

FCC TEST REPORT

for

2.4G Wireless Mouse

Model No. : 82-801

FCC ID : WSN82-801

Operating Frequency : 2402-2480 MHz

Applicant : Earth Trek (Hong Kong) Limited
Unit 503, 5/F., Silvercord. Tower 2, 30 Canton Road, Tsimshatsui,
Kln., Hong Kong

Regulation : **FCC Part 15.249 Subpart C**

Prepared by : AOV Testing Technology Co., Ltd
AOV Building, Xueyuan Road East, University City, Shenzhen
(Tanglang Village, Xili Town, Nanshan District), China

Test Date : October 5-13, 2008

Date of Report : October 16, 2008

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TEST REPORT DECLARATION

Applicant : Earth Trek (Hong Kong) Limited
Manufacturer : Earth Trek (Hong Kong) Limited
EUT Description : 2.4G Wireless Mouse

Test Procedure Used:
FCC Part 15.249 Subpart C

The E. U. T. listed below has been completed RFI testing by Shenzhen AOV Testing Technology Co., Ltd at the test site of Bontek Compliance Testing Laboratory Ltd. And the Interference emissions can pass **FCC CLASS B** limitations.

The test configurations and the facility comply with the radiated and AC line conducted test site criteria in **ANSI C63.4-2003**.

Date of Test:

October 5-13, 2008

Prepared by:



Project Engineer

Reviewer :



Project Manager

1. GENERAL INFORMATION

1.1 General Information

Description : 2.4G Wireless Mouse

Number of Channels : 3 (2.40GHz, 2.44GHz, 2.48GHz)

Model No. : 82-801

Applicant : Earth Trek (Hong Kong) Limited
Unit 503, 5/F., Silvercord. Tower 2, 30 Canton Road, Tsimshatsui, Kln., Hong Kong

Manufacturer : Earth Trek (Hong Kong) Limited
Unit 503, 5/F., Silvercord. Tower 2, 30 Canton Road, Tsimshatsui, Kln., Hong Kong

1.2 Test Facility

Test Firm : Bontek Compliance Testing Laboratory Ltd.
Certificated by FCC, Registration No.: 338263

Address : FL.1, Building H-3, Hua Qiao Cheng East Industrial Area
Qiaocheng East Road, Nanshan, Shenzhen, P.R.China

Tel : 86-755-86337020

Fax : 86-755-86337028

1.3 Test Instrument Used

No.	Equipment	Manufacturer	Model No.	S/N	Calculator date
1.	EMI Test Receiver	R&S	ESCI	100687	2008-2-22
2.	EMI Test Receiver	R&S	FSU	BCT-019	2008-2-22
3.	Amplifier	HP	8447D	1937A02492	2008-2-22
4.	TRILOG Broadband Test-Antenna	SCHWARZBECK	VULB9163	9163-324	2008-2-22
5.	Horn Antenna	SCHWARZBECK	BBHA9120A	B08000991-0001	2008-2-27
6.	High Field Biconical Antenna	ELECTRO-METRICS	EM-6913	166	2008-2-22
7.	Log Periodic Antenna	ELECTRO-METRICS	EM-6950	811	2008-2-22
8.	Remote Active Vertical Antenna	ELECTRO-METRICS	EM-6892	304	2008-2-22
9.	Teo Line Single Phase Module	SCHWARZBECK	NSLK8128	D-69250	2008-3-31
10.	Positioning Controller	C&C	CC-C-1F	MF7802113	2008-2-22
11.	Triple-Loop Antenna	EVERFINE	LLA-2	607004	2008-2-27
12.	10dB attenuator	SCHWARZBECK	MTAIMP-136	R65.90.0001#06	2008-2-22

1.4 Description of Test System

PC	DELL	DCSM
Printer	EPSON	9330A
Monitor	DELL	OG335H
Keyboard	DELL	SK-8115

2. RADIATION INTERFERENCE

2.1.Rules Part No.

15.209

2.2.Limits

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below :

A. FCC Part 15 Subpart C Paragraph 15.249(a) Limit

Fundamental Frequency MHz	Field Strength of Fundamental(3m)		Field Strength of Fundamental(3m)	
	mV/m	dBu V /m	uV/m	dBu V /m
902 ~ 928	50	94(Average)	500	54(Average)
2400 ~ 2483.5	50	94(Average)	500	54(Average)

B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency of (MHz)	Emission Field Strength (microvolts/meter)
30 - 88	100 (40)
88 - 216	150 (43.5)
216 - 960	200 (46.0)
Above 960	500 (54.0)

2.3.Test Procedure

ANSI STANDARD C63.4-2003 10.1.7 MEASUREMENT PROCEDURES:

The EUT is placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (log periodical antenna and horn antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The resolution bandwidth was 100 kHz and the video bandwidth was 300 kHz.

The spectrum was scanned from 30 MHz to 10th harmonic of the fundamental.

2.4.Test Result

PASS

A. Fundamental Radiated Emission Data**Low Channel: 2402MHz**

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m) Average	Margin (dBuV/m) Average	Horiz/Vert
2402	84.80	80.79	94.00	-13.21	Horiz
2402	92.16	85.65	94.00	-8.35	Vert

Middle Channel: 2441MHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m) Average	Margin (dBuV/m) Average	Horiz/Vert
2441	88.80	85.79	94.00	-8.21	Horiz
2441	91.56	86.65	94.00	-7.35	Vert

High Channel: 2480MHz

Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m) Average	Margin (dBuV/m) Average	Horiz/Vert
2480	85.80	82.69	94.00	-11.31	Horiz
2480	95.56	85.68	94.00	-8.32	Vert

B. Harmonics Radiated Emission Data**Low Channel:**

Frequency (MHz)	Peak (dBuV/m)	Limit (dBuV/m) Peak	Margin (dBuV/m) Peak	Horiz/Vert
4804	50.80	74.00	-23.20	Horiz
4804	51.16	74.00	-22.84	Vert
7206	48.26	74.00	-25.74	Horiz
7206	47.63	74.00	-26.37	Vert
9608	46.35	74.00	-27.65	Horiz
9608	45.39	74.00	-28.61	Vert
24020	45.60	74.00	-28.40	Horiz
24020	45.80	74.00	-28.20	Vert

Middle Channel:

Frequency (MHz)	Peak (dBuV/m)	Limit (dBuV/m) Peak	Margin (dBuV/m) Peak	Horiz/Vert
4882	51.80	74.00	-22.20	Horiz
4882	51.50	74.00	-22.50	Vert
7323	49.26	74.00	-24.74	Horiz
7323	48.53	74.00	-25.47	Vert
9764	46.37	74.00	-27.63	Horiz
9764	45.89	74.00	-28.11	Vert
24410	45.90	74.00	-28.10	Horiz
24410	45.50	74.00	-28.50	Vert

High Channel:

Frequency (MHz)	Peak (dBuV/m)	Limit (dBuV/m) Peak	Margin (dBuV/m) Peak	Horiz/Vert
4960	52.00	74.00	-22.00	Horiz
4960	51.16	74.00	-22.84	Vert
7440	48.56	74.00	-25.44	Horiz
7440	48.65	74.00	-25.35	Vert
9920	47.38	74.00	-26.62	Horiz
9920	46.95	74.00	-27.05	Vert
24800	46.60	74.00	-27.40	Horiz
24800	45.90	74.00	-28.10	Vert

C. General Radiated Emission Data

Low Channel:

Frequency (MHz)	Peak (dBuV/m)	QP (dBuV/m)	Limit (dBuV/m) Peak	Margin (dBuV/m) QP	Horiz/Vert
47.46	23.20	21.20	40.00	-18.80	Horiz
55.22	22.60	20.80	40.00	-19.20	Horiz
97.90	25.10	23.50	43.50	-20.00	Horiz
47.46	27.20	25.38	40.00	-14.62	Vert
55.22	22.50	20.60	40.00	-19.40	Vert
107.60	24.60	22.50	43.50	-19.00	Vert

Middle Channel:

Frequency (MHz)	Peak (dBuV/m)	QP (dBuV/m)	Limit (dBuV/m) Peak	Margin (dBuV/m) QP	Horiz/Vert
47.56	25.00	21.50	40.00	-18.50	Horiz
56.22	24.50	22.00	40.00	-18.00	Horiz
97.80	25.70	23.60	43.50	-19.90	Horiz
46.46	28.80	25.00	40.00	-15.00	Vert
56.22	22.50	20.00	40.00	-20.00	Vert
109.50	24.60	22.20	43.50	-21.30	Vert

High Channel:

Frequency (MHz)	Peak (dBuV/m)	QP (dBuV/m)	Limit (dBuV/m) Peak	Margin (dBuV/m) QP	Horiz/Vert
47.56	25.20	22.10	40.00	-17.90	Horiz
55.62	26.60	22.50	40.00	-17.50	Horiz
97.00	25.10	23.40	43.50	-20.10	Horiz
47.46	27.20	26.00	40.00	-14.00	Vert
55.22	22.50	21.00	40.00	-19.00	Vert
107.60	24.60	22.00	43.50	-11.50	Vert

3. BAND EDGE

3.1.Rules Part No.

15.249

3.2.Limits

In any 100kHz 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 50dB below that in the 100kHz 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)).

3.3.Test Procedure

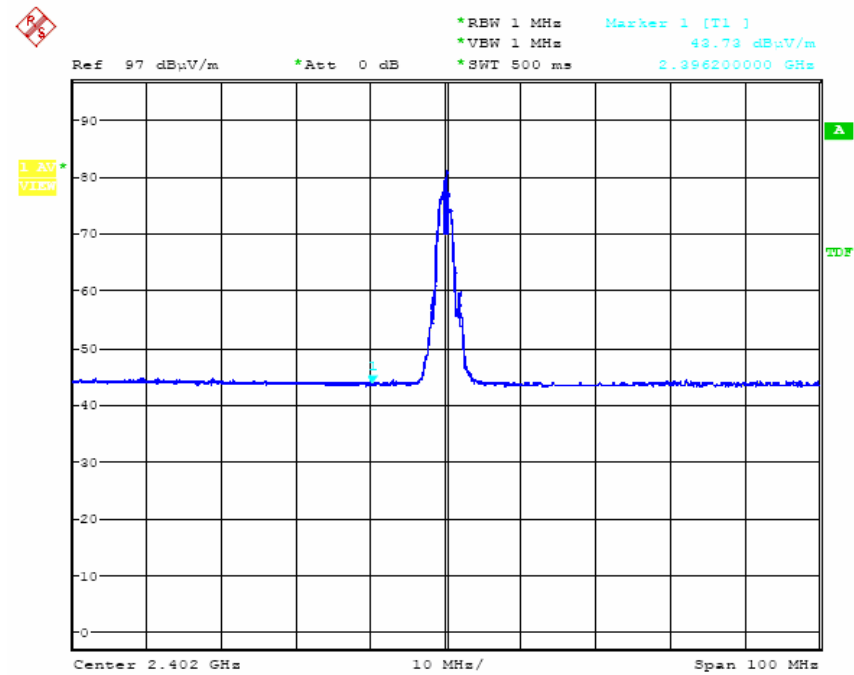
Record the respond of frequency waveform when the EUT was working by a spectrum analyzer or EMI Receiver. Low and high channel were tested

3.4.Test Result

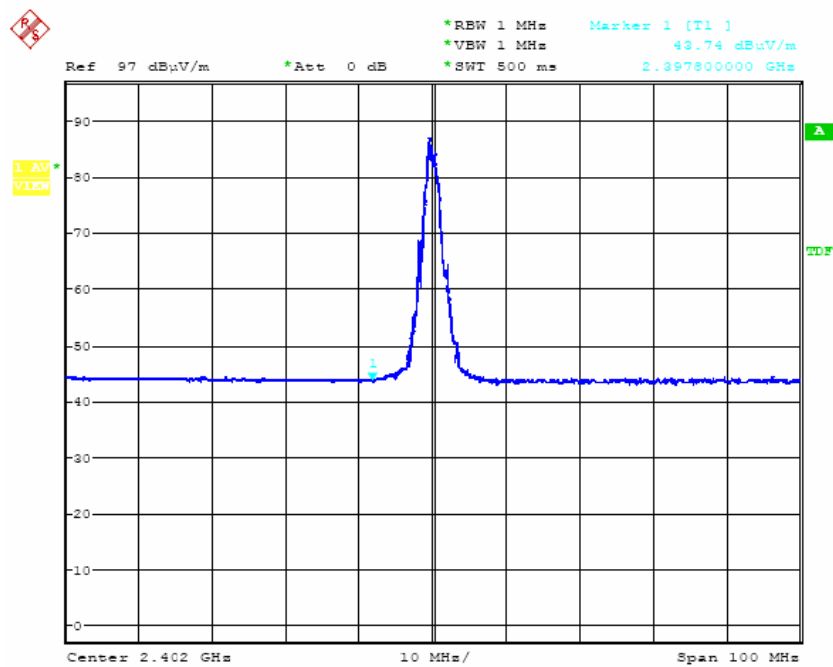
PASS

CHANNEL LOW: 2402MHz

Horizontal

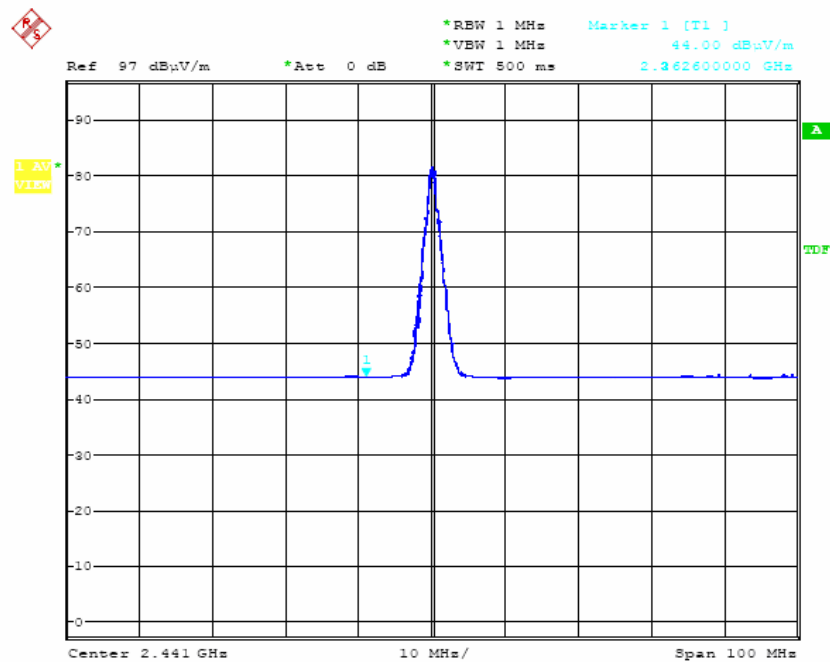


Vertical

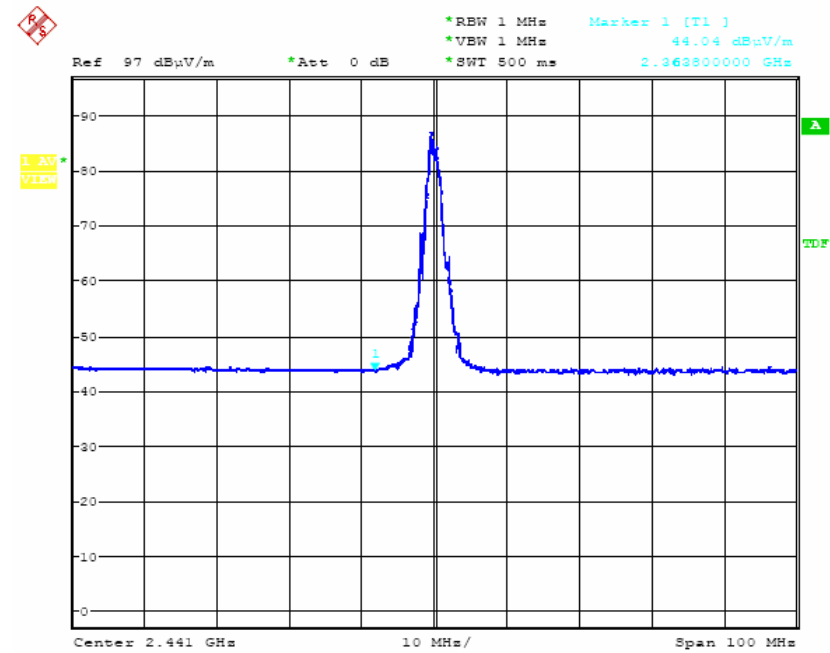


CHANNEL MIDDLE : 2441MHz

Horizontal

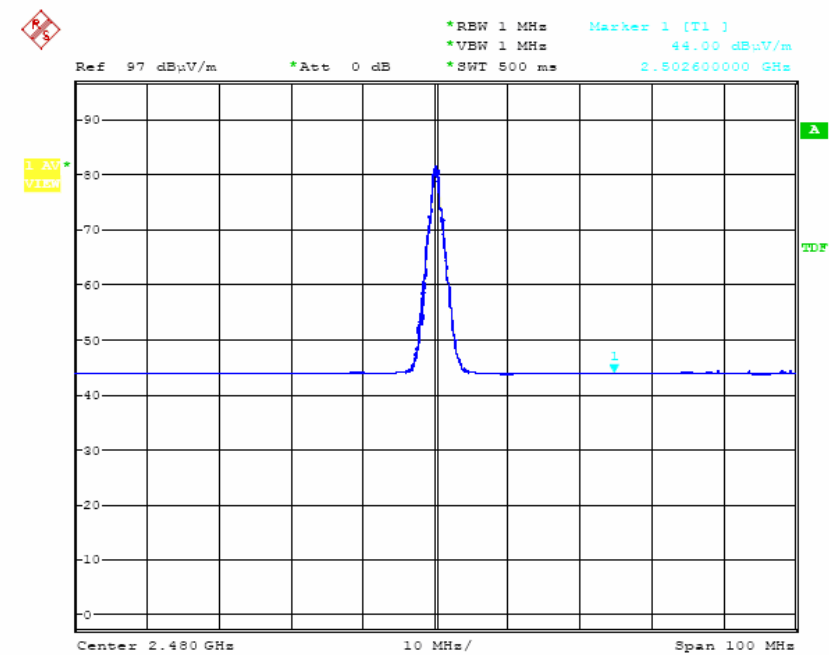


Vertical

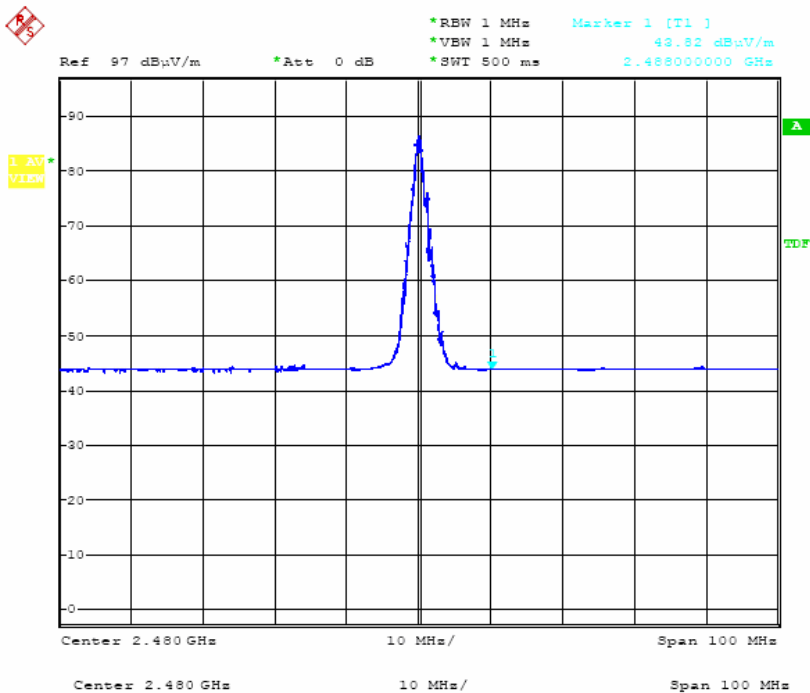


CHANNEL HIGH: 2480MHz

Horizontal



Vertical



4. ANTENNA REQUIREMENT

According to Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

The EUT has no antenna connector for printed antenna. Therefore the EUT complies with Section 15.203 of the FCC rules.

5. PHOTOGRAPH OF TEST

Radiated Emission test

(Below 1GHz)



(Above 1GHz)

