Nemko Test Report:	1L0706RUS2
Applicant:	AFX Technology Group International, Inc. 4407 Beltwood Parkway, Suite 108 Dallas, Texas 75244
Equipment Under Test: **(E.U.T.)**	**TM702V00**
In Accordance With:	**FCC Part 15, Subpart C, 15.249** For 900 MHz Transmitters
Tested By:	Nemko Dallas Inc. 802 N. Kealy Lewisville, Texas 75057-3136
Authorized By:	 Tom Tidwell, Wireless/EMC Manager
Date:	2/4/02
Total Number of Pages:	23

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Section 1. Summary Of Test Results

Manufacturer: AFX Tech

Model No.: TM702V00

Serial No.: 5455004A

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 15.249. All tests were conducted using measurement procedure ANSI C63.4-1992. Radiated Emissions were made on an open area test site.

☒ New Submission ☒ Production Unit

☐ Class II Permissive Change ☐ Pre-Production Unit

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

Summary Of Test Data

NAME OF TEST	PARA. NO.	RESULT
Conducted Emissions	15.207	Complies
Radiated Emissions	15.249	Complies

*** The input voltage was varied +/- 15% to determine the effect on rf emission levels. It was found that variation of input voltage did not change rf emission levels.**

Section 2. General Equipment Specification

Frequency Range:	Single fixed channel
Operating Frequency(ies) of Sample:	917.25 MHz
Tunable Bands:	N/A
Number of Channels:	One
Channel Spacing:	N/A
User Frequency Adjustment:	N/A

	Yes	**No**
Integral Antenna	☒	☐

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Data Plot — 3 dB (99%) BW

Page 1 of 1

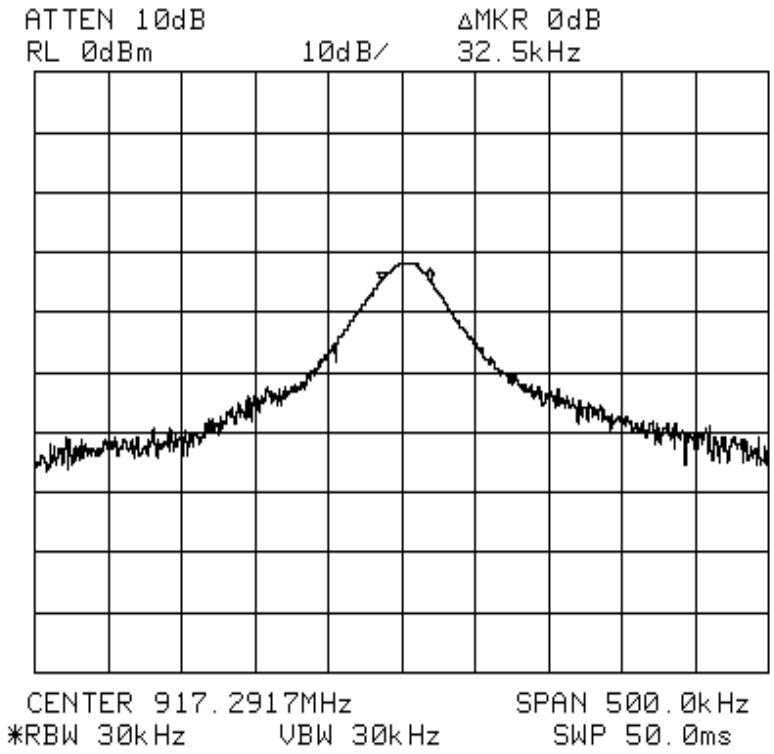
Complete X
Preliminary:

Job No.:	1L0620R	Date:	12/19/2001		
Specification:	N/A	Temperature(°C):	22		
Tested By:	Lance Walker	Relative Humidity(%)	50		
E.U.T.:	Telco Gateway				
Configuration:	Normal with termination				
Sample Number:	S01				
Location:	AC 3	RBW:	30 kHz	Measurement Distance:	3 m
Detector Type:	Peak	VBW:	30 kHz		

Test Equipment Used

Antenna:	1304	Directional Coupler:	
Pre-Amp:	1016	Cable #1:	1484
Filter:		Cable #2:	1485
Receiver:	1464	Cable #3:	1626
Attenuator #1		Cable #4:	
Attenuator #2:		Mixer:	

Additional equipment used:
Measurement Uncertainty: +/-1.7 dB



Notes: **radiated measurement taken at 3M showing the Bandwidth of 99% power**

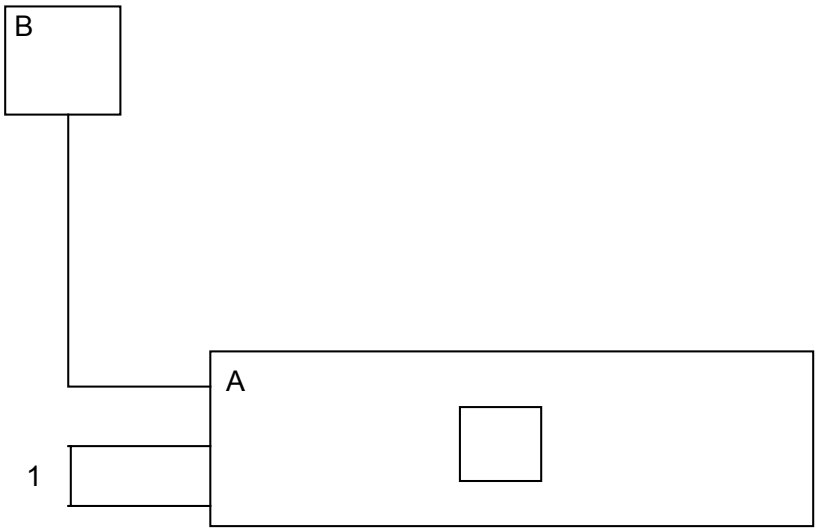
Description of Modification for Class II Permissive Change

Modifications Made During Testing

Theory of Operation

The EUT is a short-range wireless device designed to provide a wireless connection to the PSTN for very short data bursts. The device could be used in a variety of applications

System Diagram



Section 3. Powerline Conducted Emissions

NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.207
TESTED BY: Lance Walker	DATE: 01/08/2002

Minimum Standard:

Frequency (MHz)	Maximum Powerline Conducted RF Voltage (μV)	(dBμV)
0.45 - 30.0	250	48

Test Results: Complies. See attached graph(s).

Measurement Data: See attached graph(s).

Method of Measurement: (Procedure ANSI C63.4-1992)

Measurements were made using a spectrum analyzer with 10 kHz RBW, Peak Detector. Any emissions that are close to the limit are measured using a test receiver with 10 kHz bandwidth, CISPR Quasi-Peak Detector.

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Data — Powerline

Page 1 of 2 — Complete X — Preliminary ____

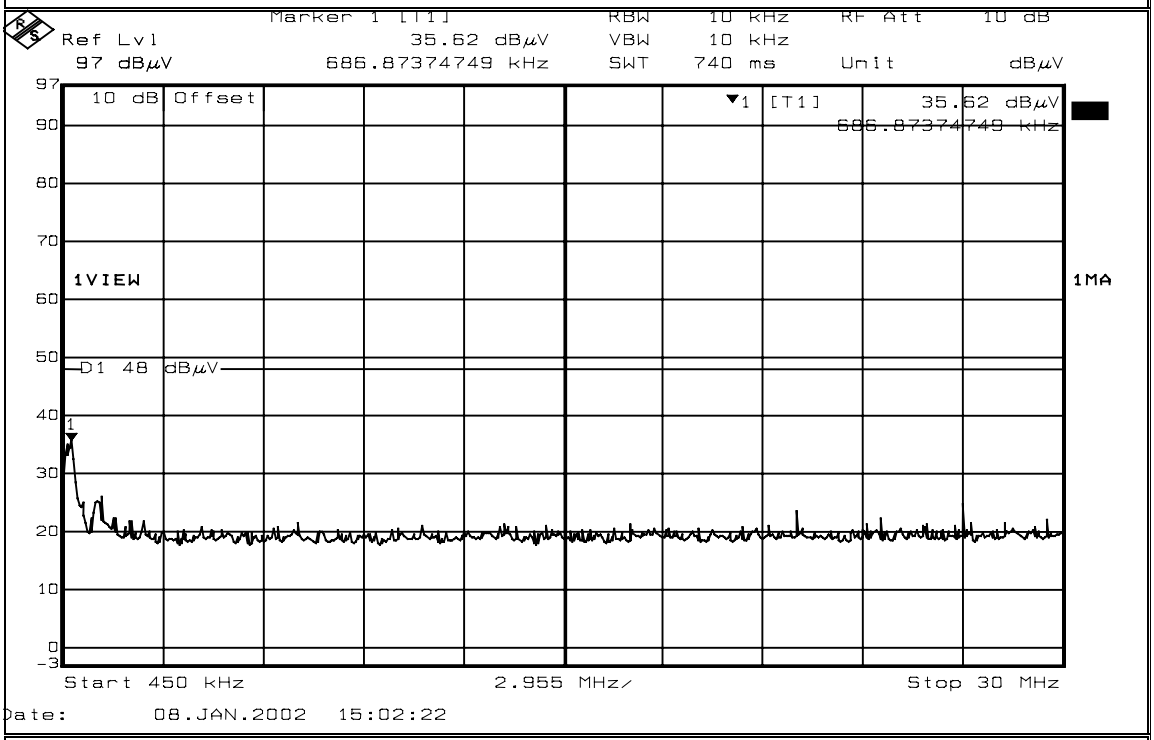
Job No.:	1L0706R	Date: 01/08/02	
Specification:	FCC 15249	Temperature(°C): 22	
Tested By:	Lance Walker	Relative Humidity(%) 50	
E.U.T.:	TM702V00		TM702V00
Configuration:	Normal Transmit		
Sample Number:	5455004A		
Location:	Lab 6	RBW: Refer to plots	Measurement
Detector Type:	Peak	VBW: Refer to plots	Distance: ____ m

Test Equipment Used

Antenna:		Directional Coupler:	
Pre-Amp:		Cable #1:	1553
Filter:	968	Cable #2:	1266
Receiver:	1036	Cable #3:	
Attenuator #1		Cable #4:	
Attenuator #2:		Mixer:	

Additional equipment used: 545 674

Measurement Uncertainty: +/-3.6 dB



Notes: **HOT SIDE**

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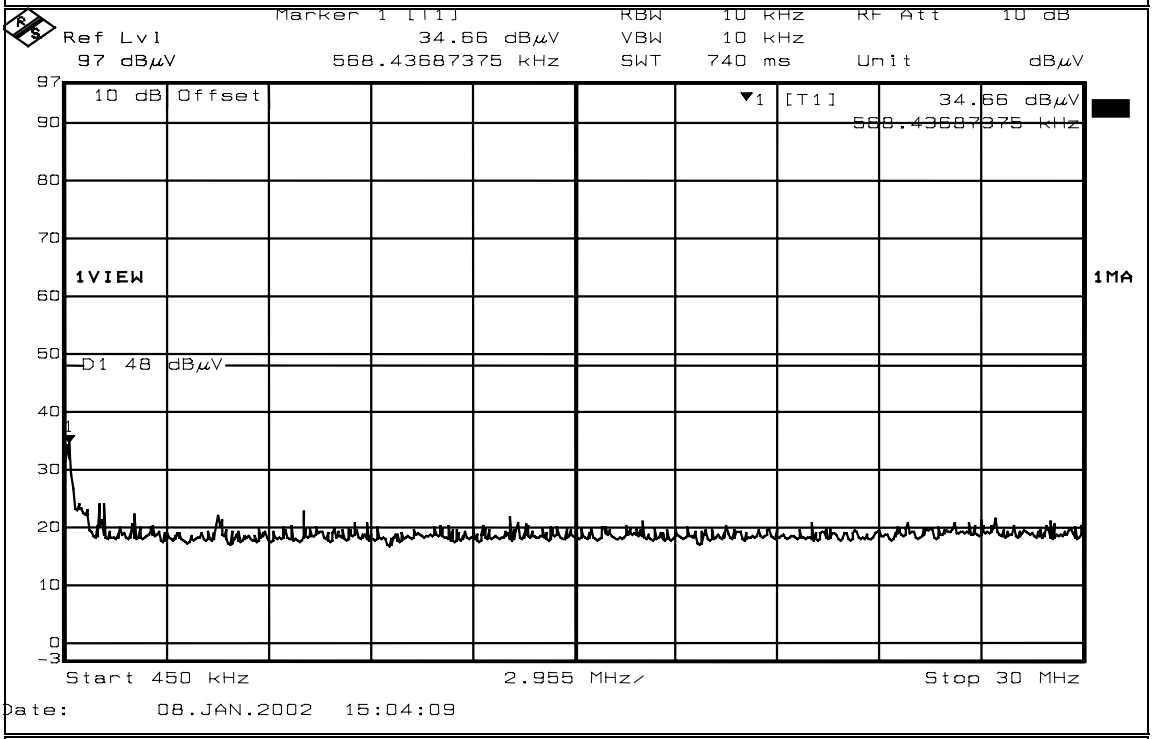
Data Powerline

Page 2 of 2

Job No.: 1L0706R Date: 01/08/02
Specification: FCC 15249 Temperature(°C): 22
Tested By: Lance Walker Relative Humidity(%) 50
E.U.T.: TM702V00
Configuration: Normal Transmit



Notes: **NEUTRAL SIDE**

Conducted Photographs (Worst Case Configuration)

SIDE VIEW

FRONT VIEW

Section 4. Radiated Emissions

NAME OF TEST: Radiated Emissions	PARA. NO.: 15.249
TESTED BY: Lance Walker	DATE: 01/08/2002

Minimum Standard: Para no. 15.249

(a) The field strengths shall not exceed the following:

Fundamental (MHz)	Field Strength (mV/m)	Field Strength (dBµV)	Harmonic (mV/m)	Harmonic (dBµV)
902-928	50	94	0.5	54

(b) Field strength limits are specified at a distance of 3 metres.

(c) 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 limits of 15.209 whichever is the less attenuation.

(d) For frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

The detector function is PEAK unless otherwise noted.

Test Results: Complies

Measurement Data: See attached table.

Maximizing Emission Levels:

The EUT was rotated about three orthogonal axis to detrmine worst-case emission levels.

Test Data - Radiated Emissions

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Radiated Emissions Data

Complete	X			Job # :	1L0706R
Preliminary				Page	1
Client Name :	AFX			Test # :	
EUT Name :	Telco Gateway			of	1
EUT Model # :	TM702V00				
EUT Part # :					
EUT Serial # :	5455004A				
EUT Config. :	Normal Transmit				
Specification :	CFR47 Part 15, Subpart B, Class B			Reference :	
Rod. Ant. #:		Temp. (deg. C) :	22	Date :	1/8/02
Bicon Ant.#:	1479	Humidity (%) :	50	Time :	14:33
Log Ant.#:	759	EUT Voltage :	115 V	Staff :	Lance Walker
Bilog Ant.#:		EUT Frequency :	60 Hz	Photo ID:	NA
Dipole Ant.#:		Phase:	1	Peak Bandwidth:	100 kHz
Cable#:	1983	Location:	AOATS	Video Bandwidth	100 kHz
Preamp#:	791	Distance:	3 M		
Limiter#:	NA				
Atten #:	NA				
Detector#:	1036				

917.3	H	0	74.8	23.6	8.6	23.8	83.2	94.0	-10.8	Pass	Fundamental
917.3	V	0	73.9	23.6	8.6	23.8	82.3	94.0	-11.7	Pass	Fundamental

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Data Plot — Radiated Emissions

Page 1 of 4 | Complete: X | Preliminary:

Job No.:	1L0706R	Date:	1/8/2002
Specification:	FCC15249	Temperature(°C):	22
Tested By:	Lance Walker	Relative Humidity(%)	50
E.U.T.:	TM702V00		
Configuration:	Normal Transmit		
Sample Number:			
Location:	AC 3	RBW:	Refer to plots
Detector Type:	Peak	VBW:	Refer to plots

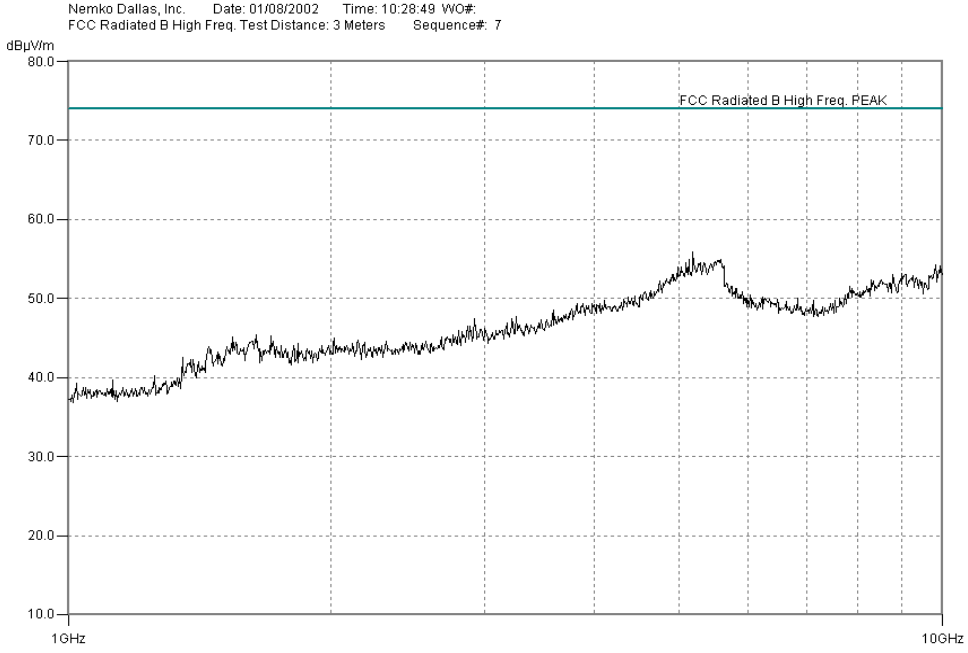
Measurement Distance: 3 m

Test Equipment Used

Antenna:	1304	Directional Coupler:	
Pre-Amp:		Cable #1:	1484
Filter:		Cable #2:	1485
Receiver:	1464	Cable #3:	1083
Attenuator #1		Cable #4:	
Attenuator #2:		Mixer:	

Additional equipment used:

Measurement Uncertainty: +/-1.7 dB



Notes: **horizontal plot with peak (1MHz Video BW) rating with 74 dBuV as the limit (corrected data)**

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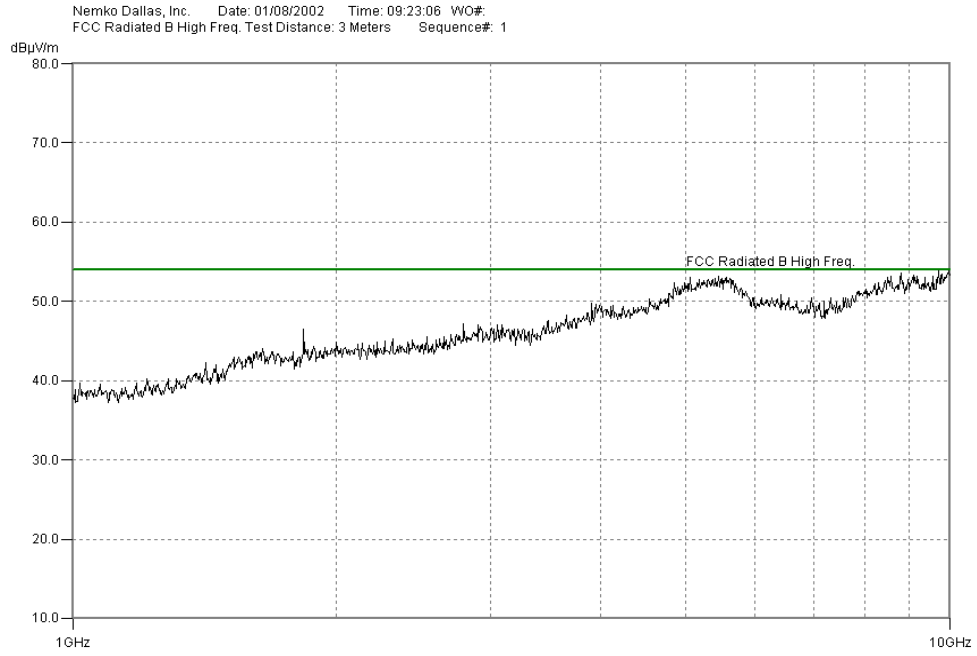
Data Plot — Radiated Emissions

Page 2 of 4

Job No.:	1L0706R	Date:	1/8/2002
Specification:	FCC15249	Temperature(°C):	22
Tested By:	Lance Walker	Relative Humidity(%)	50
E.U.T.:	701V00A		
Configuration:	Normal Transmit		



Notes: **vertical peak (1MHz Video BW) reading with average limit line at 54 dBuV limit actual 74 dBuV(corrected data)**

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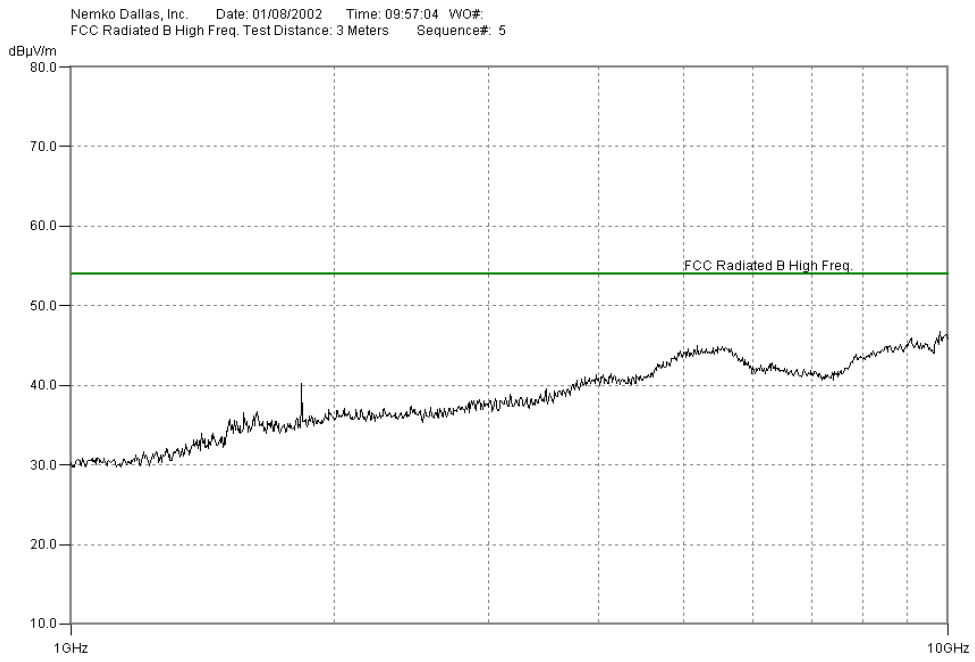
Data Plot — Radiated Emissions

Page 3 of 4

Job No.:	1L0706R	Date:	1/8/2002
Specification:	FCC15249	Temperature(°C):	22
Tested By:	Lance Walker	Relative Humidity(%)	50
E.U.T.:	#REF!		
Configuration:	Normal Transmit		



Notes: **Vertical scan at 3kHz Video BW with average limit (54 dBuV) displayed (corrected data)**

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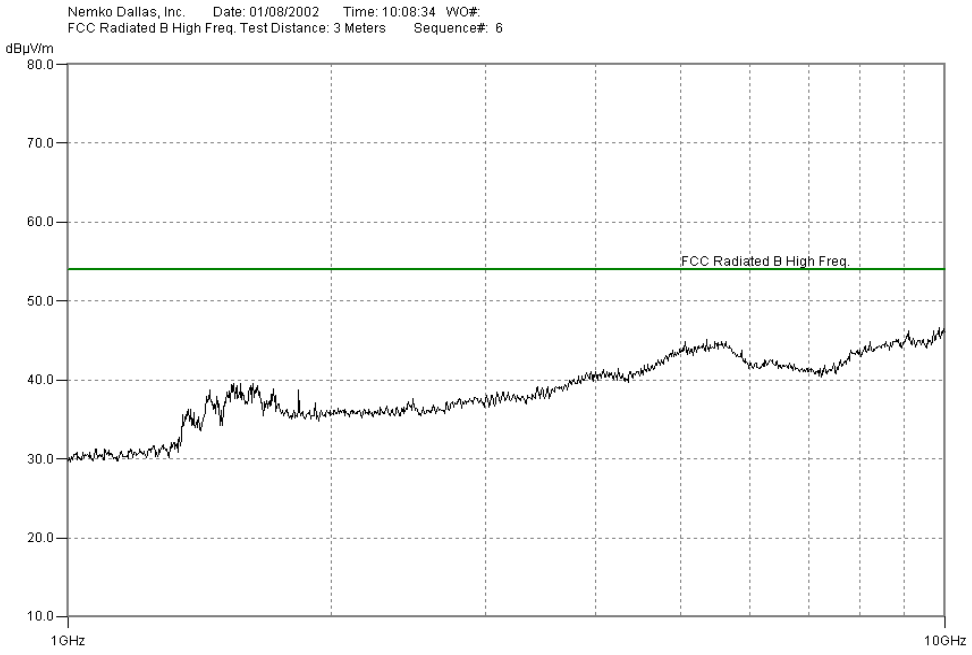
Test Plot: **Radiated Emissions**

Page 4 of 4

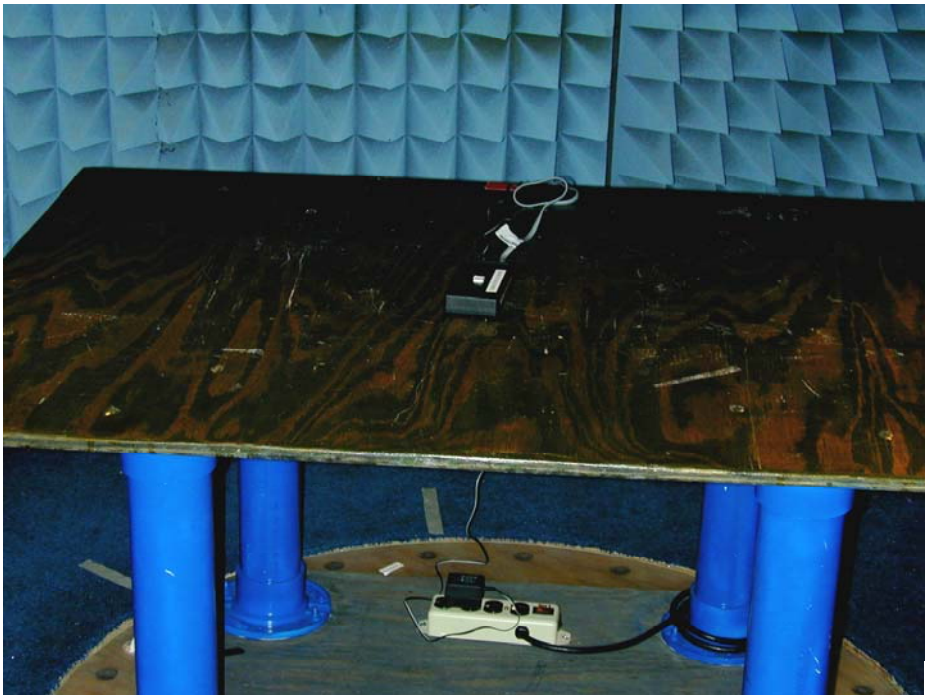
Job No.:	1L0706R	Date:	1/8/2002
Specification:	FCC15249	Temperature(°C):	22
Tested By:	Lance Walker	Relative Humidity(%)	50
E.U.T.:	#REF!		
Configuration:	Normal Transmit		



Notes: **Horizontal scan at 3kHz Video BW with average (54 dBuV) limit displayed (corrected data)**

Radiated Photographs (Worst Case Configuration)

FRONT VIEW



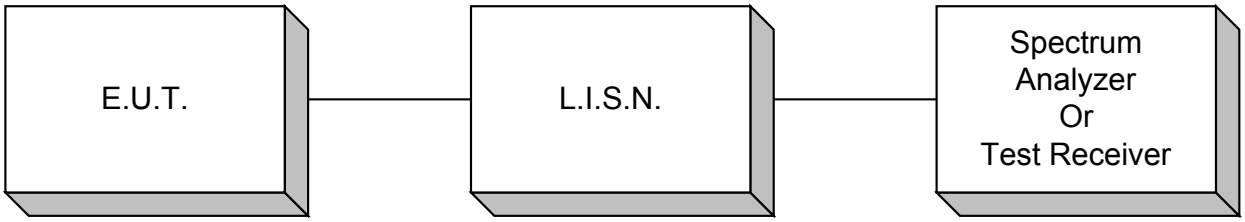
REAR VIEW

Section 5. Test Equipment List

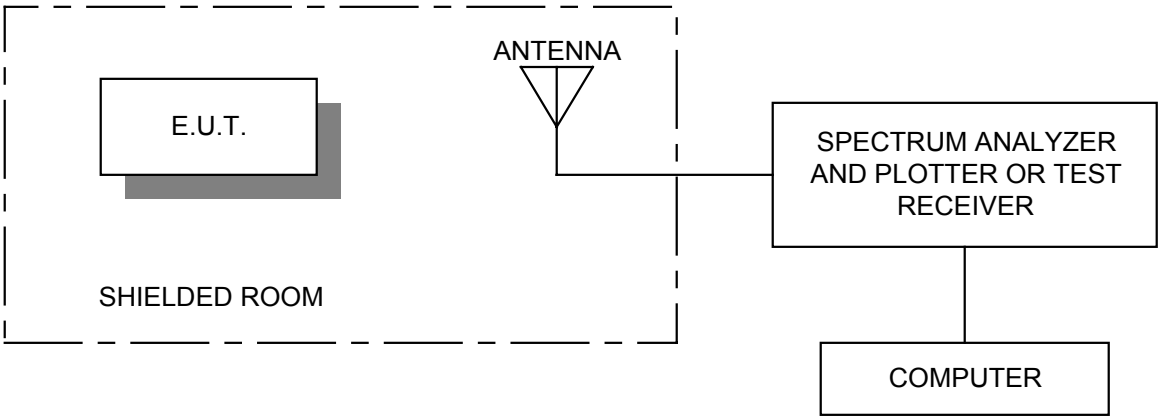
Nemko ID	Description	Manufacturer Model Number	Serial Number	Calibration Date
1464	Spectrum analyzer	Hewlett Packard 8563E	3551A04428	01/02/01
1083	Cable 2m	Astrolab 32027-2-29094-72TC	N/A	06/01/01
1484	Cable 2.0-18.0 Ghz	Storm PR90-010-072	N/A	06/01/01
1485	Cable 2.0-18.0 Ghz	Storm PR90-010-216	N/A	06/01/01
1304	HORN ANTENNA	ELECTRO METRICS RGA-60	6151	07/30/01
1036	SPECTRUM ANALYZER	ROHDE & SCHWARZ FSEK30	830844/006	09/17/01
1553	CABLE 1m	KTL RG223	N/A	08/06/01
1266	CABLE, 10m	KTL RG223	N/A	05/29/01
968	Filter, High pass 5khz	Solartron 7930-5.0	933124	05/29/01
545	LISN	Schwarz Beck 8120	8120350	07/09/01
674	LIMITER	HP 11947A	3107A02200	calibrated before use
1479	Bi Conical Antenna 20-330 Mhz	A. H. Systems SAS-200/540	496	03/31/01
759	ANTENNA, LOG PERIODIC	A.H. SYSTEMS SAS-200/510	556	02/01/01
1983	CABLE	KTL Site A OATS	N/A	09/25/01
791	PREAMP, 25dB	ICC LNA25	398	08/16/01

TEST DIAGRAMS

Conducted Emissions



Radiated Prescan



Test Site For Radiated Emissions