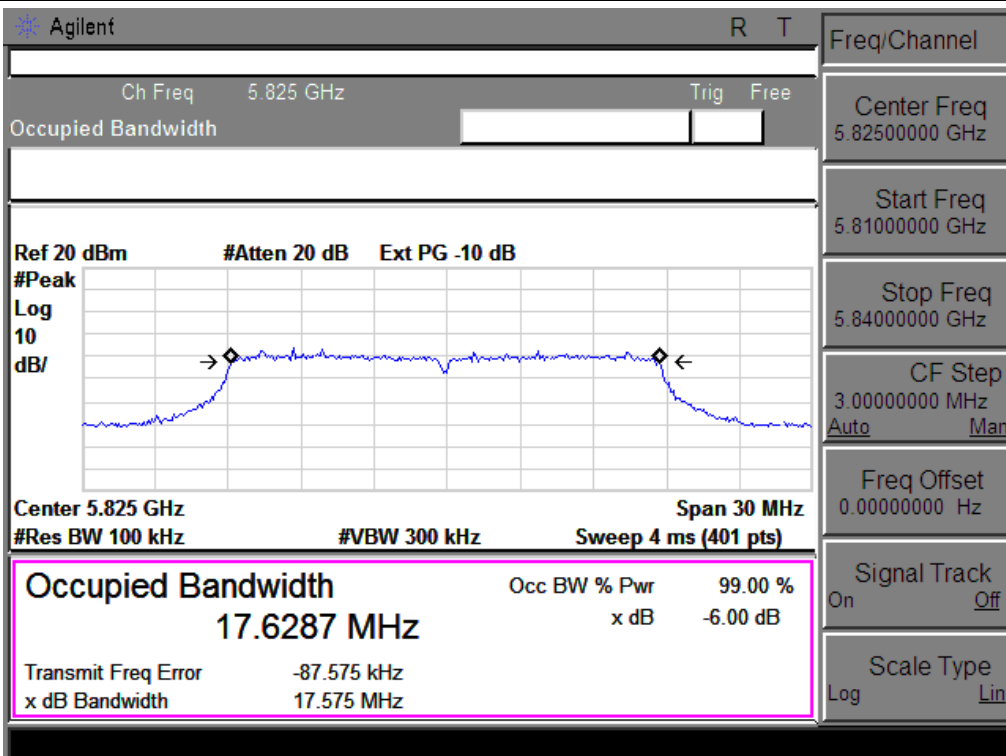
Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	5745	17.63	500	Pass
Middle	5785	17.67	500	Pass
High	5825	17.58	500	Pass



TX CH 157

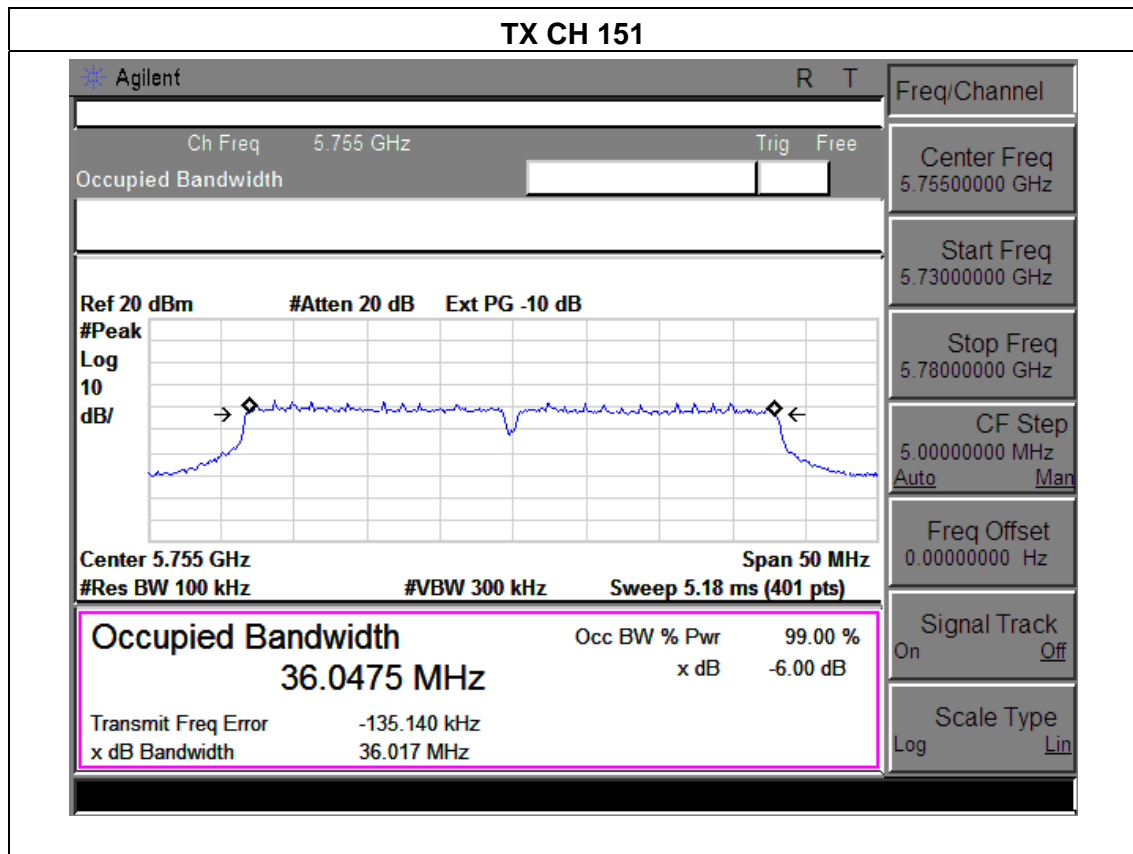


TX CH 165



EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX n40 Mode(5G) /CH151, CH159		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	5755	36.02	500	Pass
High	5795	36.17	500	Pass



TX CH 159

Agilent
R T

Ch Freq 5.795 GHz
Trig Free

Occupied Bandwidth

Ref 20 dBm
#Atten 20 dB
Ext PG -10 dB

#Peak
Log
10
dB/

Freq/Channel

Center Freq
5.79500000 GHz

Start Freq
5.77000000 GHz

Stop Freq
5.82000000 GHz

CF Step
5.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Scale Type
Log Lin

Center 5.795 GHz
Span 50 MHz

#Res BW 100 kHz
#VBW 300 kHz
Sweep 5.18 ms (401 pts)

Occupied Bandwidth	Occ BW % Pwr	99.00 %
36.0977 MHz	x dB	-6.00 dB
Transmit Freq Error	-131.080 kHz	
x dB Bandwidth	36.168 MHz	

6. PEAK OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

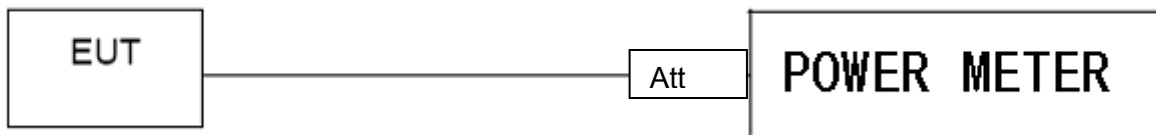
6.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the Power meter

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.5 TEST RESULTS

EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX b/g/n(20M, 40M) Mode		

Test Channe	Frequency	Peak output power. Antenna A(B) port		Total Power	LIMIT
		A	B		
	(MHz)	(dBm)		dBm	dBm
TX 802.11b Mode					
CH01	2412	12.66	12.24	15.47	25.48
CH06	2437	12.57	12.49	15.54	25.48
CH11	2462	12.71	12.38	15.56	25.48
TX 802.11g Mode					
CH01	2412	11.76	11.42	14.60	25.48
CH06	2437	12.27	11.53	14.93	25.48
CH11	2462	12.36	11.49	14.96	25.48
TX 802.11n/20M Mode					
CH01	2412	12.29	11.36	14.86	25.48
CH06	2437	12.03	11.57	14.82	25.48
CH11	2462	12.14	11.29	14.75	25.48
TX 802.11n/40M Mode					
CH03	2422	11.76	10.62	14.24	25.48
CH06	2437	11.59	10.73	14.19	25.48
CH09	2452	11.48	10.39	13.98	25.48

EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz
Test Mode :	TX a/n(5G) Mode		

Test Channe	Frequency	Peak output power. Antenna A(B) port		Total Power	LIMIT
		A	B		
	(MHz)	(dBm)		dBm	dBm
TX 802.11a Mode					
CH149	5745	13.53	12.98	16.27	26.48
CH157	5785	13.44	13.23	16.35	26.48
CH165	5825	13.58	13.12	16.37	26.48
TX 802.11g Mode					
CH149	5745	12.63	12.16	15.41	26.48
CH157	5785	13.14	12.27	15.74	26.48
CH165	5825	13.23	12.23	15.77	26.48
TX 802.11n40M Mode					
CH151	5755	13.16	12.17	15.70	26.48
CH159	5795	12.93	12.31	15.64	26.48

For 2.4G mode , Limit =30-10.52+6=25.48dBm for output power.

For 5G mode,Limit =30-9.52+6=26.48 dBm for output power

7. 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

APPLICABLE STANDARD

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

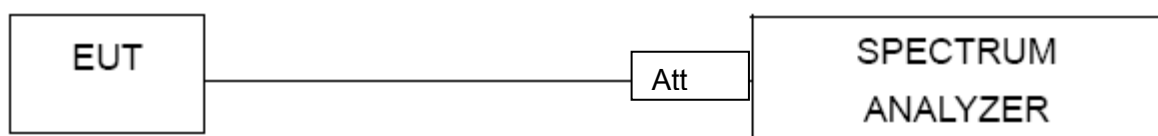
TEST PROCEDURE

- a) Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b) 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.
- c) 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.
- d) 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.
- e) Repeat above procedures until all measured frequencies were complete.

7.1 DEVIATION FROM STANDARD

No deviation.

7.2 TEST SETUP



7.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

7.4 TEST RESULTS

EUT :	1200Mb/s 802.11ac Intelligent Dual Band Gigabit Wireless Router	Model Name :	JHR-AC865
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 12V From Adapter AC120V/60Hz

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type	Comment
802.11b(2.4G)							
2390	73.80	-13.06	60.74	74.00	-13.26	peak	Vertical
2390	50.34	-13.06	37.28	54.00	-16.72	AVG	Vertical
2390	72.14	-13.06	59.08	74.00	-14.92	peak	Horizontal
2390	49.58	-13.06	36.52	54.00	-17.48	AVG	Horizontal
2483.5	65.22	-12.78	52.44	74.00	-21.56	peak	Vertical
2483.5	63.94	-12.78	51.16	74.00	-22.84	peak	Horizontal
802.11g(2.4G)							
2390	80.81	-13.06	67.75	74.00	-6.25	peak	Vertical
2390	56.63	-13.06	43.57	54.00	-10.43	AVG	Vertical
2390	79.58	-13.06	66.52	74.00	-7.48	peak	Horizontal
2390	55.00	-13.06	41.94	54.00	-12.06	AVG	Horizontal
2483.5	63.21	-12.78	50.43	74.00	-23.57	peak	Vertical
2483.5	63.64	-12.78	50.86	74.00	-23.14	peak	Horizontal
802.11n20(2.4G)							
2390	81.15	-13.06	68.09	74.00	-5.91	peak	Vertical
2390	55.82	-13.06	42.76	54.00	-11.24	AVG	Vertical
2390	78.59	-13.06	65.53	74.00	-8.47	peak	Horizontal
2390	56.01	-13.06	42.95	54.00	-11.05	AVG	Horizontal
2483.5	62.09	-12.78	49.31	74.00	-24.69	peak	Vertical
2483.5	63.37	-12.78	50.59	74.00	-23.41	peak	Horizontal
802.11n40							
2390	81.65	-13.06	68.59	74.00	-5.41	peak	Vertical
2390	57.34	-13.06	44.28	54.00	-9.72	AVG	Vertical
2390	80.88	-13.06	67.82	74.00	-6.18	peak	Horizontal
2390	56.01	-13.06	42.95	54.00	-11.05	AVG	Horizontal
2483.5	71.29	-12.78	58.51	74.00	-15.49	peak	Vertical
2483.5	48.54	-12.78	35.76	54.00	-18.24	AVG	Vertical
2483.5	70.29	-12.78	57.51	74.00	-16.49	peak	Horizontal
2483.5	47.53	-12.78	34.75	54.00	-19.25	AVG	Horizontal
802.11a(5G)							
5725	80.88	-3.90	67.82	74.00	-28.37	peak	Vertical
5725	56.01	-3.90	42.95	74.00	-29.16	peak	Horizontal

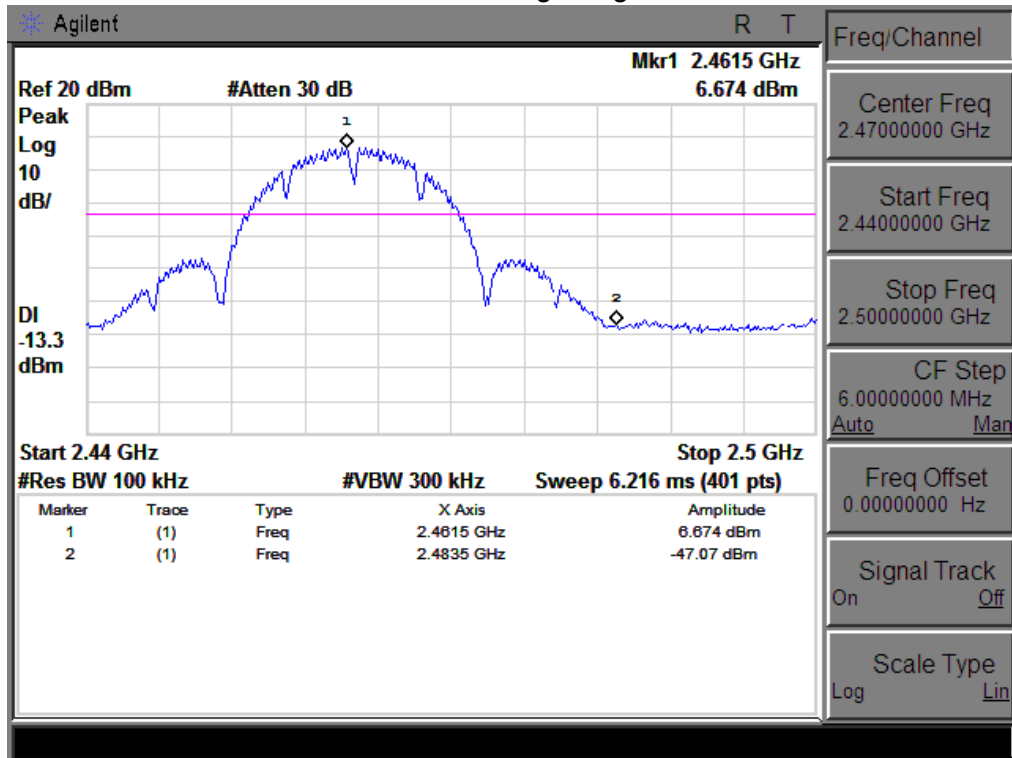
5850	71.29	-4.05	58.51	74.00	-26.48	peak	Vertical
5850	48.54	-4.05	35.76	74.00	-26.55	peak	Horizontal
802.11n20(5G)							
5725	80.88	-3.90	67.82	74.00	-30.22	peak	Vertical
5725	56.01	-3.90	42.95	74.00	-28.91	peak	Horizontal
5850	71.29	-4.05	58.51	74.00	-25.85	peak	Vertical
5850	48.54	-4.05	35.76	74.00	-26.37	peak	Horizontal
802.11n40(5G)							
5725	80.88	-3.90	67.82	74.00	-24.33	peak	Vertical
5725	56.01	-3.90	42.95	74.00	-23.96	peak	Horizontal
5850	71.29	-4.05	58.51	74.00	-25.06	peak	Vertical
5850	48.54	-4.05	35.76	74.00	-23.57	peak	Horizontal

Note: Test method to see chapter 3.2,

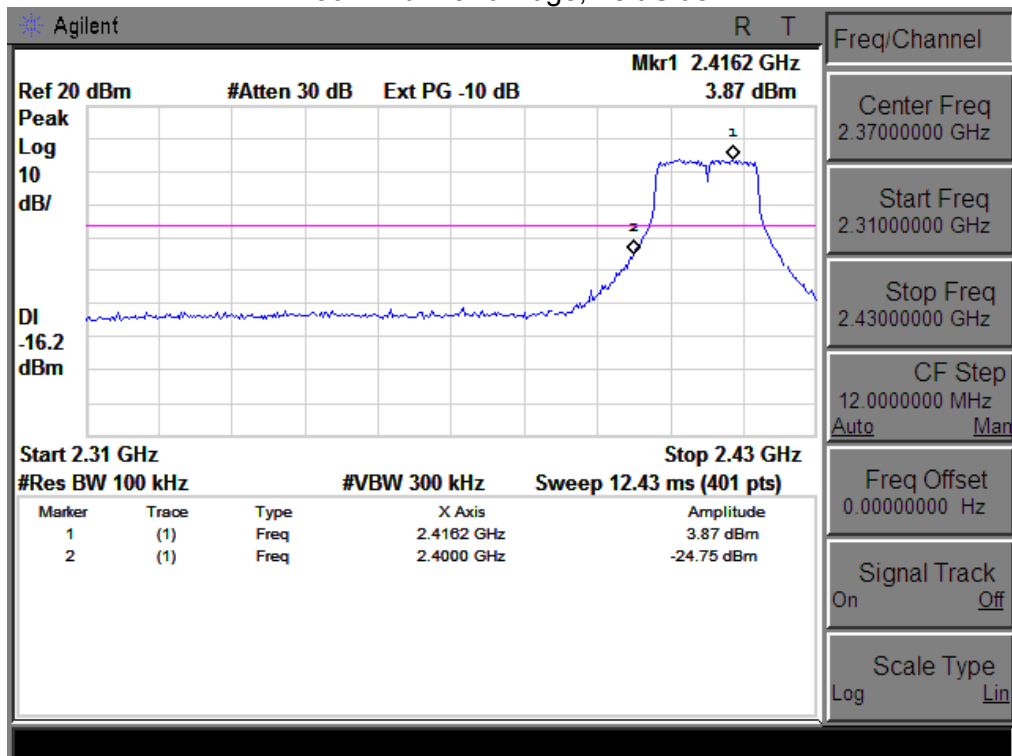
When PK value is lower than the Average value limit, average not record.

Frequency Band	Delta Peak to band emission (dBc)	> Limit (dBc)	Result
802.11b mode-2.4G			
Left-band	34.43	20	Pass
Right-band	53.74	20	Pass
802.11g mode-2.4G			
Left-band	28.62	20	Pass
Right-band	45.92	20	Pass
802.11n20 mode-2.4G			
Left-band	28.24	20	Pass
Right-band	45.36	20	Pass
802.11n40 mode-2.4G			
Left-band	28.16	20	Pass
Right-band	41.14	20	Pass
802.11a mode-5G			
Left-band	51.40	20	Pass
Right-band	47.39	20	Pass
802.11n20 mode-5G			
Left-band	50.77	20	Pass
Right-band	48.33	20	Pass
802.11n40 mode-5G			
Left-band	46.17	20	Pass
Right-band	48.36	20	Pass

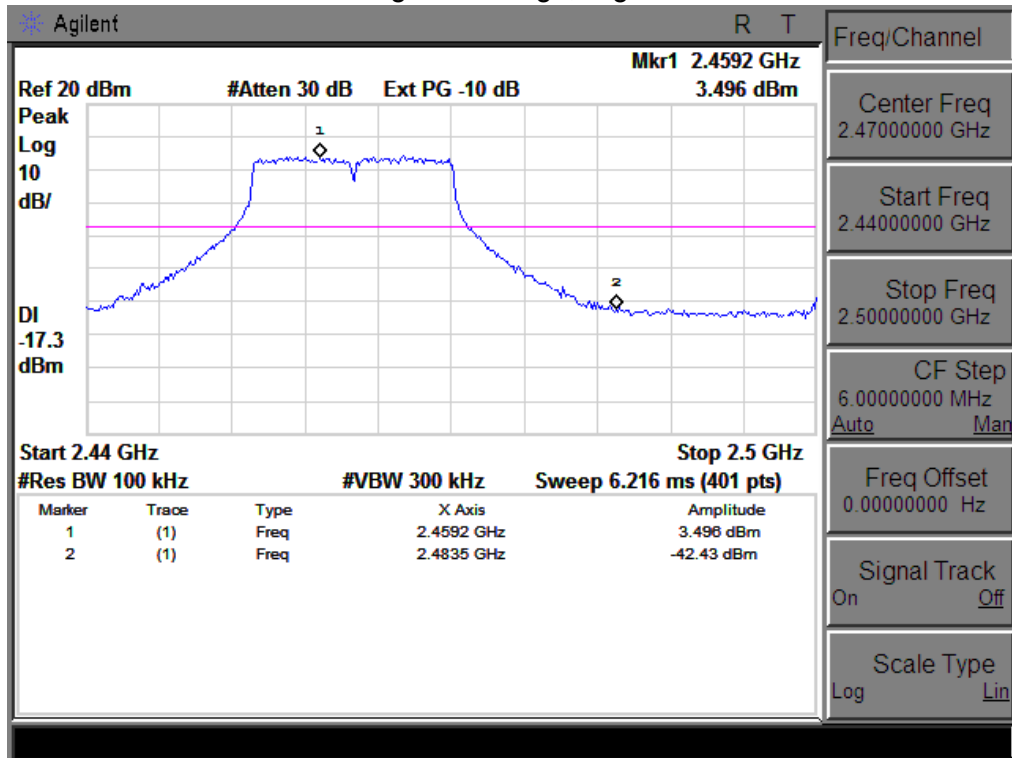
802.11b: Band Edge, Right Side



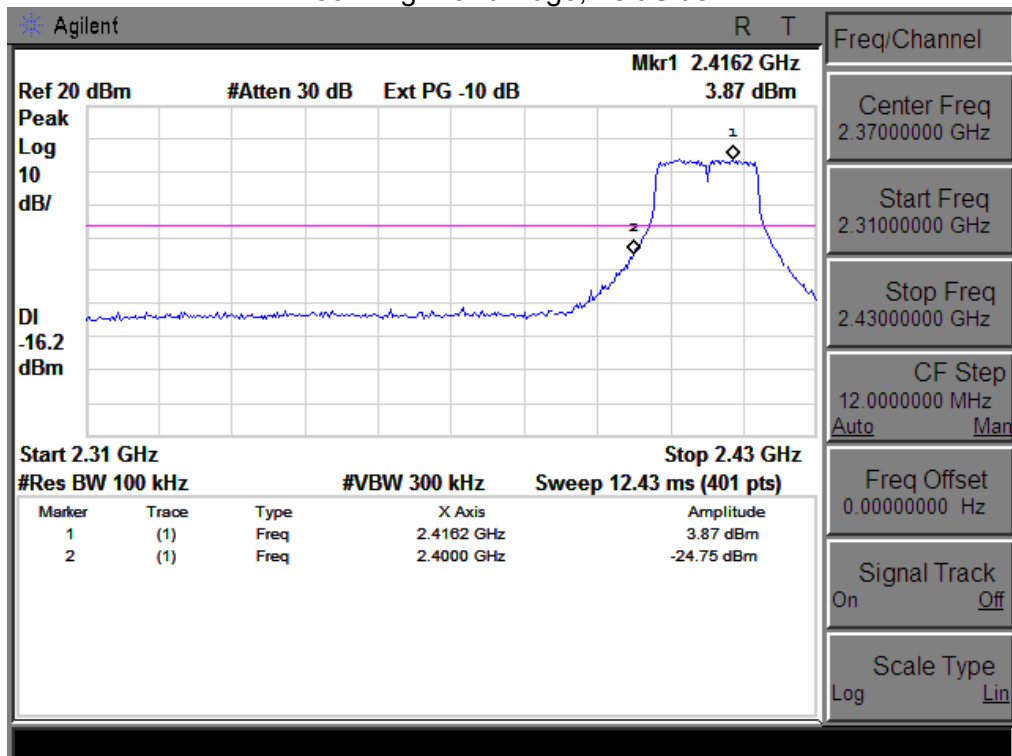
802.11b: Band Edge, Left Side



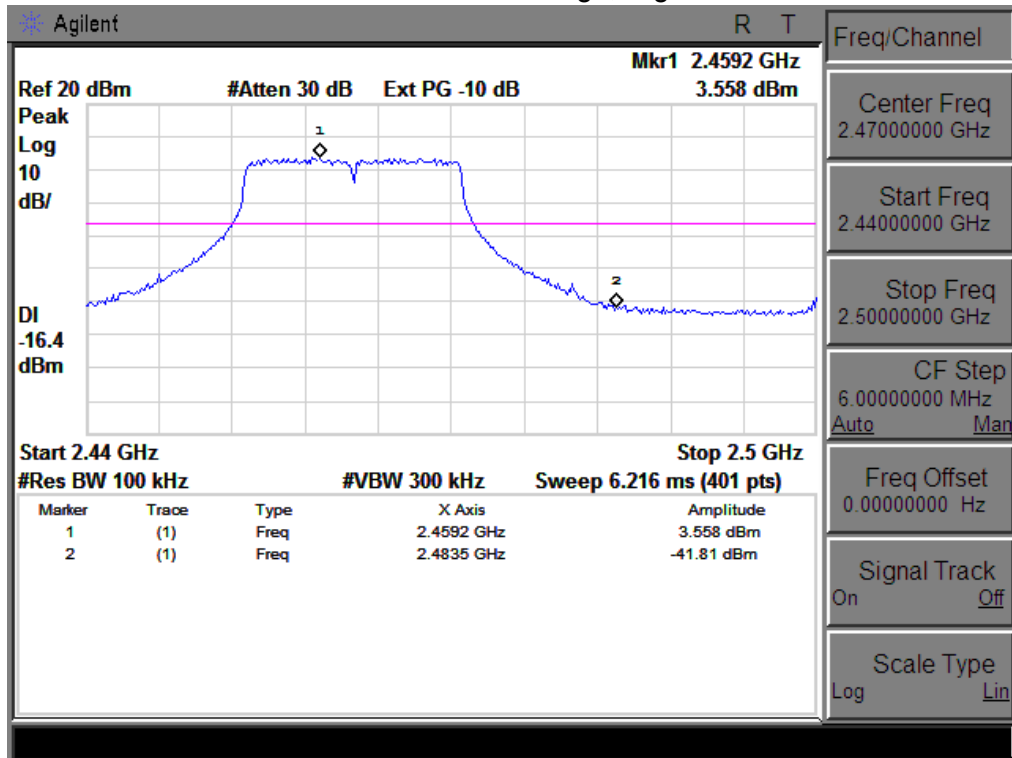
802.11g: Band Edge, Right Side



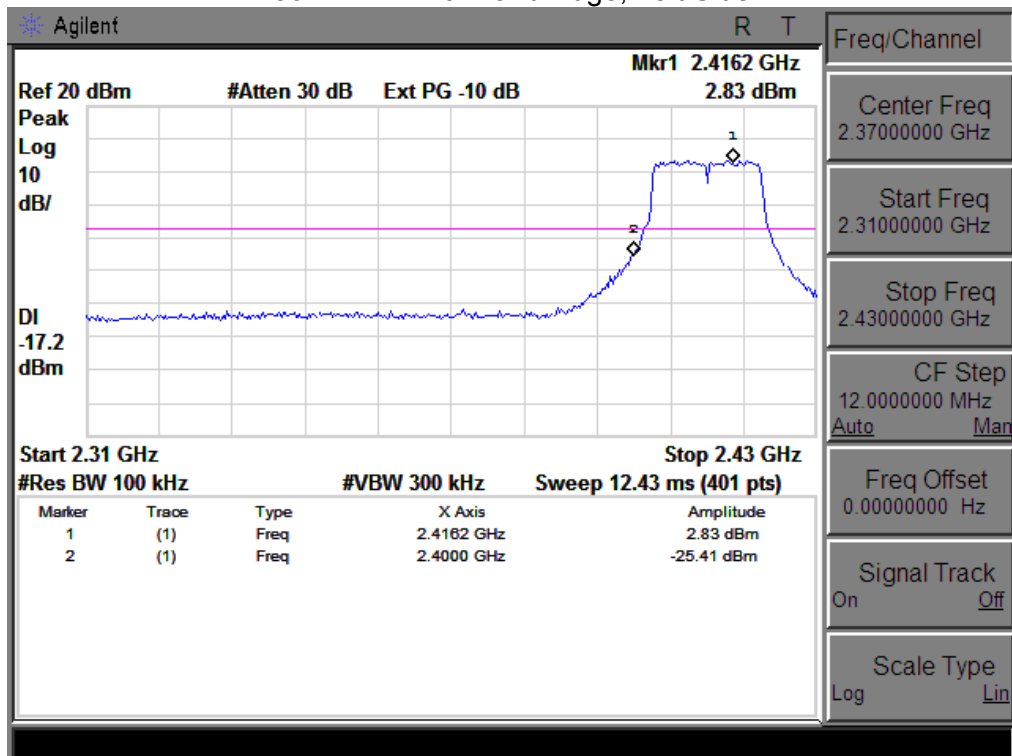
802.11g: Band Edge, Left Side



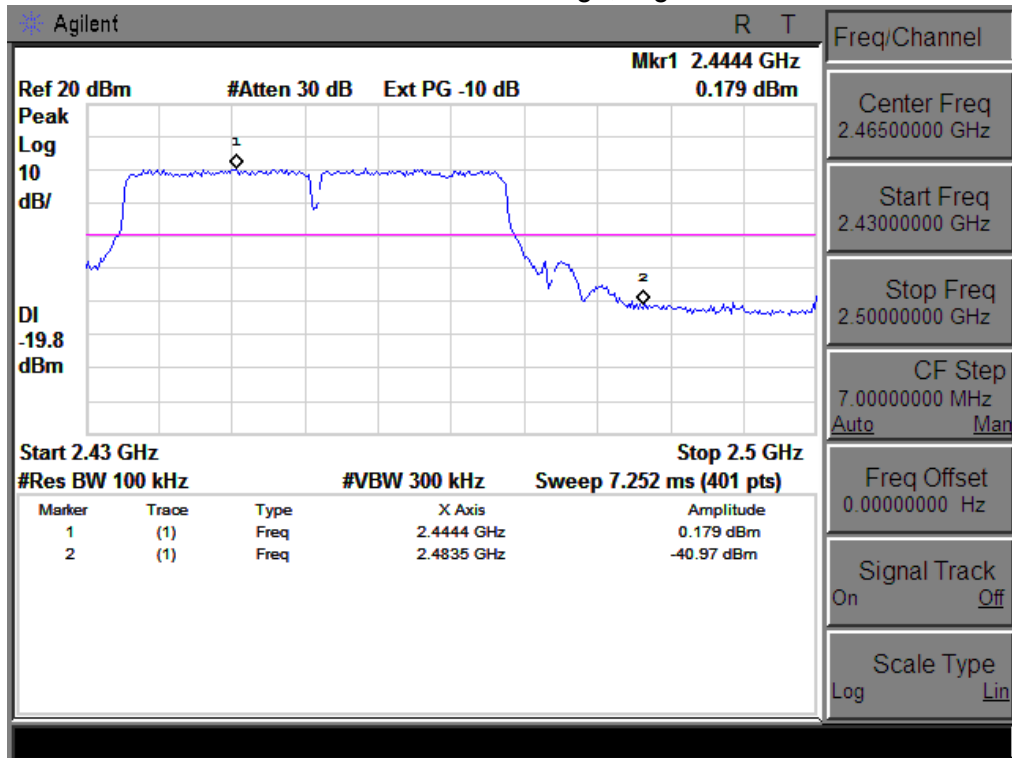
802.11n-HT20: Band Edge, Right Side



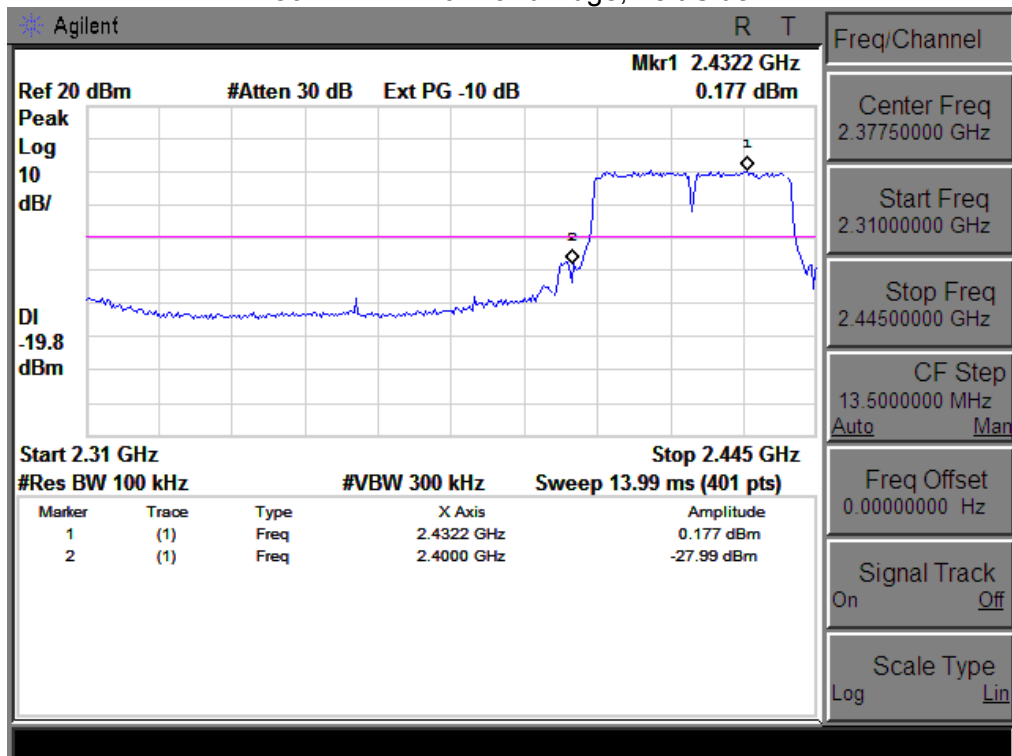
802.11n-HT20: Band Edge, Left Side



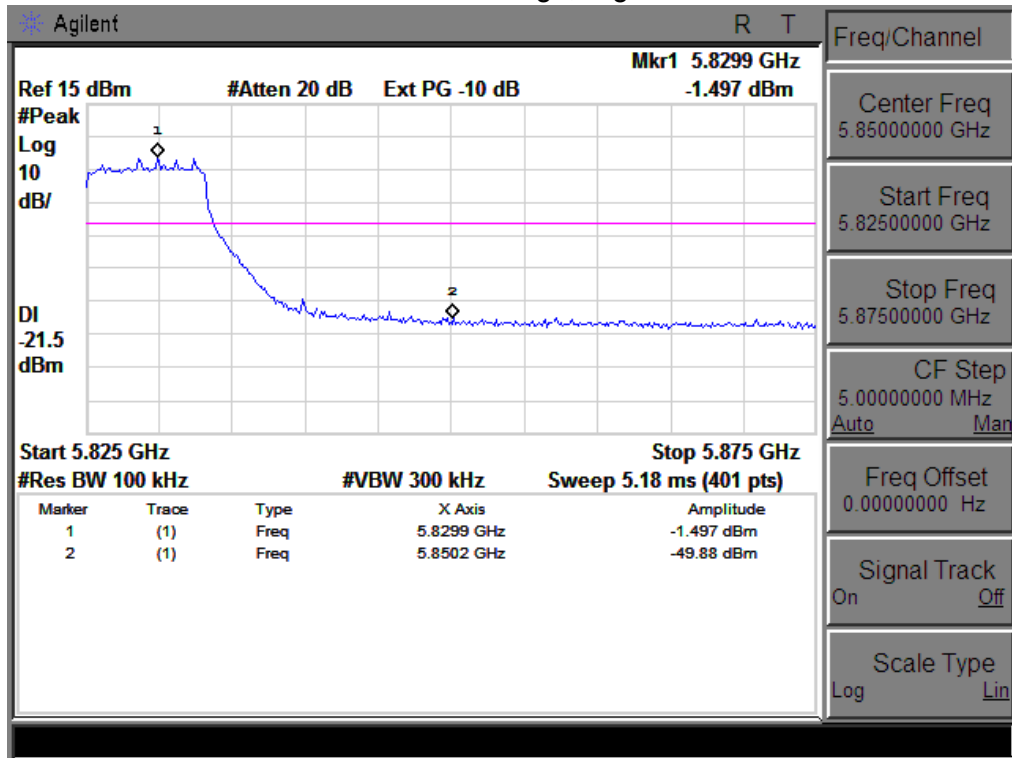
802.11n-HT40: Band Edge, Right Side



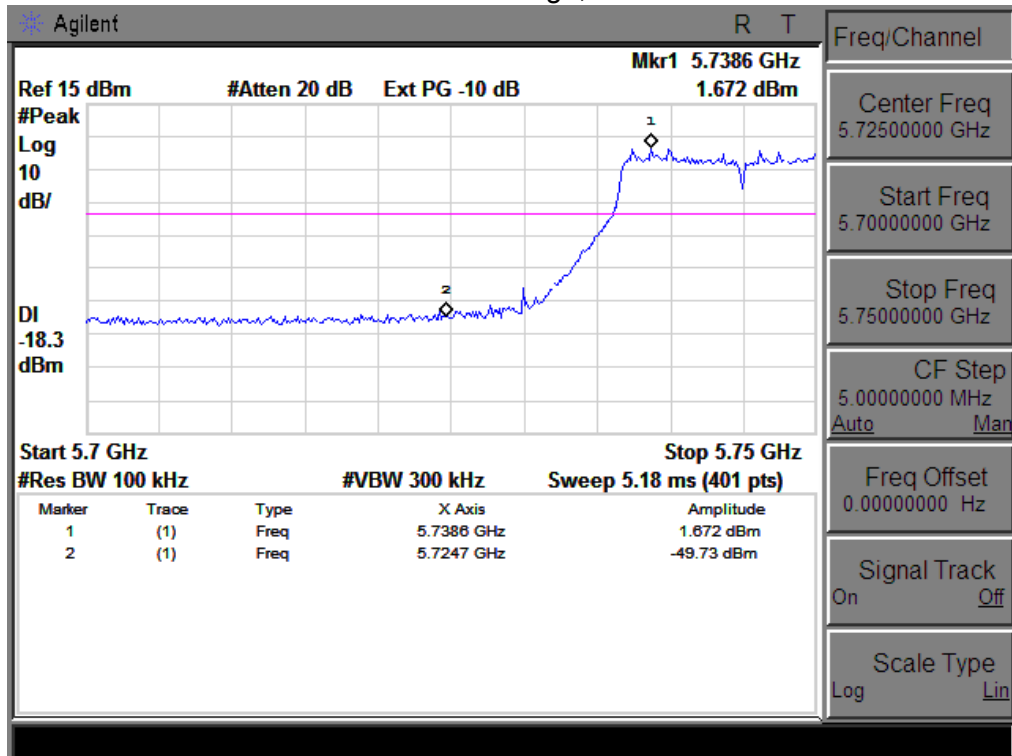
802.11n-HT40: Band Edge, Left Side



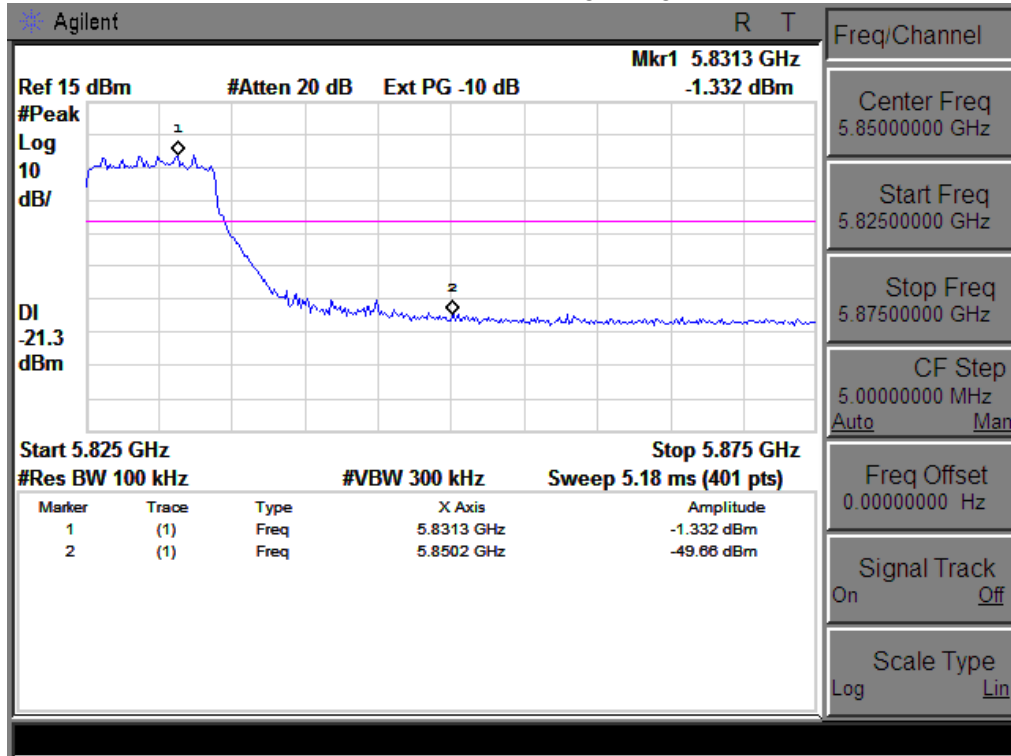
802.11a: Band Edge, Right Side



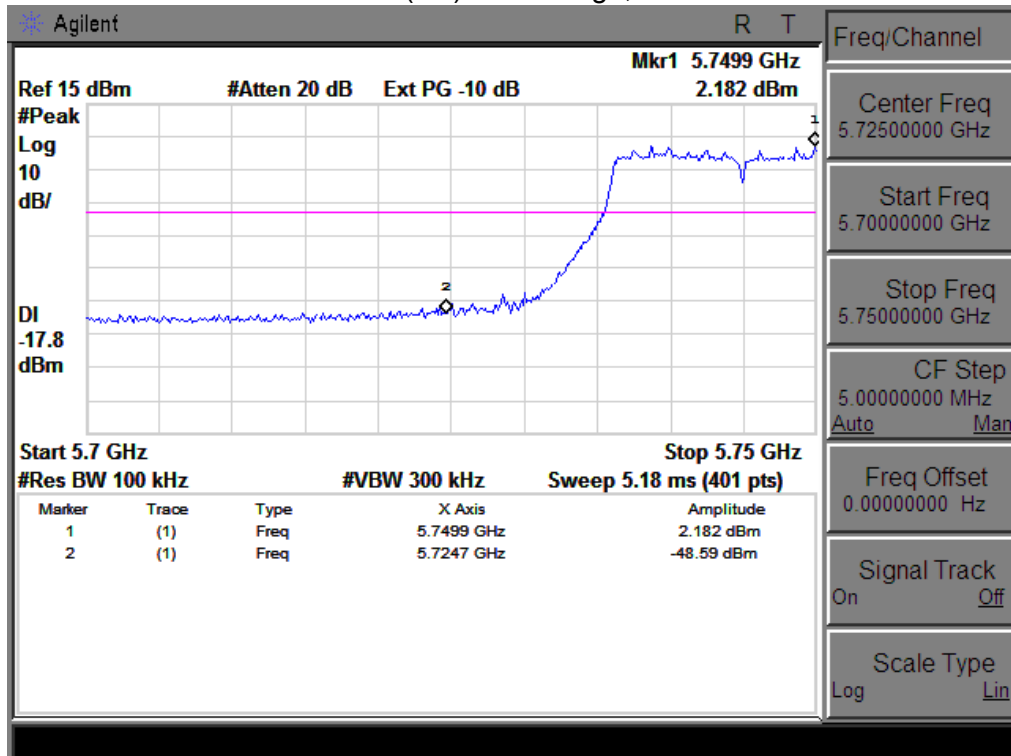
802.11a: Band Edge, Left Side



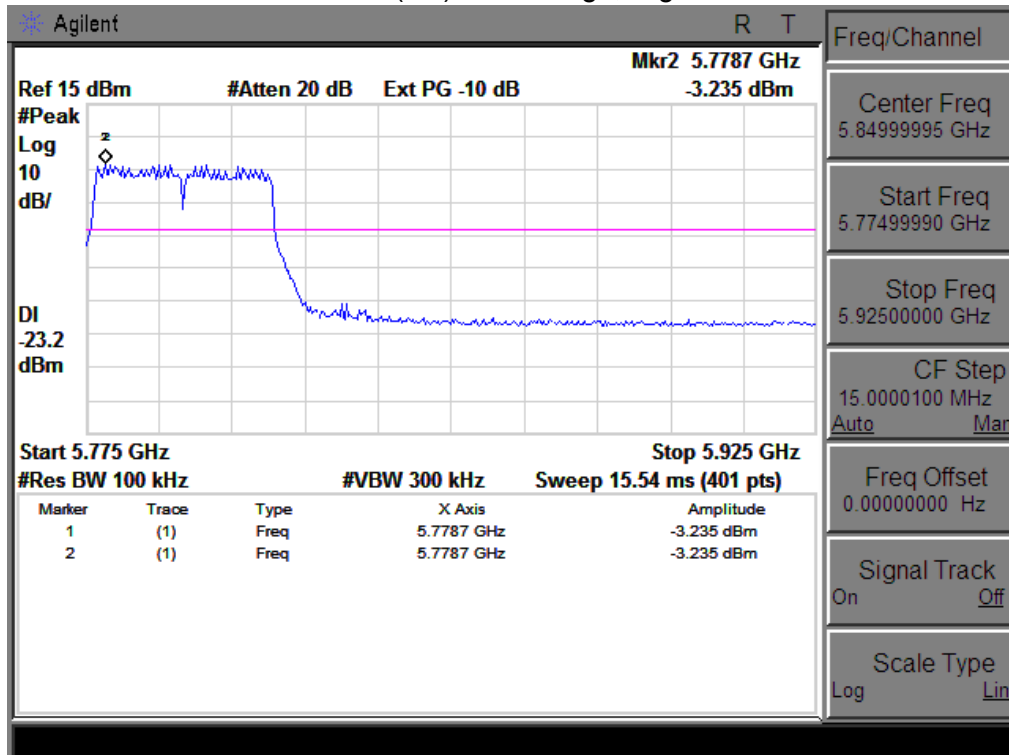
802.11n20(5G): Band Edge, Right Side



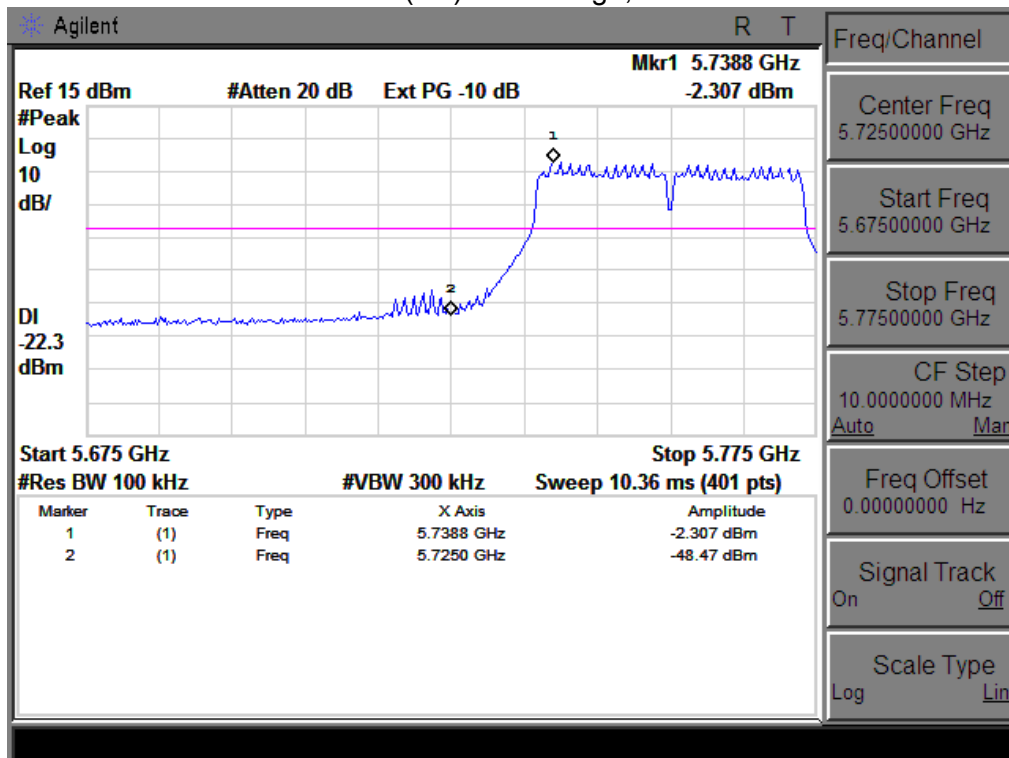
802.11n20(5G): Band Edge, Left Side



802.11n40(5G): Band Edge, Right Side



802.11n40(5G): Band Edge, Left Side



8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

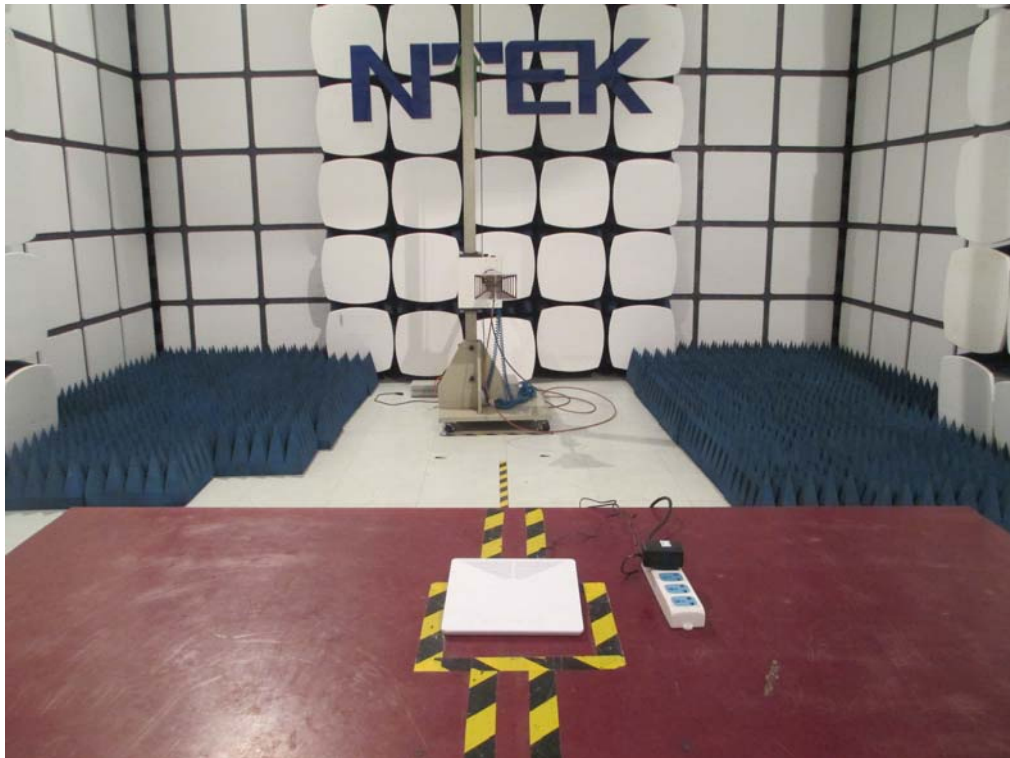
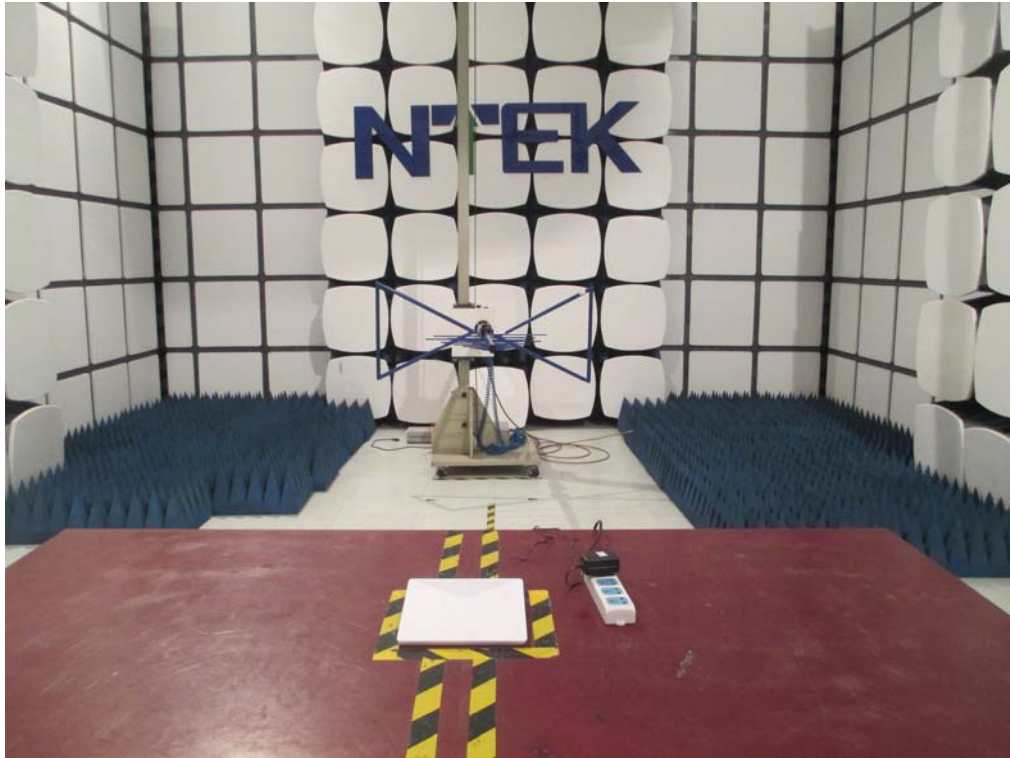
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

8.2 EUT ANTENNA

The EUT antenna is Non-removable antenna. It comply with the standard requirement.

9. EUT TEST PHOTO

Radiated Measurement Photos



Conducted Measurement Photos

