Marstech Limited

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TEST REPORT			
REPORT DATE:	7 March 2001		REPORT NO: 21060D
CONTENTS:	See Table of Contents		
SUBMITTOR:	ATLINKS USA, Inc. 101 West 103rd Street Indianapolis, IN 46290-1102 USA		
SUBJECT:	Model No:	**26965XXX-A** [modification filing to cover changing intenna to antenna and optional shielding on transformer]	
	FCC ID:	G9H2-6965	
TEST SPECIFICATION	CFR 47 FCC Part 15 Class II Permissive Change NOTE: Tests Conducted Are "Type" Tests.		
DATE SAMPLE RECEIVED:	7 February 2001	DATE TESTED:	2 March 2001
RESULTS:	Equipment tested complies with referenced specification.		
ALTERATIONS	None		
Tested by:	Ed. Chang Edward Chang	Approved by: R. G. MARSHALL Date:	Robert G. Marshall, P. Eng. Mon 13/01

REGISTERED PROFESSIONAL ENGINEER

TECHNICAL REPORT - FCC 2.1033(b)

Applicant

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

FCC Identifier

G9H2-6965

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:

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 attenuator 30 dB # 11708A.
Narda 20 watt (20 dB) attenuator
Compliance Design P950 Preamp 16dB 25 MHz - 1.0 GHz
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.

ADDITIONAL TEST EQUIPMENT LIST

1	Spectrum Analyzer: Advantest R3271A, S/N J001279, Cal. due May 2001.
2	Preamp: HP 8449B, S/N 3008A00378, Cal. March 2001.
3	Horn Antenna: Q-PAR 6878/24, S/N 1721, 1.5-18GHz.
4	Line Impedance Stabilization Network: Marstech, Cal. due July 2001.

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%.

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%.

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 18.68 dBμV@ 7.26 MHz.

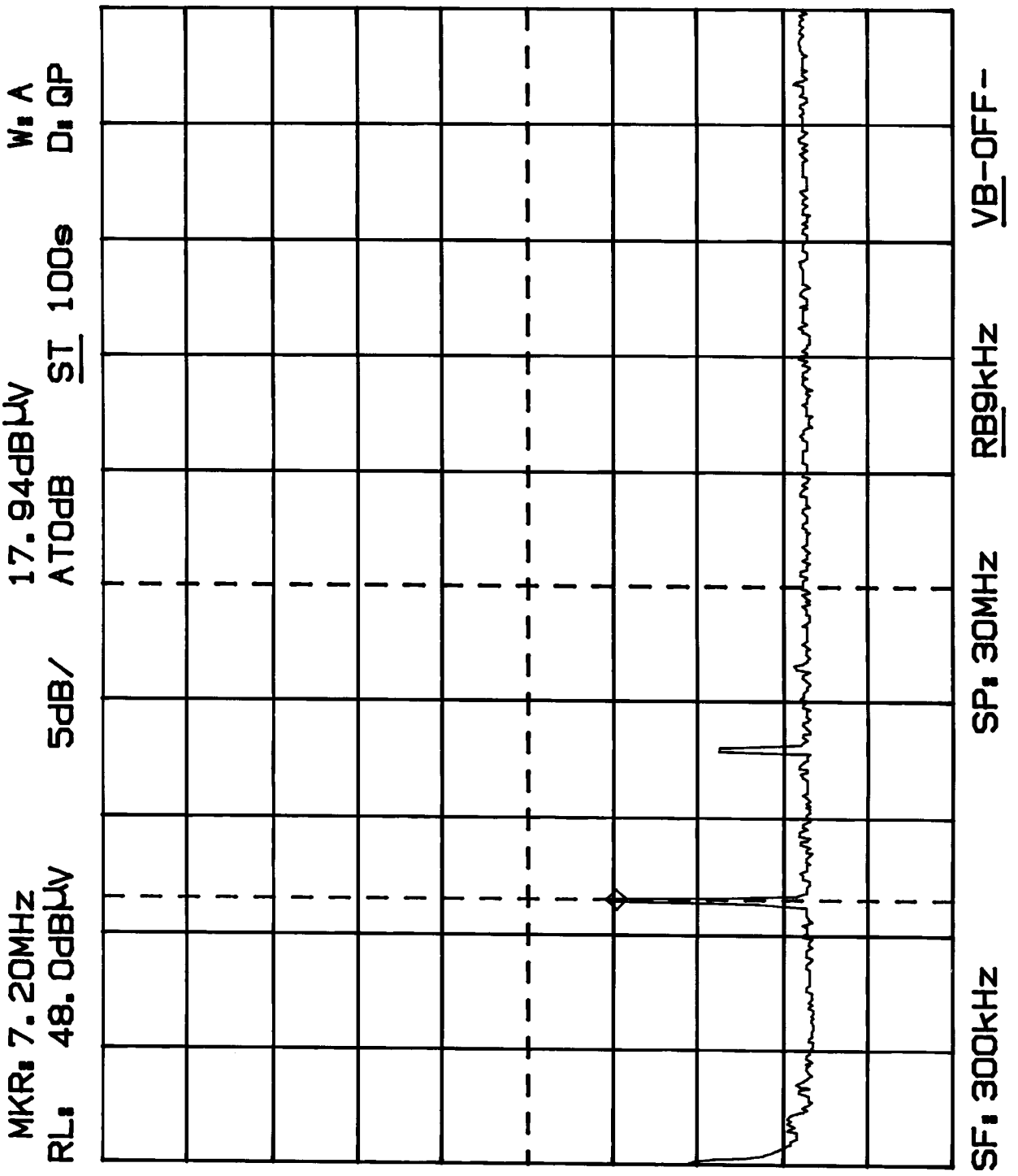
THE HIGHEST EMISSION READ FOR LINE 2 WAS 18.33 dBμV@ 7.20 MHz.

The graphs on Exhibit D(1)-6 to -7 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.

POWER LINE CONDUCTED EMISSIONS
MODEL 26965XXX-A
(With Hum Ring); LINE 1



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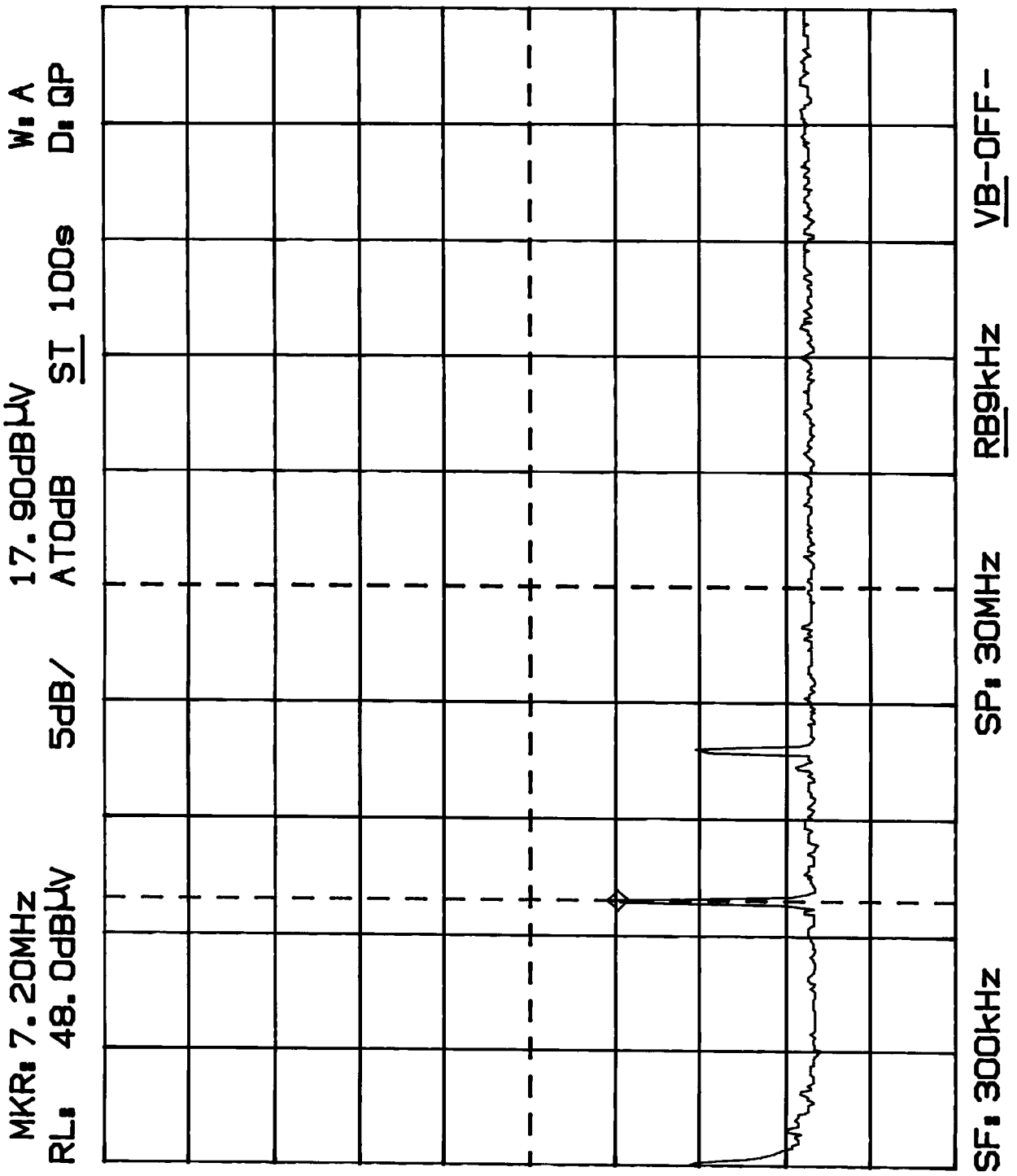
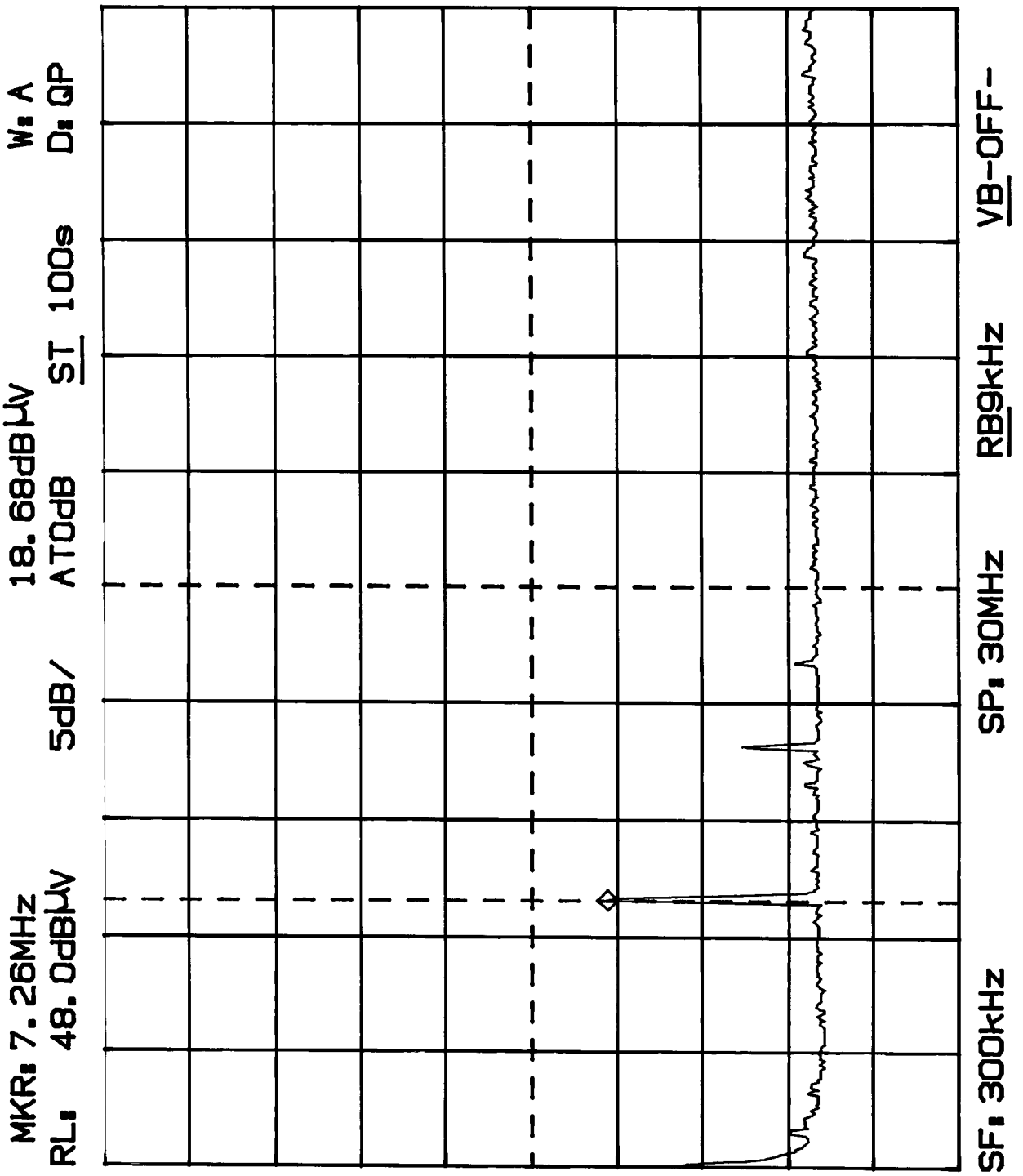
POWER LINE CONDUCTED EMISSIONS
MODEL 26965XXX-A
(With Hum Ring); LINE 2



POWER LINE CONDUCTED EMISSIONS
MODEL 26965XXX-A
(No Hum Ring); LINE 1



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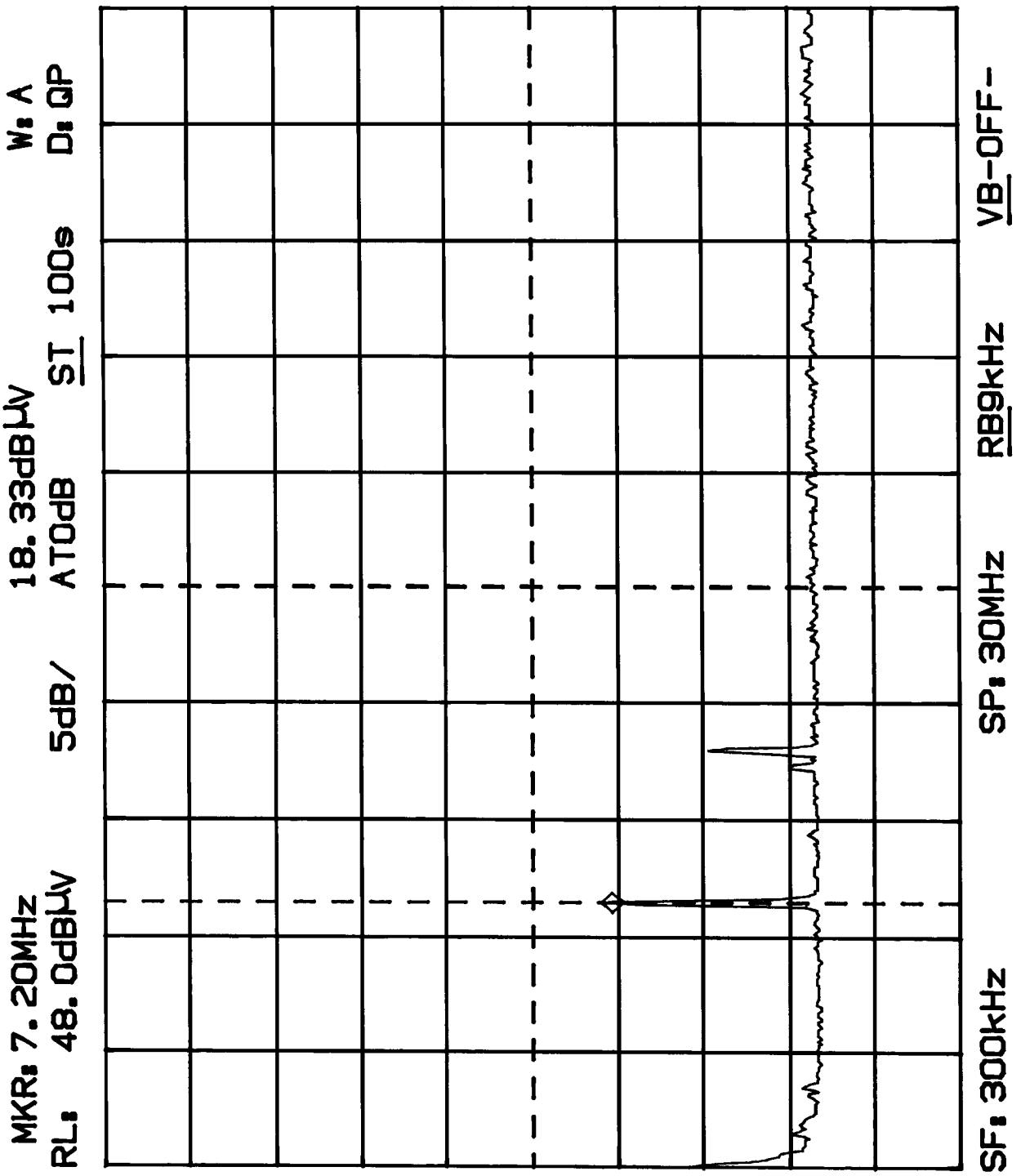
POWER LINE CONDUCTED EMISSIONS
MODEL 26965XXX-A
(No Hum Ring); LINE 2



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: **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
Channel 1							
926.125	**49.87**	**RT.4 V**	**33.4**	**83.27**	**94**	**-10.73**	**PK 100**
1852.25	---						
2778.37	10.03	Horn V	34.05	44.08	54	-9.92	PK 1000
3704.50	---						
4630.62	---						
5556.75	---						
6482.87	---						
7409.00	---						
8335.12	---						
Channel 32							
927.675	**49.85**	**RT.4 V**	**33.5**	**83.35**	**94**	**-10.65**	**PK 100**
1855.36	---						
2783.02	11.03	Horn V	34.07	45.1	54	-8.9	PK 1000
3710.70	---						
4638.37	---						
5566.05	---						
6493.72	---						
7421.40	---						
8349.07	---						

FIELD STRENGTH OF EMISSIONS

Test Data: **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							
902.125	**41.07**	**RT.4 V**	**33.2**	**74.27**	**94**	**-19.73**	**PK 100**
1804.25	16.92	Horn V	33.17	50.09	54	-3.91	PK 1000
2706.37	8.03	Horn V	33.93	41.96	54	-12.04	PK 1000
3608.50	9.36	Horn V	35.38	44.74	54	-9.26	PK 1000
4510.62	---						
5412.75	---						
6314.87	---						
7217.00	---						
8119.12	---						
Channel 32							
903.675	**42.25**	**RT.4 V**	**33.3**	**75.55**	**94**	**-18.45**	**PK 100**
1807.35	11.92	Horn V	33.16	45.08	54	-8.92	PK 1000
2711.02	11.03	Horn V	33.94	44.97	54	-9.03	PK 1000
3614.70	---						
4518.37	---						
5422.05	---						
6325.72	---						
7229.40	---						
8133.07	---						