



Product Name	Wireless 802.11b/g/n 2T3R mini-PCI card
Model No	MS-6893
FCC ID.	I4L-MS6893

Applicant	MICRO-STAR INT'L Co., LTD.
Address	No. 69, Li-De St., Jung-He City, Taipei Hsien, Taiwan, R.O.C.

Date of Receipt	May. 29, 2008
Issue Date	June. 26, 2008
Report No.	086079R-RFUSP05V01
Version	V1.0

The test results relate only to the samples tested.

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Test Report Certification

Issue Date: June. 26, 2008 Report No.: 086079R-RFUSP05V01



Product Name	Wireless 802.11b/g/n 2T3R mini-PCI card				
Applicant	MICRO-STAR INT'L Co., LTD.				
Address	No. 69, Li-De St., Jung-He City, Taipei Hsien, Taiwan, R.O.C.				
Manufacturer	MICRO-STAR INT'L Co., LTD.				
Model No.	MS-6893				
Rated Voltage	AC 120V/60Hz				
Working Voltage	DC 3.3V				
Trade Name	MSI				
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2007				
	ANSI C63.4: 2003				
Test Result	Complied				

The test results relate only to the samples tested.

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- Attachment 1: EUT Test Photographs
- Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Wireless 802.11b/g/n 2T3R mini-PCI card		
Trade Name	MSI		
Model No.	MS-6893		
FCC ID.	I4L-MS6893		
Frequency Range	2412-2462MHz for 802.11b/g/n-20MBW, 2422-2452MHz for 802.11n-40MBW		
Number of Channels	802.11b/g/n-10MHz: 11, n-40MHz: 7		
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: 6.5-130Mbps		
Type of Modulation 802.11b:DSSS			
	DBPSK, DQPSK, CCK		
	802.11g/n:OFDM		
	BPSK, QPSK, 16QAM, 64QAM		
Antenna Interface	Dipole		
Antenna Gain	Refer to the table "Antenna List"		
Channel Control	Auto		

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	ARISTOTLE	RFA-02-C2M2	Dipole	2.87dBi for 2.4 GHz
2	ARISTOTLE	RFA-02-C2H1-06-80-CR	Dipole	2.09dBi for 2.4 GHz
3	ARISTOTLE	RFA-02-3-C5M3-B32	Dipole	3dBi for 2.4 GHz
4	ARISTOTLE	RFA-02-5-F7M3	Dipole	4.5dBi for 2.4 GHz
5	WHA YU	C942-510009-A	Dipole	2.2dBi for 2.4 GHz
6	WHA YU	C942-510032-A (SSR-74413)	Dipole	2dBi for 2.4 GHz
7	WHA YU	C942-510029-A (SSR-74254)	Dipole	3dBi for 2.4 GHz
8	WHA YU	C942-510005-A	Dipole	5dBi for 2.4 GHz
9	WANSHIH	YDW0006A1	Dipole	2dBi for 2.4 GHz
10	Joymax	IWF-144XIPAX-257	Dipole	2dBi for 2.4 GHz

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802.11b/g/n-10MHz 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 an Wireless 802.11b/g/n 2T3R mini-PCI card 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 > 802.11g is 54Mbps > 802.11n(20MBW) is 6.5Mbps and > 802.11n(40MBW) is 13Mbps)
- 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

1.2. Operational Description

The EUT is an Wireless 802.11b/g/n 2T3R mini-PCI card with 11 channels. 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 6.5,13,19.5,26,39,52,58.5 and 65Mbps in 802.11n(20MBW) mode and 13,26,39,52,78,104,117 and 130 Mbps(40MBW) the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11n).

The device adapts direct sequence spread spectrum modulation. The antenna provides diversity function to improve the receiving function.

This Wireless 802.11b/g/n 2T3R mini-PCI card, compliant with IEEE 802.11b and IEEE 802.11g, 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) radio transmission, the Wireless 802.11b/g/n 2T3R mini-PCI card 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 network.

Test Mode:	Mode 1: Transmitter (802.11b 1Mbps)
	Mode 2: Transmitter (802.11g 6Mbps)
	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)
	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)

1.3. Tested System Details

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

	Product	Manufacturer	Model No.	Serial No.	Power Cord
(1)	Notebook P.C.	ASUS	L4000L	37NP067733	Non-Shielded,1.8m

Signal Cable Type		Signal cable Description
А	N/A	N/A

1.4. Configuration of Tested System

EUT Test Fixture	Notebook P.C.

1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute "RT2880_iNIC_0.0.2.3" on the EUT.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Press "OK" to start the continuous Receiver.
- (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	

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	NVLAP Lab Code: 200533-0
Site Name:	Quietek Corporation	
Site Address:	No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,	
	Lin-Kou Shiang, Taipei,	
	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, 2008	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2008	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2008	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2008	
5	No.1 Shielded Roor	N/A			

Note: All instruments are calibrated every one year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart B 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	: Wireless 802.11b/g/n 2T3R mini-PCI card						
Test Item	: Conducted	Conducted Emission Test					
Power Line	: Line 1						
Test Mode	: Mode 1: Tra	ansmitter (802.11b	o 1Mbps) (2437MHz)				
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV	dB	dBuV		
Line 1							
Quasi-Peak							
0.197	0.670	37.020	37.690	-26.967	64.657		
0.591	0.300	27.640	27.940	-28.060	56.000		
1.513	0.330	23.100	23.430	-32.570	56.000		
2.830	0.370	24.930	25.300	-30.700	56.000		
6.060	0.470	27.600	28.070	-31.930	60.000		
14.947	1.000	41.240	42.240	-17.760	60.000		
Average							
0.197	0.670	30.940	31.610	-23.047	54.657		
0.591	0.300	25.640	25.940	-20.060	46.000		
1.513	0.330	21.450	21.780	-24.220	46.000		
2.830	0.370	23.500	23.870	-22.130	46.000		
6.060	0.470	25.980	26.450	-23.550	50.000		
14.947	1.000	37.660	38.660	-11.340	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	: Wireless 802.11b/g/n 2T3R mini-PCI card						
Test Item	: Conducted Emission Test						
Power Line	: Line 2						
Test Mode	: Mode 1: T	ransmitter (802	.11b 1Mbps) (2437M	Hz)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV	dB	dBuV		
Line 2							
Quasi-Peak							
0.263	0.300	30.250	30.550	-32.221	62.771		
0.525	0.310	31.070	31.380	-24.620	56.000		
0.990	0.320	24.580	24.900	-31.100	56.000		
2.041	0.350	24.070	24.420	-31.580	56.000		
5.666	0.430	26.430	26.860	-33.140	60.000		
15.076	0.900	40.040	40.940	-19.060	60.000		
Average							
0.263	0.300	29.830	30.130	-22.641	52.771		
0.525	0.310	29.640	29.950	-16.050	46.000		
0.990	0.320	22.570	22.890	-23.110	46.000		
2.041	0.350	21.860	22.210	-23.790	46.000		
5.666	0.430	24.080	24.510	-25.490	50.000		
15.076	0.900	33.480	34.380	-15.620	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

Product	: Wireless 802.11b/g/n 2T3R mini-PCI card						
Test Item	: Conducted Emission Test						
Power Line	Line : Line 1						
Test Mode	: Mode 2: T	ransmitter (802.	11g 6Mbps) (2437)	MHz)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV	dB	dBuV		
Line 1							
Quasi-Peak							
0.197	0.670	37.100	37.770	-26.887	64.657		
0.463	0.300	25.560	25.860	-31.197	57.057		
0.986	0.310	22.190	22.500	-33.500	56.000		
3.490	0.380	26.950	27.330	-28.670	56.000		
6.259	0.470	26.650	27.120	-32.880	60.000		
15.806	1.020	38.890	39.910	-20.090	60.000		
Average							
0.197	0.670	30.690	31.360	-23.297	54.657		
0.463	0.300	23.650	23.950	-23.107	47.057		
0.986	0.310	20.520	20.830	-25.170	46.000		
3.490	0.380	24.250	24.630	-21.370	46.000		
6.259	0.470	24.360	24.830	-25.170	50.000		
15.806	1.020	34.650	35.670	-14.330	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

Product	: Wireless 802.11b/g/n 2T3R mini-PCI card						
Test Item	: Conducted Emission Test						
Power Line	e : Line 2						
Test Mode	: Mode 2:	Transmitter (802	.11g 6Mbps) (2437)	MHz)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV	dB	dBuV		
Line 2							
Quasi-Peak							
0.201	0.300	35.400	35.700	-28.843	64.543		
0.591	0.310	30.660	30.970	-25.030	56.000		
1.052	0.320	24.490	24.810	-31.190	56.000		
1.974	0.350	22.790	23.140	-32.860	56.000		
5.728	0.430	26.880	27.310	-32.690	60.000		
14.880	0.890	40.960	41.850	-18.150	60.000		
Average							
0.201	0.300	25.680	25.980	-28.563	54.543		
0.591	0.310	22.850	23.160	-22.840	46.000		
1.052	0.320	23.260	23.580	-22.420	46.000		
1.974	0.350	20.780	21.130	-24.870	46.000		
5.728	0.430	23.880	24.310	-25.690	50.000		
14.880	0.890	36.210	37.100	-12.900	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

Product	: Wireless 802.11b/g/n 2T3R mini-PCI card							
Test Item	: Conducted	Conducted Emission Test						
Power Line	: Line 1	: Line 1						
Test Mode	: Mode 3: Tr	ansmitter (802.11r	n MCS0 6.5Mbps 20N	/IBW) (2437MI	Hz)			
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV	dB	dBuV			
Line 1								
Quasi-Peak								
0.193	0.698	31.740	32.438	-32.333	64.771			
0.525	0.300	26.350	26.650	-29.350	56.000			
0.658	0.310	24.900	25.210	-30.790	56.000			
1.318	0.320	22.320	22.640	-33.360	56.000			
6.255	0.470	27.380	27.850	-32.150	60.000			
15.017	1.000	40.960	41.960	-18.040	60.000			
Average								
0.193	0.698	25.310	26.008	-28.763	54.771			
0.525	0.300	19.000	19.300	-26.700	46.000			
0.658	0.310	18.570	18.880	-27.120	46.000			
1.318	0.320	20.830	21.150	-24.850	46.000			
6.255	0.470	24.940	25.410	-24.590	50.000			
15.017	1.000	37.520	38.520	-11.480	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

Product	: Wireless 802.11b/g/n 2T3R mini-PCI card					
Test Item	: Conducted Emission Test					
Power Line	: Line 2					
Test Mode	: Mode 3:	Transmitter (802	.11n MCS0 6.5Mbps	20MBW) (2437	7MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV	dB	dBuV	
Line 2						
Quasi-Peak						
0.197	0.300	38.280	38.580	-26.077	64.657	
0.463	0.310	27.970	28.280	-28.777	57.057	
0.986	0.320	24.860	25.180	-30.820	56.000	
2.041	0.350	23.080	23.430	-32.570	56.000	
5.529	0.422	25.290	25.712	-34.288	60.000	
15.279	0.900	40.810	41.710	-18.290	60.000	
Average						
0.197	0.300	28.390	28.690	-25.967	54.657	
0.463	0.310	23.550	23.860	-23.197	47.057	
0.986	0.320	22.360	22.680	-23.320	46.000	
2.041	0.350	20.900	21.250	-24.750	46.000	
5.529	0.422	21.620	22.042	-27.958	50.000	
15.279	0.900	36.240	37.140	-12.860	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

Product	: Wireless 8	02.11b/g/n 2T3I	R mini-PCI card		
Test Item	: Conducted	Emission Test			
Power Line	: Line 1				
Test Mode	: Mode 4: Tr	ransmitter (802.	11n MCS8 13Mbps 4	40MBW) (2437N	MHz)
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.201	0.643	33.900	34.543	-30.000	64.543
0.396	0.300	24.760	25.060	-33.911	58.971
0.724	0.310	23.920	24.230	-31.770	56.000
1.513	0.330	22.320	22.650	-33.350	56.000
6.060	0.470	26.990	27.460	-32.540	60.000
15.412	1.010	40.300	41.310	-18.690	60.000
Average					
0.201	0.643	27.450	28.093	-26.450	54.543
0.396	0.300	21.410	21.710	-27.261	48.971
0.724	0.310	21.980	22.290	-23.710	46.000
1.513	0.330	20.640	20.970	-25.030	46.000
6.060	0.470	25.390	25.860	-24.140	50.000
15.412	1.010	35.900	36.910	-13.090	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

Product	: Wireless 802.11b/g/n 2T3R mini-PCI card					
Test Item	: Conducted Emission Test					
Power Line	: Line 2					
Test Mode	: Mode 4: '	Transmitter (802	.11n MCS8 13Mbps	40MBW) (2437	MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV	dB	dBuV	
Line 2						
Quasi-Peak						
0.197	0.300	37.990	38.290	-26.367	64.657	
0.529	0.310	29.120	29.430	-26.570	56.000	
1.119	0.325	25.170	25.495	-30.505	56.000	
2.240	0.350	22.960	23.310	-32.690	56.000	
5.466	0.420	26.920	27.340	-32.660	60.000	
14.951	0.900	40.210	41.110	-18.890	60.000	
Average						
0.197	0.300	27.910	28.210	-26.447	54.657	
0.529	0.310	24.250	24.560	-21.440	46.000	
1.119	0.325	24.430	24.755	-21.245	46.000	
2.240	0.350	20.230	20.580	-25.420	46.000	
5.466	0.420	24.700	25.120	-24.880	50.000	
14.951	0.900	37.660	38.560	-11.440	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

3. Peak Power Output

3.1. Test Equipment

The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Х	Power Meter	Anritsu	ML2495A/6K00003357	May, 2008
Х	Power Sensor	Anritsu	MA2491A/034457	May, 2008

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

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

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 Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

3.5. Uncertainty

 \pm 1.27 dB

3.6. Test Result of Peak Power Output

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 1Mbps)

Cable loss=0.5	dB	Peak Power Output							
Channel Ma			Data Rate						
Channel No.	Frequency (MHZ)	1	2	5.5	11	Required Limit			
1	2412.00	19.77				1Watt= 30 dBm			
6	2437.00	19.94	19.93	19.72	19.91	1Watt= 30 dBm			
11	2462.00	19.67				1Watt= 30 dBm			

Note: 1.Peak Power Output Value =Reading value on peak power meter + cable loss. 2. Power meter VBW up to 65MHz.

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 6Mbps)

Cable loss=0.5dB			Peak Power Output							
Channel Ma	Data Rate						Degrad Lineit			
Channel No.	Frequency (MHZ)	6	9	12	18	24	36	48	54	Required Limit
1	2412.00	22.65						-		1Watt= 30 dBm
6	2437.00	22.94	22.28	22.25	21.17	20.3	19.28	18.5	19.17	1Watt= 30 dBm
11	2462.00	22.03								1Watt= 30 dBm

Note: 1. Peak Power Output Value = Reading value on peak power meter + cable loss.

2. Power meter VBW up to 65MHz.

Product : Wireless 802.11b/g/n 2T3R mini-PCI card

Test Item : Peak Power Output Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)

Cable loss=0.5dB			Peak Power Output							
					Data Rate					
Channel No.	Frequency (MHZ)	6.5	13	19.5	26	39	52	58.5	65	Required Limit
1	2412.00	24.71								1Watt= 30 dBm
6	2437.00	24.81	24.63	24.62	24.39	23.11	22.19	22.19	20.68	1Watt= 30 dBm
11	2462.00	25.24								1Watt= 30 dBm

Note: 1. Peak Power Output Value = Reading value on peak power meter + cable loss.

2. Power meter VBW up to 65MHz.

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)

Cable loss=0.5dB			Peak Power Output							
Channel Na	Data Rate									
Channel No.	Frequency (MHZ)	13	26	39	52	78	104	117	130	Required Limit
1	2422.00	22.68							-	1Watt= 30 dBm
4	2437.00	22.85	22.8	21.29	21.37	20.24	19.52	18.07	18.51	1Watt= 30 dBm
7	2452.00	23.08								1Watt= 30 dBm

Note: 1. Peak Power Output Value =Reading value on peak power meter + cable loss. 2. Power meter VBW up to 65MHz.

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., 2007
	Х	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2007
	Х	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2007
	Х	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2007
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2008
	Х	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	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 Oct 2002 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 C63.4:2003 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 beamwidth 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	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (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	3.723	44.770	48.493	-25.507	74.000
7236.000	9.439	38.310	47.749	-26.251	74.000
9648.000	11.829	36.340	48.169	-25.831	74.000
Average					
Detector:					
Vertical					
Peak Detector:					
4824.000	3.723	51.760	55.483	-18.517	74.000
7236.000	9.439	43.560	52.999	-21.001	74.000
9648.000	11.829	36.370	48.199	-25.801	74.000
Average					
Detector:					
4824.000	3.723	47.960	51.683	-2.317	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. "*", 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	: Wireless 802.11b/g/n 2T3R mini-PCI card								
Test Item	: Harmonic Radiated Emission Data								
Test Site	: No.3 OA	: No.3 OATS							
Test Mode	: Mode 1: Transmitter (802.11b 1Mbps) (2437 MHz)								
Frequency	Correct	Reading	Measurement	Margin	Limit				
	Factor	Level	Level						
MHz	dB	dBuV	dBuV/m	dB	dBuV/m				
Horizontal									
Peak Detector:									
4874.000	3.893	42.980	46.872	-27.128	74.000				
7311.000	9.624	36.540	46.164	-27.836	74.000				
9748.000	11.805	36.370	48.176	-25.824	74.000				
Average									
Detector:									
Vertical									
Peak Detector:									
4874.000	3.893	50.760	54.652	-19.348	74.000				
7311.000	9.624	39.220	48.844	-25.156	74.000				
9748.000	11.805	36.080	47.886	-26.114	74.000				
Average									
Detector:									
4874.000	3.893	47.760	51.652	-2.348	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. "*", 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	: Wireless 802.11b/g/n 2T3R mini-PCI card							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	(Hz)							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4924.000	4.075	43.550	47.625	-26.375	74.000			
7386.000	9.812	35.050	44.862	-29.138	74.000			
9848.000	11.819	35.770	47.589	-26.411	74.000			
Average								
Detector:								
Vertical								
Peak Detector:								
4924.000	4.075	50.980	55.055	-18.945	74.000			
7386.000	9.812	36.920	46.732	-27.268	74.000			
9848.000	11.819	35.770	47.589	-26.411	74.000			
Average								
Detector:								
4924.000	4.075	47.360	51.435	-2.565	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. "*", 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	: Wireless 802.11b/g/n 2T3R mini-PCI card							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 2:	Transmitter (802	smitter (802.11g 6Mbps) (2412MHz)					
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4824.000	3.723	40.580	44.303	-29.697	74.000			
7236.000	9.439	36.820	46.259	-27.741	74.000			
9648.000	11.829	36.020	47.849	-26.151	74.000			
Average								
Detector:								
Vertical								
Peak Detector:								
4824.000	3.723	47.700	51.423	-22.577	74.000			
7236.000	9.439	42.950	52.389	-21.611	74.000			
9648.000	11.829	36.010	47.839	-26.161	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. "*", 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	: Wireless 802.11b/g/n 2T3R mini-PCI card							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	e : Mode 2: Transmitter (802.11g 6Mbps) (2437 MHz)							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4874.000	3.893	39.190	43.082	-30.918	74.000			
7311.000	9.624	36.140	45.764	-28.236	74.000			
9748.000	11.805	36.160	47.966	-26.034	74.000			
Average								
Detector:								
Vertical								
Peak Detector:								
4874.000	3.893	46.320	50.212	-23.788	74.000			
7311.000	9.624	38.790	48.414	-25.586	74.000			
9748.000	11.805	36.020	47.826	-26.174	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. "*", 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	: Wireless 802.11b/g/n 2T3R mini-PCI card							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 2:	Transmitter (802	.11g 6Mbps) (2462	MHz)				
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4924.000	4.075	38.500	42.575	-31.425	74.000			
7386.000	9.812	34.920	44.732	-29.268	74.000			
9848.000	11.819	35.920	47.739	-26.261	74.000			
Average								
Detector:								
Vertical								
Peak Detector:								
4924.000	4.075	43.570	47.645	-26.355	74.000			
7386.000	9.812	35.880	45.692	-28.308	74.000			
9848.000	11.819	35.980	47.799	-26.201	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. "*", 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	: Wireless 802.11b/g/n 2T3R mini-PCI card							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	e : Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW) (2412MHz)							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4824.000	3.723	39.060	42.783	-31.217	74.000			
7236.000	9.439	37.060	46.499	-27.501	74.000			
9648.000	11.829	36.190	48.019	-25.981	74.000			
Average								
Detector:								
Vertical								
Peak Detector:								
4824.000	3.723	45.780	49.503	-24.497	74.000			
7236.000	9.439	38.210	47.649	-26.351	74.000			
9648.000	11.829	36.060	47.889	-26.111	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. "*", 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	: Wireless 802.11b/g/n 2T3R mini-PCI card							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW) (2437 MHz)							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4874.000	3.893	38.110	42.002	-31.998	74.000			
7311.000	9.624	35.310	44.934	-29.066	74.000			
9748.000	11.805	35.920	47.726	-26.274	74.000			
Average								
Detector:								
Vertical								
Peak Detector:								
4874.000	3.893	43.690	47.582	-26.418	74.000			
7311.000	9.624	37.270	46.894	-27.106	74.000			
9748.000	11.805	36.350	48.156	-25.844	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. "*", 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 | : Wireless | 802.11b/g/n 2T3 | R mini-PCI card | | |
|-----------------------|-----------------------------------|------------------|-------------------|--------------|--------|
| Test Item | : Harmonic Radiated Emission Data | | | | |
| Test Site | : No.3 OAT | ГS | | | |
| Test Mode | : Mode 3: 7 | Fransmitter (802 | .11n MCS0 6.5Mbps | 20MBW) (2462 | 2 MHz) |
| | | | | | |
| Frequency | Correct | Reading | Measurement | Margin | Limit |
| | Factor | Level | Level | | |
| MHz | dB | dBuV | dBuV/m | dB | dBuV/m |
| Horizontal | | | | | |
| Peak Detector: | | | | | |
| 4924.000 | 4.075 | 38.960 | 43.035 | -30.965 | 74.000 |
| 7386.000 | 9.812 | 35.020 | 44.832 | -29.168 | 74.000 |
| 9848.000 | 11.819 | 36.210 | 48.029 | -25.971 | 74.000 |
| Average | | | | | |
| Detector: | | | | | |
| | | | | | |
| Vertical | | | | | |
| Peak Detector: | | | | | |
| 4924.000 | 4.075 | 43.890 | 47.965 | -26.035 | 74.000 |
| 7386.000 | 9.812 | 35.310 | 45.122 | -28.878 | 74.000 |
| 9848.000 | 11.819 | 36.020 | 47.839 | -26.161 | 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. "*", 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	: Wireless 802.11b/g/n 2T3R mini-PCI card				
Test Item	: Harmoni	: Harmonic Radiated Emission Data			
Test Site	: No.3 OA	ATS			
Test Mode	: Mode 4:	Transmitter (802	.11n MCS8 13Mbps	40MBW) (2422	2MHz)
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4844.000	3.788	37.640	41.428	-32.572	74.000
7266.000	9.517	35.840	45.357	-28.643	74.000
9688.000	11.818	36.170	47.988	-26.012	74.000
Average					
Detector:					
Vertical					
Peak Detector:					
4844.000	3.788	39.490	43.278	-30.722	74.000
7266.000	9.517	35.860	45.377	-28.623	74.000
9688.000	11.818	36.570	48.388	-25.612	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. "*", 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	: Wireless 8	802.11b/g/n 2T3	R mini-PCI card		
Test Item	: Harmonic	: Harmonic Radiated Emission Data			
Test Site	: No.3 OAT	ſS			
Test Mode	: Mode 4: 7	Transmitter (802	.11n MCS8 13Mbps 4	40MBW) (2437	' MHz)
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.893	37.720	41.612	-32.388	74.000
7311.000	9.624	35.170	44.794	-29.206	74.000
9748.000	11.805	35.880	47.686	-26.314	74.000
Average					
Detector:					
Vertical					
Peak Detector:					
4874.000	3.893	38.970	42.862	-31.138	74.000
7311.000	9.624	35.670	45.294	-28.706	74.000
9748.000	11.805	35.710	47.516	-26.484	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. "*", 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	: Wireless	802.11b/g/n 2T3	R mini-PCI card		
Test Item	: Harmonic Radiated Emission Data				
Test Site	: No.3 OA	ТS			
Test Mode	: Mode 4: '	Transmitter (802	.11n MCS8 13Mbps	40MBW) (2452	2 MHz)
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4904.000	4.002	37.000	41.002	-32.998	74.000
7386.000	9.812	35.620	45.432	-28.568	74.000
9808.000	11.795	36.420	48.215	-25.785	74.000
Average					
Detector:					
Vertical					
Peak Detector:					
4904.000	4.002	38.010	42.012	-31.988	74.000
4908.000	4.016	38.010	42.026	-31.974	74.000
7356.000	9.747	35.320	45.067	-28.933	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. "*", 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 Test Item	: Wireless 802.11b/g/n 2T3R mini-PCI card General Radiated Emission Data				
Test Site	· No 3 OATS				
Test Mode	· Mode 1	· Transmitter (802	11b 1Mbps) (2437 M	(Hz)	
1051 111040					
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
221.575	11.949	17.868	29.817	-16.183	46.000
308.875	16.021	13.023	29.044	-16.956	46.000
381.625	18.348	12.507	30.855	-15.145	46.000
502.875	21.635	10.859	32.494	-13.506	46.000
587.750	23.560	8.871	32.431	-13.569	46.000
694.450	24.932	9.111	34.043	-11.957	46.000
Vertical					
267.650	16.348	9.826	26.174	-19.826	46.000
325.850	16.521	11.970	28.491	-17.509	46.000
401.025	21.066	8.383	29.449	-16.551	46.000
522.275	22.006	8.066	30.072	-15.928	46.000
624.125	24.833	4.198	29.031	-16.969	46.000
733.250	27.220	1.400	28.620	-17.380	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. "*", 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	: Wireless 802.11b/g/n 2T3R mini-PCI card						
Test Item	: General	: General Radiated Emission Data					
Test Site	: No.3 OA	: No.3 OATS					
Test Mode	: Mode 2:	Transmitter (802.1	11g 6Mbps) (2437	/ MHz)			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
236.125	13.531	13.894	27.425	-18.575	46.000		
345.250	17.057	12.139	29.196	-16.804	46.000		
502.875	21.635	9.056	30.691	-15.309	46.000		
709.000	24.401	7.690	32.091	-13.909	46.000		
759.925	26.150	6.330	32.480	-13.520	46.000		
881.175	26.845	5.405	32.250	-13.750	46.000		
Vertical							
260.375	16.741	11.293	28.034	-17.966	46.000		
342.825	17.054	9.579	26.633	-19.367	46.000		
500.450	21.461	7.306	28.767	-17.233	46.000		
575.625	24.915	0.931	25.846	-20.154	46.000		
599.875	25.395	1.913	27.308	-18.692	46.000		
759.925	27.200	3.875	31.075	-14.925	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. "*", 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	: Wireless 802.11b/g/n 2T3R mini-PCI card					
Test Item	: General	: General Radiated Emission Data				
Test Site	: No.3 OA	ATS				
Test Mode	: Mode 3	: Transmitter (802	.11n MCS0 6.5Mbps	20MBW) (243	7 MHz)	
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
240.975	14.126	14.779	28.905	-17.095	46.000	
345.250	17.057	11.947	29.004	-16.996	46.000	
510.150	22.097	10.630	32.727	-13.273	46.000	
624.150	24.486	10.517	35.003	-10.997	46.000	
699.300	24.690	8.724	33.414	-12.586	46.000	
767.200	26.369	6.258	32.627	-13.373	46.000	
Vertical						
260.375	16.741	11.030	27.771	-18.229	46.000	
316.150	16.306	9.319	25.625	-20.375	46.000	
381.625	19.321	8.260	27.581	-18.419	46.000	
500.450	21.461	6.826	28.287	-17.713	46.000	
575.625	24.915	3.290	28.205	-17.795	46.000	
650.800	23.703	5.669	29.372	-16.628	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. "*", 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	: Wireless 802.11b/g/n 2T3R mini-PCI card				
Test Item	: General Radiated Emission Data				
Test Site	: No.3 OA	ATS			
Test Mode	: Mode 4:	Transmitter (802	.11n MCS8 13Mbps	40MBW) (2437	' MHz)
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
301.600	16.266	13.201	29.467	-16.533	46.000
345.250	17.057	13.198	30.255	-15.745	46.000
384.050	18.407	13.476	31.883	-14.117	46.000
502.875	21.635	9.631	31.266	-14.734	46.000
643.525	24.672	8.972	33.644	-12.356	46.000
759.925	26.150	6.946	33.096	-12.904	46.000
Vertical					
325.850	16.521	9.670	26.191	-19.809	46.000
384.050	19.468	9.200	28.668	-17.332	46.000
500.450	21.461	6.418	27.879	-18.121	46.000
607.150	25.327	1.309	26.636	-19.364	46.000
755.075	27.302	1.626	28.928	-17.072	46.000
866.625	26.688	3.205	29.893	-16.107	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. "*", 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.

5. **RF** antenna conducted test

5.1. Test Equipment

The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Х	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2008
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008

- 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 Oct 2002 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	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	RF antenna conducted test
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 1Mbps)



Channel 01 (2412MHz) 30-25GHz

Date: 13.JUN.2008 01:04:34



Channel 06 (2437MHz) 30-25GHz

Date: 13.JUN.2008 01:05:12



Channel 11 (2462MHz) 30-25GHz

Date: 13.JUN.2008 01:05:46

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 6Mbps)

Channel 01 (2412MHz) 30-25GHz



Date: 13.JUN.2008 01:06:21



Channel 06 (2437MHz) 30-25GHz

Date: 13.JUN.2008 01:06:55



Channel 11 (2462MHz) 30-25GHz

Date: 13.JUN.2008 01:07:31

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW) (Antenna A)

Channel 01 (2412MHz) 30-25GHz



Date: 13.JUN.2008 01:08:18



Channel 06 (2437MHz) 30-25GHz

Date: 13.JUN.2008 01:08:49



Channel 11 (2462MHz) 30-25GHz

Date: 13.JUN.2008 01:09:20

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW) (Antenna B)

Channel 01 (2412MHz) 30-25GHz



Date: 13.JUN.2008 01:38:19



Channel 06 (2437MHz) 30-25GHz

Date: 13.JUN.2008 01:38:51



Channel 11 (2462MHz) 30-25GHz

Date: 13.JUN.2008 01:39:17

Product		Wireless 802 11b/g/n 2T3R mini-PCI card
Test Item		RF Antenna Conducted Spurious
Test Site	•	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW) (Antenna A)

Channel 01 (2422MHz) 30-25GHz



Date: 13.JUN.2008 01:09:57



Channel 04 (2437MHz) 30-25GHz

Date: 13.JUN.2008 01:10:29



Channel 07 (2452MHz) 30-25GHz

Date: 13.JUN.2008 01:11:05

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	RF Antenna Conducted Spurious
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW) (Antenna B)

Channel 01 (2422MHz) 30-25GHz



Date: 13.JUN.2008 01:40:02



Channel 04 (2437MHz) 30-25GHz

Date: 13.JUN.2008 01:40:34



Channel 07 (2452MHz) 30-25GHz

Date: 13.JUN.2008 01:41:00

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	Х	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2007
	Х	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2007
	Х	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2007
	Х	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2007
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2008
	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 Oct 2002 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 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	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 1Mbps)

RF Radiated Measurement (Horizontal):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Degult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2389.700	31.128	25.718	56.846	74.00	54.00	Pass
01 (Average)	2389.700	31.128	13.460	44.588	74.00	54.00	Pass

Figure Channel 01:

Horizontal (Peak)





- 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	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 1Mbps)

RF Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Result
	(MITZ)	(ub)	(ивих)	(ubu v/III)	(ubu v/III)	(ubu v/m)	
01 (Peak)	2385.800	-6.781	60.789	54.008	74.00	54.00	Pass
01 (Average)	2385.800	-6.777	52.573	45.796	74.00	54.00	Pass

Figure Channel 01:

Vertical (Peak)



Figure Channel 01:





- 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	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 1Mbps)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2497.300	31.540	25.812	57.353	74.00	54.00	Pass
11(Average)	2497.300	31.540	13.290	44.831	74.00	54.00	Pass

Figure Channel 11:

Horizontal (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms



- 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	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 1Mbps)

RF Radiated Measurement (Vertical):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Degult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2483.800	31.504	31.071	62.575	74.00	54.00	Pass
11(Average)	2483.800	31.504	20.317	51.821	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	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 6Mbps)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Pogult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2388.300	31.122	25.627	56.749	74.00	54.00	Pass
01 (Average)	2388.300	31.122	13.602	44.724	74.00	54.00	Pass

Figure Channel 01:

Horizontal (Peak)



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	:	Wireless 802.11b/g/n 213R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 6Mbps)

RF Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Degult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2389.300	31.126	37.503	68.629	74.00	54.00	Pass
01 (Average)	2389.300	31.126	20.655	51.781	74.00	54.00	Pass

Figure Channel 01:

(Vertical) (Peak)





(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	:	Wireless 802.11b/g/n 213R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 6Mbps)

RF Radiated Measurement (Horizontal):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Docult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2504.500	31.558	25.600	57.158	74.00	54.00	Pass
11 (Average)	2504.500	31.558	13.322	44.880	74.00	54.00	Pass

Figure Channel 11:

Horizontal (Peak)



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	:	Wireless 802.11b/g/n 213R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmitter (802.11g 6Mbps)

4 4 4 /

RF Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Dagult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2483.500	31.503	38.772	70.275	74.00	54.00	Pass
11(Average)	2483.500	31.503	20.673	52.176	74.00	54.00	Pass

.....

Figure Channel 11:

Vertical (Peak)





- 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	:	Wireless 802.11b/g/n 213R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)

RF Radiated Measurement (Horizontal):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Pogult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2381.600	31.093	26.193	57.286	74.00	54.00	Pass
01 (Average)	2381.600	31.093	13.298	44.391	74.00	54.00	Pass

Figure Channel 01:

Horizontal (Peak)



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	:	Wireless 802.11b/g/n 213R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)

RF Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Dogult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2388.100	31.121	29.294	60.415	74.00	54.00	Pass
01 (Average)	2388.100	31.121	17.279	48.400	74.00	54.00	Pass

Figure Channel 01:

(Vertical) (Peak)





- 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	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
11 (Peak)	2485.100	31.507	25.267	56.775	74.00	54.00	Pass
11 (Average)	2485.100	31.507	13.297	44.805	74.00	54.00	Pass

Figure Channel 11:

Horizontal (Peak)



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	:	Wireless 802.11b/g/n 213R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)

RF Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Dogult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
11 (Peak)	2483.500	31.503	30.462	61.965	74.00	54.00	Pass
11 (Average)	2483.500	31.503	18.807	50.310	74.00	54.00	Pass

Figure Channel 11:

Vertical (Peak)





- 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	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)

RF Radiated Measurement (Horizontal):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Dogult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2383.300	31.100	25.894	56.994	74.00	54.00	Pass
01 (Average)	2383.300	31.100	13.326	44.426	74.00	54.00	Pass

Figure Channel 01:

Horizontal (Peak)



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 | : | Wireless 802.11b/g/n 213R mini-PCI card |
|-----------|---|---|
| Test Item | : | Band Edge Data |
| Test Site | : | No.3 OATS |
| Test Mode | : | Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW) |

RF Radiated Measurement (Vertical):

Channel No.	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Dogult
	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
01 (Peak)	2389.100	31.125	29.236	60.361	74.00	54.00	Pass
01 (Average)	2389.100	31.125	17.884	49.009	74.00	54.00	Pass

Figure Channel 01:

(Vertical) (Peak)





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	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
07 (Peak)	2485.500	31.509	25.526	57.035	74.00	54.00	Pass
07 (Average)	2485.500	31.509	13.266	44.775	74.00	54.00	Pass

Figure Channel 07:

Horizontal (Peak)



Figure Channel 07:

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	:	Wireless 802.11b/g/n 213R mini-PCI card
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)

RF Radiated Measurement (Vertical):

	Frequency	Correct Factor	Reading Level	Emission Level	Peak Limit	Average Limit	Degult
Channel No.	(MHz)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dBuV/m)	Result
07 (Peak)	2483.700	31.504	29.813	61.317	74.00	54.00	Pass
07 (Average)	2483.700	31.504	17.583	49.087	74.00	54.00	Pass

Figure Channel 07:

Vertical (Peak)



Figure Channel 07:

Vertical (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.

7. Occupied Bandwidth

7.1. Test Equipment

The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.				
Х	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008				
Note:	2. 1. All instruments are calibrated every one year.							

2. The test instruments marked by "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 Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Span greater than RBW.

7.5. Uncertainty

 \pm 150Hz

7.6. Test Result of Occupied Bandwidth

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 1Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1 (1Mbps)	2412.00	12470	>500	Pass

🔆 Agil	ent										Peak Search
D • 1 - 20	dDm		0	ar vc				Mkr1	2.4088	75 GHz	
Ref 20 Peak	adılı		Htten	20 0D					12.4	7 MHZ	Continuous Pk
Log											
10 dB/					1						N dB Points
				*	an an an	www	N. c				<u>–0.00 dB</u> <u>On</u> Off
				F			X				Search
	N dE	<u>}</u>									Criteria
	-6.0	0 dB		/							
	N dE	3 1	2.47	MHz							Peak Table
M1 00		N	WWW.					1°			
M1 52 S3 FC	- hot	Martine .							Manual	mon	
AA											
Center #Res B	2.412 W 100	GHz kHz		VR	W 100 I	- <hz< td=""><td>#Śwer</td><td>en 500</td><td>Span 5 ms (40</td><td>50 MHz 1 nts)</td><td>2 of 2</td></hz<>	#Śwer	en 500	Span 5 ms (40	50 MHz 1 nts)	2 of 2
										- 10.001	L

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 1Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6 (1Mbps)	2437.00	12590	>500	Pass

🔆 Agi	lent										Peak Search
Ref 20 Book	dBm		Atten	30 dB				Mkr1 <u>N dB</u>	2.4338 12.5	75 GHz 9 MHz	Continuous Pk
Log											On <u>Off</u>
10 dB/						A. 1					N dB Points -6.00 dB
				*	Am	s we we	°.€				<u>On</u> Off
	N dE						Y				Search Criteria
	-6.0	Ø dB		/			$ \rangle$				
	N dE	3 1	2.59	MHz							Peak Table∙
M1 S2 S3 FC	manne	and the second						- Aller	Maria	and the second	
ÂÂ											
Center #Res B	2.437 W 100	GHz kHz	1	VB	W 100 K	- <hz< td=""><td>#Swee</td><td>- ep 500</td><td>Span 5 ms (40</td><td>50 MHz 1 pts)</td><td>More 2 of 2</td></hz<>	#Swee	- ep 500	Span 5 ms (40	50 MHz 1 pts)	More 2 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Occupied Bandwidth Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 1Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11 (1Mbps)	2462.00	12470	>500	Pass

🔆 Agilent Peak Search Mkr1 2.458875 GHz Ref 20 dBm Atten 30 dB N dB 12.47 MHz Continuous Pk Peak 0n <u>Off</u> Log 10 N dB Points dB/ –6.00 dB Off 0n ⇒ ÷ Search Criteria Nd₿ -6.00 dB 12.47 MHz NdB Peak Table M1 S2 S3 FC w AΑ More Center 2.462 GHz Span 50 MHz 2 of 2 #Res BW 100 kHz VBW 100 kHz #Sweep 500 ms (401 pts)

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI ca	ard
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 2: Transmitter (802.11g 6Mbps)	(2412MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1 (54Mbps)	2412.00	16500	>500	Pass

🔆 Agil	lent							ML2	0.4000		Marker	
Ref 20 Peak Log	dBm		Atten	30 dB	1			MKr3	-7.63	8 dBm	Select Mar 1 2 <u>3</u>	' ker 4
10 dB/					*		*****				No	rmal
DI -8.2	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~/~	·			y	~~~~		m	D	elta
dBm											Delta (Tracking Ref <u>[</u>	Pair Ref) Delta
Center #Res B Marki	2.412 W 100 er T	GHz <u>kHz</u> race	Type	VB	W 100 X	KHZ Axis	#Swee	ep 500	Span 5 ms (40 Amplit	50 MHz 1 pts) ude	Span Span <u>Ce</u>	Pair enter
2 3		(1) (1) (1)	Freq Freq Freq		2.4073 2.4033 2.4203	750 GHz 250 GHz			-2.122 -6.196 -7.638	авт dBm dBm		Off
											M 1	l ore of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI ca	ard
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 2: Transmitter (802.11g 6Mbps)	(2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6 (54Mbps)	2437.00	16500	>500	Pass



Product	:	Wireless 802.11b/g/n 2T3R mini-PCI ca	ard
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 2: Transmitter (802.11g 6Mbps)	(2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11 (54Mbps)	2462.00	16500	>500	Pass

🔆 Ag	ilent							MLe 1	2 4572		M	arker
Ref 20 Peak Log) dBm		Atten	30 dB	1				-2.20	9 dBm	Sele <u>1</u> 2	ct Marker 2 3 4
10 dB/				\$~~	*	,	****** *					Normal
DI -8.2		and the second	han the				×	<u>∿</u>		*~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Delta
dBm											(Tr Ref	Delta Pair acking Ref) <u>Delta</u>
Center #Res E	r 2.462 3W 100	GHz kHz	Tupo	VB	W 100	kHz Axia	#Swee	ep 500	Span 5 ms (40	50 MHz 1 pts) uda	Span	Span Pair Center
1 2 3		(1) (1) (1) (1)	Freq Freq Freq		2.457; 2.453; 2.470;	375 GHz 750 GHz 250 GHz			-2.209 -6.185 -7.702	dde dBm dBm dBm		Off
												More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2412MHz) (Antenna A)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1 (6.5Mbps)	2412.00	17625	>500	Pass

🔆 Agi	lent							ML2	0 4007		Ma	rker
Ref 20 Peak Log	dBm		Atten	30 dB				мкгэ	-8.8	50 GHZ 6 dBm	Selec 1 2	tMarker <u>3</u> 4
10 dB/				2 0 1	• •	, ,,	****					Normal
DI -10.6	www		n M	/				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Marry Marry	hum		Delta
dÊm											D (Tra Ref	elta Pair cking Ref) <u>Delta</u>
Center #Res B Mark	2.412 W 100 er T	GHz <u>kHz</u> race	Type	VB	W 100 X 2 497	kHz Axis	#Swee	ep 500	Span 5 ms (40 Amplit -4.647	50 MHz 1 pts) ude	S Span	pan Pair <u>Center</u>
23		(1) (1) (1)	Freq Freq		2.407 2.403 2.420	125 GHz 750 GHz			-9.896 -8.86	dBm dBm		Off
												More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2437MHz) (Antenna A)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6 (6.5Mbps)	2437.00	17625	>500	Pass

Ref 20 dBm Atten 30 dB -5.624 dBm Peak Log 10 dB/ DI -11.6	reen /Line 2 dBm Off
10 dB/ DI -11.6	/Line 2 dBm Off
	imits∙
Center 2.437 GHz Span 50 MHz #Res BW 100 kHz VBW 100 kHz #Sweep 500 ms (401 pts) Marker Trace Type X Axis Amplitude (1) From 2 432000 GHz E 524 4Pp	Fctn ition⊦ Center
1 (1) Freq 2.432806 GHz -5.624 GBm 2 (1) Freq 2.428125 GHz -10.72 dBm 3 (1) Freq 2.445750 GHz -9.775 dBm	Title∙
Preferen	1ces+

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2462MHz) (Antenna A)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
11 (6.5Mbps)	2462.00	17750	>500	Pass

🔆 Agi	lent							ML2	0 4700		Ma	arker
Ref 20 Peak Log	dBm		Atten	30 dB				мкгэ	-11.8	34 dBm	Selec 1 2	tMarker <u>3</u> 4
10 dB/				2 0	\$,	3 A					Normal
DI -11.9			~~~~	/				man	and a street of the	and the second		Delta
dBm											(Tra Ref)elta Pair acking Ref) <u>Delta</u>
Center #Res B	2.462 3 <u>W 100</u>	2 GHz kHz	Tupo	VB	W 100	kHz Axio	#Swee	ep 500	Span 5 ms (40 Amplit	50 MHz 1 pts) uda	span (Span Pair Center
1 2 3	21	(1) (1) (1) (1)	Freq Freq Freq		2.458; 2.453; 2.470;	250 GHz 125 GHz 875 GHz			-5.846 -10.98 -11.84	dde dBm dBm dBm		Off
												More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2412MHz) (Antenna B)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1 (6.5Mbps)	2412.00	17625	>500	Pass

🔆 Agil	ent								0 4007		Mar	ker
Ref 20 Peak	dBm		Atten	30 dB				MKr3	2.4207 -5.36	50 GHZ 57 dBm	Select	Marker
Log 10 dB/				2 0			з •				1 2	<u>s</u> 4 Normal
	and a street of the state of th	AMA - Marina Marina	an 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	/				and when the	C``\ab _{n−V} ~	MMM		Delta
-7.9 dBm											De (Tracl Ref	e lta Pair king Ref) <u>Delta</u>
Center #Res B Marke	2.412 W 100 er T	GHz kHz race	Type	VB	W 100 K X	Hz Axis	#Swee	ep 500	Span 5 ms (40 Amplit	50 MHz 1 pts) ude dPm	Sp Span	oan Pair Center
23		(1) (1) (1)	Freq Freq Freq		2.4031 2.4207	125 GHz 125 GHz 750 GHz			-7.65 -5.367	dBm dBm		Off
												More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2437MHz) (Antenna B)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
6 (6.5Mbps)	2437.00	17625	>500	Pass



Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2462MHz) (Antenna B)

Channel No. Frequency		Measurement Level	Required Limit	Result
(MHz)		(kHz)	(kHz)	
11 (6.5Mbps)	2462.00	17500	>500	Pass

★ Agilent Mkr1 - 2 / 65125 GHz	Display
Ref 20 dBm Atten 30 dB -0.685 dBm Peak	Full Screen
10 dB/	Display Line -6.69 dBm <u>On</u> Off
DI	
dBm	Limits≻
Center 2.462 GHz Span 50 MHz #Res BW 100 kHz VBW 100 kHz #Sweep 500 ms (401 pts) Marker Trace Type X Axis Amplitude 0.000 kHz 0.000 kHz	Active Fctn Position Center
2 (1) Freq 2.453250 GHz -0.665 dBm 2 (1) Freq 2.453250 GHz -5.293 dBm 3 (1) Freq 2.470750 GHz -4.627 dBm	Title
	Preferences

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)	(2422MHz) (Antenna A)

Channel No.	hannel No. Frequency Measurement L (MHz) (kHz)		Required Limit (kHz)	Result
1 (13Mbps)	2422.00	36500	>500	Pass

* Agilent	Marker
Ref 20 dBm Atten 30 dB -14.83 dBm Peak Jog	Select Marker 1 2 <u>3</u> 4
10 dB/	Normal
	Delta
dBm	Delta Pair (Tracking Ref) Ref <u>Delta</u>
Center 2.422 GHz Span 100 MHz #Res BW 100 kHz VBW 100 kHz #Sweep 500 ms (401 pts) Marker Trace Type X Axis Amplitude 1 (1) Error 2 411EG GHz 0.105 dBr	Span Pair Span <u>Center</u>
2 (1) Freq 2.40375 GHz -13.63 dBm 3 (1) Freq 2.4025 GHz -14.83 dBm	Off
	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)	(2437MHz) (Antenna A)

Channel No.	nel No. Frequency Measurement Le (MHz) (kHz)		Required Limit (kHz)	Result
4 (13Mbps)	2437.00	36500	>500	Pass

🔆 Agil	lent										Ma	arker
Ref 20 Peak Log	dBm		Atten	30 dB				Mkr3	2.455 -15.0	25 GHz 1 dBm	Selec 1 2	t Marker <u>3</u> 4
10 dB/				² 0	******		3					Normal
DI -15.6	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	- mar	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	/				m	······			Delta
dBm											(Tra Ref	Jelta Pair acking Ref) <u>Delta</u>
Center #Res B Marki	2.437 W 100 er T	GHz <u>kHz</u> race	Type	VBI	W 100 X	KHZ Axis	#Swee	ep 500	Span 10 <u>ms (40</u> Ampliti)0 MHz 1 pts) ude	Span (Span Pair Center
2 3		(1) (1) (1)	Freq Freq Freq		2.42. 2.41) 2.45!	375 GHz 525 GHz			-9.637 (-13.47 (-15.01 (звт ЗВт ЗВт		Off
												More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)	(2452MHz) (Antenna A)

Channel No.	No. Frequency Measurement Level (MHz) (kHz)		Required Limit (kHz)	Result
7 (13Mbps)	2452.00	36500	>500	Pass

🔆 Ag	ilent								0.400	75 011	Ma	rker
Ref 20 Peak Log) dBm		Atten	30 dB				MKr2	2.433 -13.5	75 GHZ 3 dBm	Selec 1 <u>2</u>	tMarker 34
10 dB/				$\overset{2}{\diamond}$		·····	3					Normal
DI -15.7		num	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	/				m	·····			Delta
dBm											D (Tra Ref	elta Pair cking Ref) <u>Delta</u>
Centei #Res E	r 2.452 3W 100	: GHz kHz		٧B	W 100 K	(Hz	#Swee	؛ p 500	Span 10 ms (40	00 MHz 1 pts)	Sec. S	pan Pair
Mari 1 2 3	(er	(1) (1) (1) (1)	Type Freq Freq Freq	 	X 2.439 2.433 2.476	Axis 350 GHz 375 GHz 325 GHz			Amplit -9.68 -13.53 -14.92	ude dBm dBm dBm	Span	Off
												More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)	(2422MHz) (Antenna B)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1 (13Mbps)	2422.00	36500	>500	Pass



Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)	(2437MHz) (Antenna B)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
4 (13Mbps)	2437.00	36500	>500	Pass

🔆 Agi	ilent							MLa2	2 AEE	25 01-	1	Display
Ref 20 Peak Log) dBm		Atten	30 dB				ткгэ	-10.8	25 GH2 8 dBm		Full Scree
10 dB/				2 0	·^	\$	***** \$				<u>0n</u>	Display Lin –12.58 dB Of
DI -12.6			~~~	/				400	m	~~~~~		
dBm												Limits
Center #Res E Mark	· 2.437 3W 100 :er T	GHz <u>kHz</u> race	Type	VB	W 100 X	kHz (Axis	#Swee	ep 500	Span 10 ms (40 Amplite)0 MHz 1 pts) ude	ſ	Active Fctr Positior Cente
2 3		(1) (1) (1)	Freq Freq Freq		2.45 2.41 2.45	875 GHz 525 GHz			-11.97 -10.88	dBm dBm		Title
											Pr	eferences

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Occupied Bandwidth Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)	(2452MHz) (Antenna B)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
7 (13Mbps)	2452.00	36500	>500	Pass

🔆 Agi	ilent							ML2	0.470		M	arker
Ref 20 Peak Log) dBm		Atten	30 dB				MKr3	-10.8	25 GHZ 8 dBm	Sele	ct Marker 2 <u>3</u> 4
10 dB/				2 •		1						Normal
DI -124			₽	/				Mm~	Marin			Delta
dBm											(Tr Ref	Delta Pair acking Ref) <u>Delta</u>
Center #Res E Mark	· 2.452 3W 100 :er T	GHz <u>kHz</u> race	Туре	VB	W 100 X	kHz Axis	#Swee	ep 500	Span 10 <u>ms (40</u> Ampliti)0 MHz 1 pts) ude	Span	Span Pair Center
1 2 3		(1) (1) (1)	Freq Freq Freq		2.45 2.43 2.47	325 GHz 375 GHz 025 GHz			-6.325 (-11.86 (-10.88 (38m 38m 38m		Off
												More 1 of 2

8. **Power Density**

8.1. Test Equipment

The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Х	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008

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

2. The test instruments marked by "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 Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements. Set RBW= 3 kHz, VBW=10KHz, Sweep time=(SPAN/3KHz), detector=Peak detector

8.5. Uncertainty

 \pm 1.27 dB

8.6. Test Result of Power Density

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 1Mbps) (2412MHz)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1 (1Mbps)	2412.00	-12.49	< 8dBm	Pass



Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Power Density Data
Test Site	:	No.3OATS
Test Mode	:	Mode 1: Transmitter (802.11b 1Mbps) (2437MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6 (1Mbps)	2437.000	-12.4	< 8dBm	Pass

🔆 Agi	ilent						м	Le1 2.	121220	75 CU-	Peak Search
Ref 20 Peak Log) dBm		Atten	30 dB			M	Kri 2.4	-12.	4 dBm	Meas Tools•
10 dB/											Next Peak
	Mark	en.		L.	MM N	MWW M	AN18AM	¶} [†] aµγ		WWW	Next Pk Right
	2.43 -12	42 3 8 2.4 d	8750 Bm	6HZ'		'	(vVv		ייז	04.	Next Pk Left
M1 S2 S3 FC AA											Min Search
											Pk-Pk Search
Center #Res E	L · 2.434 3W 3 kH	GHz z		 #V{	 BW 10 k	 <hz< th=""><th>#Swe</th><th>eep 500</th><th>Span 1)s (40</th><th>.5 MHz 1 pts)</th><th>More 1 of 2</th></hz<>	#Swe	eep 500	Span 1)s (40	.5 MHz 1 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card
Test Item	:	Power Density Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmitter (802.11b 1Mbps) (2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11 (1Mbps)	2462.00	-11.4	< 8dBm	Pass

* Agilent	Peak Search
Mkr1 2.46342875 GHz Ref 20 dBm Atten 30 dB -11.4 dBm Peak	Meas Tools•
10 dB/	Next Peak
	Next Pk Right
-11.4 dBm	Next Pk Left
M1 S2 S3 FC AA	Min Search
	Pk-Pk Search
Center 2.464 GHz Span 1.5 MHz #Res BW 3 kHz #VBW 10 kHz #Sweep 500 s (401 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card				
Test Item	:	Power Density Data				
Test Site	:	No.3 OATS				
Test Mode	:	Mode 2: Transmitter (802.11g 6Mbps)	(2412MHz)			

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1 (54Mbps)	2412.00	-15.59	< 8dBm	Pass

Ref 20 dBm Atten 30 dB -15.59 dBm	
Peak Log	Meas Tools
10 dB/	Next Peak
	lext Pk Right
2.407618750 GHz	Next Pk Left
M1 \$2 \$3 FC AA	Min Search
Pk-	k-Pk Search
Center 2.407 GHz Span 1.5 MHz #Res BW 3 kHz #VBW 10 kHz #Sweep 500 s (401 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card				
Test Item	:	Power Density Data				
Test Site	:	No.3OATS				
Test Mode	:	Mode 2: Transmitter (802.11g 6Mbps)	(2437MHz)			

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6 (54Mbps)	2437.000	-15.66	< 8dBm	Pass

🔆 Agi	lent								121 6 4	00 CU-	Peak Search
Ref 20 Peak Log) dBm		Atten	30 dB				.ntri 2	-15.6	6 dBm	Meas Tools•
10 dB/											Next Peak
	‡ Mark	e	www.		m	-	NWW	WANNING.	mm	Marrow	Next Pk Right
	2.43 -15.	1647 66 d	500 Bm	ЬНZ							Next Pk Left
M1 S2 S3 FC AA											Min Search
											Pk-Pk Search
Center #Res B	└ 2.432 3W 3 kH	GHz z		 #V	 BW 10 k	 (Hz	 #S₩e	eep 500	 Span 1. 0 s (40)	.5 MHz 1 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI ca	ard
Test Item	:	Power Density Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 2: Transmitter (802.11g 6Mbps)	(2462MHz)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11 (54Mbps)	2462.00	-15.82	< 8dBm	Pass

* Agilent	Peak Search
Ref 20 dBm Atten 30 dB -15.82 dBm Peak	Meas Tools•
10 dB/	Next Peak
Märker	Next Pk Right
2.457648750 GHz	Next Pk Left
M1 S2 S3 FC AA	Min Search
	Pk-Pk Search
Center 2.457 GHz Span 1.5 MHz #Res BW 3 kHz #VBW 10 kHz #Sweep 500 s (401 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Power Density Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2412MHz) (Antenna A)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1 (6.5Mbps)	2412.00	-18.07	< 8dBm	Pass

🔆 Agil	ent								10701	21 CU-	Peak Search
Ref 20 Peak Log	dBm		Atten	30 dB				.ntri 2	-18.0	21 GHZ 17 dBm	Meas Tools•
10 dB/											Next Peak
	Mark				1 8 - m	www	www.	ww.~	·~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	MANON	Next Pk Right
	2.40 -18.	7611 07 d	250 Bm	UHZ						· · ·	Next Pk Left
M1 S2 S3 FC AA											Min Search
											Pk-Pk Search
Center #Res B	2.408 W 3 kH:	GHz z		 #V	 BW 10 k	l (Hz	#Swe	 eep 500	 Span 1 0 s (40	.5 MHz 1 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Power Density Data	
Test Site	:	No.3OATS	
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2437MHz) (Antenna A)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6 (6.5Mbps)	2437.000	-19.24	< 8dBm	Pass

🔆 Agil	ent							. 1 0	404.00	00.011	Peak Search
Ref 20 Peak Log	dBm		Atten	30 dB				ntr1 2	.43198 -19.2	00 GHZ 4 dBm	Meas Tools
10 dB/											Next Peak
	Mark	er		M. mout		Mar		m	www	m	Next Pk Right
	2.43 -19.	1981 24 d	250 Bm	GHZ"		- 70					Next Pk Left
M1 S2 S3 FC AA											Min Search
											Pk-Pk Search
Center #Res B	2.432 W 3 kH	GHz z		 #V{	 3W 10 k	Hz	#Swe	eep 500	 Span 1 0 s (40	.5 MHz 1 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Power Density Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2462MHz) (Antenna A)
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2462MHz) (Antenna A

Channel No. Frequency (MHz)		Measurement Level (dBm)	Required Limit (dBm)	Result
11 (6.5Mbps)	2462.00	-19.12	< 8dBm	Pass

Ref 20 dBm Atten 30 dB -19.1 Peak	2 dBm	Meas Tools Next Peak
		Next Peak
	make	Next Pk Right
-19.12 dBm	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Next Pk Left
M1 S2 S3 FC AA		Min Search
		Pk-Pk Search
Center 2.458 GHz Span 1 #Res BW 3 kHz #VBW 10 kHz #Sweep 500 s (40	.5 MHz 1 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Power Density Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2412MHz) (Antenna B)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1 (6.5Mbps)	2412.00	-14.5	< 8dBm	Pass

🔆 Agilent								11007		Peak Search
Ref 20 dBi Peak Log	n	Atten	30 dB				.ntri 2	-14.	5 dBm	Meas Tools
10 dB/										Next Peak
Ma	rker,		Maryan,	A. M	m.w	www.	mm	-	Y-Madya	Next Pk Right
2.	41854) 1 4. 5 d	250 Bm	ЬHZ							Next Pk Left
M1 S2 S3 FC AA										Min Search
										Pk-Pk Search
Center 2.4 #Res BW 3	 19 GHz kHz		 #V	 BW 10 k	 <hz< td=""><td>#Swe</td><td>eep 50</td><td> Span 1 0 s (40</td><td>.5 MHz 1 pts)</td><td>More 1 of 2</td></hz<>	#Swe	eep 50	 Span 1 0 s (40	.5 MHz 1 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Power Density Data	
Test Site	:	No.3OATS	
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2437MHz) (Antenna B)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
6 (6.5Mbps)	2437.000	-14.97	< 8dBm	Pass

🔆 Agil	ent								44007		Peak Search
Ref 20 Peak Log	dBm		Atten	30 dB				.ntr1 2	-14.9	56 GHZ 7 dBm	Meas Tools
10 dB/											Next Peak
	Mark	er.	~~~~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		y.m	way	Wanter	mary	angu angu angu angu angu angu angu angu	V. Wash	Next Pk Right
	2.44 -14.	3541 97 c	250 Bm	υHZ							Next Pk Left
M1 S2 S3 FC AA											Min Search
											Pk-Pk Search
Center #Res B	2.444 W 3 kH	GHz z		 #V	 BW 10	 <hz< th=""><th>#Swe</th><th> eep 500</th><th> Span 1 0 s (40</th><th>.5 MHz 1 pts)</th><th>More 1 of 2</th></hz<>	#Swe	 eep 500	 Span 1 0 s (40	.5 MHz 1 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Power Density Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 3: Transmitter (802.11n MCS0 6.5Mbps 20MBW)	(2462MHz) (Antenna B)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
11 (6.5Mbps)	2462.00	-15.41	< 8dBm	Pass

Ref 20 dBm Atten 30 dB -15.41 dBm Meas Tools Peak Image: Construction of the second sec	Peak Search	55 60-	46512	n+r1 0							lent	🔆 Agil
10 dB/ Marker Next Pea Marker Marker Next Pk Right 2.465121250 GHz Next Pk Let M1 S2 S3 FC Next Pk Let M1 S2 S3 FC Next Pk Let Min Searce Min Searce Marker Next Pk Let	Meas Tools	1 dBm	-15.4					30 dB	Atten		dBm	Ref 20 Peak Log
Marker Next Pk Right 2.465121250 GHz Next Pk Let -15.41 dBm Min Search S3 FC FC AA FC FC AA FC FC AA FC FC FC F	Next Peak											10 dB/
2.465121250 GHz Next Pk Ler -15.41 dBm Min Searce M1 S2 S3 FC AA Min Searce Image: Same state Min Searce	Next Pk Right	Vm144	mont	m my	when the	many	-	may m	<u></u>	er, ",	Mark	
M1 S2 S3 FC AA D D D D D D D D D D D D D D D D D D	Next Pk Left							ЬHZ	.250 Bm	5121 41 d	2.46 -15.	
Pk-Pk Searc	Min Search											M1 S2 S3 FC AA
Mor	Pk-Pk Search											
Center 2.465 GHz Span 1.5 MHz 1 of #Res BW 3 kHz #VBW 10 kHz #Sweep 500 s (401 pts)	More 1 of 2	.5 MHz 1 pts)	 Span 1 0 s (40	 eep 500	 #Sw	 <hz< td=""><td> BW 10 </td><td> #V </td><td></td><td>GHz z</td><td>2.465 ₩3 kH</td><td>Center #Res B</td></hz<>	 BW 10	 #V		GHz z	2.465 ₩3 kH	Center #Res B

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Power Density Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)	(2422MHz) (Antenna A)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1 (13Mbps)	2422.00	-20.95	< 8dBm	Pass

🔆 Agi	lent							n+r1 0	× 11137	30 CU-	Peak Search
Ref 20 Peak Log	dBm		Atten	30 dB					-20.9	5 dBm	Meas Tools
10 dB/											Next Peak
	Mark	er				n.		6.AL			Next Pk Right
	-2.41 -20.	1967 95 d	500 Bm	6Hz,	NV ^C	Market Market	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	er in Spel	www.www	, where the	Next Pk Left
M1 S2 S3 FC AA											Min Search
											Pk-Pk Search
Center #Res B	2.411 W 3 kH	GHz z		 #V	 BW 10 4	 <hz< td=""><td>#Swe</td><td> eep 50(</td><td> Span 1 0 s (40</td><td>.5 MHz 1 pts)</td><td>More 1 of 2</td></hz<>	#Swe	 eep 50(Span 1 0 s (40	.5 MHz 1 pts)	More 1 of 2
Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card									
-----------	---	---	-----------------------								
Test Item	:	Power Density Data									
Test Site	:	No.3OATS									
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)	(2437MHz) (Antenna A)								

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
4 (13Mbps)	2437.000	-21.38	< 8dBm	Pass

Figure Channel 4:

🔆 Agi	lent								40174		Peak Search
Ref 20 Peak Log	dBm		Atten	30 dB				ntri 2	-21.3	90 GHZ 8 dBm	Meas Tools•
10 dB/											Next Peak
	Matrk	er			andada				the and		Next Pk Right
	2.42 -21.	38 108	dBm	₩ UHZ M	Mara lask	Maria	ekalina-ili	Mary Mary	ANILANI (MM WWW	Next Pk Left
M1 S2 S3 FC AA											Min Search
											Pk-Pk Search
Center #Res B	∙2.422 3W 3 kH	GHz z		 #V{	 3W 10	 <hz< th=""><th>#Swe</th><th>eep 500</th><th>Span 1 0 s (40</th><th>.5 MHz 1 pts)</th><th>More 1 of 2</th></hz<>	#Swe	eep 500	Span 1 0 s (40	.5 MHz 1 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Power Density Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)	(2452MHz) (Antenna A)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
07 (6Mbps)	2452.00	-21.79	< 8dBm	Pass

Figure Channel 7:

🔆 Agi	lent							ner1 0	13010	QQ CU→	Peak Search
Ref 20 Peak Log	dBm		Atten	30 dB					-21.7	9 dBm	Meas Tools
10 dB/											Next Peak
	Mark	er		ė.				all an		litter o	Next Pk Right
	. ∡. 43 -21.	94 <i>()</i> 79 d	1990 Bm	이까지,	Free and the	WWW HAV	er after a		www.wyn	Mark Providence	Next Pk Left
M1 S2 S3 FC AA											Min Search
											Pk-Pk Search
Center #Res E	• 2.439 3W 3 kH	GHz z		 #V{	 3W 10 k	 <hz< th=""><th>#Swe</th><th>eep 50</th><th> Span 1 0 s (40</th><th>.5 MHz 1 pts)</th><th>More 1 of 2</th></hz<>	#Swe	eep 50	 Span 1 0 s (40	.5 MHz 1 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Power Density Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)	(2422MHz) (Antenna B)

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1 (13Mbps)	2422.00	-19.33	< 8dBm	Pass

Figure Channel 1:

🔆 Agilı	ent							`n+r1 0	12010	<u>ae cu</u> →	Peak Search
Ref 20 Peak Log	dBm		Atten	30 dB					-19.3	3 dBm	Meas Tools
10 dB/											Next Peak
	Mark	er		(Page 1	an allowing	Whateney .				norman. A	Next Pk Right
	2.42 -19.	98.37 33 d	ששפ Bm	GHZ _₩	NW 1.	- The second	Doddin	- "Vy	- Walawar	in di Ard	Next Pk Left
M1 S2 S3 FC. AA											Min Search
											Pk-Pk Search
Center #Res Bl	2.429 W 3 kH	GHz z		 #V{	 BW 10	Hz	#Swe	 eep 500	 Span 1 0 s (40	.5 MHz 1 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Power Density Data	
Test Site	:	No.3OATS	
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)	(2437MHz) (Antenna B)

Channel No.	mel No. Frequency Measureme (MHz) (dBr		Required Limit (dBm)	Result
4 (13Mbps)	2437.000	-18.99	< 8dBm	Pass

Figure Channel 4:

🔆 Agil	lent							. 1 0	44400	00.011	Peak Search
Ref 20 Peak Log	dBm		Atten	30 dB				.ntr1 2	.44483 -18.9	80 GHZ 9 dBm	Meas Tools⊧
10 dB/											Next Peak
	Mark	er	re d'àv	Ph-	anna	Manasa	North Marth		n ratifi	MM LA	Next Pk Right
	≥ .44 −18.	48 <i>31</i> 99 d	Bm	υHZ _M	ήų.× .	T. M. MIN	· · ·	~	1 VA 1 1 1		Next Pk Left
M1 S2 S3 FC AA											Min Search
											Pk-Pk Search
Center #Res B	2.445 W 3 kH	GHz z		 #V{	 3W 10	 KHz	#Swe	 eep 500	 Span 1 0 s (40	.5 MHz 1 pts)	More 1 of 2

Product	:	Wireless 802.11b/g/n 2T3R mini-PCI card	
Test Item	:	Power Density Data	
Test Site	:	No.3 OATS	
Test Mode	:	Mode 4: Transmitter (802.11n MCS8 13Mbps 40MBW)	(2452MHz) (Antenna B)

Channel No.	Frequency (MHz)	Measurement Level (dBm)	Required Limit (dBm)	Result
07 (6Mbps)	2452.00	-20	< 8dBm	Pass

Figure Channel 7:

🔆 Agi	lent								15204		Peak Search
Ref 20 Peak Log	dBm		Atten	30 dB					-2	0 dBm	Meas Tools
10 dB/											Next Peak
	Mark	er	പ്പം	18 I A CI	man			mh		No-Mitta a .:	Next Pk Right
	2.45	3253 20 d	Bm	UHZY	A.	- M. M.	Wakes 1	- Th	V ^{rama} 1	11 Y WU	Next Pk Left
M1 S2 S3 FC AA											Min Search
											Pk-Pk Search
Center #Res B	2.453 3W 3 kH	GHz z		 #V{	 3W 10	(Hz	#Sw	 eep 500	 Span 1 0 s (40	.5 MHz 1 pts)	More 1 of 2

9. EMI Reduction Method During Compliance Testing

No modification was made during testing.