Marstech Limited

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Authorized by:- Professional Engineers Ontario — Engineering & Administrative

CERTIFICATED UL AGENCY — Testing For FCC Submissions/Verifications

Industry Canada — Approved Test Facility

Qualified — Facility

TEST REPORT

REPORT DATE:	15 June 2004		REPORT NO: 24142D
CONTENTS:	See Table of Contents		
SUBMITTOR:	ATLINKS USA, Inc. 101 West 103rd Street Indianapolis, IN 46290-1102 USA		
SUBJECT:	Model No:	**25859XXX-A (Base Unit)**	
	FCC ID:	G9H2-5838A	
TEST SPECIFICATION	FCC CFR 47 Part 15 Class "II" Permissive Change NOTE: Tests Conducted Are "Type" Tests.		
DATE SAMPLE RECEIVED:	20 May 2004	DATE TESTED:	26 May 2004 and 02 & 03 June 2004
RESULTS:	Equipment tested complies with referenced specification. Please also note that the EUT meets the new rules (150KHz to 30MHz) FCC Power Line Conducted Limits.		
ALTERATIONS	None		
Tested by:	Ed. Chang	Approved by: for	Ed. Chang. Robert G. Marshall, P. Eng.
	Edward Chang	Date:	29 June. 2004.

TECHNICAL REPORT - FCC 2.1033(b)

Applicant

ATLINKS USA, Inc.
101 West 103rd Street
Indianapolis, IN
46290-1102 USA

FCC Identifier

G9H2-5838A

Manufacturer

Huiyang CCT Telecommunications Products Co. Ltd.
CCT Technology Park, San He Economic Experimental Zone
Huiyang City, Guangdong Province
P. R. of China

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EXHIBIT D

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

"Report of Measurements"

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TEST REPORT CONTAINING:

PRODUCT DESCRIPTION

The RF module of Model 25859XXX-A (base unit), a 900MHz single-line cordless telephone with caller ID, answering machine and speakerphone that operates from 925MHz to 927MHz, is the same as the previously registered Model 25838XXX-A except for TX and RX antennae.

Refer to Exhibit D(6) for complete frequency list.

15.107 (a) POWER LINE CONDUCTED INTERFERENCE

Requirements:

Frequency of Emission (MHZ)	Conducted Limit (dBμV)	
	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:

The highest emission read for PHASE was 39.54 dBμV@ 0.15 MHz.
The highest emission read for NEUTRAL was 40.89 dBμV@ 0.15 MHz.

The graphs on Appendix 1 and 2 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	
94dBμV	54 dBμV/m@ 3m	30-88 MHz	40 dBμV/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 54dBμV/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 D(3)-3

FIELD STRENGTH OF EMISSIONS

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
Channel 1							
924.573	**51.00**	**RT4 V**	**33.40**	**84.40**	**94**	**-9.60**	**PK 100**
1656.950	9.00	Horn V	35.92	44.92	54	-9.08	PK 1000
Channel 40							
926.560	**51.00**	**RT4 V**	**33.40**	**84.40**	**94**	**-9.60**	**PK 100**
1658.960	9.00	Horn V	35.92	44.92	54	-9.08	PK 1000

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 base was attenuated by 50 dB.

Test Data:

The Bandedge was measured at the Low and High end of the band. See Plots [Appendix 3 and 4].

2.202 BANDWIDTH

Measurement:

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

Test Data:

Base:

Channel 1: **0.480 MHz** [Refer to Appendix 5]
Channel 40: **0.469 MHz** [Refer to Appendix 6]

BANDWIDTH = **0.480 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.

Conducted — 2.5m Anechoic Chamber

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 2004
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 2004
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: G9H2-5838A
Marstech Report No. 24142D
EXHIBIT D(5)

25859xxx-A Frequency Table

Ch. No	Acutal Bu Tx	Actual Hs Tx	BU Tx Vco	HS Tx Vco
1	924574992	5788656720	462287496	826950960
2	924625944	5788835052	462312972	826976436
3	924676896	5789013384	462338448	827001912
4	924727848	5789191716	462363924	827027388
5	924778800	5789370048	462389400	827052864
6	924829752	5789548380	462414876	827078340
7	924880704	5789726712	462440352	827103816
8	924931656	5789905044	462465828	827129292
9	924982608	5790083376	462491304	827154768
10	925033560	5790261708	462516780	827180244
11	925084512	5790440040	462542256	827205720
12	925135464	5790618372	462567732	827231196
13	925186416	5790796704	462593208	827256672
14	925237368	5790975036	462618684	827282148
15	925288320	5791153368	462644160	827307624
16	925339272	5791331700	462669636	827333100
17	925390224	5791510032	462695112	827358576
18	925441176	5791688364	462720588	827384052
19	925492128	5791866696	462746064	827409528
20	925543080	5792045028	462771540	827435004
21	925594032	5792223360	462797016	827460480
22	925644984	5792401692	462822492	827485956
23	925695936	5792580024	462847968	827511432
24	925746888	5792758356	462873444	827536908
25	925797840	5792936688	462898920	827562384
26	925848792	5793115020	462924396	827587860
27	925899744	5793293352	462949872	827613336
28	925950696	5793471684	462975348	827638812
29	926001648	5793650016	463000824	827664288
30	926052600	5793828348	463026300	827689764
31	926103552	5794006680	463051776	827715240
32	926154504	5794185012	463077252	827740716
33	926205456	5794363344	463102728	827766192
34	926256408	5794541676	463128204	827791668
35	926307360	5794720008	463153680	827817144
36	926358312	5794898340	463179156	827842620
37	926409264	5795076672	463204632	827868096
38	926460216	5795255004	463230108	827893572
39	926511168	5795433336	463255584	827919048
40	926562120	5795611668	463281060	827944524