

Advanced
Compliance Laboratory

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ELECTROMAGNETIC EMISSION COMPLIANCE REPORT

of

WIRELESS CHIME RECEIVER
MODEL: RC533/RC532
FCC ID: **LQP-RX600**

AUGUST 18, 2003

This report concerns (check one): Original grant ☒ Class II change ☐
Equipment type: Superregenerative Receiver

Deferred grant requested per 47 CF 0.457(d)(1)(ii)? yes ☐ no ☒
If yes, defer until: _____ (date)
Company agrees to notify the Commission by _____ (date)
of the intended date of announcement of the product so that the grant can be
issued on that date.

Transition Rules Request per 15.37? yes ☐ no ☒
If no, assumed Part 15, Subpart B for unintentional radiators - the new 47 CFR
[10-1-90 Edition] provision.

Report prepared for: **SMARTHOME PRODUCTS LTD.**
Report prepared by: **Advanced Compliance Lab**
Report number: **0048-030818-01**



The test result in this report IS supported and covered by the NVLAP accreditation

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1. GENERAL INFORMATION

1.1 Verification of Compliance

EUT: WIRELESS CHIME RECEIVER

Model: **RC533/RC532**

Applicant: **SMARTHOME PRODUCTS LTD.**
Room B-812, Sea View Estate, 2-8 Watson Rd.
North Point, Hong Kong

Tel: +(852)2566 1832
Fax: +(852)2510 8742

Test Type: FCC Part 15 CERTIFICATION
Result: PASS
Tested by: ADVANCED COMPLIANCE LABORATORY
Test Date: August 18, 2003

Report Number: **0048-030818-01**

The above equipment was tested by Advanced Compliance Laboratory for compliance with the requirement set forth in the FCC rules and regulations Part 15. This said equipment in the configuration described in the report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

The estimated uncertainty of the test result is given as following. The method of uncertainty calculation is provided in Advanced Compliance Lab. Doc . No. 0048-01-01.

	Prob. Dist.	Uncertainty(dB)	Uncertainty(dB)	Uncertainty(dB)
		30-1000MHz	1-6.5GHz	Conducted
Combined Std. Uncertainty u_c	norm.	± 2.36	± 2.99	± 1.83



Wei Li
Manager, ACL

August 18, 2003

Date

1.2 Equipment Modifications

N/A

1.3 Product Information

System Configuration

ITEM	DESCRIPTION	FCC ID	CABLE
Product	WIRELESS CHIME RECEIVER ⁽¹⁾	LQP-RX600 ⁽¹⁾	
Housing	PLASTICS		
Power Supply	4.5V BATTERY		
Clock/OSC Freq.	315MHz		
Device Type	SUPERREGENERATIVE RECEIVER		

(1) EUT submitted for grant.

1.4 Test Methodology

Both conducted and radiated tests were performed according to the procedures in ANSI C63.4-1992. Radiated test was performed at an antenna to EUT distance of 3 meters.

1.5 Test Facility

The open area test site and conducted measurement facility used to collect the radiated and conducted data are located at Somerset, New Jersey. This site has been accepted by FCC to perform measurements under Part 15 or 18 in a letter dated January 02, 2001 (Refer to: 90601). The NVLAP Lab code for accreditation of FCC EMC Test Method is: 200101-0.

1.6 Test Equipment

Manufacture	Model	Serial No.	Description	Last Cal dd/mm/y	Cal Due dd/mm/y
Hewlett-Packard	HP8546 A	3625A00341	EMI Receiver	23/10/02	23/10/03
EMCO	3104C	9307-4396	20-300MHz Biconical Antenna	19/09/02	19/09/03
EMCO	3146	9008-2860	200-1000MHz Log-Periodic Antenna	27/09/02	27/09/03
Fischer Custom	LISN-2	900-4-0008	Line Impedance Stabilization Networks	03/07/03	03/07/04
Fischer Custom	LISN-2	900-4-0009	Line Impedance Stabilization Networks	03/07/03	03/07/04

All Test Equipment Used are Calibrated Traceable to NIST Standards.

1.7 Statement for the Document Use

This report shall not be reproduced except in full, without the written approval of the laboratory. And this report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

2. PRODUCT LABELING

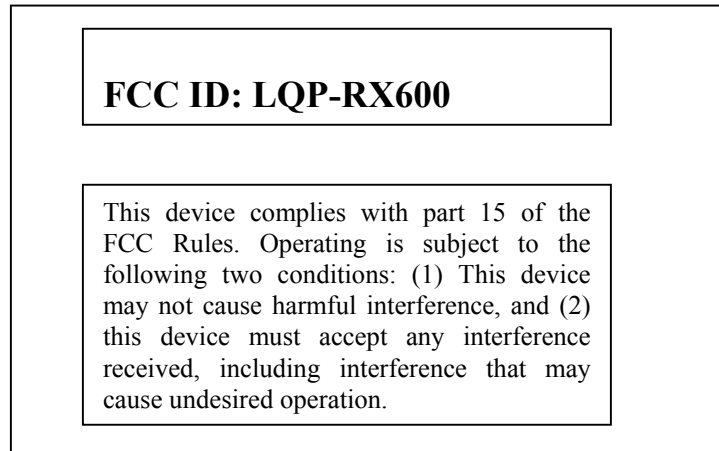


Fig 2.1 FCC ID Label

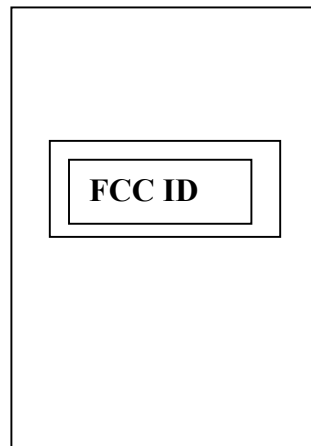


Fig. 2.2 Location of Label on the back of EUT

3. SYSTEM TEST CONFIGURATION

3.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it). And its antenna was permanently attached to the EUT.

A ROHDE&SCHWARZ SMH signal generator was used during the test to radiate an unmodulated CW signal to cohered the receiver at 315 MHz. The level was adjusted to let this occur.

3.2 Special Accessories

N/A

3.3 Configuration of Tested System

Figure 3.1 and Figure 3.2 illustrate this system, which is tested standing along.



Figure 3.1 Radiated Test Setup, Front View



Figure 3.2 Radiated Test Setup, Rear View

5. RADIATED EMISSION DATA

5.1 Field Strength Calculation

The corrected field strength is automatically calculated by EMI Receiver using following:

$$FS = RA + AF + CF + AG$$

where FS: Corrected Field Strength in dB μ V/m

RA: Amplitude of EMI Receiver before correction in dB μ V

AF: Antenna Factor in dB/m

CF: Cable Attenuation Factor in dB

AG: Built-in Preamplifier Gain in dB (Stored in receiver as part of the calibration data)

So the receiver readings are recorded without further correction.

5.2 Test Methods and Conditions

The initial step in collecting radiated data is a EMI Receiver scan of the measurement range 30MHz - 5GHz. Significant peaks are then marked down and these signals are then measured with quasi-peak detector conform with CISPR 16. IF bandwidth is 120kHz and video bandwidth is 300kHz for measuring 30MHz-1GHz. Both bandwidth are 1MHz for above 1GHz measurement.

5.3 Test Data

The following data lists the significant emission frequencies, polarity and position, corrected amplitude reading of the EMI Receiver, the Class B limit, and the difference between the corrected reading and the Class B limit. Explanation of the correction is given in section 5.1.

Test Personnel:

Tester Signature: 

Date: August 18, 2003

Typed/Printed Name: Edward Lee

Radiated Emission Data

Frequency (MHz)	Polarity [H or V] Position	Height (m)	Azimuth (Degree)	Amplitude Reading (dB μ V/m)	Class B 3m Limit (dB μ V/m)	Difference from limit (dB)
308.4	H	1.3	80	32.4	46.0	-13.6
311.6	H	1.3	90	33.5	46.0	-12.5
312.0	H	1.4	90	37.5	46.0	-8.5
313.2	H	1.4	80	33.0	46.0	-13
314.7	H	1.4	80	35.1	46.0	-10.9
316.3	H	1.4	80	35.4	46.0	-10.6
308.4	V	1.2	110	33.6	46.0	-12.4
312.0	V	1.2	100	37.9	46.0	-8.1
313.2	V	1.2	110	34.8	46.0	-11.2
314.7	V	1.2	110	35.7	46.0	-10.3
316.3	V	1.2	110	35.6	46.0	-10.4

6. PHOTOS OF TESTED EUT

The following photos show the inside details of the EUT.

front.jpg, rear.jpg, inside.jpg, component.jpg, foil.jpg .