TEST NUMBER - 381-00

**TESTING TO**

**INDUSTRY CANADA RSS 210 SECTION 6.2.2**
**FEDERAL COMMUNICATIONS COMMISSION CFR47 PART 15.249**

**Low Power License-Exempt Radiocummunication Devices**
**Intentional Radiators**

for

Safety 1st , Inc.
45 Dan Road
Canton ,MA 02021
1-800-962-7233

of

Sound N Sight TV Monitor Transmitter

48018

FCC ID: MNJ48018T

on

1/4/2001

Tested by

_____
Clifton P. Brick

Reviewed by

_____
Larry K. Stillings

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TEST DESCRIPTION

1. TEST OBJECTIVE

**To test the Sound N Sight TV Monitor Transmitter 48018 to RSS 210 / Part 15 Subpart C Rules and write a report.**

2. E.U.T. DESCRIPTION

GENERAL

**The Sound N Sight TV Monitor Transmitter 48018 is a 900 MHz baby nursery monitor transmitter. The transmitter is part of a system that sends an audio and video signal from the nursery to a remote receiver that can be connected to a television to provide a video output.**

SERIAL NUMBERS:

Pre Production Prototype

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## TEST RESULTS AND CONCLUSIONS

PRODUCT TESTED - Sound N Sight TV Monitor, Transmitter

MODEL NUMBER - 48018

**RADIATED TEST RESULTS**

The test results show that the emissions radiated from this equipment are in compliance with IC Rules RSS 210 / FCC Rules Part 15 Subpart C.

**OCCUPIED BANDWIDTH & OUTPUT POWER**

The test results show that the occupied bandwidth and output power of this equipment are in compliance with IC Rules RSS 210 / FCC Rules Part 15 Subpart C .

**CONDUCTED TEST RESULTS**

The test results show that the emissions conducted through the power line from this equipment are in compliance with IC Rules RSS 210 / FCC Rules Part 15 Subpart C.

**ANALYSIS AND CONCLUSIONS**

Based upon the radiated and conducted measurements we find that this equipment is within the limits of the IC Rules RSS 210 / FCC Rules Part 15 Subpart C. All results are based on a test of one sample, and represent other production units, only in as much as a sample represents other production units. If any significant changes are made to the unit, the changes shall be evaluated and a retest may be required.

**NOTES** (Special conditions unique to this test)

**Please note the last paragraph of page 7.**
**The antenna wire is soldered to the PCB, no connector is used.**
**The FCC Label information will be engraved in the mold.**
**Power input was varied +/-15% with no change in output power.**
**EUT was examined in 3 orthogonal planes, worst case is as shown in setup photos.**

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**TEST PROCEDURES**

1. TEST EQUIPMENT

A. HP 8546A (9 kHz - 6.5 GHz) EMI Receiver w/ RF Filter Section, S/N 3704A00323 / 3650A00360. Calibration Date 7-18-2000, calibrated annually.

B. HP 8593E (9 kHz - 26.5 GHz) Spectrum Analyzer, S/N 3829A03887. Calibration Date 10-21-2000, calibrated annually.

C. Electro-Metrics BiConical Antenna, Model EM6912A, S/N 149. Calibration Date 2-22-2000, calibrated annually.

D. Electro-Metrics Log Periodic Antenna, Model EM-6950, S/N 1017. Calibration Date: 2-22-2000, calibrated annually.

E. Com Power Double Ridged Guide Antenna, Model AH 118, S/N 10078. Calibration Date: 8-11-2000, calibrated annually.

F. HP 1 - 26.5 GHz Preamplifier, Model 08449B, S/N 3008A01323. Calibration Date: 10-21-2000, calibrated annually.

G. LISN, Compliance Worldwide, Model 50 µH / 50 ohm, S/N 100. Calibration Date 2-22-2000, calibrated annually.

2. FREQUENCY RANGE TO BE SCANNED.

A. Radiated Test from 30 MHz to 40 GHz (or the $10^{th}$ harmonic of the highest frequency whichever is lower).

B. Conducted Test from 450 kHz to 30 MHz.

3. TEST PROCEDURES.

**Radiated test procedure:**

The EUT, associated cables and peripheral devices are placed on the supporting table and any support equipment is placed off the site. The EUT is turned on and any necessary operating or test software installed and allowed to warm up. The frequency band from 30 MHz to 40 GHz is scanned. When an emission is found the emission is maximized by varying the bundle position of the connecting cables, the antenna height, the antenna polarization (vertical and horizontal) and the table orientation (360 degrees). The maximum reading is recorded and the next signal is searched for.

**Conducted test procedure:**

The power line of the EUT is connected to the LISN (Line Impedance Stabilization Network). A measurement of the emissions are made from the power line for both phase and neutral on the analyzer in the frequency range from 450 kHz to 30 MHz. The maximum readings are recorded for each phase.

All measurements are made according to the procedures defined in: "ANSI C63.4-1992 Standard Methods of Measurement of Radio Noise Emissions from Low-Voltage Electrical and Electronics Equipment in the Range of 9 kHz to 40 GHz, American National Standard (ISBN 1-55937-215-5).

## RSS 210 TEST LIMITS

1. RSS 210 Section 6.2.2, Table 3 Radiation Limits (Quasi-Peak):
   FCC Part 15.209, 15.235, 15.249 Radiation Limits (Quasi-Peak):

| Frequency MHz | Distance meters | Limit dBμV/m | Limit μV/m |
|---|---|---|---|
| 1.705 - 30 | 30 | 29.5* | 30* |
| 30 - 88 | 3 | 40.0 | 100 |
| 49.82 - 49.90 | 3 | 80.0* | 10,000* |
| 88 - 216 | 3 | 43.5 | 150 |
| 216 - 960 | 3 | 46.0 | 200 |
| 902 - 928 | 3 | 94.0* | 50,000* |
| 960 - 1000 | 3 | 54.0 | 500 |
| 1000 - 40000 | 3 | 54.0* | 500* |

*NOTE: Average Limits

2. RSS 210 Section 6.6a Conduction Limits (Quasi-Peak):
   FCC Part 15.207 Conduction Limits (Quasi-Peak)

| Frequency MHz | Limit dBμV/m | Limit μV/m |
|---|---|---|
| 0.450 - 30.0 | 48.0 | 250 |

# TEST FACILITY DESCRIPTION

Compliance Worldwide is located on 357 Main Street in Sandown, New Hampshire. The conducted and radiated test sites, located at C.W. are used for Federal Communications Commission (FCC) testing and Industry Canada Testing. A site description is on file with the FCC in Columbia, MD USA. Site information is also on file with Industry Canada, anyone wishing to review this Test Facility Description is referred to file number **IC 3023**. This is currently on file at Industry Canada, 1241 Clyde Avenue, Ottawa, ON K2C 1Y3.

The radiated site is a 3/10 meter indoor site with an enclosure for the product and a basement for the personnel, support equipment and test equipment.

The conducted site is part of a 16' x 20' x 12' ferrite tile chamber and uses one of the walls for the vertical metal wall required by EN 55022.

Both sites are designed to test products or systems 1.5 meter x 1.0 meter, floor standing or table top.

**DATE ON FILE FCC: August 10, 2000**

**DATE ON FILE IC: August 11, 2000**

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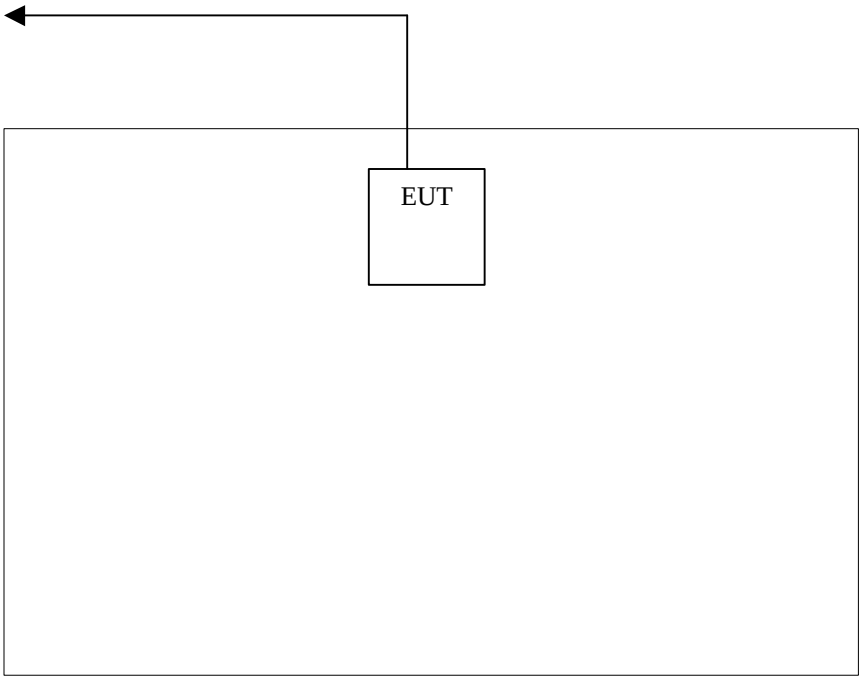
**TEST SET UP**
**AND**
**PERIPHERAL CONNECTION INFORMATION**

To 120 VAC via 9 VDC Transformer





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PLEASE NOTE - EUT (equipment under test) is Sound N Sight TV Monitor Transmitter.

The cables directly connected to this equipment are listed below. Please see below for a complete list of FCC ID's etc. on the supporting equipment.

Connection Descriptions

1. Power Cable

(description)

EUT

(from device)

120 VAC via 9VDC Transformer

(to device)

CABLE LENGTH 1.8 Meters (S) SHIELDED or (U) UNSHIELDED __U__


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## RADIATED TEST RESULTS

| | |
|---|---|
| Frequency Range: | 30 - 9280 MHz. |
| Measurement Distance: | 3.0 Meters. |
| Bandwidth: | 120 kHz, Per ANSI C63.4-1992.* |
| Detector Functions: | Peak, Quasi Peak, Average |
| Video Filter: | 300 kHz |
| Table Height: | 0.8 meters |
| Antenna Height Variation: | 1 - 4 Meters. |

Horizontal and Vertical Polarization Measurements Taken Worst Case Reported.

*Measurement Bandwidth is 1 MHz above 1 GHz

**PLEASE SEE NEXT PAGE FOR RADIATED TEST DATA**

All Data includes corrections for Antenna Factor, Preamplifier Gain and Cable Loss


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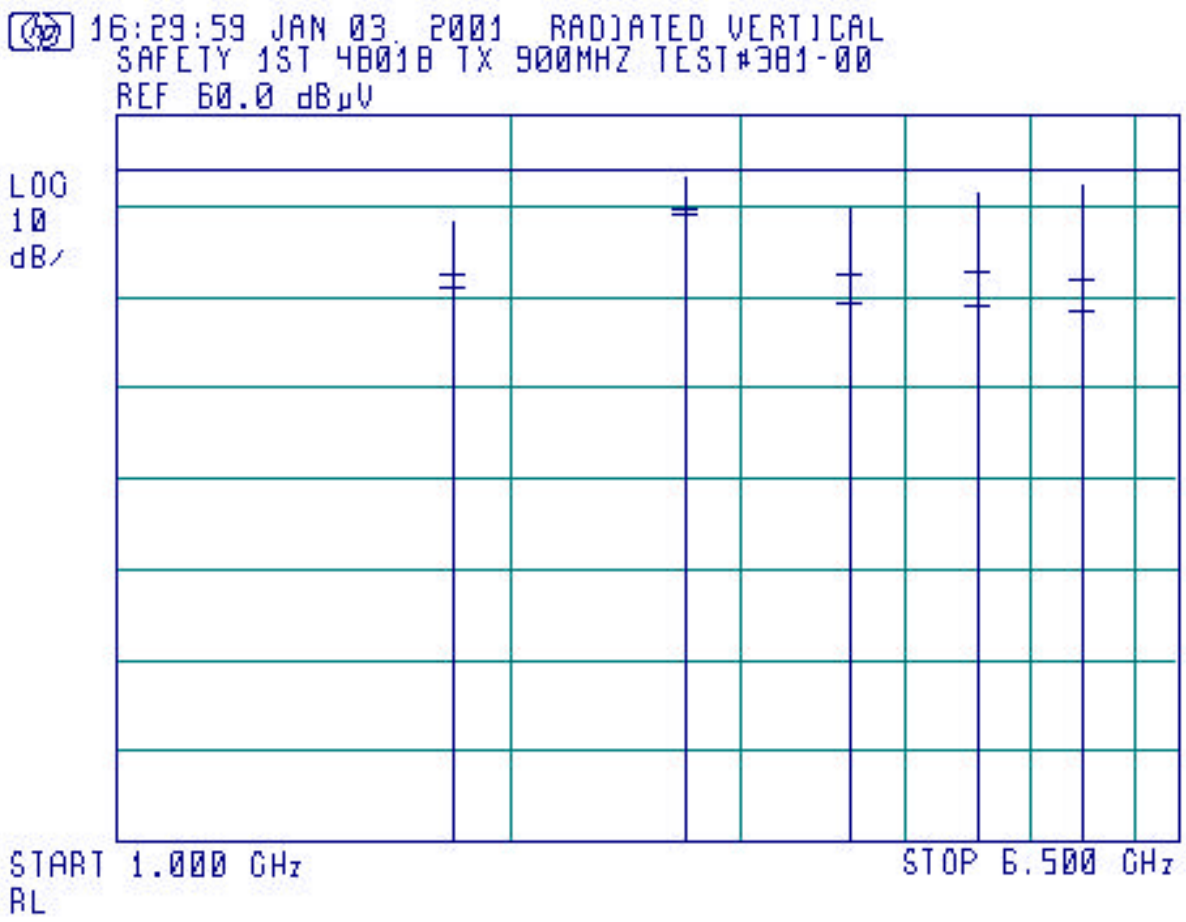
**Radiated Vertical @ 3 Meters Data Log Plot**





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**Radiated Vertical @ 3 Meters Tabular Data**

| Freq (MHz) | Azimuth (Degrees) | Antenna Height (meters) | Peak Amp (dBuV/m) | Avg Amp (dBuV/m) | Avg Limit (dBuV/m) | Avg Margin (dB) |
|---|---|---|---|---|---|---|
| 1,817.420000 | 90 | 1.2 | 48.34 | 41.19 | 54.00 | -12.81 |
| 2,726.090833 | 315 | 1.3 | 53.12 | 50.70 | 54.00 | -3.30 |
| 3,634.540000 | 225 | 2.5 | 50.16 | 39.56 | 54.00 | -14.44 |
| 4,543.470000 | 270 | 1.6 | 51.60 | 39.31 | 54.00 | -14.69 |
| 5,452.785000 | 225 | 1.0 | 52.45 | 38.89 | 54.00 | -15.11 |


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## RADIATED OUTPUT POWER TEST RESULTS

| | |
|---|---|
| Frequency Range: | 902 - 928 MHz. |
| Measurement Distance: | 3.0 Meters. |
| Bandwidth: | As Noted, Per ANSI C63.4-1992. |
| Detector Functions: | Peak, Quasi Peak, Average. |
| Video Filter: | 300 kHz |
| Table Height: | 0.8 meters |
| Antenna Height Variation: | 1 - 4 Meters. |

Horizontal and Vertical Polarization Measurements Taken, Worst Case Reported.

**PLEASE SEE NEXT PAGE(S) FOR OUTPUT POWER RADIATED TEST DATA**

All Data includes corrections for Antenna Factor, Preamplifier Gain and Cable Loss

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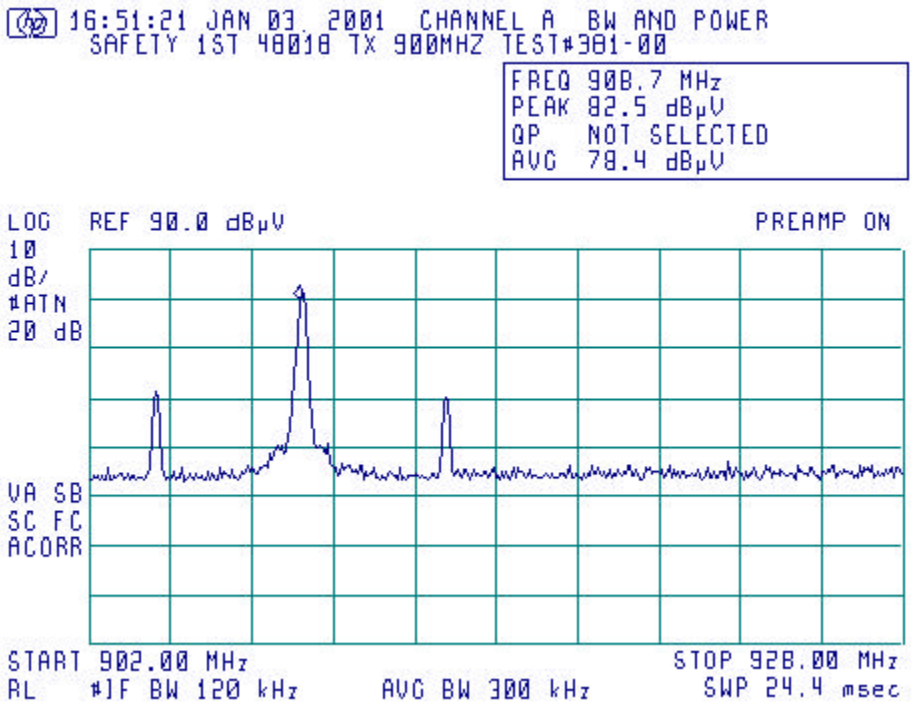
## Channel A Output Power




| Freq (MHz) | Polarization (H/V) | Azimuth (Degrees) | Antenna Height (meters) | Peak Amp (dBuV/m) | Avg Amp (dBuV/m) | Avg Limit (dBuV/m) | Avg Margin (dB) |
|---|---|---|---|---|---|---|---|
| 908.7 | V | 45 | 1.0 | 82.5 | 78.4 | 94.0 | -15.6 |

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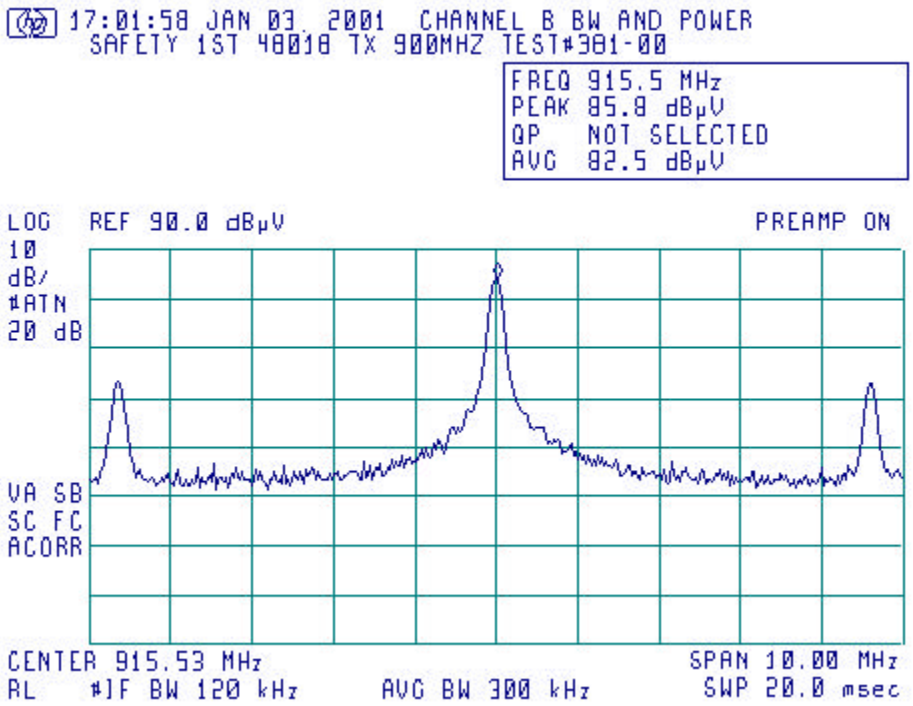
**Channel B Output Power**




| Freq (MHz) | Polarization (H/V) | Azimuth (Degrees) | Antenna Height (meters) | Peak Amp (dBuV/m) | Avg Amp (dBuV/m) | Avg Limit (dBuV/m) | Avg Margin (dB) |
|---|---|---|---|---|---|---|---|
| 915.5 | V | 180 | 1.0 | 85.8 | 82.5 | 94.0 | -11.5 |

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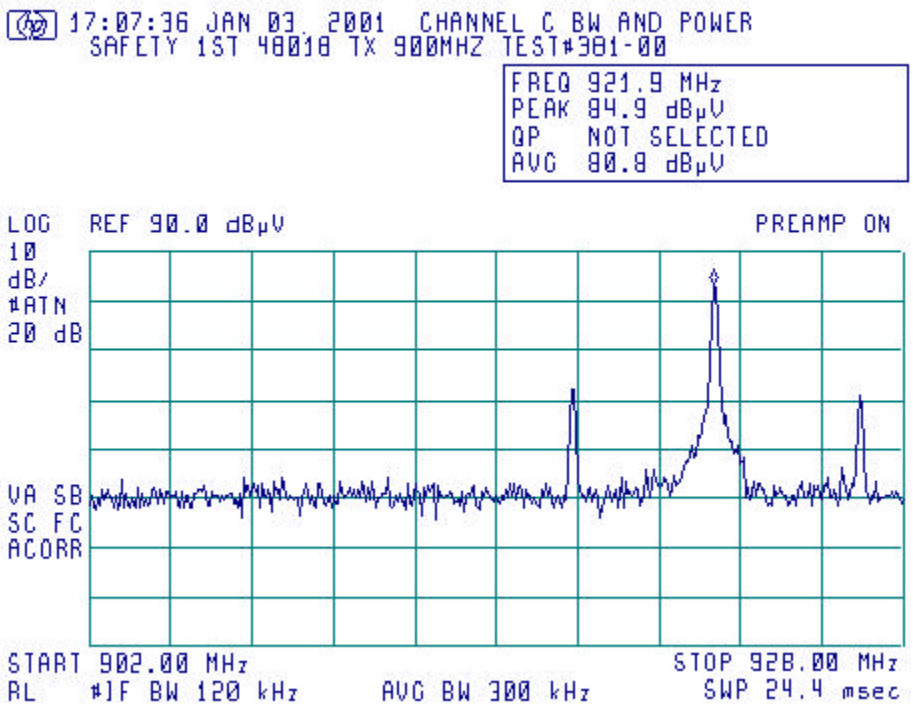
**Channel C Output Power**




| Freq (MHz) | Polarization (H/V) | Azimuth (Degrees) | Antenna Height (meters) | Peak Amp (dBuV/m) | Avg Amp (dBuV/m) | Avg Limit (dBuV/m) | Avg Margin (dB) |
|---|---|---|---|---|---|---|---|
| 921.9 | V | 165 | 1.1 | 84.9 | 80.8 | 94.0 | -13.2 |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## CONDUCTED TEST RESULTS

| | |
|---|---|
| Frequency Range: | 450 kHz to 30.0 MHz. |
| Bandwidth: | 9 kHz per ANSI C63.4-1992. |
| Detector Functions: | Peak, Quasi-Peak, Average |
| Table Height: | 0.8 meters |
| Video Bandwidth: | 30 kHz. |

Phase and Neutral Measurements Taken.

**PLEASE SEE NEXT PAGE FOR CONDUCTED TEST DATA**

All Data includes corrections for LISN insertion Loss and Cable Loss.

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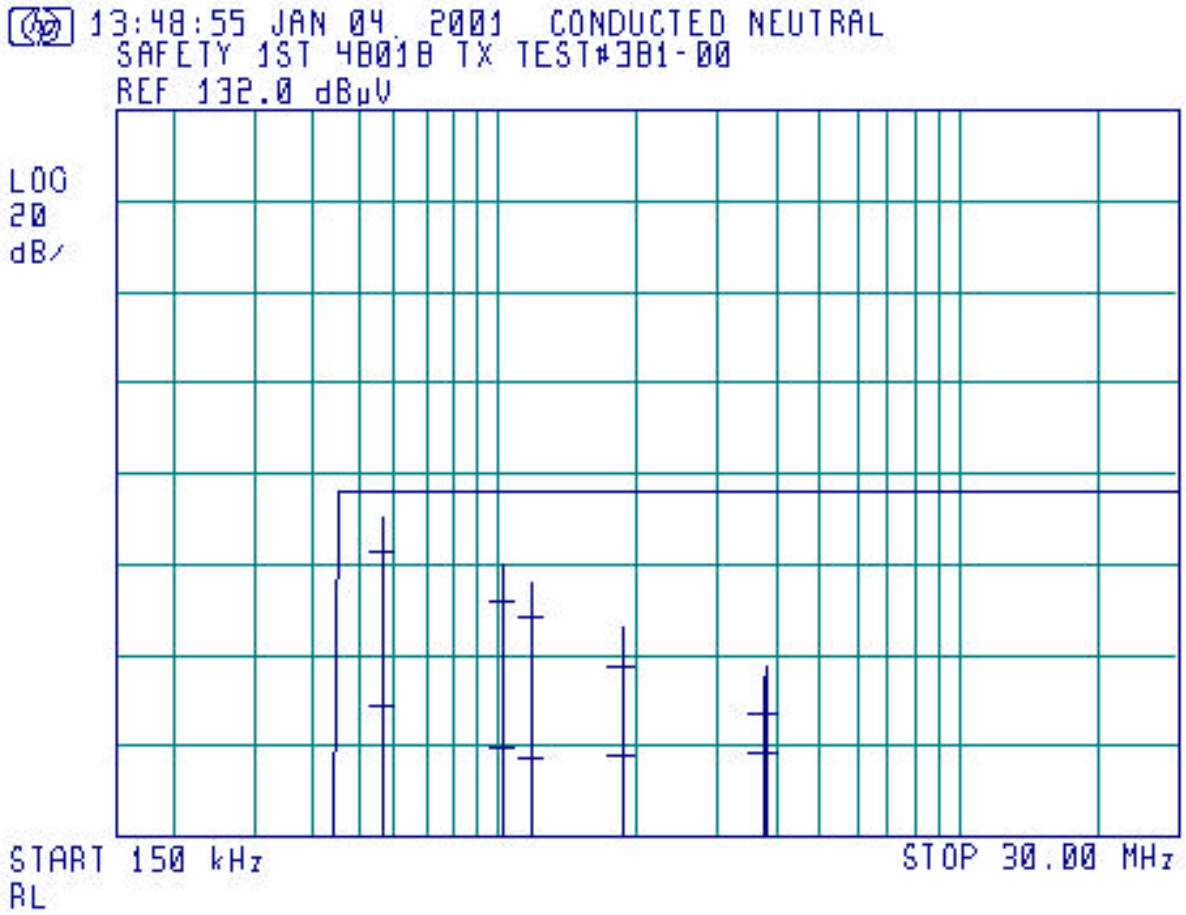
**Conducted 120V 60Hz Neutral Data Log Plot**





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**Conducted 120V 60Hz Neutral Tabular Data**

| Freq (MHz) | Peak Amp (dBuV) | QP Amp (dBuV) | Avg Amp (dBuV) | QP Limit (dBuV) | QP Margin (dB) |
|---|---|---|---|---|---|
| 0.567356 | 42.47 | 34.92 | 1.23 | 48.00 | -13.08 |
| 1.022479 | 32.22 | 24.40 | -8.28 | 48.00 | -23.60 |
| 1.181624 | 28.50 | 20.60 | -10.74 | 48.00 | -27.40 |
| 1.848149 | 18.55 | 10.22 | -9.75 | 48.00 | -37.78 |
| 3.752895 | 7.53 | -0.31 | -9.23 | 48.00 | -48.31 |
| 3.774748 | 9.78 | 0.04 | -8.74 | 48.00 | -47.96 |


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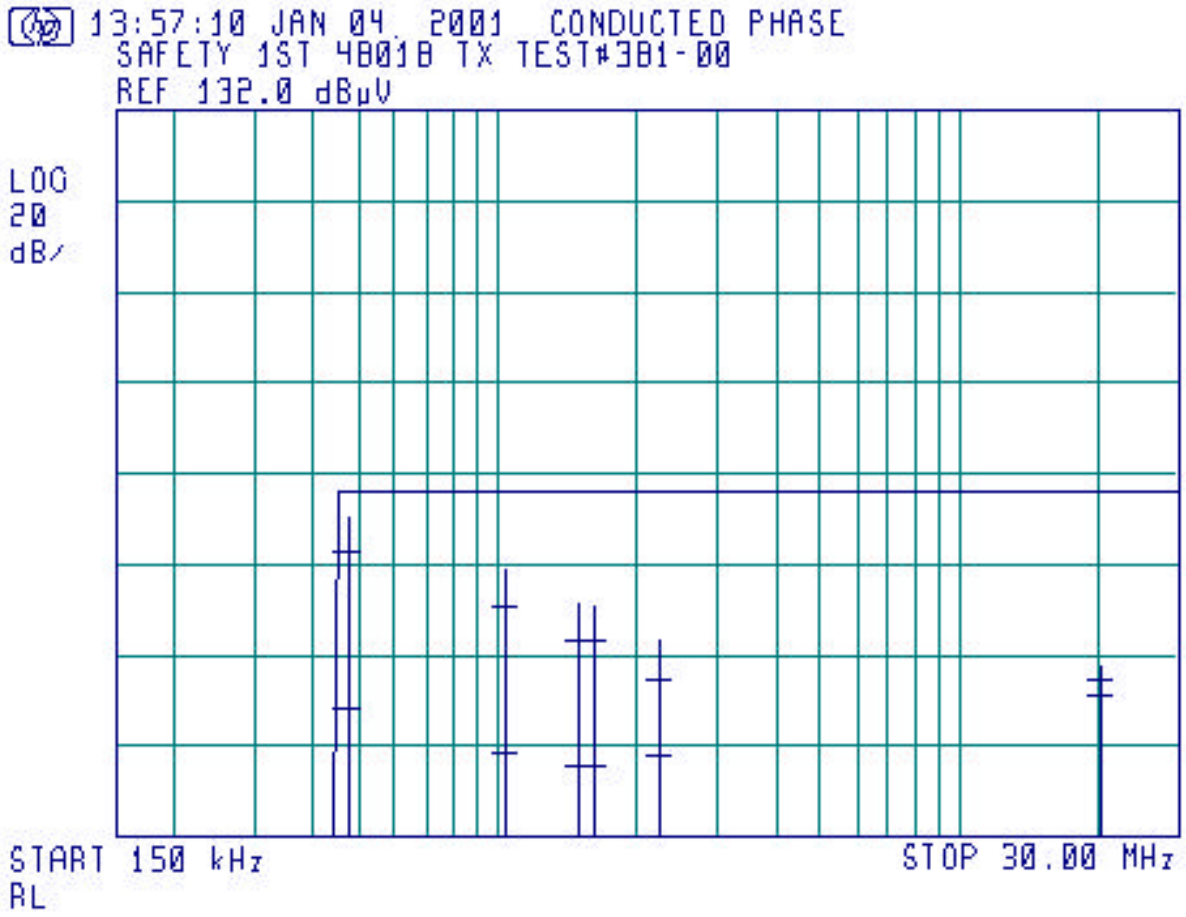
**Conducted 120V 60Hz Phase Data Log Plot**





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**Conducted 120V 60Hz Phase Tabular Data**

| Freq (MHz) | Peak Amp (dBuV) | QP Amp (dBuV) | Avg Amp (dBuV) | QP Limit (dBuV) | QP Margin (dB) |
|---|---|---|---|---|---|
| 0.474924 | 42.31 | 34.59 | 0.68 | 48.00 | -13.41 |
| 1.035131 | 31.04 | 23.22 | -8.82 | 48.00 | -24.78 |
| 1.509437 | 23.63 | 15.65 | -12.03 | 48.00 | -32.35 |
| 1.513157 | 23.85 | 15.58 | -12.00 | 48.00 | -32.42 |
| 1.628941 | 23.00 | 14.95 | -11.62 | 48.00 | -33.05 |
| 2.232808 | 14.95 | 6.62 | -9.65 | 48.00 | -41.38 |
| 20.000808 | 9.86 | 6.70 | 3.40 | 48.00 | -41.30 |

## NOTES AND COMMENTS

(Special conditions unique to this test)

None.


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