FCC TEST REPORT

Test report
On Behalf of
Shenzhen BoClouds Technology Co.,Ltd.
For
Femtocell
Model No.: ORB2020

FCC ID: 2AMAK-**ORB2020**

Prepared for :	**Shenzhen BoClouds Technology Co.,Ltd.** **909 Cadre Group Centre Building A, 168 Tongsha Road, NanShan, ShenZhen, P.R.China**
Prepared By :	**Shenzhen WST Testing Co.,Ltd.** **2nd Floor, Caizhiyunchuang Park, No.85 Guangshen Rd,Xin'an St 11 District,** **Bao'an District, Shenzhen**
Date of Test:	**May 17, 2017 ~ May 22, 2017**
Date of Report:	**May 23, 2017**
Report Number:	**WST170517044-E**

TEST RESULT CERTIFICATION

Applicant's name	:	Shenzhen BoClouds Technology Co.,Ltd.
Address	:	909 Cadre Group Centre Building A, 168 Tongsha Road, NanShan, ShenZhen, P.R.China
Manufacture's Name	:	Shenzhen BoClouds Technology Co.,Ltd.
Address	:	909 Cadre Group Centre Building A, 168 Tongsha Road, NanShan, ShenZhen, P.R.China

Product description

Trade Mark:		/
Product name	:	Femtocell
Model and/or type reference	:	ORB2020
Standards	:	FCC Rules and Regulations Part 15 Subpart C Section 15.247 ANSI C63.10: 2013

Date of Test	:	
Date (s) of performance of tests	:	**May 17, 2017 ~ May 22, 2017**
Date of Issue	:	**May 23, 2017**
Test Result	:	**Pass**

Testing Engineer : 

(Eric Xie)

Technical Manager : 

(Dora Qin)

Authorized Signatory : 

(Kait Chen)

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OCCUPIED BANDWIDTH MEASUREMENT	COMPLIANT
POWER SPECTRAL DENSITY	COMPLIANT
PEAK OUTPUT POWEReak	COMPLIANT
OUT OF BAND EMISSIONS	COMPLIANT
ANTENNA REQUIREMENT	COMPLIANT

1.2 TEST FACILITY

Test Firm	:	QTC Certification & Testing Co., Ltd. Certificated by FCC, Registration No.: 588523
Address		2nd Floor,B1 Building,Fengyeyuan Industrial Plant, Liuxian 2st. Road, Xin'an Street, Bao'an District, Shenzhen, China

1.3 MEASUREMENT UNCERTAINTY

Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty(9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty(30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty(Above 1GHz)	=	4.06dB, k=2

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Femtocell
Model Name	ORB2020
Serial Model	N/A
Model Difference	N/A
FCC ID	2AMAK-**ORB2020**
Antenna Type	Antenna port 1:Integral Antenna Antenna port 2:Integral Antenna
Antenna Gain	Antenna port 1: 2 dBi Antenna port 2: 2 dBi
BT Operation frequency	802.11b/g/n 20:2412~2462 MHz 802.11n 40: 2422~2452MHz
Number of Channels	802.11b/g/n20: 11CH 802.11n 40: 7CH
Modulation Type	CCK/OFDM/DBPSK/DAPSK
Power Source	DC Voltage
Power Rating	DC12V from adapter AC 120V/60Hz
Power supply information	Model: S06A11-120A050-P4 Input:100-240VAC, 50/60Hz, 0.3A Output :12Vdc,0.5A Manufacturer: Shenzhen Gongjin Electronics Co., Ltd.

2.1.1 Carrier Frequency of Channels

Channel List for 802.11b/g/n(20MHz)							
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				

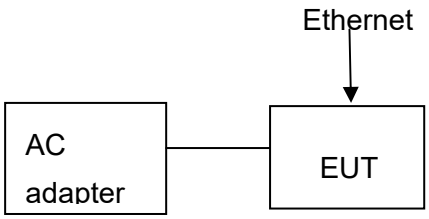
Operation of EUT during testing

Operating Mode
The mode is used: **Transmitting mode for 802.11b/g/n(20MHz)**
Low Channel: 2412MHz
Middle Channel: 2437MHz
High Channel: 2462MHz

Transmitting mode for 802.11n(40MHz)
Low Channel: 2422MHz
Middle Channel: 2437MHz
High Channel: 2452MHz

2.2 DESCRIPTION OF TEST SETUP

Operation of EUT during Radiation and conducted testing:



2.3 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
2.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 18, 2017	Feb. 17, 2018
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 18, 2017	1 Year
4.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
5.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
6.	Trilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Feb. 18, 2017	Feb. 17, 2018
7.	Pre-amplifier	Compliance Direction	PAP-0203	22008	Feb. 18, 2017	Feb. 17, 2018
8.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
9.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
10.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 18, 2017	Feb. 17, 2018
11.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 18, 2017	Feb. 17, 2018
12.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
13.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
14.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
15.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 18, 2017	Feb. 17, 2018
16.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 18, 2017	Feb. 17, 2018
17.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
18.	Power Meter	R&S	NRVD	SEL0069	Feb. 18, 2017	Feb. 17, 2018
19.	Power Sensor	R&S	URV5-Z2	SEL0071	Feb. 18, 2017	Feb. 17, 2018
20.	Power Sensor	R&S	URV5-Z2	SEL0072	Feb. 18, 2017	Feb. 17, 2018
21.	Software EMC32	R&S	EMC32-S	SEL0082	N/A	N/A
22.	Log-periodic Antenna	Amplifier Reasearch	APT1.580	SEL0073	Feb. 18, 2017	Feb. 17, 2018
23.	Loop Antenna	Schwarz beck	FMZB 1516	9773	Feb. 18, 2017	Feb. 17, 2018
24.	Broadband Antenna	Schwarz beck	VULB9163	9163-333	Feb. 18, 2017	Feb. 17, 2018
25.	Horn Antenna	ETS	3117	00086197	Feb. 18, 2017	Feb. 17, 2018
26.	Horn Antenna	Schwarzbeck	BBHA9170	BBHA9170582	Feb. 18, 2017	Feb. 17, 2018
27.	Antenna Tripod	Amplifier Reasearch	TP1000A	SEL0074	Feb. 18, 2017	Feb. 17, 2018
28.	High Gain Horn Antenna	Amplifier Reasearch	AT4002A	SEL0075	Feb. 18, 2017	Feb. 17, 2018
29.	Spectrum analyzer	Agilent	N9020A	MY499110048	Feb. 18, 2017	Feb. 17, 2018
30.	Spectrum analyzer	Agilent	E4407B	MY46184326	Feb. 18, 2017	Feb. 17, 2018
31.	Spectrum analyzer	R&S	FSP30	836079/035	Feb. 18, 2017	Feb. 17, 2018
32.	RF Cable	Micable	C10-01-01-1	100309	Feb. 18, 2017	Feb. 17, 2018

3. CONDUCTED EMISSIONS TEST

3.1 Conducted Power Line Emission Limit

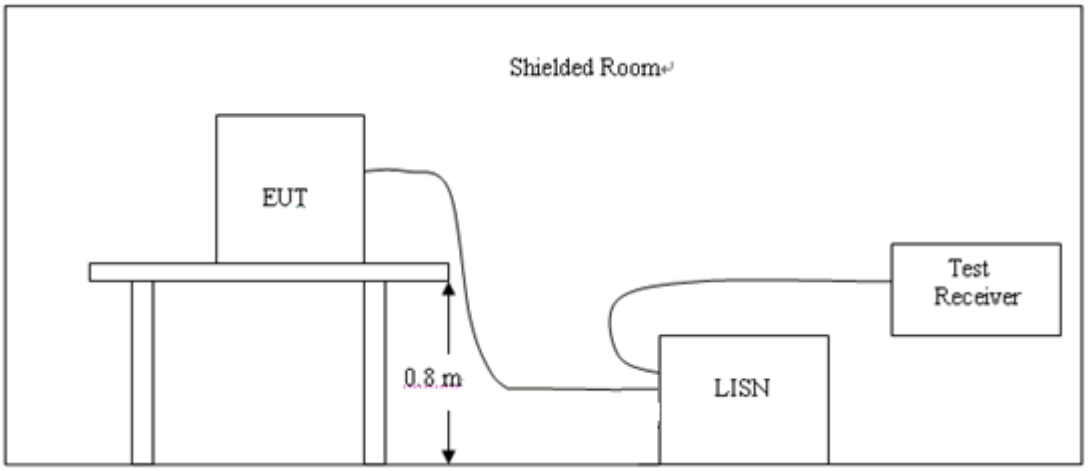
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

Frequency (MHz)	Maximum RF Line Voltage (dBμV)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

* Decreasing linearly with the logarithm of the frequency

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

3.2 Test Setup



3.3 Test Procedure

1, The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.

2, Support equipment, if needed, was placed as per ANSI C63.10.

3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.

4, If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.

5, All support equipments received AC power from a second LISN, if any.

6, The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.

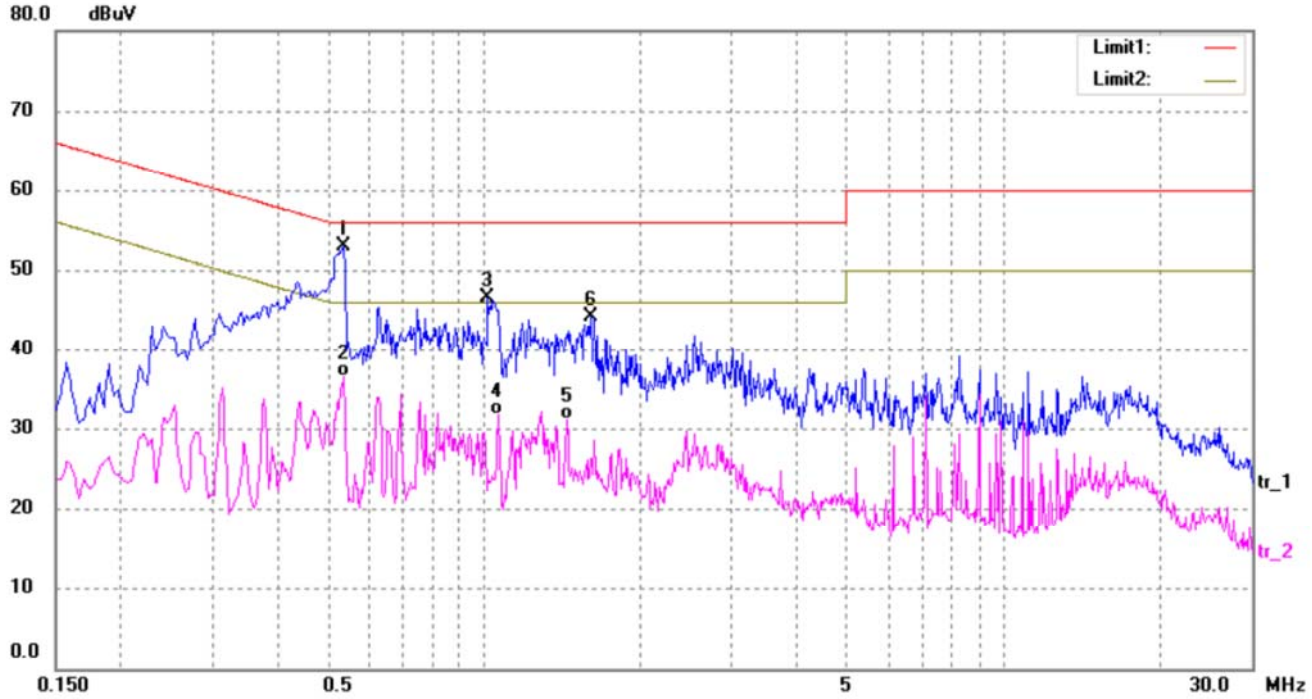
7, Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

3.4 Test Result

PASS

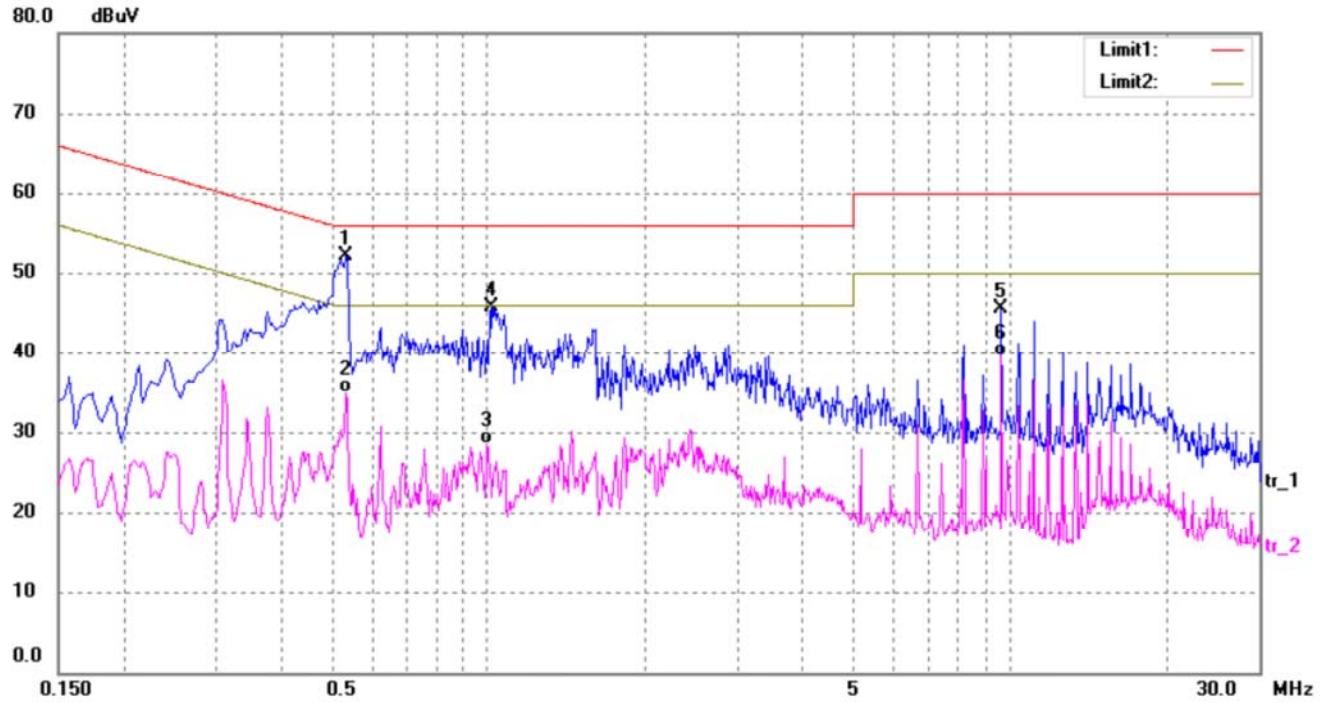
All the test modes completed for test.

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.5380	47.03	5.80	52.83	56.00	-3.17	peak
2	0.5380	30.64	5.80	36.44	46.00	-9.56	AVG
3	1.0180	40.76	5.76	46.52	56.00	-9.48	peak
4	1.0700	25.89	5.76	31.65	46.00	-14.35	AVG
5	1.4420	25.35	5.75	31.10	46.00	-14.90	AVG
6	1.6060	38.39	5.74	44.13	56.00	-11.87	peak

Test Specification: Neutral



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.5340	46.39	5.80	52.19	56.00	-3.81	peak
2	0.5340	29.15	5.80	34.95	46.00	-11.05	AVG
3	0.9980	22.82	5.76	28.58	46.00	-17.42	AVG
4	1.0140	39.85	5.76	45.61	56.00	-10.39	peak
5	9.6380	40.02	5.53	45.55	60.00	-14.45	peak
6	9.6380	33.92	5.53	39.45	50.00	-10.55	AVG

4 RADIATED EMISSION TEST

4.1 Radiation Limit

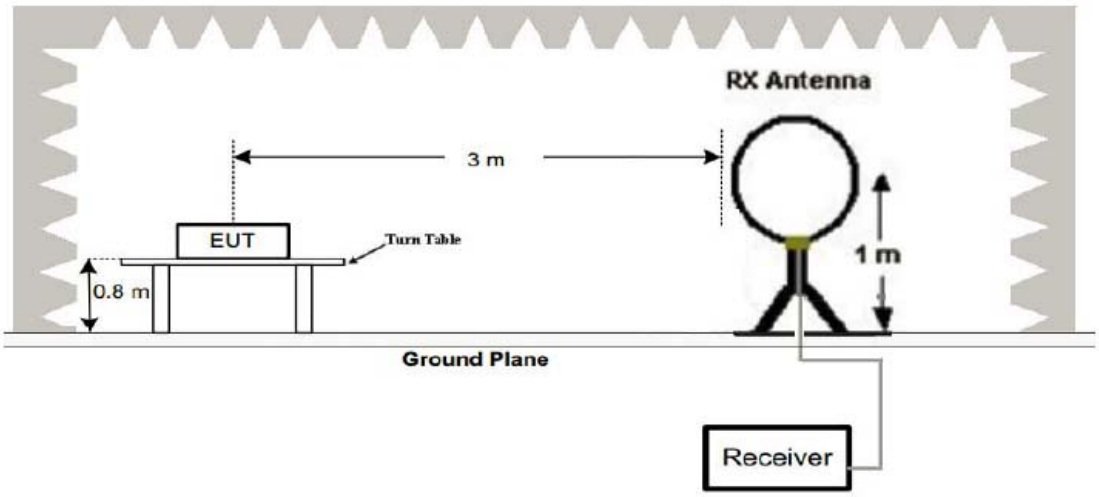
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values：

Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
30-88	3	40	100
88-216	3	43.5	150
216-960	3	46	200
Above 960	3	54	500

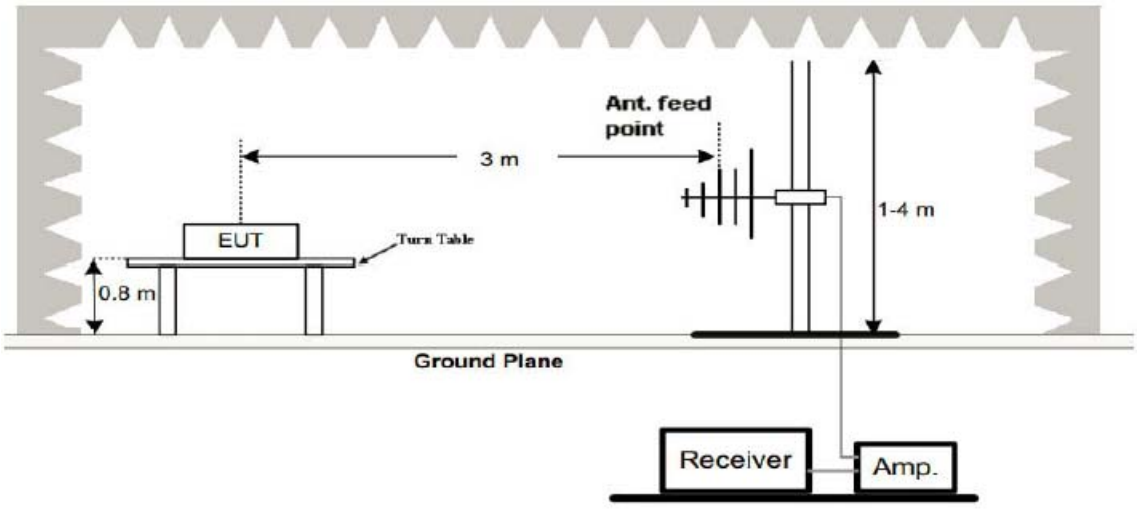
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

4.2 Test Setup

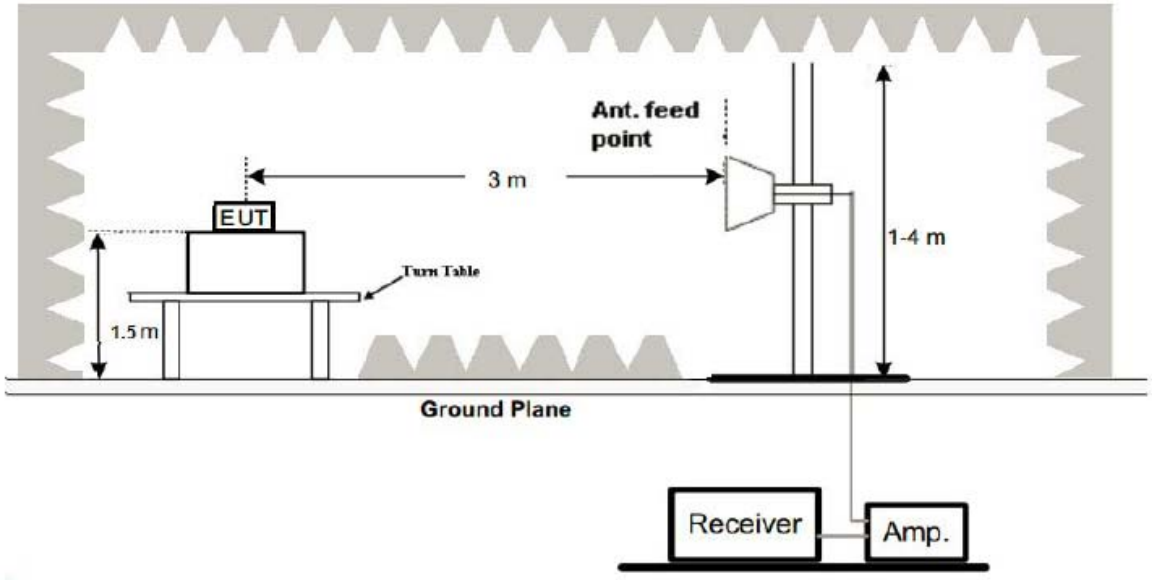
（1）Radiated Emission Test-Up Frequency Below 30MHz



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



（3）Radiated Emission Test-Up Frequency Above 1GHz



4.3 Test Procedure

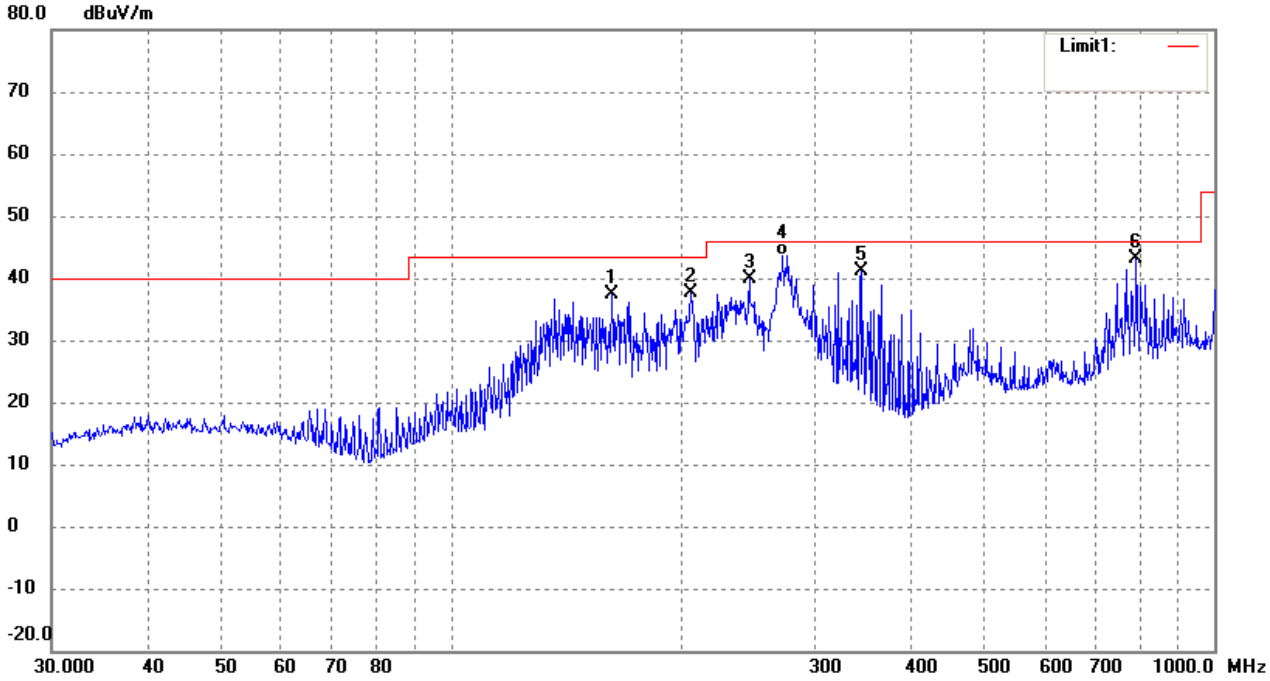
1. Below 1GHz measurement the EUT is placed on turntable which is 0.8m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The test frequency range from 9KHz to 25GHz per FCC PART 15.33(a).

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

4.4 Test Result

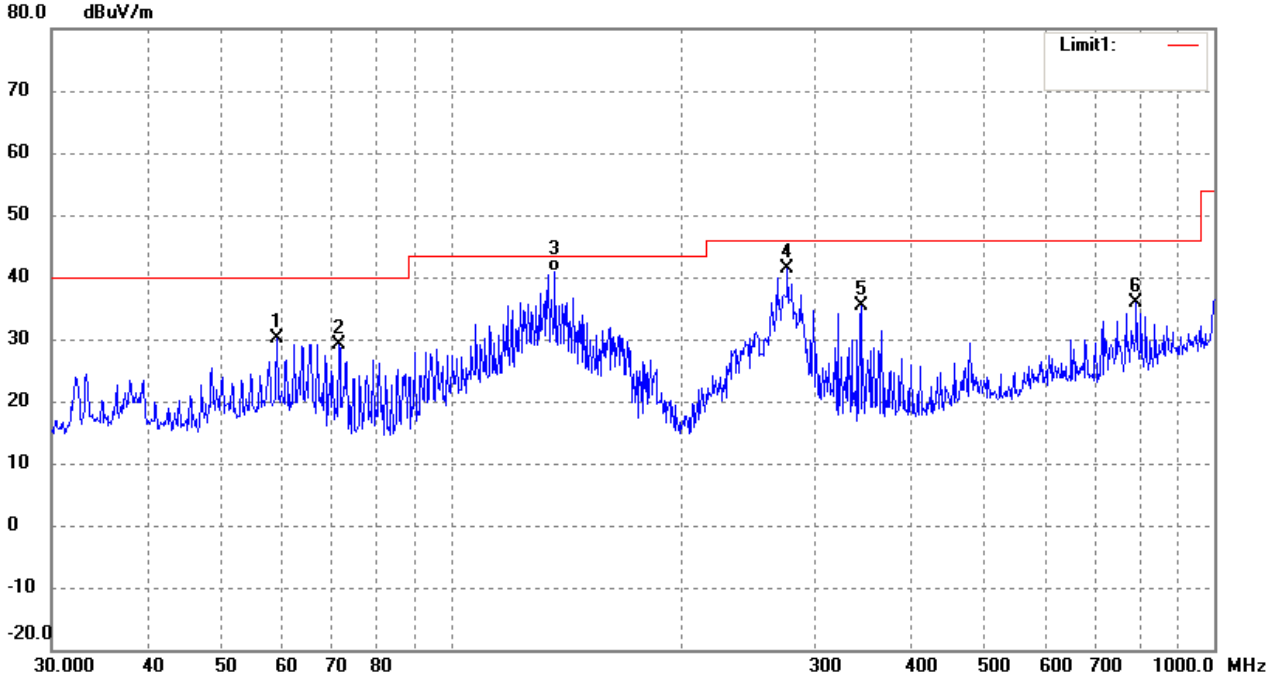
PASS
All the test modes completed for test. The worst case of Radiated Emission （802.11b Transmitting High Channel-2462MHz (worst case) ）; the test data of this mode was reported.

Below 1GHz Test Results:
Antenna polarity: H



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	162.6106	52.24	-14.92	37.32	43.50	-6.18	0	100	peak
2	206.3976	49.49	-11.88	37.61	43.50	-5.89	0	100	peak
3	245.9508	50.54	-10.69	39.85	46.00	-6.15	0	100	peak
4	272.2776	53.39	-9.73	43.66	46.00	-2.34	0	100	QP
5	344.3854	50.62	-9.39	41.23	46.00	-4.77	0	100	peak
6	790.6187	42.88	0.21	43.09	46.00	-2.91	0	100	peak

Antenna polarity: V



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ( )	Height (cm)	Remark
1	59.2325	43.52	-13.43	30.09	40.00	-9.91	0	100	peak
2	71.3299	45.71	-16.51	29.20	40.00	-10.80	0	100	peak
3	136.9391	55.44	-14.63	40.81	43.50	-2.69	0	100	QP
4	276.1235	50.99	-9.62	41.37	46.00	-4.63	0	100	peak
5	344.3854	44.70	-9.39	35.31	46.00	-10.69	0	100	peak
6	790.6187	35.57	0.21	35.78	46.00	-10.22	0	100	peak

Remark:

(1) Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.

(2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.

(3) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

All the test modes completed for test. The worst case MIMO mode of Radiated Emission; the test data of this mode was reported.
For MIMO antenna port 1and part 2 above 1 GHz Test Results:

LOW CH1 (802.11b Mode)/2412
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	62.08	-3.64	58.44	74	-15.56	peak
4824	46.13	-3.64	42.49	54	-11.51	AVG
7236	55.19	-0.95	54.24	74	-19.76	peak
7236	42.84	-0.95	41.89	54	-12.11	AVG
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---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	61.96	-3.64	58.32	74	-15.68	peak
4824	45.83	-3.64	42.19	54	-11.81	AVG
7236	56.24	-0.95	55.29	74	-18.71	peak
7236	41.95	-0.95	41	54	-13	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

MID CH6 (802.11b Mode)/2437
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	62.14	-3.51	58.63	74	-15.37	peak
4874	46.72	-3.51	43.21	54	-10.79	AVG
7311	56.33	-0.82	55.51	74	-18.49	peak
7311	41.51	-0.82	40.69	54	-13.31	AVG
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---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	61.86	-3.51	58.35	74	-15.65	peak
4874	46.27	-3.51	42.76	54	-11.24	AVG
7311	56.49	-0.82	55.67	74	-18.33	peak
7311	41.65	-0.82	40.83	54	-13.17	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

HIGH CH11 (802.11b Mode)/2462
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	62.17	-3.43	58.74	74	-15.26	peak
4924	45.99	-3.43	42.56	54	-11.44	AVG
7386	56.34	-0.75	55.59	74	-18.41	peak
7386	42.58	-0.75	41.83	54	-12.17	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	61.75	-3.43	58.32	74	-15.68	peak
4924	46.09	-3.43	42.66	54	-11.34	AVG
7386	55.37	-0.75	54.62	74	-19.38	peak
7386	42.61	-0.75	41.86	54	-12.14	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Remark：
(1) Measuring frequencies from 1 GHz to the 25 GHz。
(2) “F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency.
(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
(4) Data of measurement within this frequency range shown “--- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

LOW CH1 (802.11g Mode)/2412
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	62.05	-3.64	58.41	74	-15.59	peak
4824	45.93	-3.64	42.29	54	-11.71	AVG
7236	55.42	-0.95	54.47	74	-19.53	peak
7236	40.86	-0.95	39.91	54	-14.09	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	61.93	-3.64	58.29	74	-15.71	peak
4824	46.92	-3.64	43.28	54	-10.72	AVG
7236	56.38	-0.95	55.43	74	-18.57	peak
7236	40.29	-0.95	39.34	54	-14.66	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

MID CH6 (802.11g Mode)/2437
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	61.32	-3.51	57.81	74	-16.19	peak
4874	46.86	-3.51	43.35	54	-10.65	AVG
7311	56.11	-0.82	55.29	74	-18.71	peak
7311	40.73	-0.82	39.91	54	-14.09	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	60.57	-3.51	57.06	74	-16.94	peak
4874	44.99	-3.51	41.48	54	-12.52	AVG
7311	56.25	-0.82	55.43	74	-18.57	peak
7311	41.54	-0.82	40.72	54	-13.28	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

HIGH CH11 (802.11g Mode)/2462
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	61.18	-3.43	57.75	74	-16.25	peak
4924	45.82	-3.43	42.39	54	-11.61	AVG
7386	54.74	-0.75	53.99	74	-20.01	peak
7386	41.29	-0.75	40.54	54	-13.46	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	60.68	-3.43	57.25	74	-16.75	peak
4924	46.39	-3.43	42.96	54	-11.04	AVG
7386	57.02	-0.75	56.27	74	-17.73	peak
7386	40.75	-0.75	40	54	-14	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Remark：
(1) Measuring frequencies from 1 GHz to the 25 GHz。
(2) “F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency.
(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
(4) Data of measurement within this frequency range shown “--- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

LOW CH1 (802.11n/H20 Mode)/2412
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	61.74	-3.64	58.1	74	-15.9	peak
4824	44.85	-3.64	41.21	54	-12.79	AVG
7236	56.23	-0.95	55.28	74	-18.72	peak
7236	42.18	-0.95	41.23	54	-12.77	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4824	61.05	-3.64	57.41	74	-16.59	peak
4824	46.37	-3.64	42.73	54	-11.27	AVG
7236	56.17	-0.95	55.22	74	-18.78	peak
7236	42.59	-0.95	41.64	54	-12.36	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

MID CH6 (802.11n/H20 Mode)/2437
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	60.27	-3.51	56.76	74	-17.24	peak
4874	46.19	-3.51	42.68	54	-11.32	AVG
7311	54.82	-0.82	54	74	-20	peak
7311	40.58	-0.82	39.76	54	-14.24	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	60.22	-3.51	56.71	74	-17.29	peak
4874	45.81	-3.51	42.3	54	-11.7	AVG
7311	55.97	-0.82	55.15	74	-18.85	peak
7311	41.35	-0.82	40.53	54	-13.47	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

HIGH CH11 (802.11n/H20 Mode)/2462
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	61.14	-3.43	57.71	74	-16.29	peak
4924	46.83	-3.43	43.4	54	-10.6	AVG
7386	56.39	-0.75	55.64	74	-18.36	peak
7386	41.47	-0.75	40.72	54	-13.28	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	59.13	-3.43	55.7	74	-18.3	peak
4924	45.55	-3.43	42.12	54	-11.88	AVG
7386	54.84	-0.75	54.09	74	-19.91	peak
7386	39.76	-0.75	39.01	54	-14.99	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

LOW CH3 (802.11n/H40 Mode)/2422
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	60.69	-3.63	57.06	74	-16.94	peak
4924	46.27	-3.63	42.64	54	-11.36	AVG
7386	56.84	-0.94	55.9	74	-18.1	peak
7386	40.95	-0.94	40.01	54	-13.99	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4924	60.48	-3.63	56.85	74	-17.15	peak
4924	46.26	-3.63	42.63	54	-11.37	AVG
7386	54.93	-0.94	53.99	74	-20.01	peak
7386	41.07	-0.94	40.13	54	-13.87	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

MID CH6 (802.11n/H40 Mode)/2437
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	60.34	-3.51	56.83	74	-17.17	peak
4874	45.93	-3.51	42.42	54	-11.58	AVG
7311	55.81	-0.82	54.99	74	-19.01	peak
7311	40.16	-0.82	39.34	54	-14.66	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4874	60.11	-3.51	56.6	74	-17.4	peak
4874	46.27	-3.51	42.76	54	-11.24	AVG
7311	54.86	-0.82	54.04	74	-19.96	peak
7311	40.02	-0.82	39.2	54	-14.8	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

HIGH CH9 (802.11n/H40 Mode)/2452
Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4904	59.88	-3.43	56.45	74	-17.55	peak
4904	46.71	-3.43	43.28	54	-10.72	AVG
7356	54.63	-0.75	53.88	74	-20.12	peak
7356	39.67	-0.75	38.92	54	-15.08	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
4904	59.64	-3.43	56.21	74	-17.79	peak
4904	46.36	-3.43	42.93	54	-11.07	AVG
7356	55.92	-0.75	55.17	74	-18.83	peak
7356	40.17	-0.75	39.42	54	-14.58	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---
Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Remark：
(1) Measuring frequencies from 1 GHz to the 25 GHz。
(2) “F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency.
(3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
(4) Data of measurement within this frequency range shown “--- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
(5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
(6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

5 BAND EDGE

5.1 Limits

FCC PART 15.247 Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

5.2 Test Procedure

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW to 100KHz and VBM to 300KHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength.The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW to 100 KHz and VBW to 300 KHz, to measure the conducted peak band edge.

5.3 Test Result

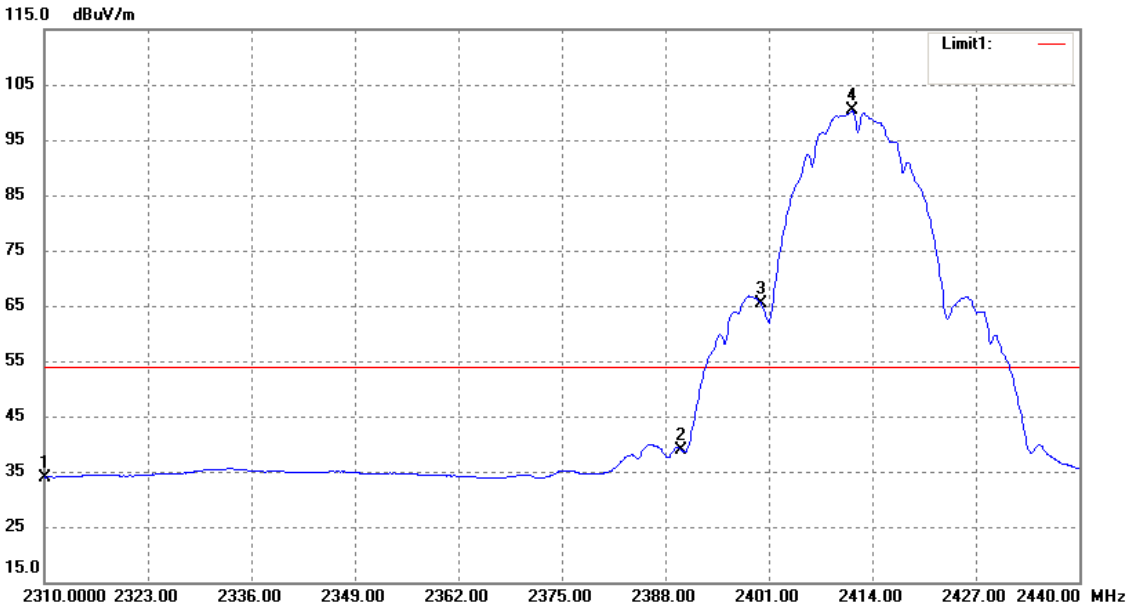
PASS

NOTE: All the test modes completed for test. The worst mode of Radiated Band Edge test in this report.

Operation Mode:

802.11b-Lowest Bandedge

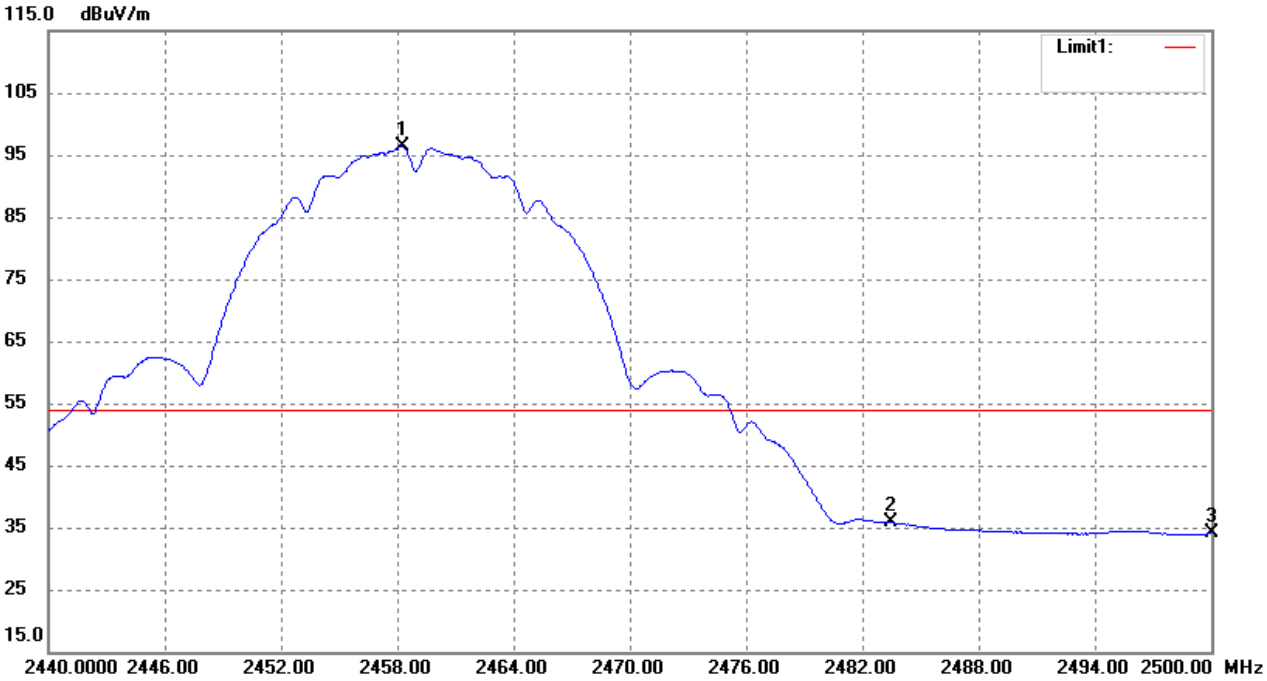
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	37.80	-3.80	34.00	54.00	-28.54	Average Detector
	2310.000	50.68	-3.80	46.88	74.00	-35.48	Peak Detector
2	2390.000	41.84	-3.00	38.84	54.00	-26.79	Average Detector
	2390.000	55.00	-3.00	52.00	74.00	-34.64	Peak Detector
3	2400.000	68.31	-2.90	65.41	Delta = 34.87 dBc		Average Detector
4	2411.400	103.12	-2.84	100.28			Average Detector

802.11b-Highest Bandedge

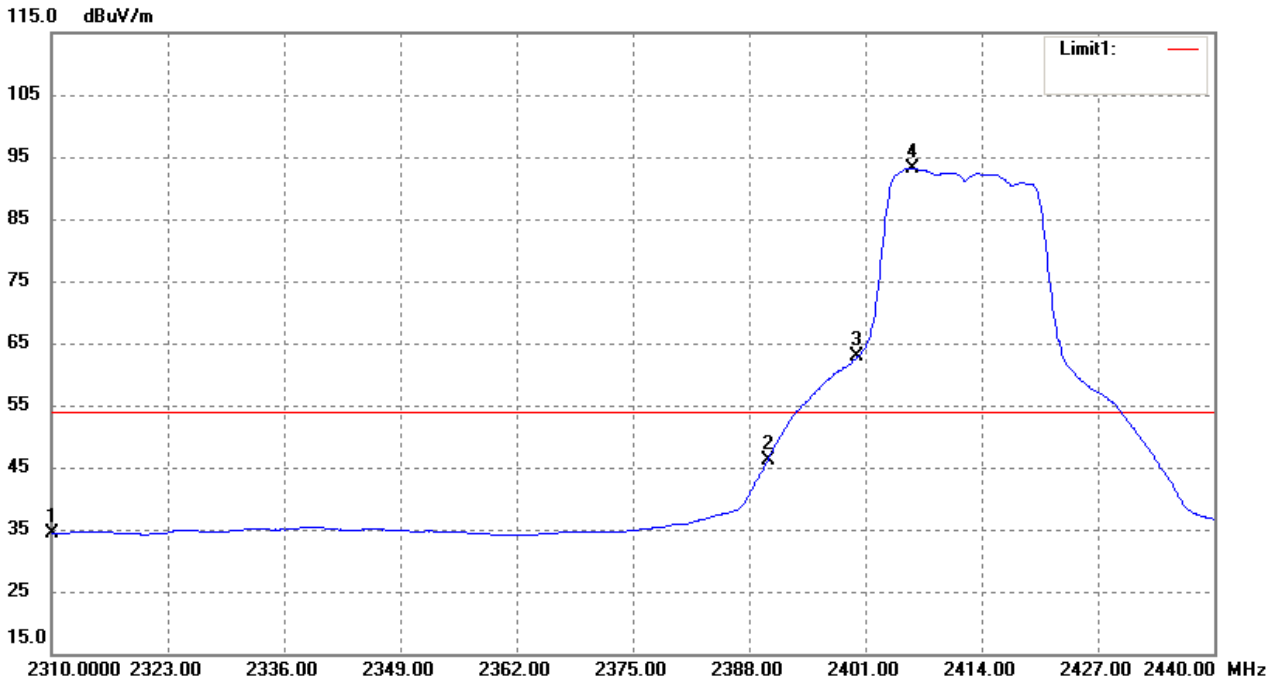
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2458.240	98.96	-2.61	96.35	/	/	Average Detector
	2460.100	104.14	-2.60	101.54	/	/	Peak Detector
2	2483.500	Delta = 52.77dBc		43.58	54.00	-10.42	Average Detector
	2483.500			48.77	74.00	-25.23	Peak Detector
3	2500.000	33.13	-3.28	29.85	54.00	-24.15	Average Detector
	2500.000	46.79	-3.28	43.51	74.00	-30.49	Peak Detector

802.11g-Lowest Bandedge

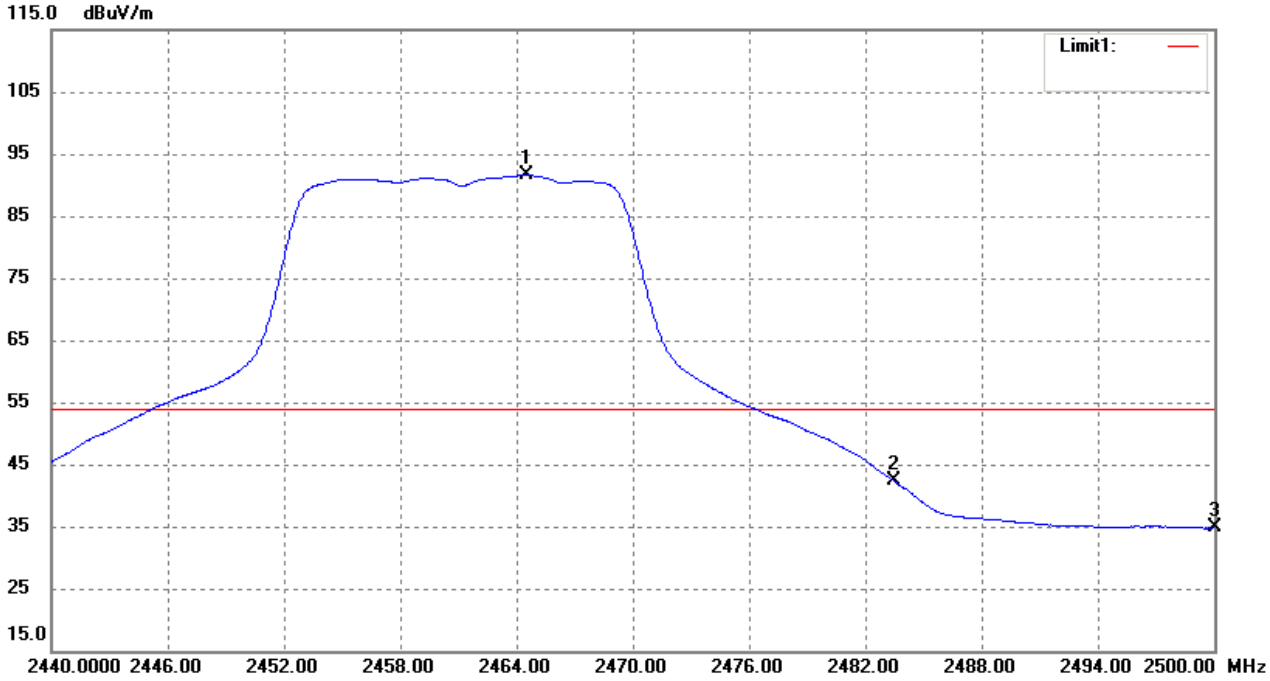
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	38.25	-3.80	34.45	54.00	-19.55	Average Detector
	2310.000	45.99	-3.80	42.19	74.00	-31.81	Peak Detector
2	2390.000	49.11	-3.00	46.11	54.00	-7.89	Average Detector
	2390.000	62.67	-3.00	59.67	74.00	-14.33	Peak Detector
3	2400.000	65.72	-2.90	62.82	Delta = 30.38dBc		Average Detector
4	2406.200	96.07	-2.87	93.20			Average Detector

802.11g-Highest Bandedge

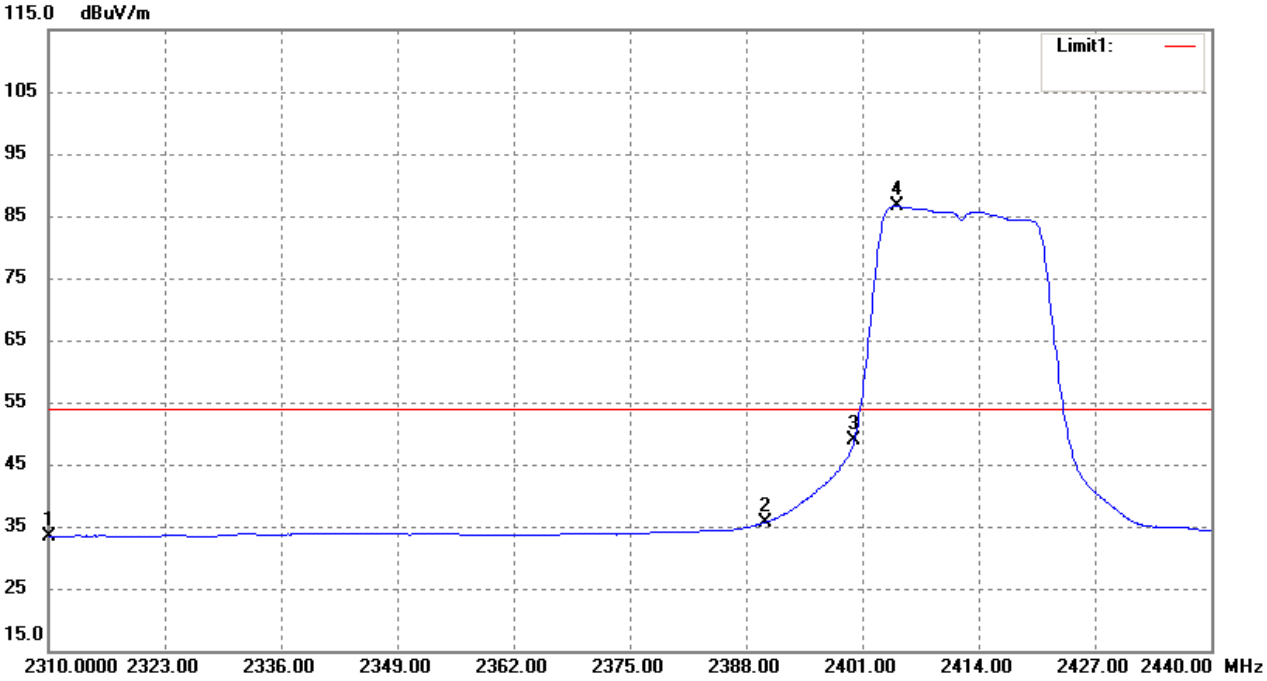
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2464.480	94.19	-2.57	91.62	/	/	Average Detector
	2464.540	105.44	-2.57	102.87	/	/	Peak Detector
2	2483.500	Delta = 46.44dBc		45.18	54.00	-8.82	Average Detector
	2483.500			56.43	74.00	-17.57	Peak Detector
3	2500.000	37.16	-2.40	34.76	54.00	-19.24	Average Detector
	2500.000	49.13	-2.40	46.73	74.00	-27.27	Peak Detector

802.11n-HT20-Lowest Bandedge

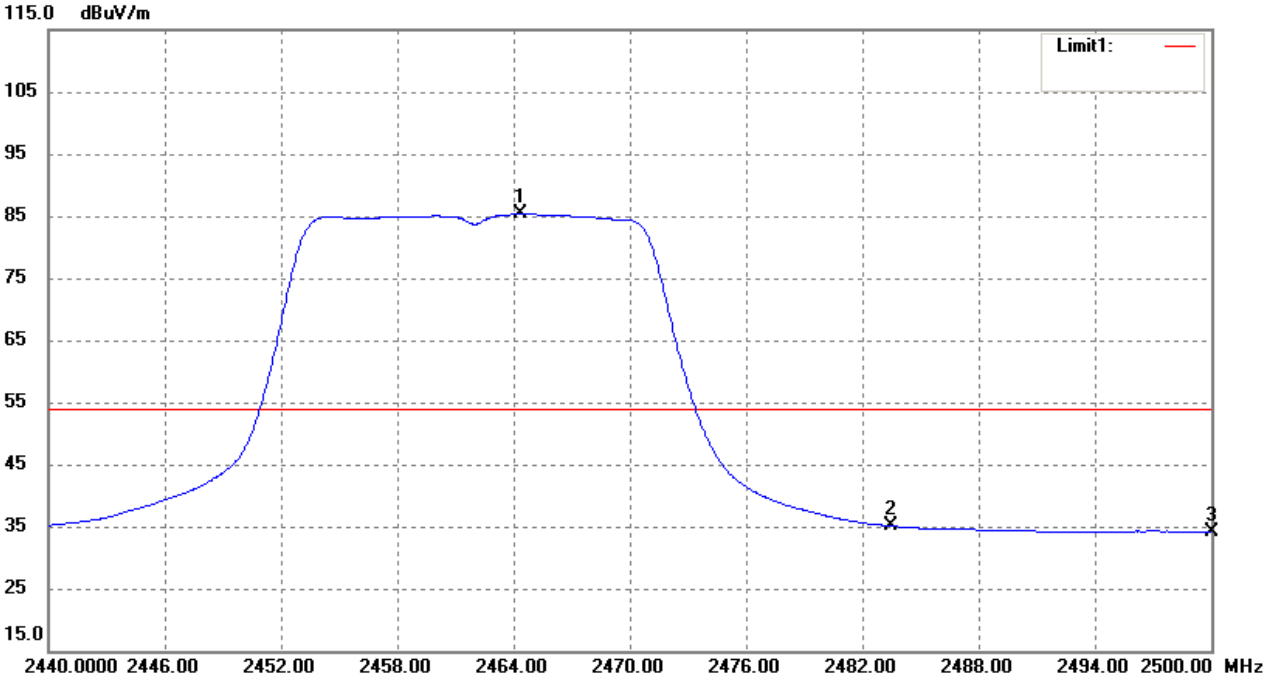
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	37.22	-3.80	33.42	54.00	-20.58	Average Detector
	2310.000	48.65	-3.80	44.85	74.00	-29.15	Peak Detector
2	2390.000	38.70	-3.00	35.70	54.00	-18.30	Average Detector
	2390.000	51.83	-3.00	48.83	74.00	-25.17	Peak Detector
3	2400.000	51.90	-2.90	49.00	Delta = 37.53dBc		Average Detector
4	2404.900	89.40	-2.87	86.53			Average Detector

802.11n-HT20-Highest Bandedge

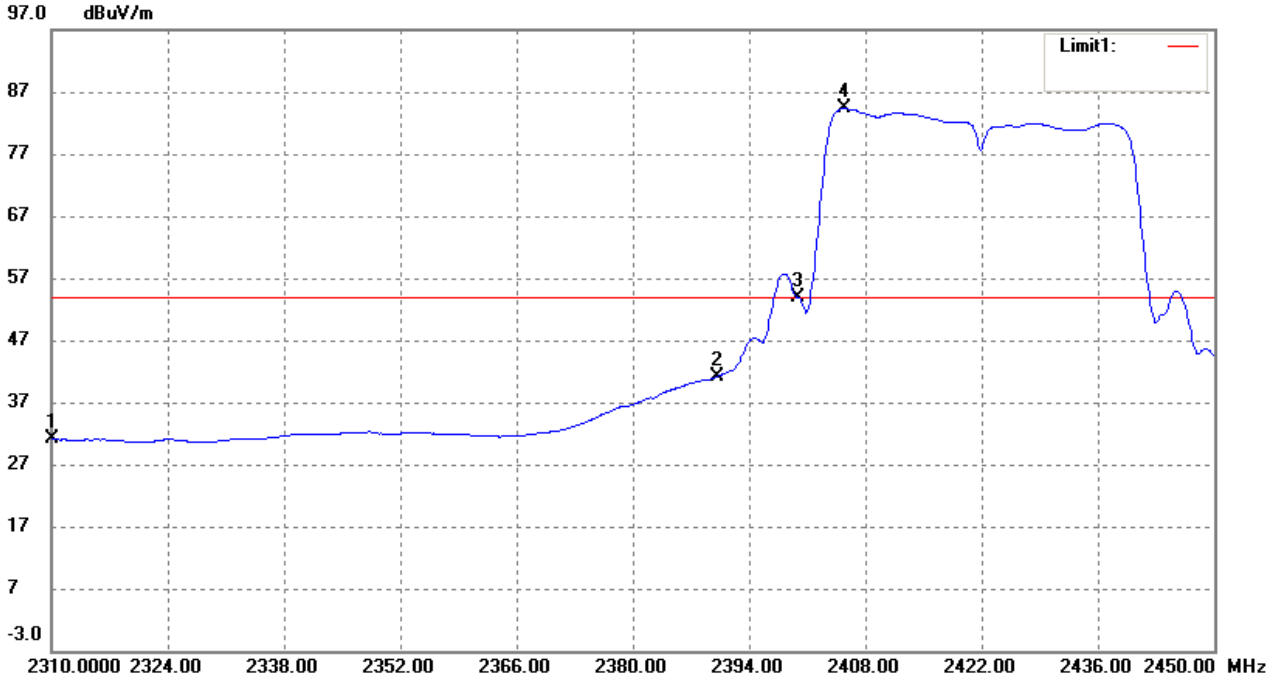
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2464.360	87.94	-2.57	85.37	/	/	Average Detector
	2459.140	98.70	-2.60	96.10	/	/	Peak Detector
2	2483.500	Delta = 42.36dBc		43.01	54.00	-10.99	Average Detector
	2483.500			53.74	74.00	-20.26	Peak Detector
3	2500.000	36.56	-2.40	34.16	54.00	-19.84	Average Detector
	2500.000	45.88	-2.40	43.48	74.00	-30.52	Peak Detector

802.11n-HT40-Lowest Bandedge

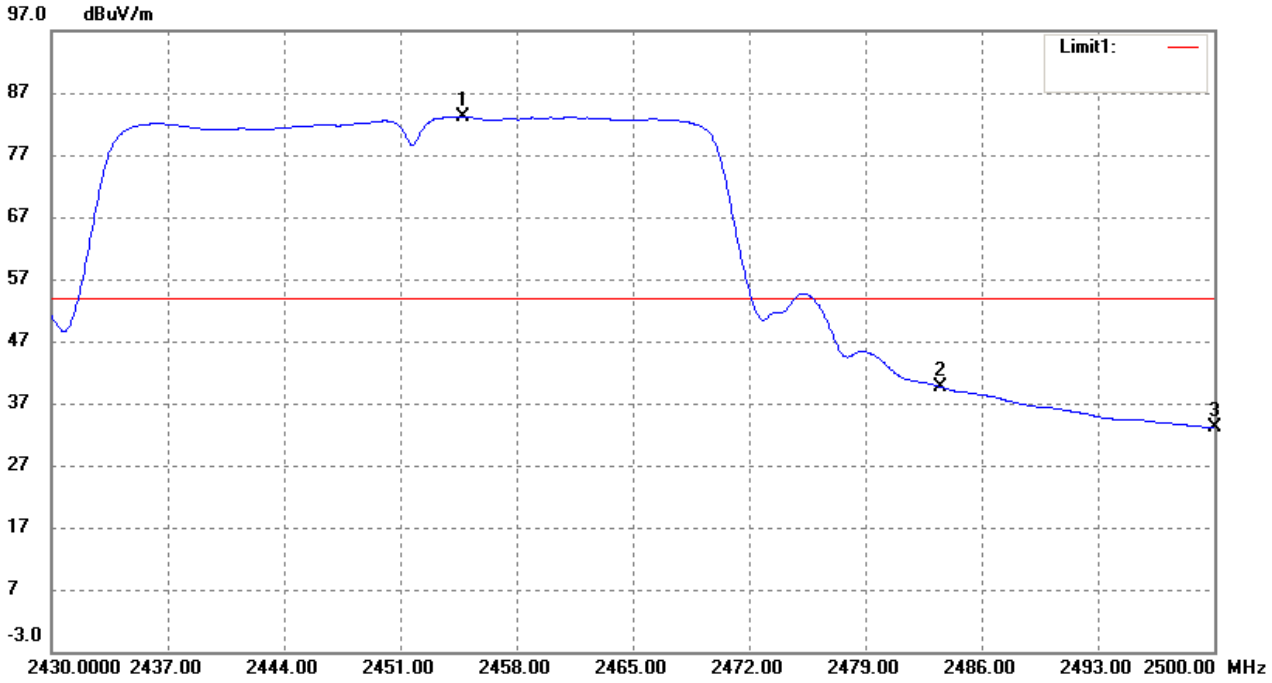
Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	34.89	-3.80	31.09	54.00	-22.91	Average Detector
	2310.000	48.54	-3.80	44.74	74.00	-29.26	Peak Detector
2	2390.000	44.16	-3.00	41.16	54.00	-12.84	Average Detector
	2390.000	57.26	-3.00	54.26	74.00	-19.74	Peak Detector
3	2400.000	56.81	-2.90	53.91	Delta = 30.40dBc		Average Detector
4	2405.480	87.18	-2.87	84.31			Peak Detector

802.11n-HT40-Highest Bandedge

Vertical (Worst case)



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2454.780	85.74	-2.62	83.12	/	/	Average Detector
	2463.390	93.40	-2.58	90.82	/	/	Peak Detector
2	2483.500	Delta = 42.85dBc		40.27	54.00	-13.73	Average Detector
	2483.500			47.97	74.00	-26.03	Peak Detector
3	2500.000	35.48	-2.40	33.08	54.00	-20.92	Average Detector
	2500.000	45.41	-2.40	43.01	74.00	-30.99	Peak Detector

6 OCCUPIED BANDWIDTH MEASUREMENT

6.1 Test 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

6.2 Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as normal operation.
3. Based on FCC Part15 C Section 15.247: RBW= 100KHz. VBW= 300 KHz.
4. The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector.

6.3 Measurement Equipment Used

Same as Radiated Emission Measurement

6.4 Test Result

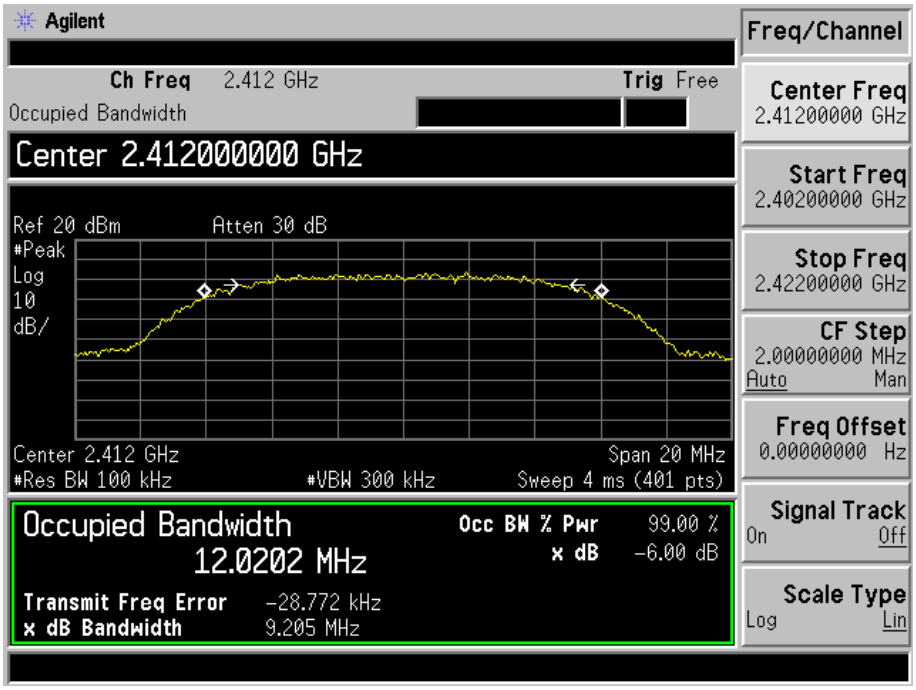
PASS

All the test modes completed for test.

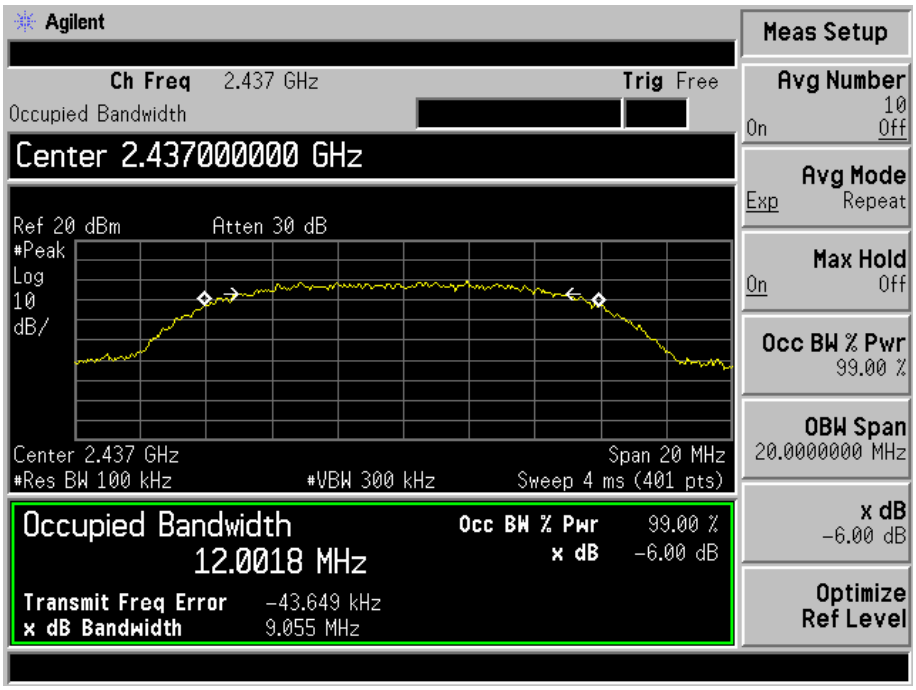
For antenna port 1:

TX 802.11b Mode			
Frequency	**6dB Bandwidth (MHz)**	**Channel Separation (MHz)**	**Result**
2412 MHz	9.205	>=500KHz	**PASS**
2437 MHz	9.055	>=500KHz	**PASS**
2462 MHz	9.200	>=500KHz	**PASS**

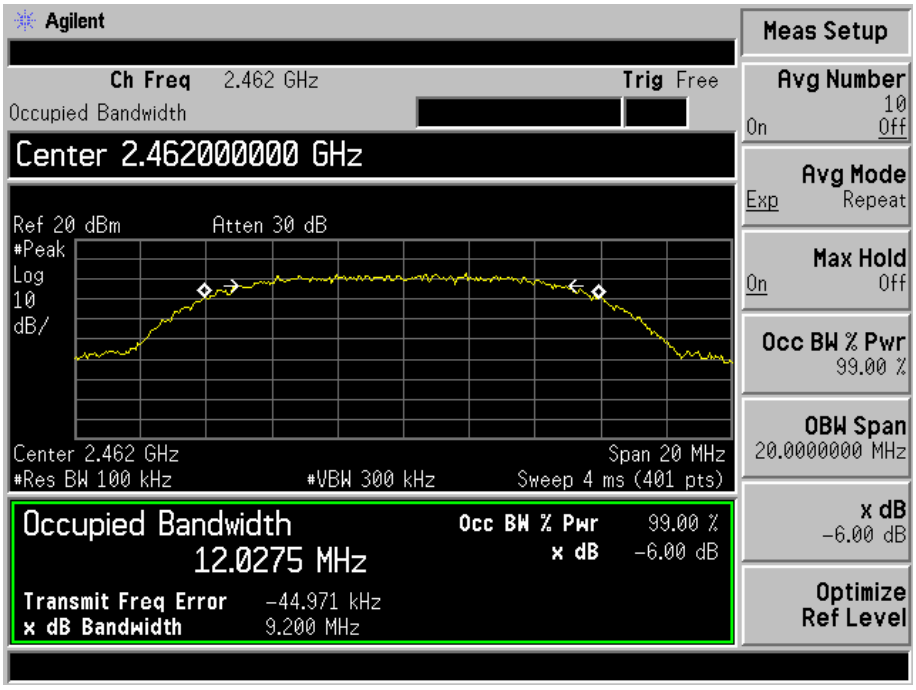
CH: 2412MHz



CH: 2437MHz

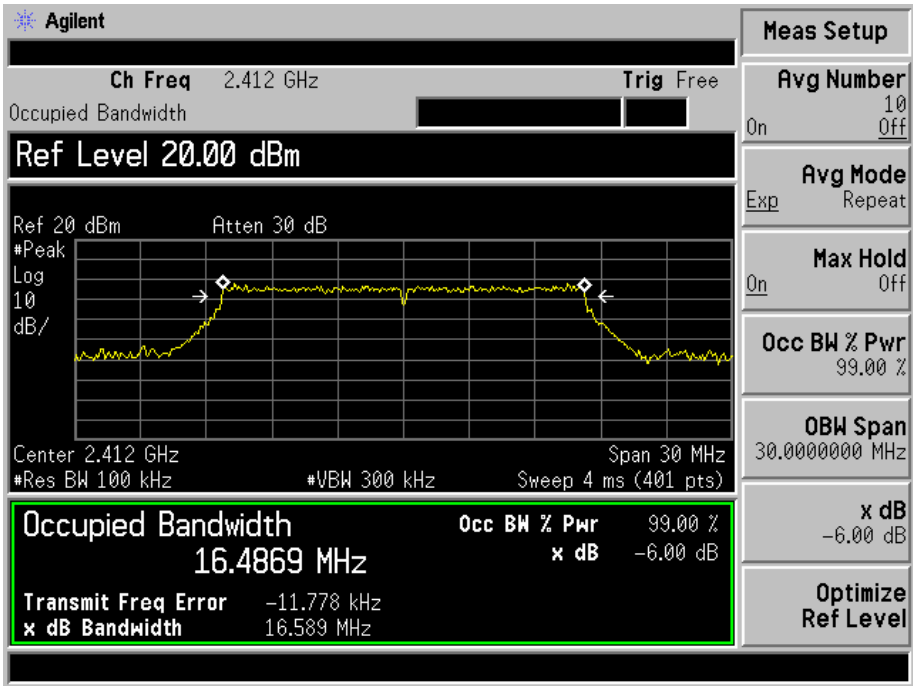


CH: 2462MHz

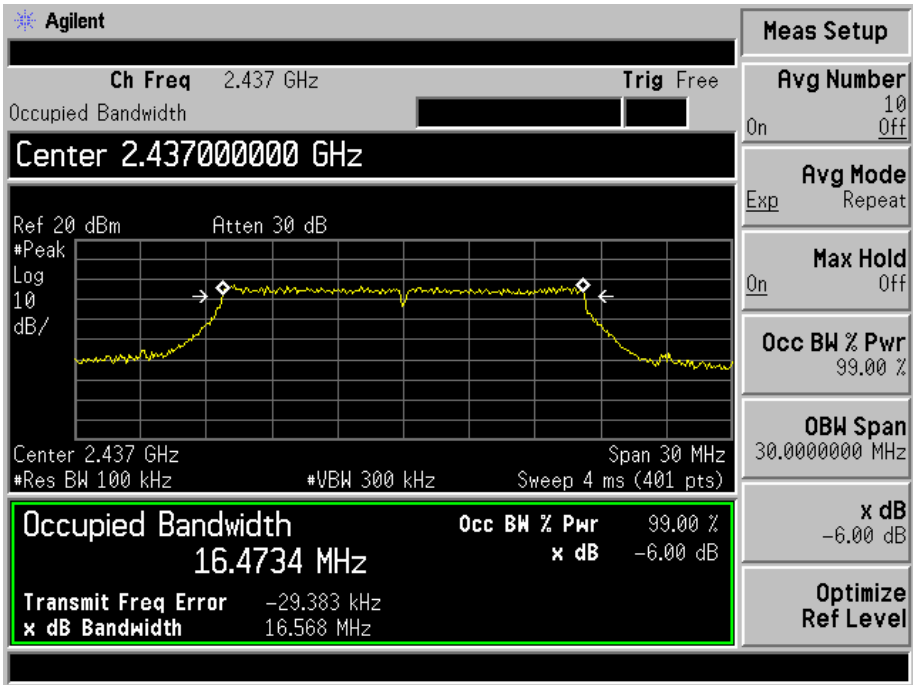


TX 802.11g Mode			
Frequency	**6dB Bandwidth (MHz)**	**Channel Separation (MHz)**	**Result**
2412 MHz	16.589	>=500KHz	**PASS**
2437 MHz	16.568	>=500KHz	**PASS**
2462 MHz	16.628	>=500KHz	**PASS**

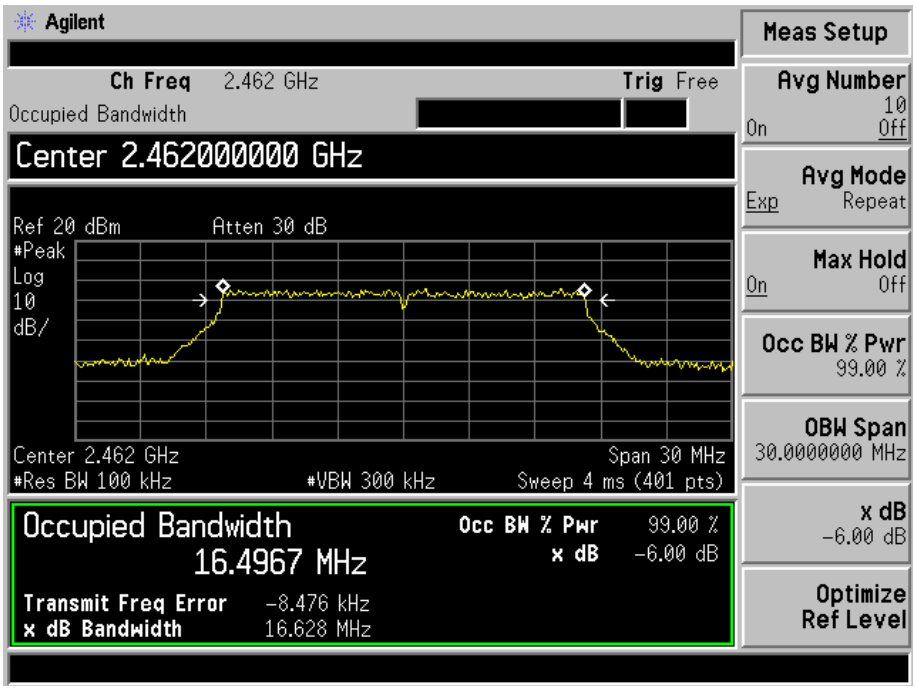
CH: 2412MHz



CH: 2437MHz

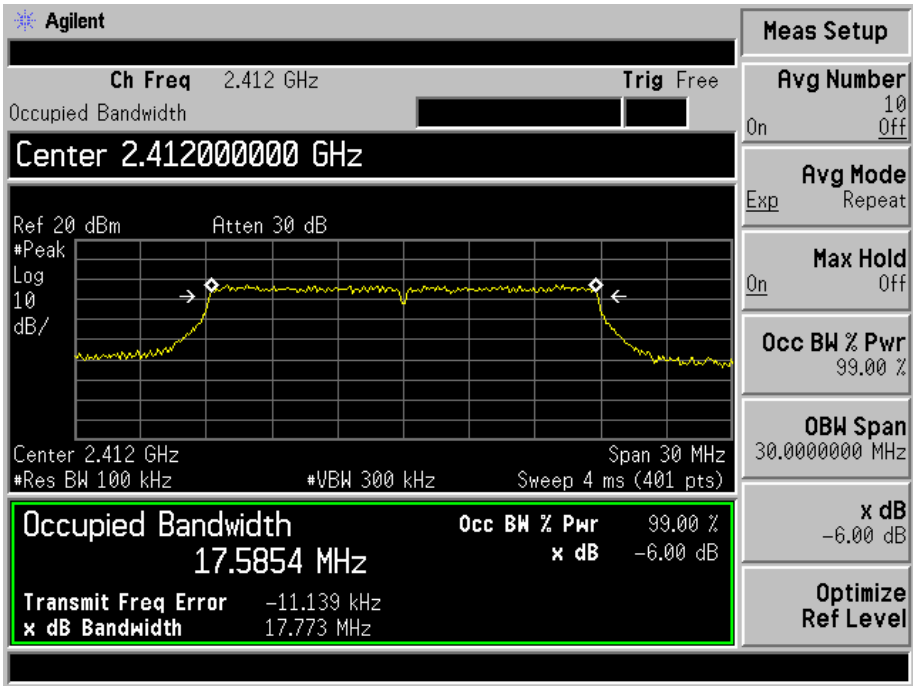


CH: 2462MHz

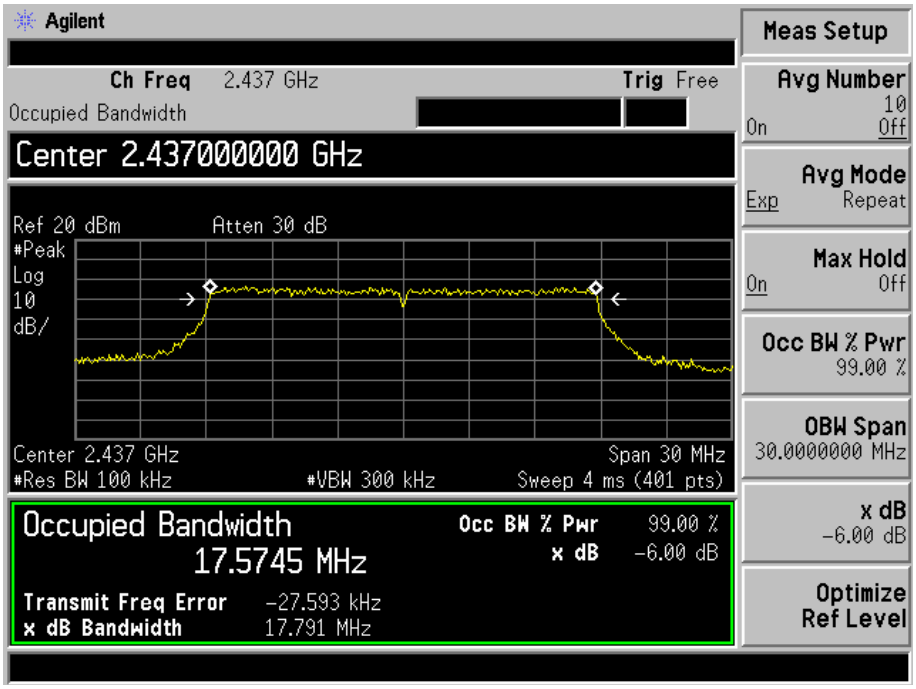


TX 802.11n/HT20 Mode			
Frequency	**6dB Bandwidth (MHz)**	**Channel Separation (MHz)**	**Result**
2412 MHz	17.773	>=500KHz	**PASS**
2437 MHz	17.791	>=500KHz	**PASS**
2462 MHz	17.774	>=500KHz	**PASS**

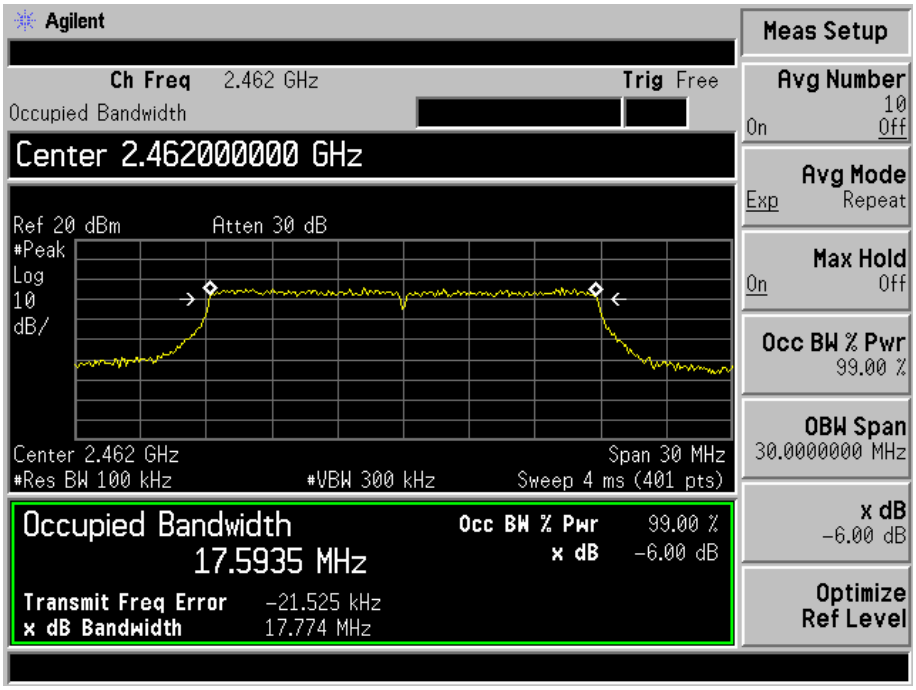
CH: 2412MHz



CH: 2437MHz

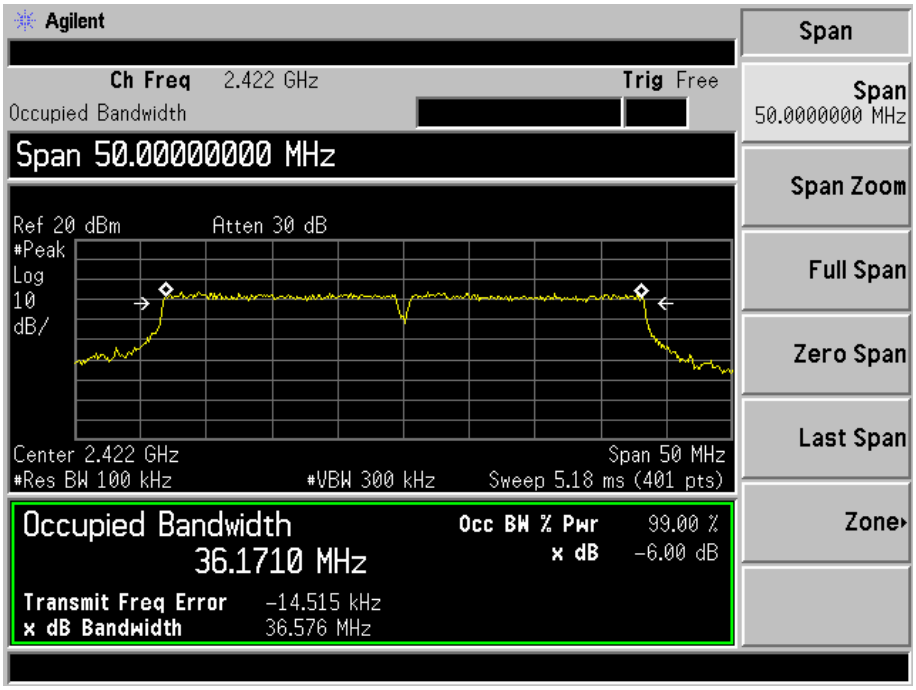


CH: 2462MHz

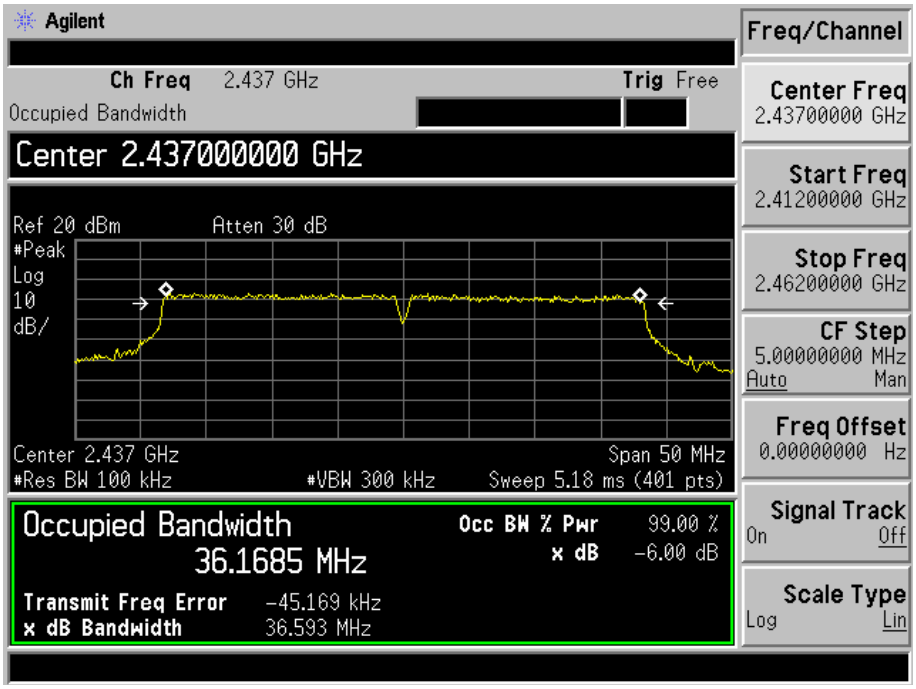


TX 802.11n/HT40 Mode			
Frequency	**6dB Bandwidth (MHz)**	**Channel Separation (MHz)**	**Result**
2422 MHz	36.576	>=500KHz	**PASS**
2437 MHz	35.593	>=500KHz	**PASS**
2452 MHz	36.554	>=500KHz	**PASS**

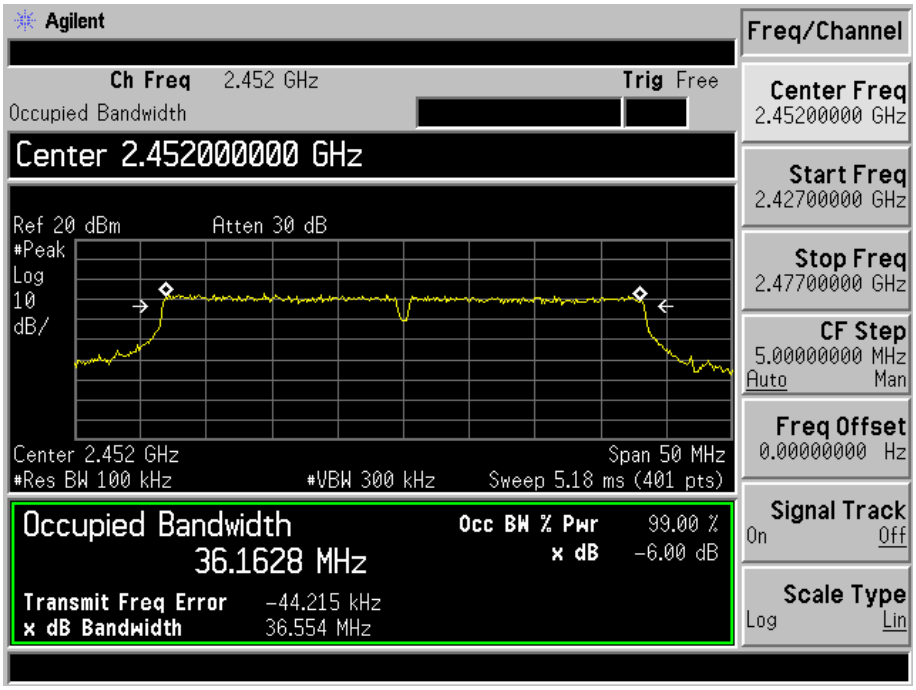
CH: 2422MHz



CH: 2437MHz



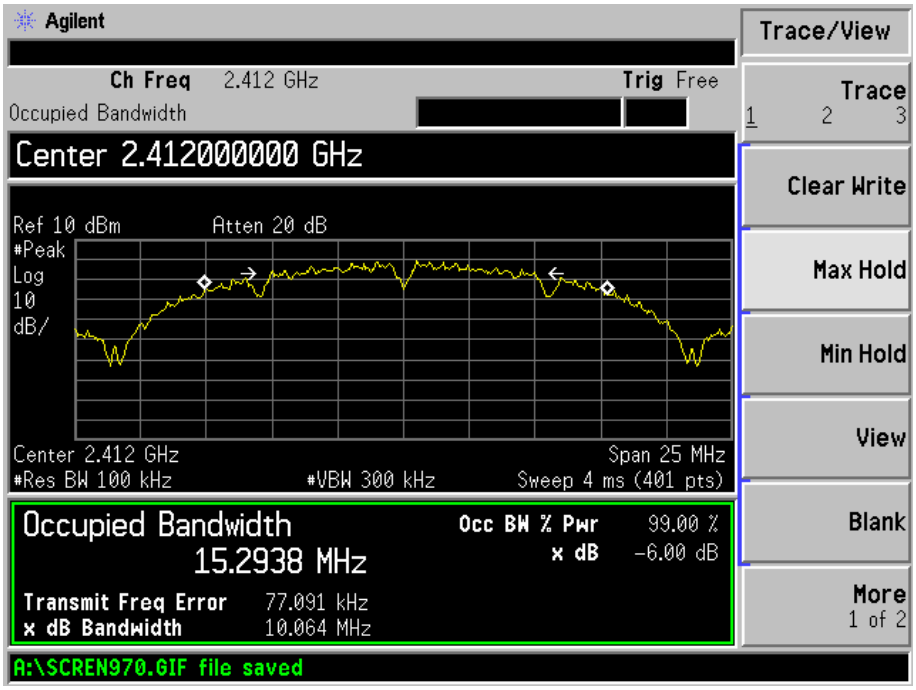
CH: 2452MHz



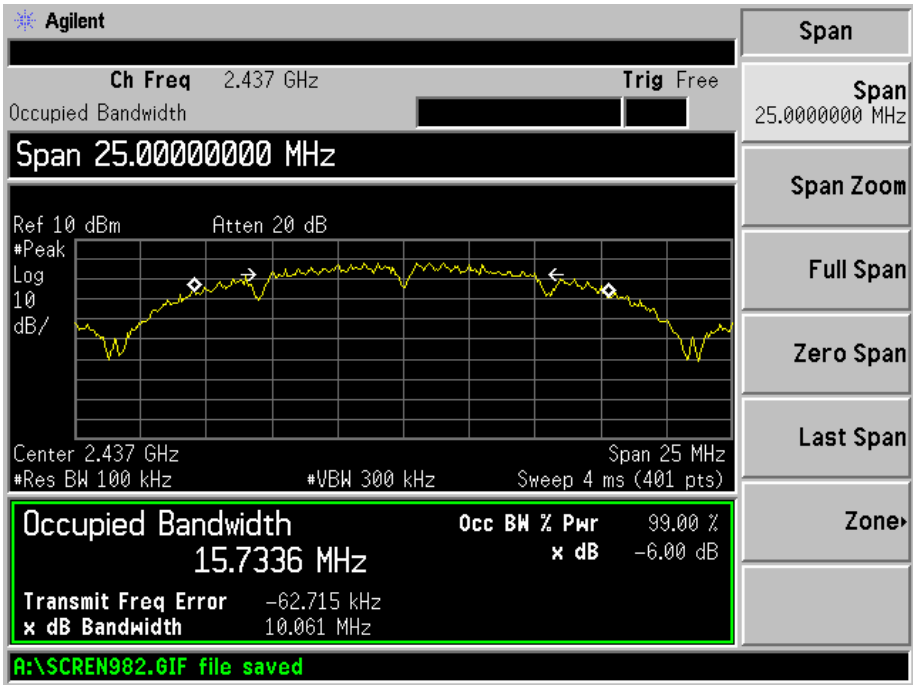
For antenna port 2:

TX 802.11b Mode			
Frequency	**6dB Bandwidth (MHz)**	**Channel Separation (MHz)**	**Result**
2412 MHz	10.064	>=500KHz	**PASS**
2437 MHz	10.061	>=500KHz	**PASS**
2462 MHz	10.043	>=500KHz	**PASS**

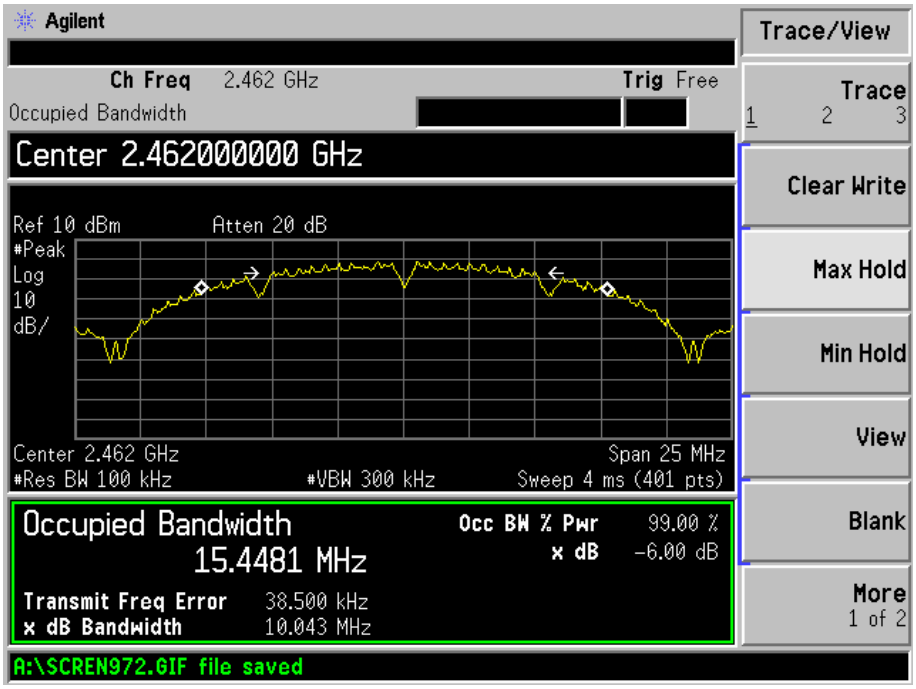
CH: 2412MHz



CH: 2437MHz

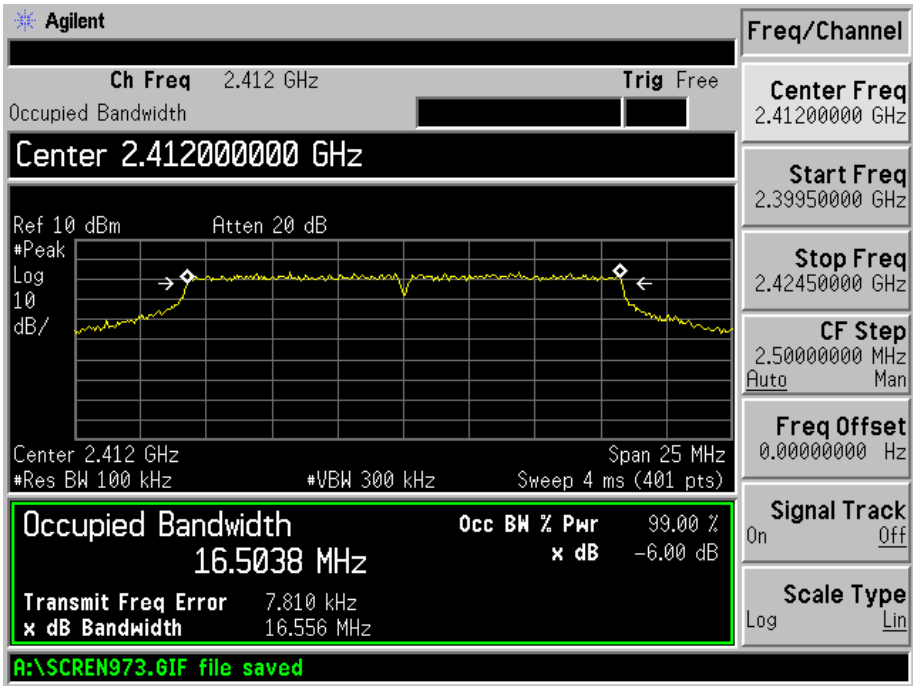


CH: 2462MHz

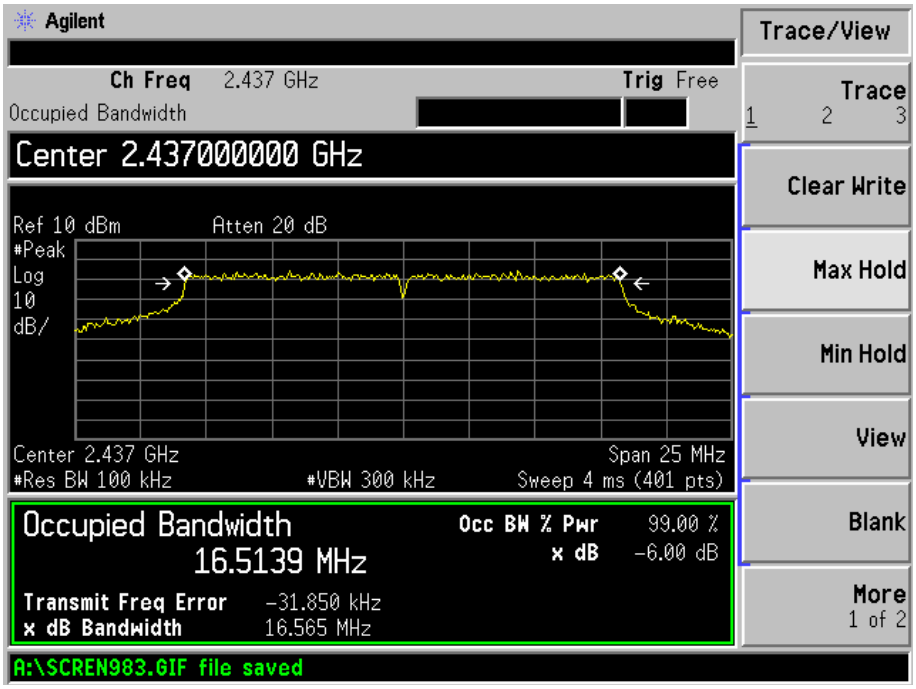


TX 802.11g Mode			
Frequency	**6dB Bandwidth (MHz)**	**Channel Separation (MHz)**	**Result**
2412 MHz	16.556	>=500KHz	**PASS**
2437 MHz	16.565	>=500KHz	**PASS**
2462 MHz	16.581	>=500KHz	**PASS**

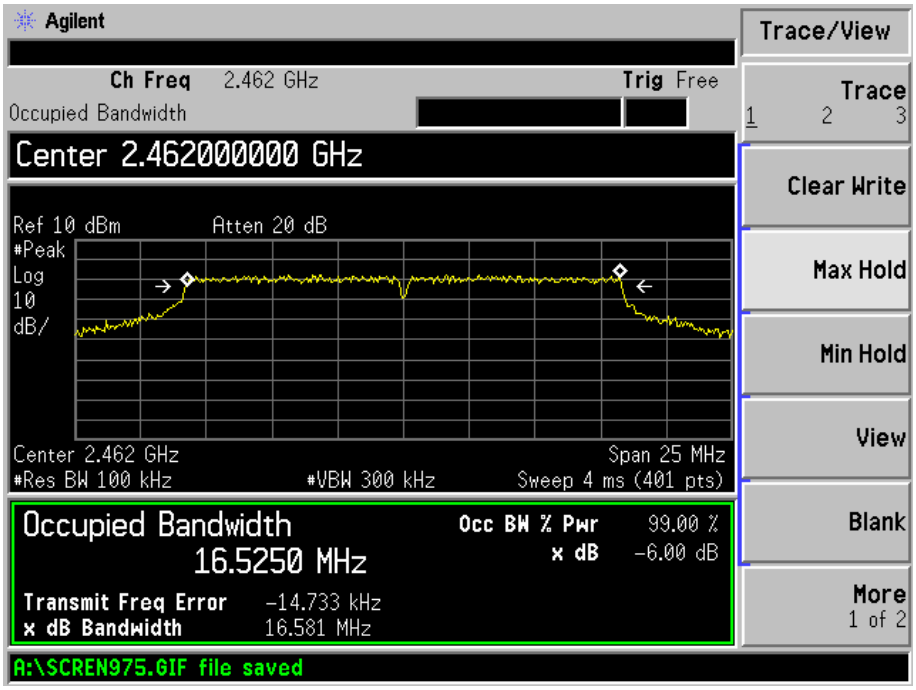
CH: 2412MHz



CH: 2437MHz

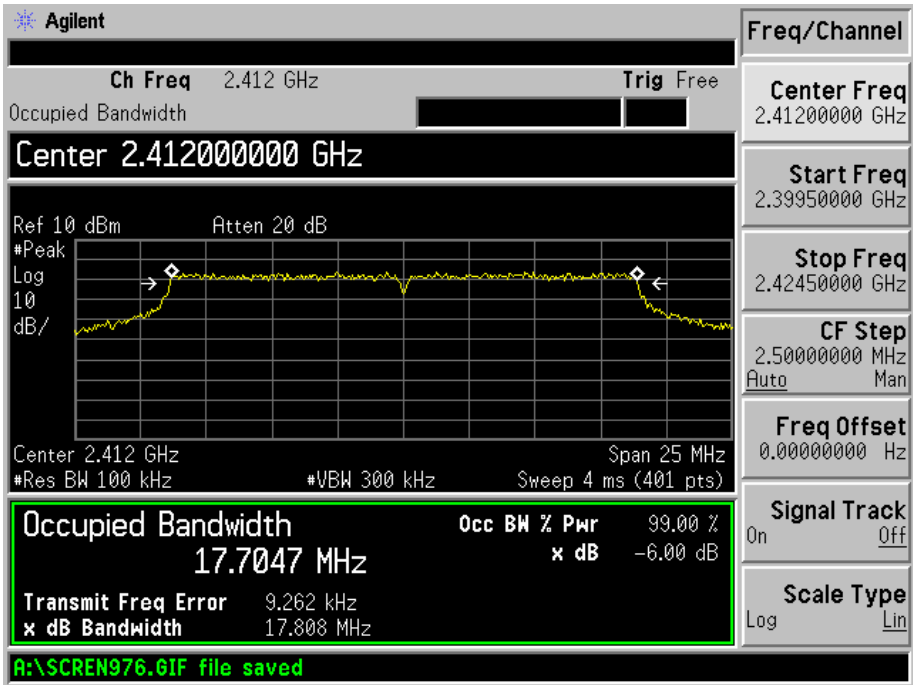


CH: 2462MHz

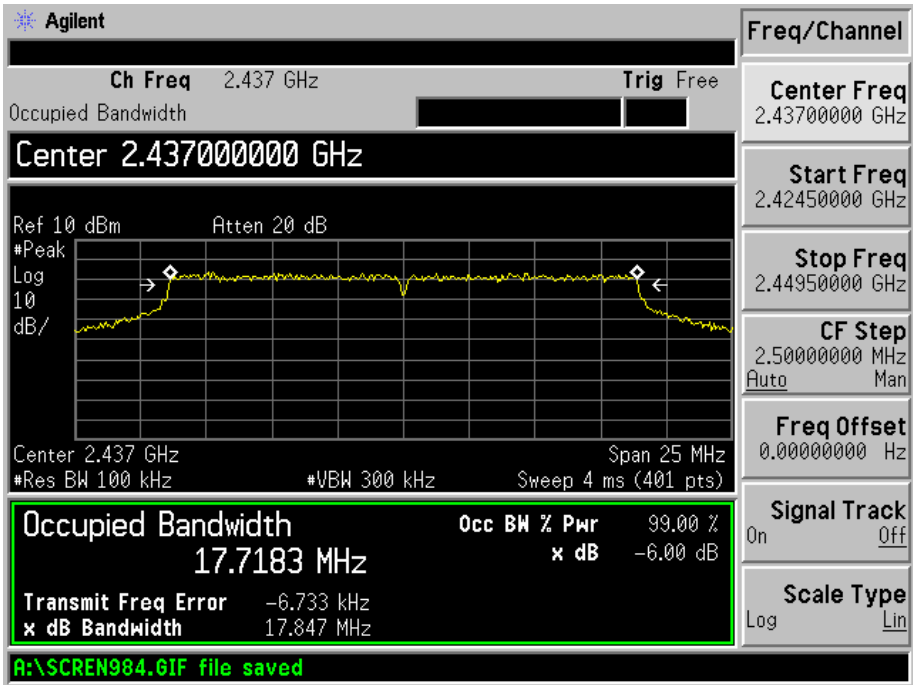


TX 802.11n/HT20 Mode			
Frequency	**6dB Bandwidth (MHz)**	**Channel Separation (MHz)**	**Result**
2412 MHz	17.808	>=500KHz	**PASS**
2437 MHz	17.847	>=500KHz	**PASS**
2462 MHz	17.776	>=500KHz	**PASS**

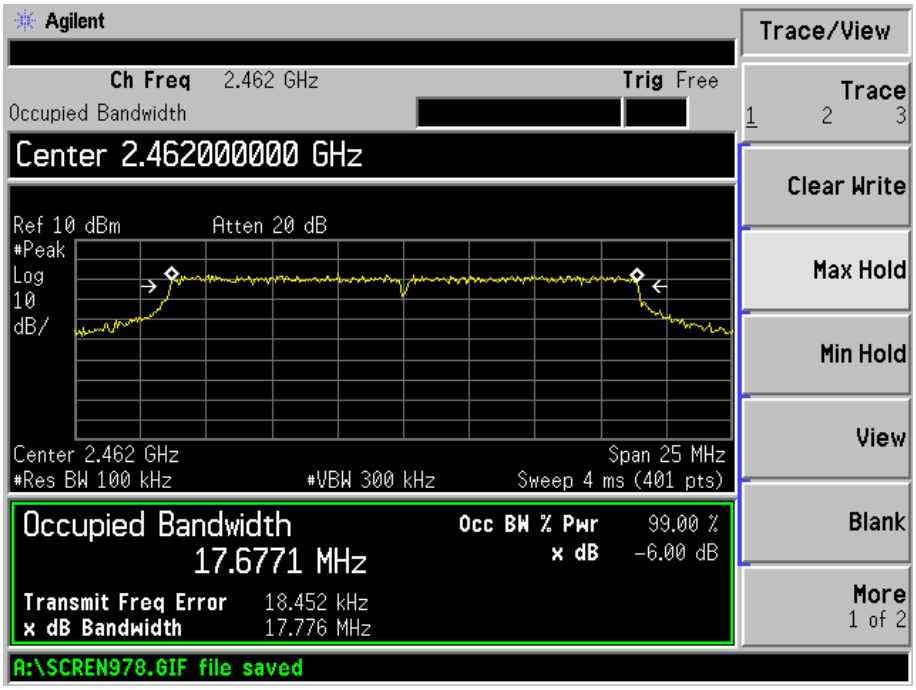
CH: 2412MHz



CH: 2437MHz

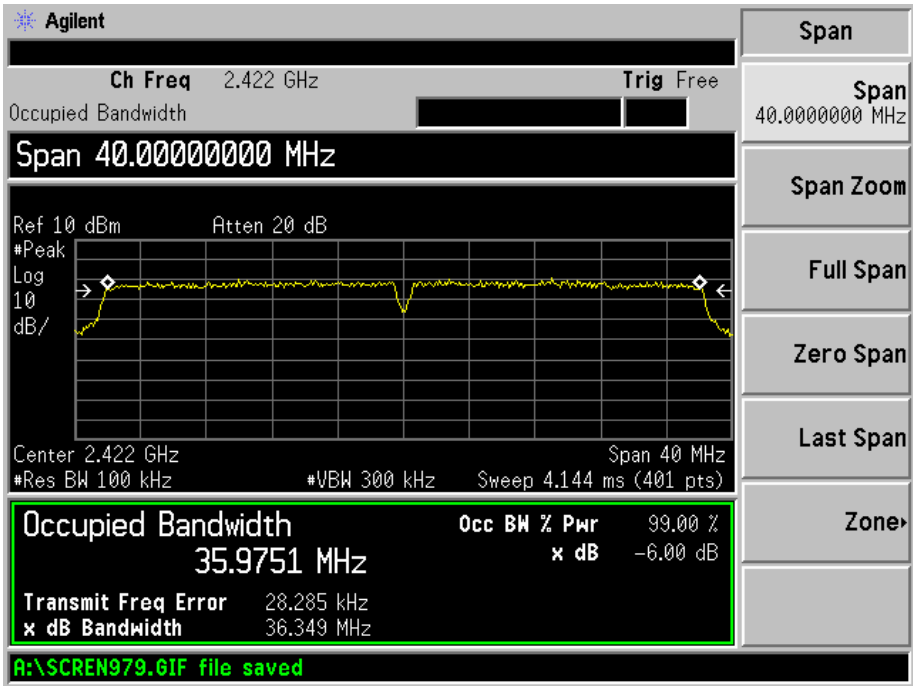


CH: 2462MHz

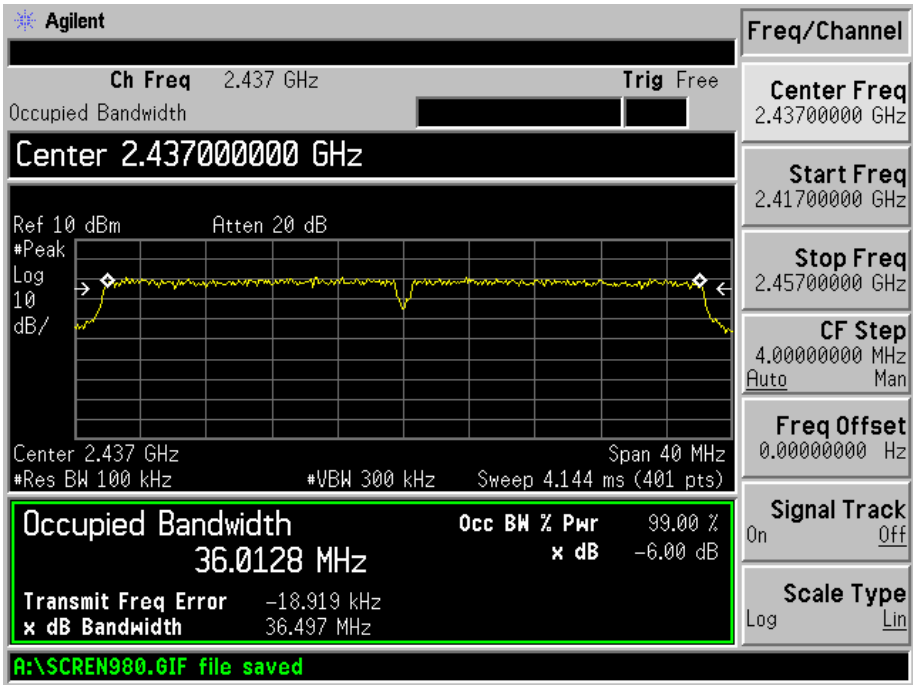


TX 802.11n/HT40 Mode			
Frequency	**6dB Bandwidth (MHz)**	**Channel Separation (MHz)**	**Result**
2422 MHz	35.349	>=500KHz	**PASS**
2437 MHz	36.497	>=500KHz	**PASS**
2452 MHz	36.479	>=500KHz	**PASS**

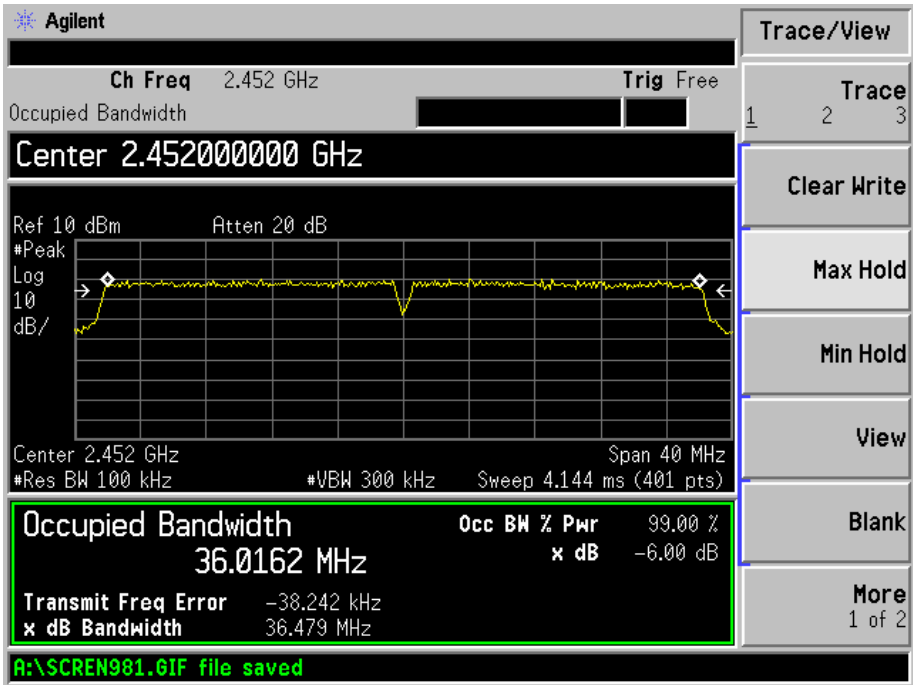
CH: 2422MHz



CH: 2437MHz



CH: 2452MHz



7 POWER SPECTRAL DENSITY TEST

7.1 Test 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

7.2 Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as normal operation.
3. Based on FCC Part15 C Section 15.247: RBW= 3KHz. VBW= 10 KHz, Span=3MHz.
4. The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector.

7.3 Measurement Equipment Used

Same as Radiated Emission Measurement

7.4 Test Result

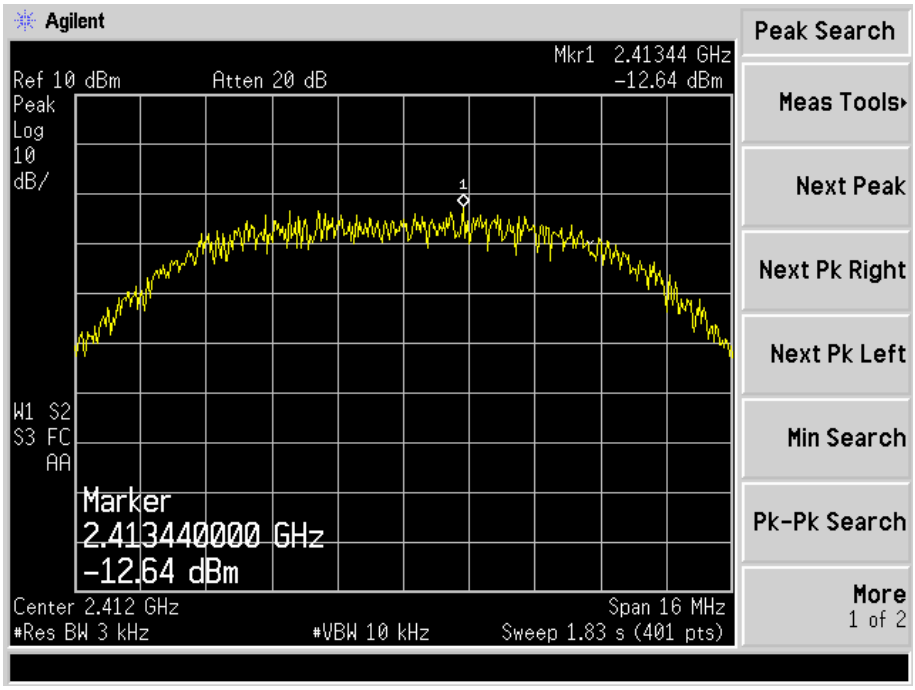
PASS

All the test modes completed for test.

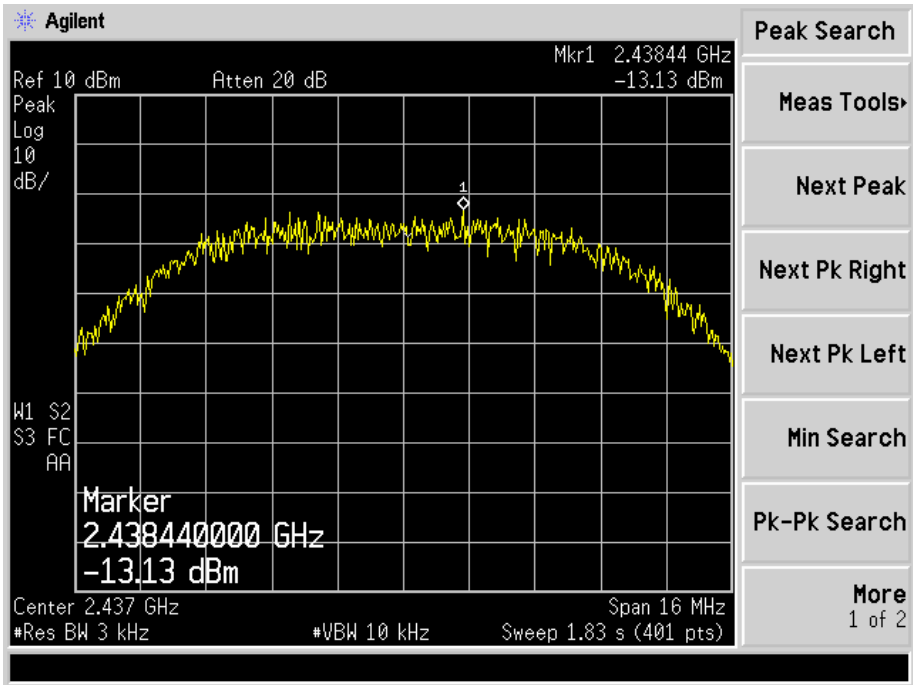
For antenna port 1

TX 802.11b Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2412 MHz	-12.64	8	**PASS**
2437 MHz	-13.13	8	**PASS**
2462 MHz	-14.55	8	**PASS**

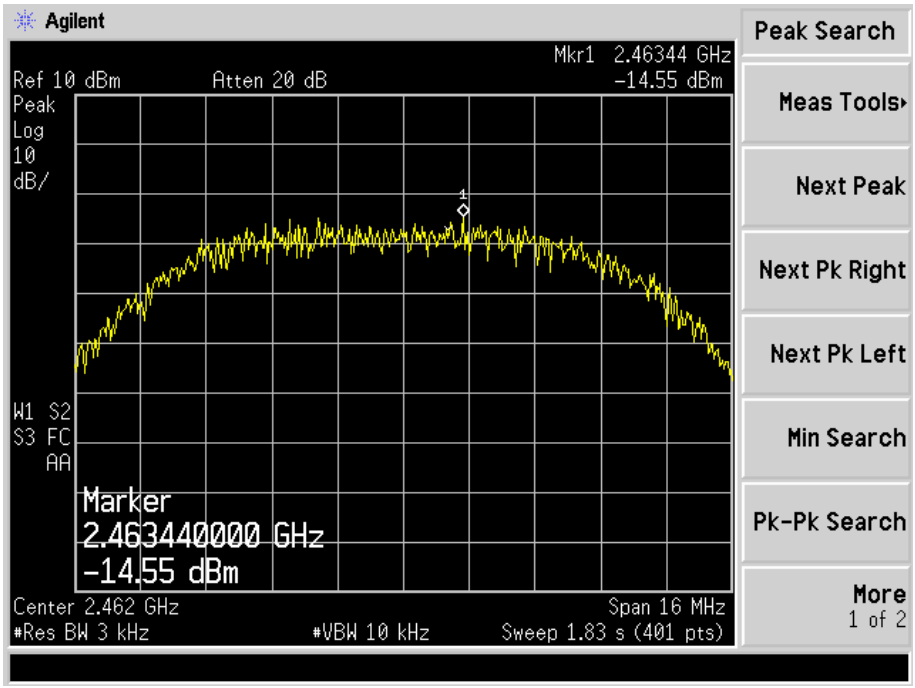
CH: 2412MHz



CH: 2437MHz

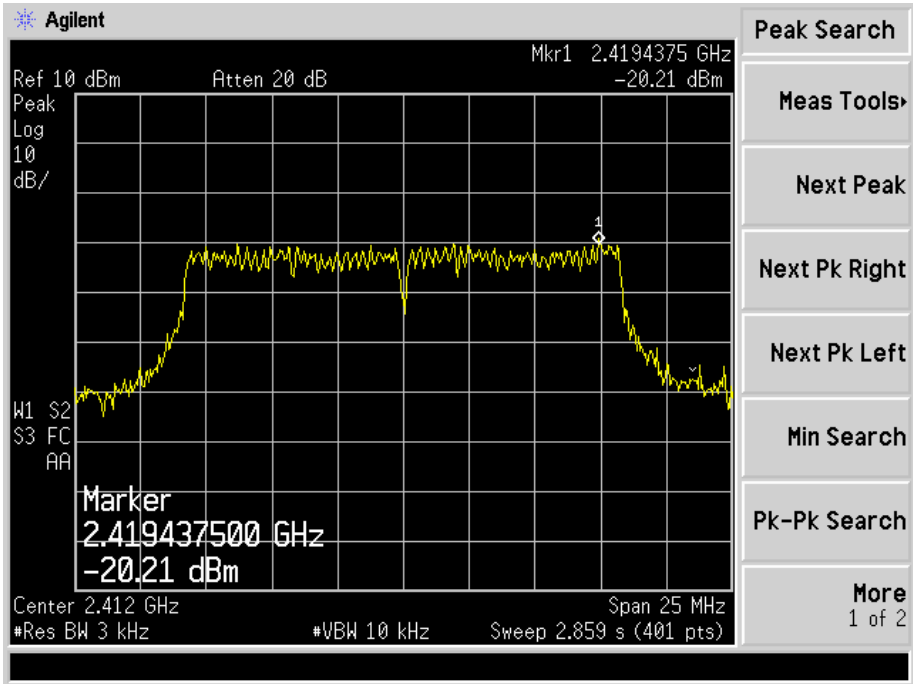


CH: 2462MHz

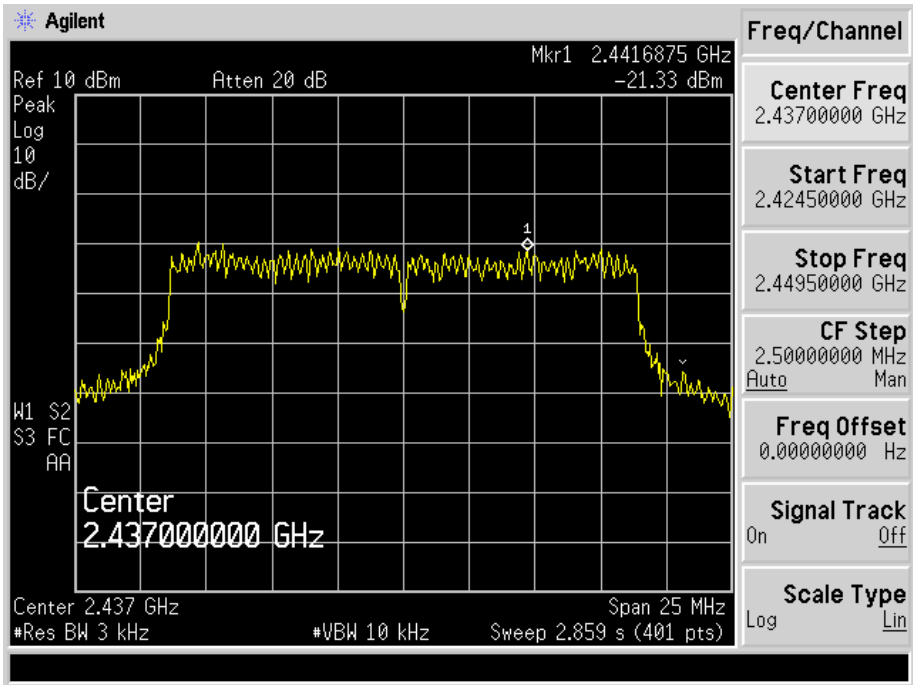


TX 802.11g Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2412 MHz	-20.21	8	**PASS**
2437 MHz	-21.33	8	**PASS**
2462 MHz	-21.49	8	**PASS**

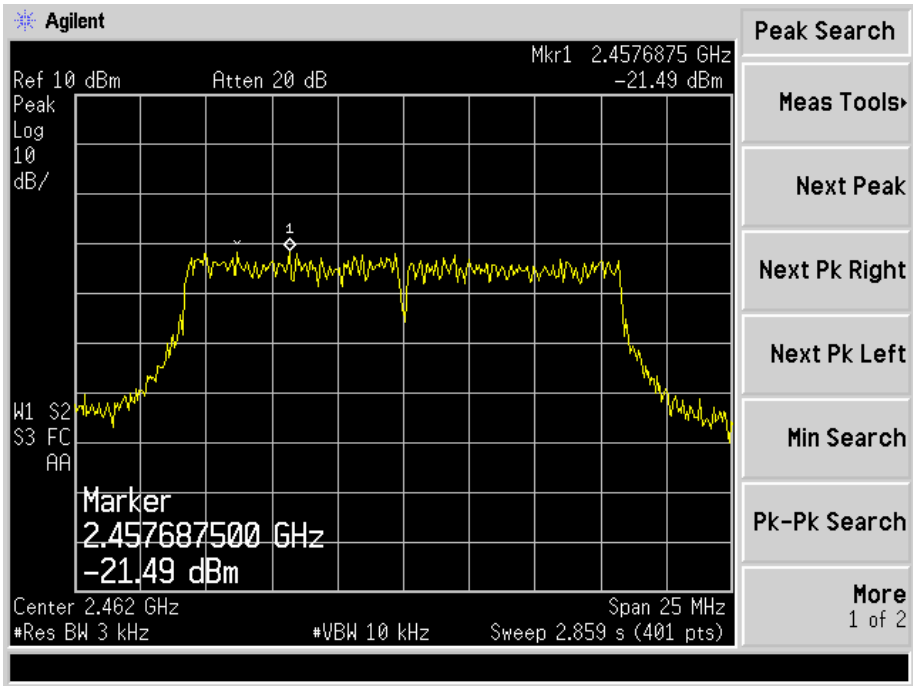
CH: 2412MHz



CH: 2437MHz

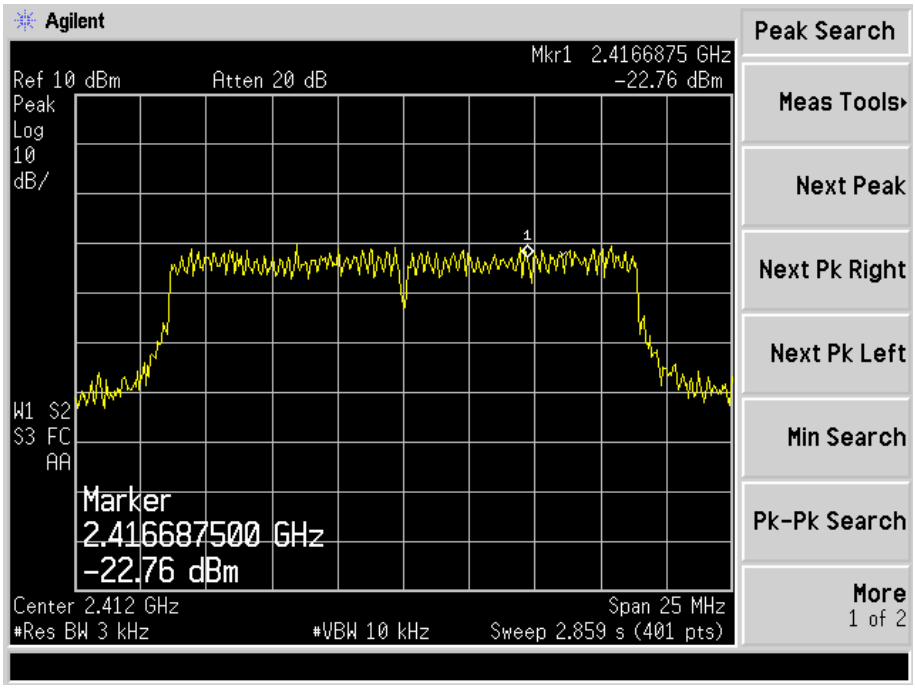


CH: 2462MHz

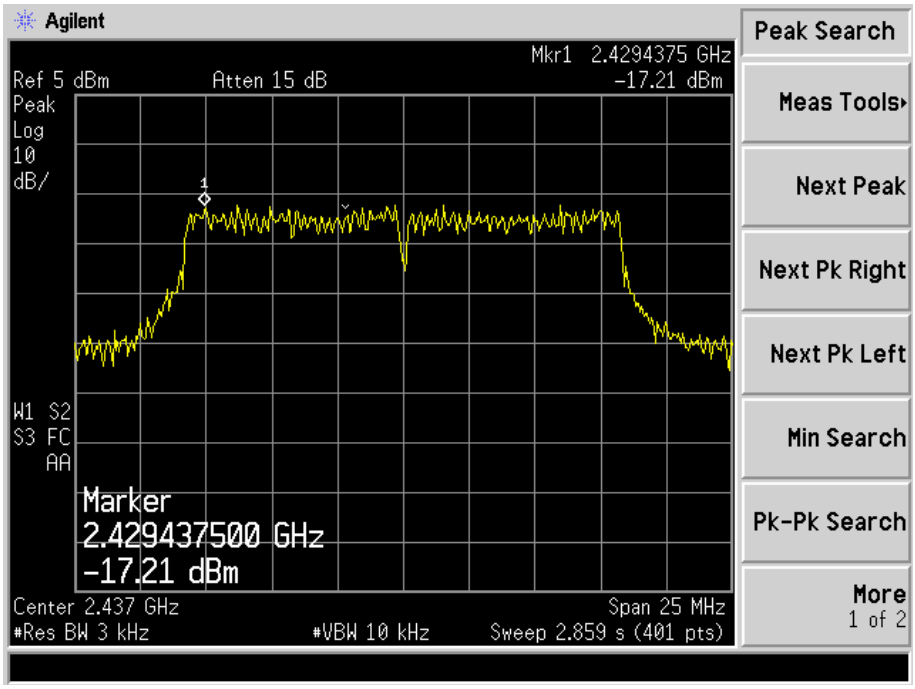


TX 802.11n/HT20 Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2412 MHz	-22.76	8	**PASS**
2437 MHz	-17.21	8	**PASS**
2462 MHz	-22.16	8	**PASS**

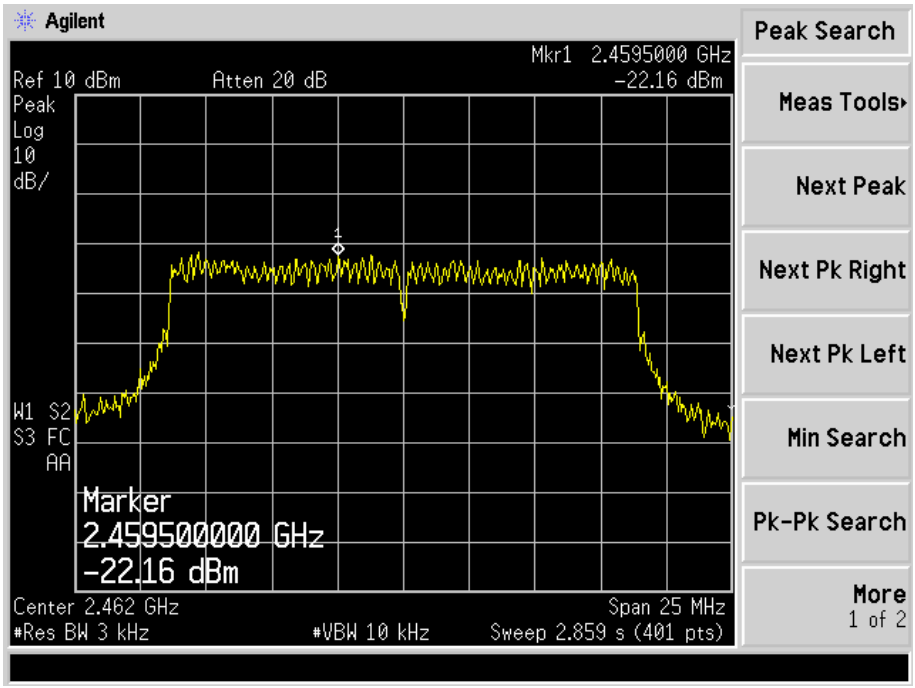
CH: 2412MHz



CH: 2437MHz

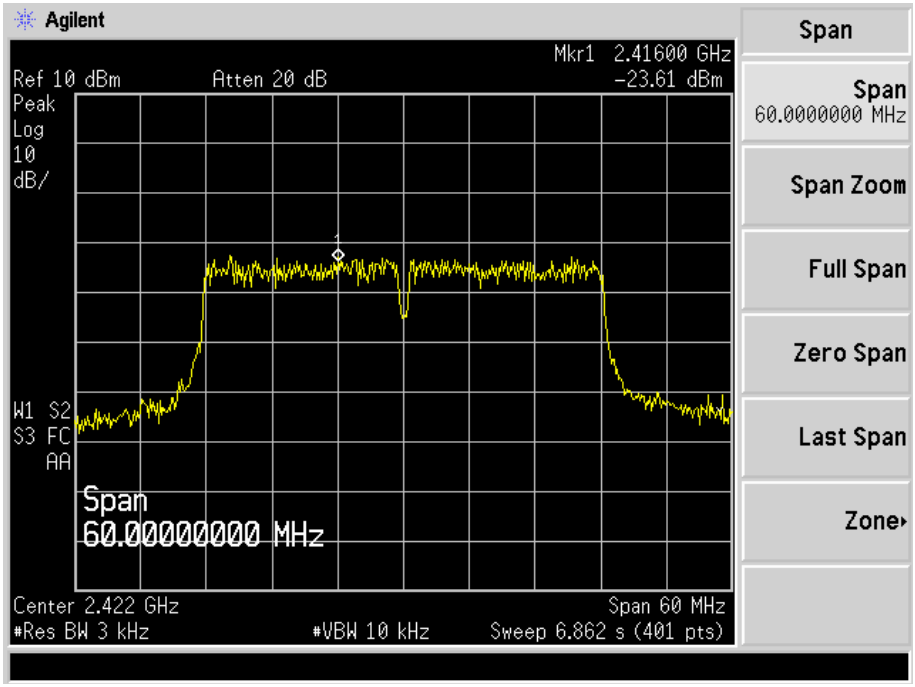


CH: 2462MHz

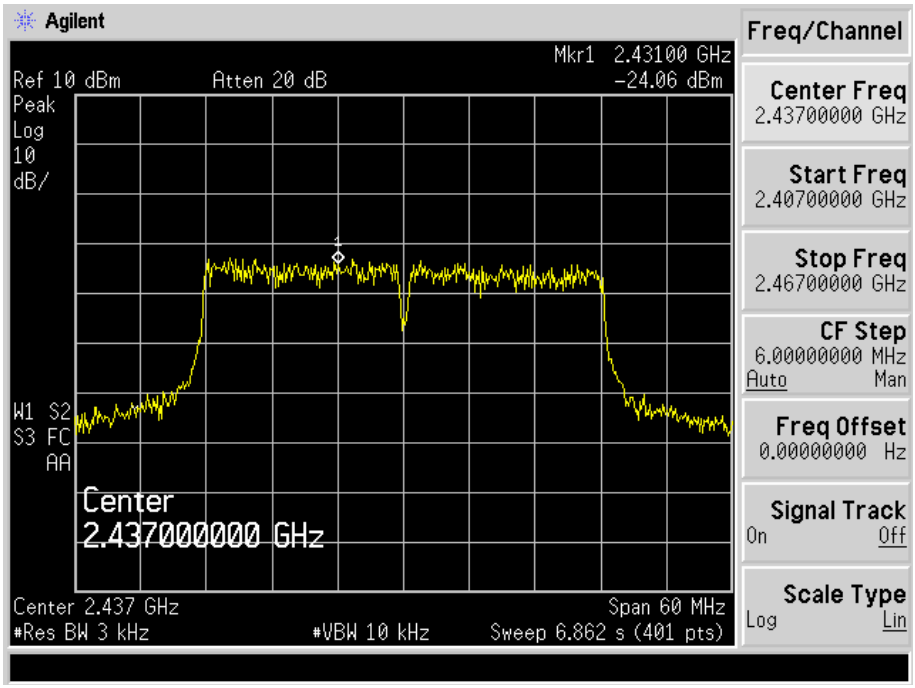


TX 802.11n/HT40 Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2422 MHz	-23.61	8	**PASS**
2437 MHz	-24.06	8	**PASS**
2452 MHz	-24.54	8	**PASS**

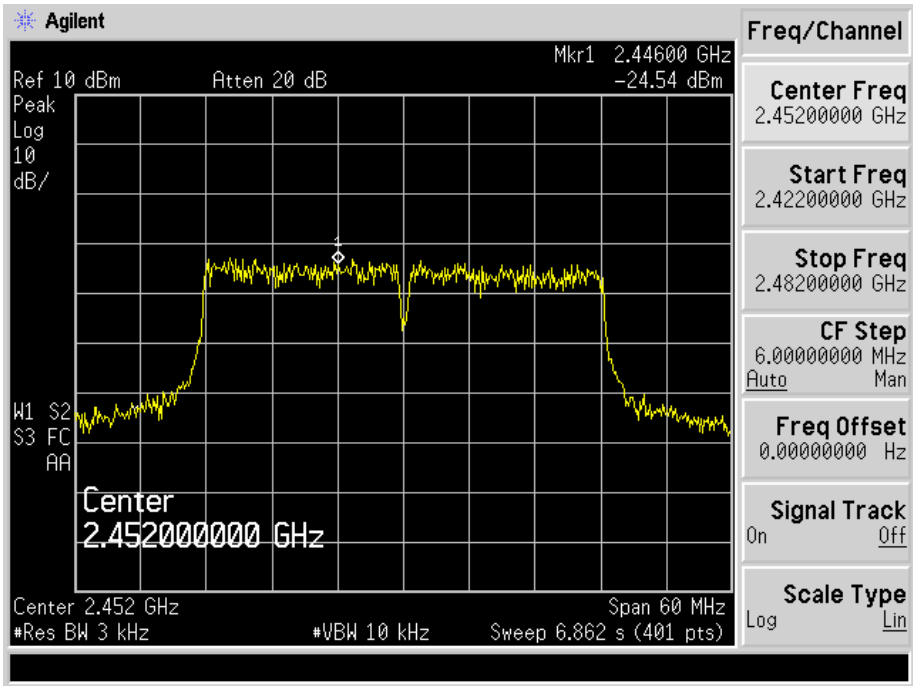
CH: 2422MHz



CH: 2437MHz



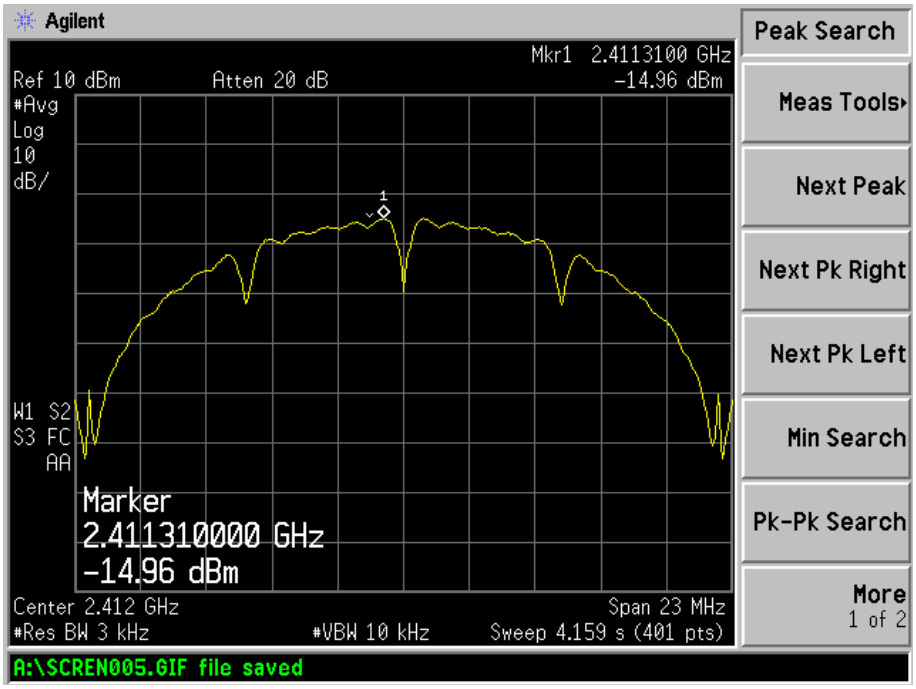
CH: 2452MHz



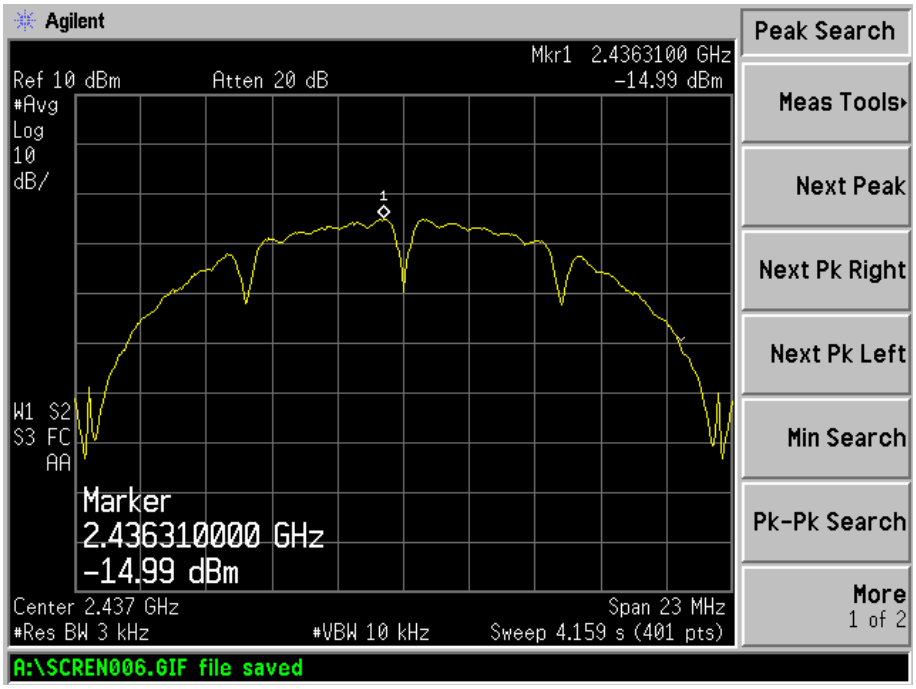
For antenna port 2

TX 802.11b Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2412 MHz	-14.96	8	**PASS**
2437 MHz	-14.99	8	**PASS**
2462 MHz	-15.89	8	**PASS**

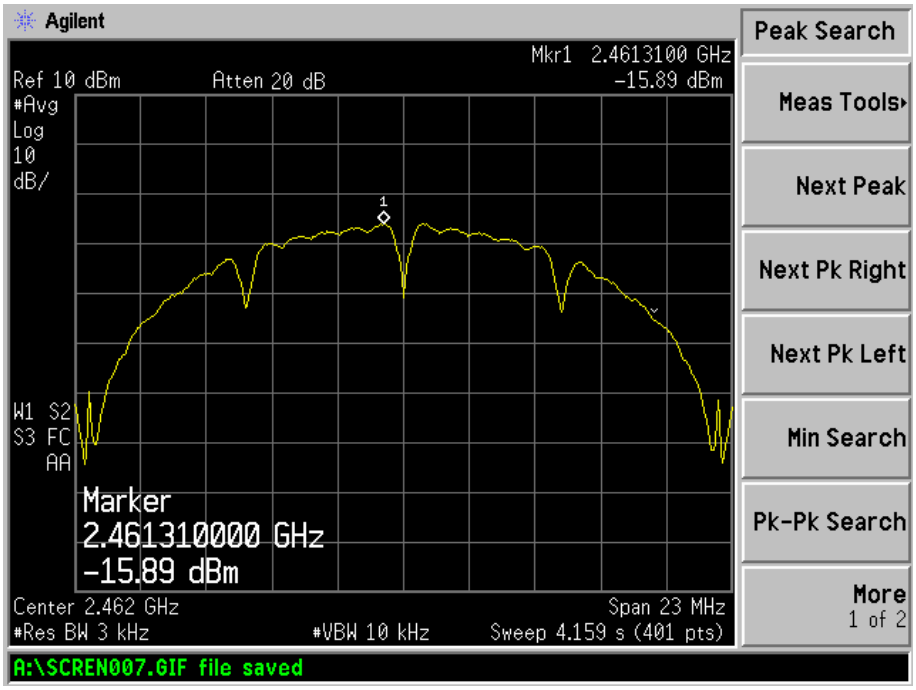
CH: 2412MHz



CH: 2437MHz

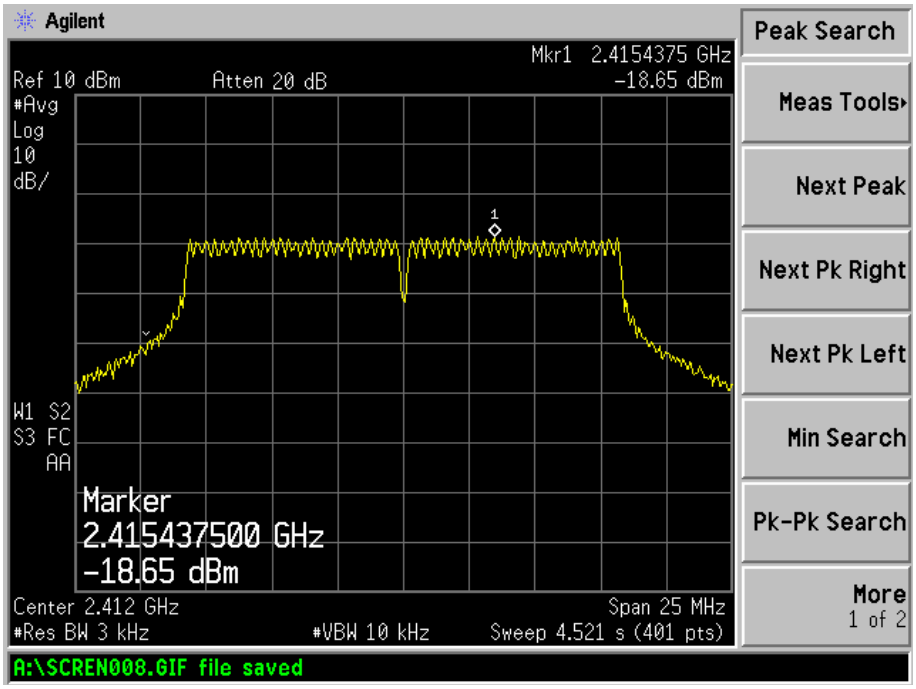


CH: 2462MHz

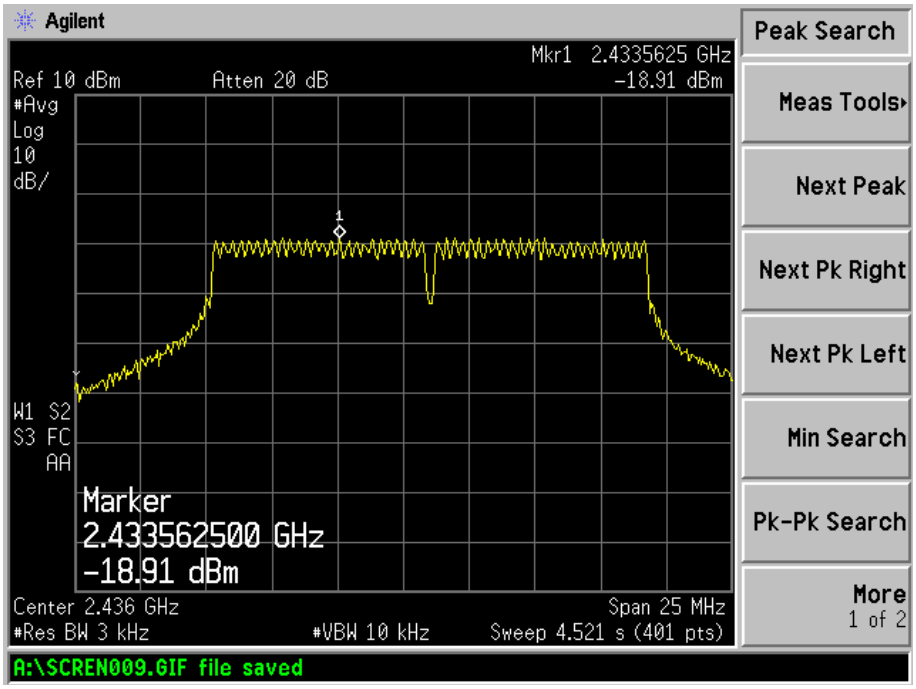


TX 802.11g Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2412 MHz	-18.65	8	**PASS**
2437 MHz	-18.91	8	**PASS**
2462 MHz	-21.59	8	**PASS**

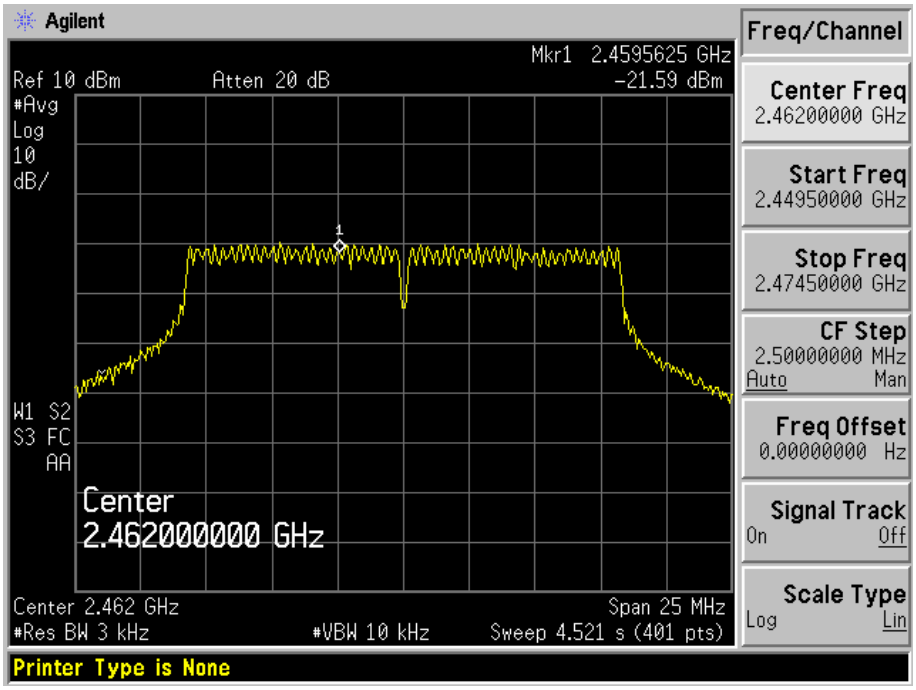
CH: 2412MHz



CH: 2437MHz

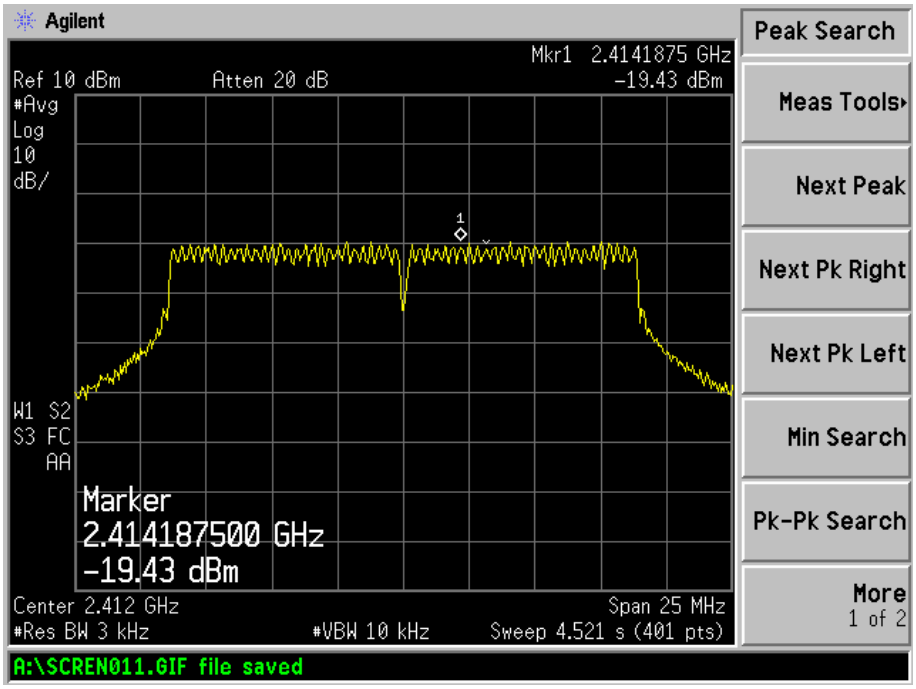


CH: 2462MHz

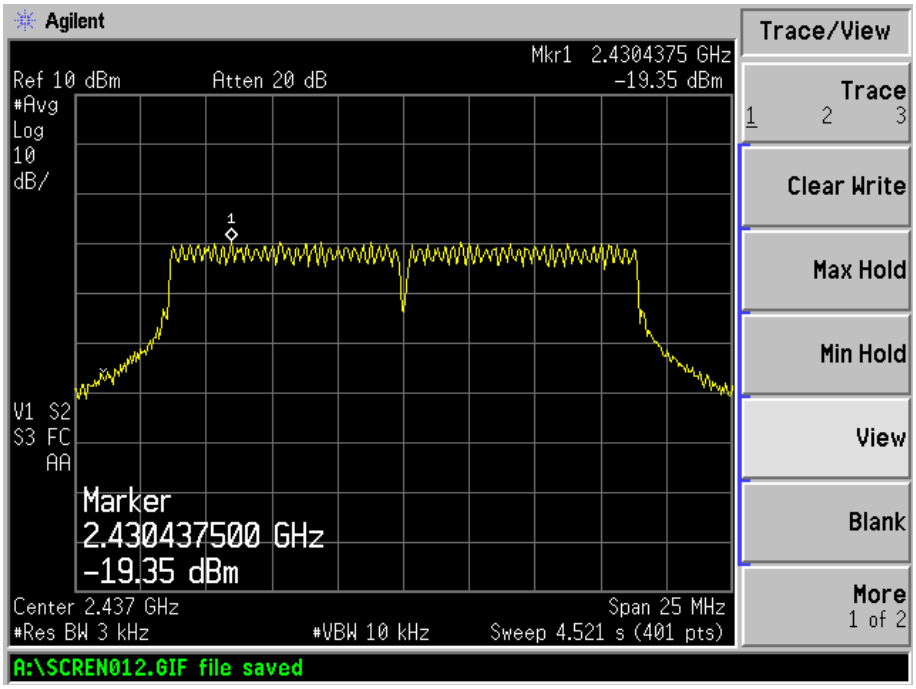


TX 802.11n/HT20 Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2412 MHz	-19.43	8	**PASS**
2437 MHz	-19.35	8	**PASS**
2462 MHz	-20.33	8	**PASS**

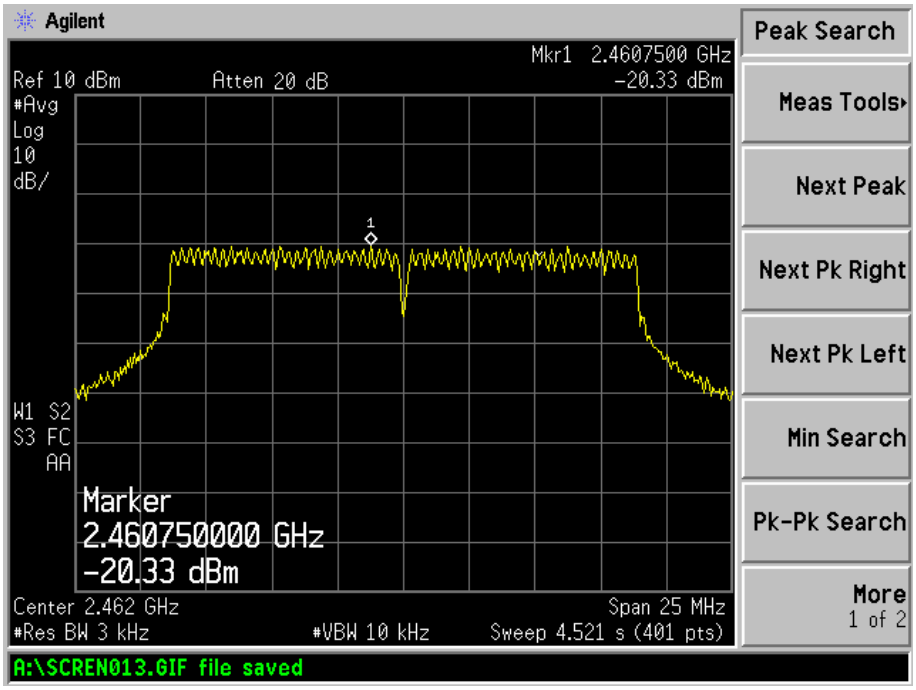
CH: 2412MHz



CH: 2437MHz

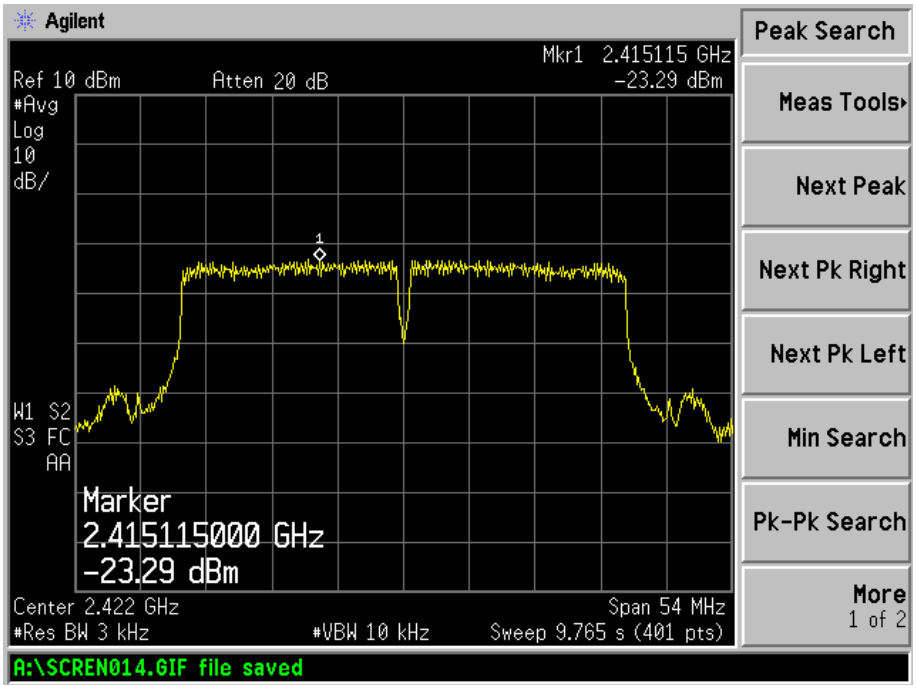


CH: 2462MHz

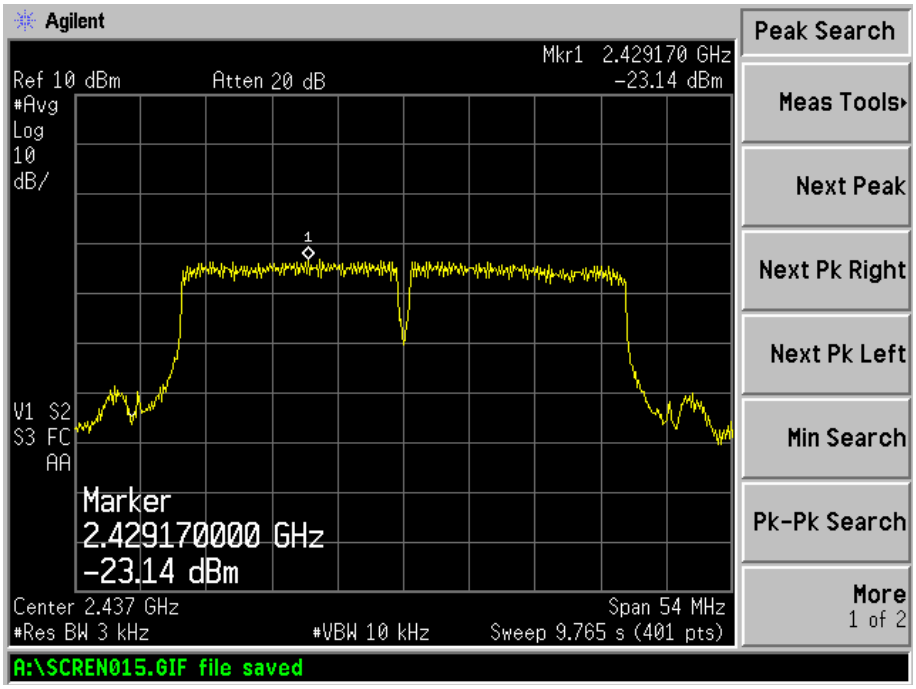


TX 802.11n/HT40 Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2422 MHz	-23.29	8	**PASS**
2437 MHz	-23.14	8	**PASS**
2452 MHz	-23.51	8	**PASS**

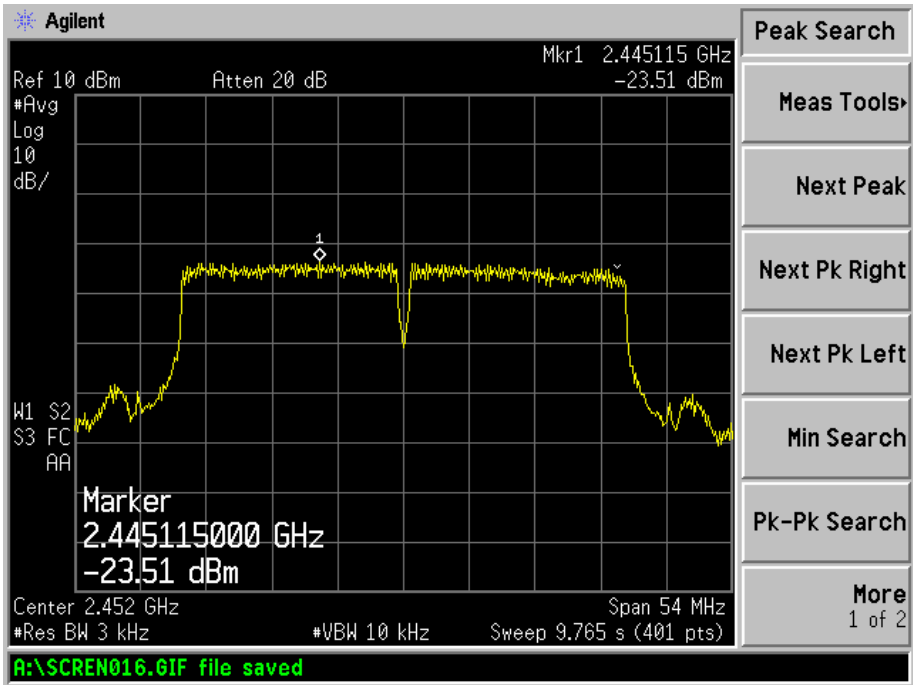
CH: 2422MHz



CH: 2437MHz



CH: 2452MHz



For MIMO antenna port 1+antenna port 2

TX 802.11b Mode			
Frequency	**Power Density (dBm)**	**Limit (dBm)**	**Result**
2412 MHz	-10.64	8	**PASS**
2437 MHz	-10.95	8	**PASS**
2462 MHz	-12.16	8	**PASS**
TX 802.11g Mode			
2412 MHz	-16.35	8	**PASS**
2437 MHz	-16.94	8	**PASS**
2462 MHz	-18.53	8	**PASS**
TX 802.11n/HT20 Mode			
2412 MHz	-17.77	8	**PASS**
2437 MHz	-15.14	8	**PASS**
2462 MHz	-18.14	8	**PASS**
TX 802.11n/HT40 Mode			
2422 MHz	-20.44	8	**PASS**
2437 MHz	-20.57	8	**PASS**
2452 MHz	-20.98	8	**PASS**

Note: 1 According to KDB 662911, Result power = $10\log(10^{(ant1/10)}+10^{(ant2/10)})$.

2 Result unit: W, The end result is converted to units of dBm.

8 PEAK OUTPUT POWER TEST

8.1 Test 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

8.2 Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. The EUT was directly connected to the Power meter.

8.3 Measurement Equipment Used

Same as Radiated Emission Measurement

8.4 Test Result

PASS

All the test modes completed for test.

Test Channel	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)			LIMIT dBm
		Antenna port 1	Antenna port 2	MIMO	
TX 802.11b Mode					
CH01	2412	13.41	13.24	/	30
CH06	2437	13.32	13.33	/	30
CH11	2462	13.17	13.46	/	30
TX 802.11g Mode					
CH01	2412	12.32	12.27	/	30
CH06	2437	12.48	12.08	/	30
CH11	2462	12.17	12.34	/	30
TX 802.11n20 Mode					
CH01	2412	11.56	11.19	14.39	30
CH06	2437	11.47	11.37	14.43	30
CH11	2462	11.12	11.11	14.12	30
TX 802.11n40 Mode					
CH03	2422	11.31	11.44	14.39	30
CH06	2437	11.24	11.26	14.26	30
CH09	2452	11.17	11.52	14.36	30

Note: 1 MIMO is Antenna port 1 and Antenna port 2.

2 According to KDB 662911, Result power = $10\log(10^{(ant1/10)}+10^{(ant2/10)})$.

3 Result unit: W, The end result is converted to units of dBm.

9 OUT OF BAND EMISSIONS TEST

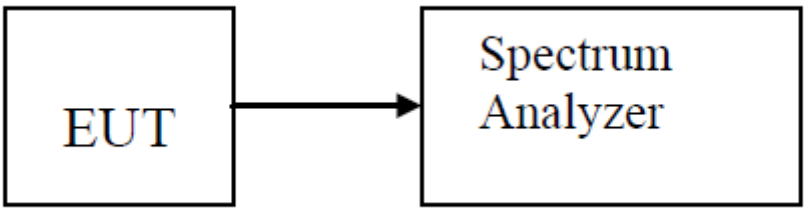
9.1 Test Limit

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.

9.2 Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as TX operation and connect directly to the spectrum analyzer.
3. Set spectrum analyzer RBW= 100KHz. VBW= 300 KHz
4. Set detected by the spectrum analyser with peak detector.

9.3 Test Setup

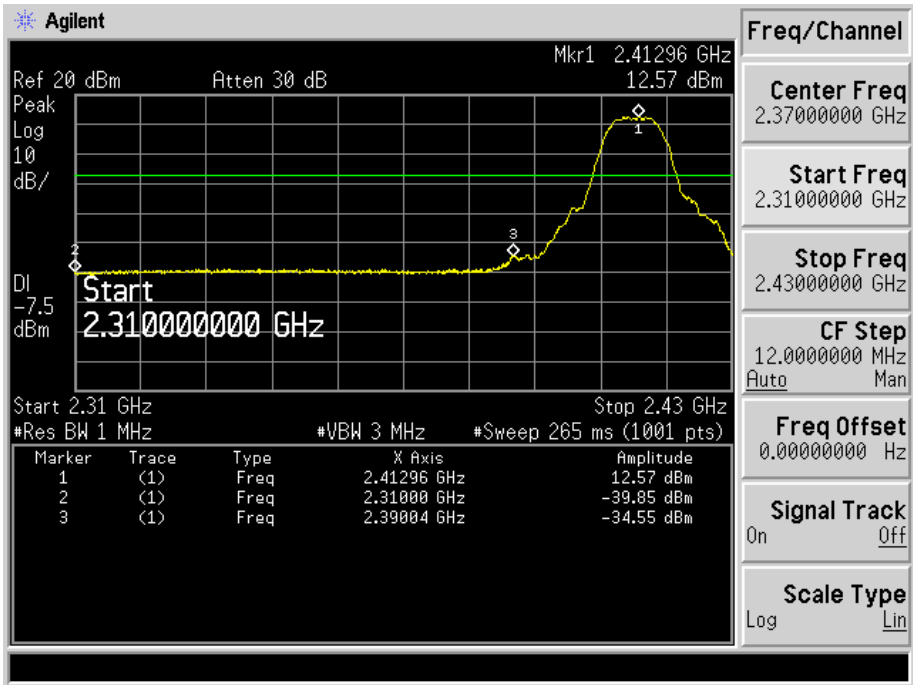


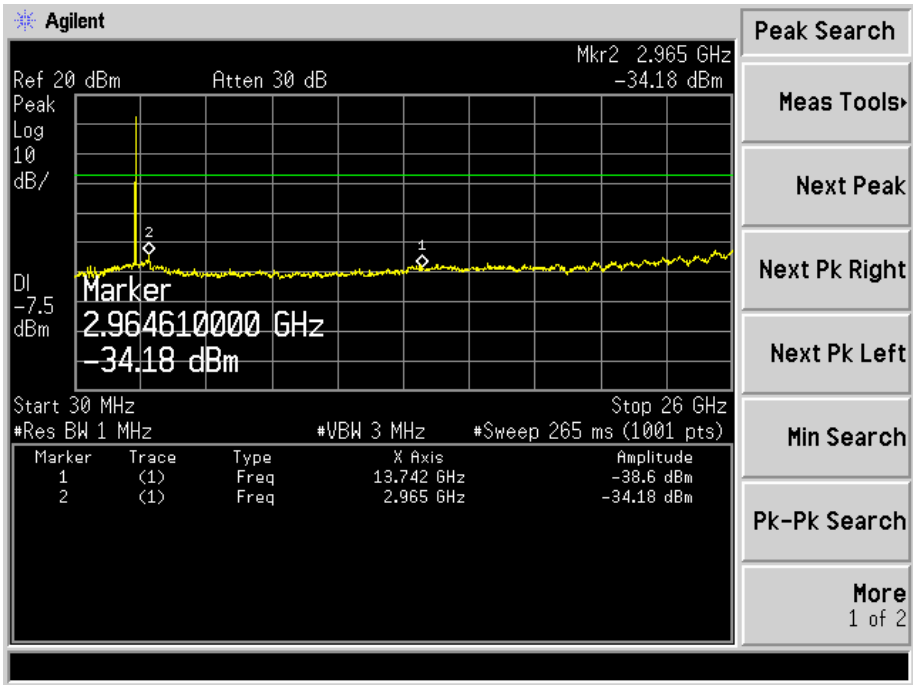
9.4 Test Result

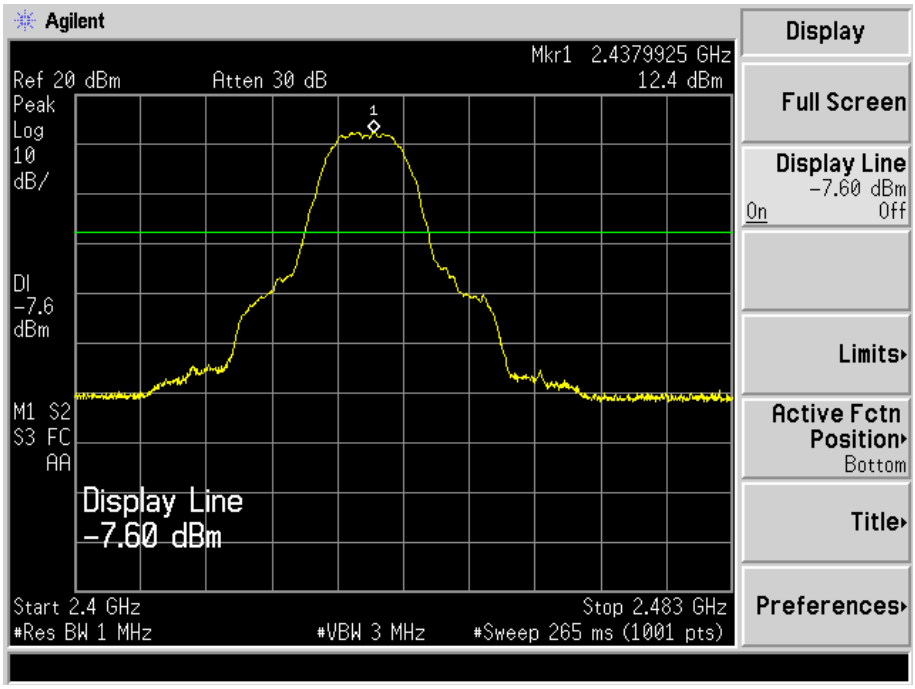
PASS

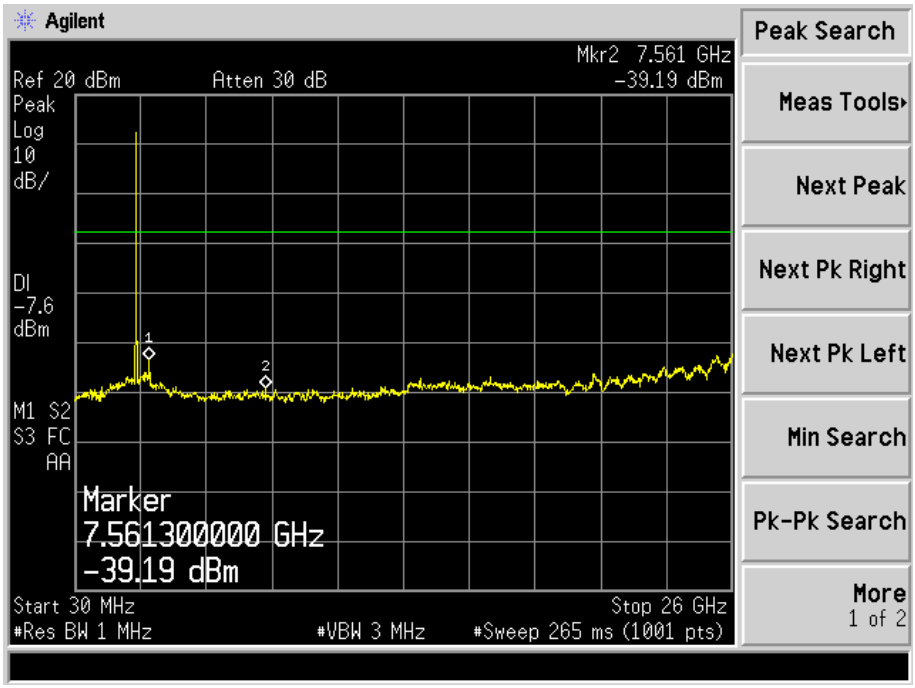
All the test modes completed for test.

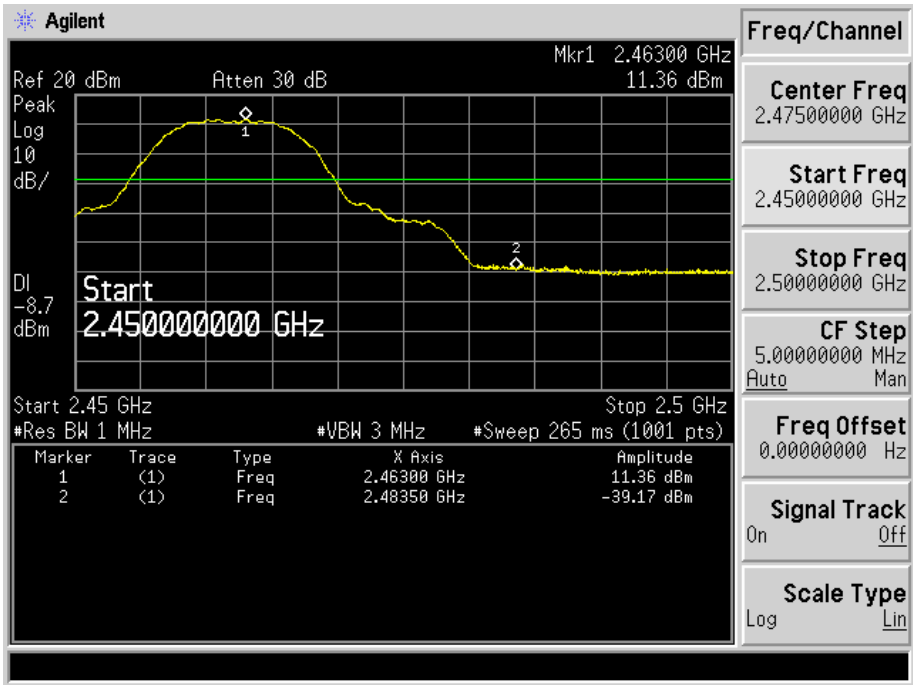
Chain 1 TX 802.11b Mode

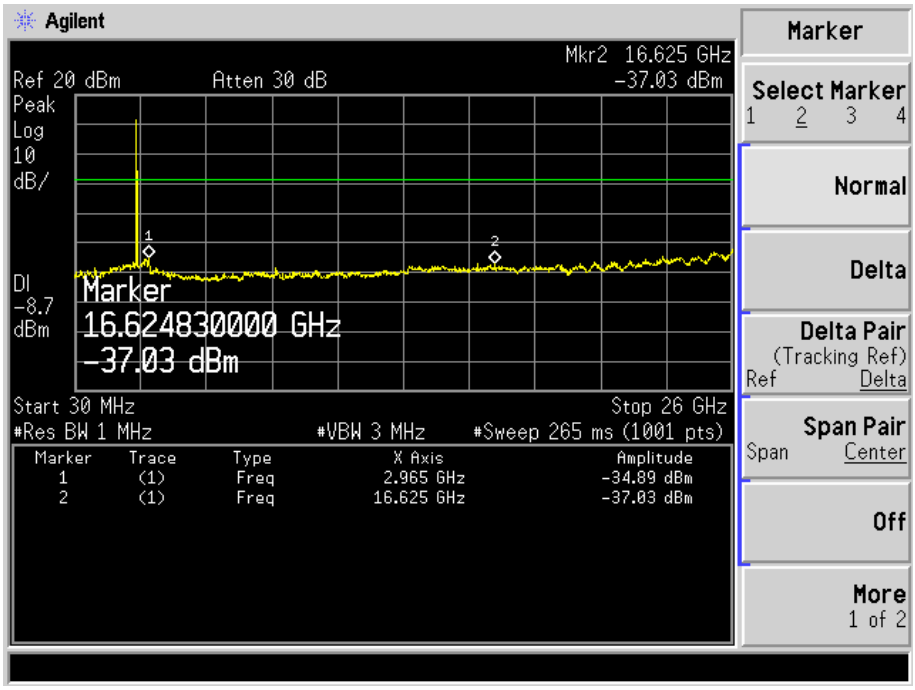




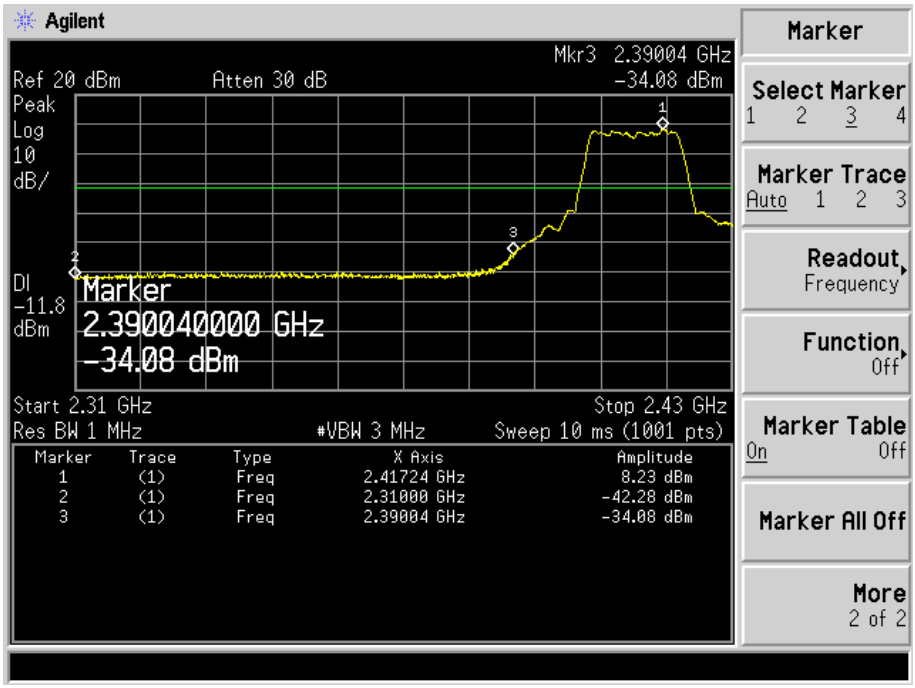

Agilent
Mkr1 2.4379925 GHz
Ref 20 dBm
Atten 30 dB
12.4 dBm
Peak
Log
10
dB/
Dl
-7.6
dBm
M1 S2
S3 FC
AA
Display Line
-7.60 dBm
Start 2.4 GHz
#Res BW 1 MHz
#VBW 3 MHz
Stop 2.483 GHz
#Sweep 265 ms (1001 pts)
Display
Full Screen
Display Line
-7.60 dBm
On
Off
Limits
Active Fctn
Position
Bottom
Title
Preferences

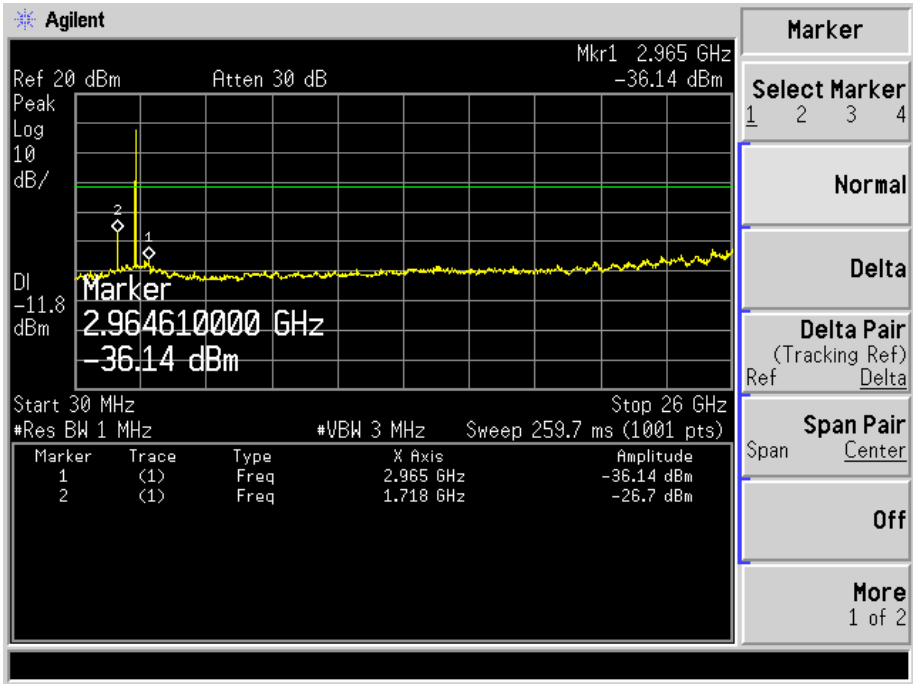

Agilent
Mkr2 7.561 GHz
Ref 20 dBm
Atten 30 dB
-39.19 dBm
Peak
Log
10
dB/
Dl
-7.6
dBm
M1 S2
S3 FC
AA
Marker
7.561300000 GHz
-39.19 dBm
Start 30 MHz
#Res BW 1 MHz
#VBW 3 MHz
Stop 26 GHz
#Sweep 265 ms (1001 pts)
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

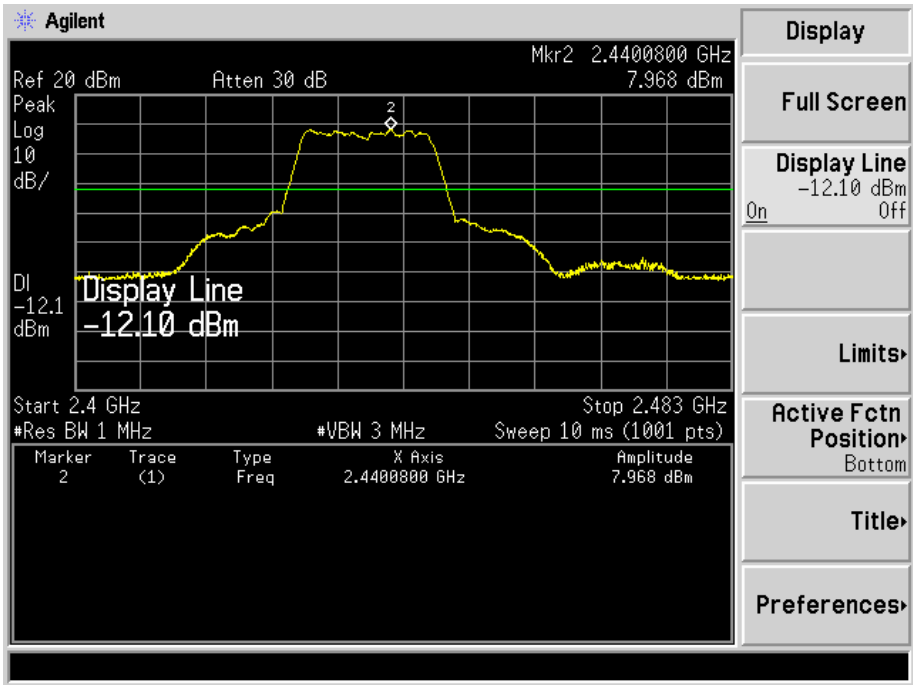

Agilent
Mkr1 2.46300 GHz
Ref 20 dBm
Atten 30 dB
11.36 dBm
Peak
Log
10
dB/
Start
2.450000000 GHz
Start 2.45 GHz
Stop 2.5 GHz
#Res BW 1 MHz
#VBW 3 MHz
#Sweep 265 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.46300 GHz 11.36 dBm
2 (1) Freq 2.48350 GHz -39.17 dBm
Freq/Channel
Center Freq
2.47500000 GHz
Start Freq
2.45000000 GHz
Stop Freq
2.50000000 GHz
CF Step
5.00000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Scale Type
Log Lin

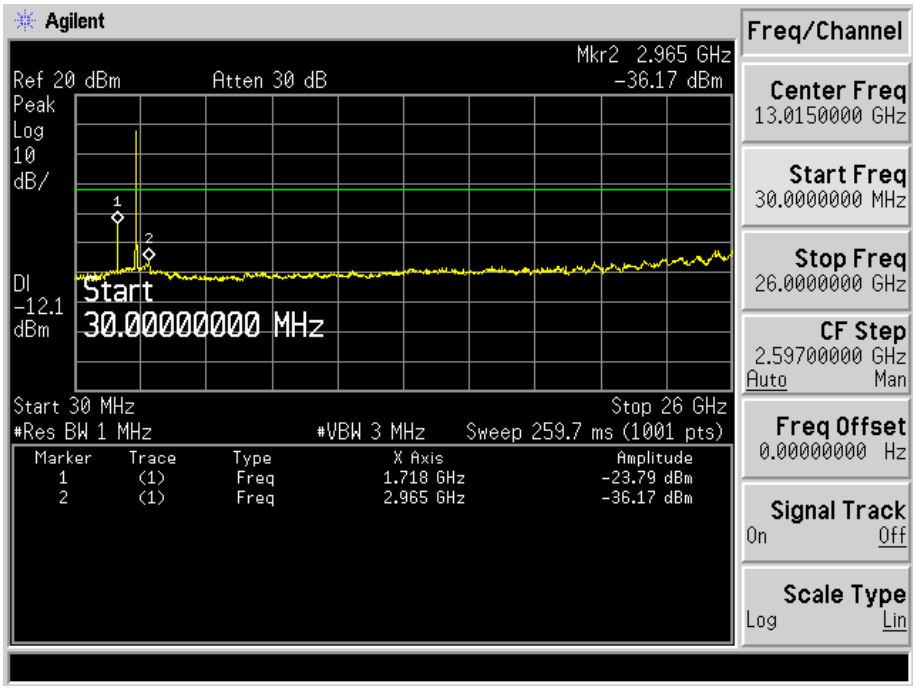

Agilent
Mkr2 16.625 GHz
Ref 20 dBm
Atten 30 dB
-37.03 dBm
Peak
Log
10
dB/
Marker
16.624830000 GHz
-37.03 dBm
Start 30 MHz
Stop 26 GHz
#Res BW 1 MHz
#VBW 3 MHz
#Sweep 265 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.965 GHz -34.89 dBm
2 (1) Freq 16.625 GHz -37.03 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

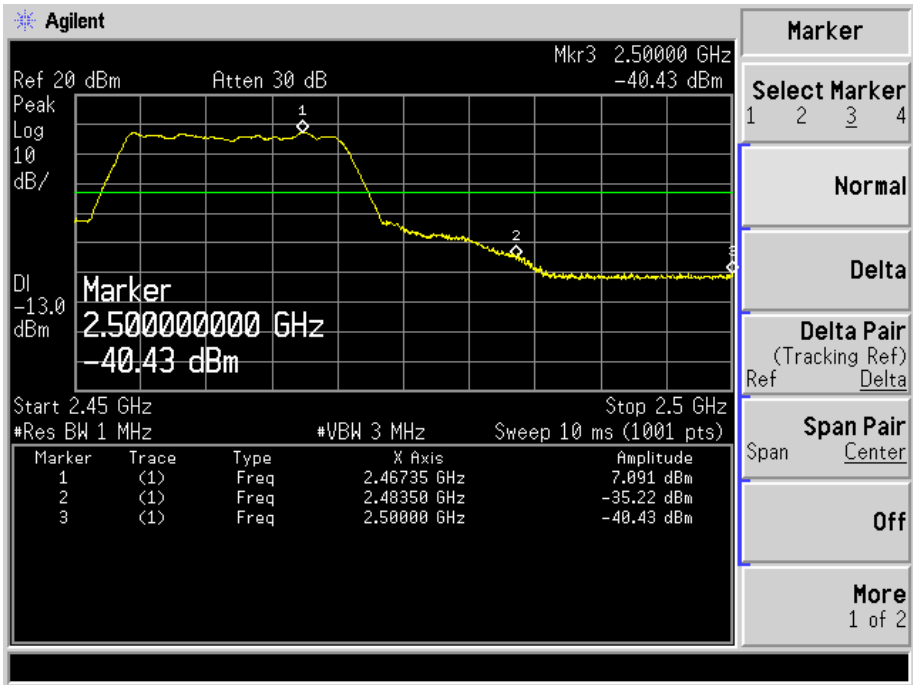
TX 802.11g Mode

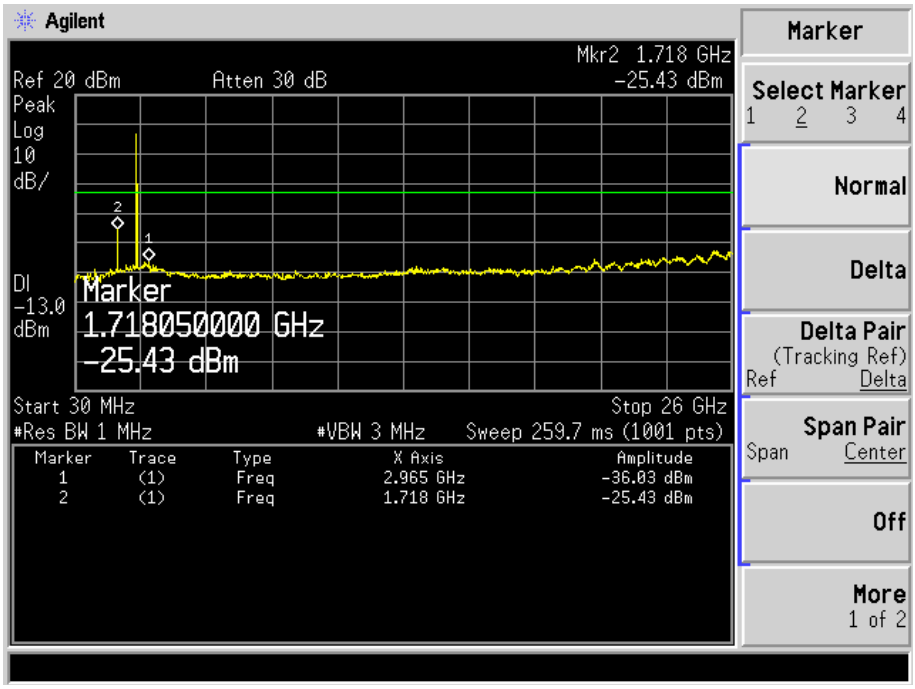




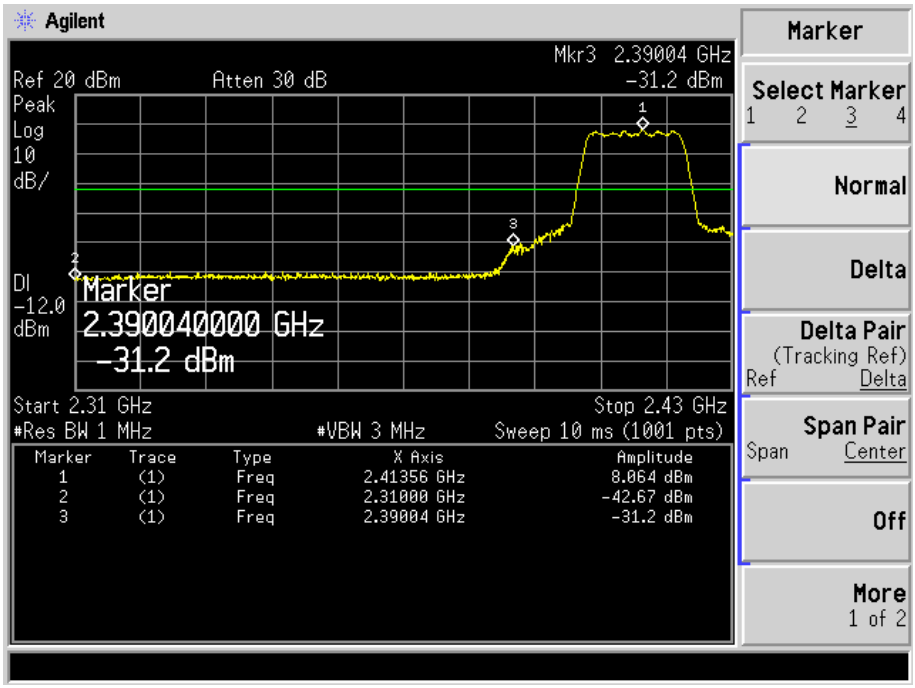

Agilent
Mkr2 2.4400800 GHz
Ref 20 dBm
Atten 30 dB
7.968 dBm
Peak
Log
10
dB/
2
Dl
-12.1
dBm
Display Line
-12.10 dBm
Start 2.4 GHz
Stop 2.483 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 10 ms (1001 pts)
Marker Trace Type X Axis Amplitude
2 (1) Freq 2.4400800 GHz 7.968 dBm
Display
Full Screen
Display Line
-12.10 dBm
On Off
Limits
Active Fctn
Position
Bottom
Title
Preferences

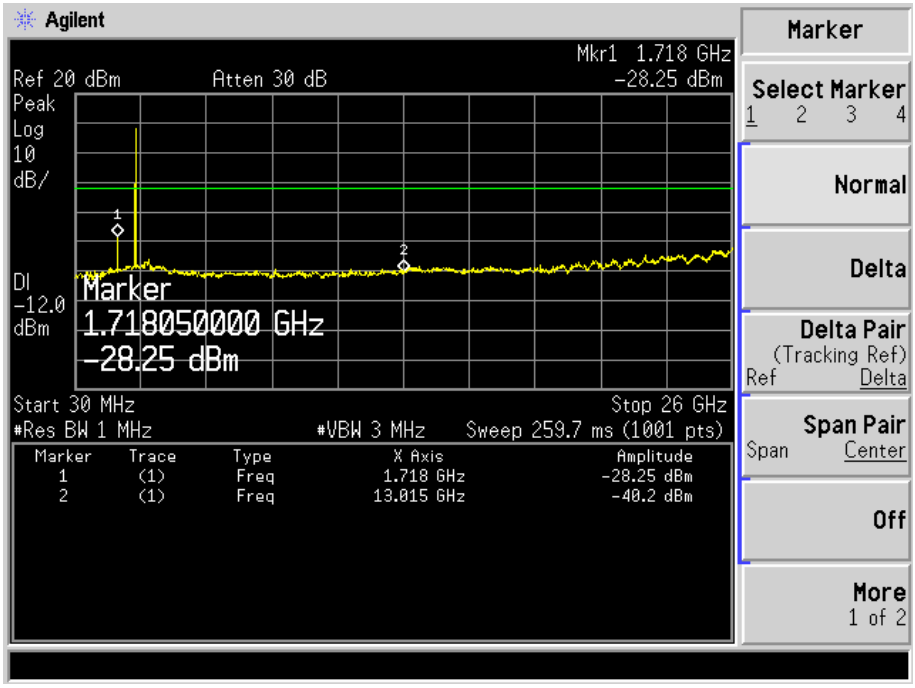

Agilent
Mkr2 2.965 GHz
Ref 20 dBm
Atten 30 dB
-36.17 dBm
Peak
Log
10
dB/
1
2
Dl
-12.1
dBm
Start
30.00000000 MHz
Start 30 MHz
Stop 26 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 259.7 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 1.718 GHz -23.79 dBm
2 (1) Freq 2.965 GHz -36.17 dBm
Freq/Channel
Center Freq
13.0150000 GHz
Start Freq
30.0000000 MHz
Stop Freq
26.0000000 GHz
CF Step
2.59700000 GHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Scale Type
Log Lin

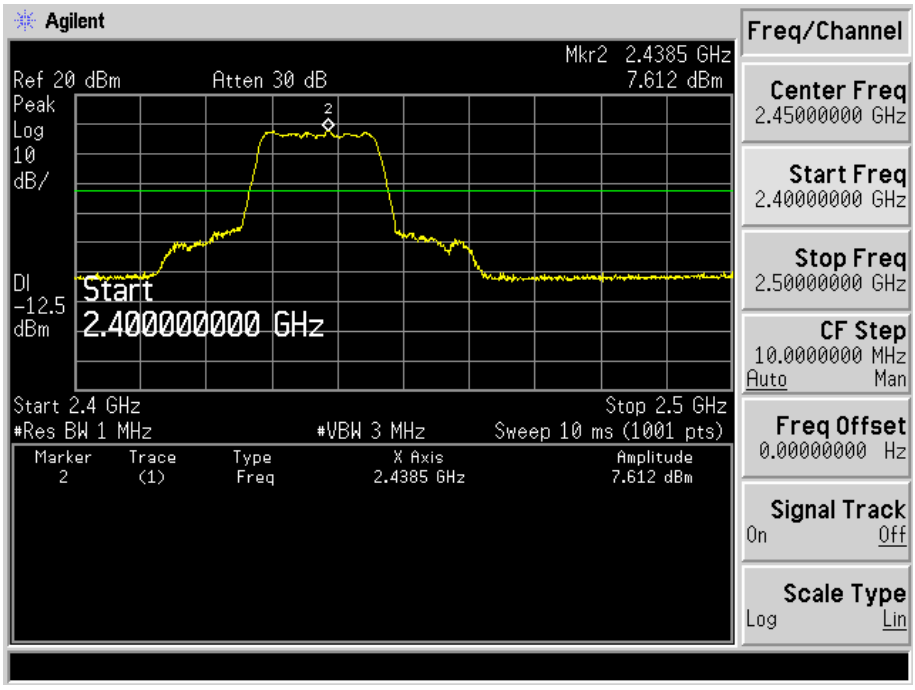

Agilent
Mkr3 2.50000 GHz
Ref 20 dBm
Atten 30 dB
-40.43 dBm
Peak
Log
10
dB/
DI
-13.0
dBm
Marker
2.500000000 GHz
-40.43 dBm
Start 2.45 GHz
Stop 2.5 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 10 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.46735 GHz 7.091 dBm
2 (1) Freq 2.48350 GHz -35.22 dBm
3 (1) Freq 2.50000 GHz -40.43 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

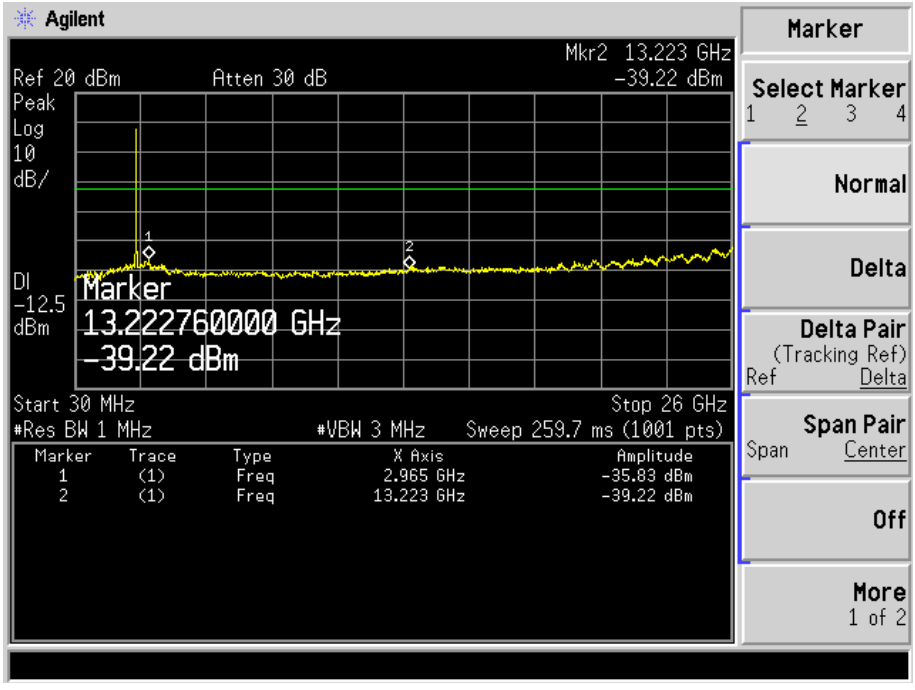

Agilent
Mkr2 1.718 GHz
Ref 20 dBm
Atten 30 dB
-25.43 dBm
Peak
Log
10
dB/
DI
-13.0
dBm
Marker
1.718050000 GHz
-25.43 dBm
Start 30 MHz
Stop 26 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 259.7 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.965 GHz -36.03 dBm
2 (1) Freq 1.718 GHz -25.43 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

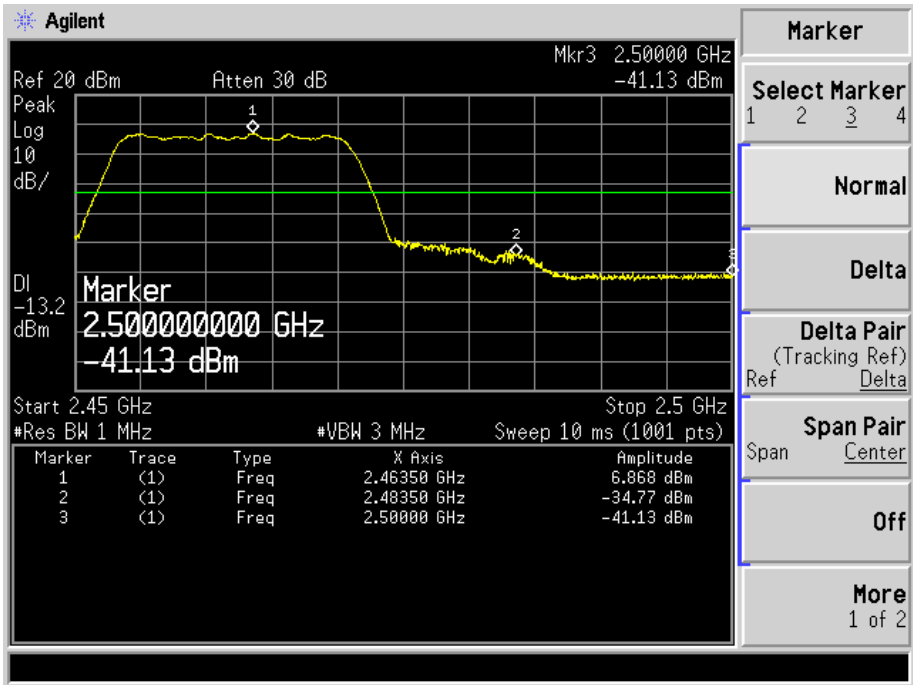
TX 802.11n/HT20 Mode

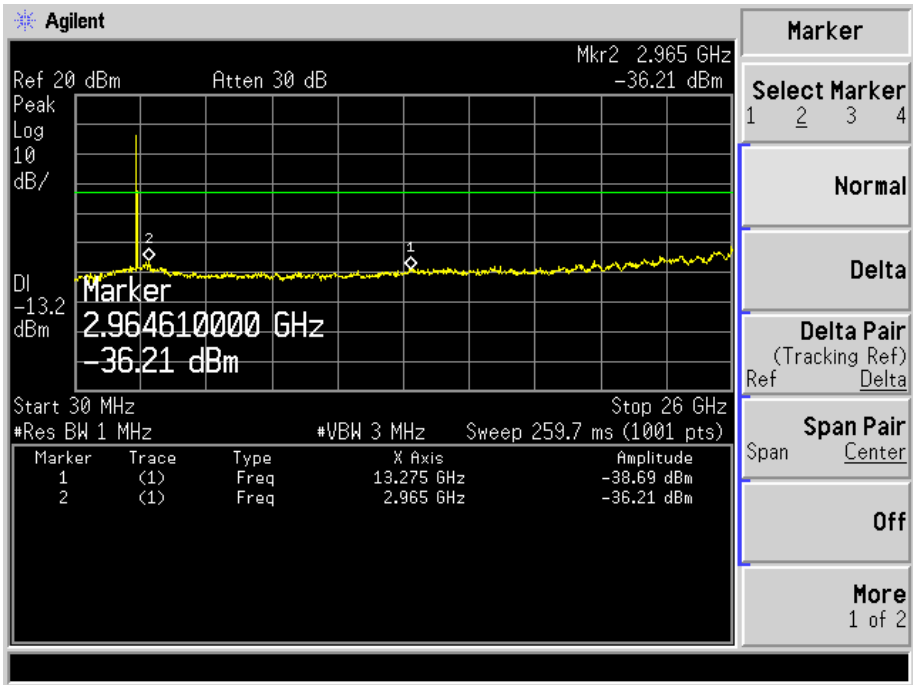




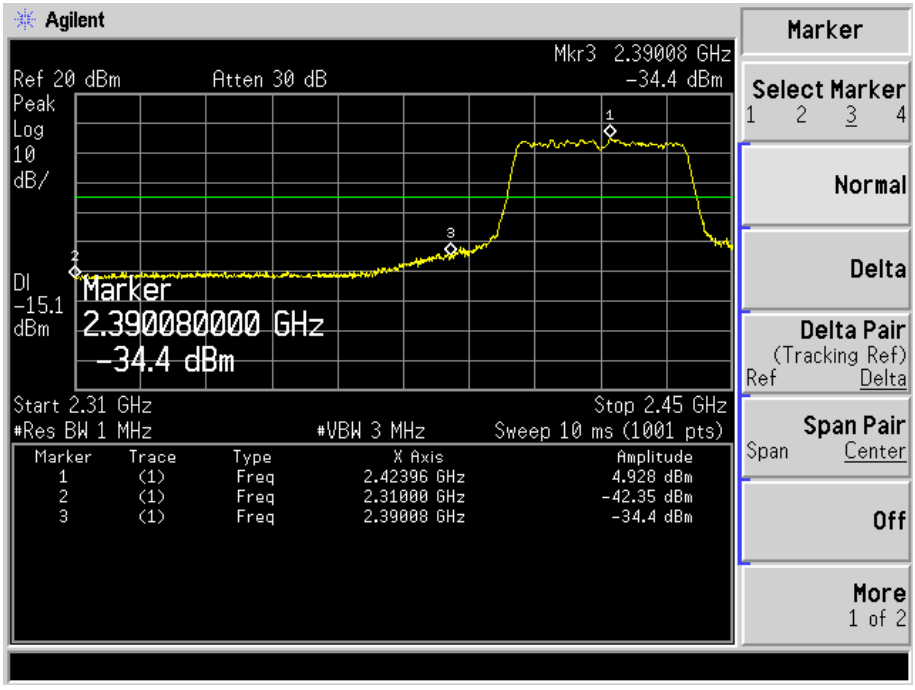

Agilent
Mkr2 2.4385 GHz
Ref 20 dBm
Atten 30 dB
7.612 dBm
Peak
Log
10
dB/
Start
2.400000000 GHz
Start 2.4 GHz
Stop 2.5 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 10 ms (1001 pts)
Marker Trace Type X Axis Amplitude
2 (1) Freq 2.4385 GHz 7.612 dBm
Freq/Channel
Center Freq
2.45000000 GHz
Start Freq
2.40000000 GHz
Stop Freq
2.50000000 GHz
CF Step
10.0000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Scale Type
Log Lin

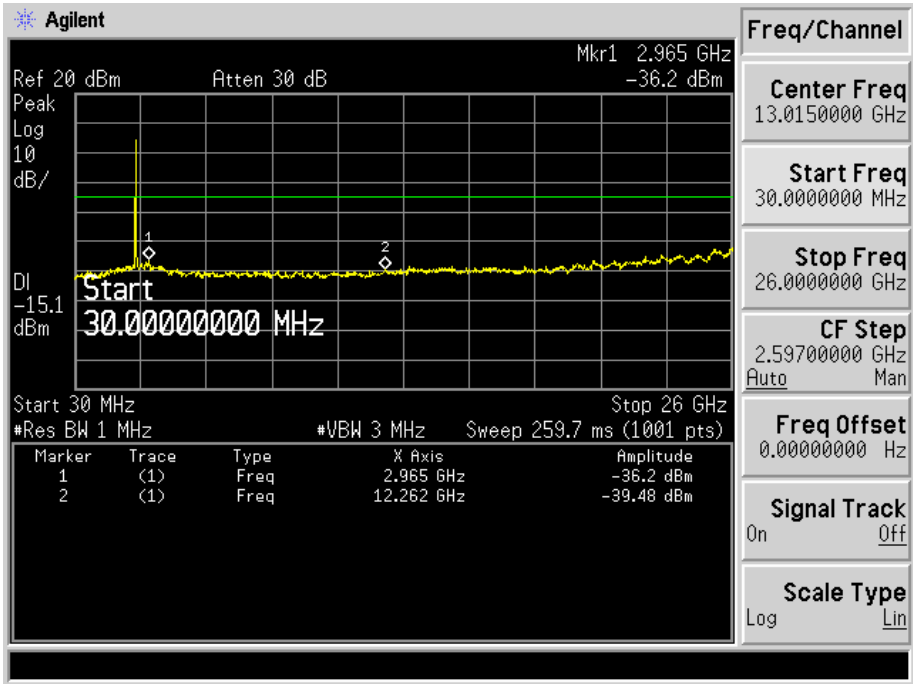

Agilent
Mkr2 13.223 GHz
Ref 20 dBm
Atten 30 dB
-39.22 dBm
Peak
Log
10
dB/
Marker
13.222760000 GHz
-39.22 dBm
Start 30 MHz
Stop 26 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 259.7 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.965 GHz -35.83 dBm
2 (1) Freq 13.223 GHz -39.22 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

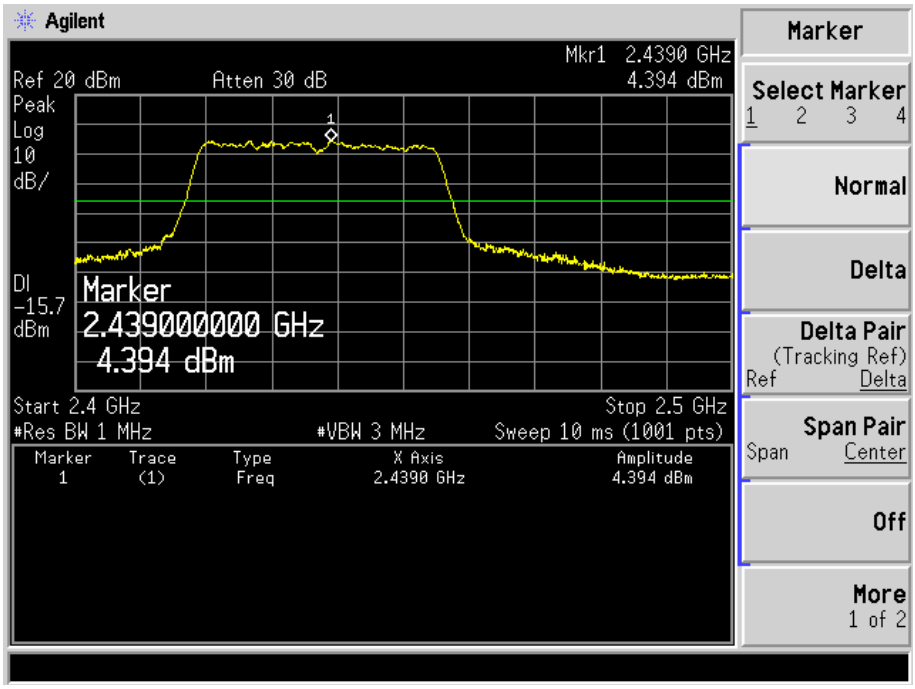

Agilent
Mkr3 2.50000 GHz
Ref 20 dBm
Atten 30 dB
-41.13 dBm
Peak
Log
10
dB/
DI
-13.2
dBm
Marker
2.500000000 GHz
-41.13 dBm
Start 2.45 GHz
Stop 2.5 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 10 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.46350 GHz 6.868 dBm
2 (1) Freq 2.48350 GHz -34.77 dBm
3 (1) Freq 2.50000 GHz -41.13 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

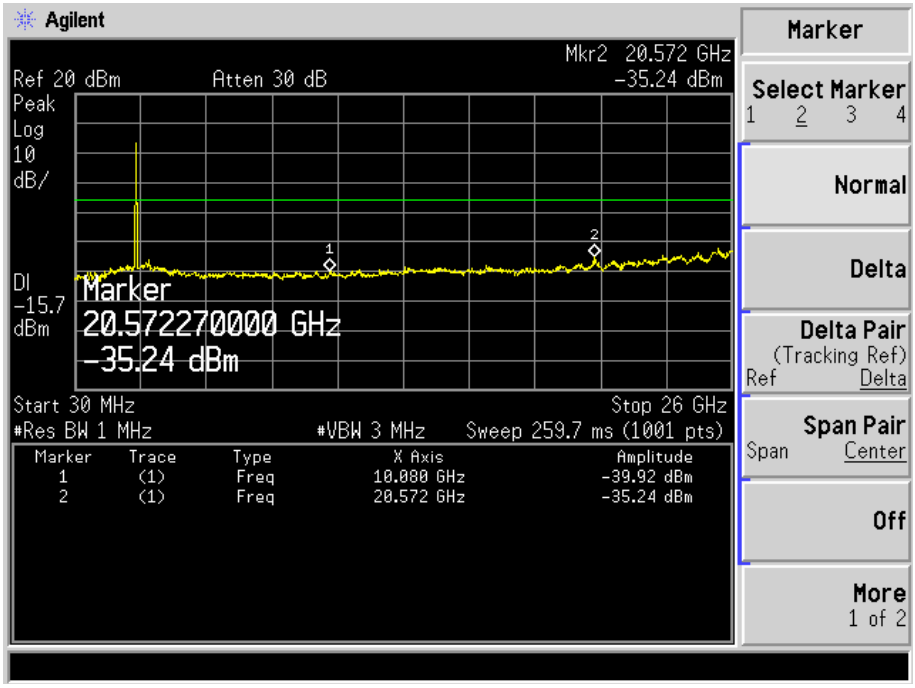

Agilent
Mkr2 2.965 GHz
Ref 20 dBm
Atten 30 dB
-36.21 dBm
Peak
Log
10
dB/
DI
-13.2
dBm
Marker
2.964610000 GHz
-36.21 dBm
Start 30 MHz
Stop 26 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 259.7 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 13.275 GHz -38.69 dBm
2 (1) Freq 2.965 GHz -36.21 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

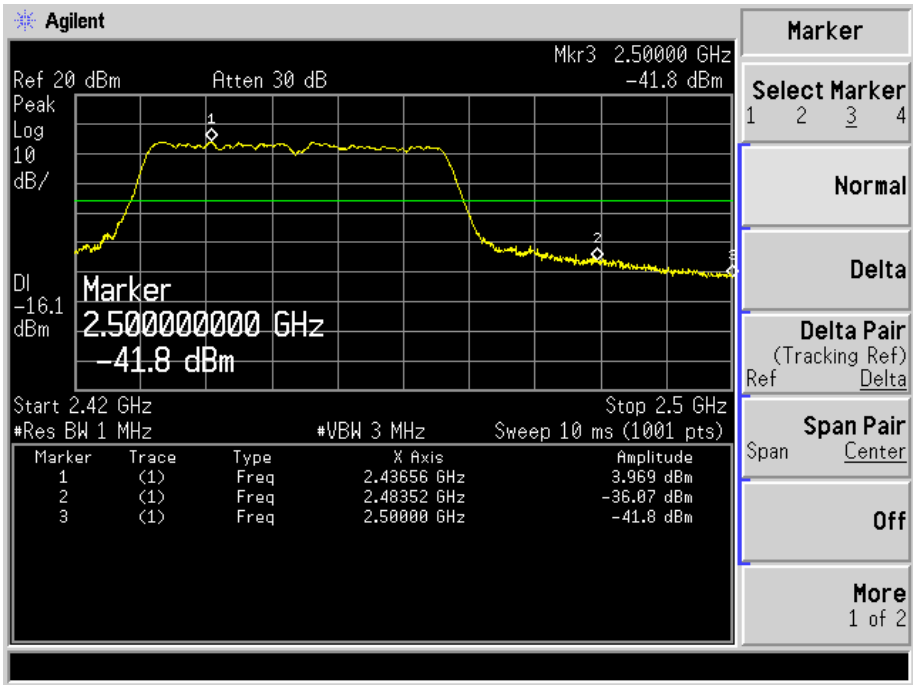
TX 802.11n/HT40 Mode

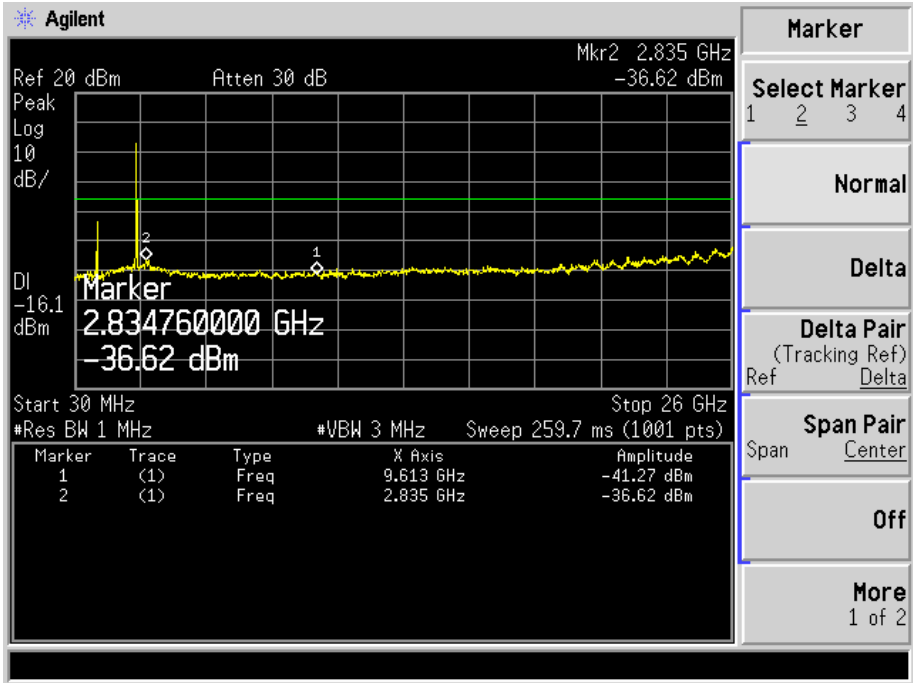




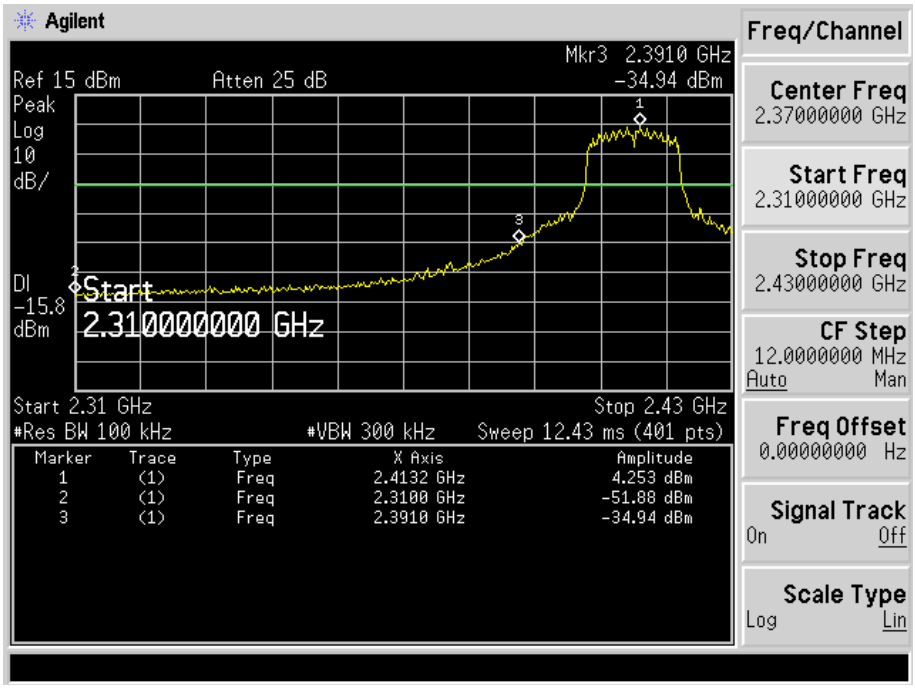

Agilent
Mkr1 2.4390 GHz
Ref 20 dBm
Atten 30 dB
4.394 dBm
Peak
Log
10
dB/
DI
-15.7
dBm
Marker
2.439000000 GHz
4.394 dBm
Start 2.4 GHz
Stop 2.5 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 10 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.4390 GHz 4.394 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

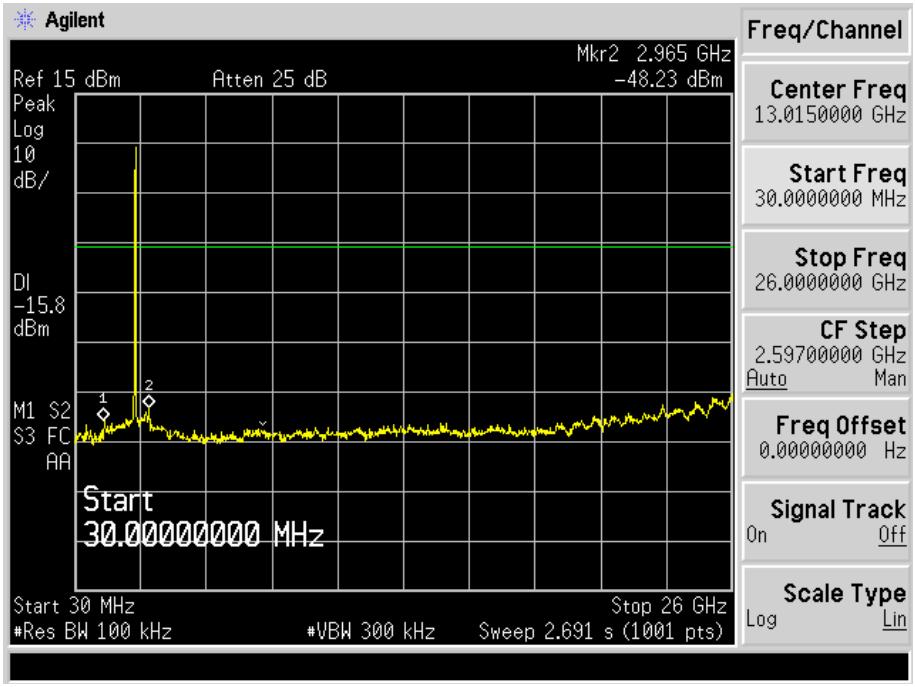

Agilent
Mkr2 20.572 GHz
Ref 20 dBm
Atten 30 dB
-35.24 dBm
Peak
Log
10
dB/
DI
-15.7
dBm
Marker
20.572270000 GHz
-35.24 dBm
Start 30 MHz
Stop 26 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 259.7 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 10.080 GHz -39.92 dBm
2 (1) Freq 20.572 GHz -35.24 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

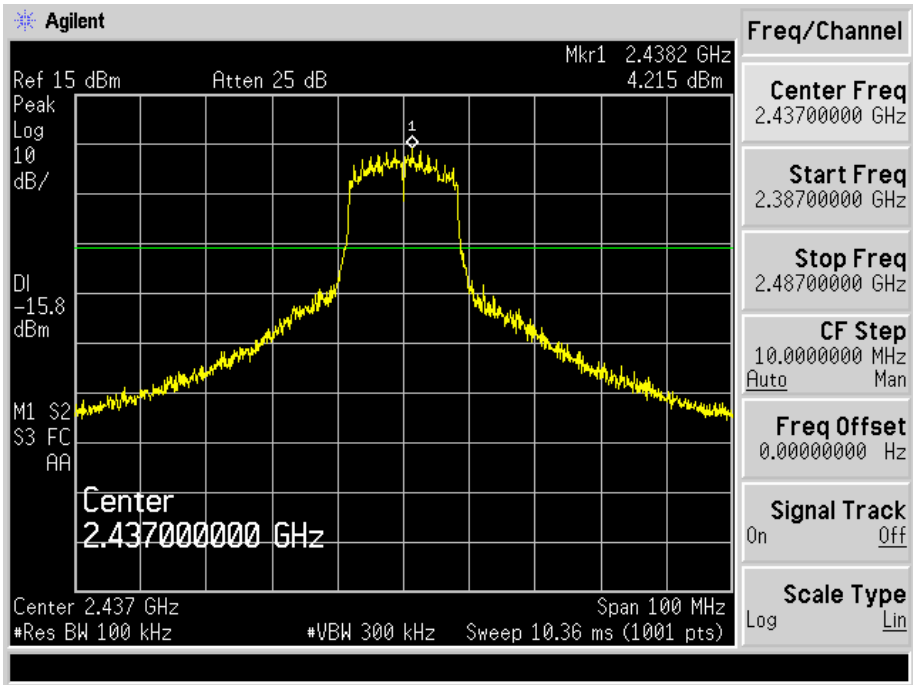

Agilent
Marker
Mkr3 2.50000 GHz
Ref 20 dBm
Atten 30 dB
-41.8 dBm
Peak
Log
10
dB/
Marker
2.500000000 GHz
-41.8 dBm
Start 2.42 GHz
Stop 2.5 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 10 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.43656 GHz 3.969 dBm
2 (1) Freq 2.48352 GHz -36.07 dBm
3 (1) Freq 2.50000 GHz -41.8 dBm
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

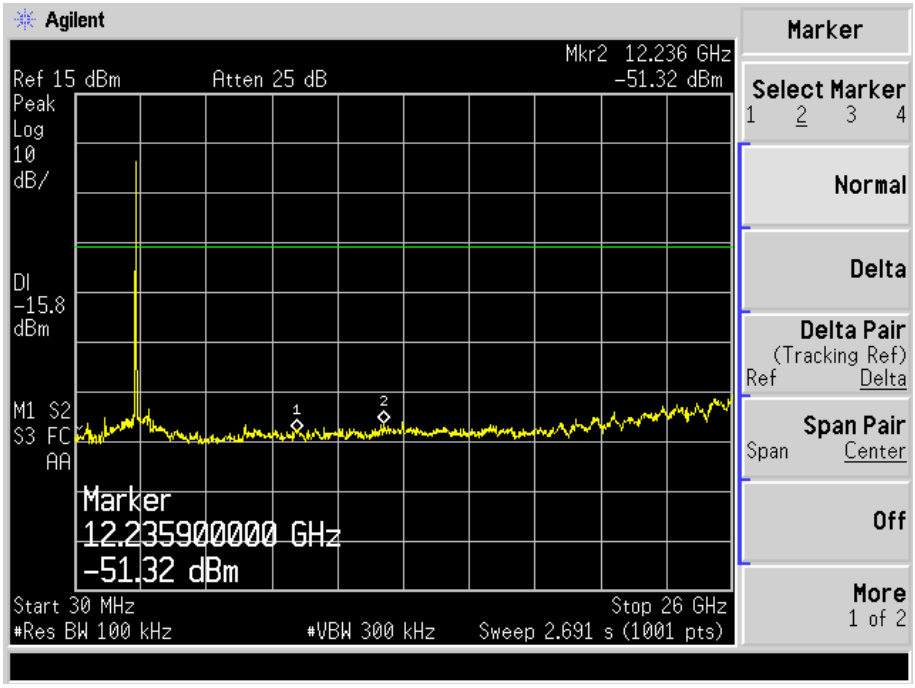

Agilent
Marker
Mkr2 2.835 GHz
Ref 20 dBm
Atten 30 dB
-36.62 dBm
Peak
Log
10
dB/
Marker
2.834760000 GHz
-36.62 dBm
Start 30 MHz
Stop 26 GHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 259.7 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 9.613 GHz -41.27 dBm
2 (1) Freq 2.835 GHz -36.62 dBm
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

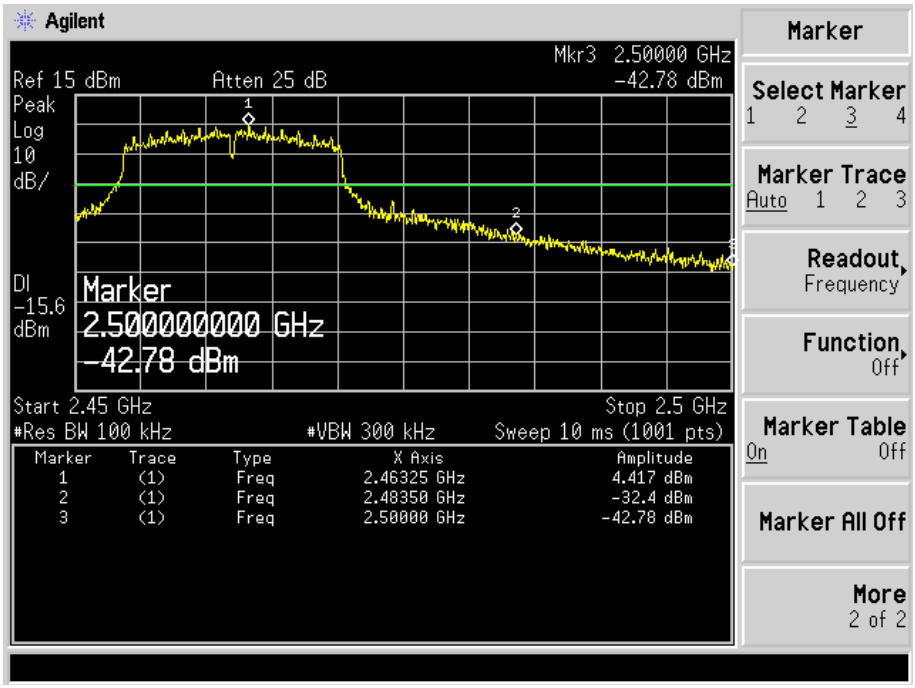
Chain 2 TX 802.11b Mode

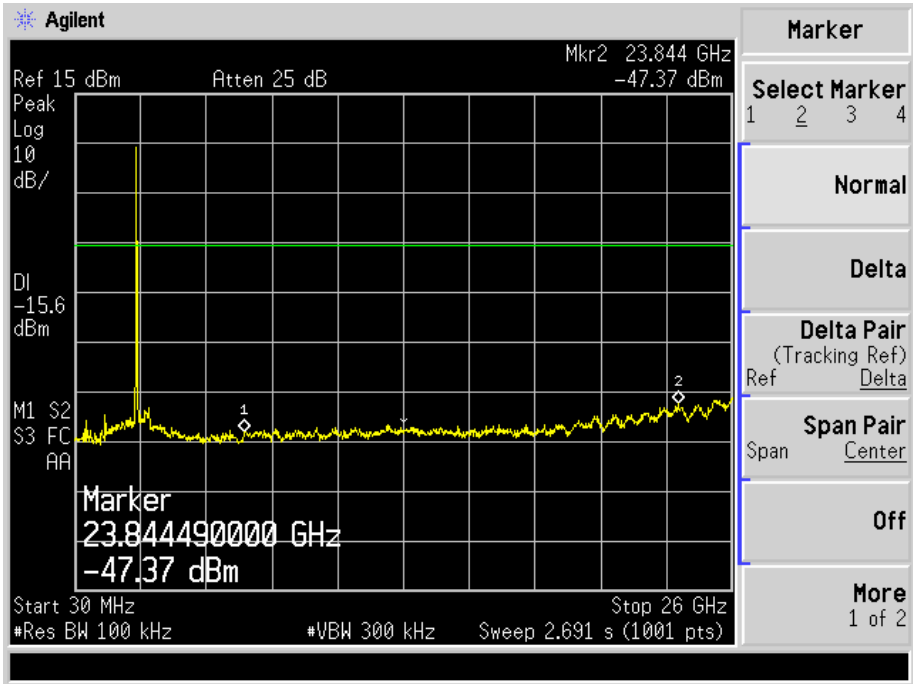




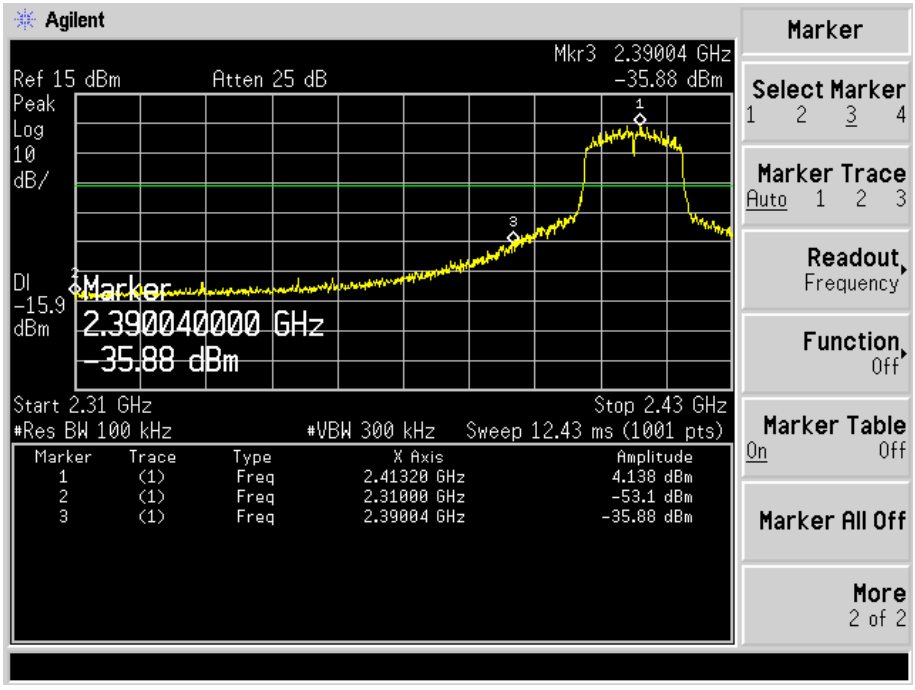

Agilent
Freq/Channel
Mkr1 2.4382 GHz
Ref 15 dBm
Atten 25 dB
4.215 dBm
Peak
Log
10
dB/
Center Freq
2.43700000 GHz
Start Freq
2.38700000 GHz
Stop Freq
2.48700000 GHz
CF Step
10.0000000 MHz
Auto
Man
Freq Offset
0.00000000 Hz
Dl
-15.8
dBm
M1 S2
S3 FC
AA
Signal Track
On
Off
Scale Type
Log
Lin
Center
2.437000000 GHz
Center 2.437 GHz
Span 100 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 10.36 ms (1001 pts)

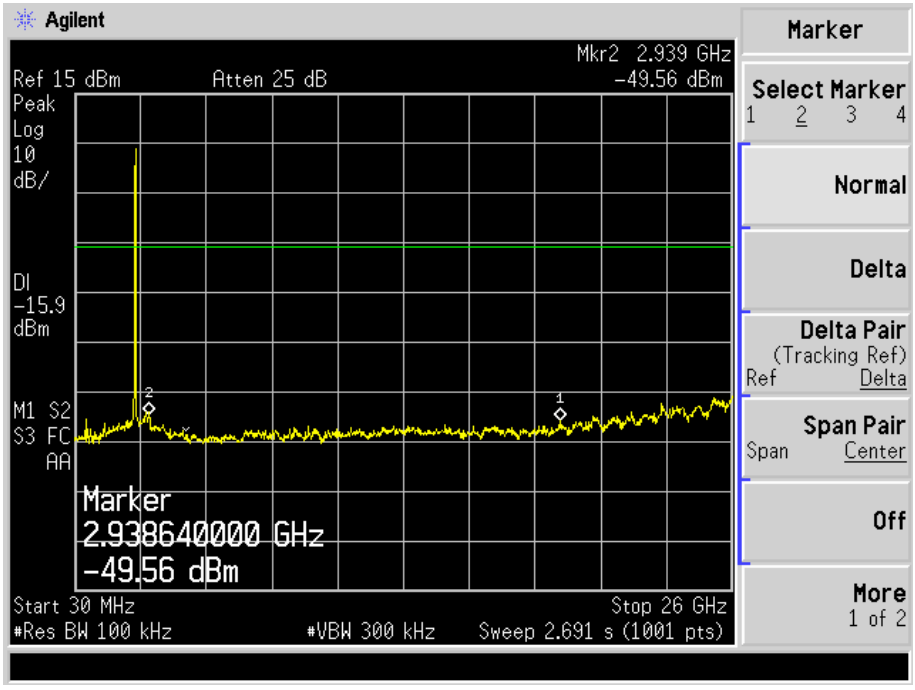

Agilent
Marker
Mkr2 12.236 GHz
Ref 15 dBm
Atten 25 dB
-51.32 dBm
Peak
Log
10
dB/
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref
Delta
Span Pair
Span
Center
Off
More
1 of 2
Dl
-15.8
dBm
M1 S2
S3 FC
AA
Marker
12.235900000 GHz
-51.32 dBm
Start 30 MHz
Stop 26 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 2.691 s (1001 pts)

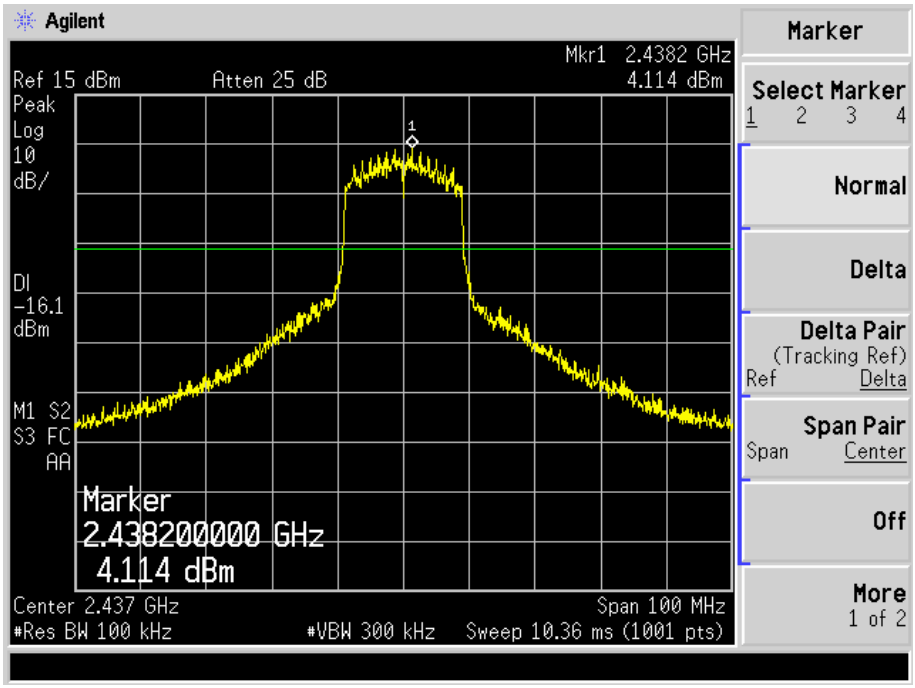

Agilent
Mkr3 2.50000 GHz
-42.78 dBm
Ref 15 dBm
Atten 25 dB
Peak
Log
10
dB/
Dl
-15.6
dBm
Marker
2.500000000 GHz
-42.78 dBm
Start 2.45 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.5 GHz
Sweep 10 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.46325 GHz 4.417 dBm
2 (1) Freq 2.48350 GHz -32.4 dBm
3 (1) Freq 2.50000 GHz -42.78 dBm
Marker
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Function
Off
Marker Table
On Off
Marker All Off
More
2 of 2

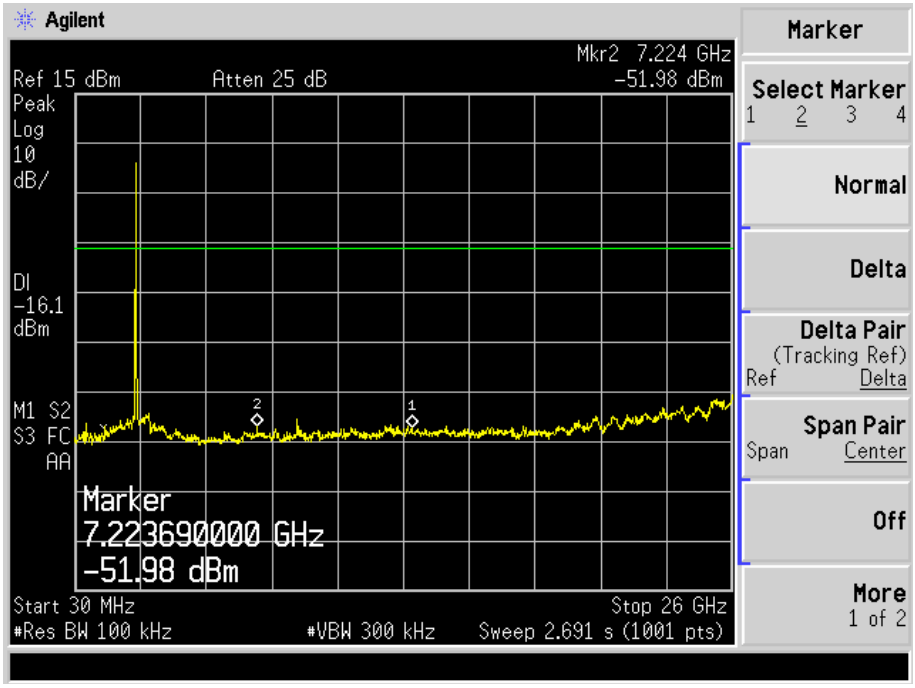

Agilent
Mkr2 23.844 GHz
-47.37 dBm
Ref 15 dBm
Atten 25 dB
Peak
Log
10
dB/
Dl
-15.6
dBm
M1 S2
S3 FC
AA
Marker
23.844490000 GHz
-47.37 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26 GHz
Sweep 2.691 s (1001 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

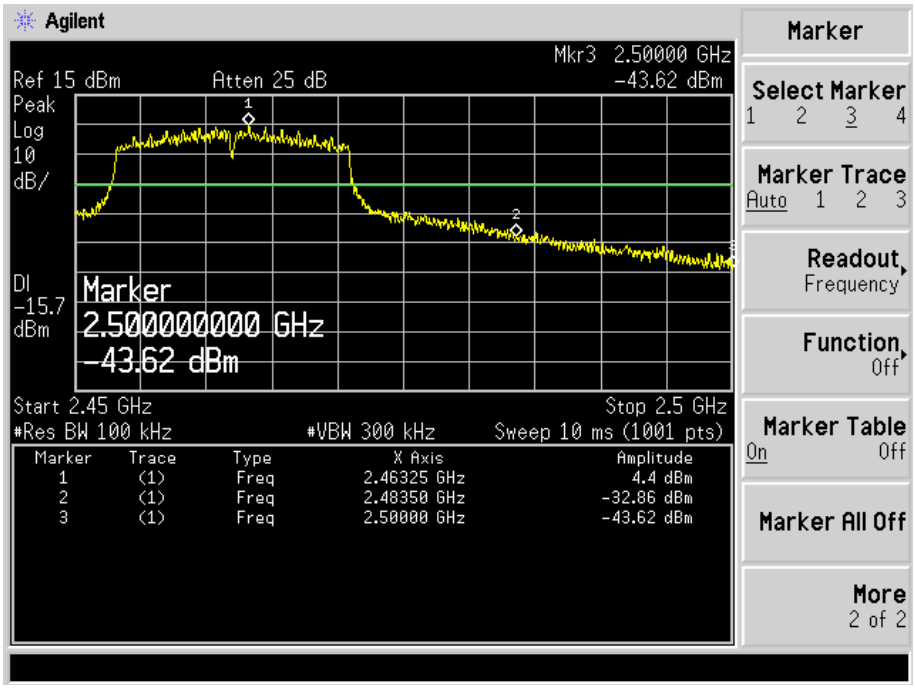
802.11g Mode

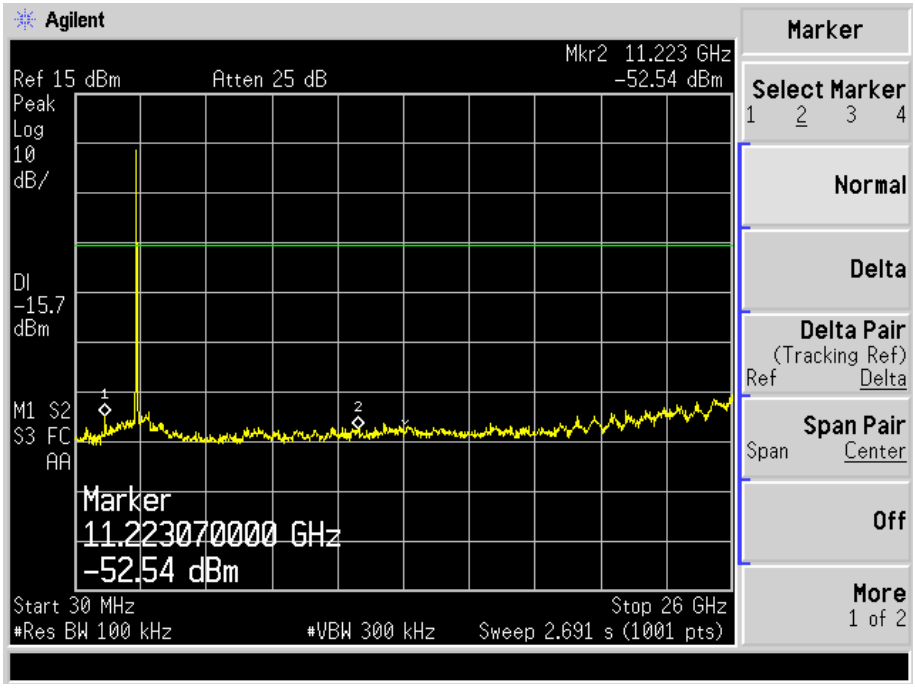

Agilent
Mkr3 2.39004 GHz
Ref 15 dBm
Atten 25 dB
-35.88 dBm
Peak
Log
10
dB/
DI
-15.9
dBm
Marker
2.390040000 GHz
-35.88 dBm
Start 2.31 GHz
Stop 2.43 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 12.43 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.41320 GHz 4.138 dBm
2 (1) Freq 2.31000 GHz -53.1 dBm
3 (1) Freq 2.39004 GHz -35.88 dBm
Marker
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Function
Off
Marker Table
On Off
Marker All Off
More
2 of 2


Agilent
Mkr2 2.939 GHz
Ref 15 dBm
Atten 25 dB
-49.56 dBm
Peak
Log
10
dB/
DI
-15.9
dBm
M1 S2
S3 FC
AA
Marker
2.938640000 GHz
-49.56 dBm
Start 30 MHz
Stop 26 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 2.691 s (1001 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

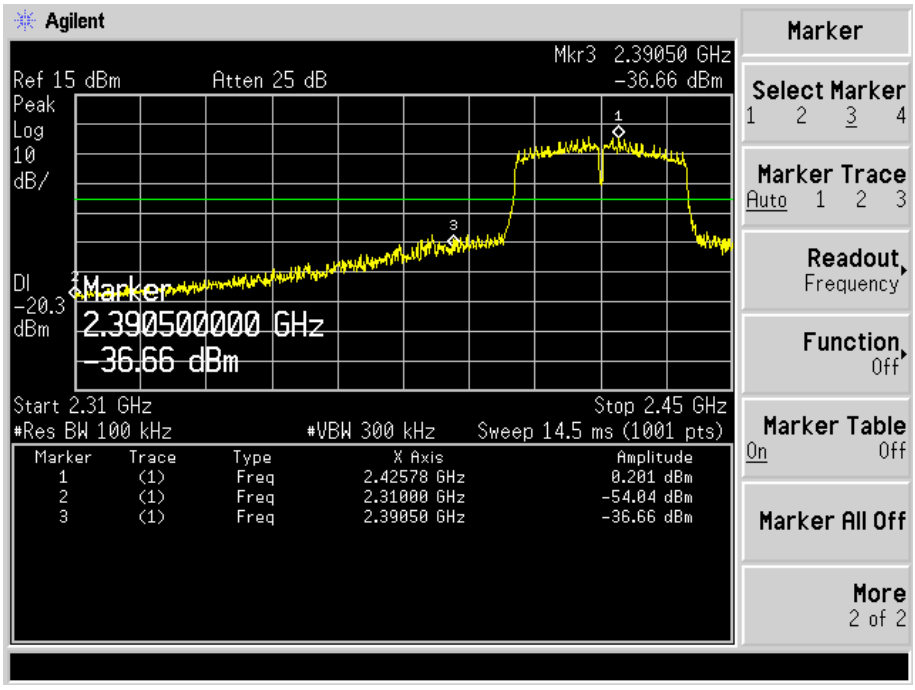

Agilent
Marker
Mkr1 2.4382 GHz
4.114 dBm
Ref 15 dBm
Atten 25 dB
Peak
Log
10
dB/
Dl
-16.1
dBm
M1 S2
S3 FC
AA
Marker
2.438200000 GHz
4.114 dBm
Center 2.437 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 100 MHz
Sweep 10.36 ms (1001 pts)
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

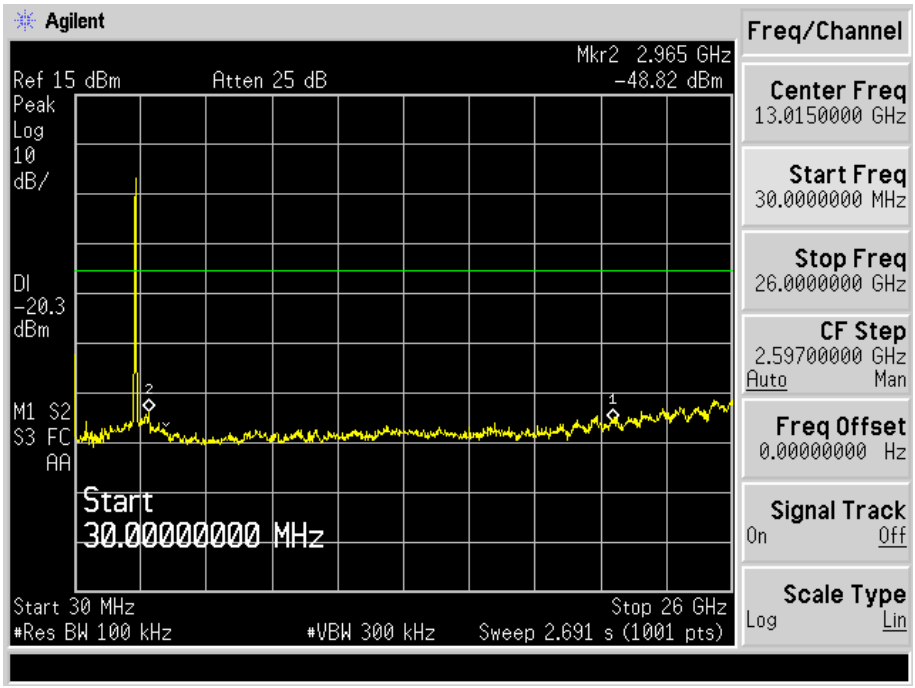

Agilent
Marker
Mkr2 7.224 GHz
-51.98 dBm
Ref 15 dBm
Atten 25 dB
Peak
Log
10
dB/
Dl
-16.1
dBm
M1 S2
S3 FC
AA
Marker
7.223690000 GHz
-51.98 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26 GHz
Sweep 2.691 s (1001 pts)
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

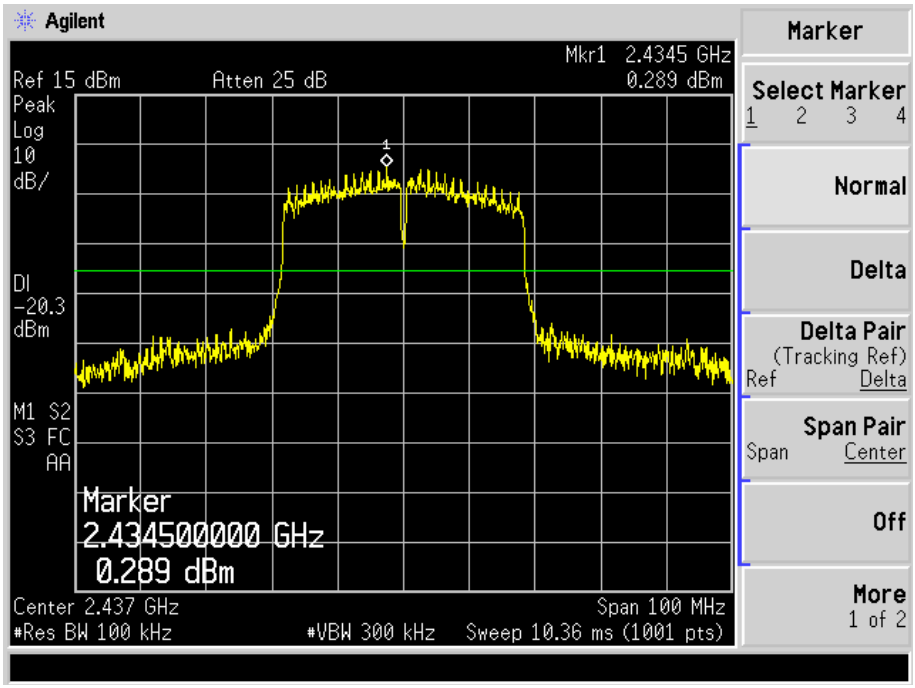

Agilent
Mkr3 2.50000 GHz
-43.62 dBm
Ref 15 dBm
Atten 25 dB
Peak
Log
10
dB/
Dl
-15.7
dBm
Marker
2.500000000 GHz
-43.62 dBm
Start 2.45 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.5 GHz
Sweep 10 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.46325 GHz 4.4 dBm
2 (1) Freq 2.48350 GHz -32.86 dBm
3 (1) Freq 2.50000 GHz -43.62 dBm
Marker
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Function
Off
Marker Table
On Off
Marker All Off
More
2 of 2

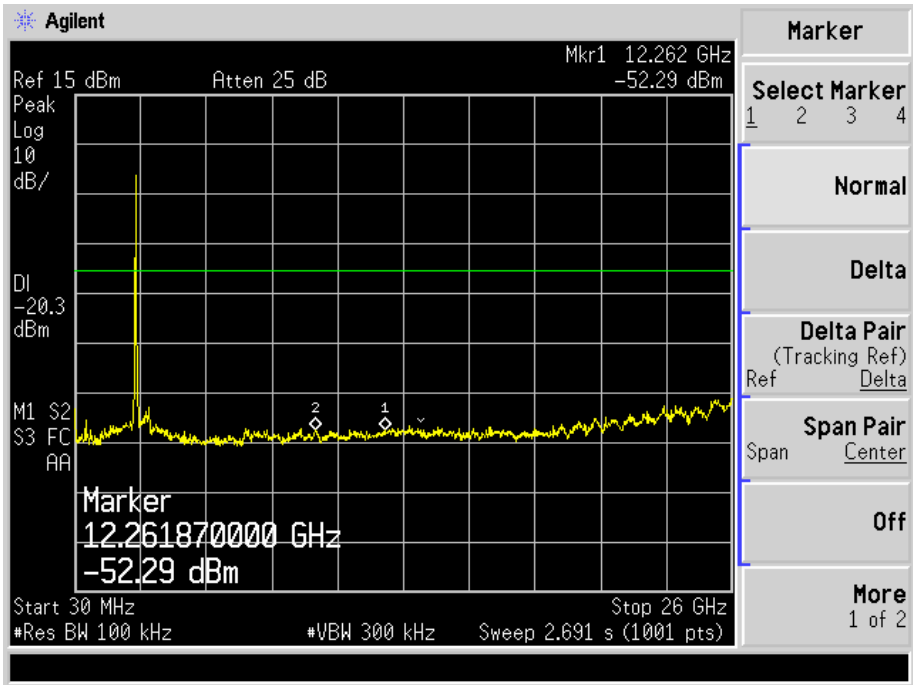

Agilent
Mkr2 11.223 GHz
-52.54 dBm
Ref 15 dBm
Atten 25 dB
Peak
Log
10
dB/
Dl
-15.7
dBm
M1 S2
S3 FC
AA
Marker
11.223070000 GHz
-52.54 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26 GHz
Sweep 2.691 s (1001 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

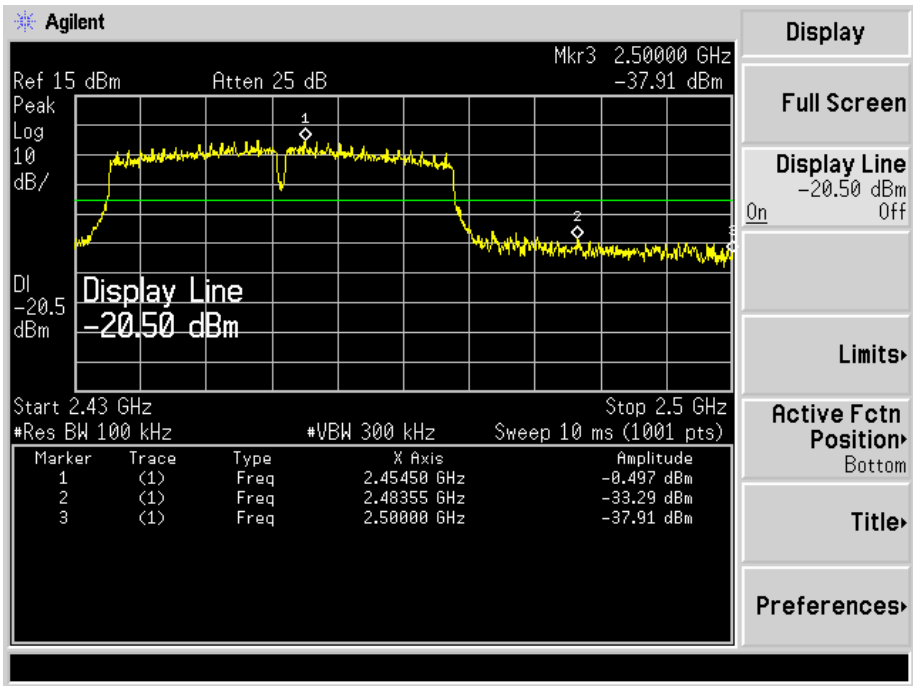
802.11n/H20 Mode

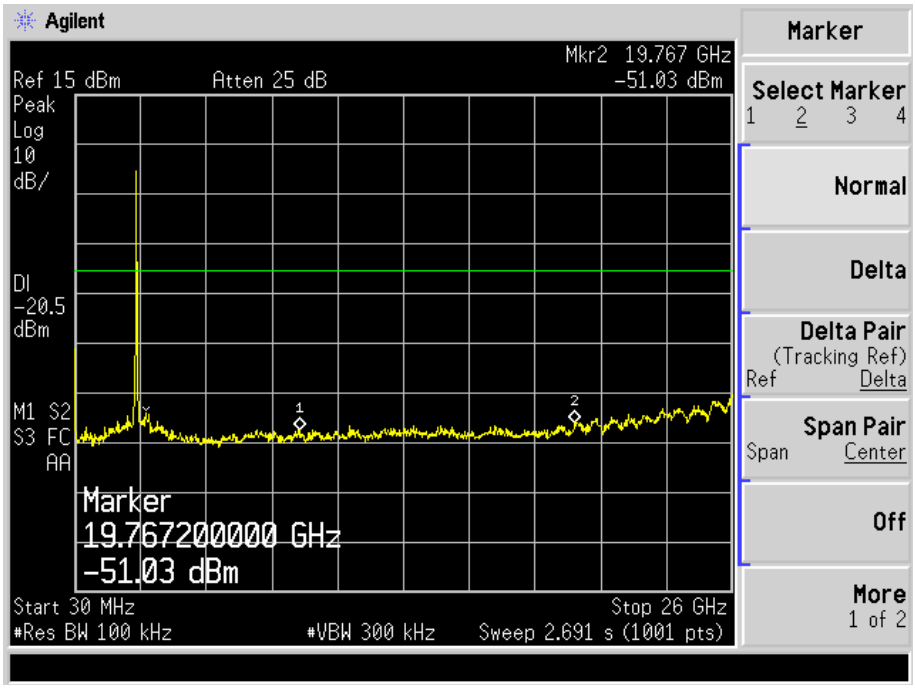




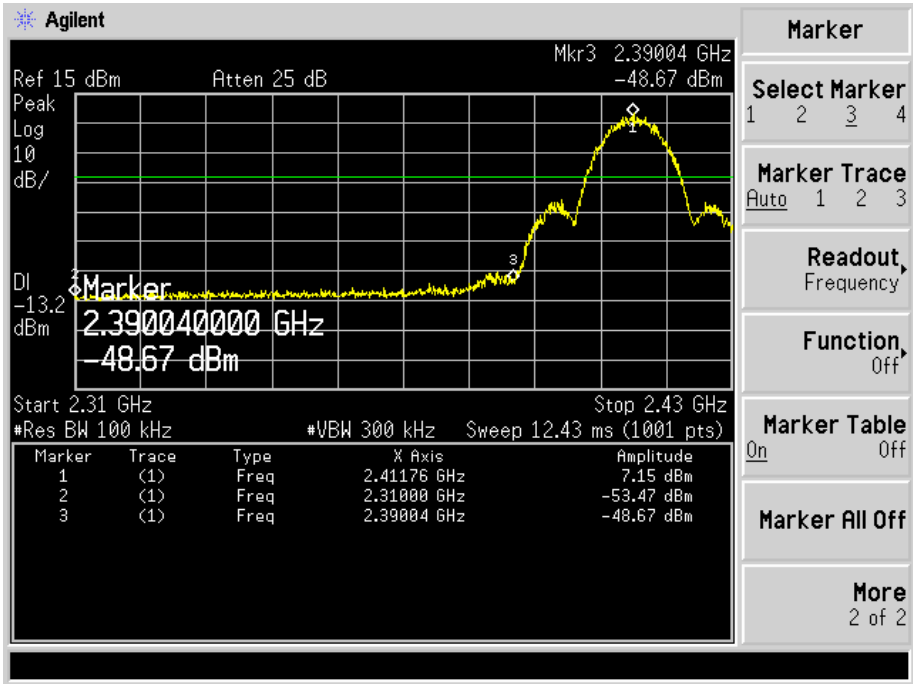

Agilent
Mkr1 2.4345 GHz
Ref 15 dBm
Atten 25 dB
0.289 dBm
Peak
Log
10
dB/
Dl
-20.3
dBm
M1 S2
S3 FC
AA
Marker
2.434500000 GHz
0.289 dBm
Center 2.437 GHz
Span 100 MHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 10.36 ms (1001 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

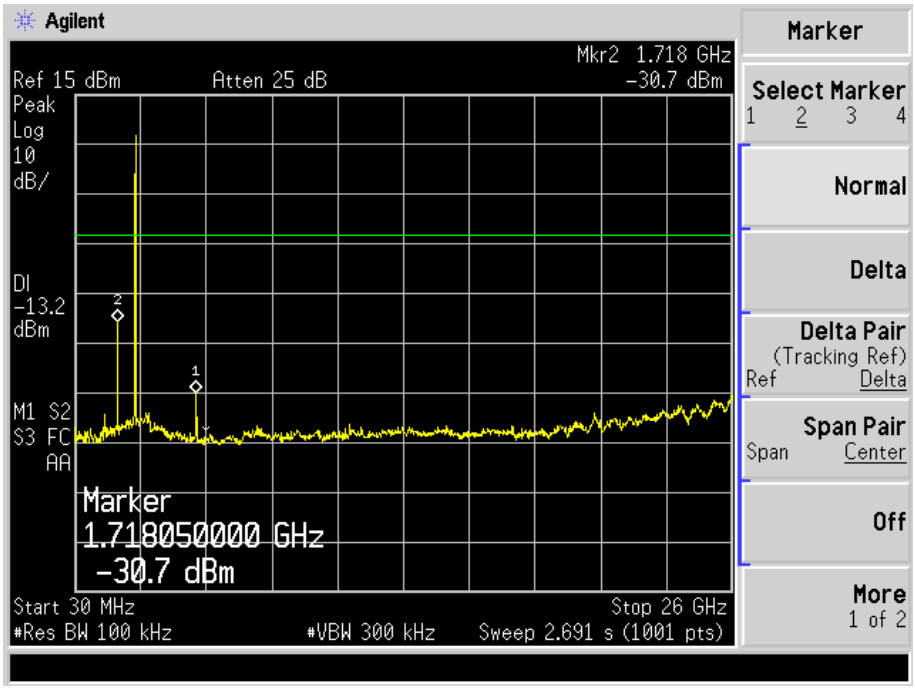

Agilent
Mkr1 12.262 GHz
Ref 15 dBm
Atten 25 dB
-52.29 dBm
Peak
Log
10
dB/
Dl
-20.3
dBm
M1 S2
S3 FC
AA
Marker
12.261870000 GHz
-52.29 dBm
Start 30 MHz
Stop 26 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 2.691 s (1001 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

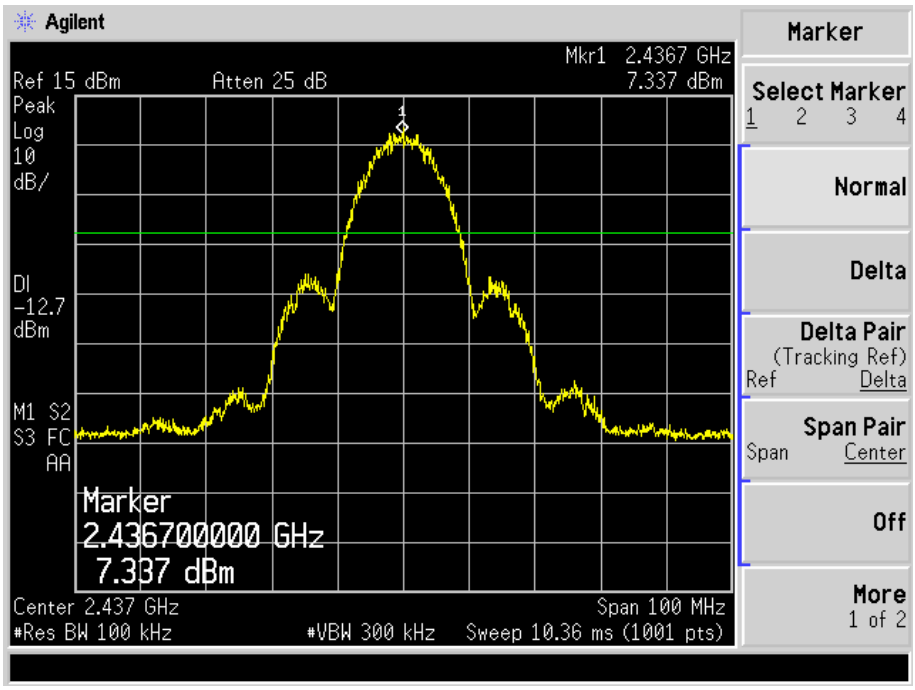

Agilent
Mkr3 2.50000 GHz
Ref 15 dBm
Atten 25 dB
-37.91 dBm
Peak
Log
10
dB/
Dl
-20.5
dBm
Display Line
-20.50 dBm
Start 2.43 GHz
Stop 2.5 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 10 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.45450 GHz -0.497 dBm
2 (1) Freq 2.48355 GHz -33.29 dBm
3 (1) Freq 2.50000 GHz -37.91 dBm
Display
Full Screen
Display Line
-20.50 dBm
On Off
Limits
Active Fctn
Position
Bottom
Title
Preferences

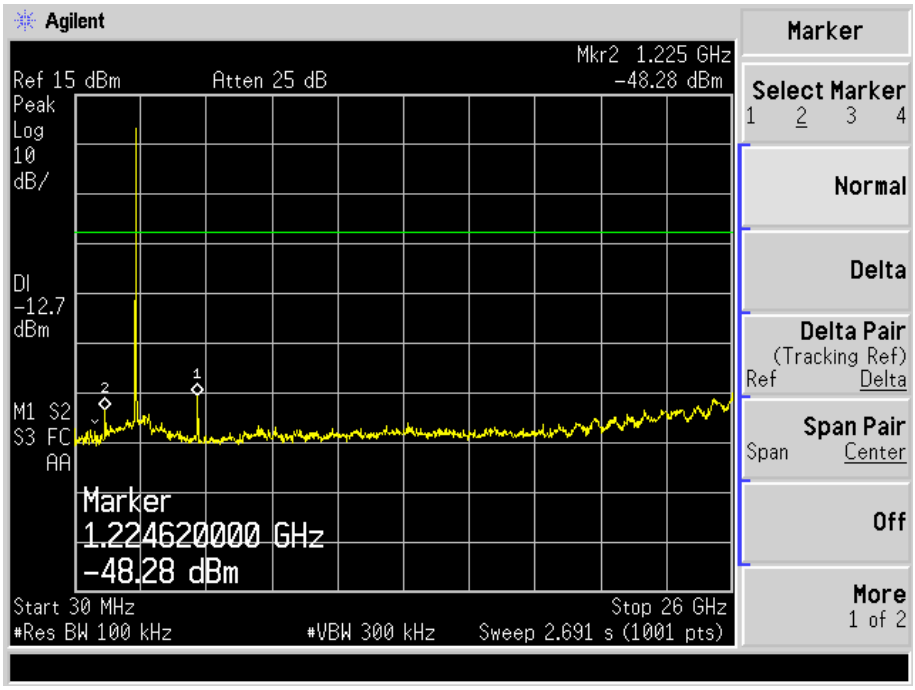

Agilent
Mkr2 19.767 GHz
Ref 15 dBm
Atten 25 dB
-51.03 dBm
Peak
Log
10
dB/
Dl
-20.5
dBm
M1 S2
S3 FC
AA
Marker
19.767200000 GHz
-51.03 dBm
Start 30 MHz
Stop 26 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 2.691 s (1001 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

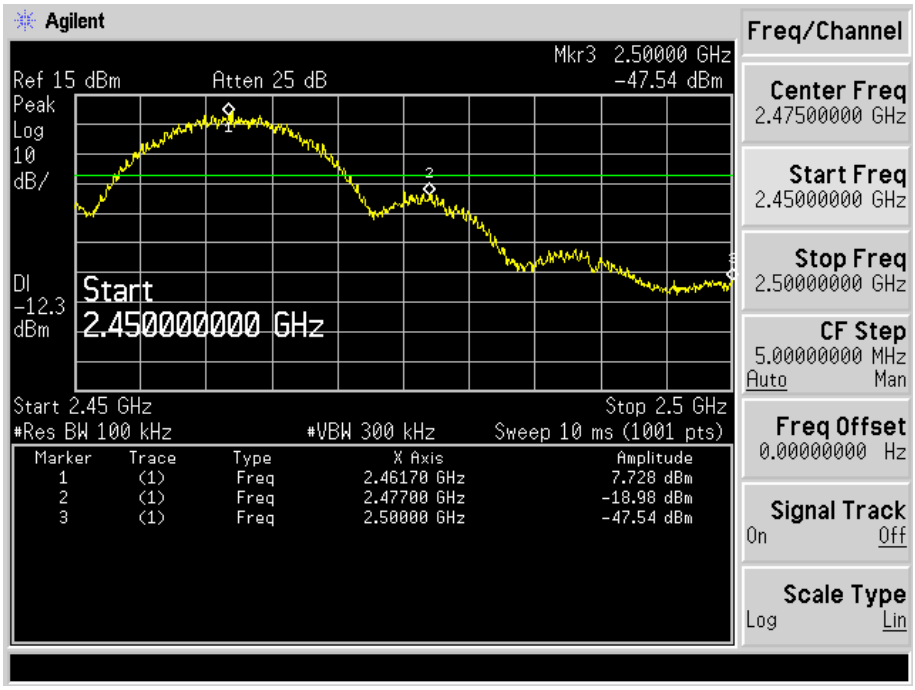
802.11n/HT40 Mode

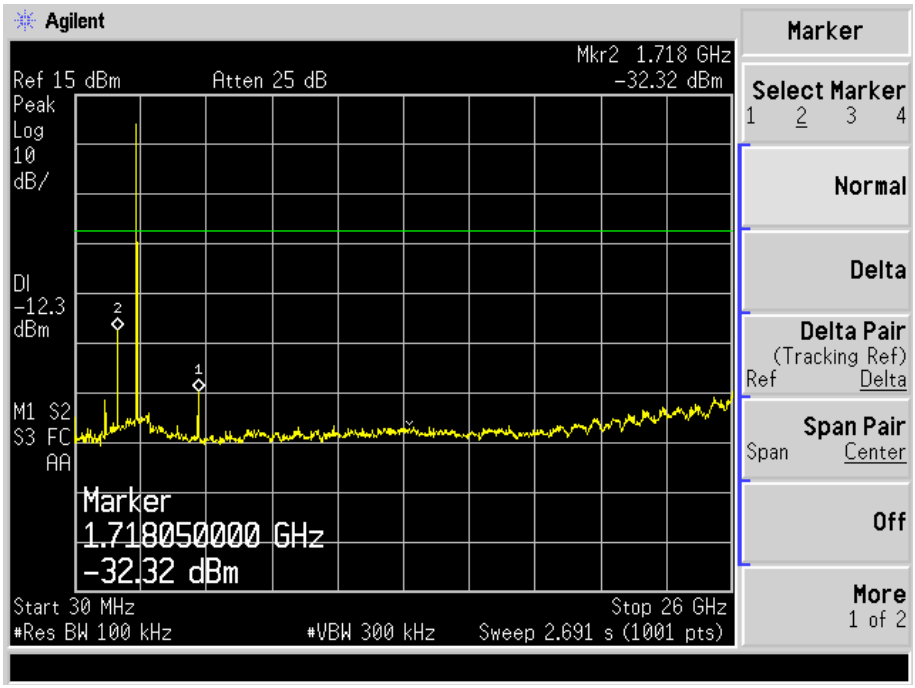





Agilent
Marker
Mkr1 2.4367 GHz
7.337 dBm
Ref 15 dBm
Atten 25 dB
Peak
Log
10
dB/
Dl
-12.7
dBm
M1 S2
S3 FC
AA
Marker
2.436700000 GHz
7.337 dBm
Center 2.437 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 100 MHz
Sweep 10.36 ms (1001 pts)
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2


Agilent
Marker
Mkr2 1.225 GHz
-48.28 dBm
Ref 15 dBm
Atten 25 dB
Peak
Log
10
dB/
Dl
-12.7
dBm
M1 S2
S3 FC
AA
Marker
1.224620000 GHz
-48.28 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26 GHz
Sweep 2.691 s (1001 pts)
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2


Agilent
Mkr3 2.50000 GHz
Ref 15 dBm
Atten 25 dB
-47.54 dBm
Peak
Log
10
dB/
Start
2.450000000 GHz
Start 2.45 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.5 GHz
Sweep 10 ms (1001 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.46170 GHz 7.728 dBm
2 (1) Freq 2.47700 GHz -18.98 dBm
3 (1) Freq 2.50000 GHz -47.54 dBm
Freq/Channel
Center Freq
2.47500000 GHz
Start Freq
2.45000000 GHz
Stop Freq
2.50000000 GHz
CF Step
5.00000000 MHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Scale Type
Log Lin


Agilent
Mkr2 1.718 GHz
Ref 15 dBm
Atten 25 dB
-32.32 dBm
Peak
Log
10
dB/
M1 S2
S3 FC
AA
Marker
1.718050000 GHz
-32.32 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26 GHz
Sweep 2.691 s (1001 pts)
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

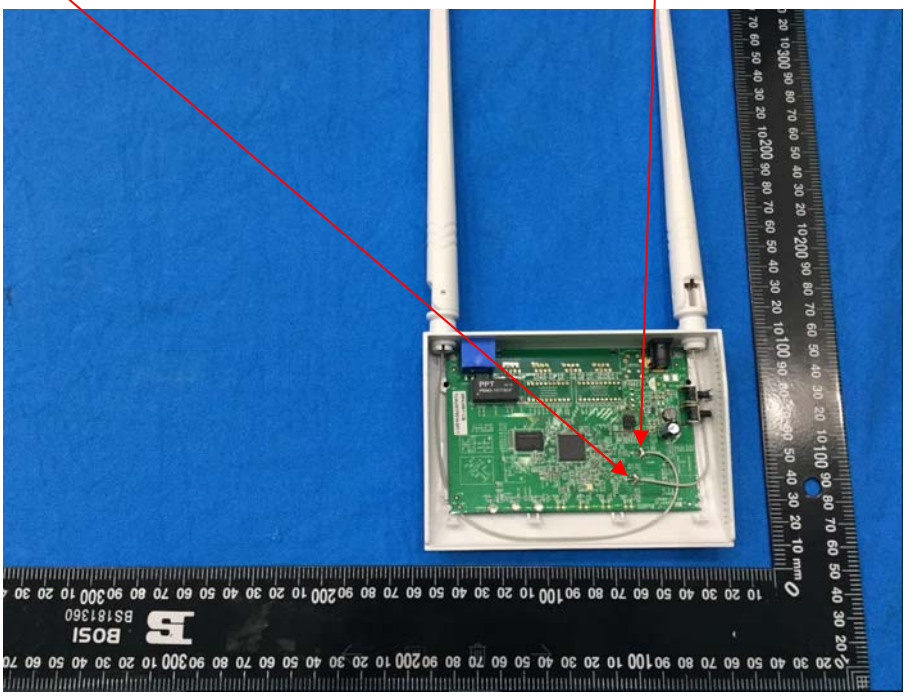
10 ANTENNA REQUIREMENT

Standard Applicable
For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.249, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Refer to statement below for compliance.
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

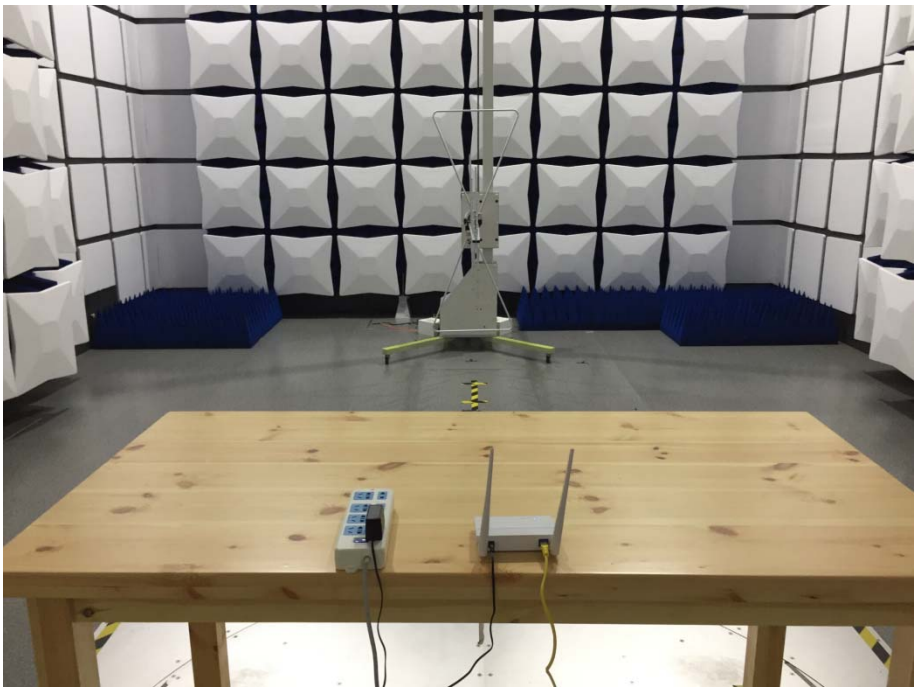
Antenna Connected Construction
The antenna used in this product is a Integral Antenna, The directional gains of antenna used for transmitting for antenna port 1 is 2dBi and antenna port 1 is 2dBi

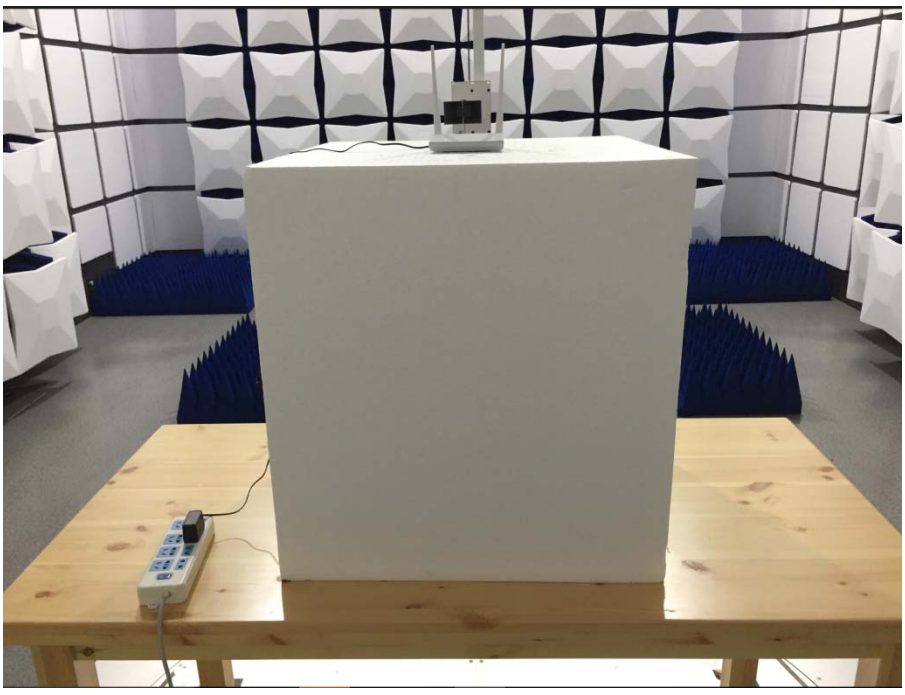
Antenna port 1 Antenna port 2



11 PHOTOGRAPH OF TEST

11.1 Radiated Emission





11.2 Conducted Emission