Marstech Limited

11 Kelfield Street, Etobicoke, Ontario, Canada, M9W 5A1
Telephone (416) 246-1116, Fax (416) 246-1020

Authorized by: Professional Engineers Ontario

Engineering & Administrative

CERTIFICATED UL AGENCY

Testing For FCC Submissions/Vérifications

Industry Canada Industrie Canada *Approved Test Facility*

Qualified SP Facility

TEST REPORT

REPORT DATE:	October 26, 1998		REPORT NO: 98338D/B
CONTENTS:	See Table of Contents		
SUBMITTOR:	SMARTHOME PRODUCTS LTD. 8/F Block B Rm. B812, Sea View Estate 2-8 Watson Road North Point, Hong Kong		
SUBJECT:	Model No:	WC811	
	FCC ID:	LQP-R10	
TEST SPECIFICATION:	FCC CFR 47 Part 15.109 IC RSS210 Section 7 NOTE: Tests Conducted Are "Type" Tests.		
DATE SAMPLE RECEIVED:	October 2, 1998	DATE TESTED:	October 19, 1998
RESULTS:	Equipment tested complies with referenced specification.		
ALTERATIONS	None		
Tested by:	Original signed by: Jim Sims	Approved and Certified by:	Ed Ekang.
		R. MARSHALL	Robert G. Marshall
		Date:	30 Oct. 1998.

TECHNICAL REPORT - FCC 2.1033(b)/IC RSS-210 Cl.5.

Applicant

Smarthome Products Ltd.
8/F Block B, Rm. B812, Sea View Estate
2-8 Watson Road
North Point, Hong Kong

FCC Identifier

LQP-R10

Manufacturer

Smarthome Products (Shenzhen) Co. Ltd.,
Shui Tian Chuen Industrial Estate
Shiyan, Shenzhen, Baoan,
Guangdong, CHINA

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EXHIBIT D

(FCC Ref. 2.1033(b)(6)
IC RSS-210 Cl. 5.2-5.8)

"Report of Measurements"

EXHIBIT D(1)

DEVICE MEASURED

(FCC Ref. 2.1033(b)(6))
(IC RSS-210 Cl. 5.3)

APPLICANT:	Smarthome Products Ltd. 8/F Blk. B Rm. B812, Sea View Estate 2-8 Watson Road North Point, Hong Kong
MANUFACTURER:	Smarthome Products (Shenzhen) Co. Ltd., Shui Tian Chuen Industrial Estate Shiyan, Shenzhen, Baoan, Guangdong, CHINA
FCC IDENTIFIER:	LQP-R10
TRADE NAME:	CHIME-PLUS
MODEL NUMBER:	WC811
SERIAL NO.:	Not Marked

Marstech Limited
11 Kelfield Street
Etobicoke, Ontario
M9W 5A1 CANADA

TECHNICIANS:
Jim Sims - Com-Serve Corp.

for Ed. Oblamp.
Robert G. Marshall, P. Eng.

Date: 30 oct. 1998.

EXHIBIT D(2)

TEST FACILITY AND EQUIPMENT LIST

FACILITIES

Radiated — ANSI C63.4 (FCC OET/55) open field 3 meter test range. This test range is protected from the cold and moisture by a non-conductive enclosure.

Conducted — 2.5m Anechoic Chamber

EQUIPMENT

Hewlett-Packard spectrum analyzer # 8554 RF & 141T video.
Anritsu 2601 A spectrum analyzer.
Advantest R3261A Spectrum Analyzer
Hewlett-Packard RF generator # 8640 B with an 002 doubler
Hewlett-Packard RF voltmeter # 400 FL.
Hewlett-Packard attenuator 30 dB # 11708A.
Narda 20 watt (20 dB) attenuator
A.H. Systems biconical antenna; ..... 20 MHZ - 330 MHZ
A.H. Systems log periodic antenna; ..... 300 MHZ - 1.8 GHZ
Eaton dipole antennas; T1, T2, T3 ..... 25 MHZ - 1.0 GHZ
CDI Roberts dipole antennas; T1, T2, T3 & T4 25 MHZ - 1.0 GHZ

NOTE:

The Anritsu 2601 A spectrum analyzer, the Hewlett-Packard spectrum analyzer and the Advantest R3261A spectrum analyzer are calibrated annually, and that calibration is directly traceable to the National Research Council of Canada (NRC). This equipment is only used by qualified technicians and only for the purpose of EMI measurements. The three meter test range has been carefully evaluated to the ANSI document C63.4 and will be remeasured for reflections and losses every three years.

FEDERAL COMMUNICATIONS COMMISSION

7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-216)
Facsimile: 301-344-2050

September 23, 1997

IN REPLY REFER TO
31040/SIT
1300F2

Electrohome Electronics Ltd
809 Wellington Street, North
Kitchener, Ontario N2G 4J6, Canada

Attention: Gerry Gallagher

Re: Measurement facility located at Roseville
(3 meter site)

Gentlemen:

Your submission of the description of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC Rules. The description has, therefore, been placed on file and the name of your organization added to the Commission's list of facilities whose measurement data will be accepted in conjunction with applications for certification or notification under Parts 15 or 18 of the Commission's Rules. Our list will also indicate that the facility complies with the radiated and AC line conducted test site criteria in ANSI C63.4-1992. Please note that this filing must be updated for any changes made to the facility, and at least every three years the data on file must be certified as current.

Per your request, the above mentioned facility has been also added to our list of those who perform these measurement services for the public on a fee basis. This list is published periodically and is also available on the Laboratory's Public Access Link as described in the enclosed Public Notice.

Sincerely,

Thomas W. Phillips
Electronics Engineer
Customer Service Branch

SUMMARY OF RESULTS

	COMPLIANCE (yes)	(no)
FIELD STRENGTH OF THE CARRIER FREQUENCIES		
Transmitter:	(N/A)	( )
OCCUPIED BANDWIDTH:		
Transmitter:	(N/A)	( )
SPURIOUS RADIATED EMISSIONS		
Receiver: FCC 15.109 (a), IC RSS-210 Cl. 7.3	(X)	( )
Transmitter:	(N/A)	( )
LINE CONDUCTED SPURIOUS EMISSIONS		
Receiver: FCC 15.107, IC RSS-210 Cl. 7.4	(X)	( )
Transmitter:	(N/A)	( )
ENVIRONMENTAL TESTS		
Transmitter:	(N/A)	( )
EQUIPMENT REQUIREMENTS AND IDENTIFICATION		
a) Manufacturers/Applicants or tradename:	(X)	( )
b) Model designation:	(X)	( )
c) FCC ID/IC Certification Number	(X)	( )

SPURIOUS RADIATED EMISSIONS

RESULTS

The maximum field strength of any spurious emission or harmonic, from 25 MHz to 2,000 MHz, while receiving was:

Model WC811

Receiver: **Maximum field strength of 159.3 μV/M: at 316.05 MHz**

TEST CONDITIONS

Equipment Positioning:
Receiver: laying on its back

Antenna Polarization:
Receiver: horizontal

Measurement Bandwidth: 120 KHz and 1 MHz (IF)

Supply Voltages:
Receiver: 4.5 VDC (3 "AA" cell batteries)

METHODS OF MEASUREMENT

The remote door chime receiver, was placed on a one metre high, non-metallic turntable. The EUT was an unmodified sample as supplied by the manufacturer. Power was supplied via 3 standard "AA" cell batteries. The remote door chime receiver was set in the receive mode and the entire spectrum up to 2,000 MHz was searched for spurious emissions. All emissions were measured and recorded. The spectrum analyzer used was set in both the PEAK and QUASI-PEAK modes of operation to ensure consistent results. Measurements over 1 GHz were in PEAK mode only.

The receive frequency, 315 MHz, was measured using an external, unmodulated ambient RF carrier signal tuned across the wideband of receiver noise. The unmodulated carrier was emanating from an antenna in the proximity of the receiver. Care was taken so as not to overload the receiver, however the carrier level was varied in amplitude and frequency to obtain the highest level of spurious emissions from the receiver. This external signal was set to cause receiver "quieting" or to cohere the superregenerative receiver and cause single discrete noise components to appear. At this point the largest emission or single frequency component within this band was measured and recorded.

For each of the above conditions the turntable was rotated through 360 degrees while the receiving antenna, at three (3) metres from the EUT, was varied in height from 1 to 4 metres to find the maximum signal strength. The measured level was converted to a field strength using the antenna correction factors and cable losses.

RADIATED EMISSION RESULTS

RADIATED EMISSION RESULTS

BW: 100/120QP KHz and 1 MHz
Span: 05 to 50 MHz

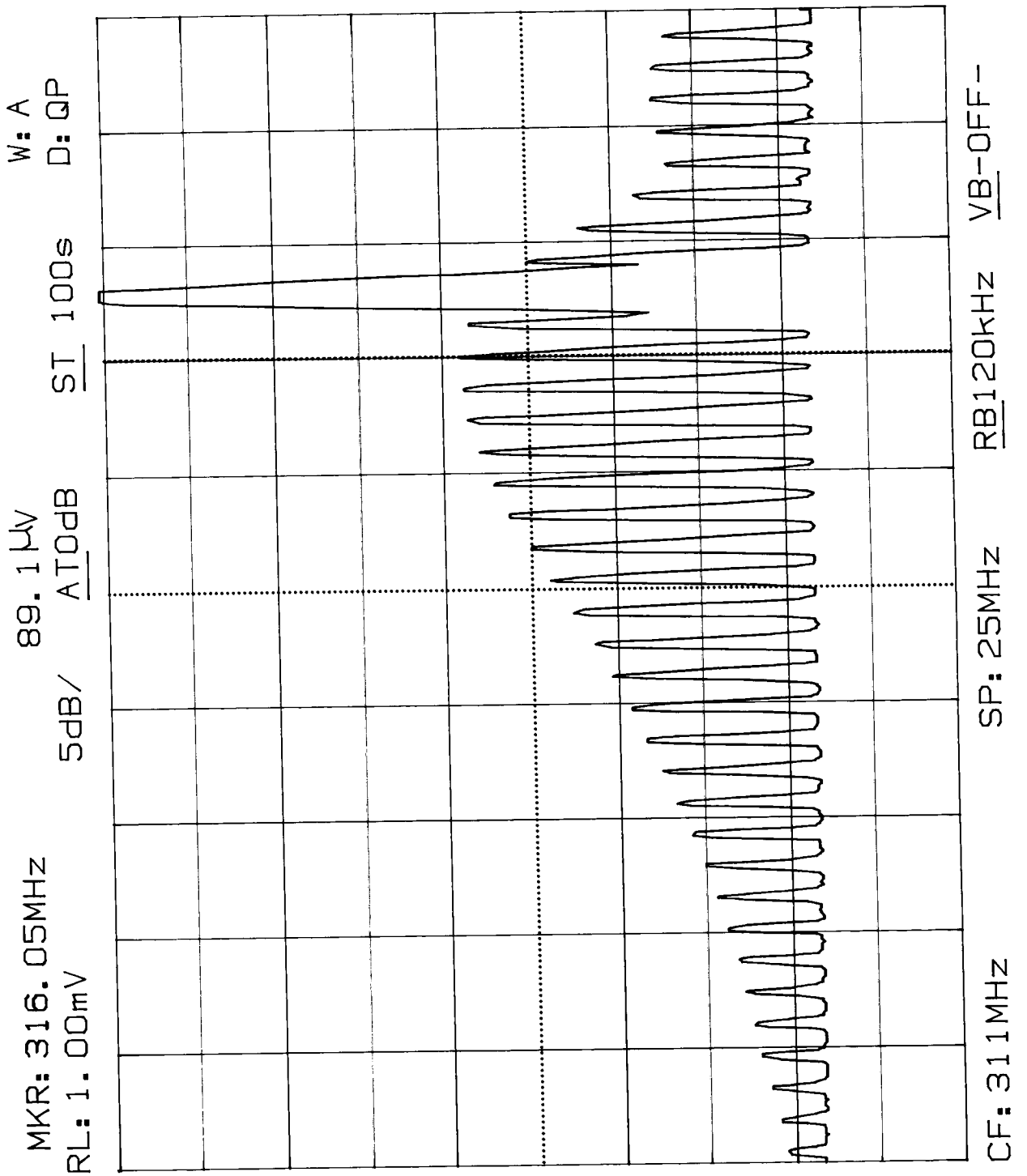
RECEIVER MODEL WC811

TEST #	FREQ. M Hz	LEVEL μV	ANT. TYPE (PZ)	ANT. FACT.	F.S. μV/M	LIMIT μV/M	DIFF. TO LIMIT; dB
01	316.05	14.1	RT.3 H	11.3	159.3	200	-1.97
02	626.60	06.0	L/P H	14.4	86.4	200	-7.29
03	948.50	03.8	L/P H	37.6	142.9	200	-2.92
04	1251.60	04.9	L/P H	50.0	245.0	500	-6.20

Note:

1) A 16 dB RF preamplifier was used for all above measurements.

SPURIOUS RADIATED EMISSIONS
MODEL WC811; RECEIVER



FCC ID: LQP-R10
Marstech Report #98338D/B
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