

Product Name	802.11 b/g/n module
Model No	WN4606A
FCC ID.	PPQ-WN4606A

Applicant	Lite-On Technology Corp.	
Address	4F,90,Chien 1 Road,Chung-Ho,Taipei Hsien	
	235,Taiwan,R.O.C.	

Date of Receipt	Apr. 06, 2011
Issue Date	Apr. 14, 2011
Report No.	114113R-RFUSP29V01
Report Version	V1.0

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation. This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Testing Laboratory

0914

ululul

Test Report Certification

Issue Date: Apr. 14, 2011 Report No.: 114113R-RFUSP29V01



Accredited by NIST (NVLAP) NVLAP Lab Code: 200533-0

Product Name	802.11 b/g/n module		
Applicant	Lite-On Technology Corp.		
Address	4F,90,Chien 1 Road,Chung-Ho,Taipei Hsien 235,Taiwan,R.O.C.		
Manufacturer	DONG GUAN G-COM COMPUTER CO., LTD		
Model No.	WN4606A		
FCC ID.	PPQ-WN4606A		
EUT Rated Voltage	DC 5V (Power by USB)		
EUT Test Voltage	DC 5V (Power by USB)		
Trade Name	LITE-ON		
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2010		
	ANSI C63.4: 2009		
Test Result	Complied		

The test results relate only to the samples tested.

•

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation. This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By :



(Senior Adm. Specialist / Leven Huang)

Tested By

(Engineer / Henk Huang)

Approved By



TABLE OF CONTENTS

De	Page	
1.	GENERAL INFORMATION	5
1.1.	EUT Description	
1.2.	Operational Description	
1.3.	Tested System Details.	
1.4.	Configuration of Tested System	
1.5.	EUT Exercise Software	ç
1.6.	Test Facility	10
2.	Conducted Emission	11
2.1.	Test Equipment	
2.2.	Test Setup	
2.3.	Limits	
2.4.	Test Procedure	
2.5.	Uncertainty	
2.6.	Test Result of Conducted Emission	13
3.	Peak Power Output	15
3.1.	Test Equipment	
3.2.	Test Setup	
3.3.	Limits	
3.4.	Test Procedure	
3.5.	Uncertainty	
3.6.	Test Result of Peak Power Output	16
4.	Radiated Emission	20
4.1.	Test Equipment	
4.2.	Test Setup	
4.3.	Limits	
4.4.	Test Procedure	
4.5.	Uncertainty	
4.6.	Test Result of Radiated Emission	
5.	RF antenna conducted test	40
5.1.	Test Equipment	
5.2.	Test Setup	
5.3.	Limits	
5.4.	Test Procedure	41
5.5.	Uncertainty	41
5.6.	Test Result of RF antenna conducted test	
6.	Band Edge	50
6.1.	Test Equipment	
6.2.	Test Setup	
6.3.	Limits	
6.4.	Test Procedure	
6.5.	Uncertainty	
6.6.	Test Result of Band Edge	53

7.	Occupied Bandwidth	69
7.1.	Test Equipment	69
7.2.	Test Setup	
7.3.	Limits	
7.4.	Test Procedure	
7.5.	Uncertainty	
7.6.	Test Result of Occupied Bandwidth	70
8.	Power Density	82
8.1.	Test Equipment	
8.2.	Test Setup	
8.3.	Limits	
8.4.	Test Procedure	
8.5.	Uncertainty	
8.6.	Test Result of Power Density	
9.	EMI Reduction Method During Compliance Testing	95

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	802.11 b/g/n module		
Trade Name	LITE-ON		
Model No.	WN4606A		
FCC ID.	PPQ-WN4606A		
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 Gain	Refer to the table "Antenna List"		
Channel Control	Auto		

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	LiteOn	3010000122MD	PIFA	1.98dBi for 2.4GHz

Note: The antenna of EUT is conform to FCC 15.203

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-40MHz Center Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2422 MHz	Channel 02:	2427 MHz	Channel 03:	2432 MHz	Channel 04:	2437 MHz
Channel 05:	2442 MHz	Channel 06:	2447 MHz	Channel 07:	2452 MHz		

- 1. The EUT is a 802.11 b/g/n module.
- 2. The device is applied for modular approval.
- 3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
- 4. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps \$\$\times\$ 802.11g is 6Mbps \$\$802.11n(20M-BW) is 7.2Mbps and \$\$802.11n(40M-BW) is 15Mbps)
- 5. 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.

1.2. Operational Description

The EUT is a 802.11 b/g/n module, This device provided four kinds of transmitting speed 1, 2, 5.5 and 11Mbps and the device of RF carrier is DBPSK, DQPSK and CCK (IEEE 802.11b). The device provided of eight kinds of transmitting speed 6, 9, 12, 18, 24, 36, 48 and 54Mbps the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11g).

The device provided of eight kinds of transmitting speed 7.2,14.4,21.7,28.9,43.3,57.8,65 and 72.2Mbps in 802.11n(20M-BW) mode and 15,30,45,60,90,120,135 and 150 Mbps(40M-BW) the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11n), The IEEE 802.11n is Single In, Single Out" (SISO) technology and two antennas to support 1(Transmit) * 1(Receive) SISO technology.

This 802.11 b/g/n module, compliant with IEEE 802.11b and IEEE 802.11g/n, is a high-efficiency Wireless LAN adapter. It allows your computer to connect to a wireless network and to share resources, such as files or printers without being bound to the network wires. Operation in 2.4GHz Direst Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Division Multiplexing (OFDM) radio transmission, the 802.11 b/g/n module Wired Equivalent Protection (WEP) algorithm is used. In addition, its standard compliance ensures that it can communicate with any IEEE 802.11b and IEEE 802.11g/n network.

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)

NOTE: In n-20 and n-40 mode the power combiner is used, the factor of combiner is 10dB and offset it in test instrument.

1.3. Tested System Details

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

Pro	duct	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	Notebook PC	DELL	РРТ	N/A	DoC	Non-Shielded, 0.8m
2	Monitor	Dell	2407WFPb	CN-0FC255-4663	DoC	Non-Shielded, 1.8m
				3-638-1MDS		
3	Microphone &	PCHOME	N/A	N/A	N/A	N/A
	Earphone					
4	Modem	ACEEX	DM-1414	0102027554	IFAXDM1414	Non-Shielded, 1.8m
5	Mouse	DELL	M056U0A	F0Y01YEK	DoC	Shielded, 1.8m
6	Test Fixture	LITEON	N/A	N/A	N/A	N/A

Signal Cable Type		Signal cable Description	
А	Single Cable	Non-Shielded, 0.02m	
В	VGA Cable	Shielded, 1.8m, with two ferrite cores bonded.	
С	Microphone & Earphone Cable	Non-Shielded, 1m	
D	Mouse Cable	Shielded, 1.8m	
Е	Modem Cable	Shielded, 1.5m	

1.4. Configuration of Tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4.
- (2) Execute "Athoros Radio Test.exe" on the Notebook.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) 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

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

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2010	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2010	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2010	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2010	
5	No.1 Shielded Roor	n		N/A	

Note: All instruments are calibrated every one year.

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: 2009 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	:	802.11 b/g/n 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					
0.181	9.724	44.210	53.934	-11.180	65.114
0.244	9.679	37.300	46.979	-16.335	63.314
0.302	9.650	32.590	42.240	-19.417	61.657
0.365	9.650	28.570	38.220	-21.637	59.857
1.642	9.680	20.790	30.470	-25.530	56.000
4.072	9.700	24.660	34.360	-21.640	56.000
Average					
0.181	9.724	35.090	44.814	-10.300	55.114
0.244	9.679	31.730	41.409	-11.905	53.314
0.302	9.650	25.780	35.430	-16.227	51.657
0.365	9.650	22.800	32.450	-17.407	49.857
1.642	9.680	16.260	25.940	-20.060	46.000
4.072	9.700	15.350	25.050	-20.950	46.000

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	: 802.11 b/g/n module										
Test Item	: Conducted Emission Test										
Power Line	: Line 2										
Test Mode	: Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437MHz)										
		× ×	Ĩ								
Frequency	Correct	Reading	Measurement	Margin	Limit						
	Factor	Level	Level								
MHz	dB	dBuV	dBuV	dB	dBuV						
Line 2											
Quasi-Peak											
0.181	9.732	42.620	52.352	-12.762	65.114						
0.244	9.689	36.090	45.779	-17.535	63.314						
0.298	9.660	26.500	36.160	-25.611	61.771						
0.365	9.651	27.780 37.431		-22.426	59.857						
3.650	9.700	19.870	29.570	-26.430	56.000						
10.935	9.850	22.500	32.350	-27.650	60.000						
Average											
0.181	9.732	33.150	42.882	-12.232	55.114						
0.244	9.689	30.230	39.919	-13.395	53.314						
0.298	9.660	18.170	27.830	-23.941	51.771						
0.365	9.651	21.270	30.921	-18.936	49.857						
3.650	9.700	9.640	19.340	-26.660	46.000						
10.935	9.850	20.760	30.610	-19.390	50.000						

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

QuieTer

3. Peak Power Output

3.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Х	Power Meter	Anritsu	ML2495A/6K00003357	May, 2010
Х	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2010
	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2011

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. The power combiner is used for measure 11n mode.

3.2. Test Setup

Conducted Measurement



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 Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Peak Power Output

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

Channel No. Frequency		For d	Average ifferent Da	e Power ata Rate (N	/lbps)	Peak Power	Required	Recult
Channel No	(MHz)	1	2	5.5	11	1	Limit	Result
			Measur	ement Lev	vel (dBm)			
01	2412	18.65				20.67	<30dBm	Pass
06	2437	19.05	18.75	18.56	18.22	21.06	<30dBm	Pass
11	2462	18.64				20.71	<30dBm	Pass

Product	:	802.11 b/g/n module
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

	Fraquanay		F	for diffe	Average erent Da	e Powe ata Rate	r e (Mbps	5)		Peak Power	Paguirad	
Channel No	(MHz)	6	9	12	18	24	36	48	54	6	Limit	Result
				Ν	Aeasure	ement I	level (d	lBm)				
01	2412	14.04			-					22.88	<30dBm	Pass
06	2437	16.95	16.74	16.54	16.33	16.01	15.87	15.67	15.41	24.87	<30dBm	Pass
11	2462	15.63								24.22	<30dBm	Pass

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

		Average PowerPeakFor different Data Rate (Mhra)Pawer										
Channel No	Frequency (MHz)	7.2	14.4	21.7	28.9		57.8	65	72.2	7.2	Required Limit	Result
				Ν	Aeasure	ement L	level (d	Bm)				
01	2412	13.29								22.34	<30dBm	Pass
06	2437	16.89	16.58	16.24	15.99	15.72	15.42	15.22	15.01	24.81	<30dBm	Pass
11	2462	14.65								23.86	<30dBm	Pass

Product	:	802.11 b/g/n module
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

	Fraguenov	Average PowerPeakFor different Data Rate (Mbps)Power						Peak Power	Paquirad			
Channel No	(MHz)	15	30	45	60	90	120	135	150	15	Limit	Result
				Ν	Aeasure	ement I	level (d	Bm)				
01	2422	10.78								20.35	<30dBm	Pass
04	2437	17.01	16.82	16.73	16.54	16.33	16.13	15.94	15.75	24.92	<30dBm	Pass
07	2452	11.2								20.59	<30dBm	Pass

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., 2010
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2010
	Х	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2010
	Х	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2010
	Х	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2010
	Х	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2010
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2011
	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, 2009 and tested according to DTS test procedure of Mar. 2005 KDB558074 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 C63.4:2009 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	:	802.11 b/g/n 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	3.261	37.360	40.621	-33.379	74.000
7236.000	10.650	36.230	46.880	-27.120	74.000
9648.000	13.337	36.350	49.686	-24.314	74.000
Average Detector:					
Vertical					
Peak Detector:					
4824.000	6.421	38.060	44.481	-29.519	74.000
7236.000	11.495	36.830	48.325	-25.675	74.000
9648.000	13.807	38.120	51.926	-22.074	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	: 802.11 b/g/n module							
Test Item	: Harmoni	: Harmonic Radiated Emission Data						
Test Site	: No.3 OA	: No.3 OATS						
Test Mode	: Mode 1:	Transmit (802.11	b 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	3.038	38.340	41.377	-32.623	74.000			
7311.000	11.795	35.570	47.364	-26.636	74.000			
9748.000	12.635	37.900	50.535	-23.465	74.000			
Average Detector:								
Vertical								
Peak Detector:								
4874.000	5.812	37.280	43.091	-30.909	74.000			
7311.000	12.630	36.660	49.289	-24.711	74.000			
9748.000	13.126	37.830	50.956	-23.044	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	: 802.11 b/g/n module							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 1:	Transmit (802.11	lb 1Mbps) (2462 MH	z)				
_	~				- · ·			
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4924.000	2.858	38.240	41.097	-32.903	74.000			
7386.000	12.127	35.030	47.158	-26.842	74.000			
9848.000	12.852	36.420	49.273	-24.727	74.000			
Average Detector:								
Vertical								
Peak Detector:								
4924.000	5.521	37.540	43.060	-30.940	74.000			
7386.000	13.254	35.290	48.544	-25.456	74.000			
9848.000	13.367	36.990	50.357	-23.643	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	: 802.11 b/g/n module							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 2:	Transmit (802.11	g 6Mbps) (2412MHz	z)				
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4824.000	3.261	37.980	41.241	-32.759	74.000			
7236.000	10.650	35.660	46.310	-27.690	74.000			
9648.000	13.337	36.710	50.046	-23.954	74.000			
Average Detector:								
Vertical								
Peak Detector:								
4824.000	6.421	37.800	44.221	-29.779	74.000			
7236.000	11.495	36.170	47.665	-26.335	74.000			
9648.000	13.807	36.170	49.976	-24.024	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	: 802.11 b/g/n module								
Test Item	: Harmon	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS								
Test Mode	: Mode 2:	Transmit (802.11	lg 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	3.038	37.030	40.067	-33.933	74.000				
7311.000	11.795	34.930	46.724	-27.276	74.000				
9748.000	12.635	36.710	49.345	-24.655	74.000				
Average Detector:									
Peak Detector:									
4874.000	5.812	37.430	43.241	-30.759	74.000				
7311.000	12.630	35.570	48.199	-25.801	74.000				
9748.000	13.126	37.360	50.486	-23.514	74.000				
Average Detector: Peak Detector: 4874.000 7311.000 9748.000	5.812 12.630 13.126	37.430 35.570 37.360	43.241 48.199 50.486	-30.759 -25.801 -23.514	74.000 74.000 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	: 802.11 b/g/n module							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 2:	Transmit (802.11	g 6Mbps) (2462 MH	z)				
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4924.000	2.858	37.490	40.347	-33.653	74.000			
7386.000	12.127	35.000	47.128	-26.872	74.000			
9848.000	12.852	36.590	49.443	-24.557	74.000			
Average Detector:								
Vertical								
Peak Detector:								
4924.000	5.521	37.880	43.400	-30.600	74.000			
7386.000	13.254	35.610	48.864	-25.136	74.000			
9848.000	13.367	36.610	49.977	-24.023	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	: 802.11 b/g/n module						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 3:	Transmit (802.11	n MCS0 7.2Mbps 20	M-BW)(2412MF	Iz)		
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4824.000	3.261	37.480	40.741	-33.259	74.000		
7236.000	10.650	36.910	47.560	-26.440	74.000		
9648.000	13.337	36.200	49.536	-24.464	74.000		
Avenage Detectory							
Average Detector:							
Vertical							
Peak Detector:							
4824.000	6.421	39.520	45.941	-28.059	74.000		
7236.000	11.495	35.840	47.335	-26.665	74.000		
9648.000	13.807	36.230	50.036	-23.964	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	:	802.11 b/g/n 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	3.261	37.490	40.751	-33.249	74.000
7311.000	11.795	35.530	47.324	-26.676	74.000
9748.000	12.635	36.730	49.365	-24.635	74.000
Average Detector:					
Vertical					
Peak Detector:					
4874.000	5.812	37.170	42.981	-31.019	74.000
7311.000	12.630	35.290	47.919	-26.081	74.000
9748.000	13.126	36.180	49.306	-24.694	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.

:	802.11 b/g/n module
:	Harmonic Radiated Emission Data
:	No.3 OATS
:	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	2.858	37.460	40.317	-33.683	74.000
7386.000	12.127	34.970	47.098	-26.902	74.000
9848.000	12.852	36.700	49.553	-24.447	74.000
Average Detector:					
Vertical					
Peak Detector:					
4924.000	5.521	37.620	43.140	-30.860	74.000
7386.000	13.254	34.590	47.844	-26.156	74.000
9848.000	13.367	36.580	49.947	-24.053	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	:	802.11 b/g/n 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	3.171	37.840	41.011	-32.989	74.000
7266.000	11.162	36.120	47.282	-26.718	74.000
9688.000	12.964	36.620	49.585	-24.415	74.000
Average Detector:					
Vertical					
Peak Detector:					
4844.000	6.178	36.950	43.128	-30.872	74.000
7266.000	11.982	35.990	47.972	-26.028	74.000
9688.000	13.507	36.610	50.118	-23.882	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	: 802.11 b/g/n module						
Test Item	: Harmonic Radiated Emission Data						
Test Site	ite : No.3 OATS						
Test Mode	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	3.038	37.400	40.437	-33.563	74.000		
7311.000	11.795	35.770	47.564	-26.436	74.000		
9748.000	12.635	37.110	49.745	-24.255	74.000		
Average Detector:							
Vertical							
Peak Detector:							
4874.000	5.812	37.060	42.871	-31.129	74.000		
7311.000	12.630	35.570	48.199	-25.801	74.000		
9748.000	13.126	36.510	49.636	-24.364	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	: 802.11 b/g/n module						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 4:	Transmit (802.11	n MCS0 15Mbps 401	M-BW)(2452 MH	Iz)		
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4904.000	2.914	37.370	40.285	-33.715	74.000		
7356.000	11.995	34.780	46.774	-27.226	74.000		
9808.000	12.475	36.340	48.815	-25.185	74.000		
Average Detector:							
Vertical							
Peak Detector:							
4904.000	5.530	37.500	43.031	-30.969	74.000		
7356.000	13.005	35.930	48.934	-25.066	74.000		
9808.000	12.901	36.660	49.561	-24.439	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	: 802.11 b/g/n module						
Test Item	: General Radiated Emission Data						
Test Site	: No.3 OA	TS					
Test Mode	: Mode 1:	Transmit (802.11	b 1Mbps)(2437 MHz	2)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
41.640	-3.949	26.045	22.096	-17.904	40.000		
117.300	-9.196	42.987	33.791	-9.709	43.500		
299.660	-3.585	42.217	38.632	-7.368	46.000		
361.740	-1.549	41.330	39.781	-6.219	46.000		
542.160	3.011	38.632	41.643	-4.357	46.000		
771.080	4.215	36.348	40.563	-5.437	46.000		
Vertical							
101.780	-0.021	39.514	39.492	-4.008	43.500		
311.300	-6.856	44.391	37.535	-8.465	46.000		
528.580	-0.462	31.060	30.598	-15.402	46.000		
749.740	2.510	30.089	32.599	-13.401	46.000		
809.880	3.279	29.176	32.455	-13.545	46.000		
949.560	6.615	32.943	39.558	-6.442	46.000		

- 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	: 802.11 b/g/n module						
Test Item	: General Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 2: 7	Transmit (802.11	g 6Mbps)(2437 MHz	z)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
117.300	-9.196	40.825	31.629	-11.871	43.500		
256.980	-5.073	42.353	37.280	-8.720	46.000		
361.740	-1.549	39.716	38.167	-7.833	46.000		
474.260	0.024	37.736	37.759	-8.241	46.000		
542.160	3.011	35.966	38.977	-7.023	46.000		
767.200	4.235	31.427	35.662	-10.338	46.000		
Vertical							
115.360	-2.630	37.873	35.243	-8.257	43.500		
256.980	-7.573	43.322	35.749	-10.251	46.000		
344.280	-3.171	40.832	37.662	-8.338	46.000		
474.260	-4.556	42.053	37.496	-8.504	46.000		
542.160	-0.269	43.078	42.809	-3.191	46.000		
965.080	7.932	28.545	36.477	-17.523	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	: 802.11 b/g/n module						
Test Item	: General Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 3:	Transmit (802.11	n MCS0 7.2Mbps 20	M-BW)(2437 MI	Hz)		
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
115.360	-8.770	38.637	29.867	-13.633	43.500		
253.100	-5.387	40.378	34.991	-11.009	46.000		
365.620	-1.329	39.481	38.152	-7.848	46.000		
542.160	3.011	35.134	38.145	-7.855	46.000		
763.320	4.301	30.216	34.518	-11.482	46.000		
912.700	6.132	30.374	36.506	-9.494	46.000		
Vertical							
115.360	-2.630	36.939	34.309	-9.191	43.500		
256.980	-7.573	42.958	35.385	-10.615	46.000		
344.280	-3.171	41.504	38.334	-7.666	46.000		
474.260	-4.556	41.752	37.195	-8.805	46.000		
563.500	-5.335	38.970	33.635	-12.365	46.000		
747.800	2.166	30.679	32.845	-13.155	46.000		

- 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	: 802.11	b/g/n module			
Test Item	: Genera	Radiated Emissio	on Data		
Test Site	: No.3 O	ATS			
Test Mode	: Mode 4	: Transmit (802.11	n MCS0 15Mbps 401	M-BW)(2437 MH	łz)
			_		
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
117.300	-9.196	38.073	28.877	-14.623	43.500
237.580	-7.700	40.123	32.423	-13.577	46.000
355.920	-2.528	39.875	37.347	-8.653	46.000
542.160	3.011	35.134	38.145	-7.855	46.000
784.660	4.452	29.152	33.604	-12.396	46.000
912.700	6.132	30.374	36.506	-9.494	46.000
Vertical					
119.240	-3.541	38.222	34.681	-8.819	43.500
383.080	-2.184	35.657	33.473	-12.527	46.000
567.380	-5.426	38.859	33.433	-12.567	46.000
747.800	2.166	30.679	32.845	-13.155	46.000
829.280	2.864	30.160	33.024	-12.976	46.000
955.380	6.657	28.239	34.896	-11.104	46.000

- 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.

5. **RF** antenna conducted test

5.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2010
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2010
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2011
	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2011

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. The power combiner is used for measure 11n mode.

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 Mar. 2005 KDB558074 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	:	802.11 b/g/n module
Test Item	:	RF antenna conducted test
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

Channel 01 (2412MHz) 30-25GHz

Agilent	Spectrum /	nalyzer - Sw	ept SA								
<mark>w</mark> Star	t Frea 3	RF 50 Ω			SEI	NSE:INT	Avg Typ	ALIGNAUTO e: Log-Pwr	09:40:01 P TRAC	MApr 11, 2011	Frequency
10 dB	Vdiv R	ef 126.99	dBµV	NO: Fast 🖵 Gain:Low	d Trig: Free Atten: 30	≥Run dB		M	kr1 2.4 114.58	12 GHz 1 dBµV	Auto Tune
117 -		1									Center Freq 12.515000000 GHz
107 - 97.0 -										94.00 dBµV	Start Freq 30.000000 MHz
87.0 - 77.0 -											Stop Freq 25.00000000 GHz
67.0 - 57.0 -		4				and the	by ball a confirme of the	1 Burthanstry Anter	halver Mana	ophilor Ansarably	CF Step 2.49700000 GHz <u>Auto</u> Man
47.0 -	What have a street	Marin V Land		Manthropphysiks	for provide the later	Mapland P					Freq Offset 0 Hz
Start #Res	: 30 MHz 5 BW 100) kHz		#VBW	1.0 MHz			Sweep	Stop 2: 2.30 s (5.00 GHz 1001 pts)	





Channel 06 (2437MHz) 30-25GHz

Channel 11 (2462MHz) 30-25GHz



Product	:	802.11 b/g/n module
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

Channel 01 (2412MHz) 30-25GHz





Agilent	Spectrum	Analyzer - Sw	rept SA	100							
<mark>w</mark> Starf	t Freq	RF 50 G	AC OO MHz	NO: E ()	SEI		Avg Type	ALIGNAUTO : Log-Pwr	09:46:45 P TRAC TYP	M Apr 11, 2011 E 1 2 3 4 5 6 E M WWWMMW	Frequency
10 dB	/div	Ref 126.99	i⊧)dBµV	Gain:Low	Atten: 30	dB		М	lkr1 2.4 109.14	ĭ ^{ℙΝΝΝΝΝ} 37 GHz 5 dBμV	Auto Tune
117 -		1	°								Center Freq 12.515000000 GHz
107 - 97.0 -											Start Freq 30.000000 MHz
87.0 77.0 -				· · · · · · · · · · · · · · · · · · ·						89.15 dBµ∨	Stop Freq 25.000000000 GHz
67.0 - 57.0 -			- Bill He				مايدار مر ورود الم	man marketer and	phatel and the	Viertheorements	CF Step 2.497000000 GHz <u>Auto</u> Man
47.0 -	bet at the set of the	and below the work of		When a your further	ight affrage and an	Mappleon					Freq Offset 0 Hz
37.0 Start #Res	30 MH	lz D0 kHz		#VBW	1.0 MHz			Sweep	Stop 2: 2.30 s (1	5.00 GHz 1001 pts)	
MSG								STATUS			

Channel 06 (2437MHz) 30-25GHz

Channel 11 (2462MHz) 30-25GHz



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

Channel 01 (2412MHz) 30-25GHz







Channel 06 (2437MHz) 30-25GHz

Channel 11 (2462MHz) 30-25GHz



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

Channel 01 (2422MHz) 30-25GHz





Agilent Spectr	um Analyzer - Swept SA						
🛛 Display L	RF 50 Ω AC ine 86.64 dBµ\		SENSE:IN	⊤ Avg Typ AvglHold	ALIGNAUTO e: Log-Pwr · 14/100	09:56:50 PM Apr 11, 2011 TRACE 1 2 3 4 5 6 TYPE MWWWWW	Display
10 dB/div	Ref 116.99 dBµ	IFGain:Low	Atten: 20 dB		М	_{сет} р NNNN kr1 2.437 GHz 106.637 dBµV	Annotation►
107	• ¹						Title►
97.0						86.64 dBµ\v	Graticule <u>On</u> Off
67.0							Display Line 86.64 dBµV <u>On</u> Off
57.0		A4		- Berthan Mary	- Jostfler, site grapt	eroutered and a conversion of	
37.0	W What was the second	man and the service of the service o	Annal Phatemark				System Display▶ Settings
Start 30 N #Res BW	1Hz 100 kHz	#VBW	1.0 MHz		Sweep	Stop 25.00 GHz 2.30 s (1001 pts)	
MSG					STATUS		

Channel 04 (2437MHz) 30-25GHz

Channel 07 (2452MHz) 30-25GHz

