CMA Testing and Certification Laboratories
廠商會檢定中心

TEST REPORT

Report No.	:	AK017877-001	Date :	2008-08-04
Application No.	:	LK211847(1)		
Client	:	Cateye Co., Ltd. 8-25, 2 chome, Kuwazu, Higashi Sumiyoshi-ku, Osaka, Japan.		
Sample Description	:	One(1) submitted sample(s) stated to be Cycle Computer of Model No. CC-RD400DW Radio Frequency : 26KHz Transmitter Rating : 1 x 3V button cell No. of submitted sample : Two (2) set(s) ***		
Date Received	:	2008-04-25.		
Test Period	:	2008-04-25 to 2008-05-16.		
Test Requested	:	FCC Part 15 Certification.		
Test Method	:	47 CFR Part 15 (10-1-07 Edition) ANSI C63.4 – 2003		
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.		

For and on behalf of
CMA Industrial Development Foundation Limited

Authorized Signature : _____

Andrew Wong
Senior Technical Officer
Electrical Division

FCC ID: ON5SPDSENSORD

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1 General Information

1.1 General Description

The equipment under test (EUT) is a transmitter for Cycle Computer. It operates at 26KHz and the oscillation of radio control is generated by a crystal. The EUT is powered by 1 x 3V size button cell. There are two sensors in the EUT. When the speed and cadence sensor detected the movement from wheel and crank, it will transmit a radio signal to receiver.

The antenna terminal is permanently attached in EUT and the radio output power is unable to adjust.

The brief circuit description is saved with filename: OpDes.pdf

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1.2 Location of the test site

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.4 – 2003. A Semi-Anechoic Chamber Testing Site is set up for investigation and located at:

Ground Floor, 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 – 2003. A shielded room is located at :

Ground Floor, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
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1.3 List of measuring equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibration Due Date
EMI Test Receiver	R&S	ESCI	100152	2008 October 14
Broadband Antenna	Schaffner	CBL6112B	2718	2008 May 23
Loop Antenna	EMCO	6502	00056620	2009 July 19

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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 – 2003.

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.

For below 30MHz, a loop antenna with its vertical plane is placed 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1 m above the ground.

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.

The Frequencies from fundamental up to that tenth harmonics were investigated, and emissions more 20dB below limited were not reported. Thus, those higher emissions were presented in next page (section 2.3).

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 (KHz)	Polarity (H/V)	Reading at 3m (dBμV/m)	Antenna and Cable factor (dB)	Field Strength (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)
26.096	V	73.0	13.7	86.7	119.3	-32.6
52.881	V	30.9	11.2	42.1	119.3	-77.2
78.349	V	30.0	10.9	40.9	119.3	-78.4
104.388	V	26.2	10.9	37.1	119.3	-82.2
130.926	V	25.6	10.9	36.5	119.3	-82.8
156.640	V	23.1	10.8	33.9	119.3	-85.4
183.007	V	23.0	10.8	33.8	119.3	-85.5
208.884	V	23.2	10.8	34.0	119.3	-85.3
234.910	V	21.3	10.8	32.1	119.3	-87.2
260.795	H	21.0	10.8	31.8	119.3	-87.5

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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 – 2003. 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 Conducted 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:

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

5.1 Bandwidth

Not Applicable

5.2 Duty cycle

Not Applicable

5.3 Transmission time

Not Applicable

5.4 Power Spectrum Density

Not Applicable

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6 Appendices

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A2.	Photos of External Configurations	1	page
A3.	Photos of Internal Configurations	1	page
A4.	ID Label/Location	1	page
A5.	Block Diagram	1	page
A6.	Schematics Diagram	1	page
A7.	User Manual	4	pages
A8.	Operation Description	2	pages

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

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