



## **TEST REPORT**

Report No. : AE014002-001

Date : 2004 August 11

Application No.: LE208013(3)

Client : CCP Co., Ltd.  
3-1-8, Sakae-cho, Kawaguchi  
Saitama

Sample Description : One(1) submitted sample stated to be follow

<b>Description</b>	<b>Model No.</b>
Micro Slider	60-4394
Wicked Wing	60-4395

Rating : 1 x 9V battery  
No. of sample(s) : Two (2) piece(s) \*\*\*

Date Received : 2004 July 13.

Test Period : 2004 July 13 – 2004 August 10.

Test Requested : FCC Part 15 Certification

Test Method : FCC Rules and Regulations Part 15 – Dec 2003  
ANSI C63.4 – 2001

Test Result : See attached sheet(s) from page 2 to 11.

Conclusion : The submitted sample was found to comply with requirement of FCC  
Part 15 Subpart C.

Remark : All two models are the same in circuitry and components and construction;  
and therefore Micro Slider model 60-4394 was chosen to be the representative  
of the test sample.

*For and on behalf of*  
CMA Testing and Certification Laboratories

Authorized Signature : 

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Danny Chui

EMC Engineer - EL. Division

FCC ID : PSN5150-TX49

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### **1 General Information**

#### **1.1 General Description**

The equipment under test (EUT) is a transmitter for Micro Slider. Operating at 49.860 MHz which is controlled by a crystal. The EUT is powered by 9V battery. There are six buttons and one on / off switch on the EUT. When the A~D button is pressed once, it will transmit a radio frequency for receiver go forward and backward or turn left and turn right. When the E~F button is pressed once, it will transmit a radio frequency for receiver slider sideways running.

The brief circuit description is listed as follows :

- U1 and associated circuit act as encoder.
- Q3 and associated circuit act as power control.
- Q1, X1 and associated circuit act as oscillator.
- Q2 and associated circuit act as amplifier.

The model(s) 60-4395 is the same as model 60-4394 in hardware aspect. The difference between these models is matching with different receiver.

#### **1.2 Related Submittal Grants**

This is a single application for certification of a transmitter.

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### **1.3 Location of the test site**

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2001. An Open Area Testing Site is set up for investigation and located at :

Top of the Roof, Yan Hing Centre,  
9 – 13 Wong Chuk Yeung Street,  
Fo Tan, Shatin,  
New Territories,  
Hong Kong.

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2001. A double shielded room is located at :

Roof Floor, Yan Hing Centre,  
9 – 13 Wong Chuk Yeung Street,  
Fo Tan, Shatin,  
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### **1.4 List of measuring equipment**

Equipment	Manufacturer	Model No.	Serial No.	Calibration Certification No.
EMI Test Receiver	R&S	ESCS30	100001	S21141
Broadband Antenna	Schaffner	CBL6113B	2718	AC1753
Signal Generator	IFR	2023B	202302/938	Nil
LISN	R&S	ESH3-Z5	100038	S21142
Pulse Limiter	R&S	ESH3-Z2	100001	20-73194
Biconical Antenna	R&S	HK116	837414/004	4000.7752.02

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### **2 Description of the radiated emission test**

#### **2.1 Test Procedure**

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2001.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

The device was rotated through three orthogonal axes to determine which attitude and configuration produce the highest emission during measurement.

#### **2.2 Test Result**

Peak Detector data was measured unless otherwise stated.

\* Emissions appearing within the restricted bands shall follow the requirement of section 15.205.

It was found that the EUT meet the FCC requirement.

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### **2.3 Radiated Emission Measurement Data**

**Radiated emission  
pursuant to  
the requirement of FCC Part 15 subpart C**

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dB $\mu$ V/m)	Antenna and Cable factor (dB)	Averaging factor (-dB)	Field Strength (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
49.861	V	62.5	11.1	6.5	67.1	80.0	-12.9
99.721	H	20.3	10.0	-	30.3	43.5	-13.2
149.596	H	25.1	12.4	-	37.5	43.5	-6.0
199.448	H	18.9	10.5	-	29.4	43.5	-14.1
*249.309	H	23.6	10.1	-	33.7	46.0	-12.3
299.169	H	26.4	14.2	-	40.6	46.0	-5.4
349.035	H	26.4	15.6	-	42.0	46.0	-4.0
398.895	H	17.0	15.6	-	32.6	46.0	-13.4
448.756	H	14.3	18.7	-	33.0	46.0	-13.0
498.621	H	15.4	18.7	-	34.1	46.0	-11.9

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### **3 Description of the Line-conducted Test**

#### **3.1 Test Procedure**

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.4 – 2001. The EUT was setup as described in the procedures, and both lines were measured.

#### **3.2 Test Result**

No measurement is required as the EUT is a battery-operated product.

#### **3.3 Graph and Table of Conducted Emission Measurement Data**

Not Applicable

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### **4 Photograph**

#### **4.1 Photographs of the Test Setup for Radiated Emission and Conduction Emission**

For electronic filing, the photos are saved with filename TSup1.jpg to TSup2.jpg

#### **4.2 Photographs of the External and Internal Configurations of the EUT**

For electronic filing, the photos are saved with filename ExPho1.jpg to ExPho2.jpg and InPho1.jpg to InPho2.jpg.

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### **5 Supplementary document**

The following document were submitted by applicant, and for electronic filing, the document are saved with the following filenames:

<b>Document</b>	<b>Filename</b>
ID Label/Location	LabelSmp.jpg
Block Diagram	BlkDia.pdf
Schematic Diagram	Schem.pdf
Users Manual	UserMan.pdf
Operational Description	OpDes.pdf

#### **5.1 Bandwidth**

The plot on saved in TestRpt 2.pdf shows the fundamental emission is confined in the specified band. The field strength of any emission appearing between the band edges and up to 10 kHz above and below the band edges (49.81 and 49.91 MHz) is at least 26 dB below the carrier level. It meets the requirement of Section 15.235(b).

#### **5.2 The duty cycle is simply the on-time divided by the period :**

The duration of one cycle = 36.60ms

Effective period of the cycle =  $(1.64\text{ms} \times 8) + (520\mu\text{s} \times 8)$   
= 17.28ms

Duty Cycle =  $(17.28 / 36.60) \text{ms}$   
= 0.472

Therefore, the average factor is found by  $20 \log_{10} 0.472 = -6.5 \text{ dB}$



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### **6 Appendices**

A1.	Photos of the set-up of Radiated Emissions	1 page
A2.	Photos of External Configurations	1 page
A3.	Photos of Internal Configurations	1 page
A4.	ID Label/Location	1 page
A5.	Bandwidth Plot	1 page
A6.	Average Factor	2 pages
A7.	Block Diagram	1 page
A8.	Schematics	1 page
A9.	User Manual	4 pages
A10.	Operation Description	1 page

\*\*\*\*\* End of Report \*\*\*\*\*



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### **A1. Photos of the set-up of Radiated Emissions**



(front view)



(rear view)

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### **A2. Photos of External Configurations**



External Configuration 1



External Configuration 2

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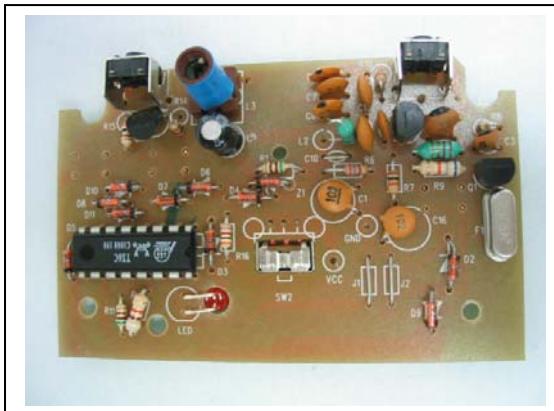


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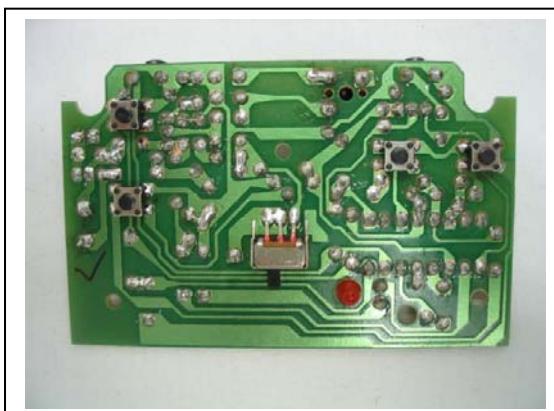
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### **A3. Photos of Internal Configurations**



Internal Configuration 1



Internal Configuration 2

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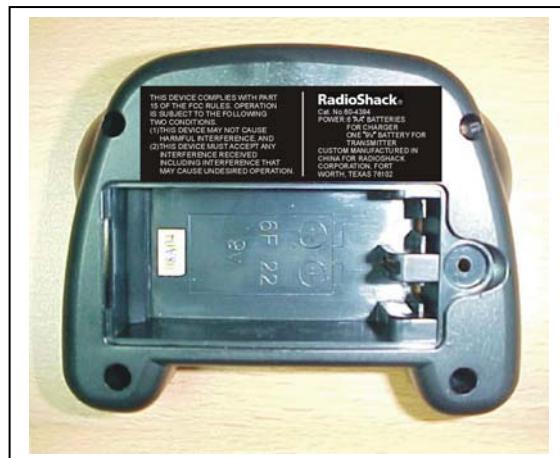


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### **A4. Photos of ID Label**



ID Label 1



ID Label 2

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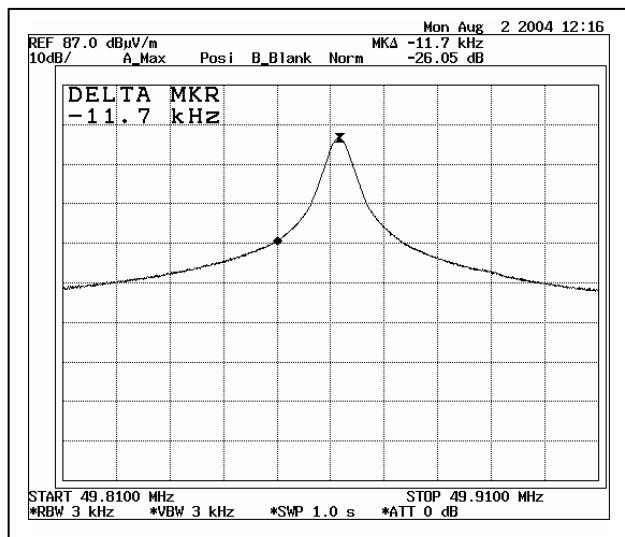


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### **A5. Bandwidth Plot**



### **Bandwidth 1**

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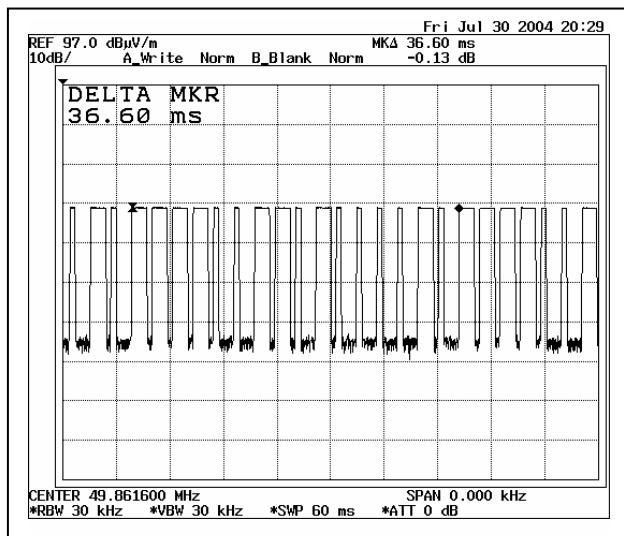


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### **A6. Average Factor**



### **Duty Cycle 1**

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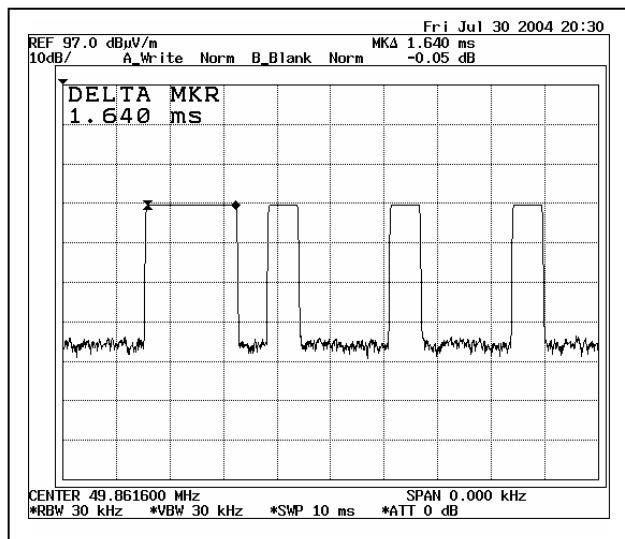
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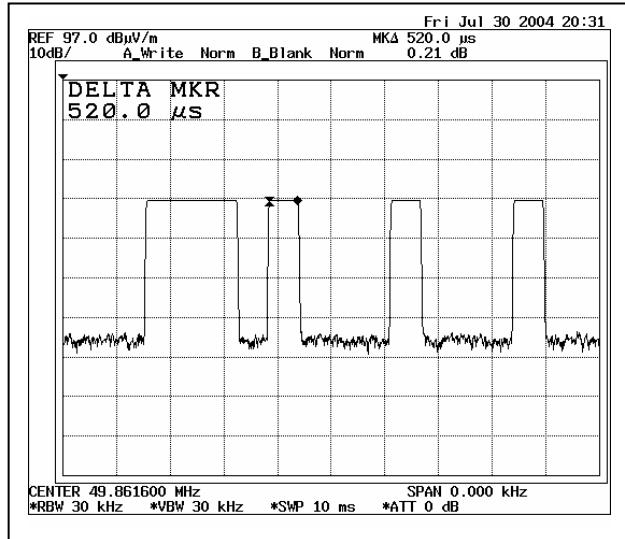
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### **Duty Cycle 2**



### **Duty Cycle 3**

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