FCC RADIO TEST REPORT

Applicant	:	AIR S.R.L.
Address	:	San Nicolas 1450 (S2002QYN – Rosario, Santa Fe, Argentina)
Equipment	:	CX Phone
Model No.	:	CX502E
Trademark	:	CX
FCC ID	:	2AFEA-CX502E

I HEREBY CERTIFY THAT :

The sample was received on May 20, 2015 and the testing was carried out on Jun. 11, 2015 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Miro Chueh
EMC/RF B.U. Manager

Laboratory Accreditation:

☐ Cerpass Technology Corporation Test Laboratory

NVLAP LAB Code:	**200954-0**
TAF LAB Code:	**1439**

☒ Cerpass Technology(SuZhou) Co., Ltd.

NVLAP LAB Code:	**200814-0**
CNAS LAB Code:	**L5515**

Table of Contents

History of this test report

■ ORIGINAL.

☐ Additional attachment as following record:

Attachment No.	Issue Date	Description

1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.4: 2009

FCC Rules and Regulations Part 15 Subpart C §15.247

KDB558074

KDB662911

FCC Rule	. Description of Test	Result
15.203	. Antenna Requirement	Pass
15.207	. AC Power Line Conducted Emission	Pass
15.209 15.205	. Spurious Emission(Radiated)	Pass
15.247(d)	. Spurious Emission(Conducted)	Pass
15.247(a)(2)	. 6dB Bandwidth	Pass
15.247(b)	. Maximum Peak Output Power	Pass
15.247(e)	. Power Spectral Density	Pass

This EUT has been also tested and compiled with the requirement of FCC Part 15, Subpart B, recorded in a separate test report.

2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

Equipment	CX Phone	
Model No.	CX502E	
Spreading	802.11b: CCK, DQPSK, DBPSK 802.11g: 64 QAM, 16 QAM, QPSK, BPSK 802.11n: BPSK, QPSK,16QAM, 64QAM	
Frequency Range	802.11b/g/n(20MHz): 2412-2462MHz 802.11n(40MHz): 2422-2452MHz	
Number of Channels	802.11b/g/n (20MHz):11 802.11n (40MHz): 7	
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0~MCS7	
Antenna Spec.	-1.0dBi	
EUT Power Rating:	DC 3.7V supplied by battery and DC5V supplied by adapter	
Adapter Spec.	Manufacturer:	SHENZHEN FUJIA APPLIANCE CO., LTD.
	Model No.:	FJ-SW1160501000UA
	Input Rating:	100-240Vac 50/60Hz 0.3A Max
	Output Rating:	5V ⎓ 1000mA

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

2.2 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT 20 (2412MHz~2462MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***01**	**2412**	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	***11**	**2462**
***06**	**2437**	---	---

802.11an HT40(2422-2452MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
---	---	07	2442
---	---	08	2447
***03**	**2422**	***09**	**2452**
04	2427	---	---
05	2432	---	---
***06**	**2437**	---	---

Note: Channels remarked * are selected to perform test.

2.3 Test Manner

Test Manner	
a	During testing, the interface cables and equipment positions were varied according to 47 CFR, Part 2, Part 15
b	Adjust the EUT at the test mode and the test channel. Then test.
The test modes:	
The EUT transmitting and receiving with one antenna working at b/g/n mode. The worst-case data rates: IEEE802.11b mode: Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 1Mbps data rate were chosen for full testing. IEEE802.11g mode: Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 6Mbps data rate were chosen for full testing. IEEE 802.11n Standard-20 MHz Channel mode: Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with MCS0 data rate were chosen for full testing. IEEE 802.11n Wide-40 MHz Channel mode: Channel Low (2422MHz), Channel Mid (2437MHz) and Channel High (2452MHz) with MCS0 data rate were chosen for full testing. Then, the EUT configuration and cable configuration of the above highest emission mode was recorded for all final test items.	

2.4 Description of Test System

No	Device	Manufacturer	Model No.	Description
1	Notebook	SONY	PCG-71811P	R33021
2	Printer	HP	LaserJet 1020	A005373

Use Cable:

No.	Cable	Quantity	Description
A	USB Cable	1	1.0 Non Shielding
B	Earphone Cable	1	1.5 Non Shielding
C	USB Print Cable	1	1.8m Non Shielding

2.5 General Information of Test

☐	Test Site	**Cerpass Technology Corporation Test Laboratory** Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881 Address: No.68-1, Shihbachongsi, Shihding Township, New Taipei City 223, Taiwan, R.O.C. Tel: +886-2-2663-8582
	FCC	TW1079, TW1061,390316, 228391, 641184
	IC	4934B-1, 4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication Test C-4663 for Conducted emission test R-3428, R-4218 for Radiated emission test G-812, G-813 for radiated disturbance above 1GHz
☒	Test Site	**Cerpass Technology (Suzhou) Co.,Ltd** Address: No.66,Tangzhuang Road, Suzhou Industrial Park, Jiangsu 215006, China Tel: +86-512-6917-5888 Fax: +86-512-6917-5666
	FCC	916572, 331395
	IC	7290A-1, 7290A-2
	VCCI	T-343 for Telecommunication Test C-2919 for Conducted emission test R-2670 for Radiated emission test G-227 for radiated disturbance above 1GHz
Frequency Range Investigated:		Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 25000MHz
Test Distance:		The test distance of radiated emission from antenna to EUT is 3 M.

2.6 Measurement Uncertainty

Measurement Item	Measurement Uncertainty
Conducted Emission	±2.71 dB
Radiation test (10m) below 1GHz	Vertical : ±3.89 dB
	Horizontal: ±4.11 dB
Radiation test (3m) below 1GHz	Vertical : ±4.11 dB
	Horizontal: ±4.10 dB
20 dB Bandwidth	7500 Hz
Maximum Peak Output Power	±1.4 dB
100kHz Bandwidth of Frequency Band Edges	±2.2 dB
Power Spectral Density	±1.3870 dB

3. Test Equipment and Ancillaries Used for Tests

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
Test Receiver	R&S	ESCI	100564	2015.02.25	2016.02.24
LISN	SCHWARZBECK	NSLK 8127	8127748	2014.10.13	2015.10.12
LISN	SCHWARZBECK	NSLK 8127	8127749	2014.10.13	2015.10.12
Pulse Limiter with 10dB Attenuation	SCHWARZBECK	VTSD 9561-F	9561-F106	2014.10.13	2015.10.12
Temperature/ Humidity Meter	mingle	ETH529	N/A	2015.02.25	2016.02.24
EMI Test Receiver	R&S	ESCI	100853	2015.02.25	2016.02.24
Preamplifier	HP	8447F	3113A05915	2015.02.25	2016.02.24
Preamplifier	FIELD	AFS44-00101800 -25-10P-44	1579008	2014.10.14	2015.10.13
Ultra Broadband Antenna	SCHAFFNER	CBL6112D	22241	2015.02.25	2016.02.24
Broad-Band Horn Antenna	Sunol	DRH-118	A072913	2014.10.14	2015.10.13
Spectrum Analyzer	Agilent	E4407B	MY45118947	2014.07.16	2015.07.15
Temperature/ Humidity Meter	mingle	ETH529	N/A	2015.02.25	2016.02.24

4. Antenna Requirements

4.1 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 15.247 (b), 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.

4.2 Antenna Construction and Directional Gain

Antenna type: PIFA Antenna

Antenna Gain: -1.0dBi

5. Test of Conducted Emission

5.1 Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4-2009 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 2.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2 Test Procedures

The EUT was setup according to ANSI C63.4, 2009 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

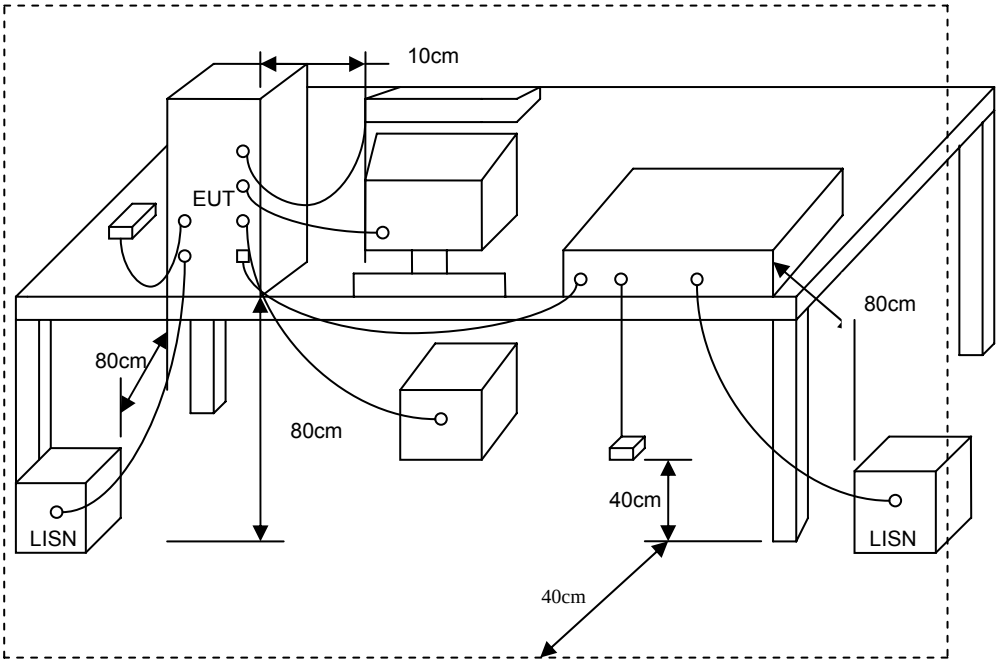
The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

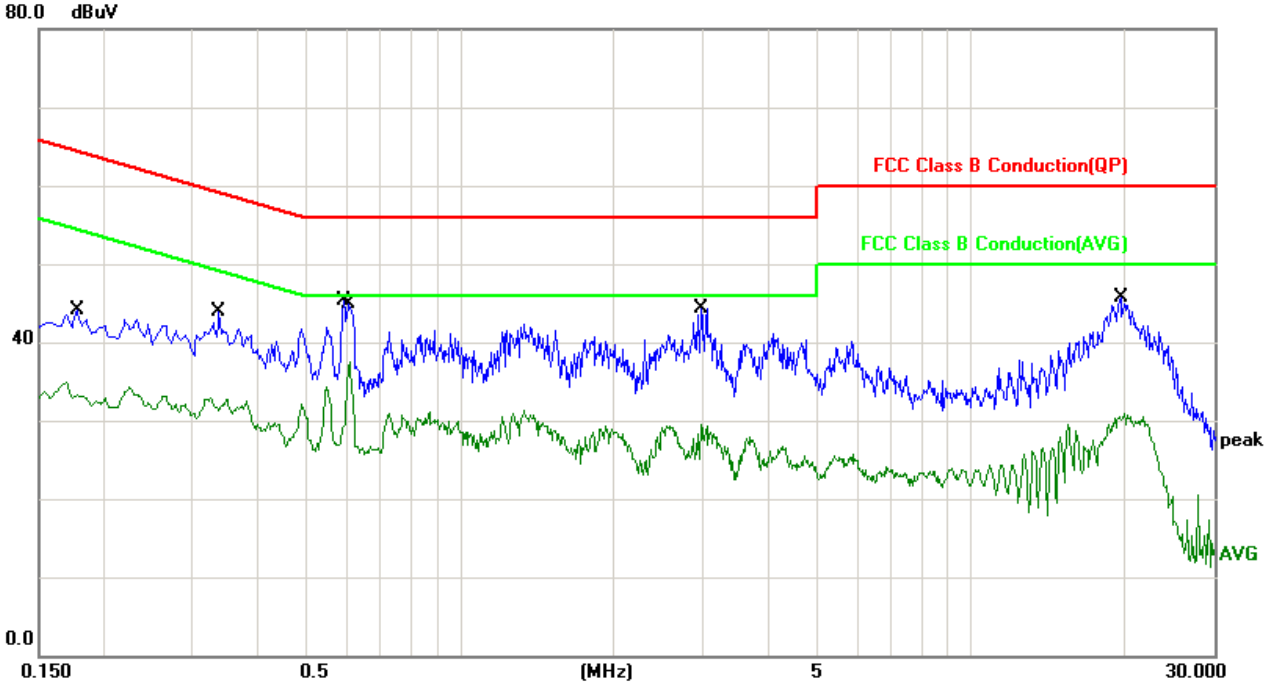
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

5.3 Typical Test Setup



5.4 Test Result and Data

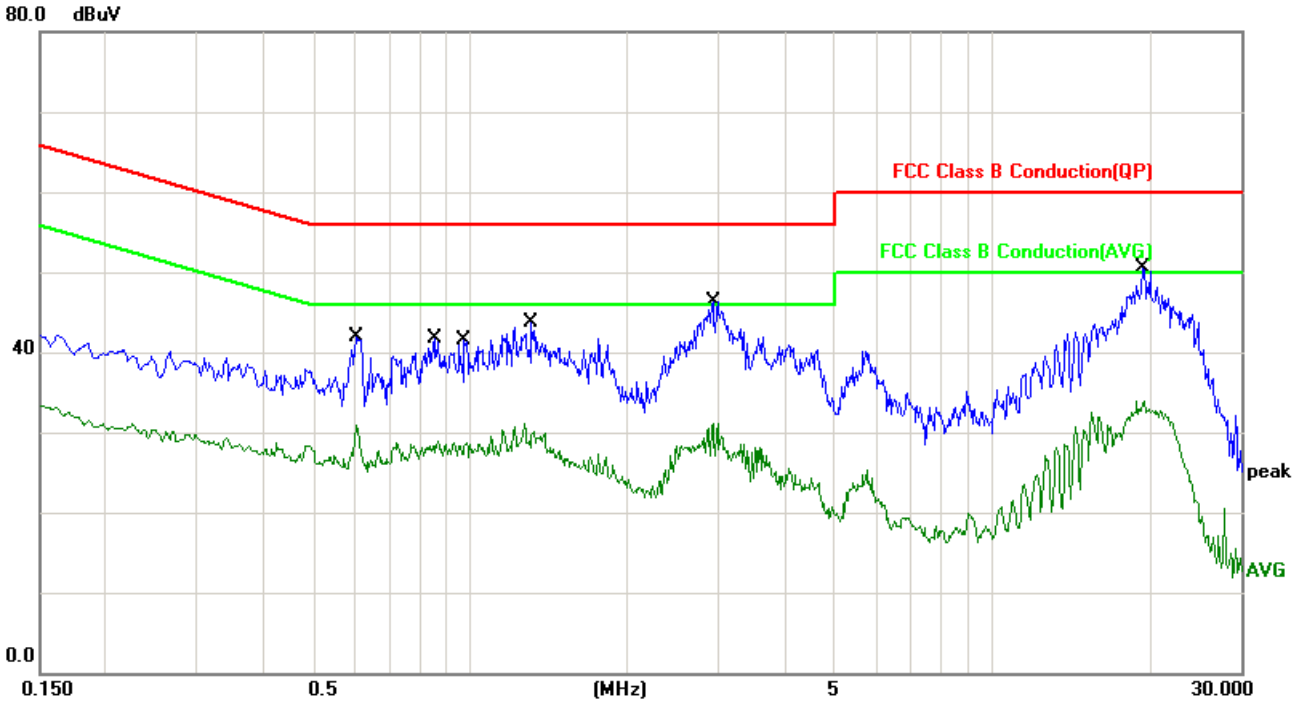
Test Mode :	Normal Link	Phase :	Line
Temperature :	20°C	Humidity:	51%
Pressur(mbar) :	1002	Date:	2015/06/05



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1780	11.90	26.70	38.60	64.57	-25.97	QP
2	0.1780	11.90	21.52	33.42	54.57	-21.15	AVG
3	0.3379	10.67	25.91	36.58	59.25	-22.67	QP
4	0.3379	10.67	20.45	31.12	49.25	-18.13	AVG
5	0.5940	10.33	28.45	38.78	56.00	-17.22	QP
6	0.5940	10.33	19.32	29.65	46.00	-16.35	AVG
7	0.6060	10.32	32.21	42.53	56.00	-13.47	QP
8	0.6060	10.32	26.79	37.11	46.00	-8.89	AVG
9	2.9739	10.82	28.67	39.49	56.00	-16.51	QP
10	2.9739	10.82	17.87	28.69	46.00	-17.31	AVG
11	19.7020	10.53	28.21	38.74	60.00	-21.26	QP
12	19.7020	10.53	18.01	28.54	50.00	-21.46	AVG

Note: Measurement Level = Reading Level + Correct Factor+ Attenuator

Test Mode :	Normal Link	Phase :	Neutral
Temperature :	20°C	Humidity :	51%
Pressur(mbar) :	1002	Date :	2015/06/05



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.6060	10.33	28.28	38.61	56.00	-17.39	QP
2	0.6060	10.33	20.48	30.81	46.00	-15.19	AVG
3	0.8540	10.29	24.34	34.63	56.00	-21.37	QP
4	0.8540	10.29	17.43	27.72	46.00	-18.28	AVG
5	0.9780	10.27	24.67	34.94	56.00	-21.06	QP
6	0.9780	10.27	17.93	28.20	46.00	-17.80	AVG
7	1.3140	10.27	25.84	36.11	56.00	-19.89	QP
8	1.3140	10.27	18.44	28.71	46.00	-17.29	AVG
9	2.9180	10.28	31.22	41.50	56.00	-14.50	QP
10	2.9180	10.28	19.65	29.93	46.00	-16.07	AVG
11	19.4540	10.51	32.30	42.81	60.00	-17.19	QP
12	19.4540	10.51	20.15	30.66	50.00	-19.34	AVG

Note: Measurement Level = Reading Level + Correct Factor+ Attenuator

6. Test of Radiated Emission

6.1 Test Limit

In any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter measurement is based on the maximum conducted output power, the attenuation required under this paragraph shall be 30dB instead of 20dB. In addition, radiated emissions which fall in section 15.205(a) the restricted bands must also comply with the radiated emission limit specified in section 15.209(a).

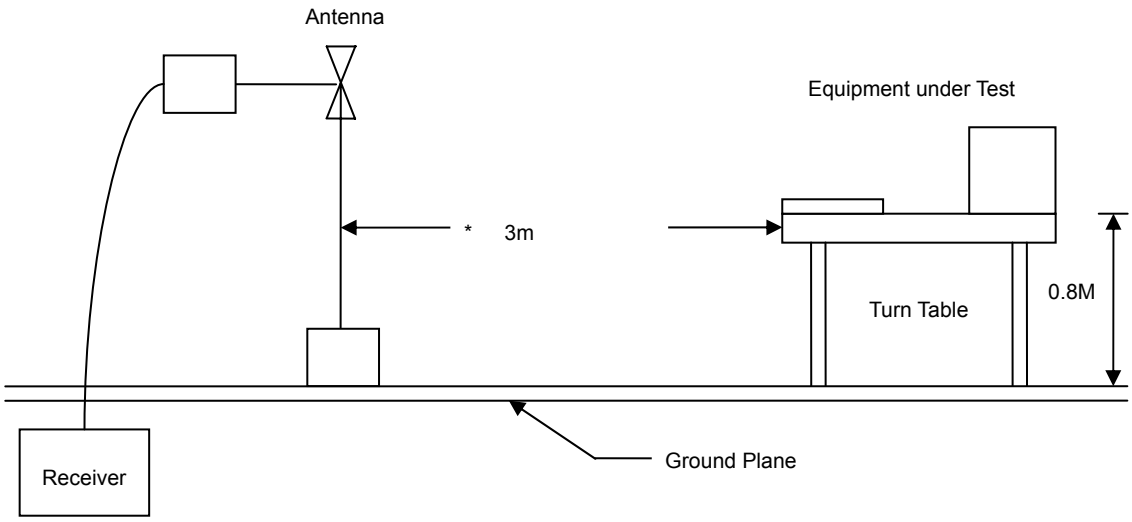
Frequency (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

6.2 Test Procedures

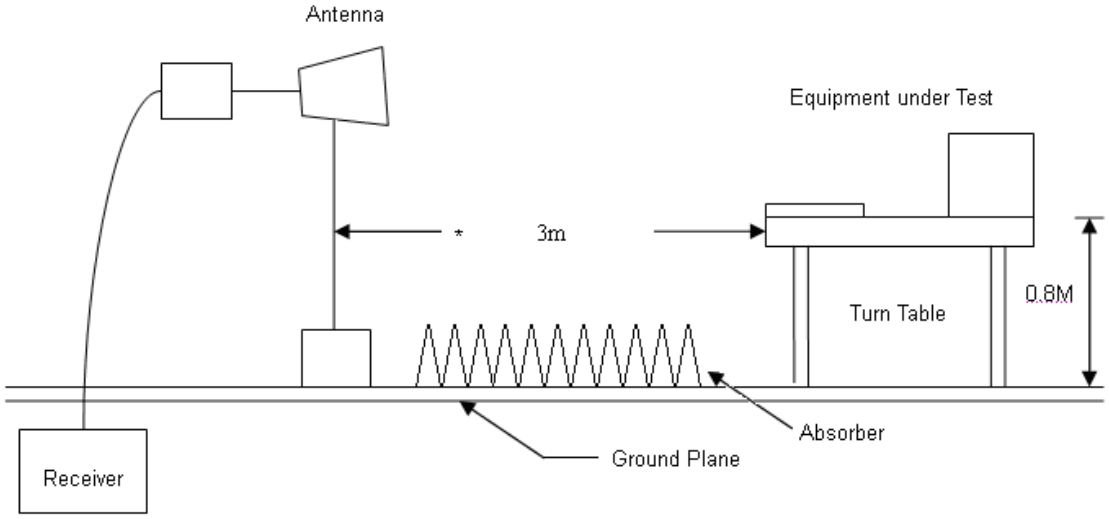
a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

6.3 Typical Test Setup

Below 1GHz Test Setup



Above 1GHz Test Setup



6.4 Test Result and Data

The 9kHz-30MHz spurious emission is under limit 20dB more.

5.5.1 Test Result and Data of Transmitter

Below 1GHz

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-05**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Normal Link**

Frequency (MHz)	AntPol. H/V	Correct Factor (dB)	Reading level (dBuV)	Measure Level (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)	Detector mode (PK/QP)
30.0000	H	-3.01	28.55	25.54	40.00	-14.46	QP
133.7899	H	-9.38	37.93	28.55	43.50	-14.95	QP
162.8899	H	-12.23	42.88	30.65	43.50	-12.85	QP
210.4199	H	-9.51	45.18	35.67	43.50	-7.83	QP
290.9300	H	-7.97	41.93	33.96	46.00	-12.04	QP
321.0000	H	-6.50	37.45	30.95	46.00	-15.05	QP
30.0000	V	-3.01	31.02	28.01	40.00	-11.99	QP
59.1000	V	-15.54	46.42	30.88	40.00	-9.12	QP
83.3500	V	-12.45	45.33	32.88	40.00	-7.12	QP
157.0700	V	-11.85	48.02	36.17	43.50	-7.33	QP
165.8000	V	-12.26	48.67	36.41	43.50	-7.09	QP
207.5100	V	-9.50	46.26	36.76	43.50	-6.74	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

Above 1G:

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-11**
Limit : FCC_15_03M_PK	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Transmit by 802.11b (2412MHz)**

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1595.000	-7.06	55.23	48.17	74.00	-25.83	peak
2	2487.500	-2.63	46.79	44.16	74.00	-29.84	peak
3	2870.000	-0.10	43.89	43.79	74.00	-30.21	peak
4	3847.500	4.59	43.32	47.91	74.00	-26.09	peak
5	4910.000	8.43	36.91	45.34	74.00	-28.66	peak
6	5590.000	9.24	38.14	47.38	74.00	-26.62	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1637.500	-6.82	53.73	46.91	74.00	-27.09	peak
2	2912.500	0.18	42.13	42.31	74.00	-31.69	peak
3	3422.500	2.99	40.43	43.42	74.00	-30.58	peak
4	4102.500	5.63	42.69	48.32	74.00	-25.68	peak
5	4952.500	8.51	36.87	45.38	74.00	-28.62	peak
6	5462.500	8.99	38.31	47.30	74.00	-26.70	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-11**
Limit : FCC_15_03M_PK	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Transmit by 802.11b (2437MHz)**

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1595.000	-7.06	54.08	47.02	74.00	-26.98	peak
2	2785.000	-0.67	46.68	46.01	74.00	-27.99	peak
3	3210.000	1.87	41.30	43.17	74.00	-30.83	peak
4	3635.000	3.86	40.80	44.66	74.00	-29.34	peak
5	4102.500	5.63	38.99	44.62	74.00	-29.38	peak
6	5717.500	9.56	37.50	47.06	74.00	-26.94	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1892.500	-5.35	51.77	46.42	74.00	-27.58	peak
2	2402.500	-3.00	48.45	45.45	74.00	-28.55	peak
3	2870.000	-0.10	46.26	46.16	74.00	-27.84	peak
4	3210.000	1.87	41.09	42.96	74.00	-31.04	peak
5	3805.000	4.44	38.81	43.25	74.00	-30.75	peak
6	5335.000	8.88	38.36	47.24	74.00	-26.76	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-11**
Limit : FCC_15_03M_PK	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Transmit by 802.11b (2462MHz)**

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1637.500	-6.82	49.41	42.59	74.00	-31.41	peak
2	1892.500	-5.35	50.28	44.93	74.00	-29.07	peak
3	2020.000	-4.64	51.76	47.12	74.00	-26.88	peak
4	2955.000	0.47	44.24	44.71	74.00	-29.29	peak
5	4400.000	7.15	37.02	44.17	74.00	-29.83	peak
6	5972.500	10.19	36.99	47.18	74.00	-26.82	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2020.000	-4.64	52.90	48.26	74.00	-25.74	peak
2	3422.500	2.99	42.08	45.07	74.00	-28.93	peak
3	3762.500	4.30	39.87	44.17	74.00	-29.83	peak
4	4357.500	6.93	38.05	44.98	74.00	-29.02	peak
5	4697.500	8.03	37.02	45.05	74.00	-28.95	peak
6	5377.500	8.92	38.71	47.63	74.00	-26.37	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-11**
Limit : FCC_15_03M_PK	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Transmit by 802.11g (2412MHz)**

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1850.000	-5.59	49.50	43.91	74.00	-30.09	peak
2	2020.000	-4.64	50.08	45.44	74.00	-28.56	peak
3	2232.500	-3.73	51.24	47.51	74.00	-26.49	peak
4	2870.000	-0.10	49.99	49.89	74.00	-24.11	peak
5	3847.500	4.59	40.76	45.35	74.00	-28.65	peak
6	5292.500	8.85	37.28	46.13	74.00	-27.87	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2062.500	-4.46	51.58	47.12	74.00	-26.88	peak
2	2487.500	-2.63	48.81	46.18	74.00	-27.82	peak
3	2955.000	0.47	46.49	46.96	74.00	-27.04	peak
4	3932.500	4.88	38.37	43.25	74.00	-30.75	peak
5	4187.500	6.07	41.19	47.26	74.00	-26.74	peak
6	5080.000	8.67	39.21	47.88	74.00	-26.12	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-11**
Limit : FCC_15_03M_PK	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Transmit by 802.11g (2437MHz)**

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1637.500	-6.82	54.91	48.09	74.00	-25.91	peak
2	2062.500	-4.46	47.88	43.42	74.00	-30.58	peak
3	2955.000	0.47	44.75	45.22	74.00	-28.78	peak
4	3210.000	1.87	45.04	46.91	74.00	-27.09	peak
5	4145.000	5.85	41.33	47.18	74.00	-26.82	peak
6	4910.000	8.43	38.38	46.81	74.00	-27.19	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1850.000	-5.59	52.73	47.14	74.00	-26.86	peak
2	2020.000	-4.64	52.83	48.19	74.00	-25.81	peak
3	2700.000	-1.24	45.85	44.61	74.00	-29.39	peak
4	3380.000	2.77	39.71	42.48	74.00	-31.52	peak
5	3890.000	4.73	44.22	48.95	74.00	-25.05	peak
6	4995.000	8.59	41.33	49.92	74.00	-24.08	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-11**
Limit : FCC_15_03M_PK	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Transmit by 802.11g (2462MHz)**

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1722.500	-6.33	53.59	47.26	74.00	-26.74	peak
2	2530.000	-2.38	50.33	47.95	74.00	-26.05	peak
3	2870.000	-0.10	43.72	43.62	74.00	-30.38	peak
4	3252.500	2.10	43.80	45.90	74.00	-28.10	peak
5	3592.500	3.72	41.54	45.26	74.00	-28.74	peak
6	4485.000	7.58	36.41	43.99	74.00	-30.01	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1595.000	-7.06	52.19	45.13	74.00	-28.87	peak
2	1637.500	-6.82	54.85	48.03	74.00	-25.97	peak
3	2870.000	-0.10	44.92	44.82	74.00	-29.18	peak
4	3252.500	2.10	45.02	47.12	74.00	-26.88	peak
5	4145.000	5.85	39.59	45.44	74.00	-28.56	peak
6	4952.500	8.51	37.76	46.27	74.00	-27.73	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-11**
Limit : FCC_15_03M_PK	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Transmit by 802.11n (20MHz) (2412MHz)**

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1552.500	-7.31	54.96	47.65	74.00	-26.35	peak
2	2870.000	-0.10	45.90	45.80	74.00	-28.20	peak
3	3932.500	4.88	38.59	43.47	74.00	-30.53	peak
4	4315.000	6.72	36.32	43.04	74.00	-30.96	peak
5	4995.000	8.59	38.59	47.18	74.00	-26.82	peak
6	6100.000	10.30	34.92	45.22	74.00	-28.78	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	2147.500	-4.10	49.10	45.00	74.00	-29.00	peak
2	2785.000	-0.67	48.54	47.87	74.00	-26.13	peak
3	3932.500	4.88	41.39	46.27	74.00	-27.73	peak
4	4187.500	6.07	39.57	45.64	74.00	-28.36	peak
5	4655.000	7.95	37.76	45.71	74.00	-28.29	peak
6	5887.500	9.98	33.84	43.82	74.00	-30.18	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-11**
Limit : FCC_15_03M_PK	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Transmit by 802.11n (20MHz) (2437MHz)**

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1637.500	-6.82	50.03	43.21	74.00	-30.79	peak
2	2020.000	-4.64	46.49	41.85	74.00	-32.15	peak
3	2785.000	-0.67	45.84	45.17	74.00	-28.83	peak
4	3975.000	5.02	39.61	44.63	74.00	-29.37	peak
5	4655.000	7.95	38.31	46.26	74.00	-27.74	peak
6	6015.000	10.27	36.04	46.31	74.00	-27.69	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1552.500	-7.31	51.85	44.54	74.00	-29.46	peak
2	2615.000	-1.81	46.82	45.01	74.00	-28.99	peak
3	2870.000	-0.10	47.79	47.69	74.00	-26.31	peak
4	3805.000	4.44	39.34	43.78	74.00	-30.22	peak
5	4570.000	7.79	35.62	43.41	74.00	-30.59	peak
6	4995.000	8.59	37.88	46.47	74.00	-27.53	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-11**
Limit : FCC_15_03M_PK	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Transmit by 802.11n (20MHz) (2462MHz)**

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1467.500	-7.91	52.00	44.09	74.00	-29.91	peak
2	2190.000	-3.91	47.35	43.44	74.00	-30.56	peak
3	2700.000	-1.24	44.94	43.70	74.00	-30.30	peak
4	2955.000	0.47	45.77	46.24	74.00	-27.76	peak
5	4272.500	6.50	39.59	46.09	74.00	-27.91	peak
6	5165.000	8.74	39.79	48.53	74.00	-25.47	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1		-5.35	47.81	42.46	74.00	-31.54	peak
2	2572.500	-2.09	47.53	45.44	74.00	-28.56	peak
3	3210.000	1.87	44.96	46.83	74.00	-27.17	peak
4	3550.000	3.57	39.98	43.55	74.00	-30.45	peak
5	4357.500	6.93	38.96	45.89	74.00	-28.11	peak
6	5250.000	8.81	38.56	47.37	74.00	-26.63	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-11**
Limit : FCC_15_03M_PK	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Transmit by 802.11n (40MHz) (2422MHz)**

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1510.000	-7.55	53.86	46.31	74.00	-27.69	peak
2	2487.500	-2.63	47.96	45.33	74.00	-28.67	peak
3	2870.000	-0.10	42.95	42.85	74.00	-31.15	peak
4	3975.000	5.02	39.10	44.12	74.00	-29.88	peak
5	5080.000	8.67	37.31	45.98	74.00	-28.02	peak
6	5505.000	9.03	37.44	46.47	74.00	-27.53	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1595.000	-7.06	50.65	43.59	74.00	-30.41	peak
2	2232.500	-3.73	50.22	46.49	74.00	-27.51	peak
3	3550.000	3.57	40.32	43.89	74.00	-30.11	peak
4	5037.500	8.63	37.13	45.76	74.00	-28.24	peak
5	5250.000	8.81	38.31	47.12	74.00	-26.88	peak
6	5845.000	9.88	35.68	45.56	74.00	-28.44	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-11**
Limit : FCC_15_03M_PK	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Transmit by 802.11n (40MHz) (2437MHz)**

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1510.000	-7.55	52.41	44.86	74.00	-29.14	peak
2	1935.000	-5.10	49.55	44.45	74.00	-29.55	peak
3	2785.000	-0.67	44.48	43.81	74.00	-30.19	peak
4	4825.000	8.27	39.21	47.48	74.00	-26.52	peak
5	5887.500	9.98	37.71	47.69	74.00	-26.31	peak
6	6185.000	10.33	34.55	44.88	74.00	-29.12	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1765.000	-6.08	49.98	43.90	74.00	-30.10	peak
2	2870.000	-0.10	45.77	45.67	74.00	-28.33	peak
3	3975.000	5.02	39.80	44.82	74.00	-29.18	peak
4	4570.000	7.79	36.88	44.67	74.00	-29.33	peak
5	5207.500	8.77	37.30	46.07	74.00	-27.93	peak
6	5845.000	9.88	35.57	45.45	74.00	-28.55	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

Engineer :Amos	
Site : EMC Lab AC 102	**Time : 2015-06-11**
Limit : FCC_15_03M_PK	**Margin : 6**
EUT : CX Phone	**Probe : VERTICAL/ HORIZONTAL**
Power : AC 120V/60Hz	**Note : Transmit by 802.11n (40MHz) (2452MH)**

VERTICAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1467.500	-7.91	55.52	47.61	74.00	-26.39	peak
2	2190.000	-3.91	51.15	47.24	74.00	-26.76	peak
3	2912.500	0.18	44.80	44.98	74.00	-29.02	peak
4	4272.500	6.50	37.19	43.69	74.00	-30.31	peak
5	5037.500	8.63	39.30	47.93	74.00	-26.07	peak
6	6780.000	11.37	36.55	47.92	74.00	-26.08	peak

HORIZONTAL

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	1510.000	-7.55	50.93	43.38	74.00	-30.62	peak
2	2020.000	-4.64	46.81	42.17	74.00	-31.83	peak
3	2912.500	0.18	42.98	43.16	74.00	-30.84	peak
4	3380.000	2.77	42.48	45.25	74.00	-28.75	peak
5	4570.000	7.79	38.44	46.23	74.00	-27.77	peak
6	4995.000	8.59	36.05	44.64	74.00	-29.36	peak

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Measurement Level = Reading Level + Correct Factor

7. 6dB Bandwidth Measurement Data

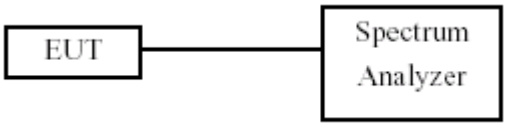
7.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

7.2 Test Procedures

a. The transmitter output was connected to the spectrum analyzer.
b. Set RBW of spectrum analyzer to 1~5% of the emission bandwidth and VBW ≥ 3x RBW.
c. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.
d. The 6dB Bandwidth was measured and recorded.

7.3 Test Setup Layout

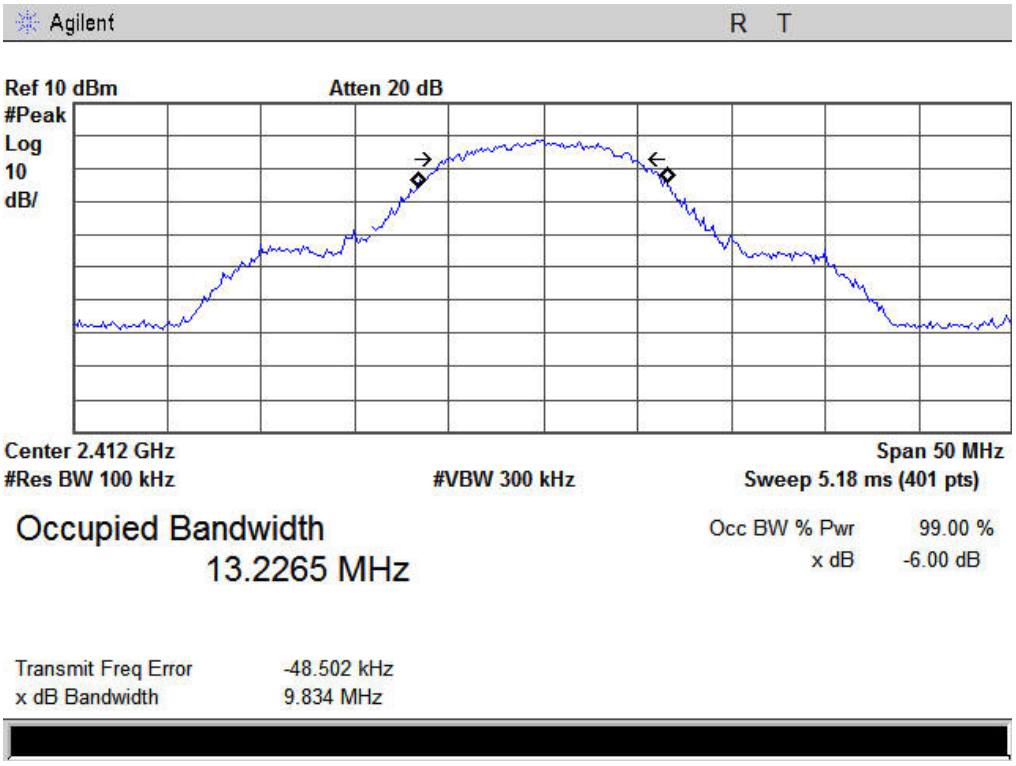


7.4 Test Result and Data

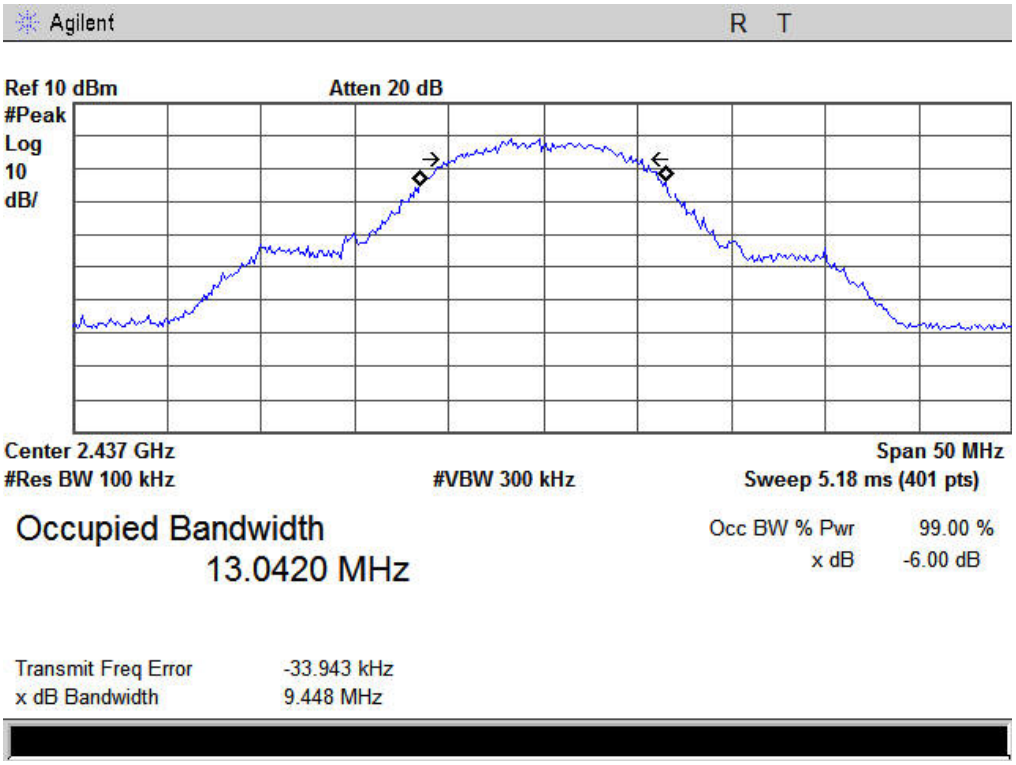
Test Item	Occupied Bandwidth
Test Mode	Transmit by 802.11b
Test Date	2015-06-11

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	9834	500	Pass
06	2437	9448	500	Pass
11	2462	9886	500	Pass

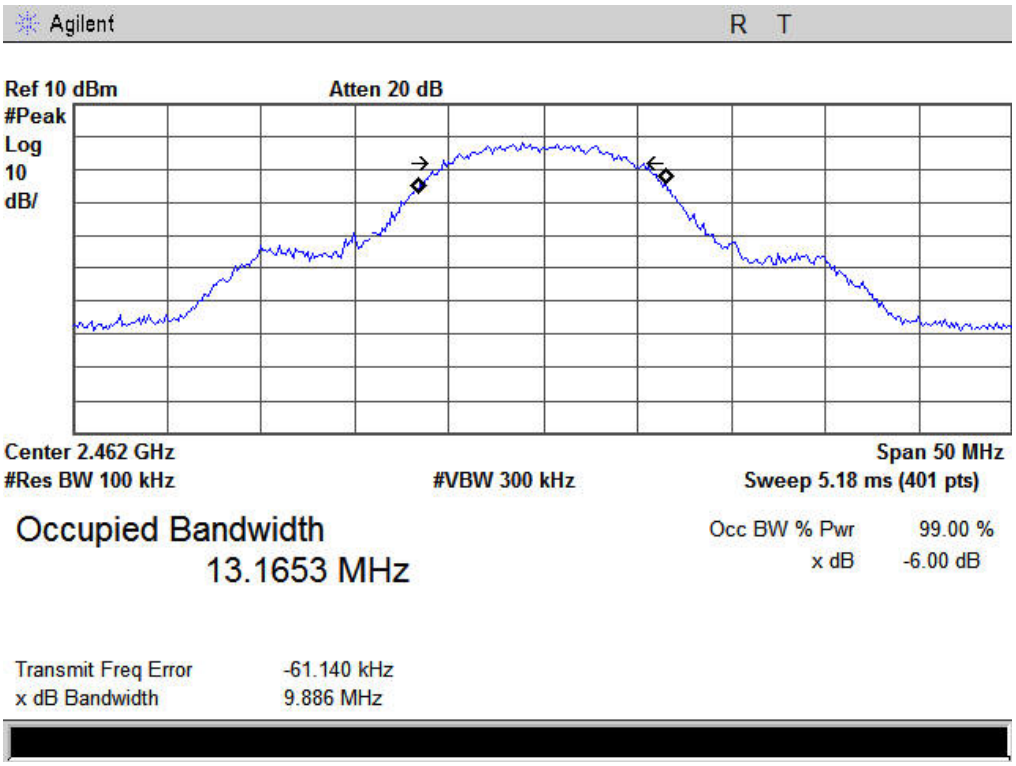
Channel 01 (2412MHz)



Channel 06 (2437MHz)



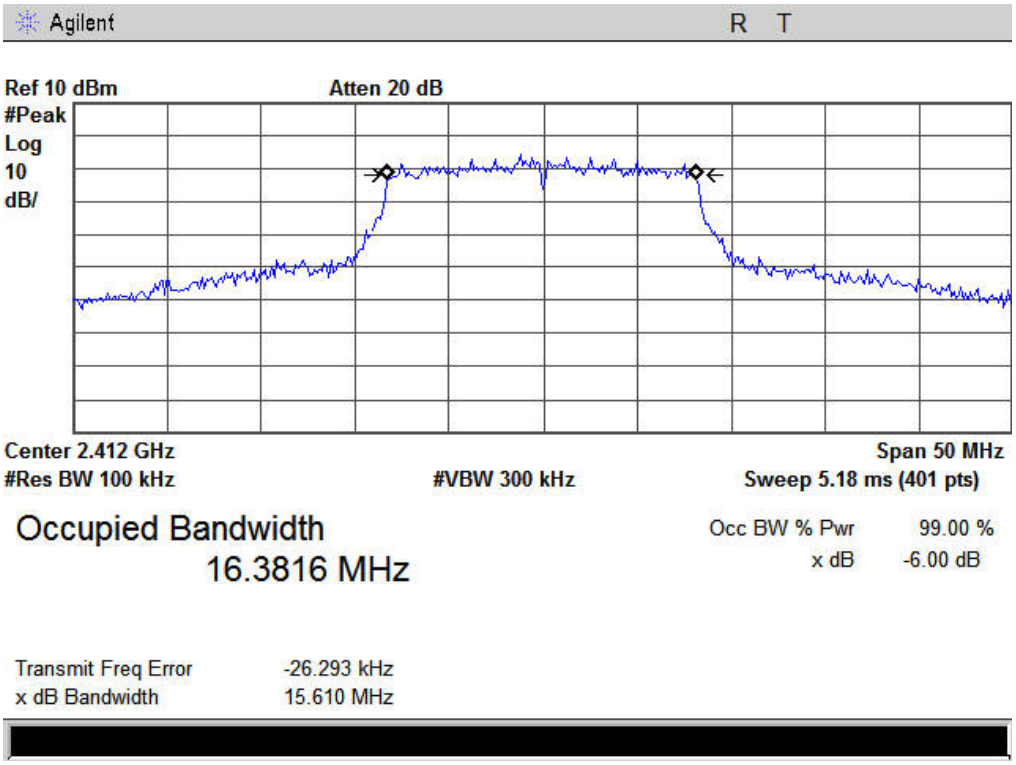
Channel11(2462MHz)



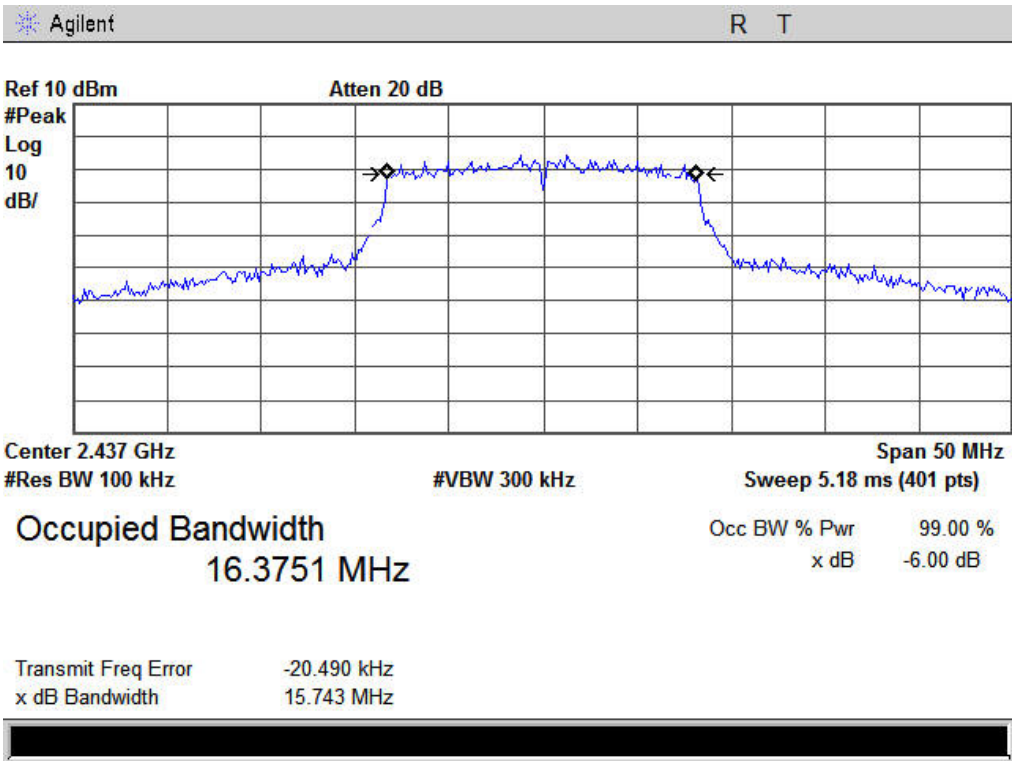
Test Item	Occupied Bandwidth
Test Mode	Transmit by 802.11g
Test Date	2015-06-11

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	15610	500	Pass
06	2437	15743	500	Pass
11	2462	16283	500	Pass

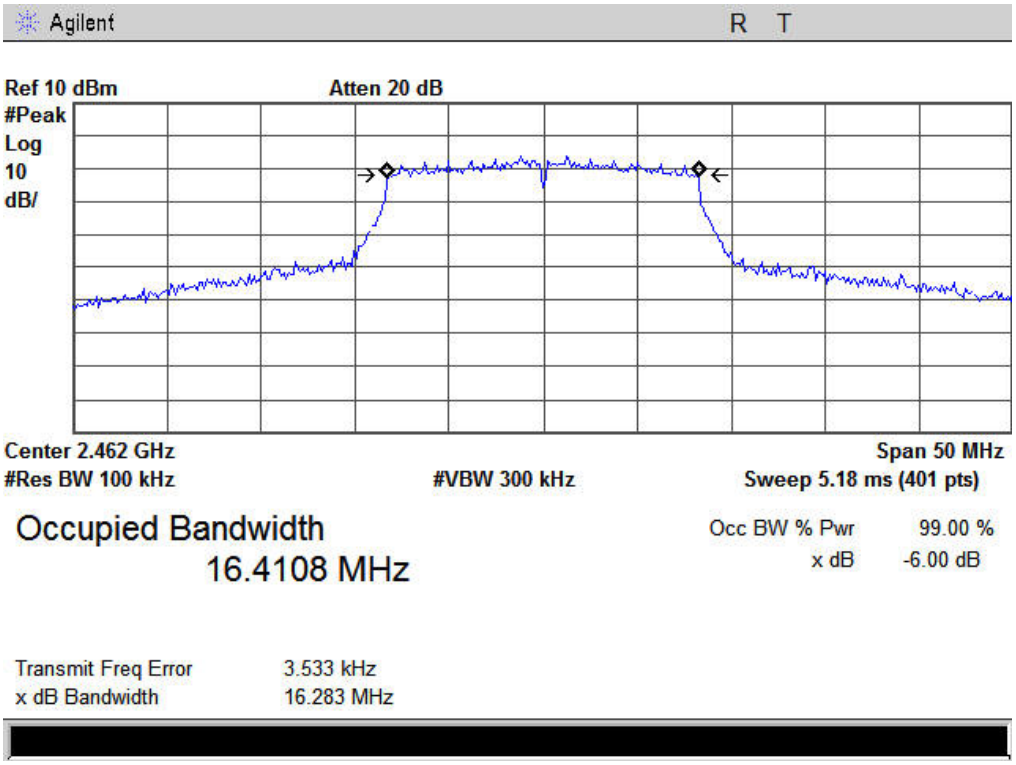
Channel 01 (2412MHz)



Channel 06 (2437MHz)



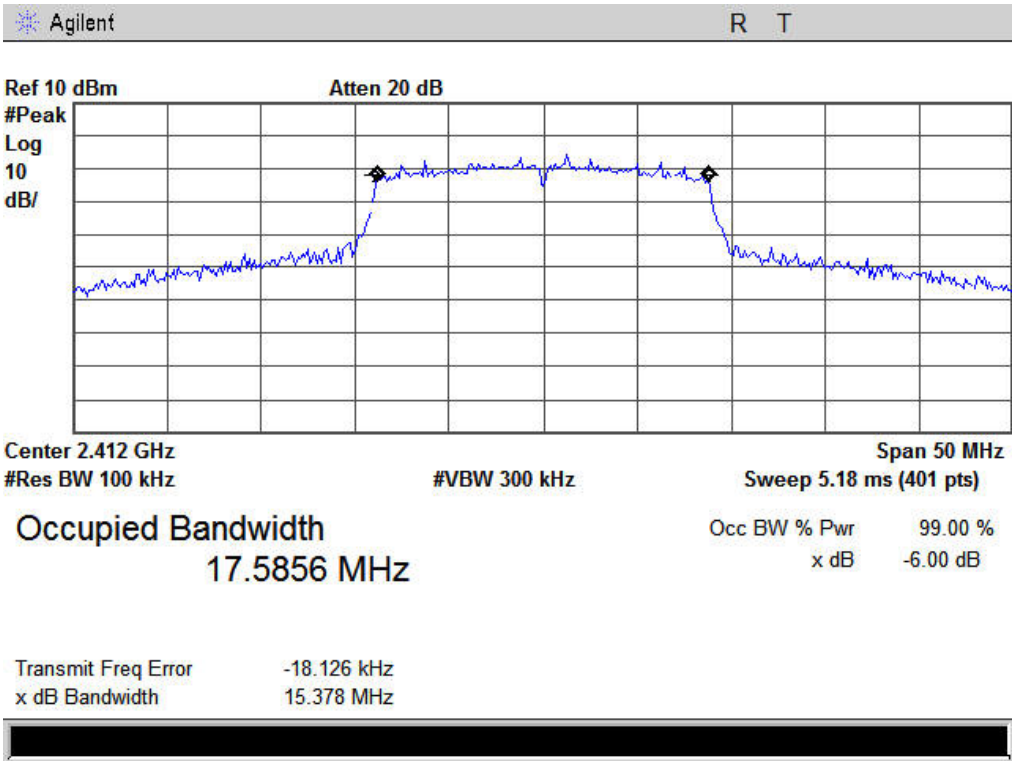
Channel 11 (2462MHz)



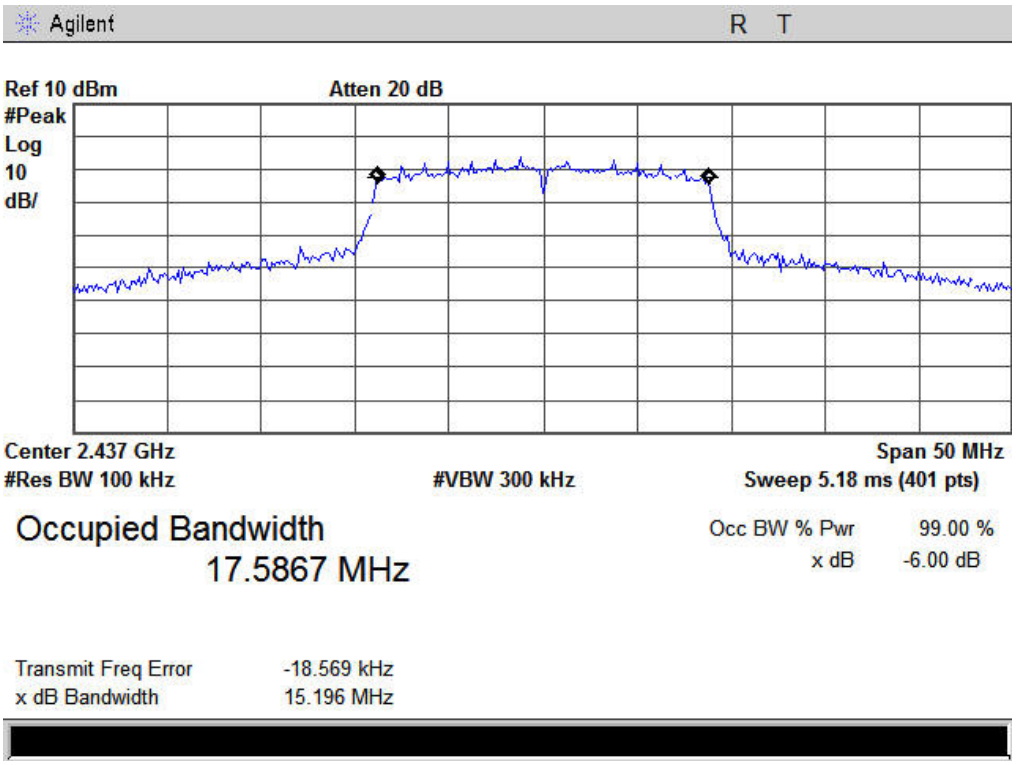
Test Item	Occupied Bandwidth
Test Mode	Transmit by 802.11n (20MHz)
Test Date	2015-06-11

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	2412	15378	500	Pass
06	2437	15196	500	Pass
11	2462	16055	500	Pass

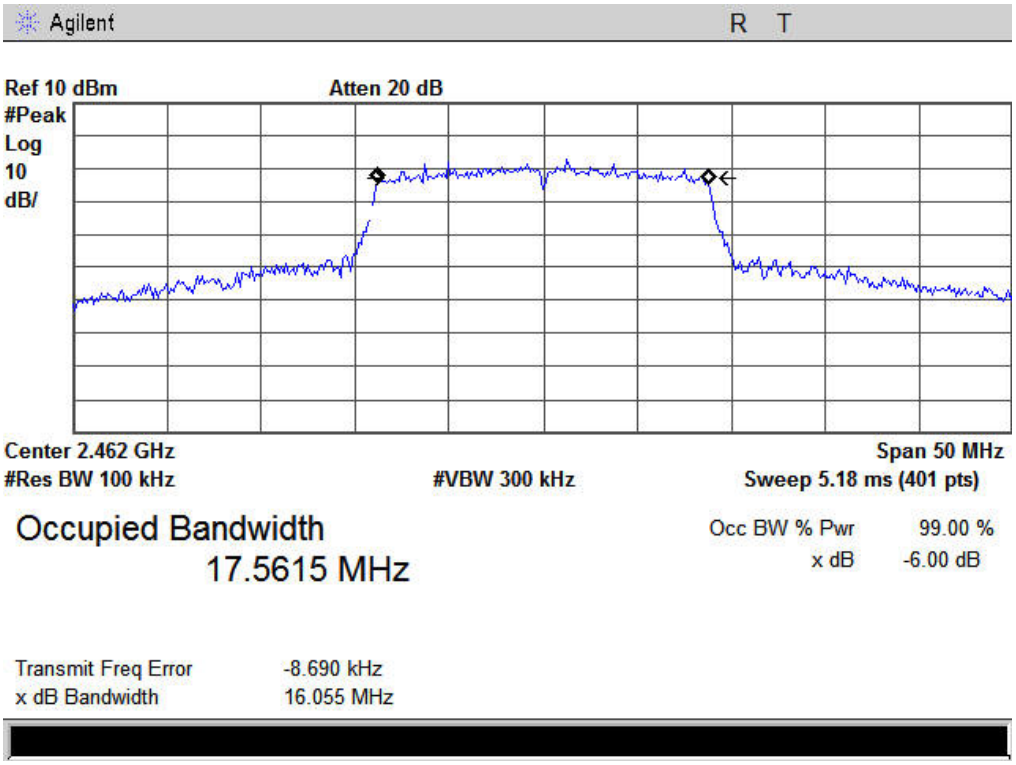
Channel 01 (2412MHz)



Channel 06 (2437MHz)



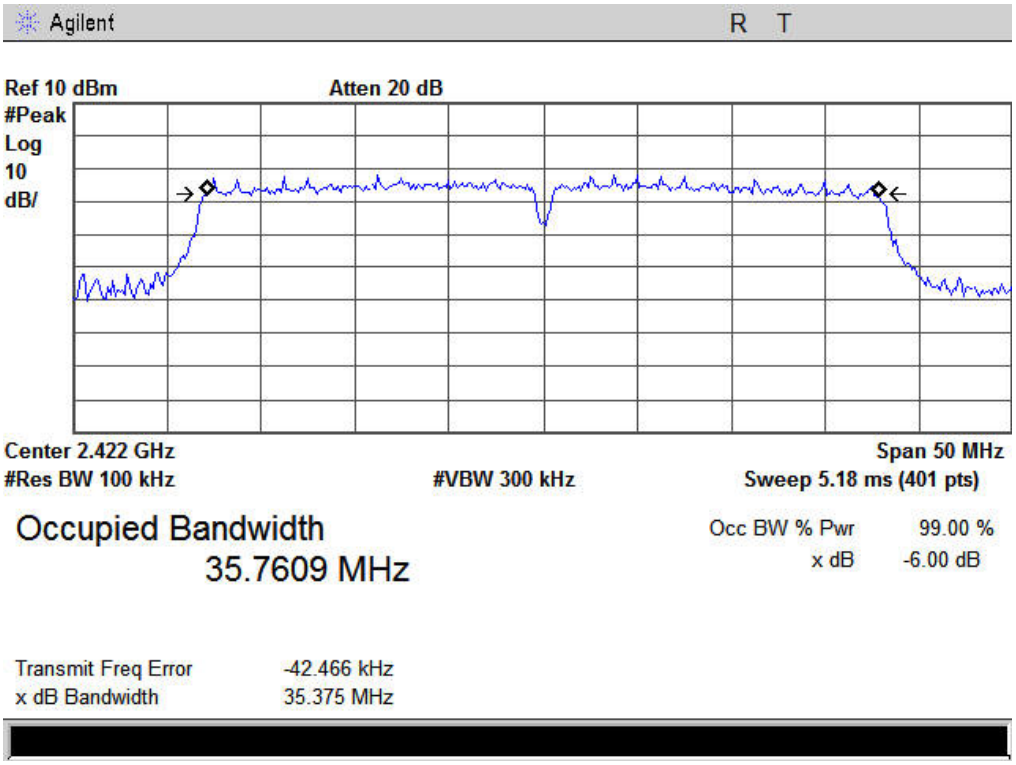
Channel 11 (2462MHz)



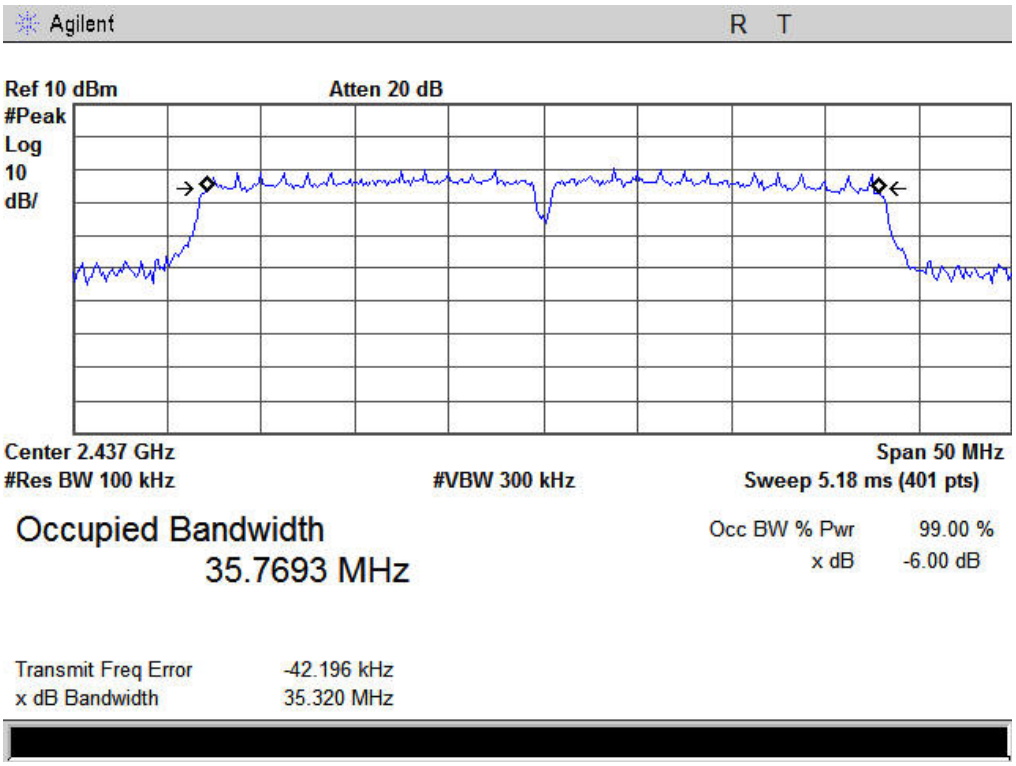
Test Item	Occupied Bandwidth
Test Mode	Transmit by 802.11n (40MHz)
Test Date	2015-06-11

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
03	2422	35375	500	Pass
06	2437	35320	500	Pass
09	2452	35481	500	Pass

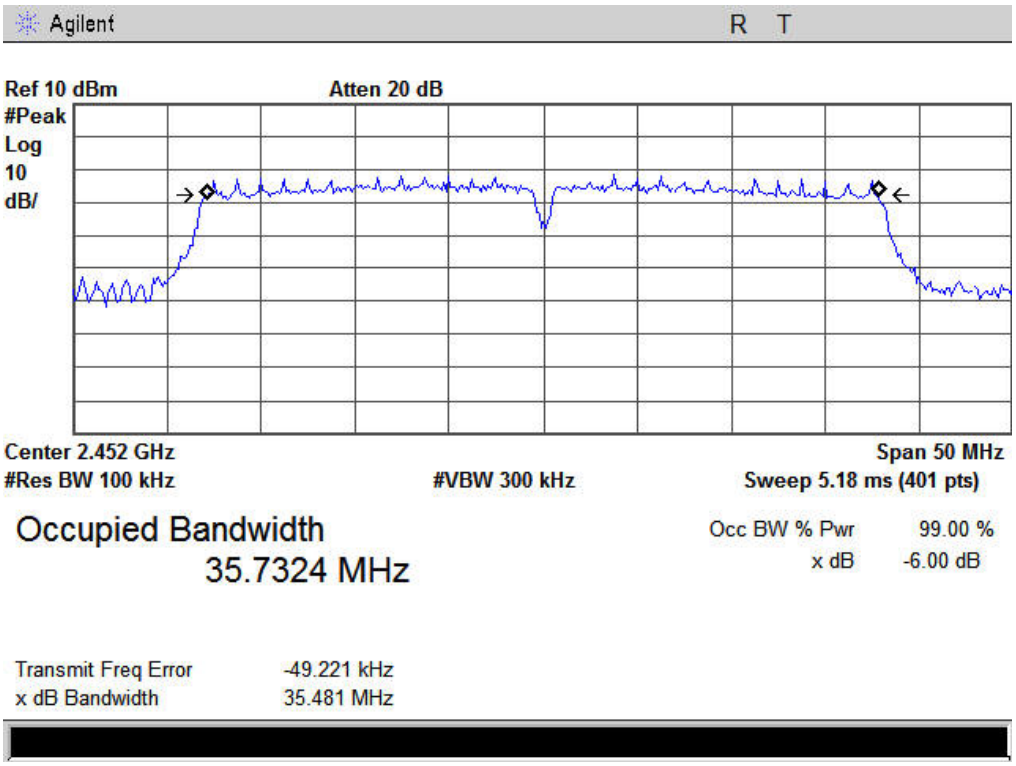
Channel 03 (2422MHz)



Channel 06 (2437MHz)



Channel 9 (2452MHz)



8. Maximum Peak Output Power

8.1 Test Limit

The maximum peak power shall be less 1Watt (30dBm).

The conducted output power limits specified in §15.247(b) are based on the use of transmit antennae with directional gains that do not exceed 6 dBi. If transmit antennae with an effective directional gain greater than 6 dBi are used, then the conducted output power from the EUT shall be reduced as specified in §15.247(b) and (c).

8.2 Test Procedure

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a spectrum analyzer.

"9.1.2 integrated band power method" of KDB558074 was used to test the power.

Select the "channel power" selection in "measurement" on spectrum analyzer,

The test procedure and setup as following:

Set the RBW = 1 MHz.

Set the VBW = 3 MHz.

Set the span 50MHz for 802.11b/g/n(20) and 90MHz for n(40)

Set the integ BW 25MHz for 802.11b/g/n(20) and 45MHz for n(40)

Detector = peak.

Sweep time = auto couple.

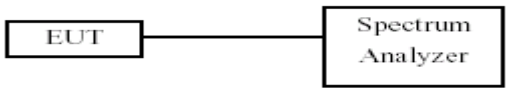
Trace mode = max hold.

Allow trace to fully stabilize.

Record the power value in dBm.

The power output at the transmitter antenna port was determined by adding the value of the attenuator to the spectrum analyzer reading.

8.3 Test Setup Layout



8.4 Test Result and Data

Test Item	Maximum Peak Output Power
Test Mode	Transmit by 802.11b
Duty cycle	99%
Test Date	2015-06-11

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit (dBm)	Result
		Peak		
01	2412	14.07	30	Pass
06	2437	13.71	30	Pass
11	2462	13.57	30	Pass

Test Item	Maximum Peak Output Power
Test Mode	Transmit by 802.11g
Duty cycle	99%
Test Date	2015-06-11

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit (dBm)	Result
		Peak		
01	2412	9.94	30	Pass
06	2437	9.64	30	Pass
11	2462	8.94	30	Pass

Test Item	Maximum Peak Output Power
Test Mode	Transmit by 802.11n (20MHz)
Duty cycle	99%
Test Date	2015-06-11

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit (dBm)	Result
		Peak		
01	2412	11.85	30	Pass
06	2437	11.57	30	Pass
11	2462	10.84	30	Pass

Test Item	Maximum Peak Output Power
Test Mode	Transmit by 802.11n (40MHz)
Duty cycle	99%
Test Date	2015-06-11

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit (dBm)	Result
		Peak		
03	2422	9.23	30	Pass
06	2437	10.61	30	Pass
09	2452	8.89	30	Pass

9. Band Edges Measurement

9.1 Test Limit

Below –20dB of the highest emission level of operating band (In 100 kHz Resolution Bandwidth)

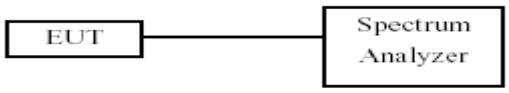
9.2 Test Procedure

a. The transmitter output was connected to the spectrum analyzer via a low lose cable.

b. Set RBW of spectrum analyzer to 100 KHz and VBW of spectrum analyzer to 300 KHz with convenient frequency span including 100 KHz bandwidth from band edge.

c. The band edges was measured and recorded.

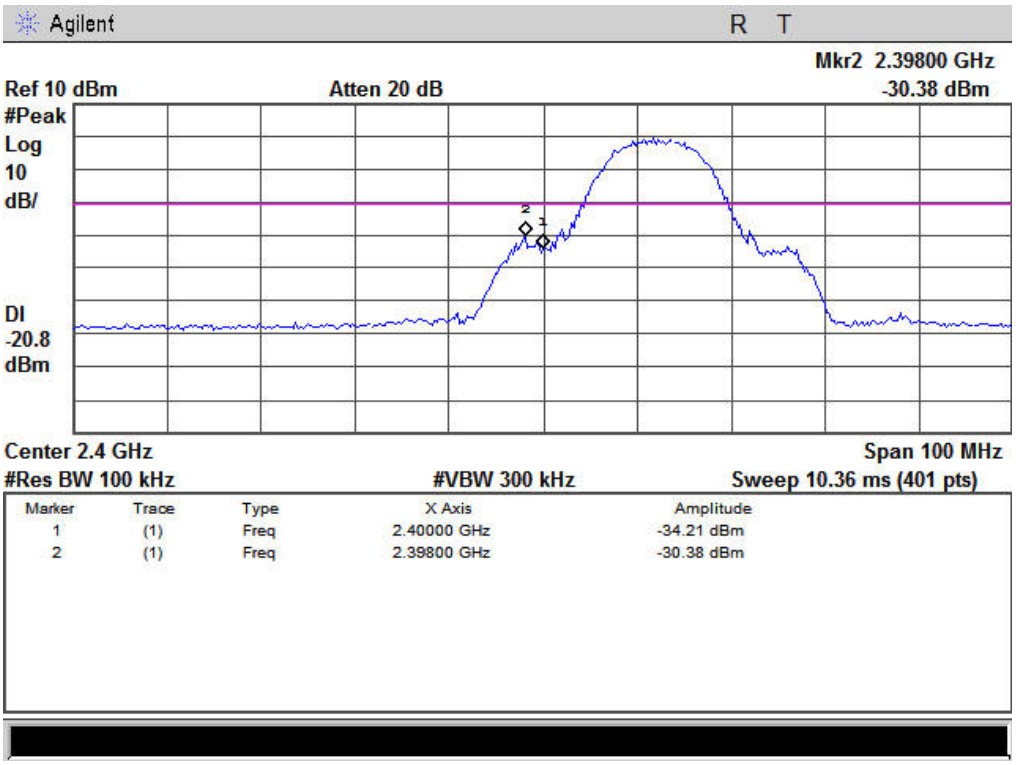
9.3 Test Setup Layout

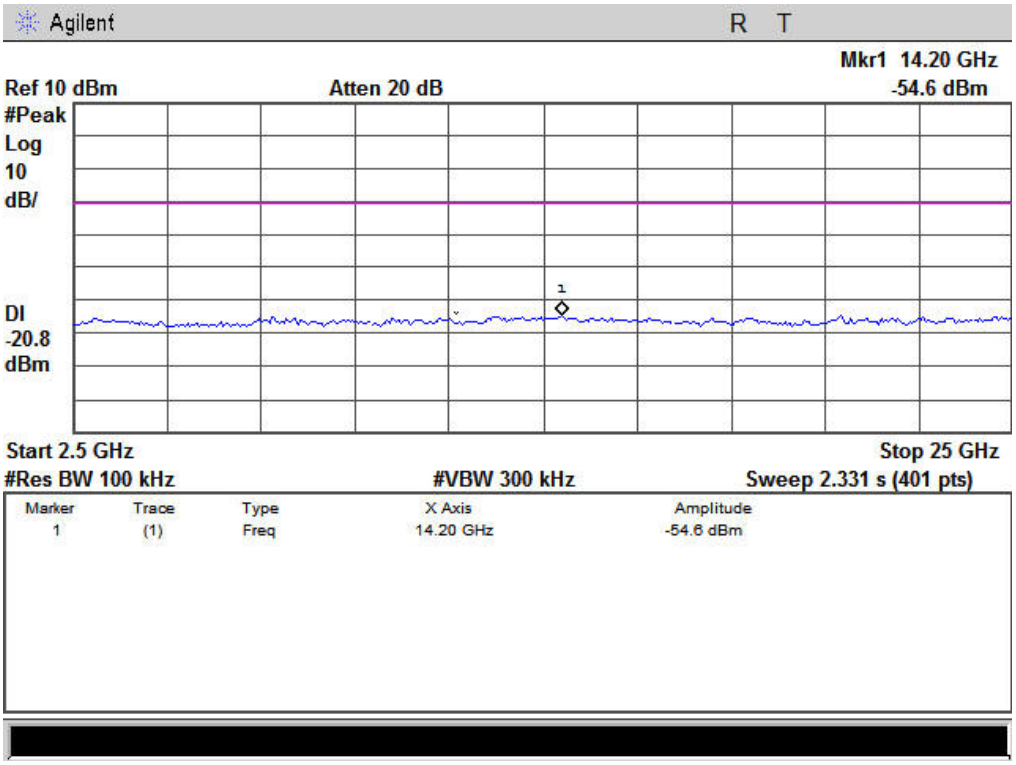


9.4 Test Result and Data

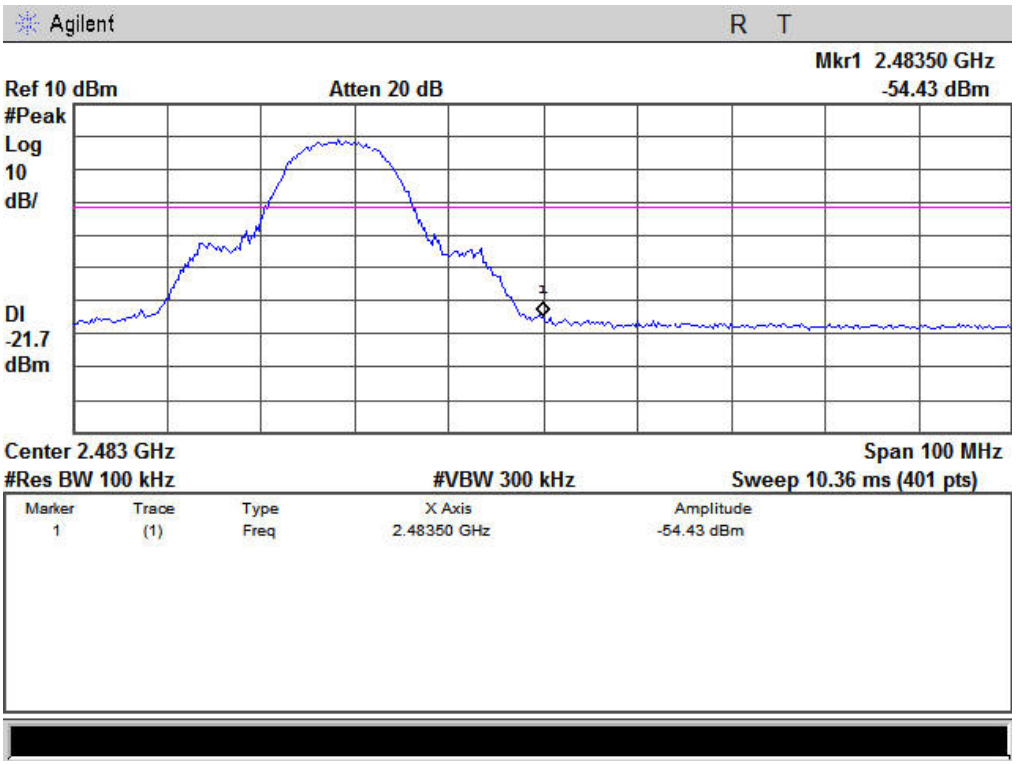
Modulation Standard	Channel	Frequency (MHz)	maximum value in frequency (MHz)	maximum value(dBm)
802.11b	01	2412	2398.00	-30.38
	11	2462	2483.50	-54.43
802.11g	01	2412	2400.00	-35.09
	11	2462	2483.50	-44.65
802.11n HT20	01	2412	2400.00	-34.78
	11	2462	2483.50	-43.30
802.11n HT40	03	2422	2400.00	-42.87
	09	2452	2500.00	-44.03

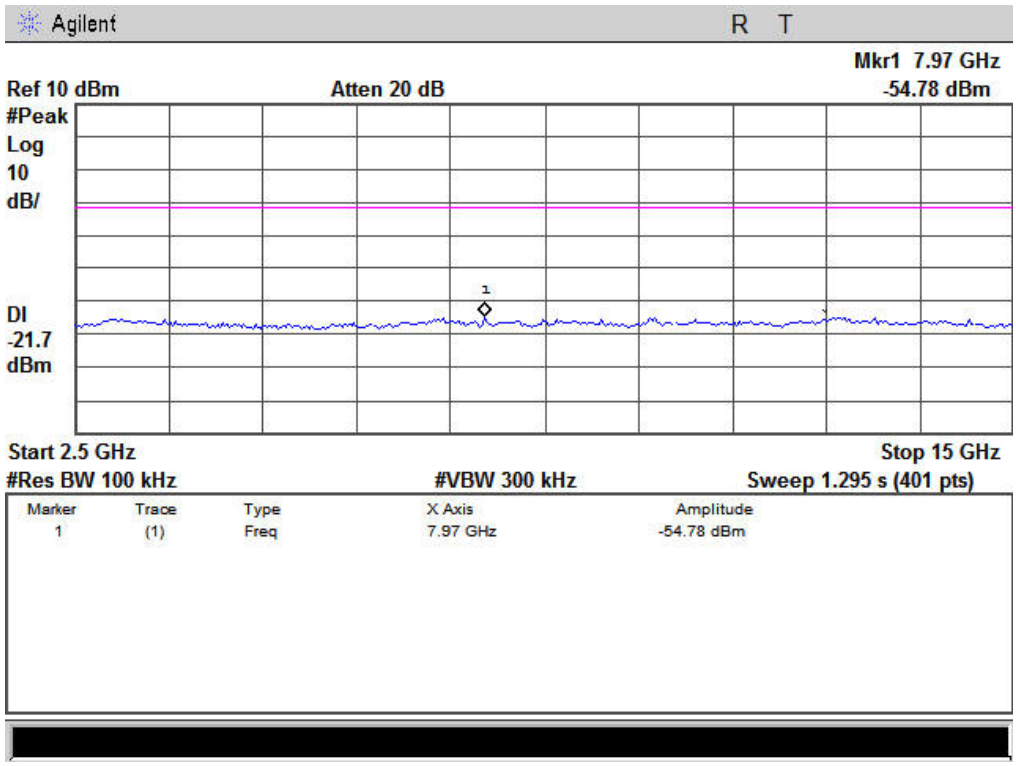
Transmit by 802.11b Channel 1

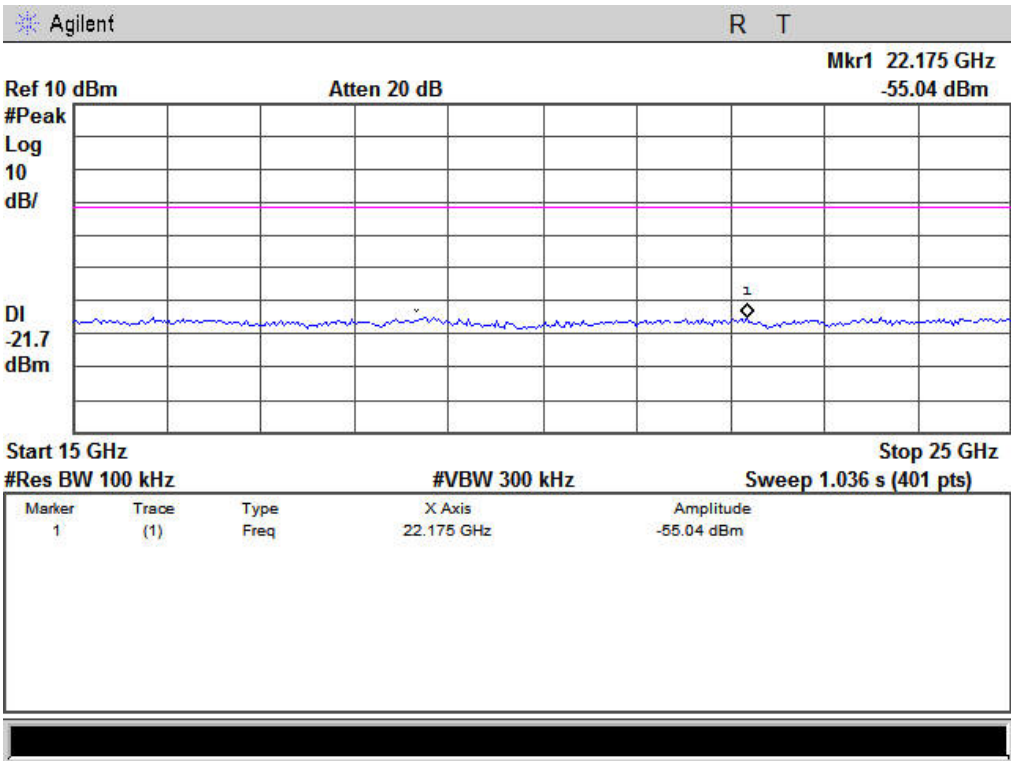




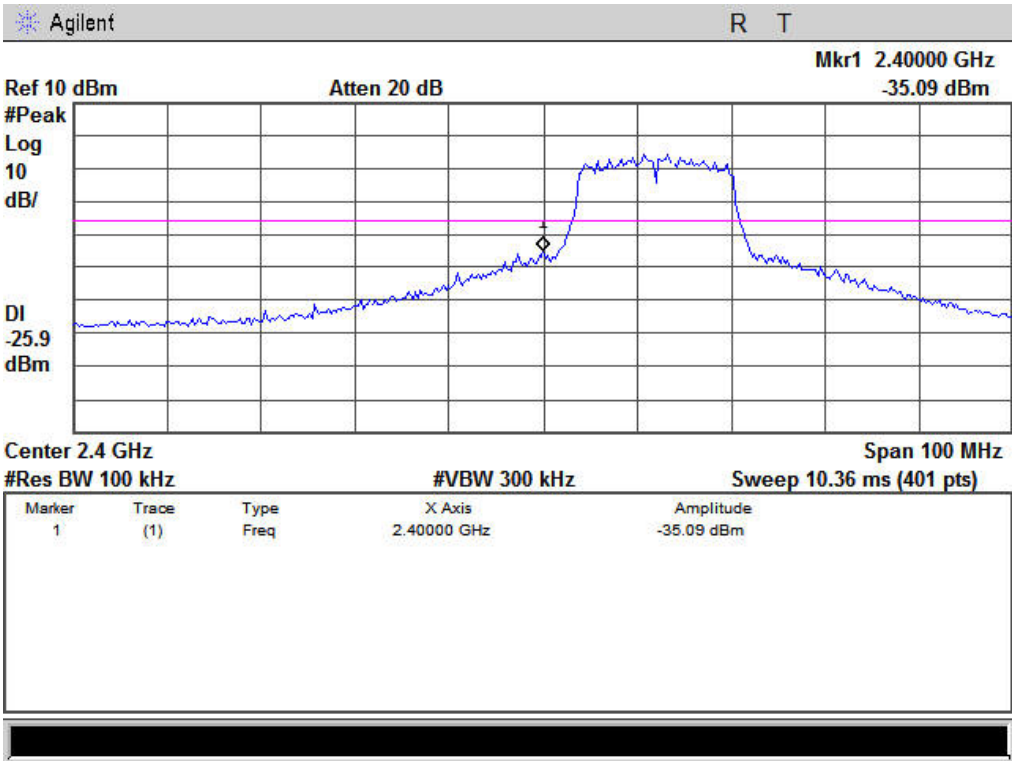
Transmit by 802.11b Channel 11

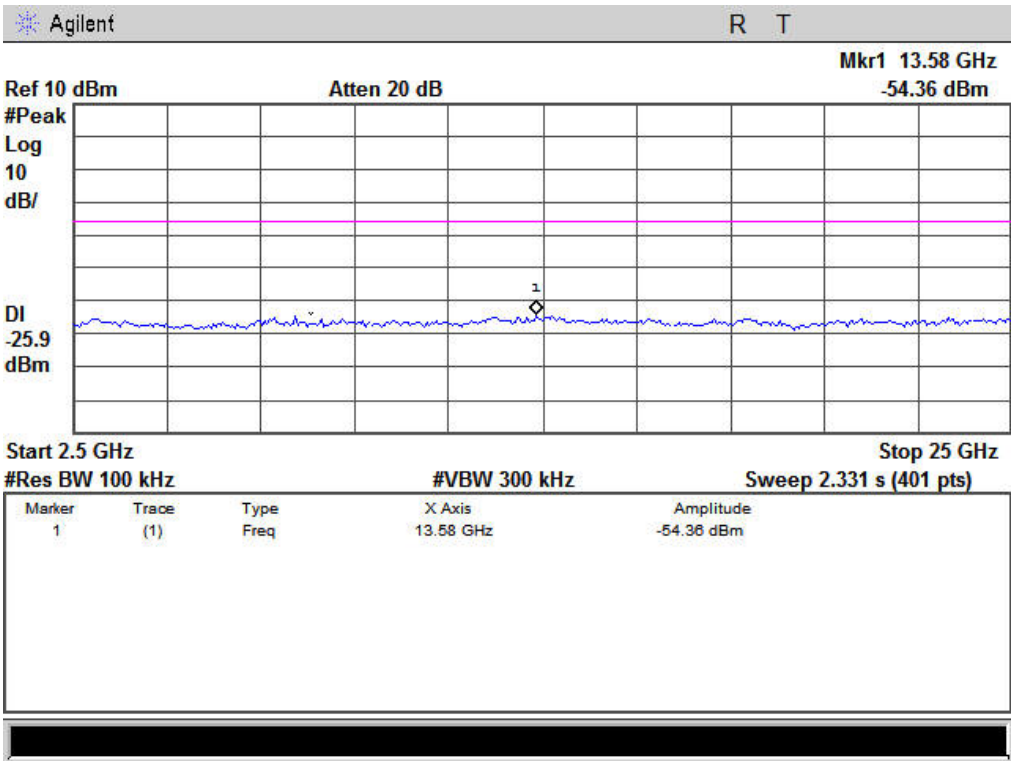




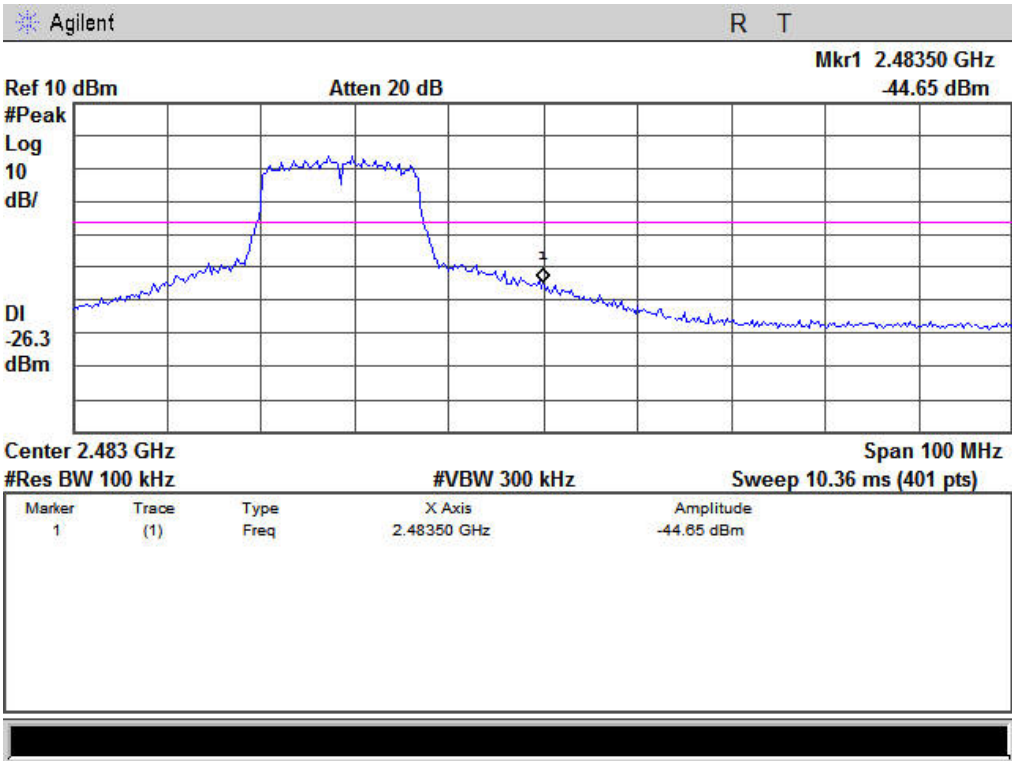


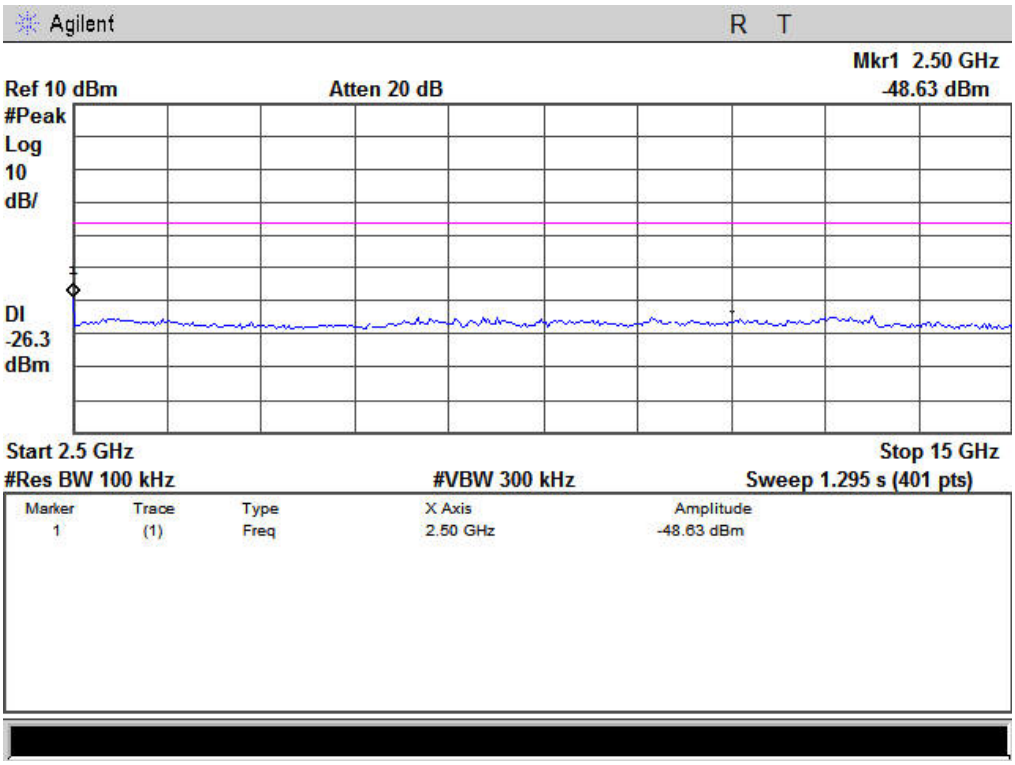
Transmit by 802.11g Channel 1

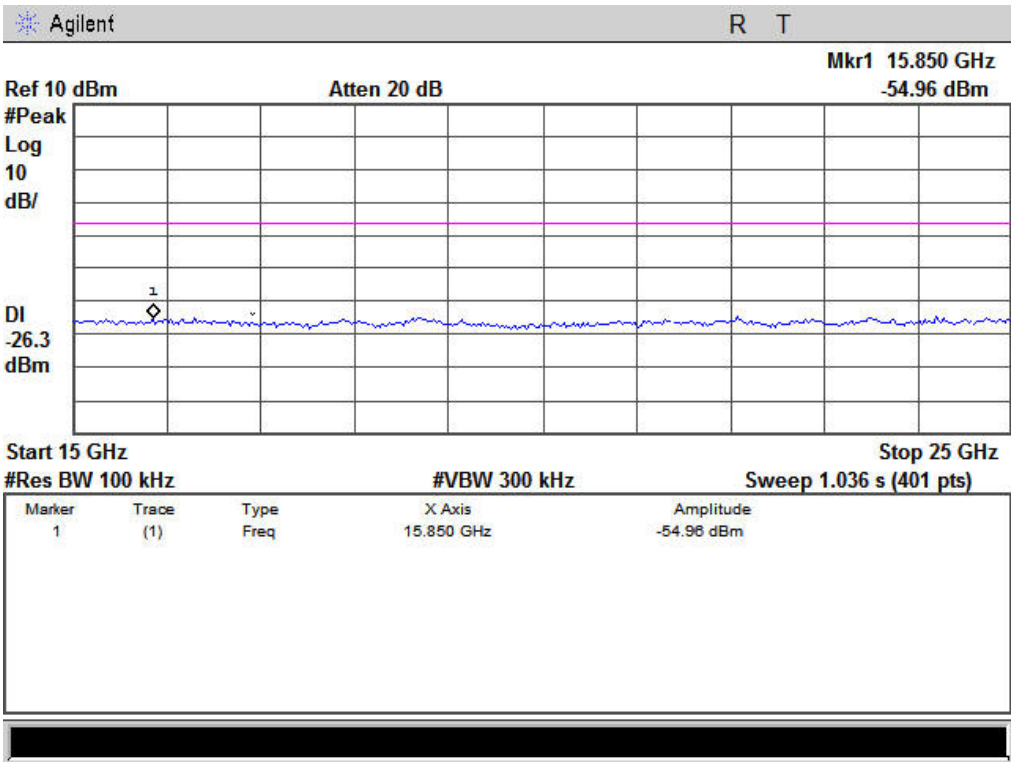




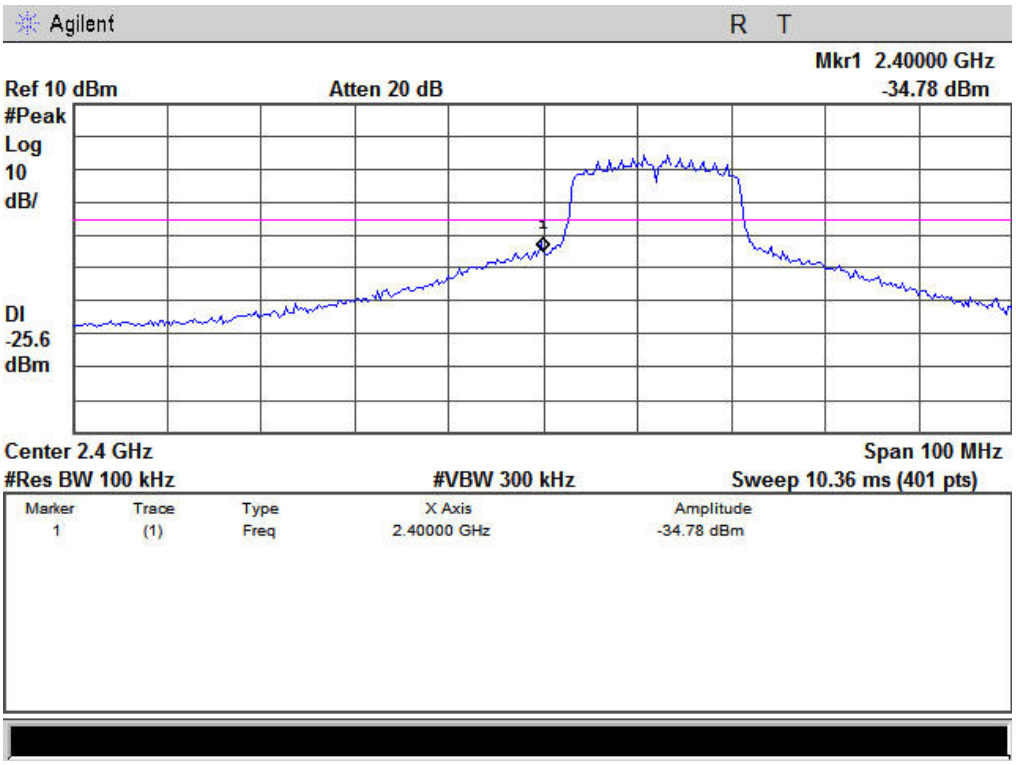
Transmit by 802.11g Channel 11

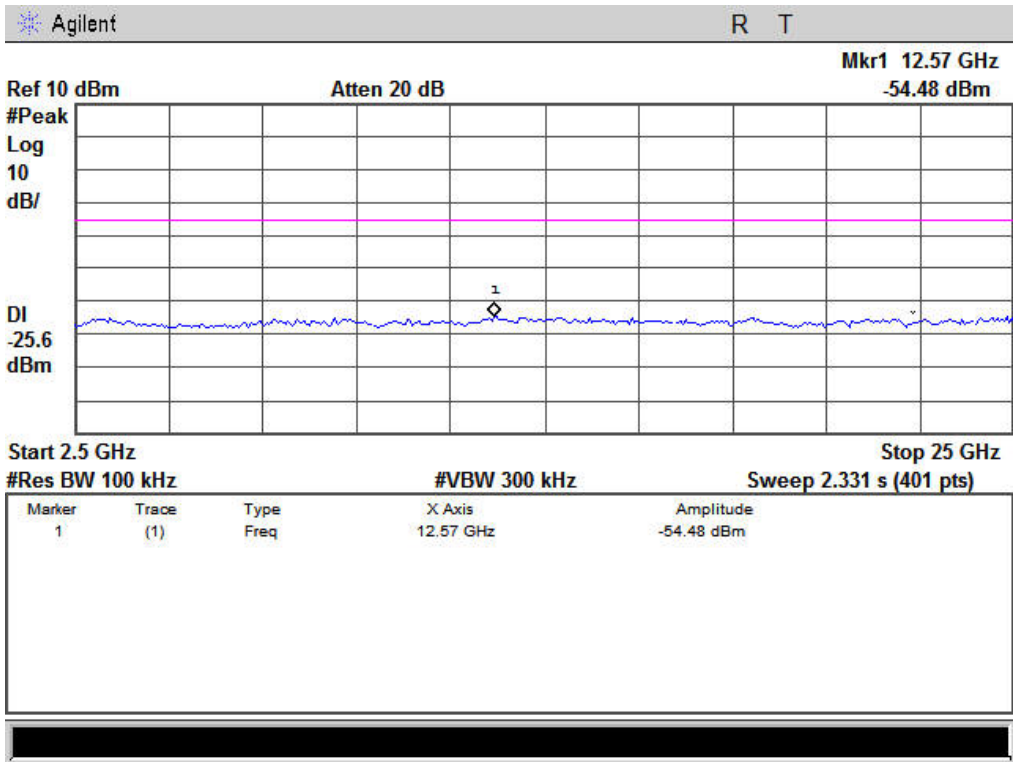



Agilent
R T
Mkr1 2.50 GHz
Ref 10 dBm
Atten 20 dB
-48.63 dBm
#Peak
Log
10
dB/
DI
-26.3
dBm
Start 2.5 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.295 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.50 GHz -48.63 dBm

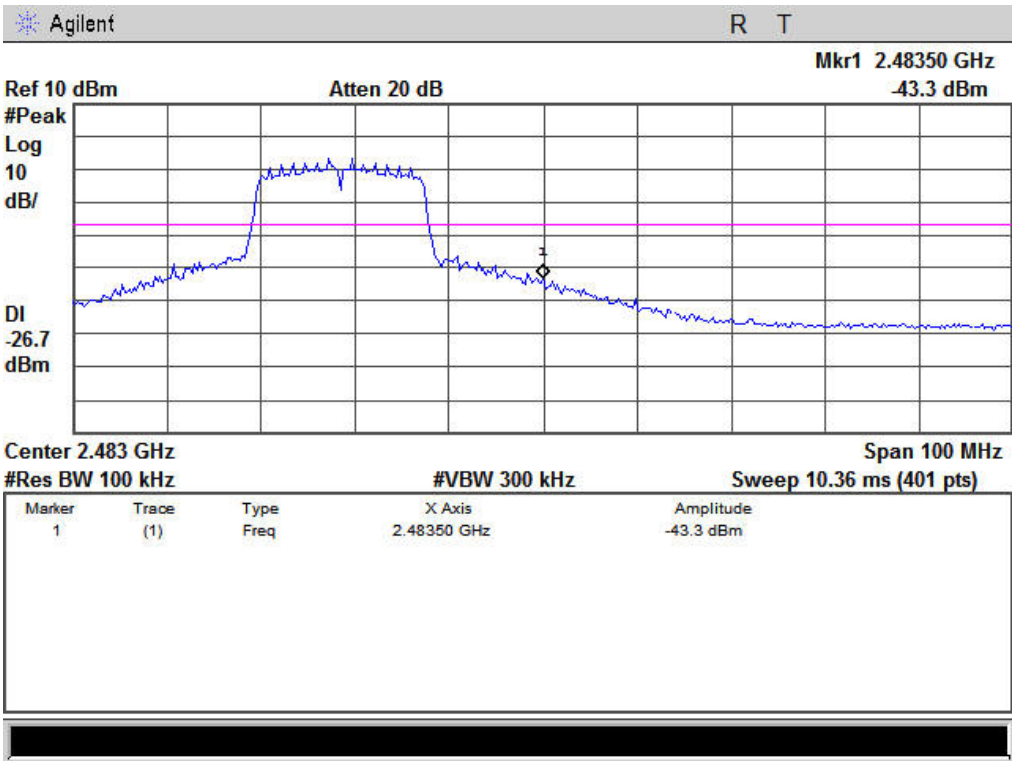

Agilent
R T
Mkr1 15.850 GHz
Ref 10 dBm
Atten 20 dB
-54.96 dBm
#Peak
Log
10
dB/
DI
-26.3
dBm
Start 15 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.036 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 15.850 GHz -54.96 dBm

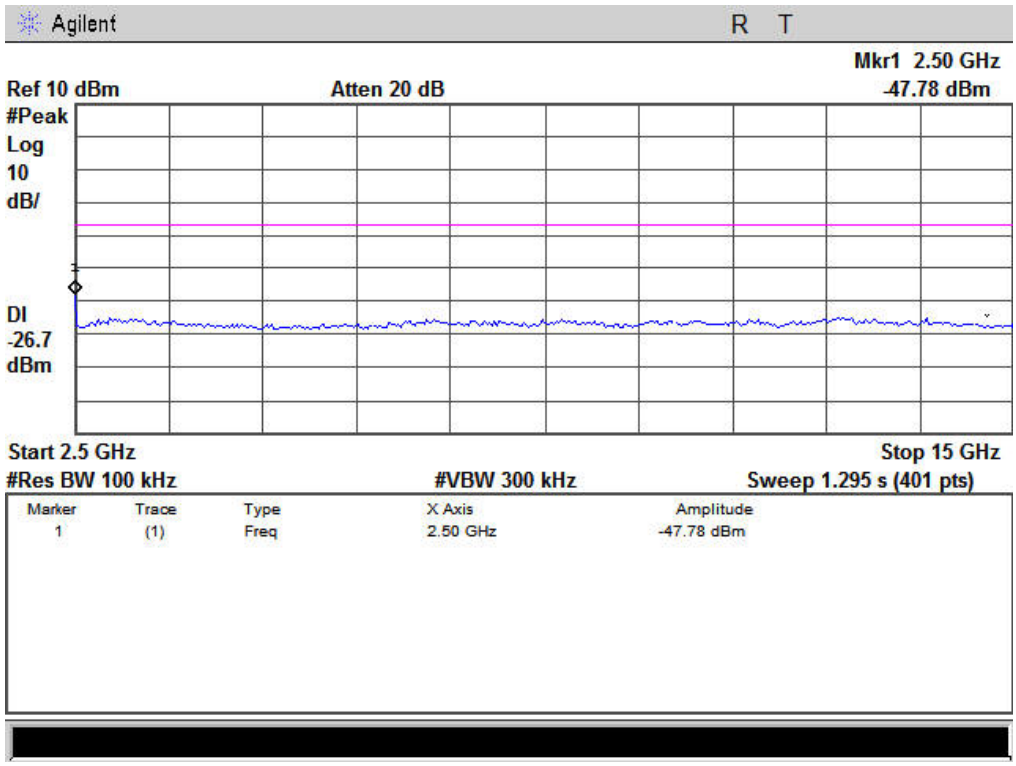
Transmit by 802.11n HT20 Channel 1

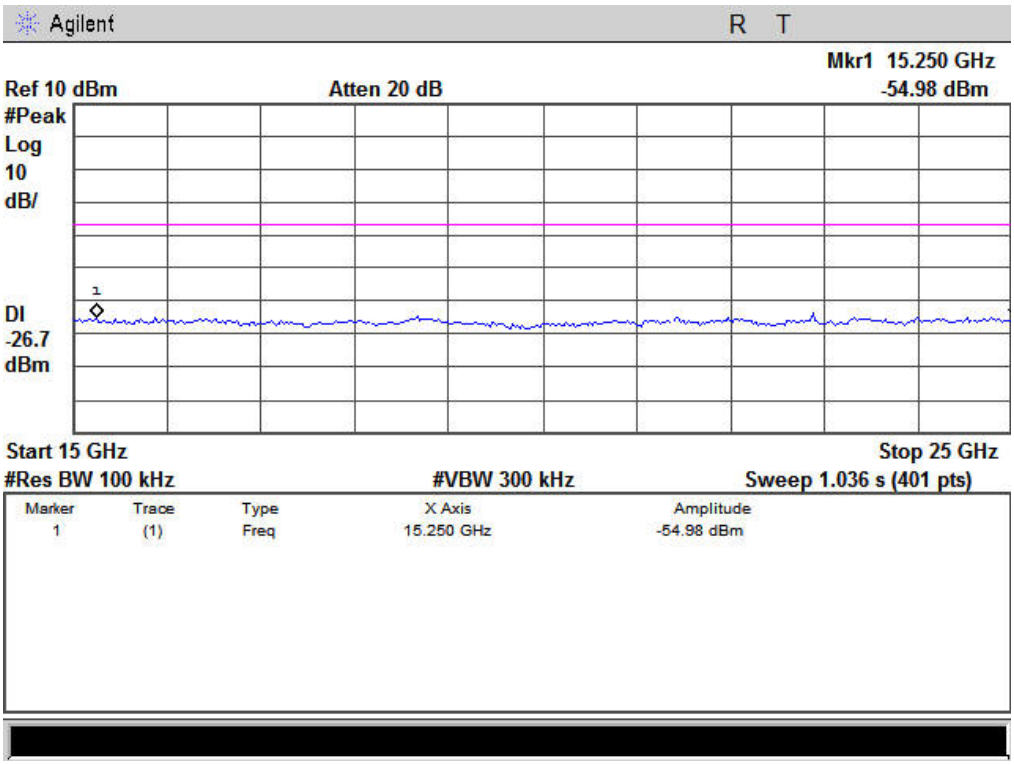




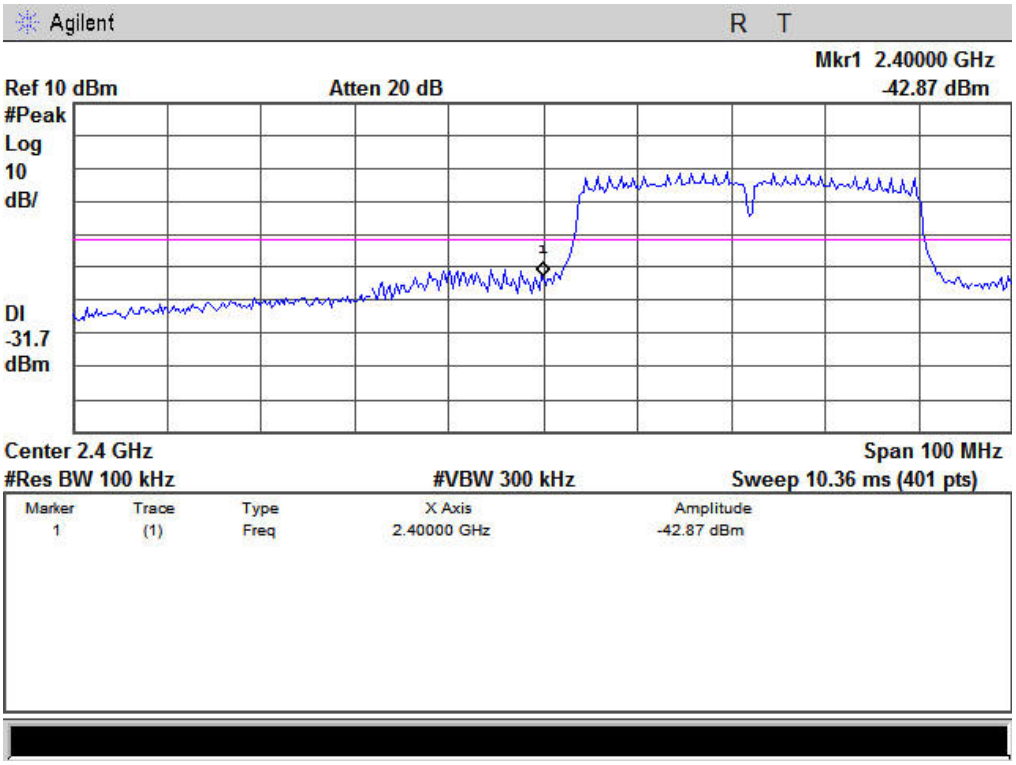
Transmit by 802.11n HT20 Channel 11

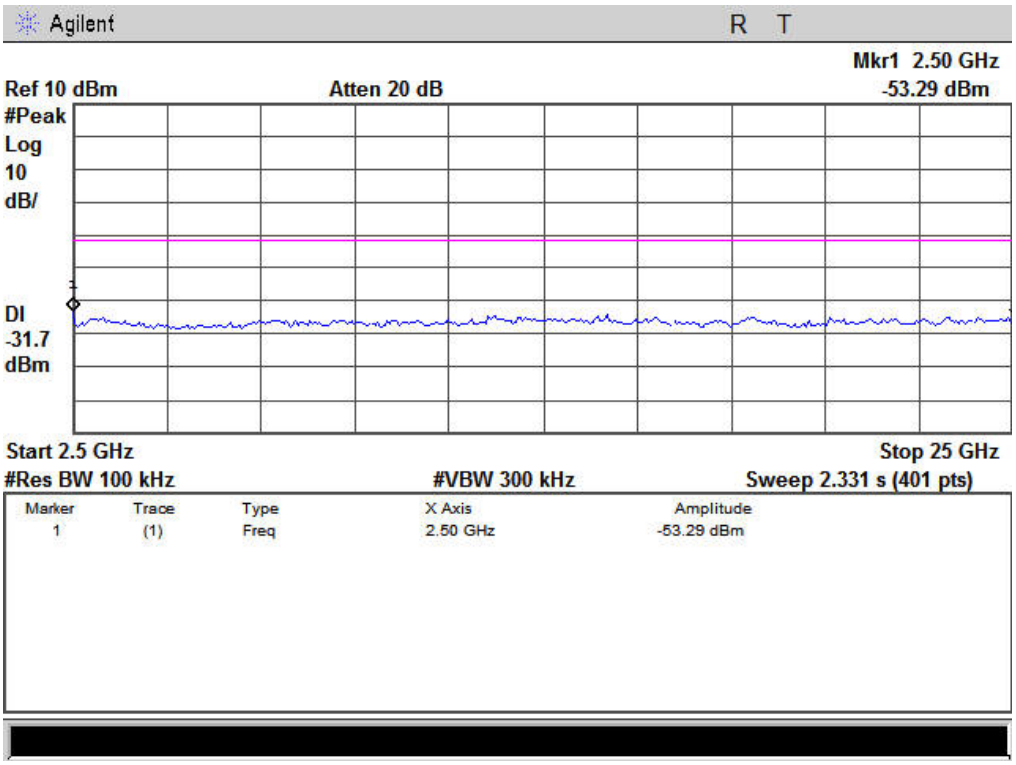




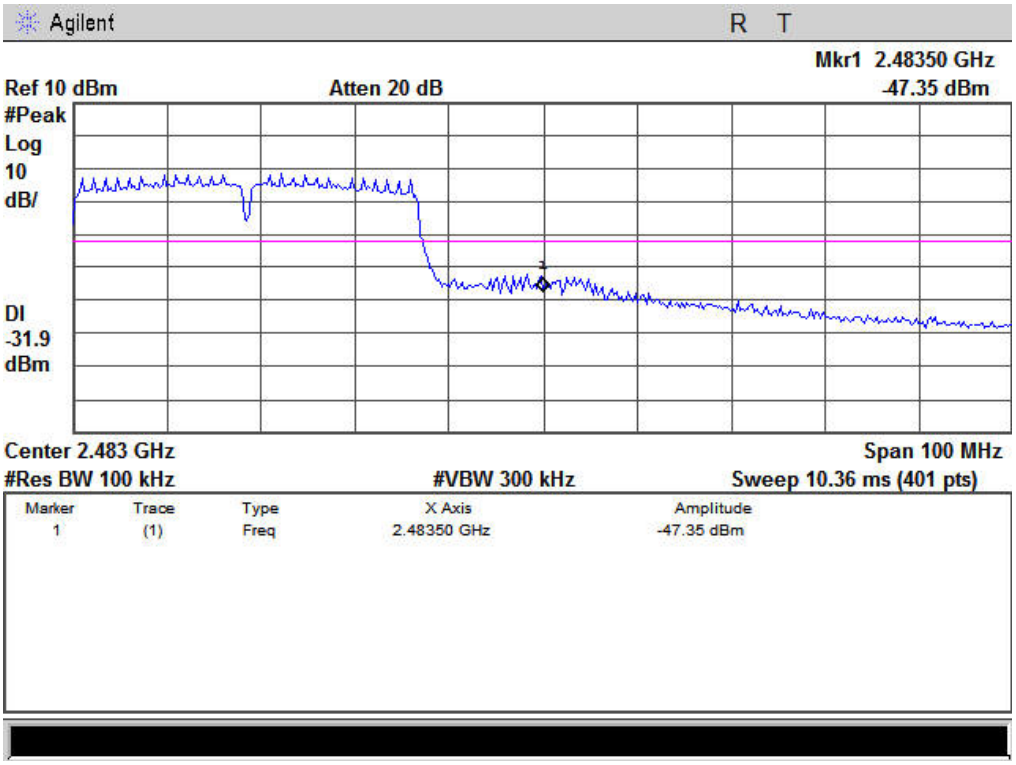


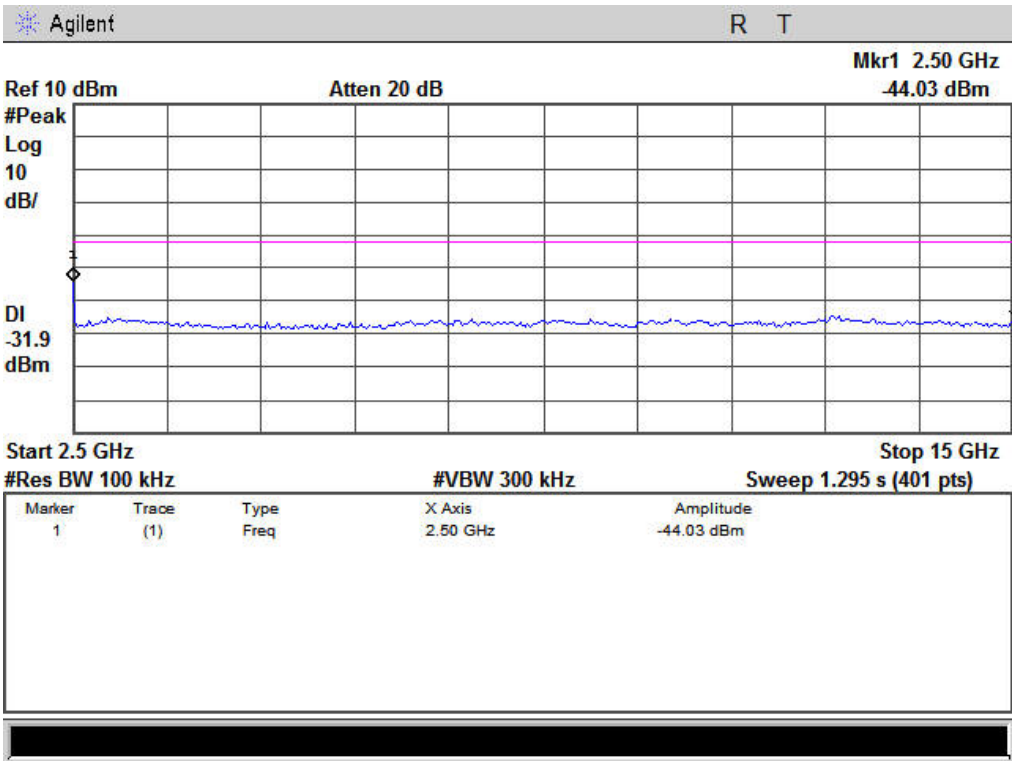
Transmit by 802.11n HT40 Channel 3

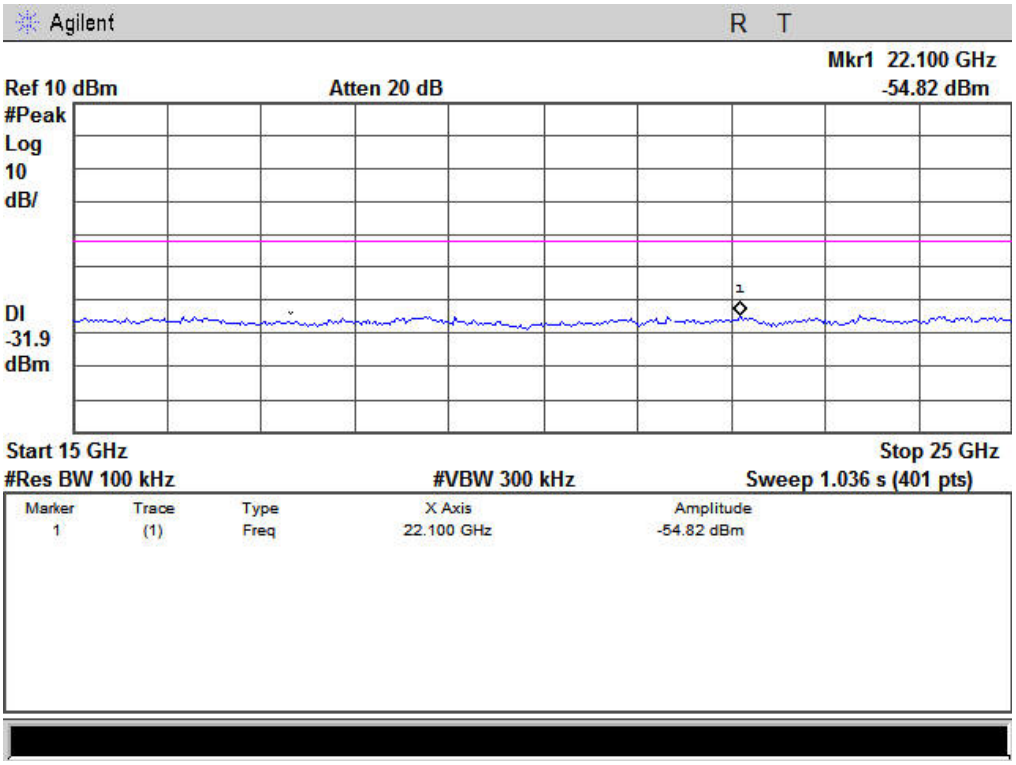




Transmit by 802.11n HT40 Channel 9




Agilent
R T
Mkr1 2.50 GHz
-44.03 dBm
Ref 10 dBm
Atten 20 dB
#Peak
Log
10
dB/
DI
-31.9
dBm
Start 2.5 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.295 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.50 GHz -44.03 dBm


Agilent
R T
Mkr1 22.100 GHz
-54.82 dBm
Ref 10 dBm
Atten 20 dB
#Peak
Log
10
dB/
DI
-31.9
dBm
Start 15 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.036 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 22.100 GHz -54.82 dBm

9.5 Restrict Band Emission Measurement Data

Test Date : 2015-06-11
Temperature : 24 ℃
Humidity : 52 %
Atmospheric Pressure : 1023 hPa

Modulation Standard: IEEE 802.11b

Channel 1				Fundamental Frequency: 2412 MHz			
Frequency (MHz)	**Factor (dB/m)**	**Reading (dBuV)**	**Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Det.**	**Ant-Pol H/V**
2390.000	-3.05	51.96	48.91	74.00	-25.09	peak	H
2390.000	-3.05	36.27	33.22	54.00	-20.78	AVG	H
2390.000	-3.05	52.54	49.49	74.00	-24.51	peak	V
2390.000	-3.05	37.88	34.83	54.00	-19.17	AVG	V
Channel 11				Fundamental Frequency: 2462 MHz			
2483.500	-2.65	51.07	48.42	74.00	-25.58	peak	H
2483.500	-2.65	36.88	34.23	54.00	-19.77	AVG	H
2483.500	-2.65	51.09	48.44	74.00	-25.56	peak	V
2483.500	-2.65	37.95	35.30	54.00	-18.70	AVG	V

Modulation Standard: IEEE 802.11g

Channel 1				Fundamental Frequency: 2412 MHz			
Frequency (MHz)	**Factor (dB/m)**	**Reading (dBuV)**	**Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Det.**	**Ant-Pol H/V**
2390.000	-3.05	55.47	52.42	74.00	-21.58	peak	H
2390.000	-3.05	41.22	38.17	54.00	-15.83	AVG	H
2390.000	-3.05	58.09	55.04	74.00	-18.96	peak	V
2390.000	-3.05	45.02	41.97	54.00	-12.03	AVG	V
Channel 11				Fundamental Frequency: 2462 MHz			
2483.500	-2.65	58.43	55.78	74.00	-18.22	peak	H
2483.500	-2.65	45.03	42.38	54.00	-11.62	AVG	H
2483.500	-2.65	62.63	59.98	74.00	-14.02	peak	V
2483.500	-2.65	48.51	45.86	54.00	-8.14	AVG	V

Modulation Standard: IEEE 802.11n HT20

Channel 1				Fundamental Frequency: 2412 MHz			
Frequency (MHz)	**Factor (dB/m)**	**Reading (dBuV)**	**Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Det.**	**Ant-Pol H/V**
2390.000	-3.05	62.60	59.55	74.00	-14.45	peak	H
2390.000	-3.05	49.26	46.21	54.00	-7.79	AVG	H
2390.000	-3.05	62.60	59.55	74.00	-14.45	peak	V
2390.000	-3.05	49.26	46.21	54.00	-7.79	AVG	V
Channel 11				Fundamental Frequency: 2462 MHz			
2483.500	-2.65	59.78	57.13	74.00	-16.87	peak	H
2483.500	-2.65	46.33	43.68	54.00	-10.32	AVG	H
2483.500	-2.65	60.92	58.27	74.00	-15.73	peak	V
2483.500	-2.65	46.53	43.88	54.00	-10.12	AVG	V

Modulation Standard: IEEE 802.11n HT40

Channel 3				Fundamental Frequency: 2422 MHz			
Frequency (MHz)	**Factor (dB/m)**	**Reading (dBuV)**	**Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Det.**	**Ant-Pol H/V**
2390.000	-3.05	61.61	58.56	74.00	-15.44	peak	H
2390.000	-3.05	47.22	44.17	54.00	-9.83	AVG	H
2390.000	-3.05	64.59	61.54	74.00	-12.46	peak	V
2390.000	-3.05	50.26	47.21	54.00	-6.79	AVG	V
Channel 9				Fundamental Frequency: 2452 MHz			
2483.500	-2.65	60.97	58.32	74.00	-15.68	peak	H
2483.500	-2.65	47.69	45.04	54.00	-8.96	AVG	H
2483.500	-2.65	63.66	61.01	74.00	-12.99	peak	V
2483.540	-2.65	49.78	47.13	54.00	-6.87	AVG	V

Notes:1. Result = Meter Reading + Factor
2. Factor = Antenna Factor + Cable Loss – Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.

10. Power Spectral Density

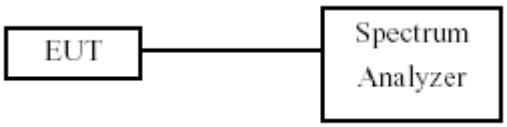
10.1 Test Limit

The Maximum of Power Spectral Density Measurement is 8dBm.

10.2 Test Procedure

a. The transmitter output was connected to spectrum analyzer.
b. The spectrum analyzer's resolution bandwidth were set at 3KHz RBW and 10KHz VBW as that of the fundamental frequency. Set the sweep time=auto couple.
c. The power spectral density was measured and recorded.

10.3 Test Setup Layout

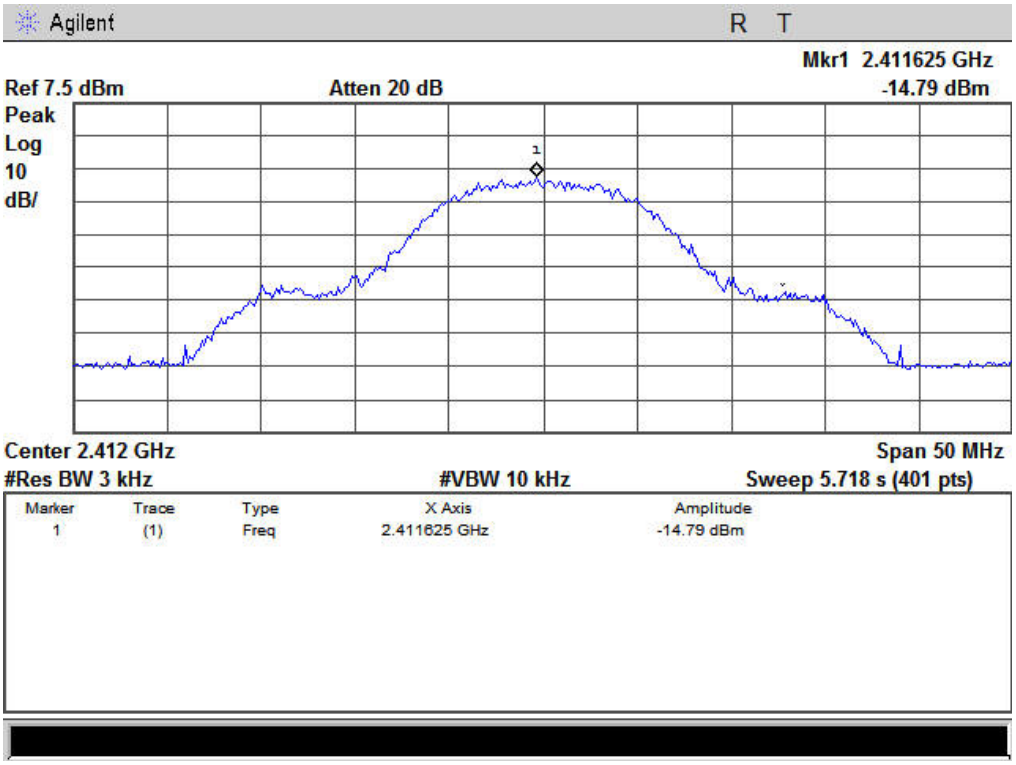


10.4 Test Result and Data

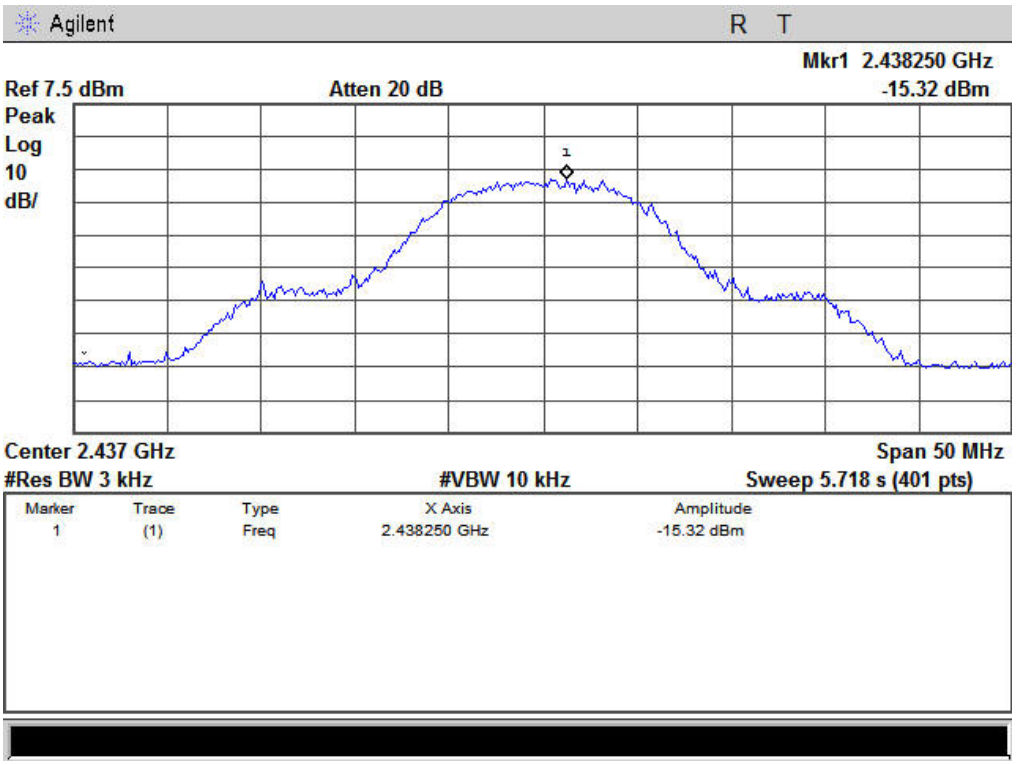
Test Item	Power Spectral Density
Test Mode	Transmit by 802.11b
Test Date	2015-06-11

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
01	2412	-14.79	8	Pass
06	2437	-15.32	8	Pass
11	2462	-16.65	8	Pass

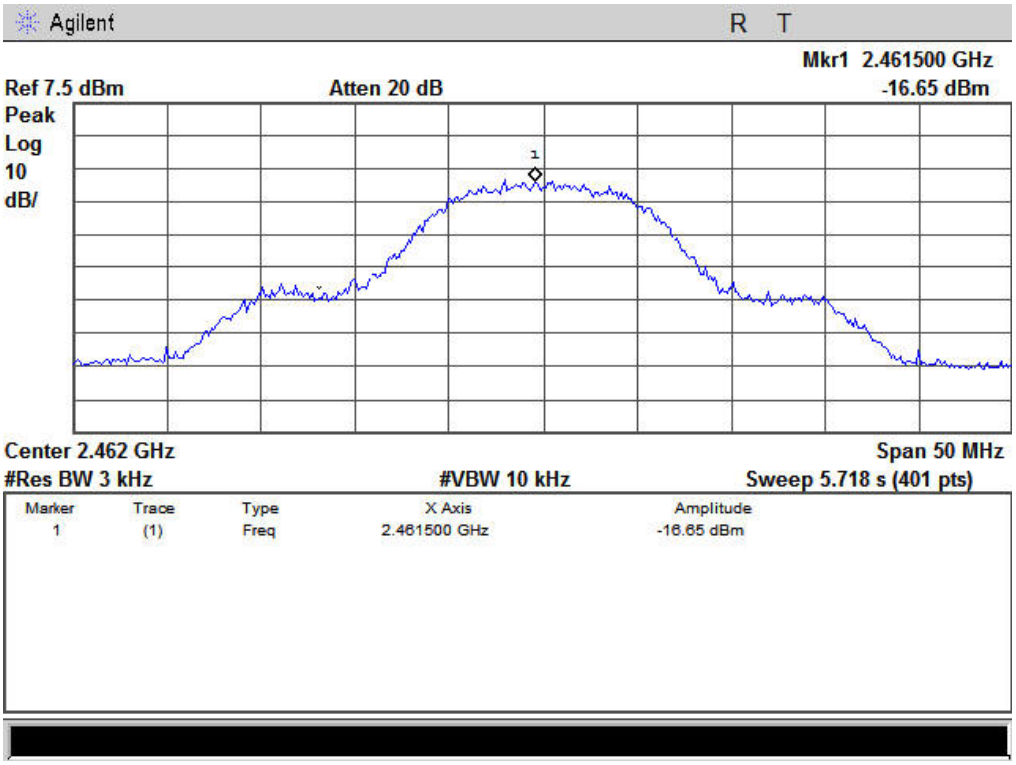
Channel 01 (2412MHz)



Channel 06 (2437MHz)



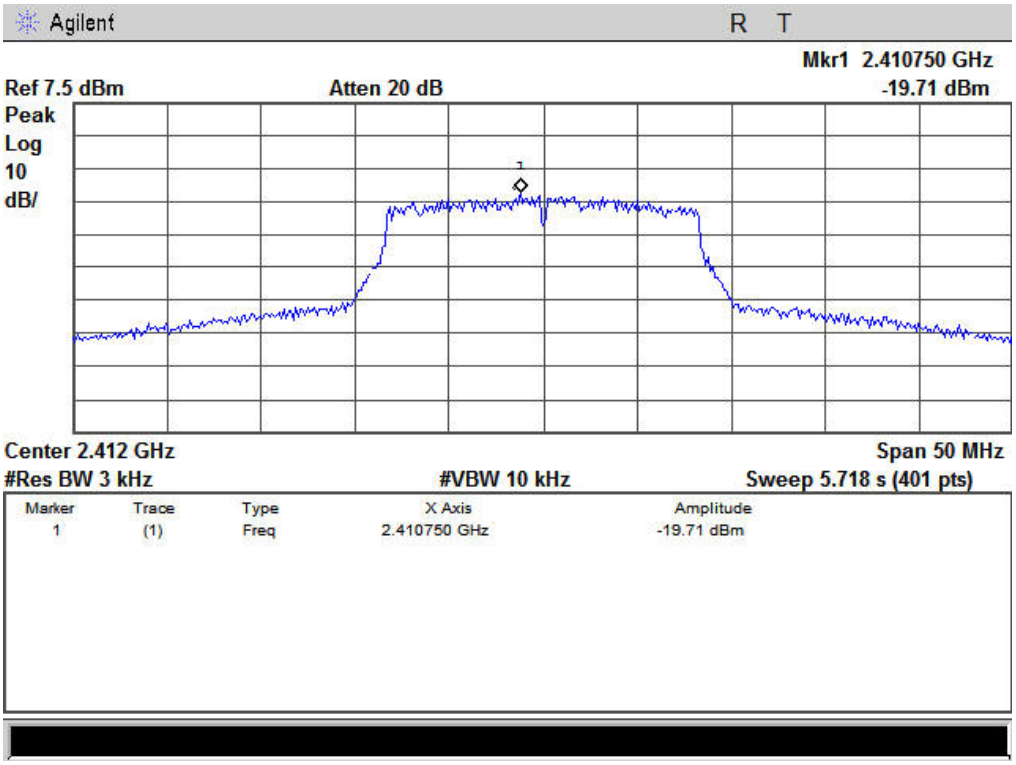
Channel 11 (2462MHz)



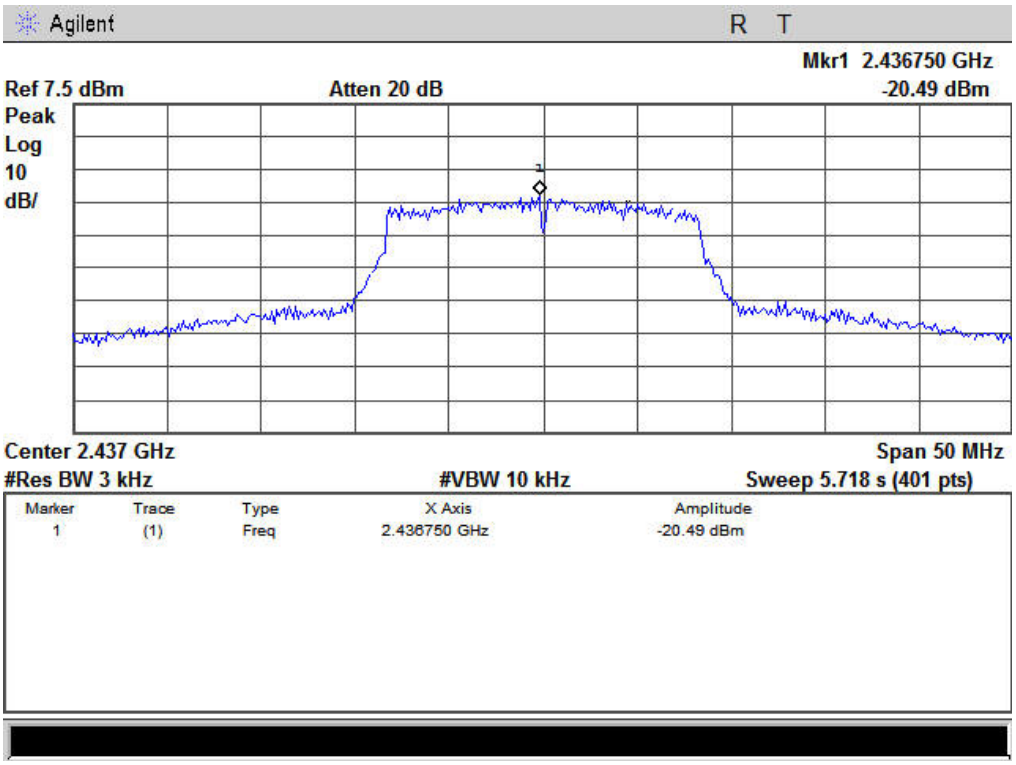
Test Item	Power Spectral Density
Test Mode	Transmit by 802.11g
Test Date	2015-06-11

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
01	2412	-19.71	8	Pass
06	2437	-20.49	8	Pass
11	2462	-21.07	8	Pass

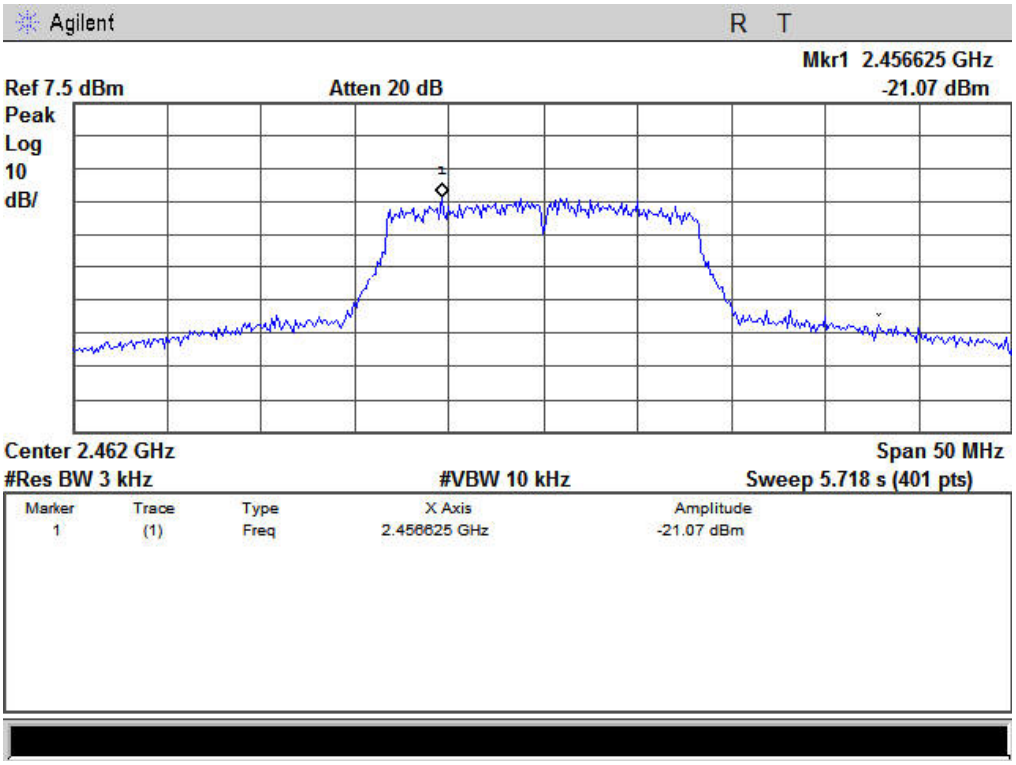
Channel 01 (2412MHz)



Channel 06 (2437MHz)



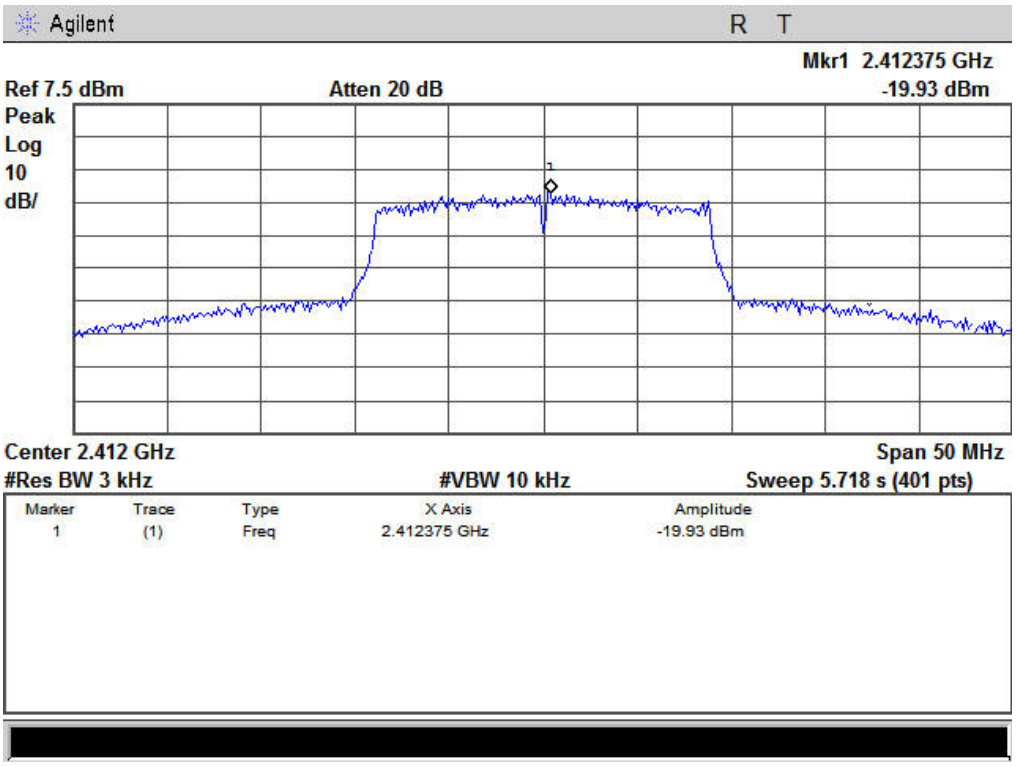
Channel 11 (2462MHz)



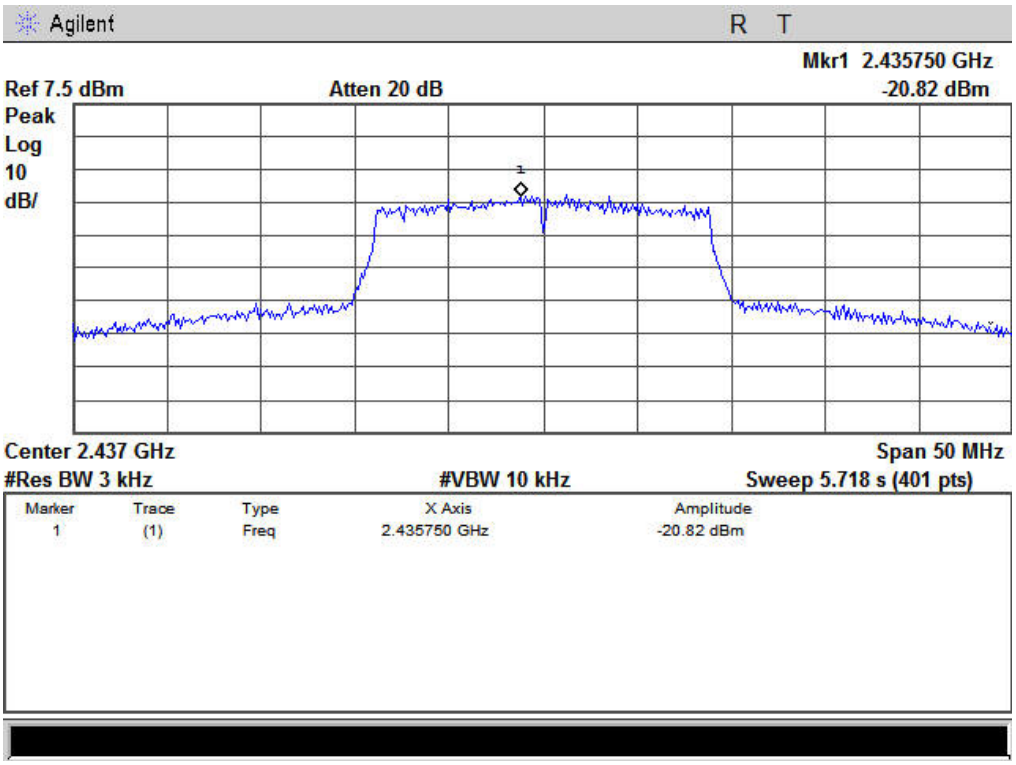
Test Item	Power Spectral Density
Test Mode	Transmit by 802.11n (20MHz)
Test Date	2015-06-11

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
01	2412	-19.93	8	Pass
06	2437	-20.82	8	Pass
11	2462	-21.09	8	Pass

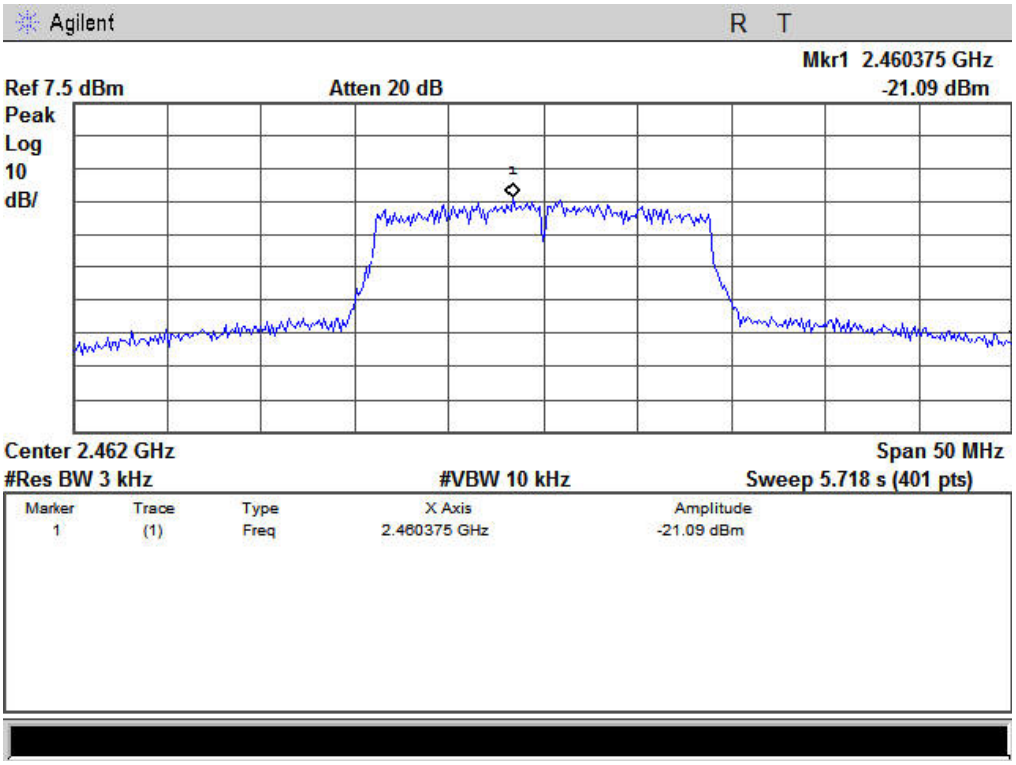
Channel 01 (2412MHz)



Channel 06 (2437MHz)



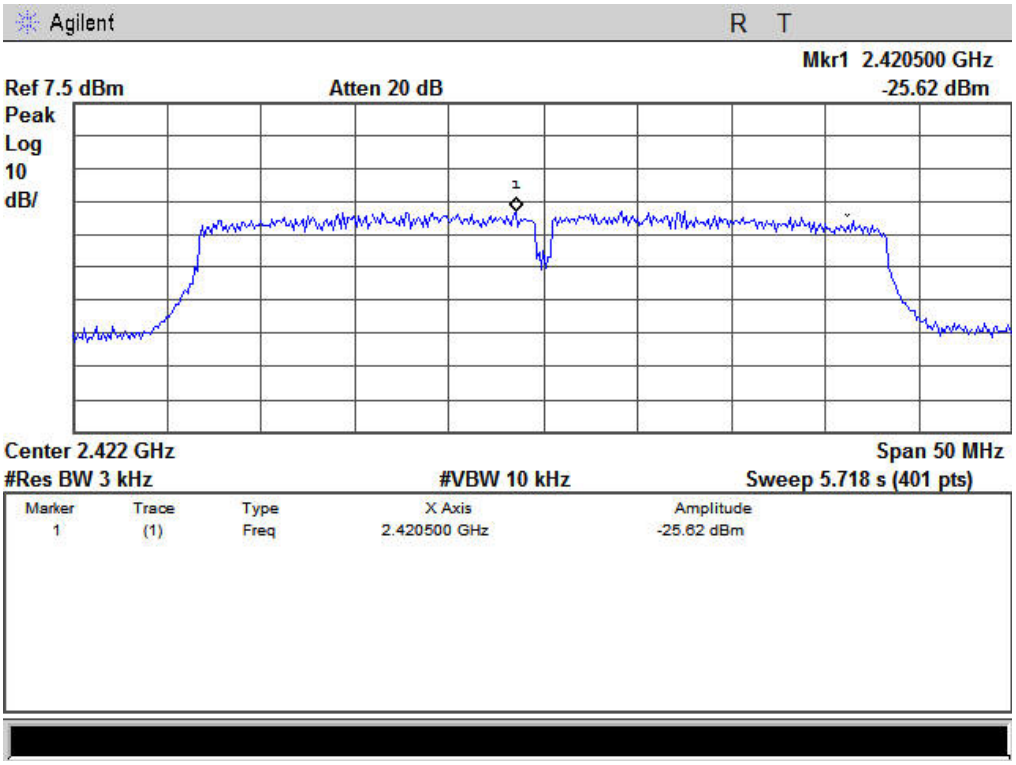
Channel 11 (2462MHz)



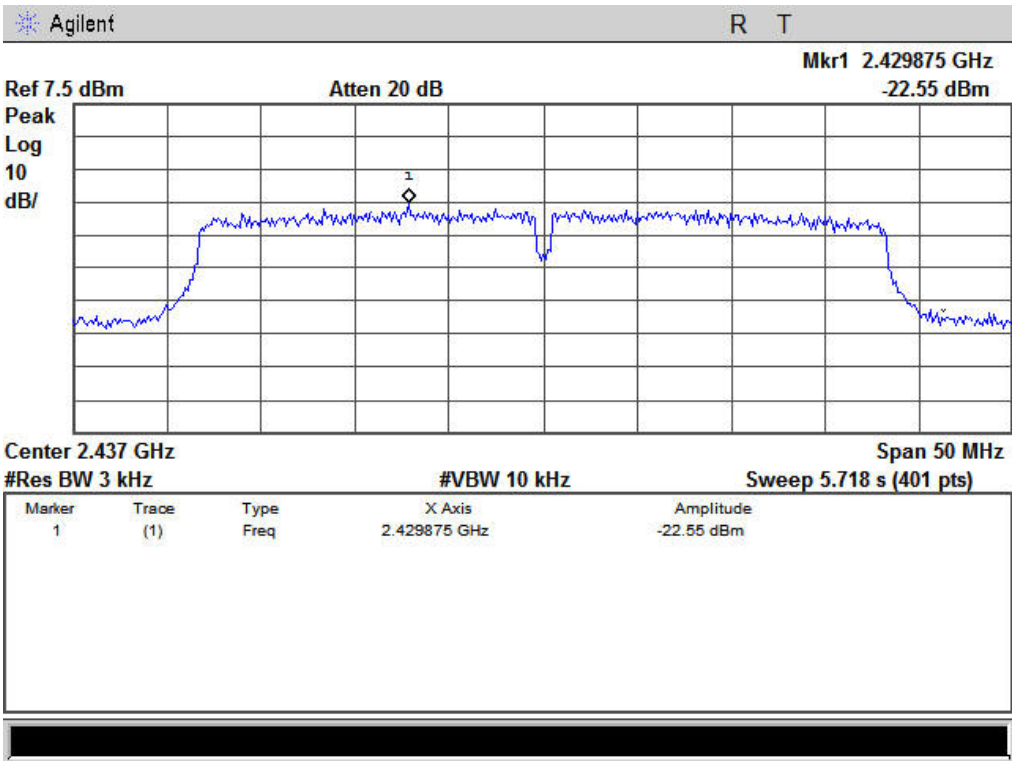
Test Item	Power Spectral Density
Test Mode	Transmit by 802.11n (40MHz)
Test Date	2015-06-11

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
03	2422	-25.62	8	Pass
06	2437	-22.55	8	Pass
09	2452	-25.84	8	Pass

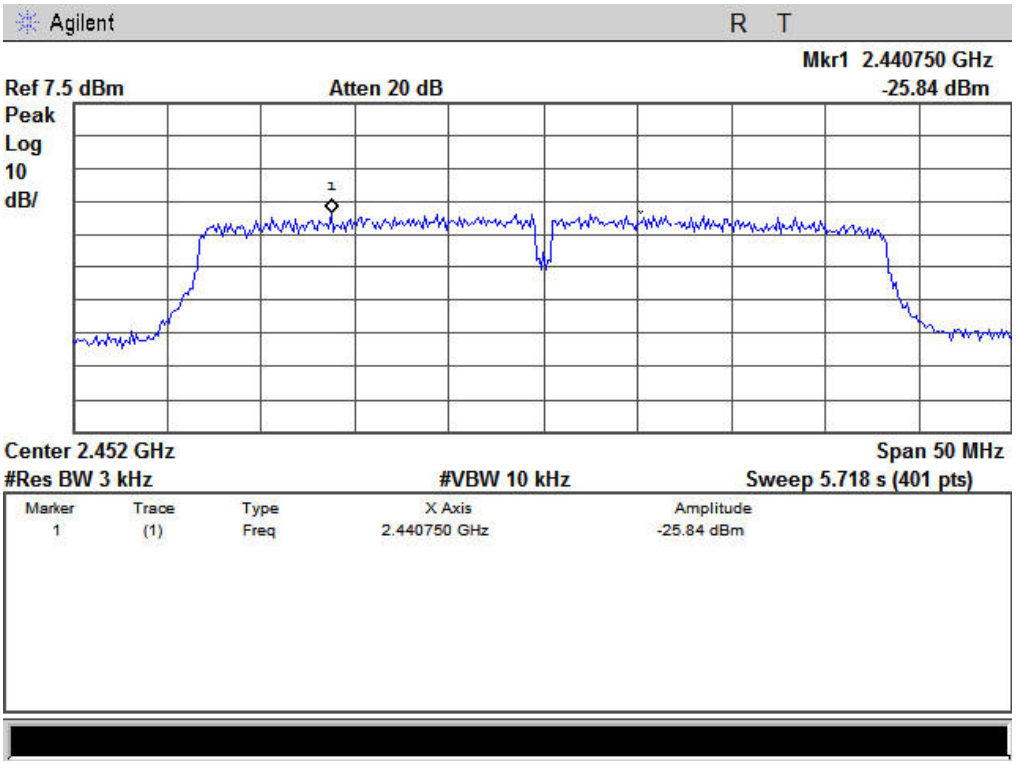
Channel 03 (2422MHz)



Channel 06 (2437MHz)



Channel 09 (2452MHz)



11. Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.250
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

**: Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

11.1 Labeling Requirement

The device shall bear the following statement in a conspicuous location on the device:
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.