KTL Test Report:	9R05172.1
Applicant:	EXI Wireless Systems Inc. Suite 100-13551 Commerce Parkway Richmond, B.C. V6V 2L1
Equipment Under Test: (E.U.T.)	Standalone Super-Heterodyne Receiver
FCC ID:	HE7R2R
In Accordance With:	**FCC Part 15, Subpart B** Radio Receivers
Tested By:	KTL Ottawa Inc. 3325 River Road, R.R. 5 Ottawa, Ontario K1V 1H2
Authorized By:	
	R. Grant, Wireless Group Manager
Date:	
Total Number of Pages:	19

Table Of Contents

Section 1. Summary of Test Results

General:

All measurements are traceable to national standards.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15, Subpart B. Measurement procedure ANSI C63.4-1992 was used for all tests. Radiated Emissions were measured on an open area test site.

☒	New Submission	☒	Production Unit
☐	Class II Permissive Change	☐	Pre-Production Unit

C	Y	Y	Equipment Code

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.
See " Summary of Test Data".

NVLAP LAB CODE: 100351-0

TESTED BY: _____ DATE: _____
Glen Westwell, Technologist

Summary Of Test Data

Name Of Test	Para. No.	Results
Antenna Conducted Emissions	15.111	Complies
Radiated Emissions	15.109	Complies
Powerline Conducted Emissions	15.107	Complies

Footnotes For N/A's:

Test Conditions:

Indoor	Temperature:	21 °C
	Humidity:	32 %
Outdoor	Temperature:	10 °C
	Humidity:	34 %

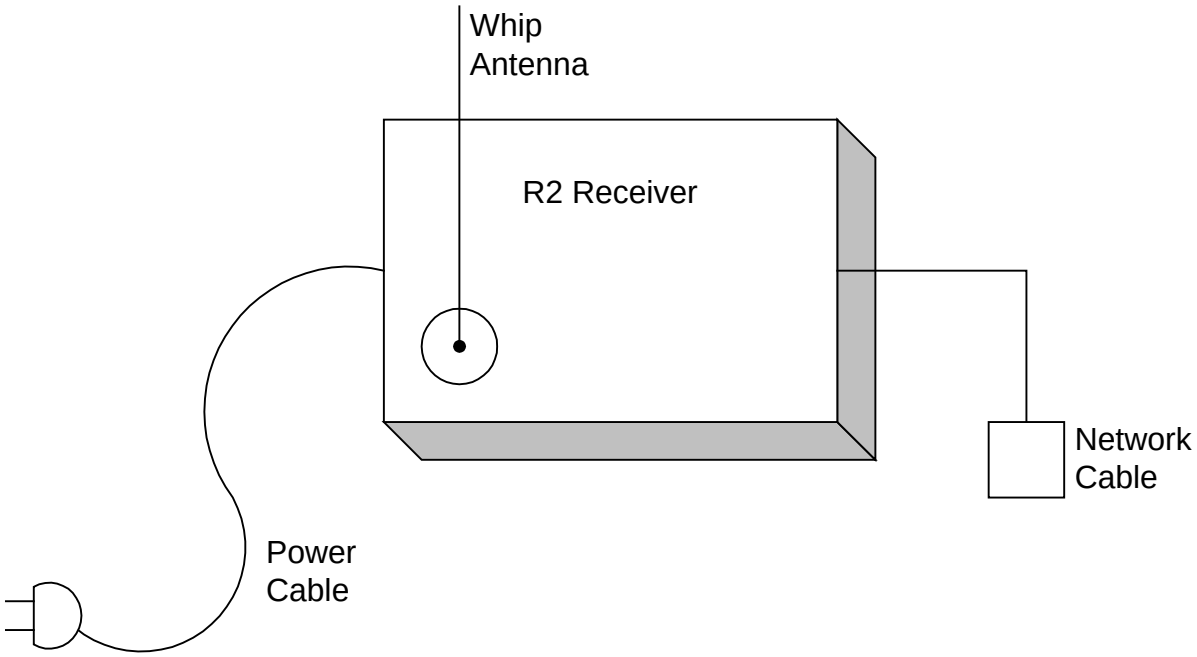
Section 2. Equipment Under Test (E.U.T.)

Manufacturer:	EXI Wireless Systems Inc.
Model No.:	122 Receiver
Serial No.:	1277
Date Received In Laboratory:	November 8, 1999
KTL Identification No.:	Item #1

Equipment Details

Frequency Range:	433.92 MHz
Number of Channels:	One
Operating Frequency(ies) of Sample:	433.92 MHz
Crystal Frequency(ies):	Not Applicable
Primary Power Requirement:	120 VAC, 60 Hz
Intermediate Frequency(ies):	Not Applicable

Configuration of the Equipment Under Test

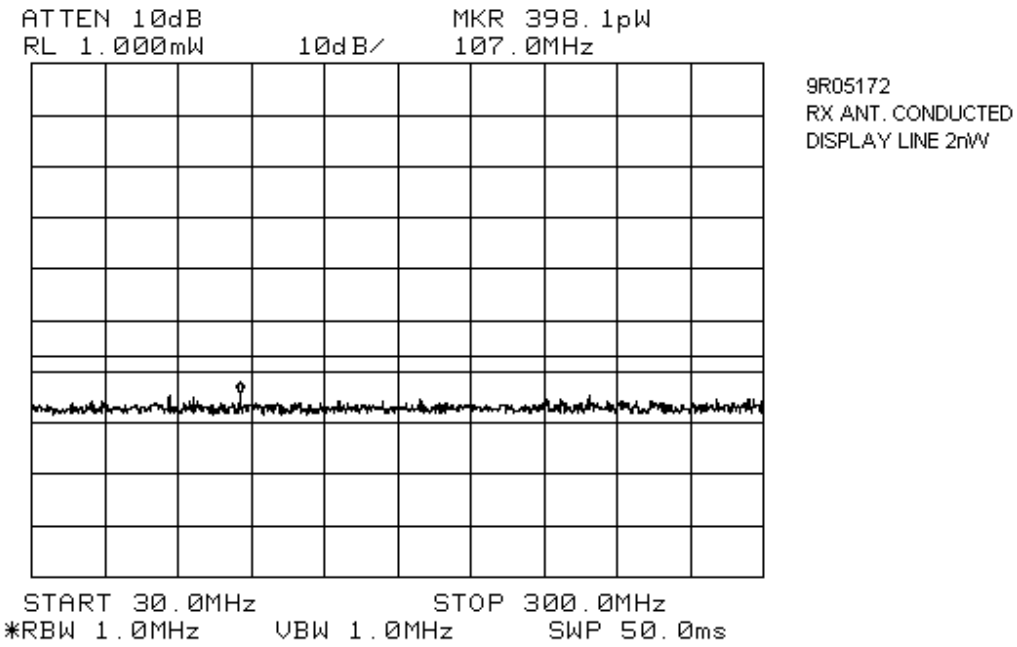


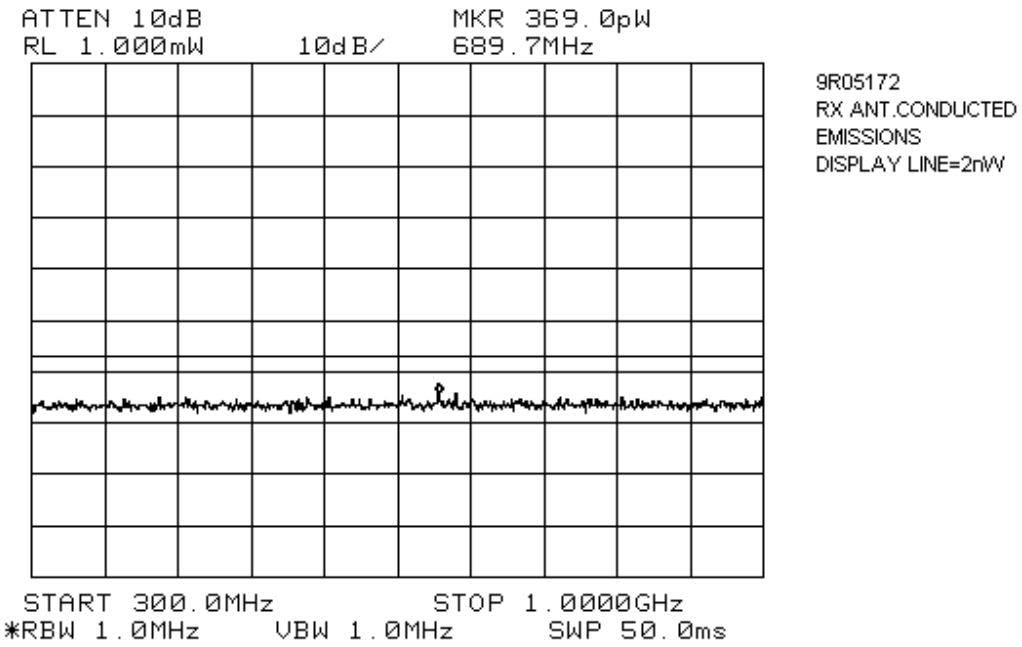
Section 3. Receiver Antenna Conducted Emissions

NAME OF TEST: Receiver Antenna Conducted Emissions	PARA. NO.: 15.111
TESTED BY: Glen Westwell	DATE: November 9, 1999

Test Results: Complies. See attached graphs and table.

Measurement Data: See attached graphs and table.


ATTEN 10dB
RL 1.000mW
10dB/
MKR 398.1pW
107.0MHz
9R05172
RX ANT. CONDUCTED
DISPLAY LINE 2nW
START 30.0MHz
STOP 300.0MHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms


ATTEN 10dB
RL 1.000mW
10dB/
MKR 369.0pW
689.7MHz
9R05172
RX ANT.CONDUCTED
EMISSIONS
DISPLAY LINE=2nW
START 300.0MHz
STOP 1.0000GHz
*RBW 1.0MHz
VBW 1.0MHz
SWP 50.0ms

Section 4. Radiated Emissions

NAME OF TEST: Radiated Emissions	PARA. NO.: 15.109(a)
TESTED BY: Glen Westwell	DATE: November 10, 1999

Minimum Standard:

Frequency(MHz)	Field Strength (dBμV/m @ 3m)
30 - 88	40.0
88 - 216	43.5
216 - 960	46.0
Above 960	54.0

Test Results: Complies. No emissions were detected at 3 meters.

Measurement Data: See attached table.

For super-regenerative receivers the receiver is cohered using a signal generator and dipole antenna.

Handheld equipment and equipment not designed to be mounted in any fixed orientation, the E.U.T. is tested in three orthogonal axis to obtain worst case results.

Test Data - Radiated Emissions

Test Distance (meters) :		Range:		Receiver:		RBW(kHz):		Detector:			
Freq. (MHz)	Ant. *	Pol. (V/H)	Ant. HGT. (m)	Table (deg.)	RCVD Signal (dBµV/m)	Ant. Factor (dB)**	Amp. Gain (dB)***	D… (dB)	Field St…gth (dBµV/m)	Limit (dBµV/m)	Margin (dB)

NO EMISSIONS DETECTED

Notes:
B/C = Biconical, B/L = Biconilog, L/P = Log-Periodic, H = Horn, D/P = Dipole
* Re-measured using dipole antenna. ( ) Denotes failing emission level.
(1) 120 kHz, Q-Peak, (2) 10 kHz, Peak, (3) 100 kHz RGW, 300 kHz VBW, Peak,
(4) 300 kHz RBW, 1 MHz VBW, Peak, (5) 1 MHz RBW, 3 MHz VBW, Peak, (6) 1 MHz RBW, 10 Hz VBW, Peak

Radiated Photographs (Worst Case Configuration)

Front View

Rear View

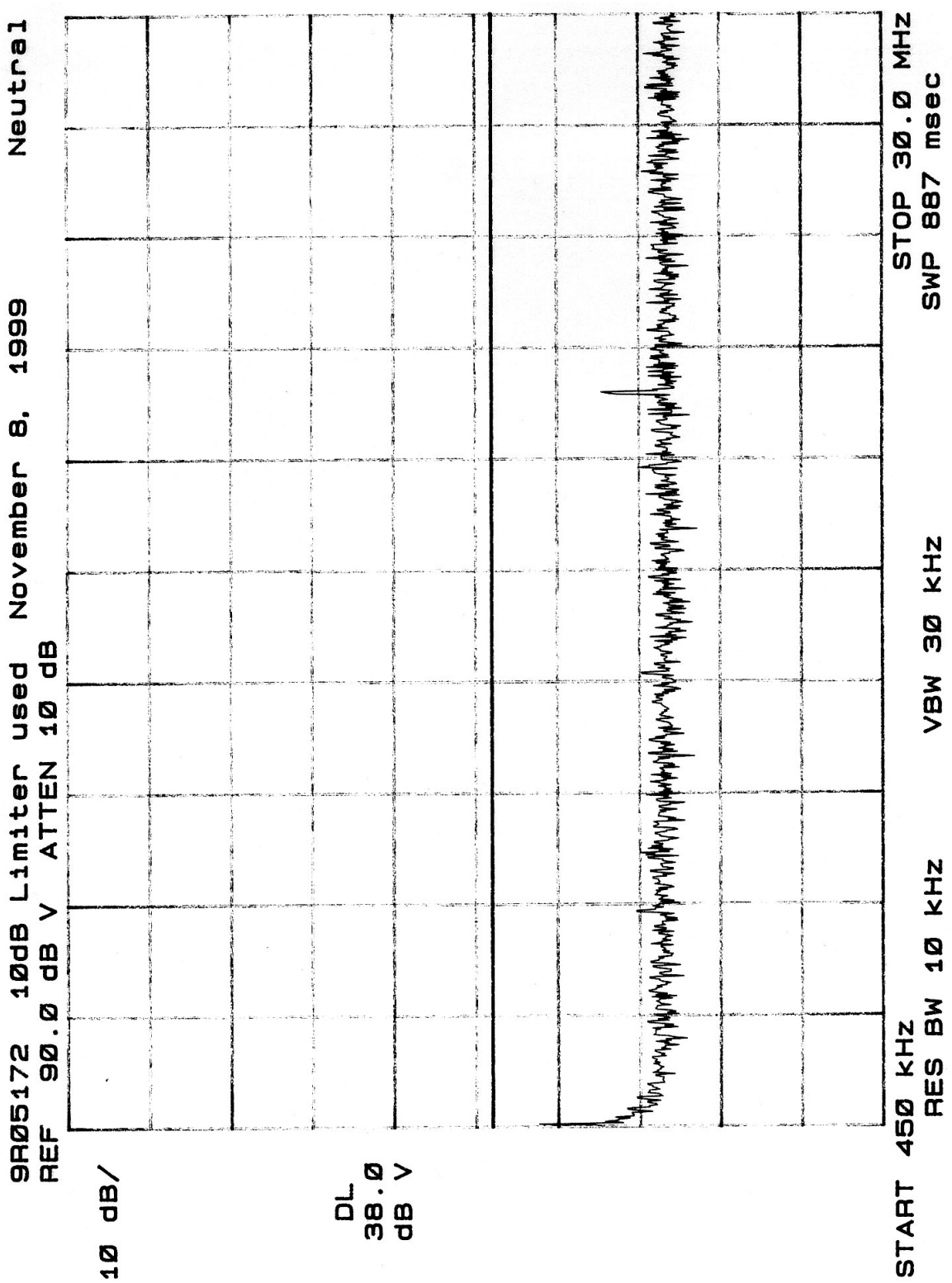
Section 5. Powerline Conducted Emissions

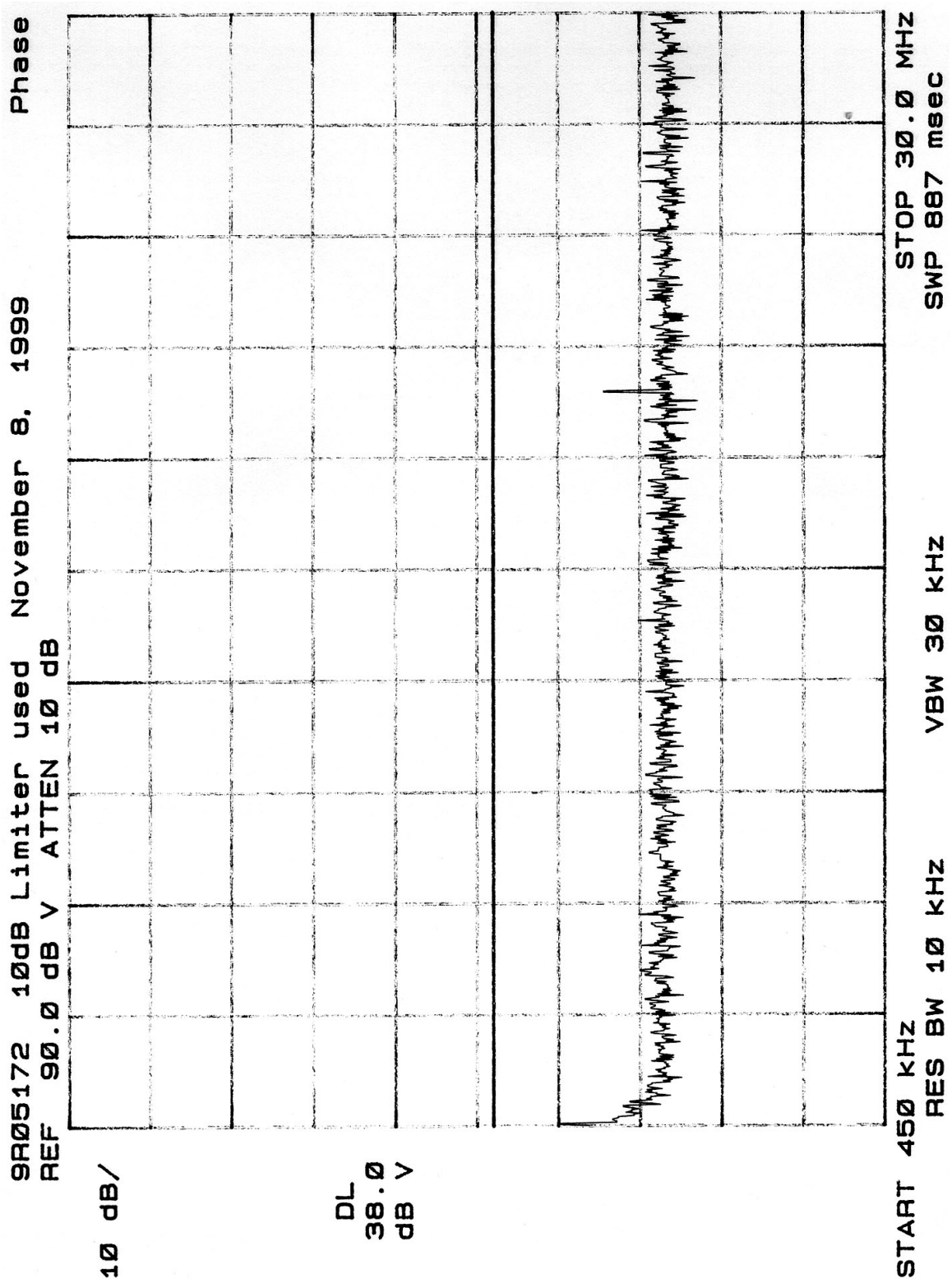
NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.107
TESTED BY: Kevin Rose	DATE: November 9, 1999

Minimum Standard: The RF energy feed back into the power lines shall not exceed 48 dBµV on any frequency between 0.45 MHz and 30 MHz inclusive.

Test Results: Complies. See attached graphs.

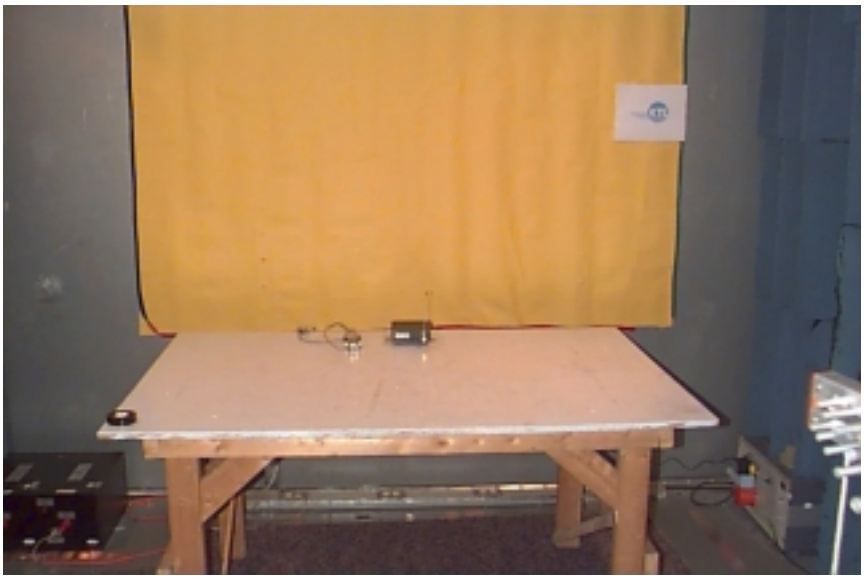
Measurement Data: See attached graphs.


9R05172 10dB Limiter used November 8, 1999 Neutral
REF 90.0 dB V ATTEN 10 dB
10 dB/
DL
38.0
dB V
START 450 kHz
RES BW 10 kHz
VBW 30 kHz
STOP 30.0 MHz
SWP 887 msec

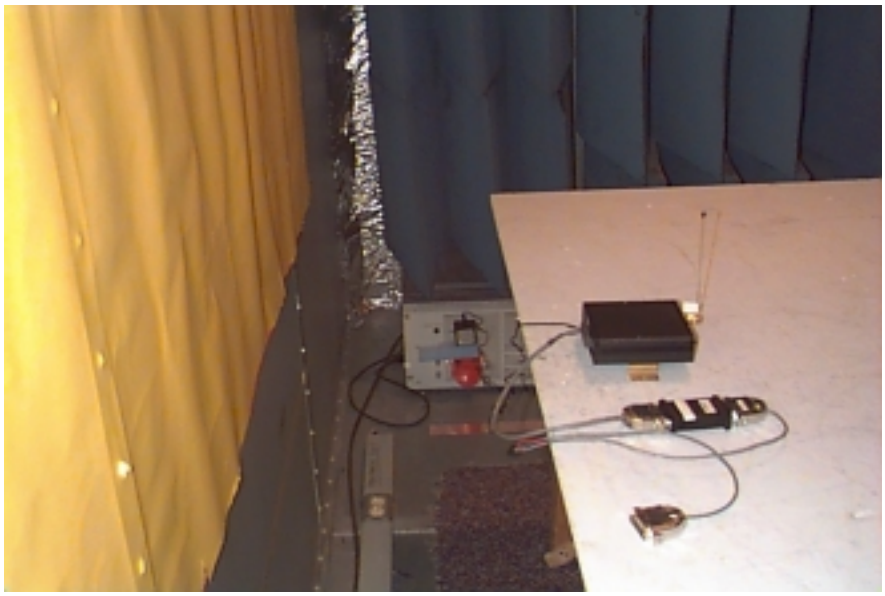

9R05172 10dB Limiter Used November 8, 1999 Phase
REF 90.0 dB V ATTEN 10 dB
10 dB/
DL
38.0
dB V
START 450 kHz
RES BW 10 kHz
VBW 30 kHz
STOP 30.0 MHz
SWP 887 msec

Powerline Conducted Photographs (Worst Case Configuration)

Front View

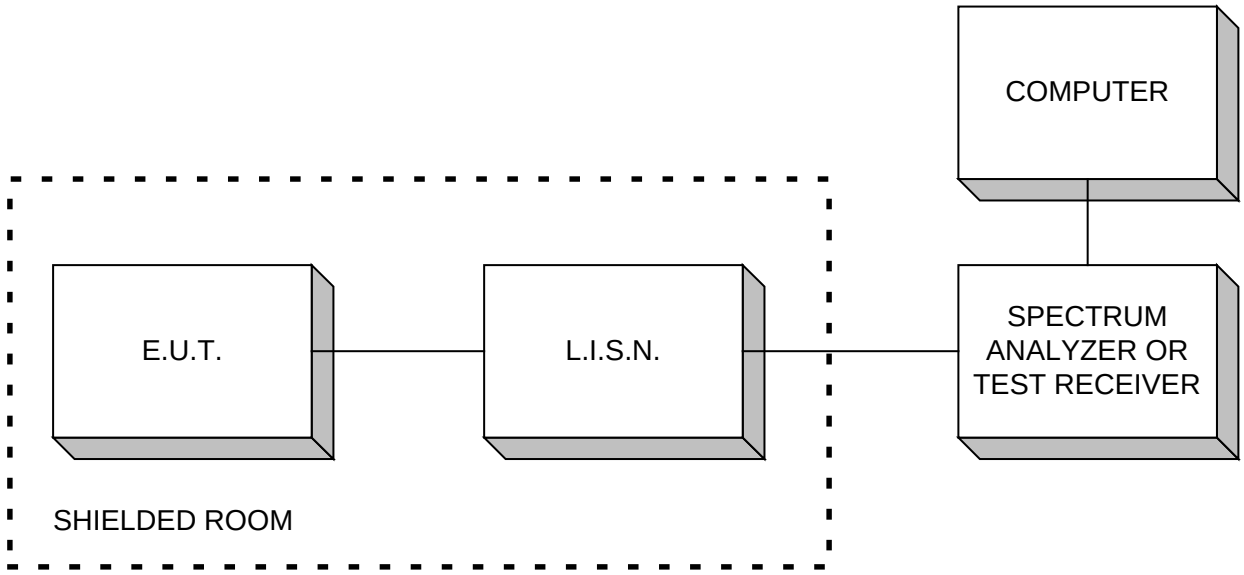


Side View

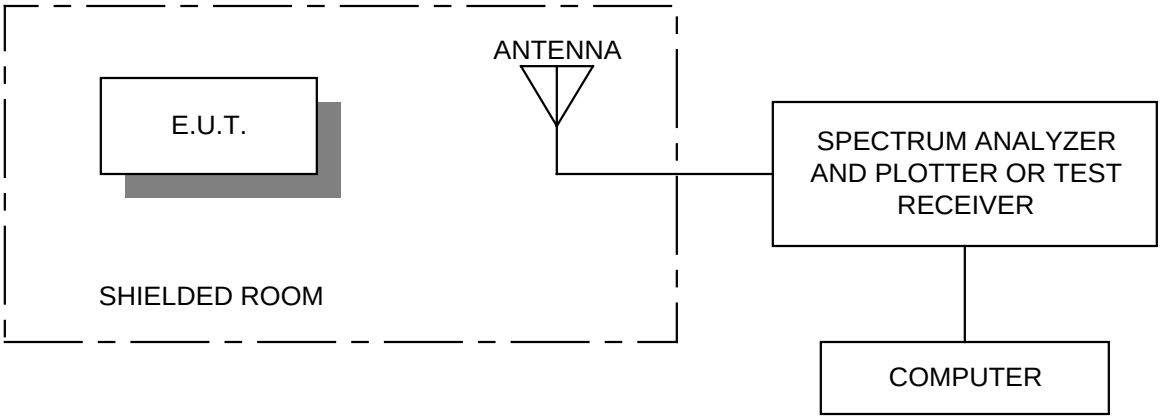


Section 6. Block Diagrams

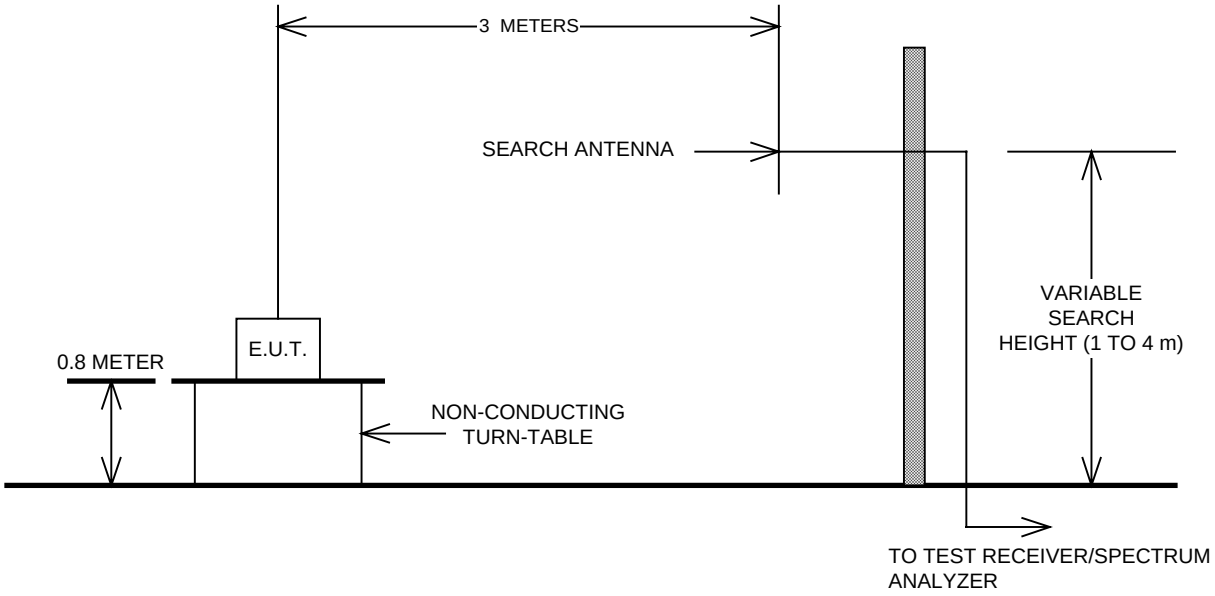
Conducted Emissions



Radiated Prescan



Outdoor Test Site For Radiated Emissions



The spectrum was searched up to the 10th harmonic of the fundamental frequency of operation.

Section 7. Test Equipment List

CAL CYCLE	EQUIPMENT	MANUFACTURER	MODEL	SERIAL	LAST CAL.	NEXT CAL.
1 Year	Spectrum Analyzer	Hewlett Packard	8564E	3846A01407	May 31/99	May 31/00
1 Year	Spectrum Analyzer-**1**	Hewlett Packard	8566B	2311A02238	Oct. 22/98	Oct. 22/99
1 Year	Spectrum Analyzer Display-**1**	Hewlett Packard	8566B	2314A04759	Oct. 22/98	Oct. 22/99
1 Year	Quasi-peak adapter-**1**	Hewlett-Packard	85650A	2043A00302	Oct. 22/98	Oct. 22/99
1 Year	LISN	Rohde & Schwarz	ESH2-Z5	890485/017	Aug. 24/99	Aug. 24/00
1 Year	Receiver	Rohde & Schwarz	ESH3	872079/053	Oct. 5/99	Oct. 5/00
1 Year	Receiver	Rohde & Schwarz	ESVP	892661/014	Mar. 29/99	Mar. 29/00
2 Year	Loop Antenna	Rohde & Schwarz	HFH-2-Z2	FA000631	Feb. 6/98	Feb. 8/00
1 Year	Plotter	Hewlett Packard	7550A	FA001129	NCR	NCR

NA: Not Applicable
NCR: No Cal Required
COU: CAL On Use