

FCC 47 CFR PART 15 SUBPART C

Product Type : 802.11 b/g/n 1x1 USB module

Applicant : Lite-On Technology Corp.

Address : 4F, 90, Chien 1 Road, Chung Ho, Taipei Hsien 235, Taiwan,
R.O.C.

Trade Name : Lite-On

Model Number : WN4607R

Test Specification : FCC 47 CFR PART 15 SUBPART C: Oct., 2011
Canada RSS-210 ISSUE 8: Dec., 2010
Canada RSS-Gen ISSUE 3: Dec., 2010
ANSI C63.4-2009

Application Purpose : Original

Receive Date : Jul. 17, 2012

Issue Date : Jul. 26, 2012

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Jul. 26, 2012	Initial Issue	

Verification of Compliance

Issued Date: 07/26/2012

Product Type : 802.11 b/g/n 1x1 USB module

Applicant : Lite-On Technology Corp.

Address : 4F, 90, Chien 1 Road, Chung Ho, Taipei Hsien 235, Taiwan, R.O.C.

Trade Name : Lite-On

Model Number : WN4607R

FCC ID : PPQ-WN4607R

IC : 4491A-WN4607R

EUT Rated Voltage : DC 3.3V

Test Voltage : 120 Vac / 60 Hz

Applicable Standard : FCC 47 CFR PART 15 SUBPART C: Oct., 2011
Canada RSS-210 ISSUE 8: Dec., 2010
Canada RSS-Gen ISSUE 3: Dec., 2010
ANSI C63.4-2009

Test Result : Complied

Application Purpose : Original

Performing Lab. : A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330
<http://www.atl-lab.com.tw/e-index.htm>



The above equipment was tested by A Test Lab Techno Corp. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4: 2009 and the energy emitted by the sample tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247 .

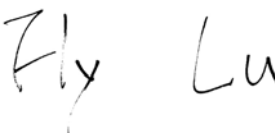
The test results of this report relate only to the tested sample identified in this report.

Approved By



(Manager)

Reviewed By



(Testing Engineer)

(Fly Lu)

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1 General Information

1.1 Summary of Test Result

Standard		Item	Result	Remark
15.247	RSS-GEN			
15.207	7.2.2	AC Power Conducted Emission	PASS	----
-----	6	Receiver Radiated Emissions	PASS	----
Standard		Item	Result	Remark
15.247	RSS-210			
15.247(d)	A8.5	Transmitter Radiated Emissions	PASS	----
15.247(b)(3)	A8.4	Max. Output Power	PASS	----
15.247(a)(2)	A8.2 (a)	6dB RF Bandwidth	PASS	----
15.247(e)	A8.2 (b)	Power Spectral Density	PASS	----
15.247(c)	A8.5	Out of Band Conducted Spurious Emission	PASS	----
15.247(d)	A8.5	Band Edge Measurement	PASS	----
15.247(c)	A8.5	Occupied Bandwidth Measurement	PASS	----
15.203	-	Antenna Requirement	PASS	----

The test results of this report relate only to the tested sample(s) identified in this report. Manufacturer or whom it may concern should recognize the pass or fail of the test result.

1.2 Measurement Uncertainty

Conducted Emission

The measurement uncertainty is evaluated as ± 2.24 dB.

Radiated Emission

The measurement uncertainty is evaluated as ± 3.072 dB.

2 EUT Description

Product	802.11 b/g/n 1x1 USB module
Trade Name	Lite-On
Model No.	WN4607R
Applicant	Lite-On Technology Corp. 4F, 90, Chien 1 Road, Chung Ho, Taipei Hsien 235, Taiwan, R.O.C.
Manufacturer	DONG GUAN G-COM COMPUTER CO., LTD 1st Row, Yin Shan Road, Yin Hwu Industrial Area, Qingxi Town, DongGuan City, GuangDong, China
FCC ID	PPQ-WN4607R
IC	4491A-WN4607R
Frequency Range	IEEE 802.11b / IEEE 802.11g / draft 802.11n Standard-20MHz: 2412 ~ 2462 MHz draft 802.11n Wide-40MHz: 2422 ~ 2452 MHz
Modulation Type	IEEE 802.11b:DSSS IEEE 802.11g:DSSS + OFDM draft 802.11n Standard-20MHz channel mode: OFDM draft 802.11n Wide-40MHz channel mode: OFDM
RF Output Power	IEEE 802.11b: 0.100 W / 20.00 dBm IEEE 802.11g: 0.195 W / 22.91 dBm draft 802.11n Standard-20MHz: 0.206 W / 23.14 dBm draft 802.11n Wide-40MHz: 0.209 W / 23.21 dBm
Component	
Antenna	MAGLAYERS, MSA-4005-2G4C1-A1 Type: Metal Stamping Antenna Max Gain: 2.88 dBi Cable: Shielded, 0.35m

3 Test Methodology

3.1. Mode of Operation

Decision of Test ATL 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: Normal Operation Mode
Mode 2: IEEE 802.11b Link Mode
Mode 3: IEEE 802.11g Link Mode
Mode 4: draft 802.11n Standard-20MHz Link Mode
Mode 5: draft 802.11n Wide-40MHz Link Mode
Mode 6: Receiver Mode

Software used to control the EUT for staying in continuous transmitting mode was programmed.

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz and power line conducted emissions below 30MHz, which worst case was in normal link mode only.

IEEE 802.11b mode:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 1Mbps data rate were chosen for full testing.

IEEE 802.11g mode:

Channel Low (2412MHz), Channel Mid (2437MHz) and Channel High (2462MHz) with 6Mbps data rate were chosen for full testing.

draft 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.

draft 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.

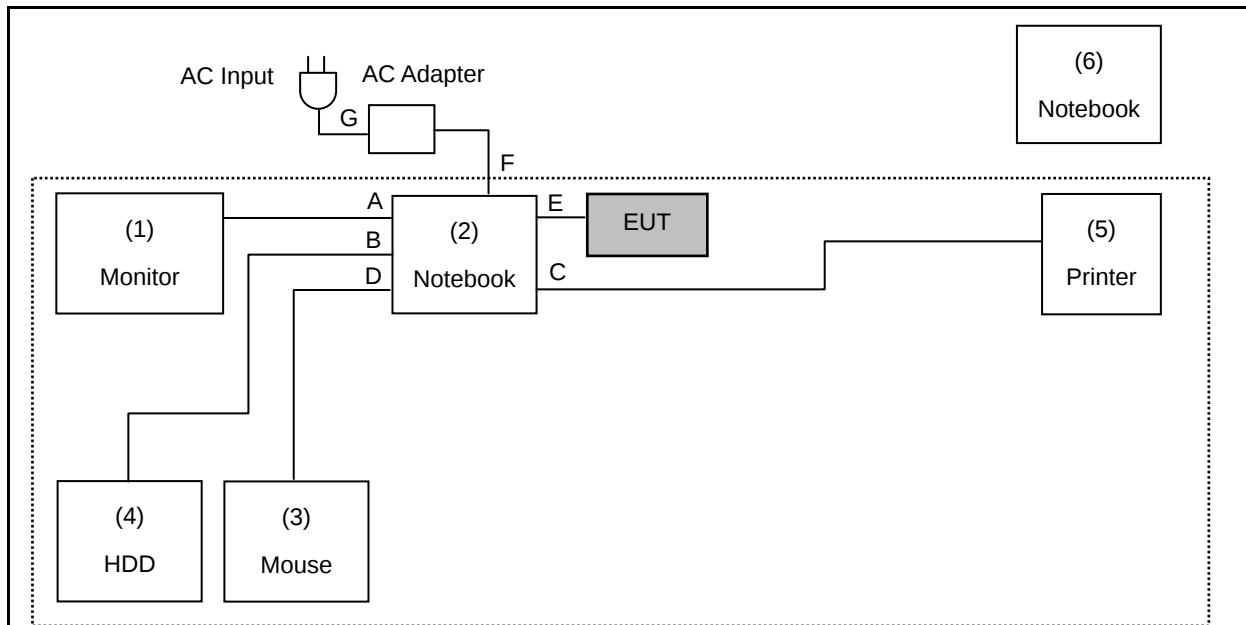
By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "X axis" position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

3.2. EUT Exercise Software

1. Setup the EUT shown on 3.3.
2. Turn on the power of all equipment.
3. Turn on Wi-Fi function link to AP.
4. EUT run test program.

3.3. Configuration of Test System Details

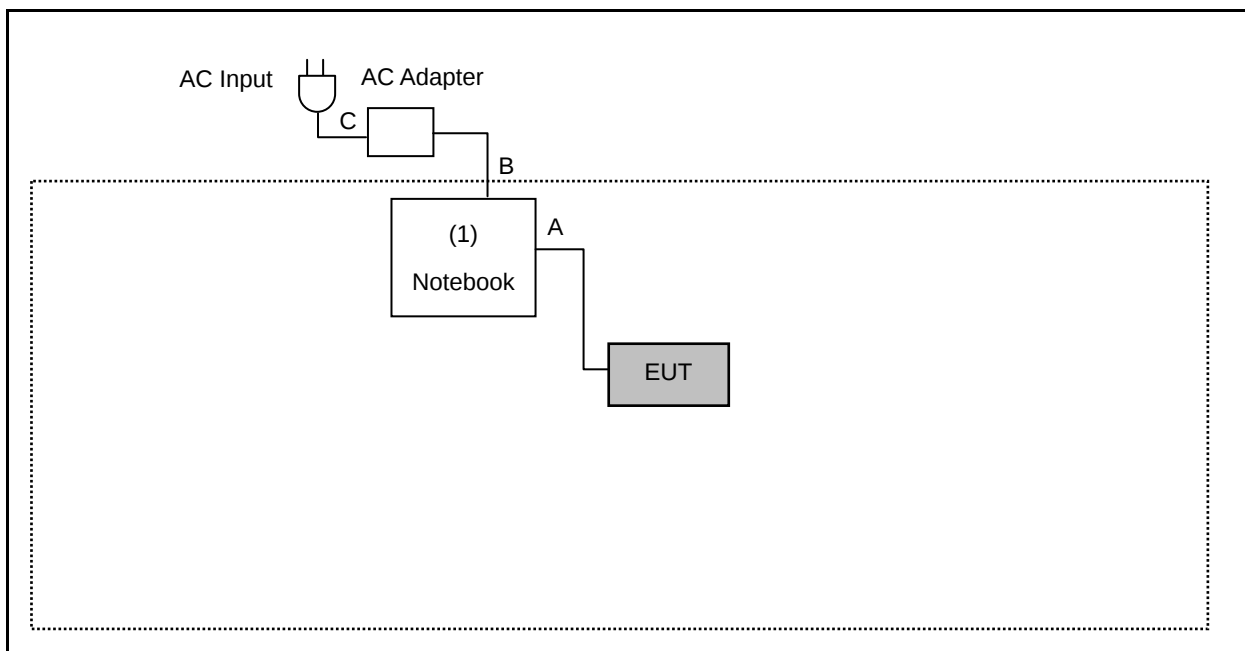
Conducted Emission



Signal Cable Type		Signal Cable Description
A	D-SUB Cable	Shielded, 1.8m with one core
B	USB Cable	Shielded, 2.0m
C	USB Cable	Shielded, 1.0m
D	USB Cable	Shielded, 1.8m
E	USB Cable	Shielded, 0.06m
F	DC Power Cable	Non-Shielded, 1.8m with one core
G	AC Power Cable	Non-Shielded, 2.0m

Devices Description					
	Product	Manufacturer	Model Number	Serial Number	Power Cord
(1)	Monitor	DELL	U2410f	CN-0J257M-72872-08J-060L	Non-Shielded, 1.8m
(2)	Notebook	DELL	D830	CN-OHN341-48643-88Q-1221	Non-Shielded, 2.0m
(3)	Mouse	Logitech	M-UAG96B	PID-LZ815AA	Power by Notebook
(4)	HDD	Buffalo	HD-HXU3	15564891205651	Non-Shielded, 1.5m
(5)	Printer	EPSON	6200L L471A	FGQZ113961	Non-Shielded, 1.8m
(6)	Notebook	DELL	D531	CN-OXM006-48643-87A-3398	Non-Shielded, 2.0m

Radiated Emission



Signal Cable Type		Signal Cable Description
A	USB Cable	Shielded, 1.0m
B	DC Power Cable	Non-Shielded, 1.8m with one core
C	AC Power Cable	Non-Shielded, 2.0m

Devices Description					
	Product	Manufacturer	Model Number	Serial Number	Power Cord
(1)	Notebook	DELL	D830	CN-OHN341-48643 -88Q-1221	Non-Shielded, 2.0m

3.4. Test Site Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

4 Conducted Emission Measurement

4.1. Limit

Frequency (MHz)	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

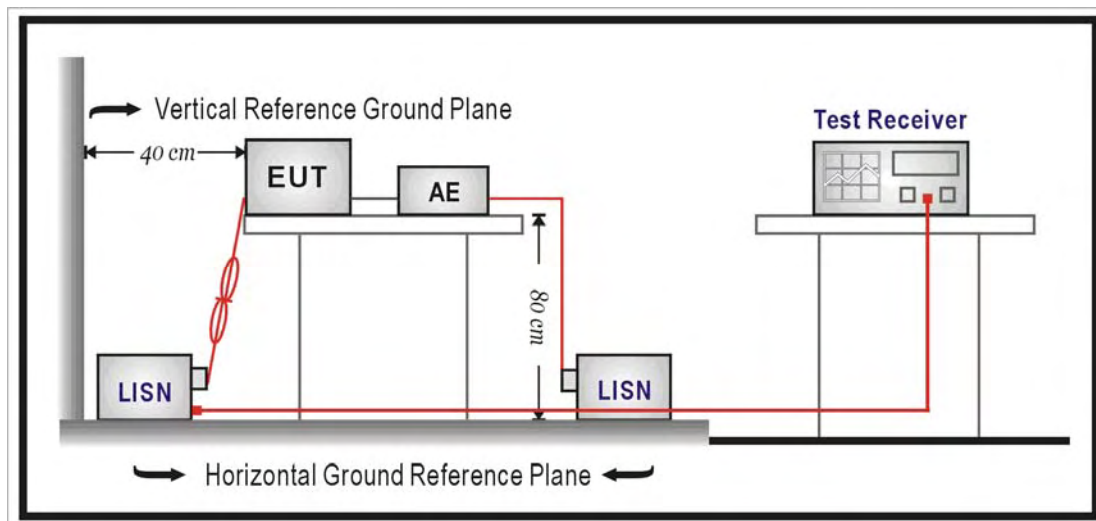
4.2. Test Instruments

Describe	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Test Receiver	R&S	ESCI	100367	06/18/2012	(1)
LISN	R&S	ENV216	101040	03/07/2012	(1)
LISN	R&S	ENV216	101041	03/07/2012	(1)
Test Site	ATL	TE02	TE02	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

4.3. Test Setup



4.4. Test Procedure

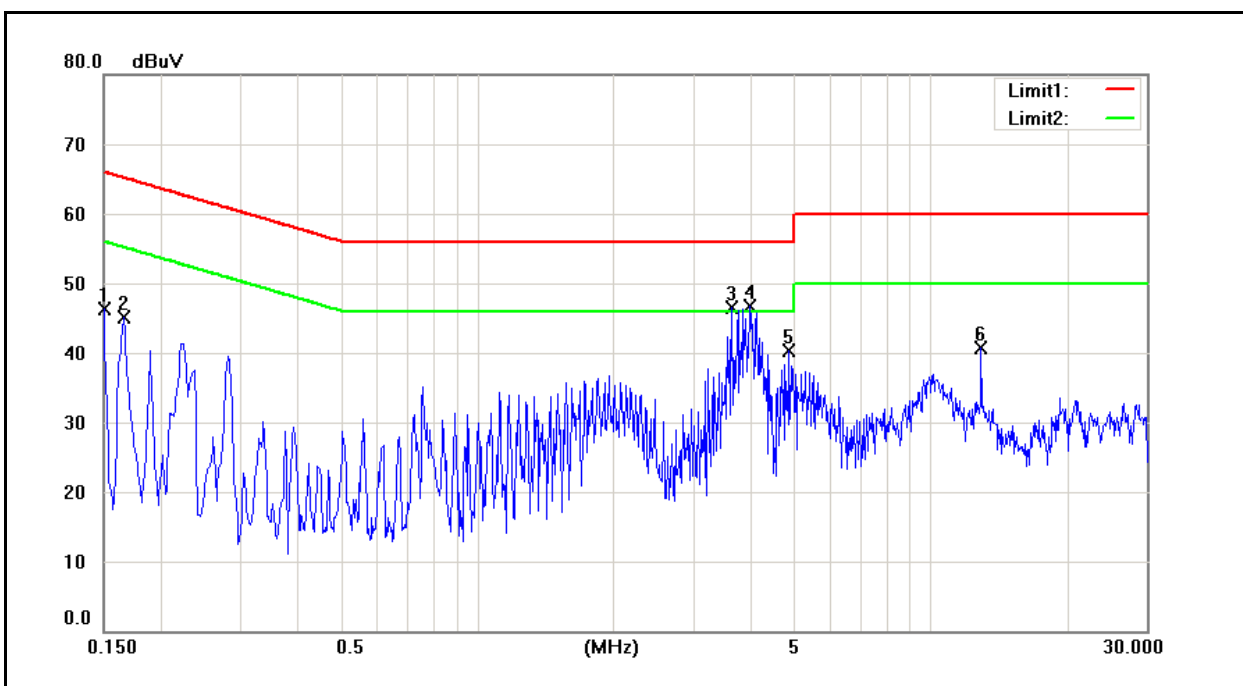
The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and EMCO Model 3162/2 SH Line Impedance Stabilization Networks (LISN). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPR quasi-peak detection mode. The analyzer's 6 dB bandwidth was set to 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150 KHz to 30 MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in paragraph 4.1.

4.5. Test Result

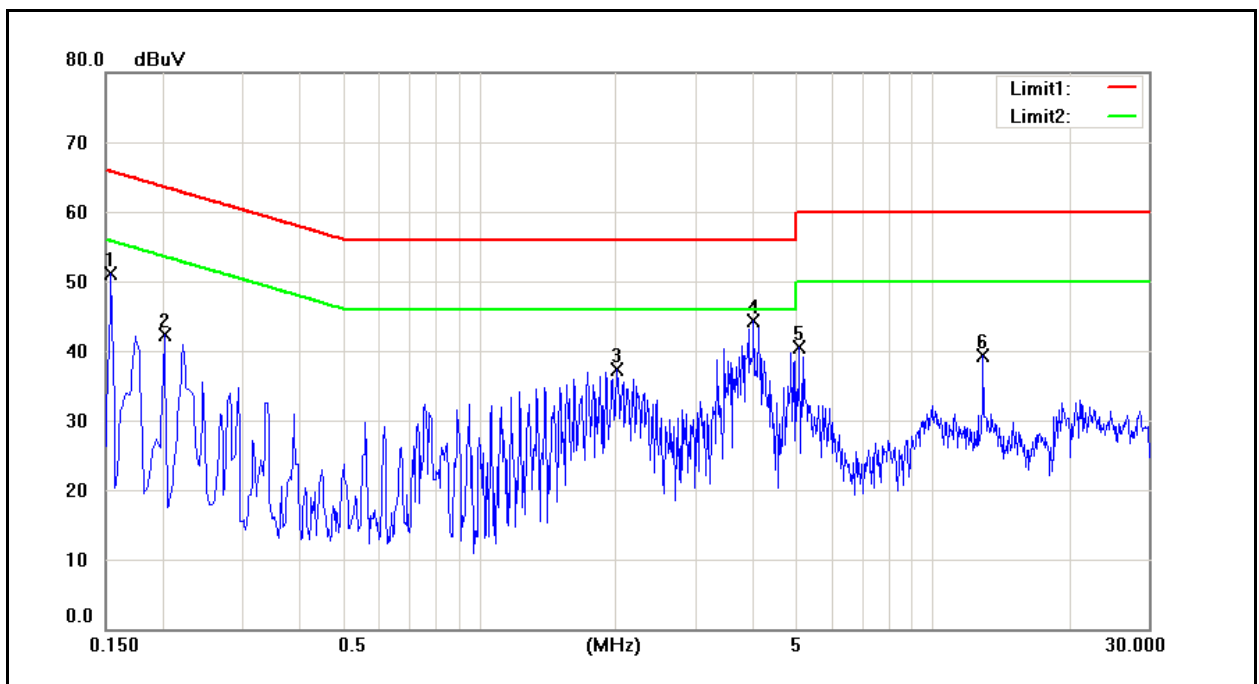
Standard:	FCC Part 15C	Line:	L1
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	1	Date:	07/19/2012
		Test By:	Fly Lu
Description:			



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1500	26.20	4.54	9.72	35.92	14.26	66.00	56.00	-30.08	-41.74	Pass
2	0.1660	35.82	24.56	9.72	45.54	34.28	65.16	55.16	-19.62	-20.88	Pass
3	3.6460	32.01	16.60	9.81	41.82	26.41	56.00	46.00	-14.18	-19.59	Pass
4	3.9860	35.29	20.41	9.79	45.08	30.20	56.00	46.00	-10.92	-15.80	Pass
5	4.8820	28.51	17.39	9.75	38.26	27.14	56.00	46.00	-17.74	-18.86	Pass
6	12.9700	29.55	22.80	9.78	39.33	32.58	60.00	50.00	-20.67	-17.42	Pass

Standard:	FCC Part 15C	Line:	N
Test item:	Conducted Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	1	Date:	07/19/2012
		Test By:	Fly Lu

Description:



No.	Frequency (MHz)	QP reading (dBuV)	AVG reading (dBuV)	Correction factor (dB)	QP result (dBuV)	AVG result (dBuV)	QP limit (dBuV)	AVG limit (dBuV)	QP margin (dB)	AVG margin (dB)	Remark
1	0.1540	31.68	8.20	9.65	41.33	17.85	65.78	55.78	-24.45	-37.93	Pass
2	0.2020	23.80	9.77	9.64	33.44	19.41	63.53	53.53	-30.09	-34.12	Pass
3	2.0180	25.96	20.57	9.72	35.68	30.29	56.00	46.00	-20.32	-15.71	Pass
4	4.0380	30.86	17.64	9.72	40.58	27.36	56.00	46.00	-15.42	-18.64	Pass
5	5.1060	26.72	13.79	9.68	36.40	23.47	60.00	50.00	-23.60	-26.53	Pass
6	12.9700	28.38	21.62	9.80	38.18	31.42	60.00	50.00	-21.82	-18.58	Pass

5 Radiated Emission Measurement

5.1. Limit

According to §15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$ at 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

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

5.2. Test Instruments

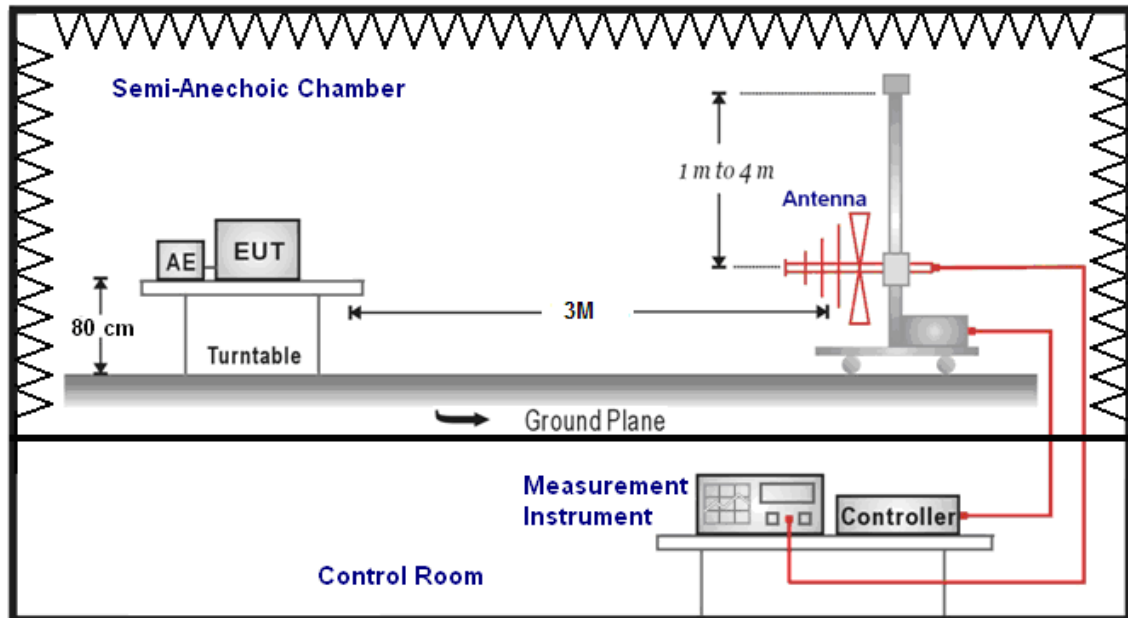
3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/16/2012	(2)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/16/2012	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/22/2012	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/22/2012	(1)
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	07/29/2011	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/15/2012	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/21/2012	(1)
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	08/14/2009	(3)
Test Site	ATL	TE01	888001	12/20/2011	(1)

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

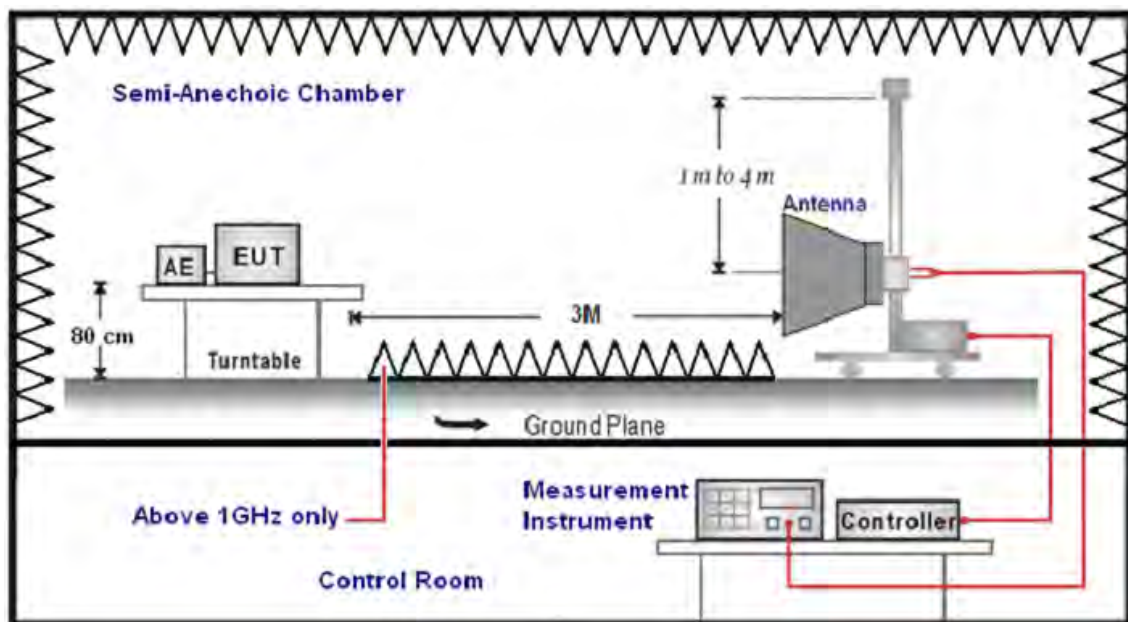
Note: N.C.R. = No Calibration Request.

5.3. Setup

Below 1GHz



Above 1GHz



5.4. Test Procedure

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 9 kHz to 26.5 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna (mode VULB9163) at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna (model BBHA9120D&9170) was used in frequencies 1 – 26.5 GHz at a distance of 1 meter. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade).

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.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts pre meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro volts per meter (dBuV/m).

The actual field intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

(1) $\text{Amplitude (dBuV/m)} = \text{FI (dBuV)} + \text{AF (dBuV)} + \text{CL (dBuV)} - \text{Gain (dB)}$

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

(2) $\text{Actual Amplitude (dBuV/m)} = \text{Amplitude (dBuV)} - \text{Dis(dB)}$

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(a) For fundamental frequency : Transmitter Output < +30dBm

(b) For spurious frequency : Spurious emission limits = fundamental emission limit /10

Data of measurement within this frequency range without mark in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

5.5. Test Result

Below 1GHz

Standard:		FCC Part 15C			Test Distance:		3m	
Test item:		Radiated Emission			Power:		AC 120V/60Hz	
Model Number:		WN4607R			Temp.(°C)/Hum.(%RH):		26(°C)/60%RH	
Mode:		1			Date:		07/18/2012	
					Test By:		Fly Lu	
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V	
186.0000	48.38	-14.57	33.81	43.50	-9.69	QP	H	
300.0000	46.63	-10.53	36.10	46.00	-9.90	QP	H	
444.0000	38.96	-8.11	30.85	46.00	-15.15	QP	H	
558.5000	39.06	-6.15	32.91	46.00	-13.09	QP	H	
660.0000	37.85	-4.02	33.83	46.00	-12.17	QP	H	
840.0000	33.77	-1.03	32.74	46.00	-13.26	QP	H	
215.0000	47.55	-13.77	33.78	43.50	-9.72	QP	V	
300.0000	42.74	-10.53	32.21	46.00	-13.79	QP	V	
480.0000	42.05	-7.38	34.67	46.00	-11.33	QP	V	
587.0000	40.30	-5.30	35.00	46.00	-11.00	QP	V	
720.0000	35.66	-2.96	32.70	46.00	-13.30	QP	V	
840.0000	34.44	-1.03	33.41	46.00	-12.59	QP	V	

Note: No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).

Above 1GHz

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	WN4607R			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	2			Date:	07/18/2012		
Frequency:	2412MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3002.000	37.39	2.20	39.59	74.00	-34.41	peak	H
4549.000	34.27	7.11	41.38	74.00	-32.62	peak	H
6131.000	33.07	11.45	44.52	74.00	-29.48	peak	H
2946.000	36.81	2.00	38.81	74.00	-35.19	peak	V
4668.000	38.20	7.47	45.67	74.00	-28.33	peak	V
5991.000	34.85	10.85	45.70	74.00	-28.30	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	WN4607R			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	2			Date:	07/18/2012		
Frequency:	2437MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2953.000	37.57	2.03	39.60	74.00	-34.40	peak	H
4367.000	35.20	6.52	41.72	74.00	-32.28	peak	H
5795.000	35.12	10.50	45.62	74.00	-28.38	peak	H
3079.000	37.22	2.38	39.60	74.00	-34.40	peak	V
4493.000	34.05	6.93	40.98	74.00	-33.02	peak	V
6194.000	34.69	11.72	46.41	74.00	-27.59	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	WN4607R			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	2			Date:	07/18/2012		
Frequency:	2462MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2911.000	37.09	1.89	38.98	74.00	-35.02	peak	H
4325.000	34.84	6.39	41.23	74.00	-32.77	peak	H
5991.000	33.48	10.85	44.33	74.00	-29.67	peak	H
3135.000	37.69	2.49	40.18	74.00	-33.82	peak	V
4430.000	34.59	6.72	41.31	74.00	-32.69	peak	V
5963.000	33.91	10.79	44.70	74.00	-29.30	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	WN4607R			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	3			Date:	07/18/2012		
Frequency:	2412MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3282.000	39.07	2.82	41.89	74.00	-32.11	peak	H
4824.000	37.87	7.95	45.82	74.00	-28.18	peak	H
6530.000	35.68	13.19	48.87	74.00	-25.13	peak	H
2995.000	37.75	2.18	39.93	74.00	-34.07	peak	V
4824.000	38.64	7.95	46.59	74.00	-27.41	peak	V
6208.000	35.23	11.80	47.03	74.00	-26.97	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	WN4607R			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	3			Date:	07/18/2012		
Frequency:	2437MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3079.000	38.56	2.38	40.94	74.00	-33.06	peak	H
4874.000	39.39	8.11	47.50	74.00	-26.50	peak	H
6460.000	35.37	12.91	48.28	74.00	-25.72	peak	H
3198.000	38.50	2.64	41.14	74.00	-32.86	peak	V
4874.000	43.23	8.11	51.34	74.00	-22.66	peak	V
6292.000	35.52	12.15	47.67	74.00	-26.33	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	WN4607R			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	3			Date:	07/18/2012		
Frequency:	2462MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2995.000	36.75	2.18	38.93	74.00	-35.07	peak	H
4924.000	38.05	8.26	46.31	74.00	-27.69	peak	H
6250.000	34.85	11.97	46.82	74.00	-27.18	peak	H
3002.000	39.65	2.20	41.85	74.00	-32.15	peak	V
4924.000	39.06	8.26	47.32	74.00	-26.68	peak	V
6355.000	34.59	12.45	47.04	74.00	-26.96	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	WN4607R			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	4			Date:	07/18/2012		
Frequency:	2412MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3338.000	38.13	2.95	41.08	74.00	-32.92	peak	H
4824.000	39.31	7.95	47.26	74.00	-26.74	peak	H
6285.000	34.42	12.13	46.55	74.00	-27.45	peak	H
3065.000	38.74	2.35	41.09	74.00	-32.91	peak	V
4824.000	40.17	7.95	48.12	74.00	-25.88	peak	V
6355.000	34.15	12.45	46.60	74.00	-27.40	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	WN4607R			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	4			Date:	07/18/2012		
Frequency:	2437MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3051.000	37.52	2.31	39.83	74.00	-34.17	peak	H
4874.000	41.98	8.11	50.09	74.00	-23.91	peak	H
6341.000	33.60	12.38	45.98	74.00	-28.02	peak	H
3359.000	37.64	3.00	40.64	74.00	-33.36	peak	V
4874.000	42.69	8.11	50.80	74.00	-23.20	peak	V
6355.000	34.33	12.45	46.78	74.00	-27.22	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	WN4607R			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	4			Date:	07/18/2012		
Frequency:	2462MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3142.000	39.53	2.52	42.05	74.00	-31.95	peak	H
4924.000	36.96	8.26	45.22	74.00	-28.78	peak	H
6411.000	34.32	12.69	47.01	74.00	-26.99	peak	H
3093.000	37.90	2.41	40.31	74.00	-33.69	peak	V
4924.000	39.56	8.26	47.82	74.00	-26.18	peak	V
6488.000	35.09	13.03	48.12	74.00	-25.88	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	WN4607R			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	5			Date:	07/18/2012		
Frequency:	2422MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2946.000	37.32	2.00	39.32	74.00	-34.68	peak	H
4514.000	35.86	7.00	42.86	74.00	-31.14	peak	H
6187.000	34.36	11.69	46.05	74.00	-27.95	peak	H
2799.000	38.74	1.49	40.23	74.00	-33.77	peak	V
4844.000	37.51	8.02	45.53	74.00	-28.47	peak	V
6131.000	34.91	11.45	46.36	74.00	-27.64	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	WN4607R			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	5			Date:	07/18/2012		
Frequency:	2437MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3058.000	37.85	2.32	40.17	74.00	-33.83	peak	H
4465.000	36.06	6.84	42.90	74.00	-31.10	peak	H
6222.000	33.67	11.85	45.52	74.00	-28.48	peak	H
3079.000	38.19	2.38	40.57	74.00	-33.43	peak	V
4874.000	41.08	8.11	49.19	74.00	-24.81	peak	V
6327.000	34.31	12.32	46.63	74.00	-27.37	peak	V

Standard:	FCC Part 15C			Test Distance:	3m		
Test item:	Radiated Emission			Power:	AC 120V/60Hz		
Model Number:	WN4607R			Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	5			Date:	07/18/2012		
Frequency:	2452MHz			Test By:	Fly Lu		
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
2967.000	38.66	2.08	40.74	74.00	-33.26	peak	H
4367.000	36.36	6.52	42.88	74.00	-31.12	peak	H
6166.000	34.56	11.60	46.16	74.00	-27.84	peak	H
2946.000	37.13	2.00	39.13	74.00	-34.87	peak	V
4904.000	38.53	8.20	46.73	74.00	-27.27	peak	V
6369.000	33.48	12.50	45.98	74.00	-28.02	peak	V

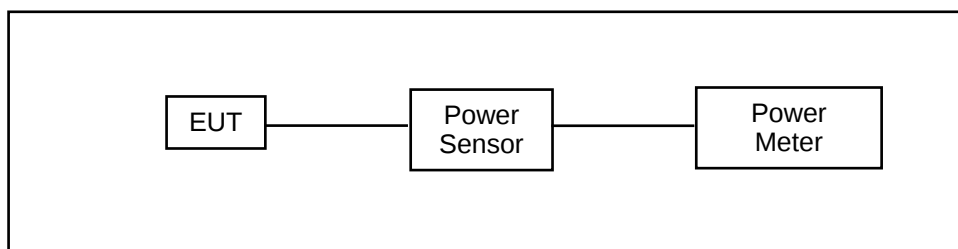
Standard:	FCC Part 15C				Test Distance:	3m		
Test item:	Radiated Emission				Power:	AC 120V/60Hz		
Model Number:	WN4607R				Temp.(°C)/Hum.(%RH):	26(°C)/60%RH		
Mode:	6				Date:	07/18/2012		
Modulation:	IEEE 802.11b				Test By:	Fly Lu		
Frequency:	2412MHz							
Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/	Peak (dBuV/m)	AVG. (dBuV/m)	Margin (dB)	Remark	Ant.Polar. H / V
3023.000	37.32	2.25	39.57	74.00	54.00	-34.43	peak	H
4381.000	34.56	6.57	41.13	74.00	54.00	-32.87	peak	H
5823.000	35.57	10.56	46.13	74.00	54.00	-27.87	peak	H
3051.000	39.80	2.31	42.11	74.00	54.00	-31.89	peak	V
4577.000	35.82	7.19	43.01	74.00	54.00	-30.99	peak	V
6250.000	32.92	11.97	44.89	74.00	54.00	-29.11	peak	V

6 Maximum Conducted Output Power Measurement

6.1. Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm.

6.2. Test Setup



6.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Single Channel PK Power Sensor	Agilent	N1911A	MY45101619	12/15/2011	(1)
Wideband Power Meter	Agilent	N1921A	MY45241957	12/15/2011	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

6.4. Test Procedure

The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to power sensor. The maximum peak output power shall not exceed 1 watt.

Use a direct connection between the antenna port of transmitter and the power sensor, for prevent the power sensor input attenuation 40-50 dB. Set the RBW Bandwidth of the emission or use a channel power meter mode.

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm). For antennas with gains greater than 6 dBi, transmitter output level must be decreased by an amount equal to (GAIN - 6)/3 dBm.

The antenna port of the EUT was connected to the input of a power sensor. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

6.5. Test Result

Model Number	WN4607R					
Test Item	Maximum Conducted Output Power					
Test Mode	Mode 2: IEEE 802.11b Link Mode					
Date of Test	07/18/2012			Test Site	TE05	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	
2412	1	16.91	0.049	19.99	0.100	< 30
2437		16.99	0.050	20.00	0.100	< 30
2462		16.51	0.045	19.51	0.089	< 30
2412	11	16.87	0.049	19.91	0.098	< 30
2437		16.91	0.049	19.98	0.100	< 30
2462		16.45	0.044	19.46	0.088	< 30

Model Number	WN4607R					
Test Item	Maximum Conducted Output Power					
Test Mode	Mode 3: IEEE 802.11g Link Mode					
Date of Test	07/18/2012			Test Site	TE05	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	
2412	6	14.51	0.028	22.52	0.179	< 30
2437		14.62	0.029	22.91	0.195	< 30
2462		13.30	0.021	21.90	0.155	< 30
2412	54	10.97	0.013	21.23	0.133	< 30
2437		11.13	0.013	21.58	0.144	< 30
2462		9.79	0.010	20.65	0.116	< 30

Model Number	WN4607R					
Test Item	Maximum Conducted Output Power					
Test Mode	Mode 4: draft 802.11n Standard-20MHz Link Mode					
Date of Test	07/18/2012			Test Site	TE05	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	
2412	MCS0	14.55	0.029	22.70	0.186	< 30
2437		14.71	0.030	23.14	0.206	< 30
2462		12.49	0.018	21.41	0.138	< 30
2412	MCS7	10.78	0.012	20.72	0.118	< 30
2437		10.91	0.012	20.94	0.124	< 30
2462		8.66	0.007	19.34	0.086	< 30

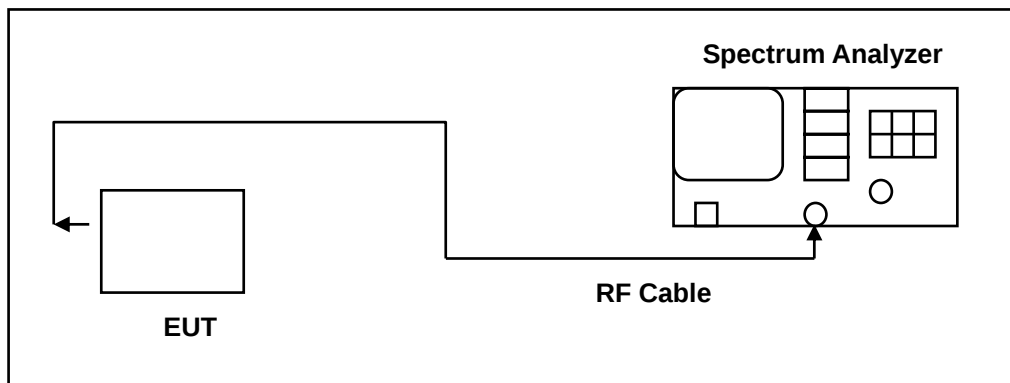
Model Number	WN4607R					
Test Item	Maximum Conducted Output Power					
Test Mode	Mode 5: draft 802.11n Wide-40MHz Link Mode					
Date of Test	07/18/2012			Test Site	TE05	
Frequency (MHz)	Data Rate	Average Power		Peak Power		Limit (dBm)
		(dBm)	(W)	(dBm)	(W)	
2422	MCS0	11.78	0.015	21.45	0.140	< 30
2437		14.72	0.030	23.21	0.209	< 30
2452		10.07	0.010	20.44	0.111	< 30
2422	MCS7	7.95	0.006	19.10	0.081	< 30
2437		10.69	0.012	20.69	0.117	< 30
2452		6.57	0.005	18.23	0.067	< 30

7 6dB RF Bandwidth Measurement

7.1. Limit

Systems using digital modulation techniques may operate in the 2400–2483.5 MHz bands. The minimum 6 dB band-width shall be at least 500 kHz.

7.2. Test Setup



7.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/21/2011	(2)
Test Site	ATL	TE05	TE05	N.C.R.	-----

dRemark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

7.4. Test Procedure

The EUT was setup to ANSI C63.4, 2009; tested to DTS test procedure of Oct 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was set to 100 kHz. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A peak output reading was taken, a DISPLAY line was drawn 6 dB lower than peak level. The 6 dB bandwidth was determined from where the channel output spectrum intersected the display line.

The test was performed at 3 channels (Channel 1, 6, 11)

7.5. Test Result

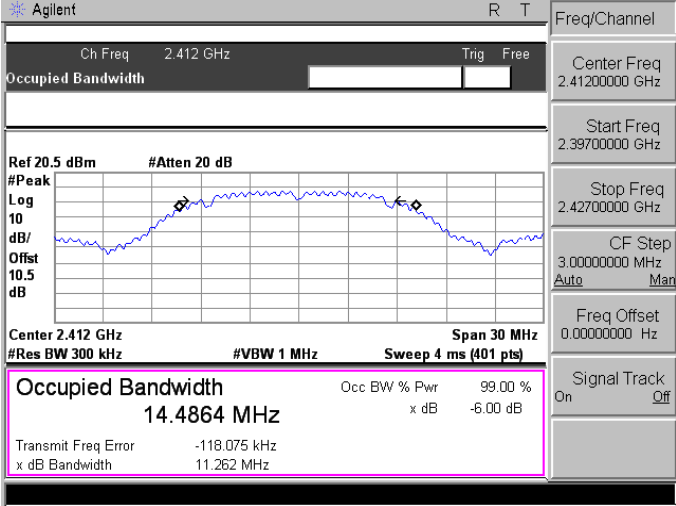
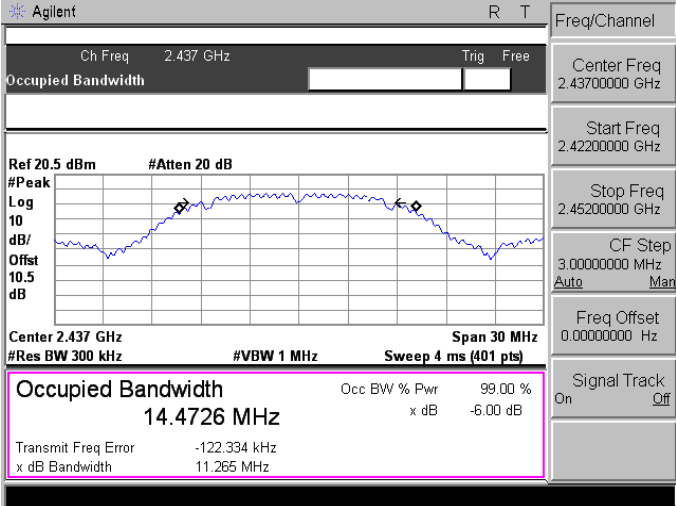
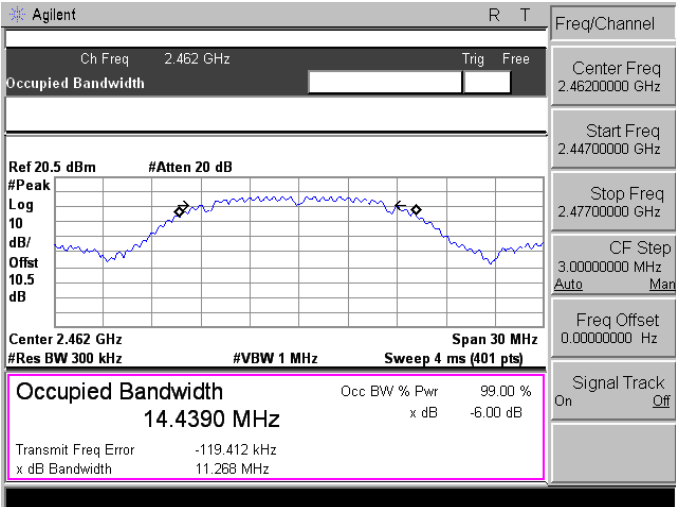
Model Number	WN4607R		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 2: IEEE 802.11b Link Mode		
Date of Test	07/18/2012	Test Site	TE05
Frequency (MHz)	Measurement (kHz)	Limit (kHz)	
2412	11262	> 500	
2437	11265	> 500	
2462	11268	> 500	

Model Number	WN4607R		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 3: IEEE 802.11g Link Mode		
Date of Test	07/18/2012	Test Site	TE06
Frequency (MHz)	Measurement (kHz)	Limit (kHz)	
2412	16329	> 500	
2437	16029	> 500	
2462	16124	> 500	

Model Number	WN4607R		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 4: draft 802.11n Standard-20MHz Link Mode		
Date of Test	07/18/2012	Test Site	TE05
Frequency (MHz)	Measurement (kHz)	Limit (kHz)	
2412	17187	> 500	
2437	17257	> 500	
2462	17089	> 500	

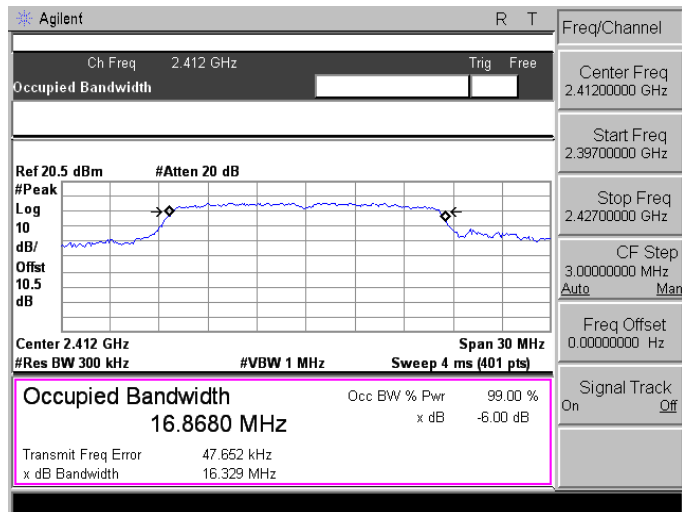
Model Number	WN4607R		
Test Item	6dB RF Bandwidth		
Test Mode	Mode 5: draft 802.11n Wide-40MHz Link Mode		
Date of Test	07/18/2012	Test Site	TE05
Frequency (MHz)	Measurement (kHz)	Limit (kHz)	
2422	34938	> 500	
2437	35076	> 500	
2452	35171	> 500	

7.6. Test Graphs

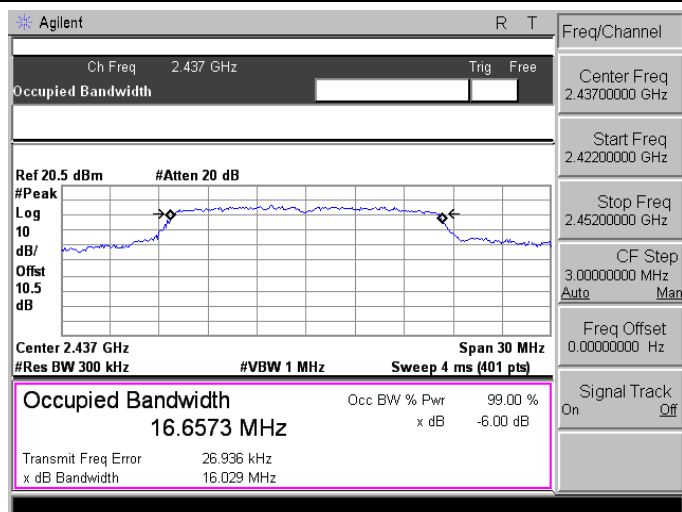
Mode 2: IEEE 802.11b Link Mode	
2412	 Agilent R T Ch Freq 2.412 GHz Trig Free Occupied Bandwidth Ref 20.5 dBm #Atten 20 dB #Peak Log dB/Offset 10.5 dB Center 2.412 GHz Span 30 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 14.4864 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -118.075 kHz x dB Bandwidth 11.262 MHz Freq/Channel Center Freq 2.41200000 GHz Start Freq 2.39700000 GHz Stop Freq 2.42700000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
2437	 Agilent R T Ch Freq 2.437 GHz Trig Free Occupied Bandwidth Ref 20.5 dBm #Atten 20 dB #Peak Log dB/Offset 10.5 dB Center 2.437 GHz Span 30 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 14.4726 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -122.334 kHz x dB Bandwidth 11.265 MHz Freq/Channel Center Freq 2.43700000 GHz Start Freq 2.42200000 GHz Stop Freq 2.45200000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
2462	 Agilent R T Ch Freq 2.462 GHz Trig Free Occupied Bandwidth Ref 20.5 dBm #Atten 20 dB #Peak Log dB/Offset 10.5 dB Center 2.462 GHz Span 30 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 14.4390 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -119.412 kHz x dB Bandwidth 11.268 MHz Freq/Channel Center Freq 2.46200000 GHz Start Freq 2.44700000 GHz Stop Freq 2.47700000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

Mode 3: IEEE 802.11g Link Mode

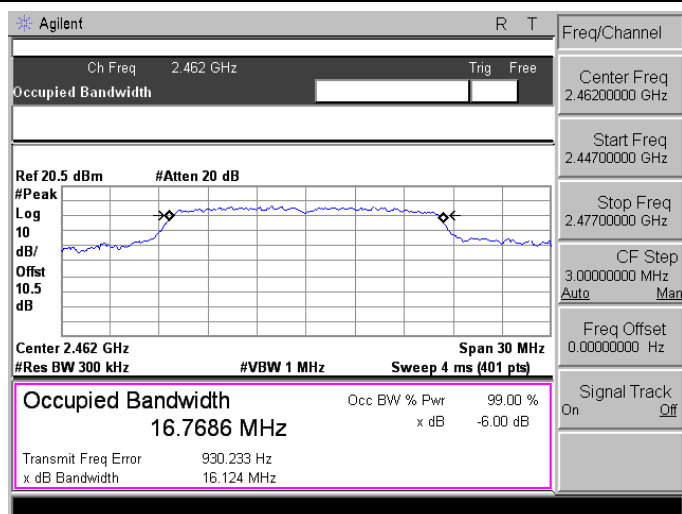
2412



2437

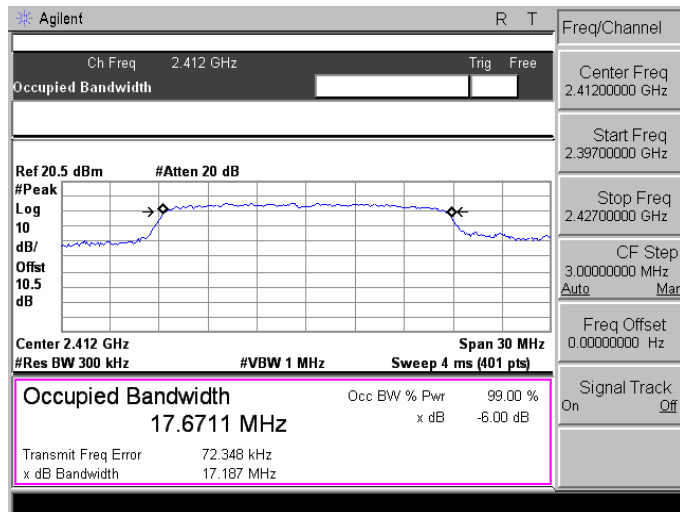


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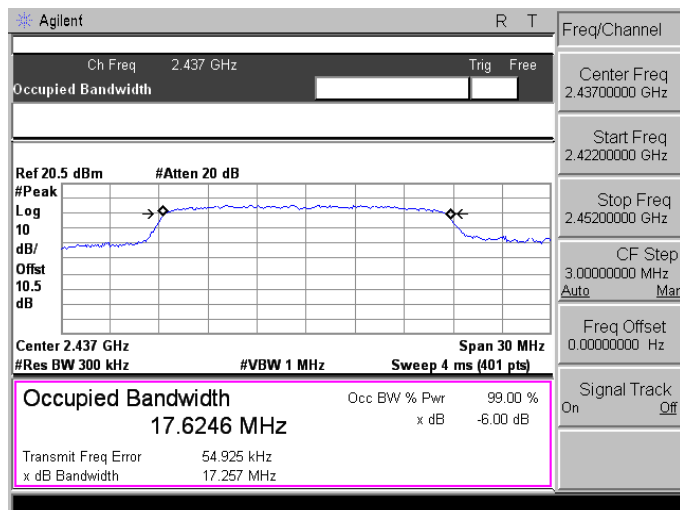


Mode 4: draft 802.11n Standard-20MHz Link Mode

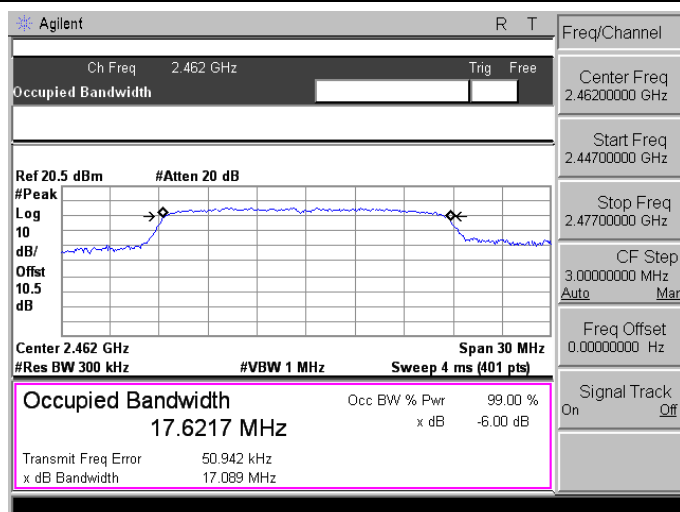
2412



2437

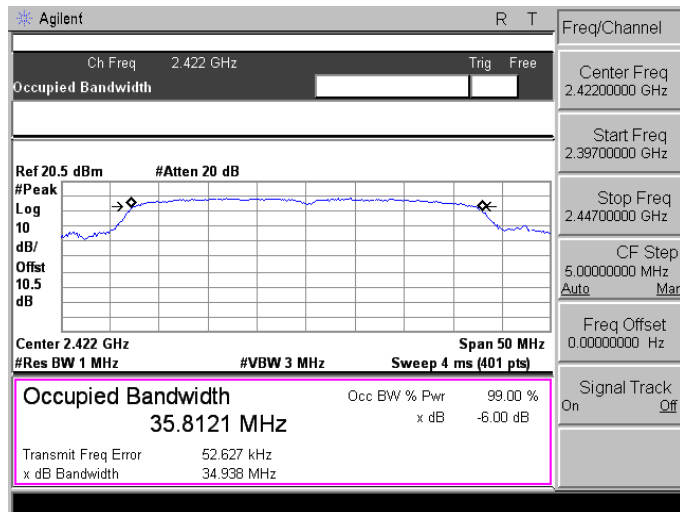


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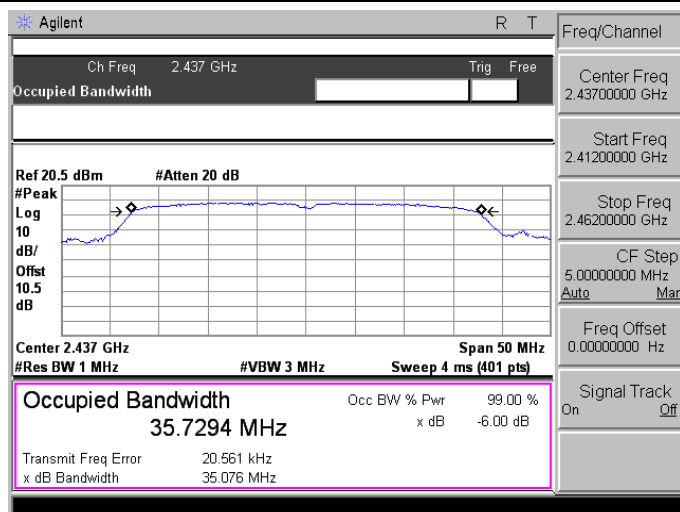


Mode 5: draft 802.11n Wide-40MHz Link Mode

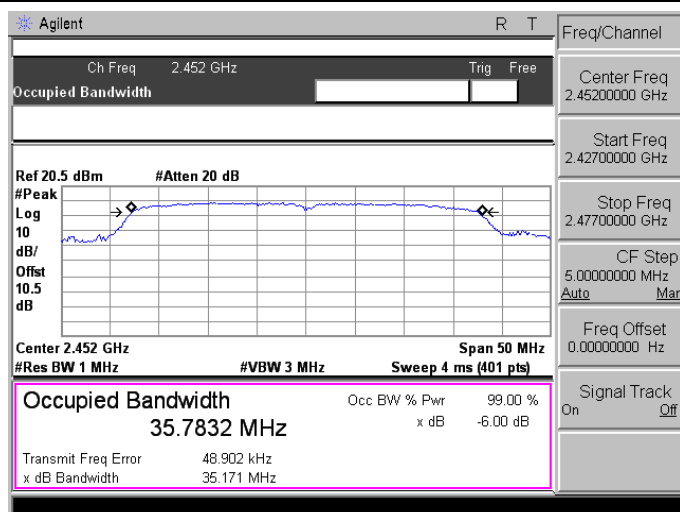
2422



2437



2452

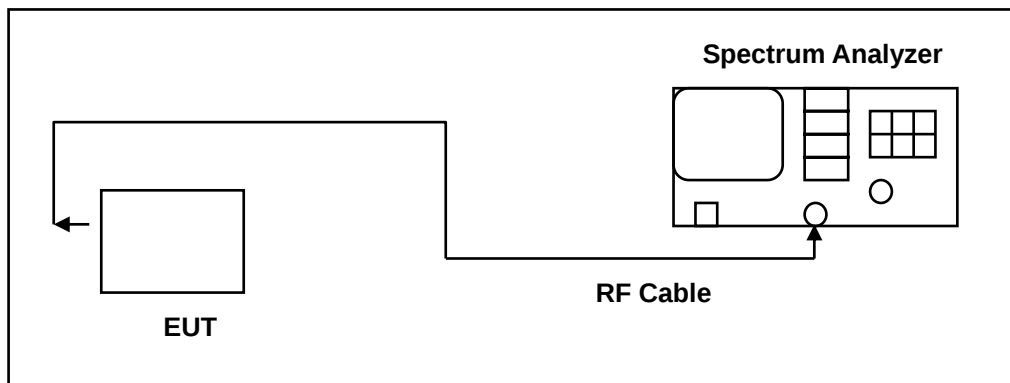


8 Maximum Power Density Measurement

8.1. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

8.2. Test Setup



8.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/21/2011	(2)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

8.4. Test Procedure

The EUT was setup to ANSI C63.4, 2009; tested to DTS test procedure of Oct 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

- 1) The EUT was directly connectd to the spectrum analyzer and antenna output port as show in the block diagram below,
- 2) Spectrum Setting: RBW=100KHz, VBW=300KHz, Sweep time=Auto. Span to 5-30% greater than EBW
- 3) Scale the observed power level to an equivalent value in 3kHz by adjusting(reducing) the measured power by a bandwidth correction factor(BWCF) where $BWCF = 10\log(3\text{kHz}/100\text{kHz}) = -15.2\text{dB}$.
- 4) Use peak detector+BWCF.
- 5) The resulting peak PSD level must be $\leq 8\text{dBm}$.

8.5. Test Result

Model Number	WN4607R		
Test Item	Maximum Power Density		
Test Mode	Mode 2: IEEE 802.11b Link Mode		
Date of Test	07/18/2012	Test Site	TE05
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	
2412	-8.999	< 8	
2437	-8.750	< 8	
2462	-9.487	< 8	

Model Number	WN4607R		
Test Item	Maximum Power Density		
Test Mode	Mode 3: IEEE 802.11g Link Mode		
Date of Test	07/18/2012	Test Site	TE05
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	
2412	-13.320	< 8	
2437	-13.31	< 8	
2462	-14.60	< 8	

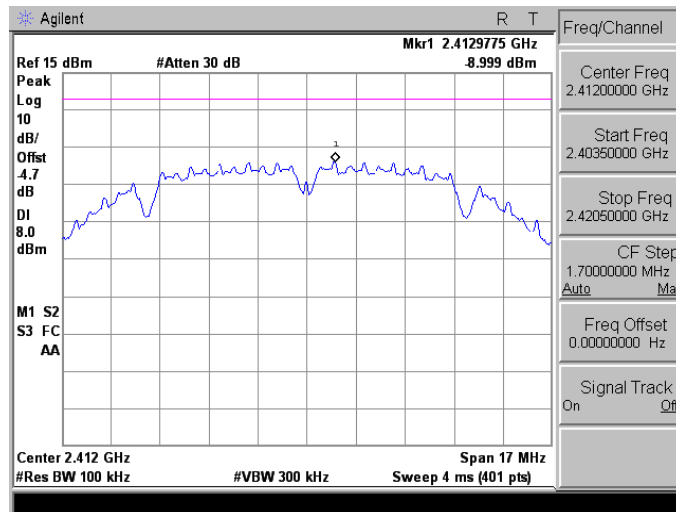
Model Number	WN4607R		
Test Item	Maximum Power Density		
Test Mode	Mode 4: draft 802.11n Standard-20MHz Link Mode		
Date of Test	07/18/2012	Test Site	TE05
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	
2412	-14.050	< 8	
2437	-13.750	< 8	
2462	-16.100	< 8	

Model Number	WN4607R		
Test Item	Maximum Power Density		
Test Mode	Mode 5: draft 802.11n Wide-40MHz Link Mode		
Date of Test	07/18/2012	Test Site	TE05
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	
2422	-18.860	< 8	
2437	-16.630	< 8	
2452	-20.650	< 8	

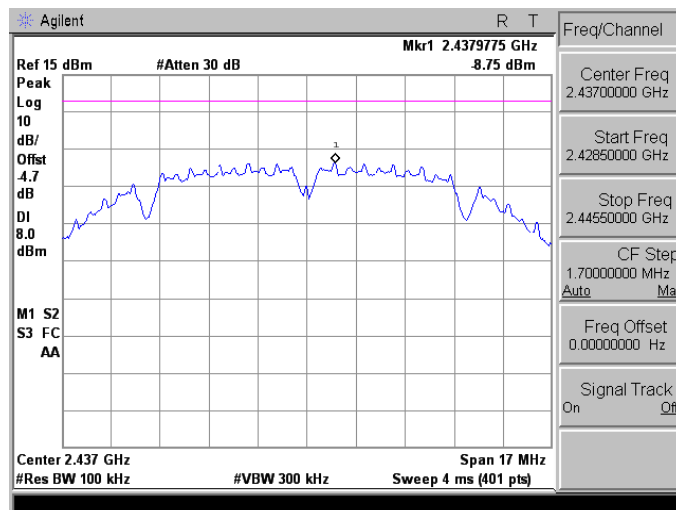
8.6. Test Graphs

Mode 2: IEEE 802.11b Link Mode

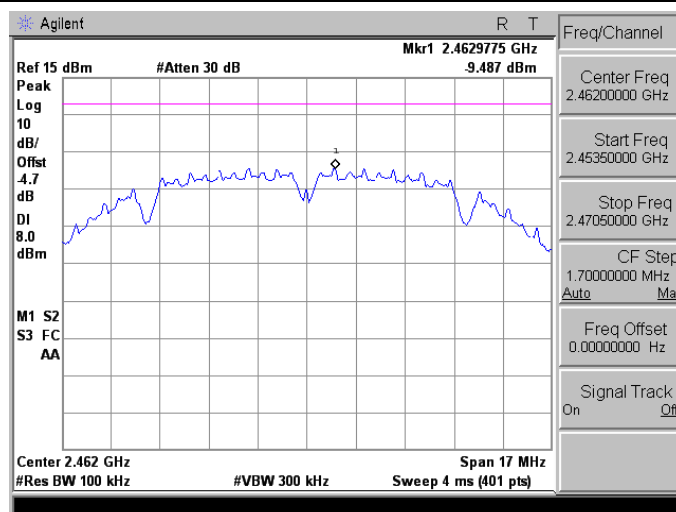
2412



2437

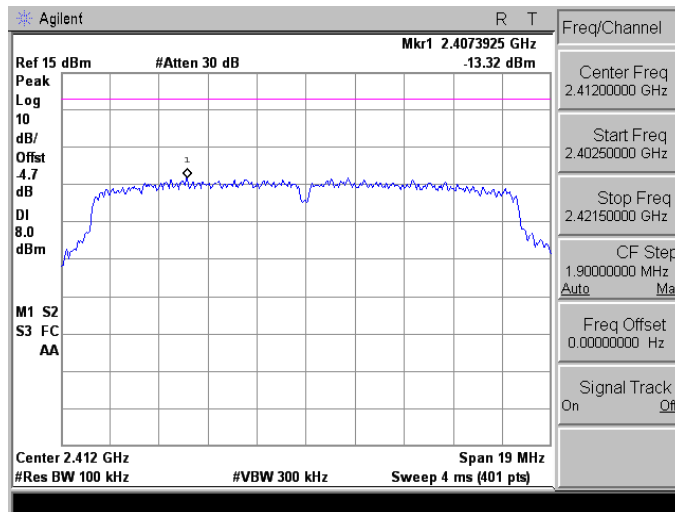


2462

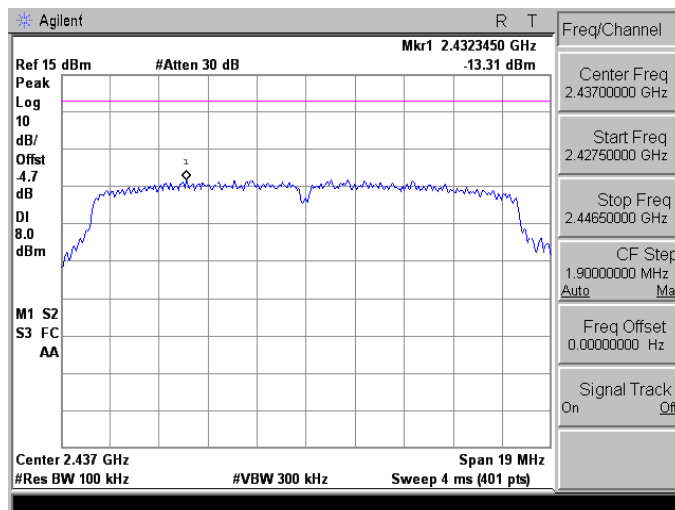


Mode 3: IEEE 802.11g Link Mode

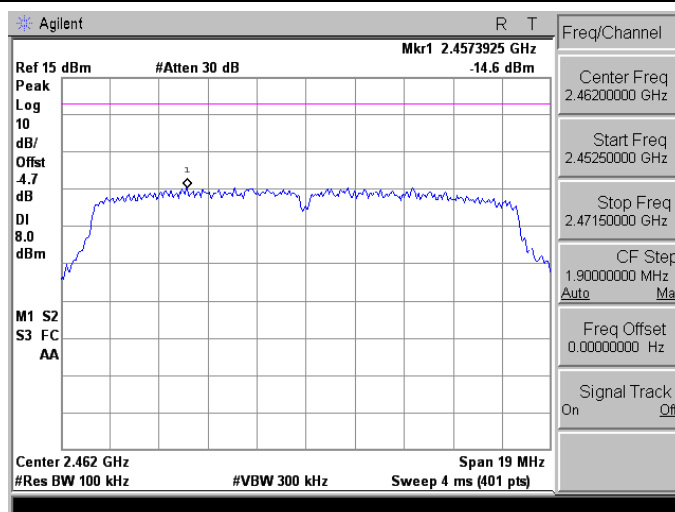
2412



2437

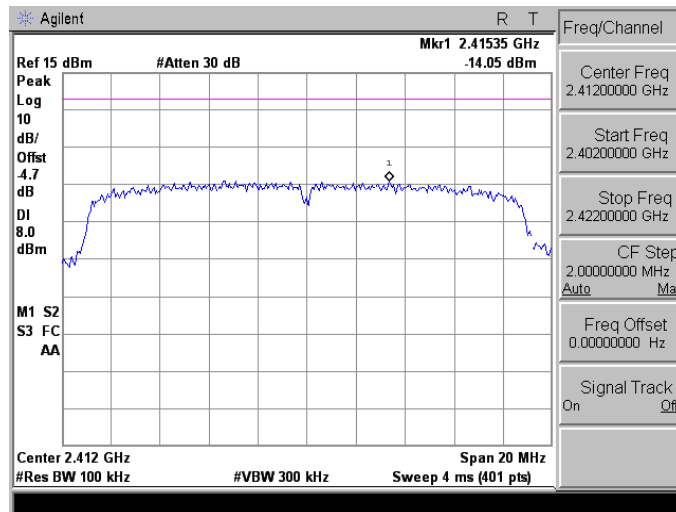


2462

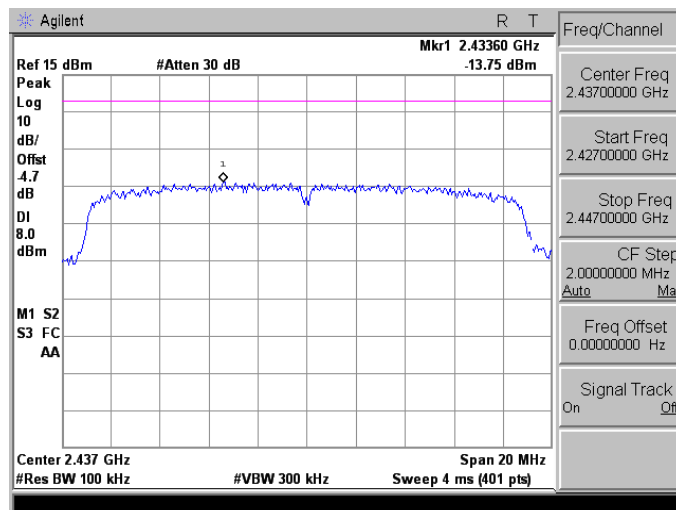


Mode 4: draft 802.11n Standard-20MHz Link Mode

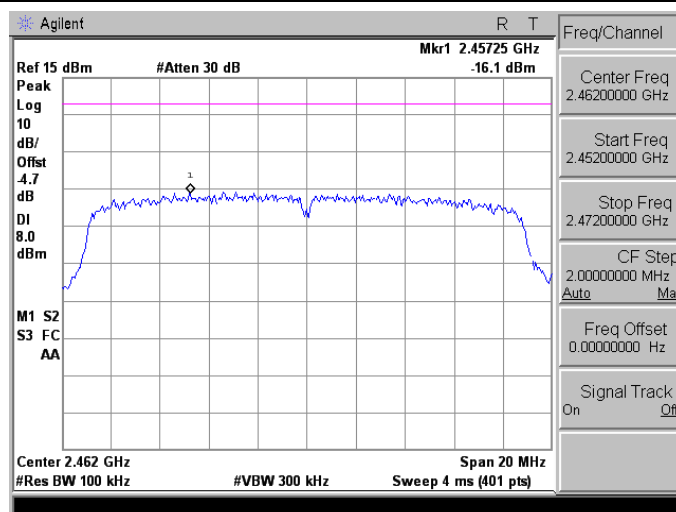
2412



2437

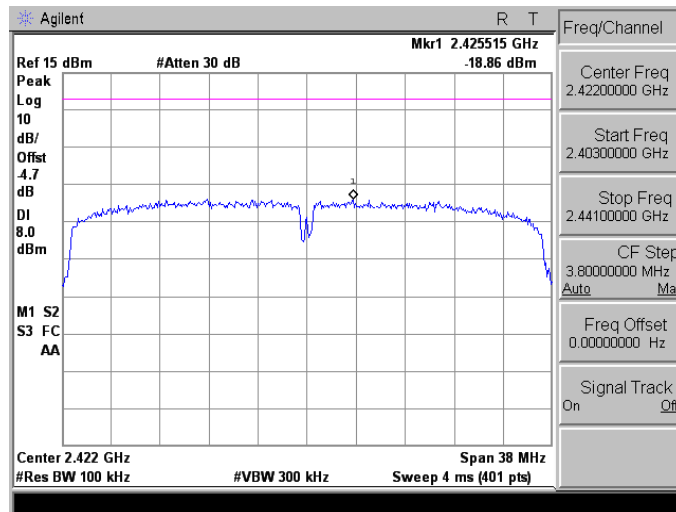


2462

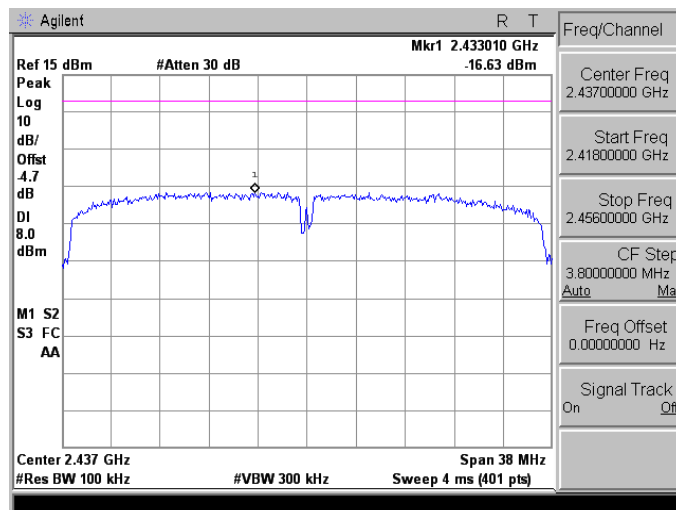


Mode 5: draft 802.11n Wide-40MHz Link Mode

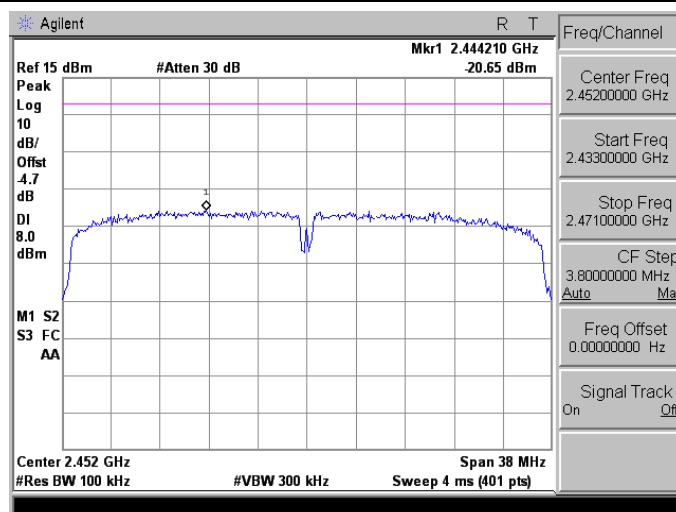
2422



2437



2452

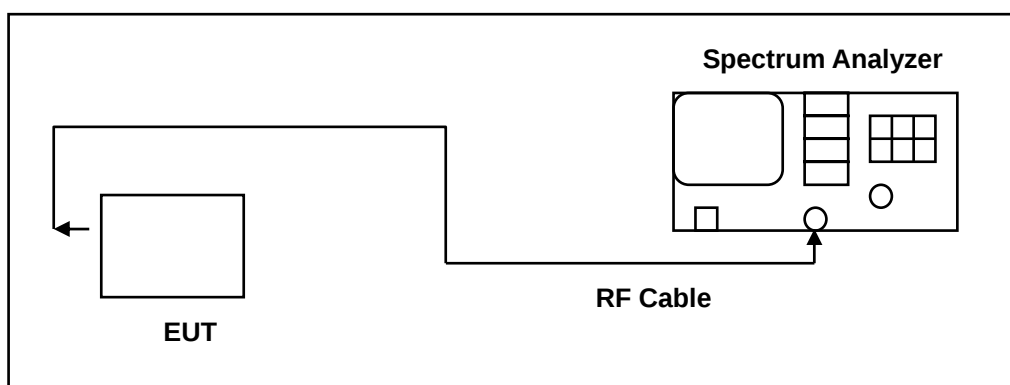


9 Out of Band Conducted Emissions Measurement

9.1. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

9.2. Test Setup



9.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/21/2011	(2)
Spectrum Analyzer	Agilent	E4408B	MY45107753	07/09/2012	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

9.4. Test Procedure

In any 100 kHz bandwidth outside the EUT pass band, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20 dB below that of the maximum in-band 100 kHz emission, antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the pass band.

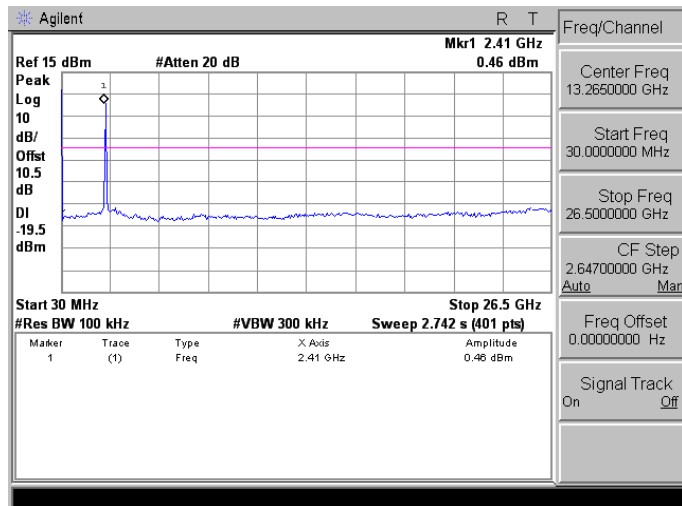
The test was performed at 3 channels (Channel 1, 6, 11)

9.5. Test Graphs

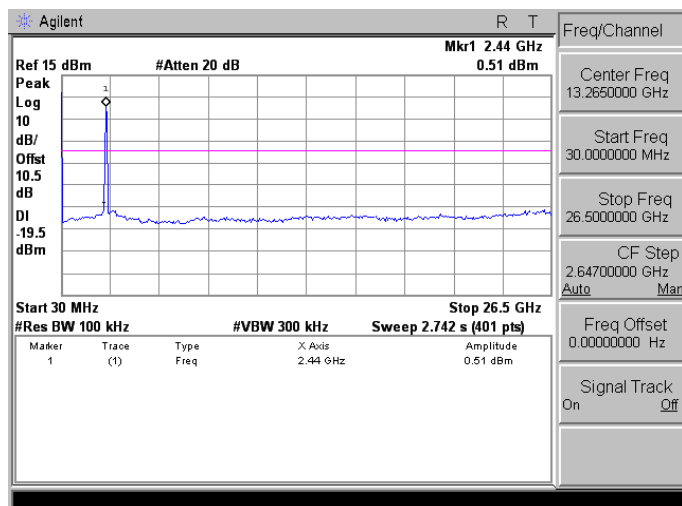
Mode 2: IEEE 802.11b Link Mode											
2412	Agilent R T Ref 15 dBm #Atten 20 dB Mkr1 2.41 GHz 5.238 dBm Peak Log 10 dB/Offst 10.5 dB DI -14.8 dBm Start 30 MHz #Res BW 100 kHz #VBW 300 kHz Stop 26.5 GHz Sweep 2.742 s (401 pts) <table><tr><th>Marker</th><th>Trace</th><th>Type</th><th>X Axis</th><th>Amplitude</th></tr><tr><td>1</td><td>(1)</td><td>Freq</td><td>2.41 GHz</td><td>5.238 dBm</td></tr></table> Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.41 GHz	5.238 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.41 GHz	5.238 dBm							
2437	Agilent R T Ref 15 dBm #Atten 20 dB Mkr1 2.44 GHz 5.265 dBm Peak Log 10 dB/Offst 10.5 dB DI -14.7 dBm Start 30 MHz #Res BW 100 kHz #VBW 300 kHz Stop 26.5 GHz Sweep 2.742 s (401 pts) <table><tr><th>Marker</th><th>Trace</th><th>Type</th><th>X Axis</th><th>Amplitude</th></tr><tr><td>1</td><td>(1)</td><td>Freq</td><td>2.44 GHz</td><td>5.265 dBm</td></tr></table> Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.44 GHz	5.265 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.44 GHz	5.265 dBm							
2462	Agilent R T Ref 15 dBm #Atten 20 dB Mkr1 2.46 GHz 4.219 dBm Peak Log 10 dB/Offst 10.5 dB DI -15.8 dBm Start 30 MHz #Res BW 100 kHz #VBW 300 kHz Stop 26.5 GHz Sweep 2.742 s (401 pts) <table><tr><th>Marker</th><th>Trace</th><th>Type</th><th>X Axis</th><th>Amplitude</th></tr><tr><td>1</td><td>(1)</td><td>Freq</td><td>2.46 GHz</td><td>4.219 dBm</td></tr></table> Freq/Channel Center Freq 13.2650000 GHz Start Freq 30.0000000 MHz Stop Freq 26.5000000 GHz CF Step 2.64700000 GHz Auto Man Freq Offset 0.0000000 Hz Signal Track On Off	Marker	Trace	Type	X Axis	Amplitude	1	(1)	Freq	2.46 GHz	4.219 dBm
Marker	Trace	Type	X Axis	Amplitude							
1	(1)	Freq	2.46 GHz	4.219 dBm							

Mode 3: IEEE 802.11g Link Mode

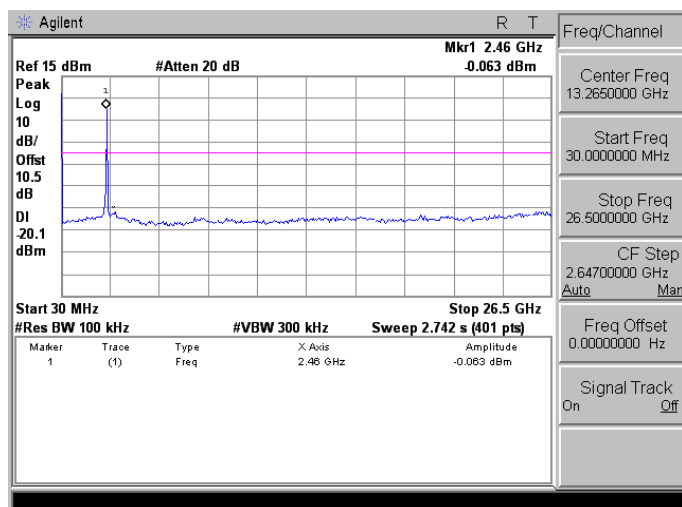
2412



2437

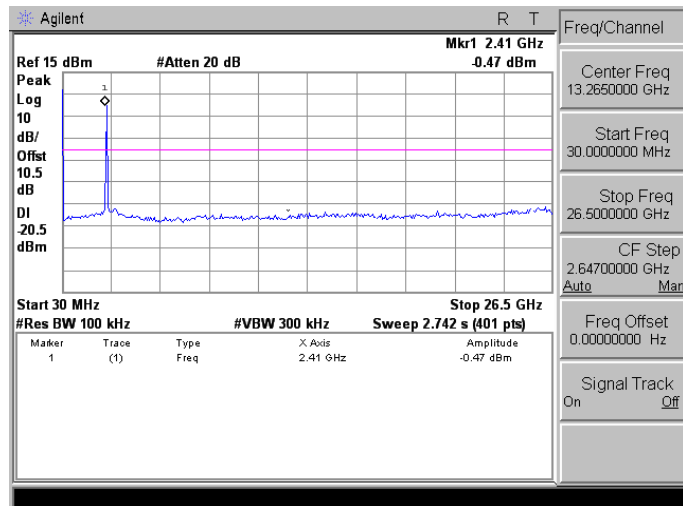


2462

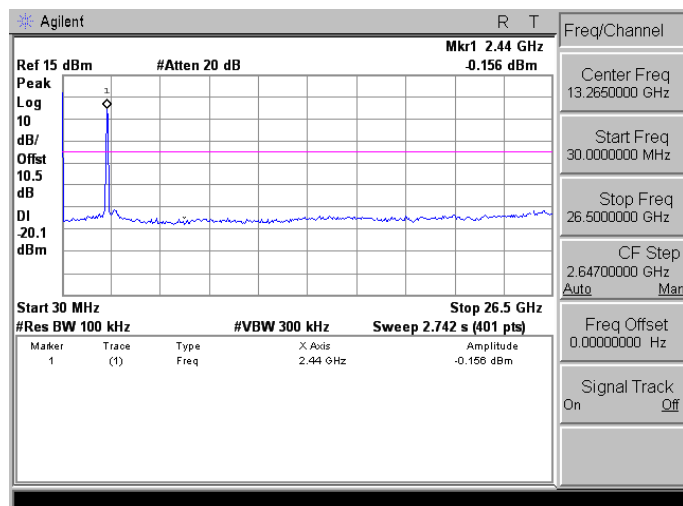


Mode 4: draft 802.11n Standard-20MHz Link Mode

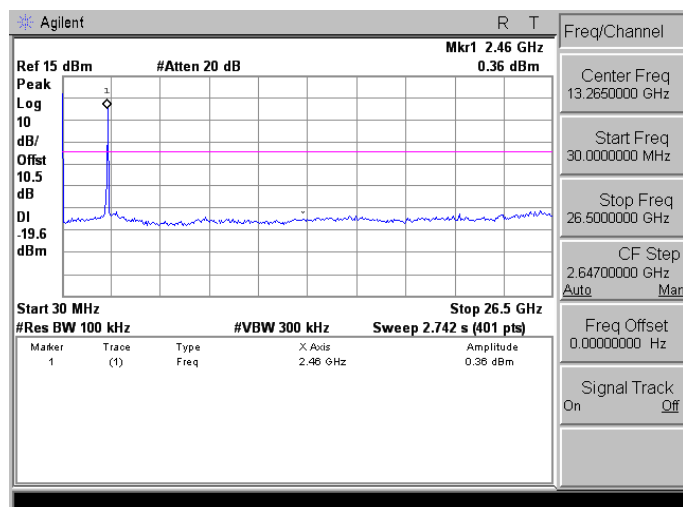
2412



2437

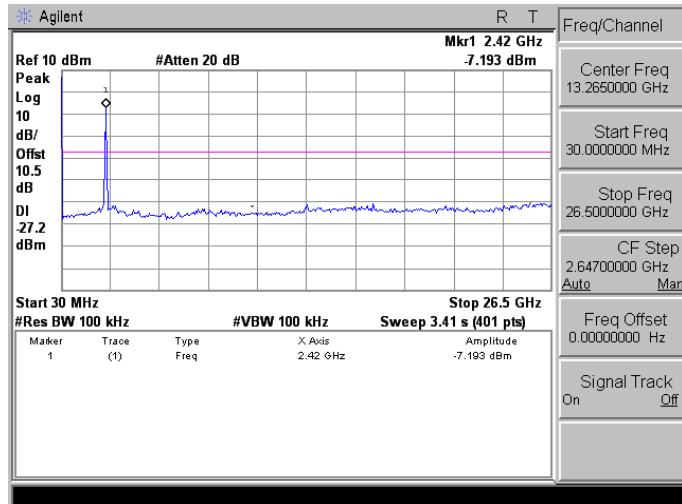


2462

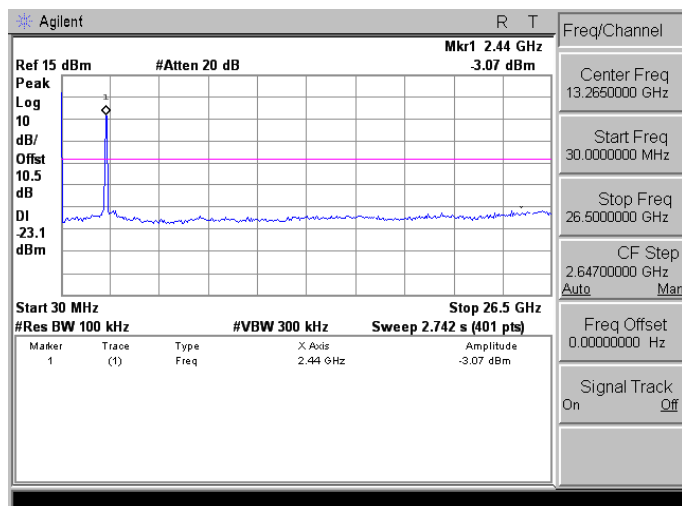


Mode 5: draft 802.11n Wide-40MHz Link Mode

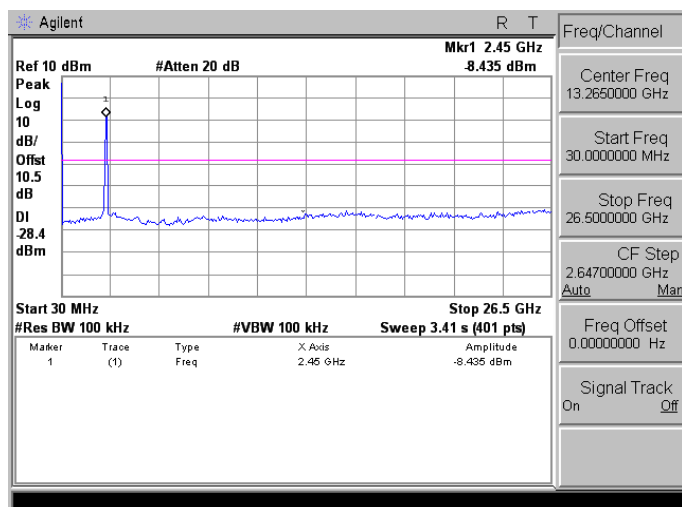
2422



2437



2452

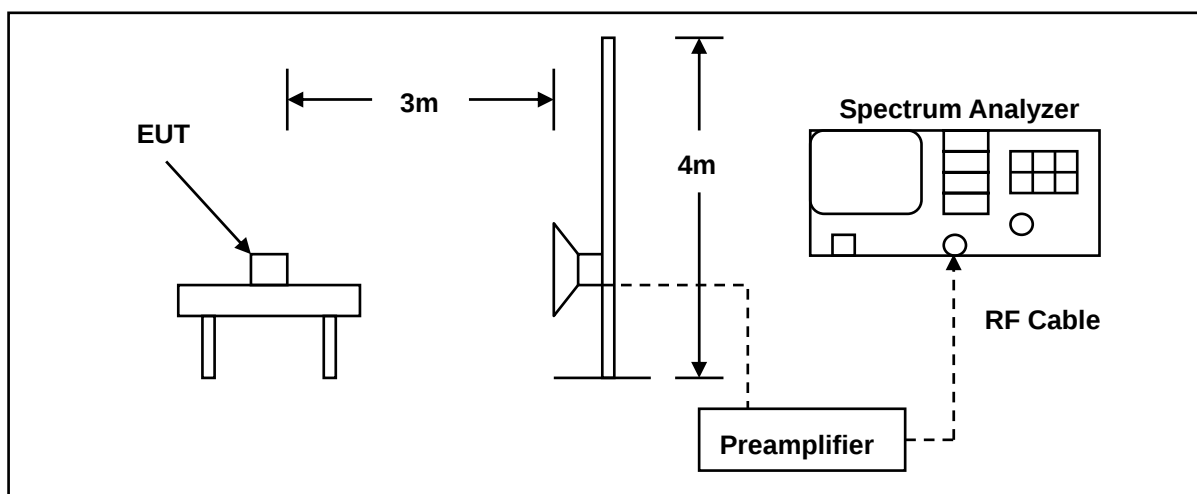


10 Band Edges Measurement

10.1.Limit

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission limits.

10.2.Test Setup



10.3.Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
RF Pre-selector	Agilent	N9039A	MY46520256	01/16/2012	(2)
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/16/2012	(1)
Pre Amplifier	Agilent	8449B	3008A02237	02/22/2012	(1)
Pre Amplifier	Agilent	8447D	2944A10961	02/22/2012	(1)
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/15/2012	(1)
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	06/21/2012	(1)
Test Site	ATL	TE01	888001	12/20/2011	(1)

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

10.4. Test Procedure

The EUT was setup to ANSI C63.4, 2009; tested to DTS test procedure of Oct 2012 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The emissions on the harmonics frequencies, the limits, and the margin of compliance are presented. These tests were made when the transmitter was in full radiated power. The additional test was performed to show compliance with the requirement at the band-edge frequency 2483.5 MHz and up to 2500 MHz and at 2390.0 MHz.

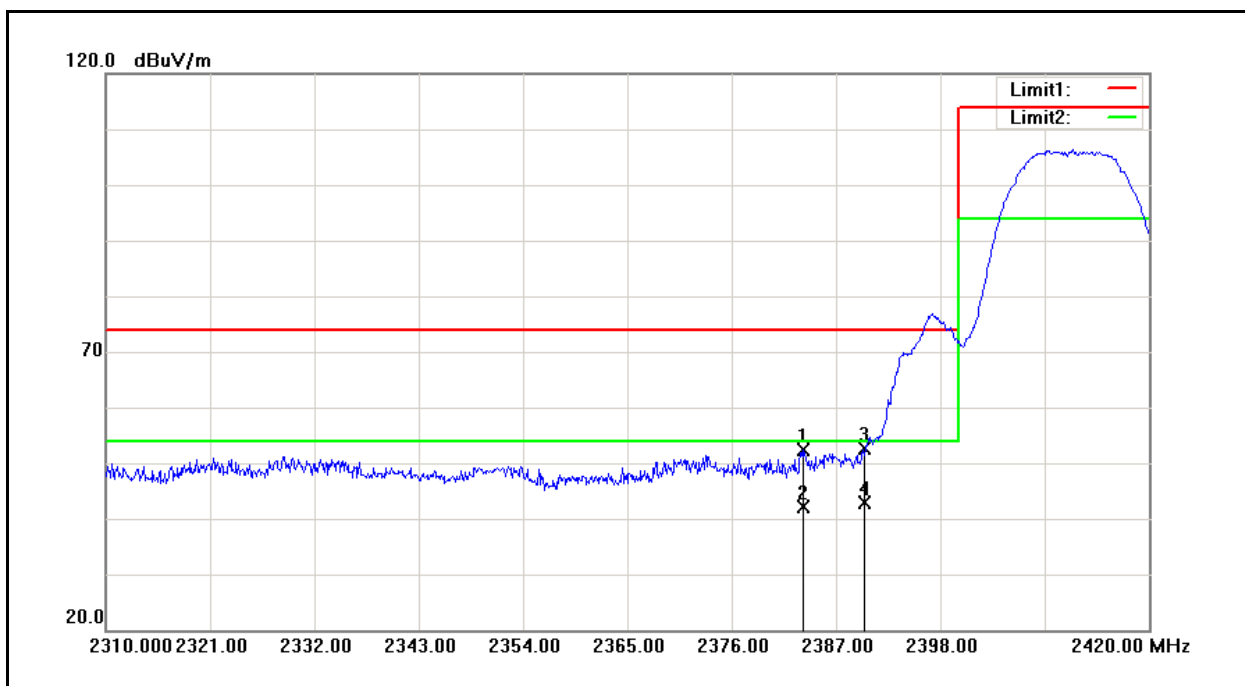
The transmitter was configured with the worst case antenna and setup to transmit at the highest channel. Then the field strength was measured at 2483.5 MHz.

The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel. Then the field strength was measured at 2390.0 MHz. These tests were performed at 4 different bit rates.

For measurements the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

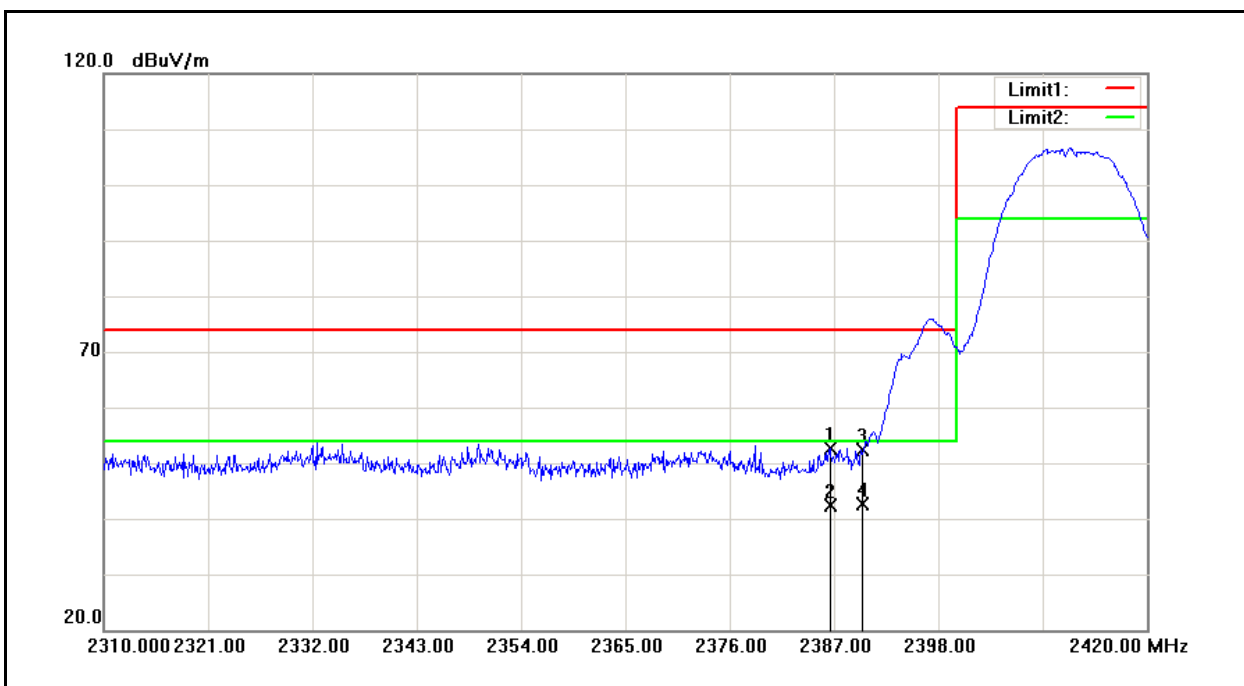
10.5.Test Result

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	2	Date:	07/18/2012
Frequency:	2412 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



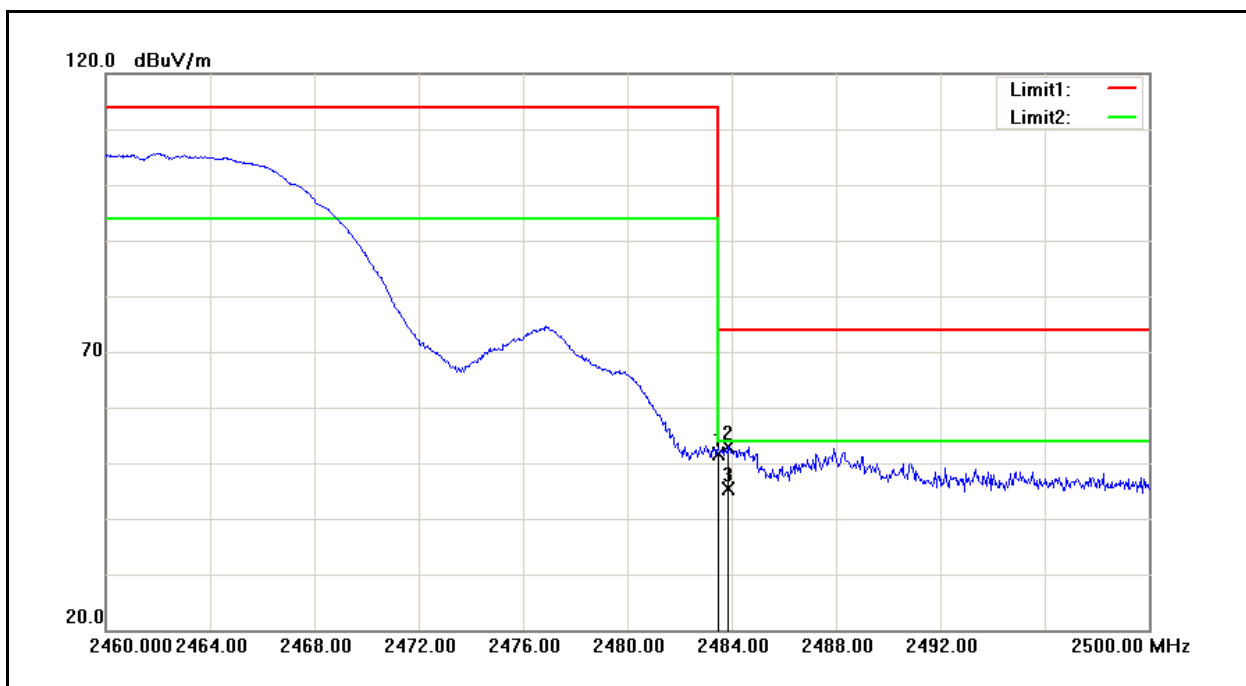
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2383.480	52.54	-0.09	52.45	74.00	-21.55	peak
2	2383.480	42.11	-0.09	42.02	54.00	-11.98	AVG
3	2390.000	52.61	-0.06	52.55	74.00	-21.45	peak
4	2390.000	42.92	-0.06	42.86	54.00	-11.14	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	2	Date:	07/18/2012
Frequency:	2412 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



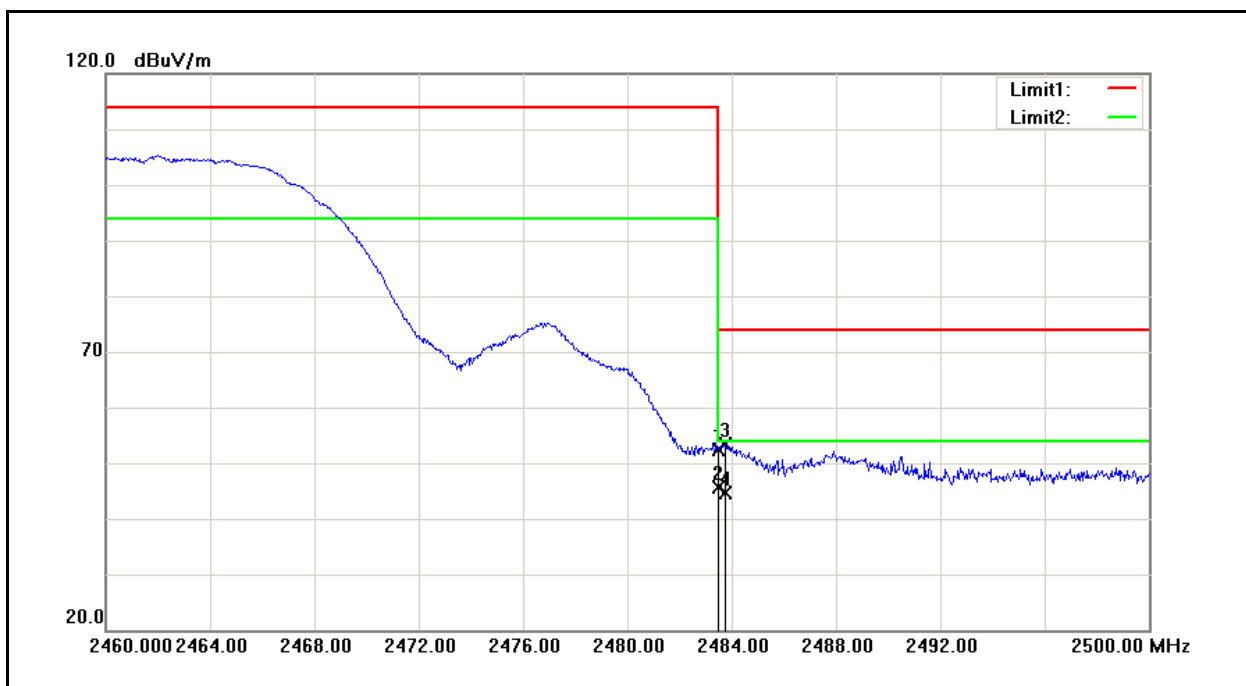
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2386.560	52.75	-0.08	52.67	74.00	-21.33	peak
2	2386.560	42.43	-0.08	42.35	54.00	-11.65	AVG
3	2390.000	52.36	-0.06	52.30	74.00	-21.70	peak
4	2390.000	42.81	-0.06	42.75	54.00	-11.25	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	2	Date:	07/18/2012
Frequency:	2462 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



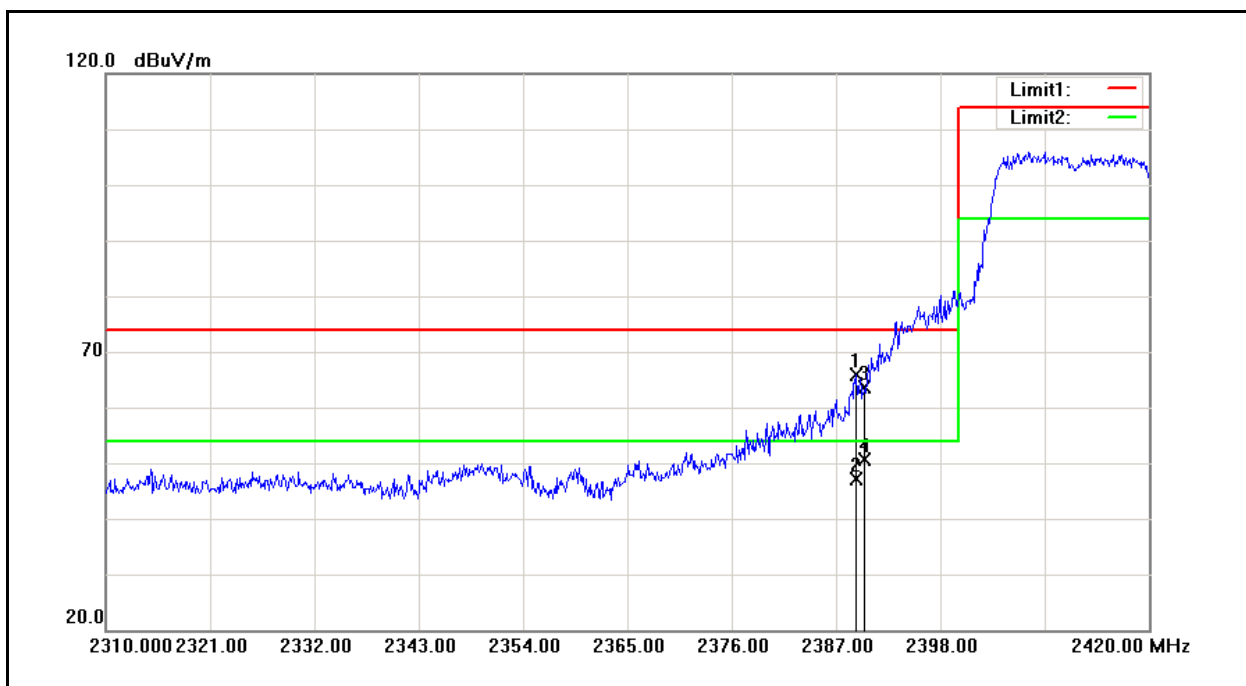
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	51.27	0.35	51.62	74.00	-22.38	peak
2	2483.880	52.48	0.35	52.83	74.00	-21.17	peak
3	2483.880	45.03	0.35	45.38	54.00	-8.62	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	2	Date:	07/18/2012
Frequency:	2462 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



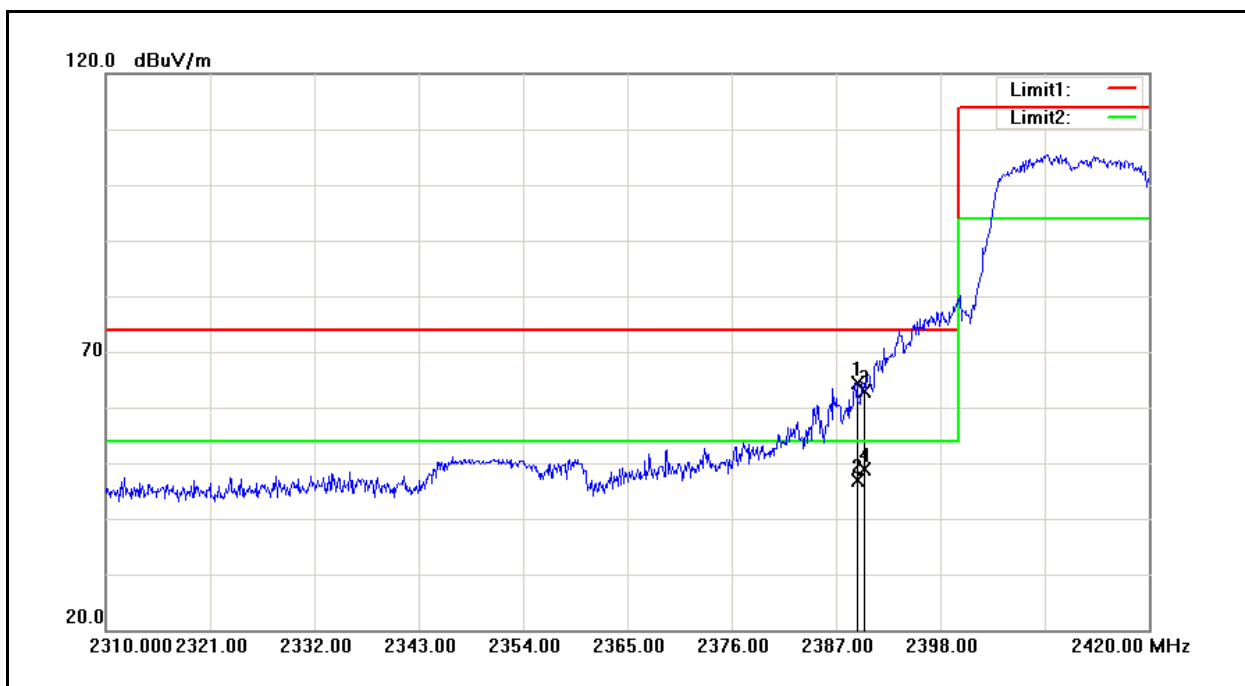
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	52.03	0.35	52.38	74.00	-21.62	peak
2	2483.500	45.36	0.35	45.71	54.00	-8.29	AVG
3	2483.760	53.05	0.35	53.40	74.00	-20.60	peak
4	2483.760	44.23	0.35	44.58	54.00	-9.42	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	3	Date:	07/18/2012
Frequency:	2412 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



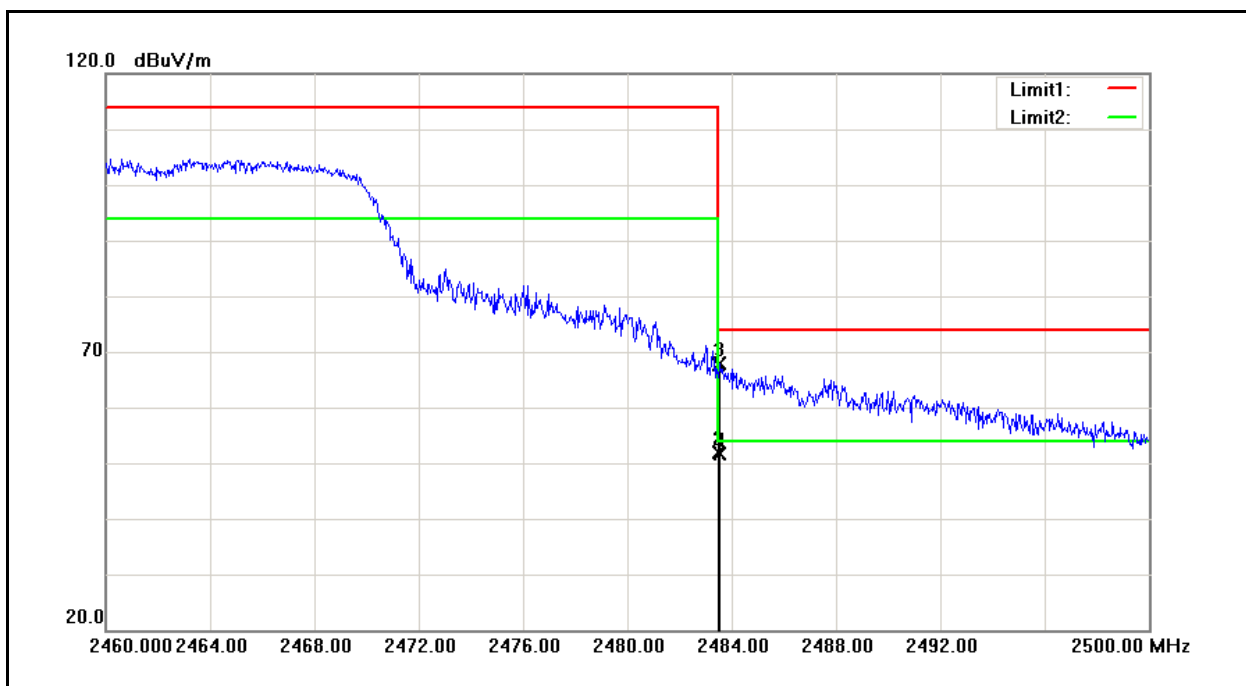
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.090	65.96	-0.06	65.90	74.00	-8.10	peak
2	2389.090	47.30	-0.06	47.24	54.00	-6.76	AVG
3	2390.000	63.75	-0.06	63.69	74.00	-10.31	peak
4	2390.000	50.60	-0.06	50.54	54.00	-3.46	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	3	Date:	07/18/2012
Frequency:	2412 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



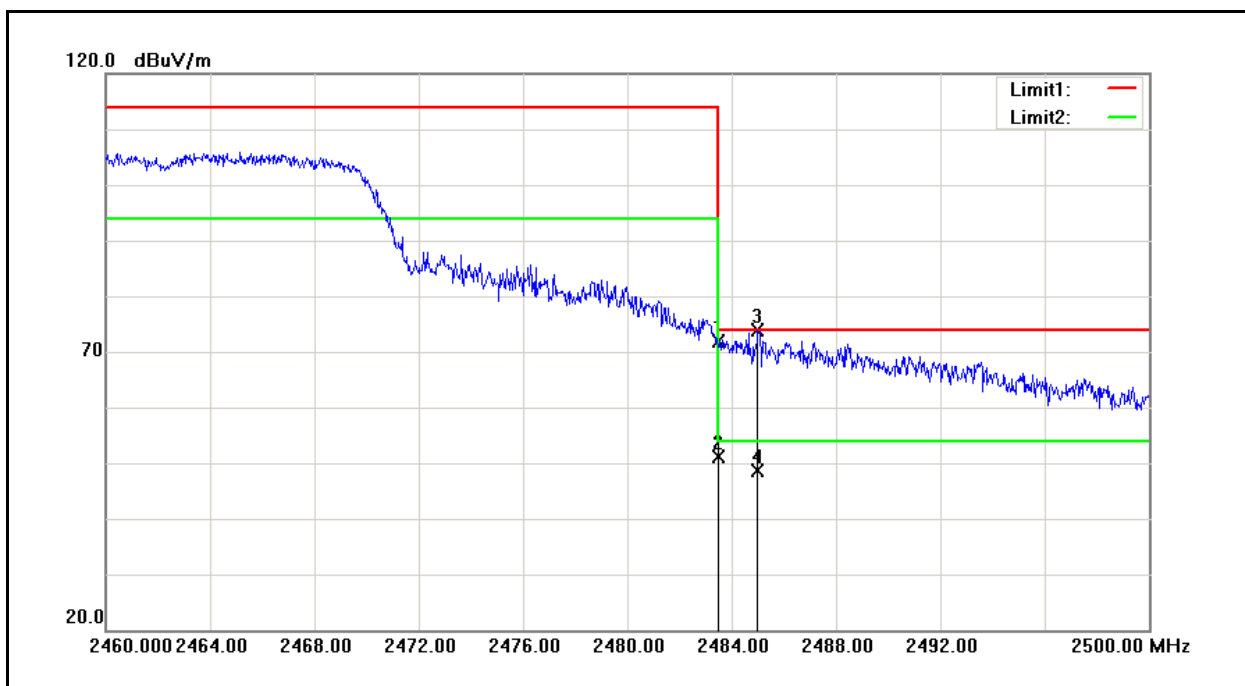
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.200	64.54	-0.06	64.48	74.00	-9.52	peak
2	2389.200	46.95	-0.06	46.89	54.00	-7.11	AVG
3	2390.000	62.97	-0.06	62.91	74.00	-11.09	peak
4	2390.000	49.06	-0.06	49.00	54.00	-5.00	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	3	Date:	07/18/2012
Frequency:	2462 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



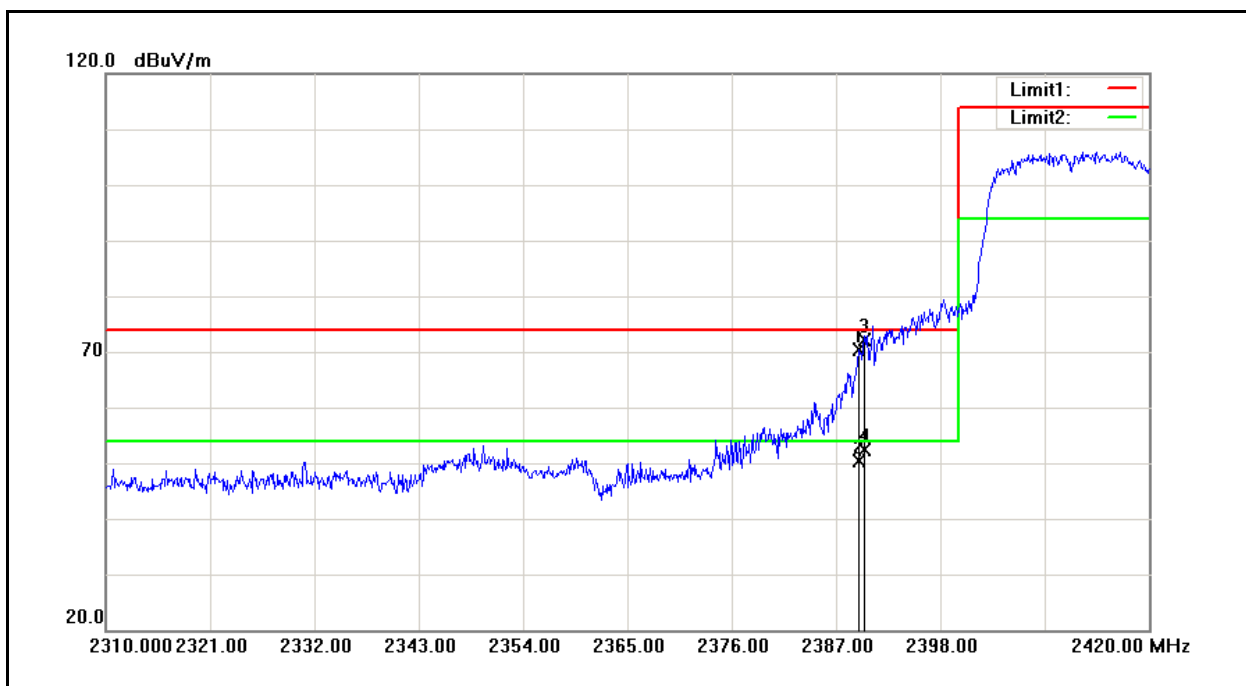
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	67.24	0.35	67.59	74.00	-6.41	peak
2	2483.500	51.41	0.35	51.76	54.00	-2.24	AVG
3	2483.560	67.47	0.35	67.82	74.00	-6.18	peak
4	2483.560	51.32	0.35	51.67	54.00	-2.33	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	3	Date:	07/18/2012
Frequency:	2462 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



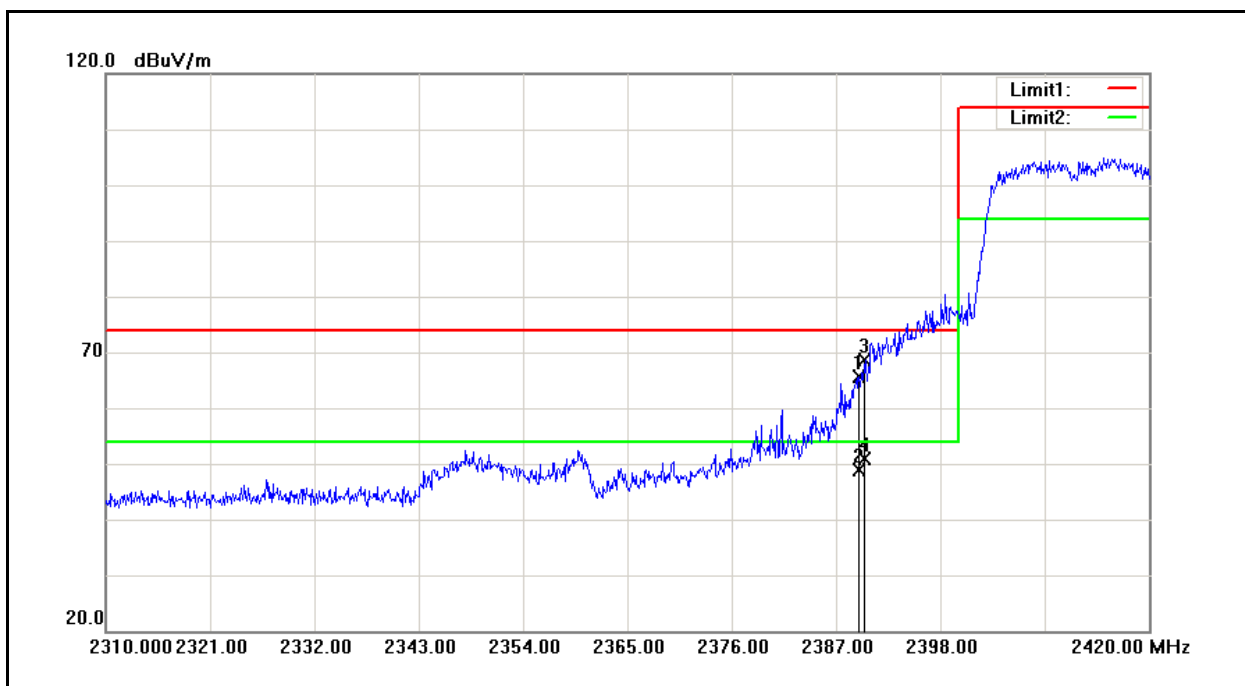
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	71.51	0.35	71.86	74.00	-2.14	peak
2	2483.500	50.76	0.35	51.11	54.00	-2.89	AVG
3	2485.000	73.51	0.35	73.86	74.00	-0.14	peak
4	2485.000	48.20	0.35	48.55	54.00	-5.45	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	07/18/2012
Frequency:	2412 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



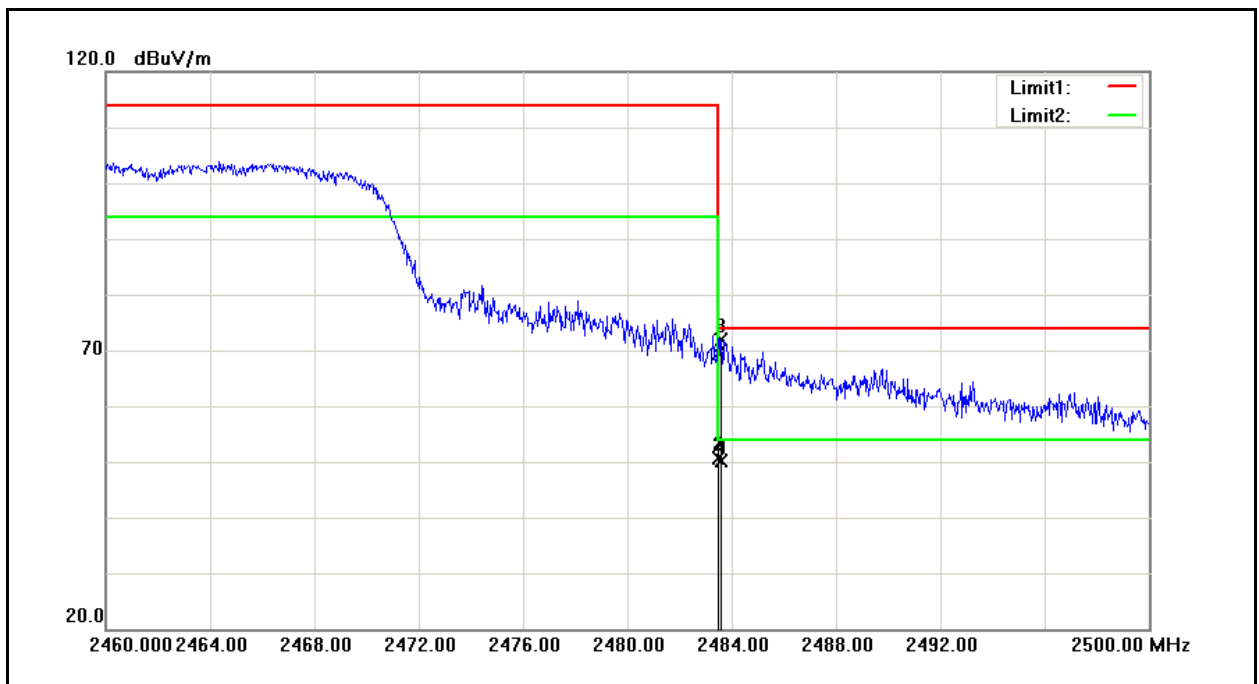
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.420	70.35	-0.06	70.29	74.00	-3.71	peak
2	2389.420	50.54	-0.06	50.48	54.00	-3.52	AVG
3	2390.000	72.12	-0.06	72.06	74.00	-1.94	peak
4	2390.000	52.37	-0.06	52.31	54.00	-1.69	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	07/18/2012
Frequency:	2412 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



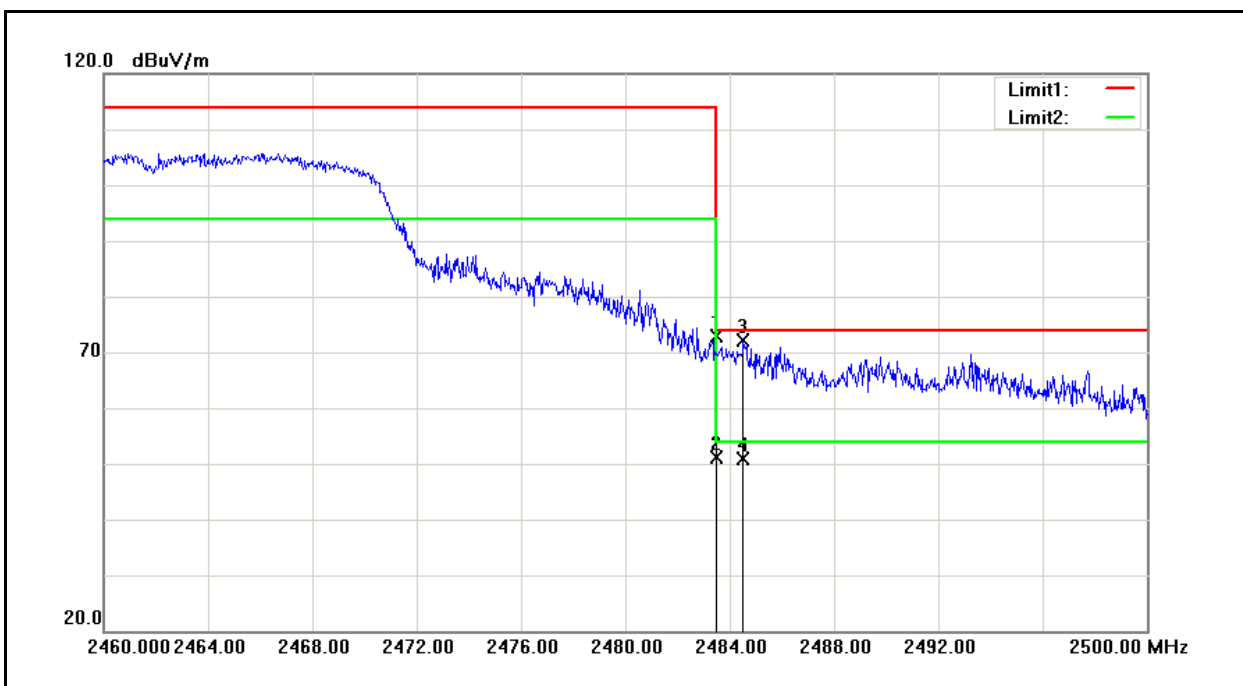
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.420	65.65	-0.06	65.59	74.00	-8.41	peak
2	2389.420	48.92	-0.06	48.86	54.00	-5.14	AVG
3	2390.000	68.62	-0.06	68.56	74.00	-5.44	peak
4	2390.000	50.87	-0.06	50.81	54.00	-3.19	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	07/18/2012
Frequency:	2462 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



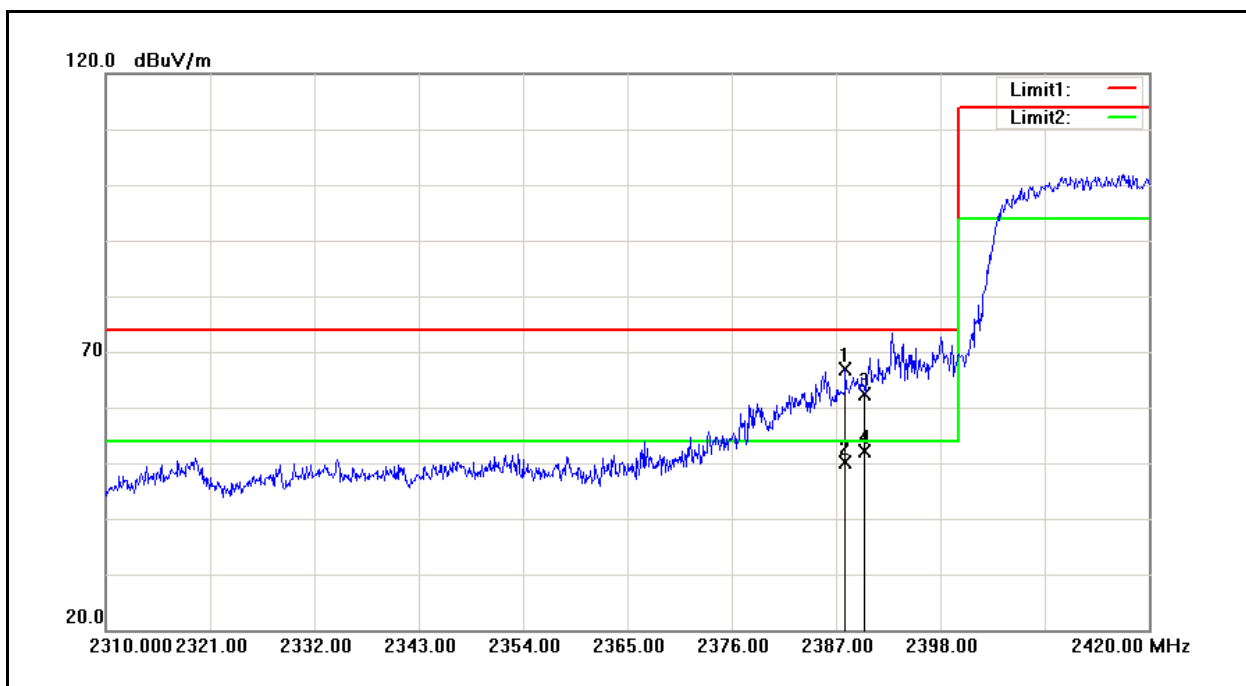
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	68.98	0.35	69.33	74.00	-4.67	peak
2	2483.500	50.31	0.35	50.66	54.00	-3.34	AVG
3	2483.600	71.61	0.35	71.96	74.00	-2.04	peak
4	2483.600	49.81	0.35	50.16	54.00	-3.84	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	4	Date:	07/18/2012
Frequency:	2462 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



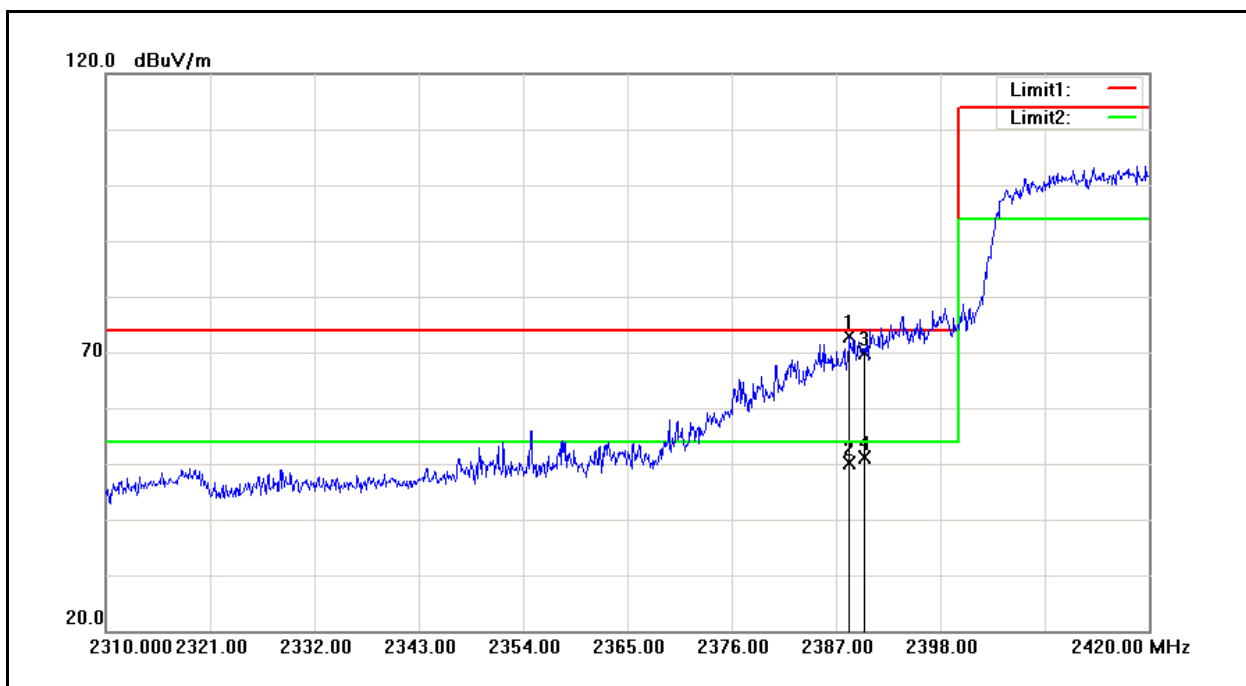
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	72.54	0.35	72.89	74.00	-1.11	peak
2	2483.500	50.86	0.35	51.21	54.00	-2.79	AVG
3	2484.520	71.86	0.35	72.21	74.00	-1.79	peak
4	2484.520	50.63	0.35	50.98	54.00	-3.02	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	07/18/2012
Frequency:	2422 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



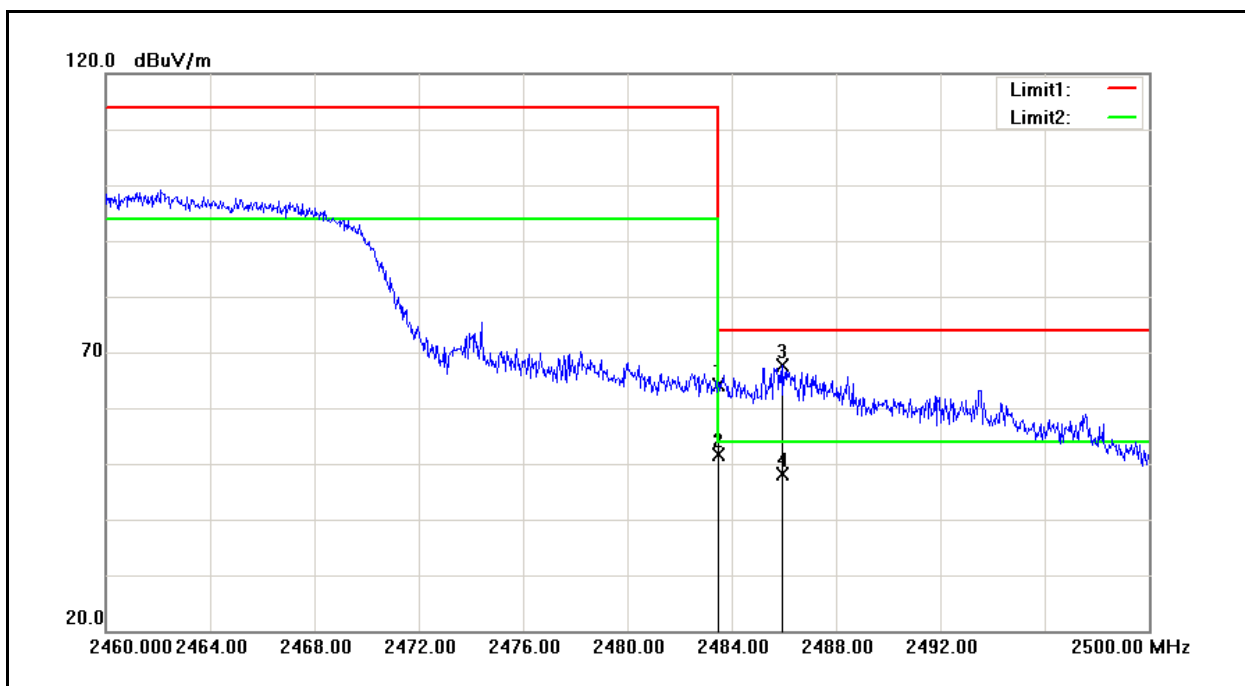
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2387.990	66.87	-0.07	66.80	74.00	-7.20	peak
2	2387.990	50.14	-0.07	50.07	54.00	-3.93	AVG
3	2390.000	62.43	-0.06	62.37	74.00	-11.63	peak
4	2390.000	52.30	-0.06	52.24	54.00	-1.76	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	07/18/2012
Frequency:	2422 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



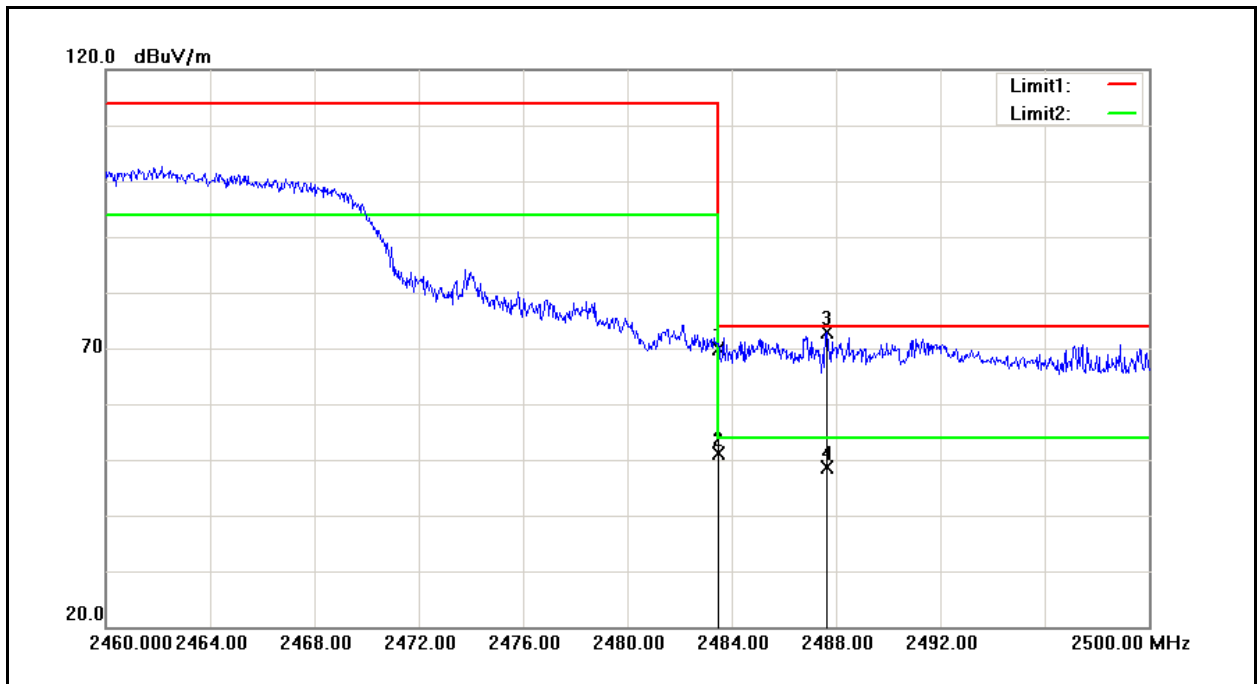
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2388.430	72.93	-0.06	72.87	74.00	-1.13	peak
2	2388.430	50.29	-0.06	50.23	54.00	-3.77	AVG
3	2390.000	69.90	-0.06	69.84	74.00	-4.16	peak
4	2390.000	51.28	-0.06	51.22	54.00	-2.78	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	07/18/2012
Frequency:	2452 MHz	Test By:	Fly Lu
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	63.80	0.35	64.15	74.00	-9.85	peak
2	2483.500	51.31	0.35	51.66	54.00	-2.34	AVG
3	2485.960	67.36	0.37	67.73	74.00	-6.27	peak
4	2485.960	47.74	0.37	48.11	54.00	-5.89	AVG

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	WN4607R	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	5	Date:	07/18/2012
Frequency:	2452 MHz	Test By:	Fly Lu
Ant.Polar.:	Vertical		



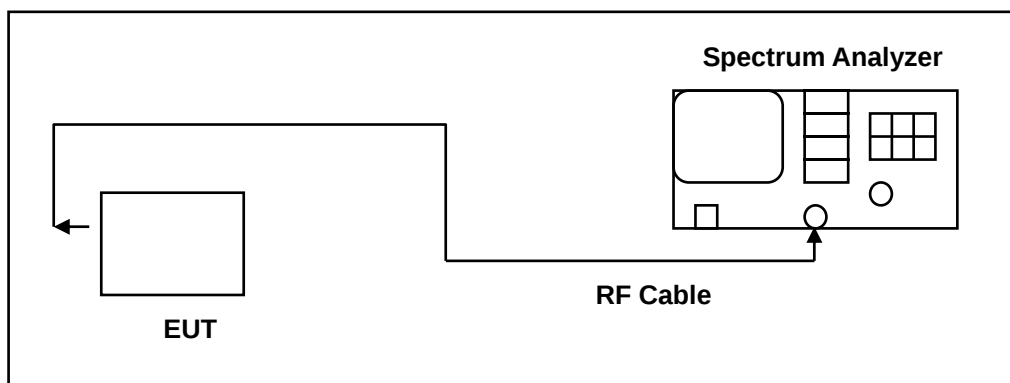
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	69.65	0.35	70.00	74.00	-4.00	peak
2	2483.500	50.87	0.35	51.22	54.00	-2.78	AVG
3	2487.640	72.62	0.37	72.99	74.00	-1.01	peak
4	2487.640	48.27	0.37	48.64	54.00	-5.36	AVG

11 99 % Occupied Bandwidth Measurement

11.1.Limit

N/A

11.2.Test Setup



11.3.Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/21/2011	(2)
Test Site	ATL	TE05	TE05	N.C.R.	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.

Note: N.C.R. = No Calibration Request.

11.4.Test Procedure

The transmitter shall be operated at its maximum carrier power measured under normal test conditions.

The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%.

The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual.

The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded.

11.5. Test Result

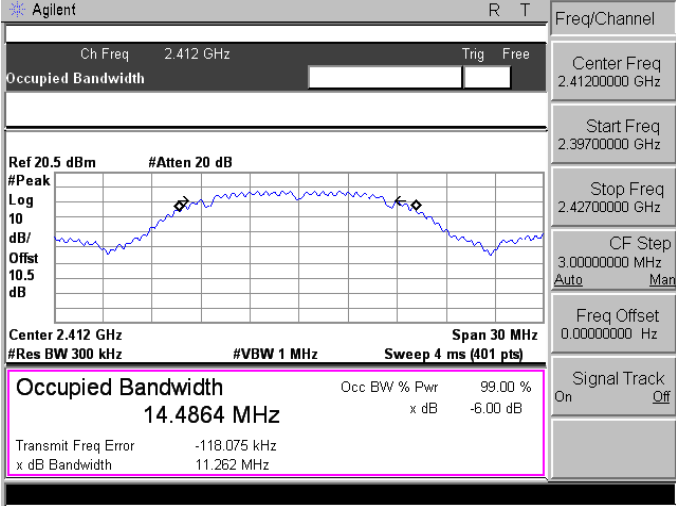
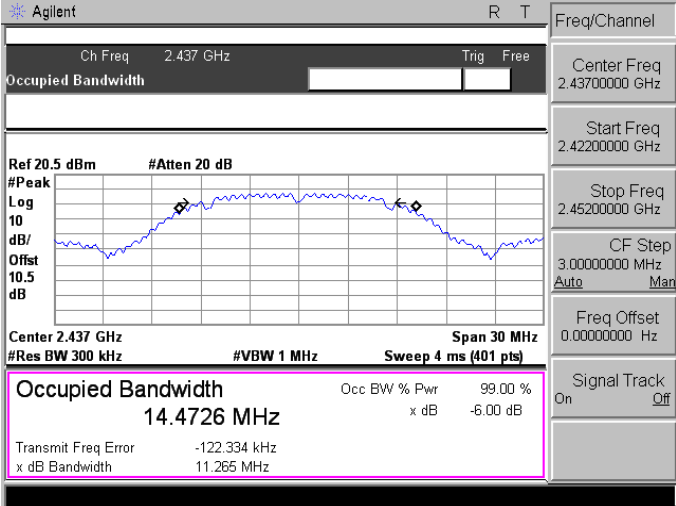
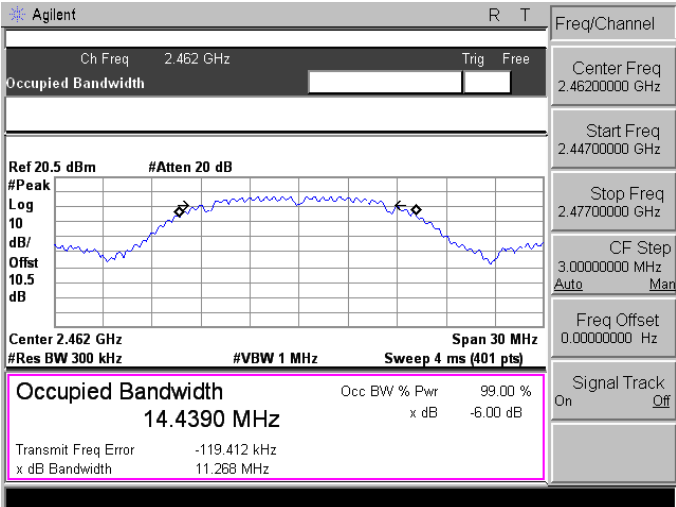
Model Number	WN4607R		
Test Item	99 % Occupied Bandwidth		
Test Mode	Mode 2: IEEE 802.11b Link Mode		
Date of Test	07/18/2012	Test Site	TE05
Frequency (MHz)	Measurement (kHz)	Limit (kHz)	
2412	14486.4	-----	
2437	14472.6	-----	
2462	14439.0	-----	

Model Number	WN4607R		
Test Item	99 % Occupied Bandwidth		
Test Mode	Mode 3: IEEE 802.11g Link Mode		
Date of Test	07/18/2012	Test Site	TE05
Frequency (MHz)	Measurement (kHz)	Limit (kHz)	
2412	16868.0	-----	
2437	16657.3	-----	
2462	16768.6	-----	

Model Number	WN4607R		
Test Item	99 % Occupied Bandwidth		
Test Mode	Mode 4: draft 802.11n Standard-20MHz Link Mode		
Date of Test	07/18/2012	Test Site	TE05
Frequency (MHz)	Measurement (kHz)	Limit (kHz)	
2412	17671.1	-----	
2437	17624.6	-----	
2462	17621.7	-----	

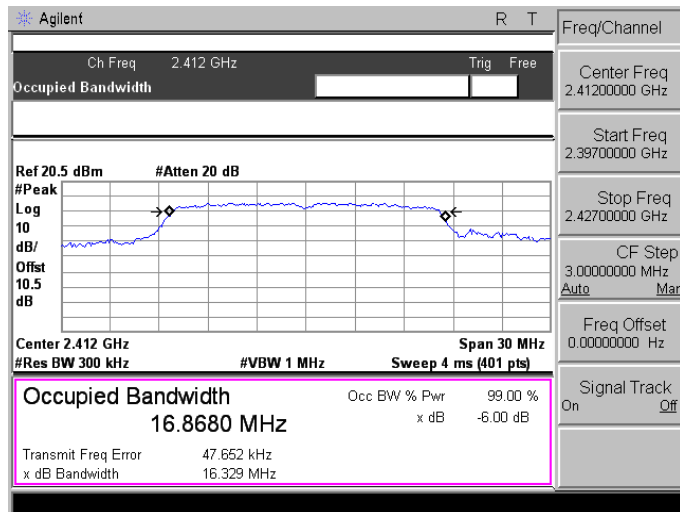
Model Number	WN4607R		
Test Item	99 % Occupied Bandwidth		
Test Mode	Mode 5: draft 802.11n Wide-40MHz Link Mode		
Date of Test	07/18/2012	Test Site	TE05
Frequency (MHz)	Measurement (kHz)	Limit (kHz)	
2422	35812.1	-----	
2437	35729.4	-----	
2452	35783.2	-----	

11.6. Test Graphs

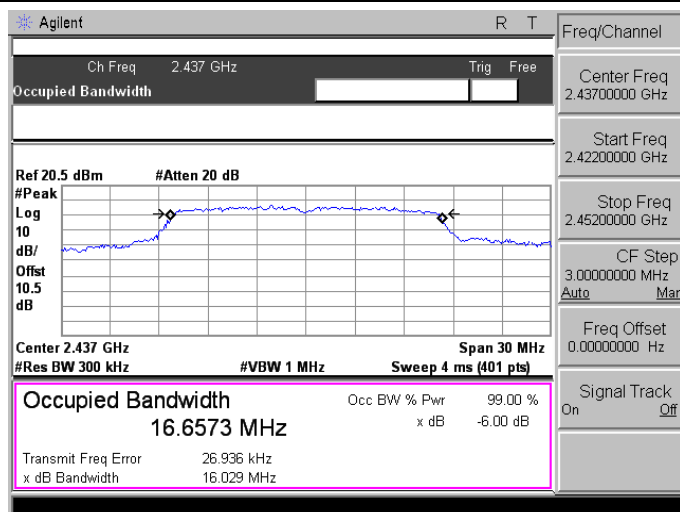
Mode 2: IEEE 802.11b Link Mode	
2412	 Agilent R T Ch Freq 2.412 GHz Trig Free Occupied Bandwidth Ref 20.5 dBm #Atten 20 dB #Peak Log dB/Offset 10.5 dB Center 2.412 GHz Span 30 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 14.4864 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -118.075 kHz x dB Bandwidth 11.262 MHz Freq/Channel Center Freq 2.41200000 GHz Start Freq 2.39700000 GHz Stop Freq 2.42700000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
2437	 Agilent R T Ch Freq 2.437 GHz Trig Free Occupied Bandwidth Ref 20.5 dBm #Atten 20 dB #Peak Log dB/Offset 10.5 dB Center 2.437 GHz Span 30 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 14.4726 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -122.334 kHz x dB Bandwidth 11.265 MHz Freq/Channel Center Freq 2.43700000 GHz Start Freq 2.42200000 GHz Stop Freq 2.45200000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off
2462	 Agilent R T Ch Freq 2.462 GHz Trig Free Occupied Bandwidth Ref 20.5 dBm #Atten 20 dB #Peak Log dB/Offset 10.5 dB Center 2.462 GHz Span 30 MHz #Res BW 300 kHz #VBW 1 MHz Sweep 4 ms (401 pts) Occupied Bandwidth 14.4390 MHz Occ BW % Pwr 99.00 % x dB -6.00 dB Transmit Freq Error -119.412 kHz x dB Bandwidth 11.268 MHz Freq/Channel Center Freq 2.46200000 GHz Start Freq 2.44700000 GHz Stop Freq 2.47700000 GHz CF Step 3.00000000 MHz Auto Man Freq Offset 0.00000000 Hz Signal Track On Off

Mode 3: IEEE 802.11g Link Mode

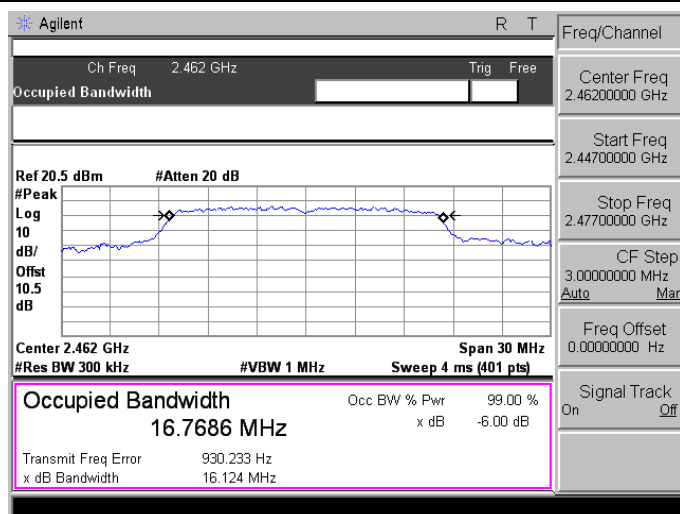
2412



2437

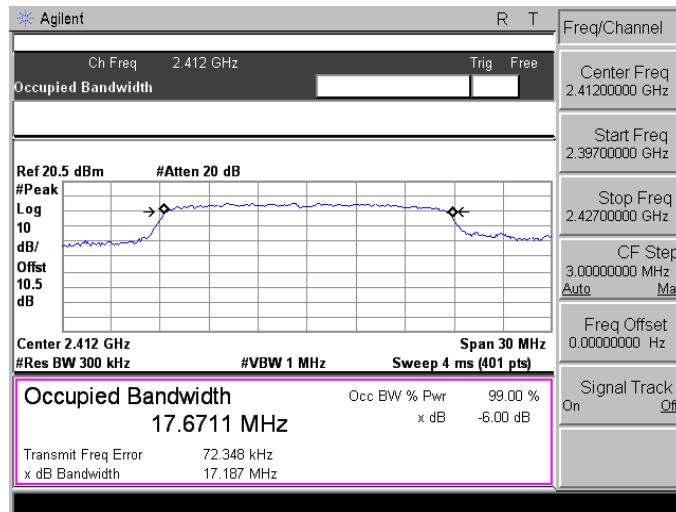


2462

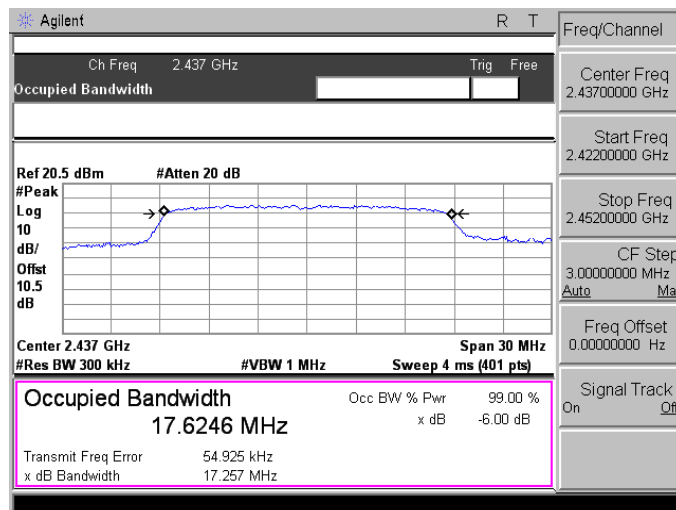


Mode 4: draft 802.11n Standard-20MHz Link Mode

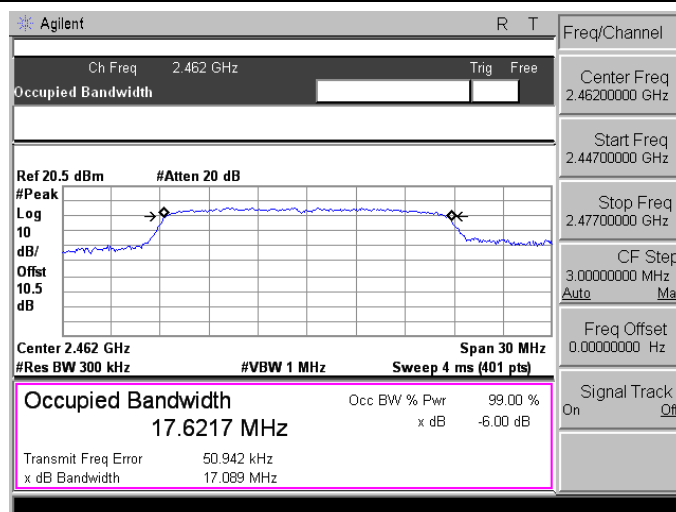
2412



2437

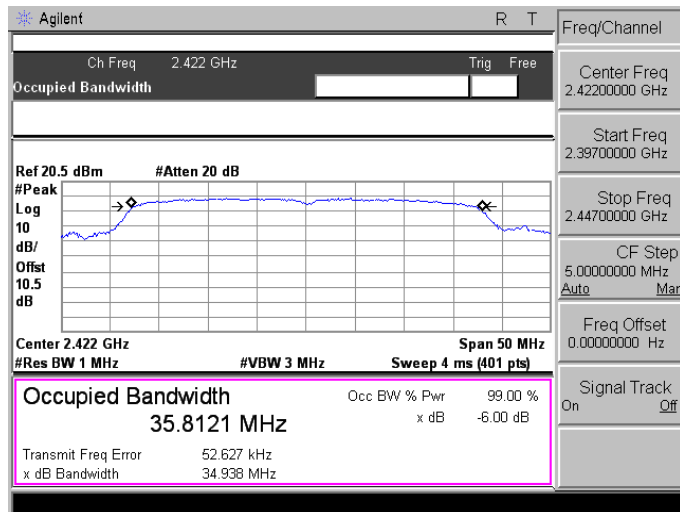


2462

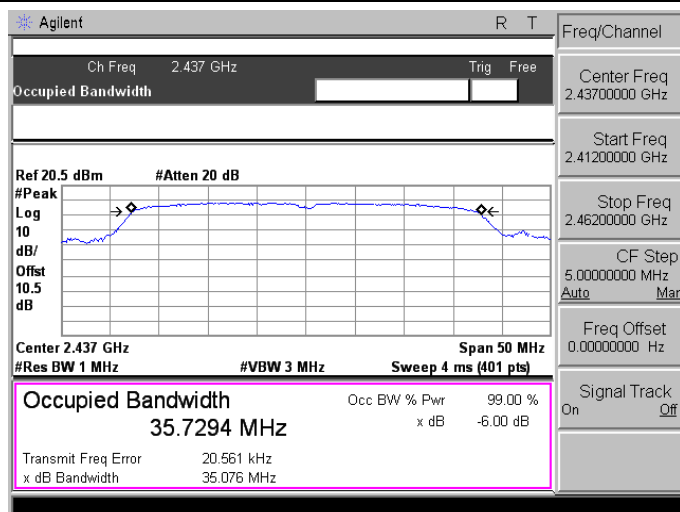


Mode 5: draft 802.11n Wide-40MHz Link Mode

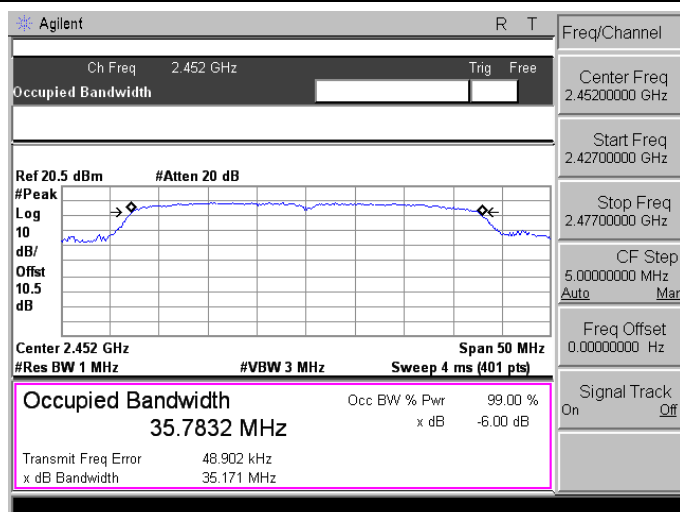
2422



2437



2452



12 Antenna Measurement

12.1.Limit

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

And According to 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

12.2.Antenna Connector Construction

The antenna used in this product is Metal Stamping Antenna And the maximum Gain of this antenna is only 2.88 dBi.