

TEST NUMBER - 245-03

TEST REPORT TO

INDUSTRY CANADA RSS 210 SECTION  
FEDERAL COMMUNICATIONS COMMISSION CFR47 PART15.235

Low Power License-Exempt Radio communication Devices  
Intentional Radiators

for

Summer Infant Products  
6 Blackstone Valley Place  
Lincoln, RI 02865  
(401) 334 9966

of

49 MHz Baby's Quiet Sounds Clearview Tower Monitor

02070

FCC ID: PZK-02070T

on

8/7/2003

Tested by

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Clifton P. Brick

Reviewed by

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Larry K. Stillings

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TEST DESCRIPTION

1. TEST OBJECTIVE

To test the 49 MHz Baby's Quiet Sounds Clearview Tower Monitor Tx to RSS 210 / Part 15 Subpart C Rules and write a report.

2. E.U.T. DESCRIPTION

GENERAL

The 49 MHz Baby's Quiet Sounds Clearview Tower Monitor Tx is an audio Baby Monitor system Transmitter.

SERIAL NUMBERS:

production prototype

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### TEST RESULTS AND CONCLUSIONS

PRODUCT TESTED - 49 MHz Baby's Quiet Sounds Clearview Tower Monitor

MODEL NUMBER - 02070 Tx

#### 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)

None

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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 12-26-2002, calibrated annually.
- B. Com-Power Biconilog Antenna, Model AC220, S/N 25509. Calibration Date 3-11-2003, calibrated annually.
- C. EMCO LISN, Model EM 3825/2, S/N 9109-1860. Calibration Date: 3-9-2003, calibrated annually.

### 2. FREQUENCY RANGE TO BE SCANNED.

- A. Radiated Test from 30 MHz to 40 GHz (or the 10<sup>th</sup> harmonic of the highest frequency whichever is lower).
- B. Conducted Test from 150 kHz to 30 MHz.

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### 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 EUT is pre-scanned in our ferrite tile lined chamber where it is rotated 360 degrees and examined in both horizontal and vertical polarization, all emission frequencies are identified and recorded. The EUT is then moved to the OATS and the frequency band from 30 MHz to 40 GHz is scanned, all frequencies identified in the chamber are investigated, as well as harmonic frequencies of the EUT. 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 150 kHz to 30 MHz. The maximum readings are recorded for each phase.

#### **NOTE:**

All measurements are made according to the procedures defined in:  
"ANSI C63.4-2001 American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"

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**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. FCC Part 15.207 Conduction Limits (Quasi-Peak)

Frequency MHz	Quasi-Peak Limit dBµV	Average Limit dBµV
0.150 - 0.500	66 to 56	56 to 46
0.500 - 5.0	56	46
5.0 - 30.0	60	50

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### 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.

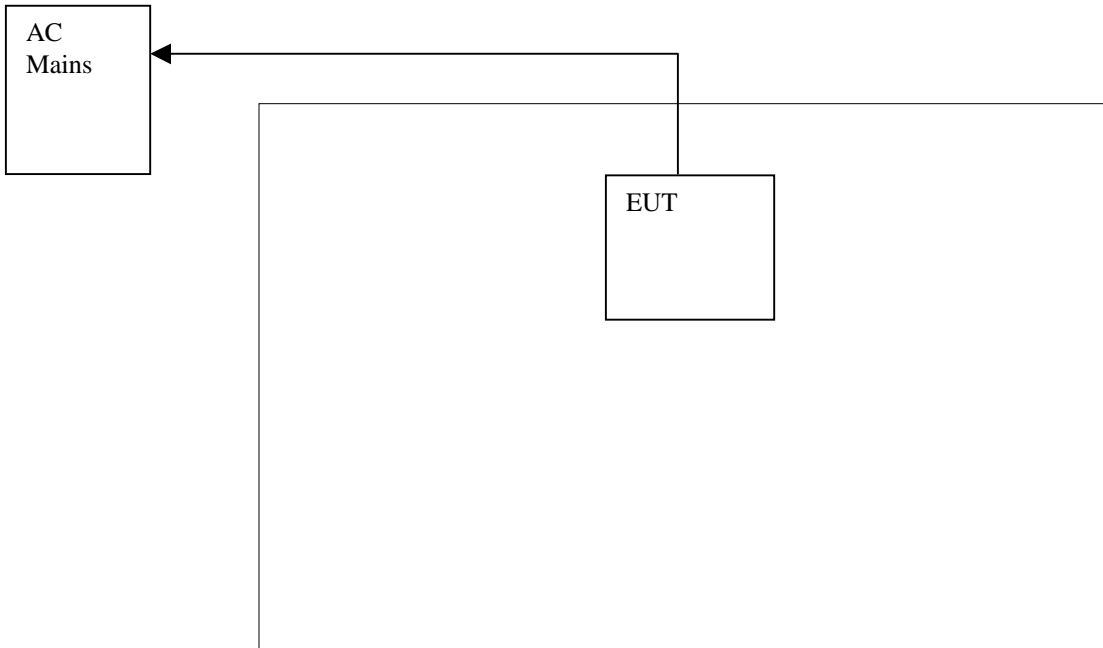
**DATE ON FILE FCC: August 10, 2000/ August 13, 2003**

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



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TEST SET UP  
AND  
PERIPHERAL CONNECTION INFORMATION



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PLEASE NOTE - EUT (equipment under test) is 49 MHz Baby's Quiet Sounds Clearview Tower Monitor

The cables directly connected to this equipment are listed below.

Connection Descriptions

1. Power Cord with Class 2 transformer.  
(description)

EUT  
(from device)

AC Mains via 9VDC 200mA transformer  
(to device)

CABLE LENGTH 13' (S) SHIELDED or (U) UNSHIELDED U

2. N/A  
(description)

(from device)

(to device)

CABLE LENGTH  (S) SHIELDED or (U) UNSHIELDED

3. N/A  
(description)

(from device)

(to device)

CABLE LENGTH  (S) SHIELDED or (U) UNSHIELDED

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### RADIATED TEST RESULTS

Frequency Range: 30 - 1000 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.

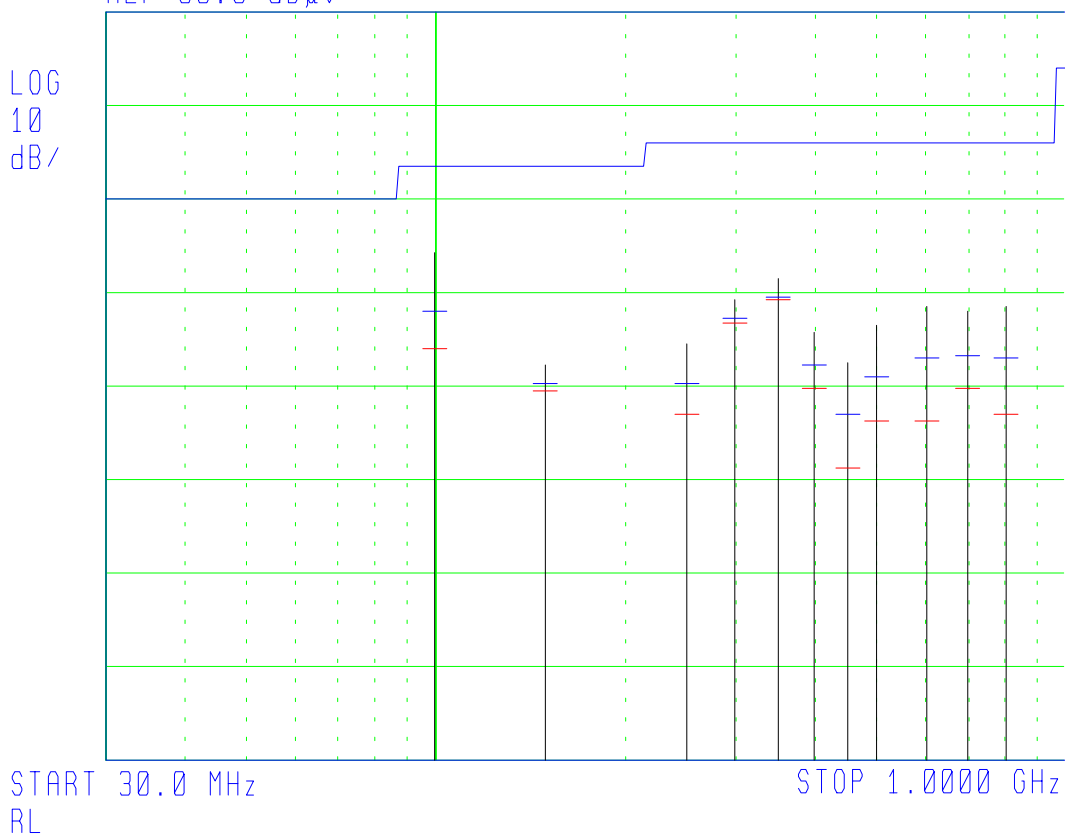
\*Measurement Bandwidth is 1 MHz above 1 GHz

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

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Worst Case Spurious Data Log Plot

(hp) 17:46:36 AUG 07, 2003 SPURIOUS EMISSIONS  
TEST#245-03 SUMMER INFANT NIGHTLIGHT 49 MHZ  
REF 60.0 dB $\mu$ V



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**Worst Case Spurious Tabular Data**

Freq (MHz)	Polarization (H/V)	Azimuth (Degrees)	Antenna Height (Meters)	Peak Amp (dBuV)	QP Amp (dBuV)	QP Limit (dBuV)	QP Margin (dB)
99.71593	H	264	2.6	34.40	28.33	43.5	-15.17
149.5736	H	138	1.7	22.39	20.52	43.5	-22.98
249.2418	H	134	1.0	24.59	20.57	46.0	-25.43
299.1266	H	150	1.0	29.23	27.54	46.0	-18.46
348.9895	H	154	1.0	31.79	29.93	46.0	-16.07
398.8521	H	284	1.0	25.99	22.40	46.0	-23.60
448.6660	H	240	1.9	22.54	17.41	46.0	-28.59
498.5504	H	60	1.8	26.52	21.24	46.0	-24.76
598.1500	H	180	2.1	28.57	23.08	46.0	-22.92
697.9462	H	180	1.3	28.03	23.61	46.0	-22.39
797.7005	H	170	1.0	28.64	22.93	46.0	-23.07

All signals up to 1GHz were recorded if they were found within 25dB of the limit. Horizontal and Vertical were examined, worst case is as indicated. Channel 2 was found to be worst case for spurious, data shown above reflects channel 2.

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**RADIATED OUTPUT POWER & OCCUPIED BANDWIDTH TEST RESULTS**

Frequency Range: 49.82-49.90 MHz.  
Measurement Distance: 3.0 Meters.  
Bandwidth: As Noted, Per ANSI C63.4-2001.  
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.

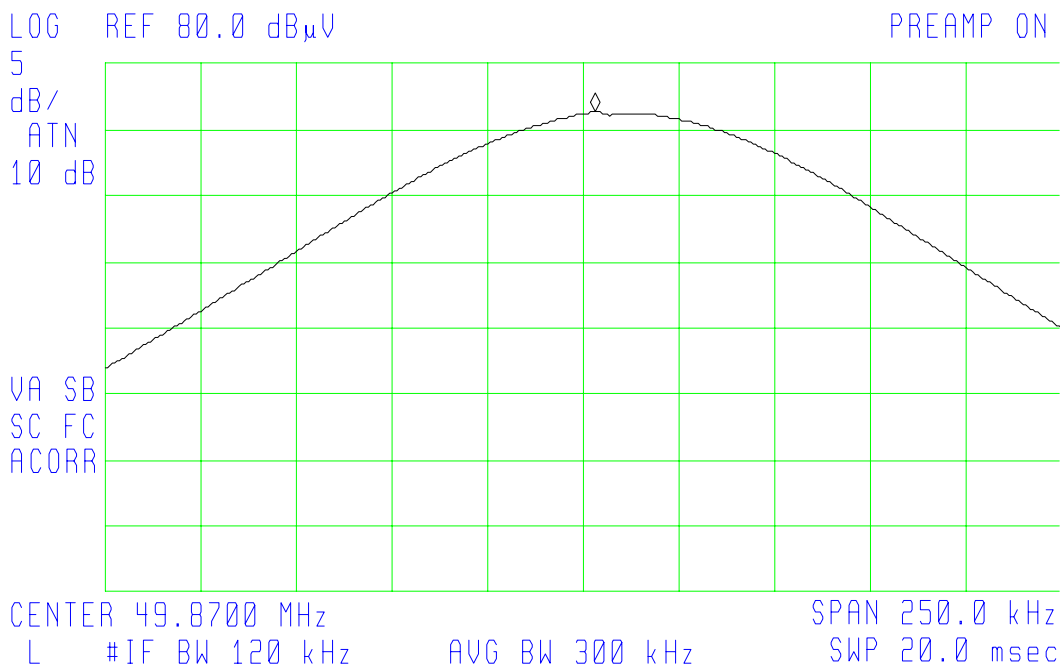
**PLEASE SEE NEXT PAGE(S) FOR OCCUPIED BANDWIDTH RADIATED TEST DATA**

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**Channel A Output Power**

(h) 17:58:12 AUG 07, 2003 CHANNEL I OUTPUT FS  
TEST#245-03 SUMMER INFANT NIGHTLIGHT 49 MHZ

FREQ	49.87 MHz
PEAK	76.6 dB $\mu$ V
QP	76.6 dB $\mu$ V
AVG	76.6 dB $\mu$ V



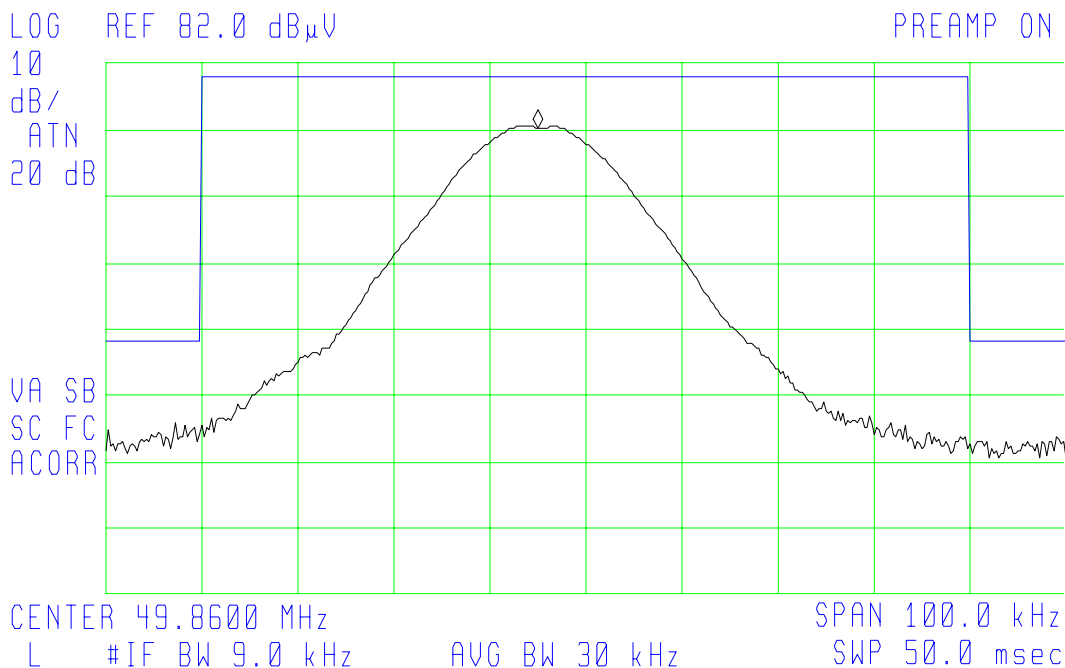
Freq (MHz)	Azimuth (Degrees)	Antenna Height (meters)	Peak Amp (dBuV/m)	Avg Amp (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)
49.870	184	1.0	76.6	76.6	80.0	-3.4

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**Channel A Occupied Bandwidth Plot**

(hp) 11:55:45 AUG 08, 2003 49.85MHZ BW PLOT  
TEST#245-03 SUMMER INFANT 49MHZ NIGHTLIGHT

ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 49.8550 MHz  
72.10 dB $\mu$ V



Display shows a mask with the top limit at 80 dBuV/m, and the band 49.82-49.90 MHz wide with the limit around the band per 15.209. An audio signal 1kHz at 100dB SPL was used and is as shown in the plot.



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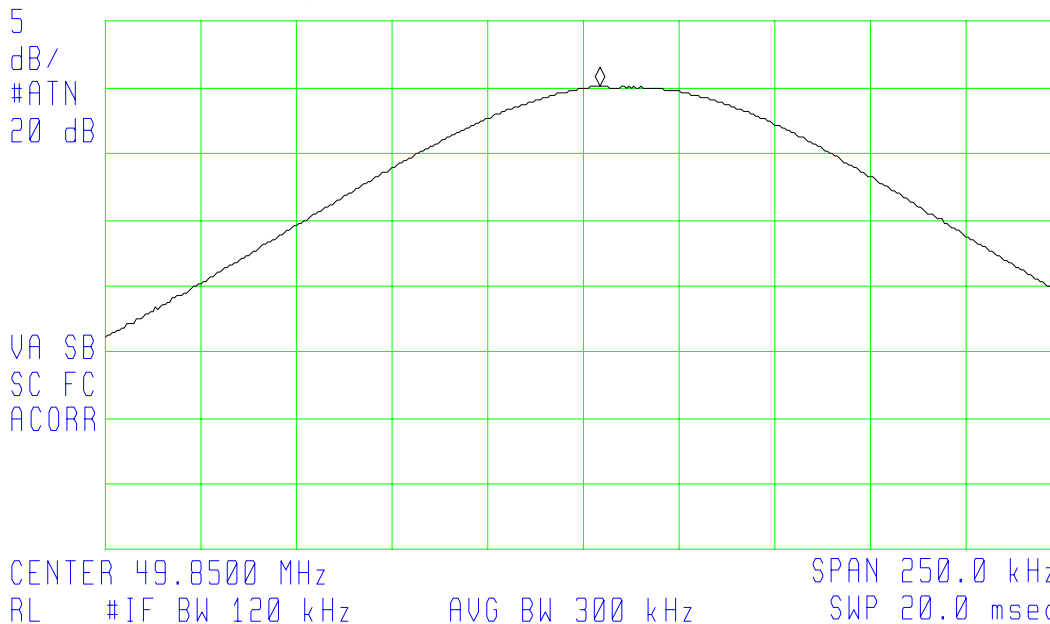
Channel B Output Power

(h) 15:45:19 AUG 07, 2003 CHANNEL II OUTPUT FS  
TEST#245-03 SUMMER INFANT NIGHTLIGHT 49 MHZ

FREQ 49.85 MHz  
PEAK 75.5 dB $\mu$ V  
QP 75.4 dB $\mu$ V  
AVG 75.4 dB $\mu$ V

LOG REF 80.0 dB $\mu$ V

PREAMP ON

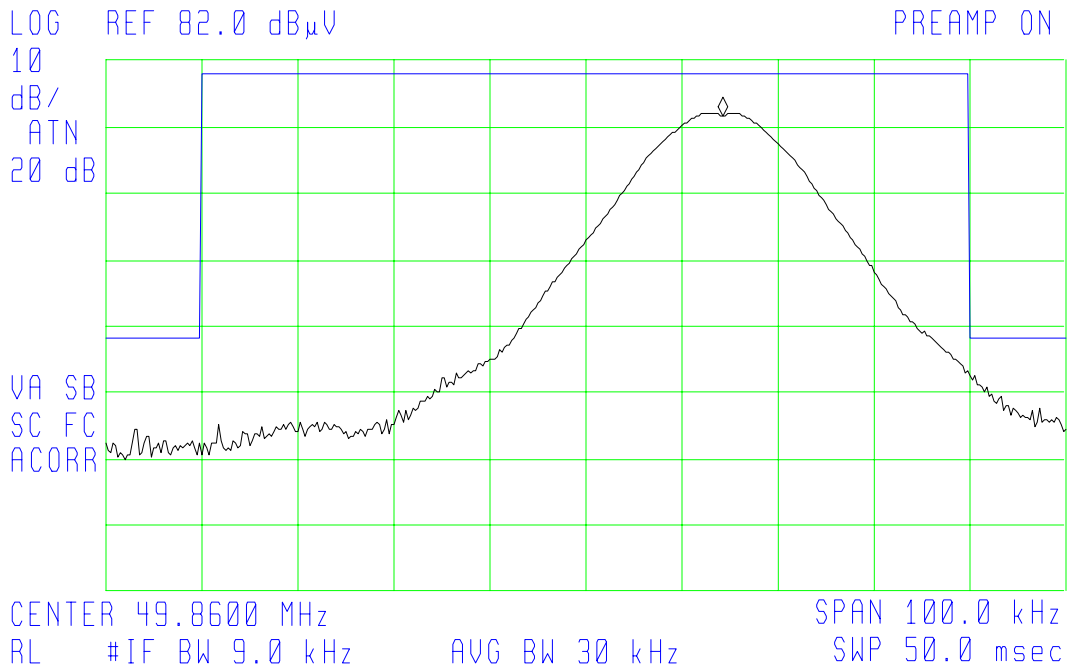


Freq (MHz)	Azimuth (Degrees)	Antenna Height (meters)	Peak Amp (dBuV/m)	Avg Amp (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)
49.850	184	1.0	75.5	75.4	80.0	-4.6

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**Channel B Occupied Bandwidth Plot**

(h) 11:49:21 AUG 08, 2003 49.87MHz BW PLOT  
TEST#245-03 SUMMER INFANT 49MHz NIGHTLIGHT  
ACTV DET: PEAK  
MEAS DET: PEAK QP AVG  
MKR 49.8743 MHz  
73.66 dB $\mu$ V



Display shows a mask with the top limit at 80 dBuV/m, and the band 49.82-49.90 MHz wide with the limit around the band per 15.209. An audio signal 1kHz at 100dB SPL was used and is as shown in the plot.

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### CONDUCTED TEST RESULTS

Frequency Range:	150 kHz to 30.0 MHz.
Bandwidth:	9 kHz per ANSI C63.4-2001.
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**

### SUMMARY:

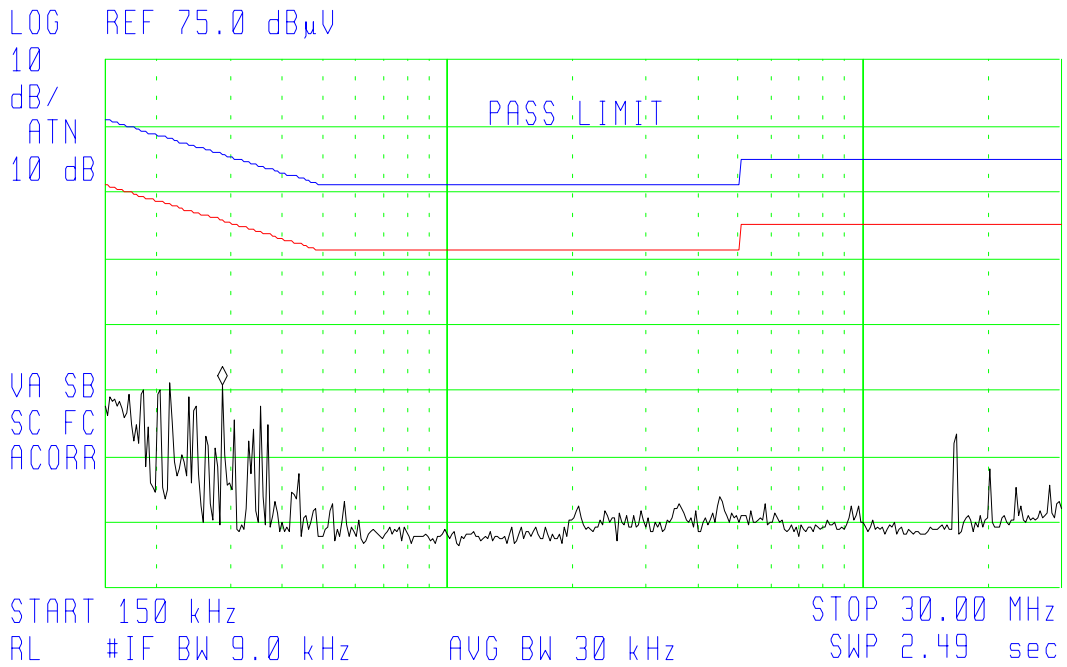
EUT was found to be greater than 20 dB below the limit in all configurations using a PEAK Detector.

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Conducted 120V 60Hz Neutral Ch.1 Data Log Plot

(7D) 14:39:50 JUL 23, 2003 CONDUCTED NEUTRAL CH1  
TEST#245-03 SUMMER INFANT 49MHZ TX NIGHTLIGHT

FREQ	288.6 kHz
PEAK	19.0 dB $\mu$ V
QP	4.3 dB $\mu$ V
AVG	-60.0 dB $\mu$ V

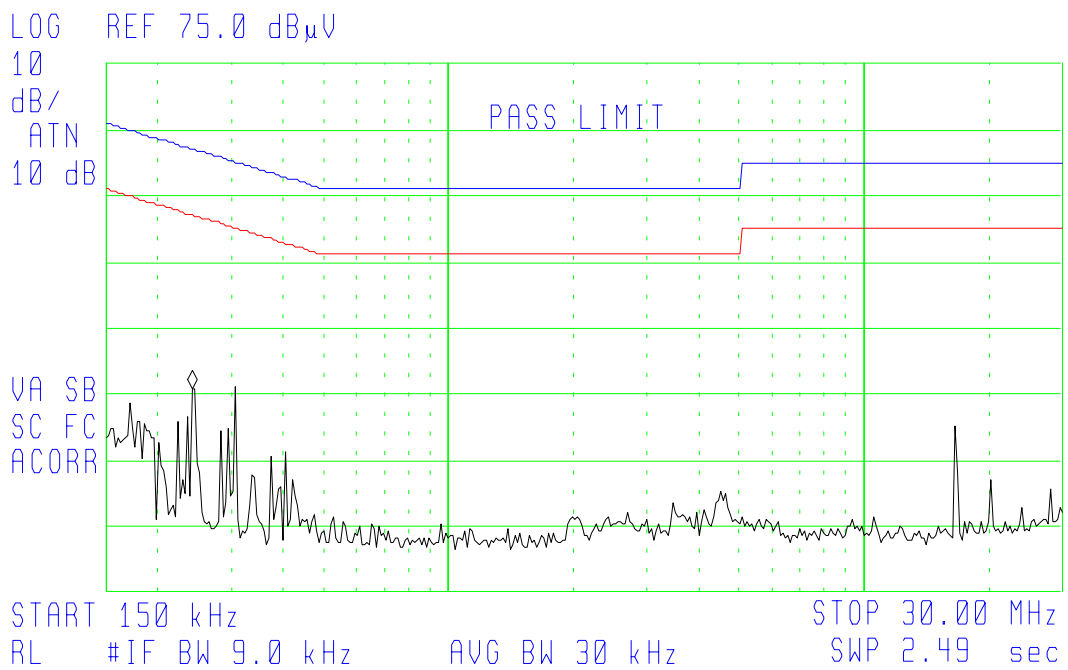


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**Conducted 120V 60Hz Neutral Ch.2 Data Log Plot**

(hp) 14:45:46 JUL 23, 2003 CONDUCTED NEUTRAL CH2  
TEST#245-03 SUMMER INFANT 49MHZ TX NIGHTLIGHT

FREQ	242.0 kHz
PEAK	26.1 dB $\mu$ V
QP	9.3 dB $\mu$ V
AVG	-3.0 dB $\mu$ V



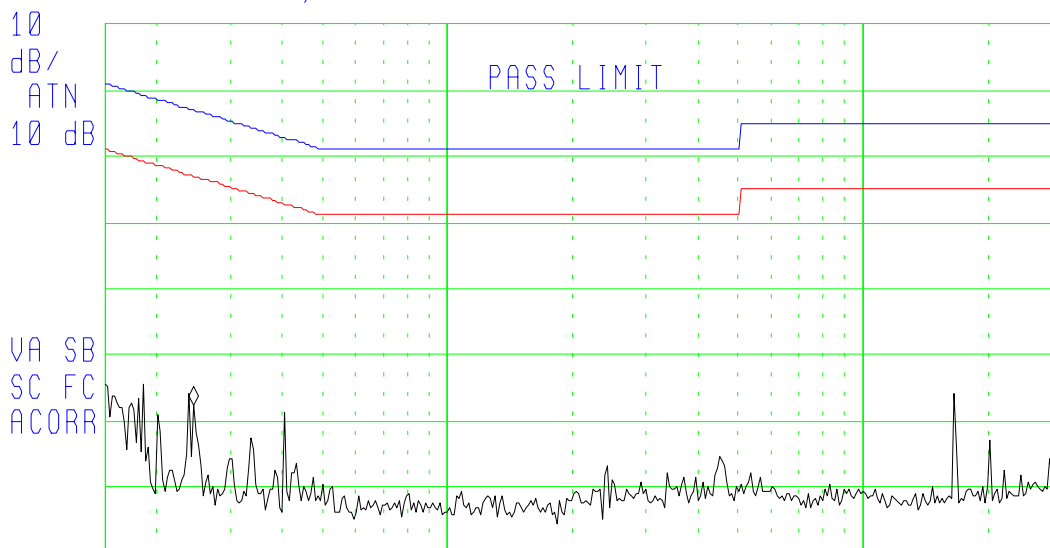
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Conducted 120V 60Hz Phase Ch.1 Data Log Plot

(h) 14:49:15 JUL 23, 2003 CONDUCTED LINE CH 1  
TEST#245-03 SUMMER INFANT 49MHZ TX NIGHTLIGHT

FREQ 246.3 kHz  
PEAK 19.7 dB $\mu$ V  
QP 5.7 dB $\mu$ V  
AVG 2.1 dB $\mu$ V

LOG REF 75.0 dB $\mu$ V



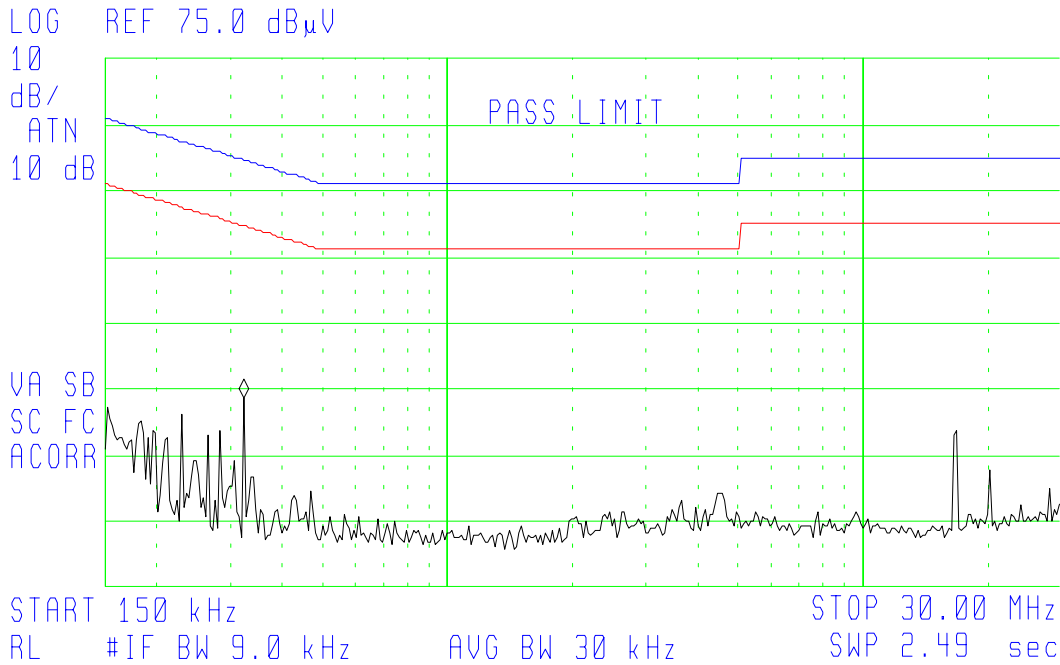
START 150 kHz STOP 30.00 MHz  
RL #IF BW 9.0 kHz AVG BW 30 kHz SWP 2.49 sec

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Conducted 120V 60Hz Phase Ch.1 Data Log Plot

(hp) 14:54:17 JUL 23, 2003 CONDUCTED LINE CH 2  
TEST#245-03 SUMMER INFANT 49MHZ TX NIGHTLIGHT

FREQ 322.9 kHz  
PEAK 18.5 dB $\mu$ V  
QP -5.6 dB $\mu$ V  
AVG -16.5 dB $\mu$ V



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**NOTES AND COMMENTS**

(Special conditions unique to this test)

Please see the note on the bottom of page 6