

Test Report

FCC Part15 Subpart C

Product Name : ROUTER WI-FI ADSL2+
Model No. : RTSA04NU
FCC ID : 2AFTVRTSA04NU

Applicant : OBSERVA TELECOM
Address : Calle Monte Esquinza 28, 1ºdcha, 28010-Madrid
(Spain)

Date of Receipt : Sep. 11, 2015
Test Date : Oct. 19, 2015~ Oct. 25, 2015
Issued Date : Dec. 01, 2015
Report No. : 1590342R-RF-US-P06V01
Report Version : V1.1

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

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Test Report Certification

Issued Date : Dec. 01, 2015

Report No. : 1590342R-RF-US-P06V01



Product Name : ROUTER WI-FI ADSL2+
Applicant : Observa Telecom
Address : Calle Monte Esquinza 28, 1º dcha, 28010-Madrid (Spain)
Manufacturer : Observa Telecom
Address : Calle Monte Esquinza 28, 1º dcha, 28010-Madrid (Spain)
Model No. : RTSA04NU
FCC ID : 2AFTVRTSA04NU
EUT Voltage : 100-240V~50/60Hz
Brand Name : Observa Telecom
Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2014
ANSI C63.4:2014;
ANSI C63.10:2013;
KDB 558074 D01v03r03
Test Result : Complied
Performed Location : Suzhou EMC Laboratory
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TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: 800392; IC Lab Code: 4075B

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Laboratory Information

We, **Quietek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C.	:	BSMI, NCC
USA	:	FCC
Japan	:	VCCI
China	:	CNAS

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site :<http://www.quietek.com/tw/ctg/cts/accreditations.htm>

The address and introduction of Quietek Corporation's laboratories can be founded in our Web site :
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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1590342R-RF-US-P06V01	V1.0	Initial Issued Report	Oct. 26, 2015
1590342R-RF-US-P06V01	V1.1	1.All single transmit test mode change to double 2.Add some of point that missing between the sweep points in conducted spurious emission	Dec.01, 2015

1. General Information

1.1. EUT Description

Product Name	ROUTER WI-FI ADSL2+
Brand Name	Observa Telecom
Model No.	RTSA04NU
EUT Voltage	100-240V~50/60Hz
Frequency Range	For 2.4GHz Band 802.11b/g/n(20MHz): 2412~2462MHz 802.11n(40MHz): 2422~2452MHz
Channel Number	For 2.4GHz Band 802.11b/g/n(20MHz): 11 802.11n(40MHz): 7
Type of Modulation	802.11b: DSSS 802.11g/n: OFDM
Data Rate	802.11g: 6/9/12/18/24/36/48/54 Mbps 802.11b: 1/2/5.5/11 Mbps 802.11n: up to 300 Mbps
Channel Control	Auto
Antenna Delivery	2*Tx + 2*Rx for 2.4GHz
Antenna Type	Reference to Antenna List
Peak Antenna Gain	Reference to Antenna List

For 2.4GHz Band

802.11b/g/n(20MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
01	2412 MHz	02	2417 MHz	03	2422 MHz	04	2427 MHz
05	2432 MHz	06	2437 MHz	07	2442 MHz	08	2447 MHz
09	2452 MHz	10	2457 MHz	11	2462 MHz	N/A	N/A
802.11n(40MHz) Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
03	2422 MHz	04	2427 MHz	05	2432 MHz	06	2437 MHz
07	2442 MHz	08	2447 MHz	09	2452 MHz	N/A	N/A

Antenna List

Antenna	Type	Model No.	Peak Gain	Directional Gain
Antenna 1	Folded dipole antenna	N/A	2.4GHz band: 2.5dBi	5.97dBi
Antenna 2	PIFA antenna	N/A	2.4GHz band: 3.4dBi	

. Power Parameter Value of the test software

Test Mode	Test Channel	Ant1	Ant2	MODE(Ant1+2)
802.11b	2412	x	x	41
	2437	x	x	44
	2462	x	x	46
802.11g	2412	x	x	45
	2437	x	x	60
	2462	x	x	47
802.11n(20MHz)	2412	x	x	44
	2437	x	x	60
	2462	x	x	45
802.11n(40MHz)	2422	x	x	40
	2437	x	x	48
	2452	x	x	40

The test mode of the test software can support.

Test Mode	Test Channel	Ant1	Ant2	MODE(Ant1+2)
802.11b	2412	×	×	√
	2437	×	×	√
	2462	×	×	√
802.11g	2412	×	×	√
	2437	×	×	√
	2462	×	×	√
802.11n(20MHz)	2412	×	×	√
	2437	×	×	√
	2462	×	×	√
802.11n(40MHz)	2422	×	×	√
	2437	×	×	√
	2452	×	×	√

Note: The EUT always operate at the mode which two antennas working simultaneously, so we only test simultaneously transmission mode for testing.

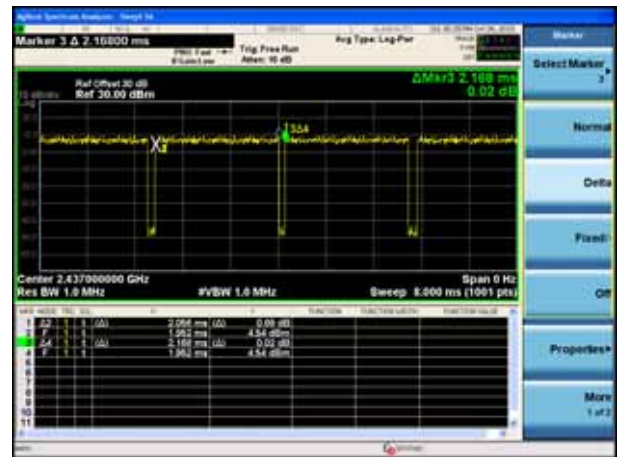
Duty Cycle
2.4GHz Band

Test Mode	Duty Cycle
802.11b	98.81
802.11g	94.83
802.11n(20MHz)	93.75
802.11n(40MHz)	92.65

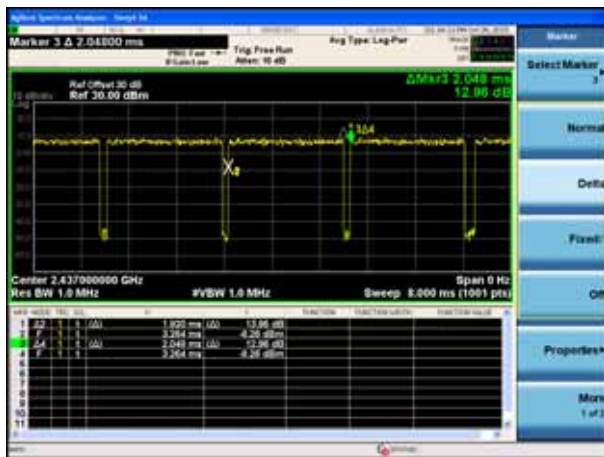
802.11b



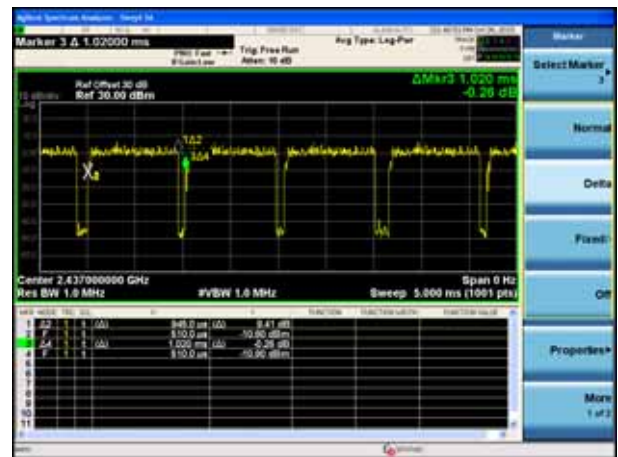
802.11g



802.11n20



802.11n40



1.2. Mode of Operation

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit by 802.11b rate 1M
Mode 2: Transmit by 802.11g rate 6M
Mode 3: Transmit by 802.11n(20MHz) rate MCS0
Mode 4: Transmit by 802.11n(40MHz) rate MCS0

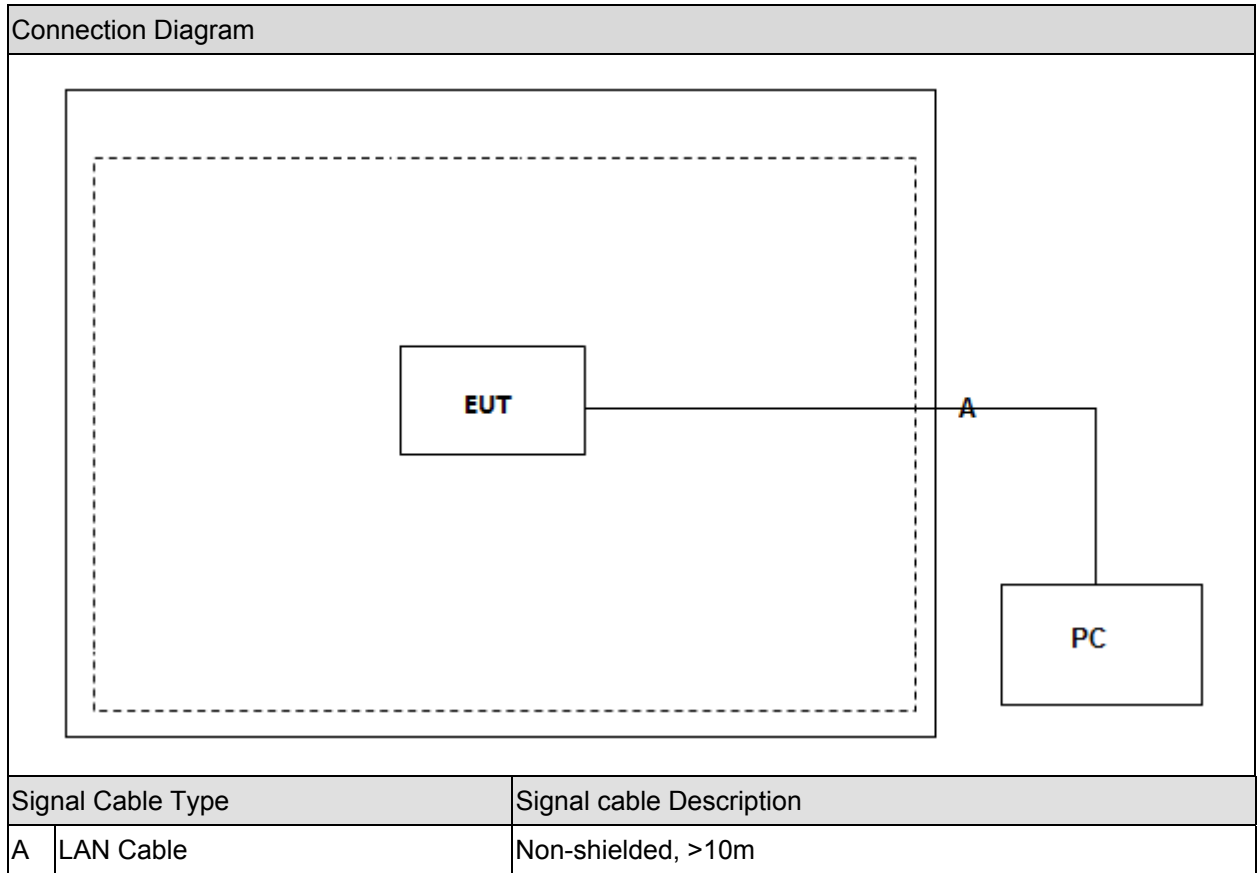
Note: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, and be shown on this report. In each mode, We will choose the rate with maximum power for testing ,please refer to section 8.8

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook	Lenovo	Think pad x220	SUA0600195	Non-shielded

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Input launch command, and set the test mode and channel, then press OK to start continue Transmit or receive.

2. Technical Test

2.1. Summary of Test Result

- No deviations from the test standards
 Deviations from the test standards as below description:

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.207	Yes	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.209	Yes	No
RF Antenna Conducted Spurious	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(d)	Yes	No
Radiated Emission Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2014 15.247(d)	Yes	No
Operation Frequency Range of 20dB Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2014 15.215(c)	Yes	No
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(a)(2)	Yes	No
Power Output	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(b)(3)	Yes	No
Power Spectral Density	FCC CFR Title 47 Part 15 Subpart C: 2014 Section 15.247(e)	Yes	No

2.2. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

3. Conducted Emission

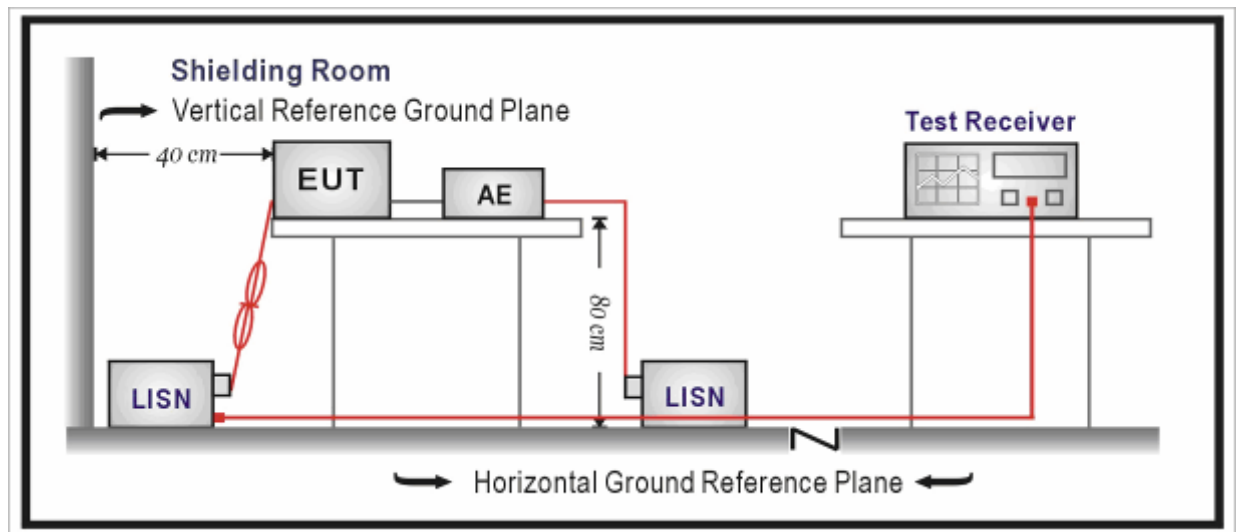
3.1. Test Equipment

Conducted Emission / TR-1

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100726	2016.03.28
Two-Line V-Network	R&S	ENV216	100043	2016.03.28
Two-Line V-Network	R&S	ENV216	100044	2016.09.16
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2016.03.01
50ohm Termination	SHX	TF2	07081401	2016.09.16
Temperature/Humidity Meter	zhichen	ZC1-2	TR1-TH	2016.01.08

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup



3.3. Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 – 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.4. Test Procedure

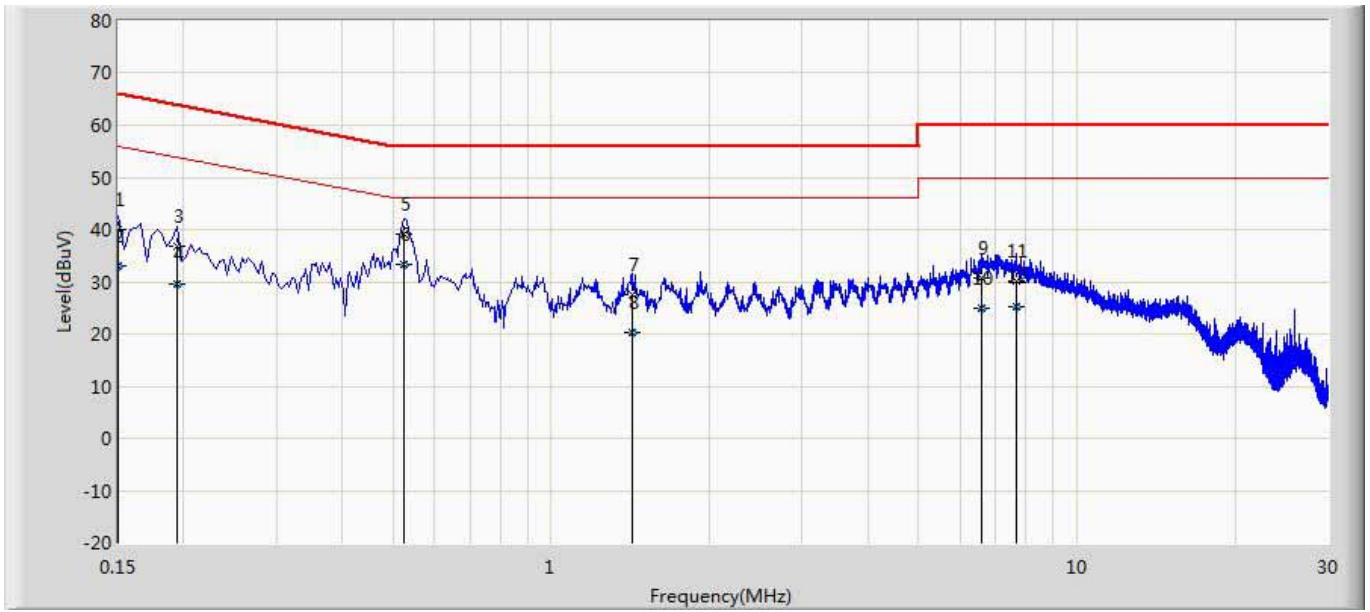
The EUT was setup according to ANSI C63.4, 2014 for compliance to FCC 47CFR 15.247 requirements. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of 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 9 kHz.

3.5. Uncertainty

The measurement uncertainty is defined as ± 2.02 dB

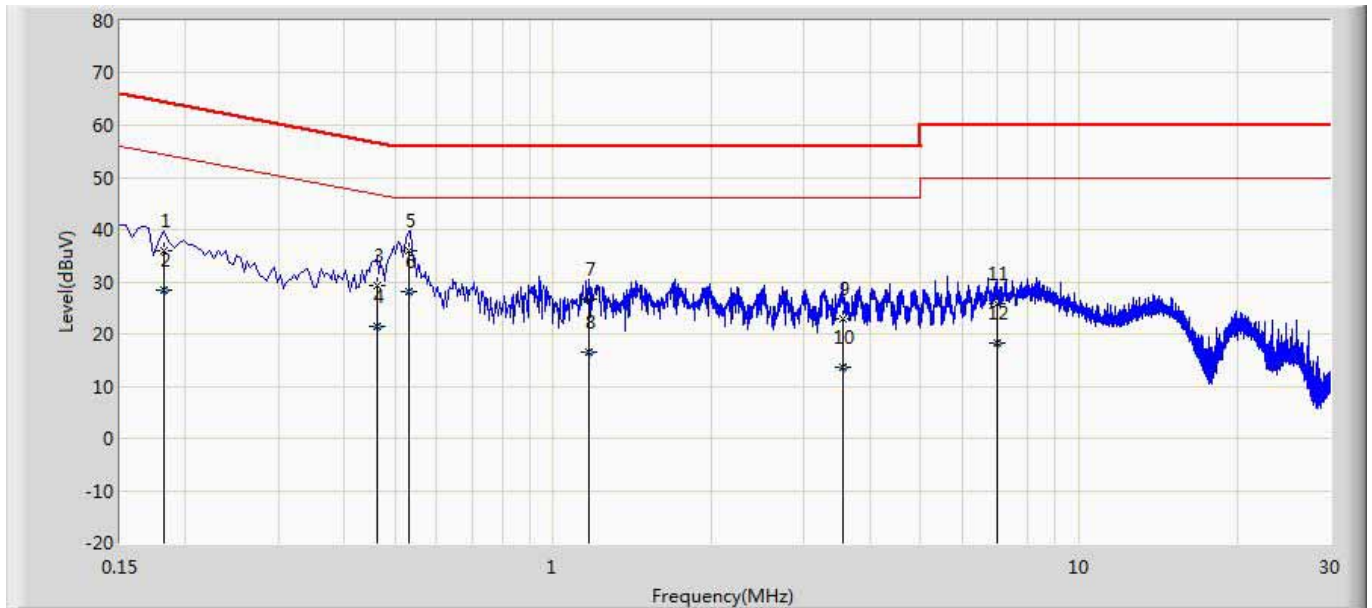
3.6. Test Result

Site: SR8	Time: 2015/09/23
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216-L1	Polarity: Line
EUT: ROUTER WI-FI ADSL2+	Power: AC 120V/60Hz
Note: Mode 1: Transmit at CH2412 by 802.11b	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.150	40.117	30.381	-25.883	66.000	9.676	0.060	0.000	QP
2		0.150	32.939	23.203	-23.061	56.000	9.676	0.060	0.000	AV
3		0.194	36.764	27.054	-27.100	63.864	9.650	0.060	0.000	QP
4		0.194	29.616	19.906	-24.248	53.864	9.650	0.060	0.000	AV
5		0.526	39.231	29.531	-16.769	56.000	9.630	0.070	0.000	QP
6	*	0.526	33.275	23.575	-12.725	46.000	9.630	0.070	0.000	AV
7		1.426	27.498	17.778	-28.502	56.000	9.630	0.090	0.000	QP
8		1.426	20.232	10.512	-25.768	46.000	9.630	0.090	0.000	AV
9		6.582	30.698	20.818	-29.302	60.000	9.690	0.190	0.000	QP
10		6.582	24.880	15.000	-25.120	50.000	9.690	0.190	0.000	AV
11		7.670	30.273	20.343	-29.727	60.000	9.710	0.220	0.000	QP
12		7.670	25.183	15.253	-24.817	50.000	9.710	0.220	0.000	AV

Site: SR8	Time: 2015/09/23
Limit: FCC_Part15.107_CE_AC Power_ClassB	Margin: 0
Probe: ENV216-N	Polarity: Neutral
EUT: ROUTER WI-FI ADSL2+	Power: AC 120V/60Hz
Note: Mode 1: Transmit at CH2412 by 802.11b	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.182	36.017	26.295	-28.377	64.394	9.662	0.060	0.000	QP
2		0.182	28.440	18.718	-25.954	54.394	9.662	0.060	0.000	AV
3		0.462	29.313	19.613	-27.344	56.657	9.630	0.070	0.000	QP
4		0.462	21.341	11.641	-25.316	46.657	9.630	0.070	0.000	AV
5		0.530	35.884	26.184	-20.116	56.000	9.630	0.070	0.000	QP
6	*	0.530	28.066	18.366	-17.934	46.000	9.630	0.070	0.000	AV
7		1.170	26.619	16.909	-29.381	56.000	9.630	0.080	0.000	QP
8		1.170	16.481	6.771	-29.519	46.000	9.630	0.080	0.000	AV
9		3.558	22.968	13.178	-33.032	56.000	9.660	0.130	0.000	QP
10		3.558	13.702	3.912	-32.298	46.000	9.660	0.130	0.000	AV
11		6.994	25.747	15.857	-34.253	60.000	9.690	0.200	0.000	QP
12		6.994	18.142	8.252	-31.858	50.000	9.690	0.200	0.000	AV

Note: Only The worst case of Conducted Emission is showed

4. Radiated Emission

4.1. Test Equipment

Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2016.03.28
Loop Antenna	R&S	HFH2-Z2	833799/003	2016.11.17
Bilog Chainenna	Teseq GmbH	CBL6112D	27611	2016.10.15
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2016.03.01
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC2-TH	2016.01.08

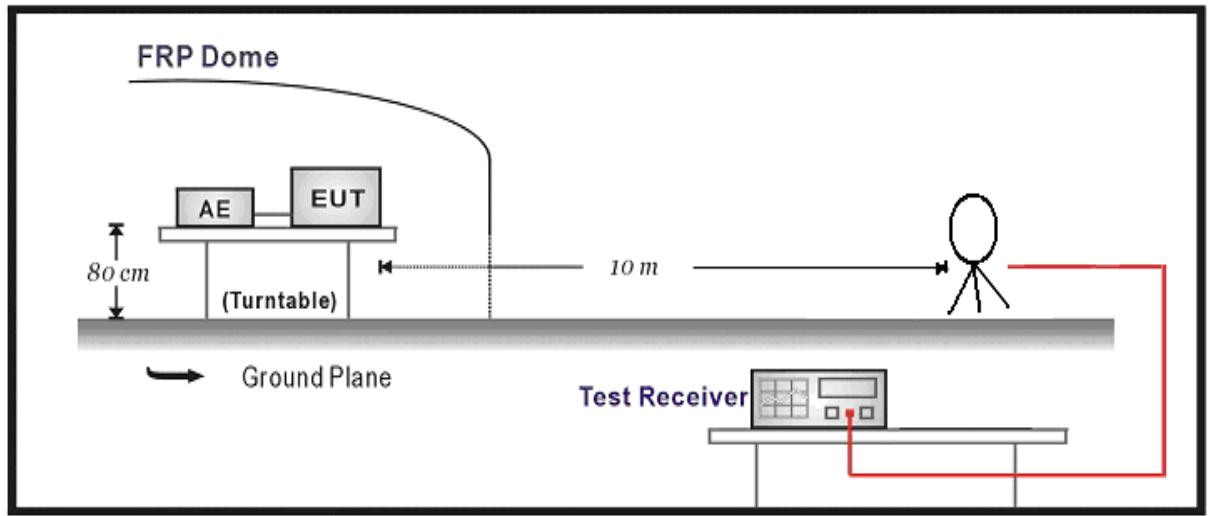
Radiated Emission / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Spectrum Analyzer	Agilent	N9020A	MY49100159	2016.03.28
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.07
Preamplifier	Miteq	NSP1800-25	1364185	2016.05.05
Preamplifier	Quietek	AP-040G	CHM-0906001	2016.05.05
DRG Horn	ETS-Lindgren	3117	00123988	2016.01.21
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	294	2016.11.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2016.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2016.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2016.01.08

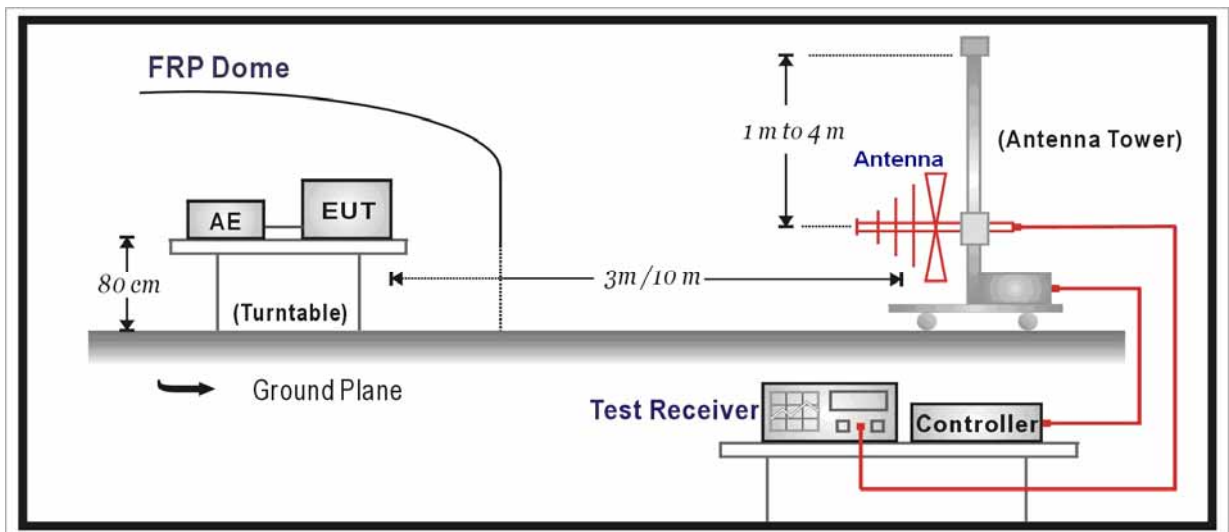
Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

4.2. Test Setup

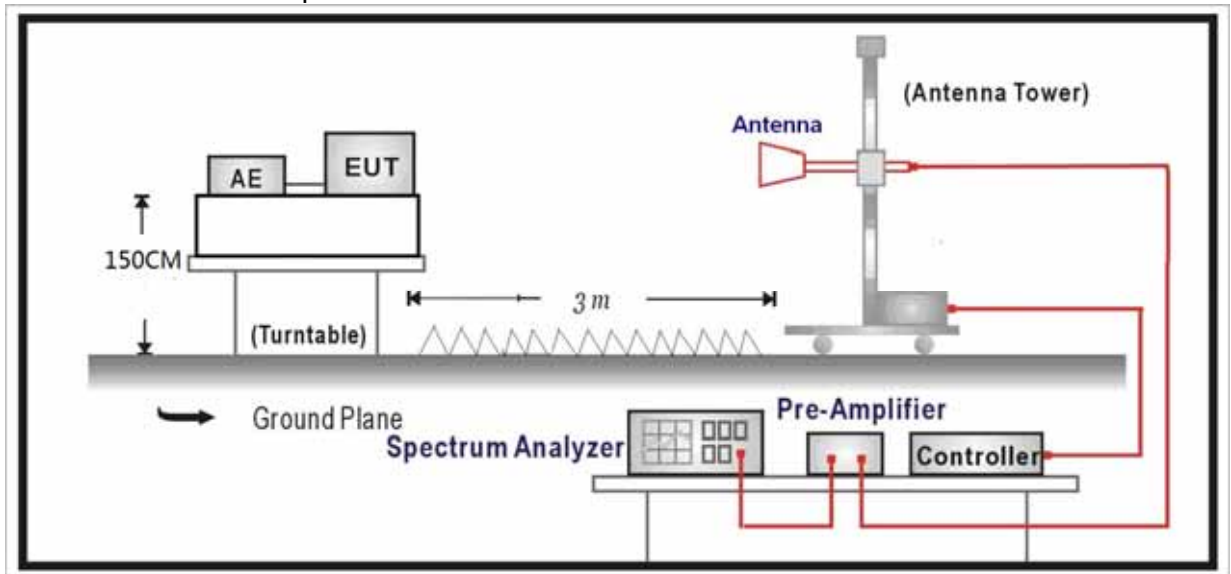
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

FCC Part 15 Subpart C Paragraph 15.209		
Frequency (MHz)	Distance (m)	Level (dBuV/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument Antenna and the closed point of any part of the device or system.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2014 and tested according to ANSI C63.10, 2013.

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from Antenna to the EUT was 3 meters.

The Antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This

is repeated for both horizontal and vertical polarization of the Antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2014 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

The frequency range from 30MHz to 10th harmonic is checked.

Note: When doing emission measurement above 1GHz, the horn Antenna will be bended down a little (as horn Antenna has the narrow beamwidth) in order to keeping the Antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 10~60 degrees for H-plane and 10~90 degrees for E-plane.

4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB
below 1G is defined as ± 3.8 dB

4.6. Test Result

All of the test result shown indicates the worst case, and spectrum analyzer parameters setting as shown below:

Peak detector: RBW = 1MHz, VBW = 3MHz, sweep time = 200ms;

Average detector: RBW = 1MHz, VBW = 10Hz, sweep time = auto.

Measure Level = Reading Level + Cable Loss + Antenna Factor - Preamplifier Gain

Mode1: Transmit by 802.11b

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Ant 0	1	H	4825.00	46.50	7.98	54.48	74.00	-19.52	PK
		H	4825.00	45.72	7.98	53.70	54.00	-0.30	AV
		H	7239.00	39.16	12.99	52.15	54(note3)	-1.85	PK
		H	9644.50	31.38	16.10	47.48	54(note3)	-6.52	PK
		H	12058.50	29.31	23.91	53.22	54(note3)	-0.78	PK
		V	4825.00	49.04	7.98	57.02	74.00	-16.98	PK
		V	4825.00	45.71	7.98	53.69	54.00	-0.31	AV
		V	7239.00	37.53	12.99	50.52	54(note3)	-3.48	PK
		V	9644.50	30.89	16.10	46.99	54(note3)	-7.01	PK
		V	12058.50	28.00	23.91	51.91	54(note3)	-2.09	PK
	6	H	4876.00	46.90	8.16	55.06	74.00	-18.94	PK
		H	4876.00	45.56	8.16	53.72	54.00	-0.28	AV
		H	7307.00	38.08	12.45	50.53	54(note3)	-3.47	PK
		H	9746.50	30.68	15.90	46.58	54(note3)	-7.42	PK
		H	12186.00	29.78	22.60	52.38	54(note3)	-1.62	PK
		V	4876.00	42.82	8.16	50.98	54(note3)	-3.02	PK
		V	7307.00	38.18	12.45	50.63	54(note3)	-3.37	PK
		V	9746.50	31.68	15.90	47.58	54(note3)	-6.42	PK
		V	11897.00	24.99	26.57	51.56	54(note3)	-2.44	PK
		11	H	4927.00	46.28	8.28	54.56	74.00	-19.44
	H		4927.00	45.56	8.28	53.84	54.00	-0.16	AV
	H		7383.50	38.22	12.77	50.99	54(note3)	-3.01	PK
	H		9848.50	32.66	16.35	49.01	54(note3)	-4.99	PK
	H		12313.50	28.13	24.45	52.58	54(note3)	-1.42	PK
	V		4927.00	44.30	8.28	52.58	54(note3)	-1.42	PK
	V		7383.50	38.09	12.77	50.86	54(note3)	-3.14	PK
	V		9848.50	32.35	16.35	48.70	54(note3)	-5.30	PK

		V	12313.50	29.28	24.45	53.73	54(note3)	-0.27	PK
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Note: 1. Measure Level = Reading Level + Factor.

2. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode2: Transmit by 802.11g

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Ant 0	1	H	4825.00	40.90	7.98	48.88	54(note3)	-5.12	PK
		H	7230.50	33.30	12.93	46.23	54(note3)	-7.77	PK
		H	9644.50	31.39	16.10	47.49	54(note3)	-6.51	PK
		H	12060.00	23.68	23.83	47.51	54(note3)	-6.49	PK
		V	4825.00	38.63	7.98	46.61	54(note3)	-7.39	PK
		V	7230.50	34.86	12.93	47.79	54(note3)	-6.21	PK
		V	9644.50	30.99	16.10	47.09	54(note3)	-6.91	PK
		V	12060.00	23.20	23.83	47.03	54(note3)	-6.97	PK
	6	H	4876.00	47.70	8.16	55.86	74.00	-18.14	PK
		H	4876.00	36.78	8.16	44.94	54.00	-9.06	AV
		H	7307.00	43.27	12.45	55.72	74.00	-18.28	PK
		H	7307.00	35.21	12.45	47.66	54.00	-6.34	AV
		H	9746.50	32.70	15.90	48.60	54(note3)	-5.40	PK
		H	12177.50	33.10	23.09	56.19	74.00	-17.81	PK
		H	12177.50	26.21	23.09	49.30	54.00	-4.70	AV
		V	4867.5	47.38	8.07	55.45	74	-18.55	PK
		V	4867.5	34.3	8.06	42.36	54	-11.64	AV
		V	7315.50	45.72	12.73	58.45	74.00	-15.55	PK
		V	7315.50	34.18	12.73	46.91	54.00	-7.09	AV
		V	9746.50	32.93	15.90	48.83	54(note3)	-5.17	PK
		V	12177.50	35.69	23.09	58.78	74.00	-15.22	PK
		V	12177.50	25.15	23.09	48.24	54.00	-5.76	AV
	11	H	4918.50	39.99	8.26	48.25	54(note3)	-5.75	PK
		H	7392.00	33.41	12.54	45.95	54(note3)	-8.05	PK
		H	9848.00	29.57	16.34	45.91	54(note3)	-8.09	PK
		H	12310.00	22.60	24.07	46.67	54(note3)	-7.33	PK
		V	4918.50	40.40	8.26	48.66	54(note3)	-5.34	PK
		V	7383.50	39.47	12.77	52.24	54(note3)	-1.76	PK
		V	9848.00	30.12	16.34	46.46	54(note3)	-7.54	PK
		V	12310.00	24.98	24.07	49.05	54(note3)	-4.95	PK

Note: 1. Measure Level = Reading Level + Factor.

2. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode3: Transmit by 802.11n(20MHz)

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Ant 0	1	H	4825.00	40.67	7.98	48.65	54(note3)	-5.35	PK
		H	7236.00	30.62	12.97	43.59	54(note3)	-10.41	PK
		H	9644.50	31.37	16.10	47.47	54(note3)	-6.53	PK
		H	12060.00	24.17	23.83	48.00	54(note3)	-6.00	PK
		V	4825.00	39.00	7.98	46.98	54(note3)	-7.02	PK
		V	7222.00	32.26	12.88	45.14	54(note3)	-8.86	PK
		V	9644.50	31.83	16.10	47.93	54(note3)	-6.07	PK
		V	12060.00	24.60	23.83	48.43	54(note3)	-5.57	PK
	6	H	4867.50	48.37	8.07	56.44	74.00	-17.56	PK
		H	4867.50	36.22	8.07	44.29	54.00	-9.71	AV
		H	7315.50	43.72	12.73	56.45	74.00	-17.55	PK
		H	7315.50	35.03	12.73	47.76	54.00	-6.24	AV
		H	9746.50	30.92	15.90	46.82	54(note3)	-7.18	PK
		H	12186.00	34.05	22.60	56.65	74.00	-17.35	PK
		H	12186.00	22.26	22.60	44.86	54.00	-9.14	AV
		V	4867.50	49.25	8.07	57.32	74.00	-16.68	PK
		V	4867.50	37.01	8.07	45.08	54.00	-8.92	AV
		V	7307.00	46.44	12.45	58.89	74.00	-15.11	PK
		V	7307.00	36.61	12.45	49.06	54.00	-4.94	AV
		V	9746.50	31.97	15.90	47.87	54(note3)	-6.13	PK
		V	12203.00	36.73	23.58	60.31	74.00	-13.69	PK
		V	12203.00	23.28	23.58	46.86	54.00	-7.14	AV
	11	H	4927.00	37.89	8.28	46.17	54(note3)	-7.83	PK
		H	7383.50	32.29	12.77	45.06	54(note3)	-8.94	PK
		H	9848.50	30.23	16.35	46.58	54(note3)	-7.42	PK
		H	12310.00	23.69	24.07	47.76	54(note3)	-6.24	PK
		V	4918.50	36.33	8.26	44.59	54(note3)	-9.41	PK
		V	7383.50	32.90	12.77	45.67	54(note3)	-8.33	PK
		V	9848.50	30.39	16.35	46.74	54(note3)	-7.26	PK
	V	12310.00	23.20	24.07	47.27	54(note3)	-6.73	PK	

Note: 1. Measure Level = Reading Level + Factor.

2. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit,

then average measurement needn't be performed.

Mode4: Transmit by 802.11n(40MHz)

Chain	CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
Ant 0	3	H	4884.00	31.34	8.21	39.55	54(note3)	-14.45	PK
		H	7266.00	29.56	12.77	42.33	54(note3)	-11.67	PK
		H	9688.00	28.96	15.73	44.69	54(note3)	-9.31	PK
		H	12110.00	23.91	25.45	49.36	54(note3)	-4.64	PK
		V	4844.00	34.33	8.19	42.52	54(note3)	-11.48	PK
		V	7266.00	28.30	12.77	41.07	54(note3)	-12.93	PK
		V	9688.00	30.53	15.73	46.26	54(note3)	-7.74	PK
		V	12110.00	22.09	25.45	47.54	54(note3)	-6.46	PK
	6	H	4867.50	45.15	8.07	53.22	54(note3)	-0.78	PK
		H	7281.50	39.32	12.47	51.79	54(note3)	-2.21	PK
		H	9748.00	29.69	15.88	45.57	54(note3)	-8.43	PK
		H	12185.00	28.00	22.66	50.66	54(note3)	-3.34	PK
		V	4893.00	45.92	8.27	54.19	74.00	-19.81	PK
		V	4893.00	36.12	8.27	44.39	54.00	-9.61	AV
		V	7315.50	41.85	12.73	54.58	74.00	-19.42	PK
		V	7315.50	34.10	12.71	46.81	54.00	-7.19	AV
		V	9746.50	32.16	15.90	48.06	54(note3)	-5.94	PK
		V	12220.00	34.03	24.44	58.47	74.00	-15.53	PK
	V	12220.00	23.60	24.44	48.04	54.00	-5.96	AV	
	9	H	4904.00	32.35	8.25	40.60	54(note3)	-13.40	PK
		H	7356.00	29.19	13.33	42.52	54(note3)	-11.48	PK
		H	9808.00	28.42	15.97	44.39	54(note3)	-9.61	PK
		H	12260.00	22.67	25.74	48.41	54(note3)	-5.59	PK
		V	4904.00	33.03	8.25	41.28	54(note3)	-12.72	PK
		V	7356.00	28.59	13.33	41.92	54(note3)	-12.08	PK
		V	9808.00	28.60	15.97	44.57	54(note3)	-9.43	PK
		V	12260.00	21.39	25.74	47.13	54(note3)	-6.87	PK

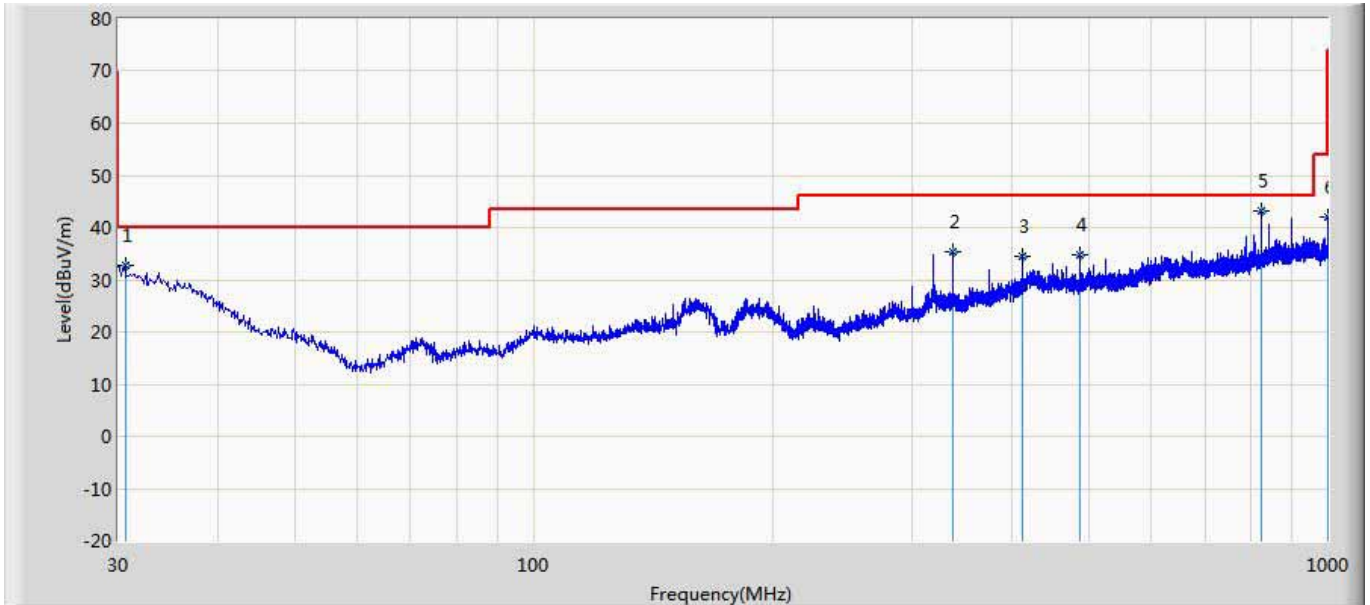
Note: 1. Measure Level = Reading Level + Factor.

2. The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

3. This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

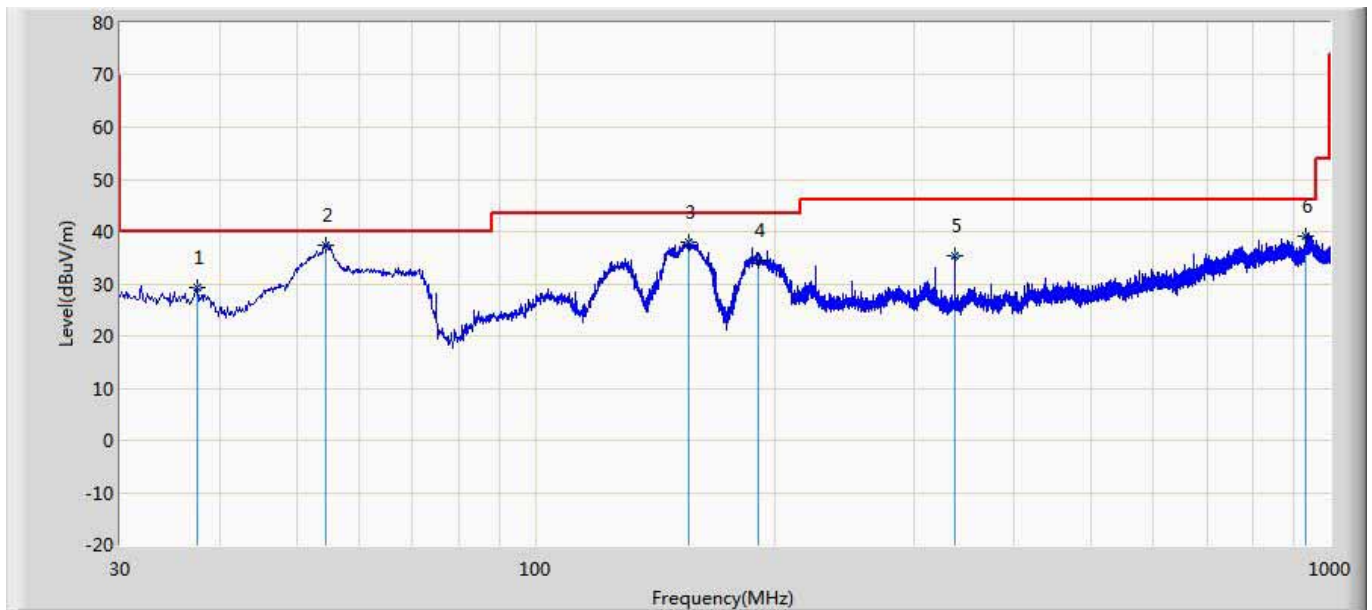
The worst case of Radiated Emission below 1GHz:

Site: CB7	Time: 2015/09/23
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CB7_CBL6112_0726	Polarity: Horizontal
EUT: POUTER WI-FI ADSL2+	Power: AC 120V/60Hz
Note: Mode 1: Transmit at CH2412 by 802.11b	



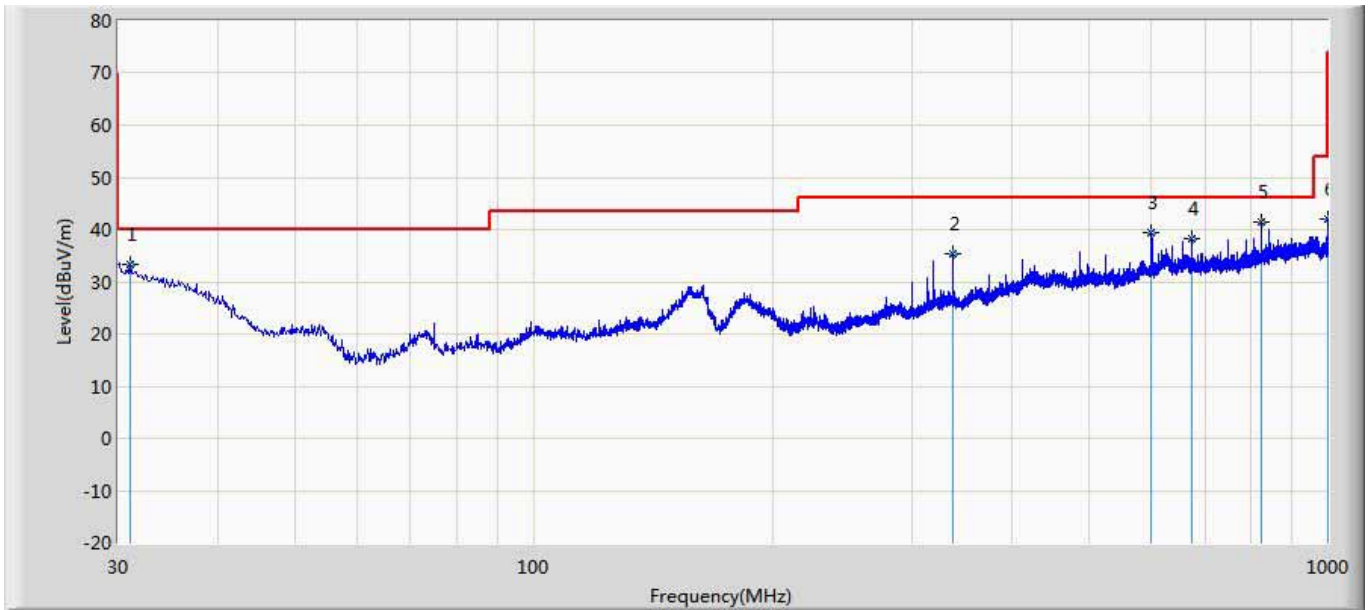
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		30.606	32.770	5.154	-7.230	40.000	27.616	QP
2		337.490	35.277	12.247	-10.723	46.000	23.030	QP
3		412.422	34.508	8.421	-11.492	46.000	26.087	QP
4		487.476	34.880	8.163	-11.120	46.000	26.717	QP
5	*	825.036	43.045	12.192	-2.955	46.000	30.853	QP
6		1000.000	41.971	9.561	-12.029	54.000	32.410	QP

Site: CB7	Time: 2015/09/23
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CB7_CBL6112_0726	Polarity: Vertical
EUT: POUTER WI-FI ADSL2+	Power: AC 120V/60Hz
Note: Mode 1: Transmit at CH2412 by 802.11b	



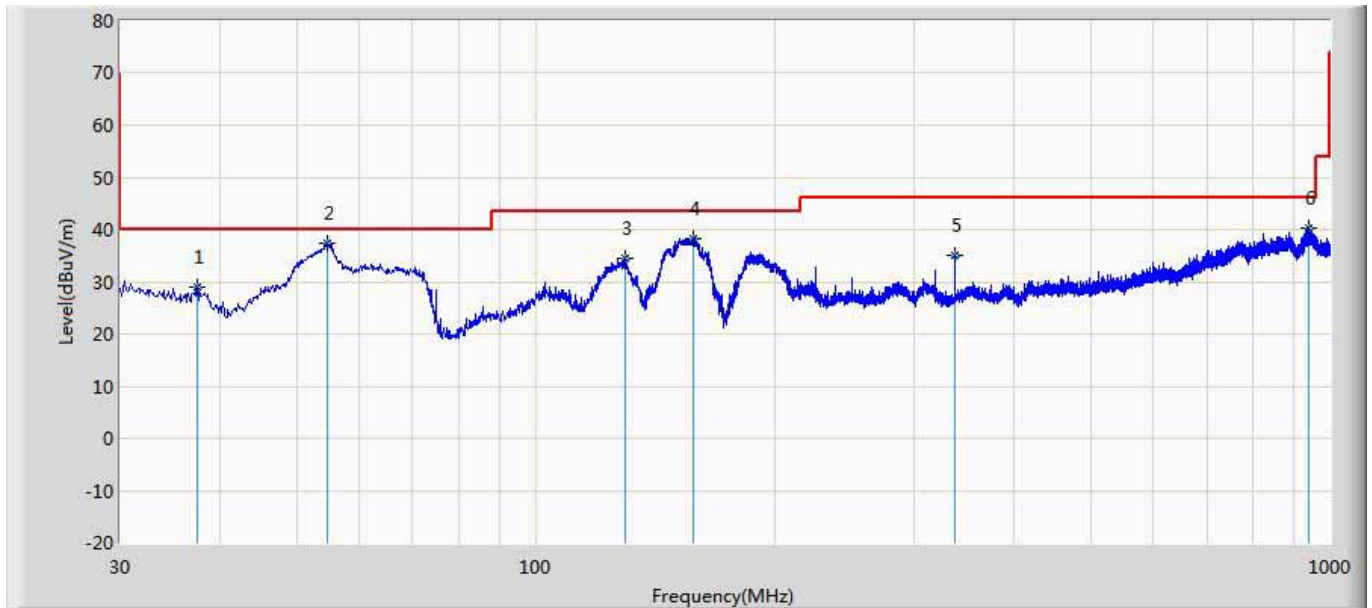
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		37.518	29.383	8.125	-10.617	40.000	21.258	QP
2	*	54.493	37.453	20.403	-2.547	40.000	17.050	QP
3		155.979	38.058	19.386	-5.442	43.500	18.671	QP
4		190.899	34.559	13.280	-8.941	43.500	21.279	QP
5		337.490	35.358	11.965	-10.642	46.000	23.393	QP
6		931.736	39.187	5.363	-6.813	46.000	33.824	QP

Site: CB7	Time: 2015/09/23
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CB7_CBL6112_0726	Polarity: Horizontal
EUT: POUTER WI-FI ADSL2+	Power: AC 120V/60Hz
Note: Mode 1: Transmit at CH2437 by 802.11b	



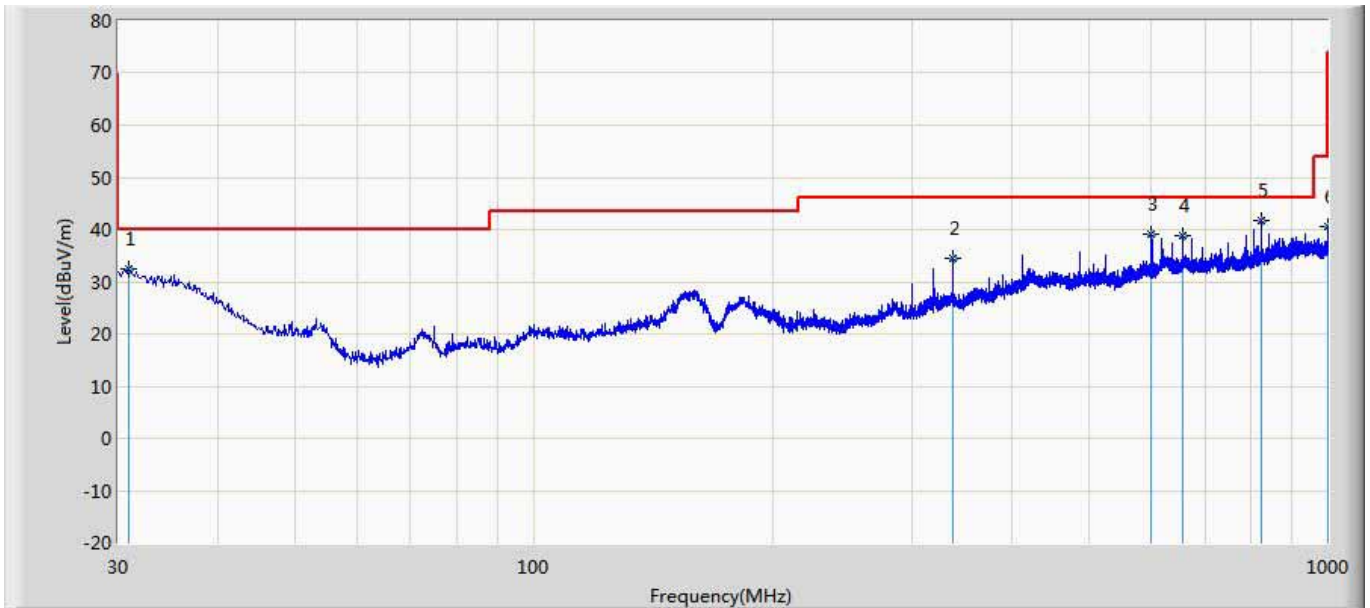
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		31.091	33.445	6.118	-6.555	40.000	27.327	QP
2		337.490	35.494	12.464	-10.506	46.000	23.030	QP
3		599.996	39.491	11.332	-6.509	46.000	28.159	QP
4		675.050	38.129	9.453	-7.871	46.000	28.676	QP
5	*	825.036	41.350	10.497	-4.650	46.000	30.853	QP
6		1000.000	41.890	9.480	-12.110	54.000	32.410	QP

Site: CB7	Time: 2015/09/23
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CB7_CBL6112_0726	Polarity: Vertical
EUT: POUTER WI-FI ADSL2+	Power: AC 120V/60Hz
Note: Mode 1: Transmit at CH2437 by 802.11b	



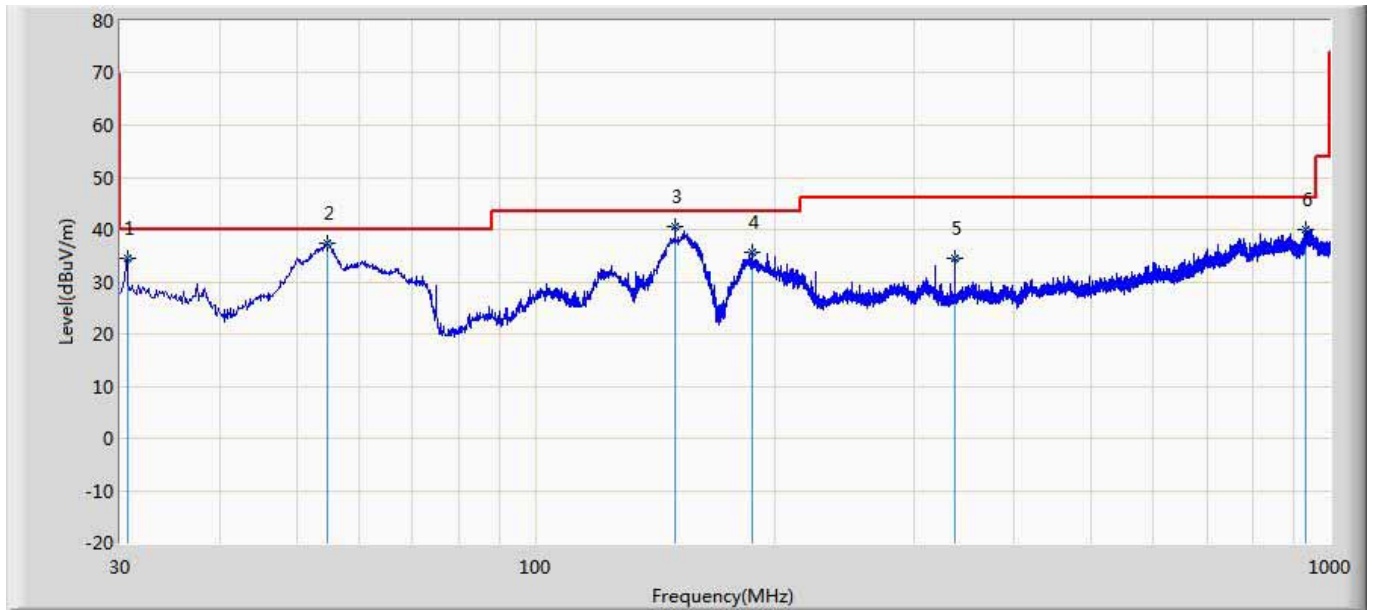
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		37.518	28.933	7.675	-11.067	40.000	21.258	QP
2	*	54.614	37.384	20.370	-2.616	40.000	17.014	QP
3		129.425	34.405	13.358	-9.095	43.500	21.047	QP
4		158.161	38.270	19.653	-5.230	43.500	18.617	QP
5		337.490	35.050	11.657	-10.950	46.000	23.393	QP
6		939.981	40.162	5.938	-5.838	46.000	34.223	QP

Site: CB7	Time: 2015/09/23
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CB7_CBL6112_0726	Polarity: Horizontal
EUT: POUTER WI-FI ADSL2+	Power: AC 120V/60Hz
Note: Mode 1: Transmit at CH2462 by 802.11b	



Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	30.970	32.427	5.027	-7.573	40.000	27.400	QP
2	337.490	34.612	11.582	-11.388	46.000	23.030	QP
3	599.996	39.217	11.058	-6.783	46.000	28.159	QP
4	656.256	38.909	9.836	-7.091	46.000	29.073	QP
5	* 825.036	41.718	10.865	-4.282	46.000	30.853	QP
6	1000.000	40.587	8.177	-13.413	54.000	32.410	QP

Site: CB7	Time: 2015/09/23
Limit: FCC_Part15.109_RE(3m)_ClassB	Margin: 0
Probe: CB7_CBL6112_0726	Polarity: Vertical
EUT: POUTER WI-FI ADSL2+	Power: AC 120V/60Hz
Note: Mode 1: Transmit at CH2462 by 802.11b	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		30.606	34.356	10.446	-5.644	40.000	23.910	QP
2	*	54.735	37.316	20.339	-2.684	40.000	16.977	QP
3		149.916	40.648	21.964	-2.852	43.500	18.684	QP
4		187.504	35.673	14.736	-7.827	43.500	20.937	QP
5		337.490	34.537	11.144	-11.463	46.000	23.393	QP
6		931.736	39.858	6.034	-6.142	46.000	33.824	QP

5. RF Antenna Conducted Spurious

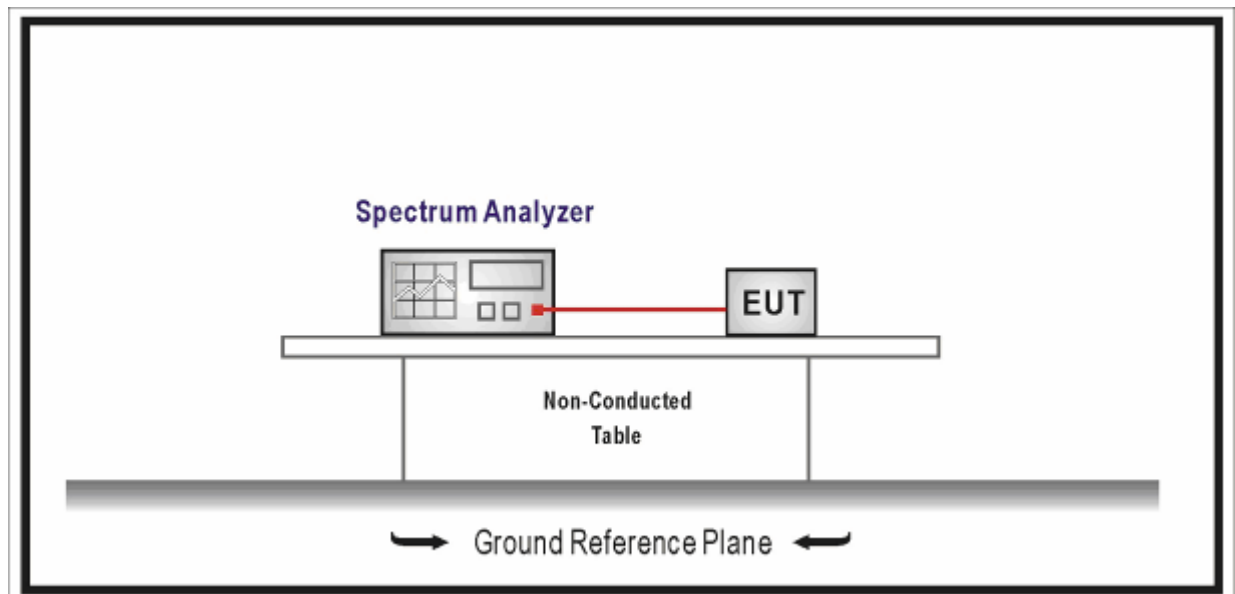
5.1. Test Equipment

RF Antenna Conducted Spurious / TR-8

Instrument	Manufacturer	Type No.	Serial No.	Cal. Due Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2016.01.07
Temperature/Humidity Meter	zhichen	ZC1-2	TR8-TH	2016.04.09

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

5.2. Test Setup



5.3. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.

If maximum conducted (average) output power was used to determine compliance as described in 11.9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc)

5.4. Test Procedure

The EUT was tested according to ANSI C63.10 for compliance to FCC 47CFR 15.247 requirements.

Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

5.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

5.6. Test Result

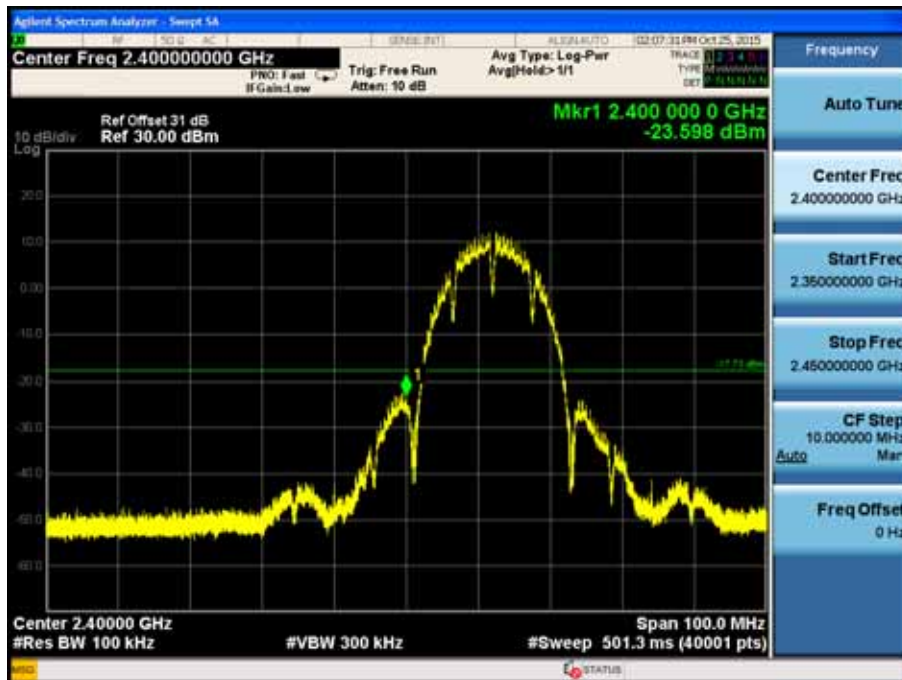
Product	:	ROUTER WI-FI ADSL2+
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	TR-8
Test Mode	:	Mode 1: Transmit by 802.11b

Channel 01 (2412MHz)

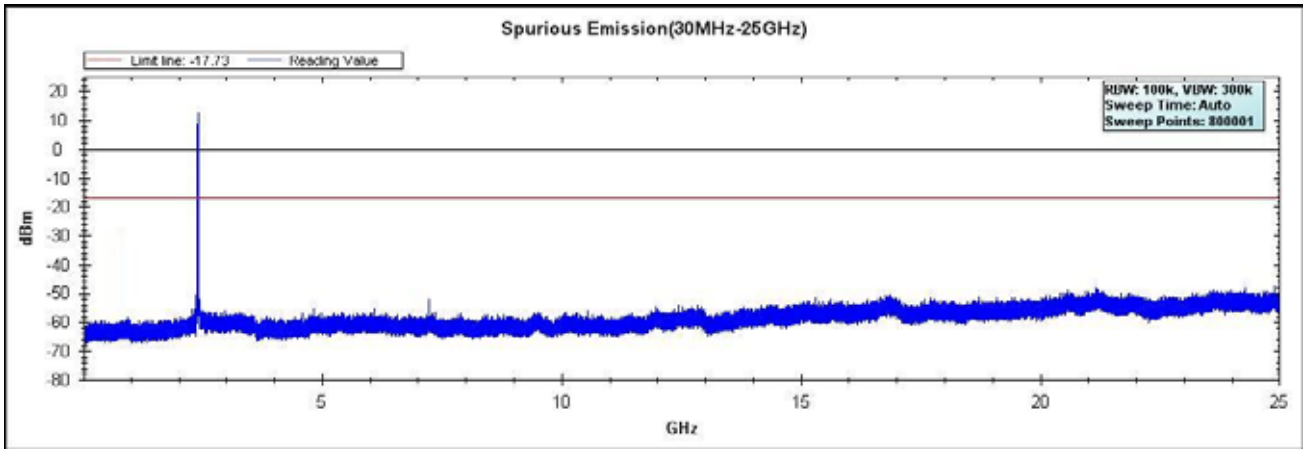
Reference Level – Frequency L Ant1



Low Band Edge - Frequency L Ant 1



Spurious Emission 30MHz ~ 25GHz - Frequency L Ant 1

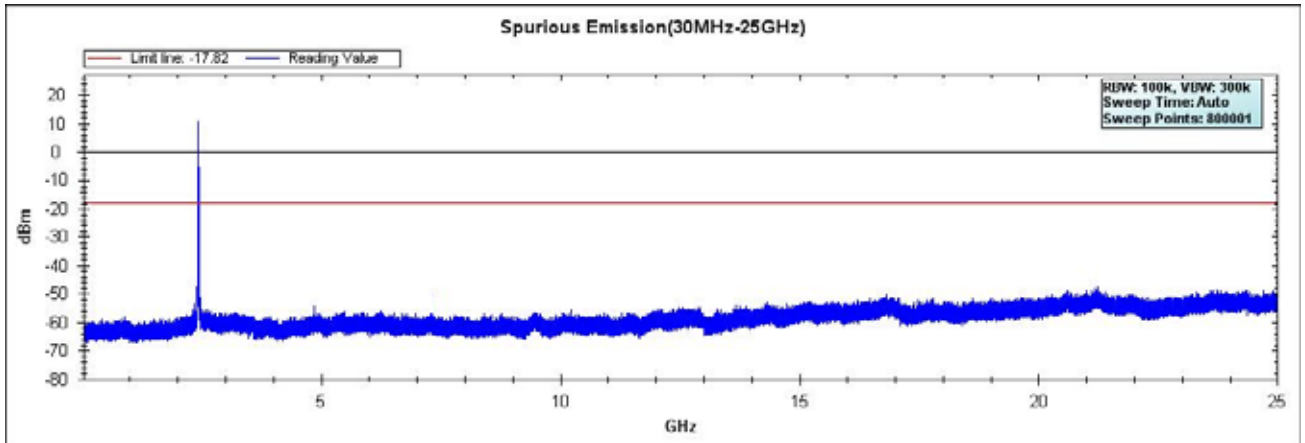


Channel 06 (2437MHz)

Reference Level – Frequency M Ant 1



Spurious Emission 30MHz ~ 25GHz - Frequency M Ant 1

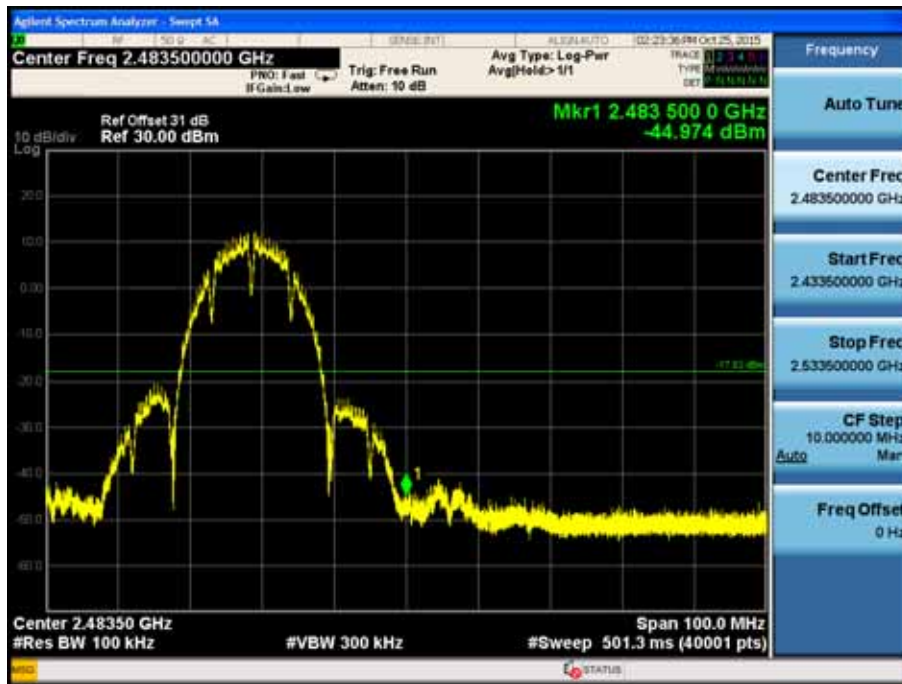


Channel 11 (2462MHz)

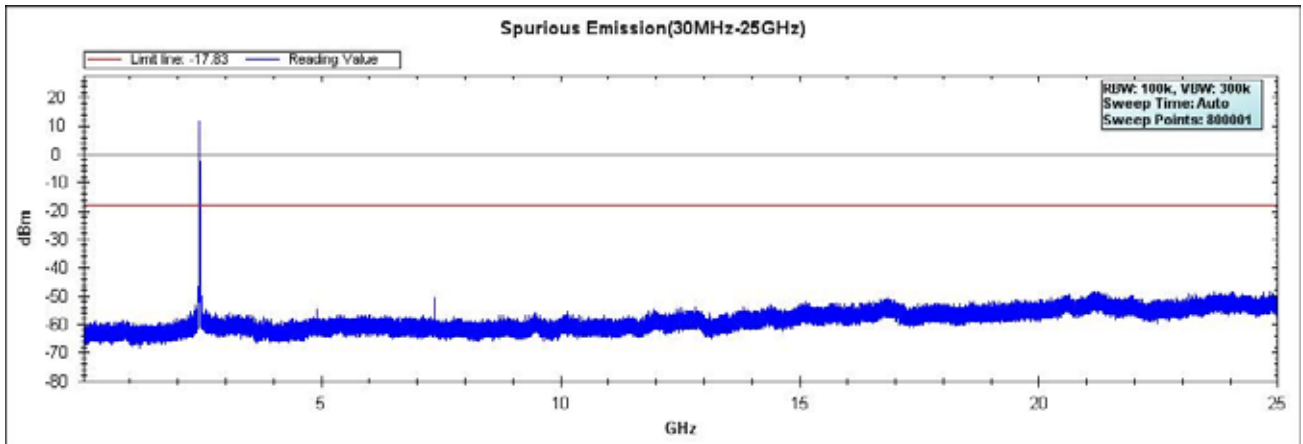
Reference Level – Frequency H Ant 1



High Band Edge - Frequency H Ant 1



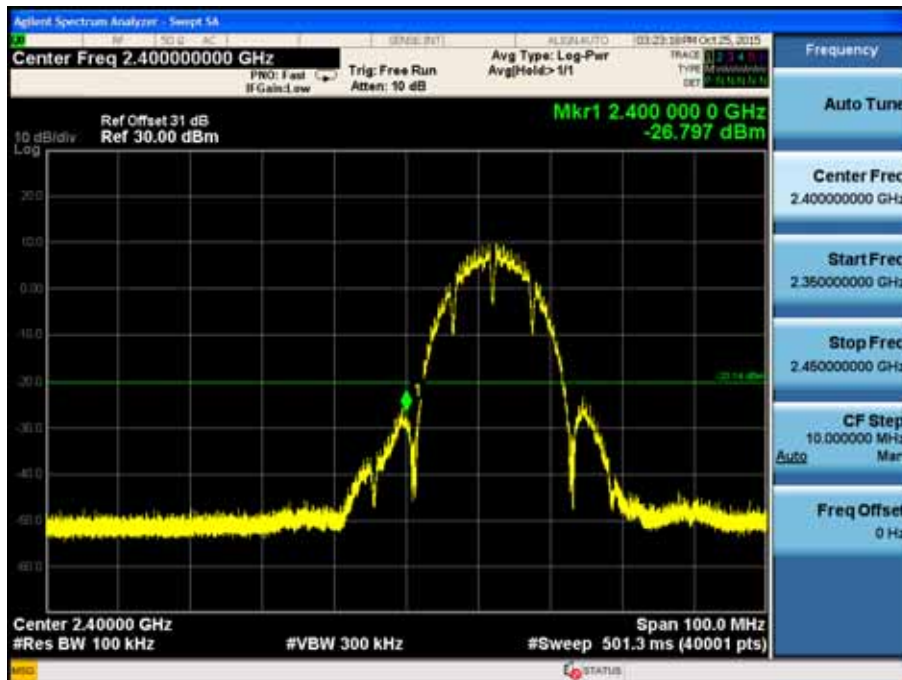
Spurious Emission 30MHz ~ 25GHz - Frequency H Ant 1



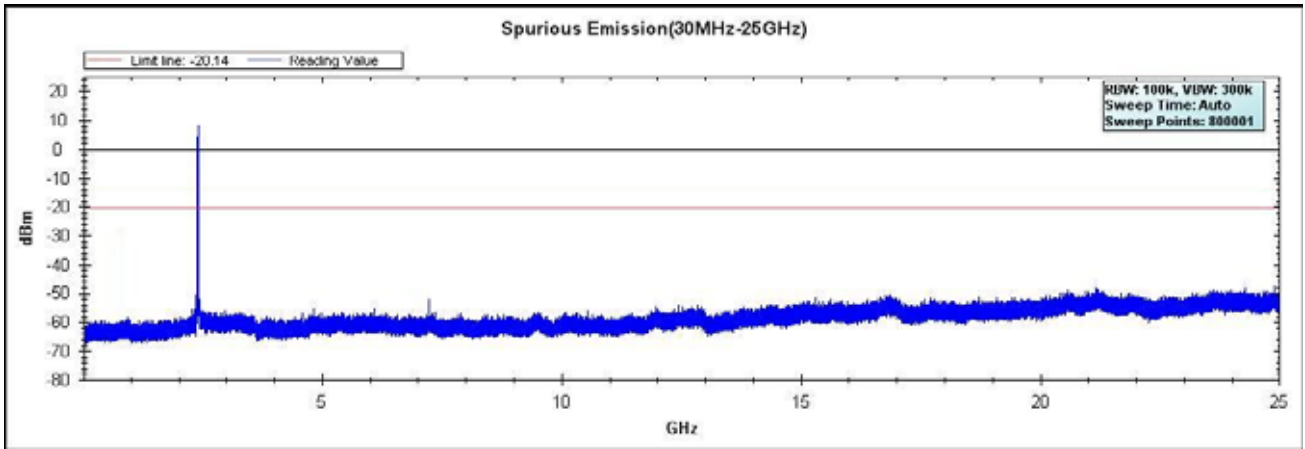
Channel 01 (2412MHz)
 Reference Level – Frequency L Ant 2



Low Band Edge - Frequency L Ant 2



Spurious Emission 30MHz ~ 25GHz - Frequency L Ant 2

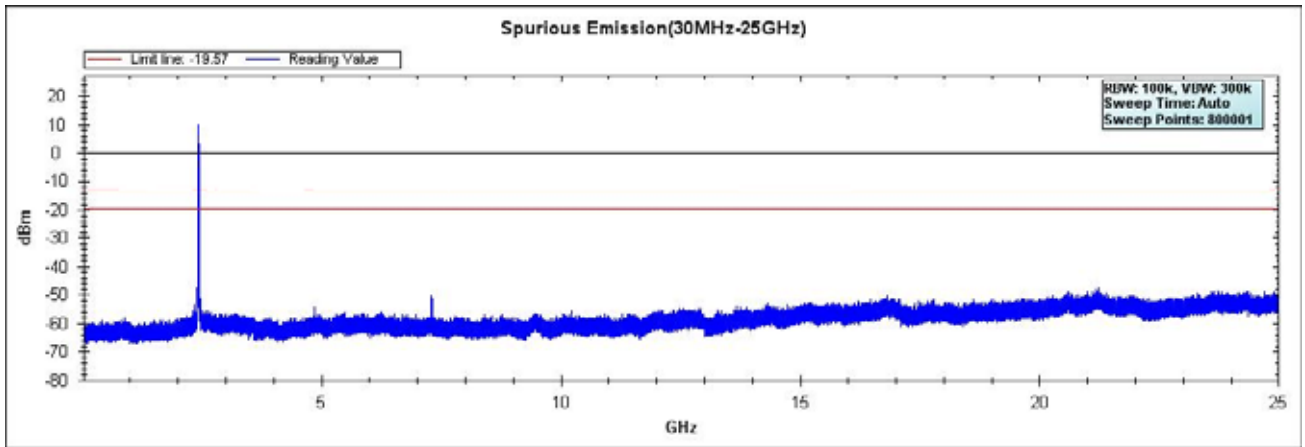


Channel 06 (2437MHz)

Reference Level – Frequency M Ant 2



Spurious Emission 30MHz ~ 25GHz - Frequency M Ant 2

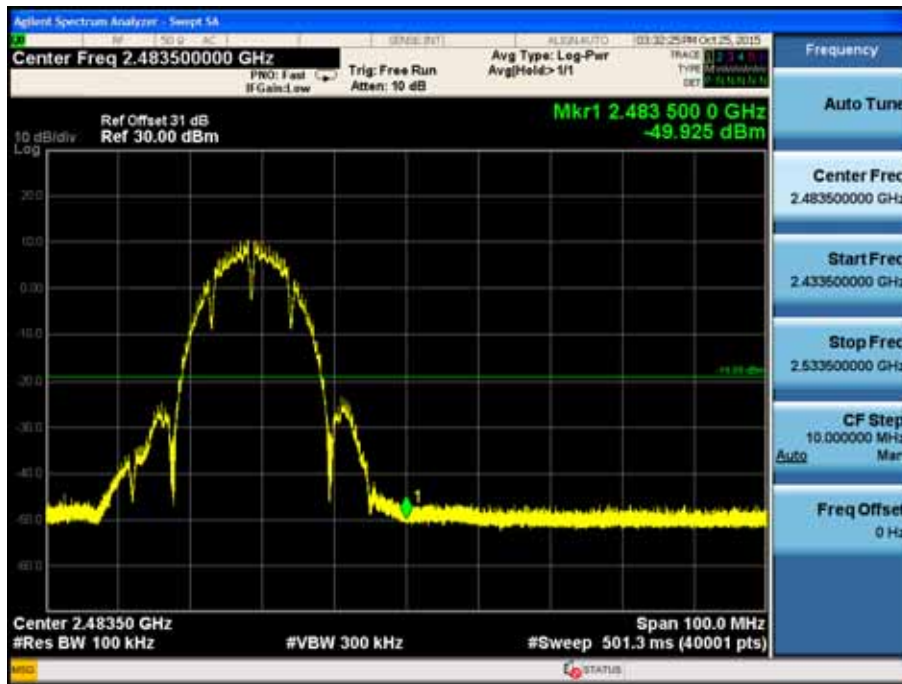


Channel 11 (2462MHz)

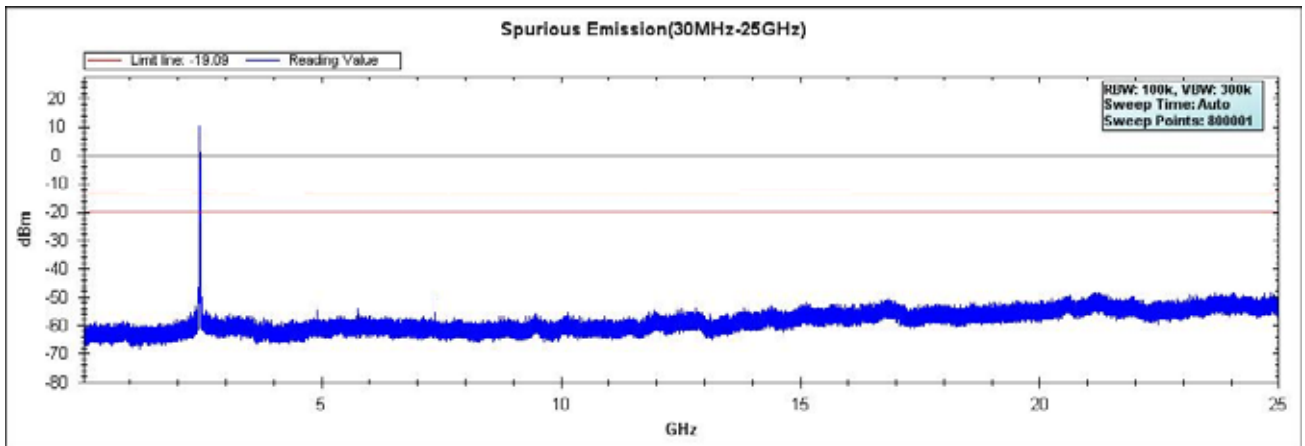
Reference Level – Frequency H Ant 2



High Band Edge - Frequency H Ant 2



Spurious Emission 30MHz ~ 25GHz - Frequency H Ant 2



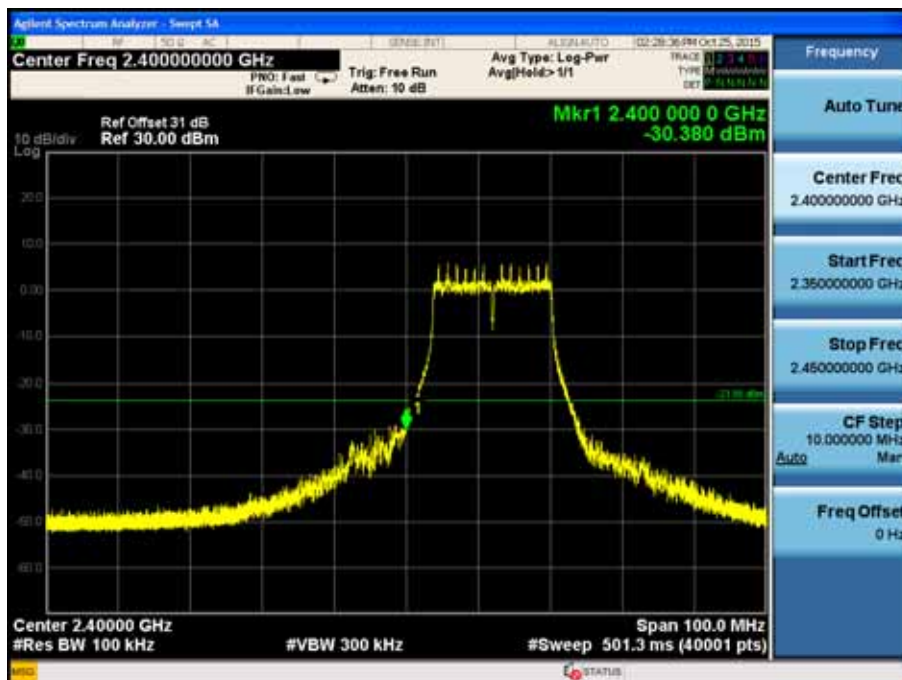
Product	:	ROUTER WI-FI ADSL2+
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	TR-8
Test Mode	:	Mode 2: Transmit by 802.11g

Channel 01 (2412MHz)

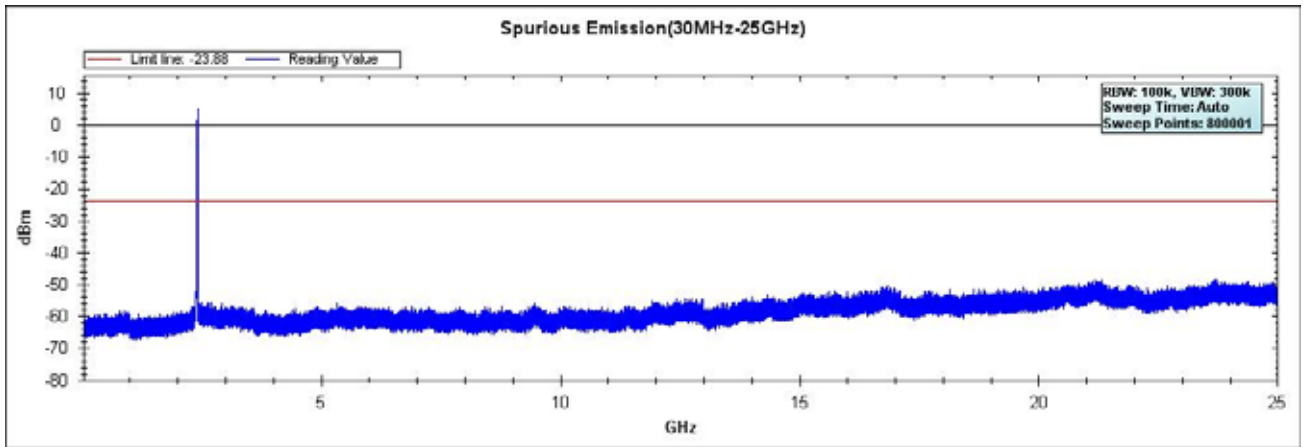
Reference Level – Frequency L Ant 1



Low Band Edge - Frequency L Ant 1



Spurious Emission 30MHz ~ 25GHz - Frequency L Ant 1

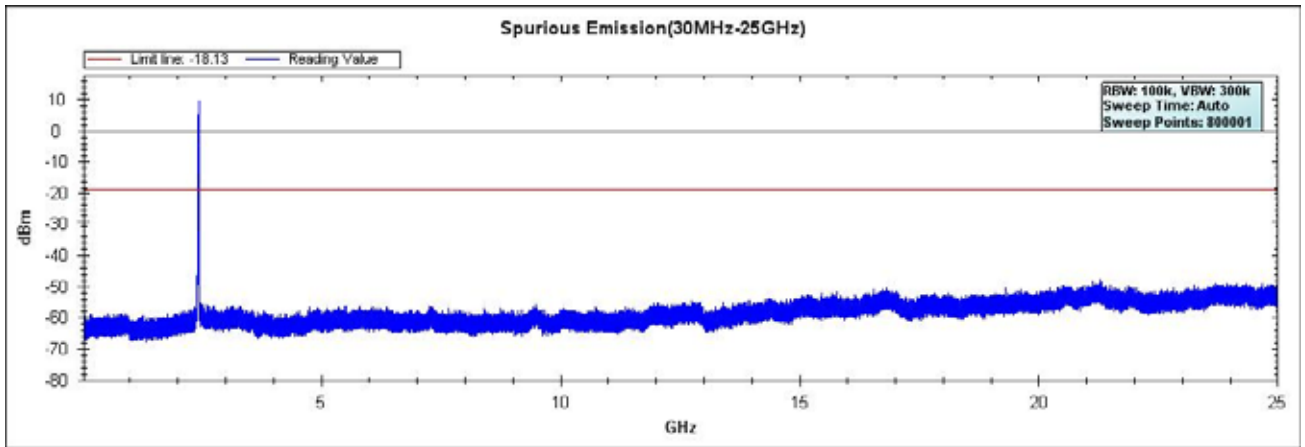


Channel 06 (2437MHz)

Reference Level – Frequency M Ant 1



Spurious Emission 30MHz ~ 25GHz - Frequency M Ant 1

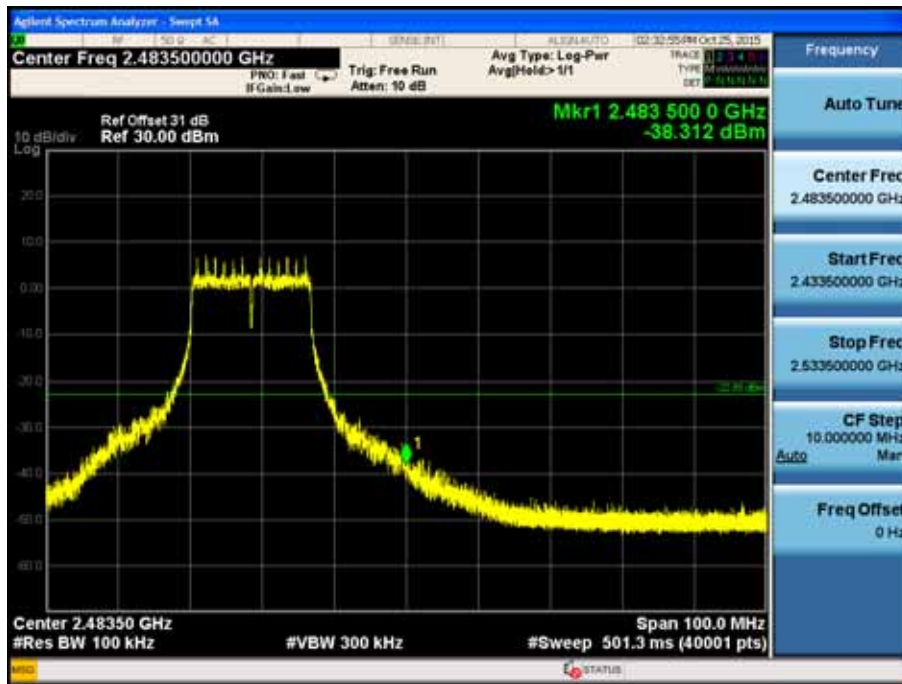


Channel 11 (2462MHz)

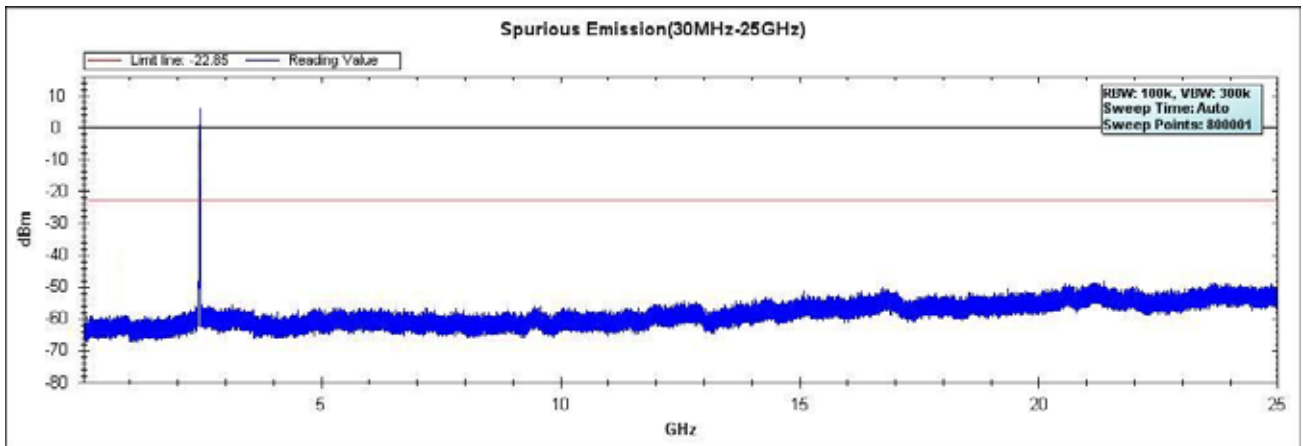
Reference Level – Frequency H Ant 1



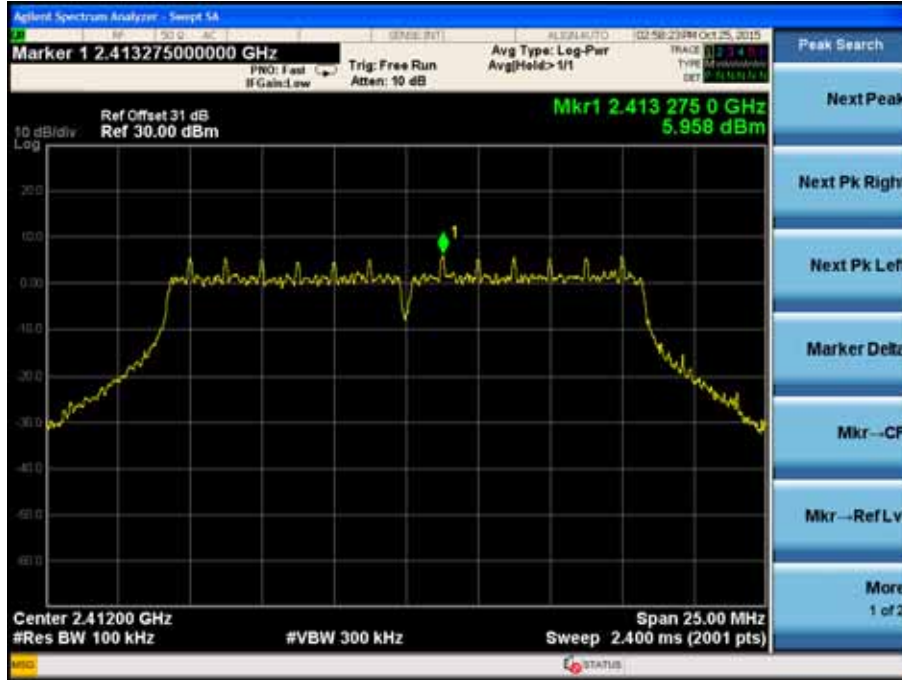
High Band Edge - Frequency H Ant 1



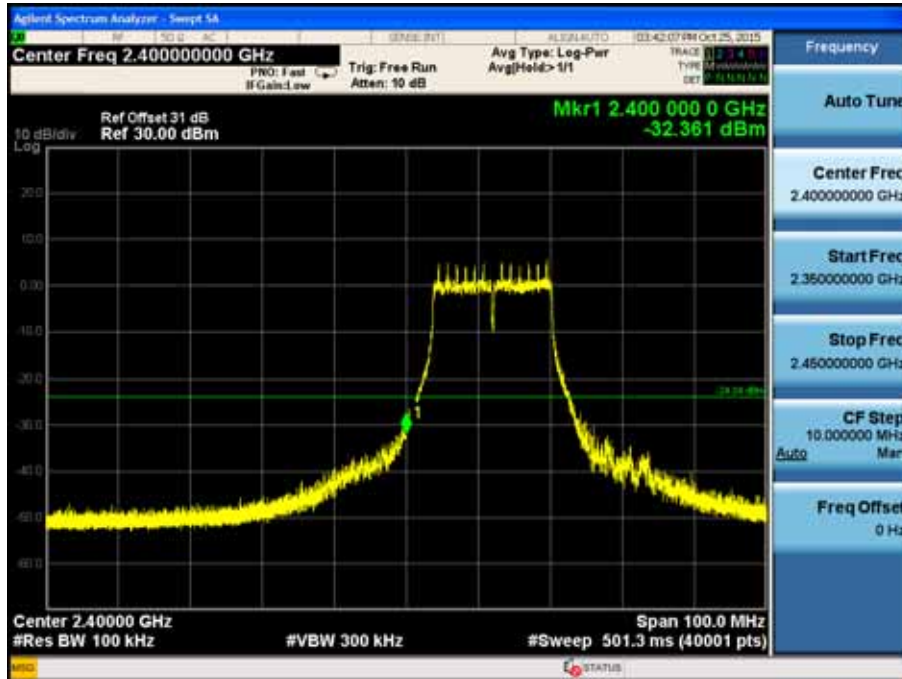
Spurious Emission 30MHz ~ 25GHz - Frequency H Ant 1



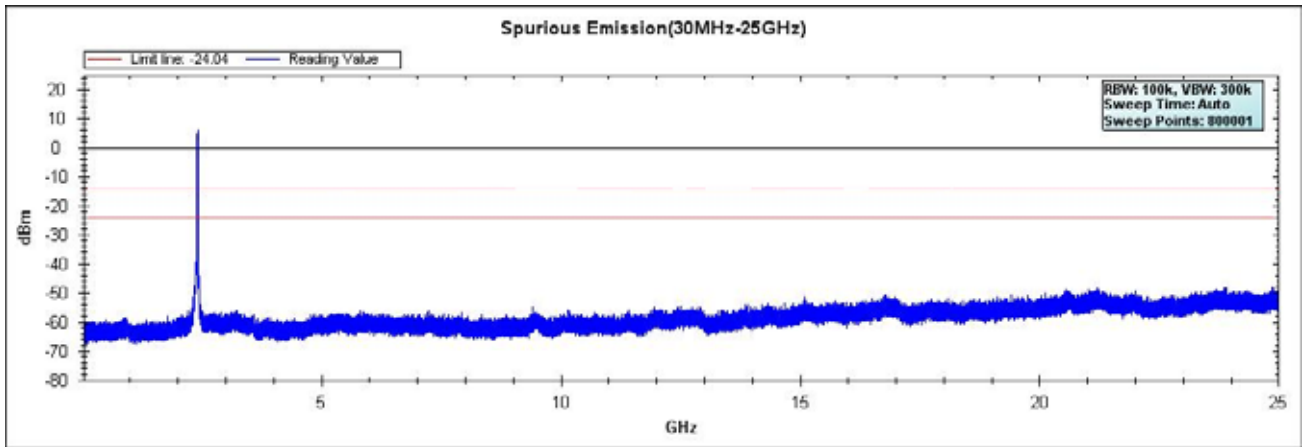
Channel 01 (2412MHz)
 Reference Level – Frequency L Ant 2



Low Band Edge - Frequency L Ant 2



Spurious Emission 30MHz ~ 25GHz - Frequency L Ant 2

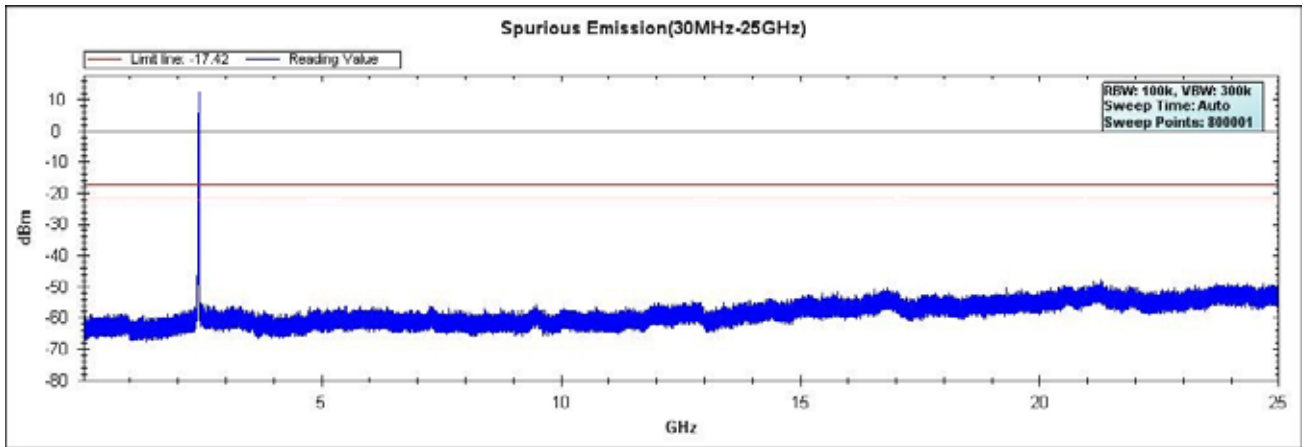


Channel 06 (2437MHz)

Reference Level – Frequency M Ant 2



Spurious Emission 30MHz ~ 25GHz - Frequency M Ant 2

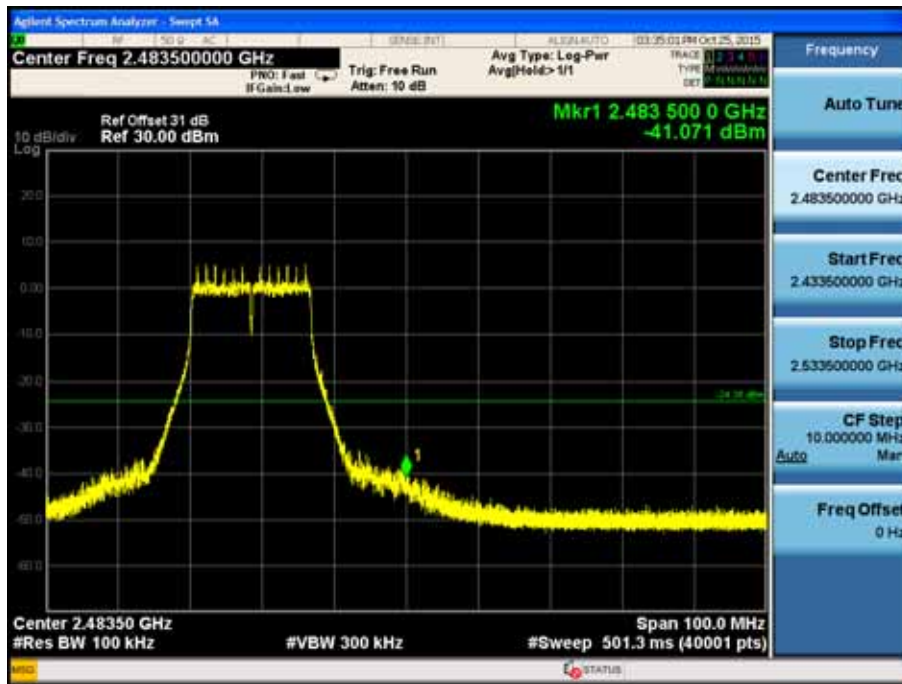


Channel 11 (2462MHz)

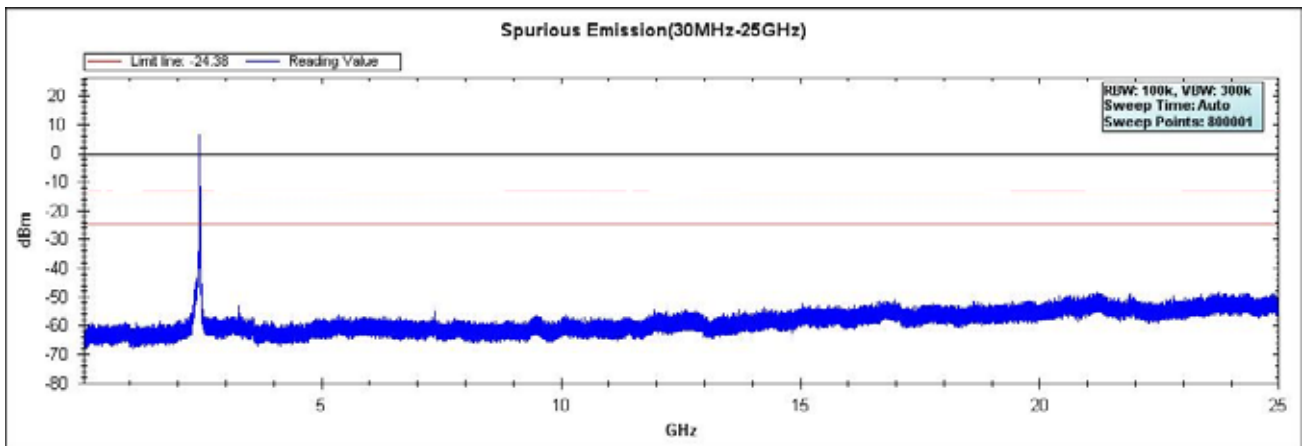
Reference Level – Frequency H Ant 2



High Band Edge - Frequency H Ant 2



Spurious Emission 30MHz ~ 25GHz - Frequency H Ant 2



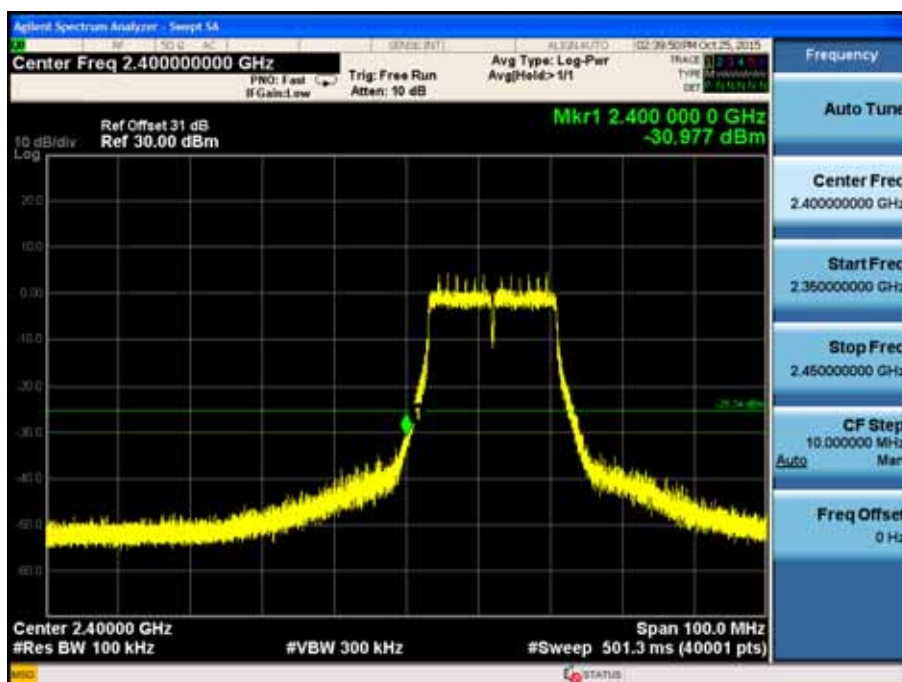
Product	:	ROUTER WI-FI ADSL2+
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	TR-8
Test Mode	:	Mode 3: Transmit by 802.11n(20MHz)

Channel 01 (2412MHz)

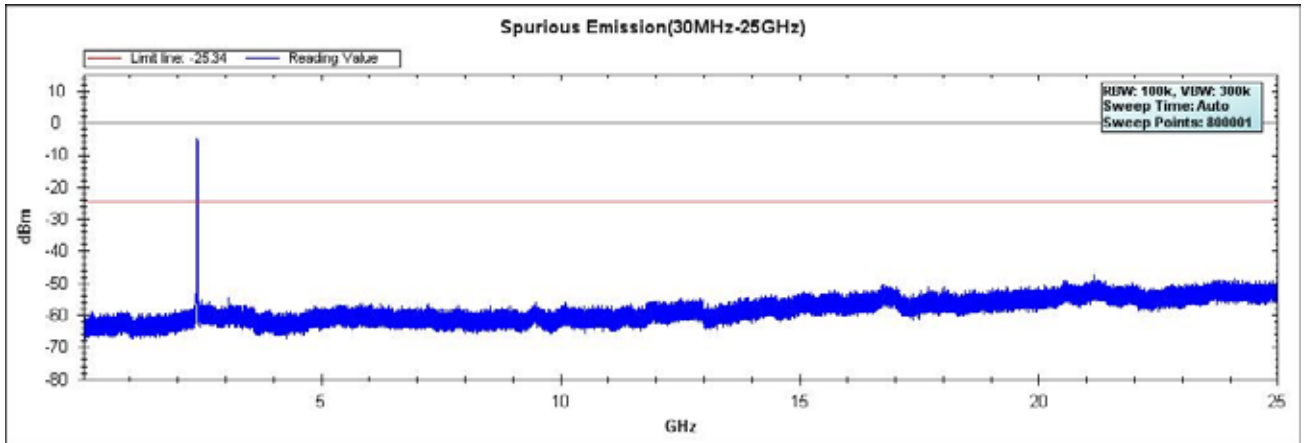
Reference Level – Frequency L Ant 1



Low Band Edge - Frequency L Ant 1



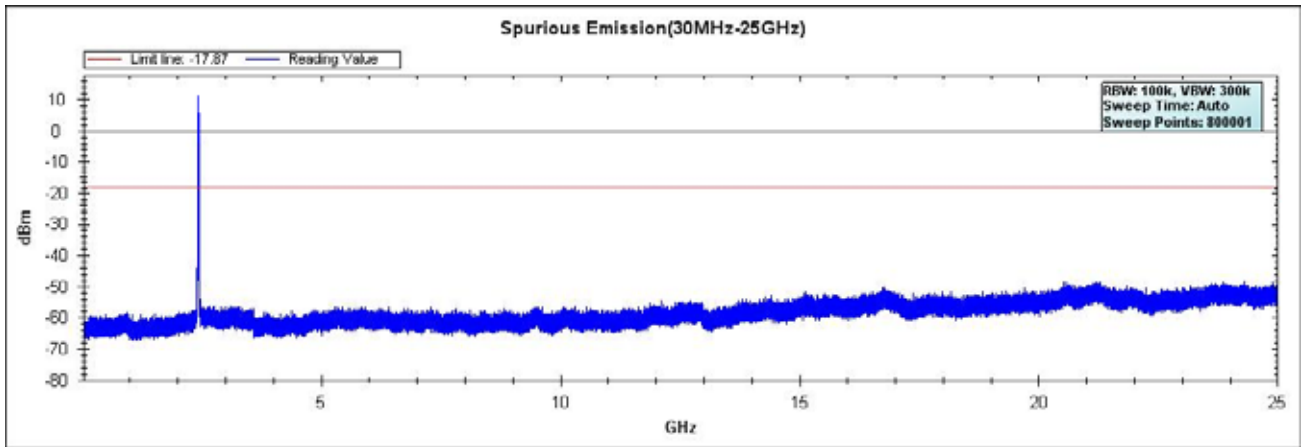
Spurious Emission 30MHz ~ 25GHz - Frequency L Ant 1



Channel 06(2437MHz) Reference Level – Frequency M Ant 1



Spurious Emission 30MHz ~ 25GHz - Frequency M Ant 1

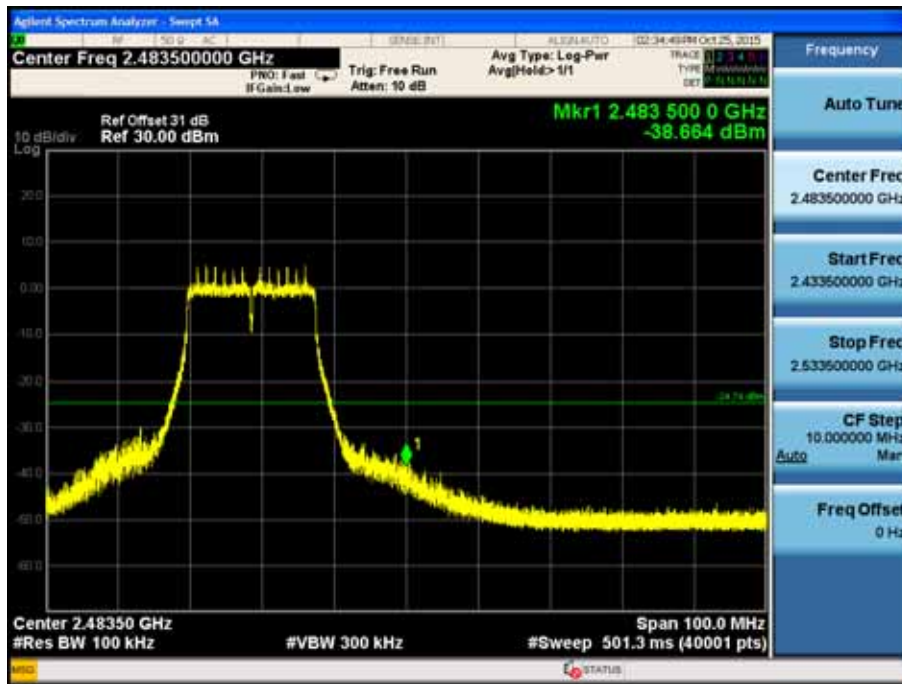


Channel 11 (2462MHz)

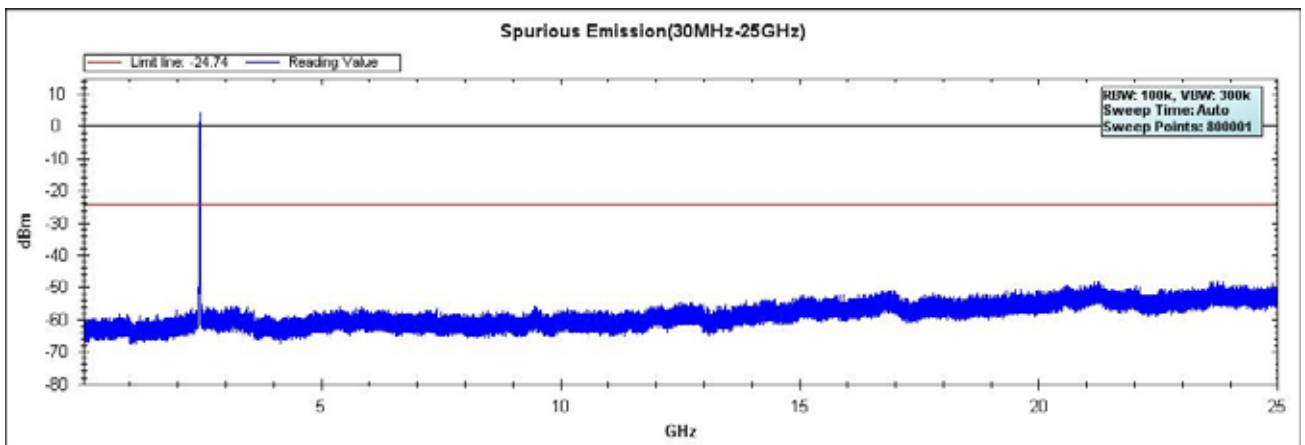
Reference Level – Frequency H Ant 1



High Band Edge - Frequency H Ant 1



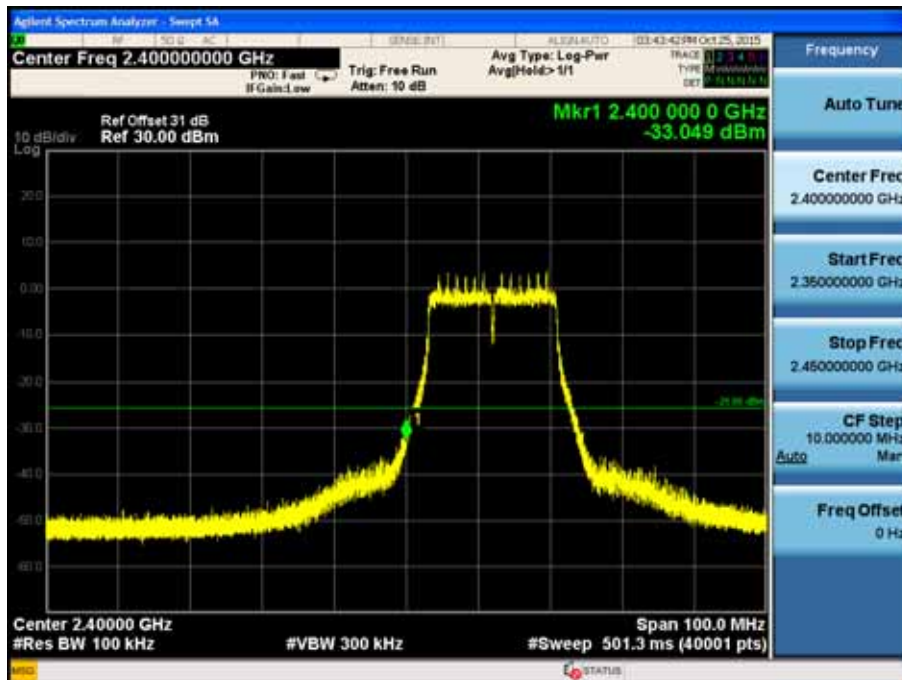
Spurious Emission 30MHz ~ 25GHz - Frequency H Ant 1



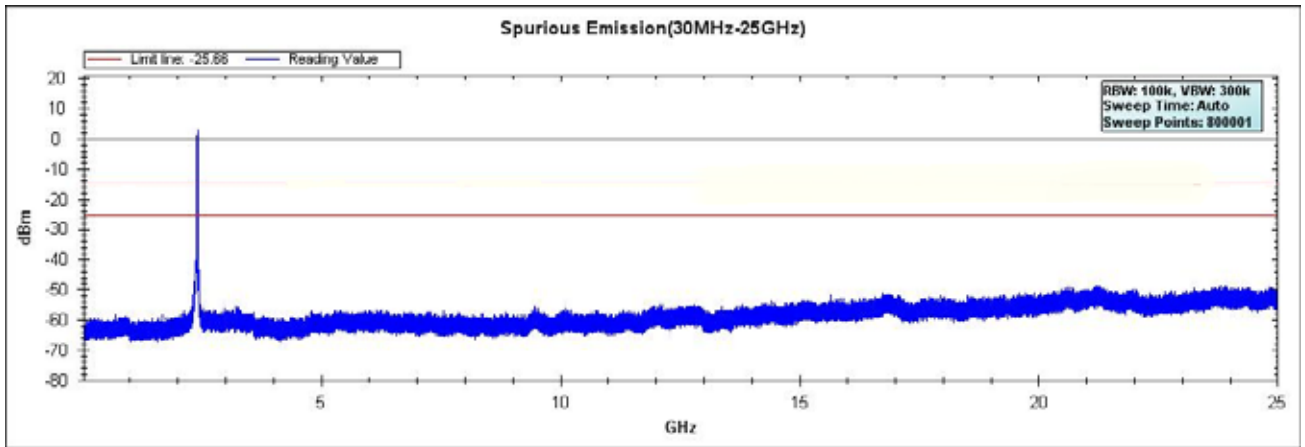
Channel 01 (2412MHz)
 Reference Level – Frequency L Ant 2



Low Band Edge - Frequency L Ant 2



Spurious Emission 30MHz ~ 25GHz - Frequency L Ant 2

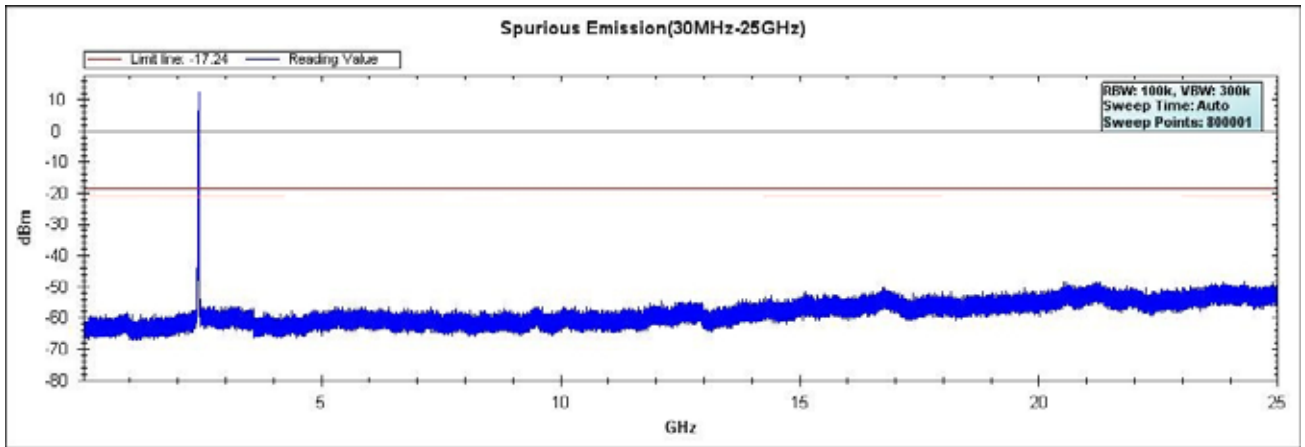


Channel 06(2437MHz)

Reference Level – Frequency M Ant 2



Spurious Emission 30MHz ~ 25GHz - Frequency M Ant 2

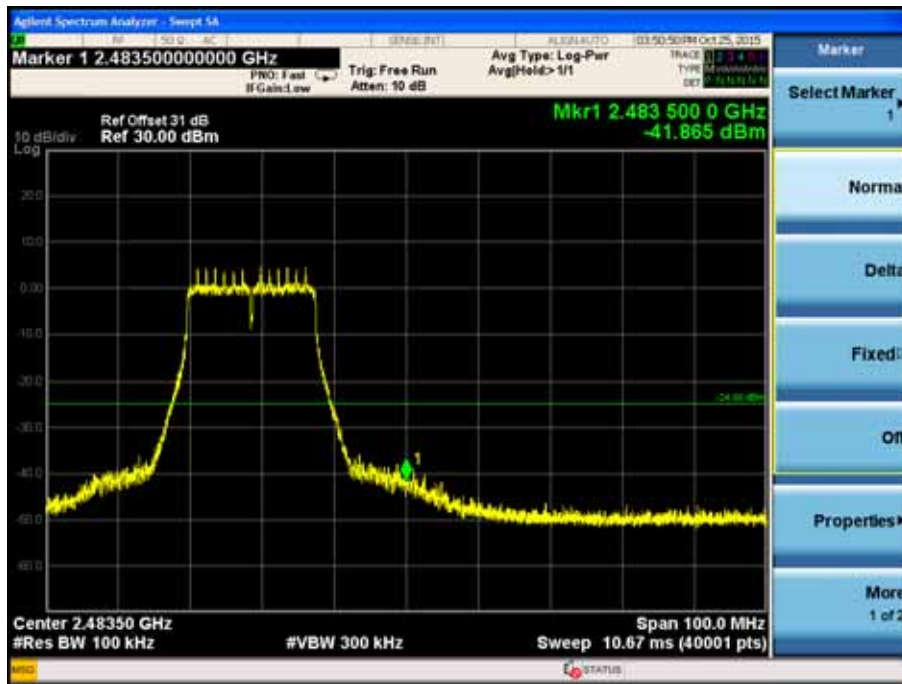


Channel 11 (2462MHz)

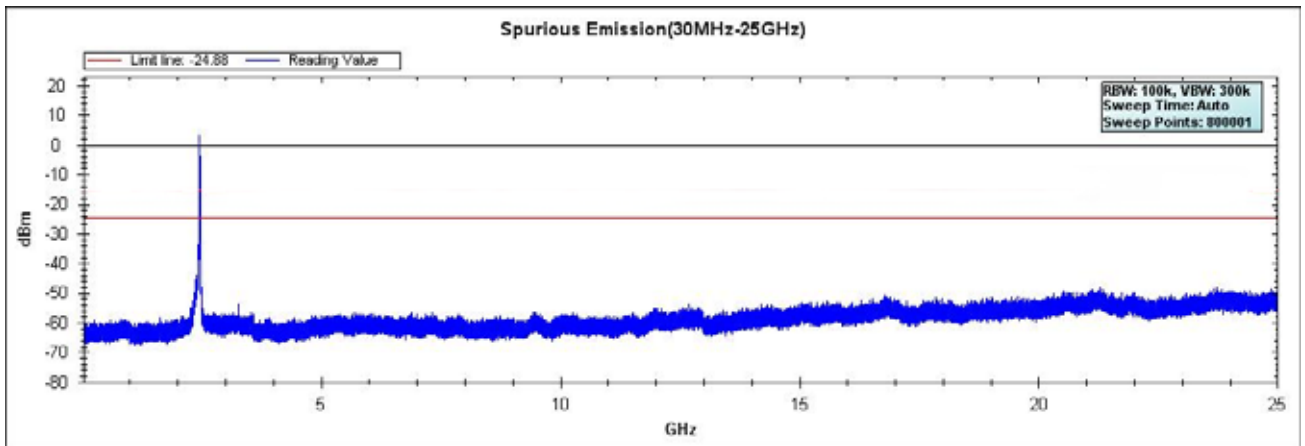
Reference Level – Frequency H Ant 2



High Band Edge - Frequency H Ant 2



Spurious Emission 30MHz ~ 25GHz - Frequency H Ant 2



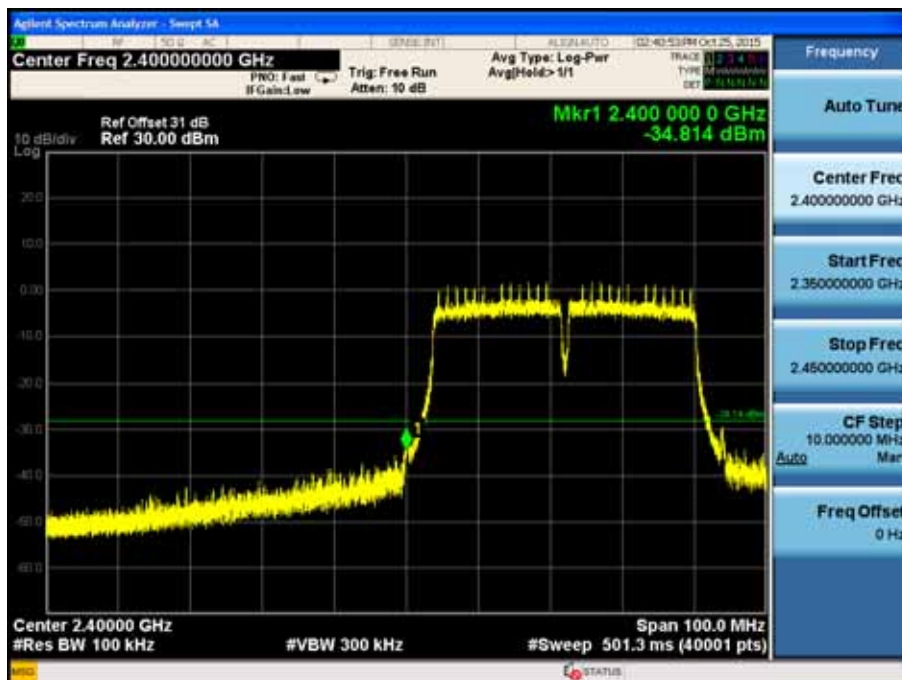
Product	:	ROUTER WI-FI ADSL2+
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	TR-8
Test Mode	:	Mode 4: Transmit by 802.11n(40MHz)

Channel 03 (2422MHz)

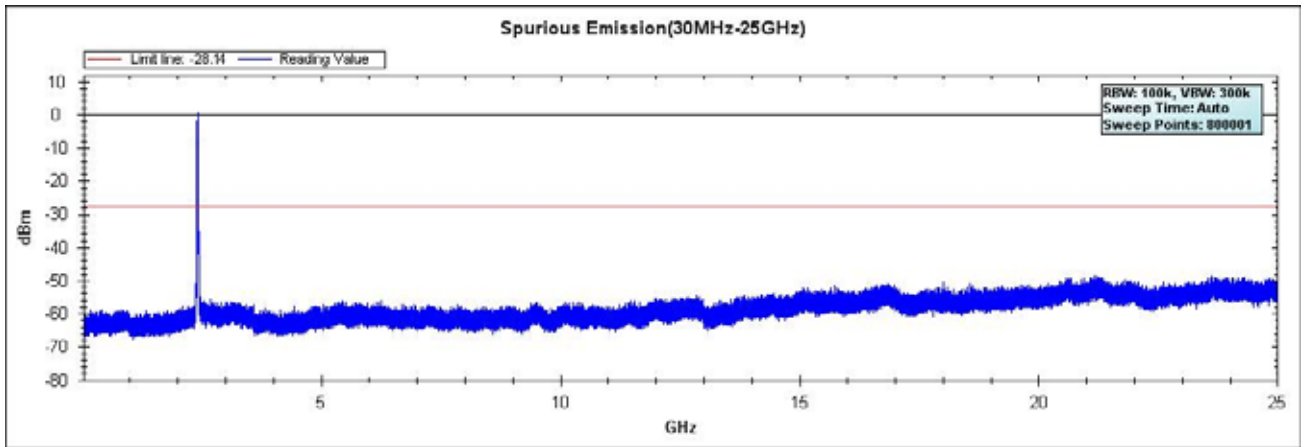
Reference Level – Frequency L Ant 1



Low Band Edge - Frequency L Ant 1



Spurious Emission 30MHz ~ 25GHz - Frequency L Ant 1

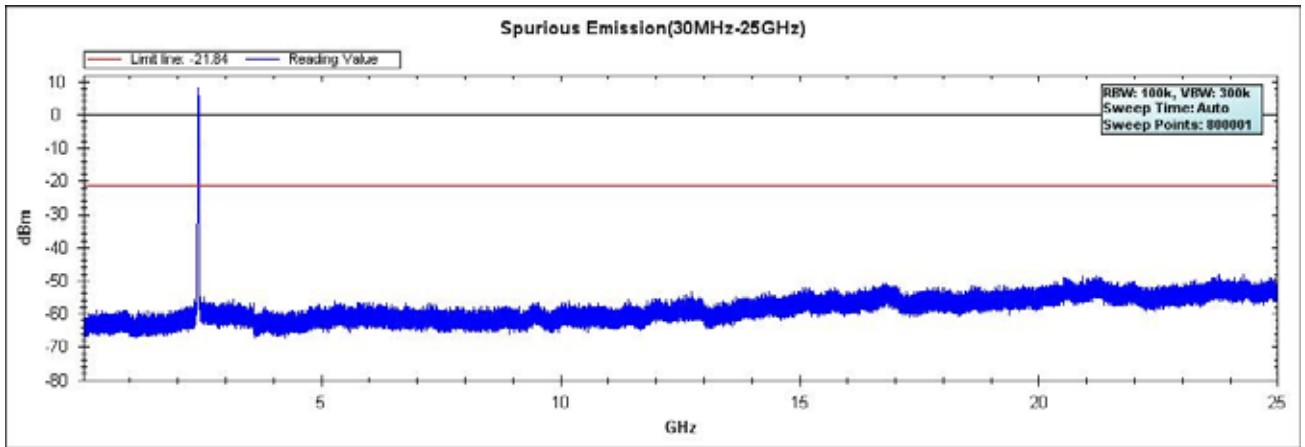


Channel 06(2437MHz)

Reference Level – Frequency M Ant 1



Spurious Emission 30MHz ~ 25GHz - Frequency M Ant 1

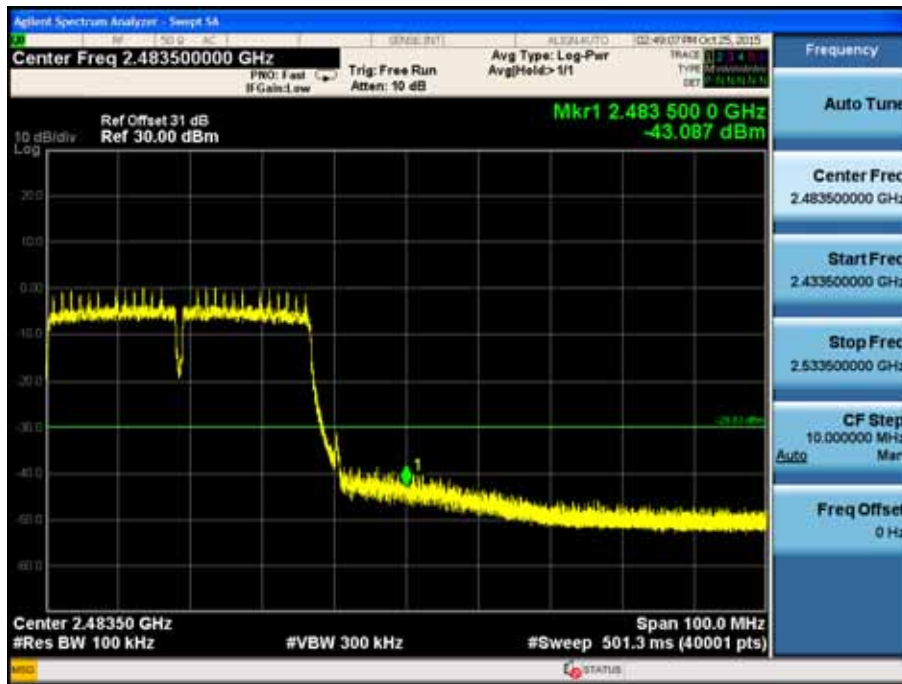


Channel 09 (2452MHz)

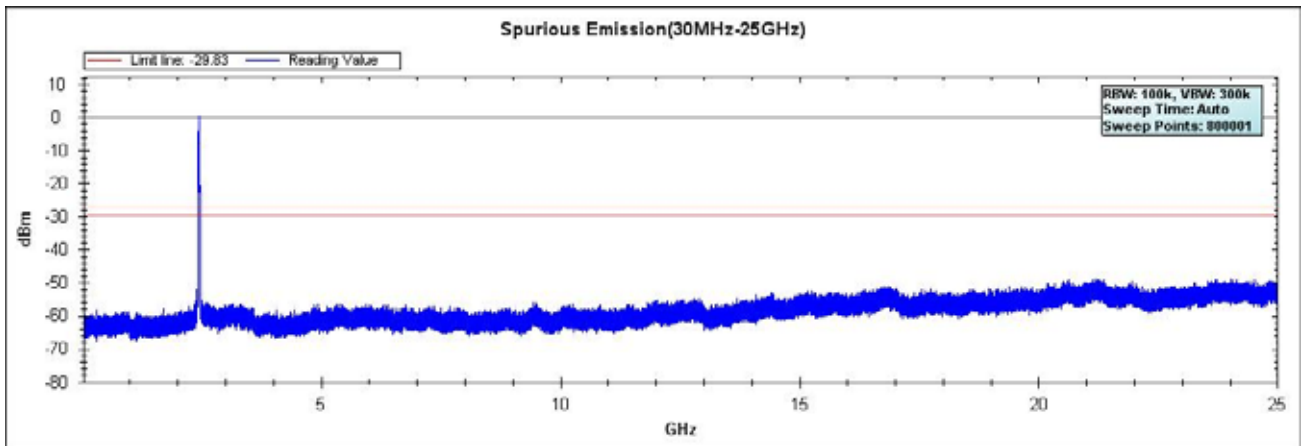
Reference Level – Frequency H Ant 1



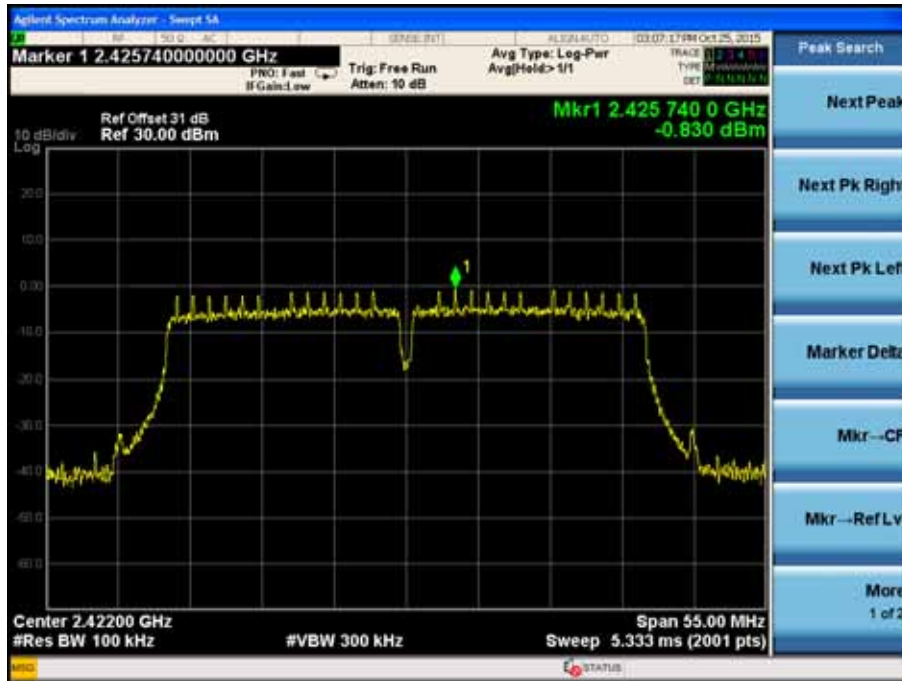
High Band Edge - Frequency H Ant 1



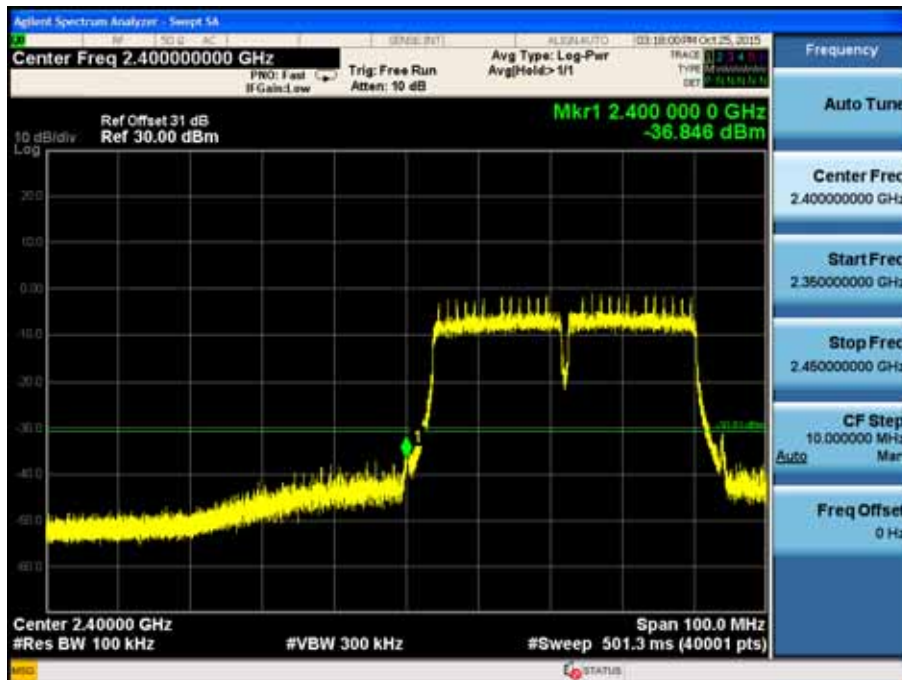
Spurious Emission 30MHz ~ 25GHz - Frequency H Ant 1



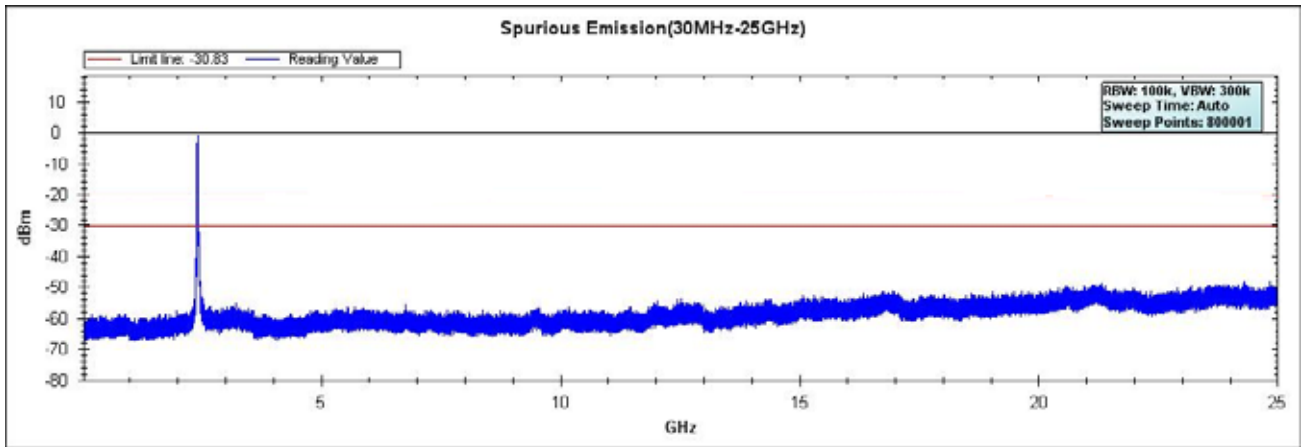
Channel 03(2422MHz)
 Reference Level – Frequency L Ant 2



Low Band Edge - Frequency L Ant 2

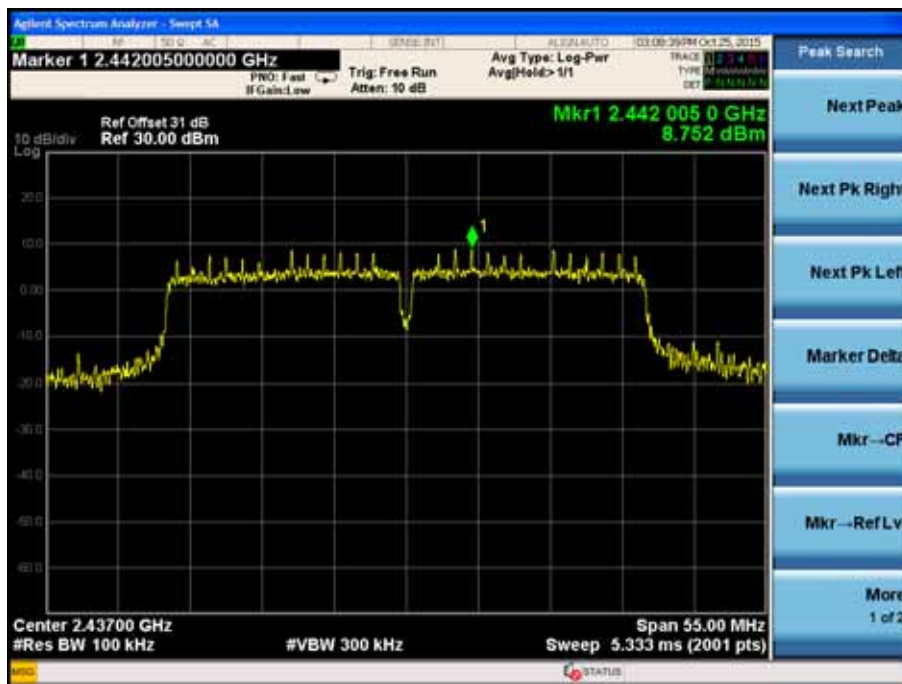


Spurious Emission 30MHz ~ 25GHz - Frequency L Ant 2

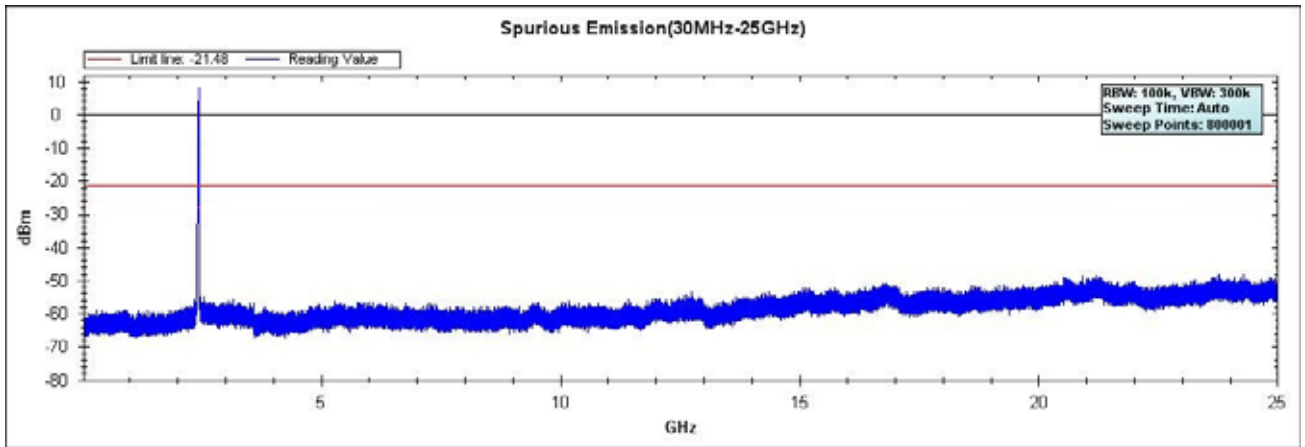


Channel 06(2437MHz)

Reference Level – Frequency M Ant 2

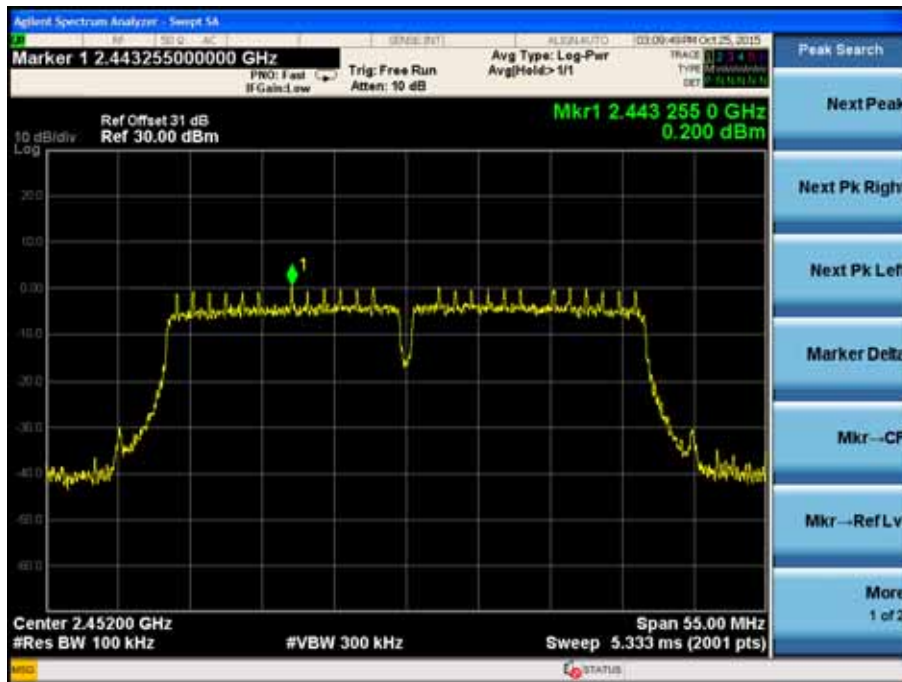


Spurious Emission 30MHz ~ 25GHz - Frequency M Ant 2

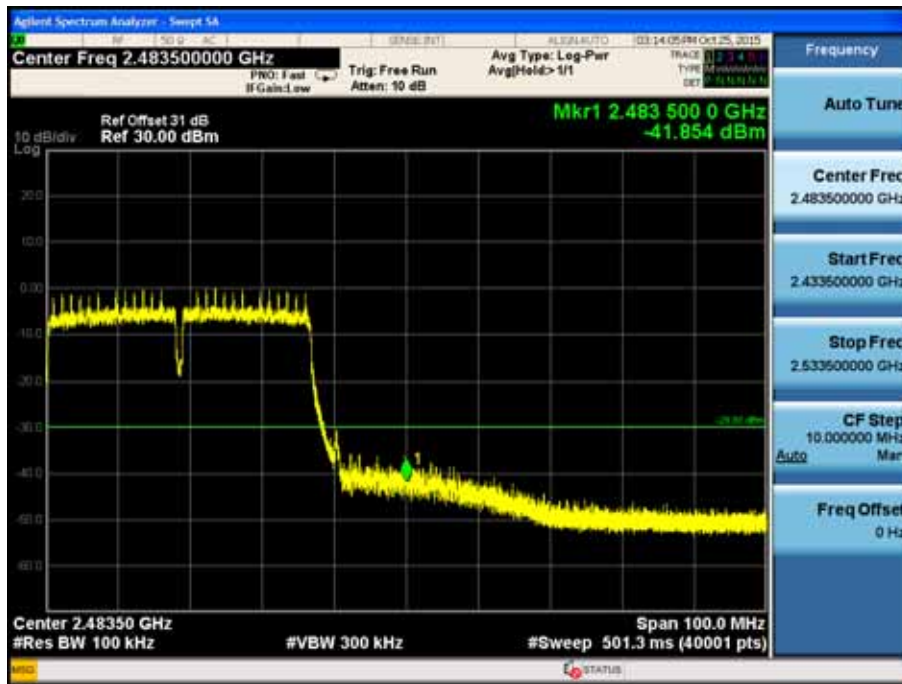


Channel 09 (2452MHz)

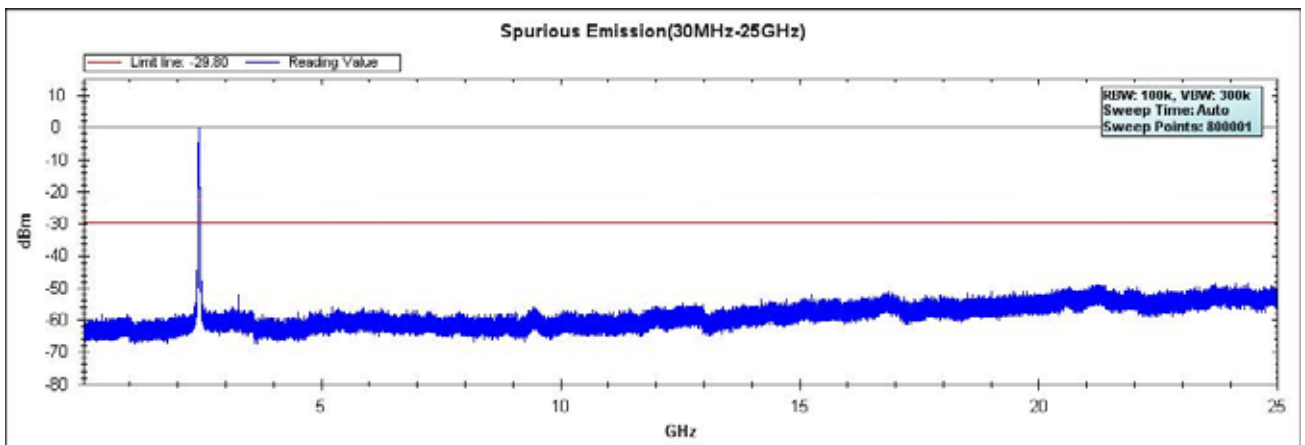
Reference Level – Frequency H Ant 2



High Band Edge - Frequency H Ant 2



Spurious Emission 30MHz ~ 25GHz - Frequency H Ant 2



6. Radiated Emission Band Edge

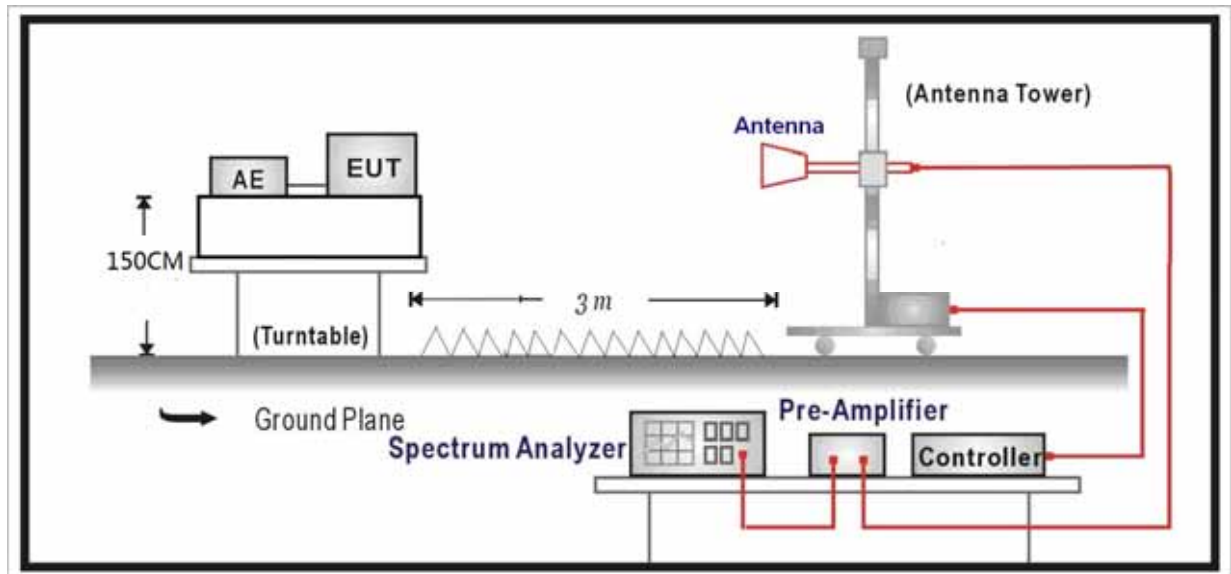
6.1. Test Equipment

Radiated Emission Band Edge / AC-5

Instrument	Manufacturer	Type No.	Serial No.	Cali. Due Date
Preamplifier	Miteq	NSP1800-25	1364185	2016.05.03
Preamplifier	Quietek	AP-040G	CHM-0906001	2016.05.03
Bilog Antenna	Teseq GmbH	CBL6112D	27612	2016.10.15
DRG Horn	ETS-Lindgren	3117	00123988	2016.01.07
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C1	2016.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC5-C2	2016.03.01
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	AC5-C3	2016.03.01
EMI Receiver	Agilent	N9038A	MY51210196	2016.06.09
Temperature/Humidity Meter	Zhichen	ZC1-2	AC5-TH	2016.01.08

Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

6.2. Test Setup



6.3. Limit

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

6.4. Test Procedure

According to ANSI C63.10: 2013.

This test is required for any spurious emission or modulation product that falls in a Restricted Band, as defined in Section 15.205 of FCC part 15. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz

VBW \geq RBW

Sweep = auto

Detector function = peak

Trace = max hold

Follow the guidelines in ANSI C63.4 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. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being

corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b) of FCC part 15.

Now set the VBW $\geq 1 / T$ (the minimum transmission duration), while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209 of FCC Part 15.

If the emission on which a radiated measurement must be made is located at the edge of the authorized band of operation, then the alternative “marker-delta” method may be employed.

6.5. Uncertainty

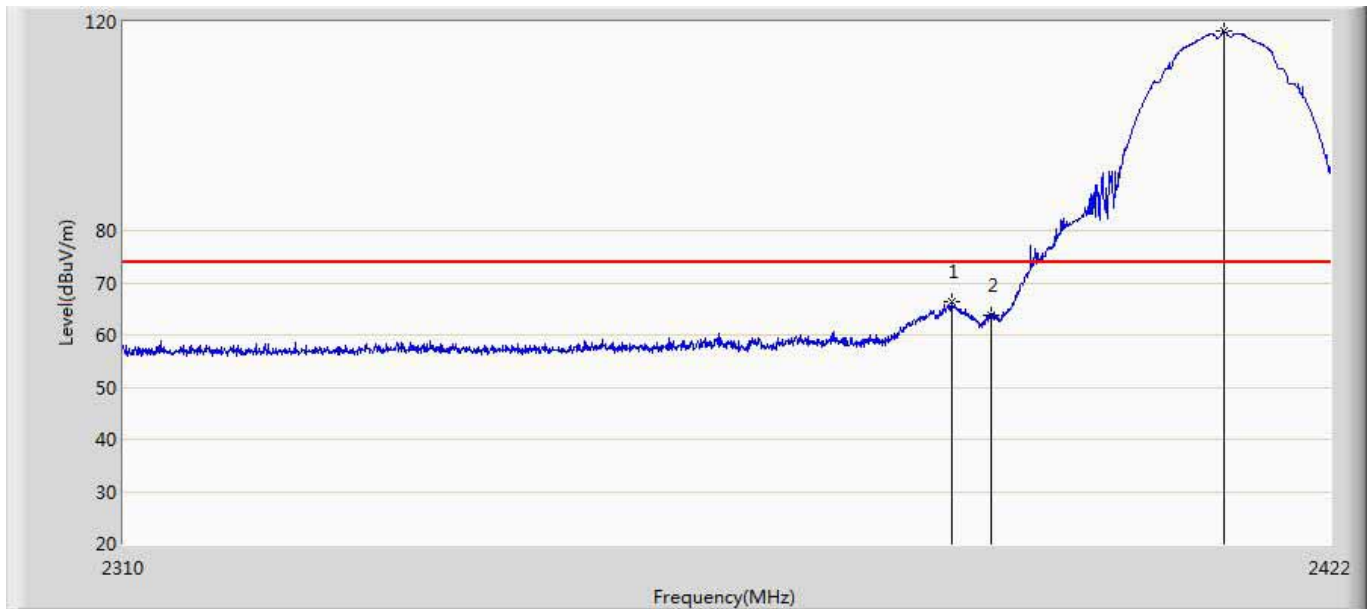
The measurement uncertainty above 1G is defined as ± 3.9 dB

6.6. Test Result

Measure Level = Reading Level + Cable Loss + Antenna Factor - Preamplifier Gain

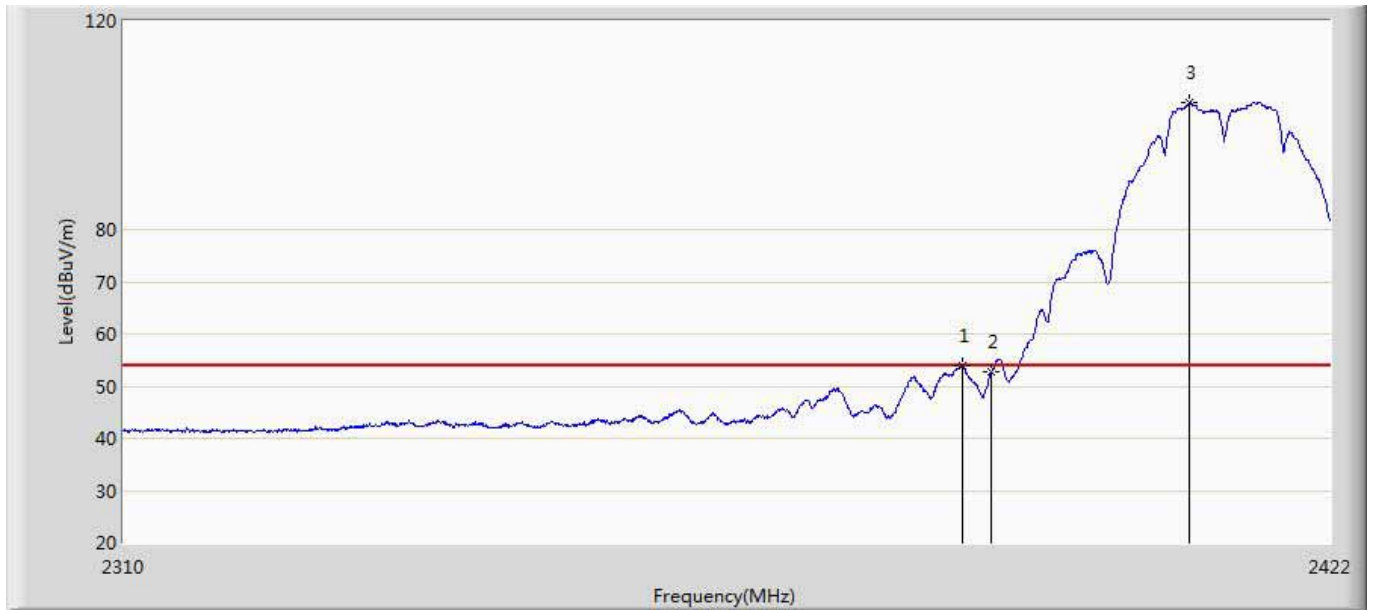
Note: when the duty cycle is less than 98%, a duty cycle factor is calculated in the correction factor.

Site: AC5	Time: 2015/11/02 - 16:47
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2412	



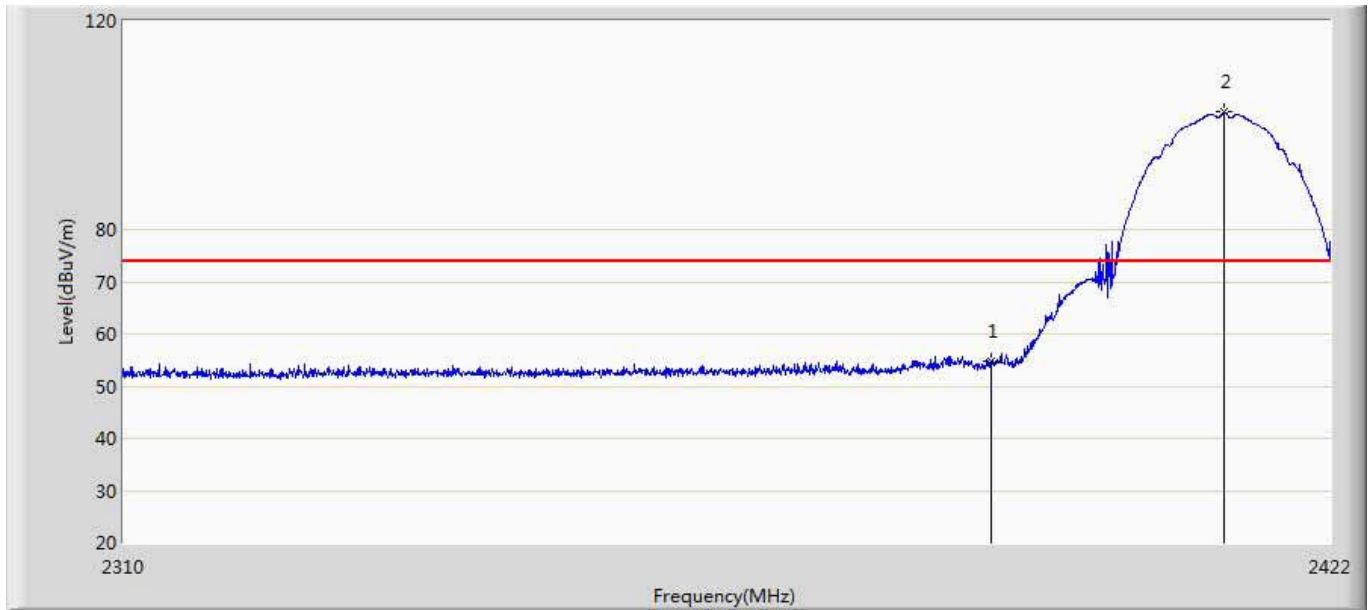
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2386.272	66.518	28.641	-7.482	74.000	37.877	PK
2		2390.000	63.641	25.778	-10.359	74.000	37.863	PK
3	*	2411.920	118.241	80.404	44.241	N/A	N/A	PK

Site: AC5	Time: 2015/11/02 - 16:48
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2412	



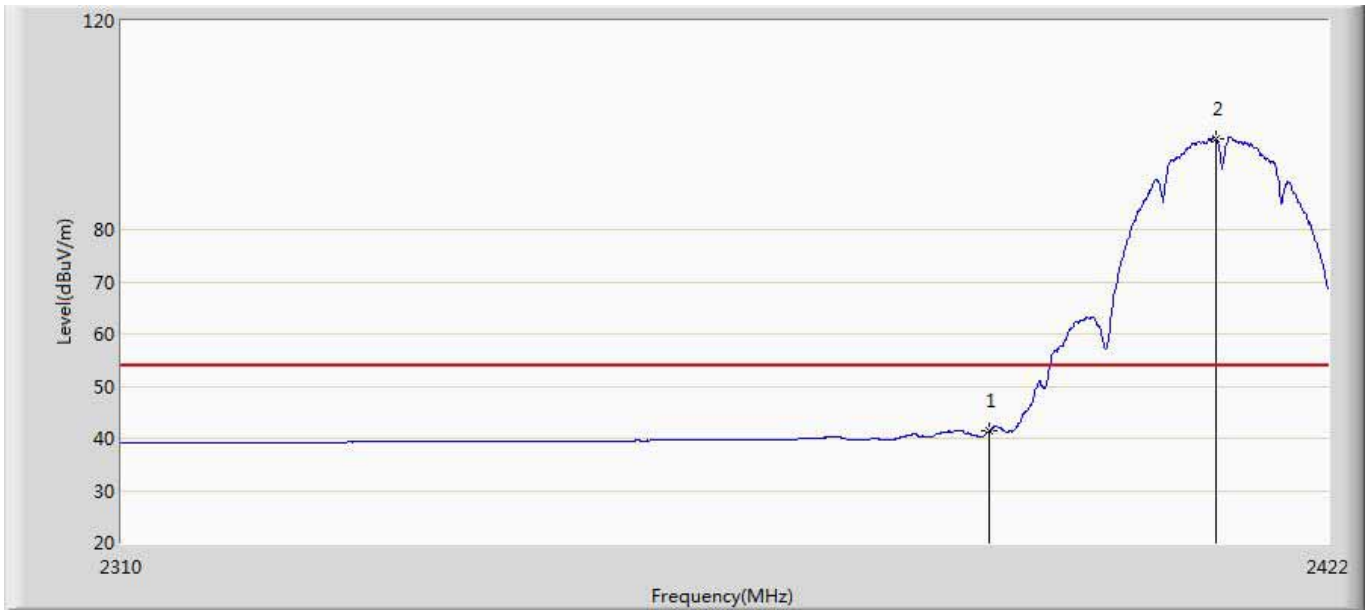
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2387.280	53.769	15.896	-0.231	54.000	37.874	AV
2		2390.000	52.615	14.752	-1.385	54.000	37.863	AV
3	*	2408.672	104.330	66.496	50.330	N/A	N/A	AV

Site: AC5	Time: 2015/11/02 - 17:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2412	



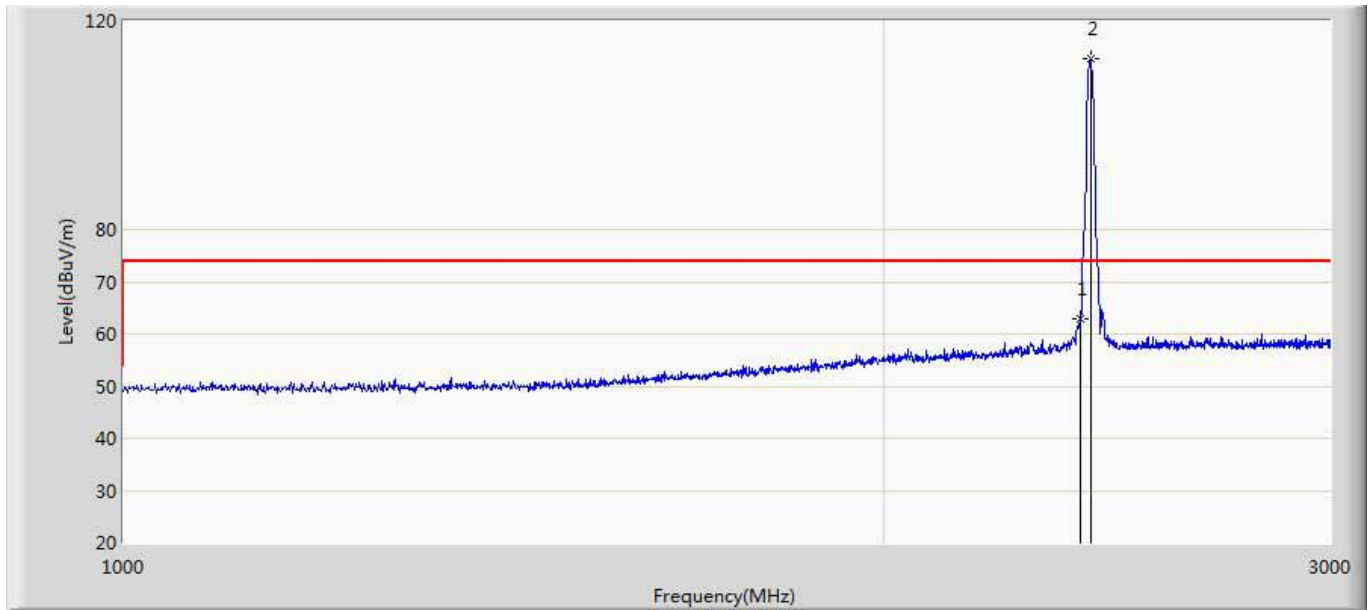
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	54.669	16.806	-19.331	74.000	37.863	PK
2	*	2411.920	102.481	64.644	28.481	N/A	N/A	PK

Site: AC5	Time: 2015/11/02 - 17:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2412	



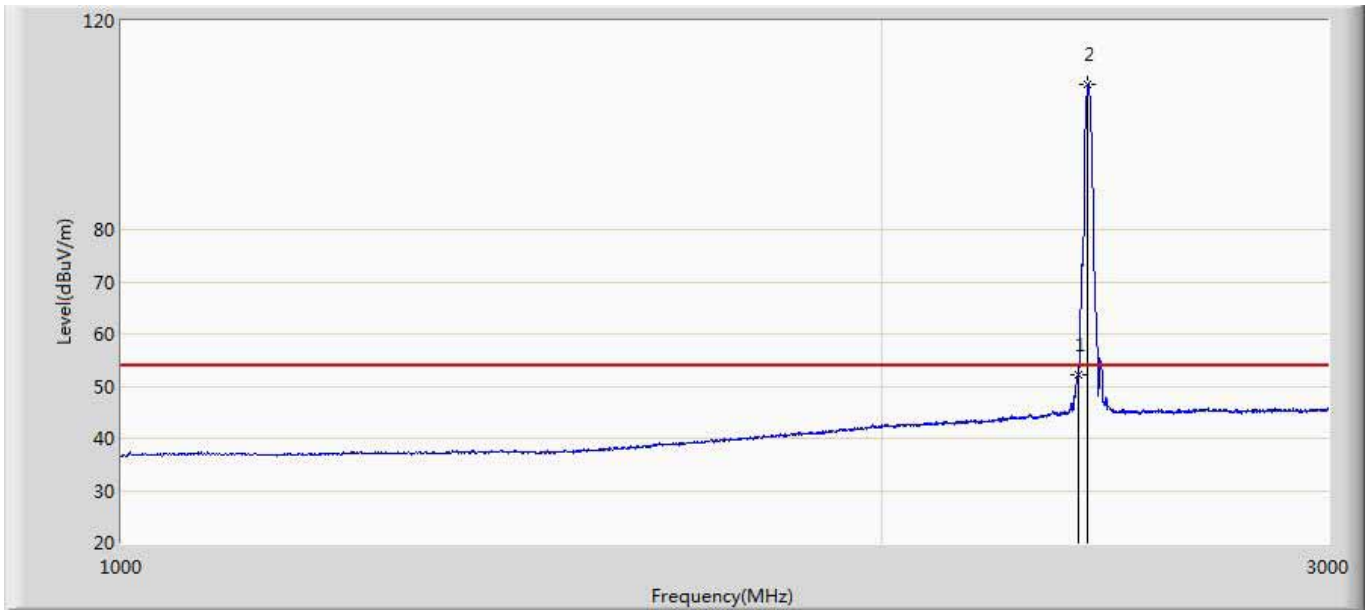
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	41.422	3.559	-12.578	54.000	37.863	AV
2	*	2411.360	97.506	59.673	43.506	N/A	N/A	AV

Site: AC5	Time: 2015/11/02 - 17:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2412	



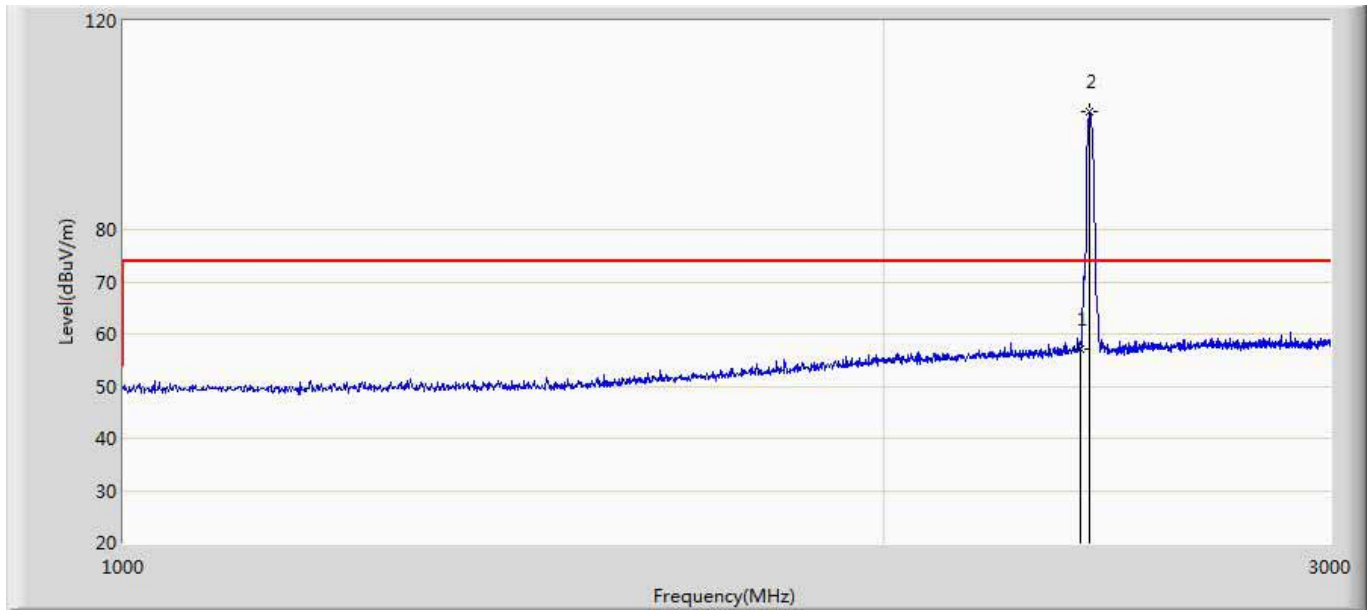
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	62.960	25.097	-11.040	74.000	37.863	PK
2	*	2412.000	112.732	74.895	38.732	N/A	N/A	PK

Site: AC5	Time: 2015/11/02 - 17:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2412	



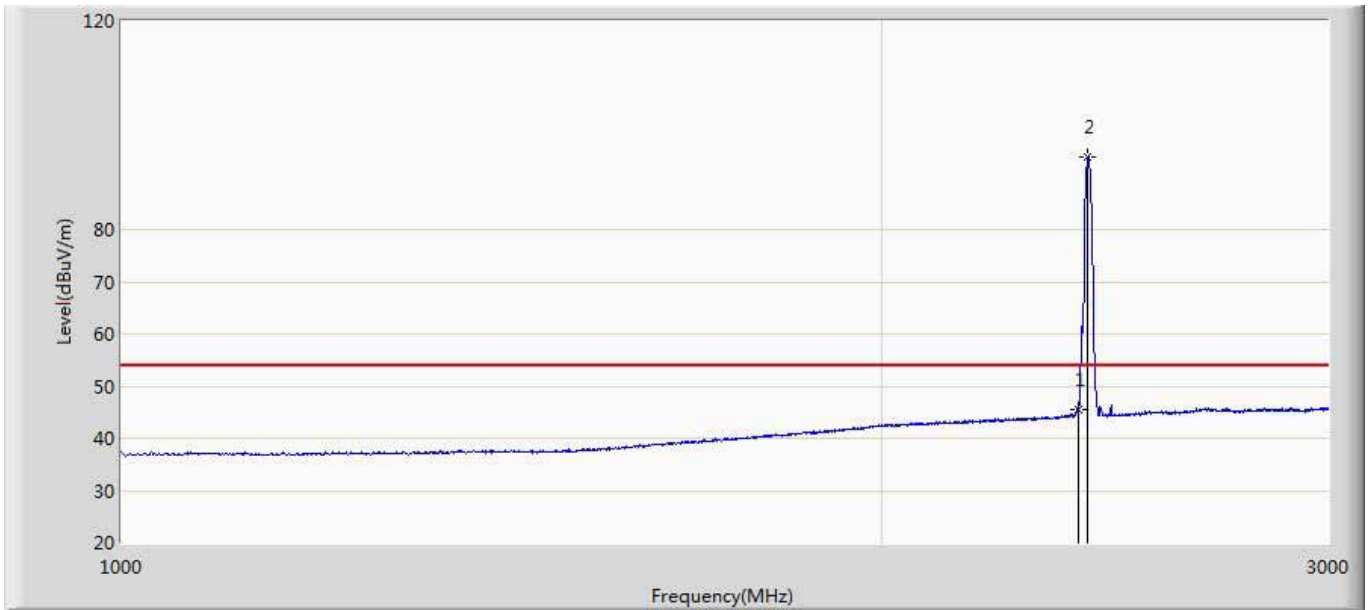
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.289	14.426	-1.711	54.000	37.863	AV
2	*	2411.000	107.851	70.020	53.851	N/A	N/A	AV

Site: AC5	Time: 2015/11/02 - 17:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2412	



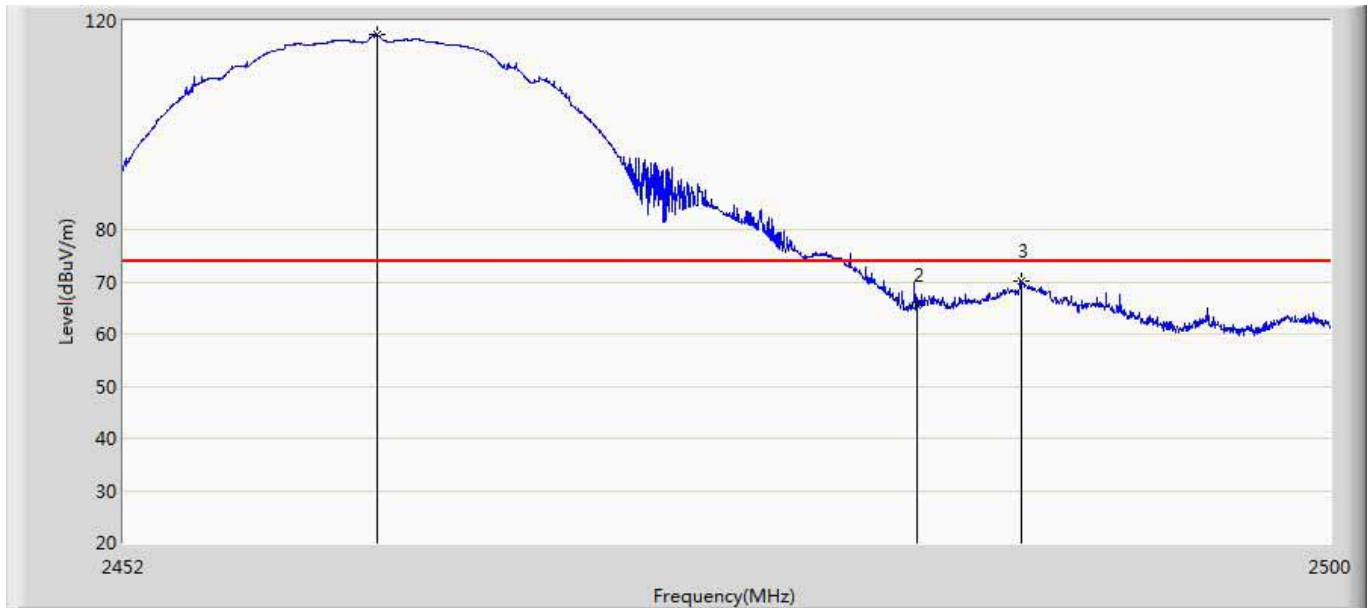
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	57.118	19.255	-16.882	74.000	37.863	PK
2	*	2411.000	102.469	64.638	28.469	N/A	N/A	PK

Site: AC5	Time: 2015/11/02 - 17:14
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2412	



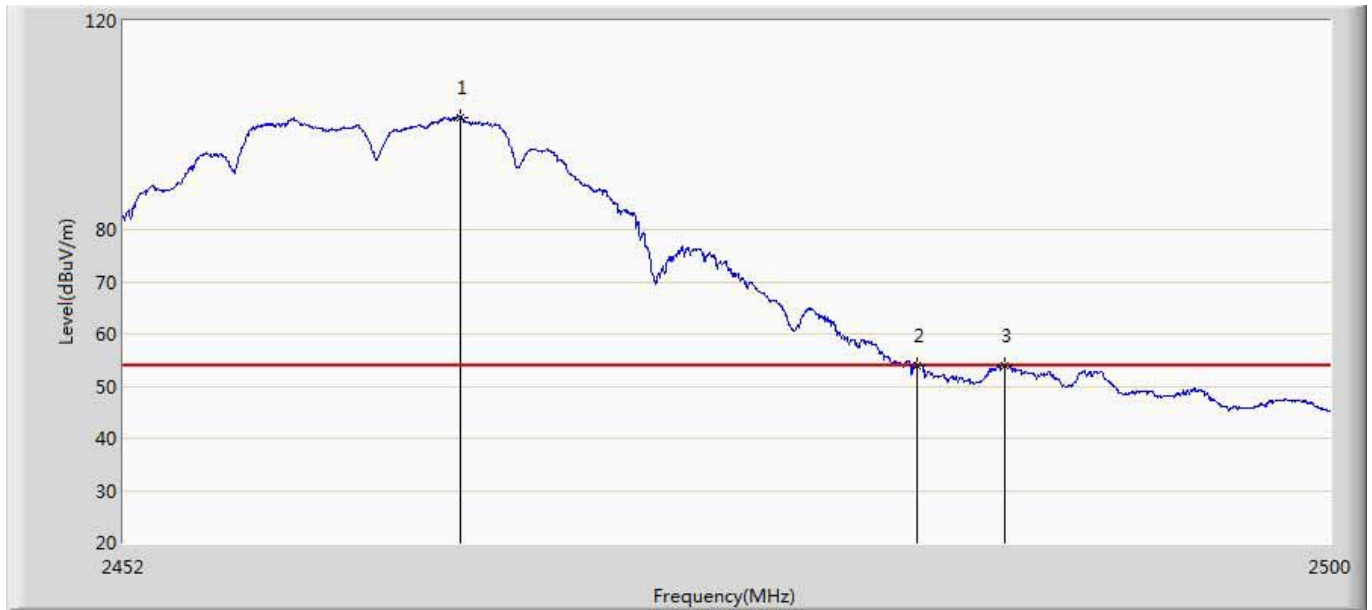
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	45.385	7.522	-8.615	54.000	37.863	AV
2	*	2411.000	93.934	56.103	39.934	N/A	N/A	AV

Site: AC5	Time: 2015/11/04 - 11:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2462	



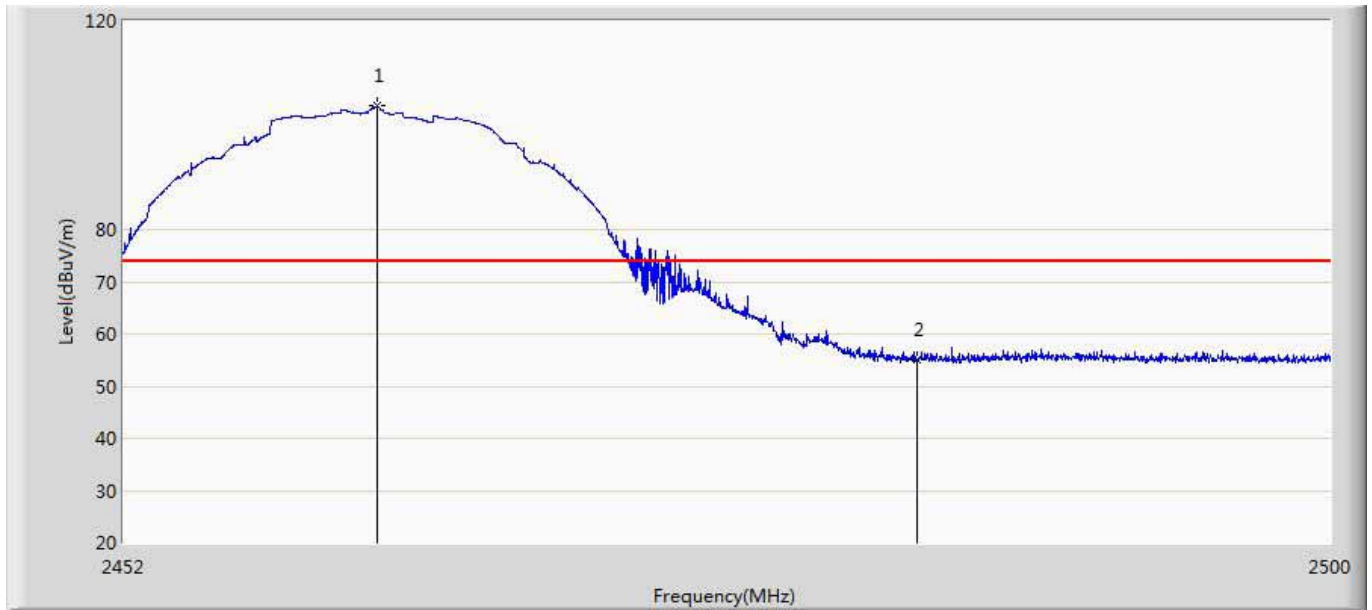
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.032	117.439	79.432	43.439	N/A	N/A	PK
2		2483.500	65.575	27.537	-8.425	74.000	38.038	PK
3		2487.664	70.114	32.047	-3.886	74.000	38.067	PK

Site: AC5	Time: 2015/11/04 - 11:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2462	



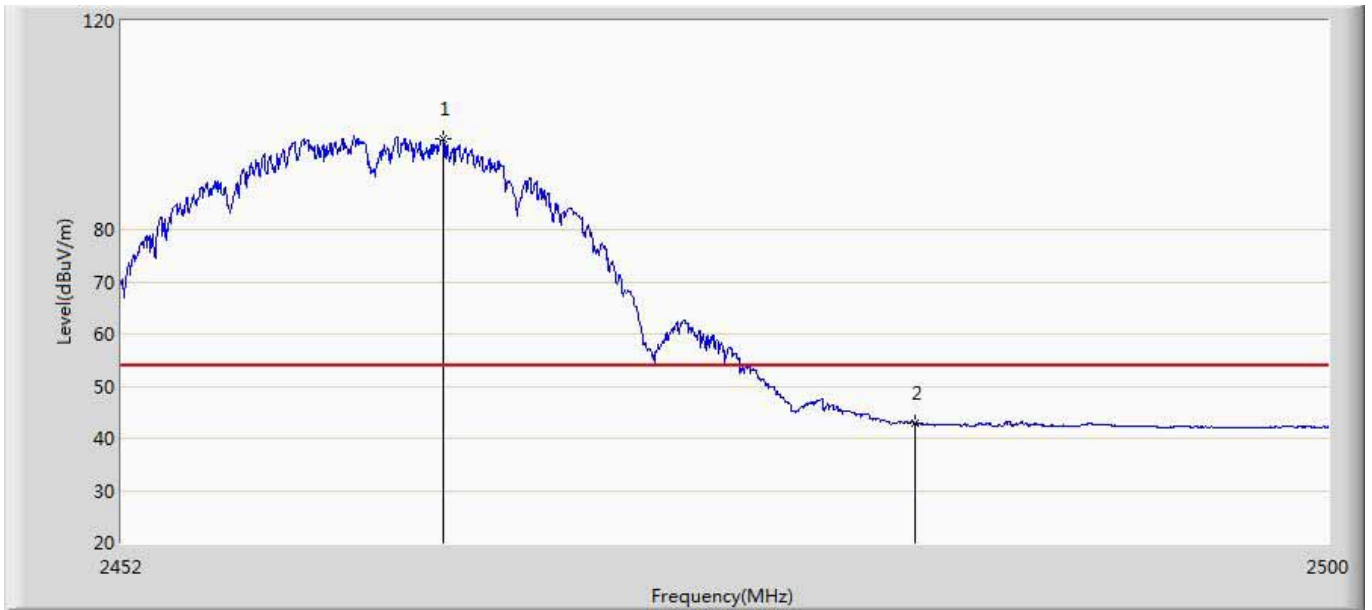
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2465.320	101.564	63.557	47.564	N/A	N/A	AV
2		2483.500	53.954	15.916	-0.046	54.000	38.038	AV
3		2486.968	53.924	15.862	-0.076	54.000	38.062	AV

Site: AC5	Time: 2015/11/04 - 11:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2462	



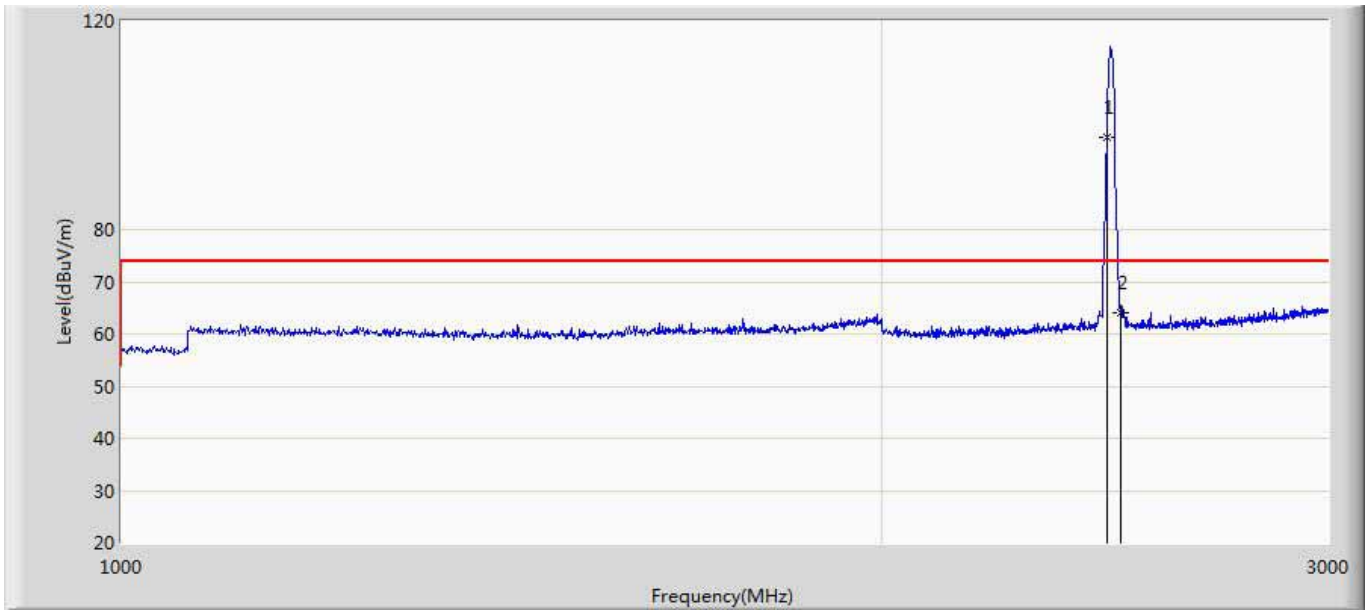
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.032	103.697	65.690	29.697	N/A	N/A	PK
2		2483.500	55.155	17.117	-18.845	74.000	38.038	PK

Site: AC5	Time: 2015/11/04 - 12:00
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2462	



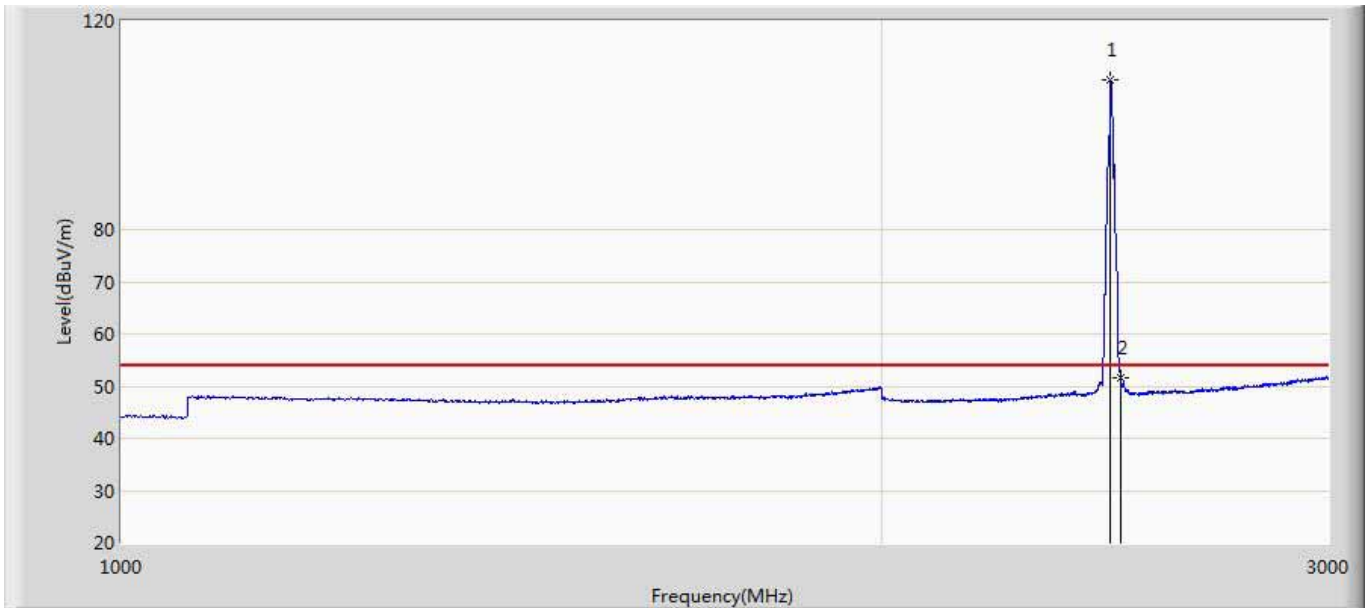
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.744	97.526	59.519	43.526	N/A	N/A	AV
2		2483.500	42.889	4.851	-11.111	54.000	38.038	AV

Site: AC5	Time: 2015/11/04 - 12:02
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2462	



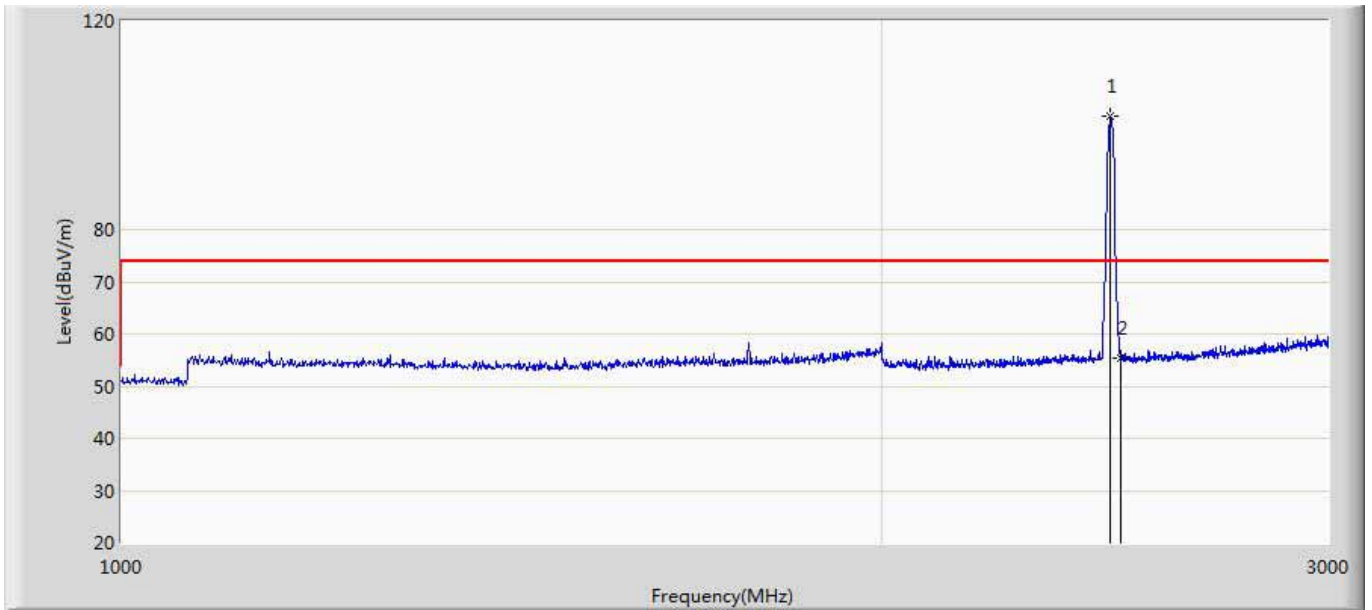
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2453.000	97.711	59.739	23.711	N/A	N/A	PK
2		2483.500	64.194	26.156	-9.806	74.000	38.038	PK

Site: AC5	Time: 2015/11/04 - 12:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2462	



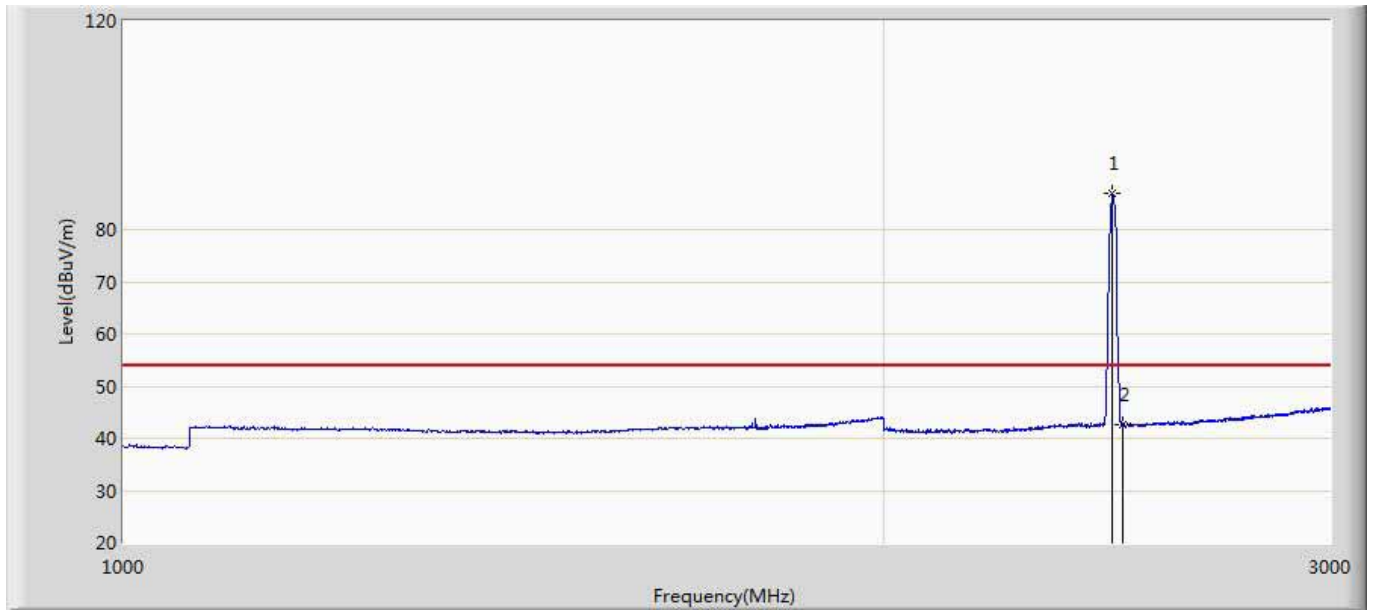
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.000	108.622	70.618	54.622	N/A	N/A	AV
2		2483.500	51.715	13.677	-2.285	54.000	38.038	AV

Site: AC5	Time: 2015/11/04 - 12:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2462	



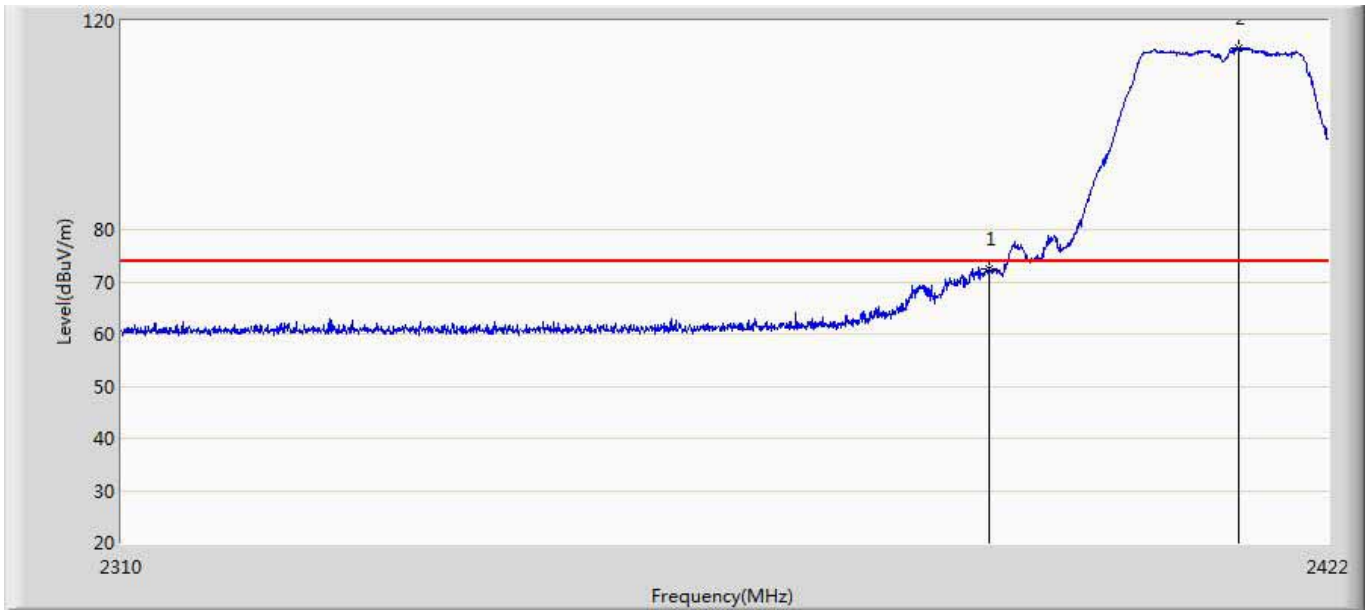
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.000	101.800	63.793	27.800	N/A	N/A	PK
2		2483.500	55.234	17.196	-18.766	74.000	38.038	PK

Site: AC5	Time: 2015/11/04 - 12:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 1 Transmit at 802.11b CH2462	



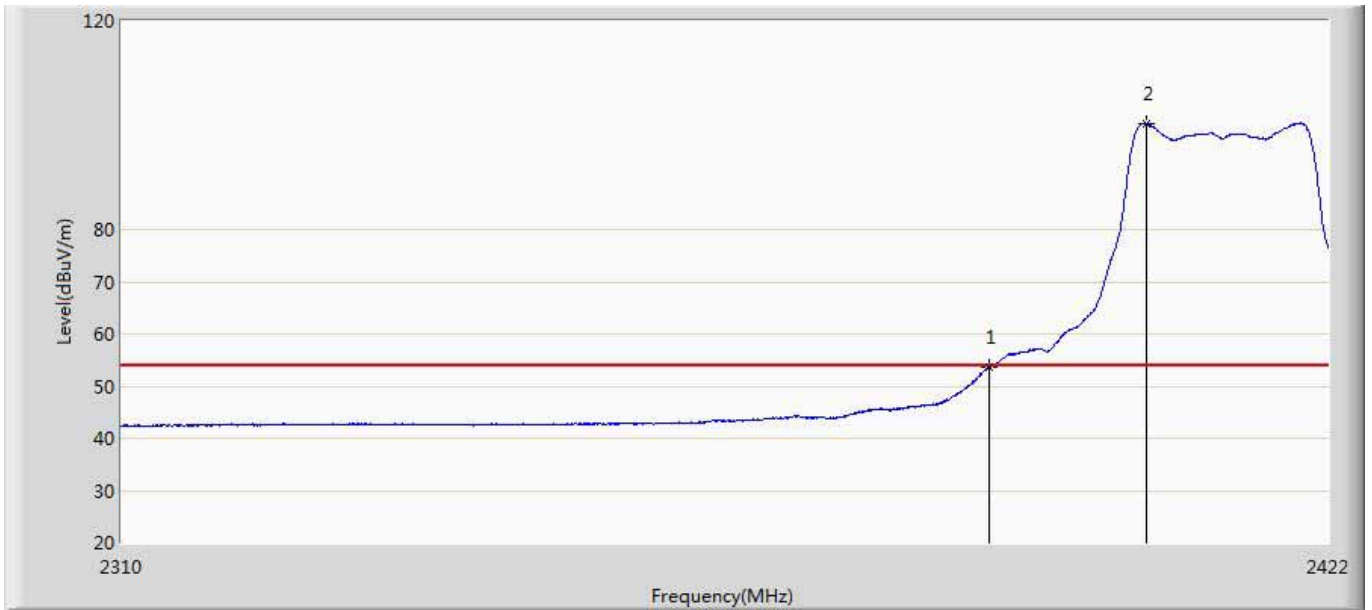
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.000	86.850	48.846	32.850	N/A	N/A	AV
2		2483.500	42.482	4.444	-11.518	54.000	38.038	AV

Site: AC5	Time: 2015/11/04 - 19:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 2 Transmit at 802.11g CH2412	



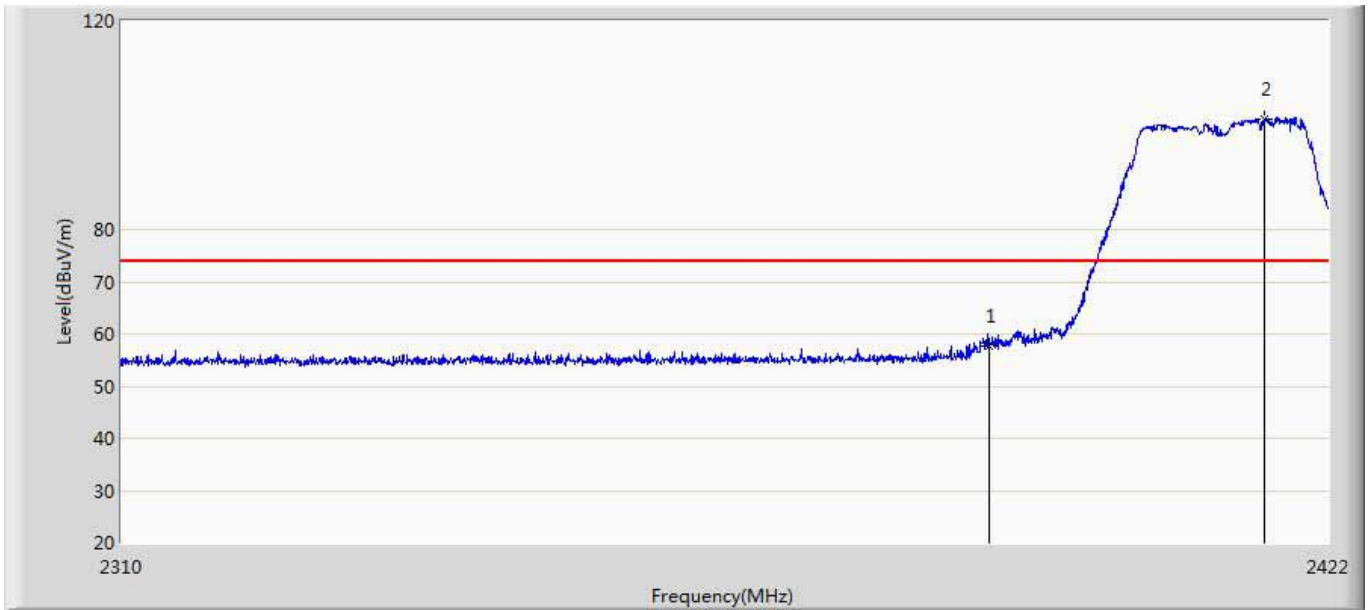
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	72.337	34.474	-1.663	74.000	37.863	PK
2	*	2413.600	114.772	76.926	40.772	N/A	N/A	PK

Site: AC5	Time: 2015/11/04 - 19:28
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 2 Transmit at 802.11g CH2412	



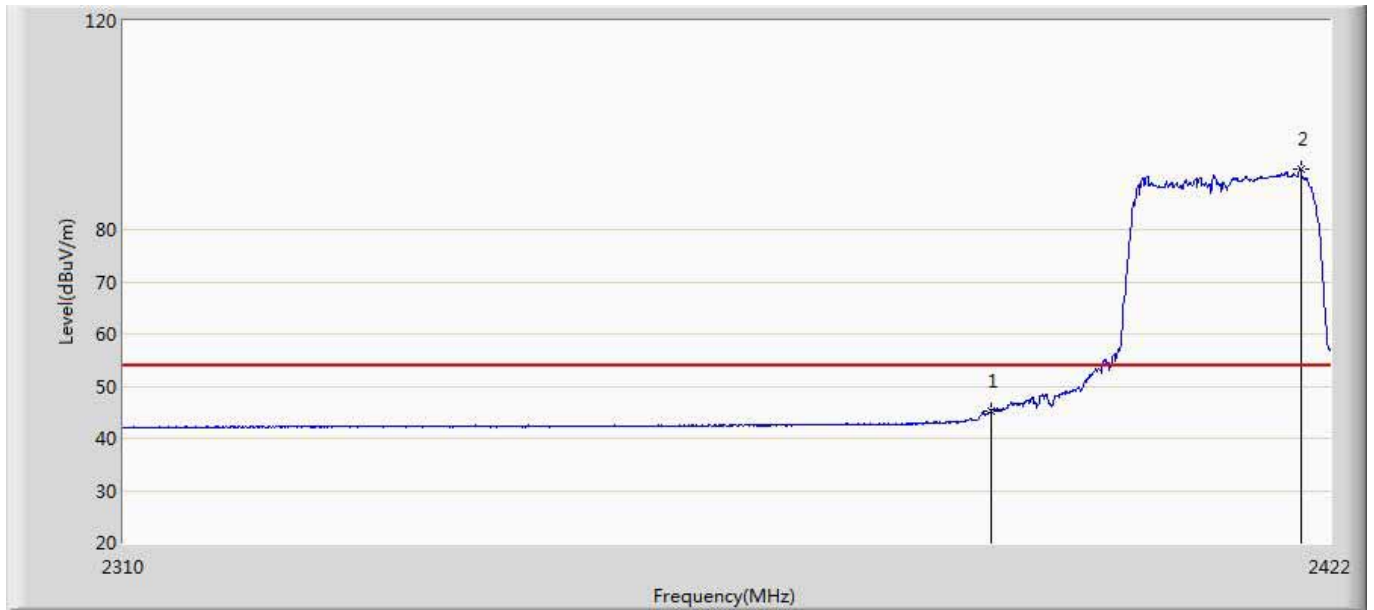
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	53.713	15.850	-0.287	54.000	37.863	AV
2	*	2404.752	100.379	62.542	46.379	N/A	N/A	AV

Site: AC5	Time: 2015/11/04 - 19:30
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 2 Transmit at 802.11g CH2412	



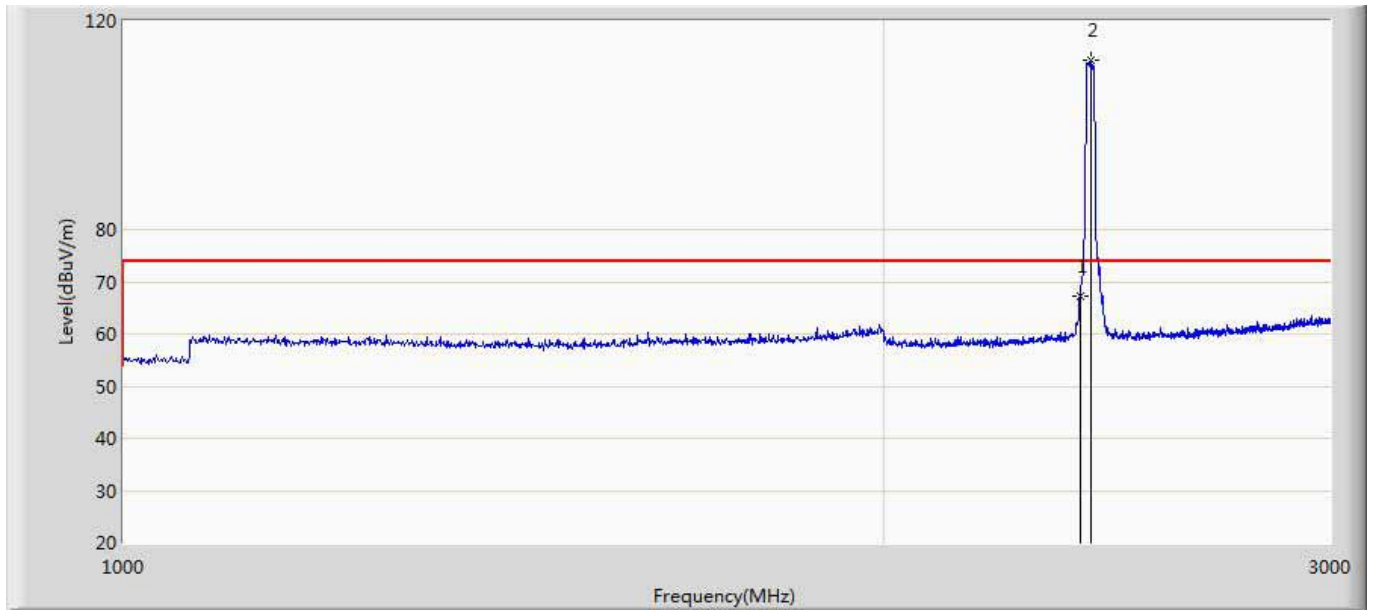
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	57.596	19.733	-16.404	74.000	37.863	PK
2	*	2416.008	101.259	63.399	27.259	N/A	N/A	PK

Site: AC5	Time: 2015/11/04 - 19:32
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 2 Transmit at 802.11g CH2412	



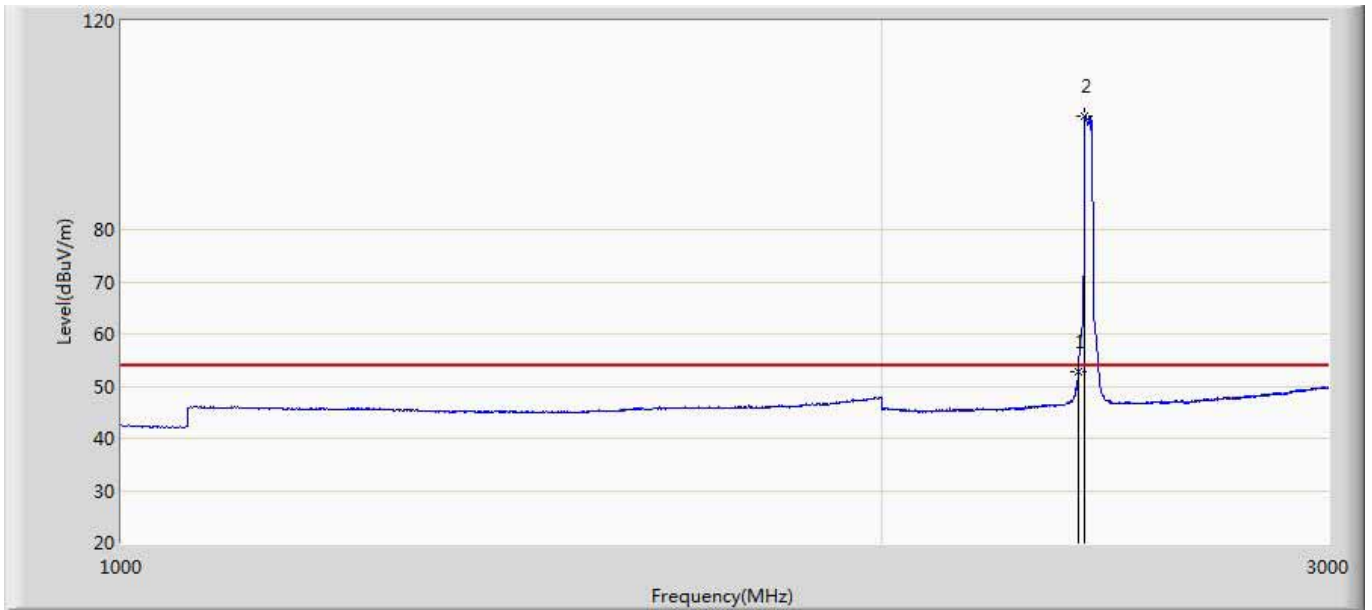
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	45.137	7.274	-8.863	54.000	37.863	AV
2	*	2419.200	91.666	53.787	37.666	N/A	N/A	AV

Site: AC5	Time: 2015/11/04 - 19:34
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 2 Transmit at 802.11g CH2412	



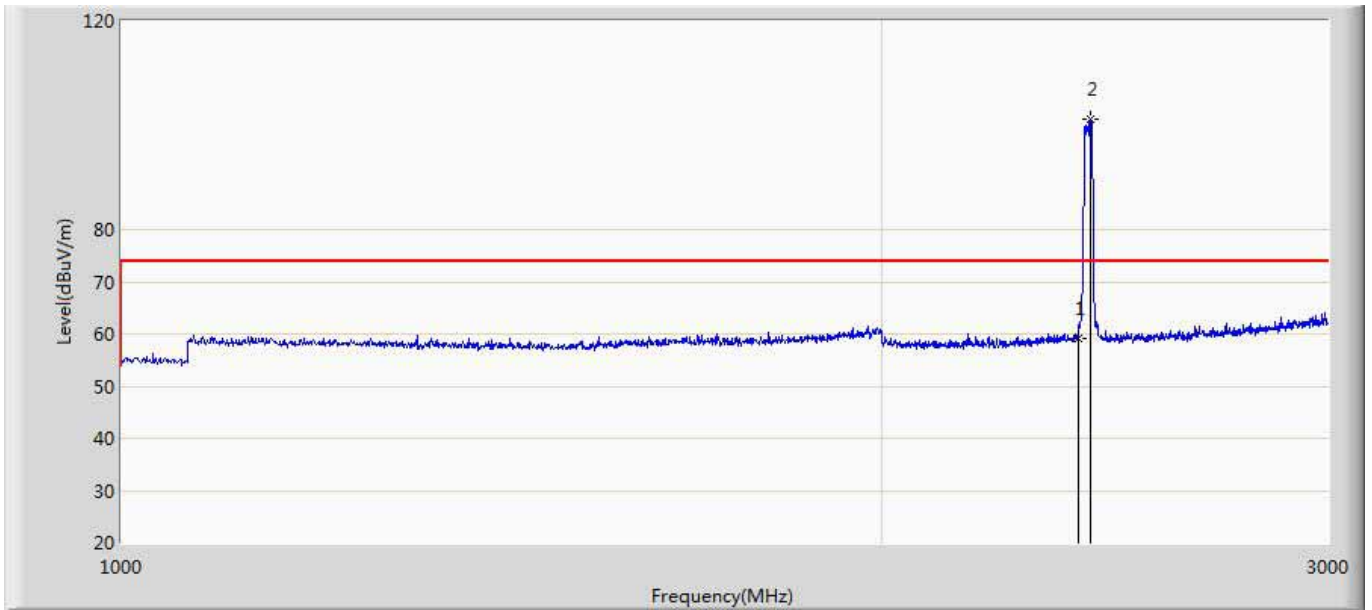
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	67.279	29.416	-6.721	74.000	37.863	PK
2	*	2414.000	112.378	74.529	38.378	N/A	N/A	PK

Site: AC5	Time: 2015/11/04 - 19:39
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 2 Transmit at 802.11g CH2412	



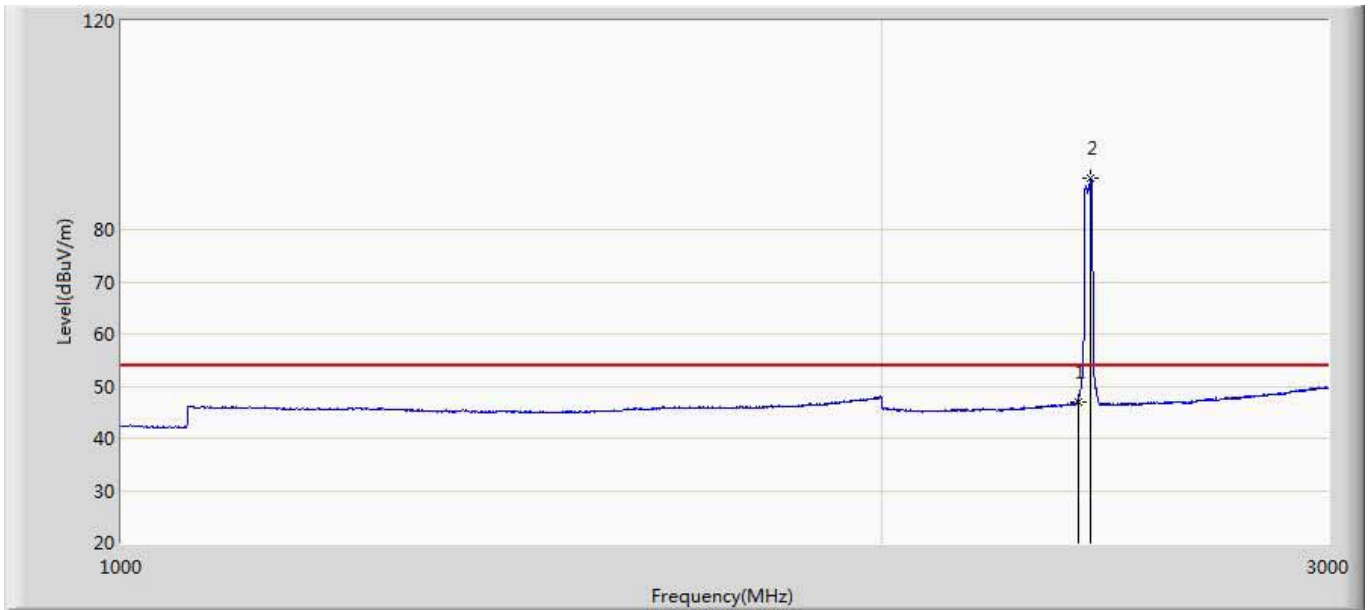
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	52.853	14.990	-1.147	54.000	37.863	AV
2	*	2405.000	101.840	64.003	47.840	N/A	N/A	AV

Site: AC5	Time: 2015/11/04 - 19:46
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 2 Transmit at 802.11g CH2412	



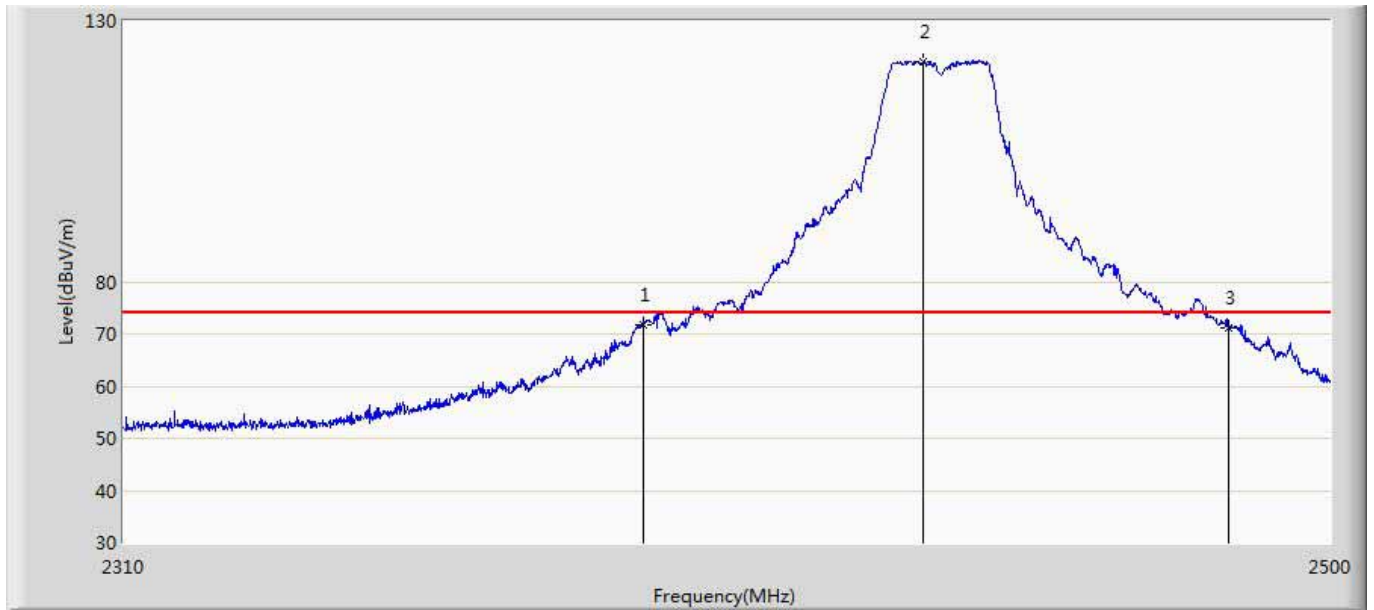
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	59.255	21.392	-14.745	74.000	37.863	PK
2	*	2418.000	101.164	63.292	27.164	N/A	N/A	PK

Site: AC5	Time: 2015/11/04 - 19:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Horizontal
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 2 Transmit at 802.11g CH2412	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.100	9.237	-6.900	54.000	37.863	AV
2	*	2418.000	89.907	52.035	35.907	N/A	N/A	AV

Site: AC5	Time: 2015/11/10 - 18:49
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: Horn_3117_00167055(1-18GHz)	Polarity: Vertical
EUT: RTSA04NU	Power: AC 120V/60Hz
Note: Mode 2 Transmit at 802.11g CH2437	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	71.791	33.928	-2.209	74.000	37.863	PK
2	*	2434.260	122.251	84.318	48.251	74.000	37.933	PK
3		2483.500	71.175	33.137	-2.825	74.000	38.038	PK