

Product Name	802.11b/g/n 1T1R Wireless Lan USB Module
Model No	WN4617R (F)
FCC ID.	MDZ-WN4617R-F

Applicant	Amtran Technology Co., Ltd	
Address	17F., No.268, Liancheng Rd., Jhonghe, New Taipei City,	
	Taiwan, R.O.C.	

Date of Receipt	Dec. 03, 2012
Issue Date	Dec, 21, 2012
Report No.	12C262R-RFUSP42V01
Report Version	V1.0



The test results relate only to the samples tested.

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Test Report Certification

Issue Date: Dec, 21, 2012 Report No.: 12C262R-RFUSP42V01



Accredited by NIST (NVLAP)

NVLAP Lab Code: 200533-0

Product Name	802.11b/g/n 1T1R Wireless Lan USB Module		
Applicant	Amtran Technology Co., Ltd		
Address	17F., No.268, Liancheng Rd., Jhonghe, New Taipei City, Taiwan, R.O.C.		
Manufacturer	DONG GUAN G-COM COMPUTER CO., LTD.		
Model No.	WN4617R (F)		
FCC ID.	MDZ-WN4617R-F		
EUT Rated Voltage	DC 3.3V		
EUT Test Voltage	AC 120V/60Hz		
Trade Name	Amtran		
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2010		
	ANSI C63.4: 2003, ANSI C63.10: 2009		
Test Result	Complied		

The test results relate only to the samples tested.

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(Manager / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	802.11b/g/n 1T1R Wireless Lan USB Module		
Trade Name	Amtran		
Model No.	WN4617R (F)		
FCC ID.	MDZ-WN4617R-F		
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW, 2422-2452MHz for 802.11n-40BW		
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7		
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 150Mbps		
Type of Modulation	802.11b:DSSS (DBPSK, DQPSK, CCK)		
	802.11g/n:OFDM (BPSK, QPSK, 16QAM, 64QAM)		
Antenna Type PIFA Antenna			
Antenna Gain	Refer to the table "Antenna List"		
Channel Control	Auto		

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	MAG.LAYERS	MSA-3420-25GC4-A1	PIFA	2.37 dBi
2	MAG.LAYERS	MSA-3422-25GC4-A2	PIFA	2.18 dBi
3	MAG.LAYERS	MSA-3422-25GC4-A3	PIFA	2.01 dBi
4	MAG.LAYERS	MSA-3415-25GC4-A1	PIFA	1.67 dBi
5	MAG.LAYERS	MSA-3415-25GC4-A2	PIFA	1.67 dBi
6	MAG.LAYERS	MSA-3415-25GC4-A3	PIFA	1.67 dBi

Note: 1. The antenna of EUT is conform to FCC 15.203.

2.Only the higher gain antenna was tested and recorded in this report.

802.11b/g/n-20MHz Center Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		
802.11n-40M	Hz Center Fr	equency of Ead	ch Channel:				
					-		
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
	1 5			Channel Channel 05:			1 5
Channel 03:	2422 MHz	Channel 04:	2427 MHz		2432 MHz		1 2
Channel 03:	2422 MHz	Channel 04:	2427 MHz	Channel 05:	2432 MHz		1 2
Channel 03:	2422 MHz	Channel 04:	2427 MHz	Channel 05:	2432 MHz		1 2

- 1. The EUT is an 802.11b/g/n 1T1R Wireless Lan USB Module with a built-in 2.4GHz WLAN transceiver.
- 2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
- 3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps \$\$\sigma\$ 802.11g is 6Mbps \$\$802.11n(20M-BW) is 7.2Mbps and \$\$802.11n(40M-BW) is 15Mbps)
- 4. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices.
- 5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode:	Mode 1: Transmit (802.11b 1Mbps)
	Mode 2: Transmit (802.11g 6Mbps)
	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)
	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

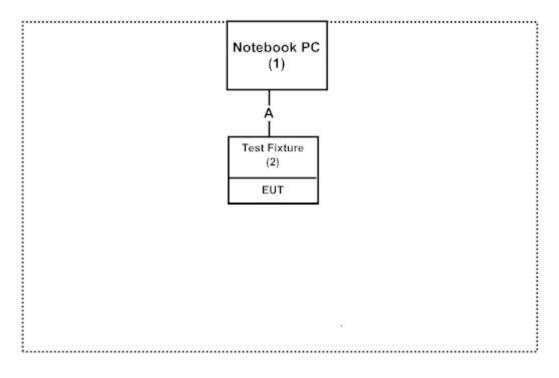
1.3. Tested System Details

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

Prod	uct	Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	РРТ	N/A	Non-Shielded, 0.8m
2	Test Fixture	Lite-on	N/A	N/A	N/A

Signa	al Cable Type	Signal cable Description
А	USB Cable	Shielded, 0.05m, with one ferrite core bonded

1.4. Configuration of Tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute software "QA.exe (v1.0.6.0)" on the Notebook.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Press "OK" to start the continuous Transmit.
- (5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual		
Temperature (°C)	15-35	20-35		
Humidity (%RH)	25-75	50-65		
Barometric pressure (mbar)	860-1060	950-1000		

The related certificate for our laboratories about the test site and management system can be downloaded from

QuieTek Corporation's Web Site: <u>http://www.quietek.com/tw/ctg/cts/accreditations.htm</u> The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site: <u>http://www.quietek.com/</u>

Site Description:	File on
	Federal Communications Commission
	FCC Engineering Laboratory
	7435 Oakland Mills Road
	Columbia, MD 21046
	Registration Number: 92195
	Accreditation on NVLAP
	NVLAP Lab Code: 200533-0
Site Name:	Quietek Corporation
Site Address:	No.5-22, Ruishukeng,
	Linkou Dist. New Taipei City 24451,
	Taiwan, R.O.C.
	TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
	E-Mail : <u>service@quietek.com</u>

FCC Accreditation Number: TW1014

2. Conducted Emission

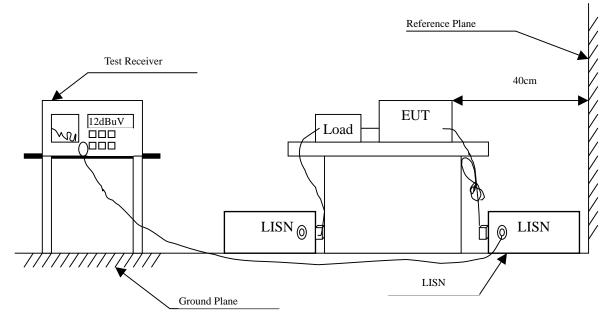
2.1. Test Equipment

	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.	Remark
Х	Test Receiver	R & S	ESCS 30 / 825442/018	Sep., 2012	
Х	Artificial Mains Network	R & S	ENV4200 / 848411/10	Feb., 2012	Peripherals
Х	LISN	R & S	ESH3-Z5 / 825562/002	Feb., 2012	EUT
	DC LISN	Schwarzbeck	8226 / 176	Mar, 2012	EUT
X	Pulse Limiter	R & S	ESH3-Z2 / 357.8810.52	Feb., 2012	
	No.1 Shielded Room				

Note:

- 1. All equipments are calibrated every one year.
- 2. The test instruments marked by "X" are used to measure the final test results.

2.2. Test Setup



2.3. Limits

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

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.

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

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.205	9.840	34.550	44.390	-20.039	64.429
0.295	9.840	26.360	36.200	-25.657	61.857
0.677	9.840	33.460	43.300	-12.700	56.000
0.963	9.850	23.880	33.730	-22.270	56.000
3.252	9.870	14.810	24.680	-31.320	56.000
26.673	10.130	24.790	34.920	-25.080	60.000
Average					
0.205	9.840	22.320	32.160	-22.269	54.429
0.295	9.840	12.270	22.110	-29.747	51.857
0.677	9.840	20.630	30.470	-15.530	46.000
0.963	9.850	7.740	17.590	-28.410	46.000
3.252	9.870	3.440	13.310	-32.690	46.000
26.673	10.130	18.020	28.150	-21.850	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.

2. "means the worst emission level.

3. Measurement Level = Reading Level + Correct Factor

Product	: 802.11b/g/n 1T1R Wireless Lan USB Module											
Test Item		Emission Test										
Power Line	: Line 2											
Test Mode	: Mode 4: Tr	: Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437MHz)										
	_											
Frequency	Correct	Reading	Measurement	Margin	Limit							
	Factor	Level	Level									
MHz	dB	dBuV	dBuV	dB	dBuV							
Line 2												
Quasi-Peak												
0.185	9.840	35.910	45.750	-19.250	65.000							
0.201	9.840	36.360	46.200	-18.343	64.543							
0.306	9.840	26.240	36.080	-25.463	61.543							
0.624	9.840	35.560	45.400	-10.600	56.000							
0.802	9.840	29.530	39.370	-16.630	56.000							
27.853	10.360	25.790	36.150	-23.850	60.000							
Average												
0.185	9.840	20.050	29.890	-25.110	55.000							
0.201	9.840	24.500	34.340	-20.203	54.543							
0.306	9.840	16.510	26.350	-25.193	51.543							
0.624	9.840	23.300	33.140	-12.860	46.000							
0.802	9.840	17.900	27.740	-18.260	46.000							
27.853	10.360	18.860	29.220	-20.780	50.000							

Note:

-

- 1. All Reading Levels are Quasi-Peak and average value.
- 2. "means the worst emission level.
- 3. Measurement Level = Reading Level + Correct Factor

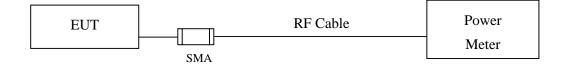
3. Peak Power Output

3.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.					
Х	Power Meter	Anritsu	ML2495A/6K00003357	May, 2012					
Х	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2012					
Note:									
1.	All equipments are calibrated with traceable calibrations. Each calibration is traceable to the								
	national or international standards.								

2. The test instruments marked with "X" are used to measure the final test results.

3.2. Test Setup



3.3. Limits

The maximum peak power shall be less 1 Watt.

3.4. Test Procedure

The EUT was tested according to DTS test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Peak Power Output

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

Channel No Frequency (MHz)	Frequency	For d	Average ifferent Da	e Power ata Rate (N	(lbps)	Peak Power	Required	Decult
	1	2	5.5	11	1	Limit	Result	
			Measur	ement Lev				
01	2412	17.07				19.70	<30dBm	Pass
06	2437	17.15	16.96	16.85	16.77	19.91	<30dBm	Pass
11	2462	17.14				19.79	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

	Fraguanay	Average PowerPeakFor different Data Rate (Mbps)Power									Dequired	
Channel No	Frequency (MHz)	6	9	12	18	24	36	48	54	6	Required Limit	Result
	Measurement Level (dBm)											
01	2412	15.01	-	-		-				23.57	<30dBm	Pass
06	2437	15.04	14.92	14.85	14.76	14.66	14.57	14.46	14.33	24.06	<30dBm	Pass
11	2462	14.01								22.73	<30dBm	Pass

Note: Peak Power Output Value = Reading value on power meter + cable loss

- Product : 802.11b/g/n 1T1R Wireless Lan USB Module
- Test Item : Peak Power Output Data
- Test Site : No.3 OATS
- Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

	Engguenau		F		Ũ	e Power ata Rate		5)		Peak Power	Dequired	
Channel No	Frequency (MHz)	7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	7.2	Required Limit	Result
		Measurement Level (dBm)										
01	2412	14.00		-	-					23.28	<30dBm	Pass
06	2437	14.02	13.95	13.84	13.73	13.66	13.51	13.42	13.29	23.40	<30dBm	Pass
11	2462	14.02								23.14	<30dBm	Pass

Note: Peak Power Output Value =Reading value on power meter + cable loss

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
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- Test Item : Peak Power Output Data
- Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

	Fraguanau		F	or diffe		e Power ata Rate		5)		Peak Power	Dequired	
Channel No	Frequency (MHz)	15	30	45	60	90	120	135	150	15	Required Limit	Result
			Measurement Level (dBm)									
03	2422	12.56		-	-			-		21.56	<30dBm	Pass
06	2437	12.13	12.05	11.95	11.86	11.77	11.62	11.53	11.41	22.11	<30dBm	Pass
09	2452	12.50								21.25	<30dBm	Pass

Note: Peak Power Output Value = Reading value on power meter + cable loss

4. Radiated Emission

4.1. Test Equipment

The following test equipment are used during the radiated emission test:

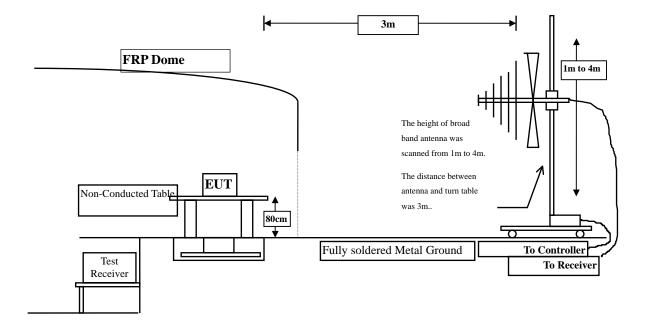
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 3	Х	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2012
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2012
	Х	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2012
	Х	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2012
	Х	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2012
	Х	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2012
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2012
	Х	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	Х	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

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

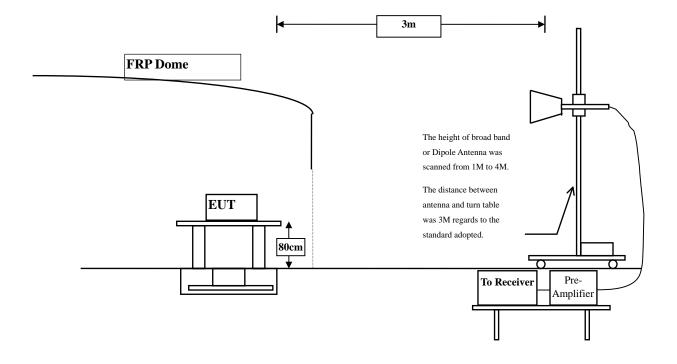
2. The test instruments marked with "X" are used to measure the final test results.

4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits							
Frequency MHz	uV/m @3m	dBuV/m@3m					
30-88	100	40					
88-216	150	43.5					
216-960	200	46					
Above 960	500	54					

Remarks: 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: 2003 and tested according to DTS test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 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 between 1 meter and 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: 2003 on radiated measurement.

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

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement. The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna. The worst radiated emission is measured in the Open Area Test Site on the Final Measurement. The frequency range from 30MHz to 10th harminics is checked.

4.5. Uncertainty

- ± 3.9 dB above 1GHz
- ± 3.8 dB below 1GHz

4.6. Test Result of Radiated Emission

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	2.428	44.242	46.671	-27.329	74.000
7236.000	9.177	37.853	47.030	-26.970	74.000
9648.000	10.019	39.546	49.566	-24.434	74.000
Average Detector:					
Vertical					
Peak Detector:					
4824.000	2.836	46.854	49.691	-24.309	74.000
7236.000	9.676	38.369	48.045	-25.955	74.000
9648.000	10.556	39.399	49.956	-24.044	74.000
Average Detector:					

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: 802.11b/g/n 1T1R Wireless Lan USB Module						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 1:	Transmit (802.11	1b 1Mbps) (2437 MH	z)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4874.000	2.076	41.170	43.247	-30.753	74.000		
7311.000	9.512	38.342	47.854	-26.146	74.000		
9748.000	9.630	39.735	49.365	-24.635	74.000		
Average Detector:							
Vertical							
Peak Detector:							
4874.000	2.532	44.549	47.081	-26.919	74.000		
7311.000	10.089	38.260	48.349	-25.651	74.000		
9748.000	10.266	38.919	49.186	-24.814	74.000		
Average Detector:							

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site	 802.11b/g/n 1T1R Wireless Lan USB Module Harmonic Radiated Emission Data No.3 OATS Mode 1: Transmit (802.11b 1Mbps) (2462 MHz) 							
Test Mode								
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4924.000	2.191	38.776	40.967	-33.033	74.000			
7386.000	10.373	36.274	46.648	-27.352	74.000			
9848.000	9.964	39.529	49.493	-24.507	74.000			
Average Detector:								
Vertical								
Peak Detector:								
4924.000	2.805	39.825	42.630	-31.370	74.000			
7386.000	11.180	37.124	48.304	-25.696	74.000			
9848.000	10.801	39.206	50.007	-23.993	74.000			
Average Detector:								

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	 802.11b/g/n 1T1R Wireless Lan USB Module Harmonic Radiated Emission Data No.3 OATS Mode 2: Transmit (802.11g 6Mbps) (2412MHz) 						
Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m		
Horizontal							
Peak Detector:							
4824.000	2.428	41.920	44.349	-29.651	74.000		
7236.000	9.177	39.430	48.607	-25.393	74.000		
9648.000	10.019	39.630	49.650	-24.350	74.000		
Average Detector:							
Vertical							
Peak Detector:							
4824.000	2.836	41.470	44.307	-29.693	74.000		
7236.000	9.676	38.820	48.496	-25.504	74.000		
9648.000	10.556	39.620	50.177	-23.823	74.000		
Average Detector:							

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: 802.11b/g/n 1T1R Wireless Lan USB Module						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 2:	Transmit (802.11	g 6Mbps) (2437 MH	z)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4874.000	2.076	41.170	43.247	-30.753	74.000		
7311.000	9.512	39.160	48.672	-25.328	74.000		
9748.000	9.630	39.210	48.840	-25.160	74.000		
Average Detector:							
Peak Detector:							
4874.000	2.532	40.800	43.332	-30.668	74.000		
7311.000	10.089	37.970	48.059	-25.941	74.000		
9748.000	10.266	38.550	48.817	-25.183	74.000		
Average Detector:							

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	 802.11b/g/n 1T1R Wireless Lan USB Module Harmonic Radiated Emission Data No.3 OATS Mode 2: Transmit (802.11g 6Mbps) (2462 MHz) 						
Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m		
Horizontal							
Peak Detector:							
4924.000	2.191	40.810	43.001	-30.999	74.000		
7386.000	10.373	38.360	48.734	-25.266	74.000		
9848.000	9.964	39.050	49.014	-24.986	74.000		
Average Detector:							
Vertical Peak Detector:							
4924.000	2.805	40.050	42.855	-31.145	74.000		
7386.000	11.180	38.270	49.450	-24.550	74.000		
9848.000	10.801	39.510	50.311	-23.689	74.000		
Average Detector:							

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	 802.11b/g/n 1T1R Wireless Lan USB Module Harmonic Radiated Emission Data No.3 OATS Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2412MHz) 				
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	2.428	41.600	44.029	-29.971	74.000
7236.000	9.177	38.250	47.427	-26.573	74.000
9648.000	10.019	40.060	50.080	-23.920	74.000
Average Detector:					
Vertical					
Peak Detector:					
4824.000	2.836	40.650	43.487	-30.513	74.000
7236.000	9.676	38.020	47.696	-26.304	74.000
9648.000	10.556	39.340	49.897	-24.103	74.000
Average Detector:					

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Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	2.076	40.700	42.777	-31.223	74.000
7311.000	9.512	37.870	47.382	-26.618	74.000
9748.000	9.630	38.650	48.280	-25.720	74.000
Average Detector:					
Vertical					
Peak Detector:					
4874.000	2.532	40.750	43.282	-30.718	74.000
7311.000	10.089	38.210	48.299	-25.701	74.000
9748.000	10.266	38.430	48.697	-25.303	74.000
Average Detector:					

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	2.191	40.670	42.861	-31.139	74.000
7386.000	10.373	37.660	48.034	-25.966	74.000
9848.000	9.964	38.840	48.804	-25.196	74.000
Average Detector:					
Vertical					
Peak Detector:					
4924.000	2.805	40.260	43.065	-30.935	74.000
7386.000	11.180	38.350	49.530	-24.470	74.000
9848.000	10.801	39.250	50.051	-23.949	74.000
Average Detector:					

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)(2422MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4844.000	2.280	41.300	43.581	-30.419	74.000
7266.000	9.106	39.040	48.146	-25.854	74.000
9688.000	9.663	39.780	49.443	-24.557	74.000
Average Detector:					
Vertical					
Peak Detector:					
4844.000	2.707	40.340	43.048	-30.952	74.000
7266.000	9.626	38.290	47.916	-26.084	74.000
9688.000	10.284	38.460	48.744	-25.256	74.000

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product	: 802.11b/g/n 1T1R Wireless Lan USB Module					
Test Item	: Harmonic Radiated Emission Data					
Test Site	: No.3 OATS					
Test Mode	: Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437 MHz)					
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
4874.000	2.076	40.730	42.807	-31.193	74.000	
7311.000	9.512	37.860	47.372	-26.628	74.000	
9748.000	9.630	39.040	48.670	-25.330	74.000	
Average Detector:						
T 7 /• T						
Vertical						
Peak Detector:						
4874.000	2.532	40.790	43.322	-30.678	74.000	
7311.000	10.089	38.150	48.239	-25.761	74.000	
9748.000	10.266	38.550	48.817	-25.183	74.000	
Average Detector:						

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- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	: Harmoni : No.3 OA	c Radiated Emiss TS	ss Lan USB Module sion Data .n MCS0 15Mbps 402	M-BW)(2452 MF	łz)
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4904.000	2.000	40.870	42.871	-31.129	74.000
7356.000	10.308	37.640	47.948	-26.052	74.000
9808.000	9.850	38.720	48.570	-25.430	74.000
Average Detector:					
Vertical Peak Detector:					
4904.000	2.513	40.800	43.314	-30.686	74.000
7356.000	11.022	37.360	48.382	-25.618	74.000
9808.000	10.512	38.900	49.412	-24.588	74.000
Average Detector.					

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	 802.11b/g/n 1T1R Wireless Lan USB Module General Radiated Emission Data No.3 OATS Mode 1: Transmit (802.11b 1Mbps)(2437 MHz) 					
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level	-		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
111.480	-7.489	43.216	35.728	-7.772	43.500	
150.280	-7.870	46.837	38.967	-4.533	43.500	
245.340	-6.478	45.397	38.919	-7.081	46.000	
352.040	-1.282	43.797	42.515	-3.485	46.000	
507.240	2.529	33.799	36.328	-9.672	46.000	
961.200	6.810	42.732	49.542	-4.458	54.000	
Vertical						
154.160	-5.272	41.613	36.341	-7.159	43.500	
239.520	-6.138	44.874	38.736	-7.264	46.000	
338.460	-1.640	43.189	41.548	-4.452	46.000	
507.240	0.429	34.252	34.681	-11.319	46.000	
749.740	2.023	34.234	36.257	-9.743	46.000	
961.200	3.310	37.827	41.137	-12.863	54.000	

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	 802.11b/g/n 1T1R Wireless Lan USB Module General Radiated Emission Data No.3 OATS Mode 2: Transmit (802.11g 6Mbps)(2437 MHz) 					
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
111.480	-7.489	41.795	34.307	-9.193	43.500	
256.980	-5.424	40.944	35.520	-10.480	46.000	
350.100	-1.298	41.177	39.879	-6.121	46.000	
460.680	4.030	29.531	33.561	-12.439	46.000	
701.240	2.759	37.080	39.839	-6.161	46.000	
961.200	6.810	42.105	48.915	-5.085	54.000	
Vertical						
111.480	-3.439	42.407	38.969	-4.531	43.500	
179.380	-0.824	36.733	35.909	-7.591	43.500	
319.060	-4.135	43.433	39.298	-6.702	46.000	
507.240	0.429	34.247	34.676	-11.324	46.000	
747.800	1.665	34.345	36.010	-9.990	46.000	
961.200	3.310	38.428	41.738	-12.262	54.000	

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	 802.11b/g/n 1T1R Wireless Lan USB Module General Radiated Emission Data No.3 OATS Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2437 MHz) 					
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
111.480	-7.489	41.739	34.251	-9.249	43.500	
256.980	-5.424	41.286	35.862	-10.138	46.000	
361.740	-0.006	38.897	38.890	-7.110	46.000	
499.480	1.991	34.114	36.104	-9.896	46.000	
701.240	2.759	35.566	38.325	-7.675	46.000	
961.200	6.810	41.451	48.261	-5.739	54.000	
Vertical						
105.660	-4.576	40.693	36.116	-7.384	43.500	
239.520	-6.138	45.603	39.465	-6.535	46.000	
507.240	0.429	34.370	34.799	-11.201	46.000	
664.380	-0.978	35.614	34.636	-11.364	46.000	
747.800	1.665	34.509	36.174	-9.826	46.000	
961.200	3.310	37.187	40.497	-13.503	54.000	

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Test Item Test Site Test Mode	: General : No.3 O	Radiated Emissio	ss Lan USB Module n Data n MCS0 15Mbps 401	M-BW)(2437 MF	Hz)
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level	-	
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
111.480	-7.489	41.456	33.968	-9.532	43.500
229.820	-8.001	42.466	34.465	-11.535	46.000
352.040	-1.282	38.213	36.931	-9.069	46.000
507.240	2.529	33.116	35.645	-10.355	46.000
664.380	1.882	33.341	35.223	-10.777	46.000
961.200	6.810	41.566	48.376	-5.624	54.000
Vertical					
107.600	-4.027	40.851	36.824	-6.676	43.500
237.580	-6.537	44.990	38.453	-7.547	46.000
344.280	-0.584	38.741	38.157	-7.843	46.000
507.240	0.429	33.876	34.305	-11.695	46.000
747.800	1.665	35.448	37.113	-8.887	46.000
961.200	3.310	36.413	39.723	-14.277	54.000

Note:

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. Measurement Level = Reading Level + Correct Factor.
- 5. Correct Factor = Antenna factor + Cable loss Amplifier gain.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.

5. **RF** antenna conducted test

5.1. Test Equipment

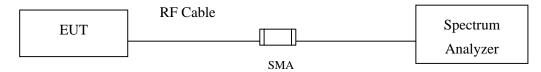
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2012
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2012
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012

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

2. The test instruments marked with "X" are used to measure the final test results.

5.2. Test Setup

RF antenna Conducted Measurement:



5.3. Limits

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. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.4. Test Procedure

The EUT was tested according to DTS test procedure of ANSI C63.10: 2009 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 Conducted is defined as ± 1.27 dB

5.6. Test Result of RF antenna conducted test

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	RF antenna conducted test
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

Channel 01 (2412MHz)

RL RF 50Ω AC		SENSE:INT	ALI	GNAUTO 09	9:45:47 AM Dec 20, 2012	· ····································
Center Freq 515.00000	PNO: Fast 😱] Trig: Free Run	Avg Type: Lo	og-Pwr	TRACE 123456 TYPE MWWWWW DET P N N N N N	Frequency
0 dB/div Ref 20.00 dBm	IFGain:Low	#Atten: 30 dB		Mkr1 9	012.700 MHz -54.54 dBm	Auto Tune
10.0						Center Fred 515.000000 MH;
10.0						Start Free 30.000000 MH
30,0					-16.79 dBm	Stop Fre 1.000000000 GH
40.0					1	CF Stej 97.000000 MH <u>Auto</u> Ma
60.0 Manual for the dependence	enert hand are miner that have	mentaparatesitan (malmilatesit)		portation delan		Freq Offse 0 H
70.0						
Start 30.0 MHz #Res BW 100 kHz	#VBW	1.0 MHz	Sw		op 1.0000 GHz ms (10001 pts)	
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	09:45:17 AM Dec 20, 2012	ALIGNAUTO	1	SENSE:INT		50 Ω AC	RP	XI RL
Frequency	TRACE 1 2 3 4 5 6 TYPE MWWWWWW DET P N N N N N	e: Log-Pwr	Avg Ty	Trig: Free Run	PNO: Fast ()	00000000		
Auto Tun	r1 2.411 3 GHz 3.21 dBm	Mki		#Atten: 30 dB	IFGain:Low	0.00 dBm	v Ref 20	10 dB/di
Center Fre								. ^{og}
6.500000000 GH			-					10.0
-								0.00
Start Fre 1.000000000 GH					1			10.0
	-16.79 dBm			1 1	$\leq 2 - 1$		_	
Stop Fre 12.000000000 GH								20.0
12.0000000000			1					30.0 —
CF Ste 1.100000000 GH								40.0
<u>Auto</u> Ma				a in the second s	Concerner of	_		-50.0
Freq Offse	Land and the same for the same	ted sparstype at some the	and the second	and the second	Under Addition	Maria and Andrewson Maria and Provide Long	warante was	all.
0H								60.0
							-	70.0
	Stop 12.000 GHz 1.02 s (10001 pts)	Sween		1.0 MHz	#\/R\//		000 GHz W 100 kH;	
	1.02 3 (10001 pts)	Sweep		1.9 191112	1 1 1 1 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	d; all traces cl	10.000.000	

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Start 12.000 GHz Res BW 100 kHz	#VBW	1.0 MHz	SW	veep		.000 GHz 0001 pts)	
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60.0							Freq Offs
50.0	and the second		and the second design of the	Annual Anno	and the second s		ridity Mic
40.0			and an internal second	Thursday .	and the second se	San Charles	CF Ste 1.300000000 GH Auto Ma
30,0					_	1	
30.0							Stop Fre 25.000000000 GH
20.0				_		-16.79 dBm	
10.0				_			12.000000000 GH
0.00				-			Start Fre
10.0							18.500000000 GH
		1.00				1	Center Fre
0 dB/div Ref 20.00 dB	m	10 A.		Mkr1		1 9 GHz 18 dBm	Auto Tur
senter ried 10.50000	PNO: Fast IFGain:Low	Trig: Free Run #Atten: 30 dB			TY		A. 13. 24.
RL RF 50 Ω Center Freg 18.50000		SENSE:INT	Avg Type: Log	IAUTO		M Dec 20, 2012	Frequency

CIRL RF 50Ω AC		SENSE:INT	ALIGNAUTO	09:55:41 AM Dec 20, 2012	1200000
Center Freq 515.00000	O MHz PNO: Fast 😱	Trig: Free Run	Avg Type: Log-Pwr		Frequency
0 dB/div Ref 20.00 dBm	IFGain:Low	#Atten: 30 dB	M	r1 540.026 MHz -52.83 dBm	Auto Tune
.og					Center Fred
10.0					515.000000 MH;
					Start Free
10.0					30.000000 MH
20.0				-16.30 dBm	
30.0					Stop Free 1.000000000 GH
					CF Ster
40.0		1			97.000000 MH Auto Mai
50.0	-			the fact that a report of the fact the second	
60.0 		Texts and the second			Freq Offse 0 Hi
70.0					
Start 30.0 MHz #Res BW 100 kHz	#VBW	1.0 MHz	Sweep	Stop 1.0000 GHz 90.0 ms (10001 pts)	
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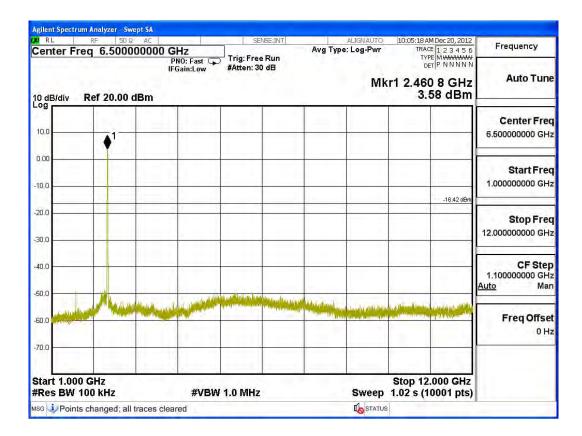
Channel 06 (2437MHz)

XI RL R	F 50 Ω AC	1	SENSE:INT	ALIGNAU	JTO 09:55:10 AM Dec 20, 2012	
Center Freq	6.5000000	PNO: Fast 😱] Trig: Free Run	Avg Type: Log-P		Frequency
10 dB/div Re	f 20.00 dBm	IFGain:Low	#Atten: 30 dB		Mkr1 2.437 7 GHz 3.70 dBm	Auto Tune
.og						Center Fred
10.0	↓1					6.500000000 GH:
0.00						Start Free
10,0						1.000000000 GH
					-16.30 dBm	
20.0						Stop Free 12.000000000 GH
30.0						12.000000000000
40.0						CF Ster 1.100000000 GH
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60.0			a del al provincia del del provincia del provin Del provincia del provin	A Contraction of the second		Freq Offse
70.0	<u></u>				1 .	он
Start 1.000 G		<i>#</i>			Stop 12.000 GHz	
Res BW 100	KHZ anged; all traces	W office	1.0 MHz	Swe	ep 1.02 s (10001 pts)	

2	09:56:12 AM Dec 20, 2012	ALIGNAUTO	1	NSE:INT	SEI		AC AC	RF 50	XI RL
¥	TRACE 123456 TYPE MWWWWWW DET P N N N N N	e: Log-Pwr	Avg Ty		Trig: Free #Atten: 30	GHZ 10: Fast 😱 Gain:Low	PN	reg 18.50	Center F
	23.407 5 GHz -41.41 dBm	Mkr1			whitem of	Sameow		Ref 20.00	10 dB/div
Center Fre				1					-og
18.500000000 GH				-					10.0
Start Fre									0.00
12.000000000 GH									-10.0
	-16.30 dBm								10.0
Stop Fre									-20.0
25.00000000 GH						1			20.0
	-								-30.0
CF Ste	• • •				_			-	40.0
1.300000000 GH Auto Ma	adada a sha a sha sha sha sha sha sha sha sh		dist, statut		- a smille				
7-		A supplier which are placed	patter and the second	and a second second second	and the second second second	the shall the state		1011	-50.0
Freq Offse							H.	The second s	-60.0
0 H									
-									-70.0
	Stop 25 000 CHz								Start 12.0
	Stop 25.000 GHz 1.20 s (10001 pts)				1.0 MHz	#VBW		C C	Res BW
2.0		STATUS					aved	<mage.png> :</mage.png>	

RL RF 50 Ω AC Center Freg 515.000000	MHz	SENSE:INT	ALIGN Avg Type: Log	Pwr TRACE 123456	Frequency
0 dB/div Ref 20.00 dBm	PNO: Fast 🦕 IFGain:Low	^J Trig: Free Run #Atten: 30 dB		Mkr1 540.026 MHz -53.90 dBm	Auto Tune
10.0					Center Free 515.000000 MH
0.00					Start Free 30.000000 MH
20.0				-16.42 dBm	Stop Fre
30,0					1.000000000 GH
40.0		1			CF Ste 97.000000 MH Auto Ma
	a the polya of a stand state of the second state	ang milang na kanang	a managaran da manag	nan a Shi yiti ya waxa da wala tin ta ƙasari ya baya Manana a Shi yiti ya waxa ya waxa a sa ƙasari	Freq Offso 0 H
70.0					
Start 30.0 MHz Res BW 100 kHz	#VBW	1.0 MHz	Swee	Stop 1.0000 GHz p 90.0 ms (10001 pts)	

Channel 11 (2462MHz)



-70.0			-	-	-		-		
-60.0 10.000/00/10.000/00/00/00/00/00/00/00/00/00/00/00/0									Freq Offse 0 H
-50.0	NAME OF TAXABLE	A collection (second	ALC NO.	and sheets and					
-50.0			und article	del a contra	Jame eller MIA	al in the sta			Auto Ma
-40.0								-	CF Ste 1.30000000 GH
-30.0.									25.00000000 GH
20.0									Stop Fre 25.00000000 GH
20.0		_			-		-	-16.42 dBm	
-10.0									12.000000000 GH
0.00				_					Start Fre
10.0									18.500000000 GH
10.0	1 1 1			1				1	Center Fre
10 dB/div Ref 20.00 d	Bm			_	1		-40.	73 dBm	
						Mkr		2 5 GHz	Auto Tun
senter rieg 10.5000	PNO: F	ast ()	Trig: Free #Atten: 30				TY		
RL RF 50 Ω Center Freg 18.5000		-	J. SEN	SE:INT	Avg Type	ALIGNAUTO		M Dec 20, 2012	Frequency

Product : 802.11b/g/n 111K Wireless Lan USB Module	Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
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- Test Item : RF Antenna Conducted Spurious
- Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel 01 (2412MHz)

	SENSE:INT	ALIGNA	UTO 10:18:01 AM Dec 20, 2012	
0 MHz	Trig: Free Run	Avg Type: Log-	Wr TRACE 123456	Frequency
IFGain:Low	#Atten: 30 dB	1		Auto Tune
		-		Center Free 515.000000 MH
				Start Free 30.000000 MH
			-22:05 dBm	Stop Fre 1.000000000 G⊦
				CF Ste 97.000000 MH
			↓ ¹	<u>Auto</u> Ma
notice production and solition in			(1) Constraints of the second state of the	Freq Offse 0 H
#VBW	1.0 MHz	Swee	Stop 1.0000 GHz p 90.0 ms (10001 pts)	
	O MHz PNO: Fast IFGain:Low	O MHz PNO: Fast IFGain:Low #Atten: 30 dB	O MHz PNO: Fast IFGain:Low #Atten: 30 dB I I I I I I I I I I I I I	0 MHz Trig: Free Run PNO: Fast rig: Free Run #Atten: 30 dB Mkr1 937.629 MHz -54.12 dBm -22.05 dBm -22.05 dBm -22.05 dBm -22.05 dBm -22.05 dBm

RL RF 50Ω AC Center Freq 6.500000000		SENSE:INT	Ave Typ	ALIGNAUTO	10:17:31 AM Dec 20, 2012 TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 20.00 dBm	PNO: Fast	Trig: Free Run #Atten: 30 dB	0,81,114		r1 2.413 5 GHz -2.05 dBm	A
10.0						Center Free 6.500000000 GH
10.0						Start Free 1.000000000 GH
30.0					-22:05 dBm	Stop Free 12.000000000 GH
40.0						CF Ste 1.100000000 GH <u>Auto</u> Ma
						Freq Offse
-70.0						
Start 1.000 GHz #Res BW 100 kHz	#VBW 1	.0 MHz		Sweep	Stop 12.000 GHz 1.02 s (10001 pts)	

XIRL RF 50Ω AC		SENSE:		ALIGNAUTO	10:18:32 AM Dec 20, 201	
Center Freq 18.500000	100 GHz PNO: Fast C	Trig: Free Ru #Atten: 30 dE	n	Type: Log-Pwr	TRACE 12345 TYPE MWWWWM DET P N N N N	₩
10 dB/div Ref 20.00 dBm		Street of Co		Mkr	1 23.752 0 GH: -40.61 dBn	
.og						Center Fre
10.0						18.500000000 GH
0.00						
10.0						Start Fre
20.0				_	-22.05 dB	Stop Fre
30.0		1				25.00000000 GH
40.0		1			1	CF Ste
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a citize production of the second sec	terrende beregen en de Staar van de Staar van De geween de Staar van de Staar v	and the second	and a standard from the second	contract in the other states		1
60.0						Freq Offs
70.0				-		
Start 12.000 GHz		a d'alue		market	Stop 25.000 GH:	z
#Res BW 100 kHz	#VBW	1.0 MHz		Sweep	1.20 s (10001 pts	i)



Start 30.0 MHz Res BW 100 kHz	#VBW	1.0 MHz	Sweep 9	Stop 1.0000 GHz 0.0 ms (10001 pts)	
				n e dra die Latina and kom and all Marchand dae and	Freq Offse 0 H
			and a second second second second	1-	
40.0					CF Ste 97.000000 MH Auto Ma
30.0					1.000000000 GH
20.0				-25,48 dBm	Stop Fre
10.0	_				Start Fre 30.000000 MH
0,00					Start Ero
10.0					Center Fre 515.000000 MH
0 dB/div Ref 20.00 dBr	n		Mk	r1 803.963 MHz -54.13 dBm	Auto Tun
enter Freq 515.0000	PNO: Fast IFGain:Low	Trig: Free Run #Atten: 30 dB	ing type. Logi ni	TYPE MWWWWW DET P N N N N N	
RL RF 50 Ω A Center Freq 515.0000		SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr	10:28:16 AM Dec 20, 2012 TRACE 1 2 3 4 5 6	Frequency

Channel 06 (2437MHz)

RL RF 50Ω AC Center Freq 6.5000000		ALIGNAUTO Avg Type: Log-Pwr	10:27:45 AM Dec 20, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWWWW	Frequency
0 dB/div Ref 20.00 dBm	PNO: Fast 🖵 Trig: Free Run IFGain:Low #Atten: 30 dB	M	r1 2.434 4 GHz -5.48 dBm	Auto Tune
10.0				Center Free 6.500000000 GH
10,0				Start Fre 1.000000000 GH
30.0			-25,48 dBm	Stop Fre 12.000000000 GH
40.0				CF Ste 1.100000000 GH Auto Ma
				Freq Offse
70.0				
Start 1.000 GHz Res BW 100 kHz	#VBW 1.0 MHz	Sweep	Stop 12.000 GHz 1.02 s (10001 pts)	
sg 🧼 Points changed; all traces	s cleared		8	

RL RF 50Ω AC		SENSE:If	π]	ALIGNAUTO	10:28:47 AM Dec 20, 201	2
enter Freg 18.500000	PNO: Fast 😱	Trig: Free Run #Atten: 30 dB		oe: Log-Pwr	TRACE 1 2 3 4 5 TYPE MWWWWW DET P N N N N	₩
0 dB/div Ref 20.00 dBm	IFGain:Low	#Atten: 30 dB		Mkr	1 23.663 6 GH: -40.46 dBn	z Auto Tune
og						Center Freq
10.0			_			18.500000000 GHz
0.00						
	5 () - T- (1				Start Free
10.0						12.000000000 GH
20.0				-	2.15	Stop Free
30.0					-25,48 dBr	25.000000000 GHz
					1	
40.0			des relations of		المخاللاتين الطوارية ويرار	CF Step 1.300000000 GH: Auto Mar
50.0	in the second	the second second second		And the sum of the state of the		
50.0						Freq Offset
70.0			_			
itart 12.000 GHz		a datas			Stop 25.000 GHz	
Res BW 100 kHz	#VBW	1.0 MHz		Sweep	1.20 s (10001 pts	9



RL RF 50 Ω AC Center Freg 515.00000	0 MHz	SENSE:INT	Avg Type	ALIGNAUTO e: Log-Pwr	10:38:44 AM Dec 20, 2012 TRACE 1 2 3 4 5 6	Frequency
0 dB/div Ref 20.00 dBm	PNO: Fast 😱 IFGain:Low	┘ Trig: Free Run #Atten: 30 dB		Mkr	TYPE MWWWW DET P NNNN 1 890.293 MHz -53.73 dBm	Auto Tune
10.0						Center Free 515.000000 MH
10.00						Start Free 30.000000 MH
20.0					-22.75 dBm	Stop Free 1.000000000 GH
40.0						CF Ste 97.000000 MH <u>Auto</u> Ma
60.0 	Western Press (Marcal Research	lin na kepititan katikunan na		N _{ama} tin Siler		FreqOffse
70.0						он
Start 30.0 MHz Res BW 100 kHz	#VBW	1.0 MHz		Sweep 9	Stop 1.0000 GHz 0.0 ms (10001 pts)	
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Channel 11 (2462MHz)

RL RF 50 Ω Center Freq 6.50000	AC 00000 GHz PN0: Fast	SENSE:INT	ALIO Avg Type: Lo	GNAUTO og-Pwr	TRAC TYP	Dec 20, 2012 1 2 3 4 5 6 E MWWWWW	Frequency
10 dB/div Ref 20.00 d	IFGain:Low	#Atten: 30 dB		Mk	1 2.461	9 GHz 75 dBm	Auto Tuno
10.0							Center Fre 6.500000000 GH
0.00							Start Fre 1.000000000 G⊦
30,0						-22.75 dBm	Stop Fre 12.000000000 GH
40.0							CF Ste 1.100000000 GH Auto Ma
60.0 444-044	New Section of the se	stear and an and a start of the		en Harreitann	an da da da ga an da da da ga		Freq Offso 0 F
-70.0							
Start 1.000 GHz #Res BW 100 kHz	#VBW	1.0 MHz	s	weep		000 GHz 0001 pts)	
usg i Points changed; all t	races cleared		Ľ,	STATUS	-		

RL RF	50 Ω AC		SE	VSE:INT		ALIGN AUTO	10:39:15 A	M Dec 20, 2012	
Center Freq 18	.50000000	0 GHz PNO: Fast 😱 IEGain:Low] Trig: Free #Atten: 30		Avg Type	: Log-Pwr	TRAC TYP	E 123456 MWWWWW ET P N N N N N	Frequency
).00 dBm	IFGain:Low	#Atten: St			Mkr	1 24.29	5 4 GHz 18 dBm	Auto Tune
-og			1						Center Freq
10.0									18.500000000 GHz
0.00	_							· · · · · · · · · · · · · · · · · · ·	-
10.0									Start Fred 12.000000000 GH;
20.0								-22.75 dBm	Stop Free
30.0			1 - 1 - 1					1	25.000000000 GH
40.0	_								CF Step 1.30000000 GH
50.0	William Providence			ard bra gab.		And Anna and Anna ann an Anna ann an Anna Anna		- Contraction of	<u>Auto</u> Mar
60.0									Freq Offset
70.0									012
Start 12.000 GHz Res BW 100 kH		#\/D\A/	1.0 MHz			Swaan		.000 GHz 0001 pts)	
sg 🥹 File < Image.p	7	#VDVV	1.0 10112			Sweep		ooor pis)	



Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
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Test Item	:	RF Antenna Conducted Spurious
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Test Site	:	No.3 OATS
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Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

Channel 01 (2412MHz)

A RL RF 50	Ω AC	SENSE:INT	ALIGNAUTO	10:49:46 AM Dec 20, 2012	
Center Freq 515.0	00000 MHz PNO: Fast 🖵	Trig: Free Run	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	Frequency
0 dB/div Ref 20.00	IFGain:Low	#Atten: 30 dB	Mki	1 774.863 MHz -53.84 dBm	Auto Tune
10.0					Center Free 515.000000 MH
					313.000000 MIN
10.0					Start Free 30.000000 MH
20.0				-23.70 dBm	Stop Fre 1.000000000 GH
30.0					1.000000000
40.0					CF Ste 97.000000 MF
50.0			↓ 1		<u>Auto</u> Ma
60.0	an an taon tha a sa ha an thirms an	Benning by direct of the Complement		a dala di kana di kang di kang di kana di kana Kana di kana di	Freq Offse 0 H
70.0					
Start 30.0 MHz Res BW 100 kHz	#VBW	1.0 MHz	Sweep 9	Stop 1.0000 GHz 0.0 ms (10001 pts)	
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							trum Analyzer -	
Frequency	10:49:15 AM Dec 20, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWWW	LIGNAUTO	Avg Typ	SENSE:INT	GHz	0000000000000000000000000000000000000	req 6.500	Center F
Auto Tune	r1 2.410 2 GHz -3.70 dBm	Mk		#Atten: 30 dB	PNO: Fast 🖵 IFGain:Low		Ref 20.00	10 dB/div
Center Fred 6.500000000 GH:			-			-		10.0
Start Free 1.000000000 GH;							• ¹ -	-10.0
Stop Free 12.000000000 GH	-23.70 dBm							-20.0
CF Step 1.100000000 GH <u>Auto</u> Ma								-40.0
Freq Offse 0 H	(post Stores and some	l), essen an an Andrea Anna an Anna Anna Anna an Anna						-60.0
	Stop 12.000 GHz 1.02 s (10001 pts)	Sweep		1.0 MHz	#\/B\A		00 GHz 100 kHz	-70.0 Start 1.00
		STATUS	-	ing mile	101 A. 17 20	all traces cle	nts changed; a	

Agilent Spectrum Analyzer	- Swept SA				
	50 Ω AC	SENSE:INT	ALIGNAUTO	10:50:17 AM Dec 20, 2012	Frequency
Center Freq 18.5	500000000 GHz	Trig: Free Run	Avg Type: Log-Pwr	TRACE 123456 TYPE MWWWWWWW DET PNNNNN	Trequeriey
10 dB/div Ref 20.	PNO: Fast 🖵 IFGain:Low	#Atten: 30 dB	Mkr	Auto Tune	
Log					2012032-01
10.0		1.101			Center Freq
10.0					18.500000000 GH
0.00					
0.00				· · · · · · · · · · · · · · · · · · ·	Start Freq
-10.0					12.000000000 GHz
-10.0					
-20.0					Francis Charges
20.0				-23.70 dBm	Stop Free
-30.0					25.00000000 GHz
00.0				4	/
-40.0				· · · · · · · · · · · · · · · · · · ·	CF Step
			and the second second	al and the second s	1.300000000 GHz
-50.0	Laure Contractor Contractor	allow in Director and the paths	and the state of the		<u>Auto</u> Man
and the local states and	A DE ANY DESCRIPTION OF ANY	Actual of the second se			
-60.0	-			· · · · · · · · · · · · · · · · · · ·	Freq Offset
					0 Hz
-70.0			-		
Start 12.000 GHz				Stop 25 000 CHz	
#Res BW 100 kHz	#VBW	1.0 MHz	Sweep	Stop 25.000 GHz 1.20 s (10001 pts)	
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inou withe simage.phi	y- adveu		Contract		



XI RL RF 50 S	AC	SENSE:INT	ALIGNAUTO	10:59:13 AM Dec 20, 2012	
Center Freq 515.00		a secondario	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency
10 dB/div Ref 20.00	IFGain:Low	#Atten: 30 dB	Mk	r1 960.036 MHz -55.22 dBm	Auto Tune
10.0		i = 1 [Center Fred 515.000000 MHz
10.0					Start Free 30.000000 MH;
30,0				-22.66 dBm	Stop Fred 1.000000000 GH:
40.0					CF Step 97.000000 MH Auto Mar
		diamagna dhibin nighania.			Freq Offse
70.0					1
Start 30.0 MHz #Res BW 100 kHz	#VB	W 1.0 MHz	Sweep 9	Stop 1.0000 GHz 0.0 ms (10001 pts)	
/ISG 🤳 File < Image.png> s	10.01		STATU		

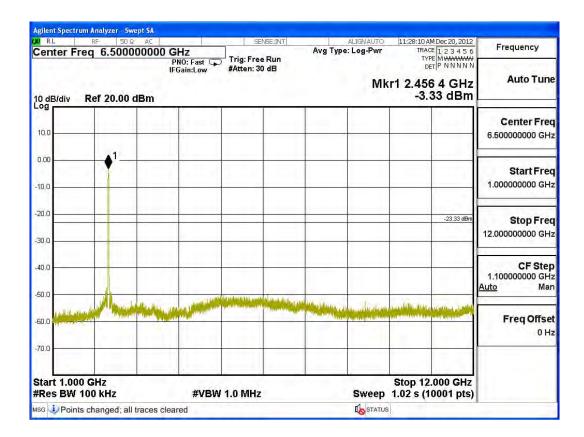
Channel 06 (2437MHz)

	RF 50 Ω AC		SENSE:INT	ALIGNA	UTO 10:58:42 AM Dec 20, 2012	1 POLINICA
Center Freq	6.500000000	PNO: Fast Trig: Free Run		Trig: Free Run		Frequency
0 dB/div R	ef 20.00 dBm	IFGain:Low	#Atten: 30 dB		Mkr1 2.431 1 GHz -2.66 dBm	Auto Tun
Jog						Center Free
10.0	6.20					6.500000000 GH
	♦ ¹					Start Fre
10.0						1.000000000 GH
20.0					-22.66 dBm	Stop Fre
30,0						12.000000000 GH
40.0						CF Ste
50.0						1.100000000 GH <u>Auto</u> Ma
and an all the second second second	Municipality		in the second		an lag	Freq Offse
60.0						0 H
70.0						
Start 1.000 G #Res BW 100		#3/(D)A/	1.0 MHz		Stop 12.000 GHz eep 1.02 s (10001 pts)	
1	hanged; all traces o		1.0 19102			

RL RF 50 Ω Center Freq 18.50000	00000 GHz	SENSE:INT	Avg Type: I	_IGNAUTO _og-Pwr	TRAC	M Dec 20, 2012 E 1 2 3 4 5 6 E M WWWWWW	Frequency
10 dB/div Ref 20.00 dE	PNO: Fast 🆵 IFGain:Low	#Atten: 30 dB		Mkr1	24.96	B 8 GHz 40 dBm	Auto Tune
10.0							Center Free 18.500000000 GH
10.0							Start Free 12.000000000 GH
20.0					-	-22.66 dBm	Stop Free 25.000000000 GH
40.0	and the state of t	n jihandar olan olan ya		a filden som dage			CF Step 1.300000000 GH <u>Auto</u> Ma
-60.0 1000 1000 1000 1000 1000 1000 1000 							Freq Offse
-70.0				_			
Start 12.000 GHz #Res BW 100 kHz	#VBW	1.0 MHz				.000 GHz 0001 pts)	
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RL RF 50 Ω AC	MHz	SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr	11:28:41 AM Dec 20, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	Frequency
0 dB/div Ref 20.00 dBm	PNO: Fast 🦕 IFGain:Low	┘ Trig: Free Run #Atten: 30 dB	Mk	Auto Tune	
10.0					Center Free 515.000000 MH
0.00					Start Free 30.000000 MH
20.0				-23.33 dBm	Stop Fre 1.000000000 GH
40.0					CF Step 97.000000 MH <u>Auto</u> Ma
	entre deserver al deserver	ing data in talen ang	ner (1. 1. prinches et al. 1993) and	al an all all forecasts in a state of the stands	Freq Offse
70.0					
tart 30.0 MHz Res BW 100 kHz	#VBW	1.0 MHz	Sweep 9	Stop 1.0000 GHz 0.0 ms (10001 pts)	

Channel 11 (2462MHz)



RL RF	50 Ω	AC		SEN	ISE:INT	1	ALIGNAUTO	11:29:11	M Dec 20, 2012	
Center Freq		00000	GHz PNO: Fast 😱 Gain:Low	Trig: Free	Run	Avg Type	: Log-Pwr	TRA TY	CE 123456 PE MWWWWWW ET P NNNN	Frequency
	20.00 dE		Gain:Low	#Atten: 30	dB		Mkr	1 23.49	9 8 GHz 17 dBm	Auto Tune
-og				1						Center Freq
10.0										18.500000000 GHz
0.00										The second
10.0		1			_					Start Fred 12.000000000 GHz
20.0									-23.33 dBm	Stop Fred
30.0										25.000000000 GHz
40.0								•		CF Step 1.30000000 GH
50.0	Lunia	tr _{an} t depted		daga kang kang	a shint of do	and the state	A. BOM and had		myst - Inner-	Auto Man
60.0										Freq Offsel
70.0						-				
Start 12.000 G			#\/D\\/	1.0 MHz			Curson		.000 GHz	
	e.png> sav		#VDVV	1.0 10172		_	Sweep	1000	iooor pis)	



Product :	802.11b/g/n	1T1R Wireless Lan USB Module
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Test Item :		RF Antenna Conducted Spurious
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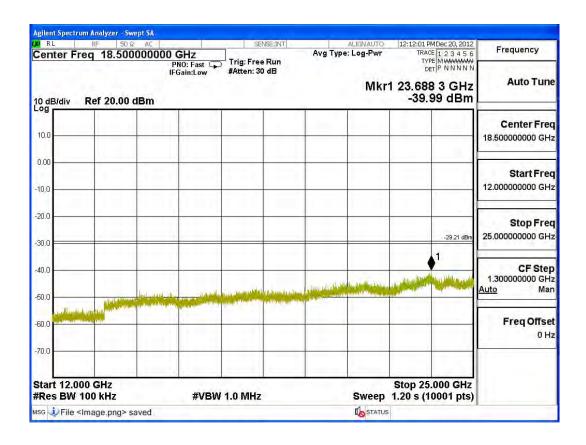
Test Site :	No.3 OATS
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Test Mode : Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

Channel 01 (2422MHz)

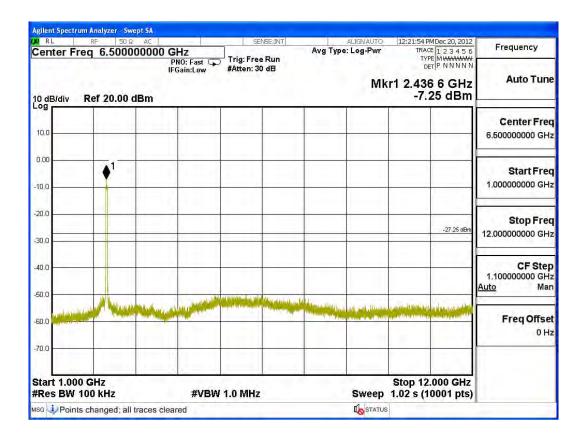
							m Analyzer - Swept SA	
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Auto Tune	ETPNNNNN	⊳ kr1 960.0	МІ	1	¹ Trig: Free F #Atten: 30 (PNO: Fast 🦕 IFGain:Low	Ref 20.00 dBm	10 dB/div
Center Free 515.000000 MH								10.0
Start Free 30.000000 MH								-10.0
Stop Fre 1.000000000 GH	-29.21 dBm							-20.0
CF Ste 97.000000 MH <u>Auto</u> Ma	1_							40.0
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								-70.0
	0000 GHz	Stop 1.0 90.0 ms (1	Sweep		1.0 MHz	#VBW		Start 30.0 #Res BW
			To STAT			0.01000	mage.png> saved	2277 - CTTT

						alyzer - Swept SA	
Frequency	12:10:59 PM Dec 20, 2012 TRACE 1 2 3 4 5 6	e: Log-Pwr	Avg Ty	SENSE:INT	GHz	50 Ω AC	Center Free
Auto Tune	r1 2.422 3 GHz -9.21 dBm	Mk		^J Trig: Free Run #Atten: 30 dB	PNO: Fast 🦕 IFGain:Low	f 20.00 dBm	
Center Fred 6.500000000 GH:				<u></u>			10.0
Start Free 1.000000000 GH:						•1	-10.0
Stop Free 12.000000000 GH;	29,21 dBm						30.0
CF Step 1.100000000 GH: <u>Auto</u> Mar				. Mary di da disi			-40.0
Freq Offse 0 H:	na titler andre same and be	and get a stand of the difference	and a summer of		and the second	A Managara Managaran Ang	-60.0
	Stop 12.000 GHz 1.02 s (10001 pts)	Sweep		1.0 MHz	#VBW		-70.0 Start 1.000 (#Res BW 10
		To STATUS			leared	nged; all traces c	ISG Deints o



RL RF 50 Ω AC Center Freg 515.000000 M		SENSE:INT	Ava T	ALIGNAUTO	12:22:24 PM Dec 20, 2012 TRACE 1 2 3 4 5 6	
0 dB/div Ref 20.00 dBm	PNO: Fast 😱 IFGain:Low	Trig: Free Run #Atten: 30 dB			TYPE MUMUUW DET P N N N N 1 600.069 MHz -54.96 dBm	Auto Tune
og						Center Free
10.0				-		515.000000 MH
0.00						Start Fre
10,0			_	-		30.000000 MH
20.0						Stop Fre
30,0			_		-27.25 dBm	1.000000000 GH
40.0				_		CF Ste 97.000000 MH
50.0			- A 1	-		<u>Auto</u> Ma
	l - n - c - e - fritte Aladi			na an an the section of the section	engen este dage interferendingen	Freq Offse 0 H
70.0			-			
Start 30.0 MHz Res BW 100 kHz	#\/B\A(1.0 MHz		Sween 9	Stop 1.0000 GHz).0 ms (10001 pts)	

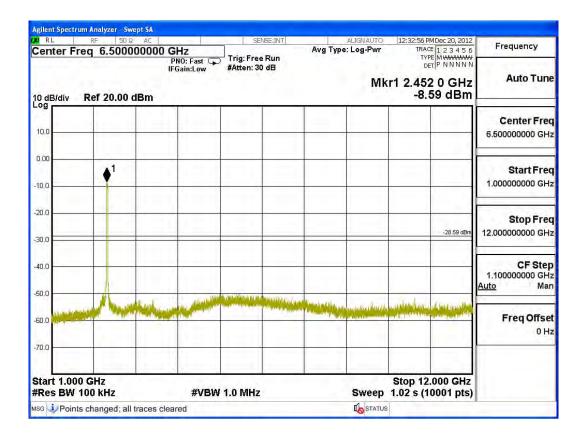
Channel 04 (2437MHz)



Mixed Trace Trace Trace Frequency Pwr TRACE 12.3.456 Frequency Mkr1 23.666 2 GHz -41.00 dBm Auto Tune -41.00 dBm Center Freq 18.50000000 GHz 12.00000000 GHz 12.00000000 GHz 12.00000000 GHz
-41.00 dBm Center Freq 18.50000000 GHz Start Freq
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-27.25 dBm 25.000000000 GH
23.0000000 84
CF Ste
1.30000000 GH Auto Mai
Freq Offse
ОН
Stop 25.000 GHz
/eep 1.20 s (10001 pts)

Frequency	MDec 20, 2012		LIGNAUTO	Ave Typ	SENSE:INT	I SE	10-	50 Ω AC	RF 50 reg 515.0	RL Contor Fi
Auto Tur	72 MHz 60 dBm	דיי ס 1 599.9				Trig: Fre #Atten: 3	INC: Fast 😱 IFGain:Low		Ref 20.00	0 dB/div
Conton Fra					1000					og
Center Fre 515.000000 MH		_			+					10.0
				- A						0.00
Start Fre 30.000000 MH					-					10.0
Stop Fre										20.0
1.000000000 GH	-28.59 dBm									30.0
CF Ste 97.000000 MH									_	40.0
<u>Auto</u> Ma		-		i					-	50.0
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				_		-			-	70.0
	0000 GHz 0001 pts)		weep 9		7	1.0 MHz	#VBW			Start 30.0 Res BW
	ooor pis)	iiis (i	STATUS		2	1.0 10112	#V DVV	bayes <	Image.png>	

Channel 07 (2452MHz)



RL RF 50Ω AC		SENSE:	INT	ALIGNAUTO	12:33:58 P	MDec 20, 2012	
enter Freq 18.5000000	PNO: Fast C] Trig: Free Ru #Atten: 30 dE	n	pe: Log-Pwr	TYP	E 123456 MWWWWW T P N N N N N	Frequency
0 dB/div Ref 20.00 dBm	IFGam:Low	FALLEN. OU UL		Mkr		1 5 GHz 55 dBm	Auto Tune
°g		1.11					Center Free
10.0		_	_		-		18.500000000 GH
0.00	4444						
	1 1 - 1	1211					Start Fred
10.0							12.00000000 GHz
20.0	_			-			Stop Free
30.0		1				-28.59 dBm	25.000000000 GH
						1	
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50.0			di (un a <mark>dila anno)</mark>	and states white any st	(and	Late Manual	<u>Auto</u> Mar
50.0 Harrison and a second			_				Freq Offset
70.0			_		-		
tart 12.000 GHz Res BW 100 kHz	43/1514/	1.0 MHz		0		.000 GHz 0001 pts)	
sg JFile <image.png> saved</image.png>	#VDVV	1.0 10172		Sweep	2010 X 2010	0001 pts)	

QuieTek

6. Band Edge

6.1. Test Equipment

The following test equipments are used during the band edge tests:

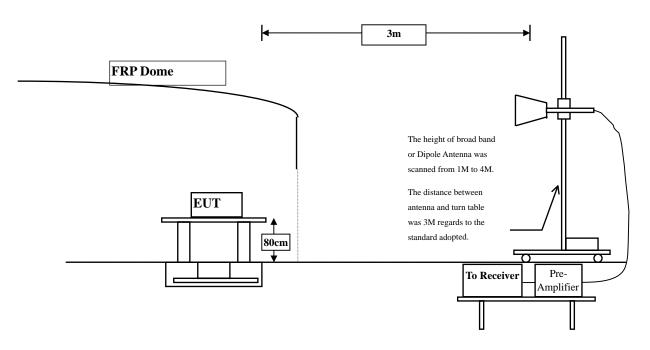
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2012
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2012
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2012
	Х	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2012
	Х	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2012
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2012
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2012
	Х	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	Х	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note: 1. All instruments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

6.2. Test Setup

RF Radiated Measurement:



6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

6.4. Test Procedure

The EUT was setup according to ANSI C63.4: 2003 and tested according to DTS test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 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: 2003 on radiated measurement.

6.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

6.6. Test Result of Band Edge

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2142MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Arerage Limit (dBuV/m)	Result
01 (Peak)	2388.400	31.503	27.129	58.632	74.00	54.00	Pass
01 (Peak)	2390.000	31.509	26.340	57.849	74.00	54.00	Pass
01 (Peak)	2413.000	31.646	72.766	104.412			
01 (Average)	2375.400	31.453	14.971	46.423	74.00	54.00	Pass
01 (Average)	2390.000	31.509	14.270	45.779	74.00	54.00	Pass
01 (Average)	2414.800	31.660	68.842	100.502			



Horizontal (Peak)

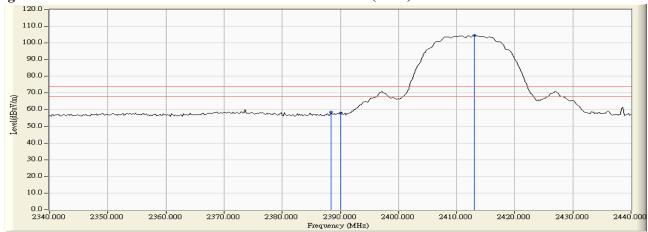


Figure Channel 01:

Horizontal (Average)



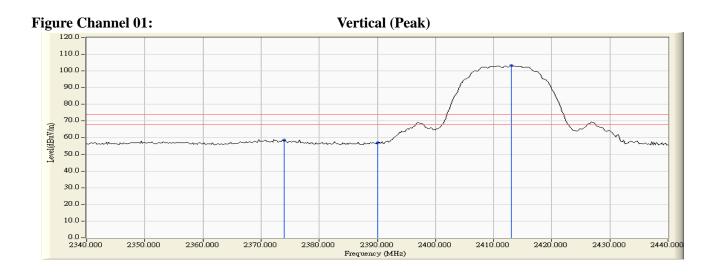
Note:

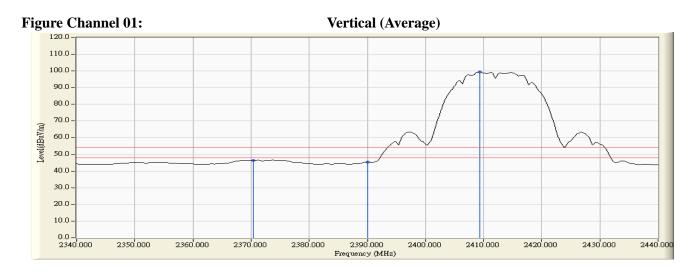
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2142MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Arerage Limit (dBuV/m)	Result
01 (Peak)	2374.000	30.990	27.546	58.535	74.00	54.00	Pass
01 (Peak)	2390.000	30.915	25.954	56.869	74.00	54.00	Pass
01 (Peak)	2413.000	30.956	72.166	103.122			
01 (Average)	2370.400	31.006	15.397	46.403	74.00	54.00	Pass
01 (Average)	2390.000	30.915	14.530	45.445	74.00	54.00	Pass
01 (Average)	2409.400	30.939	68.399	99.337			





Note:

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
Channel No. (N	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Kesult
11 (Peak)	2463.100	32.028	73.580	105.608			
11 (Peak)	2483.500	32.182	27.540	59.722	74.00	54.00	Pass
11 (Peak)	2484.300	32.187	28.219	60.407	74.00	54.00	Pass
11 (Average)	2459.300	31.999	69.562	101.561			
11 (Average)	2483.500	32.182	16.725	48.907	74.00	54.00	Pass

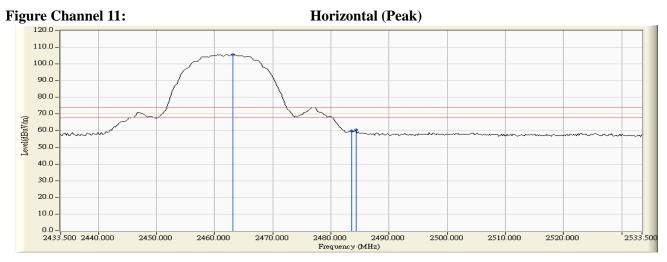
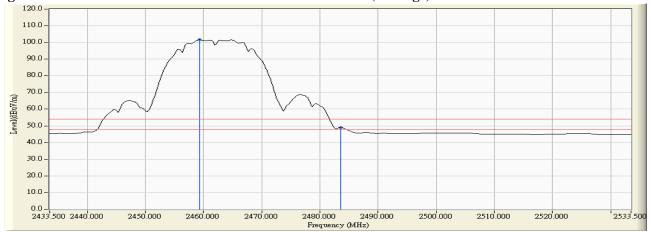


Figure Channel 11:

Horizontal (Average)



Note:

- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
11 (Peak)	2462.900	31.296	73.396	104.692			
11 (Peak)	2483.500	31.435	27.060	58.495	74.00	54.00	Pass
11 (Average)	2459.300	31.272	68.945	100.217			
11 (Average)	2483.500	31.435	16.318	47.753	74.00	54.00	Pass

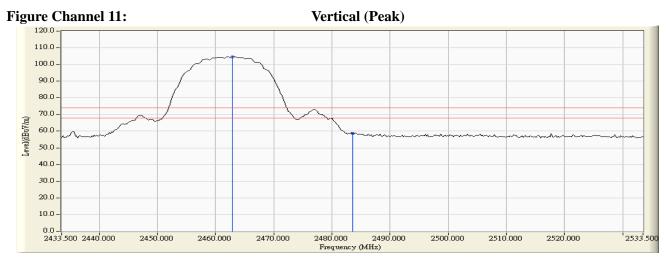
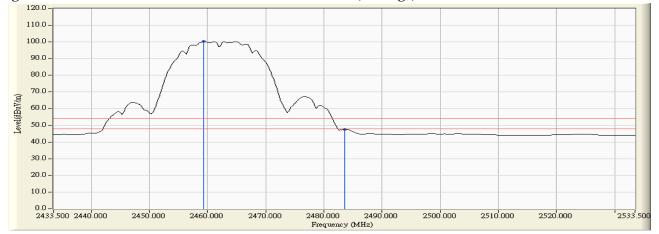


Figure Channel 11:

Vertical (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2390.000	31.509	29.341	60.850	74.00	54.00	Pass
01 (Peak)	2408.000	31.611	71.758	103.370			
01(Average)	2351.300	31.358	16.475	47.832	74.00	54.00	Pass
01(Average)	2390.000	31.509	15.823	47.332	74.00	54.00	Pass
01(Average)	2407.400	31.607	62.904	94.512			

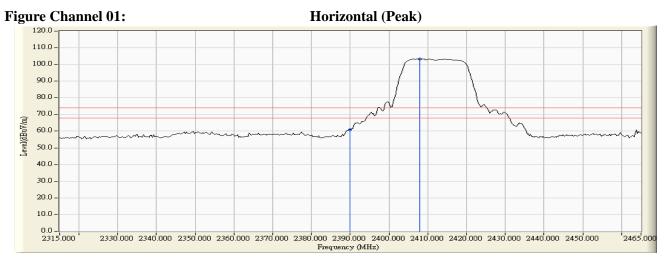


Figure Channel 01:

Horizontal (Average)

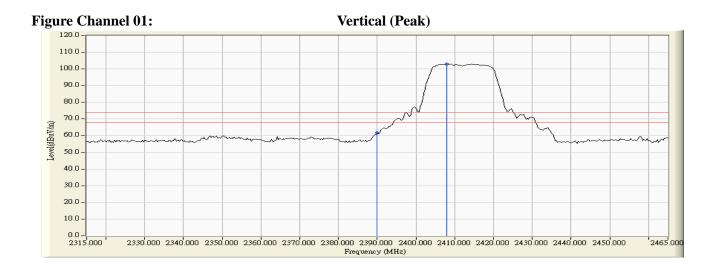


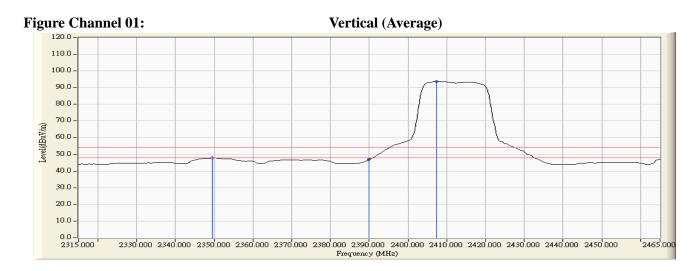
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2390.000	30.915	30.972	61.887	74.00	54.00	Pass
01 (Peak)	2408.000	30.934	71.918	102.852			
01 (Average)	2349.500	31.102	16.709	47.812	74.00	54.00	Pass
01 (Average)	2390.000	30.915	15.901	46.816	74.00	54.00	Pass
01 (Average)	2407.400	30.932	62.699	93.631			





- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2461.000	32.012	72.626	104.638			
11 (Peak)	2483.500	32.182	36.686	68.868	74.00	54.00	Pass
11 (Average)	2460.100	32.005	63.816	95.821			
11 (Average)	2483.500	32.182	18.408	50.590	74.00	54.00	Pass

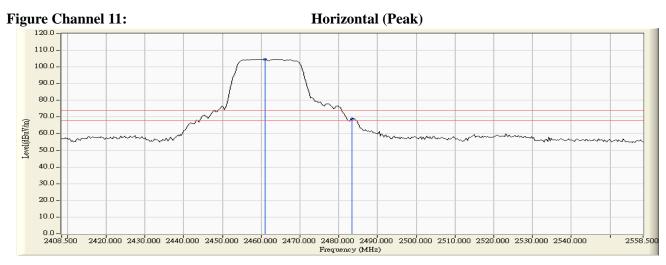
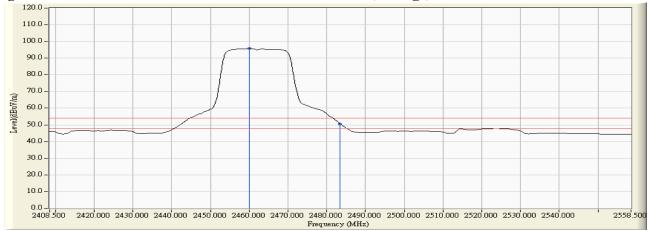


Figure Channel 11:

Horizontal (Average)

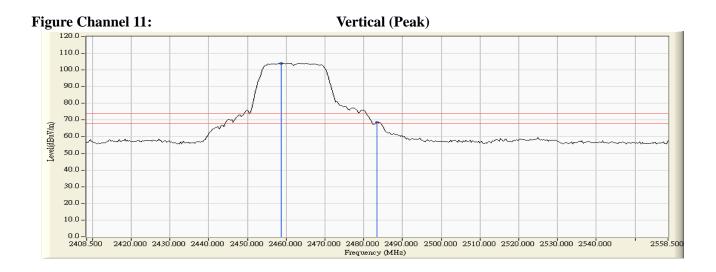


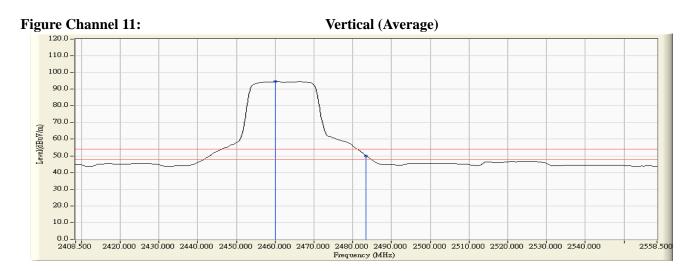
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Kesult
11 (Peak)	2458.600	31.266	72.698	103.965			
11 (Peak)	2483.500	31.435	36.946	68.381	74.00	54.00	Pass
11 (Average)	2460.100	31.277	63.371	94.648			
11 (Average)	2483.500	31.435	18.545	49.980	74.00	54.00	Pass





- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Kesuit
01 (Peak)	2390.000	31.509	33.301	64.810	74.00	54.00	Pass
01 (Peak)	2408.900	31.617	71.092	102.709			
01 (Average)	2350.700	31.355	15.743	47.098	74.00	54.00	Pass
01 (Average)	2390.000	31.509	14.872	46.381	74.00	54.00	Pass
01 (Average)	2415.200	31.662	61.169	92.832			

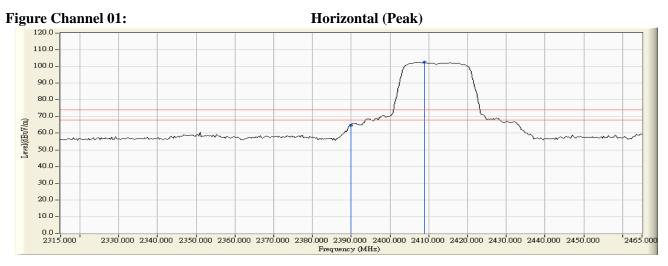


Figure Channel 01:

Horizontal (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency		e	Emission Level		Ũ	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
01 (Peak)	2390.000	30.915	34.123	65.038	74.00	54.00	Pass
01 (Peak)	2408.900	30.937	70.677	101.614			
01 (Average)	2350.100	31.100	15.629	46.729	74.00	54.00	Pass
01 (Average)	2390.000	30.915	15.177	46.092	74.00	54.00	Pass
01 (Average)	2406.800	30.931	60.858	91.789			

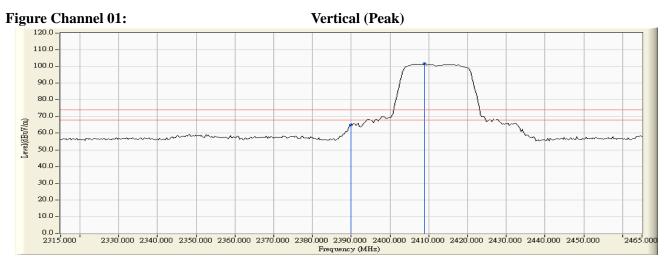
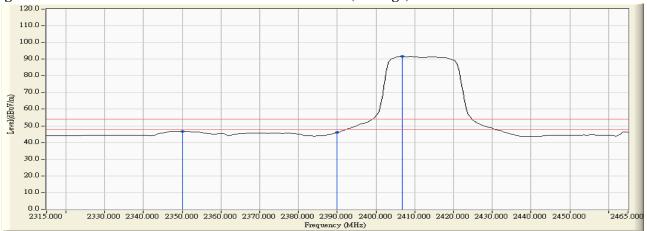


Figure Channel 01:

Vertical (Average)

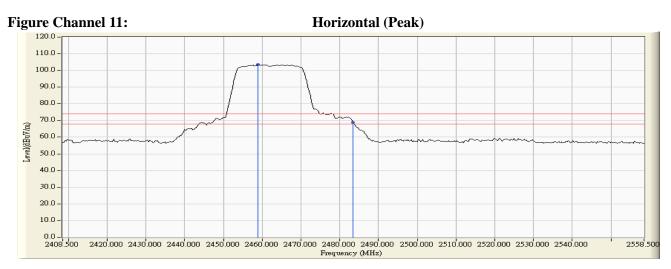


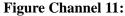
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

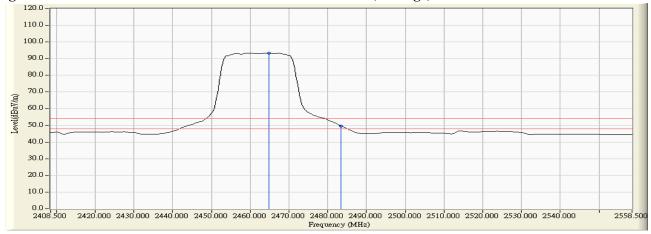
RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Arerage Limit (dBuV/m)	Result
	· · · /	(uD)		(uDu v/III)	(uDu v/III)	(uDu v/III)	
11 (Peak)	2458.900	31.997	71.518	103.514			
11 (Peak)	2483.500	32.182	36.738	68.920	74.00	54.00	Pass
11 (Average)	2464.900	32.042	61.325	93.366			
11 (Average)	2483.500	32.182	17.335	49.517	74.00	54.00	Pass





Horizontal (Average)

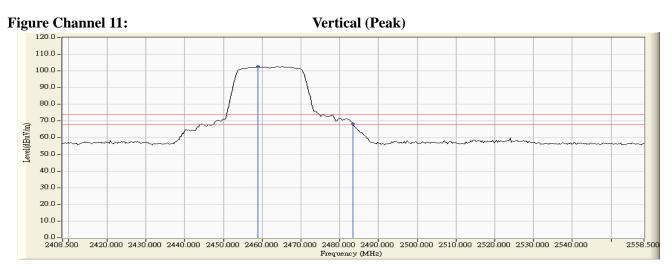


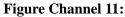
- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

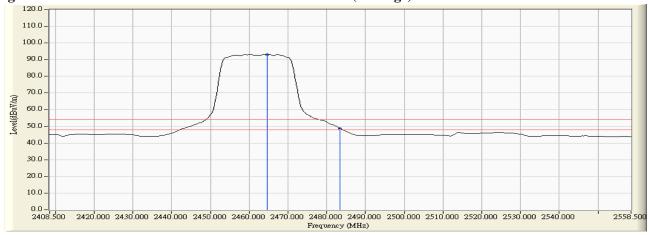
RF Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2458.900	31.270	71.368	102.637			
11 (Peak)	2483.500	31.435	36.750	68.185	74.00	54.00	Pass
11 (Average)	2464.600	31.308	61.706	93.014			
11 (Average)	2483.500	31.435	17.269	48.704	74.00	54.00	Pass





Vertical (Average)

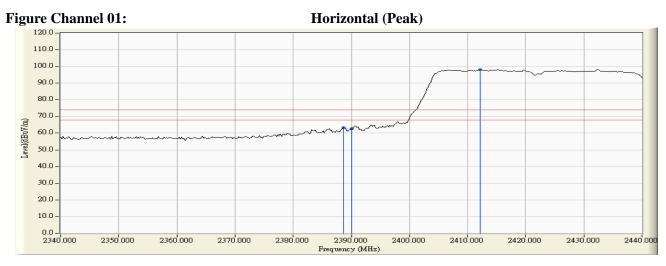


- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2422MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Kesuit
01 (Peak)	2388.600	31.504	31.812	63.316	74.00	54.00	Pass
01 (Peak)	2390.000	31.509	31.318	62.827	74.00	54.00	Pass
01 (Peak)	2412.200	31.640	66.495	98.135			
01 (Average)	2390.000	31.509	16.995	48.504	74.00	54.00	Pass
01 (Average)	2414.400	31.657	56.873	88.530			





Horizontal (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2422MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Kesult
01 (Peak)	2386.200	30.933	29.529	60.462	74.00	54.00	Pass
01 (Peak)	2390.000	30.915	28.881	59.796	74.00	54.00	Pass
01 (Peak)	2432.400	31.088	64.735	95.823			
01 (Average)	2390.000	30.915	15.102	46.017	74.00	54.00	Pass
01 (Average)	2425.400	31.040	54.090	85.130			

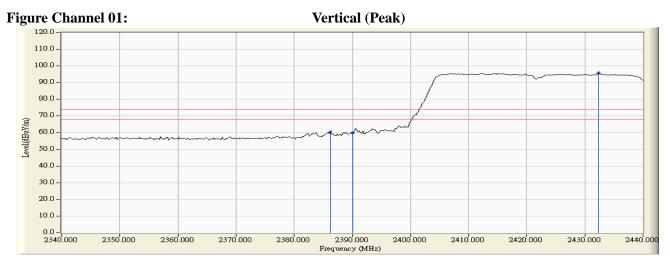
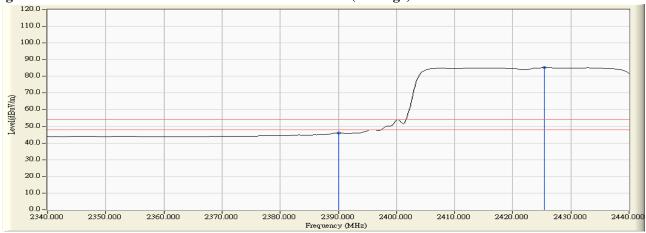


Figure Channel 01:

Vertical (Average)

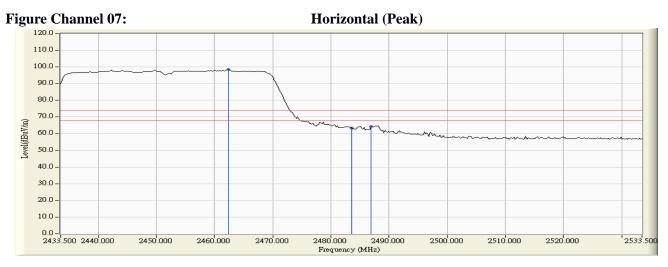


- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2452MHz)

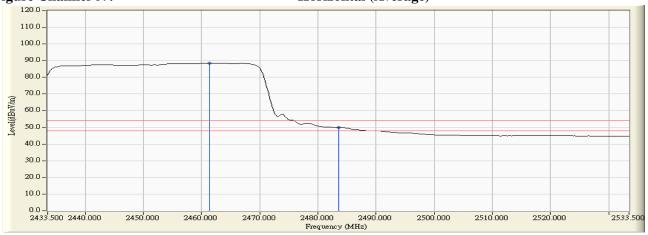
RF Radiated Measurement (Horizontal):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Kesuit
07 (Peak)	2462.300	32.022	66.548	98.570			
07 (Peak)	2483.500	32.182	31.286	63.468	74.00	54.00	Pass
07 (Peak)	2486.900	32.208	32.255	64.463	74.00	54.00	Pass
07 (Average)	2461.300	32.014	56.522	88.536			
07 (Average)	2483.500	32.182	17.757	49.939	74.00	54.00	Pass





Horizontal (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Band Edge
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2452MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Arerage Limit	Result
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Kesult
07 (Peak)	2462.300	31.293	66.936	98.228			
07 (Peak)	2483.500	31.435	32.366	63.801	74.00	54.00	Pass
07 (Peak)	2487.300	31.461	33.452	64.913	74.00	54.00	Pass
07 (Average)	2461.300	31.286	56.965	88.251			
07 (Average)	2483.500	31.435	17.699	49.134	74.00	54.00	Pass

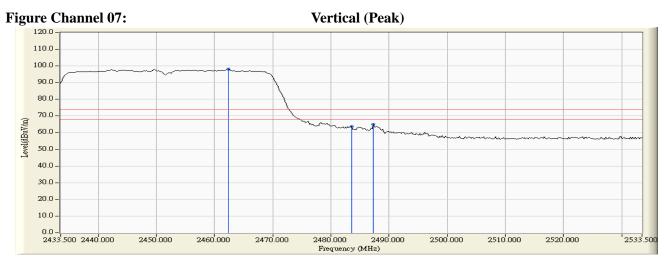
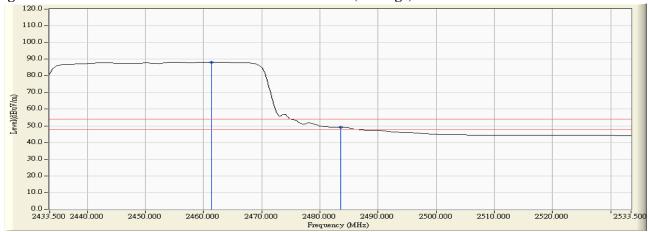


Figure Channel 01:

Vertical (Average)



- 1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", means this data is the worst emission level.
- 5. Measurement Level = Reading Level + Correct Factor.
- 6. The average measurement was not performed when the peak measured data under the limit of average detection.

7. Occupied Bandwidth

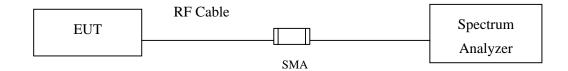
7.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2012
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2012
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012

Note:

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.

7.2. Test Setup



7.3. Limits

The minimum bandwidth shall be at least 500 kHz.

7.4. Test Procedure

The EUT was setup according to ANSI C63.4: 2003; tested according to DTS test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 1-5% of the emission bandwidth, VBW \geq 3*RBW

7.5. Uncertainty

 \pm 150Hz

7.6. Test Result of Occupied Bandwidth

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	12300	>500	Pass

Figure Channel 1:

120 2010/01	M Dec 20, 2012	09:43:00 A	ALIGN AUTO		SENSE:INT	-	AC	50 Q	RF	11.1	Ľ
Frequency	CE 1 2 3 4 5 6 PE MWWWWW ET P N N N N N	TY	: Log-Pwr	Avg Tyj	ig: Free Run	9	DOOD GHz PNO: Fast	4120	q 2.	Fre	ter
Auto Tur	85 GHz	2.405	Mkr2	_	tten: 30 dB		IFGain:Lov			-	
	02 dBm	-0.		-	. 1	_	Sm	0.00 c	tef 2		B/div
Center Fre	0.61 dBm			3	www.jwww	▲ 2		-		_	
2.412000000 GH	olor dom			DAN'S		10	and the second s				
Start Fre		_		2		-	J.	_			-
2.387000000 GH	1	Mary	Al John will				mant	any sha	-	-	1
	monthere	3							AL PAR	non,	-
Stop Fre		_				-		-		_	-
2.437000000 GH								- 1			1.1
CF Ste 5.000000 MH	0.00 MHz 1001 pts)	Span 5 .00 ms (Sweep 1		MHz	BW 1	#V		200 10 ki		
Auto Ma	ON VALUE	FUNCTI	NCTION WIDTH	NCTION F	Y 6.61 dBm		× 2.411 50 GHz		sel f	TRC	MODE
					0.02 dBm 0.18 dBm		2.405 85 GHz 2.418 15 GHz		f (/	1	N
Freq Offs 0 H						(4)	2.410 13 3112	,			
×											
			-							-	
		_			-		_				
			STATUS					mplete	ent C	anm	

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	12300	>500	Pass

Figure Channel 6:

RL	RF 50 Ω AC		SENSE:INT		ALIGN AUTO	09:54:02 AM Dec 20, 2012	
enter Fred	2.43700000	PNO: Fast G	Trig: Free Run #Atten: 30 dB	Avg Typ	e: Log-Pwr	TRACE 1 2 3 4 5 6 TYPE MWAAAAAA DET P N N N N N	
	ef 20.00 dBm	IFGain:Low	#Atten: 30 dB		Mkr	2 2.430 85 GHz -0.89 dBm	Auto Tum
- 0g 10.0 0.00 		- Andrew	2 1 manual manual	min A3		-0,38 dBm	Center Free 2.437000000 GH
20.0	mangunan	w A		Y	M. rosaw	Wing w	Start Free 2.412000000 GH
50.0 60.0 70.0						100 martin	Stop Fre 2.462000000 GH
Center 2.437 #Res BW 300) kHz	#VB\	V 1.0 MHz			Span 50.00 MHz 1.00 ms (1001 pts)	CF Ste 5.000000 MH
MKB MODE TRC S	2.4	136 50 GHz	5.62 dBm	FUNCTION	INCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
3 N 1 1 4 5	(Δ) 2.4 (Δ) 2.4	130 85 GHz (Δ 143 15 GHz (Δ	-0.89 dBm -0.82 dBm				Freq Offse 0 H
7 8 9 10 11							
2 N 1 1 3 N 1 1 4 5 6 7 8 9 9	(Δ) 2.4	130 85 GHz (A	-0.89 dBm				Freq O

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	12300	>500	Pass

Figure Channel 11:

er Freg 2.462000000 GH	SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr	10:03:06 AM Dec 20, 2012 TRACE 1 2 3 4 5 6	Frequency
PNC	D: Fast Trig: Free Run ain:Low #Atten: 30 dB	ing type. Log I at	TYPE MWWWWW - DET P NNNNN	
div Ref 20.00 dBm	incow -	Mkr2 :	2.455 85 GHz -1.15 dBm	Auto Tun
	2 mm mm	3	-0.66 dBm	Center Fre 2.462000000 GH
monthe		The wanter	Mr	Start Fre 2.437000000 GH
			mannempe	Stop Fre 2.487000000 GH
er 2.46200 GHz BW 300 kHz	#VBW 1.0 MHz		Span 50.00 MHz 0 ms (1001 pts)	CF Ste 5.000000 Mł
DE TRE SCL X X 1 f 2.461 50	GHz 5.34 dBm	INCTION IN FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
I f (Δ) 2.455 85 I f (Δ) 2.468 15				Freq Offso 0 H
				the second se

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
TTouuci	•	002.110/g/ii 1111K whereas Lan OSD widduie
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	16400	>500	Pass

Figure Channel 1:

Frequency	10:15:13 AM Dec 20, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	ALIGNAUTO : Log-Pwr	Avg Typ	sense:INT		00000 GHz PNO: Fast	50 Q 2.4120	RF eq	r Fre		R
Auto Tun	0 dB/div Ref 20.00 dBm -2.23 dBm										
Center Fre 2.412000000 GH	-1.40 ¢8m			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		2 ²	20.00				og 10.0 0.00
Start Free 2.387000000 GH	and the second s	No m				~~	10-10-144		~	-	20.0 30.0 40.0
Stop Fre 2.437000000 GH									ale a	-	50.0 50.0 70.0
CF Ste 5.000000 MH	Span 50.00 MHz 00 ms (1001 pts)	Sweep 1) MHz	BW 1	#V	0 GHz kHz		2.41 3W 3		
<u>Auto</u> Ma	FUNCTION VALUE	ICTION WIDTH	NCTION	4.60 dBm		× 2.416 15 GHz		set f	e TRC	MODE	ike 1
Freq Offse 0 H				-2.23 dBm -1.75 dBm		2.403 80 GHz 2.420 20 GHz	(Δ) (Δ)	f		N N	3456
											7 8 9
				1					1		2

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	16400	>500	Pass

Figure Channel 6:

	10:26:36 AM Dec 20, 2012 TRACE 1 2 3 4 5 6		Avg Type:	INSE:INT	SE		AC	50 Ω	RF		RL
Select Trace	TYPE MWWWWWW DET P N N N N N		UAR INAC		Trig: Fre #Atten: 3	: Fast 😱 n:Low					
Trace 1	2.428 80 GHz -5.92 dBm	Mkr2 2.4					Bm	f 20.00 di	Ref	div	dB/
					1				-		
ClearWr	-5:16 dBm		and 3	m	martin	\$ ²					
_						1	1				.0 .0 -
Trace Averag			7				Á			_	.0
	- how the man	monton	-	-			aport (Anestra			0
1.1.10	and				-				at the second	and in	0
Max Hol											.0 _
	Span 50.00 MHz	Sp		-	1.00			0 GHz	3700	r 2.43	L
Min Hol	.00 ms (1001 pts)		1	-	1.0 MHz	#VBW		kHz	001	BW 3	es
1.11.28	FUNCTION VALUE	CTION WIDTH	NCTION FUNC		Y 0.84 d	GHZ	× 2.434 90 (SOL f	DE TRC	
				Bm	-5.92 d	GHz (Δ)	2.428 80 0	(Δ) (Δ)		1	N N
View/Blook			15Å								
View/Blank View										-	-
View											

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	16400	>500	Pass

Figure Channel 11:

Frequency	10:36:01 AM Dec 20, 2012 TRACE 1 2 3 4 5 6 TYPE M WWWWWW DET P N N N N N	ALIGNAUTO : Log-Pwr	Avg Typ		SE Trig: Fre- #Atten: 3	t G	AC 0000 GHz PNO: Fast IFGain:Lov	50 Q 4620	RF q 2	Fre	_	en
Auto Tun		Mkr2 2.453 80 GHz dB/div Ref 20.00 dBm -2.60 dBm										
Center Free 2.462000000 GH	-2.14 dBm		³				∮ ²					. og 10.0 0.00
Start Free 2.437000000 GH	and rate and	Vha	7				~	~~	-	- Martin		20.0 30.0 40.0
Stop Free 2.487000000 GH											mar	50.0 50.0 70.0
CF Ste	Span 50.00 MHz .00 ms (1001 pts)	Sweep 1			1.0 MHz	/BW ·	#V	GHz Iz			ter : s B\	
Auto Ma	FUNCTION VALUE	ICTION WIDTH	TION FL	Bm	Y 3.86 d		X 2.466 20 GHz		f	TRC	MODE	ike 1
Freq Offse 0 H					-2.60 d -2.27 d		2.453 80 GHz 2.470 20 GHz		f (f (1	NN	3 4 5 6
												7 8 9 10
		TATUS							1			12 SG

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	17500	>500	Pass

Figure Channel 1:

RL	RF 50			SENSE:INT		ALIGN AUTO		Dec 20, 2012	Frequency
enter Fr	eq 2.412	000000 GHz	ast 😱	Trig: Free Run	Avg Typ	e: Log-Pwr	TRACE	123456 MWWWWW PNNNNN	Trequency
		IFGain:	Low	#Atten: 30 dB		1.10	DE		The second
0 dB/div	Ref 20.00	dBm				Mkr	2 2.403 2 -3.9	25 GHz 0 dBm	Auto Tune
.og 10.0		1 at 1 at 1 at		1	1 1 1	-			0
1.00			2		and the second	3		-3.80 dBm	Center Free 2,412000000 GH
0.0		1						0.00 0.01	2.412000000001
0.0	-	1	-		-	4			01-1-F-1-
0.0	-	www.	_		-	Law war		-	2.387000000 GH
0.0	the property days	- Martin -	-		-		C-Marine	mangen	2.0070000000
0,0								-	01-1- E-1
0.0									Stop Fre 2.437000000 GH
0.0							1		
enter 2.4 Res BW	1200 GHz 300 kHz	-	#VBW	1.0 MHz		Sweep	Span 50 1.00 ms (1	0.00 MHz 001 pts)	CF Ste 5.000000 MH
IKR MODE TR		×		Y		JNCTION WIDTH	FUNCTION	VALUE	<u>Auto</u> Ma
1 N 1 2 N 1	f f (Δ)	2.407 15 GH 2.403 25 GH	Hz (Δ)	2.20 dBm -3.90 dBm				-	/ •
3 N 1 4 5	f (Δ)	2.420 75 GH	Hz (Δ)	-3.84 dBm					Freq Offse 0 H
6 7									
8	1.1.1.1								
10			_					-	
12						_			
SG						TATUS			

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	17500	>500	Pass

Figure Channel 6:

THORNWOOD	10:57:34 AM Dec 20, 2012	ALIGN AUTO		SENSE:INT			50 Q	RF	11.	L	R
Frequency	TRACE 123456 TYPE MWWWWWW DET P N N N N N	: Log-Pwr	Avg Typ	ig: Free Run tten: 30 dB	Ģ	PNO: Fast	437000	q 2.	Fre	ter	en
Auto Tun	Mkr2 2.428 25 GHz 10 dB/div Ref 20.00 dBm -3.16 dBm										
Center Fre 2.437000000 GH	-2.03 dBm		Q	مر المراجع والمراجع	~	¢2					. og 10.0 0.00
Start Fre 2.412000000 GH		Sur Congrante			-	week	enne	-	S. S		20.0 30.0 40.0
Stop Fre 2.46200000 GH					-						50.0 50.0 70.0
CF Ste 5.000000 MH	Span 50.00 MHz .00 ms (1001 pts)	Sweep 1		MHz	BW 1	#V		700 00 kl			
<u>uto</u> Ma	FUNCTION VALUE	NCTION WIDTH							TRC		
Freq Offs				3.07 dBm 3.16 dBm 3.14 dBm	(Δ) (Δ)	.432 10 GHz .428 25 GHz .445 75 GHz		f f (/ f (/	1	N N N	1 2 3
01											4 5 6
					-					_	7
					-				-		9

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11	2462	17500	>500	Pass

Figure Channel 11:

RL			RF		AC			_	SEN	ISE:INT	Aug To	ALIGNAUTO		AM Dec 20, 2012 CE 1 2 3 4 5 6	Frequency
cente	er H	-re	q	2.4620	0000	PI	IO: Fast	9	Trig: Free		Avgiy	be: Log-Pwr	TY	PE MWAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	
	Mkr2 2.453 20 GH												Auto Tune		
	div	- 1	Ref	20.00	dBm	ir	-			_			-4.	23 dBm	
10.0	-		-	_	1		2		1			-			Center Fre
0.00	_		-		-		¢2	mark	manin	anni		3		-3.45 dBm	2.462000000 GH
10.0	-	_	+				1	-				(-		
20.0 -	-					1	-					1		1	Start Fre
30.0	1	in the			mon	H. Composit	-					Jos Citra	mon when	an.	2.437000000 GH
50.0	JUN	100												and a strength of the strength	
-60.0				_									:		Stop Fre
70.0	-	_	-	_		-		-		_					2.487000000 GH
				0 GHz		-					-	- 	Span :	50.00 MHz	CF Ste
#Res	-	-		KHZ		_	#V	BW	1.0 MHz	-				(1001 pts)	5.000000 MH
MKR MO	4	1 1	f		× 2	.457 1	5 GHz		2.55 dE	3m	INCTION	UNCTION WIDTH	H FUNCT	ION VALUE	<u>Auto</u> Ma
2 N 3 N		1		(Δ) (Δ)		453 2			-4.23 dE -3.69 dE						
4		-						1.0			- 24.42				Freq Offse 0 H
6		-													
8	1													1	
10											1		-		
11 12									-			_			
ISG												TATL STATL	S		

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2422MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
3	2422	36200	>500	Pass

Figure Channel 1:

Center			2 AC 000000 GH PNC	Z): Fast 😱 in:Low	SENSE:INT Trig: Free Run #Atten: 30 dB	Avg Type	ALIGNAUTO : Log-Pwr	TRACE	1 2 3 4 5 6 MWWWWW P N N N N N	Frequency
l0 dB/di	9 GHz 3 dBm	Auto Tune								
10,0 0,00		lef 20.00		∮ ²	1		3		-3.79 dBm	Center Free 2.422000000 GH
20.0	والمسارك	rendrot setons					harrow	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Sugar attent total and	Start Fre 2.372000000 GH
50.0 60.0 70.0										Stop Fre 2.472000000 GH
Center #Res B		200 GHz) MHz		#VBW	3.0 MHz	1	Sweep	Span 10 1.00 ms (1	00.0 MHz 001 pts)	CF Ste 10.000000 MH
MKR MODE	1	f f (Δ)	× 2.412.2	GHz GHz (Δ)	2.21 dBm -4.03 dBm	FUNCTION FU	NCTION WIDTH	FUNCTIO	N VALUE	<u>Auto</u> Ma
3 N 4 5 6		f (Δ)	2.440 1	GHz (Δ)	-4.22 dBm					Freq Offse 0 H
7 8 9 10 11										
				į.			The STATUS		-	

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6	2437	36200	>500	Pass

Contor I		AC	SENSE:INT	ALIGNAUTO	12:20:45 PM Dec 20, 2012	Frequency
Serier 1	req 2.4370	00000 GHz PN0: Fast C	Trig: Free Run	Avg Type: Log-Pwr	TRACE 1 2 3 4 5 6	Frequency
		IFGain:Low	#Atten: 30 dB		DET P N N N N	10.20
0 dB/div	Ref 20.00 c	lBm		Mk	r2 2.418 9 GHz -4.11 dBm	Auto Tune
10.0		· · · · · ·	1			Cantor Fra
0.00		▲2	Q"			Center Fre
10.0		1		- V	-3.85 dBm	2.437000000 GH:
20.0						
30.0		1		1		Start Fre
10.0	water to start	where	1	Market and	many any and and and and and	2.387000000 GH
	-Andread allow the and				A show and a show a	· · · · · · · · · · · · · · · · · · ·
50.0					·	Oton Ere
60.0	1					Stop Fre 2,487000000 GH
70.0						2.48700000 GH
Center 2	.43700 GHz				Span 100.0 MHz	
Res BW	1.0 MHz	#VB	W 3.0 MHz	Sweep	1.00 ms (1001 pts)	CF Ste 10.000000 MH
MKR MODE	IRC SOL	X		UNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
1 N	1 f 1 f (Δ)	2.434 6 GHz 2.418 9 GHz (A	2.15 dBm) -4.11 dBm			1
3 N	$f(\Delta)$	2.455 1 GHz (2				Freq Offse
			and the second second			01
4						
5						
5 6 7						
5 6 7 8 9						
5 6 7 8						
						ē

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2452MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
9	2452	36200	>500	Pass

	12:30:43 PM Dec 20, 2012	ALIGN AUTO		SENSE:IN	-		50 Ω /	RF		RL
Frequency	TRACE 1 2 3 4 5 6 TYPE MWWWWWW DET P N N N N N	ype: Log-Pwr	Avg	Trig: Free Run #Atten: 30 dB	ast 😱	DOO GHZ PNO: Fas IFGain:Lo	2.452000	eq (r Fre	nte
Auto Tun	2 2.433 9 GHz	Mkr2 2.433 9 GHz 10 dB/div Ref 20.00 dBm -3.71 dBm								
	-5.71 0.011			-		n	20.00 dB	Ref	vit	dB/c
Center Free			-	1	h			_		0
2.452000000 GH	-3.54 dBm	\wedge^3			Y	●2				0
2.402000000 611		X.				1				
		<u></u>				1				
Start Free		1				1		-		
2.402000000 GH	month					and my	- Burger offer		-	5
	A Long of the sound of the							-	ton per	O brak
01										0
Stop Free										0
2.502000000 GH									-	0 -
	Span 100.0 MHz	-	-		-		GHz	5200	r 2.4	nte
CF Step 10.000000 MH	.00 ms (1001 pts)	Sweep 1		3.0 MHz	VBW	#V			BW 1	
Auto Mai	FUNCTION VALUE	FUNCTION WIDTH	FUNCTION	Y		x		SCL	DE TRC	I MOD
				2.46 dBm	lz	2.442 4 GHz		f	1	N
-				-3.71 dBm -4.34 dBm		2.433 9 GHz 2.470 1 GHz	<u>(Δ)</u> (Δ)			N
Freq Offse				1.01 0.011	1	2,410 1 0112	(im)			
1000 C C C C C C C C C C C C C C C C C C					-					
он									-	
1000 C C C C C C C C C C C C C C C C C C								1	1 1	
									-	
1000 C C C C C C C C C C C C C C C C C C										
1000 C C C C C C C C C C C C C C C C C C										

8. Power Density

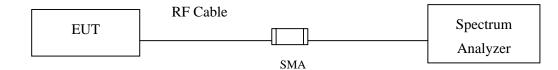
8.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2012
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2012
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2012

Note:

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.

8.2. Test Setup



8.3. Limits

The transmitted power density averaged over any 1 second interval shall not be greater +8dBm in any 3kHz bandwidth.

8.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003; tested according to DTS test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements. Set RBW= 100 kHz, VBW \geq 300KHz, SPAN to 5-30 % greater than the EBW, Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log (3 kHz/100 kHz = -15.2 dB).

8.5. Uncertainty

 \pm 1.27 dB

8.6. Test Result of Power Density

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-11.627	< 8dBm	Pass

			8		A	
_		T organizações		ī		gilent Spectrum An
Frequency	09:48:25 AM Dec 20, 2012 TRACE 1 2 3 4 5 6	ALIGNAUTO Avg Type: Log-Pwr	SENSEJINT	CH4	50 Ω AC 2.412000000	RL RF
Auto Tur	2.412 98 GHz -11.627 dBm	Avg Hold>100/100	^J Trig: Free Run #Atten: 30 dB	PNO: Fast 😱 IFGain:Low	Offset -15.2 dB	Ref 0 dB/div Ref
Center Fre 2.412000000 GH						og 5.20
Start Fre 2.402000000 GH	M.	Many		- Andread	m	25.2
Stop Fre 2.422000000 G	- V					45.2
CF Ste 2.000000 M Auto M						6.2
Freq Offs 0						/5.2
	Span 20.00 MHz				0 GH7	enter 2.4120
	.93 ms (1001 pts)	Sweep 1	300 kHz	#VBW		Res BW 100
		To STATUS				sg

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Power Density Data
Test Site	:	No.3OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2437MHz)

Channel No.	Frequency (MHz)	1 5		Result
6	2437	-11.421	< 8dBm	Pass

A RL RF 50Ω AC		SENSE:INT		ALIGNAUTO	09:58:20 A	M Dec 20, 2012	
Center Freq 2.4370000	00 GHz	- in an internet	Avg Type: Avg Hold>		TRAC	E123456	Frequency
Ref Offset -15.2 d 0 dB/div Ref 4.80 dBm	PNO: Fast 🗣 IFGain:Low B	#Atten: 30 dB			2.437	98 GHz 21 dBm	Auto Tun
5.20		1					Center Fre 2.437000000 G⊦
25.2 AM	min	m		~\/	- Maria		Start Fre 2.427000000 GF
35.2 45.2						N	Stop Fre 2.447000000 GH
36.2							CF Ste 2.000000 Mi <u>Auto</u> Mi
76.2							Freq Offs 0 I
85.2 Center 2.43700 GHz Res BW 100 kHz	#\/B\A	300 kHz		Sween 1		0.00 MHz 1001 pts)	
sg JAlignment Completed	# V D V V	000 1112		Sweep 1	ina (iou proj	

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462	-11.548	< 8dBm	Pass

Agilent Spectrum Analyzer	- Swept SA				
RL RF	50 Q AC	SENSE:INT	ALIGNAUTO	10:08:28 AM Dec 20, 2012	Frequency
Center Freq 2.4	62000000 GHz PNO: Fast IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P N N N N N	the second second
Ref Offs 10 dB/div Ref 4.8	et -15.2 dB		Mkr	1 2.459 98 GHz -11.548 dBm	Auto Tun
-5.20		1			Center Fre 2.462000000 GH
-15.2 -25.2	Man		Many	han	Start Fre 2.452000000 GH
45.2				X	Stop Fre 2.472000000 GH
65.2					CF Ste 2.000000 MH Auto Ma
75.2					Freq Offso 0 H
-85.2 Center 2.46200 Gi				Span 20.00 MHz	
#Res BW 100 kHz	#V	BW 300 kHz	Sweep	1.93 ms (1001 pts)	

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-16.980	< 8dBm	Pass

Agilent Spectrum Analyzer - Swept SA				
RL RF 50Ω AC	SENSE:INT	ALIGNAUTO	10:20:39 AM Dec 20, 2012	Frequency
Center Freq 2.412000000 GHz PNO: Fast	Trig: Free Run	Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 123456 TYPE MWWWWWW	riequency
IFGain:Low Ref Offset -15.2 dB 10 dB/div Ref 4.80 dBm	#Atten: 30 dB		DET ^{P NNNNN} I 2.416 14 GHz -16.980 dBm	Auto Tur
520				Center Fre 2.412000000 GH
15.2 	and Maria	un many	www.	Start Fre 2.402000000 GH
15.2 A			- North Andrew Contraction of the second sec	Stop Fre 2.422000000 GI
5.2			1	CF Ste 2.000000 M <u>Auto</u> M
5.2				Freq Offs 0
86.2			-	
Center 2.41200 GHz Res BW 100 kHz #VBW	/ 300 kHz	Sweep '	Span 20.00 MHz I.93 ms (1001 pts)	
ASG	and a set	STATUS	and the second second	1

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Power Density Data
Test Site	:	No.3OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	-20.447	< 8dBm	Pass

Agilent Spectrum Analyzer - Swept SA				
A RL RF 50Ω AC	SENSE:INT	ALIGNAUTO	10:30:54 AM Dec 20, 2012	Por a company
Center Freq 2.437000000 GHz PNO: Fast G	Trig: Free Run	Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 123456 TYPE MWWAAAAA	Frequency
IFGain:Low Ref Offset -15.2 dB 10 dB/div Ref 4.80 dBm	#Atten: 30 dB		DET P NNNN 2.441 14 GHz -20.447 dBm	Auto Tun
5.20				Center Fre 2.437000000 GH
15.2 25.2 por man marine marine	monthouse	1-	mm	Start Fre 2.427000000 GH
45.2			- Lunda	Stop Fre 2.447000000 GH
56.2 56.2				CF Ste 2.000000 MH <u>Auto</u> Ma
75.2				Freq Offs 0 F
85.2				
Center 2.43700 GHz Res BW 100 kHz #VB\	N 300 kHz	Sween '	Span 20.00 MHz I.93 ms (1001 pts)	
	1 444 000	Chistatus	the me (nee (pts)	

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11	2462	-17.094	< 8dBm	Pass

				0			
			-				Agilent Spectrum A
Frequency	10:41:22 AM Dec 20, 2012 TRACE 1 2 3 4 5 6	ALIGNAUTO E: Log-Pwr	6	SENSEIINT			RL R
1.13.1.1.1	TYPE MWWWWWW DET P N N N N N		Avg Type Avg Hold	Trig: Free Run #Atten: 30 dB	PNO: Fast IFGain:Low	2.462000000	Center Freq
Auto Tun	2.457 40 GHz -17.094 dBm	Mkr1				f Offset -15.2 dB f 4.80 dBm	
Center Fre 2.462000000 GH							5.20
2.40200000 Gr					1		15.2
Start Fre 2.452000000 GH	rowing	mound	annow	man Warm	non-american	www.	
	1				1.44		35.2
Stop Fre 2.472000000 GH	m		1				45.2
CF Ste						12.1	55.2
2.000000 MH <u>Auto</u> Ma						-	65.2
Freq Offs					1		75.2
01						1.	85.2
	Span 20.00 MHz .93 ms (1001 pts)	Sweep 1		300 kHz	#VBW		Center 2.4620 #Res BW 100
		STATUS					ASG

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-17.948	< 8dBm	Pass

RL	RF 50 Ω AC		SENSE(INT	ALIGN		AM Dec 20, 2012	E Contractor
enter F	req 2.41200000) GHz] Trig: Free Run	Avg Type: Log- Avg Hold:>100/	-Pwr TR	ACE 123456 YPE MWWWWWW	Frequency
0 dB/div	Ref Offset -15.2 dB Ref 4.80 dBm	PNO: Fast 🦕 IFGain:Low	#Atten: 30 dB		Mkr1 2.40	DET P NNNNN	and Blue
5.20					1		Center Fre 2.412000000 GH
5.2 <u> </u>	mannan	1 www.www.	runner	Mannahaman	www.wwwww	more	Start Fre 2.402000000 GH
5.2 J						- h	Stop Fre 2.422000000 GH
5.2							CF Ste 2.000000 MH Auto Ma
/5.2							Freq Offs 0 F
85.2							
enter 2.4 Res BW	41200 GHz 100 kHz	#VBW	300 kHz	Swe	Span ep 1.93 ms	20.00 MHz (1001 pts)	
sg				Ú.	STATUS		

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Power Density Data
Test Site	:	No.3OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	-17.348	< 8dBm	Pass

Agilent Spectrum Analyzer	- Swept SA 50 Ω AC	SENSE(INT	ALIGNAUTO	11:01:52 AM Dec 20, 2012	
Center Freq 2.43			Avg Type: Log-Pwr	TRACE 123456	Frequency
Ref Offse 10 dB/div Ref 4.80	PNO: Fast G IFGain:Low et -15.2 dB 0 dBm	Trig: Free Run #Atten: 30 dB	AvgjHold≫100/100 Mkr′	TYPE MWWWWW DET P NNNN I 2.434 12 GHz -17.348 dBm	Auto Tun
-5.20					Center Fre 2.437000000 GH
-15.2 -25.2	mannon	www.www.	an when	Mary I	Start Fre 2.427000000 GH
-35.2 d -45.2 m ²				- Vor	Stop Fre 2.447000000 GH
65.2					CF Ste 2.000000 MH <u>Auto</u> Ma
.75.2					Freq Offso 0 H
-85.2 Center 2.43700 GH	Iz			Span 20.00 MHz	
#Res BW 100 kHz		W 300 kHz	Sweep '	1.93 ms (1001 pts)	
ASG			To STATUS		

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462MHz)

Channel No.	Frequency (MHz)	1 2		Result
11	2462	-17.706	< 8dBm	Pass

RL HF 50 Ω A		SENSE:INT	A	IGNAUTO	11:31:19 AM	4 Dec 20, 2012	
Center Freg 2.462000	000 GHz	Trig: Free Run	Avg Type: L Avg Hold:>1	.og-Pwr	TRACI	123456	Frequency
Ref Offset -15.2 c 0 dB/div Ref 4.80 dBm	PNO: Fast 🖵 IFGain:Low	#Atten: 30 dB	Avginoid		2.459	12 GHz 06 dBm	Auto Tun
5.20					-		Center Fre 2.462000000 GH
15.2 25.2 North March 1	4 marshar	ranna	mm	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	www.ww	wy	Start Fre 2.452000000 GF
35.2 A						- V	Stop Fre 2.472000000 GH
56.2							CF Ste 2.000000 MH Auto Ma
75.2							Freq Offs 0 H
85.2							
Center 2.46200 GHz Res BW 100 kHz	#VBW	300 kHz	s	weep 1		0.00 MHz 1001 pts)	
sg		10 NO 10 NO 1		STATUS		10.8 M 11	

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2422MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
3	2422	-23.474	< 8dBm	Pass

RL RF 50Ω AC	00 GHz	SENSE:INT	ALIGNAUTO Avg Type: Log-Pwr Avg Hold:>100/100	12:14:08 PM Dec 20, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency
Ref Offset -15.2 d 0 dB/div Ref 4.80 dBm	PNO: Fast 🖵 IFGain:Low	#Atten: 30 dB		_{Det} P NNNN 1 2.422 00 GHz -23.474 dBm	Auto Tum
5.20				1	Center Fre 2.422000000 GH
25.2 WARNING THINK NOW HOUSE		mut murin	สมันสถานหราย สามารณณ _ี สา กรุง	alonger antor antipally the	Start Fre 2.402000000 GH
45,2		V/			Stop Fre 2.442000000 GH
55.2				<u>`````````````````````````````````````</u>	CF Ste 4.000000 MH Auto Ma
75.2					Freq Offse 0 H
86.2 Center 2.42200 GHz				Span 40.00 MHz	
Res BW 100 kHz	#VBW	300 kHz	Sweep	3.87 ms (1001 pts)	

:	802.11b/g/n 1T1R Wireless Lan USB Module
:	Power Density Data
:	No.3OATS
:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437MHz)
	: :

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6	2437	-22.451	< 8dBm	Pass

Agilent Spectrum Analyzer - Swept S	A				
A RL RF 50Ω A Center Freq 2.4370000	000 GHz	SENSE(INT	ALIGNAUTO Avg Type: Log-Pwr	12:25:03 PM Dec 20, 2012 TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency
Ref Offset -15.2 c 10 dB/div Ref 4.80 dBm		' Trig: Free Run #Atten: 30 dB	Avg Hold:>100/100 Mkr	DET P NNNN DET P NNNN 1 2.437 00 GHz -22.451 dBm	Auto Tune
-5.20					Center Free 2.437000000 GH
-15.2	Ϸ·ϙͻͱϳϒ·Ͷ ϲϥʹϲʹͻϥϒϥϹ϶Ϥ;ϗϷʹϧ	1	and a subsect that a sport of the state	Production and a second	Start Free 2.417000000 GH
-35.2		₩			Stop Free 2.457000000 GH
-55.2					CF Ste 4.000000 MH <u>Auto</u> Ma
-75.2					Freq Offse 0 H
.85.2					1
Center 2.43700 GHz #Res BW 100 kHz	#VBW	300 kHz	Sweep	Span 40.00 MHz 3.87 ms (1001 pts)	
ISG			To STATUS		

Product	:	802.11b/g/n 1T1R Wireless Lan USB Module
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2452MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
9	2452	-22.781	< 8dBm	Pass

RLR	F 50Ω AC		SENSE:INT		ALIGNAUTO	12:36:06 PM Dec 20, 2012	
Center Freq	2.452000000		Trig: Free Run		e: Log-Pwr I:>100/100	TRACE 123456 TYPE MWWWWWW	Frequency
	f Offset -15.2 dB f 4.80 dBm	PNO: Fast 🖵 IFGain:Low	#Atten: 30 dB	Avginoid		DET P NNNNN 2.452 00 GHz -22.781 dBm	Auto Tune
-5.20						-	Center Free 2.452000000 GH
-15.2 -25.2	เครามสาราสาราสาราสาราสาราสาราสาราสาราสาราส	alay share and a second	amorana provedupa	Man Man Maria	range of the second	and so defined to the stand	Start Free 2.432000000 GH
-45.2			V/				Stop Fre 2.472000000 GH
55.2 65.2							CF Ste 4.000000 MH <u>Auto</u> Ma
75.2							Freq Offse 0 H
85.2 Center 2.4520 #Res BW 100		#VBW	300 kHz	4	Sweep 3	Span 40.00 MHz	
#Res BW 100	kHz	#VBW	300 kHz	_	Sweep 3	3.87 ms (1001 pts)	

9. EMI Reduction Method During Compliance Testing

No modification was made during testing.