FCC RADIO TEST REPORT

FCC ID:HHOJYL-AC120

Product：	Dual Band Wireless USB Adapter
Trade Name：	JCG
Model Name：	JYL-AC120
Serial Model：	N/A
Report No.：	NTEK-2013NT1219821F

Prepared for

Shenzhen Yichen Technoloy Development Co.,LTD

5F,NO.1, Honghualing 2nd industrial Zone, Xili Town,Nanshan District,Shenzhen, China.

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.

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TEST RESULT CERTIFICATION

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

Product description

Product name	Dual Band Wireless USB Adapter
Model and/or type reference	JYL-AC120
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	19 Dec. 2013 ~25 Feb. 2014
Date of Issue.....	07 Dec. 2013
Test Result.....	**Pass**

Testing Engineer : Polo cha

(Polo Cha)

Technical Manager : Brown Lu

(Brown Lu)

Authorized Signatory : Bovey Yang

(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 ± U**，where expended 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	±1.38dB
2	RF power,conducted	±0.16dB
3	Spurious emissions,conducted	±0.21dB
4	All emissions,radiated(<1G)	±4.68dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

<table>
<tr><td>Equipment</td><td>Dual Band Wireless USB Adapter</td></tr>
<tr><td>Trade Name</td><td>JCG</td></tr>
<tr><td>Model Name</td><td>JYL-AC120</td></tr>
<tr><td>Product Description</td><td>The EUT is a Dual Band Wireless USB Adapter
<table>
<tr><td>Operation Frequency:</td><td>802.11b/g/n(20MHz):2412~2462 MHz
802.11n(40MHz):2422~2452 MHz</td></tr>
<tr><td>Modulation Type:</td><td>CCK/OFDM/DBPSK/DAPSK</td></tr>
<tr><td>Bit Rate of Transmitter</td><td>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</td></tr>
<tr><td>Number Of Channel</td><td>802.11b/g/n20MHz:11CH
802.11n40MHz:7CH</td></tr>
<tr><td>Max.Output Power(Conducted):</td><td>13.31 dBm</td></tr>
<tr><td>Operation Frequency:</td><td>5725 MHz ~ 5850 MHz</td></tr>
<tr><td>Modulation Type:</td><td>OFDM (BPSK / QPSK / 16QAM / 64QAM)</td></tr>
<tr><td>Max.Output Power(Conducted):</td><td>12.34dBm</td></tr>
<tr><td>Antenna Designation:</td><td>Please see Note 3.</td></tr>
<tr><td>Antenna Gain (dBi)</td><td>Please see Note 3.</td></tr>
</table>
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.</td></tr>
<tr><td>Channel List</td><td>Please refer to the Note 2.</td></tr>
<tr><td>Ratings</td><td>DC 5V, 1A</td></tr>
<tr><td>Adapter</td><td>N/A</td></tr>
<tr><td>Battery</td><td>N/A</td></tr>
</table>

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

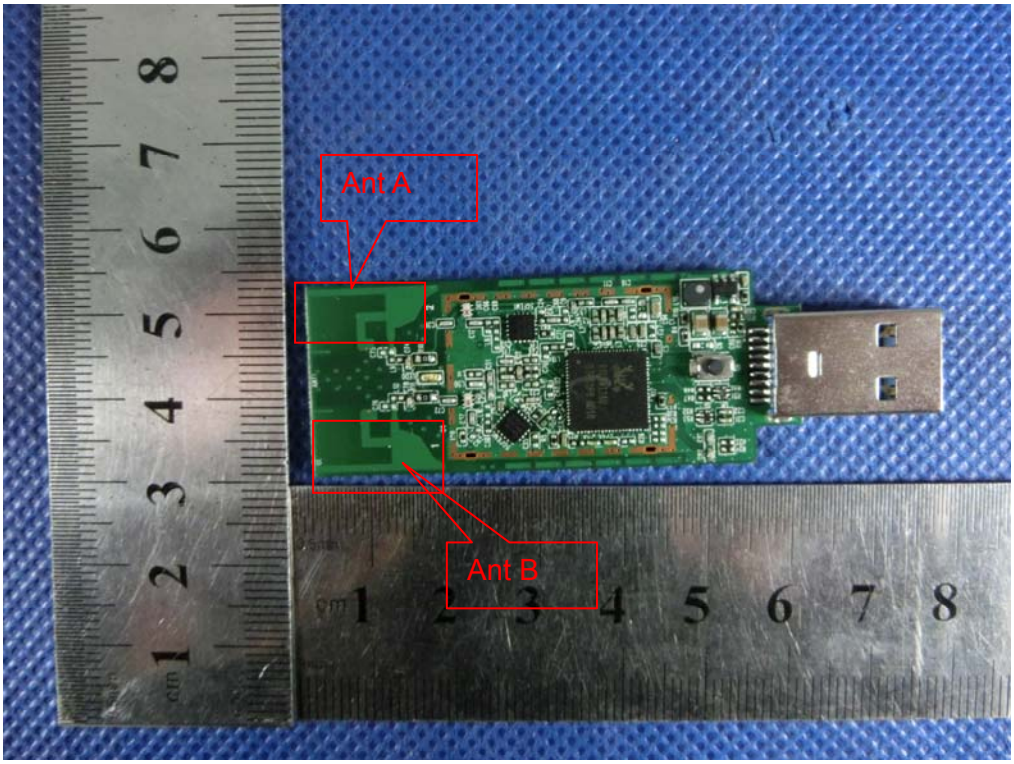
802.11a Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	153	5765	157	5785	161	5805
165	5825	-	-	-	-	-	-

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	Gain (dBi)	NOTE
A	N/A	N/A	PCB antenna	2.4G/5G:1.0	Wifi Antenna
B	N/A	N/A	PCB antenna	2.4G/5G:1.0	Wifi Antenna



The Control software(tool_WIFI.exe) can control antenna A/ B ,

For 2.4GHz mode, antenna A/ B are transmitting.

And the data is recorded for radiated emission and band edge.

For 5GHz mode,antenna A/ B are transmitting,And the data is recorded for radiated emission, and band edge.

For MIMO mode , Directional gain=GANT +10log(N)dbi =4.01dbi in 2.4GHz

Directional gain=GANT +10log(N)dbi =4.01dbi 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 6	802.11a /n CH149/ CH157/ CH 165
Mode 7	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 6	802.11a /n CH149/ CH157/ CH165
Mode 7	802.11n40 CH151 / CH159

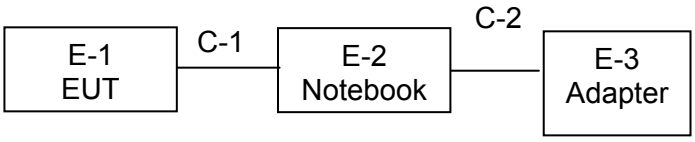
Note:

(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	Dual Band Wireless USB Adapter	JCG	JYL-AC120	N/A	EUT
E-2	Notebook	Lenovo	ThinkPad Edge E430	N/A	
E-3	Adapter	Lenovo	ADLX90NCT3A	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	150cm	
C-2	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	2013.12.22	2014.12.21	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

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

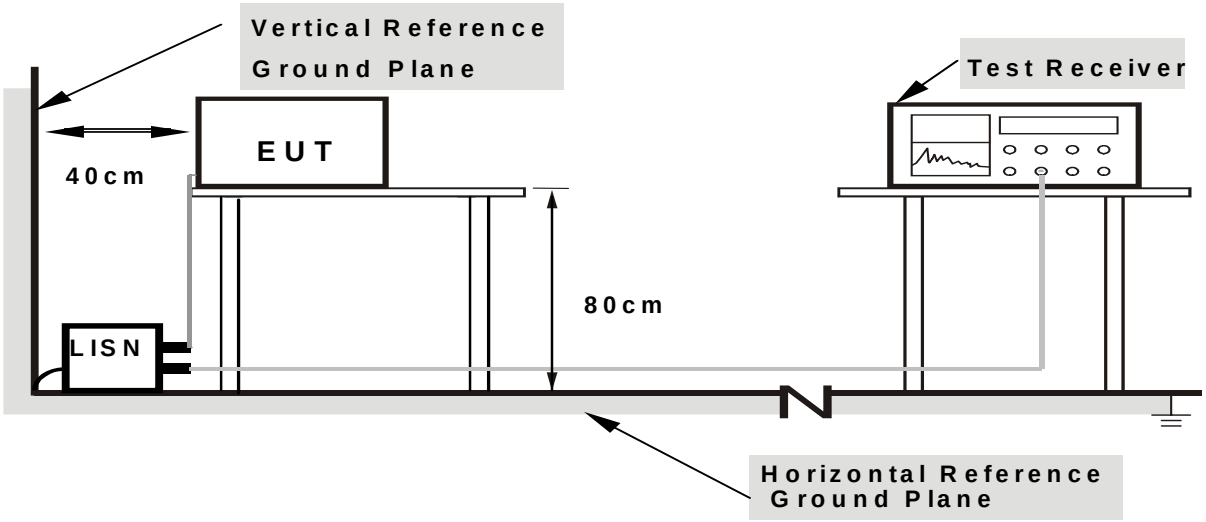
3.1.2 TEST PROCEDURE

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

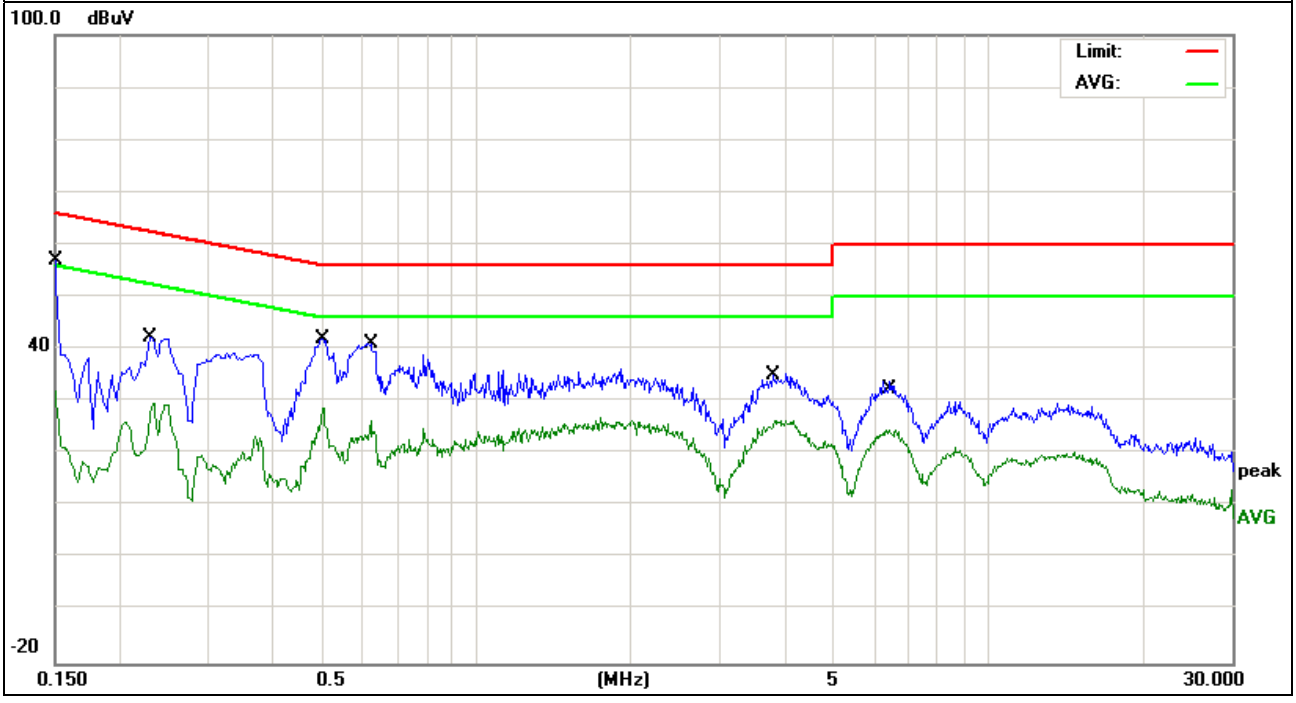
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.1.6 TEST RESULTS

EUT：	Dual Band Wireless USB Adapter	Model Name. ：	JYL-AC120
Temperature：	26 ℃	Relative Humidity：	56%
Pressure：	1010hPa	Phase：	L
Test Voltage ：	DC 5V From PC AC120V/60Hz	Test Mode：	Mode 5

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1500	42.83	9.66	52.49	65.99	-13.50	QP
0.1500	22.27	9.66	31.93	55.99	-24.06	AVG
0.2340	32.55	9.50	42.05	62.30	-20.25	QP
0.2340	20.27	9.50	29.77	52.30	-22.53	AVG
0.5020	32.45	9.53	41.98	56.00	-14.02	QP
0.5020	19.34	9.53	28.87	46.00	-17.13	AVG
0.6220	31.55	9.53	41.08	56.00	-14.92	QP
0.6220	16.69	9.53	26.22	46.00	-19.78	AVG
3.8500	24.02	9.59	33.61	56.00	-22.39	QP
3.8500	16.86	9.59	26.45	46.00	-19.55	AVG
6.3459	22.36	9.64	32.00	60.00	-28.00	QP
6.3459	14.86	9.64	24.50	50.00	-25.50	AVG

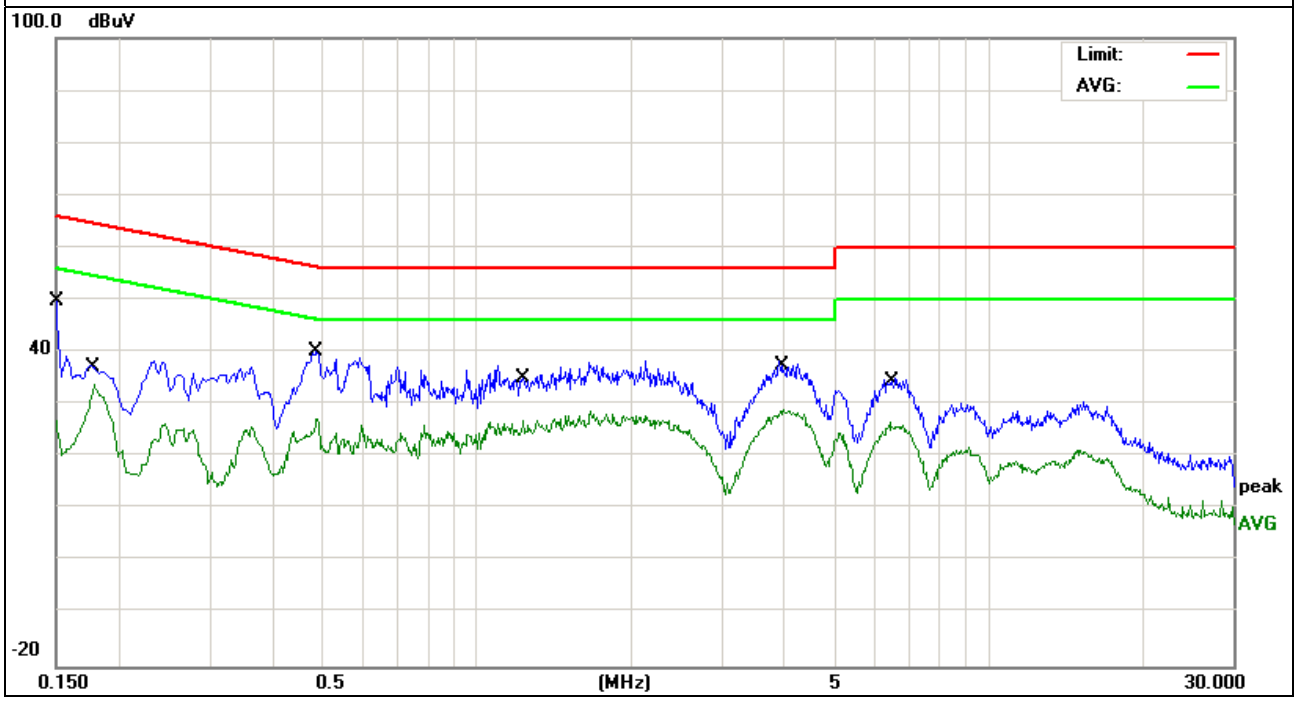
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



EUT：	Dual Band Wireless USB Adapter	Model Name. ：	JYL-AC120
Temperature：	26 ℃	Relative Humidity：	56%
Pressure：	1010hPa	Phase：	N
Test Voltage ：	DC 5V From PC AC120V/60Hz	Test Mode：	Mode 5

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1500	36.46	9.66	46.12	65.99	-19.87	QP
0.1500	17.20	9.66	26.86	55.99	-29.13	AVG
0.1796	26.97	9.57	36.54	64.50	-27.96	QP
0.1796	23.45	9.57	33.02	54.50	-21.48	AVG
0.4860	30.51	9.53	40.04	56.24	-16.20	QP
0.4860	17.66	9.53	27.19	46.24	-19.05	AVG
1.2340	25.64	9.55	35.19	56.00	-20.81	QP
1.2340	17.54	9.55	27.09	46.00	-18.91	AVG
3.9660	26.95	9.59	36.54	56.00	-19.46	QP
3.9660	19.47	9.59	29.06	46.00	-16.94	AVG
6.4179	24.32	9.65	33.97	60.00	-26.03	QP
6.4179	17.05	9.65	26.70	50.00	-23.30	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:

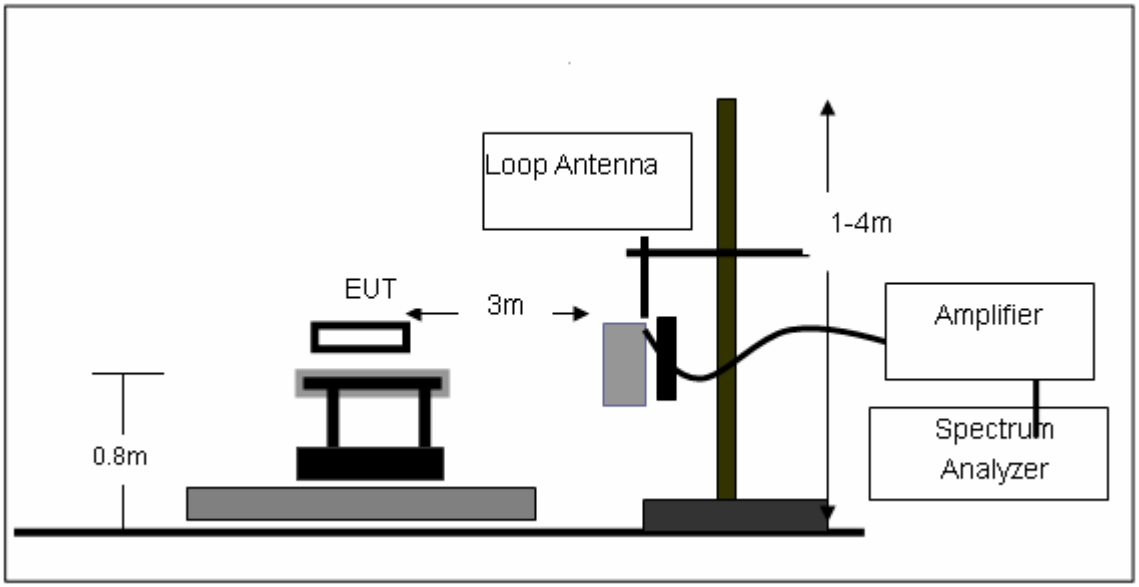
Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 DEVIATION FROM TEST STANDARD

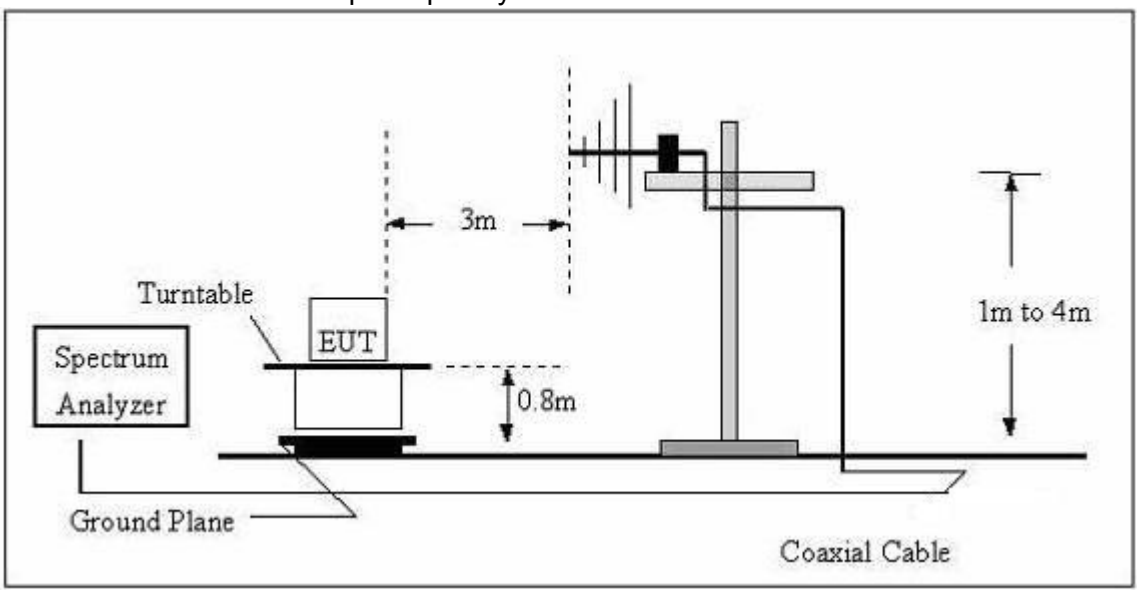
No deviation

3.2.4 TEST SETUP

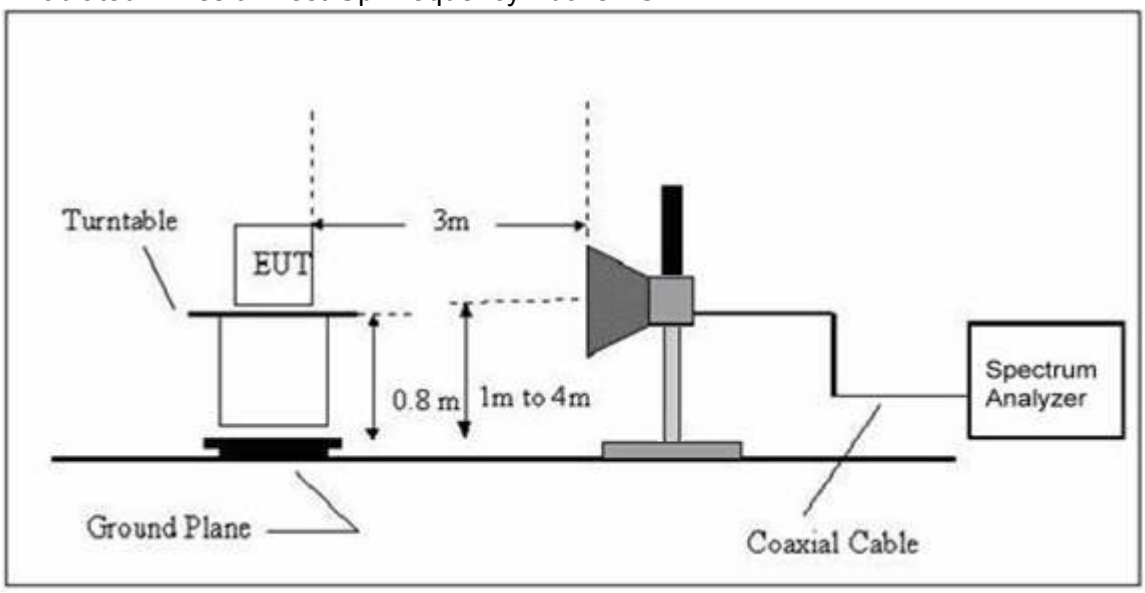
（A）Radiated Emission Test-Up Frequency Below 30MHz



（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：	Dual Band Wireless USB Adapter	Model Name. ：	JYL-AC120
Temperature：	20 ℃	Relative Humidtity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 12V From PC AC120V/60Hz
Test Mode ：	TX	Polarization :	--

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

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 (specific distance/test distance)(dB);
Limit line = specific limits(dBuv) + distance extrapolation factor.

3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5V From PC AC120V/60Hz
Test Mode ：	TX (2.4G)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
115.0355	15.32	12.21	27.53	43.5	-15.97	QP
164.9071	15.73	10.81	26.54	43.5	-16.96	QP
287.9904	16.74	14.3	31.04	46	-14.96	QP
524.2632	16.11	21.12	37.23	46	-8.77	QP
701.7765	9.68	25.59	35.27	46	-10.73	QP
802.0336	10.46	26.43	36.89	46	-9.11	QP

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

EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 12V From PC AC120V/60Hz
Test Mode ：	TX(2.4G)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
115.0234	17.81	12.03	29.84	43.5	-13.66	QP
233.7409	16.22	11.65	27.87	46	-18.13	QP
401.024	17.19	18.53	35.72	46	-10.28	QP
493.4544	15.56	20.56	36.12	46	-9.88	QP
524.2269	15.68	21.12	36.8	46	-9.2	QP
802.9012	10.08	26.43	36.51	46	-9.49	QP

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

EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5V From PCAC120V/60Hz
Test Mode ：	TX(5.0G)	Polarization：	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
130.3789	11.80	12.20	24.00	43.50	-19.50	QP
315.4808	13.36	15.26	28.62	46.00	-17.38	QP
360.4476	17.05	16.46	33.51	46.00	-12.49	QP
434.0651	21.88	18.84	40.72	46.00	-5.28	QP
721.7259	9.63	25.59	35.22	46.00	-10.78	QP
50.2324	28.06	8.15	36.21	40.00	-3.79	QP

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

EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 12V From PC AC120V/60Hz
Test Mode ：	TX(5.0G)	Polarization：	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
50.5860	13.38	7.99	21.37	40.00	-18.63	QP
175.6516	16.43	10.08	26.51	43.50	-16.99	QP
242.5253	14.67	12.16	26.83	46.00	-19.17	QP
360.4476	26.03	16.46	42.49	46.00	-3.51	QP
576.6443	11.48	22.44	33.92	46.00	-12.08	QP
50.2324	28.06	8.15	36.21	40.00	-3.79	QP

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

3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (2412 MHz)-Above 1G							
4824.012	47.15	10.44	57.59	74.0	-16.41	Pk	Vertical
4824.012	30.01	10.44	40.45	54.0	-13.55	AV	Vertical
7236.000	36.88	12.39	49.27	74.0	-24.73	pk	Vertical
4824.012	44.58	10.44	55.02	74.0	-18.98	pk	Horizontal
4824.012	28.17	10.44	38.61	54.0	-15.39	AV	Horizontal
7236.000	30.06	12.39	42.45	74.0	-31.55	pk	Horizontal
Mid Channel (2437 MHz)-Above 1G							
4874.043	48.36	10.40	58.76	74.0	-15.24	pk	Vertical
4874.043	32.34	10.40	42.74	54.0	-11.26	AV	Vertical
7311.147	38.26	12.75	51.01	74.0	-22.99	Pk	Vertical
4874.043	47.13	10.40	57.53	74.0	-16.47	Pk	Horizontal
4874.043	30.47	10.40	40.87	54.0	-13.13	AVk	Horizontal
7311.147	31.76	12.75	44.51	74.0	-29.49	Pk	Horizontal
High Channel (2462 MHz)- Above 1G							
4924.124	47.88	10.39	58.27	74.0	-15.73	pk	Vertical
4924.124	31.05	10.39	41.44	54.0	-12.56	AV	Vertical
7386.076	34.55	12.68	47.23	74.0	-26.77	pk	Vertical
4924.124	45.69	10.39	56.08	74.0	-17.92	pk	Horizontal
4924.124	30.43	10.39	40.82	54.0	-13.18	AV	Horizontal
7386.033	32.08	12.68	44.76	74.0	-29.24	pk	Horizontal

Note:”802.11N(20)” mode is the worst mode. When PK value is lower than the Average value limit, average didn't record.

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G							
11490.000	42.88	10.43	53.31	74	-20.69	Pk	Vertical
17235.000	40.65	12.37	53.02	74	-20.98	Pk	Vertical
11490.000	43.07	10.43	53.5	74	-20.50	Pk	Horizontal
17235.000	41.18	12.37	53.55	74	-20.45	Pk	Horizontal
middle Channel (5785 MHz)-Above 1G							
11570.000	42.14	10.44	52.58	74	-21.42	Pk	Vertical
17355.000	38.02	12.39	50.41	74	-23.59	Pk	Vertical
11570.000	42.21	10.44	52.65	74	-21.35	Pk	Horizontal
17355.000	37.29	12.39	49.68	74	-24.32	Pk	Horizontal
High Channel (5825 MHz)-Above 1G							
11590.206	43.01	10.45	53.46	74	-20.54	Pk	Vertical
17385.924	39.29	12.41	51.7	74	-22.30	Pk	Vertical
11591.728	42.72	10.45	53.17	74	-20.83	Pk	Horizontal
17386.114	36.24	12.41	48.65	74	-25.35	Pk	Horizontal

Note:"802.11N20(5G)" mode is the worst mode. When PK value is lower than the Average value limit, average didn't record.

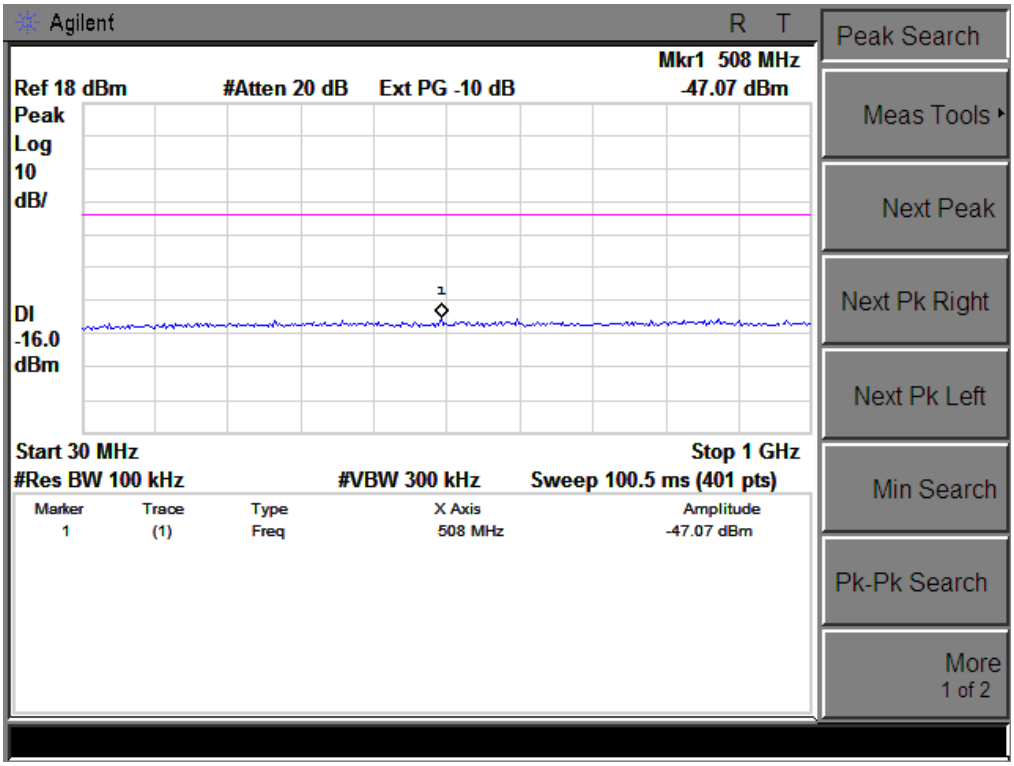
Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
802.11b							
2390	45.22	-13.06	32.16	74	-41.84	peak	Vertical
2390	43.71	-13.06	30.65	74	-43.35	peak	Horizontal
2483.5	45.14	-12.78	32.36	74	-41.64	peak	Vertical
2483.5	46.41	-12.78	33.63	74	-40.37	peak	Horizontal
802.11g							
2390	44.11	-13.06	31.05	74	-42.95	peak	Vertical
2390	48.32	-13.06	35.26	74	-38.74	peak	Horizontal
2483.5	42.11	-12.78	29.33	74	-44.67	peak	Vertical
2483.5	47.11	-12.78	34.33	74	-39.67	peak	Horizontal
802.11n（20）							
2390	38.24	-13.06	25.18	74	-48.82	peak	Vertical
2390	39.68	-13.06	26.62	74	-47.38	peak	Horizontal
2483.5	48.62	-12.78	35.84	74	-38.16	peak	Vertical
2483.5	49.23	-12.78	36.45	74	-37.55	peak	Horizontal
802.11n（40）							
2390	38.43	-13.06	25.37	74	-48.63	peak	Vertical
2390	39.28	-13.06	26.22	74	-47.78	peak	Horizontal
2483.5	47.72	-12.78	34.94	74	-39.06	peak	Vertical
2483.5	49.55	-12.78	36.77	74	-37.23	peak	Horizontal

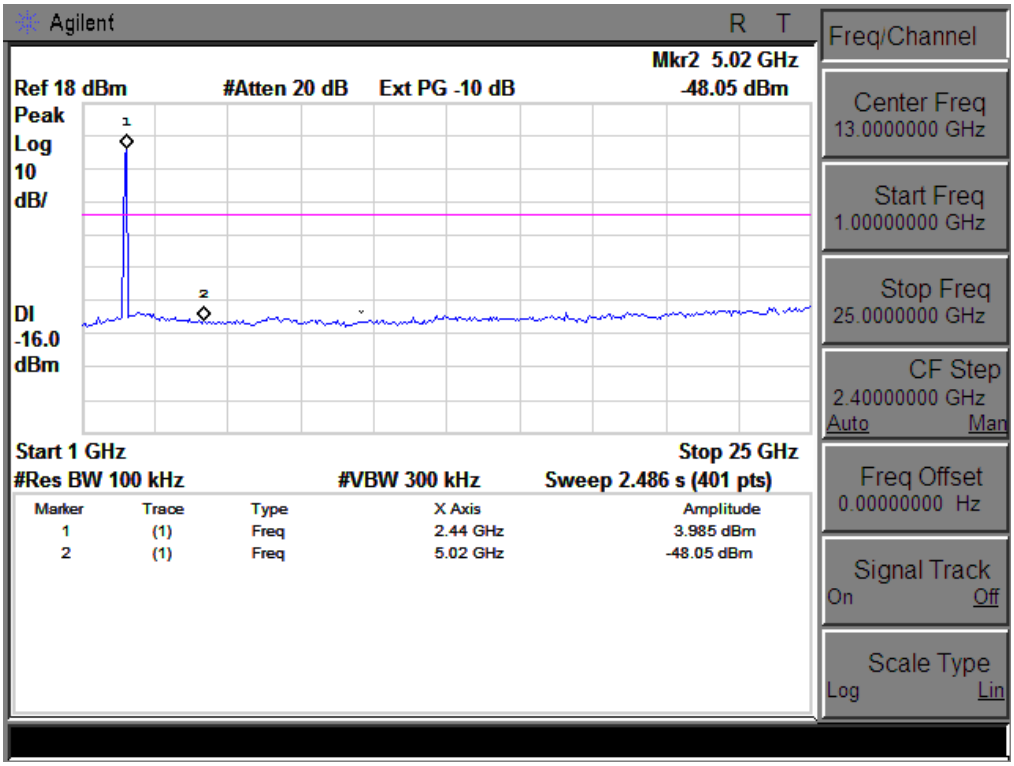
Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
802.11a-5G							
5725	48.14	-3.9	44.24	74	-29.76	peak	Vertical
5725	47.22	-3.9	43.32	74	-30.68	peak	Horizontal
5850	46.99	-4.05	42.94	74	-31.06	peak	Vertical
5850	51.32	-4.05	47.27	74	-26.73	peak	Horizontal
802.11n20-5G							
5725	47.79	-3.9	43.89	74	-30.11	peak	Vertical
5725	45.85	-3.9	41.95	74	-32.05	peak	Horizontal
5850	47.78	-4.05	43.73	74	-30.27	peak	Vertical
5850	51.23	-4.05	47.18	74	-26.82	peak	Horizontal
802.11n40-5G							
5725	51.77	-3.9	47.87	74	-26.13	peak	Vertical
5725	52.08	-3.9	48.18	74	-25.82	peak	Horizontal
5850	49.17	-4.05	45.12	74	-28.88	peak	Vertical
5850	53.12	-4.05	49.07	74	-24.93	peak	Horizontal

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

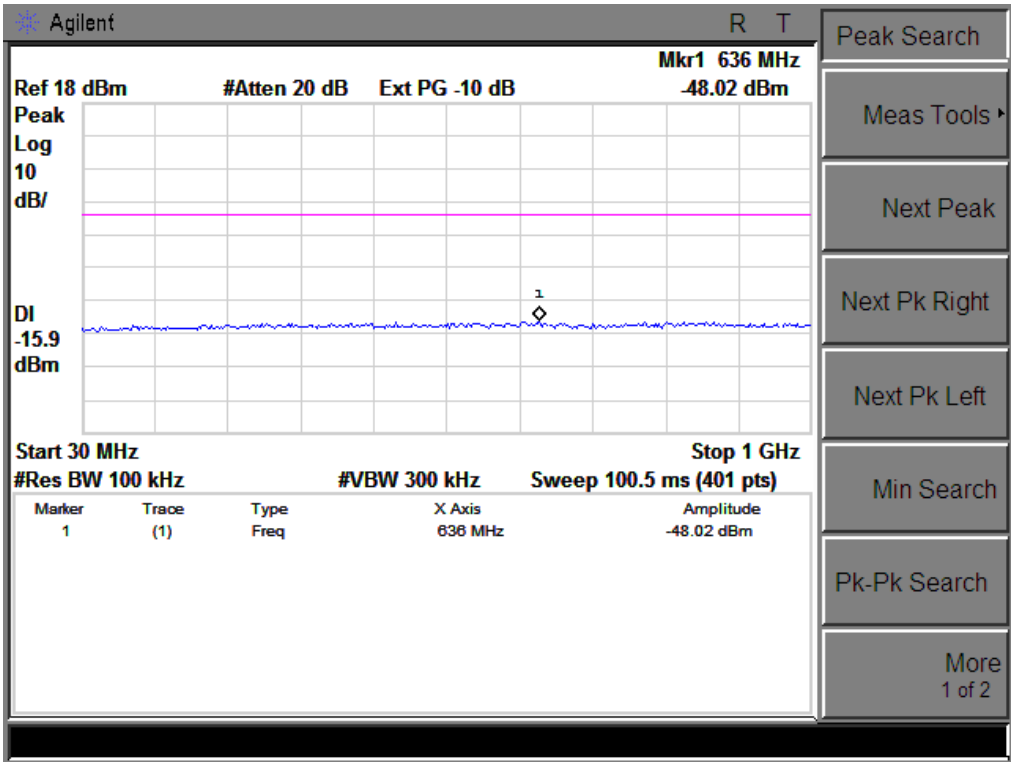
Conducted Spurious Emissions at Antenna Port:

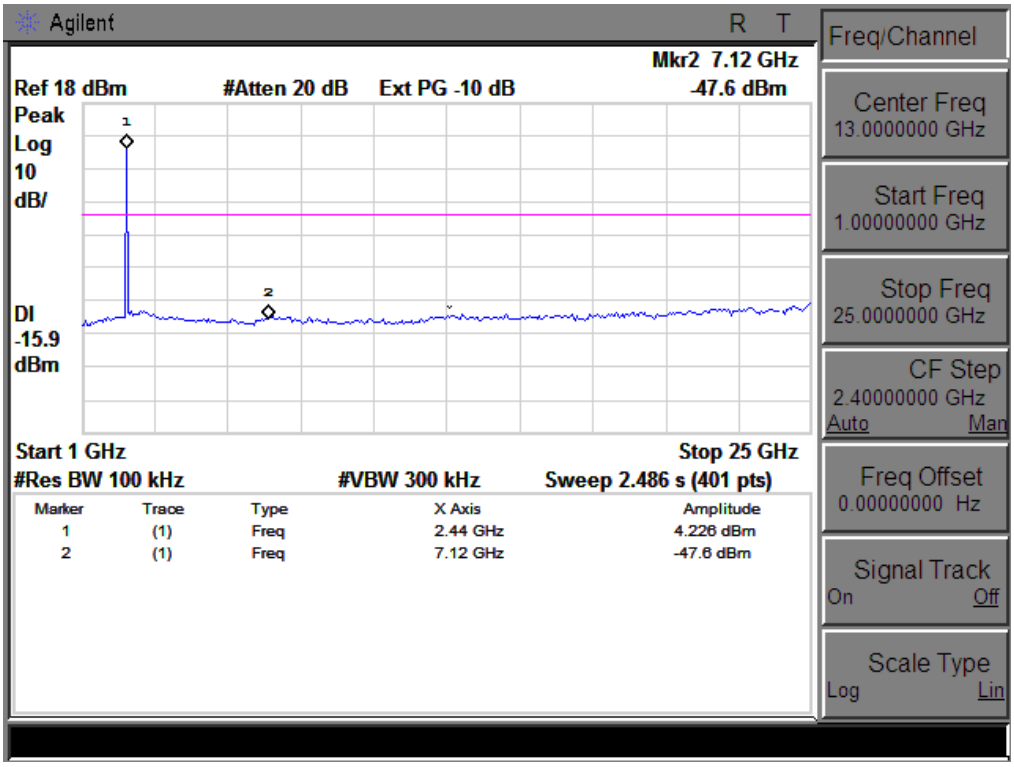
802.11b Low Channel



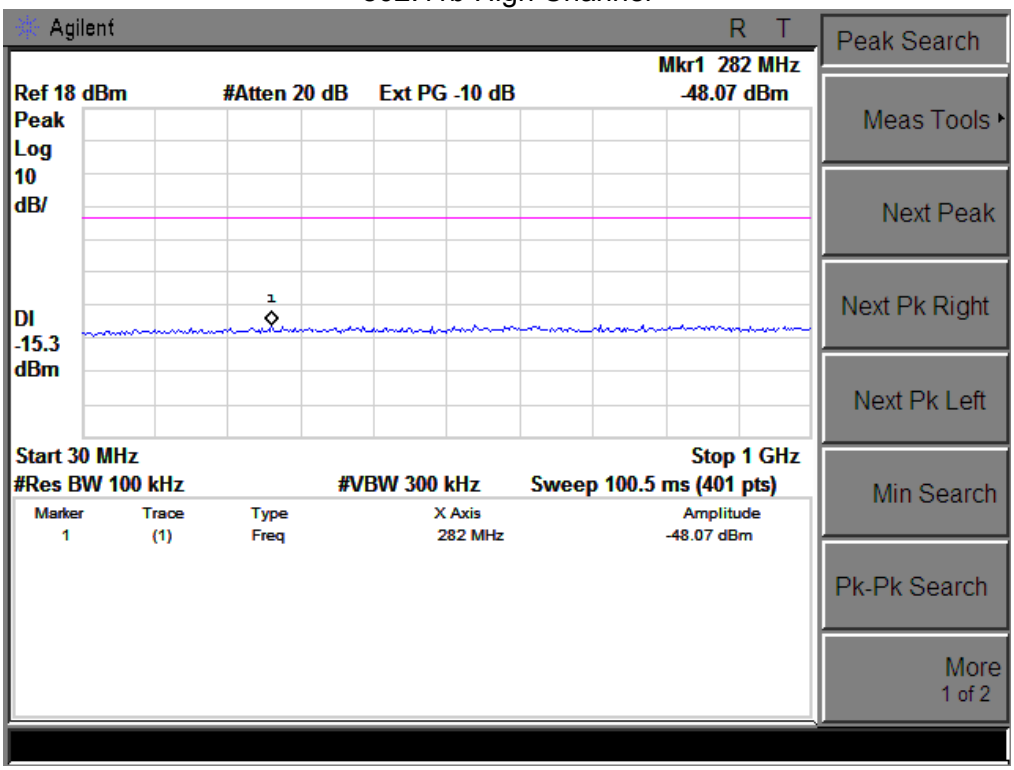


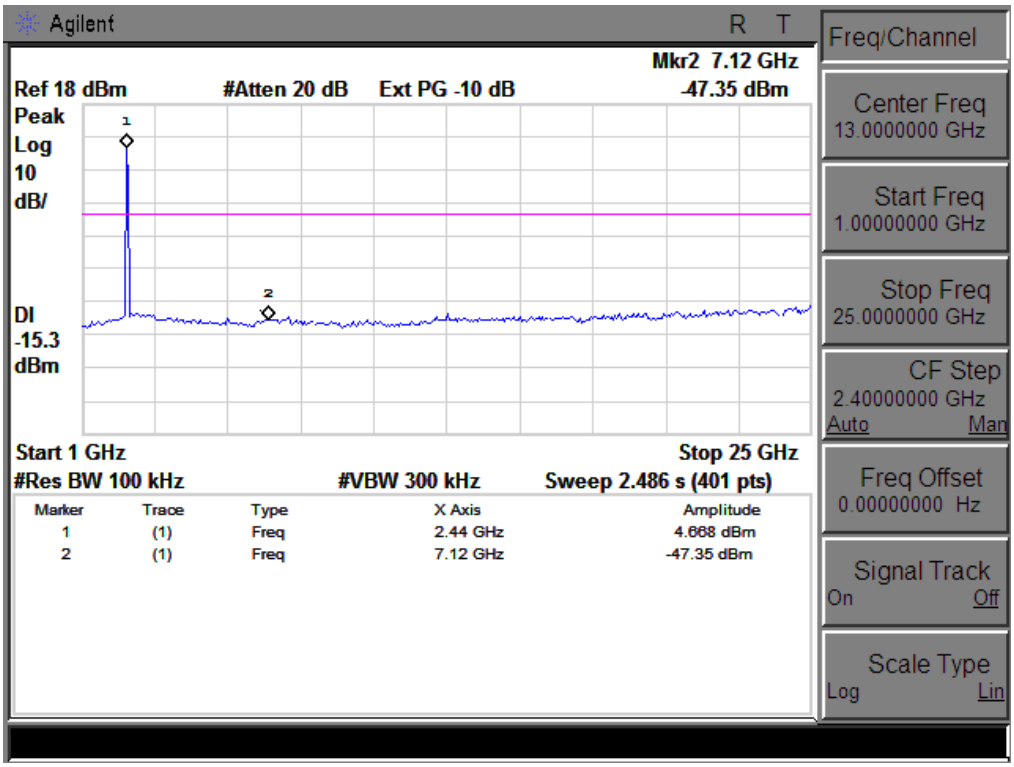
802.11b Middle Channel



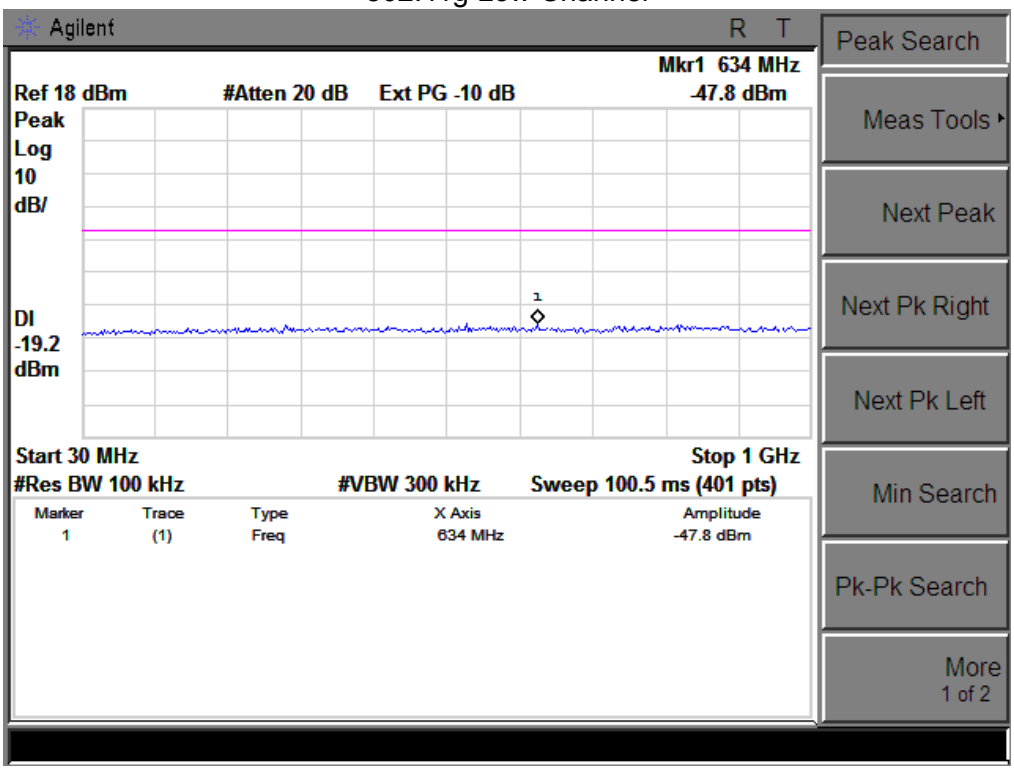


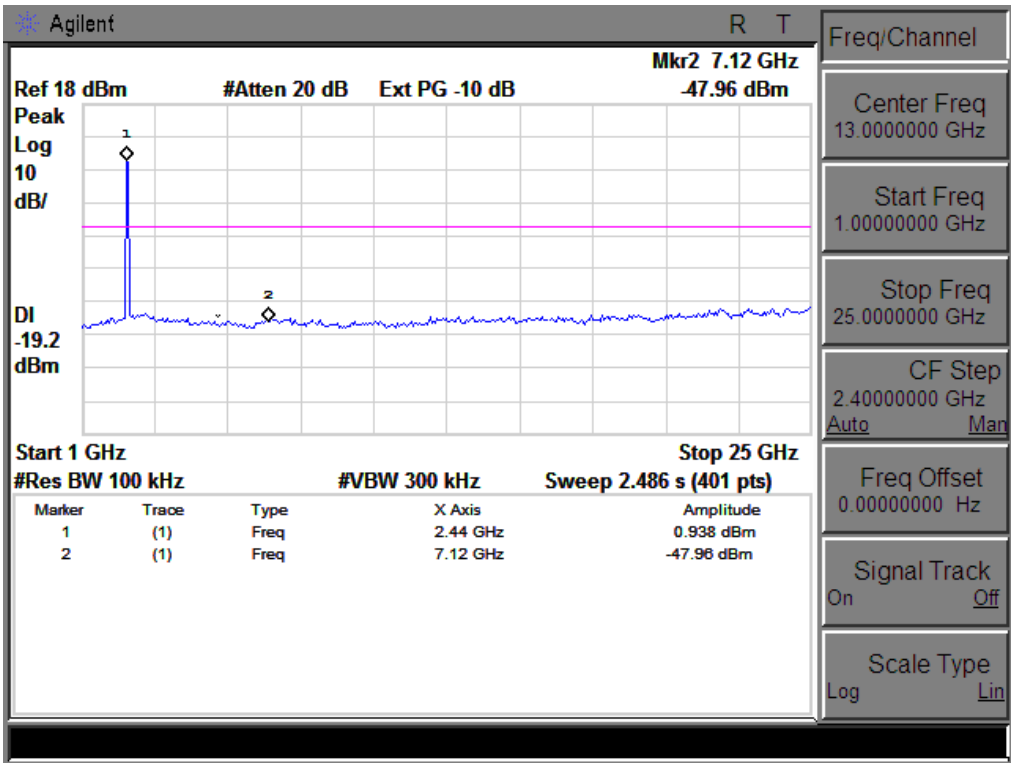
802.11b High Channel



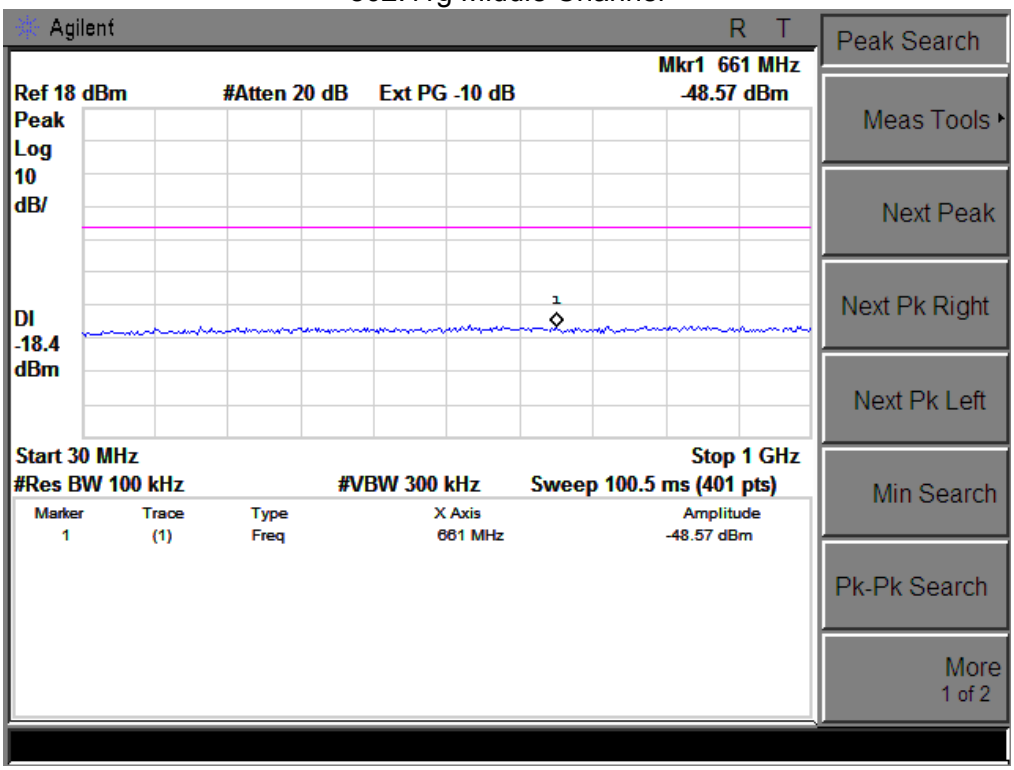


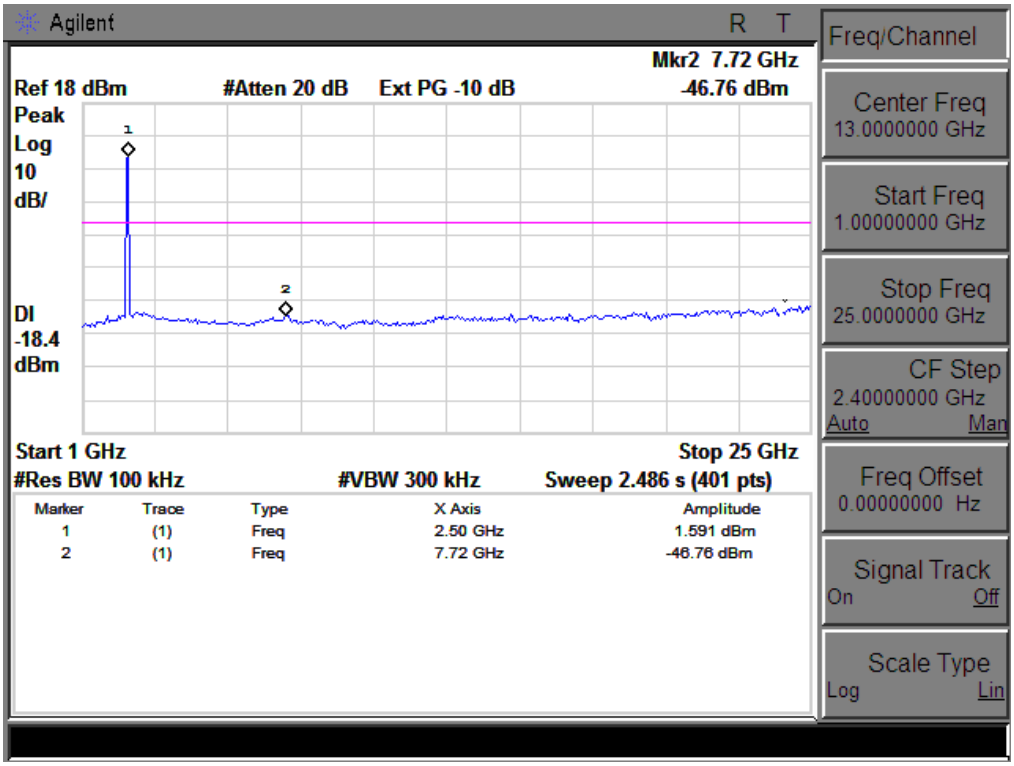
802.11g Low Channel



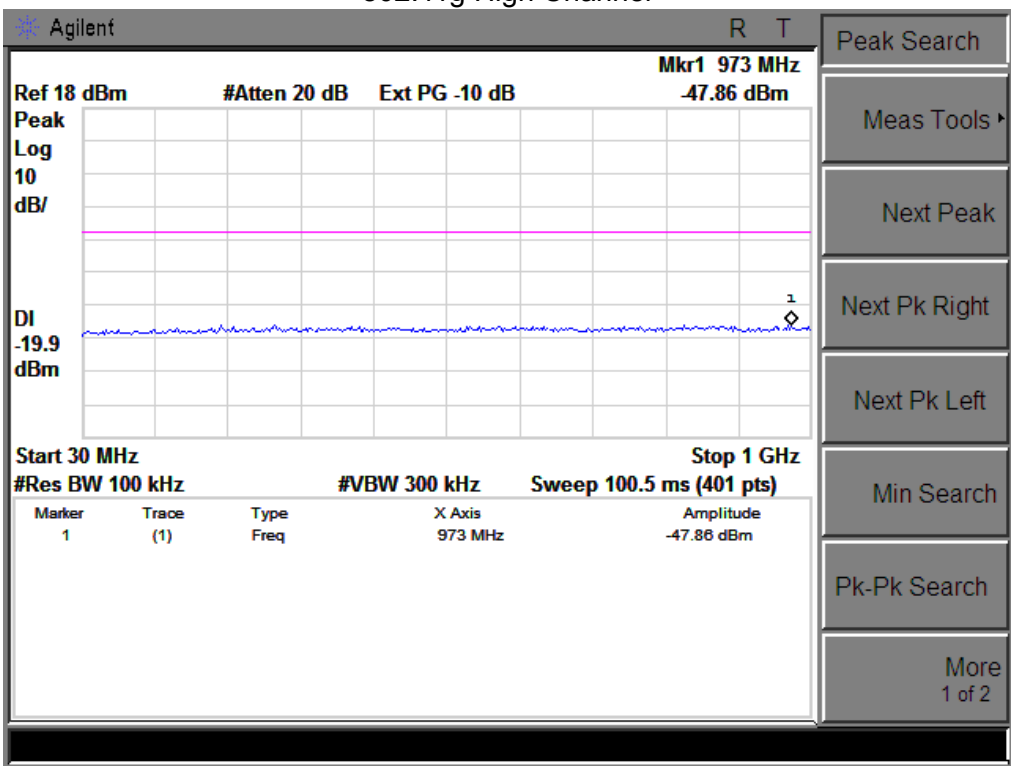


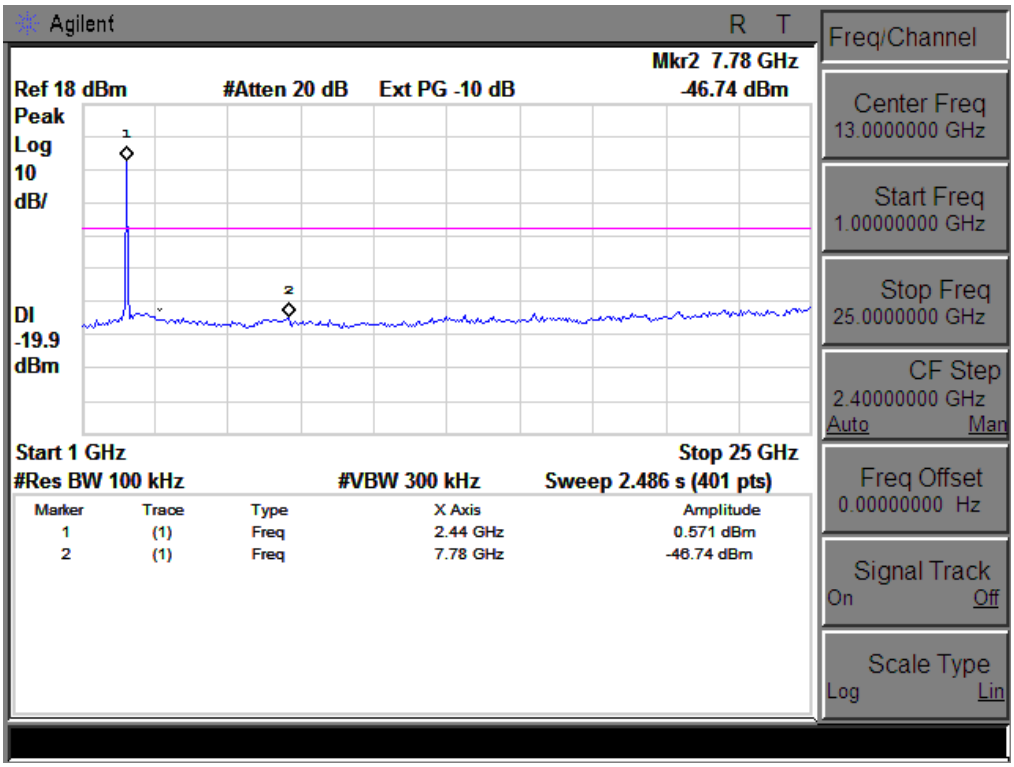
802.11g Middle Channel



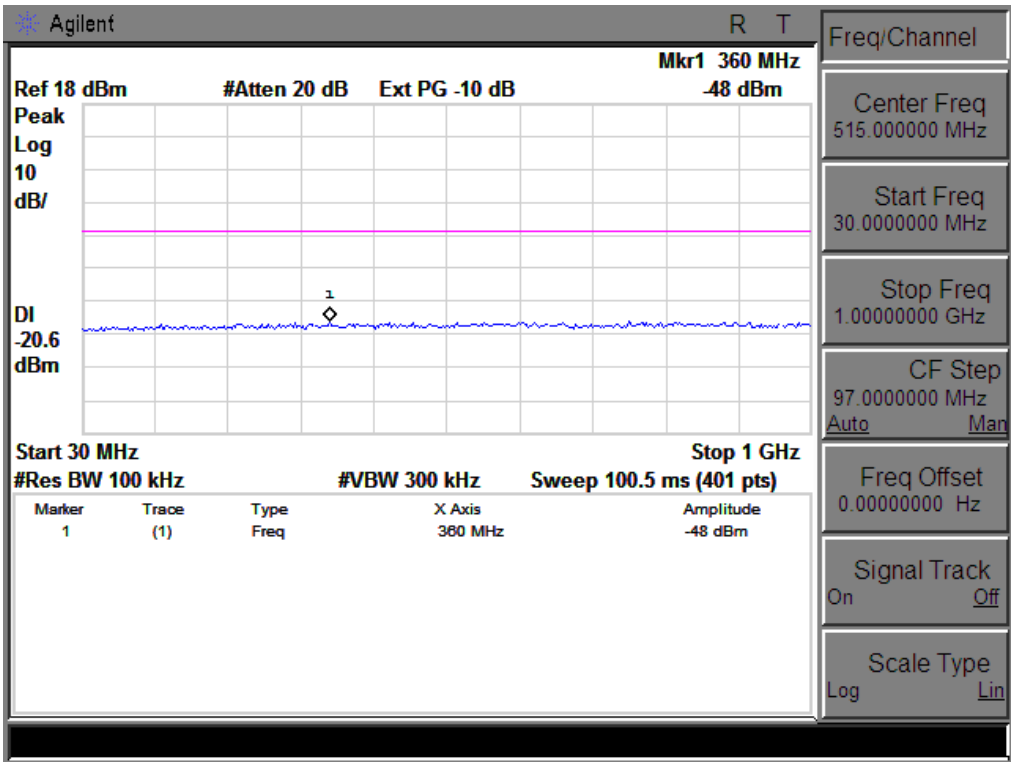


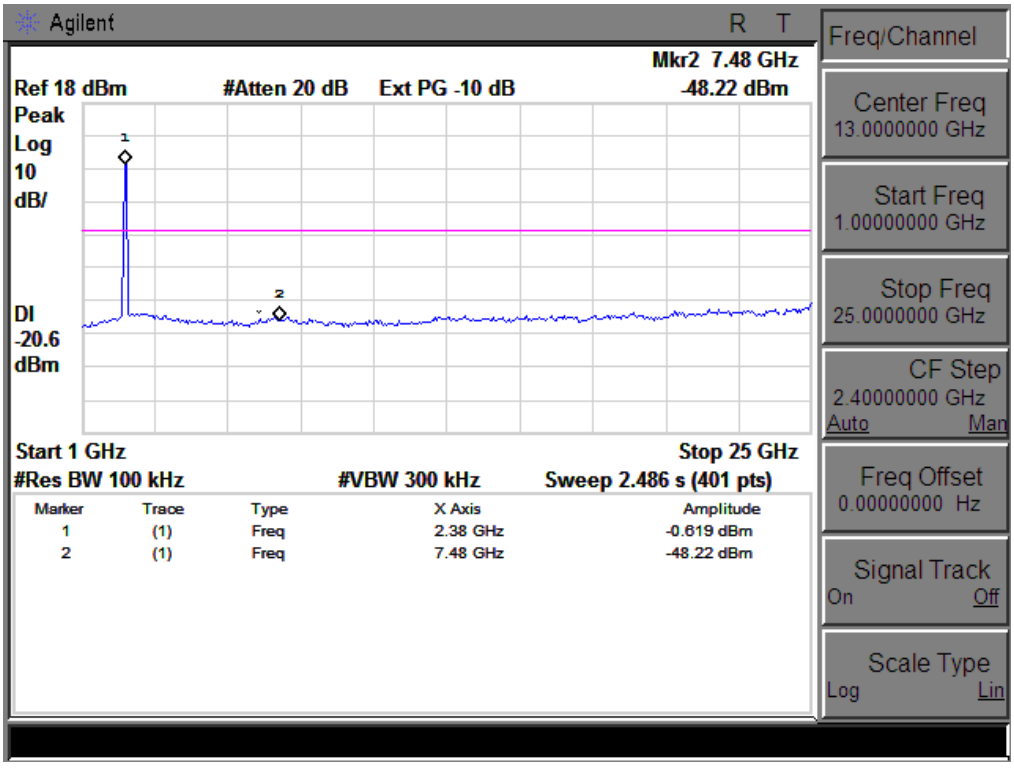
802.11g High Channel



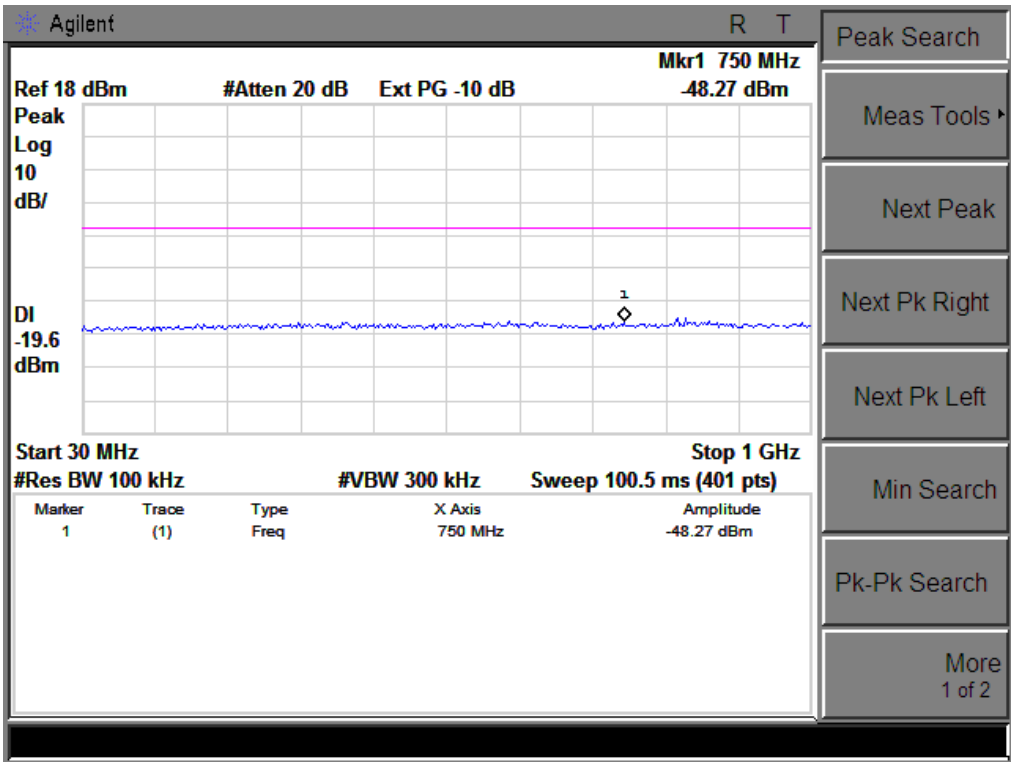


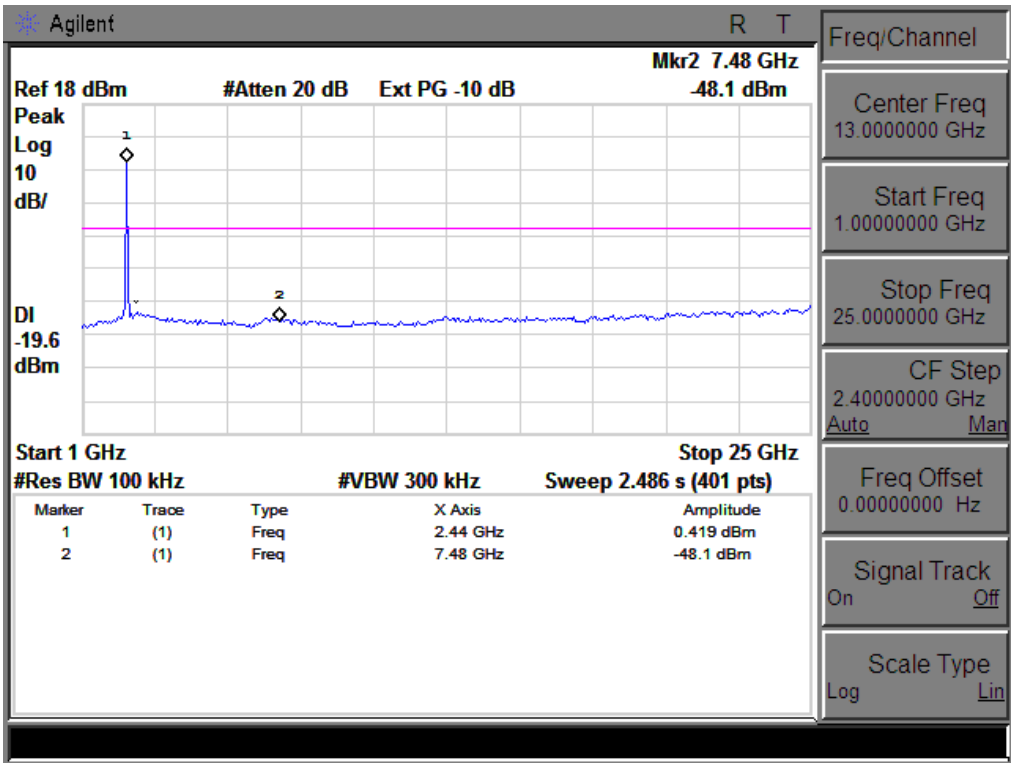
802.11n-HT20 Low Channel



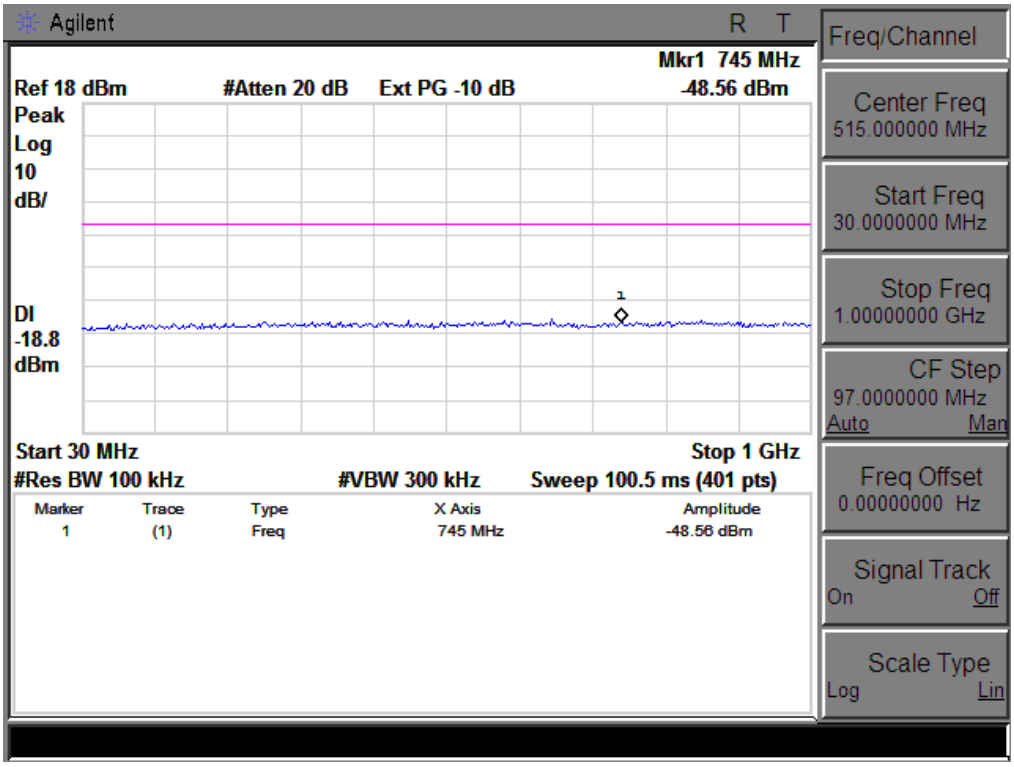


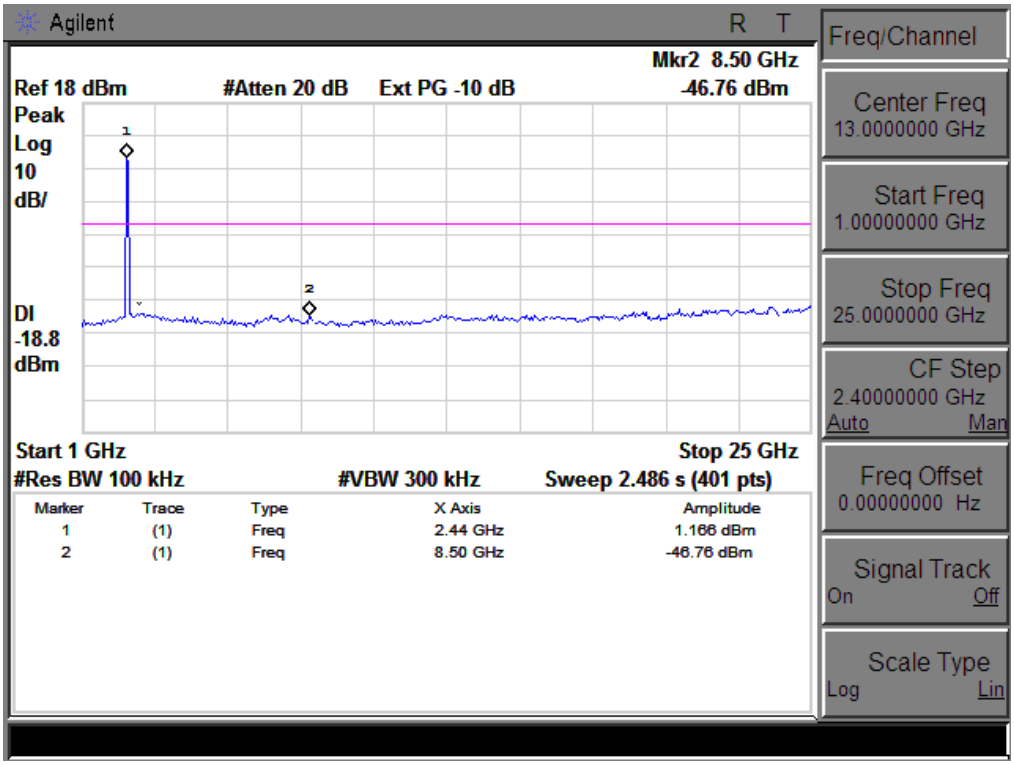
802.11n-HT20 Middle Channel



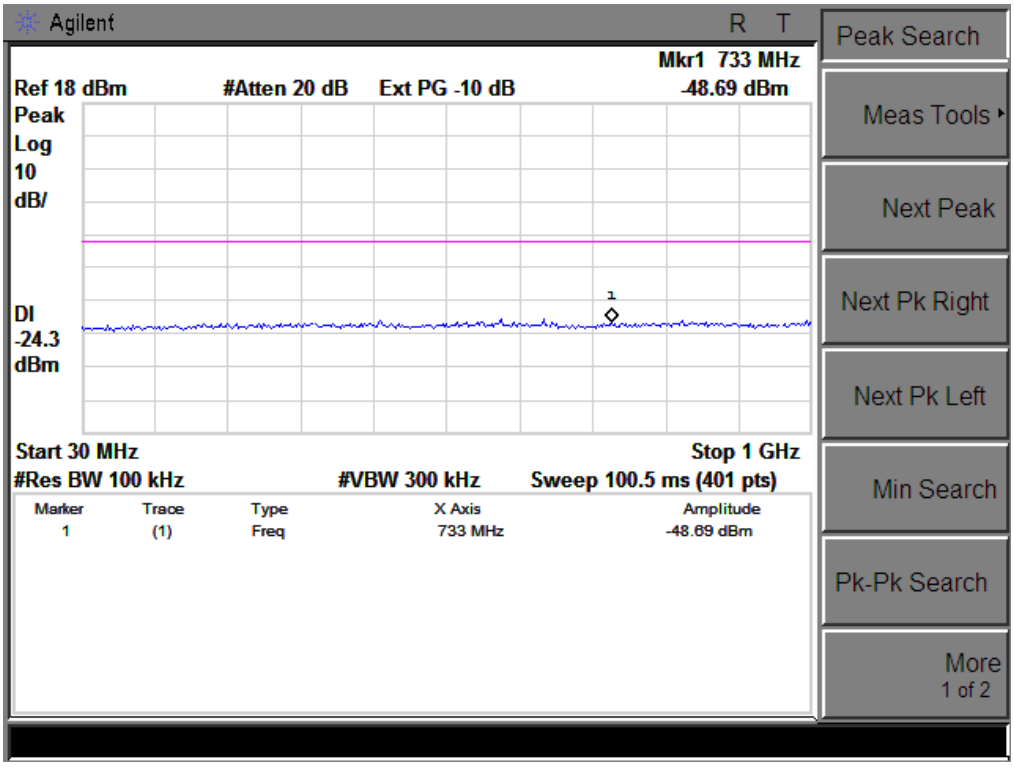


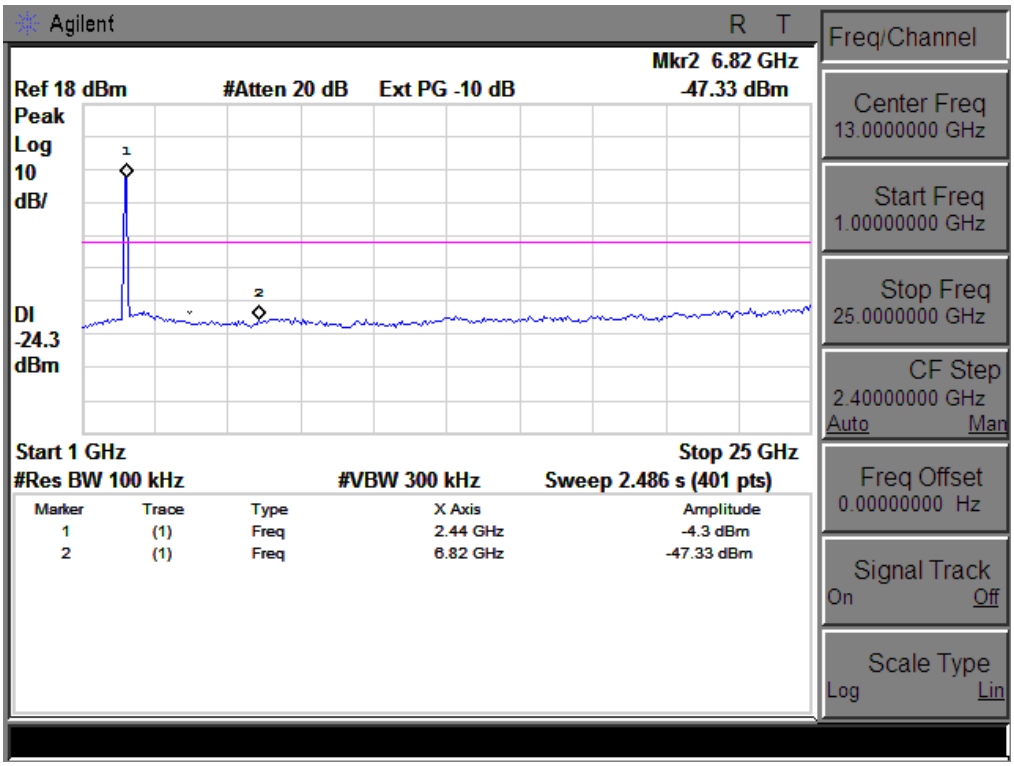
802.11n-HT20 High Channel



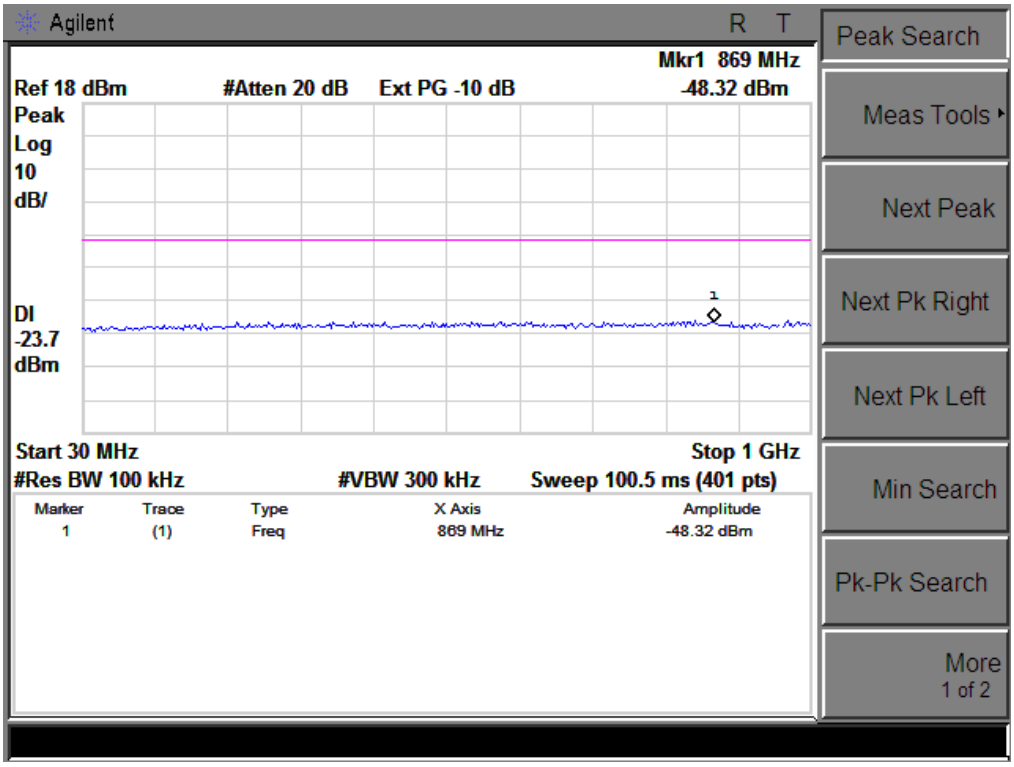


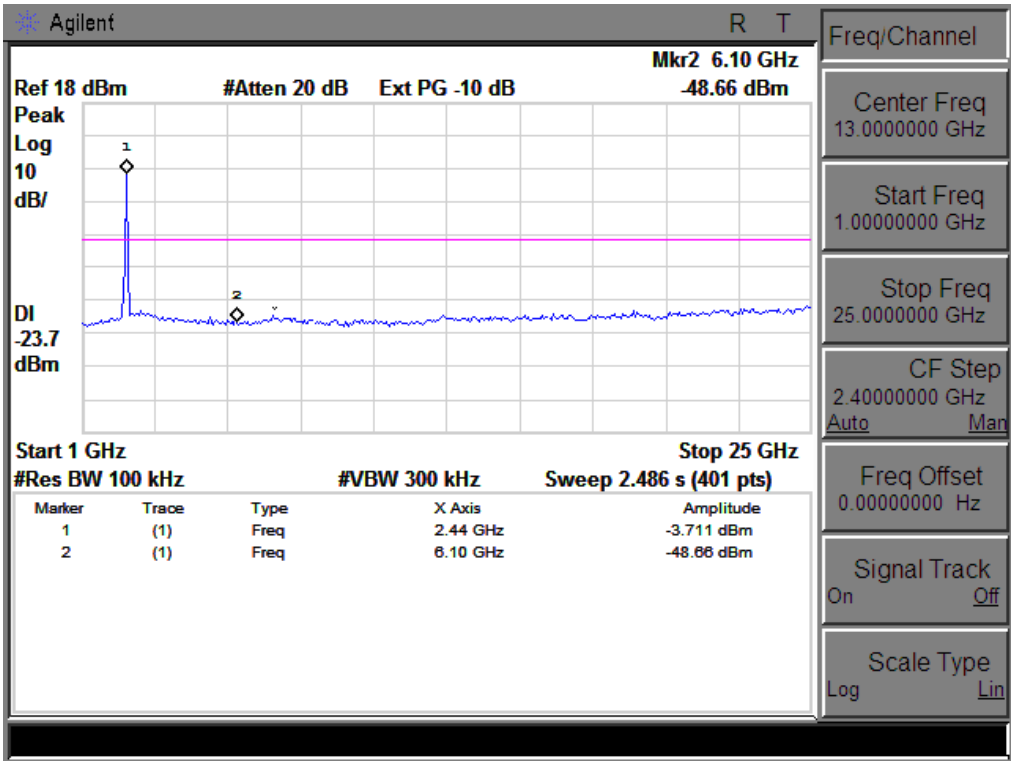
802.11n-HT40 Low Channel



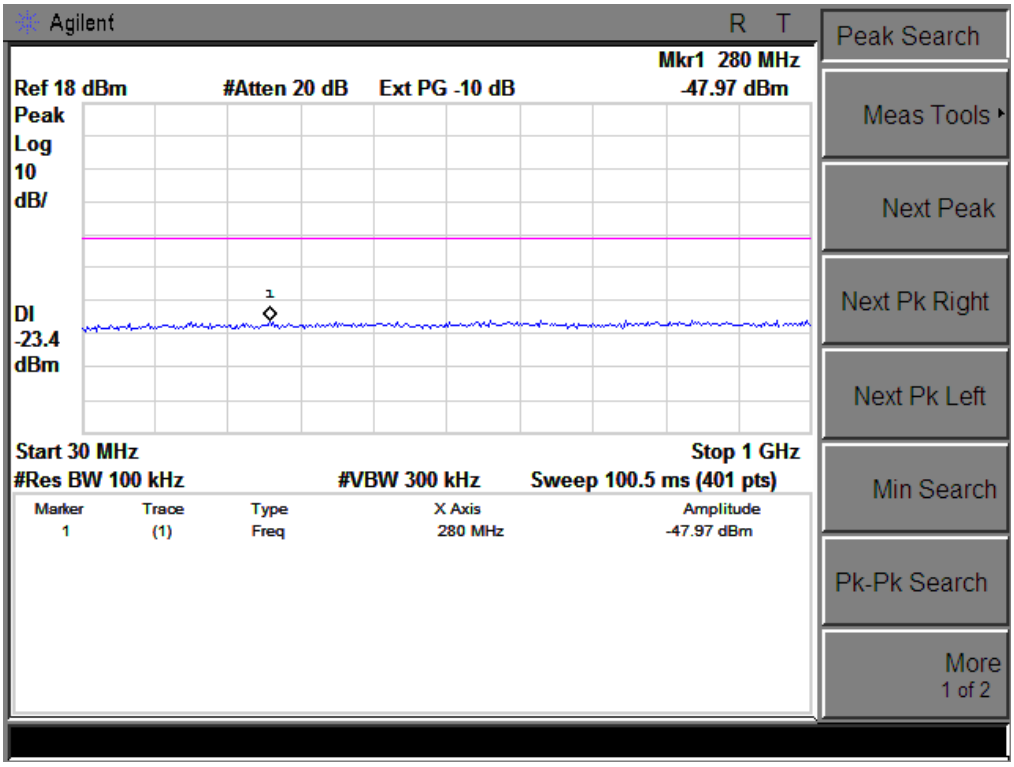


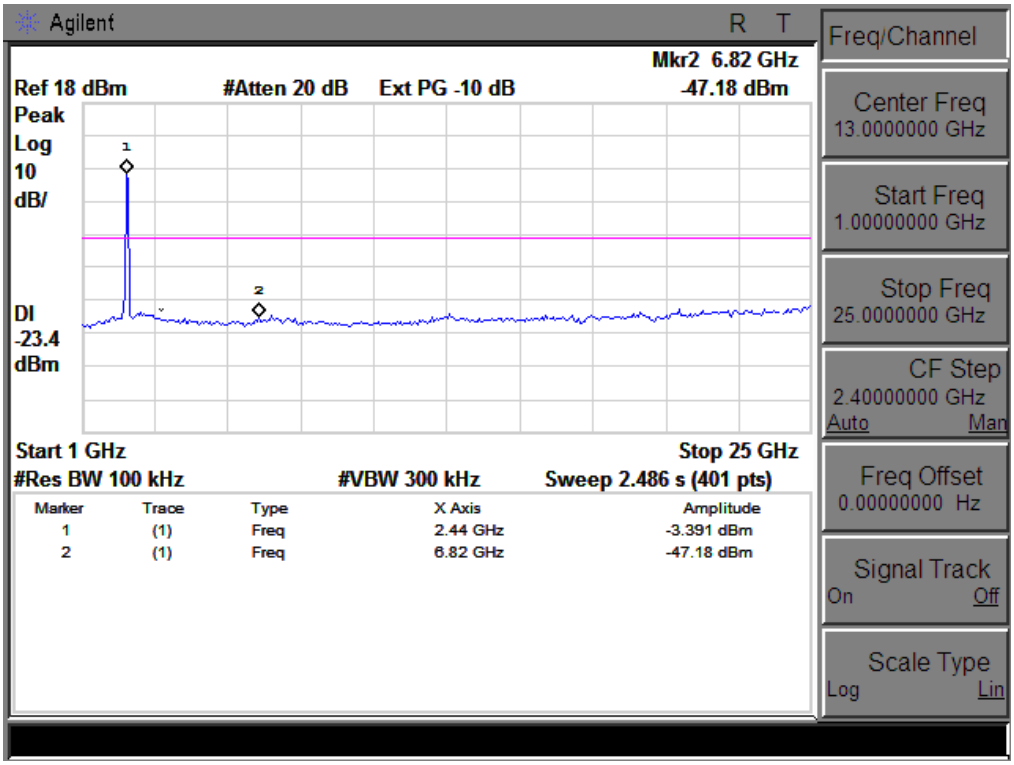
802.11n-HT40 Middle Channel



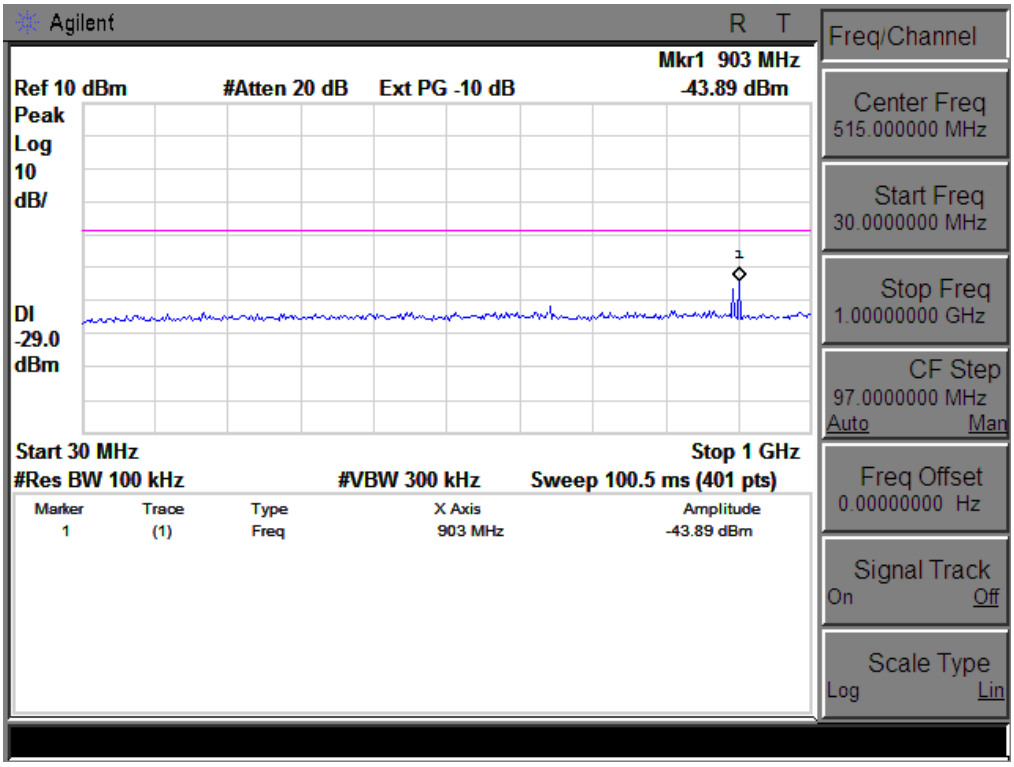


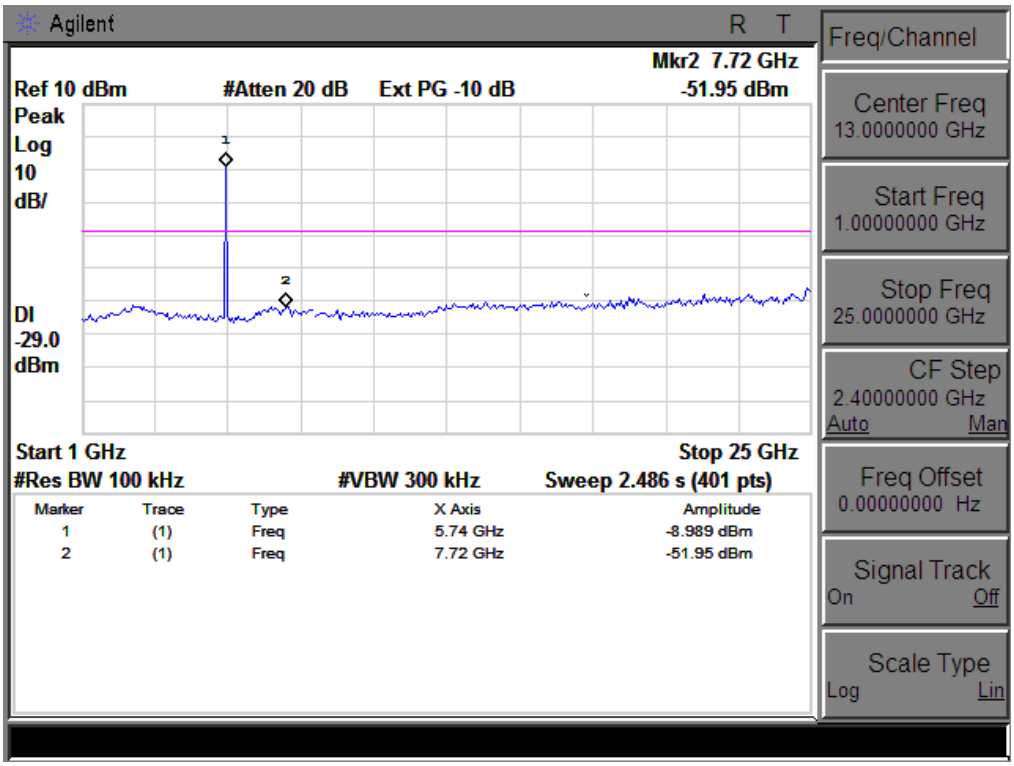
802.11n-HT40 High Channel





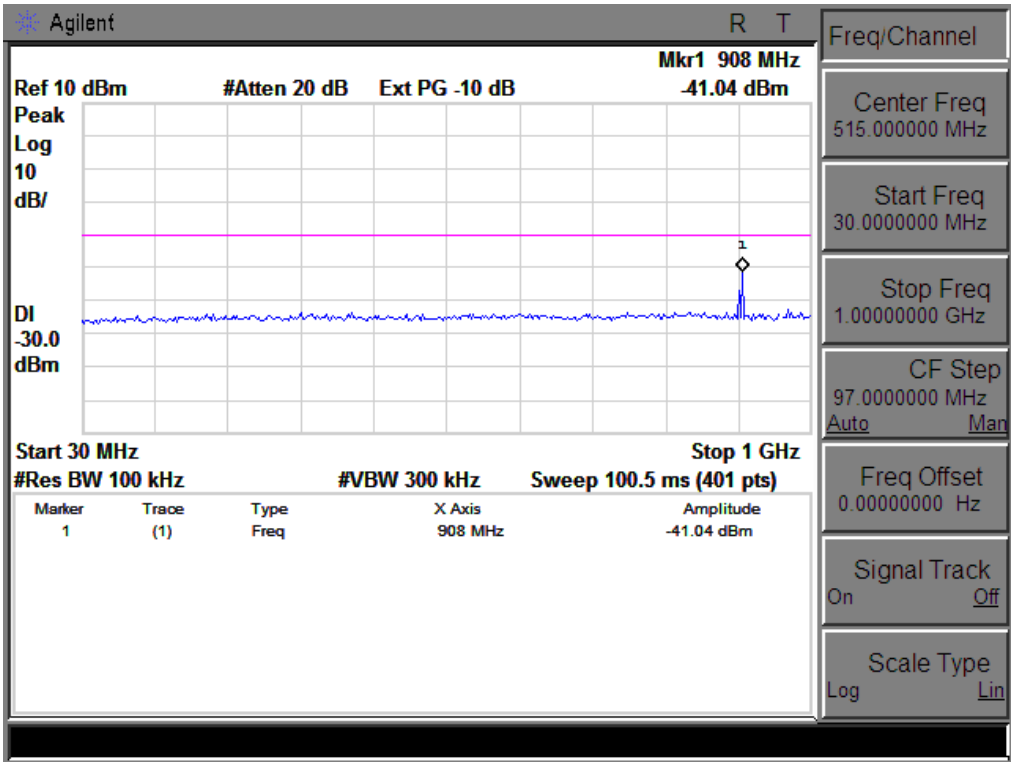
5GHz: 802.11a Low Channel

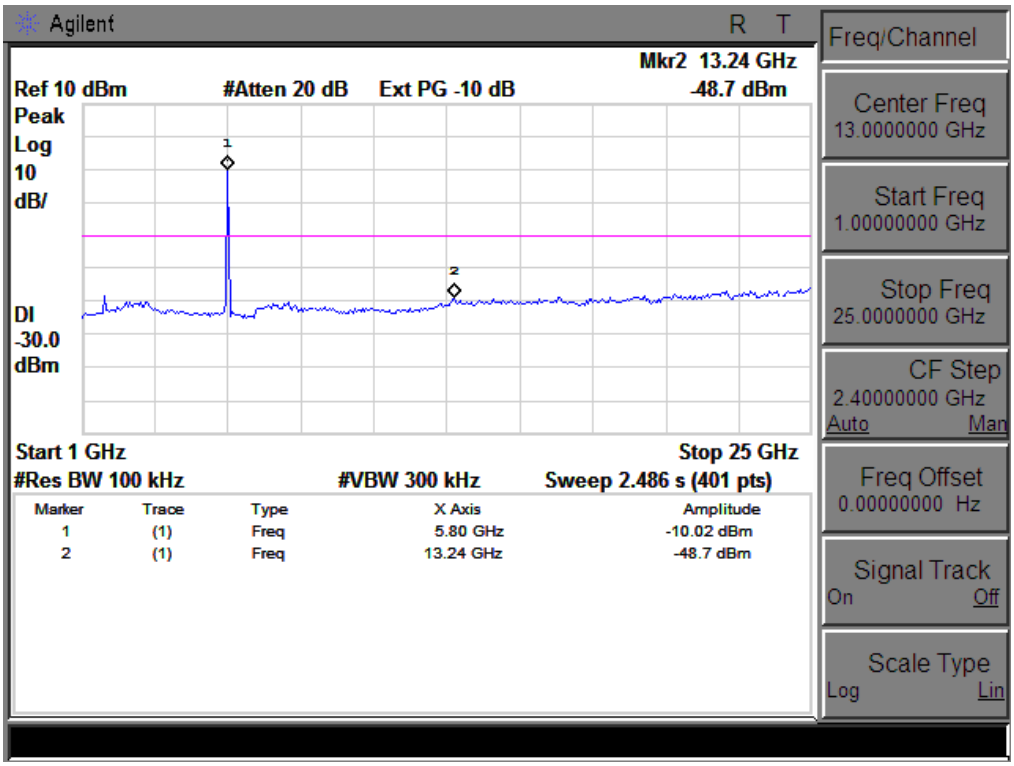




Note: No emission detected above 25GHz

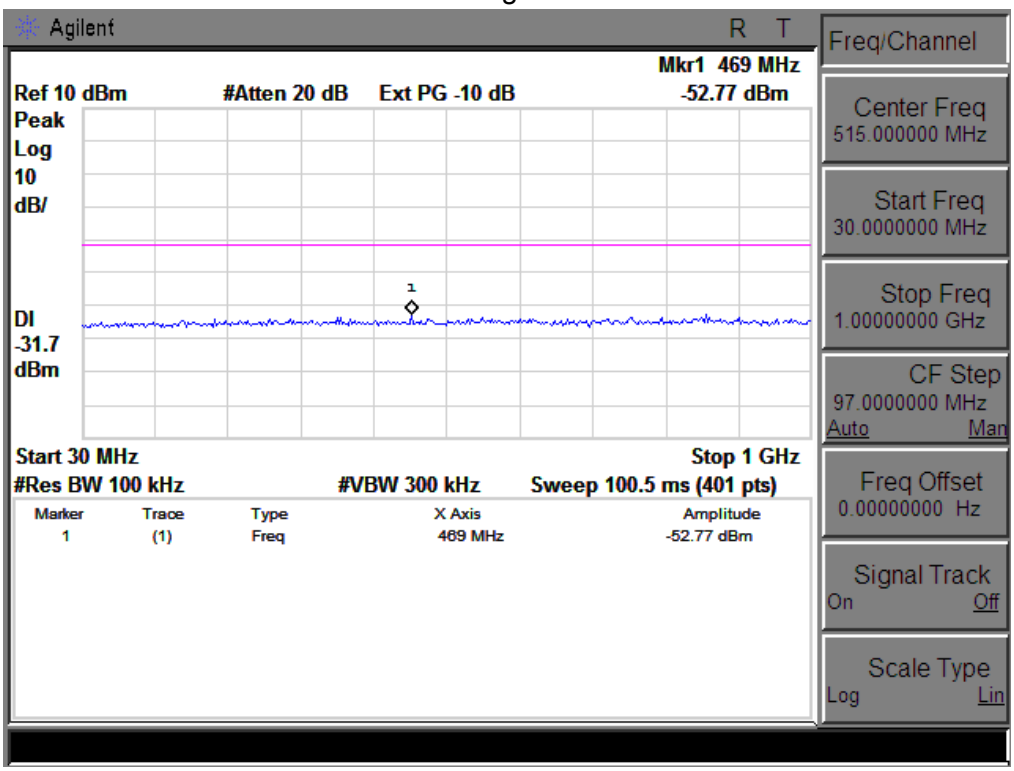
802.11a Middle Channel

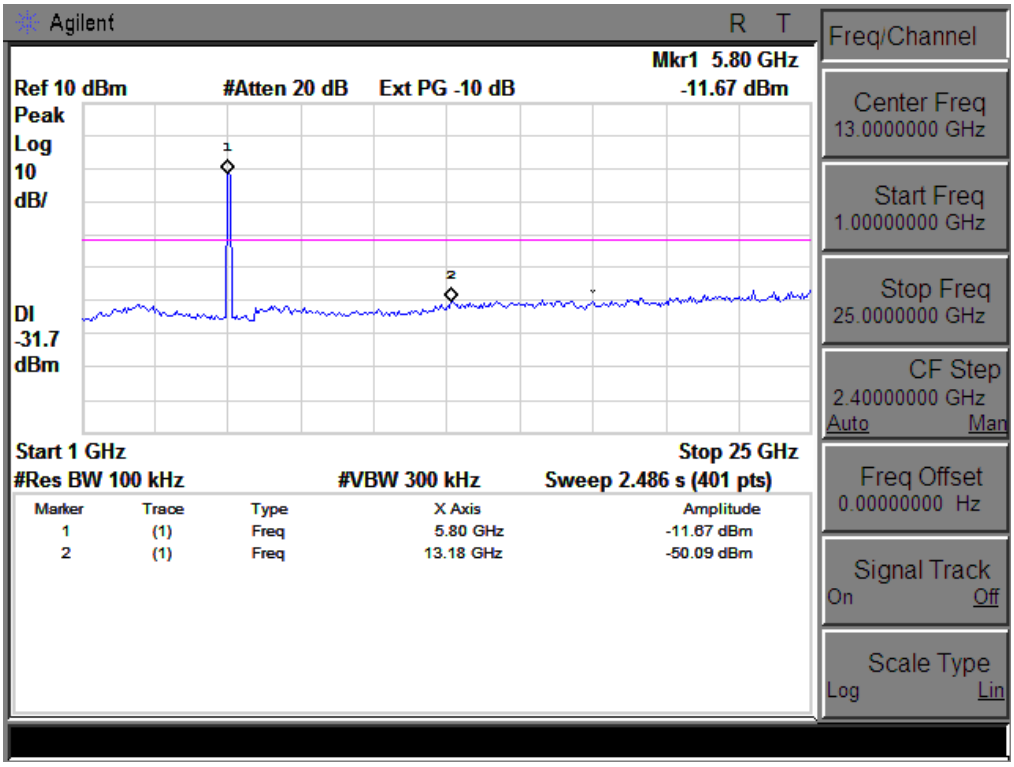




Note: No emission detected above 25GHz

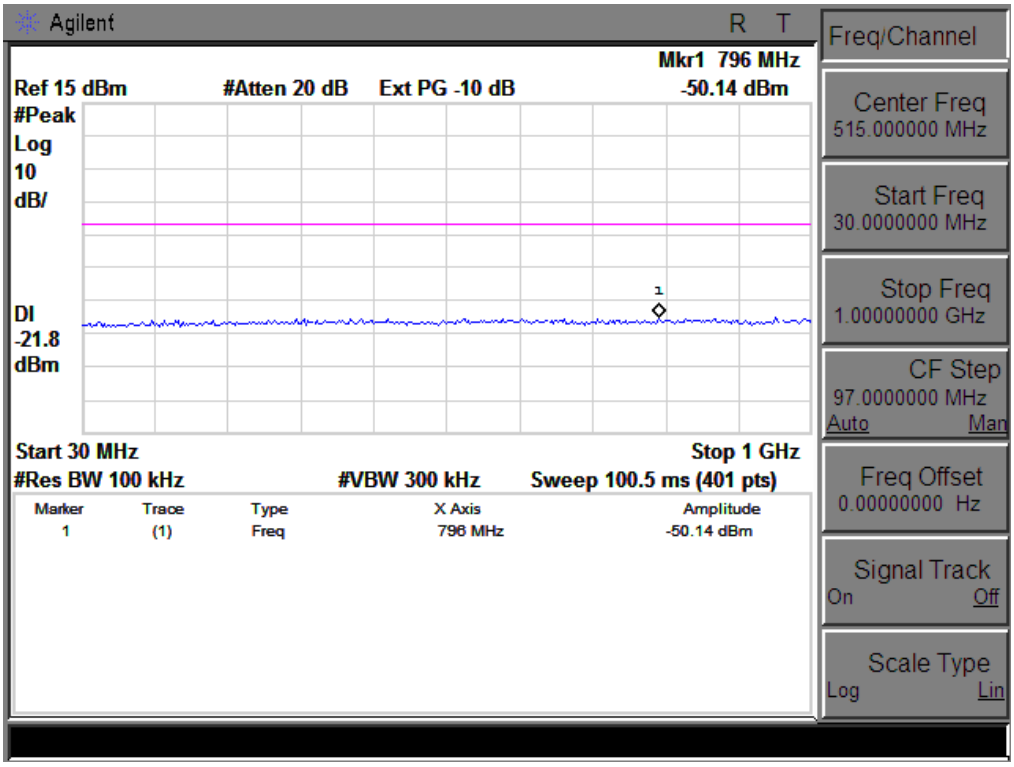
802.11a High Channel

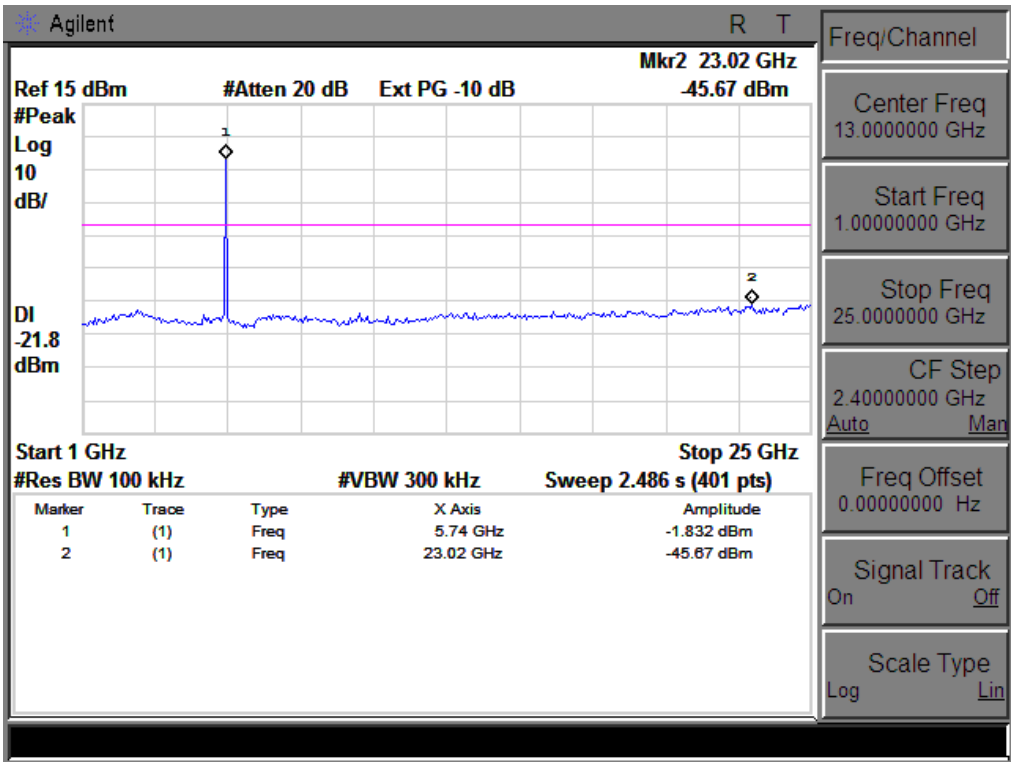




Note: No emission detected above 25GHz

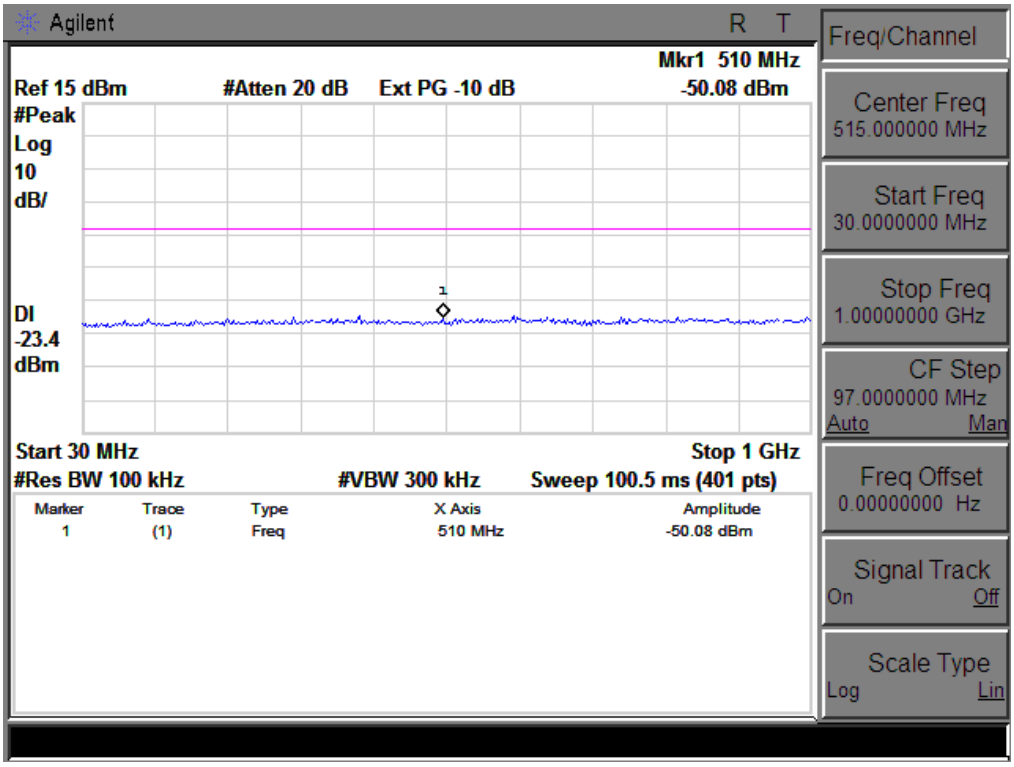
802.11n(20) Low Channel

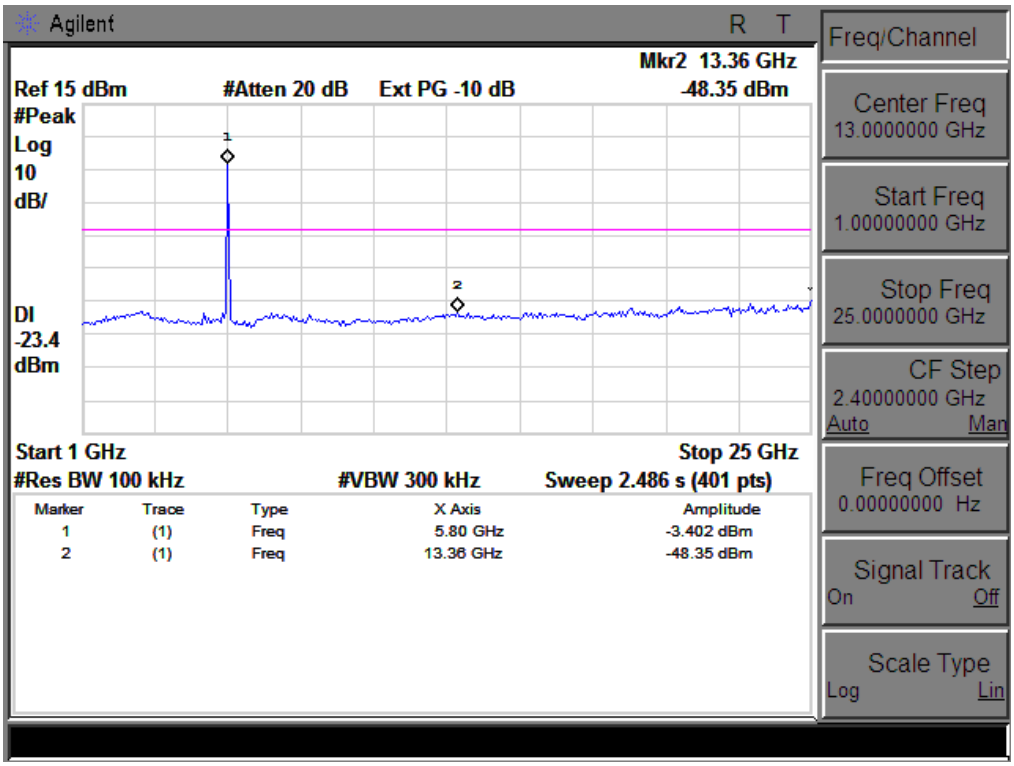




Note: No emission detected above 25GHz

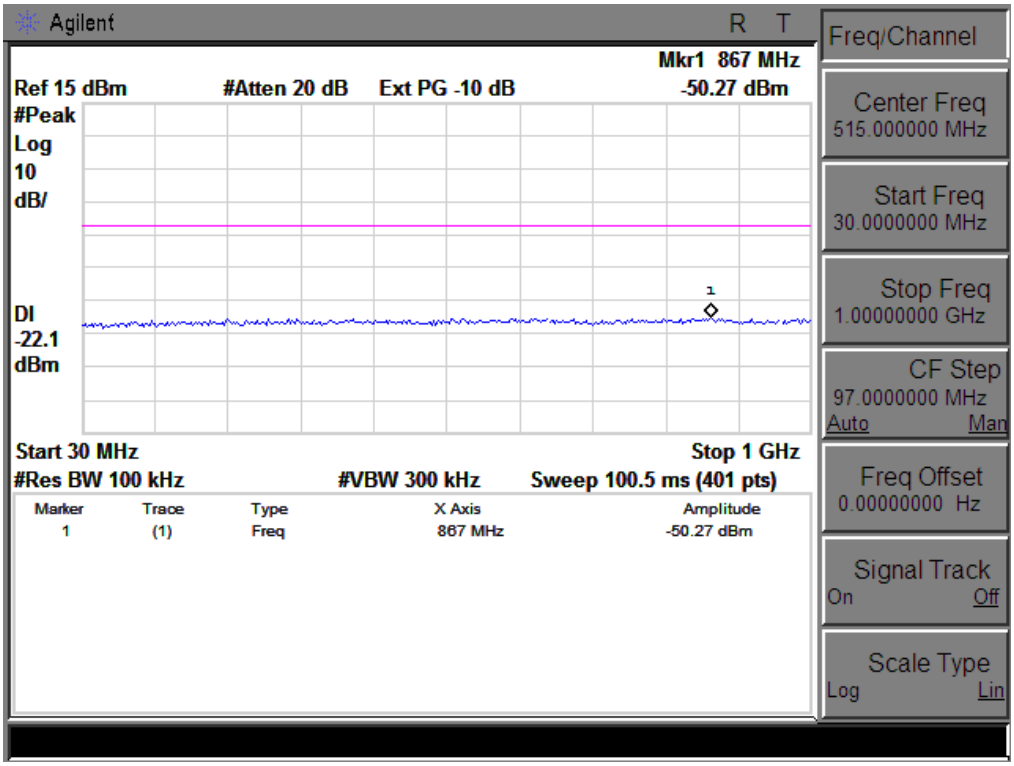
802.11n(20) Middle Channel

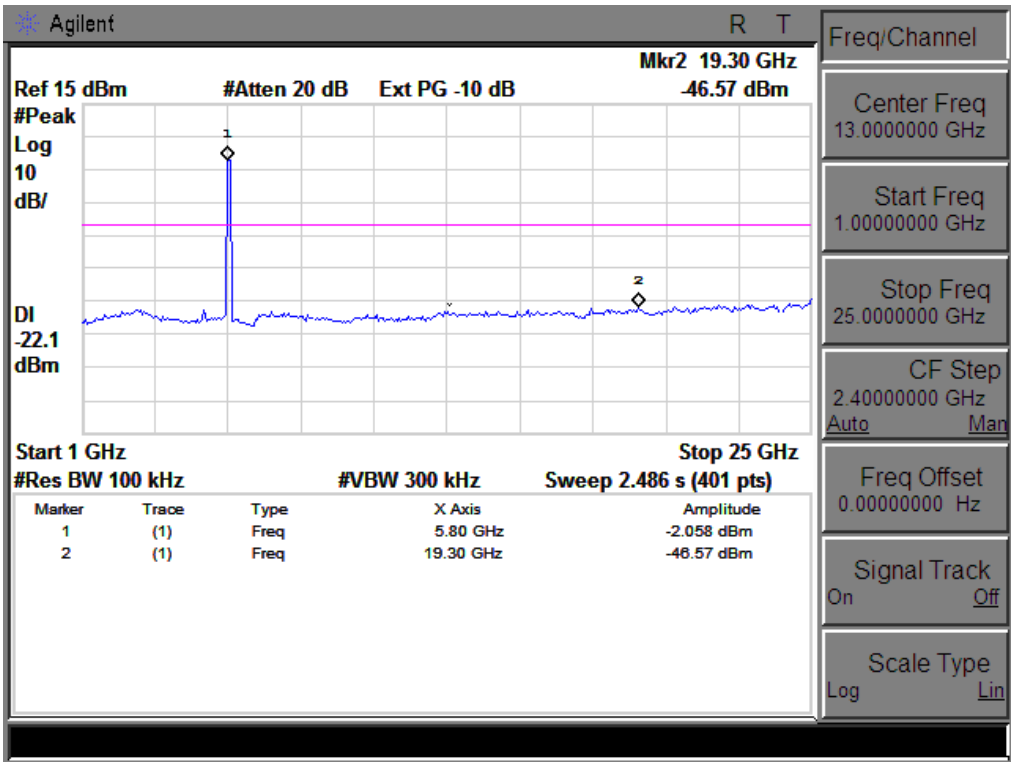




Note: No emission detected above 25GHz

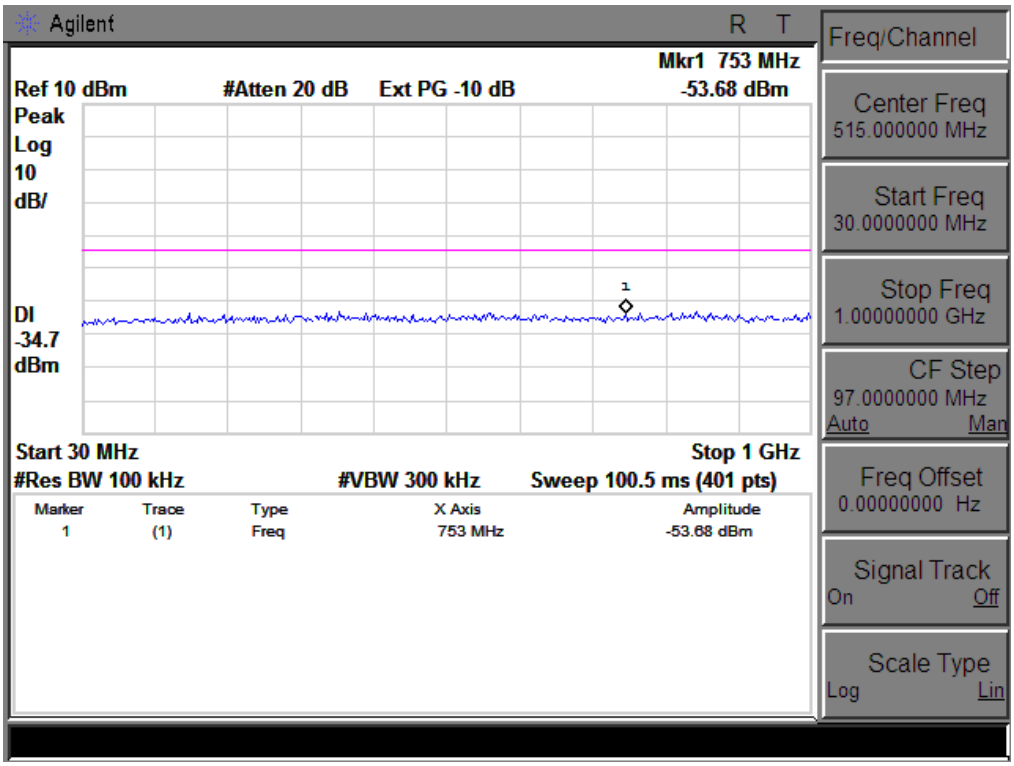
802.11n(20) High Channel

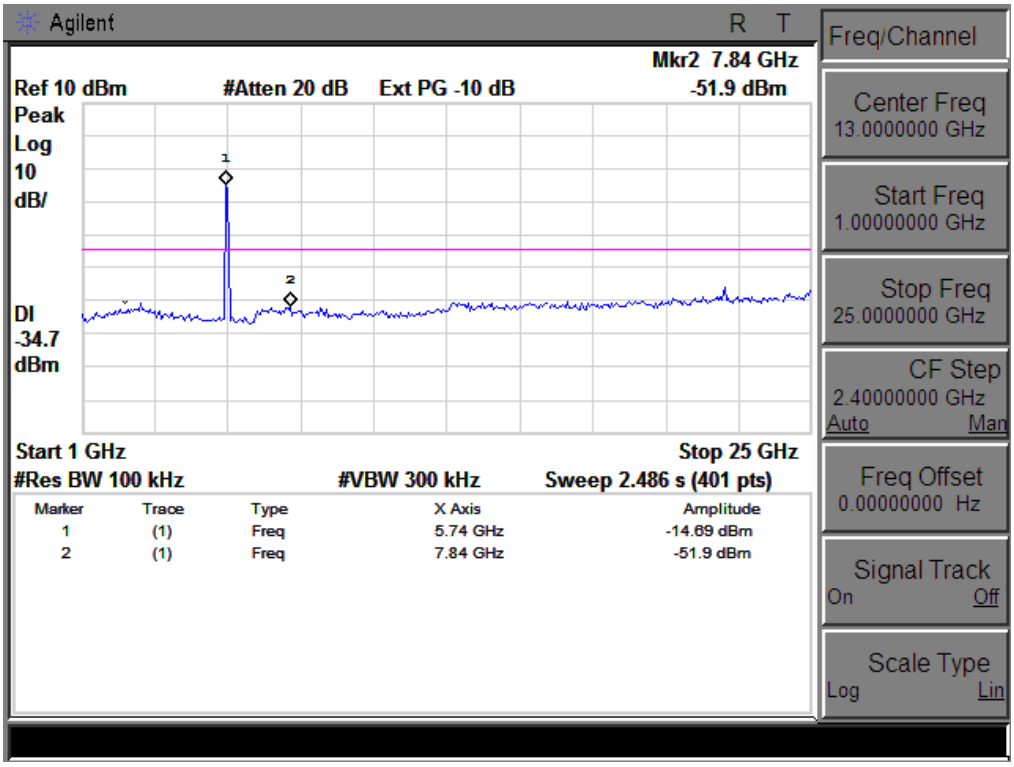




Note: No emission detected above 25GHz

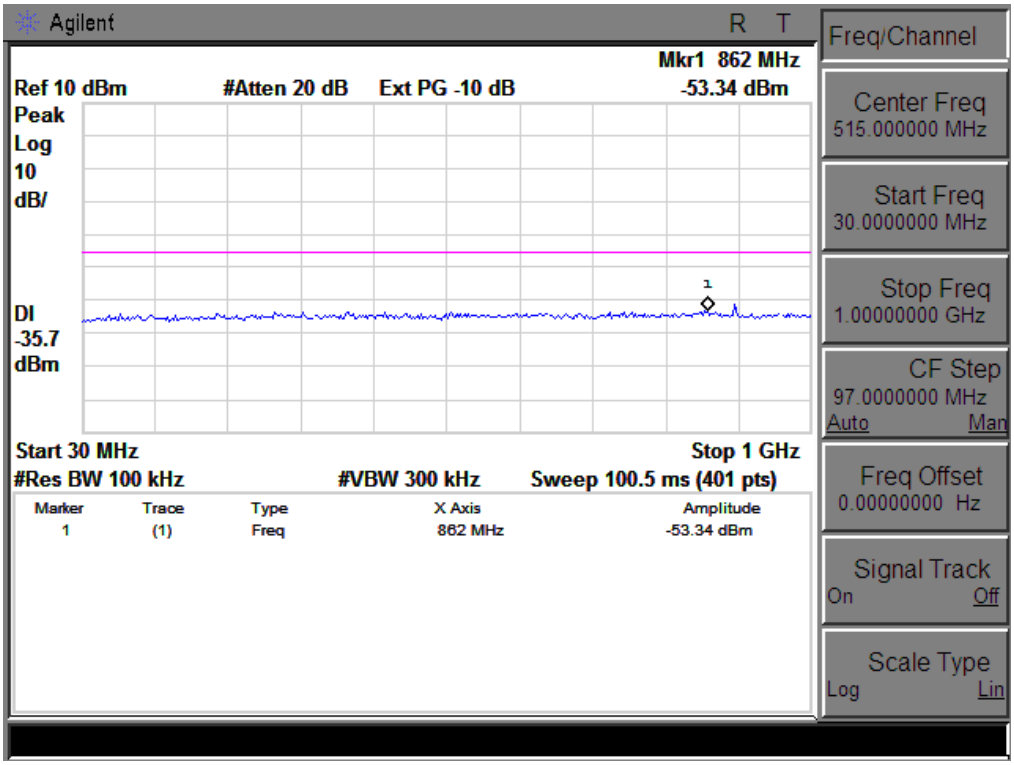
802.11n 40 Low Channel

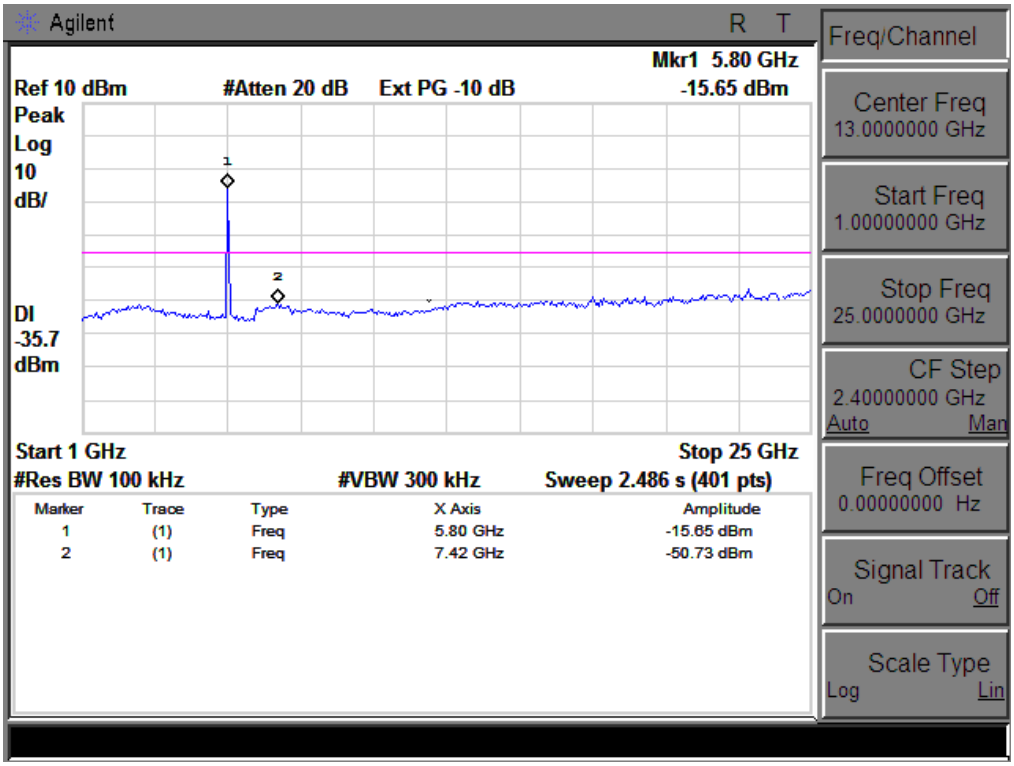




Note: No emission detected above 25GHz

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 ≥ 3 kHz.
4. Set the VBW ≥ 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.

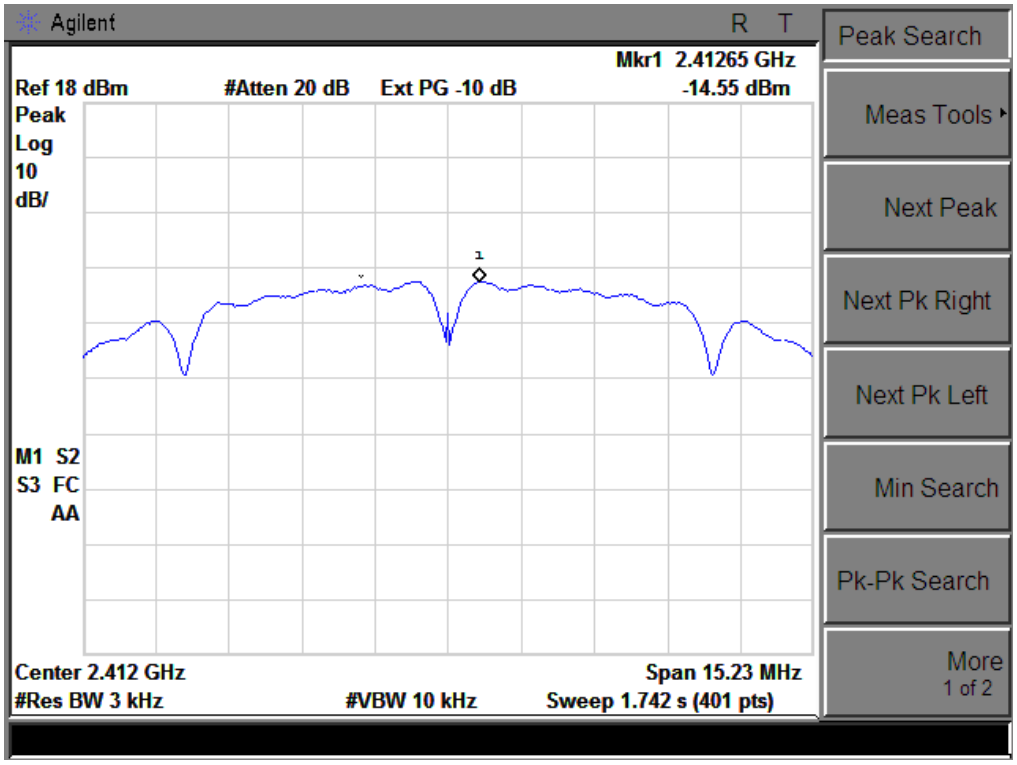
4.1.5 TEST RESULTS

EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX b Mode /CH01, CH06, CH11		

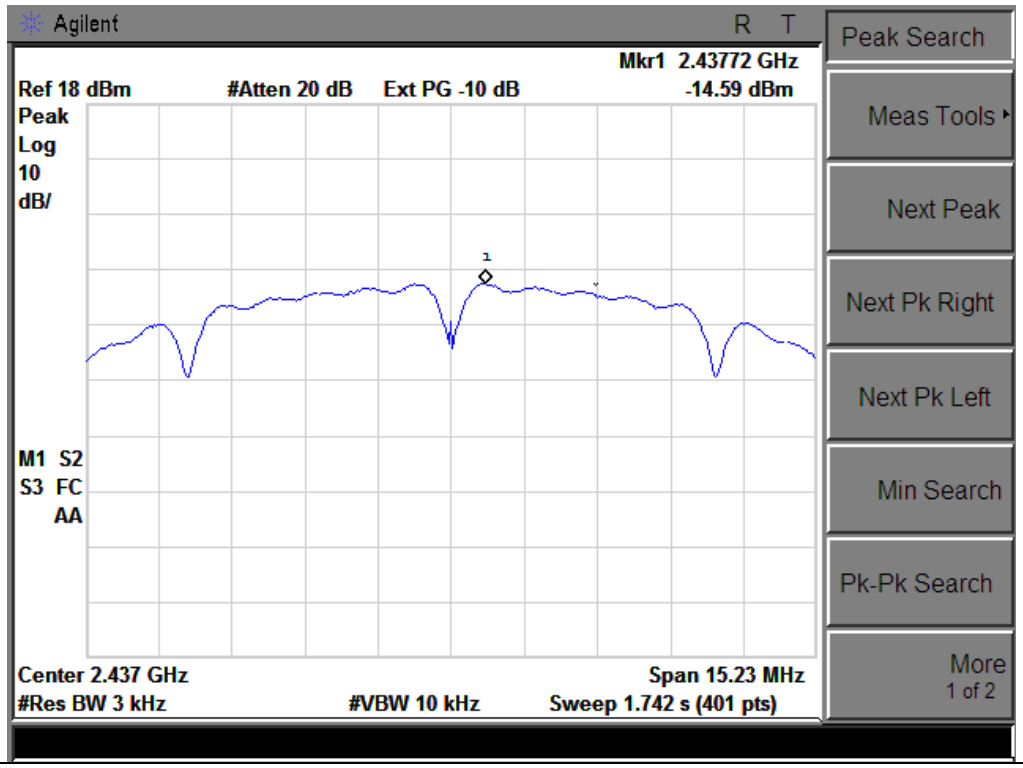
Frequency	Power Density A (dBm)	Power Density B (dBm)	Limit (dBm)	Result
2412 MHz	-14.55	-15.57	8	PASS
2437 MHz	-14.59	-15.73	8	PASS
2462 MHz	-14.09	-14.56	8	PASS

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

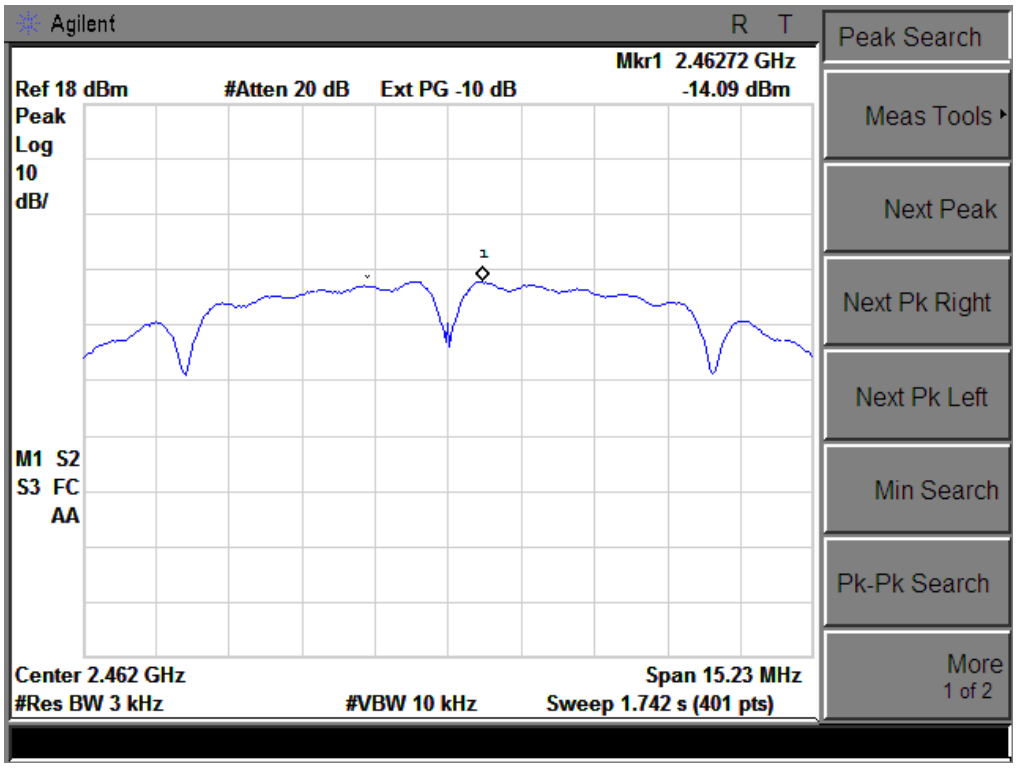
TX CH01



TX CH06



TX CH11

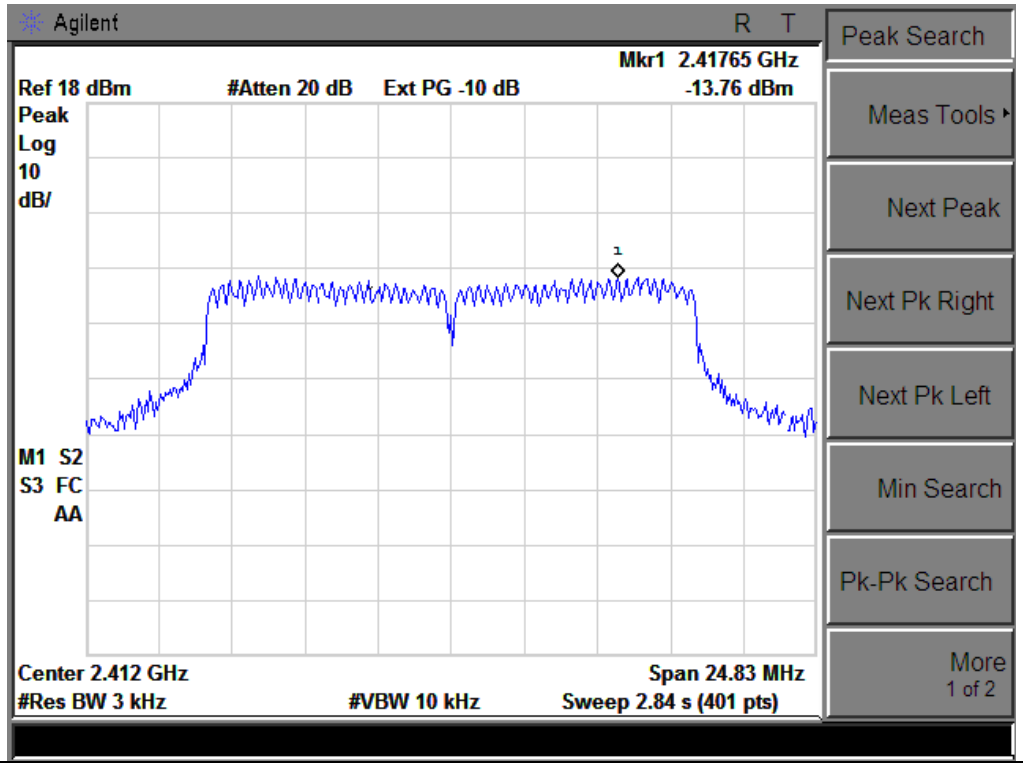


EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX g Mode /CH01, CH06, CH11		

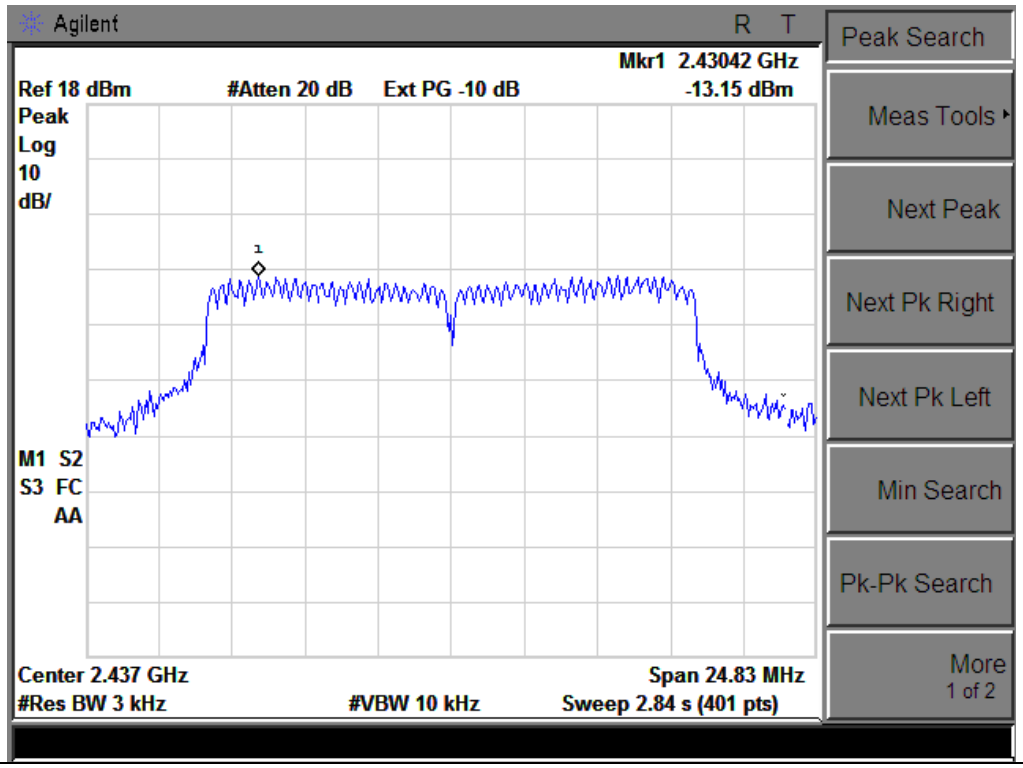
Frequency	Power Density A (dBm)	Power Density B (dBm)	Limit (dBm)	Result
2412 MHz	-13.76	-13.76	8	PASS
2437 MHz	-13.15	-13.86	8	PASS
2462 MHz	-13.07	-13.96	8	PASS

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

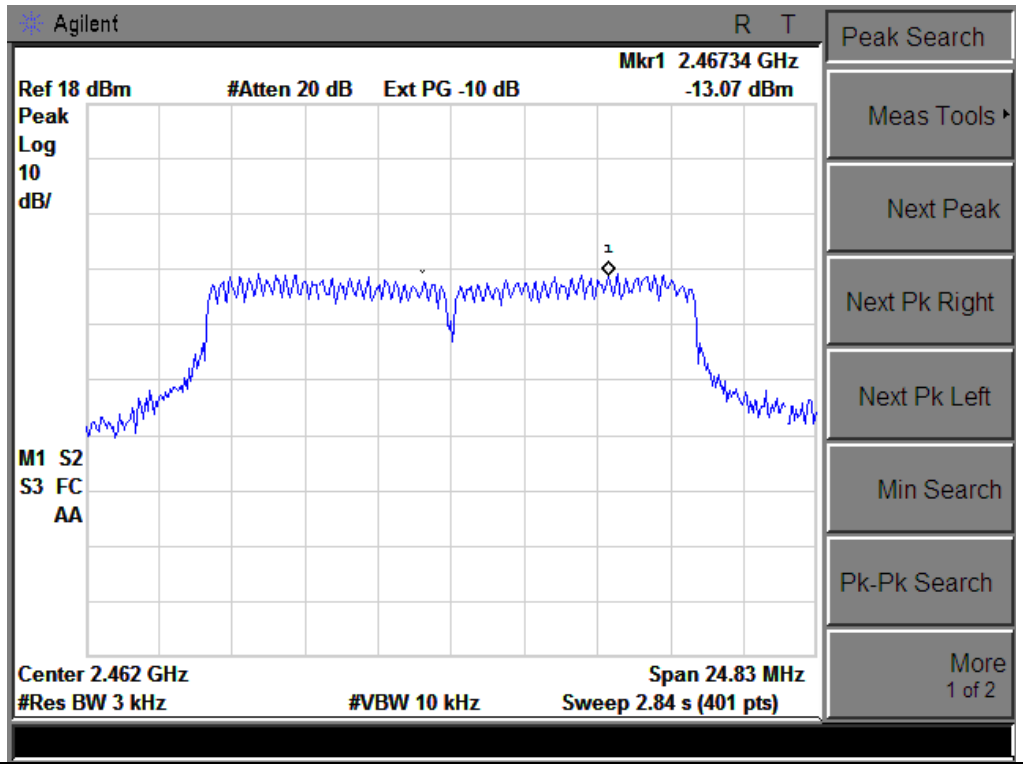
TX CH01



TX CH06



TX CH11

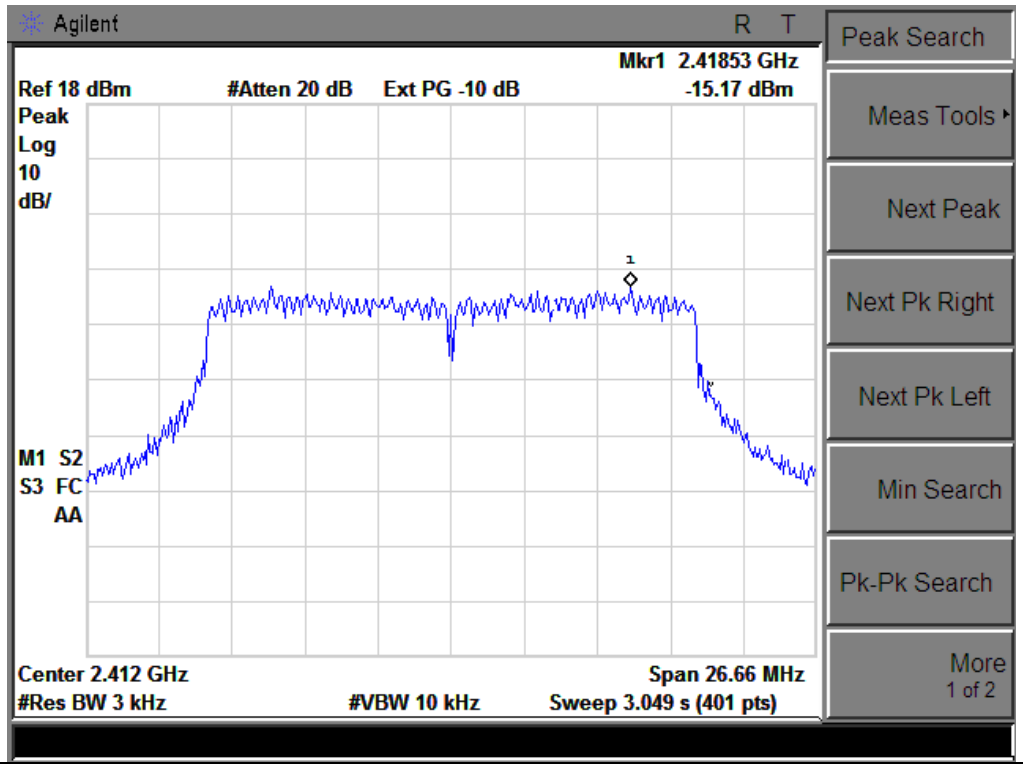


EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX n Mode (20MHz)/CH01, CH06, CH11		

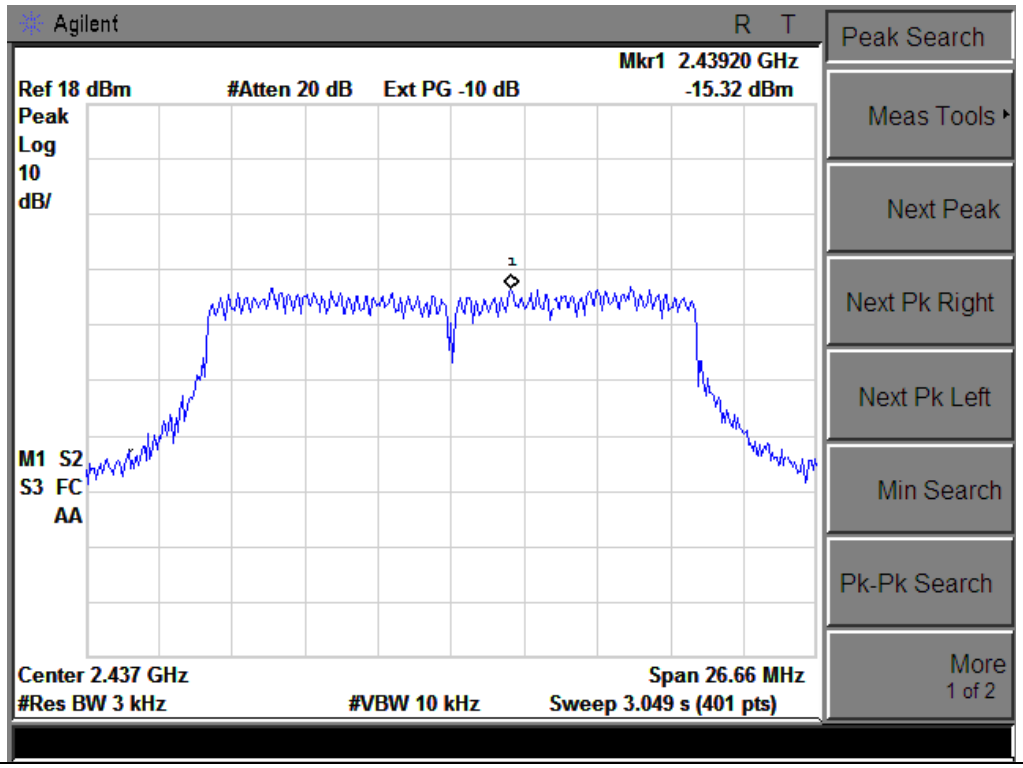
Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
2412 MHz	-15.17	-17.17	-13.05	8	PASS
2437 MHz	-15.32	-17.22	-13.16	8	PASS
2462 MHz	-14.93	-16.87	-12.78	8	PASS

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

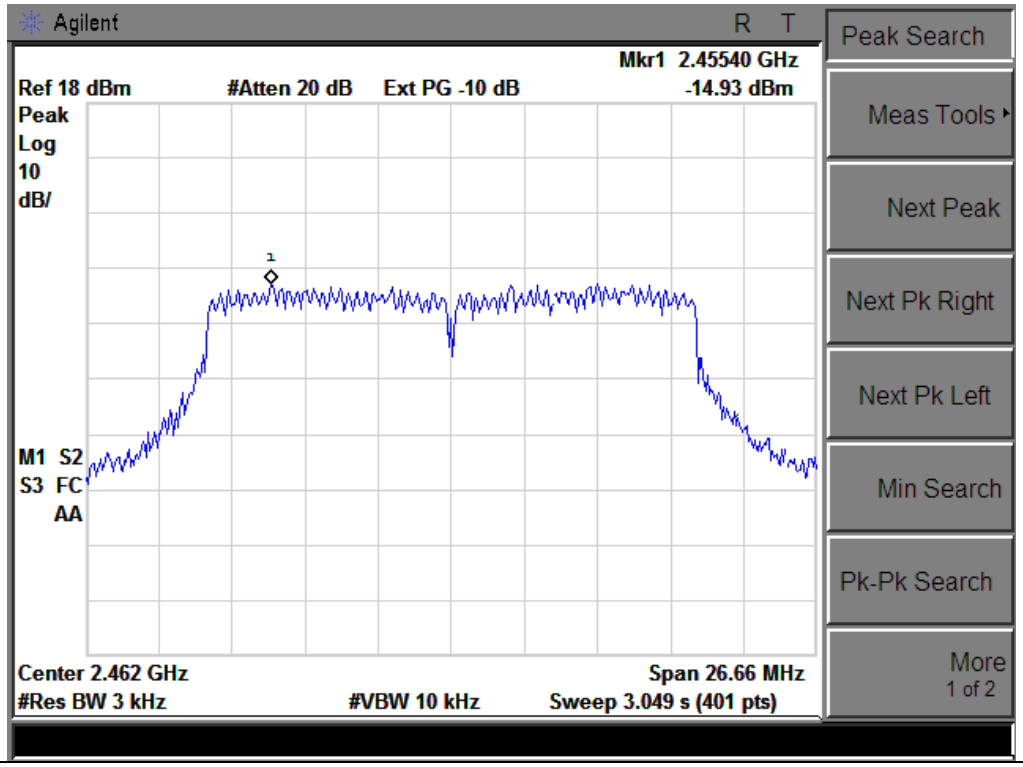
TX CH01



TX CH06



TX CH11



EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 5V
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	-20.07	-24.21	-18.65	8	PASS
2437 MHz	-20.16	-24.32	-18.75	8	PASS
2452 MHz	-18.27	-22.37	-16.84	8	PASS

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

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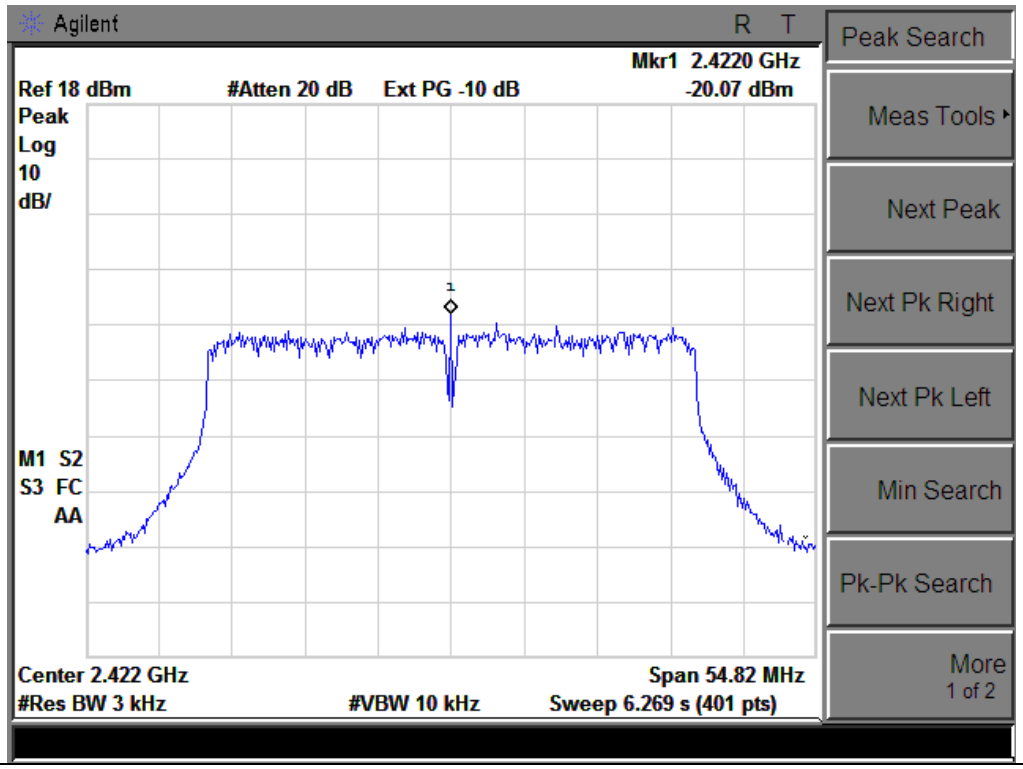
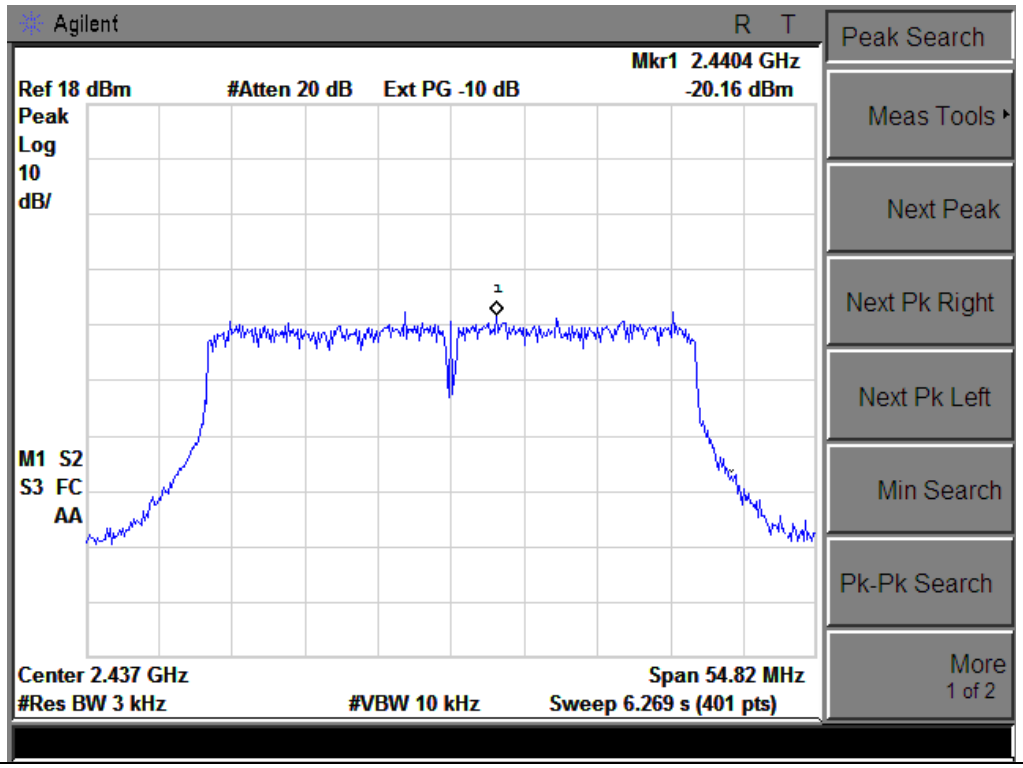
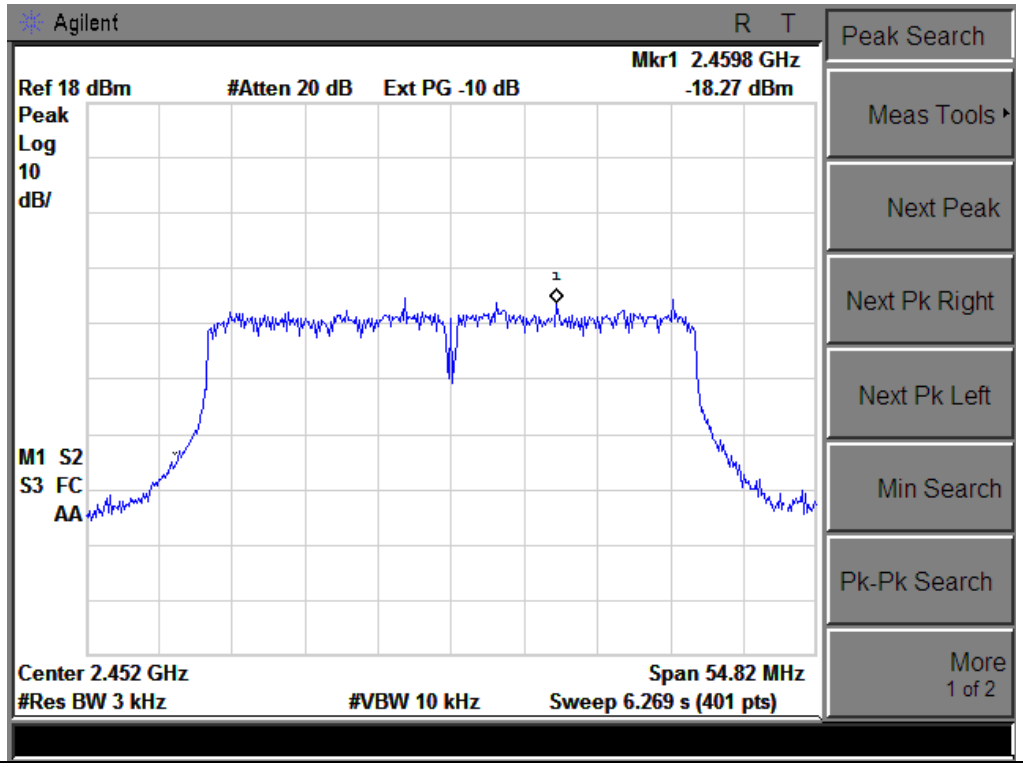
TX CH03



TX CH06



TX CH09

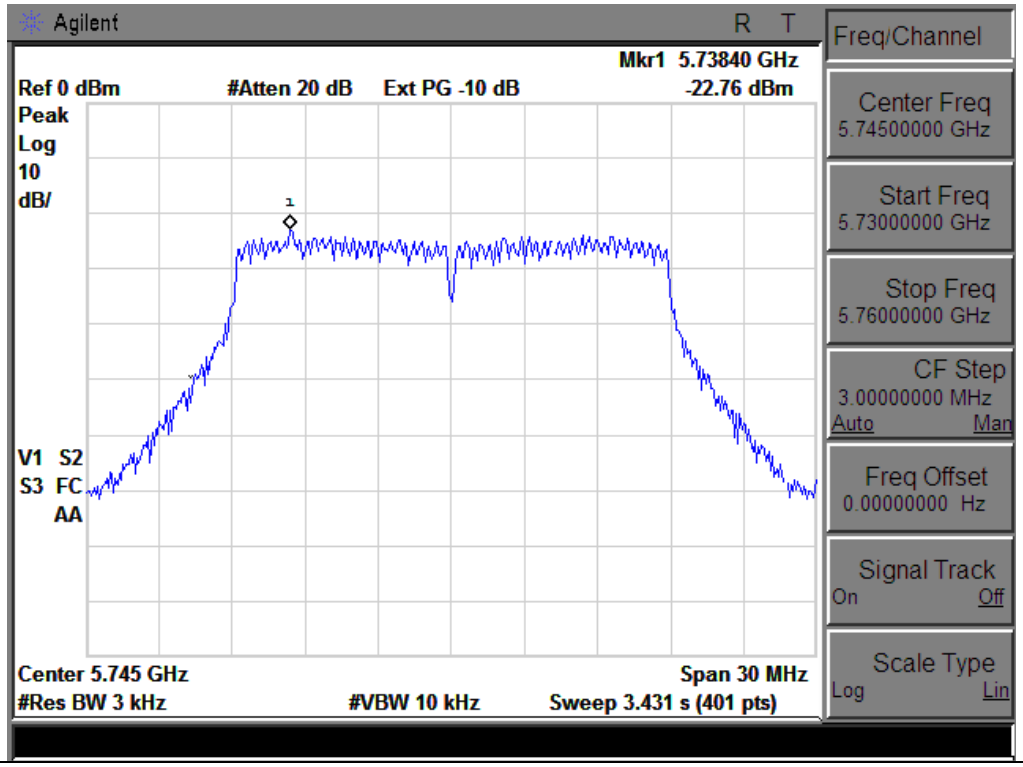


EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX a Mode /CH149, CH157, CH165		

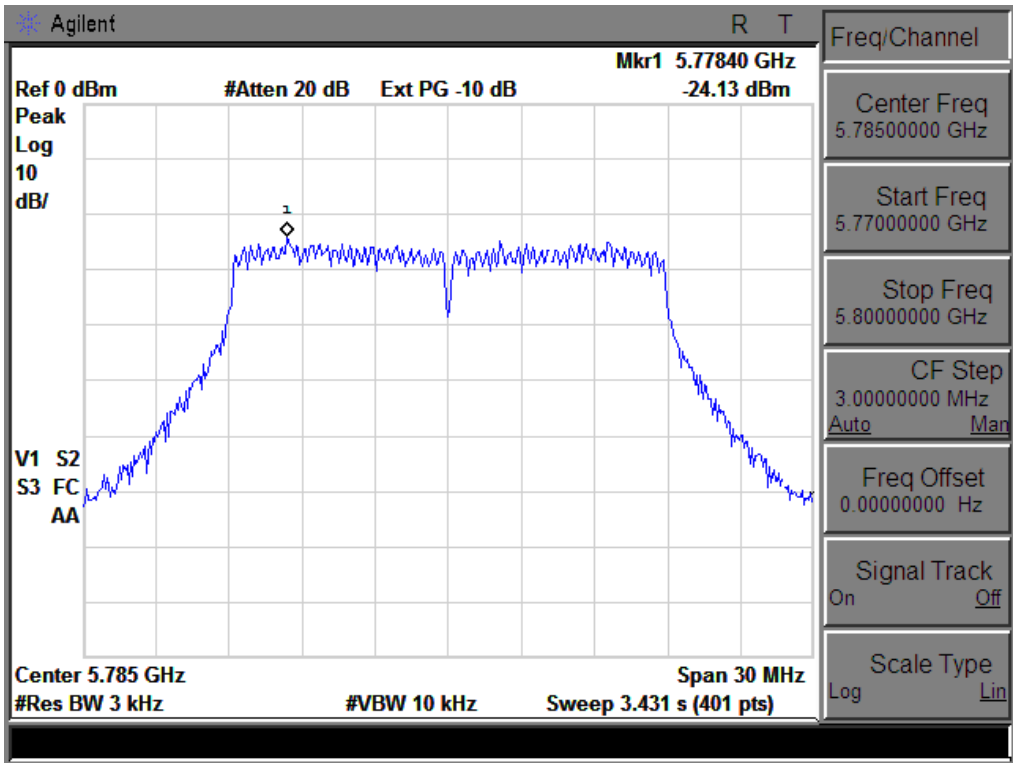
Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
5745MHz	-22.76	-23.24	-19.98	8	PASS
5785 MHz	-24.13	-25.63	-21.81	8	PASS
5825 MHz	-24.79	-25.51	-22.12	8	PASS

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

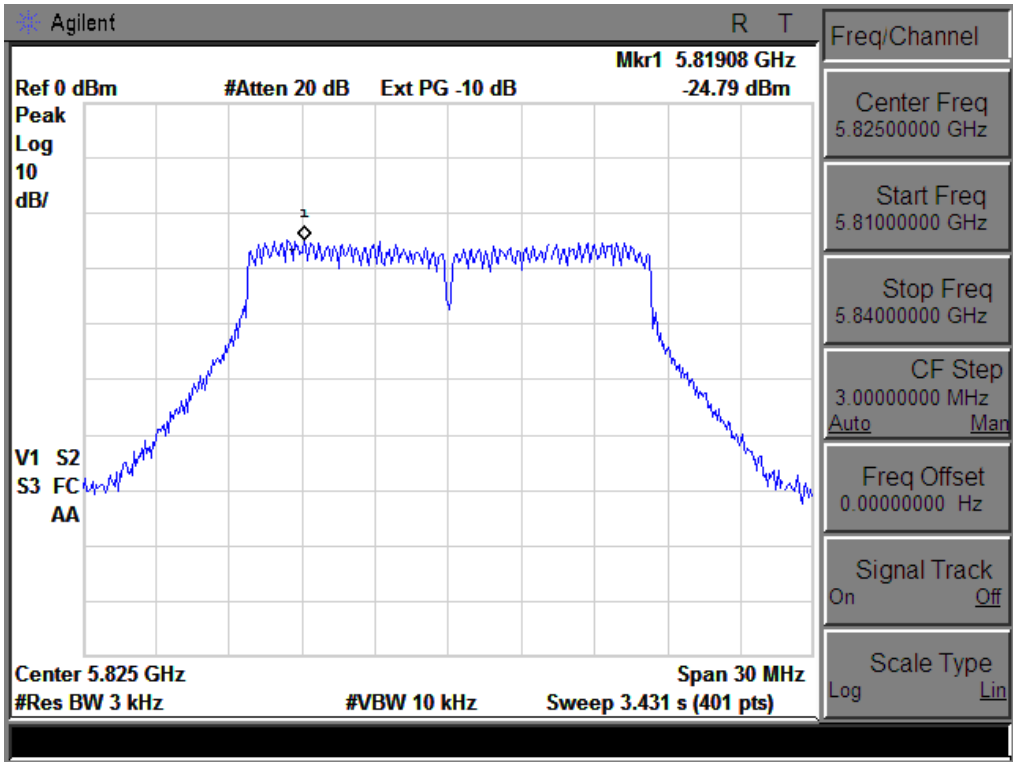
TX CH149



TX CH157



TX CH165

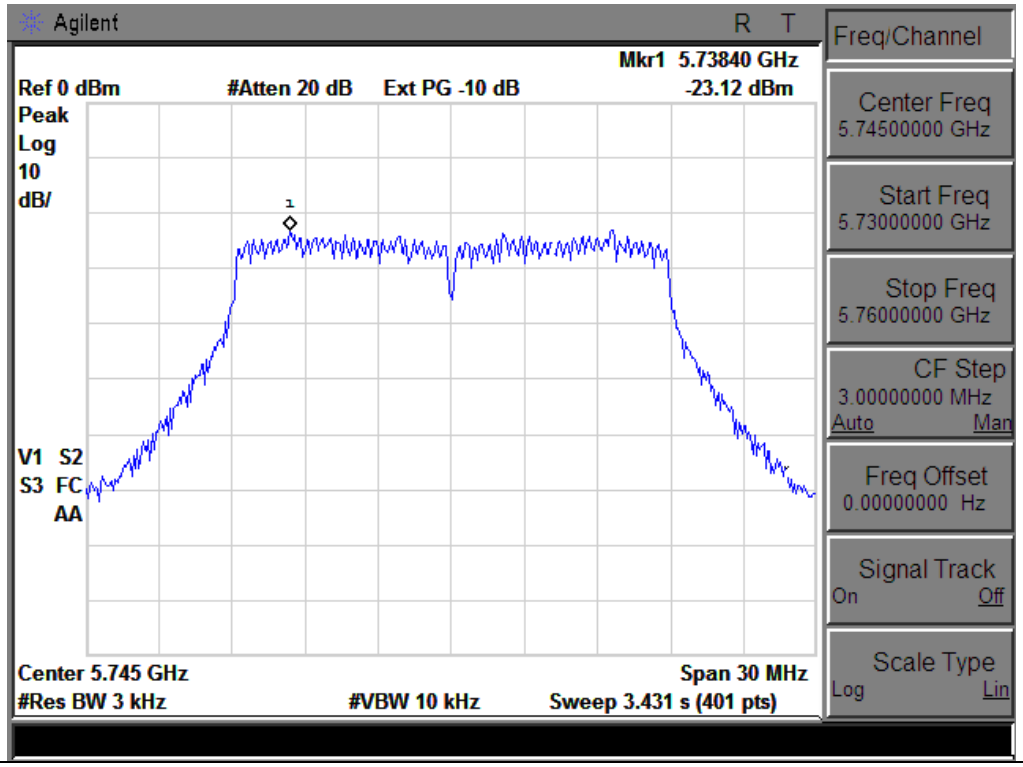


EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX n(20) Mode(5G) /CH149, CH157, CH165		

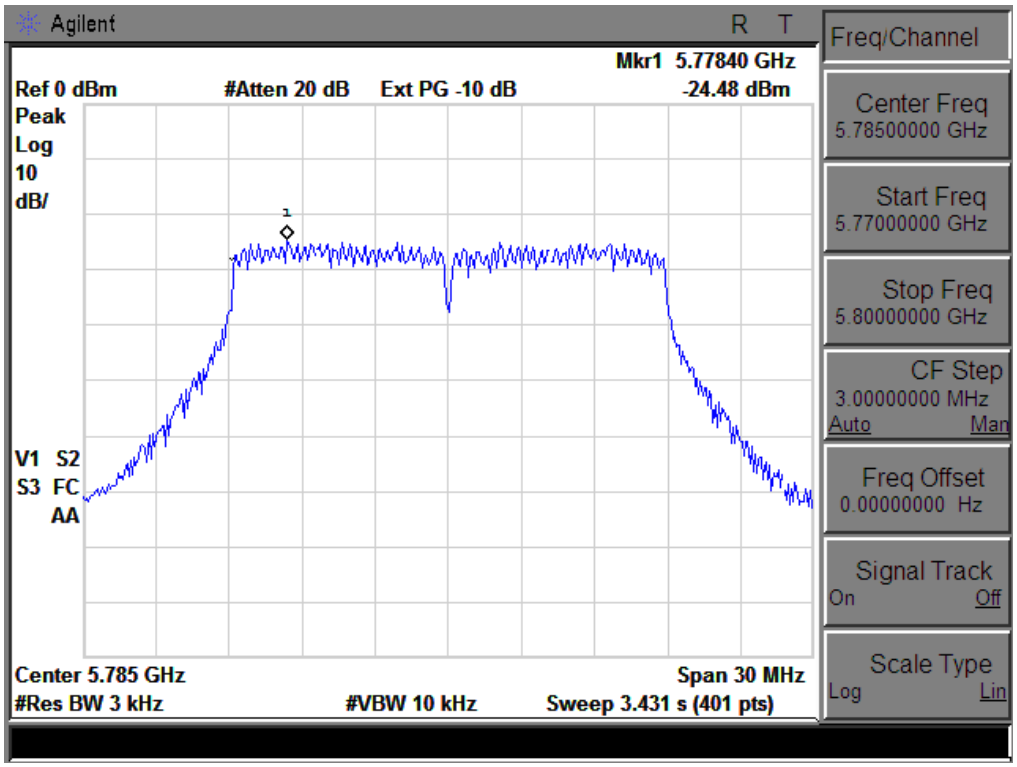
Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
5745MHz	-23.12	-26.39	-21.44	8	PASS
5785 MHz	-24.48	-26.82	-22.48	8	PASS
5825 MHz	-25.86	-27.72	-23.68	8	PASS

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

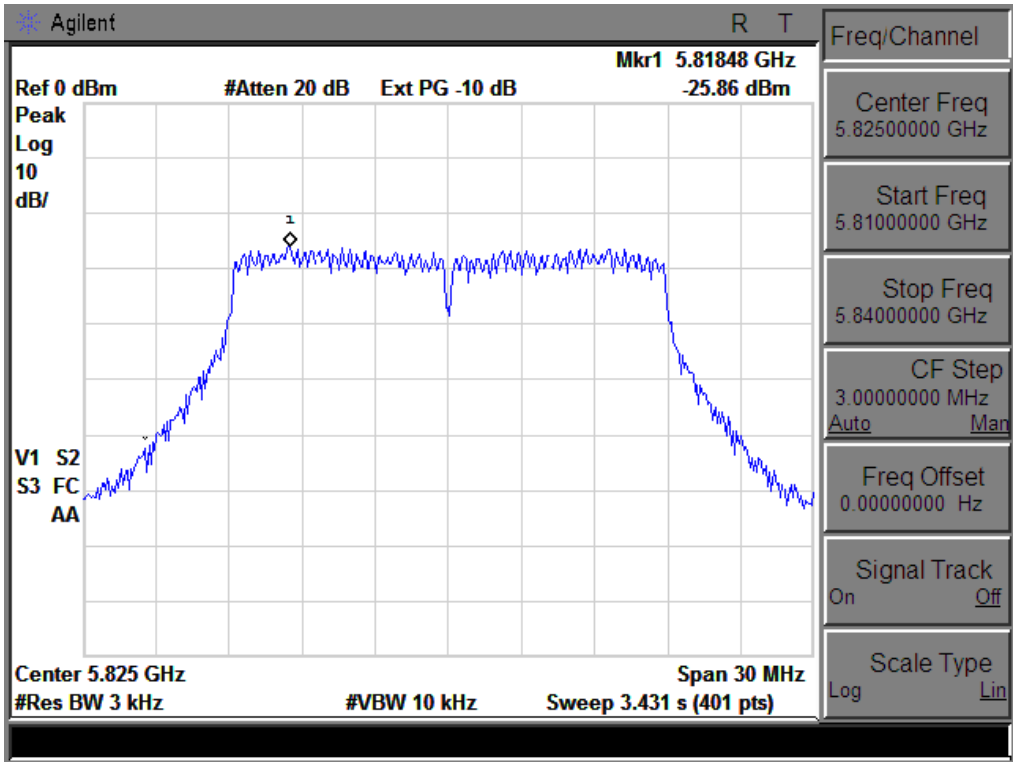
TX CH149



TX CH157



TX CH165

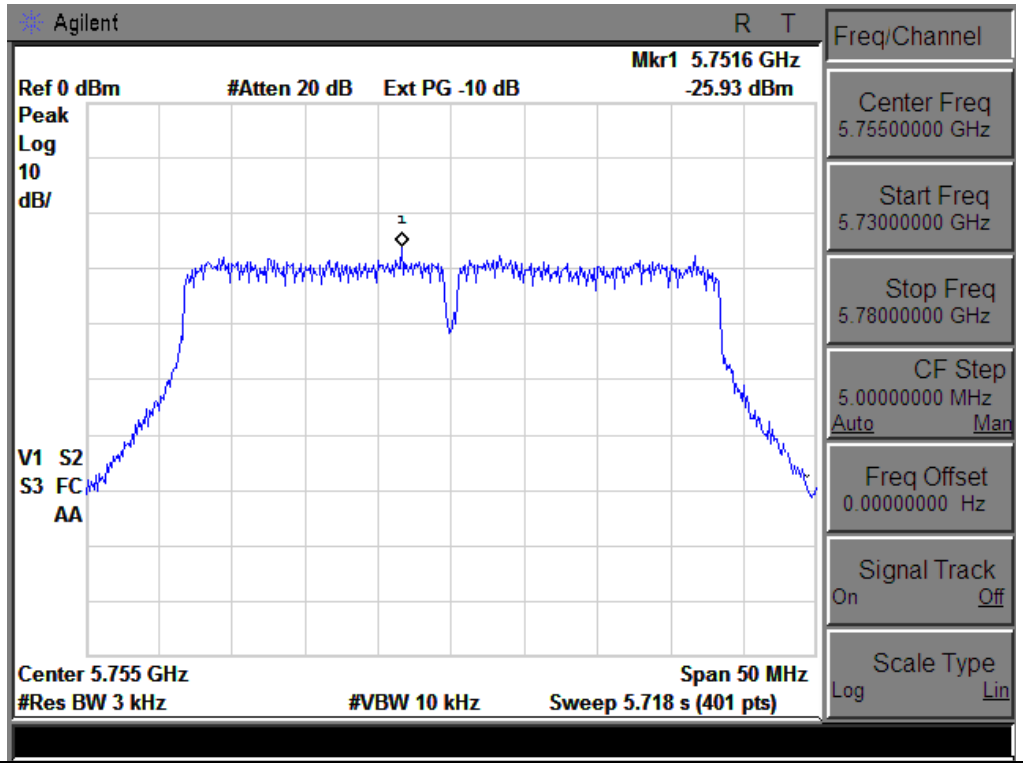


EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX n40 Mode(5G) /CH151, CH159		

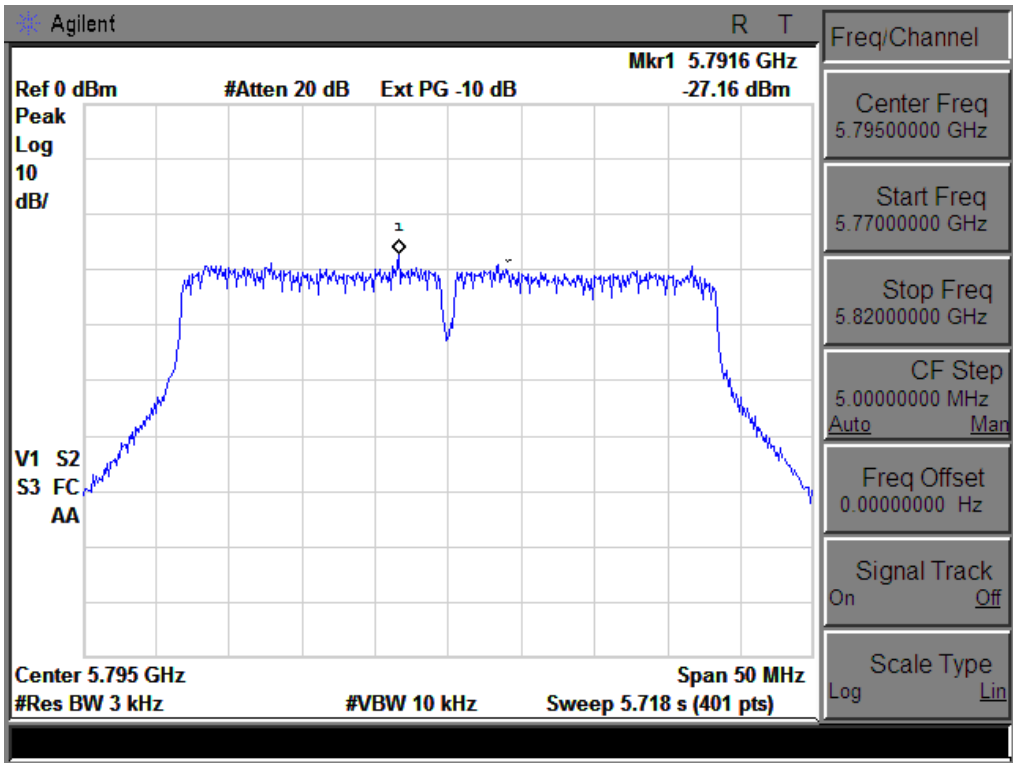
Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
5755 MHz	-25.93	-28.09	-23.87	8	PASS
5795 MHz	-27.16	-29.73	-25.25	8	PASS

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

TX CH151



TX CH159


Agilent
R T
Mkr1 5.7916 GHz
Ref 0 dBm
#Atten 20 dB
Ext PG -10 dB
-27.16 dBm
Peak
Log
10
dB/
V1 S2
S3 FC
AA
Center 5.795 GHz
#Res BW 3 kHz
#VBW 10 kHz
Span 50 MHz
Sweep 5.718 s (401 pts)
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

5. BANDWIDTH TEST

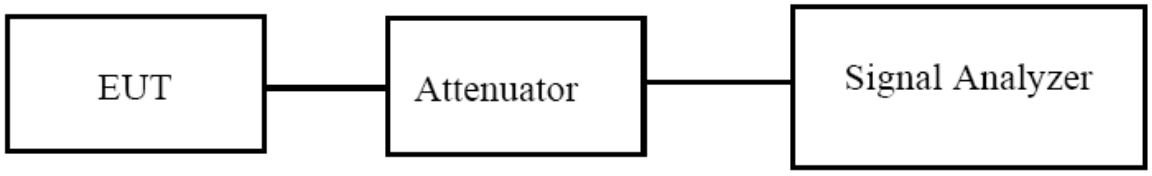
5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (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

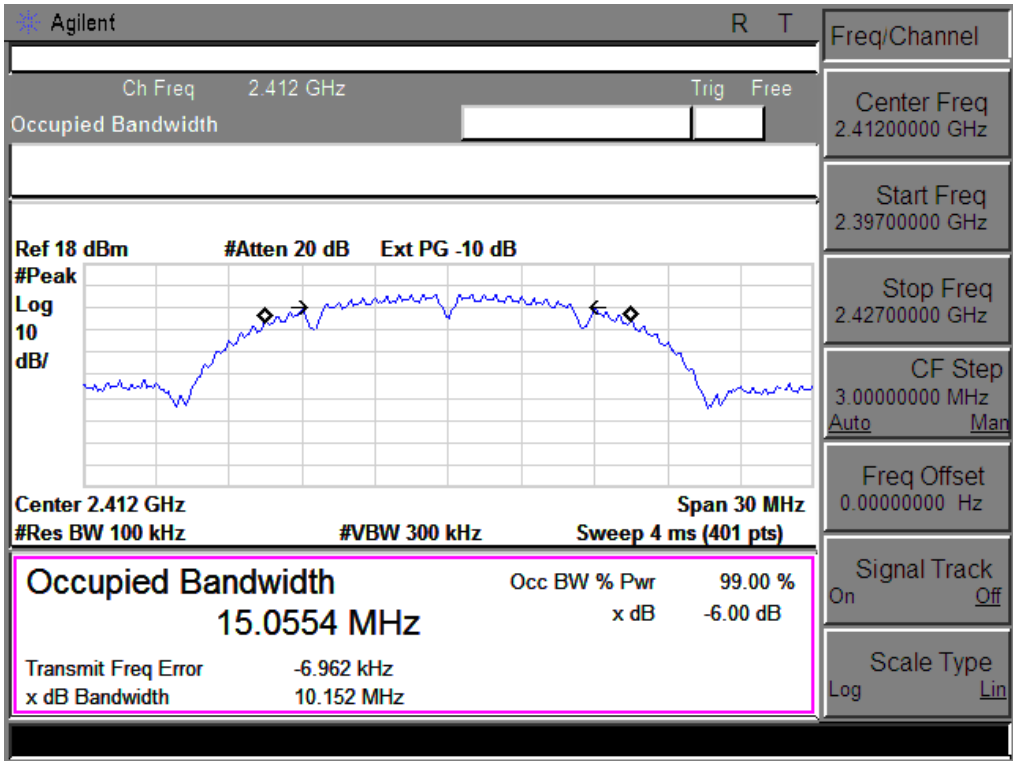
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.3 TEST RESULTS

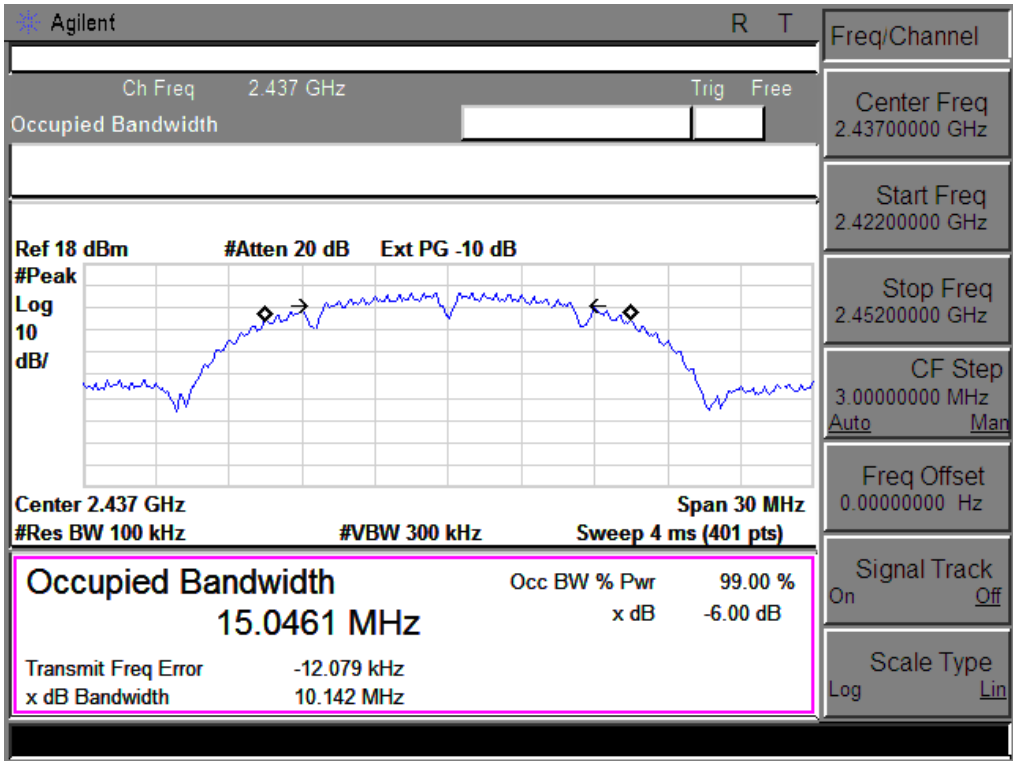
EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX b Mode /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	10.15	500	Pass
Middle	2437	10.14	500	Pass
High	2462	10.14	500	Pass

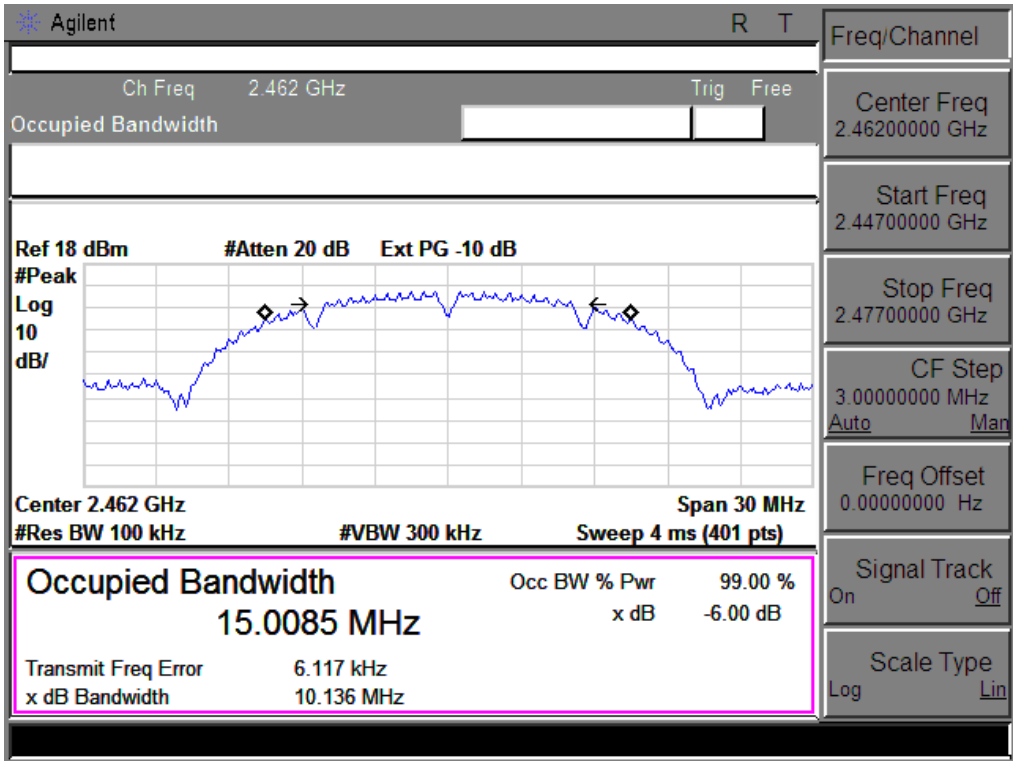
TX CH 01



TX CH 06



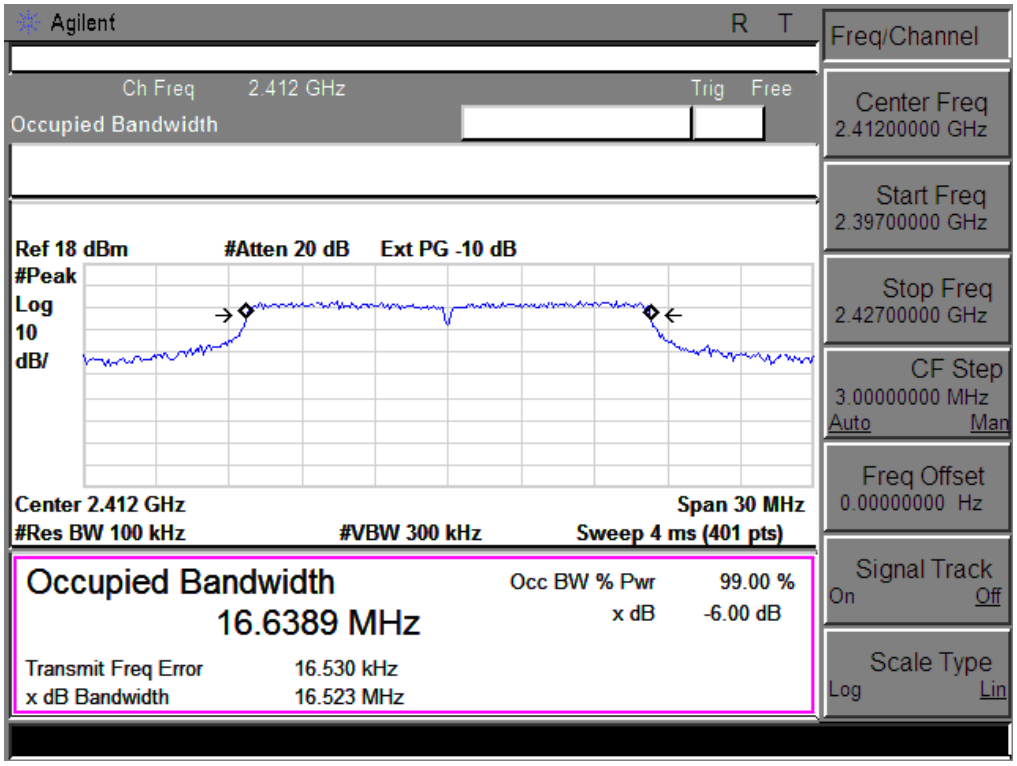
TX CH 11



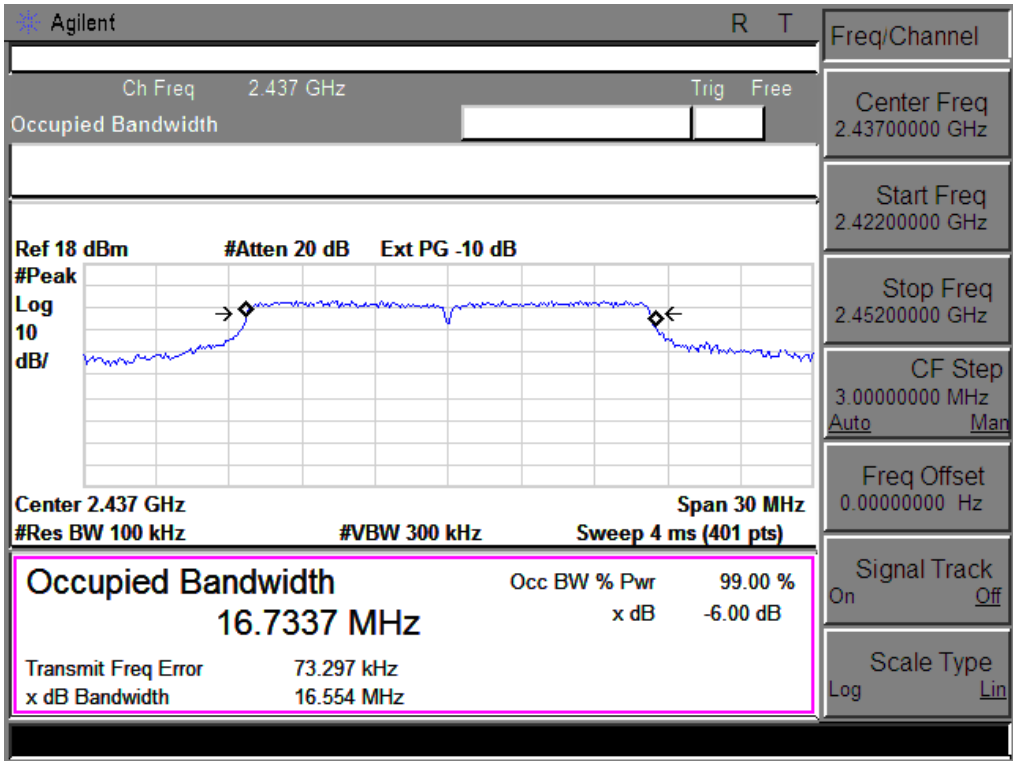
EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX g Mode /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.52	500	Pass
Middle	2437	16.55	500	Pass
High	2462	16.54	500	Pass

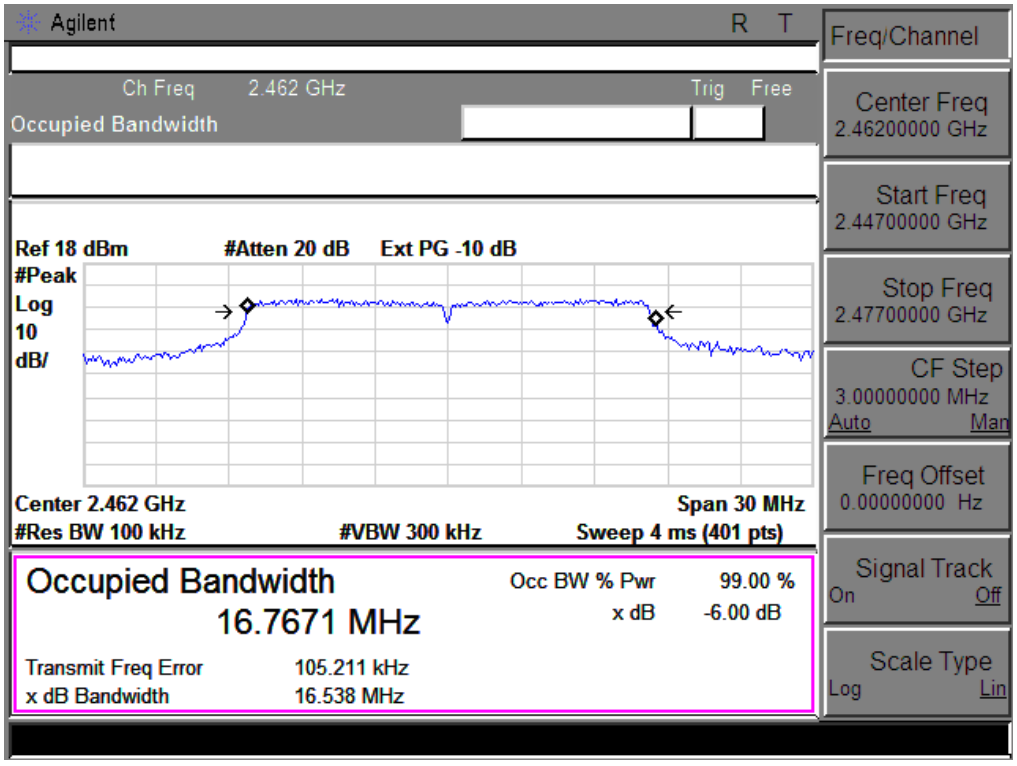
TX CH 01



TX CH 06



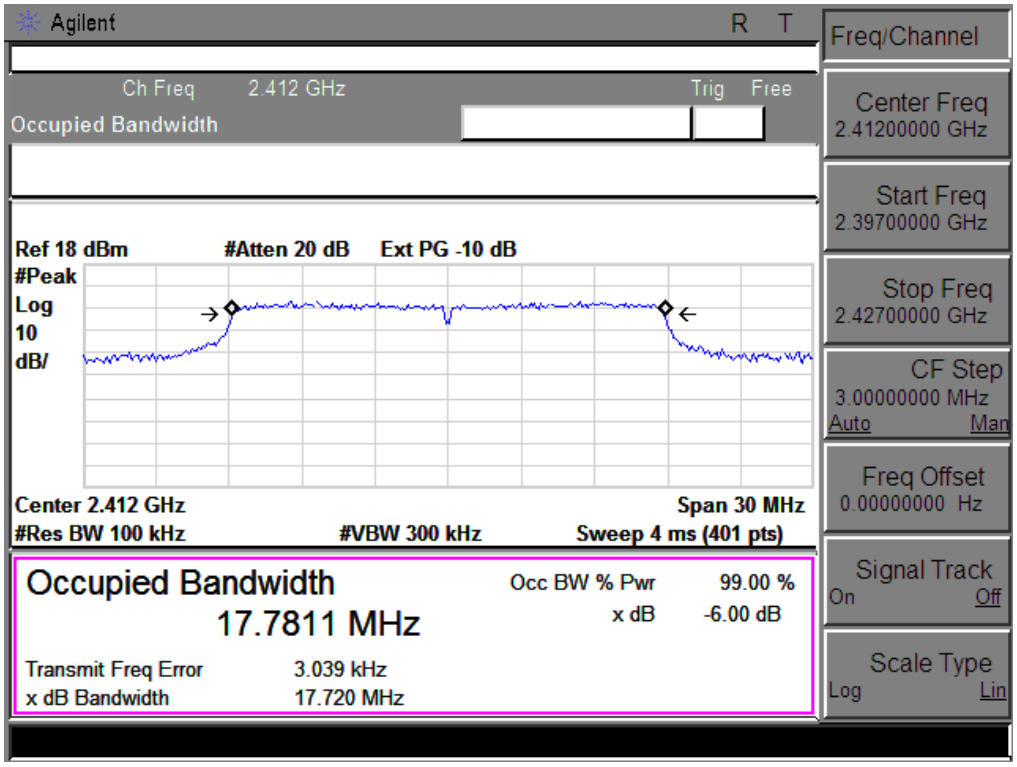
TX CH 11



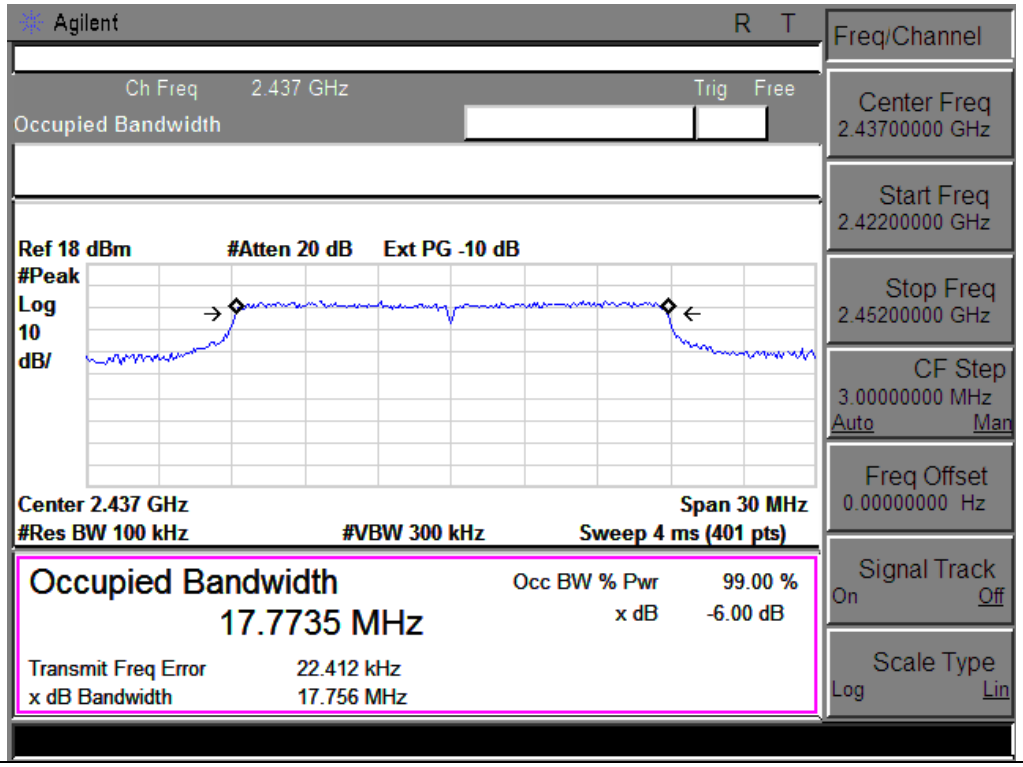
EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 5VV
Test Mode ：	TX n Mode(20M) /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	17.72	500	Pass
Middle	2437	17.76	500	Pass
High	2462	17.77	500	Pass

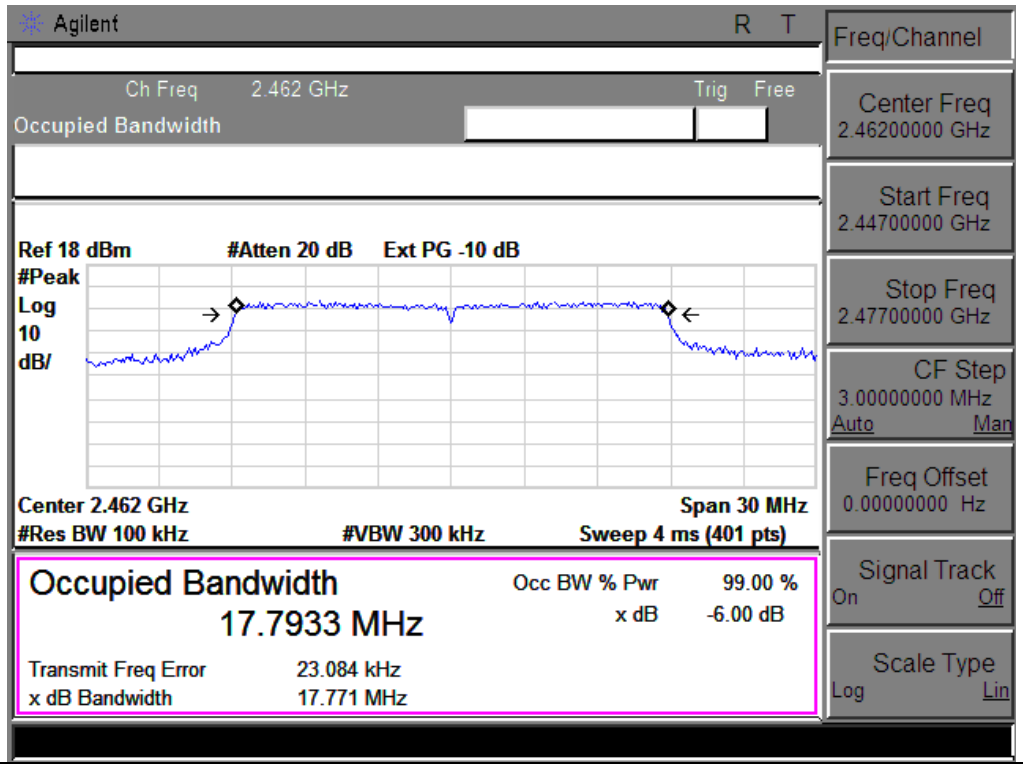
TX CH 01



TX CH 06



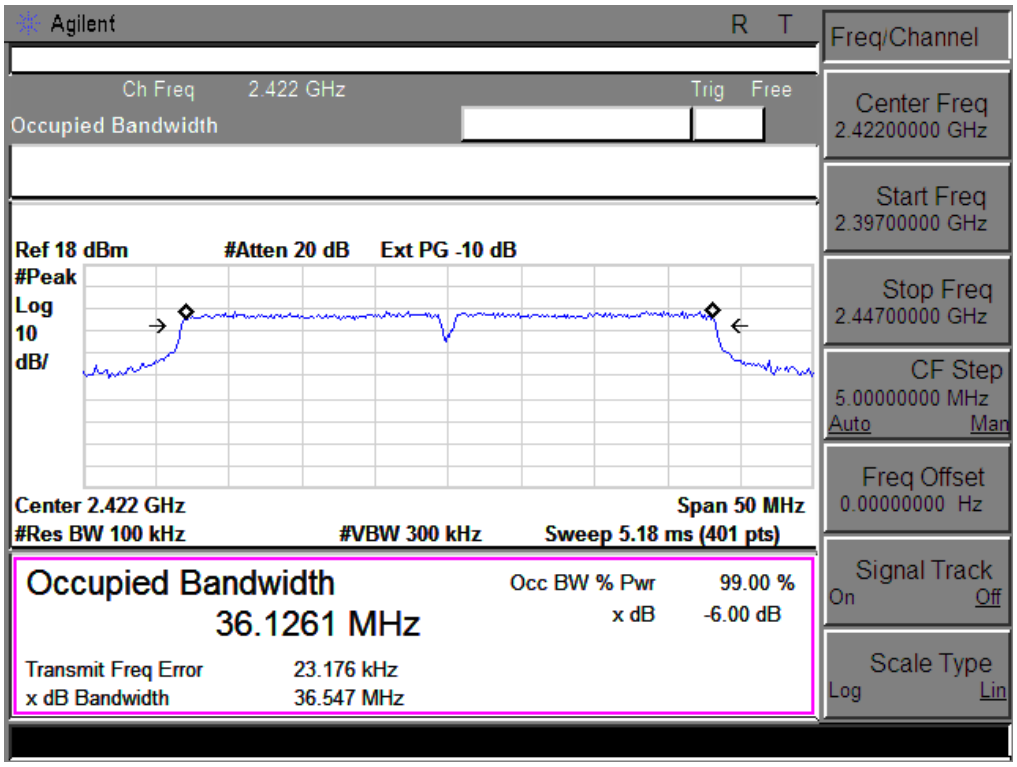
TX CH 11



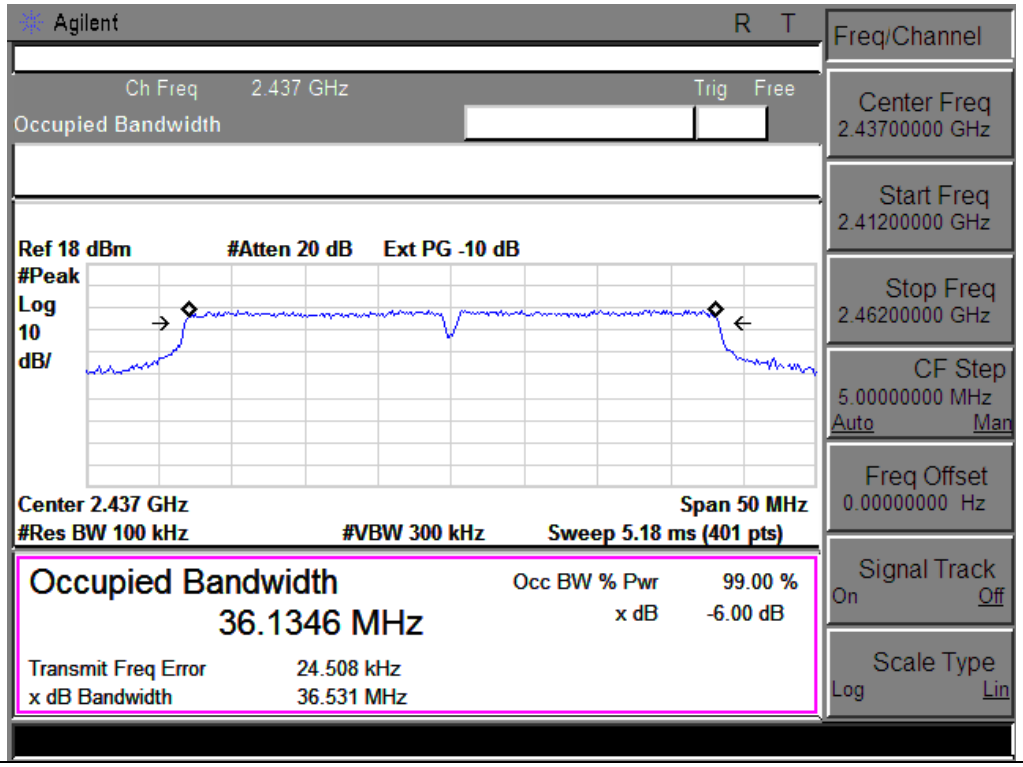
EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX n Mode(40M) /CH03, CH06, CH09		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2422	36.55	500	Pass
Middle	2437	36.53	500	Pass
High	2452	36.52	500	Pass

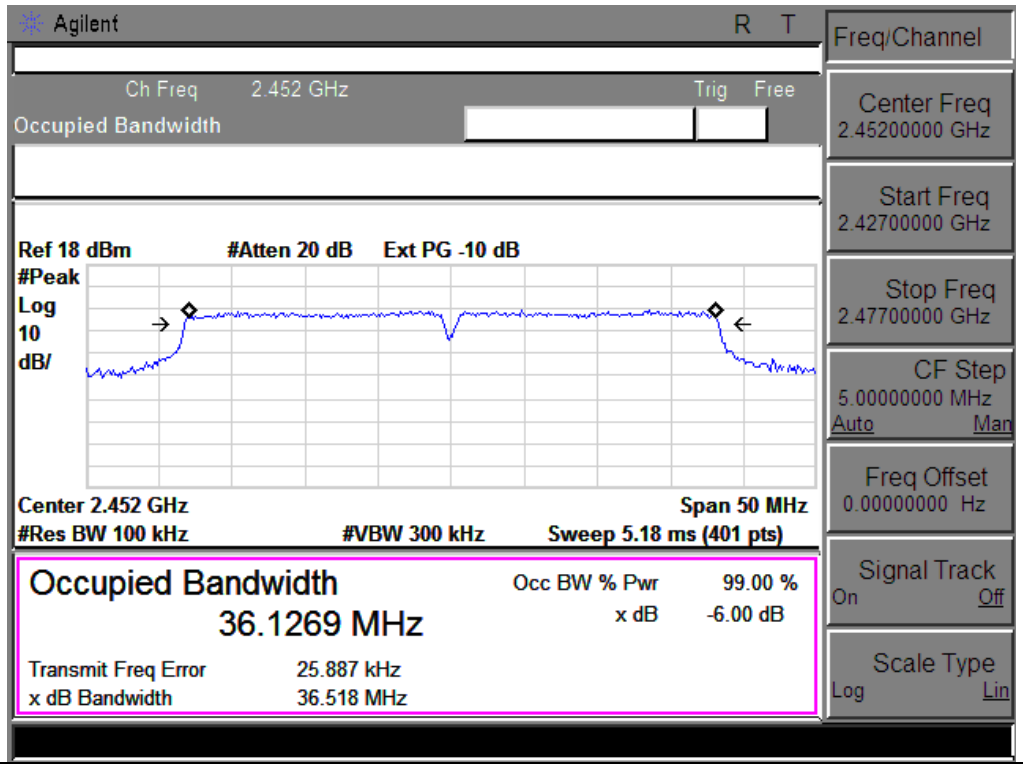
TX CH 03



TX CH 06



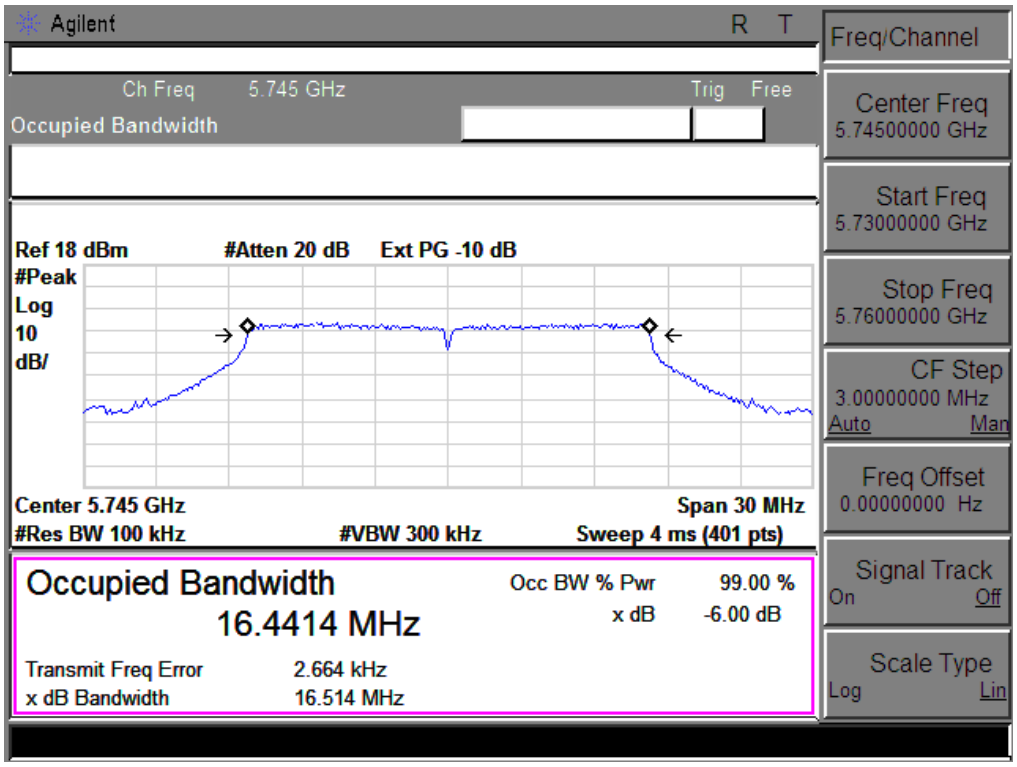
TX CH 09



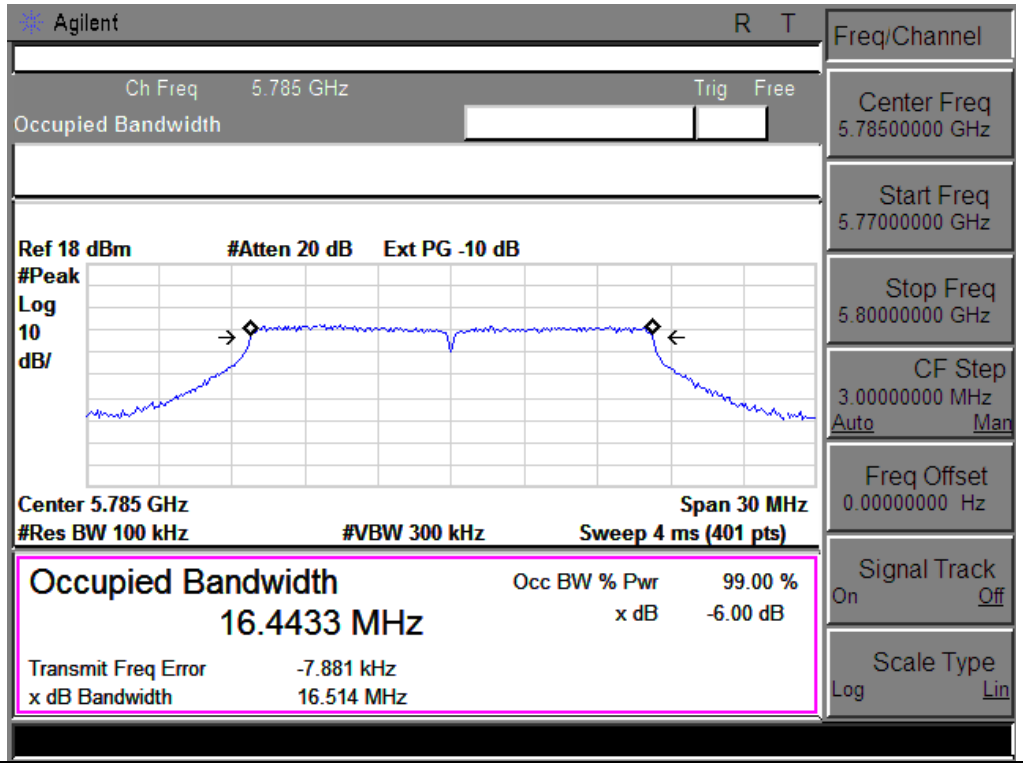
EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX a Mode /CH149, CH157, CH165		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	5745	16.51	500	Pass
Middle	5785	16.51	500	Pass
High	5825	16.51	500	Pass

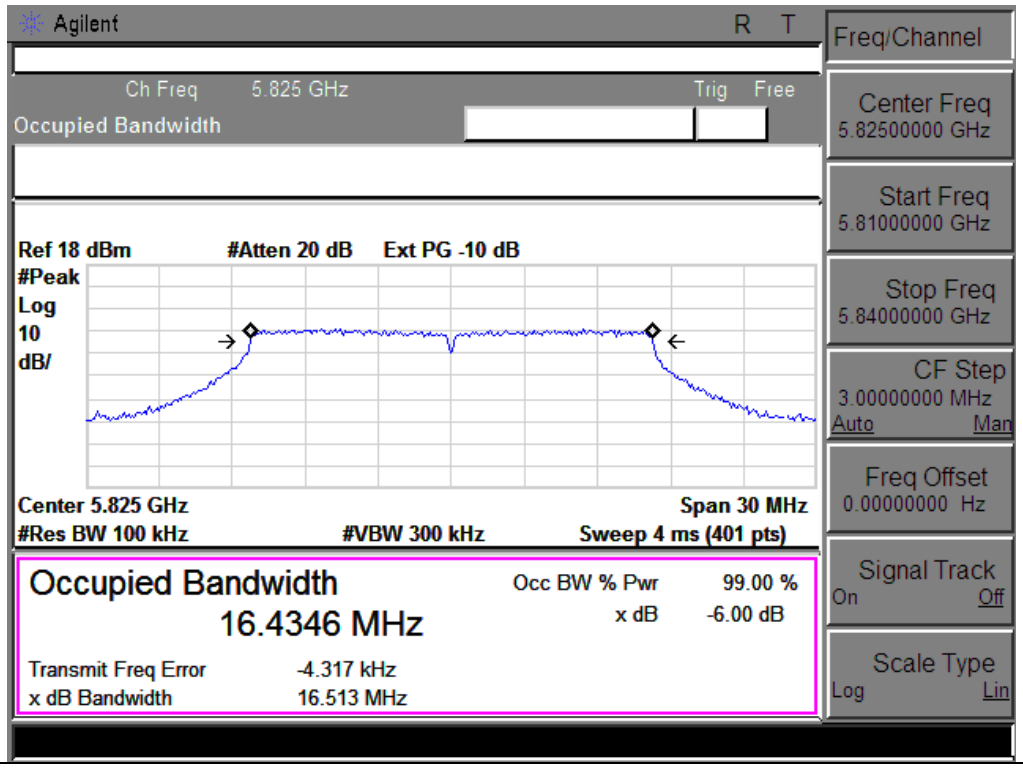
TX CH 149



TX CH 157



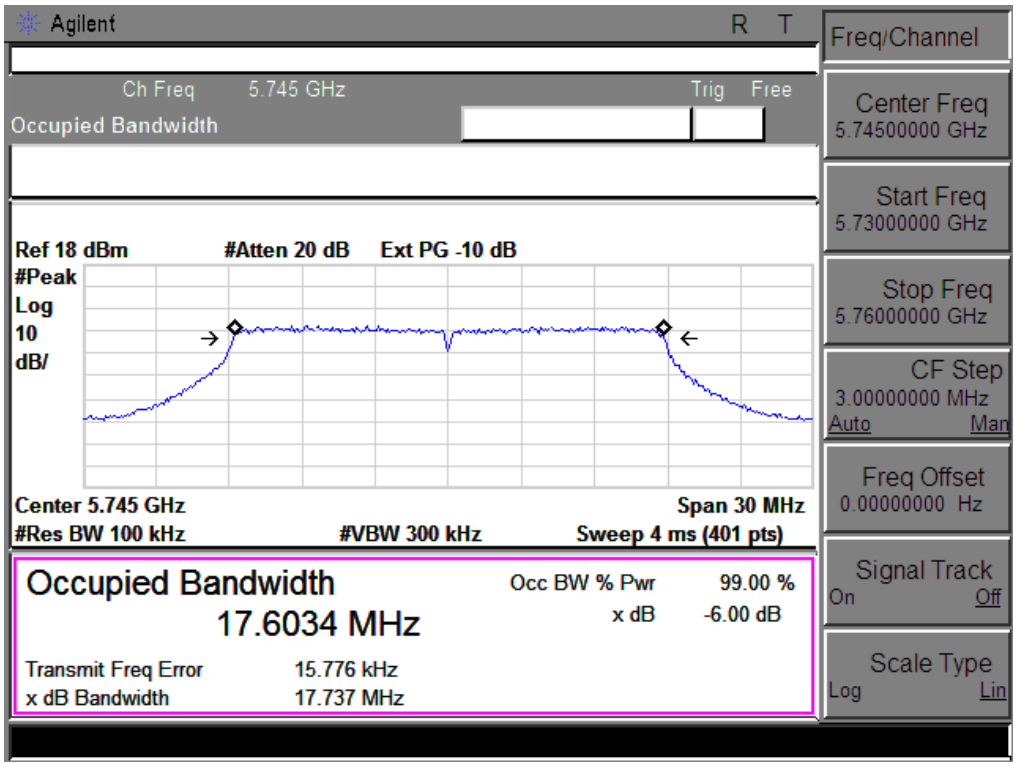
TX CH 165



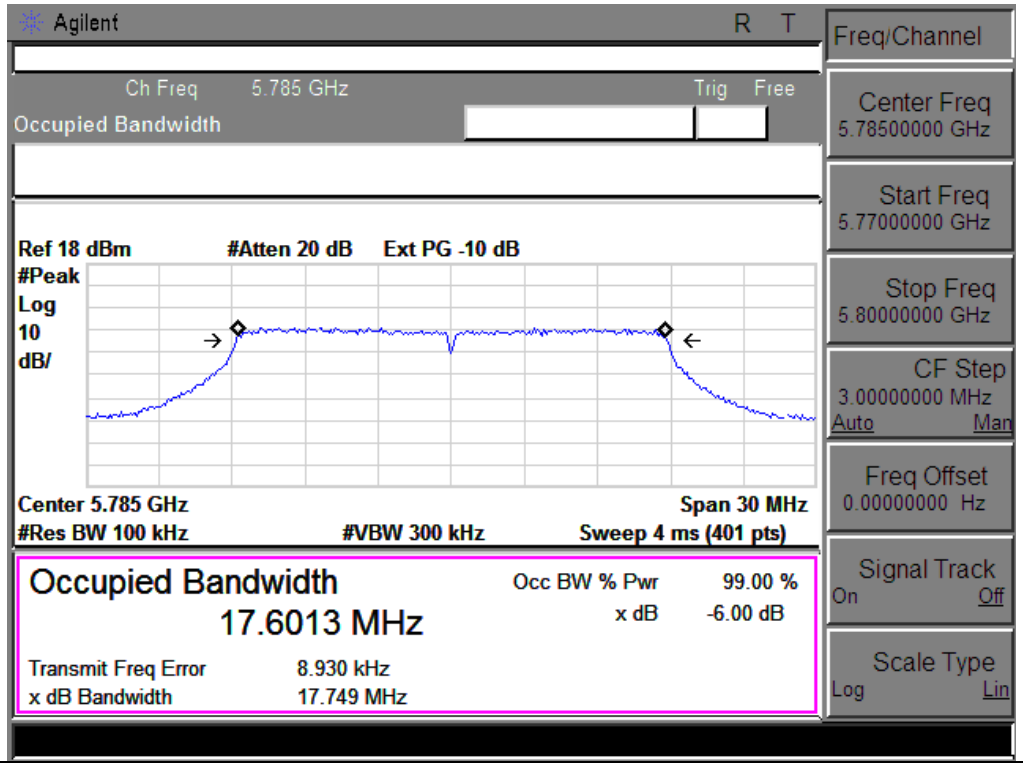
EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX n(20) Mode(5G) /CH149, CH157, CH165		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	5745	17.74	500	Pass
Middle	5785	17.75	500	Pass
High	5825	17.73	500	Pass

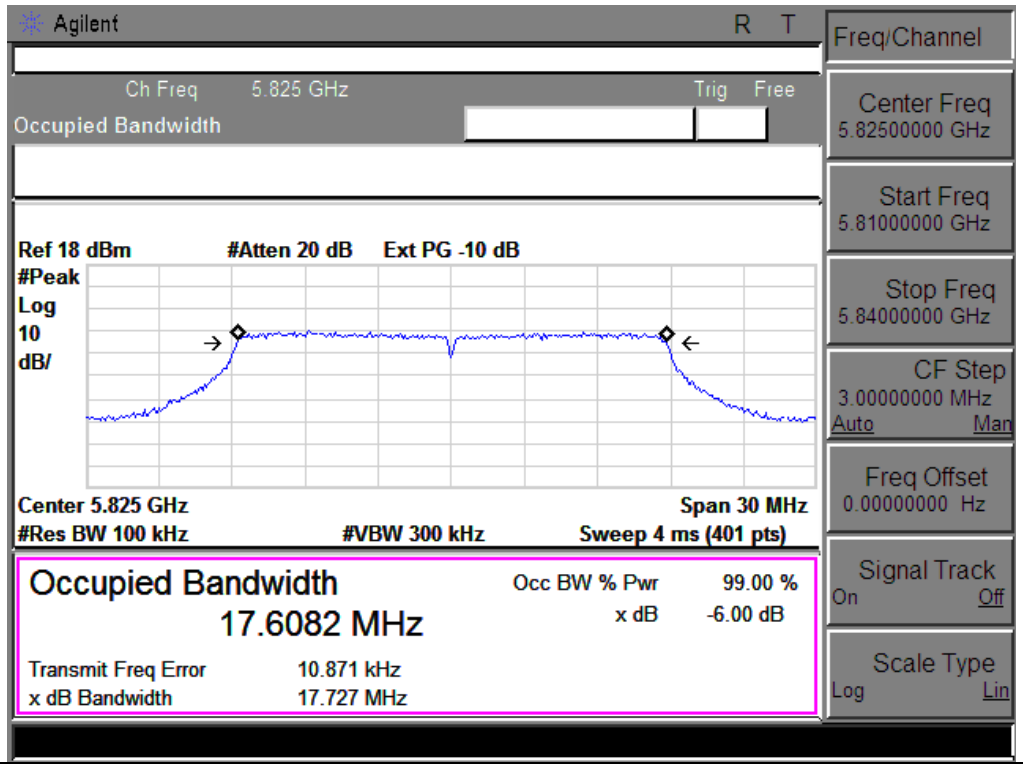
TX CH 149



TX CH 157



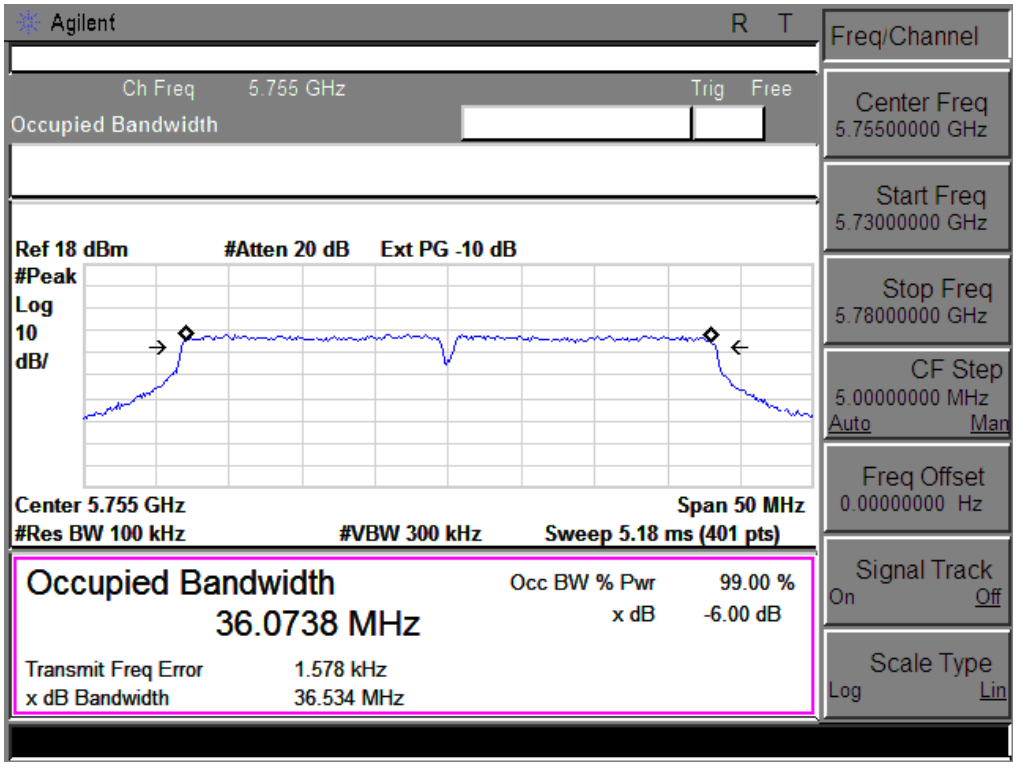
TX CH 165



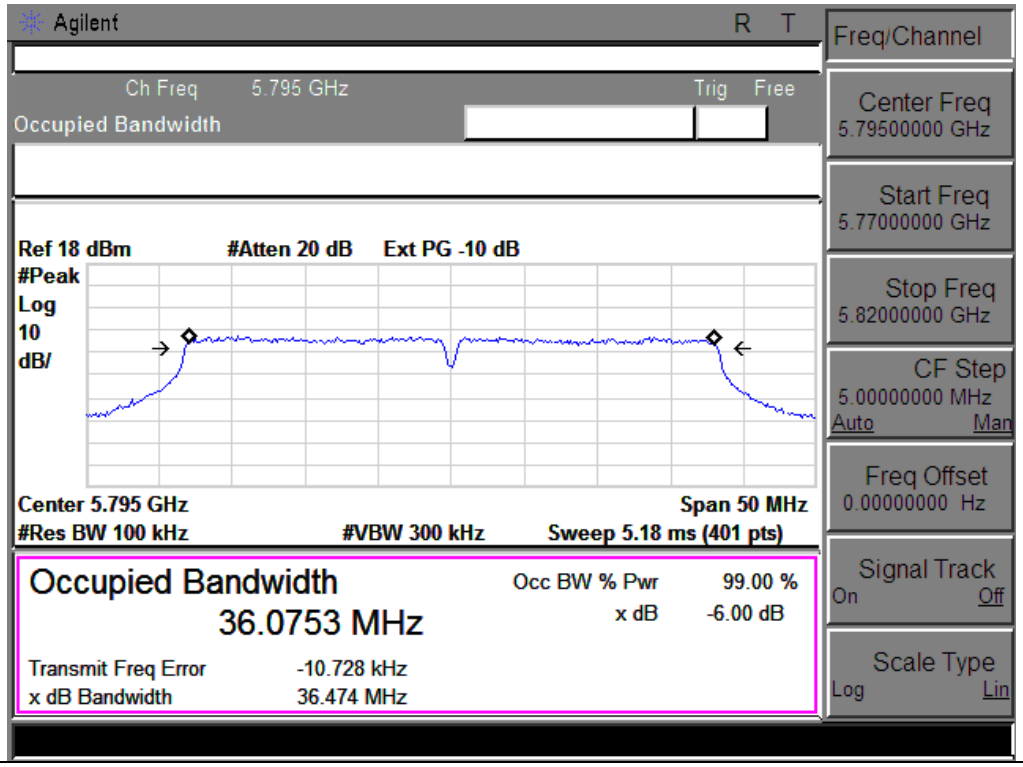
EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX n40 Mode(5G) /CH151, CH159		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	5755	36.53	500	Pass
High	5795	36.47	500	Pass

TX CH 151



TX CH 159


Agilent
R T
Freq/Channel
Ch Freq 5.795 GHz
Trig Free
Occupied Bandwidth
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
Ref 18 dBm
#Atten 20 dB
Ext PG -10 dB
#Peak
Log
10
dB/
Center 5.795 GHz
Span 50 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 5.18 ms (401 pts)
Occupied Bandwidth
36.0753 MHz
Occ BW % Pwr 99.00 %
x dB -6.00 dB
Transmit Freq Error -10.728 kHz
x dB Bandwidth 36.474 MHz
Signal Track
On Off
Scale Type
Log Lin

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

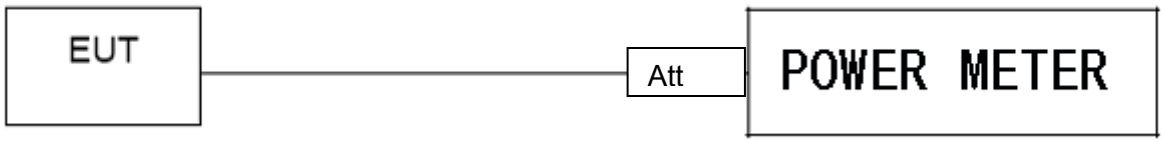
6.1.1 TEST PROCEDURE

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：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX b/g/n(20M, 40M) Mode		

Test Channe	Frequency	Maximum output power. Antenna port				Total Power		LIMIT
		(PK) (dBm)		(AV) (dBm)		(PK)	(AV)	
	(MHz)	ANT A	ANT B	ANT A	ANT B	dBm	dBm	dBm
TX 802.11b Mode								
CH01	2412	10.43	9.64	6.53	5.66	13.06	9.13	30
CH06	2437	10.75	9.73	6.74	5.86	13.28	9.33	30
CH11	2462	10.54	9.47	6.65	5.53	13.05	9.14	30
TX 802.11g Mode								
CH01	2412	10.45	9.75	5.64	4.85	13.12	8.27	30
CH06	2437	10.64	9.64	5.84	4.78	13.18	8.35	30
CH11	2462	10.76	9.75	5.56	4.35	13.29	8.01	30
TX 802.11n/20M Mode								
CH01	2412	8.65	7.43	5.64	4.33	11.09	8.04	30
CH06	2437	8.79	7.12	5.53	4.12	11.05	7.89	30
CH11	2462	8.33	7.06	5.53	4.05	10.75	7.86	30
TX 802.11n/40M Mode								
CH03	2422	10.54	9.42	6.84	5.08	13.03	9.06	30
CH06	2437	10.63	9.27	6.62	5.63	13.01	9.16	30
CH09	2452	10.87	9.64	6.48	5.38	13.31	8.98	30

EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX a/n(5G) Mode		

Test Channe	Frequency	Maximum output power. Antenna port				Total Power		LIMIT
		(PK) (dBm)		(AV) (dBm)		(PK)	(AV)	
	(MHz)	ANT A	ANT B	ANT A	ANT B	dBm	dBm	dBm
TX 802.11a Mode								
CH149	5745	9.76	8.73	4.52	3.46	12.29	7.03	30
CH157	5785	9.83	8.35	4.75	3.75	12.16	7.29	30
CH165	5825	9.35	8.76	4.57	3.73	12.08	7.18	30
TX 802.11 n20M Mode								
CH149	5745	9.67	8.64	4.32	3.23	12.20	6.82	30
CH157	5785	9.84	8.47	4.44	3.08	12.22	6.82	30
CH165	5825	9.63	8.36	4.28	3.56	12.05	6.95	30
TX 802.11 n40M Mode								
CH151	5755	9.76	8.86	4.07	3.63	12.34	6.87	30
CH159	5795	9.38	8.67	4.24	3.87	12.05	7.07	30

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)).

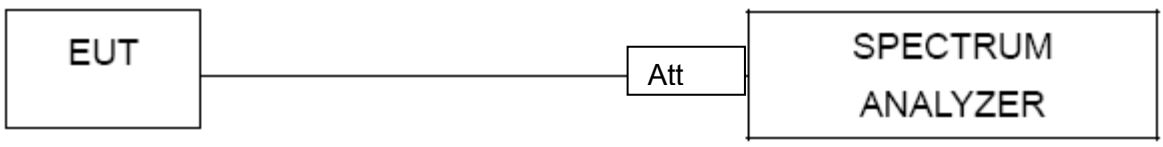
TEST PROCEDURE

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.

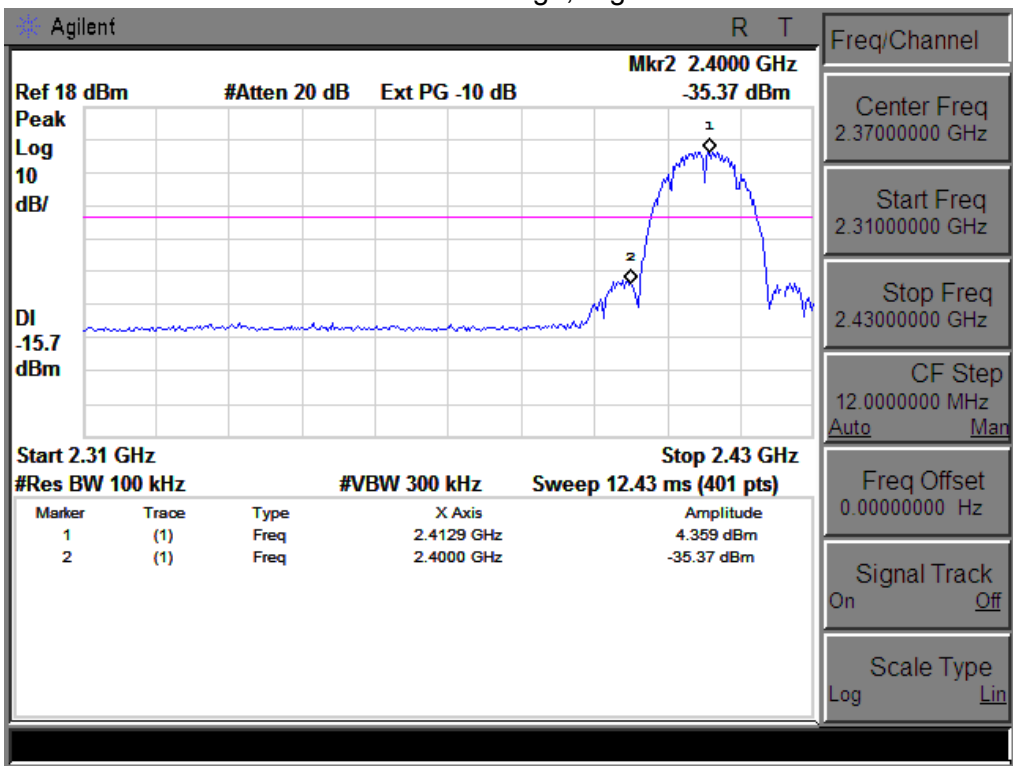
7.4 TEST RESULTS

EUT：	Dual Band Wireless USB Adapter	Model Name ：	JYL-AC120
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 5V

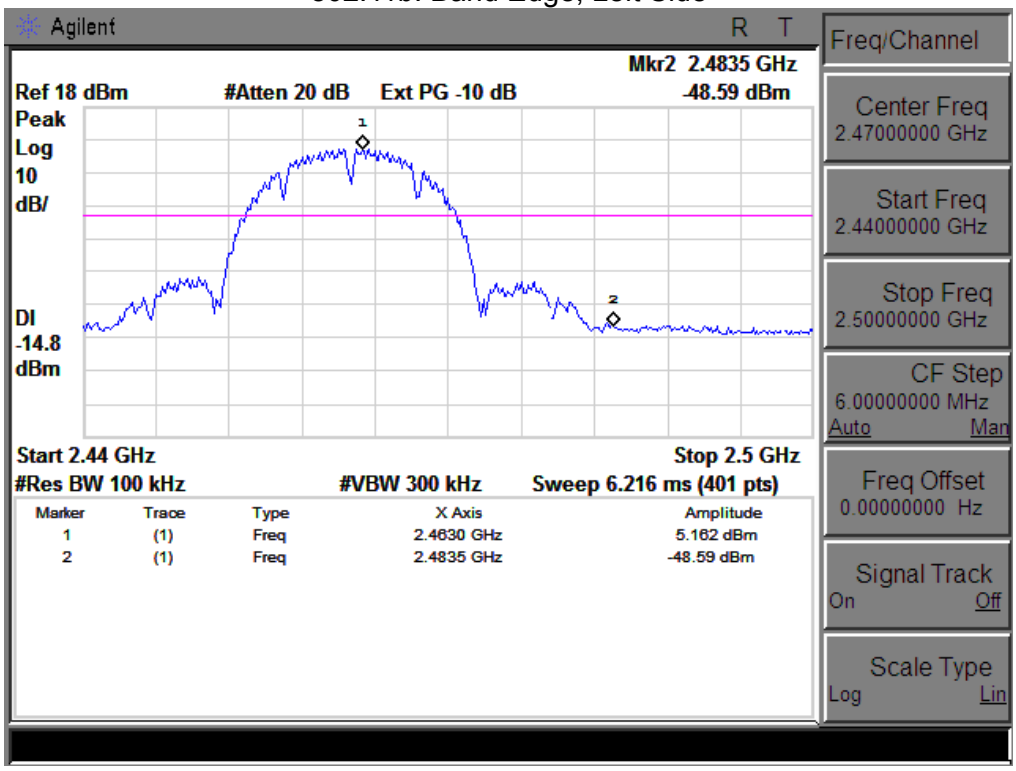
Frequency Band	Delta Peak to band emission (dBc)	＞Limit (dBc)	Result
802.11b mode			
Left-band	39.73	20	Pass
Right-band	53.75	20	Pass
802.11g mode			
Left-band	23.95	20	Pass
Right-band	31.91	20	Pass
802.11n-HT20 mode			
Left-band	29.34	20	Pass
Right-band	28.98	20	Pass
802.11n-HT40 mode			
Left-band	24.78	20	Pass
Right-band	26.27	20	Pass

Frequency Band	Delta Peak to band emission (dBc)	＞Limit (dBc)	Result
802.11a mode			
Left-band	42.46	20	Pass
Right-band	40.04	20	Pass
802.11n20 mode			
Left-band	39.48	20	Pass
Right-band	38.00	20	Pass
802.11n40 mode			
Left-band	36.63	20	Pass
Right-band	35.33	20	Pass

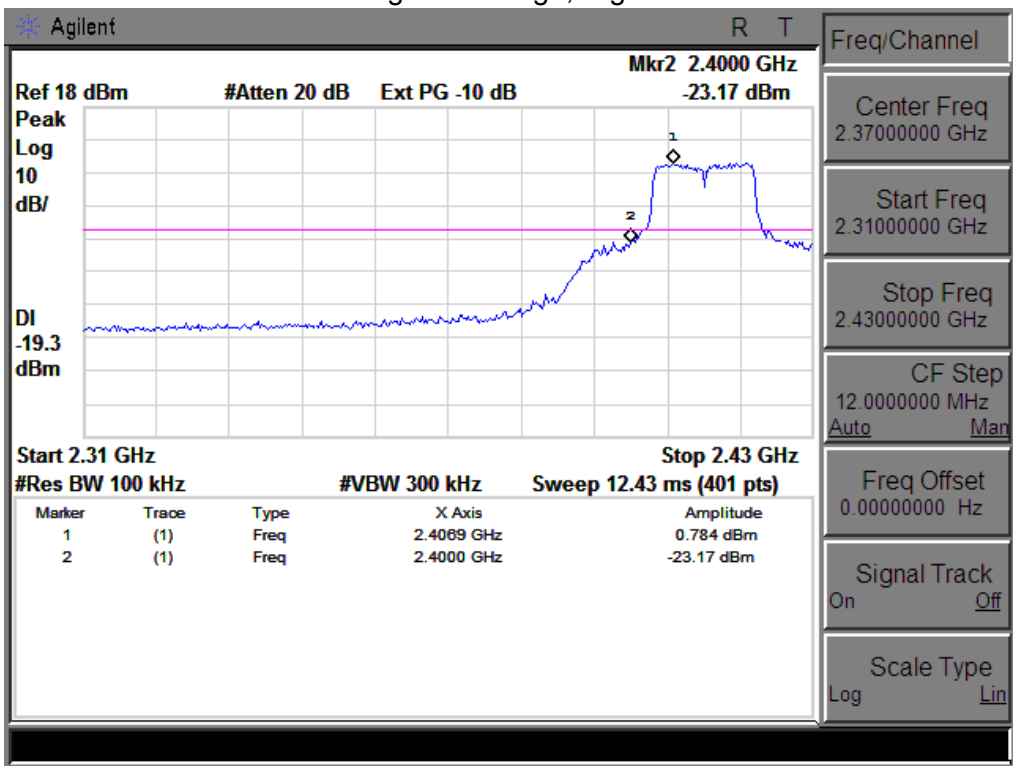
802.11b: Band Edge, Right Side



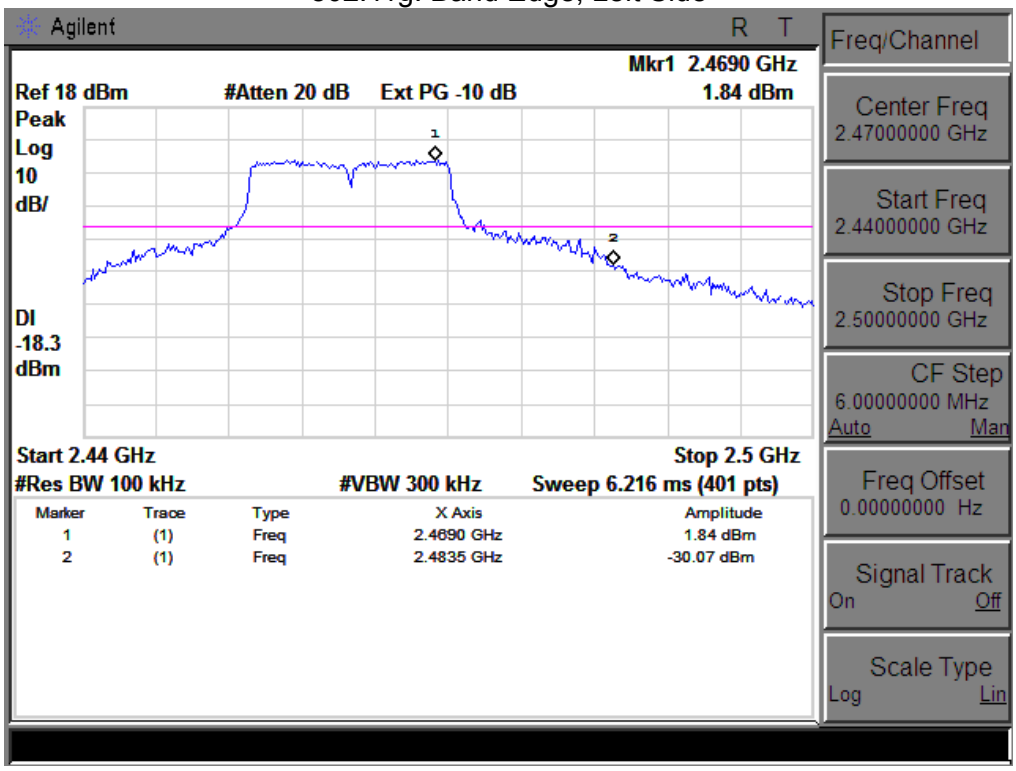
802.11b: Band Edge, Left Side



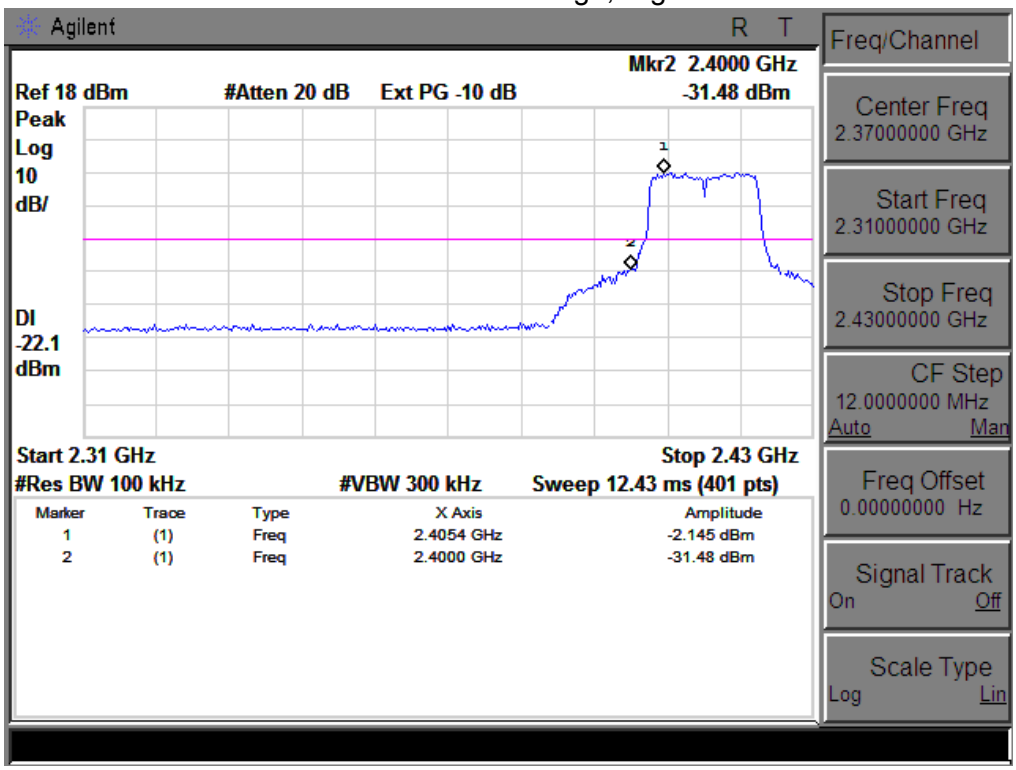
802.11g: Band Edge, Right Side



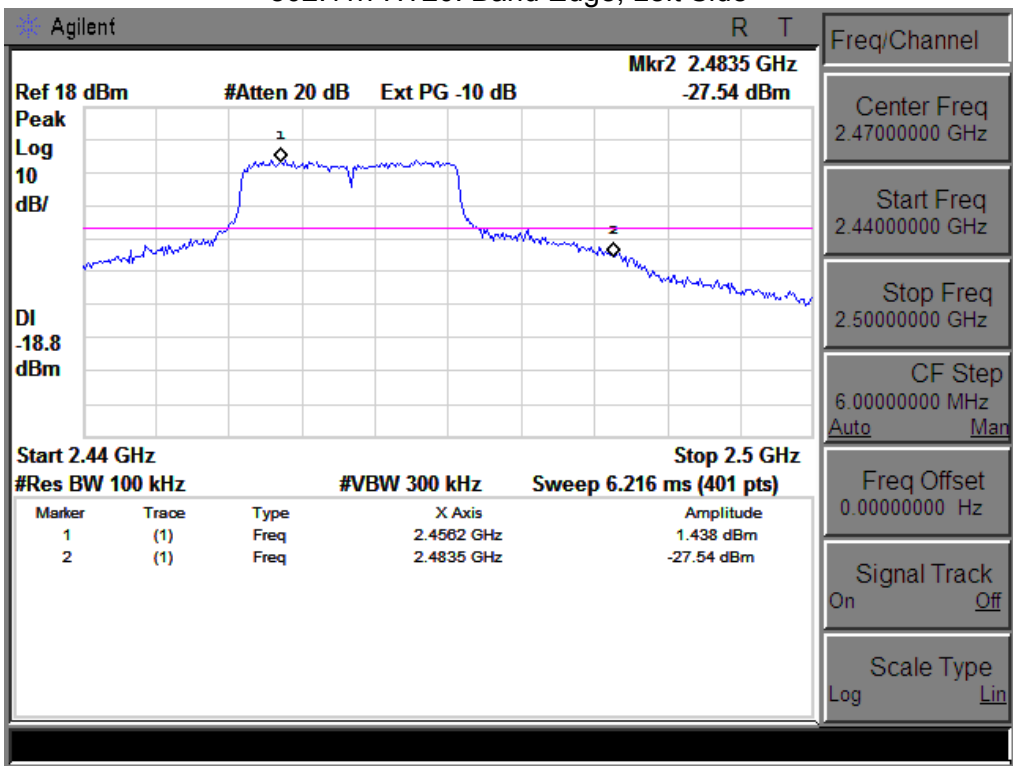
802.11g: Band Edge, Left Side



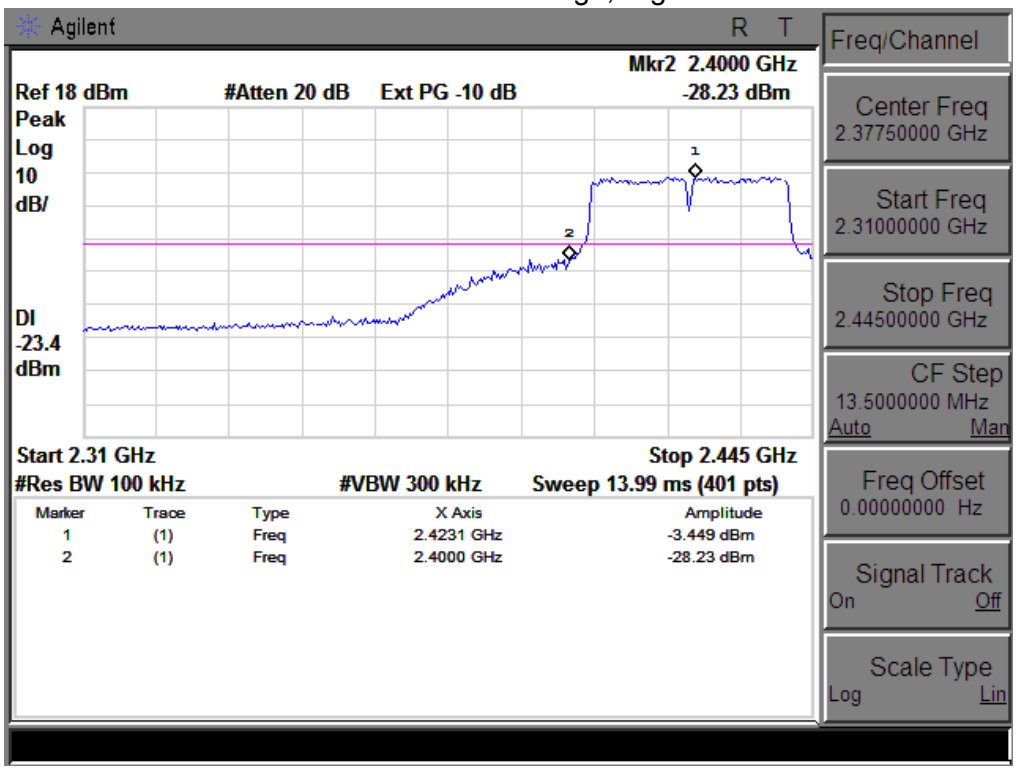
802.11n-HT20: Band Edge, Right Side



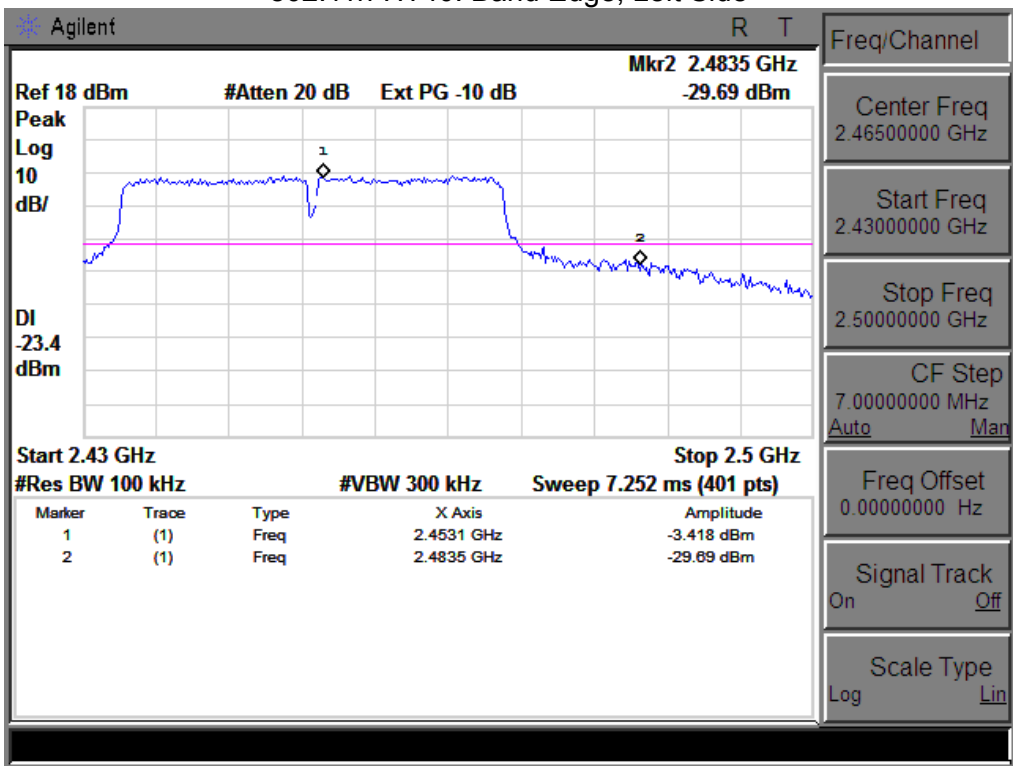
802.11n-HT20: Band Edge, Left Side



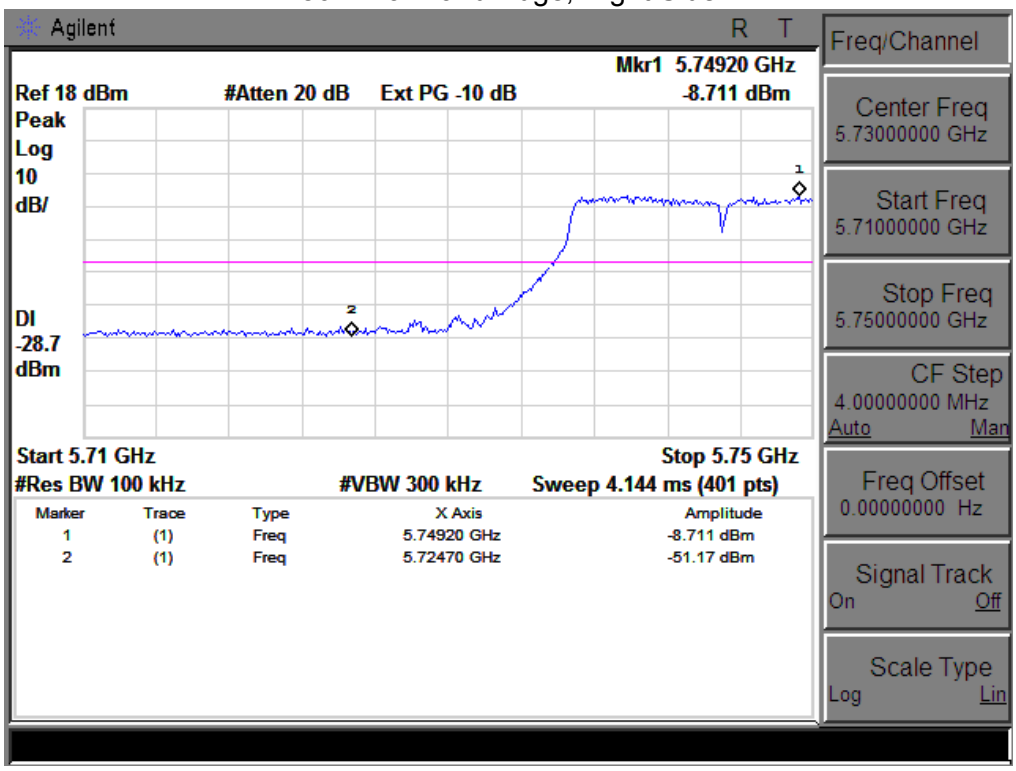
802.11n-HT40: Band Edge, Right Side



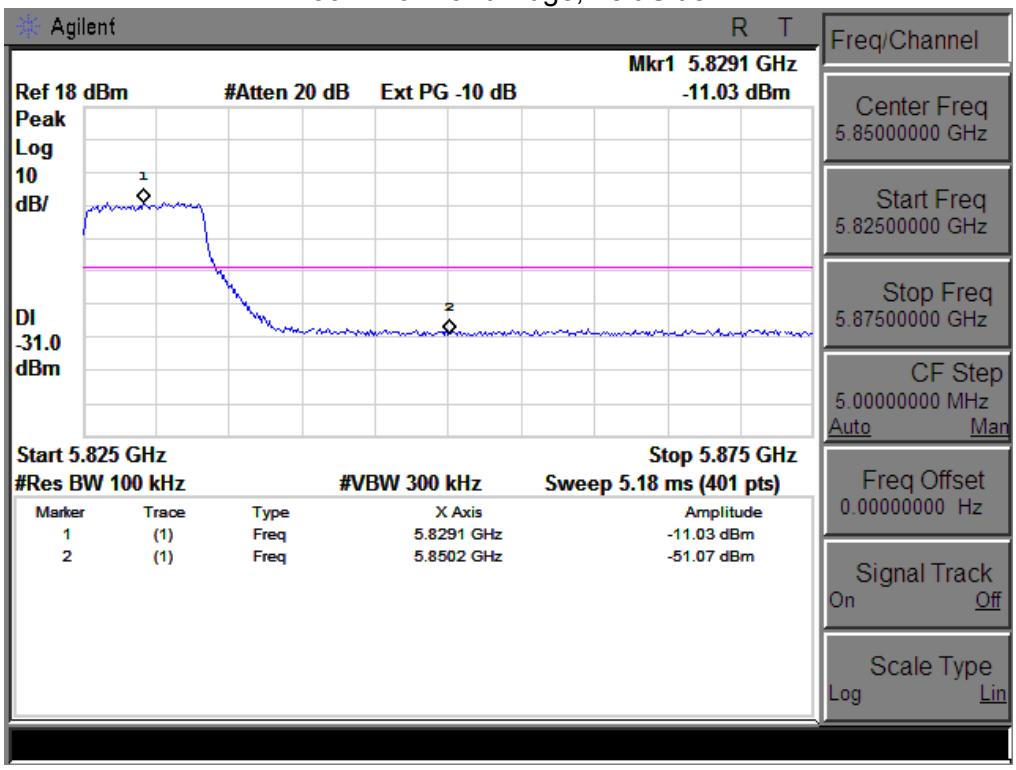
802.11n-HT40: Band Edge, Left Side



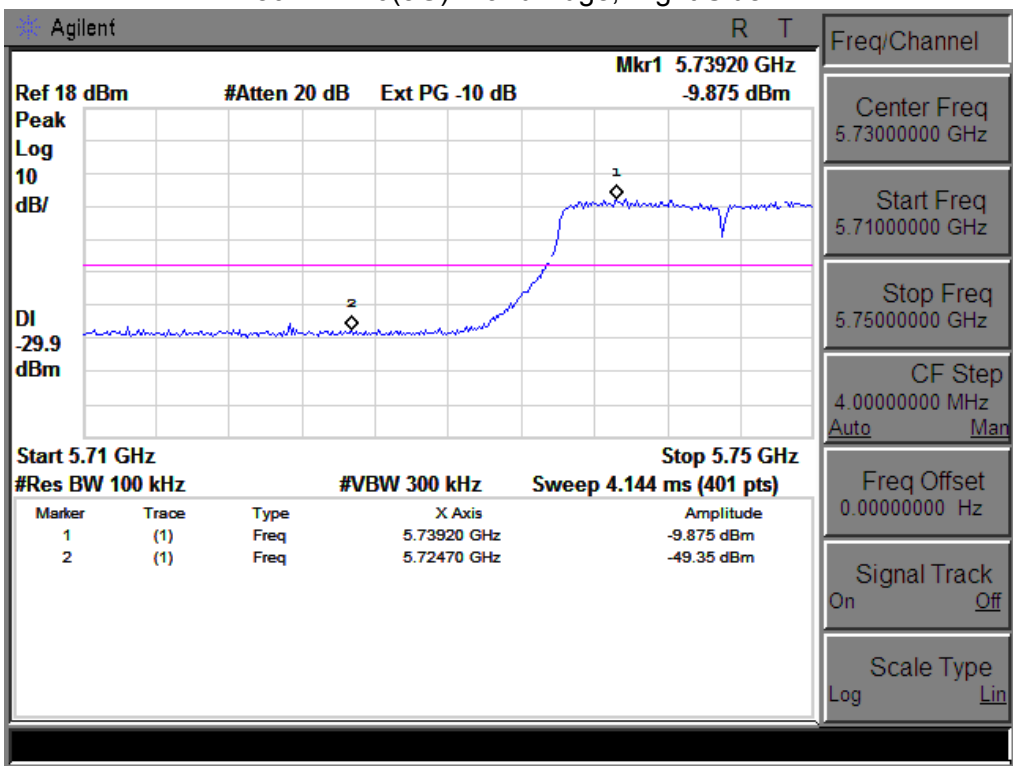
802.11a: Band Edge, Right Side



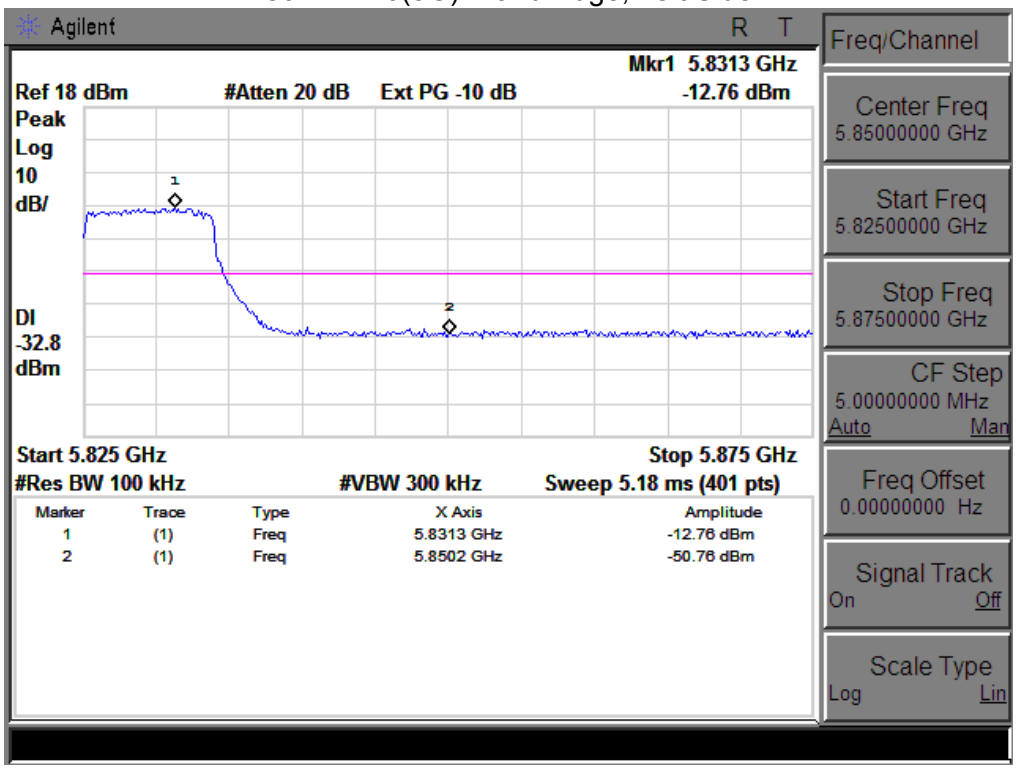
802.11a: Band Edge, Left Side



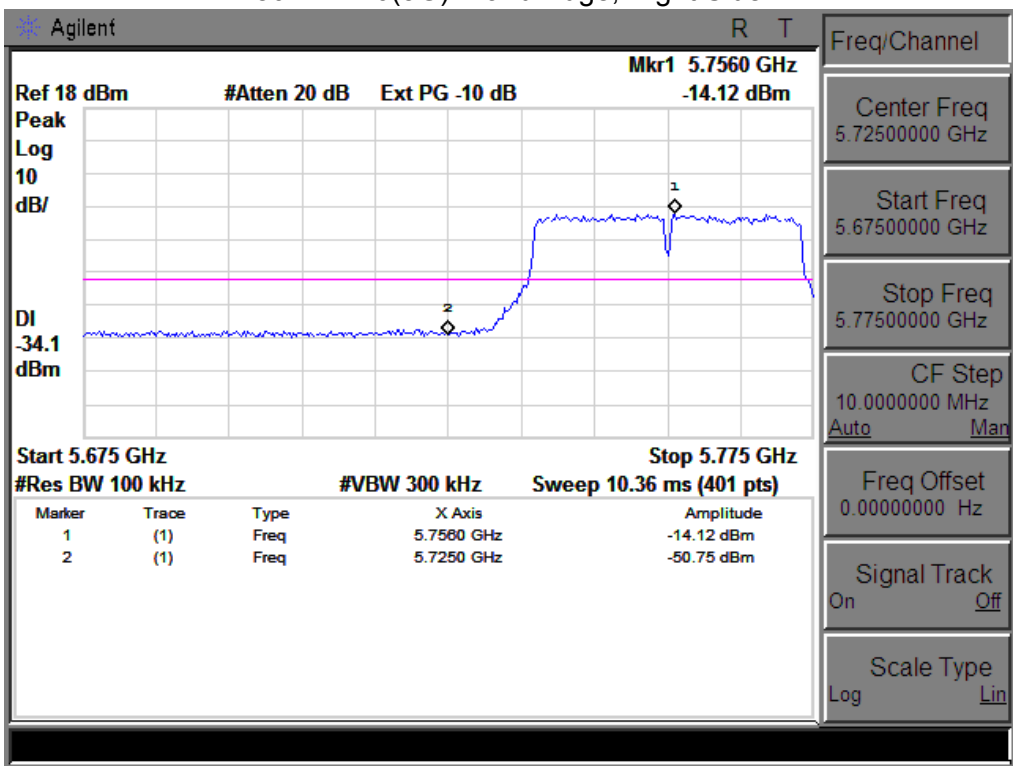
802.11n20(5G): Band Edge, Right Side



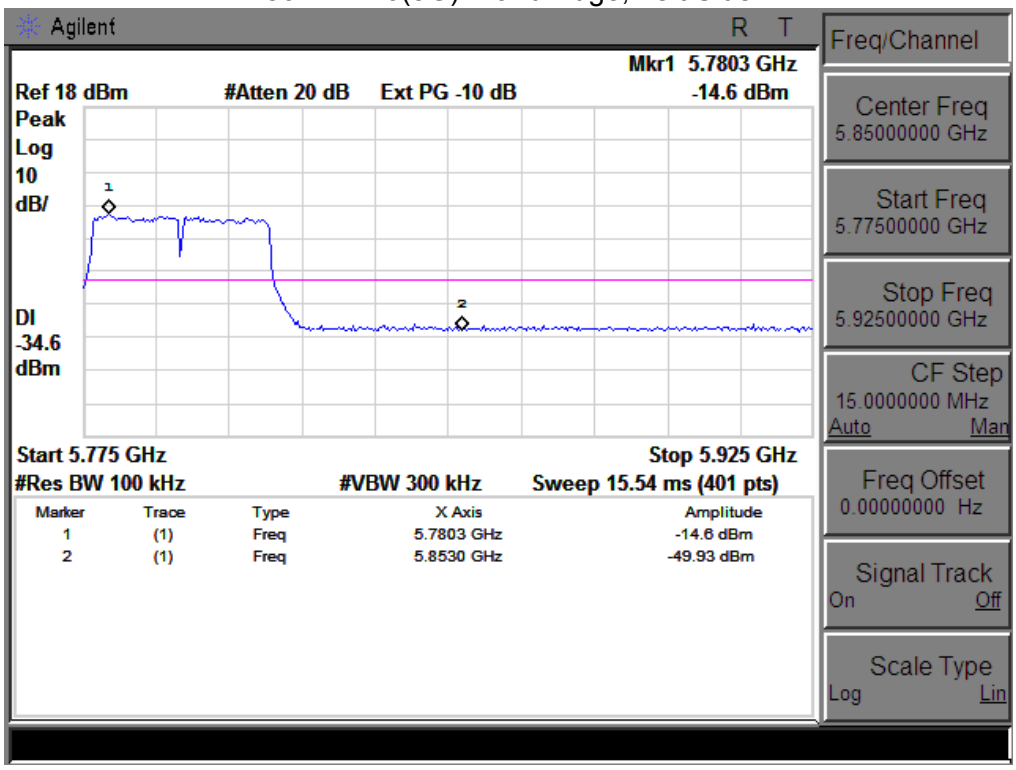
802.11n20(5G): Band Edge, Left Side



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



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



8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

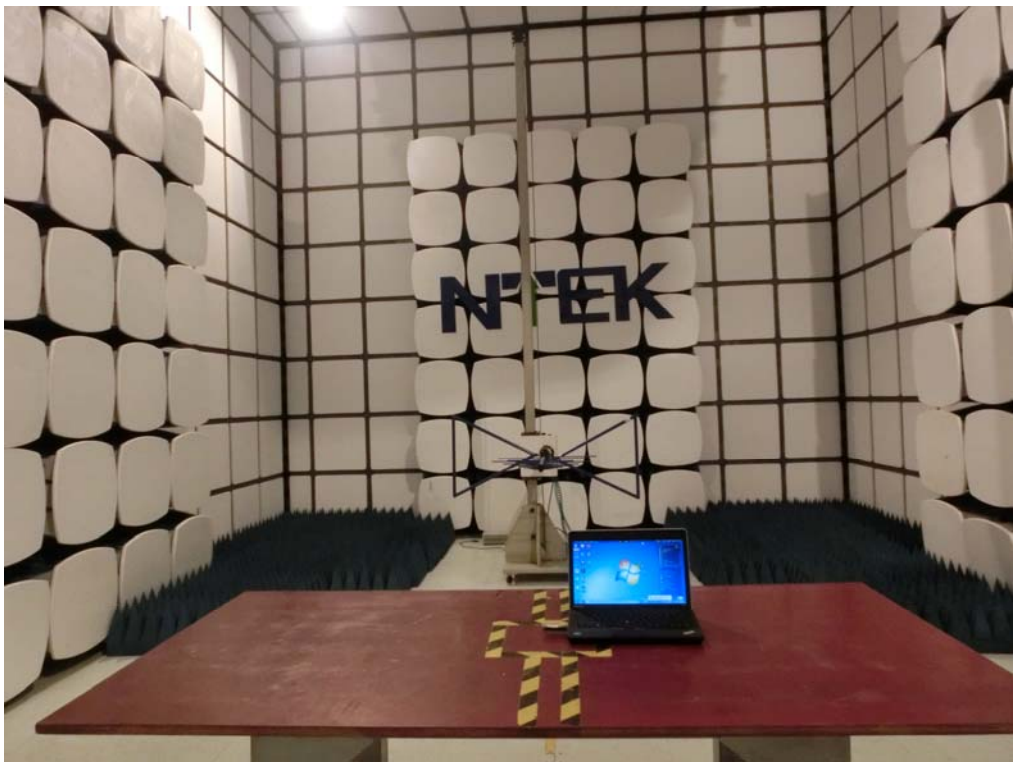
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

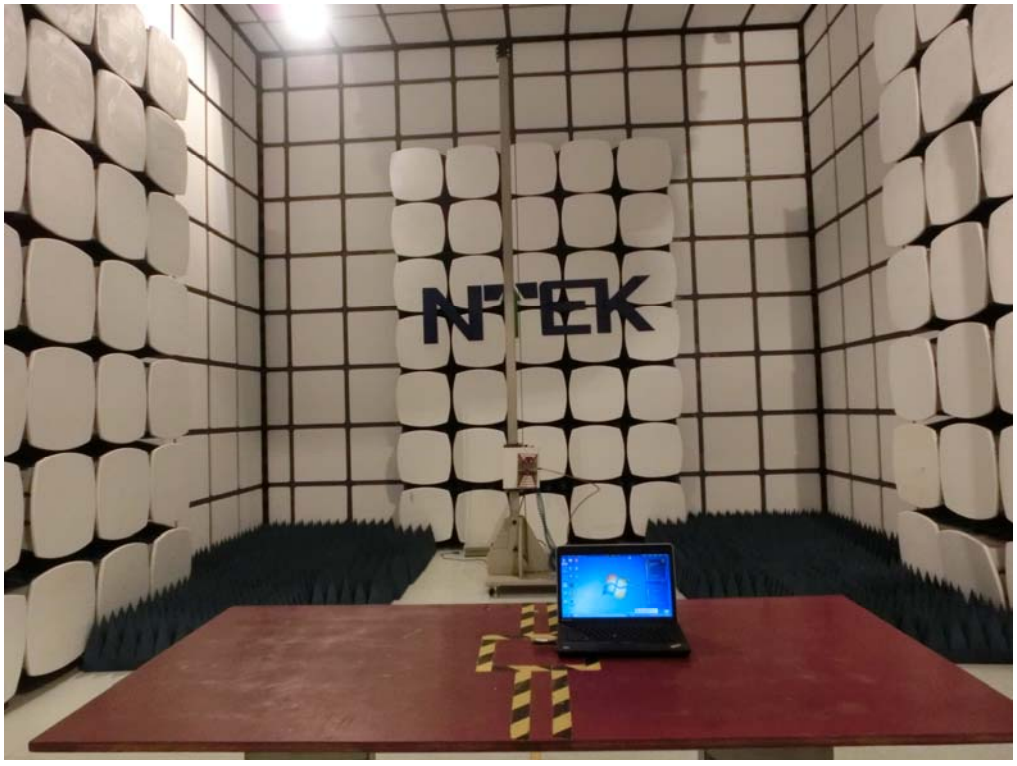
8.2 EUT ANTENNA

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

9. EUT TEST PHOTO

Radiated Measurement Photos





Conducted Measurement Photos