



## **TEST REPORT**

Report No. : AB018583-1

Date : 2002 January 10

Client : Precise Int'l (H.K.) Ltd.  
Flat E, 3/F., Block 4, Golden Dragon Ind. Center,  
182-190 Tai Lin Pai Road, Kwai Chung,  
N. T., Hong Kong.

Sample Description : Sample stated to be Wireless Door Chime (Transmitter).

Model No. : MSR#7077, E-1909, E-1908, 301, 302

Rating : 1 x 12 V battery

No. of sample(s) : One(1) piece \*\*\*

Date Received : 2001 December 20.

Test Period : 2001 December 20 – 2002 January 08.

Test Requested : FCC Part 15 Certification

Test Method : FCC Rules and Regulations Part 15 – May 2001  
ANSI C63.4 – 1992

Test Result : See attached sheet(s) from page 2 to 10.

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

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

Authorized Signature :

Danny Chui  
EMC Engineer – EL. Division

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### **1 General Information**

#### **1.1 General Description**

The equipment under test (EUT) is a transmitter for a wireless door chime operating at 313.7747 MHz which is controlled by a crystal. The EUT is powered by a 12 V dc button cell. There is only a single button in the center of the EUT. When the button is pressed once, it transmits a radio frequency and the door bell (receiver) will be sounded. No more signal is transmitted when the button is released.

The brief circuit description is listed as follows :

- IC1 and associated circuit act as encoder
- Q1 and associated circuit act as oscillator and amplifier

The model EL-1909, EL-1908, 301 and 302 are the same as model MSR#7077 in hardware aspect. The difference in model numbers serves as marketing strategy.

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

This is a single application for certification of a transmitter. The receiver of this transmitter is authorized by Certification procedure.

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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 – 1992. 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 – 1992. A double shielded room is located at :

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

Equipment	Manufacturer	Model No.	Serial No.	Calibration Certification No.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESCS30	100001	20-69223	Mar. 21, 2001	Sept. 20, 2002
Broadband Antenna	Schaffner	CBL6113B	2718	AC1753	Dec. 15, 2000	Jun. 14, 2002
Signal Generator	IFR	2023B	202302/938	Nil	Oct. 23, 2000	Apr. 22, 2002
LISN	R&S	ESH3-Z5	100010	20-70405	Mar. 29, 2001	Sept. 28, 2002
Pulse Limiter	R&S	ESH3-Z2	100001	20-73194	May 2, 2001	Nov. 1, 2002

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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 – 1992.

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 unless otherwise stated.

\*Emissions appearing within the restricted bands shall follow the requirement of section 15.205. The corresponding limits as per section 15.209 is based on Qusai peak detector data for frequencies below 1000 MHz and average detector data for frequencies over 1000 MHz.

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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)	Field Strength (dB $\mu$ V/m)	Limit at 3m (dB $\mu$ V/m)	Margin (dB)
313.775	H	34.5	14.5	49.0	75.5	-26.5
627.654	H	15.8	20.8	36.6	55.5	-18.9
941.431	H	14.3	23.4	37.7	55.5	-17.8
1256.027	H	11.3	26.2	37.5	55.5	-18.0
*1570.028	H	12.1	28.7	40.8	54.0	-13.2
1882.479	H	14.0	31.3	45.3	55.5	-10.2

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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 – 1992. 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 ExtPho1 to ExtPho2 and IntPho1 to IntPho2.

### **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	LabelSmpl.pdf
Block Diagram	BlkDia.pdf
Schematic Diagram	Schem.pdf
Users Manual	UserMan.pdf
Operational Description	OpDes.pdf

#### **5.1 Bandwidth**

For electronic filing, the bandwidth plot is saved with filename TestRpt.2.pdf which shows that the fundamental emission is confirmed in the specified band.

The plot shows the fundamental emission when modulated. From the plot, the bandwidth is observed to be 50 kHz, at 20 dBc. The bandwidth limit is 784.437 kHz. Therefore, the unit meets the requirement of Section 15.231(C).

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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.	Block Diagram	1 page
A6.	Schematic Diagram	1 page
A7.	Users Manual	2 pages
A8.	Bandwidth	1 page
A9.	Operation Description	1 page

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

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