

Product Name	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Model No	MS-3871
FCC ID.	I4L-MS3871

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	March 04, 2010
Issue Date	April 27, 2010
Report No.	103090R-RFUSP28V01
Report Version	V1.0

The test results relate only to the samples tested.

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

Test Report Certification

Issue Date: April 27, 2010 Report No.: 103090R-RFUSP28V01



Accredited by NIST (NVLAP)

NVLAP Lab Code: 200533-0

Product Name	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module					
Applicant	MICRO-STAR INT'L Co., LTD.					
Address	No. 69, Li-De St., Jung-He City, Taipei Hsien, 7	No. 69, Li-De St., Jung-He City, Taipei Hsien, Taiwan, R.O.C.				
Manufacturer	MICRO-STAR INT'L Co., LTD.					
Model No.	MS-3871					
EUT Rated Voltage	DC 3.3 V					
EUT Test Voltage	AC 120V/ 60Hz					
Trade Name	msi					
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2009					
	ANSI C63.4: 2003	NVLAD				
Test Result	Complied	NVLAP Lab Code: 200533-0				

The test results relate only to the samples tested.

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

Documented By :

Rita Fluang

(Senior Adm. Specialist / Rita Huang)

Tested By

uang

(Engineer / Molin Huang)

Approved By

(Manager / Vincent Lin)



Testing Laboratory 0914

TABLE OF CONTENTS

Description		Page
1.	GENERAL INFORMATION	5
1.1.	EUT Description	
1.2.	Operational Description	
13	Tested System Details	8
1.3.	Configuration of Tested System	8
1.4.	FUT Exercise Software	8
1. <i>5</i> . 1.6.	Test Facility	9
2.	Conducted Emission	
2.1.	Test Equipment	
2.2.	Test Setun	
2.3	Limits	11
2.3.	Test Procedure	11
2.4.	Uncertainty	11
2.5.	Tost Posult of Conducted Emission	
2.0.	Test Result of Conducted Emission	
3.	Peak Power Output	14
3.1.	Test Equipment	
3.2.	Test Setup	
3.3.	Limits	
3.4.	Test Procedure	
3 5	Uncertainty	14
3.6.	Test Result of Peak Power Output	
4.	Radiated Emission	
4.1.	Test Equipment	
4.2.	Test Setup	
43	Limits	21
4 4	Test Procedure	22
4 5	Uncertainty	22
4.6.	Test Result of Radiated Emission	
5.	RF antenna conducted test	
5.1.	Test Equipment	
5.2.	Test Setup	
5.3.	Limits	
54	Test Procedure	79
5 5	Uncertainty	79
5.6.	Test Result of RF antenna conducted test	
6.	Band Edge	
6.1.	Test Equipment	
6.2.	Test Setup	
63	Limits	89 89
64	Test Procedure	۵۵. ۵۵
6.5	Uncertainty	00.
6.6	Test Result of Band Edge	
0.0.	Tost Result of Dalla Lage	

QuieTer

7.	Occupied Bandwidth	107
7.1.	Test Equipment	
7.2.	Test Setup	
7.3.	Limits	
7.4.	Test Procedure	
7.5.	Uncertainty	
7.6.	Test Result of Occupied Bandwidth	
8.	Power Density	120
8.1.	Test Equipment	
8.2.	Test Setup	
8.3.	Limits	
8.4.	Test Procedure	
8.5.	Uncertainty	
8.6.	Test Result of Power Density	
9.	EMI Reduction Method During Compliance Testing	134

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Trade Name	msi
Model No.	MS-3871
FCC ID.	I4L-MS3871
Frequency Range	2412-2462MHz for 802.11b/g/n-20BW, 2422-2452MHz for 802.11n-40BW
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7
Data Speed	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 150Mbps
Type of Modulation	802.11b:DSSS (DBPSK, DQPSK, CCK)
	802.11g/n:OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Type	Printed on PCB
Antenna Gain	Refer to the table "Antenna List"
Channel Control	Auto

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	MSI	N/A	Printed on PCB	1.93dBi for 2.5GHz

Note: The antenna of EUT is conforming to FCC 15.203.

802.11b/g/n-20MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		
802.11n-40M	Hz Center Fre	equency of Ea	ch Channel:				
Channal	Engeneration	Channal	Engangenary	Channal	Engangenary	Channal	Enganger

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 WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module with a built-in 2.4GHz WLAN transceiver.
- 2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
- 3. Lowest and highest data rates are tested in each mode. Only worst case is shown in the report. (802.11b is 1Mbps \$\$\times\$ 802.11g is 6Mbps \$\$802.11n(20M-BW) is 7.2Mbps and \$\$802.11n(40M-BW) is 15Mbps)
- 4. These tests are conducted on a sample for the purpose of demonstrating compliance of 802.11b/g/n transmitter with Part 15 Subpart C Paragraph 15.247 of spread spectrum devices
- 5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
- 6. This Module has different conditions of aluminum foil when sell to OEM.
- 7. The Device is combo card have WLAN and Bluetooth function. The WLAN antenna distance form Bluetooth antenna is 6cm.

1.2. Operational Description

The EUT is an WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module with 11 channels for WLAN function. In the function of WLAN, this device provided four kinds of transmitting speed 1, 2, 5.5 and 11Mbps and the device of RF carrier is DBPSK, DQPSK and CCK (IEEE 802.11b). The device provided of eight kinds of transmitting speed 6, 9, 12, 18, 24, 36, 48 and 54Mbps the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11g).

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

This WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module, compliant with IEEE 802.11b and IEEE 802.11g/n, is a high-efficiency Wireless LAN adapter. It allows your computer to connect to a wireless network and to share resources, such as files or printers without being bound to the network wires. Operation in 2.4GHz Direst Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Division Multiplexing (OFDM) radio transmission, the WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module Wired Equivalent Protection (WEP) algorithm is used. In addition, its standard compliance ensures that it can communicate with any IEEE 802.11b and IEEE 802.11g/n network.

Test Mode: Mode 1: Transmit (802.11b 1Mbps)							
	Mode 2: Transmit (802.11g 6Mbps)						
	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)						
Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)							
Note: The Module has different conditions of aluminum foil when sell to OEM.							
In test item of radiation emission is evaluate three condition of aluminum foil.							
Three condition are list in below:							
Shielding A: EUT without aluminum foil.							
Shielding B: EUT with middle size of aluminum foil.							
Shielding C	: EUT with larger size of aluminum foil.						
Other test it	em are use shielding C.						

1.3. Tested System Details

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

Pro	oduct	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1	Notebook PC	DELL	PPT	N/A	DoC	Non-Shielded, 0.8m
2	Test Fixture	N/A	N/A	N/A	N/A	N/A

	Signal Cable Type	Signal cable Description
A	USB Cable	Non-Shielded, 1.5m
В	Signal Cable	Non-Shielded, 1.0m

1.4. Configuration of Tested System

EUT	– в –	Test Fixture (2)	—A—	Notebook PC (1)
		ð.		

1.5. EUT Exercise Software

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

1.6. Test Facility

Ambient conditions in the laboratory:

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

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site : <u>http://tw.quietek.com/tw/emc/accreditations/accreditations.htm</u> The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : <u>http://www.quietek.com/</u>

Site Description:	File on
	Federal Communications Commission
	FCC Engineering Laboratory
	7435 Oakland Mills Road
	Columbia, MD 21046
	Registration Number: 92195
	Accreditation on NVLAP

Quietek Corporation

Taiwan, R.O.C.

Lin-Kou Shiang, Taipei,

E-Mail: service@quietek.com

Accreditation on NVLAP NVLAP Lab Code: 200533-0

No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,

TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789



QAIVN
NVLAP Lab Code: 200533-0

FCC Accreditation Number: TW1014

Site Name:

Site Address:



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, 2009	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2009	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2009	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2009	
5	No.1 Shielded Roor	n		N/A	

Note: All instruments are calibrated every one year.

2.2. Test Setup



2.3. Limits

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

2.4. Test Procedure

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

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 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	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Test Item	:	Conducted Emission Test
Power Line	:	Line 1
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2437MHz)

Frequency	quency Correct Reading Measurement		Margin	Limit	
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.181	9.724	41.310	51.034	-14.080	65.114
0.240	9.680	36.410	46.090	-17.339	63.429
0.302	9.650	28.620	38.270	-23.387	61.657
0.365	9.650	23.820	33.470	-26.387	59.857
1.880	9.680	19.410	29.090	-26.910	56.000
3.943	9.700	25.610	35.310	-20.690	56.000
Average					
0.181	9.724	33.170	42.894	-12.220	55.114
0.240	9.680	27.850	37.530	-15.899	53.429
0.302	9.650	23.360	33.010	-18.647	51.657
0.365	9.650	17.180	26.830	-23.027	49.857
1.880	9.680	16.270	25.950	-20.050	46.000
3.943	9.700	16.570	26.270	-19.730	46.000

Note:

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

2. "means the worst emission level.

3. Measurement Level = Reading Level + Correct Factor

Product	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module				
Test Item	: Conducted Emission Test				
Power Line	: Line 2				
Test Mode	: Mode 4: Tr	ransmit (802.11	In MCS0 15Mbps 401	M-BW) (2437MH	[z)
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					
Quasi-Peak					
0.185	9.727	39.410	49.138	-15.862	65.000
0.240	9.690	36.410	46.100	-17.329	63.429
0.306	9.660	27.270	36.930	-24.613	61.543
0.427	9.650	17.340	26.990	-31.096	58.086
1.759	9.680	19.500	29.180	-26.820	56.000
4.005	9.700	25.340	35.040	-20.960	56.000
Average					
0.185	9.727	31.100	40.828	-14.172	55.000
0.240	9.690	27.620	37.310	-16.119	53.429
0.306	9.660	21.320	30.980	-20.563	51.543
0.427	9.650	10.400	20.050	-28.036	48.086
1.759	9.680	16.130	25.810	-20.190	46.000
4.005	9.700	16.600	26.300	-19.700	46.000

- 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, 2009
Х	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2009
Х	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2010

Note:

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

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

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

3.2. Test Setup

Conducted Measurement



3.3. Limits

The maximum peak power shall be less 1 Watt.

3.4. Test Procedure

The EUT was tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

3.5. Uncertainty

 \pm 1.27 dB

3.6. Test Result of Peak Power Output

Product	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

Channel No	Frequency	For d	Average ifferent Da	e Power ata Rate (N	Abps)	Peak Power	Required	Result
	(MHz)	1	2	5.5	11	1	Limit	
			Measur					
01	2412	14.22				16.41	<30dBm	Pass
06	2437	14.27	14.25	14.21	14.18	16.52	<30dBm	Pass
11	2462	14.12				16.27	<30dBm	Pass

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

Product	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 2: Transmit (802.11g 6Mbps)

Channel No	Frequency (MHz)	6	F 9	For diffe	Average erent Da	e Power ata Rate	r e (Mbps 36	s) 48	54	Peak Power	Required	Result
			Measurement Level (dBm)							Limit		
01	2412	13.1								21.8	<30dBm	Pass
06	2437	13.6	13.57	13.52	13.49	13.47	13.45	13.43	13.39	21.83	<30dBm	Pass
11	2462	13.25								21.41	<30dBm	Pass

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

- Product : WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
- Test Item : Peak Power Output Data
- Test Site : No.3 OATS
- Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

		1									1	
		Average Power								Peak		
Fr	Frequency		For different Data Rate (Mbps)								Required	
Channel No	(MHz)	7.2	14.4	21.7	28.9	43.3	57.8	65	72.2	7.2	Limit	Result
			Measurement Level (dBm)									
01	2412	12.8								21.03	<30dBm	Pass
06	2437	12.85	12.83	12.81	12.78	12.75	12.74	12.72	12.7	21.13	<30dBm	Pass
11	2462	12.35								20.74	<30dBm	Pass

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

Product	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Test Item	:	Peak Power Output Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)

E.	7		Average Power For different Data Rate (Mbps)								Pequirad	
Channel No	(MHz)	15	30	45	60	90	120	135	150	15	Limit	Result
			Measurement Level (dBm)									
01	2422	12.24			-		-			20.69	<30dBm	Pass
04	2437	12.8	12.78	12.76	12.74	12.72	12.7	12.68	12.65	21.10	<30dBm	Pass
07	2452	12.5								20.91	<30dBm	Pass

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

4. Radiated Emission

4.1. Test Equipment

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

Test Site	Equipment		Manufacturer	Model No./Serial No.	Last Cal.
Site # 3	Х	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2009
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2009
	Х	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2009
	Х	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2009
	Х	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009
	Х	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2009
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2010
	Х	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	Х	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

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

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

4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



4.3. Limits

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

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

Remarks: E field strength $(dBuV/m) = 20 \log E$ field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 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

Product

Test Item :	Fundamenta	Fundamental Radiated Emission						
Test Site :	No.3OATS							
Test Mode :	Mode 1: Tra	ansmit (802.11b	1Mbps) (X \cdot Y \cdot 2	Z-Line) – Shie	lding A			
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
2412.000(x-axis)	31.639	71.640	103.278	103.278	0.000			
2412.000(y-axis)	31.639	61.430	93.068	93.068	0.000			
2412.000(z-axis)	31.639	71.360	102.998	102.998	0.000			
Vertical								
Peak Detector:								
2412.000(x-axis)	30.950	59.030	89.979	89.979	0.000			
2412.000(y-axis)	30.950	69.850	100.799	100.799	0.000			
2412.000(z-axis)	30.950	63.730	94.679	94.679	0.000			

WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module

4.6. Test Result of Radiated Emission

:

- 1. Measurement Level = Reading Level + Correct Factor.
- 2. Correct Factor = Antenna Factor + Cable Loss PreAMP.
- 3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	:	WLAN 802	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	:	Fundament	al Radiated Emis	ssion					
Test Site	:	No.3OATS							
Test Mode	:	Mode 1: Tr	ansmit (802.11b	1Mbps) (X \cdot Y \cdot	Z-Line) – Shie	lding B			
Frequency		Correct Factor	Reading Level	Measurement Level	Margin	Limit			
MHz		dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal									
Peak Detector:									
2412.000(x-axis)		31.639	72.820	104.458	104.458	0.000			
2412.000(y-axis)		31.639	68.920	100.558	100.558	0.000			
2412.000(z-axis)		30.543	73.010	104.648	104.648	0.000			
Vertical									
Peak Detector:									
2412.000(x-axis)		30.950	62.240	93.189	93.189	0.000			
2412.000(y-axis)		30.950	71.170	102.119	102.119	0.000			
2412.000(z-axis)		30.950	67.780	98.729	98.729	0.000			

Note:

-

1. Measurement Level = Reading Level + Correct Factor.

2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.

3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	:	Fundament	al Radiated Emis	ssion				
Test Site	:	No.3OATS						
Test Mode	:	Mode 1: Tr	ansmit (802.11b	1Mbps) (X \cdot Y \cdot	Z-Line) – Shie	lding C		
Frequency		Correct	Reading	Measurement	Margin	Limit		
		Factor	Level	Level				
MHz		dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal								
Peak Detector:								
2412.000(x-axis)		31.639	76.090	107.728	107.728	0.000		
2412.000(y-axis)		31.639	68.300	99.938	99.938	0.000		
2412.000(z-axis)		31.639	74.510	106.148	106.148	0.000		
Vertical								
Peak Detector:								
2412.000(x-axis)		30.950	67.060	98.009	98.009	0.000		
2412.000(y-axis)		30.950	74.030	104.979	104.979	0.000		
2412.000(z-axis)		30.950	74.050	104.999	104.999	0.000		

Note:

-

1. Measurement Level = Reading Level + Correct Factor.

2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.

3. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module								
Test Item	: Harmon	: Harmonic Radiated Emission Data							
Test Site	: No.3 OA	ATS							
Test Mode	: Mode 1:	: Mode 1: Transmit (802.11b 1Mbps) (2412MHz) – Shielding A							
Frequency	Correct	Reading	Measurement	Margin	Limit				
	Factor	Level	Level						
MHz	dB	dBuV	dBuV/m	dB	dBuV/m				
Horizontal									
Peak Detector:									
4824.000	3.261	42.430	45.691	-28.309	74.000				
7236.000	10.650	36.520	47.170	-26.830	74.000				
9648.000	13.337	35.520	48.856	-25.144	74.000				
Avorago									
Average									
Detector:									
Vertical									
Peak Detector:									
4824.000	6.421	37.280	43.701	-30.299	74.000				
7236.000	11.495	35.290	46.785	-27.215	74.000				
9648.000	13.807	36.280	50.086	-23.914	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 1:	Transmit (802.11	lb 1Mbps) (2437 MH	z) – Shielding A			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4874.000	3.038	38.250	41.287	-32.713	74.000		
7311.000	11.795	33.850	45.644	-28.356	74.000		
9748.000	12.635	36.210	48.845	-25.155	74.000		
Average							
Detector:							
Vertical							
Peak Detector:							
4874.000	5.812	39.350	45.161	-28.839	74.000		
7311.000	12.630	35.990	48.619	-25.381	74.000		
9748.000	13.126	36.180	49.306	-24.694	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module					
Test Item	: Harmonic Radiated Emission Data					
Test Site	: No.3 OATS					
Test Mode	: Mode 1:	Transmit (802.11	b 1Mbps) (2462 MH	z) – Shielding A		
Frequency	Correct	Reading	Measurement	Margin	Limit	
	Factor	Level	Level			
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
4924.000	2.858	39.650	42.507	-31.493	74.000	
7386.000	12.127	35.950	48.078	-25.922	74.000	
9848.000	12.852	36.320	49.173	-24.827	74.000	
Average						
Detector:						
Vertical						
Peak Detector:						
4924.000	5.521	41.220	46.740	-27.260	74.000	
7386.000	13.254	35.280	48.534	-25.466	74.000	
9848.000	13.367	37.210	50.577	-23.423	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OA	: No.3 OATS						
Test Mode	: Mode 1:	Transmit (802.11	lb 1Mbps) (2412MHz	z) – Shielding B				
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4824.000	3.261	39.580	42.841	-31.159	74.000			
7236.000	10.650	36.300	46.950	-27.050	74.000			
9648.000	13.337	35.300	48.636	-25.364	74.000			
Avorago								
Detectory								
Detector:								
Vertical								
Peak Detector:								
4824.000	6.421	37.820	44.241	-29.759	74.000			
7236.000	11.495	34.990	46.485	-27.515	74.000			
9648.000	13.807	36.380	50.186	-23.814	74.000			
Average								
Detector:								

- 1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
- 2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
- 3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
- 4. "*", 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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 1:	Transmit (802.11	lb 1Mbps) (2437 MH	z) – Shielding B			
	C .				.		
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4874.000	3.038	39.080	42.117	-31.883	74.000		
7311.000	11.795	34.380	46.174	-27.826	74.000		
9748.000	12.635	36.200	48.835	-25.165	74.000		
Average							
Detector:							
Vertical							
Peak Detector:							
4874.000	5.812	39.480	45.291	-28.709	74.000		
7311.000	12.630	35.280	47.909	-26.091	74.000		
9748.000	13.126	37.340	50.466	-23.534	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: Harmonic Radiated Emission Data						
Test Site	est Site : No.3 OATS						
Test Mode	: Mode 1:	Transmit (802.11	b 1Mbps) (2462 MH	z) – Shielding B			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4924.000	2.858	40.200	43.057	-30.943	74.000		
7386.000	12.127	35.620	47.748	-26.252	74.000		
9848.000	12.852	35.750	48.603	-25.397	74.000		
Average							
Detector:							
Vertical							
Peak Detector:							
4924.000	5.521	39.400	44.920	-29.080	74.000		
7386.000	13.254	34.580	47.834	-26.166	74.000		
9848.000	13.367	36.210	49.577	-24.423	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: Harmoni	: Harmonic Radiated Emission Data					
Test Site	: No.3 OATS						
Test Mode	: Mode 1:	Transmit (802.11	b 1Mbps) (2412MHz	z) – Shielding C			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4824.000	3.261	42.980	46.241	-27.759	74.000		
7236.000	10.650	34.850	45.500	-28.500	74.000		
9648.000	13.337	35.820	49.156	-24.844	74.000		
Average							
Detector:							
Vertical							
Peak Detector:							
4824.000	6.421	45.280	51.701	-22.299	74.000		
7236.000	11.495	34.630	46.125	-27.875	74.000		
9648.000	13.807	34.860	48.666	-25.334	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module							
Test Item	: Harmon	: Harmonic Radiated Emission Data						
Test Site	: No.3 OA	: No.3 OATS						
Test Mode	: Mode 1:	: Mode 1: Transmit (802.11b 1Mbps) (2437 MHz) – Shielding C						
	C i				.			
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4874.000	3.038	41.420	44.457	-29.543	74.000			
7311.000	11.795	34.490	46.284	-27.716	74.000			
9748.000	12.635	37.660	50.295	-23.705	74.000			
Average								
Detector:								
Vertical								
Peak Detector:								
4874.000	5.812	42.680	48.491	-25.509	74.000			
7311.000	12.630	35.690	48.319	-25.681	74.000			
9748.000	13.126	36.580	49.706	-24.294	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 1: Transmit (802.11b 1Mbps) (2462 MHz) – Shielding C						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4924.000	2.858	37.820	40.677	-33.323	74.000		
7386.000	12.127	34.850	46.978	-27.022	74.000		
9848.000	12.852	38.650	51.503	-22.497	74.000		
A							
Average							
Detector:							
Vertical							
Peak Detector:							
4924.000	5.521	38.420	43.940	-30.060	74.000		
7386.000	13.254	35.250	48.504	-25.496	74.000		
9848.000	13.367	38.120	51.487	-22.513	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module							
Test Item	: Harmon	: Harmonic Radiated Emission Data						
Test Site	: No.3 OATS							
Test Mode	: Mode 2:	: Mode 2: Transmit (802.11g 6Mbps) (2412MHz) – Shielding A						
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4824.000	3.261	41.280	44.541	-29.459	74.000			
7236.000	10.650	35.280	45.930	-28.070	74.000			
9648.000	13.337	36.210	49.546	-24.454	74.000			
Average								
Detector:								
Vertical								
Peak Detector:								
4824.000	6.421	40.500	46.921	-27.079	74.000			
7236.000	11.495	36.210	47.705	-26.295	74.000			
9648.000	13.807	36.580	50.386	-23.614	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 2:	: Mode 2: Transmit (802.11g 6Mbps) (2437 MHz) – Shielding A						
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4874.000	3.038	37.620	40.657	-33.343	74.000			
7311.000	11.795	35.280	47.074	-26.926	74.000			
9748.000	12.635	36.280	48.915	-25.085	74.000			
Average								
Detector:								
Vertical								
Peak Detector:								
4874.000	5.812	39.120	44.931	-29.069	74.000			
7311.000	12.630	35.210	47.839	-26.161	74.000			
9748.000	13.126	36.280	49.406	-24.594	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 | : WLAN | 802.11b/g/n 1T1F | R+BT2.1 EDR Combo | o Slim Module | |
|----------------|-----------------------------------|------------------|--------------------|------------------|--------|
| Test Item | : Harmonic Radiated Emission Data | | | | |
| Test Site | : No.3 OA | ATS | | | |
| Test Mode | : Mode 2: | Transmit (802.11 | lg 6Mbps) (2462 MH | z) – Shielding A | |
| | | | | | |
| Frequency | Correct | Reading | Measurement | Margin | Limit |
| | Factor | Level | Level | | |
| MHz | dB | dBuV | dBuV/m | dB | dBuV/m |
| Horizontal | | | | | |
| Peak Detector: | | | | | |
| 4924.000 | 2.858 | 37.670 | 40.527 | -33.473 | 74.000 |
| 7386.000 | 12.127 | 34.520 | 46.648 | -27.352 | 74.000 |
| 9848.000 | 12.852 | 35.650 | 48.503 | -25.497 | 74.000 |
| | | | | | |
| Average | | | | | |
| Detector: | | | | | |
| | | | | | |
| Vertical | | | | | |
| Peak Detector: | | | | | |
| 4924.000 | 5.521 | 38.660 | 44.180 | -29.820 | 74.000 |
| 7386.000 | 13.254 | 35.820 | 49.074 | -24.926 | 74.000 |
| 9848.000 | 13.367 | 36.250 | 49.617 | -24.383 | 74.000 |
| | | | | | |
| | | | | | |

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	: WLAN	802.11b/g/n 1T1F	R+BT2.1 EDR Combo	o Slim Module			
Test Item	: Harmon	: Harmonic Radiated Emission Data					
Test Site	: No.3 OA	: No.3 OATS					
Test Mode	: Mode 2:	Transmit (802.11	g 6Mbps) (2412MHz	z) – Shielding B			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4824.000	3.261	39.640	42.901	-31.099	74.000		
7236.000	10.650	35.720	46.370	-27.630	74.000		
9648.000	13.337	35.680	49.016	-24.984	74.000		
Average							
Dotootor							
Detector.							
 Vartical							
vertical							
Peak Detector:							
4824.000	6.421	36.200	42.621	-31.379	74.000		
7236.000	11.495	35.880	47.375	-26.625	74.000		
9648.000	13.807	35.960	49.766	-24.234	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	: WLAN	802.11b/g/n 1T1F	R+BT2.1 EDR Combo	o Slim Module	
Test Item	: Harmonic Radiated Emission Data				
Test Site	: No.3 OA	ATS			
Test Mode	: Mode 2:	Transmit (802.11	g 6Mbps) (2437 MH	z) – Shielding B	
Fraguency	Correct	Deading	Magguramont	Morgin	Limit
riequency	Easter	Loval	Laval	wargin	Linnt
MUz		dPuV	dPuV/m	đD	dDuV/m
	uБ	ивич	dDu v/III	uБ	dBu v/III
Horizontal					
Peak Detector:					
4874.000	3.038	38.660	41.697	-32.303	74.000
7311.000	11.795	33.950	45.744	-28.256	74.000
9748.000	12.635	35.990	48.625	-25.375	74.000
Average					
Detector:					
Vertical					
Peak Detector:					
4874.000	5.812	38.770	44.581	-29.419	74.000
7311.000	12.630	35.600	48.229	-25.771	74.000
9748.000	13.126	36.220	49.346	-24.654	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OA	: No.3 OATS					
Test Mode	: Mode 2:	Transmit (802.11	g 6Mbps) (2462 MH	z) – Shielding B			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4924.000	2.858	39.120	41.977	-32.023	74.000		
7386.000	12.127	35.600	47.728	-26.272	74.000		
9848.000	12.852	36.100	48.953	-25.047	74.000		
Average							
Detector:							
Vertical							
Peak Detector:							
4924.000	5.521	38.280	43.800	-30.200	74.000		
7386.000	13.254	35.200	48.454	-25.546	74.000		
9848.000	13.367	36.280	49.647	-24.353	74.000		

- **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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: Harmoni	: Harmonic Radiated Emission Data					
Test Site	: No.3 OA	TS					
Test Mode	: Mode 2:	Transmit (802.11	g 6Mbps) (2412MHz	z) – Shielding C			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4824.000	3.261	38.120	41.381	-32.619	74.000		
7236.000	10.650	35.620	46.270	-27.730	74.000		
9648.000	13.337	35.620	48.956	-25.044	74.000		
Average							
Detector:							
Vertical							
Peak Detector:							
4824.000	6.421	38.330	44.751	-29.249	74.000		
7236.000	11.495	35.280	46.775	-27.225	74.000		
9648.000	13.807	35.690	49.496	-24.504	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	: WLAN	802.11b/g/n 1T1F	R+BT2.1 EDR Combo	o Slim Module		
Test Item	: Harmonic Radiated Emission Data					
Test Site	: No.3 OA	ATS				
Test Mode	: Mode 2:	Transmit (802.11	lg 6Mbps) (2437 MH	z) – Shielding C		
Frequency	Correct	Reading	Measurement	Margin	Limit	
requency	Factor	Level	Level	Margin	Linnt	
MHz	dB	dBuV	dBuV/m	dB	dBuV/m	
Horizontal						
Peak Detector:						
4874.000	3.038	38.290	41.327	-32.673	74.000	
7311.000	11.795	35.290	47.084	-26.916	74.000	
9748.000	12.635	36.990	49.625	-24.375	74.000	
Avorago						
Detector:						
Vertical						
Peak Detector:						
4874.000	5.812	37.290	43.101	-30.899	74.000	
7311.000	12.630	35.290	47.919	-26.081	74.000	
9748.000	13.126	36.290	49.416	-24.584	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OAT	: No.3 OATS					
Test Mode	: Mode 2: T	Fransmit (802.11	lg 6Mbps) (2462 MH	z) – Shielding C			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4924.000	2.858	37.590	40.447	-33.553	74.000		
7386.000	12.127	34.950	47.078	-26.922	74.000		
9848.000	12.852	36.260	49.113	-24.887	74.000		
Average							
Detector:							
 Vertical							
Peak Detector:							
4924.000	5.521	36.950	42.470	-31.530	74.000		
7386.000	13.254	35.920	49.174	-24.826	74.000		
9848.000	13.367	37.290	50.657	-23.343	74.000		

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	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz) – Shielding A

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	41.300	44.561	-29.439	74.000
7236.000	10.650	36.950	47.600	-26.400	74.000
9648.000	13.337	36.320	49.656	-24.344	74.000
Average					
Detector:					
Vertical					
Peak Detector:					
4824.000	6.421	42.300	48.721	-25.279	74.000
7236.000	11.495	36.210	47.705	-26.295	74.000
9648.000	13.807	36.660	50.466	-23.534	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	: WLAN	802.11b/g/n 1T1F	R+BT2.1 EDR Combo	o Slim Module	
Test Item	: Harmon	ic Radiated Emis	sion Data		
Test Site	: No.3 OA	ATS			
Test Mode	: Mode 3	Transmit (802.11	In MCS0 7.2Mbps 20	M-BW) (2437 M	Hz) – Shielding A
F actor a a a a a a a a a a	Commont	Deeding	Maaaaaaa	Manain	T insit
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	3.038	40.720	43.757	-30.243	74.000
7311.000	11.795	36.210	48.004	-25.996	74.000
9748.000	12.635	36.210	48.845	-25.155	74.000
Average					
Detector:					
Vertical					
Peak Detector:					
4874.000	5.812	40.320	46.131	-27.869	74.000
7311.000	12.630	36.210	48.839	-25.161	74.000
9748.000	13.126	36.210	49.336	-24.664	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	: WLAN 8	802.11b/g/n 1T1F	R+BT2.1 EDR Combo	o Slim Module			
Test Item	: Harmonic Radiated Emission Data						
Test Site	: No.3 OA	: No.3 OATS					
Test Mode	: Mode 3:	Transmit (802.11	n MCS0 7.2Mbps 20	M-BW) (2462 M	Hz) – Shielding A		
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
Peak Detector:							
4924.000	2.858	39.480	42.337	-31.663	74.000		
7386.000	12.127	35.210	47.338	-26.662	74.000		
9848.000	12.852	36.241	49.094	-24.906	74.000		
Average							
Detector:							
Vertical							
Peak Detector:							
4924.000	5.521	40.210	45.730	-28.270	74.000		
7386.000	13.254	35.280	48.534	-25.466	74.000		
9848.000	13.367	36.210	49.577	-24.423	74.000		

- **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	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz) – Shielding B

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	38.890	42.151	-31.849	74.000
7236.000	10.650	36.290	46.940	-27.060	74.000
9648.000	13.337	35.900	49.236	-24.764	74.000
Average					
Detector:					
Vertical					
Peak Detector:					
4824.000	6.421	38.590	45.011	-28.989	74.000
7236.000	11.495	35.180	46.675	-27.325	74.000
9648.000	13.807	36.900	50.706	-23.294	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 :	WLAN 802.11b/g	g/n 1T1R+BT2.1	EDR Combo Slim Mo	odule				
Test Item :	Harmonic Radiate	Harmonic Radiated Emission Data						
Test Site :	No.3 OATS							
Test Mode :	Mode 3: Transmit	t (802.11n MCS0	7.2Mbps 20M-BW) (2437 MHz) – Shi	elding B			
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector	•							
4874.000	3.038	38.750	41.787	-32.213	74.000			
7311.000	11.795	35.690	47.484	-26.516	74.000			
9748.000	12.635	35.380	48.015	-25.985	74.000			
Average								
Detector:								
 Vertical								
Peak Detector	:							
4874.000	5.812	36.920	42.731	-31.269	74.000			
7311.000	12.630	35.860	48.489	-25.511	74.000			
9748.000	13.126	36.020	49.146	-24.854	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module							
Test Item	: Harmonic Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	e : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2462 MHz) – Shield							
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:								
4924.000	2.858	37.150	40.007	-33.993	74.000			
7386.000	12.127	34.880	47.008	-26.992	74.000			
9848.000	12.852	35.250	48.103	-25.897	74.000			
Average								
Detector:								
Vertical								
Peak Detector:								
4924.000	5.521	36.280	41.800	-32.200	74.000			
7386.000	13.254	35.200	48.454	-25.546	74.000			
9848.000	13.367	36.280	49.647	-24.353	74.000			

- **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	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Test Item	:	Harmonic Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW) (2412MHz) – Shielding C

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	3.261	37.760	41.021	-32.979	74.000
7236.000	10.650	34.790	45.440	-28.560	74.000
9648.000	13.337	35.290	48.626	-25.374	74.000
Average					
Detector:					
Vertical					
Peak Detector:					
4824.000	6.421	37.580	44.001	-29.999	74.000
7236.000	11.495	35.980	47.475	-26.525	74.000
9648.000	13.807	36.290	50.096	-23.904	74.000
Average					

0 Data at a m

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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module									
Test Item	:	: Harmonic Radiated Emission Data								
Test Site	:	: No.3 OATS								
Test Mode	:	Mode 3: Tra	ansmit (802	2.11n M	4CS0 7	2.2Mbps 20M	1-BW	7) (2437 MI	Hz) – Sł	nielding C
Frequency		Correct	Read	ing	M	easurement		Margin		Limit
		Factor	Lev	el		Level				
MHz		dB	dBu	V		dBuV/m		dB		dBuV/m
Horizontal										
Peak Detector:										
4874.000		3.038	38.2	90		41.327		-32.673		74.000
7311.000		11.795	35.2	90		47.084		-26.916		74.000
9748.000		12.635	35.9	90		48.625		-25.375		74.000
Avorago										
Average Detector										
Vertical										
Peak Detector:										
4874.000		5.812	36.5	90		42.401		-31.599		74.000
7311.000		12.630	34.5	90		47.219		-26.781		74.000
9748.000		13.126	35.2	90		48.416		-25.584		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 :	WLAN 802.11b/g	/n 1T1R+BT2.1 I	EDR Combo Slim Mo	odule				
Test Item :	Harmonic Radiate	Harmonic Radiated Emission Data						
Test Site :	No.3 OATS							
Test Mode :	Mode 3: Transmit	(802.11n MCS0	7.2Mbps 20M-BW) (2462 MHz) – Shi	elding C			
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector	:							
4924.000	2.858	37.590	40.447	-33.553	74.000			
7386.000	12.127	35.290	47.418	-26.582	74.000			
9848.000	12.852	35.290	48.143	-25.857	74.000			
Average								
Detector:								
 Vertical								
Peak Detector	:							
4924.000	5.521	36.290	41.810	-32.190	74.000			
7386.000	13.254	34.590	47.844	-26.156	74.000			
9848.000	13.367	34.590	47.957	-26.043	74.000			

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	:	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module							
Test Item	:	Harmonic Radia	Harmonic Radiated Emission Data						
Test Site	:	No.3 OATS							
Test Mode	:	Mode 4: Transn	nit (802.11n MCS	0 15Mbps 40M-BW)	(2422MHz) – Sh	ielding A			
Frequency		Correct	Peoding	Magguramant	Margin	Limit			
Trequency		Factor	Level	Level	Wargin	Linit			
MHz		dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal	l								
Peak Detecto	or:								
4844.000		3.171	40.250	43.421	-30.579	74.000			
7266.000		11.162	34.580	45.742	-28.258	74.000			
9688.000		12.964	35.690	48.655	-25.345	74.000			
Average									
Detector:									
Vertical									
Peak Detecto	or:								
4844.000		6.178	38.290	44.468	-29.532	74.000			
7266.000		11.982	35.580	47.562	-26.438	74.000			
9688.000		13.507	36.210	49.718	-24.282	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 :	WLAN 802.11b/g	g/n 1T1R+BT2.1	EDR Combo Slim Mo	odule				
Test Item :	Harmonic Radiate	Harmonic Radiated Emission Data						
Test Site :	No.3 OATS							
Test Mode :	Mode 4: Transmit	(802.11n MCS0	15Mbps 40M-BW) (2	2437 MHz) – Shie	elding A			
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detecto	r:							
4874.000	3.038	40.210	43.247	-30.753	74.000			
7311.000	11.795	35.210	47.004	-26.996	74.000			
9748.000	12.635	35.580	48.215	-25.785	74.000			
Average								
Detector:								
Vertical								
Peak Detecto	r:							
4874.000	5.812	36.880	42.691	-31.309	74.000			
7311.000	12.630	35.956	48.585	-25.415	74.000			
9748.000	13.126	35.210	48.336	-25.664	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 :	WLAN 802.11b/g	/n 1T1R+BT2.1 I	EDR Combo Slim Mo	odule				
Test Item :	Harmonic Radiate	Harmonic Radiated Emission Data						
Test Site :	No.3 OATS							
Test Mode :	Mode 4: Transmit	(802.11n MCS0	15Mbps 40M-BW) (2	2452 MHz) – Shie	elding A			
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector:	:							
4904.000	2.914	38.210	41.125	-32.875	74.000			
7356.000	11.995	33.590	45.584	-28.416	74.000			
9808.000	12.475	36.210	48.685	-25.315	74.000			
Average								
Detector:								
Vertical								
Peak Detector:	:							
4904.000	5.530	40.160	45.691	-28.309	74.000			
7356.000	13.005	35.210	48.214	-25.786	74.000			
9808.000	12.901	35.950	48.851	-25.149	74.000			

- **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 Test Site	: : :	WLAN 802.11b Harmonic Radia No.3 OATS	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module Harmonic Radiated Emission Data No.3 OATS						
lest Mode	:	Mode 4: Transn	nit (802.11n MCS)	0 15Mbps 40M-BW)	(2422MHZ) – Sh	ielding B			
Frequency		Correct	Reading	Measurement	Margin	Limit			
		Factor	Level	Level					
MHz		dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal									
Peak Detecto	r:								
4844.000		3.171	39.380	42.551	-31.449	74.000			
7266.000		11.162	35.990	47.152	-26.848	74.000			
9688.000		13.507	36.757	50.265	-23.735	74.000			
Average									
Detector:									
Vertical									
Peak Detecto	r:								
4844.000		6.178	39.373	45.551	-28.449	74.000			
7266.000		11.982	34.850	46.832	-27.168	74.000			
9688.000		13.507	36.380	49.888	-24.112	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 :	WLAN 802.11b/	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item :	Harmonic Radiat	Harmonic Radiated Emission Data						
Test Site :	No.3 OATS							
Test Mode :	Mode 4: Transmi	t (802.11n MCS0	15Mbps 40M-BW) (2	2437 MHz) – Shie	elding B			
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detecto	or:							
4874.000	3.038	39.120	42.157	-31.843	74.000			
7311.000	11.795	35.280	47.074	-26.926	74.000			
9748.000	12.635	36.969	49.604	-24.396	74.000			
Average								
Detector:								
 Vortical								
Peak Detecto	r:							
4874.000	5.812	38.750	44.561	-29.439	74.000			
7311.000	12.630	35.380	48.009	-25.991	74.000			
9748.000	13.126	36.280	49.406	-24.594	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	:	WLAN 802.11b/g	g/n 1T1R+BT2.1 I	EDR Combo Slim Mo	odule				
Test Item	:	Harmonic Radiated Emission Data							
Test Site	:	No.3 OATS							
Test Mode	:	Mode 4: Transmit	t (802.11n MCS0	15Mbps 40M-BW) (2	2452 MHz) – Shie	elding B			
Frequenc	су	Correct	Reading	Measurement	Margin	Limit			
		Factor	Level	Level					
MHz		dB	dBuV	dBuV/m	dB	dBuV/m			
Horizont	tal								
Peak Detec	ctor:								
4904.00	0	5.530	38.290	43.821	-30.179	74.000			
7356.00	0	13.005	34.900	47.904	-26.096	74.000			
9808.00	0	12.901	37.120	50.021	-23.979	74.000			
Average	e								
Detector	r:								
Vertical	l								
Peak Detec	ctor:								
4904.00	0	5.530	40.260	45.790	-28.210	74.000			
7356.00	0	13.005	35.550	48.555	-25.445	74.000			
9808.00	0	12.901	35.980	48.881	-25.119	74.000			

- **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 Test Site Test Mode	: : :	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module Harmonic Radiated Emission Data No.3 OATS Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW) (2422MHz) – Shielding C							
Frequency MHz		Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m			
Horizontal									
Peak Detector	r:								
4844.000		3.171	38.290	41.461	-32.539	74.000			
7266.000		11.162	34.590	45.752	-28.248	74.000			
9688.000		12.964	36.590	49.555	-24.445	74.000			
Average									
Detector:									
Vertical									
Peak Detector	r:								
4844.000		6.178	36.250	42.428	-31.572	74.000			
7266.000		11.982	34.590	46.572	-27.428	74.000			
9688.000		13.507	36.590	50.098	-23.902	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 :	WLAN 802.11b/g	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item :	Harmonic Radiate	Harmonic Radiated Emission Data						
Test Site :	No.3 OATS							
Test Mode :	Mode 4: Transmit	(802.11n MCS0	15Mbps 40M-BW) (2	2437 MHz) – Shie	elding C			
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
Peak Detector	r:							
4874.000	3.038	38.590	41.627	-32.373	74.000			
7311.000	11.795	33.950	45.744	-28.256	74.000			
9748.000	12.635	35.290	47.925	-26.075	74.000			
Average								
Detector:								
 Vartical								
Peak Detector	r:							
4874.000	5.812	36.720	42.531	-31.469	74.000			
7311.000	12.630	33.950	46.579	-27.421	74.000			
9748.000	13.126	36.580	49.706	-24.294	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 :	WLAN 802.11b/g	/n 1T1R+BT2.1 I	EDR Combo Slim Mo	odule	
Test Item :	Harmonic Radiate	ed Emission Data			
Test Site :	No.3 OATS				
Test Mode :	Mode 4: Transmit	a (802.11n MCS0	15Mbps 40M-BW) (2	2452 MHz) – Shie	elding C
Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4904.000	2.914	36.980	39.895	-34.105	74.000
7356.000	11.995	35.290	47.284	-26.716	74.000
9808.000	12.475	34.950	47.425	-26.575	74.000
Average					
Detector:					
Vertical					
Peak Detector:					
4904.000	5.530	36.980	42.511	-31.489	74.000
7356.000	13.005	34.950	47.954	-26.046	74.000
9808.000	12.901	36.290	49.191	-24.809	74.000

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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: General Radiated Emission Data						
Test Mode	. No.3 O.	AIS • Transmit (802-11	h 1Mhns)(2/27 MU	x) Shielding A			
Test Mode	. Mode I	. 11alisillit (802.11	0 1100ps)(2437 10112	L) – Sincluding A			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
460.680	1.589	24.193	25.782	-20.218	46.000		
551.860	2.714	24.938	27.652	-18.348	46.000		
658.560	2.115	25.151	27.266	-18.734	46.000		
790.480	5.203	23.649	28.851	-17.149	46.000		
852.560	6.342	25.210	31.552	-14.448	46.000		
961.200	6.450	28.971	35.421	-18.579	54.000		
Vertical							
511.120	-0.261	23.482	23.221	-22.779	46.000		
606.180	-1.594	23.136	21.542	-24.458	46.000		
677.960	0.527	23.690	24.217	-21.783	46.000		
804.060	3.587	24.732	28.319	-17.681	46.000		
928.220	6.203	24.158	30.361	-15.639	46.000		
961.200	7.260	30.825	38.085	-15.915	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module							
Test Item	: General Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 1:	Transmit (802.11	b 1Mbps)(2437 MHz	z) – Shielding B				
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
460.680	1.589	25.441	27.030	-18.970	46.000			
559.620	1.664	25.380	27.044	-18.956	46.000			
608.120	4.384	26.596	30.980	-15.020	46.000			
707.060	2.919	26.058	28.977	-17.023	46.000			
767.200	4.235	29.017	33.252	-12.748	46.000			
903.000	5.646	27.584	33.230	-12.770	46.000			
Vertical								
379.200	-1.505	26.365	24.859	-21.141	46.000			
540.220	0.121	26.768	26.889	-19.111	46.000			
691.540	2.421	26.609	29.030	-16.970	46.000			
767.200	2.575	29.017	31.592	-14.408	46.000			
846.740	2.601	25.692	28.293	-17.707	46.000			
934.040	5.792	31.611	37.403	-8.597	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: General Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 1:	Transmit (802.11	b 1Mbps)(2437 MHz	z) – Shielding C			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
154.160	-10.091	45.748	35.657	-7.843	43.500		
330.700	-4.492	41.118	36.626	-9.374	46.000		
495.600	-0.535	35.591	35.056	-10.944	46.000		
687.660	3.294	32.688	35.982	-10.018	46.000		
759.440	4.372	32.799	37.171	-8.829	46.000		
932.100	6.922	31.246	38.168	-7.832	46.000		
Vertical							
270.560	-9.247	46.786	37.539	-8.461	46.000		
373.380	-2.373	39.055	36.682	-9.318	46.000		
507.240	-0.471	37.240	36.769	-9.231	46.000		
687.660	2.444	34.452	36.896	-9.104	46.000		
877.780	1.979	32.317	34.296	-11.704	46.000		
935.980	5.711	32.267	37.978	-8.022	46.000		
270.560	-9.247	46.786	37.539	-8.461	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	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Test Item	:	General Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)(2437 MHz) – Shielding C

Mode 1: Transmit (802.11b 1Mbps)(2437 MHz) – Shielding C

(Without U12 Component)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
120.000	-9.760	38.570	28.810	-14.690	43.500
240.000	-6.734	29.834	23.100	-22.900	46.000
360.050	-1.658	34.258	32.600	-13.400	46.000
480.080	-0.329	26.618	26.289	-19.711	46.000
600.360	3.977	25.466	29.443	-16.557	46.000
720.640	3.511	27.014	30.525	-15.475	46.000
840.920	5.191	25.164	30.355	-15.645	46.000
Vertical					
120.000	-3.711	34.880	31.168	-12.332	43.500
240.000	-8.533	32.713	24.180	-21.820	46.000
360.000	-3.745	28.255	24.510	-21.490	46.000
480.000	-4.362	26.155	21.792	-24.208	46.000
600.000	-2.867	36.967	34.100	-11.900	46.000
720.000	-0.146	26.956	26.810	-19.190	46.000
840.160	2.836	29.804	32.640	-13.360	46.000
960.000	7.066	23.214	30.280	-15.720	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: General Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 2	: Transmit (802.11	g 6Mbps)(2437 MHz	z) – Shielding A			
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
557.680	1.971	25.756	27.727	-18.273	46.000		
612.000	3.819	24.029	27.848	-18.152	46.000		
709.000	3.458	23.115	26.573	-19.427	46.000		
831.220	6.121	26.596	32.717	-13.283	46.000		
914.640	6.083	22.662	28.745	-17.255	46.000		
961.200	6.450	30.583	37.033	-16.967	54.000		
Vertical							
501.420	-0.795	25.802	25.007	-20.993	46.000		
610.060	-1.579	23.760	22.181	-23.819	46.000		
689.600	2.538	24.815	27.353	-18.647	46.000		
767.200	2.575	26.400	28.975	-17.025	46.000		
840.920	2.961	24.657	27.618	-18.382	46.000		
961.200	7.260	30.215	37.475	-16.525	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: General Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 2: Transmit (802.11g 6Mbps)(2437 MHz) – Shielding B						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
462.620	1.172	27.220	28.392	-17.608	46.000		
608.120	4.384	26.596	30.980	-15.020	46.000		
676.020	2.911	27.286	30.197	-15.803	46.000		
767.200	4.235	29.017	33.252	-12.748	46.000		
823.460	6.122	26.796	32.919	-13.081	46.000		
934.040	6.612	31.611	38.223	-7.777	46.000		
Vertical							
518.880	-0.546	25.836	25.290	-20.710	46.000		
615.880	-1.905	26.410	24.505	-21.495	46.000		
691.540	2.421	26.609	29.030	-16.970	46.000		
802.120	3.161	26.877	30.038	-15.962	46.000		
920.460	5.517	27.019	32.536	-13.464	46.000		
994.180	3.858	29.977	33.835	-20.165	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module							
Test Item	: General Radiated Emission Data							
Test Site	: No.3 OATS							
Test Mode	: Mode 2:	: Transmit (802.11	g 6Mbps)(2437 MHz	z) – Shielding C				
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
152.220	-10.135	46.175	36.040	-7.460	43.500			
373.380	-1.163	39.707	38.544	-7.456	46.000			
468.440	1.195	38.552	39.747	-6.253	46.000			
547.980	3.252	36.819	40.071	-5.929	46.000			
730.340	3.395	34.205	37.600	-8.400	46.000			
904.940	5.717	32.142	37.859	-8.141	46.000			
Vertical								
161.920	-6.696	43.065	36.370	-7.130	43.500			
342.340	-3.542	40.429	36.887	-9.113	46.000			
540.220	0.121	37.897	38.018	-7.982	46.000			
732.280	-0.248	35.479	35.231	-10.769	46.000			
833.160	2.263	32.015	34.278	-11.722	46.000			
930.160	6.477	32.972	39.449	-6.551	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	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
---------	---	---

- Test Item : General Radiated Emission Data
- Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps)(2437 MHz) – Shielding C

(Without U12 Component)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
120.000	-9.760	36.380	26.620	-16.880	43.500
240.000	-6.734	29.334	22.600	-23.400	46.000
360.050	-1.658	35.278	33.620	-12.380	46.000
480.000	-0.327	25.790	25.462	-20.538	46.000
600.000	3.980	24.730	28.710	-17.290	46.000
720.030	3.516	22.854	26.370	-19.630	46.000
840.000	5.153	30.207	35.360	-10.640	46.000
960.000	6.335	29.865	36.200	-9.800	46.000
Vertical					
120.000	-3.711	30.522	26.810	-16.690	43.500
240.000	-8.533	31.163	22.630	-23.370	46.000
360.000	-3.745	35.225	31.480	-14.520	46.000
480.000	-4.362	29.123	24.760	-21.240	46.000
600.000	-2.867	31.257	28.390	-17.610	46.000
720.000	-0.146	25.936	25.790	-20.210	46.000
840.150	2.834	31.796	34.630	-11.370	46.000
960.000	7.066	28.754	35.820	-10.180	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: General Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2437 MHz) – Shielding A						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
547.980	3.252	24.241	27.493	-18.507	46.000		
606.180	4.666	23.401	28.067	-17.933	46.000		
691.540	3.681	25.948	29.629	-16.371	46.000		
765.260	4.253	25.041	29.294	-16.706	46.000		
881.660	6.307	26.365	32.672	-13.328	46.000		
961.200	6.450	26.994	33.444	-20.556	54.000		
Vertical							
544.100	-0.688	24.429	23.741	-22.259	46.000		
602.300	-2.333	22.595	20.262	-25.738	46.000		
670.200	-1.576	26.292	24.716	-21.284	46.000		
769.140	2.923	24.680	27.603	-18.397	46.000		
885.540	2.552	23.297	25.849	-20.151	46.000		
961.200	7.260	28.055	35.315	-18.685	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: General Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 3: Tra	: Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2437 MHz) – Shielding B					
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
462.620	1.172	27.220	28.392	-17.608	46.000		
532.460	1.957	25.131	27.088	-18.912	46.000		
586.780	3.436	27.134	30.570	-15.430	46.000		
767.200	4.235	29.017	33.252	-12.748	46.000		
831.220	6.121	27.417	33.538	-12.462	46.000		
932.100	6.922	30.147	37.069	-8.931	46.000		
Vertical							
540.220	0.121	26.768	26.889	-19.111	46.000		
608.120	-1.576	26.596	25.020	-20.980	46.000		
691.540	2.421	26.609	29.030	-16.970	46.000		
741.980	0.175	25.696	25.871	-20.129	46.000		
769.140	2.923	25.996	28.919	-17.081	46.000		
930.160	6.477	30.564	37.041	-8.959	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: General Radiated Emission Data						
Test Site	: No.3 OATS						
Test Mode	: Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2437 MHz) – Shielding C						
Frequency	Correct	Reading	Measurement	Margin	Limit		
	Factor	Level	Level				
MHz	dB	dBuV	dBuV/m	dB	dBuV/m		
Horizontal							
177.440	-10.879	44.502	33.623	-9.877	43.500		
396.660	-2.296	38.602	36.306	-9.694	46.000		
493.660	-0.536	39.906	39.370	-6.630	46.000		
639.160	1.392	35.241	36.633	-9.367	46.000		
776.900	4.183	33.915	38.098	-7.902	46.000		
887.480	6.204	31.130	37.334	-8.666	46.000		
Vertical							
189.080	-10.969	43.934	32.965	-10.535	43.500		
307.420	-6.821	41.756	34.935	-11.065	46.000		
493.660	-2.396	39.906	37.510	-8.490	46.000		
687.660	2.444	35.443	37.887	-8.113	46.000		
815.700	3.221	31.650	34.871	-11.129	46.000		
883.600	2.566	32.647	35.212	-10.788	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 | : | WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module |
|-----------|---|--|
| Test Item | : | General Radiated Emission Data |
| Test Site | : | No.3 OATS |
| Test Mode | : | Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)(2437 MHz) – Shielding C |

(Without U12 Component)

Frequency Correct		Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
120.000	-9.760	36.387	26.627	-16.873	43.500
240.000	-6.734	28.748	22.014	-23.986	46.000
360.050	-1.658	34.400	32.742	-13.258	46.000
480.000	-0.327	25.288	24.960	-21.040	46.000
600.000	3.980	25.620	29.600	-16.400	46.000
720.000	3.517	21.794	25.310	-20.690	46.000
840.000	5.153	29.968	35.121	-10.879	46.000
960.000	6.335	28.615	34.950	-11.050	46.000
Vertical					
120.000	-3.711	34.929	31.217	-12.283	43.500
240.000	-8.533	32.647	24.114	-21.886	46.000
360.000	-3.745	28.845	25.100	-20.900	46.000
480.000	-4.362	27.173	22.810	-23.190	46.000
600.000	-2.867	39.317	36.450	-9.550	46.000
720.000	-0.146	25.456	25.310	-20.690	46.000
840.000	2.809	30.496	33.305	-12.695	46.000
960.000	7.066	23.185	30.251	-15.749	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	: WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module							
Test Item	: General R	General Radiated Emission Data						
Test Site	: No.3 OAT	ΓS						
Test Mode	: Mode 4: 7	Fransmit (802.11n	MCS0 15Mbps 40M	-BW)(2437 MHz) – Shielding A			
Frequency	Correct	Reading	Measurement	Margin	Limit			
	Factor	Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
577.080	3.169	24.993	28.162	-17.838	46.000			
658.560	2.115	24.659	26.774	-19.226	46.000			
759.440	4.372	22.403	26.775	-19.225	46.000			
813.760	5.098	24.235	29.333	-16.667	46.000			
897.180	5.182	26.412	31.594	-14.406	46.000			
961.200	6.450	28.727	35.177	-18.823	54.000			
Vertical								
381.140	-1.558	26.107	24.549	-21.451	46.000			
507.240	-0.471	24.836	24.365	-21.635	46.000			
606.180	-1.594	26.684	25.090	-20.910	46.000			
745.860	1.828	24.993	26.821	-19.179	46.000			
858.380	0.632	24.452	25.084	-20.916	46.000			
961.200	7.260	27.303	34.563	-19.437	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	: WLAN 80	02.11b/g/n 1T1R+	BT2.1 EDR Combo S	Slim Module					
Test Item	: General R	General Radiated Emission Data							
Test Site	: No.3 OAT	No.3 OATS							
Test Mode	: Mode 4: 7	Fransmit (802.11n	MCS0 15Mbps 40M	-BW)(2437 MHz) – Shielding B				
Frequency	Correct	Reading	Measurement	Margin	Limit				
	Factor	Level	Level						
MHz	dB	dBuV	dBuV/m	dB	dBuV/m				
Horizontal									
547.980	3.252	27.502	30.754	-15.246	46.000				
608.120	4.384	26.596	30.980	-15.020	46.000				
687.660	3.294	27.374	30.668	-15.332	46.000				
749.740	3.320	30.286	33.606	-12.394	46.000				
831.220	6.121	28.429	34.550	-11.450	46.000				
974.780	6.652	27.655	34.307	-19.693	54.000				
Vertical									
540.220	0.121	27.066	27.187	-18.813	46.000				
687.660	2.444	27.374	29.818	-16.182	46.000				
784.660	3.012	27.711	30.723	-15.277	46.000				
825.400	3.430	28.015	31.445	-14.555	46.000				
928.220	6.203	30.214	36.417	-9.583	46.000				
970.900	7.302	27.955	35.257	-18.743	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	: WI	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module						
Test Item	: Ge	neral Radiated Emissi	on Data					
Test Site	: No	.3 OATS						
Test Mode	: Mo	ode 4: Transmit (802.1	1n MCS0 15Mbps 4	0M-BW)(2437 M	Hz) – Shielding C			
Frequency	Correc	ct Reading	Measurement	Margin	Limit			
	Facto	r Level	Level					
MHz	dB	dBuV	dBuV/m	dB	dBuV/m			
Horizontal								
179.380	-11.77	46.811	35.040	-8.460	43.500			
373.380	-1.16	3 39.707	38.544	-7.456	46.000			
478.140	-0.29	1 36.664	36.373	-9.627	46.000			
635.280	2.141	32.536	34.676	-11.324	46.000			
693.480	3.568	3 33.424	36.992	-9.008	46.000			
883.600	6.146	5 32.647	38.792	-7.208	46.000			
Vertical								
163 860	-7 204	4 43 546	36 342	-7 158	43 500			

163.860	-7.204	43.546	36.342	-7.158	43.500
363.680	-2.393	40.665	38.272	-7.728	46.000
495.600	-1.955	38.466	36.511	-9.489	46.000
608.120	-1.576	34.815	33.239	-12.761	46.000
732.280	-0.248	35.533	35.285	-10.715	46.000
926.280	5.821	32.185	38.006	-7.994	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	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Test Item	:	General Radiated Emission Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 4: Transmit (802.11n MCS0 15Mbps 40M-BW)(2437 MHz) – Shielding C

(Without U12 Component)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
120.000	-9.760	36.414	26.654	-16.846	43.500
240.000	-6.734	28.748	22.014	-23.986	46.000
360.050	-1.658	34.472	32.814	-13.186	46.000
480.000	-0.327	24.959	24.631	-21.369	46.000
600.000	3.980	24.190	28.170	-17.830	46.000
720.030	3.516	21.804	25.320	-20.680	46.000
840.000	5.153	29.057	34.210	-11.790	46.000
960.000	6.335	28.812	35.147	-10.853	46.000
Vertical					
120.000	-3.711	34.992	31.280	-12.220	43.500
240.000	-8.533	32.718	24.185	-21.815	46.000
360.000	-3.745	27.903	24.158	-21.842	46.000
480.000	-4.362	26.097	21.734	-24.266	46.000
600.000	-2.867	39.081	36.214	-9.786	46.000
720.000	-0.146	25.326	25.180	-20.820	46.000
840.000	2.809	30.496	33.305	-12.695	46.000
960.000	7.066	23.394	30.460	-15.540	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.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2009
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2009
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2010
Х	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2010

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

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

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

5.2. Test Setup

RF antenna Conducted Measurement:



5.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.4. Test Procedure

The EUT was tested according to DTS test procedure of Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

5.5. Uncertainty

The measurement uncertainty Conducted is defined as ± 1.27 dB

5.6. Test Result of RF antenna conducted test

Product	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Test Item	:	RF antenna conducted test
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)
iest mode	•	widue 1. Hanshin (002.110 IWDps)

Channel 01 (2412MHz) 30-25GHz

🗾 Agilent Spectrum Analyzer - Swept SA			
^{IXI} 50 Ω Display Line -18.63 dBm	AC SENSE:INT Avg Type	ALIGN AUTO 10:38:57 AM Mar 30, 2010 : Log-Pwr TRACE 1 2 3 4 5 6	Display
Input: RF PNO: Fast IFGain:Lov	, Trig: Free Run Avg Hold: , #Atten: 20 dB	20/100 TYPE MWWW DET P NNNN Mkr1 2.402 GHz 1 369 dBm	Annotation►
			Title►
-10.0		-18.63 dBm	Graticule On Off
-30.0			Display Line -18.63 dBm <u>On</u> Off
-50.0		محولة البطاريس ويدرمانيس ور	
-70.0 Hunder and which be and a second second	w ⁿ ed helesprone all and shall be and a shall be a share the shar	Aborton August	System Display≯ Settings
Start 30 MHz #Res BW 100 kHz #V	BW 1.0 MHz	Stop 25.00 GHz Sweep 2.30 s (1001 pts)	



D Agi	ilent Spectrum	Analyzer -	Swept SA		10.	10						
Disp	50 solay Line	ີ -18.45	dBm	1	AC SE		Avg Type	ALIGNAUTO : Log-Pwr	10:39:34 A TRAC	M Mar 30, 2010		Display
10 d	B/div R e	In F 10.00 /	dBm	NO: Fast 🖕 Gain:Low	#Atten: 2) dB	Avginoia	M	تو 1.58	27 GHz		Annotation►
Log 0.00		1		7								Title►
-10.0 -20.0										-18.45 dBm	<u>On</u>	Graticule Off
-30.0 -40.0											<u>0n</u>	Display Line -18.45 dBm Off
-50.0			1						10411			
-70.0	Al well of	Waynow	and the second	nen elally had	Kaburuhura	filtiyapmutileedd	In White work in the	Jandakan philip Ja	Martin a andra			System Display▶ Settings
Star #Re	t 30 MHz s BW 100	kHz			1.0 MHz			Sweep	Stop 2 2.30 s (1	5.00 GHz 1001 pts)		
MSG								STATUS				

Channel 06 (2437MHz) 30-25GHz

Channel 11 (2462MHz) 30-25GHz

	· · · · · · · · · · · · · · · · · · ·				- Swept SA	trum Analyzer	ilent Spect	🗊 Agi
Peak Search	10:41:58 AM Mar 30, 2010 TRACE 1 2 3 4 5 6	ALIGN AUTO Avg Type: Log-Pwr	SENSE:INT	Hz	000000 G	50 Ω 2.427120	rker 1	Mar
Next Peak	kr1 2.427 GHz 1.553 dBm	Avg Hold: 62/100 M	: Free Run en: 20 dB	NO: Fast 🖵 1 Gain:Low #	nput: RF P IF(dBm	Ref 10.00	B/div	10 dl
Next Right						♦ ¹	,	0.00
Next Left	-18.45 dBm							-10.0 -20.0
Marker Delta								-30.0 -40.0
Mkr→CF	malvial and a first							-50.0
Mkr→RefLvl	under and an	alin, is a contract of the second	Lander or Lafterday Color	Malador Carlos	al window and the	/ When	Munt	-70.0
More 1 of 2	Stop 25.00 GHz 2.30 s (1001 pts)	Sweep	/Hz	#VBW 1.		Hz 100 kHz	rt 30 MI es BW 1	Star #Re
		STATUS						MSG

Product :	WLA	N 802.11b/g/n	1T1R+BT2.1	EDR	Combo	Slim	Module
-----------	-----	---------------	------------	-----	-------	------	--------

- Test Item : RF Antenna Conducted Spurious
- Test Site : No.3 OATS
- Test Mode : Mode 2: Transmit (802.11g 6Mbps)

Channel 01 (2412MHz) 30-25GHz

D Agi	ilent Spectr	um Anal	yzer - Sv	wept SA									
w Disp	olay Lin	50 Ω I e -2 2	2.37 c	lBm	1		NSE:INT	Avg Type	ALIGNAUTO	10:43:12 A TRAC	M Mar 30, 2010		Display
10 d	B/div I	Ref 10	Inpu).00 dl	at: RF F IF BM	'NO: Fast 🖵 Gain:Low	#Atten: 20) dB	Avginola.	M	lkr1 2.4 -2.3	02 GHz 72 dBm		Annotation►
0.00		↓ ¹											Title►
-10.0 -20.0											-22.37 dBm	<u>On</u>	Graticule Off
-30.0 -40.0												<u>On</u>	Display Line -22.37 dBm Off
-50.0 -60.0											white and		
-70.0	Munhor		up and the second	¥4 ₽ ∻™\$ \$4,¶ _{₽17}	ninderdayaaye toop	in Lientzwieren in	ได _{้หลุย} ไหลูกระจะมู่ไ	addenig and generalized by	history and the	Ny Part - Car	₩'		System Display▶ Settings
Star #Re	t 30 MH s BW 10	z D0 kH:	z		#VBW	1.0 MHz			Sweep	ÎStop 2 2.30 s (5.00 GHz 1001 pts)		
MSG									STATUS				



D Agi	lent Spectrum	Analyzer -	Swept SA		- 62							
w Disp	50 Slay Line	Ω -24.39	dBm	β			Avg Type	ALIGNAUTO	05:48:45 PI TRACI	Apr 01, 2010		Display
_		In	put:RF PI IF(NO: Fast 😱 Gain:Low	#Atten: 20) dB	Avginoid.	. 5/100 M	DE	PNNNNN 27 GHz		Annotation►
10 di Log	B/div R e	f 10.00	dBm						-4.39	0 dBm		
0.00		1										Title►
-10.0												Graticule
-20.0										-24.39 dBm	<u>On</u>	Off
-30.0 -40.0											<u>On</u>	Display Line -24.39 dBm Off
-50.0		1										
-60.0		4.		35		i detant	hat a labor the	Aller of the	hat a start and the start and	H. stalf H. W. Japan		
-70.0		Will Right of	nthe the state of	here and the second	ng-nghl _{ad} tyrg ffilfi	L MANANA MANAGARTAN Y						System Display► Settings
-80.0												
Star #Re	t 30 MHz s BW 100	kHz	~	#VBW	1.0 MHz			Sweep	Stop 2: 2.30 s (1	5.00 GHz 1001 pts)		
MSG								STATUS				

Channel 06 (2437MHz) 30-25GHz

Channel 11 (2462MHz) 30-25GHz

						Swept SA	m Analyzer -	lent Spectru	D Agi
Peak Search	05:49:23 PM Apr 01, 2010 TRACE 1 2 3 4 5 6	ALIGNAUTO	SE:INT		Hz	00000 G	οΩ 4770600	50 ker 1 2.	Marl
Next Peak	kr1 2.477 GHz -4.015 dBm	ld: 2/100	Run Avg dB	Trig: Free #Atten: 20	NO: Fast 😱 Gain:Low	put: RF P IF(d B m	In ef 10.00 (3/div R	10 dE
Next Right							1		0.00
Next Left	-24.39 dBm								-10.0 -20.0
Marker Delta									-30.0
Mkr→CF									-50.0
Mkr→RefLvl	llraddilling at an it was	^A LLI ^{BANINGK} NIKALING ^{DE}	Bad Mary Mary Myonal you	Harper, Maj harite	with which we want the	avaltri Vallada a	WWW WWWW		-70.0
More 1 of 2	Stop 25.00 GHz 2.30 s (1001 pts)	Sweep		1.0 MHz	#VBW		z 0 kHz	t 30 MHz s BW 100	Star #Res
		STATUS							MSG

Product	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
---------	---	---

- Test Item : RF Antenna Conducted Spurious
- Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 7.2Mbps 20M-BW)

Channel 01 (2412MHz) 30-25GHz

💴 Agilent Sp	ectrum Analyzer - :	Swept SA									
<mark>₩</mark> Display	50 Ω Line -24.29	dBm	1			Avg Type	ALIGNAUTO : Log-Pwr	05:50:40 F	M Apr 01, 2010		Display
10 dB/div	Ref 10.00 (put: RF PI IFC JBm	NO: Fast 🖵 Gain:Low	#Atten: 20) dB	Avginoid.	M	lkr1 2.4 -4.2	02 GHz 87 dBm		Annotation►
0.00	1		2								Title►
-10.0									-24.29 dBm	<u>On</u>	Graticule Off
-30.0										<u>On</u>	Display Line -24.29 dBm Off
-50.0									. Usto Margan		
-70.0	ala and hada were	₩₽₩₩₩₩₩	Harana yaliyo hayo	yayaliyannaya ^{ya} ya	, whe particular la	phenormal providence	erlandidget _{inge} nd	hand a second	*/*****		System Display▶ Settings
Start 30 #Res BW	MHz / 100 kHz		#VBW	1.0 MHz			Sweep	Stop 2 2.30 s (5.00 GHz 1001 pts)		
MSG							STATUS				



						12		Swept SA	um Analyzer	ilent Specti	M Ag
Display	Apr 01, 2010 1 2 3 4 5 6 MWWWWW	05:51:51 PM TRACE TYPE	ALIGNAUTO e: Log-Pwr : 5/100	Avg Typ AvalHol	NSE:INT	Tria: Fre	NO: Foot	dBm	^{50 Ω} 1e -25.22	olay Lir	w Dis
Annotation►	7 GHz 2 dBm	kr1 2.42 -5.22	Μ) dB	#Atten: 2	Gain:Low	dBm	Ref 10.00	B/div	10 d
Title►									↓ 1		0.00
Graticule On Off	25.22 dBm										-10.0 -20.0
Display Line -25.22 dBm On Off											-30.0
											-50.0
System Display▶ Settings	ulandada da	arrainah hard	politica of the second	and a start and a start and a start and a start	hi7400/194418473	Anna Warth	Www.mayloy.May	an the ready that and	/ h	Humber	-70.0
	.00 GHz 001 pts)	Stop 25 2.30 s (1	Sweep			1.0 MHz	#VBW		lz 00 kHz	t 30 MH s BW 1	-80.0 Stai #Re
.1	,		STATUS				ta nomen a la des		ana ng sang sa		MSG

Channel 06 (2437MHz) 30-25GHz

Channel 11 (2462MHz) 30-25GHz

					-05		Swept SA	ım Analyzer -	lent Spectru	D Agi
Peak Search	TRACE 1 2 3 4 5 6	Log-Pwr	Avg Type	NSE:INT	AC SE	Hz	00000 G	οΩ .4520900	ker 1 2	Mar
Next Peak	1 2.452 GHz -5.109 dBm	4/100 Mł	Avg Hold:	≥Run)dB	Trig: Free #Atten: 20	₩0: Fast 🖵 Gain:Low	put: RF P IFI d B m	In Ref 10.00 (3/div R	10 dl
Next Right			7					•1		0.00
Next Left	-25 22 dBm									-10.0 -20.0
Marker Delta										-30.0
Mkr→CF										-50.0 -60.0
Mkr→RefLvl	erownik deeler maar in an ar	หมงที่งาไม่ในกุญหากม	approximation and a second s	antri Martin	raling galaxies	and the second	ilyblickersiyle/seer	" Vurley pland	Augud /	-70.0
More 1 of 2	top 25.00 GHz 30 s (1001 pts)	Sweep			1.0 MHz	#VBW		z 0 kHz	t 30 MH: s BW 10	Star #Re
		STATUS								MSG

Product	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
---------	---	---

- Test Item : RF Antenna Conducted Spurious
- Test Site : No.3 OATS

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

Channel 01 (2422MHz) 30-25GHz

🎾 Agilent Sp	ectrum Analyzer -	Swept SA									
₩ Display	50 Ω Line -24.93	dBm	4			Avg Type	ALIGNAUTO : Log-Pwr	05:53:12 F	M Apr 01, 2010		Display
10 dB/div	In Ref 10.00 (put: RF PI IFC JBm	NO: Fast 🖵 Sain:Low	#Atten: 20) dB	Avginoid.	M	kr1 2.4 -4.9	27 GHz 28 dBm		Annotation►
0.00	1					<					Title►
-10.0									-24.93 dBm	<u>On</u>	Graticule Off
-30.0										<u>On</u>	Display Line -24.93 dBm Off
-50.0							. Pasilan	alum the arm	ge all we down to		
-70.0 444	har hakayanan	prehiterization	Windowski and and	ntalyn dan ydd yn farfer	hire, with on the other	and a second	h, sa sandroffing, a	ų,) ^{το} .			System Display► Settings
Start 30 I #Res BW	MHz 100 kHz		#VBW	1.0 MHz			Sweep	Stop 2 2.30 s (5.00 GHz 1001 pts)		



D Agi	ilent Spectrun	n Analyzer -	Swept SA									
w Disp	play Line	<u>-24.88</u>	dBm	NO: Foot.	Tria: Free	NSE:INT	Avg Type AvalHold	ALIGNAUTO : Log-Pwr : 12/100	05:55:31 P TRAC TYP	M Apr 01, 2010 E 1 2 3 4 5 6 E MWWWWW		Display
10 di	B/div R e	ef 10.00 (dBm	Gain:Low	#Atten: 20) dB		Μ	₀ 14.87 الما	27 GHz 75 dBm		Annotation►
0.00		,1. <u></u>										Title►
-10.0 -20.0										-24.88 dBm	<u>On</u>	Graticule Off
-30.0 -40.0											<u>On</u>	Display Line -24.88 dBm Off
-50.0	, 								Mar.			
-70.0	Huhanland	W. Marker	(มงราวระยางส่งไม่	hand berling the	haldymente	estyreld-easter	nghiler ang the state of the st	r Helestingeligger	Land (1994) - 1994			System Display≯ Settings
Star #Re	rt 30 MHz s BW 100	kHz		, #VBW	1.0 MHz			Sweep	Stop 2 2.30 s (*	5.00 GHz 1001 pts)		
MSG								STATUS				

Channel 04 (2437MHz) 30-25GHz

Channel 07 (2452MHz) 30-25GHz

DAgilent Spectrum Analyzer	- Swept SA								
Display Line -25.4	2 dBm	SENSE:	Avg Typ	ALIGNAUTO e: Log-Pwr	05:54:23 P	M Apr 01, 2010		Display	
	Input: RF PNO: Fast 🖵 IFGain:Low	#Atten: 20 dE	in Avginoid 3	: 5/100 M				Annotation►	
10 dB/div Ref 10.00	10 dB/div Ref 10.00 dBm -5.424 dBm								
								Title►	
0.00									
-10.0								Graticule	
-20.0						05 40 JD-	<u> 0n</u>	Off	
-30.0						-25.42 ubni		Display Line	
-40.0				s			<u>On</u>	-25.42 dBm Off	
50.0									
100.0									
-60.0				ad at a start of the start of the	underly rath un	1000 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100		28 S	
-70.0 Highlander harrow	and the second all the second strategy	water water and the	Man And a construction of the construction of					System Display▶	
-80.0								Settings	
Start 30 MHz #Res BW 100 kHz	#VBW	1.0 MHz		Sweep	Stop 2: 2.30 s ('	5.00 GHz 1001 pts)			
MSG				STATUS					

6. Band Edge

6.1. Test Equipment

RF Conducted Measurement

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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Jun, 2009
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2009
Х	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2010
Х	8-WAY Power Divider	JFW	50PD-647 / 526770 0916	Apr., 2010

Note:

- 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
- 2. The test instruments marked with "X" are used to measure the final test results.
- 3. The power combiner is used for measure 11n mode.

RF Radiated Measurement:

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

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2009
	Х	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2009
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2009
	Х	Pre-Amplifier	Agilent	8447D/2944A09549	Sep., 2009
	Х	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2009
	Х	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2010
	Х	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	Χ	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 Conducted Measurement



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 Mar. 2005 KDB558074 for compliance to FCC 47CFR 15.247 requirements. The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that

the distance from antenna to the EUT was 3 meters.

The antenna is scanned 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	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module
Test Item	:	Band Edge Data
Test Site	:	No.3 OATS
Test Mode	:	Mode 1: Transmit (802.11b 1Mbps)

Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dBuV]	Emission Level [dBuV/m]	Detector
Horizontal	2412	31.639	75.004	106.642	Peak
Horizontal	2412	31.639	69.365	101.003	Average
Vertical	2412	30.950	75.283	106.232	Peak
Vertical	2412	30.950	71.052	102.001	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=10Hz

Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	2386.1	106.642	44.22	62.422	Peak
Horizontal	2386.0	101.003	49.65	51.353	Average
Vertical	2386.1	106.232	44.22	62.012	Peak
Vertical	2386.0	102.001	49.65	52.351	Average

Note:

The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength = $F - \Delta$

F = Fundamental field Strength (Peak or Average)

 Δ = Conducted Band Edge Delta (Peak or Average)



💴 Agilent Spec	ctrum Analyzer -	Swept SA			15			, 		
Marker 3	50 Ω 2 386100	00000 GH	AC	SENS	E:INT	Avg Typ	ALIGNAUTO e: Log-Pwr	09:37:01 A	M Mar 22, 2010	Marker
	2.0001000	put: RF PNO: IFGai	: Fast 😱 n:Low	Trig: Free F #Atten: 30 d	Run IB		MI			Select Marker
10 dB/div	Ref 20.00	dBm						-33.5	93 dBm	3
						/				Normal
-10.0										
-20.0				∮ ³	2]		In		Delta
-40.0		مەر بەرمەر ئەرمەر بەرمەر بە	wy alater was a second	~~~	\checkmark					
-60.0										Fixed⊳
Center 2.3	39000 GHz		_0	17				Snan 1	00.0 MHz	
#Res BW	1.0 MHz		#VBW '	1.0 MHz			#Sweep	500 ms (1001 pts)	Off
MKR MODE TR	C SCL f	2.413.0 (GHz	10.29 dBr	FUNC n	TION FU	NCTION WIDTH	FUNCTIO	ON VALUE	
3 N 1 4	f	2.386 1 0	GHz	-33.93 dBr	n					Properties►
5 6 7										
8 9 10					-					More
11 12										1 of 2
MSG							STATUS			

Peak Detector of conducted Band Edge Delta

Average Detector of conducted Band Edge Delta

D Ag	ilent S	Spect	rum	Analyzer -	Swept S/	A											
⊯ Mar	ker	3	ء 50 2.3	2 860000	00000	0 GH	z	AC S	ENSE:IN	NT	Avg 1	[ype:	ALIGNAUTO : Log-Pwr	09:37:21 / TRA	M Mar 22, 2010		Marker
10 d	B/div	,	Ref	In 20.00	dBm	PNO IFGai	:Fast () in:Low	#Atten:	30 dB				Mk	r3 2.38 -42.	6 0 GHz 87 dBm	S	elect Marker 3
Log 10.0 0.00												r-	Q1 V				Norma
-20.0 -30.0 -40.0								4 3	∂ ²	~	/			4			Delta
-50.0 -60.0 -70.0		~	-	~~						0							Fixed▷
Cen #Re	s B	2.39 W 1	900 .0 P	0 GHz /IHz	×	411.0	#VB	W 10 Hz		FUN	CTION	FUN	Sweep	Span 1 7.80 s (00.0 MHz 1001 pts) INVALUE		Ofi
2 3 4 5 6	N N	1	f f		2.	.390 0 (.386 0 (GHZ GHZ	-47.55 -42.87	авт IBm IBm								Properties▶
7 9 10 11 12																	More 1 of 2
MSG													STATUS				

QuieTer

Product	:	WLAN 802.11b/g/n 1T1R+BT2.1 EDR Combo Slim Module

Test Item	:	Band Edge Data
Test Site	:	No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps)

Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dBuV]	Emission Level [dBuV/m]	Detector
Horizontal	2462	32.019	73.520	105.539	Peak
Horizontal	2462	32.019	69.650	101.669	Average
Vertical	2462	31.290	74.622	105.912	Peak
Vertical	2462	31.290	68.499	99.789	Average

Note: 1:Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Average detector: RBW=1MHz, VBW=10Hz

Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	2488.1	105.539	46.36	59.179	Peak
Horizontal	2487.6	101.669	51.76	49.909	Average
Vertical	2488.1	105.912	46.36	59.552	Peak
Vertical	2487.6	99.789	51.76	48.029	Average

Note:

The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength = F - Δ

F = Fundamental field Strength (Peak or Average)

 Δ = Conducted Band Edge Delta (Peak or Average)



DAgilent Spe	ectrum Analyzer - Swept SA				2				
Warker 3	^{50 Ω} 2.48810000000	O GHz		ALIGNAUTO Type: Log-Pwr	09:38:17 AM Mar 22, 2 TRACE 1 2 3 4	5 6 Marker			
	Input: RF	PNO: Fast G Trig: F IFGain:Low #Atten:	: 30 dB		Select Marker				
10 dB/div	n s'								
10.0 0.00 -10.0						Normal			
-20.0 -30.0 -40.0		- Jung	2 • 3		Just physical and	Delta			
-50.0 -60.0 -70.0						Fixed⊳			
Center 2. #Res BW	Hz ts) Off								
		461 0 GHz 8.99	dBm		FUNCTION VALUE				
3 N 1 4 5 6	f 2.4	488 1 GHz -37.37	dBm			Properties▶			
8 9 10 11 12						More 1 of 2			
MSG STATUS									

Peak Detector of conducted Band Edge Delta

Average Detector of conducted Band Edge Delta

🖬 Agilent Spectrum Analyzer - Swept SA 📃 🗖 🔀														
⊯ Mar	ker	3	50 s 2.4	2 876000	00000 G	GHz	AC S		Avg	Al Type: I	LIGN AUTO Log-Pwr	09:38:39 / TRA	M Mar 22, 2010	Marker
Input: RF PNO: Fast C Ing: Free RUn IFGain:Low #Atten: 30 dB Mkr3 2.487 6 GHz										Select Marker				
10 dB/div Ref 20.00 dBm -46.07 dBm														
10.0 0.00						Z								Normal
-20.0 -30.0 -40.0				~				2 3						Delta
-50.0 -60.0 -70.0		700		J			4	X				~~~~		Fixed⊳
Cen #Re	Center 2.48350 GHz Span 100.0 MHz #Res BW 1.0 MHz #VBW 10 Hz Sweep 7.80 s (1001 pts)									Off				
1 2 3 4 5 6	N N N	1 1	f f		2.461 2.483 2.487	2 GHz 5 GHz 6 GHz	5.69 (-46.99 (-46.07 (dBm JBm JBm						Properties►
7 8 9 10 11 12														More 1 of 2
MSG				54		95					STATUS			