



Product Name	EeeKeyboard PC
Model No	EK1542
FCC ID.	MSQEK1542
Transmitter Module	AZWAVE/AW-NU103

Applicant	ASUSTeK COMPUTER INC.
Address	No. 150, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.

	T
Date of Receipt	Aug. 10, 2009
Issue Date	Aug. 25, 2009
Report No.	098210R-RFUSP42V01
Report Version	V1.0

The test results relate only to the samples tested.

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# Test Report Certification

Issue Date: Aug. 25, 2009

Report No.: 098210R-RFUSP42V01



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

Product Name	EeeKeyboard PC	
Applicant	ASUSTeK COMPUTER INC.	
Address	No. 150, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.	
Manufacturer	PROTEK(SHANGHAI)LIMITED	
Model No.	EK1542	
EUT Rated Voltage	AC 100-240V /50-60Hz	
EUT Test Voltage	AC 120 / 60Hz	
Trade Name	ASUS	
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2008	
	ANSI C63.4: 2003	
Test Result	Complied	

The test results relate only to the samples tested.

Tested By

Approved By

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20000

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NVLAP Lab Code; 200533-0

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



## 1. GENERAL INFORMATION

# 1.1. EUT Description

Product Name	EeeKeyboard PC			
Trade Name	ASUS			
Model No.	EK1542			
FCC ID.	MSQEK1542			
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: 6.5-135Mbps			
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			
Power Adapter (1)	MFR: ASUS, M/N: ADP-36EH C			
	Input: AC 100-240V, 50-60Hz, 1.0A			
	Output: DC 12V, 3.0A			
	Cable out: Non-Shielded, 1.8m with one ferrite core bonded.			
	Power Cord: Non-Shielded, 1.7m			
Power Adapter (2)	MFR: ASUS, M/N: EXA0801XA			
	Input: AC 100-240V, 50-60Hz, 1.0A			
	Output: DC 12V, 3.0A			
	Cable out: Non-Shielded, 1.8m with one ferrite core bonded.			
	Power Cord: Non-Shielded, 1.7m			

### **Antenna List**

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	ACON	APP6M-100000(Main)	Printed on PCB	1.24dBi in 2.4 GHz
		APP6M-100000(Aux)		

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

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2412 MHz	Channel 02:	2417 MHz	Channel 03:	2422 MHz	Channel 04:	2427 MHz
Channel 05:	2432 MHz	Channel 06:	2437 MHz	Channel 07:	2442 MHz	Channel 08:	2447 MHz
Channel 09:	2452 MHz	Channel 10:	2457 MHz	Channel 11:	2462 MHz		

#### 802.11n-40MHz Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 01:	2422 MHz	Channel 02:	2427 MHz	Channel 03:	2432 MHz	Channel 04:	2437 MHz
Channel 05:	2442 MHz	Channel 06:	2447 MHz	Channel 07:	2452 MHz		

- 1. The EUT is an EeeKeyboard PC, Contains functions and so on WiFi, Bluetooth, UWB, this report for WiFi. (FCC ID: TX2RTU7305BG13HMC for UWB)
- 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 \( \cdot 802.11g \) is 6Mbps \( \cdot 802.11n(20M-BW) \) is 6.5Mbps and \( \cdot 802.11n(40M-BW) \) is 13.5Mbps)
- 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.



### 1.2. Operational Description

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

The device provided of eight kinds of transmitting speed 6.5,13,19.5,26,39,52,58.5 and 65Mbps in 802.11n(20M-BW) mode and 13.5,27,40.5,54,81,108,121.5 and 135 Mbps(40M-BW) the device of RF carrier is BPSK, QPSK, 16QAM and 64QAM (IEEE 802.11n).

The device adapts direct sequence spread spectrum modulation. The antenna provides diversity function to improve the receiving function and the antennas to support  $1(Transmit) \times 2(Receive)$  MISO technology.

This EeeKeyboard PC, 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 EeeKeyboard PC 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) (Adapter 1)
	Mode 2: Transmit (802.11g 6Mbps) (Adapter 1)
	Mode 3: Transmit (802.11n MCS0 6.5Mbps 20M-BW) (Adapter 1)
	Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 1)

NOTE: UWB function was executed during the test.



# 1.3. Tested System Details

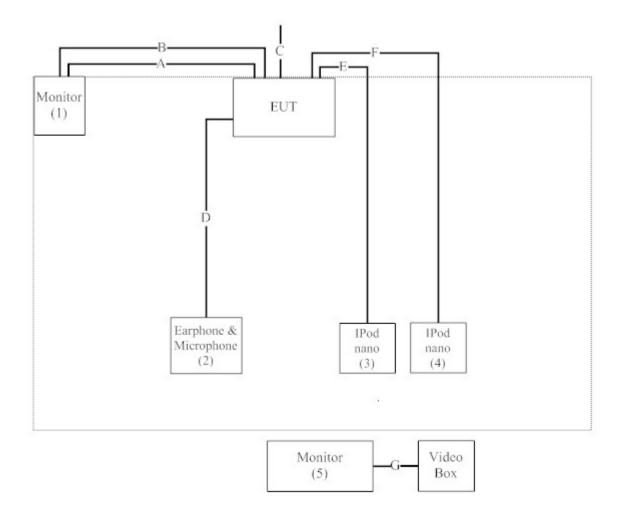
The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Monitor	Dell	2407WFPb	CN-0FC255-46633	Shielded, 1.8m, With
1				-638-1JJS	core*2
2	Microphone &	РСНОМЕ	N/A	N/A	Non-Shielded, 2m
2	Earphone				
3	IPod nano	Apple	A1199	YM706LM7VQ5	Shielded, 1.2m
4	IPod nano	Apple	A1199	YM706KKGVQ5	Shielded, 1.2m
_	Monitor	Dell	2407WFPb	CN-0FC255-46633	Shielded, 1.8m, With
)				-638-1MDS	core*2

Signa	al Cable Type	Signal cable Description				
A	VGA Cable	Shielded, 1.8m, with two ferrite cores bonded.				
В	HDMI Cable	Shielded, 16m				
С	LAN Cable	Shielded, 1.7m				
D	Microphone & Earphone Cable	Non-Shielded, 2.0m				
Е	USB Cable	Non-Shielded, 2.0m				
F	USB Cable	Non-Shielded, 2.0m				
G	HDMI Cable	Shielded, 1.6m				



### 1.4. Configuration of Tested System



### 1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.4
- (2) Execute program"Realtek 11n Single Chip USB WLAN MP" Ver 0.0026.0702.2009 on the EUT.
- (3) Configure the test mode, the test channel, and the data rate to start the continuous transmit
- (4) UWB function was executed during the test.
- (5) Transmit video signal to the monitor via the video box.
- (6) 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

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Site Description: File on

Federal Communications Commission

FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046

Registration Number: 92195

Accreditation on NVLAP NVLAP Lab Code: 200533-0

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### 2. Conducted Emission

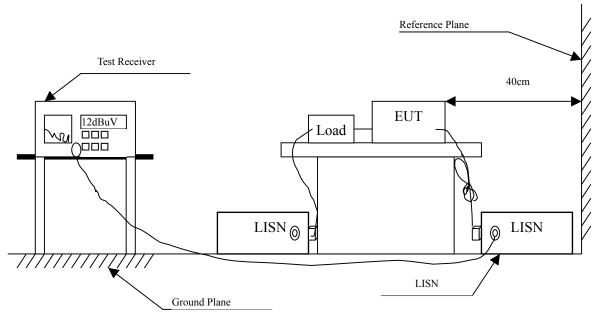
# 2.1. Test Equipment

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 Room	m		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	I	imits							
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 : EeeKeyboard PC

Test Item : Conducted Emission Test

Power Line : Line 1

Test Mode : Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 1) (2437MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
Line 1					
Quasi-Peak					
0.236	9.682	32.520	42.202	-21.341	63.543
0.396	9.650	29.270	38.920	-20.051	58.971
0.615	9.630	27.660	37.290	-18.710	56.000
0.923	9.670	39.400	49.070	-6.930	56.000
1.576	9.680	26.880	36.560	-19.440	56.000
5.248	9.700	16.230	25.930	-34.070	60.000
Average					
0.236	9.682	11.740	21.422	-32.121	53.543
0.396	9.650	19.120	28.770	-20.201	48.971
0.615	9.630	18.280	27.910	-18.090	46.000
0.923	9.670	28.970	38.640	-7.360	46.000
1.576	9.680	21.080	30.760	-15.240	46.000
5.248	9.700	7.810	17.510	-32.490	50.000

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



Test Item : Conducted Emission Test

Power Line : Line 2

Test Mode : Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 1) (2437MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					_
Quasi-Peak					
0.248	9.687	33.000	42.687	-20.513	63.200
0.369	9.650	28.820	38.470	-21.273	59.743
0.869	9.673	35.850	45.523	-10.477	56.000
1.552	9.680	26.420	36.100	-19.900	56.000
2.377	9.680	20.520	30.200	-25.800	56.000
5.474	9.710	17.020	26.730	-33.270	60.000
Average					
0.248	9.687	15.320	25.007	-28.193	53.200
0.369	9.650	13.660	23.310	-26.433	49.743
0.869	9.673	27.100	36.773	-9.227	46.000
1.552	9.680	21.210	30.890	-15.110	46.000
2.377	9.680	11.970	21.650	-24.350	46.000
5.474	9.710	7.930	17.640	-32.360	50.000

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



Test Item : Conducted Emission Test

Power Line : Line 1

Test Mode : Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 2)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dB dBuV		dB	dBuV
Line 1					
Quasi-Peak					
0.162	9.750	40.260	50.010	-15.647	65.657
0.209	9.701	31.310	41.011	-23.303	64.314
0.599	9.633	26.130	35.763	-20.237	56.000
0.869	9.667	39.310	48.977	-7.023	56.000
1.556	9.680	21.060	30.740	-25.260	56.000
9.232	9.810	18.420	28.230	-31.770	60.000
Average					
0.162	9.750	27.830	37.580	-18.077	55.657
0.209	9.701	19.480	29.181	-25.133	54.314
0.599	9.633	21.570	31.203	-14.797	46.000
0.869	9.667	30.690	40.357	-5.643	46.000
1.556	9.680	15.230	24.910	-21.090	46.000
9.232	9.810	13.470	23.280	-26.720	50.000

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



Test Item : Conducted Emission Test

Power Line : Line 2

Test Mode : Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 2)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV	dB	dBuV
Line 2					
Quasi-Peak					
0.212	9.708	16.420	26.128	-38.101	64.229
0.502	9.640	16.540	26.180	-29.820	56.000
0.888	9.670	39.480	49.150	-6.850	56.000
1.451	9.670	24.620	34.290	-21.710	56.000
2.205	9.680	15.610	25.290	-30.710	56.000
5.787	9.720	16.380	26.100	-33.900	60.000
Average					
0.212	9.708	6.120	15.828	-38.401	54.229
0.502	9.640	9.830	19.470	-26.530	46.000
0.888	9.670	23.780	33.450	-12.550	46.000
1.451	9.670	17.410	27.080	-18.920	46.000
2.205	9.680	2.880	12.560	-33.440	46.000
5.787	9.720	7.940	17.660	-32.340	50.000

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



### 3. Peak Power Output

### 3.1. Test Equipment

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

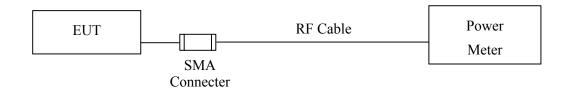
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Power Meter	Anritsu	ML2495A/6K00003357	May, 2009
X	Power Sensor	Anritsu	MA2411B/0738448	Jun, 2009

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

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

### 3.2. Test Setup

Conducted Measurement



### 3.3. Limits

The maximum peak power shall be less 1 Watt.

### 3.4. Test Procedure

The EUT was tested according to DTS test procedure of 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 : EeeKeyboard PC

Test Item : Peak Power Output Data

Test Site : No.3 OATS

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

			Peak Power Output (dBm)									
Channel No		Frequency (MHz)	For diff	Average ferent Da		(Mbps)	Peak Power	Required Limit	Result			
			1	2	5.5	11	1					
	01	2412	12.81				15.56	<30dBm	Pass			
	06	2437	12.77	12.75	12.74	12.72	15.49	<30dBm	Pass			
	11	2462	12.79				15.54	<30dBm	Pass			



Test Item : Peak Power Output Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (Adapter 1)

Channel No			Peak Power Output (dBm)									
	Frequency (MHz)		Average Power For different Data Rate (Mbps)							Peak Power	Required	Result
		6	9	12	18	24	36	48	54	6	Limit	
01	2412	12.46		I	-		I			20.10	<30dBm	Pass
06	2437	12.51	12.49	12.48	12.46	12.44	12.42	12.41	12.38	20.49	<30dBm	Pass
11	2462	12.75								20.83	<30dBm	Pass



Test Item : Peak Power Output Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 6.5Mbps 20M-BW) (Adapter 1)

Channel No						Peak	Power	Output	t (dBm)	ı		
	Frequency (MHz)		Average Power For different Data Rate (Mbps)							Peak Power	Required	Result
		6.5	13	19.5	26	39	52	58.5	65	6.5	Limit	
01	2412	10.91							-	19.35	<30dBm	Pass
06	2437	10.87	10.85	10.83	10.82	10.8	10.78	10.76	10.75	19.58	<30dBm	Pass
11	2462	10.89								19.89	<30dBm	Pass



Test Item : Peak Power Output Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 1)

						Peak	Power	Output	(dBm)			
Channel No	Frequency (MHz)		F		Average erent Da			s)		Peak Power	Required	Result
		13.5	27	40.5	54	81	108	121.5	135	13.5	Limit	
01	2422	10.88		I	I	I	I	I	-	19.37	<30dBm	Pass
04	2437	10.85	10.83	10.82	10.81	10.8	10.79	10.78	10.77	19.51	<30dBm	Pass
07	2452	10.84			-				-	19.84	<30dBm	Pass



### 4. Radiated Emission

## 4.1. Test Equipment

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

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
⊠Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2008
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2008
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2009
	X	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2008
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2008
	X	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2008
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2009
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

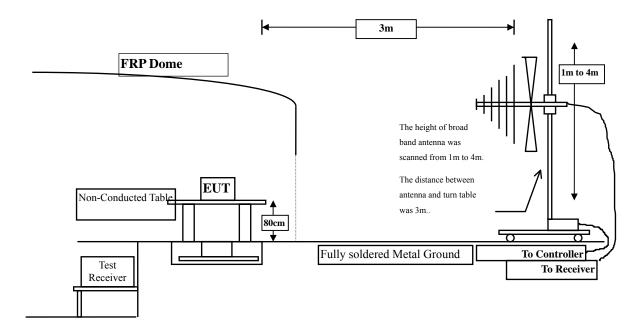
Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

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

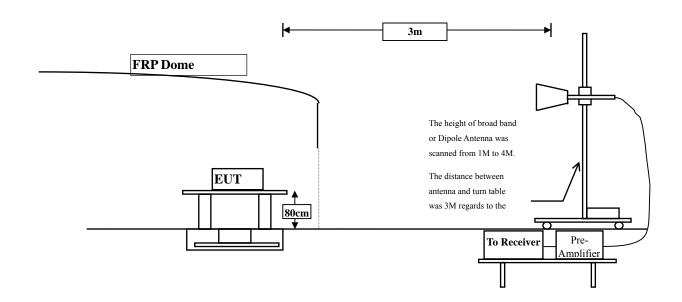


### 4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz





### 4.3. Limits

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

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

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



#### 4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of 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 bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range from 30MHz - 10th Harmonic of fundamental was investigated.

### 4.5. Uncertainty

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



#### 4.6. Test Result of Radiated Emission

Product : EeeKeyboard PC

Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (Adapter 1) (2412MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					_
<b>Peak Detector:</b>					
4824.000	9.582	40.660	50.242	-23.758	74.000
7236.000	14.401	35.240	49.641	-24.359	74.000
9648.000	19.795	36.510	56.305	-17.695	74.000
Avonoco					
Average					
<b>Detector:</b>					
9648.000	19.795	22.680	42.475	-11.525	54.000
Vertical					
<b>Peak Detector:</b>					
4824.000	8.462	46.400	54.862	-19.138	74.000
7236.000	15.412	39.510	54.922	-19.078	74.000
9648.000	19.005	36.180	55.185	-18.815	74.000
Average					
<b>Detector:</b>					
4824.000	8.462	39.000	47.462	-6.538	54.000
7236.000	15.412	29.900	45.312	-8.688	54.000
9648.000	19.005	22.620	41.625	-12.375	54.000
Maka					

- 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.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (Adapter 1) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	9.473	40.150	49.623	-24.377	74.000
7311.000	14.540	36.090	50.629	-23.371	74.000
9748.000	20.024	35.220	55.245	-18.755	74.000
Average					
Detector:					
9748.000	20.024	23.180	43.204	-10.796	54.000
Vertical					
Peak Detector:					
4874.000	8.882	43.810	52.691	-21.309	74.000
7311.000	15.283	36.900	52.183	-21.817	74.000
9748.000	19.228	36.240	55.469	-18.531	74.000
Average					
Detector:					
9748.000	19.228	22.750	41.979	-12.021	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.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (Adapter 1) (2462 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
<b>Peak Detector:</b>					
4924.000	9.487	38.670	48.156	-25.844	74.000
7386.000	14.798	35.670	50.468	-23.532	74.000
9848.000	20.005	35.820	55.826	-18.174	74.000
Average					
<b>Detector:</b>					
9848.000	20.005	22.810	42.816	-11.184	54.000
Vertical					
Peak Detector:					
4924.000	9.415	40.640	50.054	-23.946	74.000
7386.000	15.269	36.630	51.899	-22.101	74.000
9848.000	19.191	35.730	54.921	-19.079	74.000
Average					
<b>Detector:</b>					
9848.000	19.191	22.730	41.921	-12.079	54.000
Mata					

- 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.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (Adapter 1) (2412MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4824.000	9.582	40.070	49.652	-24.348	74.000
7236.000	14.401	38.080	52.481	-21.519	74.000
9648.000	19.795	36.570	56.365	-17.635	74.000
Average					
<b>Detector:</b>					
9648.000	19.795	22.760	42.555	-11.445	54.000
Vertical					
Peak Detector:					
4824.000	8.462	43.810	52.272	-21.728	74.000
7236.000	15.412	42.050	57.462	-16.538	74.000
9648.000	19.005	35.910	54.915	-19.085	74.000
Average					
<b>Detector:</b>					
7236.000	15.412	28.100	43.512	-10.488	54.000
9648.000	19.005	22.770	41.775	-12.225	54.000
NI-4					

- 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.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (Adapter 1) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
<b>Peak Detector:</b>					
4874.000	9.473	38.290	47.763	-26.237	74.000
7311.000	14.540	38.310	52.849	-21.151	74.000
9748.000	20.024	35.600	55.625	-18.375	74.000
Average					
<b>Detector:</b>					
9748.000	20.024	22.710	42.735	-11.265	54.000
Vertical					
<b>Peak Detector:</b>					
4874.000	8.882	41.510	50.391	-23.609	74.000
7311.000	15.283	42.050	57.333	-16.667	74.000
9748.000	19.228	36.180	55.409	-18.591	74.000
Average					
<b>Detector:</b>					
7311.000	15.283	25.830	41.113	-12.887	54.000
9748.000	19.228	22.830	42.059	-11.941	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.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (Adapter 1) (2462 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
<b>Peak Detector:</b>					
4924.000	9.487	38.090	47.576	-26.424	74.000
7386.000	14.798	37.710	52.508	-21.492	74.000
9848.000	20.005	35.610	55.616	-18.384	74.000
Average					
<b>Detector:</b>					
9848.000	20.005	22.690	42.696	-11.304	54.000
Vertical					
<b>Peak Detector:</b>					
4924.000	9.415	40.740	50.154	-23.846	74.000
7386.000	15.269	39.870	55.139	-18.861	74.000
9848.000	19.191	36.180	55.371	-18.629	74.000
Average					
<b>Detector:</b>					
7386.000	15.269	25.490	40.759	-13.241	54.000
9848.000	19.191	22.340	41.531	-12.469	54.000
Note:					

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



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 6.5Mbps 20M-BW) (Adapter 1) (2412MHz)

Correct	Reading	Measurement	Margin	Limit
Factor	Level	Level		
dB	dBuV	dBuV/m	dB	dBuV/m
9.582	37.820	47.402	-26.598	74.000
14.401	37.820	52.221	-21.779	74.000
19.795	37.820	57.615	-16.385	74.000
19.795	22.550	42.345	-11.655	54.000
8.462	37.210	45.672	-28.328	74.000
15.412	37.250	52.662	-21.338	74.000
19.005	37.580	56.585	-17.415	74.000
19.005	23.100	42.105	-11.895	54.000
	9.582 14.401 19.795 19.795 8.462 15.412 19.005	Factor Level dBuV  9.582 37.820 14.401 37.820 19.795 37.820  19.795 22.550  8.462 37.210 15.412 37.250 19.005 37.580	Factor dB         Level dBuV         Level dBuV/m           9.582         37.820         47.402           14.401         37.820         52.221           19.795         37.820         57.615           19.795         22.550         42.345           8.462         37.210         45.672           15.412         37.250         52.662           19.005         37.580         56.585	Factor dB         Level dBuV         Level dBuV/m         dB           9.582         37.820         47.402         -26.598           14.401         37.820         52.221         -21.779           19.795         37.820         57.615         -16.385           19.795         22.550         42.345         -11.655           8.462         37.210         45.672         -28.328           15.412         37.250         52.662         -21.338           19.005         37.580         56.585         -17.415

- 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.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 6.5Mbps 20M-BW) (Adapter 1) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
<b>Peak Detector:</b>					
4874.000	9.473	37.210	46.683	-27.317	74.000
7311.000	14.540	37.250	51.789	-22.211	74.000
9748.000	20.024	37.260	57.285	-16.715	74.000
Average					
<b>Detector:</b>					
9748.000	20.024	22.180	42.205	-11.795	54.000
Vertical					
<b>Peak Detector:</b>					
4874.000	8.882	36.520	45.401	-28.599	74.000
7311.000	15.283	33.860	49.143	-24.857	74.000
9748.000	19.228	35.560	54.789	-19.211	74.000
<b>A</b>					
Average					
Detector:	10.220	22 200	41.600	10 201	54.000
9748.000	19.228	22.380	41.609	-12.391	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.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 6.5Mbps 20M-BW) (Adapter 1) (2462 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4924.000	9.487	36.830	46.316	-27.684	74.000
7386.000	14.798	33.950	48.748	-25.252	74.000
9848.000	20.005	35.580	55.586	-18.414	74.000
Average					
<b>Detector:</b>					
9848.000	20.005	22.680	42.686	-11.314	54.000
Vertical					
<b>Peak Detector:</b>					
4924.000	9.415	36.280	45.694	-28.306	74.000
7386.000	15.269	35.050	50.319	-23.681	74.000
9848.000	19.191	36.510	55.701	-18.299	74.000
Average					
<b>Detector:</b>					
9848.000	19.191	22.570	41.761	-12.239	54.000
NT 4					

- 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.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 1) (2422MHz)

Correct	Reading	Measurement	Margin	Limit
Factor	Level	Level		
dB	dBuV	dBuV/m	dB	dBuV/m
9.536	36.840	46.376	-27.624	74.000
14.459	35.140	49.599	-24.401	74.000
19.847	35.770	55.617	-18.383	74.000
19.847	22.490	42.337	-11.663	54.000
8.627	36.480	45.107	-28.893	74.000
15.363	34.650	50.014	-23.986	74.000
19.057	36.080	55.137	-18.863	74.000
19.057	22.590	41.647	-12.353	54.000
	9.536 14.459 19.847 19.847 8.627 15.363 19.057	Factor Level dBuV  9.536 36.840 14.459 35.140 19.847 35.770  19.847 22.490  8.627 36.480 15.363 34.650 19.057 36.080	Factor dB         Level dBuV         Level dBuV/m           9.536         36.840         46.376           14.459         35.140         49.599           19.847         35.770         55.617           19.847         22.490         42.337           8.627         36.480         45.107           15.363         34.650         50.014           19.057         36.080         55.137	Factor dB         Level dBuV         Level dBuV/m         dB           9.536 36.840 46.376 49.599 35.140 49.599 -24.401 19.847 35.770 55.617 -18.383         -27.624 -14.459 -24.401 19.847 -11.663           19.847 22.490 42.337 -11.663         -11.663 -11.663 -11.663           8.627 36.480 45.107 -28.893 15.363 34.650 50.014 -23.986 19.057 36.080 55.137 -18.863

- 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.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 1) (2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4874.000	9.473	36.410	45.883	-28.117	74.000
7311.000	14.540	34.250	48.789	-25.211	74.000
9748.000	20.024	35.280	55.305	-18.695	74.000
Average					
Detector:					
9748.000	20.024	22.290	42.315	-11.685	54.000
Vertical					
<b>Peak Detector:</b>					
4874.000	8.882	36.560	45.441	-28.559	74.000
7311.000	15.283	34.390	49.673	-24.327	74.000
9748.000	19.228	35.190	54.419	-19.581	74.000
Average					
<b>Detector:</b>					
9748.000	19.228	22.880	42.109	-11.891	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.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : Harmonic Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 1) (2452 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4904.000	9.518	36.880	46.398	-27.602	74.000
7356.000	14.741	34.090	48.830	-25.170	74.000
9808.000	20.066	35.320	55.386	-18.614	74.000
Average					
<b>Detector:</b>					
9808.000	20.066	22.690	42.756	-11.244	54.000
Vertical					
<b>Peak Detector:</b>					
4904.000	9.235	36.210	45.444	-28.556	74.000
7356.000	15.318	33.690	49.008	-24.992	74.000
9808.000	19.266	37.070	56.336	-17.664	74.000
Average					
<b>Detector:</b>					
9808.000	19.266	22.930	42.196	-11.804	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.
- 7. The emission levels of other frequencies are very lower than the limit and not show in test report.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (Adapter 1)(2437 MHz)

Frequency	Correct	Reading	Reading Measurement		Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					_
460.680	1.131	23.994	25.125	-20.875	46.000
656.620	1.634	30.731	32.365	-13.635	46.000
776.900	3.744	26.836	30.580	-15.420	46.000
829.280	6.015	29.235	35.250	-10.750	46.000
922.400	5.855	29.505	35.360	-10.640	46.000
962.540	6.066	34.234	40.300	-13.700	54.000
Vertical					
383.080	-2.819	25.384	22.565	-23.435	46.000
635.280	-4.279	29.439	25.160	-20.840	46.000
693.480	1.721	30.919	32.640	-13.360	46.000
755.560	2.775	27.723	30.498	-15.502	46.000
829.280	2.535	29.875	32.410	-13.590	46.000
957.320	6.257	24.428	30.685	-15.315	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.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (Adapter 1)(2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
540.220	2.027	26.028	28.055	-17.945	46.000
656.620	1.634	33.616	35.250	-10.750	46.000
792.420	4.819	27.876	32.695	-13.305	46.000
831.220	5.779	29.480	35.260	-10.740	46.000
922.400	5.855	32.395	38.250	-7.750	46.000
988.360	6.622	31.628	38.250	-15.750	54.000
Vertical					
460.680	1.131	27.519	28.650	-17.350	46.000
635.280	1.641	32.577	34.218	-11.782	46.000
697.360	2.720	30.530	33.250	-12.750	46.000
809.880	4.730	30.890	35.620	-10.380	46.000
879.720	1.916	32.249	34.165	-11.835	46.000
974.780	1.921	32.399	34.320	-19.680	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.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 6.5Mbps 20M-BW) (Adapter 1)(2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
460.680	1.131	27.229	28.360	-17.640	46.000
635.280	1.641	32.959	34.600	-11.400	46.000
697.360	2.720	30.760	33.480	-12.520	46.000
809.880	4.730	29.890	34.620	-11.380	46.000
879.720	5.696	28.994	34.690	-11.310	46.000
974.780	6.141	29.459	35.600	-18.400	54.000
Vertical					
536.340	-0.833	25.193	24.360	-21.640	46.000
697.360	0.860	31.450	32.310	-13.690	46.000
774.960	1.891	28.779	30.670	-15.330	46.000
837.040	1.843	33.367	35.210	-10.790	46.000
918.520	3.650	30.630	34.280	-11.720	46.000
968.960	7.666	26.834	34.500	-19.500	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.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 1)(2437 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
515.000	1.104	24.196	25.300	-20.700	46.000
693.480	3.121	28.502	31.623	-14.377	46.000
831.220	5.779	26.620	32.400	-13.600	46.000
897.180	4.730	31.720	36.450	-9.550	46.000
955.380	5.719	29.541	35.260	-10.740	46.000
982.540	6.774	31.436	38.210	-15.790	54.000
Vertical					
542.160	-0.791	24.371	23.580	-22.420	46.000
693.480	1.721	27.639	29.360	-16.640	46.000
776.900	1.934	26.691	28.625	-17.375	46.000
837.040	1.843	30.811	32.654	-13.346	46.000
897.180	1.880	31.640	33.520	-12.480	46.000
957.320	6.257	32.456	38.713	-7.287	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.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 1: Transmit (802.11b 1Mbps) (Adapter 2)

Frequency	Correct	Reading	Reading Measurement		Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
460.680	1.131	23.993	25.124	-20.876	46.000
656.620	1.634	31.191	32.825	-13.175	46.000
776.900	3.744	27.511	31.255	-14.745	46.000
829.280	6.015	29.608	35.623	-10.377	46.000
922.400	5.855	27.929	33.784	-12.216	46.000
982.540	6.774	33.849	40.623	-13.377	54.000
Vertical					
383.080	-2.819	25.404	22.585	-23.415	46.000
635.280	-4.279	29.487	25.208	-20.792	46.000
693.480	1.721	30.347	32.068	-13.932	46.000
755.560	2.775	27.721	30.496	-15.504	46.000
829.280	2.535	30.090	32.625	-13.375	46.000
957.320	6.257	31.758	38.015	-7.985	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.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

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

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
540.220	2.027	27.028	29.055	-16.945	46.000
656.620	1.634	31.914	33.548	-12.452	46.000
792.420	4.819	27.569	32.388	-13.612	46.000
831.220	5.779	29.900	35.680	-10.320	46.000
922.400	5.855	32.395	38.250	-7.750	46.000
988.360	6.622	31.528	38.150	-15.850	54.000
Vertical					
540.220	-0.403	27.028	26.625	-19.375	46.000
697.360	0.860	31.745	32.605	-13.395	46.000
755.560	2.775	27.710	30.485	-15.515	46.000
825.400	3.125	29.692	32.816	-13.184	46.000
941.800	6.079	32.171	38.250	-7.750	46.000
968.960	7.666	29.584	37.250	-16.750	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.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 6.5 Mbps 20M-BW) (Adapter 2)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					_
460.680	1.131	26.933	28.064	-17.936	46.000
635.260	1.639	31.611	33.250	-12.750	46.000
697.360	2.720	30.748	33.468	-12.532	46.000
809.880	4.730	28.955	33.685	-12.315	46.000
879.720	5.696	29.504	35.200	-10.800	46.000
974.760	6.142	30.156	36.299	-17.701	54.000
Vertical					
536.340	-0.833	26.648	25.815	-20.185	46.000
697.360	0.860	31.748	32.608	-13.392	46.000
774.960	1.891	28.594	30.485	-15.515	46.000
837.040	1.843	33.644	35.487	-10.513	46.000
918.520	3.650	30.008	33.658	-12.342	46.000
968.960	7.666	30.854	38.520	-15.480	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.



Test Item : General Radiated Emission Data

Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 2)

Frequency	Correct	Reading	Measurement	Margin	Limit
	Factor	Level	Level		
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
515.000	1.104	24.196	25.300	-20.700	46.000
693.480	3.121	28.350	31.471	-14.529	46.000
831.220	5.779	27.070	32.850	-13.150	46.000
897.180	4.730	29.520	34.250	-11.750	46.000
955.380	5.719	29.885	35.604	-10.396	46.000
982.540	6.774	31.476	38.250	-15.750	54.000
Vertical					
542.160	-0.791	26.151	25.360	-20.640	46.000
693.480	1.721	31.164	32.885	-13.115	46.000
776.900	1.934	26.426	28.360	-17.640	46.000
837.040	1.843	32.407	34.250	-11.750	46.000
897.180	1.880	32.480	34.360	-11.640	46.000
957.320	6.257	31.993	38.250	-7.750	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:

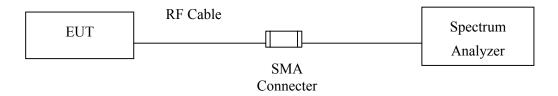
	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100170	Nov, 2008
	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2009
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2009

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

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

### 5.2. Test Setup

#### RF antenna Conducted Measurement:



### 5.3. Limits

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

#### **5.4.** Test Procedure

The EUT was tested according to DTS test procedure of 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  $\pm$  1.27dB



### 5.6. Test Result of RF antenna conducted test

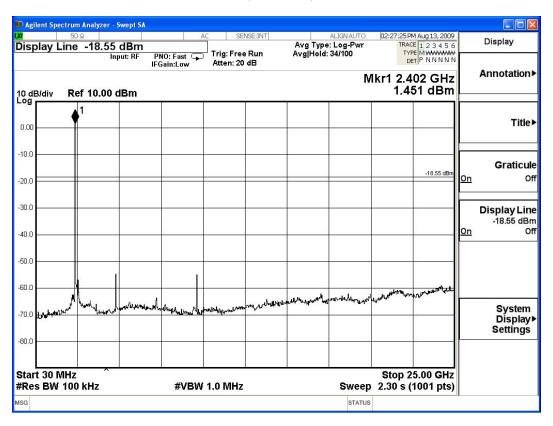
Product : EeeKeyboard PC

Test Item : RF antenna conducted test

Test Site : No.3 OATS

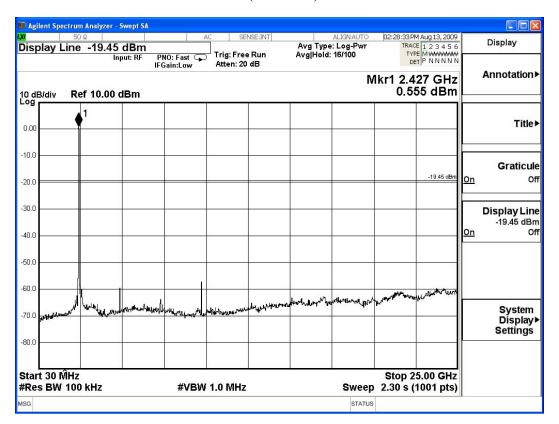
Test Mode : Mode 1: Transmit (802.11b 1Mbps) (Adapter 1)

### Channel 01 (2412MHz) 30-25GHz





### Channel 06 (2437MHz) 30-25GHz



### Channel 11 (2462MHz) 30-25GHz



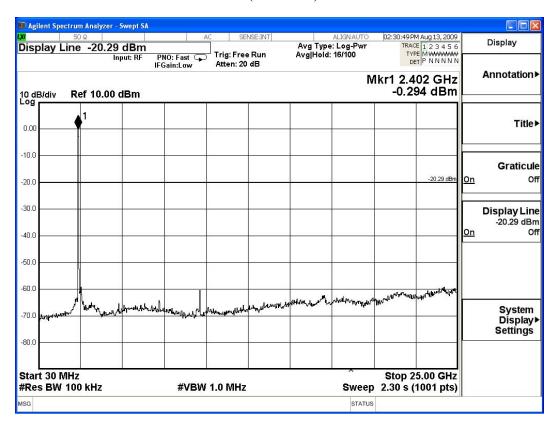


Test Item : RF Antenna Conducted Spurious

Test Site : No.3 OATS

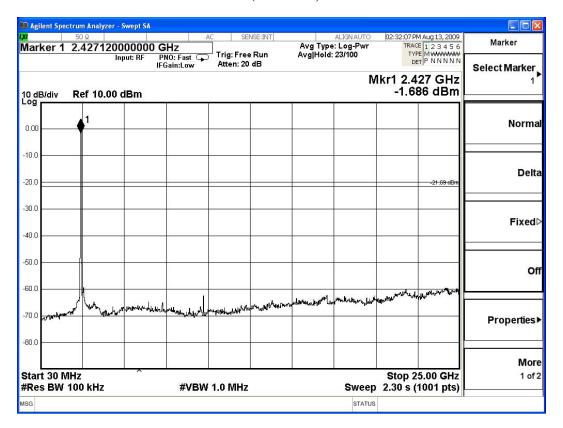
Test Mode : Mode 2: Transmit (802.11g 6Mbps) (Adapter 1)

### Channel 01 (2412MHz) 30-25GHz

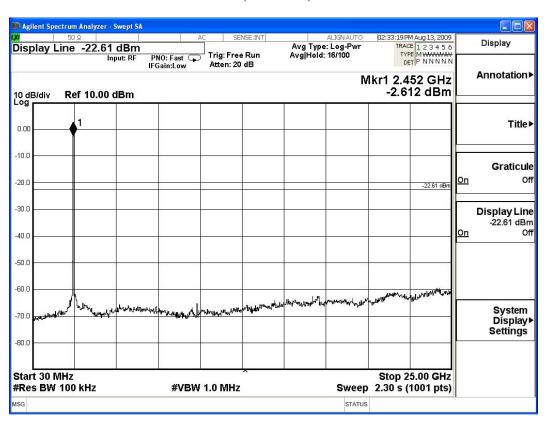




### Channel 06 (2437MHz) 30-25GHz



### Channel 11 (2462MHz) 30-25GHz



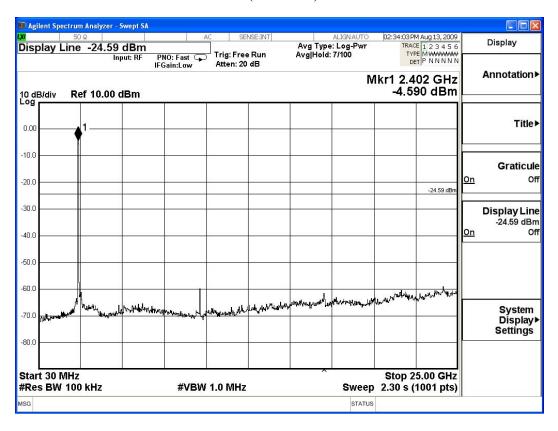


Test Item : RF Antenna Conducted Spurious

Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 6.5Mbps 20M-BW) (Adapter 1)

### Channel 01 (2412MHz) 30-25GHz





### Channel 06 (2437MHz) 30-25GHz



### Channel 11 (2462MHz) 30-25GHz



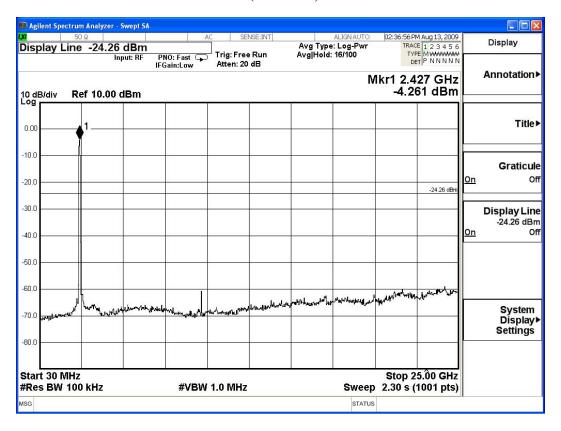


Test Item : RF Antenna Conducted Spurious

Test Site : No.3 OATS

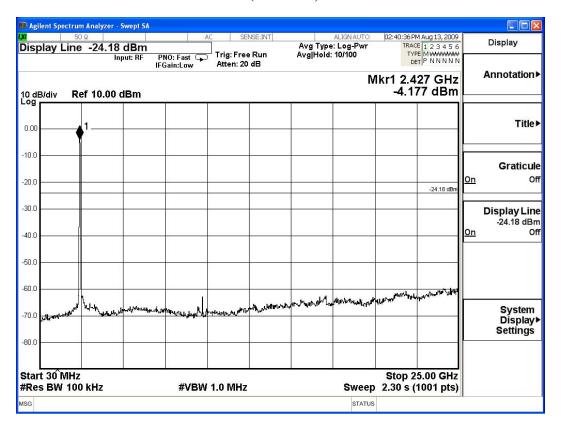
Test Mode : Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 1)

### Channel 01 (2422MHz) 30-25GHz

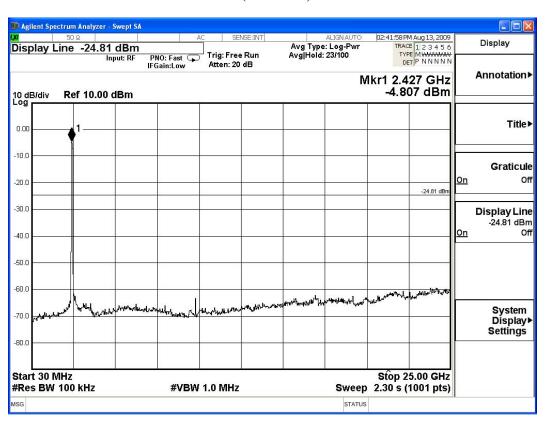




### Channel 04 (2437MHz) 30-25GHz



### Channel 07 (2452MHz) 30-25GHz





### 6. Band Edge

### **6.1.** Test Equipment

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

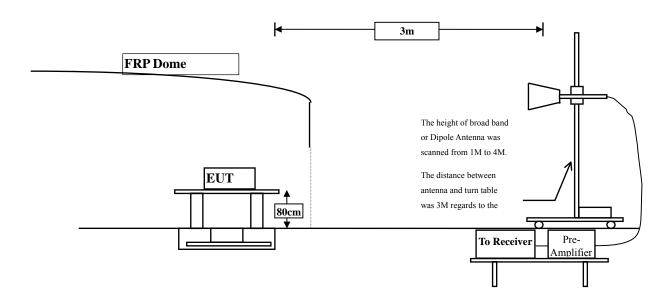
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2008
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2008
	X	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2008
⊠Site # 3	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2008
Z Site ii 3	X	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2008
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2009
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note:

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

### 6.2. Test Setup

### **RF Radiated Measurement:**



### 6.3. Limits

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

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### **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 : EeeKeyboard PC
Test Item : Band Edge Data
Test Site : No.3 OATS

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

## Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dBuV]	Emission Level [dBuV/m]	Detector
Horizontal	2412	36.613	59.579	96.192	Peak
Horizontal	2412	36.613	53.580	90.193	Average
Vertical	2412	35.621	65.474	101.095	Peak
Vertical	2412	35.634	58.873	94.507	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	2390.000	96.192	50.936	45.256	Peak
Horizontal	2386.400	90.193	56.110	34.083	Average
Vertical	2390.000	101.095	50.936	50.159	Peak
Vertical	2386.400	94.507	56.110	38.397	Average

### Note:

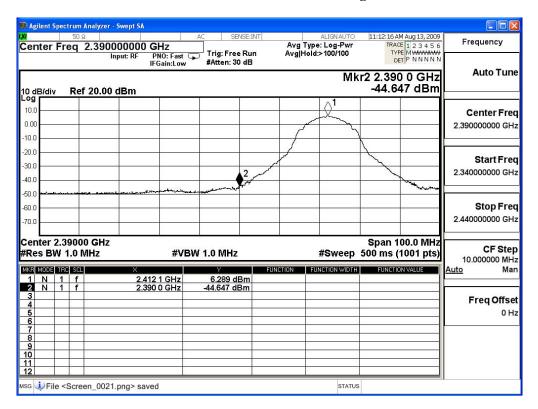
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength =  $F - \Delta$ 

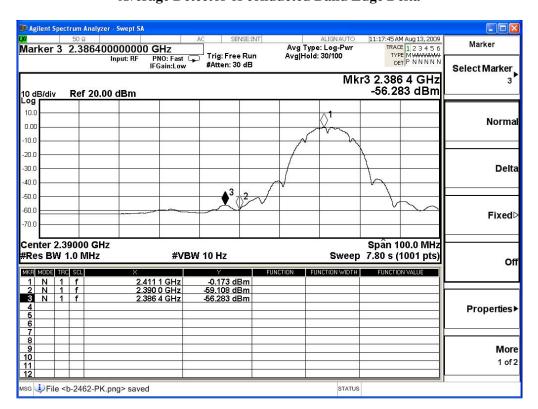
F = Fundamental field Strength (Peak or Average)



### Peak Detector of conducted Band Edge Delta



### Average Detector of conducted Band Edge Delta





Product : EeeKeyboard PC
Test Item : Band Edge Data
Test Site : No.3 OATS

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

## Fundamental Filed Strength

Antenna	Frequency	Correction Factor	Reading Level	Emission Level	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dB(uV/m)]	
Horizontal	2462	36.699	61.024	97.724	Peak
Horizontal	2462	36.695	55.190	91.885	Average
Vertical	2462	36.027	64.207	100.234	Peak
Vertical	2462	36.031	57.734	93.765	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)	∆ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	2483.5	97.724	50.423	47.301	Peak
Horizontal	2483.5	91.885	55.948	35.937	Average
Vertical	2483.5	100.234	50.423	49.811	Peak
Vertical	2483.5	93.765	55.948	37.817	Average

#### Note:

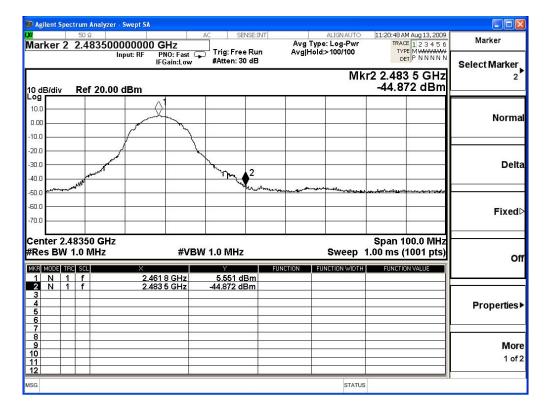
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength =  $F - \Delta$ 

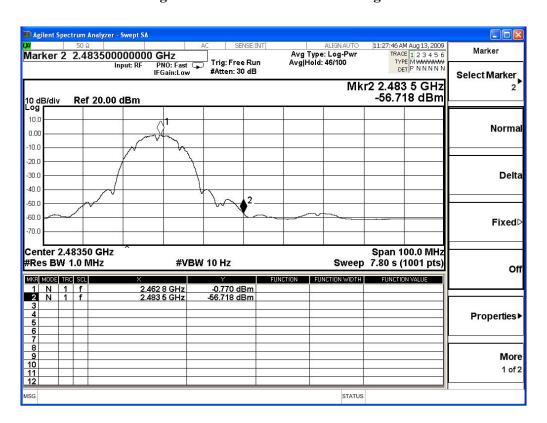
F = Fundamental field Strength (Peak or Average)



### Peak Detector of conducted Band Edge Delta



### **Average Detector of conducted Band Edge Delta**





Product : EeeKeyboard PC
Test Item : Band Edge Data
Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (Adapter 1)

## Fundamental Filed Strength

Antenna	Frequency	Correction Factor	Reading Level	Emission Level	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dBuV/m]	
Horizontal	2412	36.613	63.303	99.916	Peak
Horizontal	2412	36.613	48.094	84.707	Average
Vertical	2412	35.659	67.770	103.428	Peak
Vertical	2412	35.646	52.129	87.775	Average

Note: 1:Spectrum Analyzer setting:

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

### Band Edge Test Data

20010 20080					
Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	2390	99.916	37.924	61.992	Peak
Horizontal	2390	84.707	43.869	40.838	Average
Vertical	2390	103.428	37.924	65.504	Peak
Vertical	2390	87.775	43.869	43.906	Average

### Note:

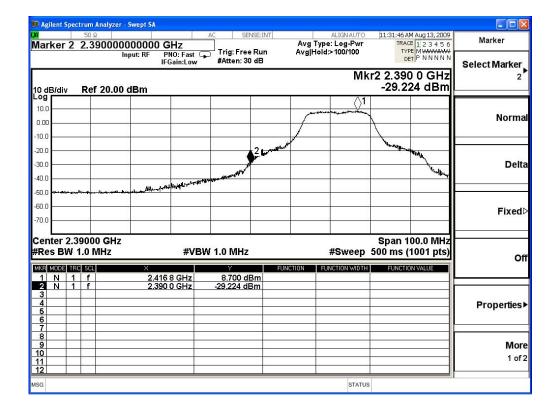
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength =  $F - \Delta$ 

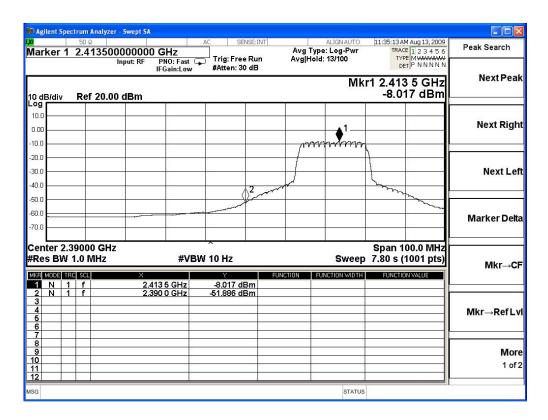
F = Fundamental field Strength (Peak or Average)



### Peak Detector of conducted Band Edge Delta



### **Average Detector of conducted Band Edge Delta**





Product : EeeKeyboard PC
Test Item : Band Edge Data
Test Site : No.3 OATS

Test Mode : Mode 2: Transmit (802.11g 6Mbps) (Adapter 1)

## Fundamental Filed Strength

Antenna	Frequency	Correction Factor	Reading Level	Emission Level	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dB(uV/m)]	
Horizontal	2462	36.701	64.441	101.142	Peak
Horizontal	2462	36.703	49.112	85.814	Average
Vertical	2462	36.078	67.150	103.229	Peak
Vertical	2462	36.070	51.966	88.035	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	2483.5	101.142	38.272	62.87	Peak
Horizontal	2483.5	85.814	42.602	43.212	Average
Vertical	2483.5	103.229	38.272	64.957	Peak
Vertical	2483.5	88.035	42.602	45.433	Average

### Note:

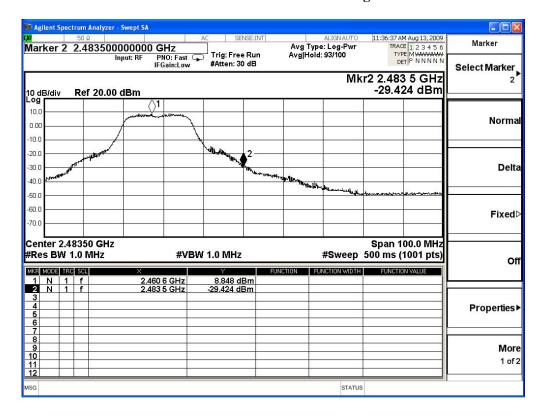
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength =  $F - \Delta$ 

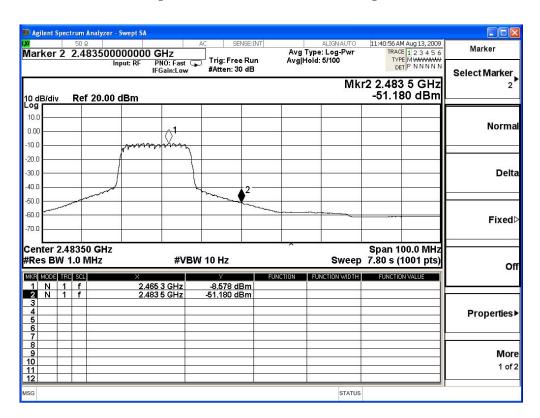
F = Fundamental field Strength (Peak or Average)



## Peak Detector of conducted Band Edge Delta



### Average Detector of conducted Band Edge Delta





Product : EeeKeyboard PC
Test Item : Band Edge Data
Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 6.5Mbps 20M-BW) (Adapter 1)

## Fundamental Filed Strength

Antenna	Frequency	Correction Factor	Reading Level	Emission Level	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dBuV/m]	
Horizontal	2412	36.614	60.469	97.082	Peak
Horizontal	2412	36.613	46.516	83.129	Average
Vertical	2412	35.649	64.955	100.603	Peak
Vertical	2412	35.603	50.301	85.905	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	2390	97.082	36.016	61.066	Peak
Horizontal	2390	83.129	44.31	38.819	Average
Vertical	2390	100.603	36.016	64.587	Peak
Vertical	2390	85.905	44.31	41.595	Average

### Note:

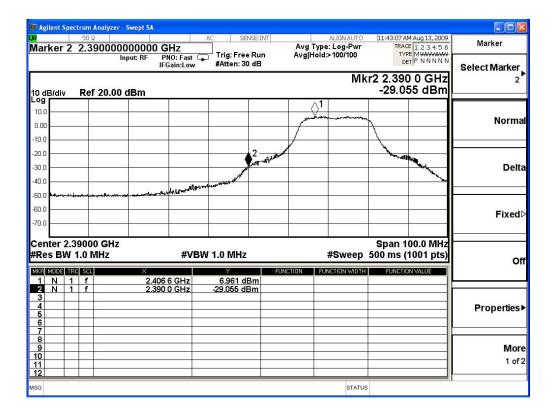
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength =  $F - \Delta$ 

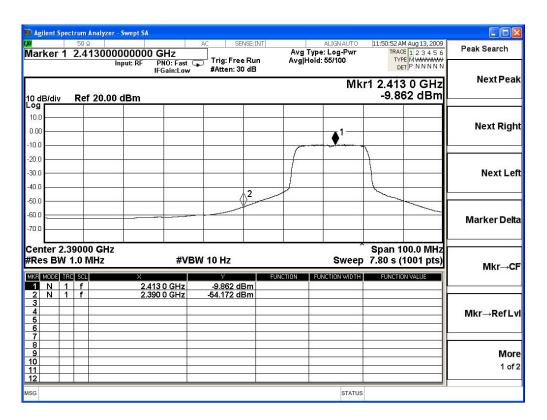
F = Fundamental field Strength (Peak or Average)



### Peak Detector of conducted Band Edge Delta



### **Average Detector of conducted Band Edge Delta**





Product : EeeKeyboard PC
Test Item : Band Edge Data
Test Site : No.3 OATS

Test Mode : Mode 3: Transmit (802.11n MCS0 6.5Mbps 20M-BW) (Adapter 1)

## Fundamental Filed Strength

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Antenna	Frequency	Correction Factor	Reading Level	Emission Level	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dB(uV/m)]	
Horizontal	2462	36.702	62.134	98.837	Peak
Horizontal	2462	36.703	47.183	83.885	Average
Vertical	2462	36.074	67.734	103.809	Peak
Vertical	2462	36.064	52.758	88.822	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	2483.5	98.837	35.881	62.956	Peak
Horizontal	2483.5	83.885	44.023	39.862	Average
Vertical	2483.5	103.809	35.881	67.928	Peak
Vertical	2483.5	88.822	44.023	44.799	Average

### Note:

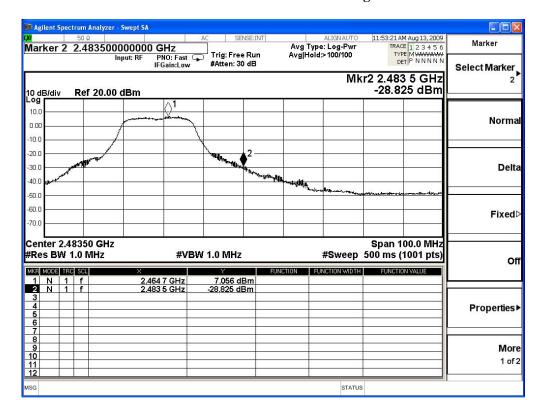
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength =  $F - \Delta$ 

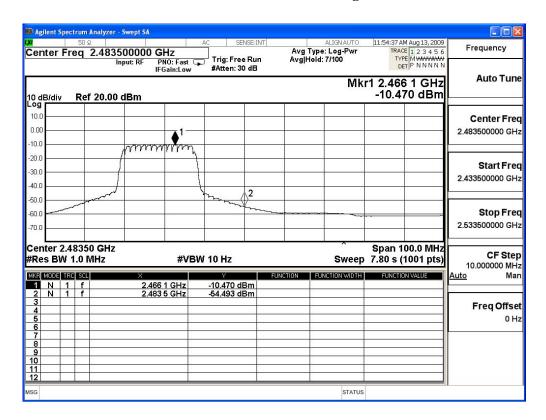
F = Fundamental field Strength (Peak or Average)



### Peak Detector of conducted Band Edge Delta



### Peak Detector of conducted Band Edge Delta





Product : EeeKeyboard PC
Test Item : Band Edge Data
Test Site : No.3 OATS

Test Mode : Mode 4: Transmit (802.11n MCS0 13.5Mbps 40M-BW) (Adapter 1)

## Fundamental Filed Strength

Antenna	Frequency	Correction Factor	Reading Level	Emission Level	Detector
Pole	[MHz]	[dB/m]	[dBuV]	[dBuV/m]	
Horizontal	2412	36.613	58.386	94.999	Peak
Horizontal	2412	36.614	40.377	76.991	Average
Vertical	2412	35.651	65.463	101.115	Peak
Vertical	2412	35.758	51.045	86.803	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	2388	94.999	31.933	63.066	Peak
Horizontal	2390	76.991	34.268	42.723	Average
Vertical	2388	101.115	31.933	69.182	Peak
Vertical	2390	86.803	34.268	52.535	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)