

EXHIBIT A

[FCC Ref. 2.1033(b)(6)]

"Report of Measurements"

TABLE OF CONTENTS

TEST REPORT CONTAINING:

Exhibit A(1)	Table of Contents
Exhibit A(2)	Product Description
Exhibit A(3)-1	15.107(a) Power Line Conducted Interference
Exhibit A(3)-2 to 4	15.249(a), (b) and (c) Field Strength of Emissions
Exhibit A(3)-5	15.249(d) Band Edges
Exhibit A(3)-6	2.202 Bandwidth
Exhibit A(4)-1 to -3	Test Equipment List and Facility
Exhibit A(5)	Frequency List Table
Exhibit A(6)-1 to -2	Test Set Up Photo
Exhibit A(7)	Test Set Up Diagram for AC Conducted Line Testing
Appendix 1 to 4	Plots for Power Line Conducted Interference
Appendix 5 to 6	Plot for Band Edge
Appendix 7 to 10	Plots for 20 dB Bandwidth

PRODUCT DESCRIPTION

The Model H5400XXX-A is a 900 MHz single-line cordless telephone handset with caller ID and charger and separate cordless RF module, to be used as optional unit for Models 25415XXX-A, 25414XXX-A and 25413XXX-A, four-line corded speakerphone devices.

The antenna used for the handset is permanently attached to the EUT.

Refer to Exhibit A(5) for complete frequency list.

15.107 (a) POWER LINE CONDUCTED INTERFERENCE

Requirements:

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

Test Procedure:

ANSI STANDARD C63.4-1992. using a 50uH LISN. Both lines were observed with the EUT transmitting. The bandwidth of the spectrum analyzer was 9KHz QP with an appropriate sweep speed. The ambient temperature of the EUT was 24°C with a humidity of 60%.

The spectrum was scanned from 0.15 to 30MHz.

Test Data:

Charge Cradle - Model H5400XXX-A

The highest emission read for PHASE was 37.63 dB μ V/M @ 0.15 MHz.
The highest emission read for NEUTRAL was 38.12 dB μ V/M@ 0.15 MHz.

Base Unit - Model 25415XXX-A / RF Module - Model H5400XXX-A

The highest emission read for PHASE was 30.76 dB μ V/M @ 0.15 MHz.
The highest emission read for NEUTRAL was 35.16 dB μ V/M@ 0.15 MHz.

The graphs on Appendix 1 to 4 represent the emissions taken for this device.

Test Results:

Both lines were observed. The measurements indicate that the unit DOES appear to meet the FCC requirements for this class of equipment.

15.249 (a), (b) and (c) FIELD STRENGTH OF EMISSIONS**Requirements:**

Fundamental Frequency	Field Strength of Harmonics	15.209	
94dB μ V	54 dB μ V/m@ 3m	30-88 MHz	40 dB μ V/m@ 3m
		88-216 MHz	43.5
		216-960 MHz	46
		Above 960 MHz	54

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in 15.209, whichever is the lesser attenuation.

Emissions that fall in the restricted bands (15.205) must be less than 54dB μ V/m

Procedure

The test procedure used was ANSI STANDARD C63.4-1992 and DA-00-705 using an appropriate spectrum analyzer, as listed in the Test Equipment List. The bandwidth (RBW) of the spectrum analyzer was 100KHz/120KHz up to 1GHz with an appropriate sweep speed. The RBW above 1.0GHz was = 1.0MHz. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The ambient temperature of the EUT was 24°C with a humidity of 60%.

Test Data:

Refer to Exhibit A(3)-3 and -4

FIELD STRENGTH OF EMISSIONS

Models H5400XXX-A

HANDSET UNIT

Emission Frequency MHz	Meter Reading @3m dBμV	Antenna	Cable and ACF dB	Field Strength dBμV/M	FCC Limit dBμV/M	Margin dB	Detector & BW KHz
<u>Channel 1</u>							
925.490	51.50	RT4 V	33.40	84.90	94	-9.10	PK 100
1850.980	9.00	Horn V	33.06	42.06	54	-11.94	PK 1000
<u>Channel 40</u>							
927.800	51.30	RT4 V	33.40	84.70	94	-9.30	PK 100
1855.600	9.00	Horn V	33.06	42.06	54	-11.94	PK 1000

FIELD STRENGTH OF EMISSIONS

Models H5400XXX-A and 25415XXX-A

RF MODULE/BASE UNIT

Emission Frequency MHz	Meter Reading @3m dBμV	Antenna	Cable and ACF dB	Field Strength dBμV/M	FCC Limit dBμV/M	Margin dB	Detector & BW KHz
<u>Channel 1</u>							
902.100	57.50	RT4 V	33.40	90.90	94	-3.10	PK 100
2706.300	11.00	Horn V	33.92	44.92	54	-9.08	PK 1000
<u>Channel 40</u>							
904.400	56.00	RT4 V	33.30	89.30	94	-4.70	PK 100
2713.200	11.00	Horn V	33.90	44.90	54	-9.10	PK 1000
<u>TX</u>							
451.080	20.00	LP V	22.10	42.10	46	-3.90	QP 120

15.249 (d) BAND EDGES

Requirements:

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Measurement:

The handset and base unit/RF module were attenuated by 50 dB.

Test Data:

The Bandedge was measured at the Low end of the band for the base/RF module, and the High end of the band for the handset. See Plot [Appendix 5 and 6].

2.202 BANDWIDTH

Measurement:

The measurements were made with the spectrum analyzer's resolution bandwidth (RBW) = 30KHz (Handset) and the video bandwidth (VBW) = 1 MHz and the span set as shown on plot.

Test Data:

Base Unit (Model 25415XXX-A) / RF Module (Model H5400XXX-A):

Channel 1: **0.038 MHz** [Refer to Appendix 7]
Channel 40: **0.0359 MHz** [Refer to Appendix 8]

Handset (Model H5400XXX-A):

Channel 1: **0.0388 MHz** [Refer to Appendix 9]
Channel 40: **0.0384 MHz** [Refer to Appendix 10]

BANDWIDTH = Base Unit/RF Module: **0.038 MHz**
 Handset: **0.0388 MHz**

TEST FACILITY AND EQUIPMENT LIST

FACILITIES:

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

EQUIPMENT

Anritsu 2601A Spectrum Analyzer
Advantest R3261A Spectrum Analyzer
Hewlett-Packard RF generator # 8640 B with an 002 doubler
A.H. Systems biconical antenna; 20 MHz to 330 MHz
A.H. Systems log periodic antenna; 300 MHz to 1.8 GHz
Compliance Design P950 Preamp (16 dB) ... 25 MHz to 1.0 GHz

NOTE:

The Anritsu 2601A 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 metre test range has been carefully evaluated to the ANSI document C63.4 and will be remeasured for reflections and losses every three years.

ADDITIONAL TEST EQUIPMENT LIST

1. Spectrum Analyzer: HP 8591EM, S/N 3639A00995, (9KHz - 1.8GHz), Calibration Due June 2005
2. Spectrum Analyzer: ANRITSU 2601A, S/N MT64544, (10KHz - 2.2GHz), Calibration Due June 2005
3. Spectrum Analyzer: IFR AN940, S/N 635001039, (9KHz - 26.5GHz), Calibration Due April 2005
4. Preamp: HP 8449B, S/N 3008A00378, (1 - 26.5GHz), Calibration Due August 2005
5. Horn Antenna: Q-PAR 6878/24, S/N 1721, (1.5-18GHz)
6. Horn Antenna: A. H. Systems SAS 572, S/N 164 (18 - 26.5GHz)
7. Line Impedance Stabilization Network.: Marstech, Calibration Due July 2005
8. Horn Antenna: Radar System (Flange 3/4" Square) MIL F 3922/68 (26.5 - 40GHz)
9. OML Mixer: M28HWD, S/N Ka31114-1 (26.5 - 40GHz), Calibration Due Nov. 10, 2004
10. OML Diplexer: DPL.313A (Unit plugs into M28HWD)
11. Semflex Cable: Used with M28HWD and DPL.313A

FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

August 22, 2003

Registration Number: 90578

Electrohome Electronics Ltd.
809 Wellington St. N.
Kitchener, Ontario, N2G 4J6
Canada

Attention: Tuat Huynh

Re: Measurement facility located at Roseville
3 meter site
Date of Renewal: August 22, 2003

Dear Sir or Madam:

Your request for renewal of the registration of the subject measurement facility has been received. The information submitted has been placed in your file and the registration has been renewed. The name of your organization will remain on the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that the file must be updated for any changes made to the facility and the registration must be renewed at least every three years.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website www.fcc.gov under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

Sincerely,



Ms. Phyllis Parrish
Information Technician

FCC ID: G9H-H5400A
Marstech Report No. 24182D
EXHIBIT A(4)-3

	Base TX (Mhz)	Base RX (Mhz)	Ftmsfrq HandSet TX (Mhz)	HandSet RX (Mhz)
;CH 1	902.10	925.50	925.50	902.10
;CH 2	902.15	925.55	925.55	902.15
;CH 3	902.20	925.60	925.60	902.20
;CH 4	902.25	925.65	925.65	902.25
;CH 5	902.30	925.70	925.70	902.30
;CH 6	902.45	925.85	925.85	902.45
;CH 7	902.50	925.90	925.90	902.50
;CH 8	902.65	926.05	926.05	902.65
;CH 9	902.70	926.10	926.10	902.70
;CH 10	902.75	926.15	926.15	902.75
;CH 11	902.85	926.25	926.25	902.85
;CH 12	902.90	926.30	926.30	902.90
;CH 13	902.95	926.35	926.35	902.95
;CH 14	903.00	926.40	926.40	903.00
;CH 15	903.05	926.45	926.45	903.05
;CH 16	903.10	926.50	926.50	903.10
;CH 17	903.15	926.55	926.55	903.15
;CH 18	903.20	926.60	926.60	903.20
;CH 19	903.25	926.65	926.65	903.25
;CH 20	903.30	926.70	926.70	903.30
;CH 21	903.35	926.75	926.75	903.35
;CH 22	903.40	926.80	926.80	903.40
;CH 23	903.45	926.85	926.85	903.45
;CH 24	903.50	926.90	926.90	903.50
;CH 25	903.60	927.00	927.00	903.60
;CH 26	903.65	927.05	927.05	903.65
;CH 27	903.70	927.10	927.10	903.70
;CH 28	903.75	927.15	927.15	903.75
;CH 29	903.85	927.25	927.25	903.85
;CH 30	903.90	927.30	927.30	903.90
;CH 31	903.95	927.35	927.35	903.95
;CH 32	904.00	927.40	927.40	904.00
;CH 33	904.05	927.45	927.45	904.05
;CH 34	904.10	927.50	927.50	904.10
;CH 35	904.15	927.55	927.55	904.15
;CH 36	904.20	927.60	927.60	904.20
;CH 37	904.25	927.65	927.65	904.25
;CH 38	904.30	927.70	927.70	904.30
;CH 39	904.35	927.75	927.75	904.35
;CH 40	904.40	927.80	927.80	904.40