HomeTek Technology (Chang-An) Inc.

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FCC TEST REPORT
FOR

APPLICANT	:	Chuang Feng Electronics Co.,Ltd.
ADDRESS	:	HuaLi Industrial Zone, SongBoTang, ChangPing Town, DongGuan City, China.
EUT	:	Wireless Optical Mouse
MODEL NO.	:	KM830W, KM1004
FCC ID	:	UK51004830W

Under Part 15, SUBPART B AND SUBPART C.

CLASS B

Certification

MEASUREMENT PROCEDURE USED

FCC RULES AND FCC / ANSI C63.4-2003

PREPARED BY :

HomeTek Technology (Chang-An) Inc.

South of Shatou Industry District, Chang-An Town,

DongGuan City, GuangDong, China

Report # : FBRP6101

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CERTIFICATION

EUT	: Wireless Optical Mouse
MODEL NO.	: KM830W, KM1004
FCC ID	: UK51004830W
Receipt Date	: 11/30/2006 Final Test Date: 12/12/2006
REPORT #	: FBRP6101
APPLICANT	: Chuang Feng Electronics Co.,Ltd.
ADDRESS	: HuaLi Industrial Zone, SongBoTang, ChangPing Town, DongGuan City, China.

MEASUREMENT PROCEDURE USED :

FCC RULES AND REGULATION PART 15, SUBPART B AND SUBPART C AND FCC / ANSI C63.4-2003

We hereby show that:

The measurement sown in this test report were made in accordance with and no deviation with the procedures indicated, and the maximum energy emitted by the equipment was found to be within the FCC limits applicable.

This test result of this report applies to above tested sample only.

This test report shall not be reproduce in part without written approval of HomeTek Technology (Chang-An) Inc.

PREPARED BY : CATHY HE Assistant DATE : 12/12/2006

CHECK BY : GEORGE ZHOU Director DATE : 12/12/2006

APPROVED BY : GRANT HUANG / Manager DATE : 12/12/2006

TABLE OF CONTENTS

GENERAL INFORMATION 2
MODIFICATION LIST 4
CONDUCTED POWER LINE TEST 5
1 TEST PROCEDURE 5
2 RESULT OF CONDUCTED EMISSION TEST 5
RADIATED EMISSION TEST 6
1 TEST INSTRUMENTS & FACILITIES 6
2 EUT OPERATING CONDITION 7
3 TEST SETUP 8
4 CONFIGURATION OF THE EUT 10
5 TEST PROCEDURE 13
6 LIMIT OF RADIATED EMISSION CLASS B 14
7 RESULT OF RADIATED EMISSION TEST 14
PHOTO OF FCC ID LABEL 15
APPENDIX A
PHOTOS OF TEST CONFIGURATION
APPENDIX B
PHOTOS OF EUT
APPENDIX C
PLOT OF OCCUPIED BANDWIDTH

GENERAL INFORMATION

1	APPLICANT	:	Chuang Feng Electronics Co., Ltd.
2	ADDRESS	:	HuaLi Industrial Zone, SongBoTang, ChangPing Town, DongGuan City, China.
3	MANUFACTURER	:	Chuang Feng Electronics Co., Ltd.
4	ADDRESS	:	HuaLi Industrial Zone, SongBoTang, ChangPing Town, DongGuan City, China.

5 DESCRIPTION OF EUT

EUT	:	Wireless Optical Mouse
FCC ID	:	UK51004830W
Model Number	:	KM830W, KM1004
Serial #	:	N/A

6 FEATURES OF EUT :

- ☛ 27MHz frequency ensures worldwide compatibility
- ☛ Perfect for travel use---eliminates cumbersome wires
- ☛ Works up to 4 ft from user's notebook or desktop computer
- ☛ Mouse automatically goes into a sleep mode after idling for eight minutes to conserve battery power
- ☛ 800dpi
- ☛ Requires 2AAA batteries

System requirements:

- ☛ Windows 98,2000,Me or XP or Mac OS
- ☛ USB port
- ☛ PC 486 or higher

KM830W is operated with DC2.4V (2*1.2AAA batteries) ---It operates with the provided rechargeable batteries.

KM1004 is operated with DC3V (2*1.5AAA batteries).
The PCB Layout is similar.
Test Model: KM830W.

And the final test data were shown in this test report.

MODIFICATION LIST

THE FOLLOWING ACCESSORIES WERE ADDED TO THE EUT DURING TESTING :

NO MODIFICATION BY HOMETEK TECHNOLOGY(Chang-An) INC.

CONDUCTED POWER LINE TEST

1 TEST PROCEDURE

According to **ANSI C63.4 – 2003**.

2 RESULT OF CONDUCTED EMISSION TEST

N/A(Conducted Power Line Test is not applicable to this EUT (Model : KM830W, KM1004).

RADIATED EMISSION TEST

1 TEST INSTRUMENTS & FACILITIES

The following test Instruments was used during the radiated emission test :

Item	Instruments /facilities	Specification	Manufacturer	Model # / S/N#	Date of Cal.
1	OPEN AREA TEST SITE	☑ OATS 1			SEP/2006
2	EMI TEST RECEIVER	20Hz ~ 26.5GHz	ROHDE & SCHWARZ	845636/007	SEP/2006
3	PRE-AMPLIFIER	9KHz ~ 1300MHz	HEWLETT PACKARD	8447D 1937A02095	SEP/2006
4	BICONICAL/LOG BROADBAND ANTENNA	25MHz ~ 2GHz	ANTENNA RESEACH	LPB2520/A 1095	OCT/2006
5	LOOP ANTENNA	10KHz~30MHz	ZHINAN	ZN30900A	NOV/2006
6	Attenuation	50Ω/6dB	JYE BAO	FAT-N (M-F) 001	SEP/2006
7	Cable	10m	SUHNER	RG214/U OS3-003	SEP/2006
8	Cable	14m	BELDEN	9913 OS3-001	SEP/2006
	EMI 32 (software)	N/A	AUDIX	19991013-0923	N/A

Note : Items 1 ~ 7 were calibrated within period of 1 year.

2 EUT OPERATING CONDITION

2.1 Configure the EUT according to the **ANSI C63.4 - 2003**.

2.2 The frequency of the EUT is 27.042 MHz.

2.3 The radiated emission in the frequency range from 30 MHz - 1000 MHz was test in a horizontal and vertical polarization at HomeTek(Chang-An) Lab's open site I.

2.4 The crystal frequency of the EUT is 27.042 MHz.

2.5 Provided by 2AA battery to Mouse. Connect receiver to USB port of Person computer.

2.6 Turn on all the power of EUT and peripheral.

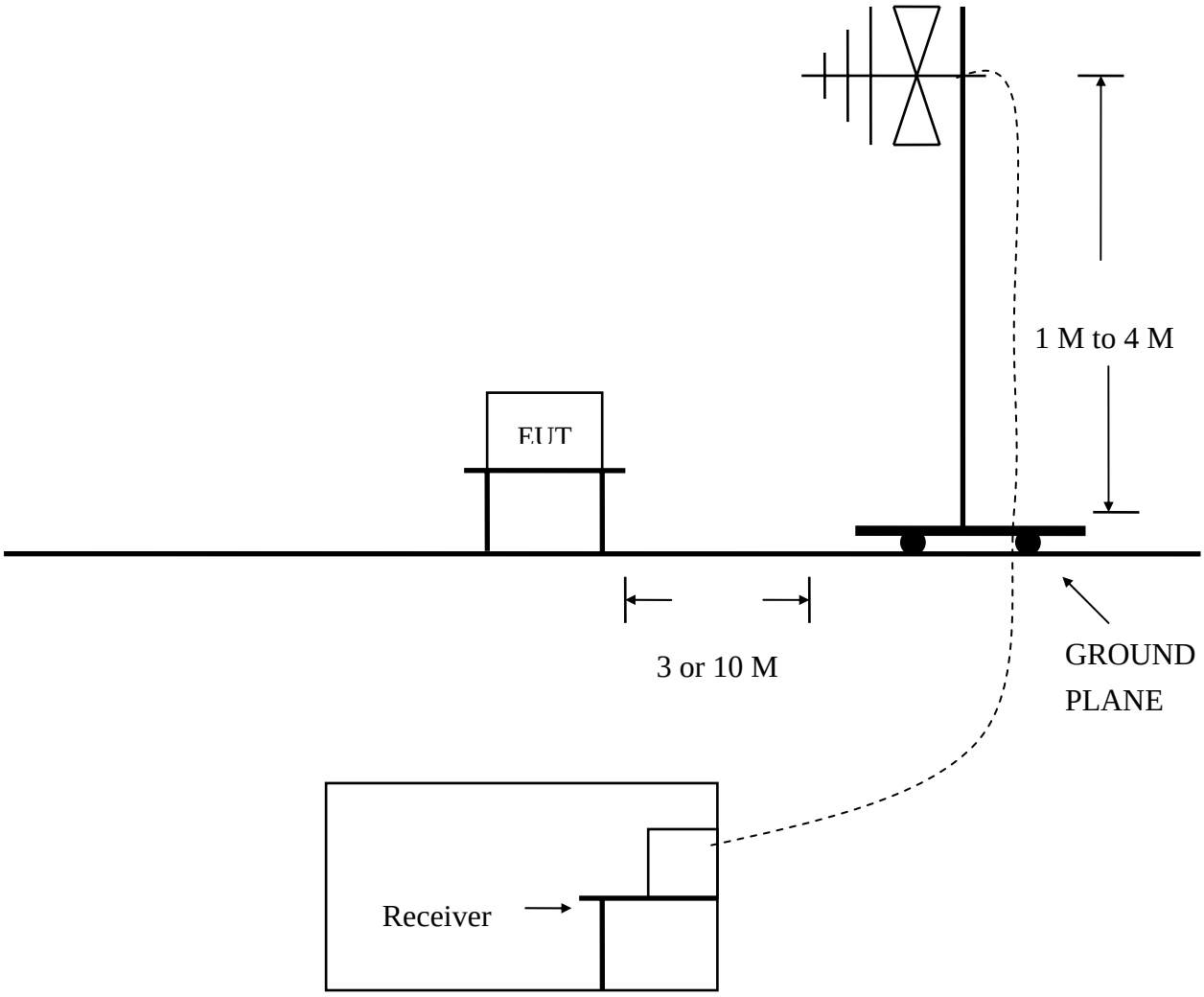
2.7 The EUT was operated in its normal operating mode for the purpose of the measurements.

2.8 The receiving antenna polarized horizontally was varied from 1 to 4 meters and the wooden turntable was rotated through 360 degrees to obtain the highest reading on the ESMI test receiver or on the display of the spectrum analyzer. And also, each emission was to be maximized by changing the orientation of the EUT.

2.9 The photos of radiated test configuration, please refer to appendix A.

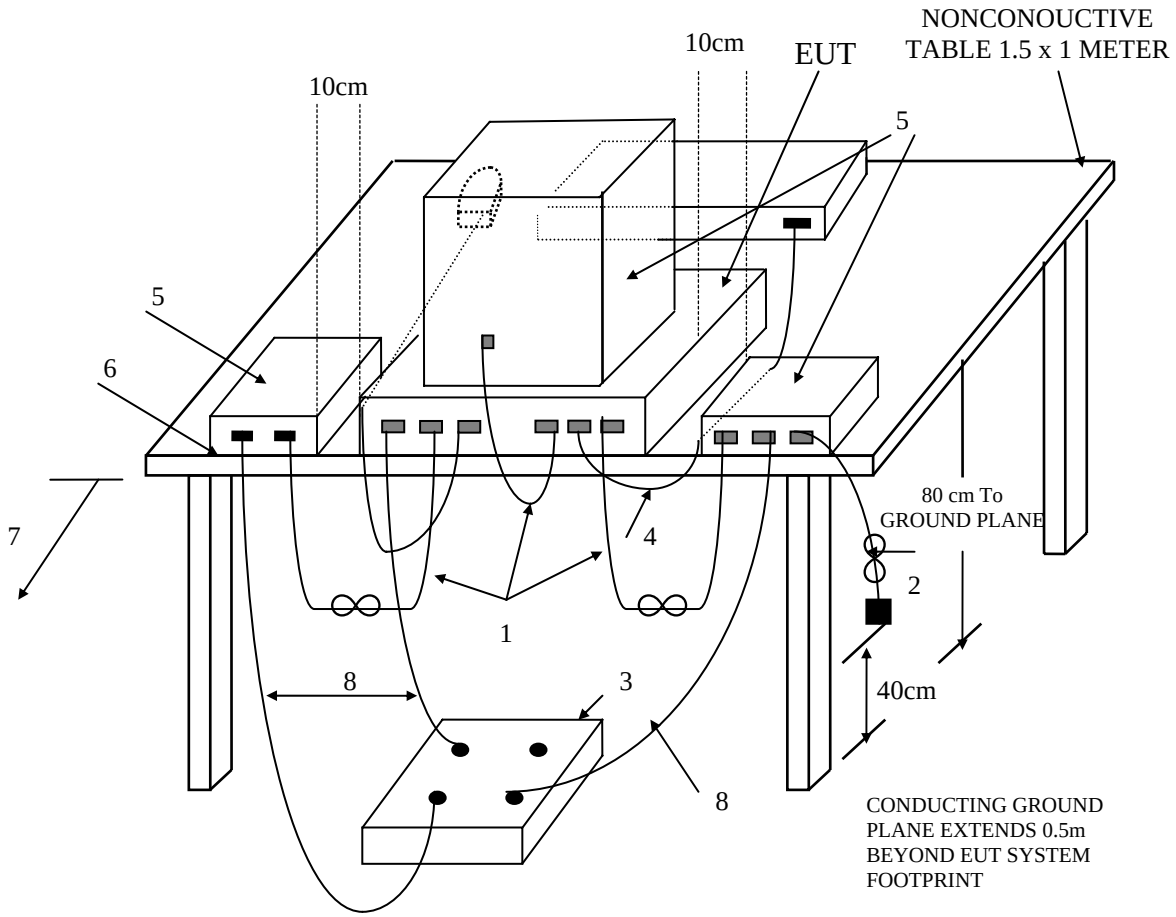
3 TEST SETUP

3.1 TEST SETUP OF OPEN SITE.



3.2 TEST SETUP OF EUT

ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE RANGE OF 9kHz TO 40 GHz — ANSI C63.4-2003



(Details for setup configuration, please refer to appendix A.)

LEGEND:

1. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth forming a bundle 30 to 40 cm long, hanging approximately in the middle between ground plane and table.
2. I/O cables that are connected to a peripheral shall be bundled in center. The end of the cable may be terminated if required using correct terminating impedance. The total length shall not exceed 1m.
3. If LISNs are kept in the test setup for radiated emissions, it is preferred that they be installed under the ground plane with the receptacle flush with the ground plane.
4. Cables of hand-operated devices, such as keyboards, mouses, etc., have to be placed as close as possible to the controller.
5. Non-EUT components of EUT system being tested.
6. The rear of all components of the system under test shall be located flush with the rear of the table.
7. No vertical conducting wall used.
8. Power cords drape to the floor and are routed over to receptacle.

Test Configuration

Tabletop Equipment Radiated Emission

4 CONFIGURATION OF THE EUT

The EUT was configured according to **ANSI C63.4 - 2003**. All I/O ports were connected to the appropriate peripherals. All peripherals and cables are listed below (including internal device) :

4.1 EUT

EUT Type : ☐Proto Type ☑Engineer Type ☐Mass Production

Condition when received : ☑Good ☐Damage :

Device : Wireless Optical Mouse

Applicant : Chuang Feng Electronics Co., Ltd.

Manufacturer : Chuang Feng Electronics Co., Ltd.

Model Number : KM830W, KM1004

Serial Number : N/A

FCC ID : UK51004830W

4.2 Peripheral

☑ Host Personal Computer

Manufacturer : DELL

Model Number : DMC

Power Cord : Un-Shielded ,3pin,1.5m

Power Supply Type : Switching

Serial Number : HMM5L 1X

FCC ID : FCC DoC

☑ Monitor

Manufacturer	: DELL
Model Number	: E773c
Power Cord	: Un-Shielded ,3pin,1.5m
Power Supply Type	: Switching
Serial Number	: N/A
FCC ID	: FCC DoC

☑ KeyBoard

Manufacturer	: DELL
Model Number	: SK-8110
Serial Number	: N/A
FCC ID	: FCC DoC
Data Cable	: Shielded,1.5 m,Connected to the PSII port
Power Cord	: N/A

☑ Printer

Manufacturer	: EPSON
Model Number	: STYLUS C20SX
Serial Number	: DLRE134382
FCC ID	: FCC DoC
Data Cable	: Shielded, 1.5 m, Connected to the Printer port
Power Cord & Adaptor	: Un-Shielded, 1.8 m

☑ Modem

Manufacturer	: ACEEX
Model Number	: 1414
Serial Number	: N/A
FCC ID	: IFAXDM1414
Data Cable	: Shielded, 1.5 m, Connected to the COM port
Power Cord & Adaptor	: Un-Shielded, 1.8 m

4.3 REMARK : N/A

5 TEST PROCEDURE

5.1 The EUT was test according to **ANSI C63.4 – 2003 & FCC Part 15.35/15.209/15.239**.

5.2 The radiated test was performed at HomeTek(Chang-An) Lab's Open Site I.

5.3 This site is on file with the FCC laboratory division, test firm registration number: 140723, expiration Date : 2004/09/29.

5.4 For emission frequencies measured below 1 GHz, a pre-scan is performed in a shielded chamber to determine the accurate frequencies. The signal of higher emissions will be checked on a open test site. As the same purpose, for emission frequencies measured above 1 GHz, a pre-scan also be performed with a 1 meter measuring distance before final test.

5.5 For emission frequencies measured below and above 1 GHz, set the spectrum analyzer or a 100KHz and 1MHz resolution bandwidth respectively for each frequency measured in item 5.4.

5.6 The receiving antenna is to be raised and lowered over a range from 1 to 4 meters in horizontally polarized orientation. Move the antenna to a position where the highest value is indicated on spectrum analyzer, then change the orientation of EUT on test table over a range from 0^{o} to 360^{o} with a speed as slow as possible and keep the azimuth that highest emission is indicated on the spectrum analyzer. Vary the antenna position again and record the highest value as a final reading. A RF test receiver is also used to confirm emissions measured.

5.7 Repeat item 5.6 until all frequencies need to be measured were completed.

5.8 Repeat item 5.7 with search antenna in vertical polarized orientations.

5.9 Check seven frequencies of highest emission with varying the placement of cables (if any) associated with EUT to obtain the worst case and record the result.

5.10 The frequency range from 30 MHz to 1 GHz were investigated, the measurement were made at 3 meters, with a BI-log antenna.

6 LIMIT OF RADIATED EMISSION CLASS B

Frequency (MHz)	Measurement Distance	dBuV/m	uV/m
Fundamental frequency	3 (M)	47.9	250
30 - 88	3 (M)	40	100
88 - 216	3 (M)	43.5	150
216 - 960	3 (M)	46	200
Above 960	3 (M)	54	500

6.1 The tighter limit shall apply at the edge between two frequency bands.

6.2 Measurement distance in meters between the measuring instrument antenna and the closed point of any part of the EUT or peripherals.

7 RESULT OF RADIATED EMISSION TEST

7.1 The frequency range from 30 MHz to 1 GHz was investigated.

7.2 All readings below or equal 1 GHz are quasi-peak or peak values with resolution bandwidth of 120 KHz. The reading of fundamental frequency is peak or average values. With resolution bandwidth of 120KHz.

7.3 The measurements were made at 3 meters of HomeTek(Chang-An) Lab's open site I.

7.4 Temperature : 27.5 ℃, Humidity : 51 % RH.

7.5 Deviation form the test standards and rules : None

7.6 The radiation emission result were gained by the following method :
Level = Reading Level + Probe Factor (Antenna Factor) + Cable Loss – Preamp Factor
Over Limit = Level – Limit Line

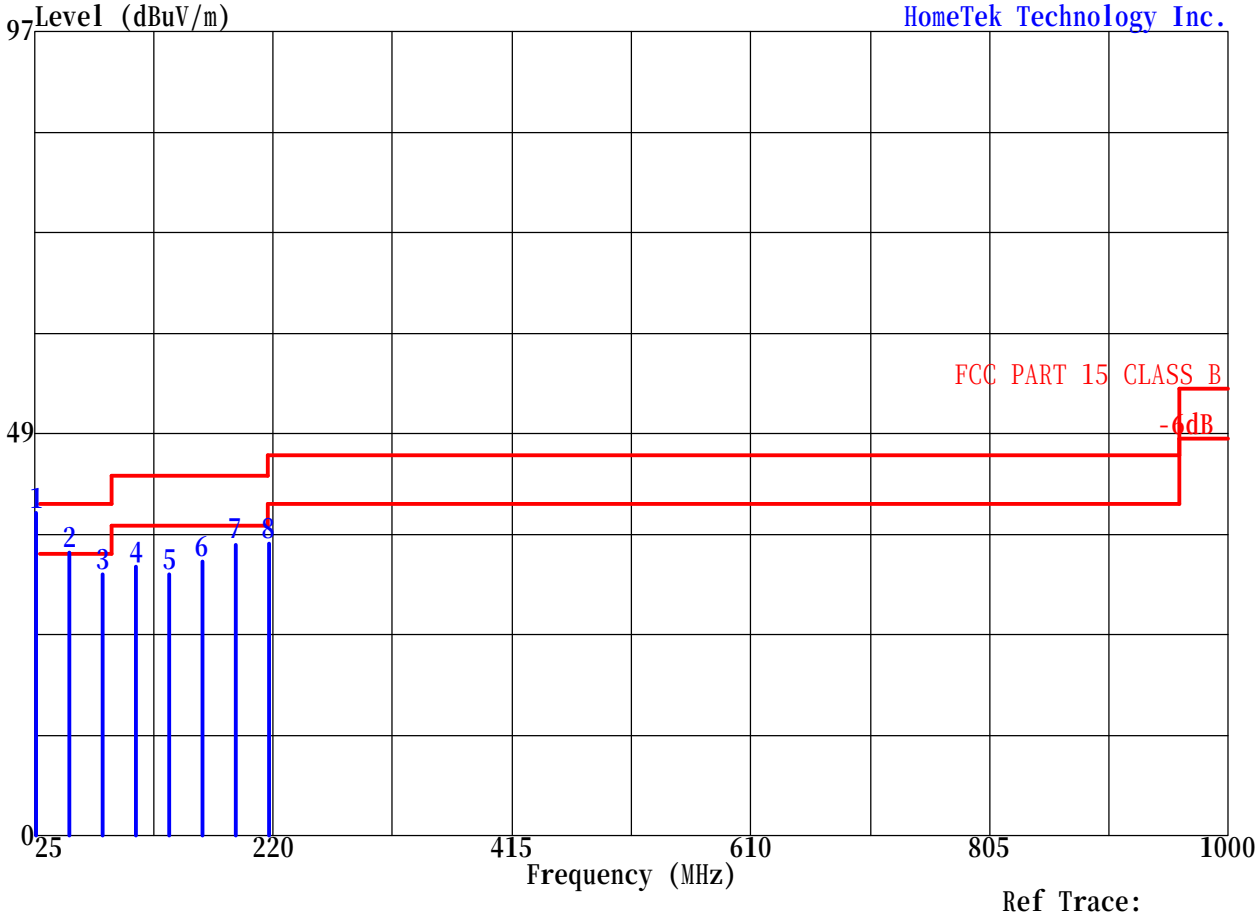
7.7 The radiated mission test was passed at minimum margin :
Horizontal 54.004 MHz/ 34.16 dBuV/m, Antenna Height 2.9 Meter,
Turn Table 85 degree, The Model : KM830W .

7.8 Result : **PASSED**

(Result of radiated emission test data were shown as following two pages.)

HomeTek Technology Inc.

Data#: 1 File#: RP6101.EMI Date: 11-30,2006 Time: 09:02:40



Hometek
Trace :
Limit : FCC PART 15 CLASS B 3m
Probe : LPB-250/A-031028_3 HORIZONTAL
Margin: -6.0dB
EUT : KM830W
Power : DC:3V (For Batteries)
Memo :
:
:

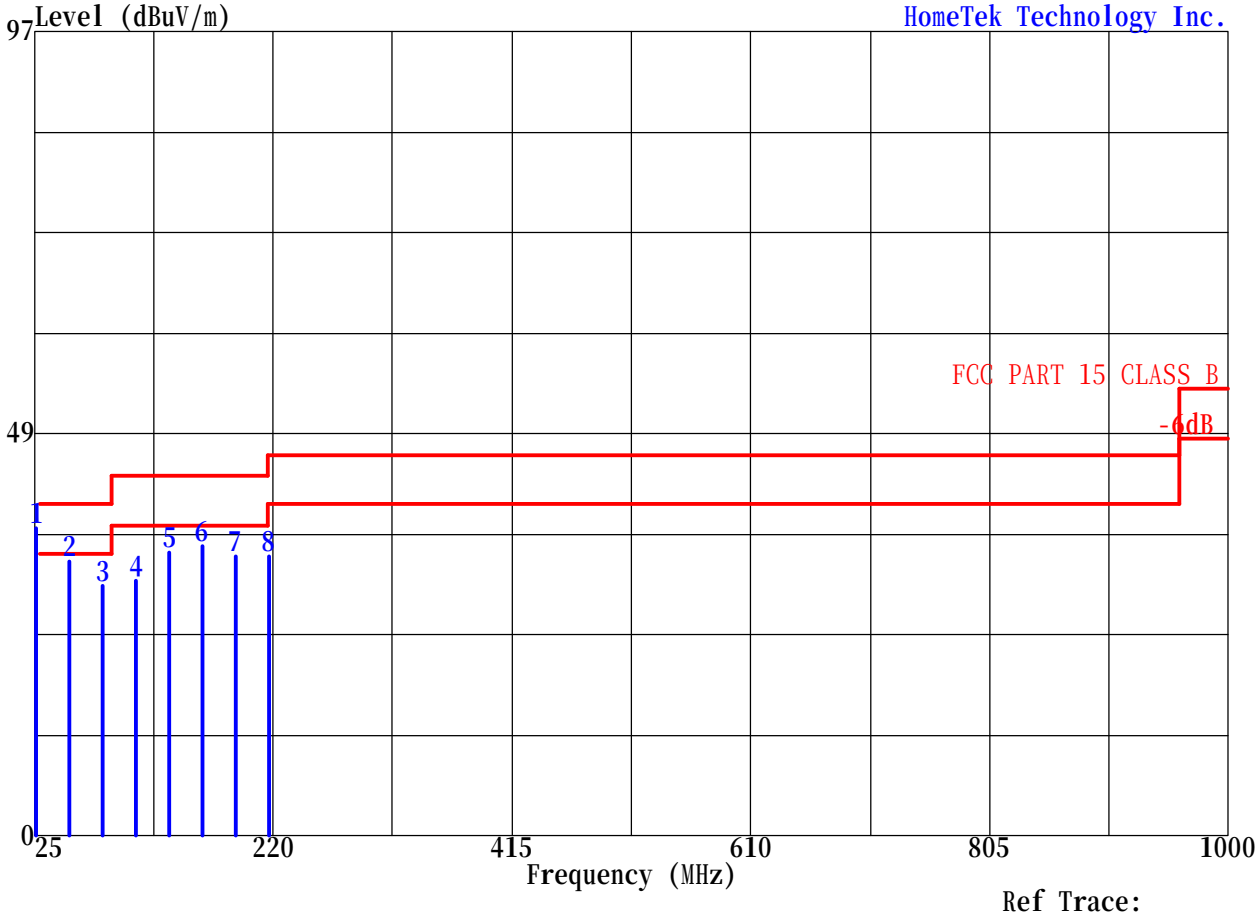
Ref Trace:

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	27.004	38.97	-9.03	47.90	52.29	13.80	0.68	27.80	QP
2 !	54.004	34.16	-5.84	40.00	46.30	13.85	1.90	27.89	QP
3	81.050	31.58	-8.42	40.00	45.88	9.84	3.70	27.84	QP
4	108.170	32.56	-10.94	43.50	46.18	11.52	2.62	27.76	QP
5	135.380	31.58	-11.92	43.50	44.20	11.76	3.25	27.62	Peak
6	161.990	33.16	-10.34	43.50	46.79	10.09	3.78	27.50	Peak
7	189.350	35.19	-8.31	43.50	47.32	11.90	3.32	27.36	Peak
8	216.240	35.29	-10.71	46.00	46.14	12.90	3.52	27.27	Peak

HomeTek Technology Inc.

Data#: 2 File#: RP6101.EMI Date: 11-30,2006 Time: 14:36:40



Hometek
Trace :
Limit : FCC PART 15 CLASS B 3m
Probe : LPB-250/A-031028_3 VERTICAL
Margin: -6.0dB
EUT : KM830W
Power : DC:3V (For Batteries)
Memo :
:
:

Ref Trace:

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	27.004	37.15	-10.85	47.90	50.70	13.79	0.51	27.85	QP
2	54.028	33.18	-6.82	40.00	45.32	13.85	1.90	27.89	QP
3	81.028	30.19	-9.81	40.00	44.49	9.84	3.70	27.84	QP
4	108.146	30.79	-12.71	43.50	44.41	11.52	2.62	27.76	QP
5	135.379	34.18	-9.32	43.50	46.80	11.76	3.25	27.62	Peak
6	161.979	35.02	-8.48	43.50	48.65	10.09	3.78	27.50	QP
7	189.317	33.79	-9.71	43.50	45.92	11.90	3.32	27.36	Peak
8	216.250	33.79	-12.21	46.00	44.64	12.90	3.52	27.27	Peak

PHOTO OF FCC ID LABEL

SAMPLE OF FCC ID LABEL :

FCC ID : #####

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. And (2) this device must accept any interference received, including interference that may cause undesired operation.

Please refer to appendix B photo of ID location.