Test Report

Product Name	Wireless Mouse
Model No.	OM-100018/T
FCC ID	FSUKM015

Applicant	KYE SYSTEMS CORP. (Genius)
Address	NO. 492, SEC. 5, CHUNG HSIN RD., SAN CHUNG, TAIPEI HSIEN, 24160, TAIWAN, R.O .C.

Date of Receipt	Dec. 20, 2010
Issued Date	Jan. 07, 2011
Report No.	10C327R-RFUSP30V01
Report Version	V1.0

Test Report Certification

Issued Date: Jan. 07, 2011

Report No.: 10C327R-RFUSP30V01

Product Name	Wireless Mouse
Applicant	KYE SYSTEMS CORP. (Genius)
Address	NO. 492, SEC. 5, CHUNG HSIN RD., SAN CHUNG, TAIPEI HSIEN, 24160, TAIWAN, R.O .C.
Manufacturer	KYE SYSTEMS CORP. (Genius)
Model No.	OM-100018/T
EUT Rated Voltage	DC 1.5V(Power by Battery)
EUT Test Voltage	DC 1.5V(Power by Battery)
Trade Name	Genius
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2009 ANSI C63.4: 2003 NVLAP Lab Code: 200533-0
Test Result	Complied

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 Huang

(Senior Adm. Specialist / Rita Huang)

Tested By : Eason Hung

(Engineer / Eason Hung)

Approved By :

(Manager / Vincent Lin)

Testing Laboratory 0914

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Wireless Mouse
Trade Name	Genius
Model No.	OM-100018/T
FCC ID	FSUKM015
Frequency Range	2402~2480MHz
Channel Control	Auto
Channel Separation	1MHz
Antenna Type	Printed on PCB
Channel Number	79
Type of Modulation	GFSK

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	KYE SYSTEMS CORP. (Genius)	N/A	2.66dBi for 2.4 GHz

Note: The antenna of EUT is conform to FCC 15.203

Frequency of Each Channel

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 1:	2402 MHz	Channel 22:	2423 MHz	Channel 43:	2444 MHz	Channel 64:	2465 MHz
Channel 2:	2403 MHz	Channel 23:	2424 MHz	Channel 44:	2445 MHz	Channel 65:	2466 MHz
Channel 3:	2404 MHz	Channel 24:	2425 MHz	Channel 45:	2446 MHz	Channel 66:	2467 MHz
Channel 4:	2405 MHz	Channel 25:	2426 MHz	Channel 46:	2447 MHz	Channel 67:	2468 MHz
Channel 5:	2406 MHz	Channel 26:	2427 MHz	Channel 47:	2448 MHz	Channel 68:	2469 MHz
Channel 6:	2407 MHz	Channel 27:	2428 MHz	Channel 48:	2449 MHz	Channel 69:	2470 MHz
Channel 7:	2408 MHz	Channel 28:	2429 MHz	Channel 49:	2450 MHz	Channel 70:	2471 MHz
Channel 8:	2409 MHz	Channel 29:	2430 MHz	Channel 50:	2451 MHz	Channel 71:	2472 MHz
Channel 9:	2410 MHz	Channel 30:	2431 MHz	Channel 51:	2452 MHz	Channel 72:	2473 MHz
Channel 10:	2411 MHz	Channel 31:	2432 MHz	Channel 52:	2453 MHz	Channel 73:	2474 MHz
Channel 11:	2412 MHz	Channel 32:	2433 MHz	Channel 53:	2454 MHz	Channel 74:	2475 MHz
Channel 12:	2413 MHz	Channel 33:	2434 MHz	Channel 54:	2455 MHz	Channel 75:	2476 MHz
Channel 13:	2414 MHz	Channel 34:	2435 MHz	Channel 55:	2456 MHz	Channel 76:	2477 MHz
Channel 14:	2415 MHz	Channel 35:	2436 MHz	Channel 56:	2457 MHz	Channel 77:	2478 MHz
Channel 15:	2416 MHz	Channel 36:	2437 MHz	Channel 57:	2458 MHz	Channel 78:	2479 MHz
Channel 16:	2417 MHz	Channel 37:	2438 MHz	Channel 58:	2459 MHz	Channel 79:	2480 MHz
Channel 17:	2418 MHz	Channel 38:	2439 MHz	Channel 59:	2460 MHz		
Channel 18:	2419 MHz	Channel 39:	2440 MHz	Channel 60:	2461 MHz		
Channel 19:	2420 MHz	Channel 40:	2441 MHz	Channel 61:	2462 MHz		
Channel 20:	2421 MHz	Channel 41:	2442 MHz	Channel 62:	2463 MHz		
Channel 21:	2422 MHz	Channel 42:	2443 MHz	Channel 63:	2464 MHz		

Note:

1. The EUT is a Wireless Mouse with a built-in 2.4GHz transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. These tests are conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.249 for spread spectrum devices.

1.2. Operational Description

The EUT is Wireless Mouse built-in 2.4GHz transceiver. The operation frequency is from 2402MHz to 2480MHz with GFSK modulation. The signal will be transmitted through 2.4GHz RF signal from the Printed on PCB antenna. DC 1.5V (Power by Battery) shall be provided for EUT operation.

Joy is a 3-button 2.4GHz wireless optical mouse with nano receiver. Equipped with Pixart Magic Lens, Joy delivers excellent tracking performance on not only the regular office tables but also on special surfaces such as glossy marble stones and ceramic tile.

Joy is designed to be “plug & play”. Simply plug on the dongle to the computer and power on the mouse, the mouse will be detected automatically and start to work.

Test Mode	Mode 1: Transmit

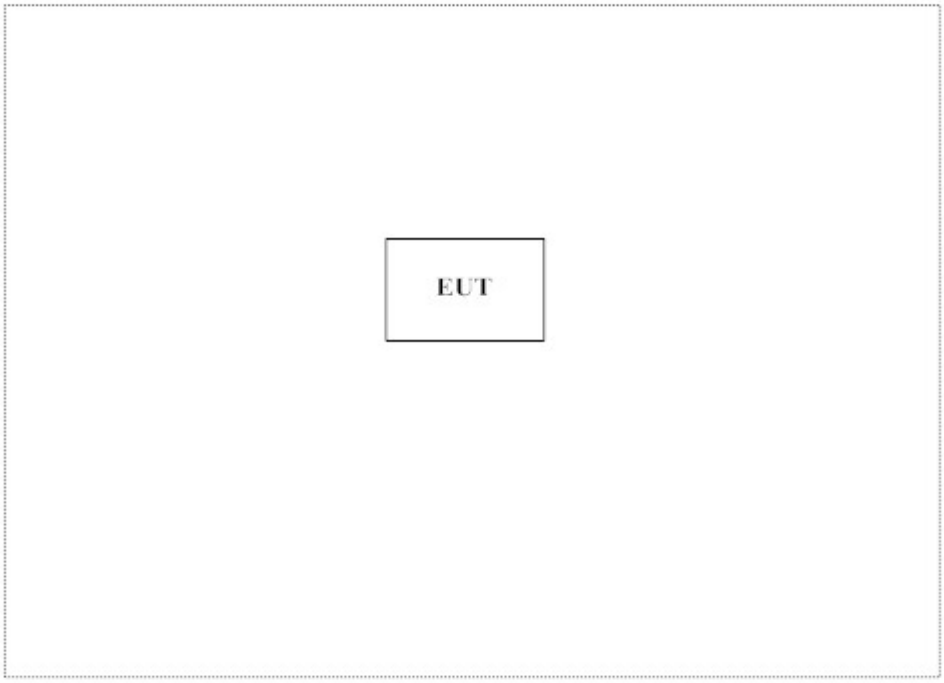
1.3. Tested System Datails

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)	N/A	N/A	N/A	N/A	N/A

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

1.4. Configuration of Test System



1.5. EUT Exercise Software

(1) Setup the EUT as shown in section 1.4
(2) Inserts the battery, start continuous transmit
(3) Verify that the EUT works correctly.

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

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

Accreditation on NVLAP
NVLAP Lab Code: 200533-0

Site Name: Quietek Corporation
Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
Lin-Kou Shiang, Taipei,
Taiwan, R.O.C.
TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : service@quietek.com

FCC Accreditation Number: TW1014

Testing Laboratory
0914

2. Radiated Emission

2.1. Test Equipment

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

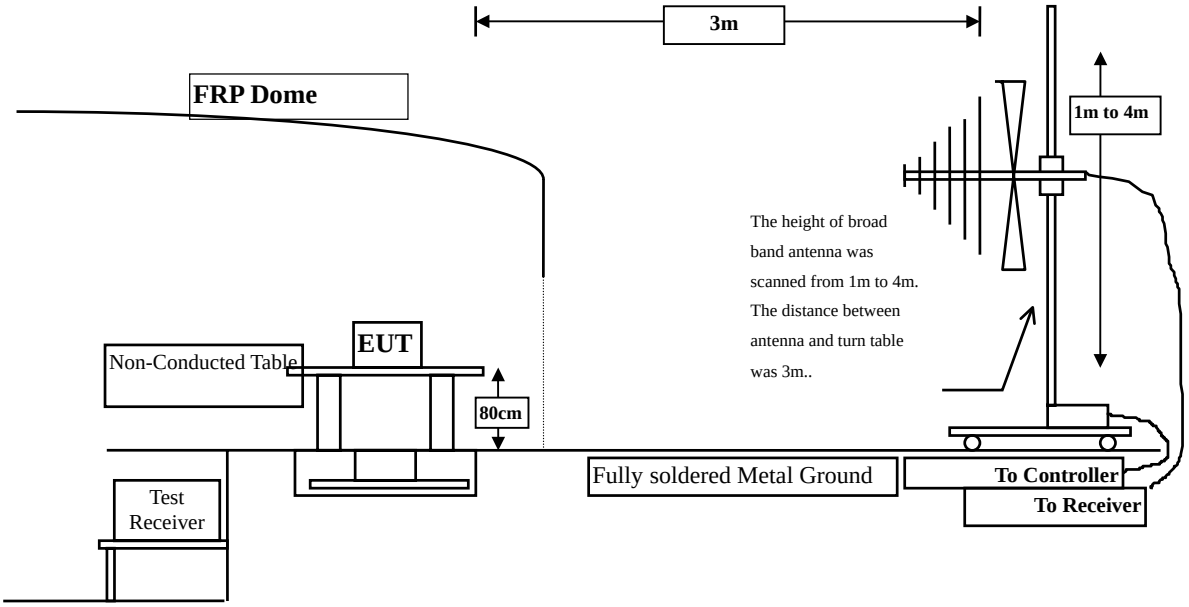
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2010
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2010
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2010
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2010
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2010
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2010
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2010
	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.

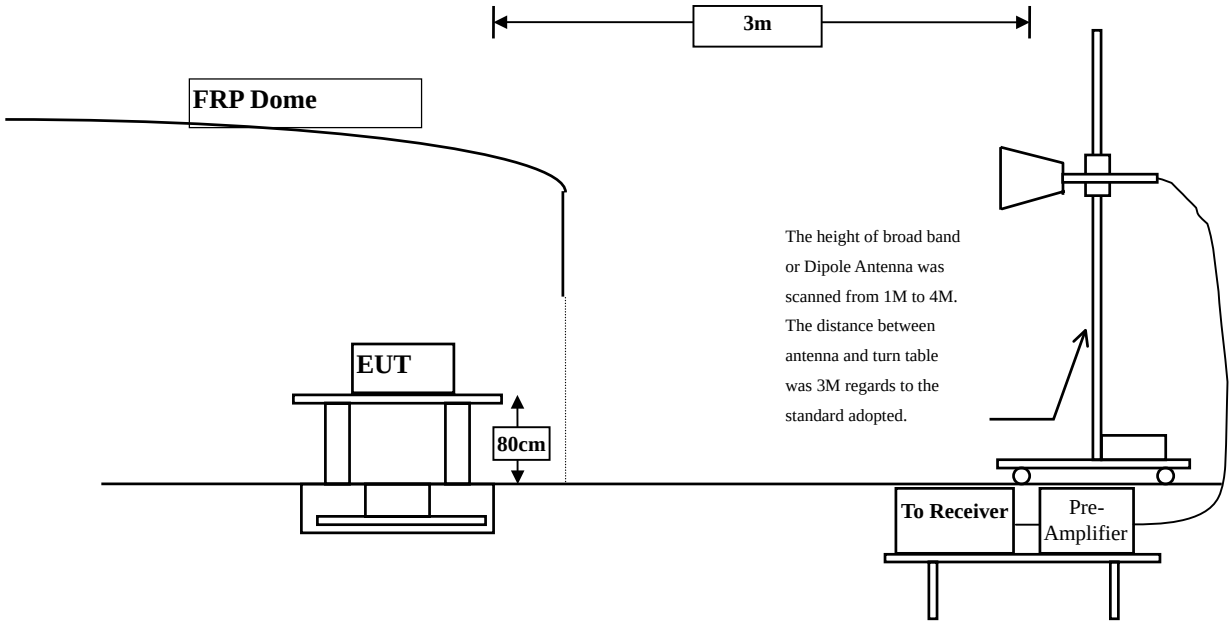
2. The test instruments marked with “X” are used to measure the final test results.

2.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



2.3. Limits

➢ **Fundamental and Harmonics Emission Limits**

FCC Part 15 Subpart C Paragraph 15.249 Limits				
Frequency MHz	Field Strength of Fundamental		Field Strength of Harmonics	
	(mV/m @3m)	(dBuV/m @3m)	(uV/m @3m)	(dBuV/m @3m)
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54

Remarks : 1. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)

2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

➢ **General Radiated Emission Limits**

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB 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)

2.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested compliance to FCC 47CFR 15.249 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 on the Final Measurement.

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

2.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

2.6. Test Result of Radiated Emission

Product : Wireless Mouse
Test Item : Fundamental Radiated Emission
Test Site : No.3OATS
Test Mode : Mode 1: Transmit

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
2402.000	31.573	60.580	92.154	-21.846	114.000
2448.000	31.913	60.440	92.353	-21.647	114.000
2480.000	32.155	59.360	91.516	-22.484	114.000
Average					
Detector:					
2402.000	31.573	58.030	89.604	-4.396	94.000
2448.000	31.913	59.620	91.533	-2.467	94.000
2480.000	32.155	58.060	90.216	-3.784	94.000

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.

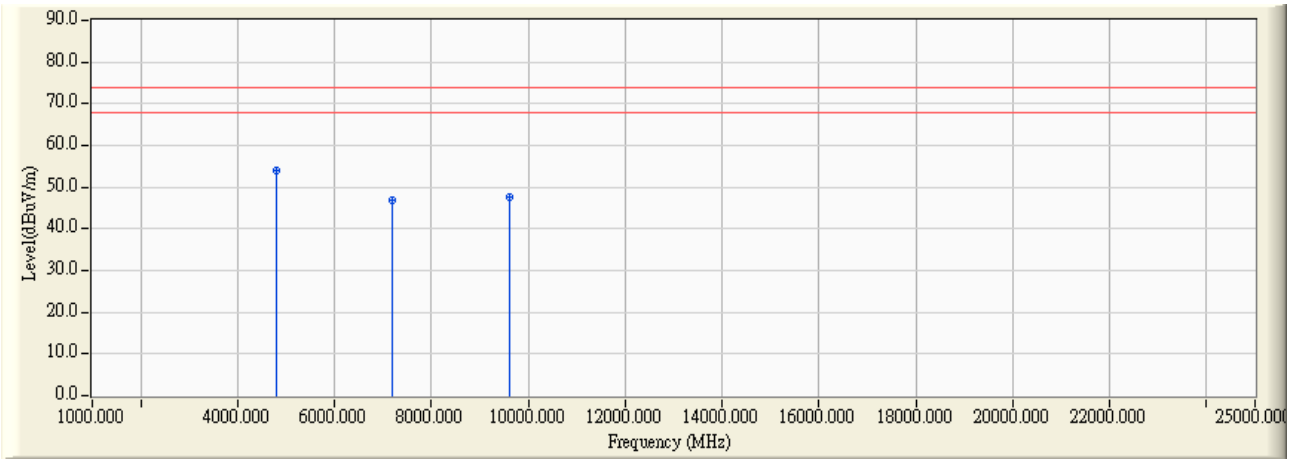
Product : Wireless Mouse
Test Item : Fundamental Radiated Emission
Test Site : No.3OATS
Test Mode : Mode 1: Transmit

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Vertical					
Peak Detector:					
2402.000	30.917	59.350	90.267	-23.733	114.000
2448.000	31.193	56.700	87.894	-26.106	114.000
2480.000	31.412	55.440	86.852	-27.148	114.000
Average					
Detector:					
2402.000	30.917	57.150	88.067	-5.933	94.000
2448.000	31.193	55.360	86.554	-7.446	94.000
2480.000	31.412	54.690	86.102	-7.898	94.000

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 : Wireless Mouse
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (2402MHz)

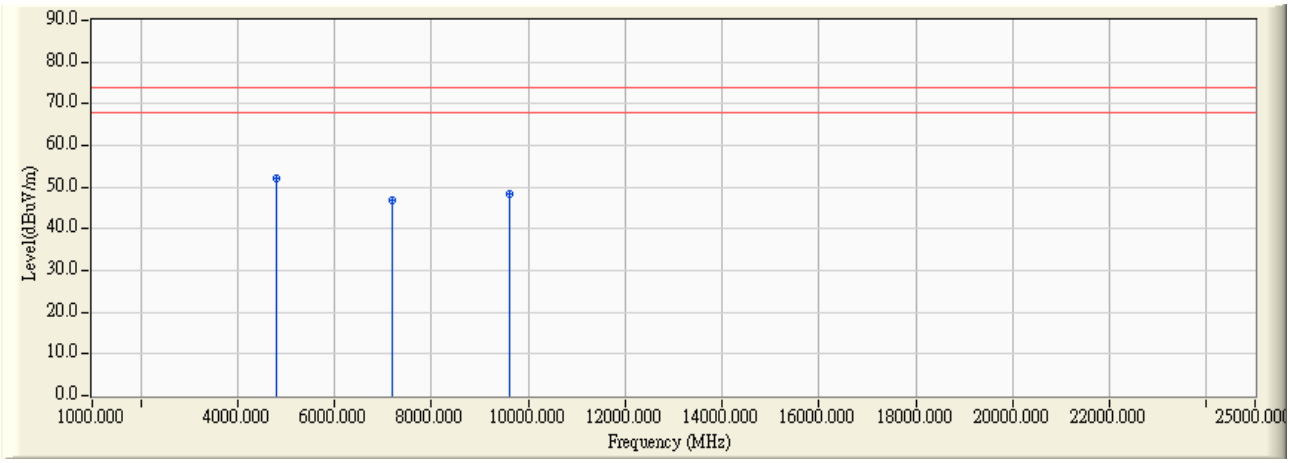


Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4804.000	0.511	53.340	53.850	-20.150	74.000
7206.000	7.511	39.530	47.041	-26.959	74.000
9608.000	8.394	39.300	47.694	-26.306	74.000
Average Detector:					
--					

Note:

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

Product : Wireless Mouse
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (2402MHz)

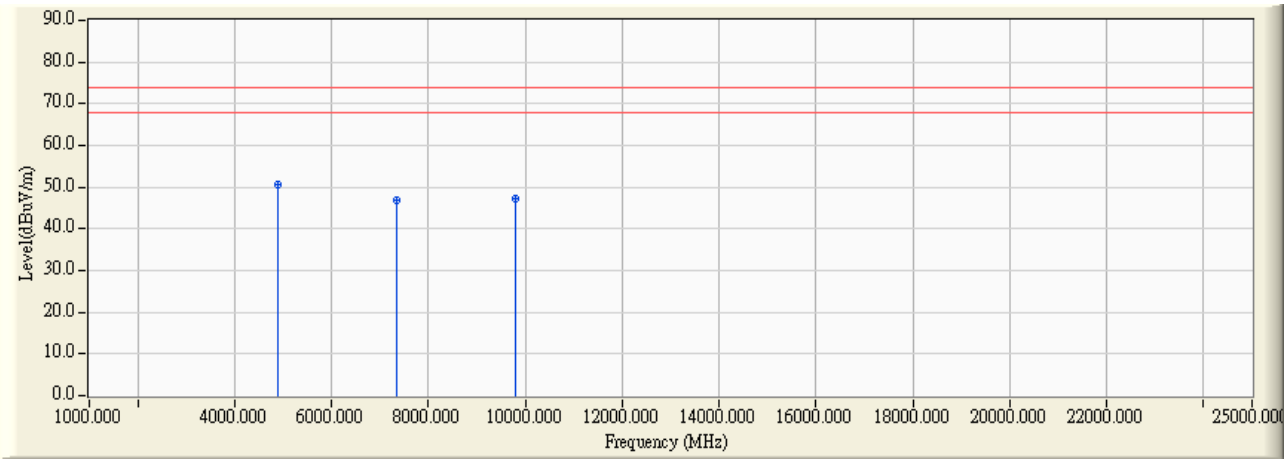


Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical					
Peak Detector:					
4804.000	0.923	51.240	52.162	-21.838	74.000
7206.000	7.988	39.060	47.049	-26.951	74.000
9608.000	8.847	39.370	48.217	-25.783	74.000
Average Detector:					
--					

Note:

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

Product : Wireless Mouse
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (2448 MHz)



Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4896.000	-0.034	50.650	50.617	-23.383	74.000
7344.000	8.167	38.890	47.057	-26.943	74.000
9792.000	7.794	39.390	47.184	-26.816	74.000

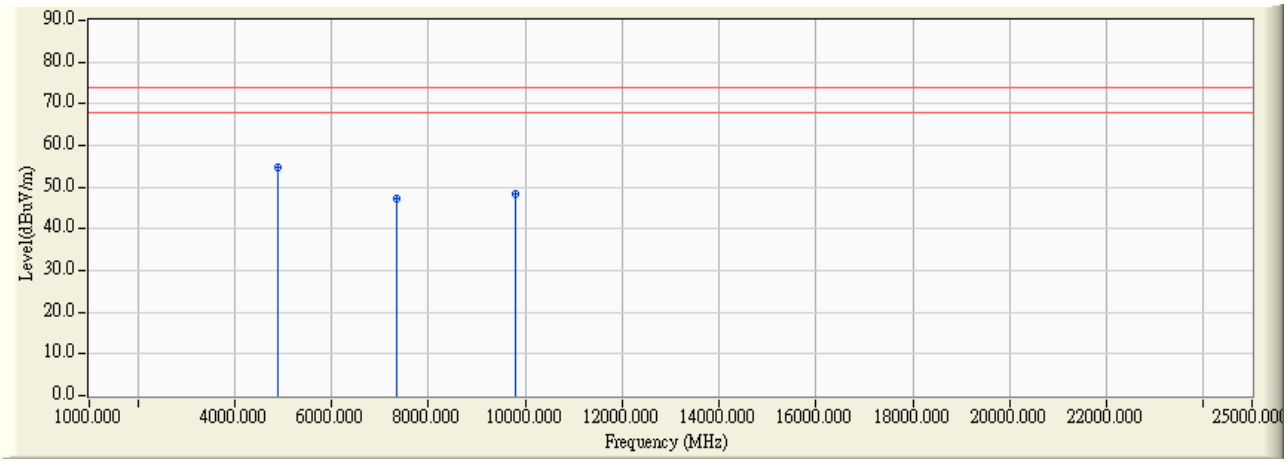
Average Detector:

--

Note:

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

Product : Wireless Mouse
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (2448 MHz)

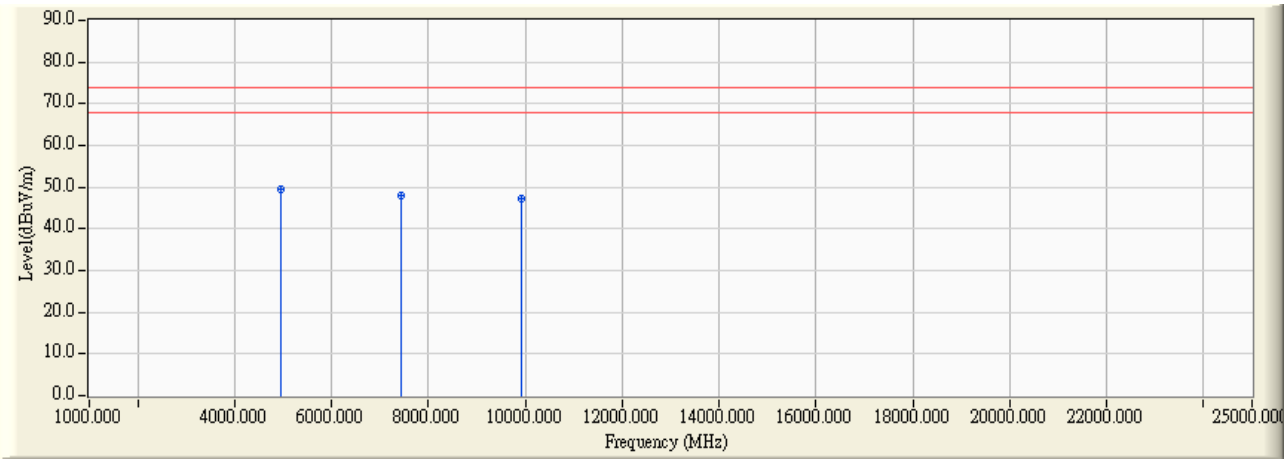


Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical					
Peak Detector:					
4896.000	0.450	54.320	54.771	-19.229	74.000
7344.000	8.845	38.350	47.195	-26.805	74.000
9792.000	8.428	39.810	48.237	-25.763	74.000
Average Detector:					
4896.000	0.450	49.780	50.231	-3.769	54.000

Note:

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

Product : Wireless Mouse
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (2480 MHz)



Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4960.000	0.582	48.960	49.542	-24.458	74.000
7440.000	8.555	39.610	48.165	-25.835	74.000
9920.000	8.206	38.900	47.106	-26.894	74.000

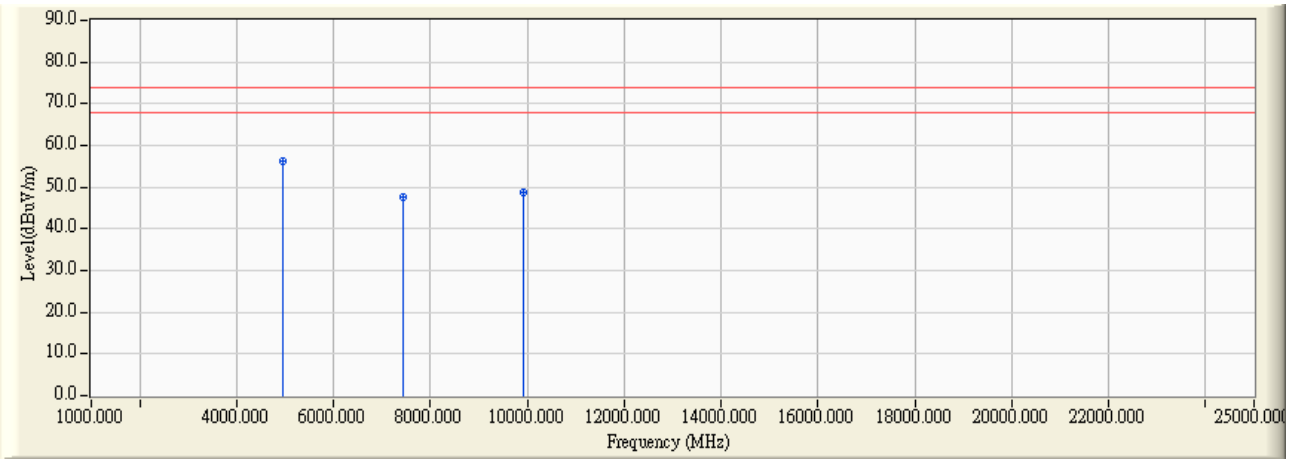
Average Detector:

--

Note:

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

Product : Wireless Mouse
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (2480 MHz)



Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Vertical					
Peak Detector:					
4960.000	1.398	54.990	56.389	-17.611	74.000
7440.000	9.214	38.580	47.794	-26.206	74.000
9920.000	9.245	39.610	48.855	-25.145	74.000
Average Detector:					
4960.000	1.398	49.920	51.319	-2.681	54.000

Note:

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

Product : Wireless Mouse
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit (2448 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
39.700	-3.625	29.994	26.369	-13.631	40.000
472.320	2.932	23.189	26.121	-19.879	46.000
602.300	3.794	22.481	26.275	-19.725	46.000
790.480	6.363	21.849	28.212	-17.788	46.000
881.660	6.789	21.517	28.306	-17.694	46.000
974.780	7.039	21.277	28.316	-25.684	54.000
Vertical					
30.000	-3.010	28.841	25.831	-14.169	40.000
227.880	-6.169	26.982	20.814	-25.186	46.000
377.260	0.647	21.975	22.622	-23.378	46.000
617.820	0.958	27.048	28.006	-17.994	46.000
685.720	2.254	22.228	24.482	-21.518	46.000
806.000	3.686	21.844	25.530	-20.470	46.000
920.460	3.272	22.625	25.897	-20.103	46.000

Note:

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

3. Band Edge

3.1. 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, 2010
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2010
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	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.

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

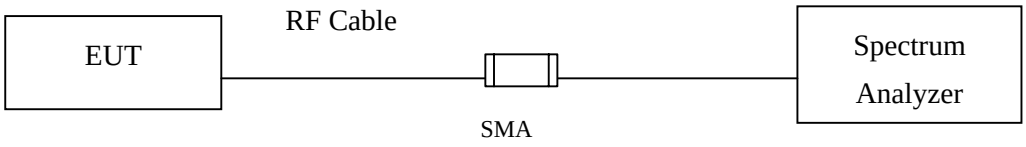
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3		Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2010
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2010
		Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2010
	X	Pre-Amplifier	QTK	AP-180C / CHM_0906076	Sep., 2010
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2010
		Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2010
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2010
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

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

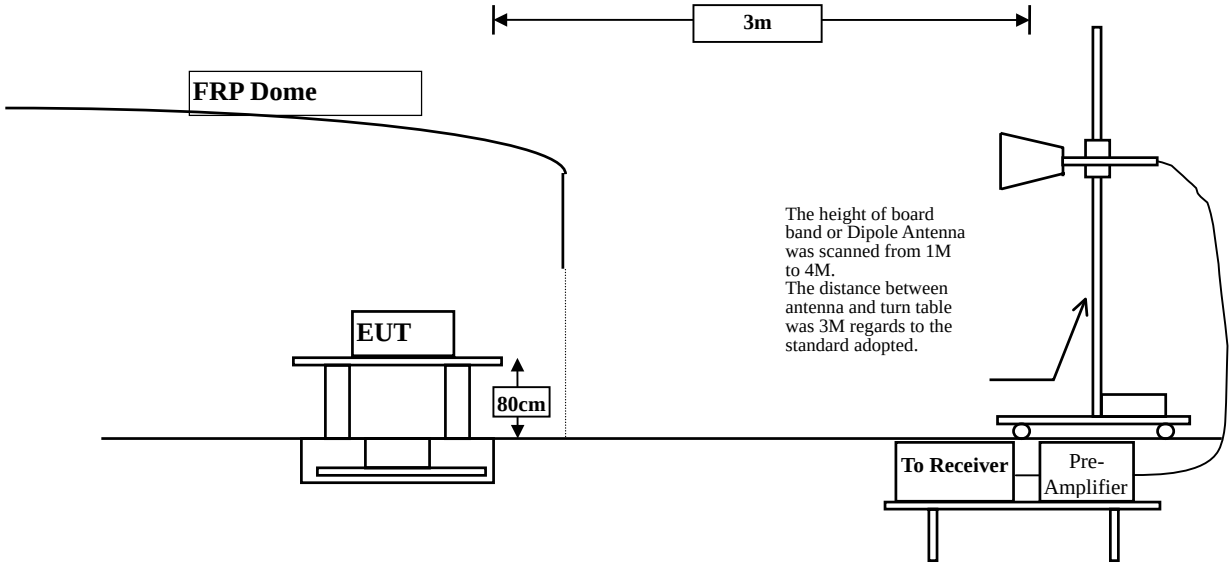
2. The test equipments marked by "X" are used to measure the final test results.

3.2. Test Setup

RF Conducted Measurement



RF Radiated Measurement:



3.3. 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 50 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)).

3.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 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 can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated measurement.
The bandwidth setting below 1GHz and above 1GHz on the field strength meter is 120 kHz and 1MHz, respectively.

3.5. Uncertainty

Conducted is ± 1.27 dB
Radiated is ± 3.9 dB

3.6. Test Result of Band Edge

Product : Wireless Mouse
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit

Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dBuV]	Emission Level [dBuV/m]	Detector
Horizontal	2402	31.755	60.58	92.334	Peak
Horizontal	2402	31.755	58.03	89.784	Average
Vertical	2402	30.241	59.35	89.591	Peak
Vertical	2402	30.241	57.15	87.391	Average

Note: 1:Spectrum Analyzer setting:

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

Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	2400	92.334	32.59	59.744	Peak
Horizontal	2400	89.784	44.206	45.578	Average
Vertical	2400	89.591	32.59	57.001	Peak
Vertical	2400	87.391	44.206	43.185	Average

Note:

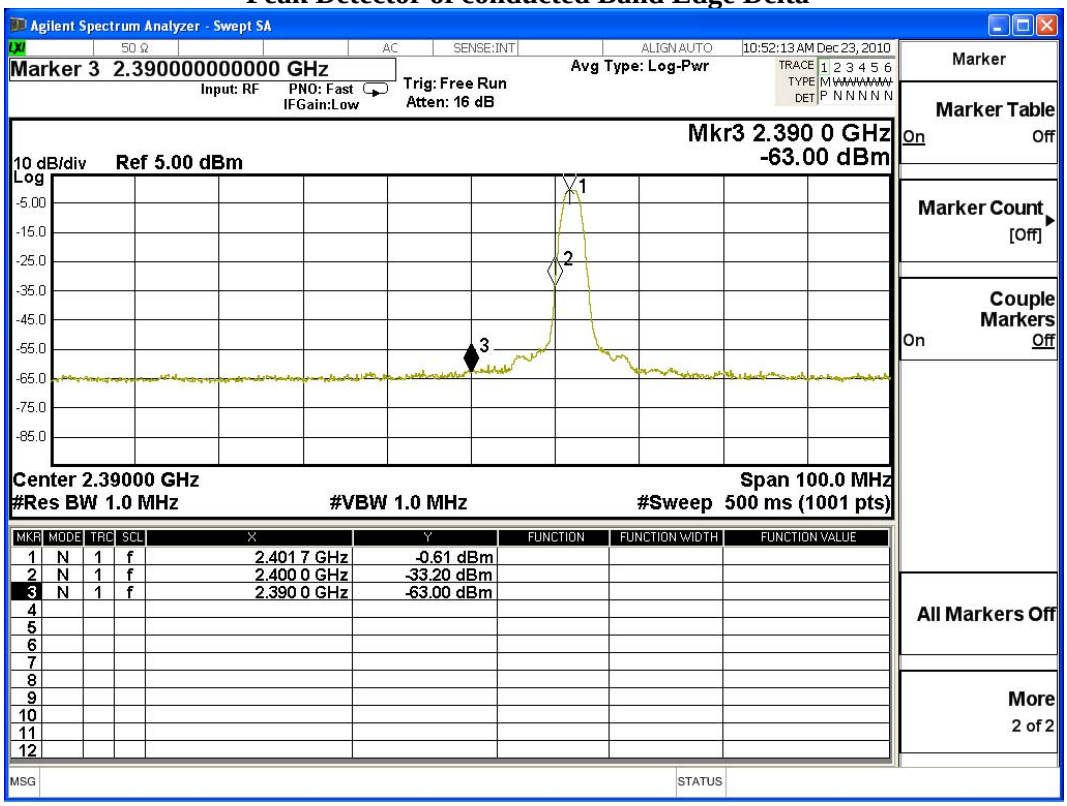
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength = F - Δ

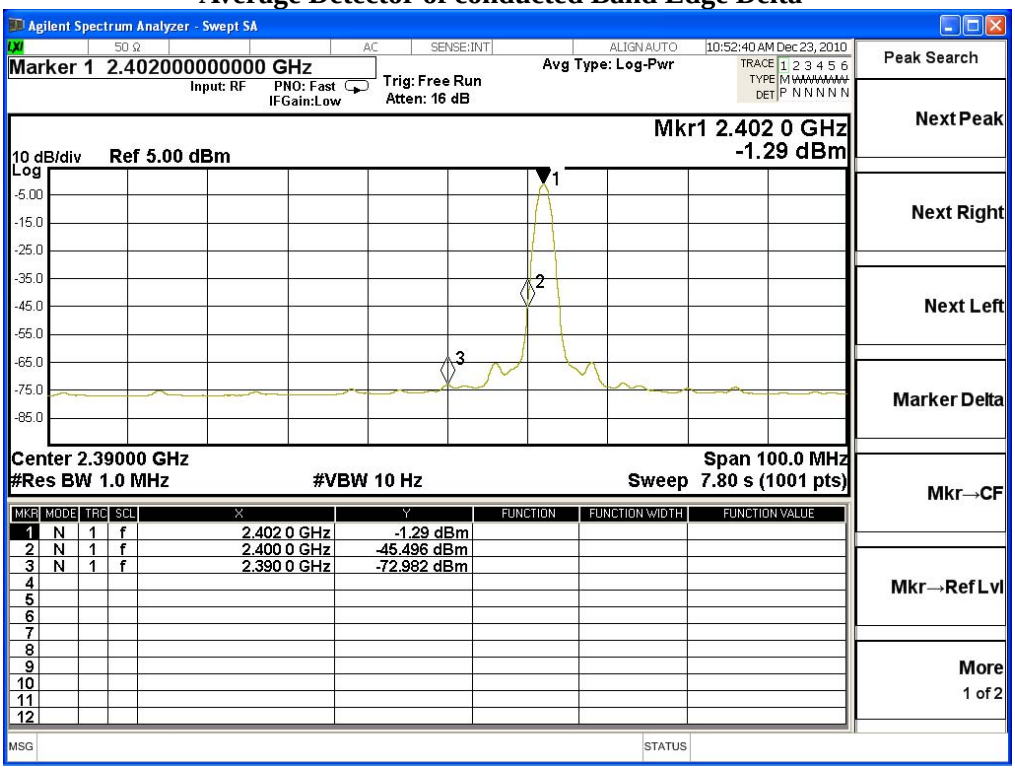
F = Fundamental field Strength (Peak or Average)

Δ = Conducted Band Edge Delta (Peak or Average)

Peak Detector of conducted Band Edge Delta



Average Detector of conducted Band Edge Delta



Product : Wireless Mouse
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit

Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dB(uV)]	Emission Level [dB(uV/m)]	Detector
Horizontal	2480	31.941	59.36	91.301	Peak
Horizontal	2480	31.941	58.06	90.001	Average
Vertical	2480	30.568	55.44	86.008	Peak
Vertical	2480	30.568	54.69	85.258	Average

Note: 1:Spectrum Analyzer setting:

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

Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	2483.5	91.301	54.084	37.217	Peak
Horizontal	2484	90.001	62.94	27.061	Average
Vertical	2483.5	86.008	54.084	31.924	Peak
Vertical	2484	85.258	62.94	22.318	Average

Note:

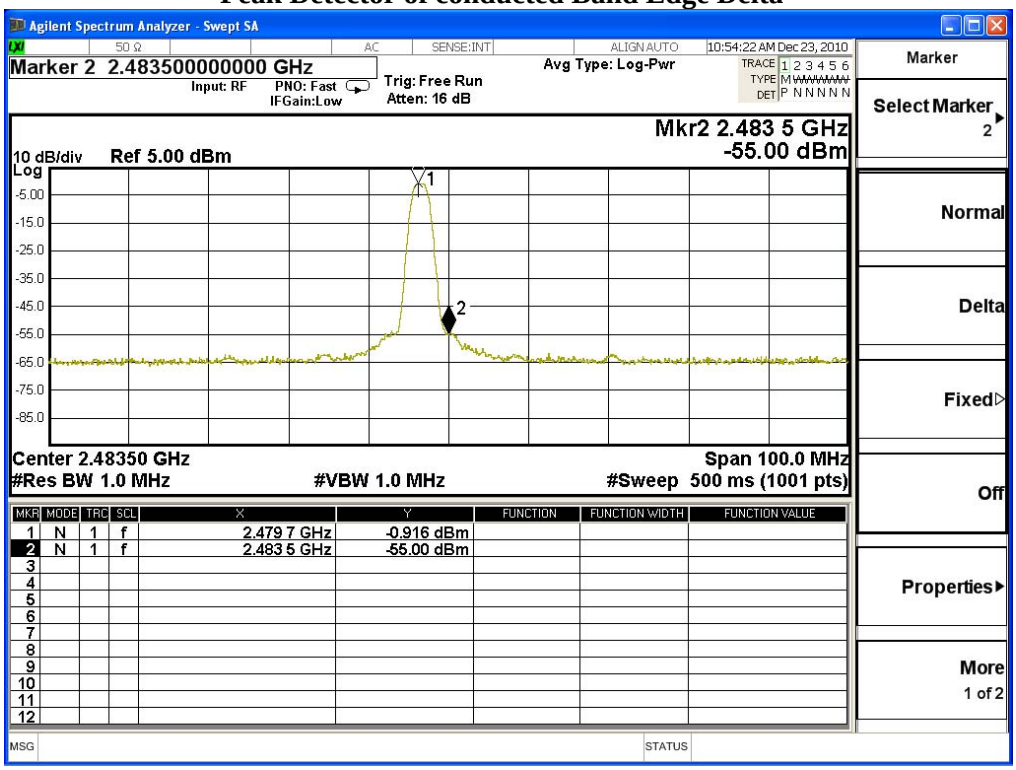
The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

Band Edge field Strength = F - Δ

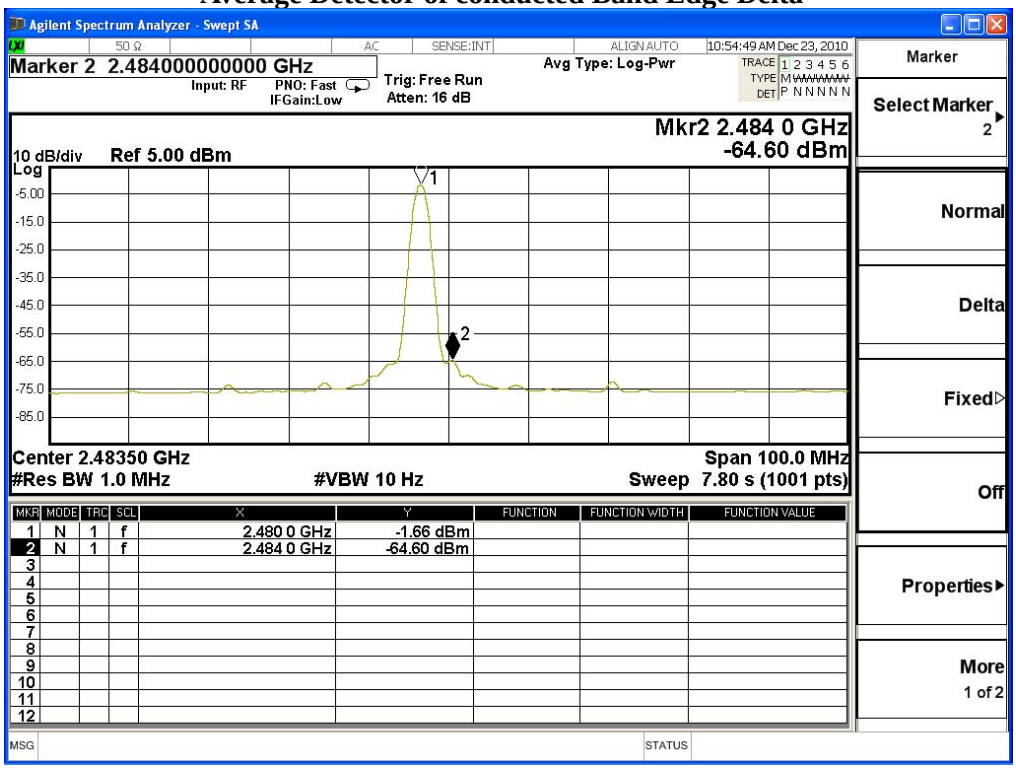
F = Fundamental field Strength (Peak or Average)

Δ = Conducted Band Edge Delta (Peak or Average)

Peak Detector of conducted Band Edge Delta



Average Detector of conducted Band Edge Delta



4. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs