Nemko USA, Inc
11696 Sorrento Valley Rd., Suite F
San Diego, CA 92121-1024

EMC TEST REPORT

Kyocera Wireless Corp.

Cellular Phone

Model: **KX17 PRISMA**

RADIATED EMISSIONS

FCC, PART 2.1053

FCC, PART 15.109

FCC, PART 22 SUBPART H

INDUSTRY CANADA, RSS-129

TEST REPORT # 2005 050387-FCC

25-387-KYO

NEMKO USA, INC.
11696 SORRENTO VALLEY ROAD SUITE F
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EMC Test Report
For
Kyocera Wireless Corp.

Test Number : 25-283-KYO

Product Name : **Cellular Phone**

Regulation : FCC, Part 15.109, Part 15.209
: FCC, Part 22, Subpart H
: Industry Canada, RSS-129

Date : MAY 23, 2005
Report Reviewed
Accepted by: _____

Kyocera Wireless Corp.
10300 Campus Point Drive
San Diego, CA 92121
Phone: **858 882-2879**
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Report Issued By: *Chip Fluery*
For Ricky Hill, Senior EMC Engineer

Tested By: *Alan Laudani*
Alan Laudani, EMC Test Engineer

Administrative Data

Regulation	: FCC, Part 15.109
	: FCC, Part 22, Subpart H
	: Industry Canada, RSS-129
Level	: Not Applicable
Test Method	: ANSI C63.4 – 2002
	: CSA C108. - M1983
Test Type	: Verification
Manufacturer	: **Kyocera Wireless Corp.**
EUT Type/:Model #	: **KX17 PRISMA**
Date(s) of Test	: May 23, 2005
Customer Personnel	: John Turner, Engineer
Nemko Personnel	: R. Hill, Senior EMC Engineer
	: Alan Laudani, EMC Test Engineer
Test Location	: OPEN Area Test Site Nemko USA, Inc. 11696 Sorrento Valley Road, Suite F San Diego, CA 92121

EUT Description

The **KX17 PRISMA** is a **Cellular Phone.** It is a Single Mode programmable cell phone. The EUT was placed into CDMA Transmit mode for Radiated Emissions. The EUT was exercised by setting it to continuously transmit at required test frequencies or the set receive mode through external control from laptop and control software. The laptop was then removed from the test setup. Its function is to provide wireless communications for personal use. The EUT was exercised in PCS Transmit and Receive for radiated emissions.
Design Modifications for Compliance.
The tests were run in a typical configuration including the following support equipment and cable connections.

DEVICE	MANUFACTURER MODEL # SERIAL #	POWER CABLE
EUT - **Cellular Phone**	**Kyocera Wireless Corp.** **KX17 PRISMA** Serial #: 97DX----1B24TS	N/A

CONNECTION	I/O CABLE

REASON FOR TEST
The EUT was tested to qualify for FCC Part 15.109 and Part 22.

CHANGES MADE DURING TEST
The following design modifications were made to the EUT during testing.

No design modifications were made to the EUT during testing.

DEVIATIONS FROM STANDARD TEST METHOD
-- None

CERTIFICATION AND TEST SUMMARY

Test Type	***In Accordance with Document***	***Frequency Range Investigated***	***EUT Complies***
Radiated Spurious Emissions	FCC, Part 22, Subpart H Industry Canada, RSS-129	824 MHz – 8489 MHz	PASS
Radiated Spurious	FCC, Part 15.109, Receive Mode	1000 MHz to 10000 MHz	PASS

The **Cellular Phone** complied with FCC Part 15.109 and Parts 22, Industry Canada, and RSS-129 when tested in the system configuration defined herein.

1. DESCRIPTION OF TEST SITE AND EQUIPMENT

1.1. Description of Test Site

The test site is located at 11696 Sorrento Valley Road, Suite F, San Diego, CA 92121. The site is physically located 18 miles Northwest of downtown San Diego. The general area is a valley 1.5 miles east of the Pacific Ocean. This particular part of the valley tends to minimize ambient levels, i.e. radio and TV broadcast stations and land mobile communications. The three and ten-meter Open Area Test Site (OATS) is located behind the office/lab building. It conforms to the normalized site attenuation limits and construction specifications as set in the EN 55022 (1998), CISPR 16 (2000) and 22 (1997) and ANSI C63.4-2002 documents. The OATS normalized site attenuation characteristics are verified for compliance every.

DESCRIPTION OF TESTING METHODS

1.2. Introduction

As required in 47 CFR, Parts 2 and 15, the methods employed to test the radiated and conducted emissions (as applicable) of the EUT are those contained within the American National Standards Institute (ANSI) document C63.4-2002, titled "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz." All applicable FCC Rule Sections that provide further guidance for performance of such testing are also observed.

For General Test Configuration please refer to Figure 1 on the following page.

Digital devices sold in Canada are required to comply with the Interference Causing Equipment Standard for Digital Apparatus, ICES-003. These test methods and limits are specified in the Canadian Standards Association's (CSA) Standard C108.8-M1983 (1-1-94 version) and are "essentially equivalent" with FCC, Part 15 and CISPR 22 (EN55022) rules for unintentional radiators per EMCAB-3, Issue 3 (May 1998). No further testing is required for compliance to ICES-003.

Figure 1. General EUT Test Setup Picture

CONFIGURATION LEGEND

1. EUT: **Cellular Phone**
2. 80cm Non-Conductive Support Table

1.3. Configuration and Methods of Measurements for Radiated Emissions

Section 8 of ANSI C63.4 determines the general configuration and procedures for measuring the radiated emissions of equipment under test. Initially, the primary emission frequencies are identified inside the test lab by positioning a broadband receive antenna one meter from the EUT to locate frequencies of significant radiation. Next, the EUT and associated system are placed on a turntable on a ten meter open area test site (registered with the FCC in accord with its Rules and ANSI C63.4) and the receive antenna is located at a distance of ten meters from the EUT.

The EUT and associated system are configured to operate continuously, representing a "normally operating" mode. All significant radiated emissions are recorded when maximum radiation on each frequency is observed, in accordance with part 8 of ANSI C63.4-1992 and Section 15.33 of the FCC Rules. To ensure that the maximum emission at each discrete frequency of interest is observed, the receive antenna is varied in height from one to four meters and rotated to horizontal and vertical polarities, and the turntable is also rotated to determine the worst emitting configuration. The numerical results of the test are included herein to demonstrate compliance.

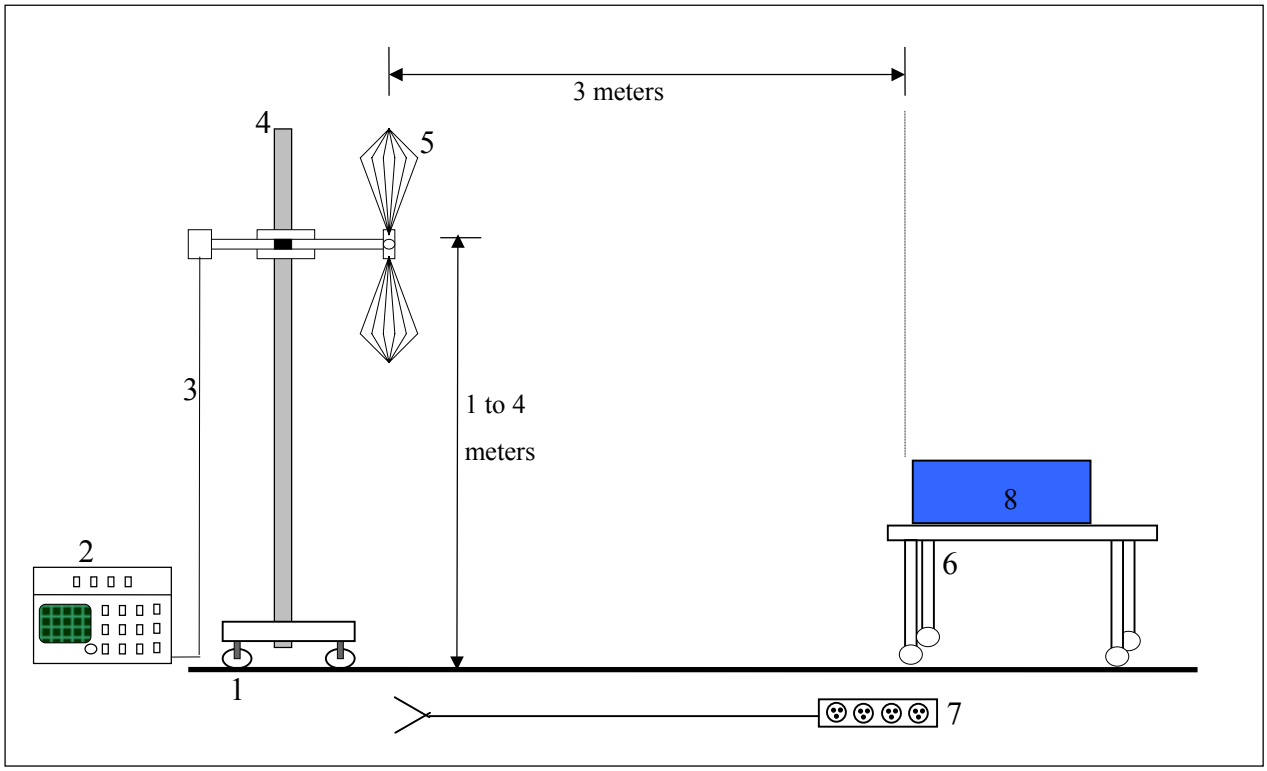
The numerical results that are applied to the emissions limits are arrived at by the following method:
Example: A=RR+CL+AF
A = Amplitude dBuV/M
RR = Receiver Reading dBuV
CL = cable loss dB
AF = antenna factor dBm-1

Example Frequency = 110MHz
18.5 dBuV (spectrum analyzer reading)
+3.0 dB (cable loss @ frequency)
21.5 dBuV
+15.4 dBm-1 (antenna factor @ frequency)
36.9 dBuV/M Final adjusted value

The final adjusted value is then compared to the appropriate emission limit to determine compliance.

For Radiated Emissions Test Configuration please refer to Figure 4 on the following page.

Figure 2. Radiated Emissions Test Setup Diagram



NOT TO SCALE

CONFIGURATION LEGEND

1. Ground plane (11 X 17 meters)
2. Spectrum Analyzer with Quasi-Peak Adapter
3. Coax interconnect from Receive Antenna to Spectrum Analyzer
4. Antenna Mast with motorized mounting assembly
5. Receive Antenna (basic relative position)
6. Non-Conducting table 80 cm above ground plane
7. AC power for devices
8. EUT: Cellular Phone

2. TEST RESULTS

2.1. Radiated Emissions Test Data

FCC Part 2, 22 & 24 Emissions Substitution

1) Methodology Used: TIA/EIA603 (see attached excerpt).

2) The Substitution Method is used for fundamental power levels and spurious emissions when RF emission signals are measured within 20 dB of the limit.

3) Formula Used to calculate the values:
   a) Measured value + antenna factor + cable loss - preamplifier = Max Level
   b) Margin = Max level - Limit
   c) Signal Generator power level - cable loss + antenna gain = ERP Part 22 or EIRP Part 24
   d) Substituted Margin = ERP (or EIRP) - Limit
   Note: gain for dipole = 0; antenna factor is not the same as antenna gain

Note: The signal generator power level is the power required when transmitting into the substituting antenna to duplicate the Measured Value. Substituted margin is reported in 731 forms pertaining to certification grants and Class II Permissive Changes when a direct conducted power reading cannot be performed.

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NEMKO USA, Inc.

Substitution Method For Radiated Emissions

Complete	Yes	Job # :	25-387-KYO	Test # :	3
Preliminary		Page	1	of	1

Client Name :	Kyocera Wireless Corp.
EUT Name :	
EUT Model # :	KX17 Prisma
EUT Part # :	
EUT Serial # :	97DX----1B24TS
EUT Config. :	CDMA Tx Harmonics

Specification :	FCC Part 22			Reference :	
Rod. Ant. #:	NA	Temp. (deg. C) :	16	Date :	5/23/2005
Bicon Ant.#:	NA	Humidity (%) :	74	Time :	
DRG Ant. # Tx	742	EUT Voltage :	na	Staff :	A. Laudani
DRG Ant. # Rx	529	EUT Frequency :	na	Photo ID:	
Cable#: Tx	40ft	Phase:	na	Peak Bandwidth:	RBW-1MHz, VBW-1MHz
Cable#: Rx	40ft	Location:	RN# 90579		
Preamp#:	842	Distance:	3m		
Spec An.#:	835				
Signal Generator #:	836				
PreSelect#:	NA				

target Frequency mHz	target level dBuV/m	Horn Gain dBi	cable loss dB	Signal Generator dBm	Total (EIRP) dBm	Spec dBm	Margin dBm
1649.40	84.3	5.37	3.56	-35.98	-34.2	-13	-21.2
1672.98	83.8	5.41	3.61	-35.74	-33.9	-13	-20.9
1696.62	88.9	5.45	3.68	-30.67	-28.9	-13	-15.9
2544.93	72.7	9.16	5.06	-38.92	-34.8	-13	-21.8

Radiated Emissions Data

Job # : 25-283-KYO Test # : 1
Page 1 of 1

Client Name : Kyocera Wireless Corp.
EUT Name :
EUT Model # : KX17 Prisma
EUT Part # :
EUT Serial # : 97DX----1B24TS
EUT Config. : CDMA RX

Specification : FCC Part 15.109 Reference :

Rod. Ant. #:	NA	Temp. (°C) :	18	Date :	5/23/05
Bicon Ant.#:	NA	Humidity (%) :	74	Time :	
Log Ant.#:	112	EUT Voltage :	NA	Staff :	A. Laudani
DRG Ant. #	529	EUT Frequency :	NA	Photo ID:	
Dipole Ant.#:	NA	Phase:	NA	Peak Measurment Bandwidth:	1 MHz/ 1 MHz
Cable#:	40ft	Location:	RN# 90579	Average Measurment Bandwidth:	1 MHz/ 10 Hz
Preamp#:	842	Distance:	3m		
Spec An.#:	835				
QP #:	NA				
PreSelect#:	NA				

Meas. Freq. (MHz)	Vertical (dBuV) pk	Vertical (dBuV) av	Horizontal (dBuV) pk	Horizontal (dBuV) av	CF (db)	Max Level (dBuV/m) pk	Max Level (dBuV/m) av	Spec. Limit (dBuV/m) pk	Spec. Limit (dBuV/m) av	Margin dB pk	Margin dB av	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
1739.4													1.0		noise floor
3478.8													1.0		noise floor
5218.2													1.0		noise floor
6957.6													1.0		noise floor
8697.0													1.0		noise floor
10436.4													1.0		noise floor
12175.8													1.0		noise floor
13915.2													1.0		noise floor
15654.6													1.0		noise floor
17394.0													1.0		noise floor
1763.0													1.0		noise floor
3526.0													1.0		noise floor
5289.0													1.0		noise floor
7052.0													1.0		noise floor
8815.0													1.0		noise floor
10578.0													1.0		noise floor
12341.0													1.0		noise floor
14104.0													1.0		noise floor
15867.0													1.0		noise floor
17630.0													1.0		noise floor
1786.6													1.0		noise floor
3573.2													1.0		noise floor
5359.9													1.0		noise floor
7146.5													1.0		noise floor
8933.1													1.0		noise floor
10719.7													1.0		noise floor
12506.3													1.0		noise floor
14293.0													1.0		noise floor
16079.6													1.0		noise floor
17866.2													1.0		noise floor

No signal was observed, even at a lower RBW.

Radiated Emissions Data

Job # : 25-283-KYO Test # : 2
Page 1 of 1

Client Name : Kyocera Wireless Corp.
EUT Name :
EUT Model # : KX17 Prisma
EUT Part # :
EUT Serial # : 97DX----1B24TS
EUT Config. : CDMA Tx Harmonics

Specification : FCC Part 22 Reference :

Rod. Ant. #:	NA	Temp. (°C) :	18	Date :	05/23/05
Bicon Ant.#:	NA	Humidity (%) :	74	Time :	
Log Ant.#:	112	EUT Voltage :	NA	Staff :	A. Laudani
DRG Ant. #	529	EUT Frequency :	NA		
Dipole Ant.#:	NA	Phase:	NA	Peak Bandwidth:	1 MHz
Cable#:	40ft	Location:	RN# 90579	Video Bandwidth	1 MHz
Preamp#:	842	Distance:	3m		
Spec An.#:	835	ERP conversion factor	7		
QP #:	NA				
PreSelect#:	NA				

Meas. Freq. (MHz)	Vertical (dBuV) pk	Horizontal (dBuV) pk	CF (db)	Max Level (dBm) pk	Spec. Limit (ERP) (dBm) pk	Margin dB pk	EUT Rotation	Ant. Height	Pass Fail Unc.	Comment
1649.40	84.3	66.0	-12.5	-25.5	-13.0	-12.5	80	1.1	Pass	
2474.64	69.7	60.7	-7.9	-35.5	-13.0	-22.5	80	1.1	Pass	
3298.80	65.9	60.0	-4.0	-35.4	-13.0	-22.4	80	1.1	Pass	
4123.50	53.8	58.3	-0.8	-39.8	-13.0	-26.8	80	1.0	Pass	
4948.20	52.4	49.3	-1.2	-46.1	-13.0	-33.1	80	1.0	Pass	
5772.90								1.0		noise floor
6597.60								1.0		noise floor
7422.30								1.0		noise floor
8247.00								1.0		noise floor
1672.98	83.8	68.1	-12.5	-26.0	-13.0	-13.0	80	1.1	Pass	
2509.47	70.4	65.7	-7.0	-33.9	-13.0	-20.9	80	1.1	Pass	
3345.96	60.7	59.6	-4.0	-40.6	-13.0	-27.6	80	1.1	Pass	
4182.45	53.2	51.3	-0.8	-44.9	-13.0	-31.9	80	1.0	Pass	
5018.94								1.0		noise floor
5855.43								1.0		noise floor
6691.92								1.0		noise floor
7528.41								1.0		noise floor
8364.90								1.0		noise floor
1696.62	88.9	71.5	-12.5	-20.9	-13.0	-7.9	80	1.1	Pass	
2544.93	72.7	67.0	-7.0	-31.6	-13.0	-18.6	80	1.1	Pass	
3393.24	60.5	59.5	-4.0	-40.8	-13.0	-27.8	80	1.1	Pass	
4241.55	50.9	55.5	-0.8	-42.6	-13.0	-29.6	80	1.1	Pass	
5089.86	53.3	51.5	1.7	-42.3	-13.0	-29.3	80	1.1	Pass	
5938.17								1.0		noise floor
6786.48								1.0		noise floor
7634.79								1.0		noise floor
8483.10								1.0		noise floor

No signal was observed, even at a lower RBW.

RADIATED EMISSIONS TEST EQUIPMENT

Asset Number	Description	Model Number	Serial Number	Last Cal	Cal Due
752	Antenna, DRWG, EMCO	3115	4943	12/29/04	12/29/05
529	Antenna, DRWG, EMCO	3115	2505	3/30/05	9/30/05
842	Hifreq Preamp, Nemko	Nemko	NA	12/30/04	12/30/05
835	Spectrum Analyzer, Rhode & Schwartz	RHDFSEK	829058/005	12/30/04	12/30/05
836	Signal Generator, Agilent	E8254A	US41140229	12/30/04	12/30/05

Photograph 1. FCC, Part 22 Radiated Emissions Test Configuration

Substitution Set Up

APPENDIX A

A. Radiated Emissions Measurement Uncertainties

1. Introduction

ISO Standard 17025 and ANSI/NCSL Z540-1(1994) require that all measurements contained in a test report be "traceable". "Traceability" is defined in the *International Vocabulary of Basic and General Terms in Metrology* (ISO: 1993) as: "the property of the result of a measurement... whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons, *all having stated uncertainties*".

The purposes of this Appendix are to "state the *Measurement Uncertainties*" of the conducted emissions and radiated emissions measurements contained in Section 5 of this Test Report, and to provide a practical explanation of the meaning of these measurement uncertainties.

2. Statement of the Worst-Case Measurement Uncertainties for the Conducted and Radiated Emissions Measurements Contained in This Test Report

Table 1: Worst-Case Expanded Uncertainty "U" of Measurement for a k=2 Coverage Factor

Radiated Emissions Measurement Detection Systems	Applicable Frequency Range	"U" for a k=2 Coverage Factor
HP8568B Spectrum Analyzer with QPA & HP8447F Preamplifier	30 MHz - 200 MHz	+4.0 dB, -4.1 dB
HP8568B Spectrum Analyzer with QPA & HP8447F Preamplifier	200 MHz-1000 MHz	+/- 3.5 dB
HP8566B Spectrum Analyzer with QPA & Preselector	30 MHz - 200 MHz	+3.9 dB, -4.0 dB
HP8566B Spectrum Analyzer with QPA & Preselector	200 MHz-1000 MHz	+/- 3.4 dB
HP8566B Spectrum Analyzer with QPA & HP 8449A Preamplifier	1 GHz - 18 GHz	+2.5 dB, -2.6 dB
HP8566B Spectrum Analyzer with QPA & HP8449A Preamplifier	18 GHz - 40 GHz	+/- 3.4 dB

NOTES:
1. Applies to 3 and 10 meter measurement distances
2. Applies to all valid combinations of Transducers (i.e. LISNs, Line Voltage Probes, and Antennas, as appropriate)
3. Excludes the Repeatability of the EUT

3. Practical Explanation of the Meaning of Radiated Emissions Measurement Uncertainties

In general, a "Statement of Measurement Uncertainty" means that with a certain (specified) confidence level, the "true" value of a measurand will be between a (stated) upper bound and a (stated) lower bound.

In the specific case of EMC Measurements in this test report, the measurement uncertainties of the conducted emissions measurements and the radiated emissions measurements have been calculated in accordance with the method detailed in the following documents:

- *ISO Guide to the Expression of Uncertainty in Measurement* (ISO, 1993)
- NIS 81:1994, *The Treatment of Uncertainty in EMC Measurements* (NAMAS, 1994)
- NIST Technical Note 1297(1994), *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results* (NIST, 1994)

The calculation method used in these documents requires that the stated uncertainty of the measurements be expressed as *an "expanded uncertainty", U, with a k=2 coverage factor*. The practical interpretation of this method of expressing measurement uncertainty is shown in the following example:

EXAMPLE: Assume that at 39.51 MHz, the (measured) radiated emissions level was equal to +26.5 dBuV/m, and that the +/- 2 standard deviations (i.e. 95% confidence level) measurement uncertainty was +/- 3.4 dB.

In the example above, the phrase "k = 2 Coverage Factor" simply means that the measurement uncertainty is stated to cover +/-2 standard deviations (i.e. a 95% confidence interval) about the measurand. The measurand is the radiated emissions measurement of +26.5 dBuV/m at 39.51 MHz, and the 95% bounds for the uncertainty are –3.4 dB to + 3.4 dB. One can thus be 95% confident that the "true" value of the radiated emissions measurement is between +23.1 dBuV/m and +29.5 dBuV/m. *In effect, this means that in the above example there is only a 2.5% chance that the "true" radiated emissions value exceeds +29.5 dBuV/m.*

APPENDIX B
B. Nemko USA, Inc.'s Test Equipment & Facilities Calibration Program

Nemko USA, Inc. operates a comprehensive Periodic Calibration Program in order to ensure the validity of all test data. Nemko USA's Periodic Calibration Program is fully compliant to the requirements of NVLAP Policy Guide PG-1-1988, ANSI/NCSL Z540-1 (1994), ISO 10012-1 (1993-05-01), ISO Standard 17025, ISO-9000 and EN 45001. Nemko USA, Inc.'s calibrations program therefore meets or exceed the US national commercial and military requirements [N.B. ANSI/NCSL Z540-1 (1994) replaces MIL-STD-45662A].

Specifically, all of Nemko USA's *primary reference standard devices* (e.g. vector voltmeters, multimeters, attenuators and terminations, RF power meters and their detector heads, oscilloscope mainframes and plug-ins, spectrum analyzers, RF preselectors, quasi-peak adapters, interference analyzers, impulse generators, signal generators and pulse/function generators, field-strength meters and their detector heads, etc.) and certain *secondary standard devices* (e.g. RF Preamplifiers used in CISPR 11/22 and FCC Part 15/18 tests) are periodically recalibrated by:

- A Nemko USA-approved independent (third party) metrology laboratory that uses NIST-traceable standards and that is ISO Guide 25-accredited as a calibration laboratories by NIST; or,
- A Nemko USA-approved independent (third party) metrology laboratory that uses NIST-traceable standards and that is ISO Guide 25-accredited as a calibration laboratory by another accreditation body (such as A2LA) that is mutually recognized by NIST; or,
- A manufacturer of Measurement and Test Equipment (M&TE), if the manufacturer uses NIST-traceable standards and is ISO Guide 25-accredited as calibration laboratory either by NIST or by another accreditation body (such as A2LA) that is mutually recognized by NIST; or
- A manufacturer of M&TE (or by a Nemko USA-approved independent third party metrology laboratory) that is not ISO Guide 25-accredited. (In these cases, Nemko USA conducts an annual audit of the manufacturer or metrology laboratory for the purposes of proving traceabilty to NIST, ensuring that adequate and repeatable calibration procedures are being applied, and verifying conformity with the other requirements of ISO Guide 25).

In all cases, the entity performing the Calibration is required to furnish Nemko USA with a calibration test report and/or certificate of calibration, and a "calibration sticker" on each item of M&TE that is successfully calibrated.

Calibration intervals are normally one year, except when the manufacture advises a shorter interval (e.g. the HP 8568B Spectrum Analyzer is recalibrated every six months) or if US Government directives or client requirements demand a shorter interval. Items of instrumentation/related equipment which fail during routine use, or which suffer visible mechanical damage (during use or while in transit), are sidelined pending repair and recalibration. (Repairs are carried out either in-house [if minor] or by a Nemko USA-approved independent [third party] metrology laboratory, or by the manufacturer of the item of M&TE).

Each antenna used for CISPR 11 and CISPR 22 and FCC Part 15 and Part 18 radiated emissions testing (and for testing to the equivalent European Norms) is calibrated annually by either a NIST (or A2LA) ISO Standard 17025-Accredited third-party Antenna Calibration Laboratory or by the antenna's OEM if the OEM is NIST or A2LA ISO Standard 17025-accredited as an antenna calibration laboratory. The antenna calibrations are performed using the methods specified in Annex G.5 of CISPR 16-1(1993) or ANSI C63.5-1991, including the "Three-Antenna Method". Certain other kinds of antennas (e.g. magnetic-shielded loop antennas) are calibrated annually by either a NIST (or A2LA) ISO Standard 17025-accredited third-party antenna calibration laboratory, or by the antenna's OEM if the OEM is NIST or A2LA ISO Standard 17025-accredited as an antenna calibration laboratory using the procedures specified in the latest version of SAE ARP-958.

In accordance with FCC and other regulations, Nemko USA recalibrates its suite of antennas used for radiated emissions tests on an annual basis. These calibrations are performed as a precursor to the FCC-required annual revalidation of the Normalized Site Attenuation properties of Nemko USA's Open Area Test Site. Nemko USA, Inc. uses the procedures given in both Subclause 16.6 and Annex G.2 of CISPR 16-1 (1993), and, ANSI C63.4-1992 when performing the normalized site attenuation measurements.

APPENDIX C
C. FCC and NVLAP Accreditation

National Institute of Standards and Technology NVLAP® National Voluntary Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

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ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS

NVLAP LAB CODE 200116-0

NEMKO USA, INC. - SAN DIEGO EMC DIVISION
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San Diego, CA 92121
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Phone: 858-755-5525 x207 Fax: 858-793-9914
E-Mail: rick.hill@nemko.com
URL: http://www.nemko.com

NVLAP Code	*Designation / Description*
Emissions Test Methods:	
12/CIS14	CISPR 14-1 (March 30, 2000): Limits and Methods of Measurement of Radio interference Characteristics of Household Electrical Appliances, Portable Tools and Similiar Electrical Apparatus - Part 1: Emissions
12/CIS14a	EN 55014-1 (1993), A1 (1997), A2 (1999):
12/CIS14b	AS/NZS 1044 (1995):
12/CIS14c	CNS 13783-1: Electromagnetic Compatibility Requirements for household appliances, electric tools and similar apparatus - Part 1: Emissions
12/CIS22	IEC/CISPR 22 (1997) & EN 55022 (1998) + A1(2000): Limits and methods of measurement of radio disturbance characteristics of information technology equipment
12/CIS22a	IEC/CISPR 22 (1993) and EN 55022 (1994): Limits and methods of measurement of radio disturbance characteristics of information technology equipment, Amendment 1 (1995) and Amendment 2 (1996)

December 31, 2005
Effective through

For the National Institute of Standards and Technology

NVLAP-01S (06-01)

National Institute of Standards and Technology NVLAP® National Voluntary Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation

DEPARTMENT OF COMMERCE * UNITED STATES OF AMERICA *

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ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS **NVLAP LAB CODE 200116-0**

NEMKO USA, INC. - SAN DIEGO EMC DIVISION

NVLAP Code	*Designation / Description*
12/CIS22b	CNS 13438 (1997): Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment
12/EM02a	IEC 61000-3-2, Edition 2.1 (2001-10), EN 61000-3-2 (2000), and AS/NZS 2279.1 (2000): Electromagnetic compatibility (EMC) Part 3-2: Limits - Limits for harmonic current emissions (equipment input current <= 16 A)
12/EM03b	IEC 61000-3-3, Edition 1.1(2002-03) & EN 61000-3-3, A1(2001): EMC - Part 3-3: Limits - Limitations of voltage changes, voltage flucuations and flicker, in public low-voltage supply-systems, for equipment with rated current <=16 A per phase and not subject to conditional connections
12/F18	FCC OST/MP-5 (1986): FCC Methods of Measurement of Radio Noise Emissions for ISM Equipment (cited in FCC Method 47 CFR Part 18 - Industrial, Scientific, and Medical Equipment)
12/FCC15b	ANSI C63.4 (2001) with FCC Method 47 CFR Part 15, Subpart B: Unintentional Radiators
12/T51	AS/NZS CISPR 22 (2002) and AS/NZS 3548 (1997): Electromagnetic Interference - Limits and Methods of Measurement of Information Technology Equipment

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National Institute of Standards and Technology NVLAP® National Voluntary Laboratory Accreditation Program

ISO/IEC 17025:1999
ISO 9002:1994

Scope of Accreditation

ELECTROMAGNETIC COMPATIBILITY AND TELECOMMUNICATIONS **NVLAP LAB CODE 200116-0**

NEMKO USA, INC. - SAN DIEGO EMC DIVISION

NVLAP Code	*Designation / Description*
Immunity Test Methods:	
12/I01	IEC 61000-4-2, Ed. 2.1 (2001), A1, A2; EN 61000-4-2: Electrostatic Discharge Immunity Test
12/I02	IEC 61000-4-3, Ed. 2.0 (2002-03); EN 61000-4-3 (2002): Radiated Radio-Frequency Electromagnetic Field Immunity Test
12/I03	IEC 61000-4-4(1995), A1(2000), A2(2001); EN 61000-4-4: Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical Fast Transient/Burst Immunity Test
12/I04	IEC 61000-4-5, Ed. 1.1 (2001-04); EN 61000-4-5: Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test
12/I05	IEC 61000-4-6, Ed. 2.0 (2003-05); EN 61000-4-6: Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields
12/I06	IEC 61000-4-8, Ed. 1.1 (2001); EN 61000-4-8: Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test
12/I07	IEC 61000-4-11, Ed. 1.1 (2001-03); EN 61000-4-11: Voltage Dips, Short Interruptions and Voltage Variations Immunity Tests

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