



# Electromagnetic Compatibility Test Report

Tests Performed on a Digital Innovations'

MP3 Player, Model Neuros Standard

Radiometrics Document RP-4910



*Product Detail:*

FCC ID: **PL7-11774**

Equipment type: Low Power Transmitter

*Test Standards:*

US CFR Title 47, Chapter I, FCC Part 15 Subpart C

FCC Part 15 CFR Title 47: 2001

Industry Canada RSS-210, Issue 5 as required for Category I Equipment 6.2.2 (k)

This report concerns: Original Grant for Certification

FCC Part 15.239

*Tests Performed For:*

**Digital Innovations**

7250 N. Cicero Avenue  
Lincolnwood, IL 60712

*Test Facility:*

**Radiometrics Midwest Corporation**

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Romeoville, IL 60446  
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*Test Date(s): (Month-Day-Year)*

December 9, 2002

Document RP-4910 Revisions:

Rev.	Issue Date	Affected Pages	Revised By	Signature for Latest Revision
0	12/16/2002			
1	12/19/2002	5	Joseph Strzelecki	
2	12/30/2002	4	Joseph Strzelecki	<i>Joseph Strzelecki</i>

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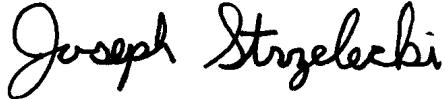
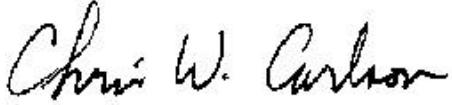
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## 1 ADMINISTRATIVE DATA

<i>Equipment Under Test:</i> A Digital Innovations, MP3 Player Model: Neuros Serial Number: AA000001J2 This will be referred to as the EUT in this Report	
Date EUT Received at Radiometrics: (Month-Day-Year) 12/6/02	Test Date(s): (Month-Day-Year) December 9, 2002
<i>Test Report Written By:</i> Joseph Strzelecki Senior EMC Engineer	<i>Test Witnessed By:</i> Peter Shadix Digital Innovations
<i>Radiometrics' Personnel Responsible for Test:</i>  Joseph Strzelecki Senior EMC Engineer NARTE EMC-000877-NE	<i>Test Report Approved By</i>  Chris W. Carlson Director of Engineering NARTE EMC-000921-NE

## 2 TEST SUMMARY AND RESULTS

The EUT (Equipment Under Test) is an MP3 Player, Model Neuros, manufactured by Digital Innovations. The detailed test results are presented in a separate section. The following is a summary of the test results.

### Emissions Tests Results

Environmental Phenomena	Frequency Range	Basic Standard	Test Result
RF Radiated Emissions	30-1080 MHz	RSS-210 & FCC Part 15	Pass
Conducted Emissions, AC Mains	0.45 - 30 MHz	RSS-210 & FCC Part 15	Pass
Occupied Bandwidth Test	Fundamental Freq.	RSS-210 & FCC Part 15	Pass

## 3 EQUIPMENT UNDER TEST (EUT) DETAILS

### 3.1 EUT Description

The EUT is an MP3 Player, Model Neuros with a transmitter that operates in the 90 to 105 MHz band, manufactured by Digital Innovations. The EUT was in good working condition during the tests, with no known defects.

#### 3.1.1 FCC Section 15.203 Antenna Requirements

Since the EUT has an internal antenna for transmit, the end user can use no other antenna.

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### 3.2 Related Submittals

Digital Innovations is not submitting any other products simultaneously for equipment authorization related to the EUT.

The EUT is also an FM broadcast radio receiver and is operated under Part 15. It is subject to the FCC requirements pursuant to the verification equipment authorization under Part 15 Subpart B.

The receiver is also subject to the IC requirements pursuant to the Certification equipment authorization under RSS-210.

## 4 TESTED SYSTEM DETAILS

All equipment, plus descriptions of all cables used in the tested system, are:

**Tested System Configuration List**

Item	Description	Type*	Manufacturer	Model Number	Serial Number
1	FM transmitter / MP3 Player	E	Digital Innovations	Neuros Standard	AA000001J2
2	Power Supply	E	Digital Innovations / APS	D9800	None

\* Type: E = EUT, P = Peripheral, S = Support Equipment

**List of System Cables**

QTY	Length (m)	Cable Description	Connected to (Item #)	Shielded?
1	1.95	DC Cord	#1 Power input	No

### 4.1 Tested System Configuration

The system was configured for testing in a typical fashion. The EUT was placed on an 80-cm high, nonconductive test stand. The testing was performed in conditions as close as possible to installed conditions. Wiring was consistent with manufacturer's recommendations.

The EUT was tested as a stand-alone device. Power was supplied at 115 VAC, 60 Hz single-phase to its external power supply. The EUT was also tested with power supplied by a fully charged battery.

### 4.2 Special Accessories

No special accessories were used during the tests in order to achieve compliance.

### 4.3 Equipment Modifications

The following modifications were made to the EUT at Radiometrics' test facility in order to comply with the standards listed in this report:

1. A Ferrite was added to the DC Cable with 4 passes through the ferrite. The ferrite is a TDK Part Number ZCAT1518-0730. This will be added to the power supply supplied with the EUT.
2. Resistor R126 was changed to 28.8 Ohms.
3. Resistor R127 was changed to 75 Ohms.
4. Resistor R128 was changed to 75 Ohms.

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## 4.4 Operating Modes

The EUT was tested as a stand-alone device. The EUT was tested while transmitting an MP3 Recording. The EUT was in two modes:

- 1) Power supplied at 115 VAC, 60 Hz single-phase to its external power supply.
- 2) Power supplied by a fully charged battery.

## 4.5 Justification of Tested Configuration

The EUT was tested with just the DC cable because it cannot transmit while any other cables are connected (besides the DC cable).

The EUT has other operating modes that are not included in this report because it can not transmit in these modes. The FM Receive mode and the USB transfer modes were fully tested and found to be compliant. The test results for these two modes are presented in a separate report.

## 5 TEST SPECIFICATIONS AND RELATED DOCUMENTS

**Test Specifications**

Document	Date	Title
FCC CFR Title 47	2001	Code of Federal Regulations Title 47, Chapter 1, Federal Communications Commission, Part 15 - Radio Frequency Devices
ANSI C63.4-1992	1992	Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
IC RSS-210 Issue 5	2001	Low Power Licence-Exempt Radiocommunication Devices (All Frequency Bands)
IC RSS-212 Issue 1	1998	Test Methods For Radio Equipment

The test procedures used are in accordance with the ANSI document C63.4-1992, (July 17, 1992) "Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz". The specific procedures are described herein. Radiated testing was performed at an antenna to EUT distance of 3 meters. The antenna was raised and lowered from 1 to 4 meters.

## 6 RADIOMETRICS' TEST FACILITIES

The results of these tests were obtained at Radiometrics Midwest Corp. in Romeoville, Illinois, USA. Radiometrics has been accredited by A2LA (American Association for Laboratory Accreditation) to conform to ISO/IEC 17025: 1999 "General Requirements for the Competence of Calibration and Testing Laboratories". Radiometrics' Lab Code is 121191 and Certification Number is 1495.01. Radiometrics' scope of accreditation includes all of the "basic standards" listed herein. A copy of the accreditation can be accessed on our web site ([www.radiomet.com](http://www.radiomet.com)). Radiometrics accreditation status can be verified at A2LA's web site ([www.a2la.org](http://www.a2la.org)).

The following is a list of the sites used for testing:

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Chamber A: Is an anechoic chamber that measures 24' L X 12' W X 12' H. The walls and ceiling are fully lined with ferrite absorber tiles. The floor has a 10' x 10' section of ferrite absorber tiles in the located in the center. Panashield of Rowayton, Connecticut manufactured the chamber. The enclosure is NAMAS certified.

Chamber B: Is a shielded enclosure that measures 24' L X 12' W X 8' H. Erik A. Lindgren & Associates of Chicago, Illinois manufactured the enclosure.

A separate ten-foot long, brass plated, steel ground rod attached via a 6 inch copper braid grounds each of the above chambers. Each enclosure is also equipped with low-pass power line filters.

Open Area Test Site (OATS): Is located on 8625 Helmar Road in Newark, Illinois, USA and measures 56' L X 24' W X 17' H. The entire open field test site has a metal ground screen. The FCC has accepted these sites as test site number 31040/SIT 1300F2. The FCC test site Registration Number is 90897. Details of the site characteristics are on file with the Industry Canada as file number IC3124.

A complete list of the test equipment is provided herein. The calibration due dates are indicated on the equipment list. The equipment is calibrated in accordance to ANSI/NCSL Z540-1 with traceability to the National Institute of Standards and Technology (NIST).

## 7 DEVIATIONS AND EXCLUSIONS FROM THE TEST SPECIFICATIONS

There were no deviations or exclusions from the test specifications.

## 8 TEST PROCEDURES

The test procedures used are in accordance with the Industry Canada RSS-212 and ANSI document C63.4-1992, (July 17, 1992) "Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz". The specific procedures are described herein. Radiated testing was performed at an antenna to EUT distance of 3 meters. The antenna was raised and lowered from 1 to 4 meters.

### 8.1 Radiated RF Emissions Measurement Procedures

Radiated emission measurements were performed with linearly polarized broadband antennas. The results obtained with these antennas can be correlated with results obtained with a tuned dipole antenna. Below 1 GHz, when a radiated emission is detected approaching the specification limit, the measurement of the emission is repeated using a tuned dipole antenna with a Roberts Balun.

The radiated emission measurements were performed with a spectrum analyzer. The bandwidth used from 450 kHz to 30 MHz is 9 or 10 kHz and the bandwidth from 30 MHz to 1000 MHz is 100 or 120 kHz. Above 1 GHz, a 1 MHz bandwidth is used. A 10 dB linearity check is performed prior to start of testing in order to determine if an overload condition exists.

An Anritsu Spectrum analyzer and a MITEQ AM-1431 amplifier with a 10 dB attenuator connected to the input was used for tests from 30 to 1000 MHz. The out of band emissions and the ambient emissions were below the level of input overload (80 dBuV).

A Celeritek uWave amplifier was used for tests from 1 to 1.08 GHz. The fundamental emission, out of band emissions and the ambient emissions were below the level of input overload (72 dBuV).

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Preliminary radiated emission tests were performed inside of an anechoic enclosure. The frequency range from 30 to 1080 MHz was scanned and plotted using the peak detector function. The test antennas were positioned 3 meters from the EUT. The results of the preliminary scans were only used to identify the frequencies being emitted from the EUT and were not used to determine compliance with the test specification. Radiated emission measurements are performed with linearly polarized broadband antennas.

Final radiated emissions measurements were performed in the open area test site at a test distance of 3 meters. Measurements were performed using the peak or quasi-peak detector function. The detected emission levels were maximized by rotating the EUT, adjusting the positions of all cables, and by scanning the measurement antenna from 1 to 4 meters above the ground. The open area test site used to collect the radiated data is located on 8625 Helmar Road in Newark, Illinois. The open field test site has a metal ground screen. All other tests are performed at 12 East Devonwood Ave. Romeoville, Illinois EMI test lab.

The device was rotated through three orthogonal axis as per 13.1.4.1 of ANSI C63.4 during the prescans and during final radiated tests.

The entire frequency range from 30 to 1080 MHz was slowly scanned with particular attention paid to those frequency ranges which appeared high in the preliminary emission scan. Measurements were performed using two antenna polarizations, (vertical and horizontal). The worst case emissions were recorded.

### 8.1.1 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Loss, and by subtracting the Amplifier Gain from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

Where: FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Attenuation Factor

AG = Amplifier Gain

Assume a receiver reading of 49.5 dBuV is obtained. The Antenna Factor of 8.1 and a Cable Factor of 1.7 is added. The Amplifier Gain of 23.3 dB is subtracted, giving a field strength of 36 dBuV/m. The 36 dBuV/m can be mathematically converted to its corresponding level in uV/m.

$$FS = 49.5 + 8.1 + 1.7 - 23.3 = 36.0 \text{ dBuV/m}$$

$$\text{Level in uV/m} = \text{Common Antilogarithm} [(36 \text{ dBuV/m})/20] = 63.1 \text{ uV/m}$$

### 8.2 Conducted Emission Measurement Procedures

A computer-controlled analyzer was used to perform the conducted emissions measurements. The frequency range was divided into 500 subranges equally spaced on a logarithmic scale. The computer recorded the peak of each subrange. This data was then plotted on semi-log graph paper generated by the computer and plotter. Adjusting the positions of the cables and orientation of the test system then maximizes the highest emissions.

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Mains Conducted emission measurements were performed using a 50 Ohm/50 uH Line Impedance Stabilization Network (LISN) as the pick-up device. Measurements were repeated on both leads within the power cord. If the EUT power cord exceeded 80 cm in length, the excess length of the power cord was made into a 30 to 40 cm bundle near the center of the cord. The LISN was placed on the floor at the base of the test platform and electrically bonded to the ground plane.

Broadband conducted emissions may exceed the following limits by no more than 13 dB. An emission is defined as broadband if the average detector amplitude is 6 dB or more under the quasi-peak detector amplitude.

#### FCC Limits of Conducted Emissions at the AC Mains Ports

Frequency Range (MHz)	Class B, QP Limit (dBuV)
0.450 - 1.705	48.0
1.705 – 30	48.0

## 9 CERTIFICATION

Radiometrics Midwest Corporation certifies that the data contained herein was taken under conditions that meet or exceed the requirements of the test specification. The results relate only to the EUT listed herein. Any modifications made to the EUT subsequent to the indicated test date will invalidate the data and void this certification.

## 10 TEST EQUIPMENT TABLE

RMC ID	Manufacturer	Description	Model No.	Serial No.	Frequency Range	Cal Period	Cal Date
AMP-05	RMC/Celeritek	Pre-amplifier	MW110G	1001	1.0-12GHz	12 Mo.	11/29/02
AMP-12	MITEQ	Pre-amplifier	AM-1431	530935	0.01-1000MHz	12 Mo.	12/28/01
ANT-03	Tensor	Biconical Antenna	4104	2231	20-200MHz	24 Mo.	08/07/01
ANT-06	EMCO	Log-Periodic Ant.	3146	1248	200-1000MHz	24 mo	08/07/01
ANT-11	RMC	Dipole Antennas	HW1010	201	25-1000MHz	12 Mo.	07/12/02
ANT-13	EMCO	Horn Antenna	3115	2502	1.0-18GHz	24 Mo.	09/30/02
ATT-02	KDI	Attenuator	A710N	RMC1	DC-10GHz	24 Mo.	12/31/01
HPF-01	Solar	High Pass Filter	7930-100	HPF-1	0.15-30MHz	24 Mo.	12/28/00
LSN-01	Electrometrics	LISN	FCC/VDE 50/2	1001	0.01-30MHz	24 Mo.	1/10/02
REC-03	Anritsu	Spectrum Analyzer	MS2601B	MT94589	0.01-2200MHz	12 Mo.	10/11/02
THM-01	Extech Inst.	Temp/Humid Meter	4465CF	001106557	N/A	12 Mo.	12/26/01

Note: All calibrated equipment is subject to periodic checks.

NCR – No Calibration Required. Device monitored by calibrated equipment. N/A: Not Applicable.

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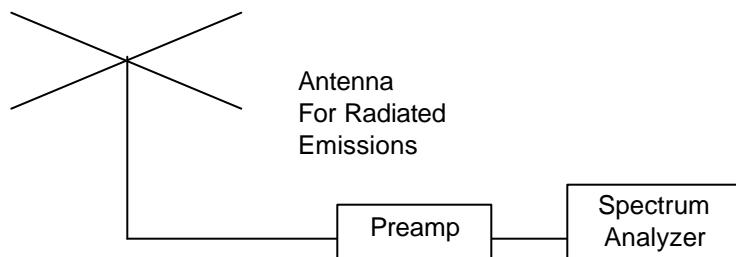
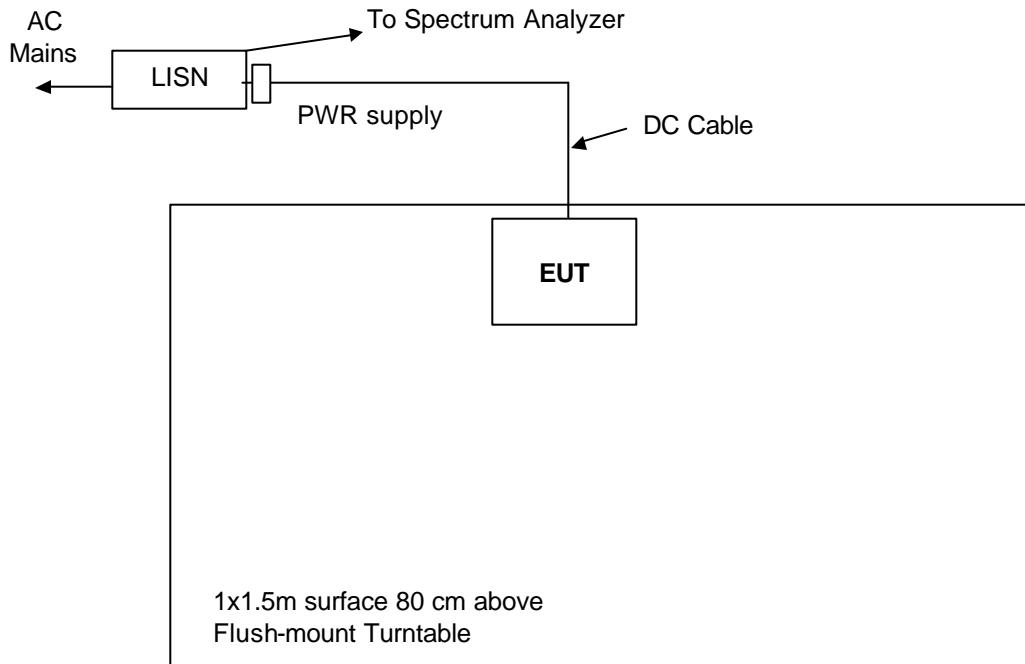
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## 11 TEST SETUP DOCUMENTATION

Figure 1. Configuration of Tested System



### Radiated Emissions:

- LISN's not used
- AC outlet with low-pass filter at the base of the turntable
- No vertical conductive wall
- Antenna height varied from 1 to 4 meters
- Distance from antenna to tested system is 3 meters

### Notes:

- Not to Scale

### Conducted Emissions:

- LISN's at least 80 cm from EUT chassis
- Vertical conductive plane 40 cm from rear of table top
- EUT power cord bundled
- Test platform is not rotated

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## 12 OCCUPIED BANDWIDTH DATA

The occupied bandwidth of the RF output was measured using a spectrum analyzer. The bandwidth was measured using the peak detector function and a narrow resolution bandwidth. A broadband antenna was used to receive the modulated signal. The spectrum analyzer was set to the "MAX HOLD" mode to record the worst case of the modulation. The spectrum analyzer display was digitized and plotted. A 200 kHz wide limit was drawn on the plots based on the level of the peak level of the carrier. The plots of the occupied bandwidth for the EUT are supplied on the following pages.

The bandwidth was measured with the EUT set to maximum volume. The bandwidth was measured with MP3 music playing and again with a voice recording.

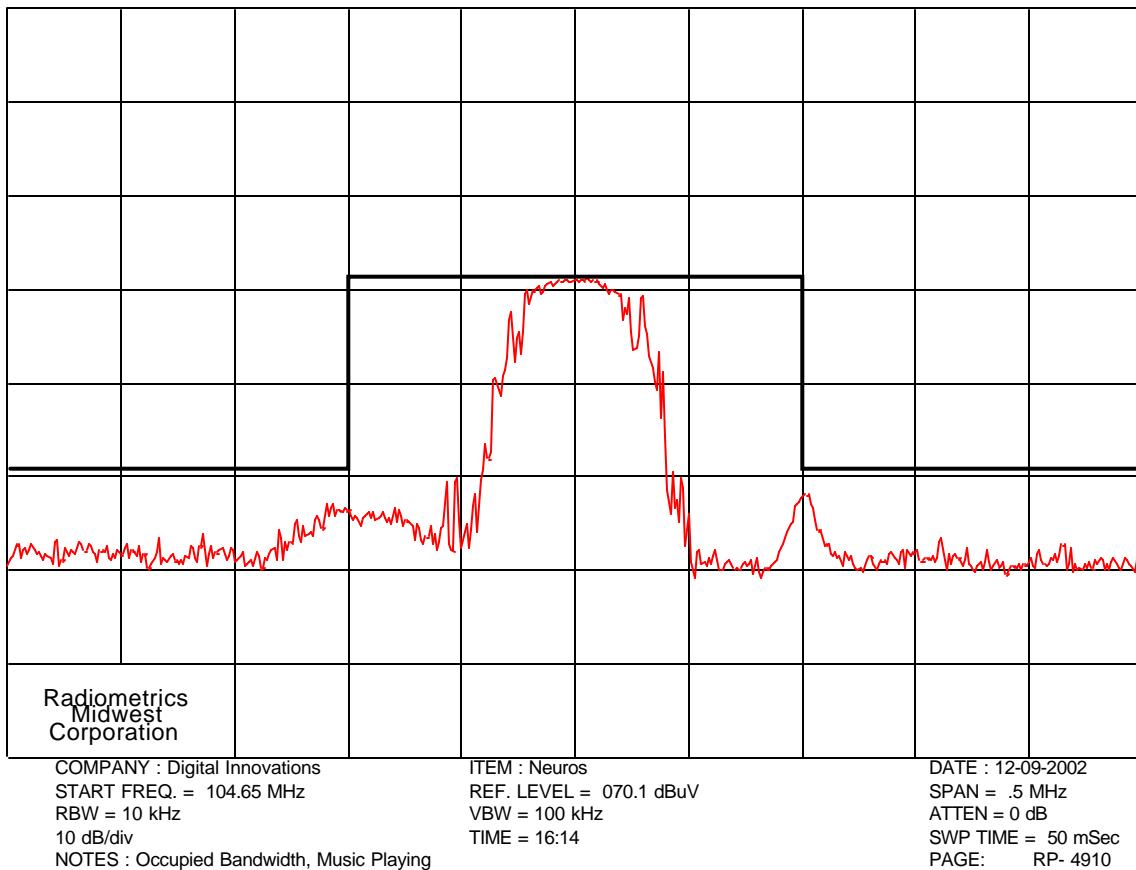
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**Figure 2. Occupied Bandwidth Plots**

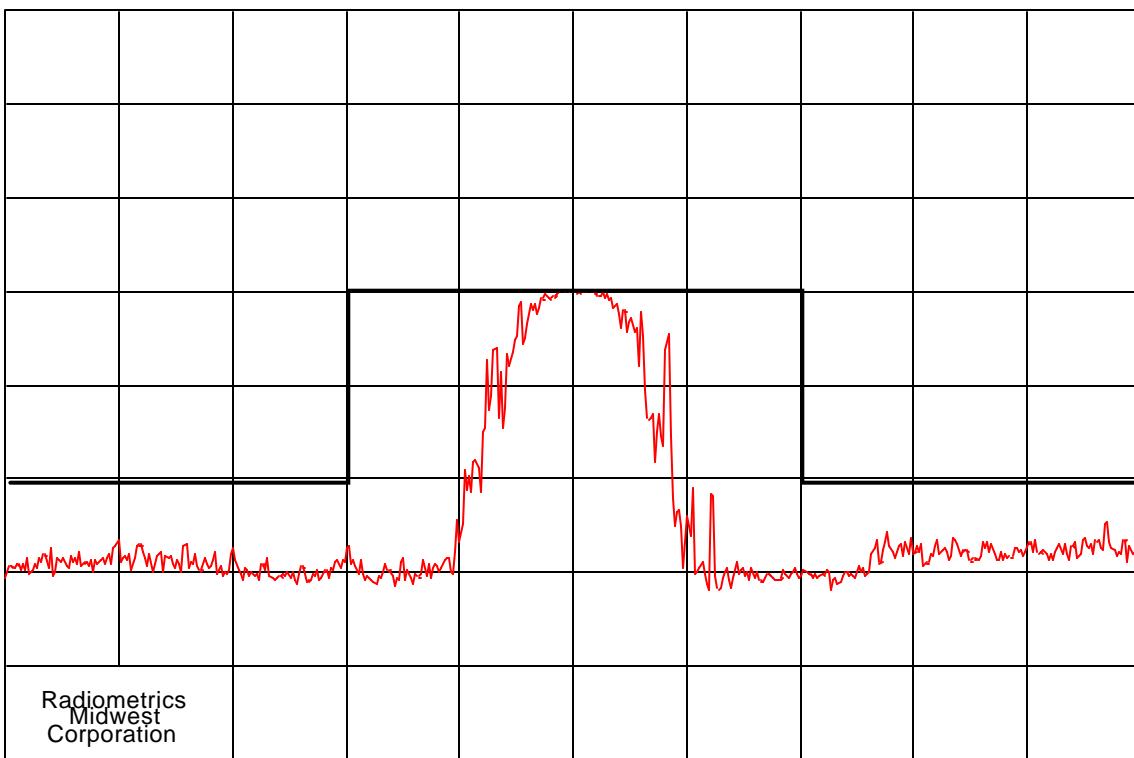


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**Radiometrics  
Midwest  
Corporation**

COMPANY : Digital Innovations

START FREQ. = 97.85 MHz

RBW = 10 kHz

10 dB/div

NOTES : Occupied Bandwidth, Music Playing

ITEM : Neuros

REF. LEVEL = 070.1 dBuV

VBW = 100 kHz

TIME = 16:11

DATE : 12-09-2002

SPAN = .5 MHz

ATTEN = 0 dB

SWP TIME = 50 mSec

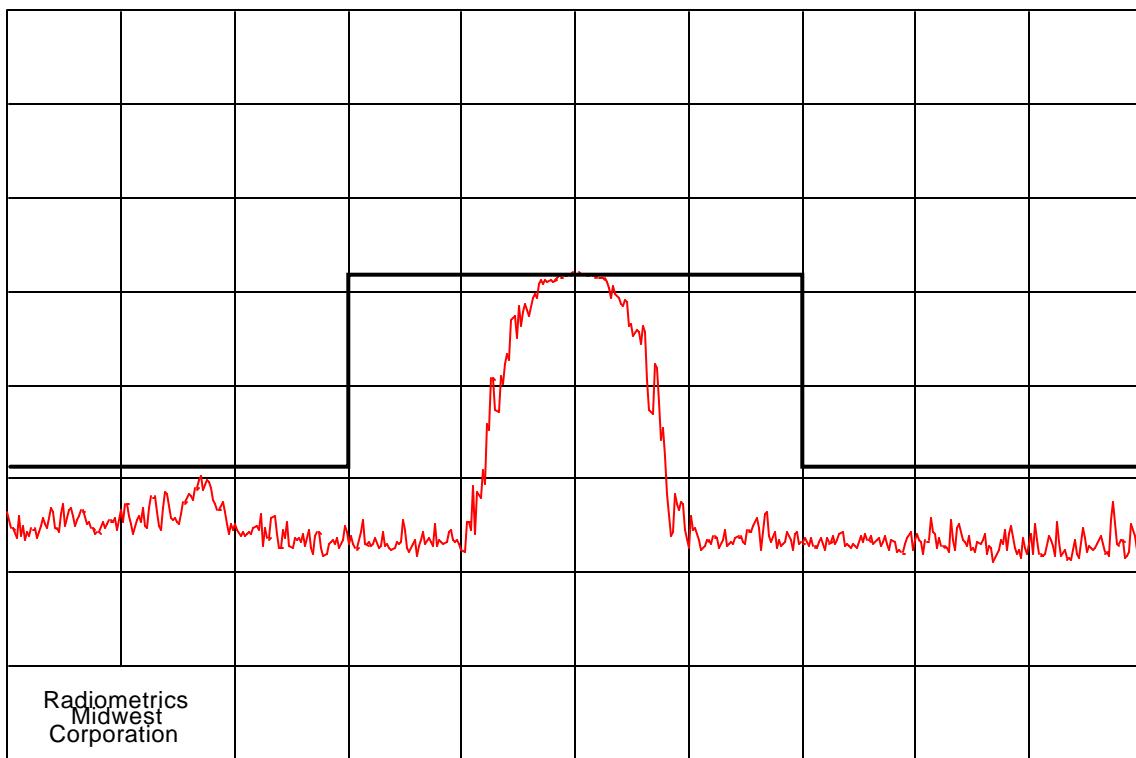
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Midwest  
Corporation

COMPANY : Digital Innovations  
 START FREQ. = 90.05 MHz  
 RBW = 10 kHz  
 10 dB/div  
 NOTES : Occupied Bandwidth, Music Playing

ITEM : Neuros  
 REF. LEVEL = 070.1 dBuV  
 VBW = 100 kHz  
 TIME = 16:06

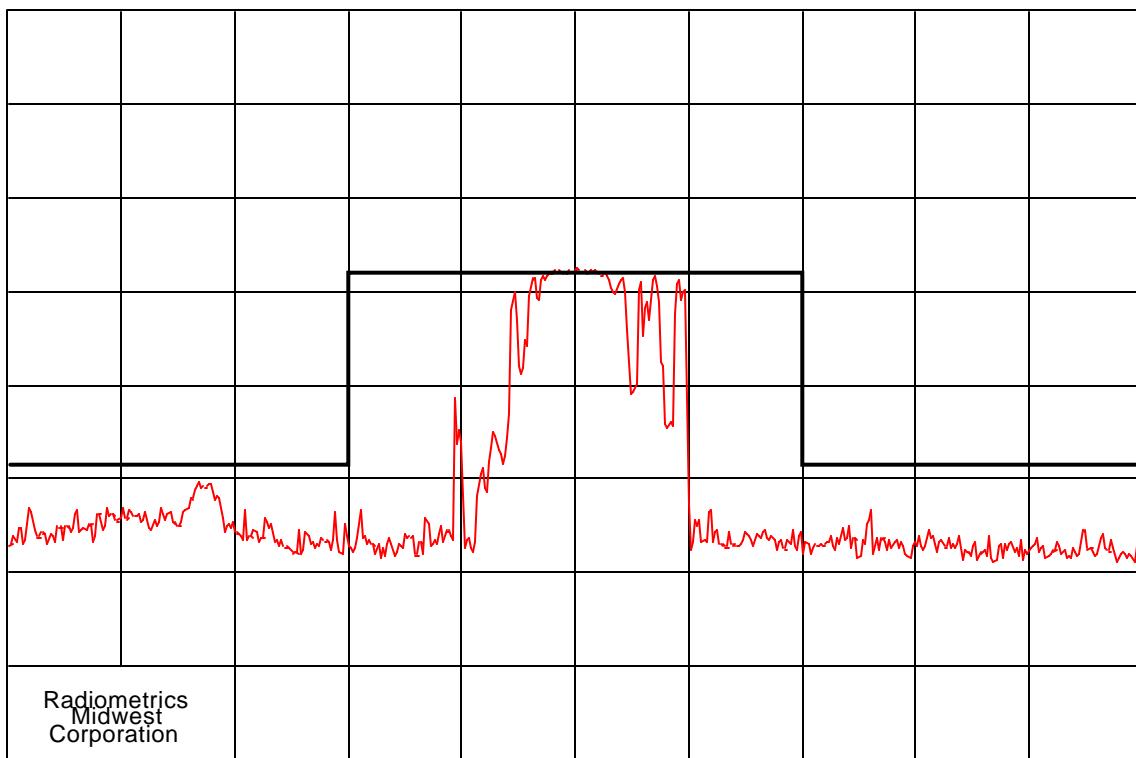
DATE : 12-09-2002  
 SPAN = .5 MHz  
 ATTEN = 0 dB  
 SWP TIME = 50 mSec  
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COMPANY : Digital Innovations  
 START FREQ. = 90.05 MHz  
 RBW = 10 kHz  
 10 dB/div  
 NOTES : Occupied Bandwidth, Loud Talking

ITEM : Neuros  
 REF. LEVEL = 070.1 dBuV  
 VBW = 100 kHz  
 TIME = 16:04

DATE : 12-09-2002  
 SPAN = .5 MHz  
 ATTEN = 0 dB  
 SWP TIME = 50 mSec  
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Judgment: Passed (20 dB Bandwidth is 105 kHz)

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## 13 DETAILED TEST RESULTS

### 13.1 Radiated Emissions Test Results

The following results show the worst-case emissions from the different operating modes.

Manufacturer	Digital Innovations	Specification	FCC Part 15 Subpart C & RSS-210
Model	Neuros	Test Date	12/09/2002
Serial Number	AA000001J2	Test Distance	3 Meters
Abbreviations	Pol = Antenna Polarization; V = Vertical; H = Horizontal; BC = Biconical (ANT-3); LP = Log-Periodic (ANT-6); HN = Horn (ANT-13) P = peak; Q = QP		

Configuration		Transmit at 90.3 MHz					
Frequency MHz	Meter Reading dBuV	Antenna		Corr. Factors dB	Field Strength dBuV/m		Margin Under Limit dB
		Factor dB	Pol/Type		EUT	Limit	
90.3	58.7 P	11.2	V/BC	-25.1	44.7	48.0	3.3
180.6	31.8 P	17.2	V/BC	-23.8	25.2	43.5	18.3
269.4	43.7 P	13.4	V/LP	-22.3	34.8	46.0	11.2
361.2	45.2 P	15.4	V/LP	-20.0	40.6	46.0	5.4
451.5	42.4 P	17.3	V/LP	-20.3	39.4	46.0	6.6
541.8	41.7 P	18.8	V/LP	-19.8	40.7	46.0	5.3
632.1	26.9 P	20.1	V/LP	-19.1	27.9	46.0	18.1
722.4	34.3 P	21.8	V/LP	-18.6	37.4	46.0	8.6
812.7	26.1 P	22.4	V/LP	-18.0	30.5	46.0	15.5
903.0	26.8 P	23.8	V/LP	-17.6	33.0	46.0	13.0
90.3	51.1 P	9.5	H/BC	-25.1	35.4	48.0	12.6
361.2	47.7 Q	15.4	H/LP	-20.0	43.1	46.0	2.9
451.5	45.6 P	17.3	H/LP	-20.3	42.6	46.0	3.4
541.8	37.0 P	18.8	H/LP	-19.8	36.1	46.0	9.9
Configuration		Transmit at 98.1 MHz					
98.1	59.7 P	11.4	V/BC	-25.0	46.1	48.0	2.9
196.2	36.8 P	16.8	V/BC	-23.6	30.0	43.5	13.5
392.4	46.0 P	16.1	V/LP	-20.0	42.1	46.0	3.9
490.5	42.6 P	17.8	V/LP	-20.0	40.3	46.0	5.7
588.6	32.7 P	19.5	V/LP	-19.5	32.7	46.0	13.3
686.7	31.0 P	21.4	V/LP	-18.8	33.6	46.0	12.4
784.8	30.1 P	22.1	V/LP	-18.2	34.0	46.0	12.0
981.0	29.4 P	25.1	V/LP	-17.4	37.1	54.0	16.9
98.1	48.2 P	11.0	H/BC	-25.0	34.2	48.0	13.8
196.2	31.9 P	16.8	H/BC	-23.6	25.1	43.5	18.4
294.3	35.3 P	14.6	H/LP	-21.6	28.3	46.0	17.7
392.4	47.5 Q	16.1	H/LP	-20.0	43.5	46.0	2.5
490.5	44.3 P	17.8	H/LP	-20.0	42.1	46.0	3.9
588.6	29.4 P	19.5	H/LP	-19.5	29.4	46.0	16.6
784.8	36.0 P	22.1	H/LP	-18.2	39.9	46.0	6.1
882.9	32.2 P	23.7	H/LP	-17.7	38.2	46.0	7.8
981.0	28.7 P	25.1	H/LP	-17.4	36.4	54.0	17.6

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Frequency MHz	Meter Reading dBuV	Antenna		Corr. Factors dB	Field Strength dBuV/m		Margin Under Limit dB
		Factor dB	Pol/ Type		EUT	Limit	
104.9	60.2 P	12.2	V/BC	-24.9	47.5	48.0	0.5
209.8	33.0 P	16.2	V/BC	-23.4	25.8	43.5	17.7
314.7	30.4 P	15.5	V/LP	-21.1	24.8	46.0	21.2
419.6	42.2 P	16.1	V/LP	-20.3	38.0	46.0	8.0
524.5	42.2 P	19.1	V/LP	-19.9	41.5	46.0	4.5
629.4	30.6 P	20.1	V/LP	-19.1	31.6	46.0	14.4
734.3	32.4 P	21.7	V/LP	-18.5	35.6	46.0	10.4
839.2	30.0 P	23.1	V/LP	-17.9	35.2	46.0	10.8
944.1	29.3 P	24.0	V/LP	-17.4	35.8	46.0	10.2
104.9	49.2 P	11.7	H/BC	-24.9	36.0	48.0	12.0
209.8	32.1 P	15.9	H/BC	-23.4	24.6	43.5	18.9
314.7	37.0 P	15.5	H/LP	-21.1	31.4	46.0	14.6
392.4	47.5 Q	16.1	H/LP	-20.0	43.5	46.0	2.5
419.6	43.6 P	16.1	H/LP	-20.3	39.4	46.0	6.6
524.5	38.7 P	19.1	H/LP	-19.9	37.9	46.0	8.1
629.4	26.0 P	20.1	H/LP	-19.1	26.9	46.0	19.1
734.3	32.8 P	21.7	H/LP	-18.5	36.0	46.0	10.0
839.2	27.2 P	23.1	H/LP	-17.9	32.4	46.0	13.6
944.1	31.9 P	24.0	H/LP	-17.4	38.5	46.0	7.5

Judgment: Passed by 0.5 dB

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## 13.2 Conducted Emission Test Results

The initial step in collecting conducted data is a peak detector scan and the plotting of the measurement range. Significant peaks are then marked as shown on the following table, and these signals are then measured with the quasi-peak detector. The following represents the worst case emissions from the EUT power cord, after testing all modes of operation (all three transmit frequencies).

Test Date : December 9, 2002

Corr. Factors = cable loss + LISN Loss

Line Tested	Freq. MHz	Meter Reading dBuV	Correction Factors dB	Strength of Signal dBuV		Margin Under Limit dB
				EUT	Limit	
AC Hot	0.524	31.7	0.2	31.9	48	16.1
AC Hot	0.653	31.1	0.3	31.4	48	16.6
AC Hot	5.843	34.9	0.3	35.2	48	12.8
AC Hot	6.053	36.4	0.3	36.7	48	11.3
AC Hot	14.08	21.1	0.3	21.4	48	26.6
AC Neutral	0.503	29.8	0.2	30.0	48	18.0
AC Neutral	0.671	28.1	0.3	28.4	48	19.6
AC Neutral	5.985	36.1	0.3	36.4	48	11.6
AC Neutral	24.03	20.1	0.3	20.4	48	27.6

Since the EUT passed by more than 3 dB; there was no determination of broadband emissions.

\* All readings are quasi-peak with a 9 kHz bandwidth and no video filter.

Changing the frequency of the transmitter did not affect the emissions listed above.

Judgment: Passed by 11.3 dB