Marstech Limited

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Authorized by: Professional Engineers Ontario

Qualified Testing & Administrative Agency

Testing For FCC Submissions/Verifications

Approved Test Facility

Qualified Facility

TEST REPORT			
REPORT DATE:	28 August 2000		REPORT NO: 20200D
CONTENTS:	See Table of Contents		
SUBMITTOR:	ATLINKS USA, Inc. 101 West 103rd Street Indianapolis, IN 46290-1102 USA		
SUBJECT:	Model No:	26931XXX-C	
	FCC ID:	G9H2-6930C	
TEST SPECIFICATION	CFR 47 FCC Part 15 Sections: 15.35, 15.109, 15.209 and 15.249 NOTE: Tests Conducted Are "Type" Tests.		
DATE SAMPLE RECEIVED:	8 August 2000	DATE TESTED:	22 August 2000
RESULTS:	Equipment tested complies with referenced specification.		
ALTERATIONS	The following alteration is required in compliance with referenced specification: **C2 capacitor was changed to 3pF.**		
Tested by:	S. D. Robinson and Edward Chang	Approved by: Date:	Robert G. Marshall, P. Eng. Aug 31/00

TECHNICAL REPORT - FCC 2.1033(b)

Applicant

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

FCC Identifier

G9H2-6930C

Manufacturer

Integrated Display Technology Telecommunications (Shenzhen) Co. Ltd.
Block D, Xixian Chen Tian Industrial Estate
Xixian Town, Baoan City, China

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EXHIBIT D

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

"Report of Measurements"

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TEST REPORT CONTAINING:

EXHIBIT ATTACHMENTS:

TEST EQUIPMENT LIST

1	Spectrum Analyzer: HP 8591EM, S/N 3639A00995, Cal. March 2000.
2	Spectrum Analyzer: ANISTRU 2601A, S/N MT64544, Cal. May 2000.
3	Spectrum Analyzer: IFR AN940, S/N 635001039, Cal. March 2000.
4	Spectrum Analyzer: Advantest R3271A, S/N J001279, Cal. due May 2001.
5	Preamp: HP 8449B, S/N 3008A00378, Cal. March 2000.
6	Bilog Antenna: Chase CBL6121A, S/N 1039, Cal. July 2000.
7	Dipole Antenna Kit: Compliance Design A100, S/N 00430, Cal. due Sept. 2004.
8	Double-Ridged Horn Antenna: EMCO 3115, S/N 9611-5010, 1-18GHz.
9	Horn Antenna: Q-PAR 6878/24, S/N 1721, 1.5-18GHz.
10	Line Impendance Stabilization Network: Marstech, Cal. July 2000.

TEST PROCEDURE

GENERAL:

Shielded interface cables were used in all cases except for cables connecting to the telephone line and the power cords. A test program was run which simulated a normal transmission.

POWER LINE CONDUCTED INTERFERENCE:

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

BANDWIDTH 20dB:

The measurements were made with the spectrum analyzer's resolution bandwidth (RBW)=100KHz and the video bandwidth (VBW)=1.0MHz and the span set as shown on plot.

POWER OUTPUT:

The radiated output power was measured with the spectrum analyzer and Bilog Antenna.

RADIATION INTERFERENCE:

The test procedure used was ANSI STANDARD C63.4-1992 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 = 1MHz. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The ambient temperature of the UUT was 24°F with a humidity of 60%.

PRODUCT DESCRIPTION

The Model 26931XXX-C is a 40-channel 900 MHz analog cordless telephone with caller ID and remote headset that operates in the 902 to 928 MHz band. The antenna used for the base and the handset is permanently attached to the UUT. Its actual frequency range is:

Base: **925.29 to 927.24 MHz**

Handset: **902.79 to 904.74 MHz**

15.249 (c) BAND EDGES

Requirements: Emissions outside of the frequency band 902 to 928 MHz must be attenuated 50dB below the fundamental.

Measurement: The base was attenuated by 50 dB. The headset was attenuated by 50 dB.

Measurement Data: The Bandedge was measured at the Low end of the band for the base, and the High end of the band for the handset. See Plots in Attachment 3.

15.107 (a) POWER LINE CONDUCTED INTERFERENCE

Requirements: 0.45 - 30MHz 250μV or 47.96dBμV

Test Procedure: ANSI STANDARD C63.4-1992.
The spectrum was scanned from 0.45 to 30MHz.

Test Data:

THE HIGHEST EMISSION READ FOR LINE 1 WAS 21.25 dBμV@7.20 MHz.

THE HIGHEST EMISSION READ FOR LINE 2 WAS 20.61 dBμV@7.20 MHz

The graphs in Attachments 1 & 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) and 15.249 (b)
FIELD STRENGTH OF EMISSIONS

Requirements:

Field Strength of Fundamental	Field Strength of Harmonics	S15.209	
		30-88MHz	40 dBμV/m@ 3m
902 to 928MHz 94dBμV	54dBμV/m@ 3m	88-216MHz	43.5
		216-960 MHz	46
		Above 960 MHz	46

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

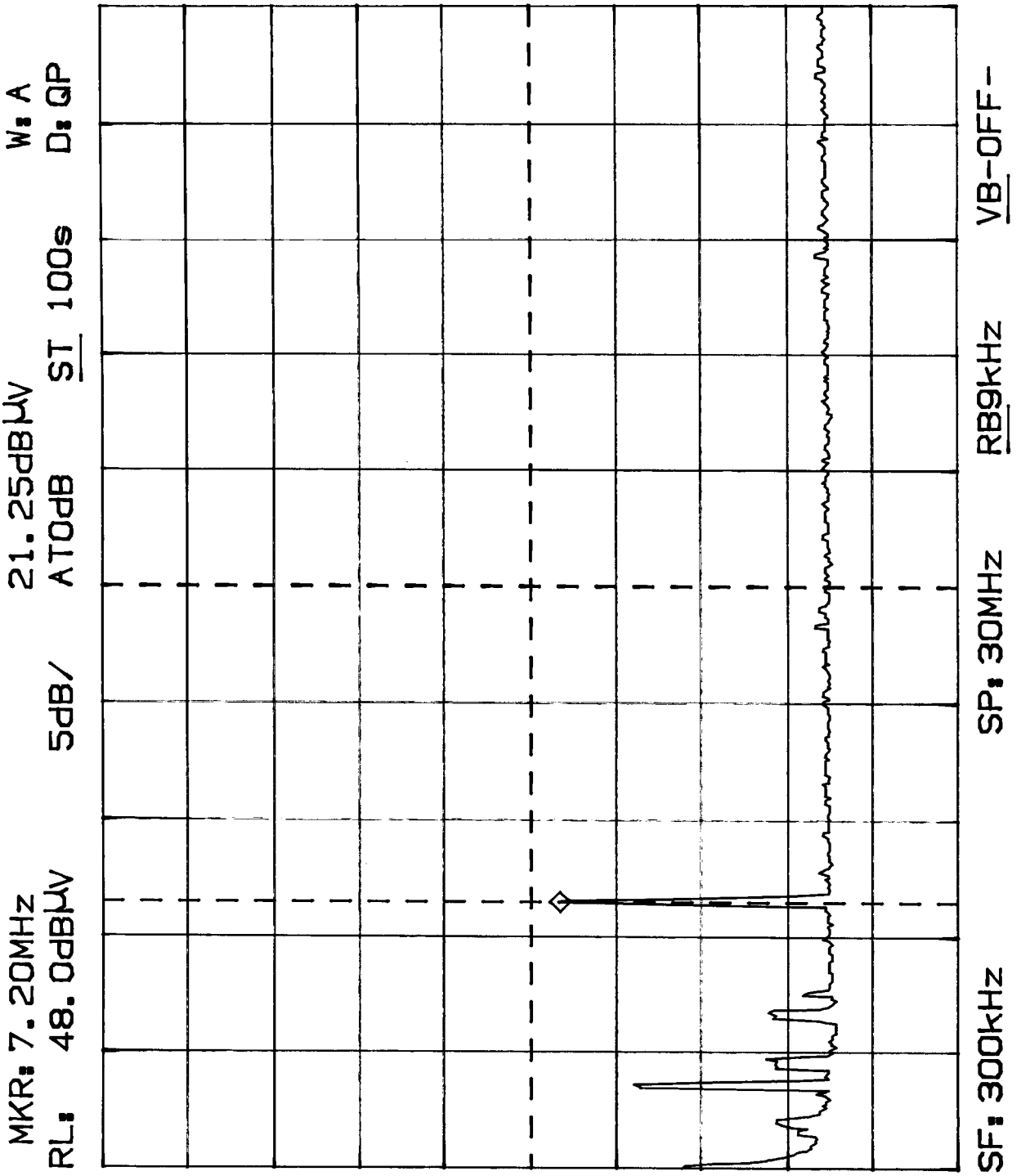
FIELD STRENGTH OF EMISSIONS

Test Data:

Emission Frequency MHz	Meter Reading @3m dBμV	Cable + AF dB	Field Strength dBμV/M	FCC Limit dBμV/M	Margin dB	Antenna
HANDSET						
925.29	**62.05**	**25.95**	**88**	**94**	**-6**	**Bilog V**
462.60	16.92	18.78	35.7	46	-10.3	Bilog V
892.10	17.1	25.30	42.4	46	-3.6	Bilog V
1850.6	-----	-----	NONE	-----	-----	-----
2775.9	-----	-----	NONE	-----	-----	-----
927.24	**63.21**	**25.99**	**89.2**	**94**	**-4.8**	**Bilog V**
463.63	16.96	18.94	35.9	46	-10.1	Bilog V
894.08	17.88	25.32	43.2	46	-2.8	Bilog V
1854.5	-----	-----	NONE	-----	-----	-----
2781.7	-----	-----	NONE	-----	-----	-----
BASE						
902.79	**60.16**	**25.44**	**85.6**	**94**	**-8.4**	**Bilog V**
451.4	25.7	18.50	44.2	46	-1.8	Bilog V
1805.6	-----	-----	NONE	-----	-----	-----
2708.6	-----	-----	NONE	-----	-----	-----
904.74	**64.89**	**25.51**	**90.4**	**94**	**-3.6**	**Bilog V**
452.37	25.76	18.54	44.3	46	-1.7	Bilog V
1808.8	9.3	30.2	39.5	54	-15	Horn V
2714.2	9.8	31.7	41.5	54	-12.5	Horn V

Low End Shown in Attachment 4.

POWER LINE CONDUCTED EMISSIONS
MODEL 26931XXX-C; LINE 1



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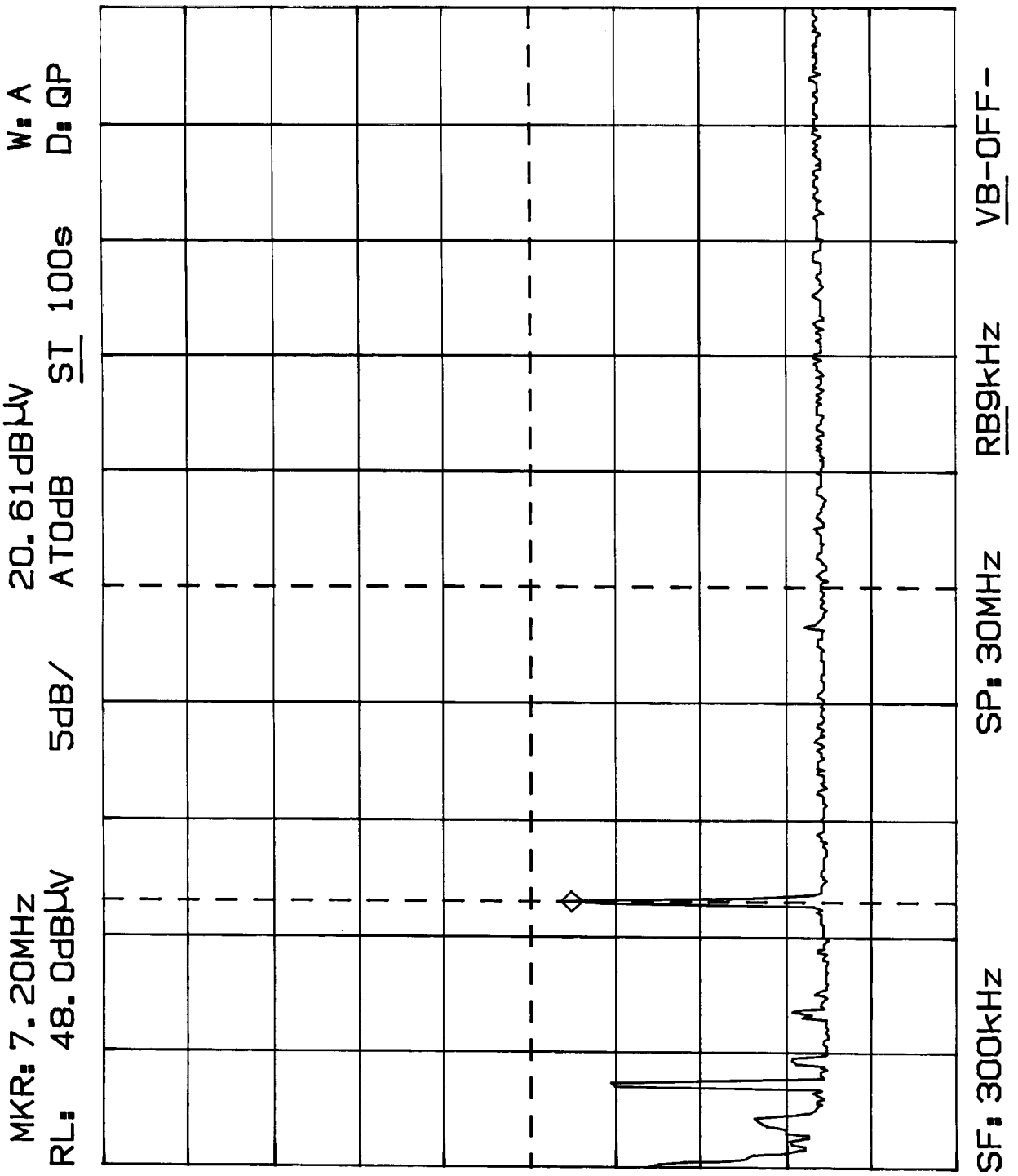
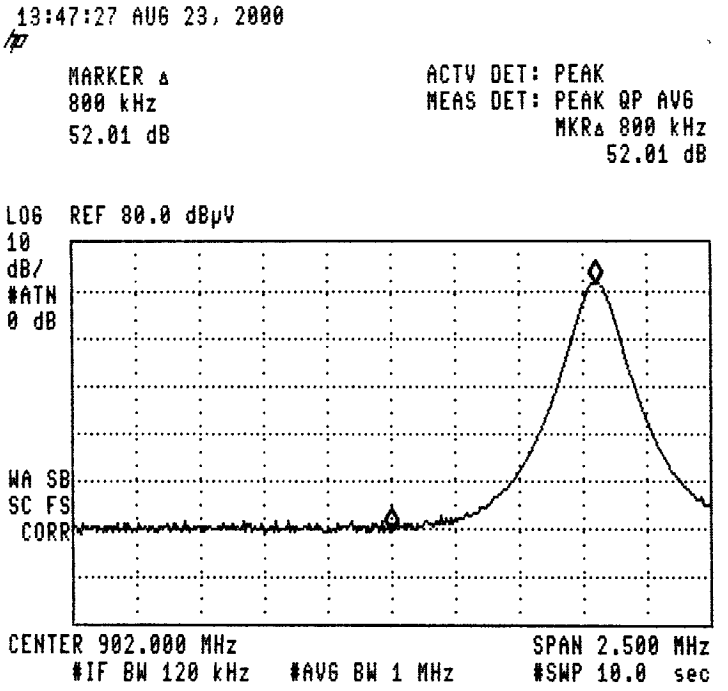
ATTACHMENT 1

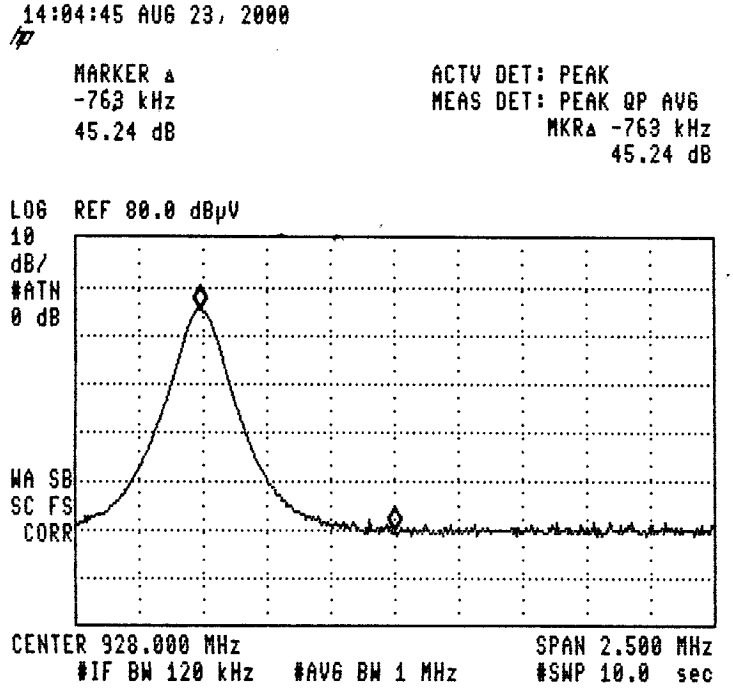
POWER LINE CONDUCTED EMISSIONS
MODEL 26931XXX-C; LINE 2



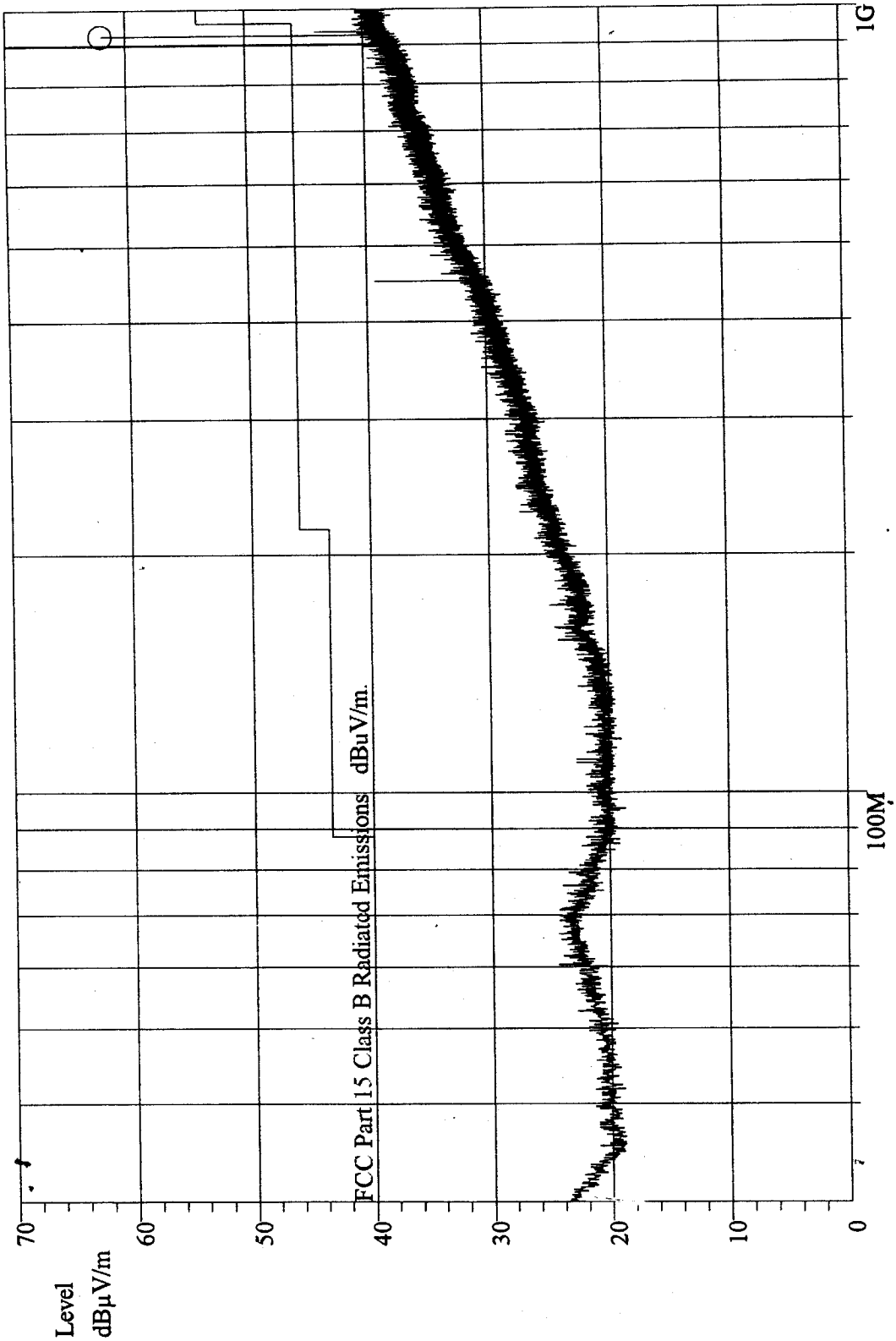
BAND EDGE ATTENUATION
MODEL 26931XXX-C; (BASE)



BAND EDGE ATTENUATION
MODEL 26931XXX-C; (HANDSET)



RADIATED EMISSIONS LOW END
MODEL 26931XXX-C; (BASE)



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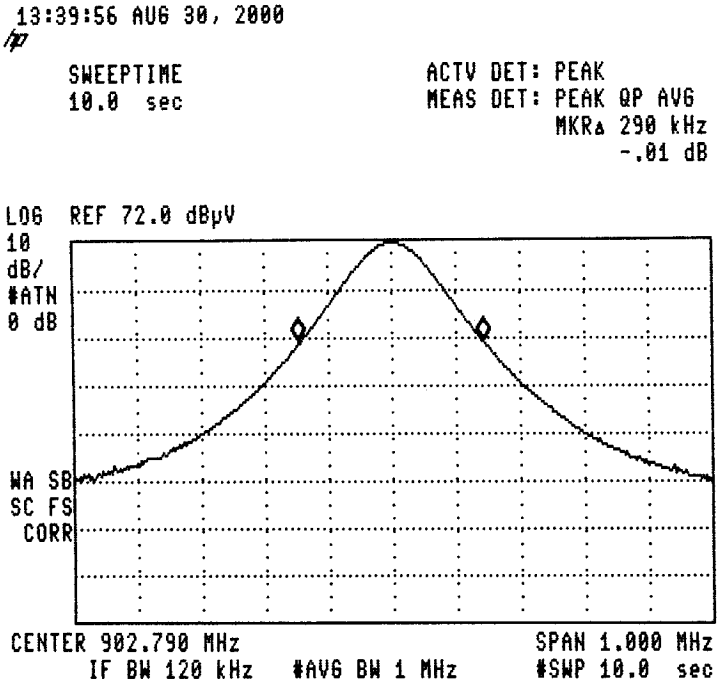
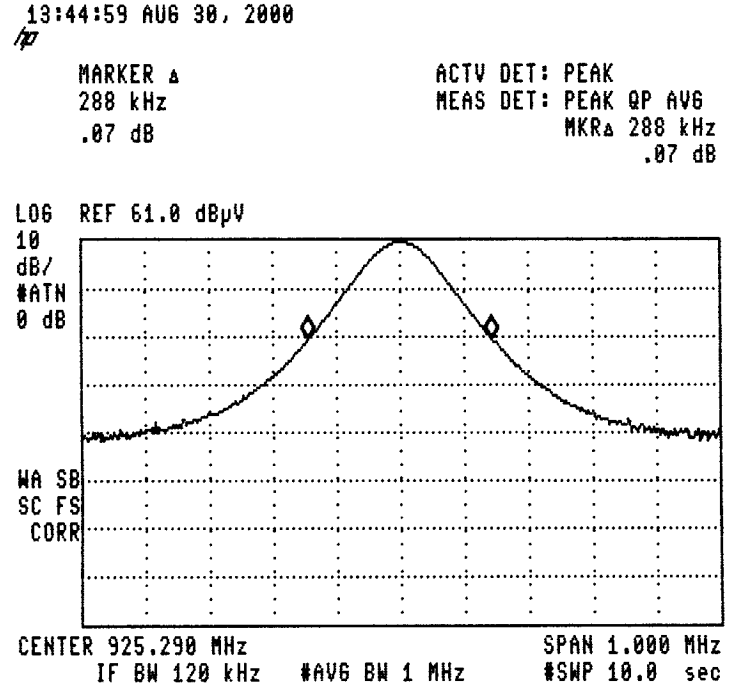
ATTACHMENT 4

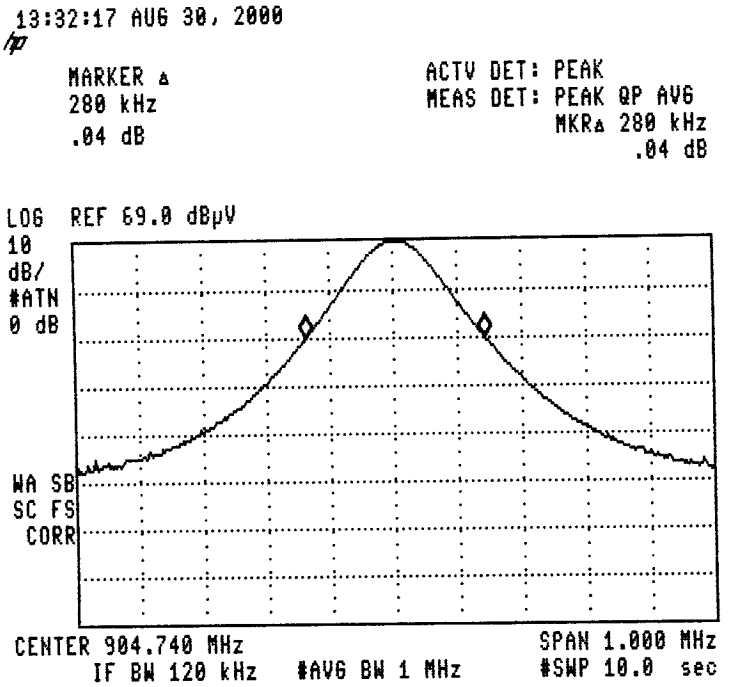
BANDWIDTH (Channel 1)
MODEL 26931XXX-C; (BASE)



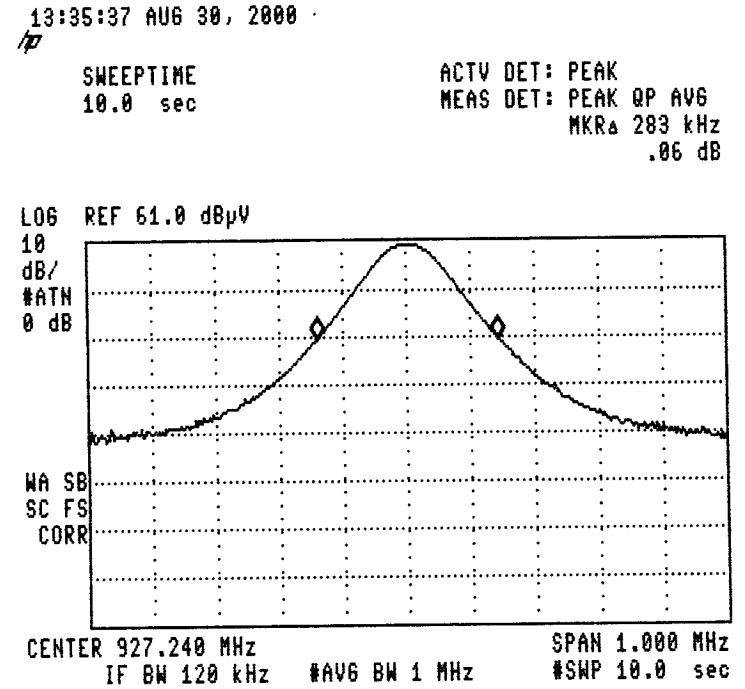
BANDWIDTH (Channel 1)
MODEL 26931XXX-C; (HANDSET)



BANDWIDTH (Channel 40)
MODEL 26931XXX-C; (BASE)



BANDWIDTH (Channel 40)
MODEL 26931XXX-C; (HANDSET)



Federal Communications Commission

13 **Matches Found For:**

- **TEST_FIRM_COUNTRY = CANADA**

Query Results:

NOTICE: The following firms have submitted the information required by Section 2.948 of the FCC Rules for measuring devices subject to Certification under Parts 15 & 18 and have indicated that they are available to the public on a contract basis. This list is provided as a public service. **IT IS YOUR RESPONSIBILITY TO SELECT A FIRM THAT IS CAPABLE OF MEASURING YOUR SPECIFIC DEVICE.** The FCC takes no responsiblity regarding the capability of these firms for performing the required measurements. Accordingly, firms on this list should not advertise or otherwise imply FCC approval of their site. An up-to-date listing is available on the FCC website (http://www.fcc.gov). Questions concerning this list may be directed to 301-362-3000.

A "V" indicates the firm is accredited by the National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP), "A" indicates accreditation by the American Association For Laboratory Accreditation (A2LA) and "F" indicates Accreditation by a Foreign Accreditor, to perform testing under the Declaration of Conformity procedure. For further information contact NIST at 301-975-5305 or A2LA at 301-644-3248. NOTE: A firm indicated by "F" may not be a contract test firm which has met the requirements of Section 2.948 for Certification testing.

Firm Name	Contact	Address One	Address Two	PO Box	Mail Stop	City	State	Zip	Country	E
APREL Laboratories	Jay Sarkar	51 Spectrum Way	N/A	N/A	N/A	Nepean, Ontario	ZZ	K2R 1E6	Canada	j.sarkar
CRIQ	Clermond Marquis	8475, avenue Christophe-Colomb	N/A	N/A	N/A	Montreal, Quebec	ZZ	H2M 2N9	Canada	N/A
Canadian Standards Association	Richard Sargent	178 Rexdale Boulevard	N/A	N/A	N/A	Etobicoke, Ontario	ZZ	M9W 1R3	Canada	richard. internati
EMC Consulting Inc.	D. Weston	P.O. Box 496	N/A	N/A	N/A	Merrickville, Ontario	ZZ	K0G 1N0	Canada	emccon
Electrohome Electronics Ltd.	Gerry Gallagher	809 Wellington St. N.	N/A	N/A	N/A	Kitchener, Ontario	ZZ	N2G 4J6	Canada	N/A
			P.O.							