

TEST NUMBER - 350-04

TEST REPORT TO

**INDUSTRY CANADA RSS 210 SECTION 8.6.2
FEDERAL COMMUNICATIONS COMMISSION CFR47 PART15.235**

**Low Power License-Exempt Radio communication Devices
Intentional Radiators**

for

Dorel Juvenile Group
Canton Commerce Center
45 Dan Road
Canton, MA 02021
800-909-7133

of

49MHz Baby Monitor

Model 08044

FCC ID: MNJ08044T

on

10/11/04

Tested by

Andrew Mertinooke

Reviewed by

Clifton P. Brick

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TEST DESCRIPTION

1. TEST OBJECTIVE

To test the 49MHz Baby Monitor 08044 to RSS 210 / Part 15 Subpart C Rules and write a report.

2. E.U.T. DESCRIPTION

GENERAL

The 49MHz Baby Monitor 08044 is a 49 MHz band 2 channel baby monitor.

SERIAL NUMBERS:

Production Prototype

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TEST RESULTS AND CONCLUSIONS

PRODUCT TESTED - 49MHz Baby Monitor

MODEL NUMBER - 08044

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 1-16-2004, calibrated annually.
- B. Com-Power Biconilog Antenna, Model AC220, S/N 25509. Calibration Date 7-16-2004, calibrated annually.
- C. EMC0 LISN, Model EM 3825/2, S/N 9109-1860. Calibration Date: 3-10-2004, calibrated annually.

2. FREQUENCY RANGE TO BE SCANNED.

- A. Radiated Test from 30 MHz to 40 GHz (or the 10th 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.

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 for (ISBN 1-55937-215-5).

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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 dB μ V/m	Limit μ V/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	Quasi-Peak Limit dB μ V	Average Limit dB μ V
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.

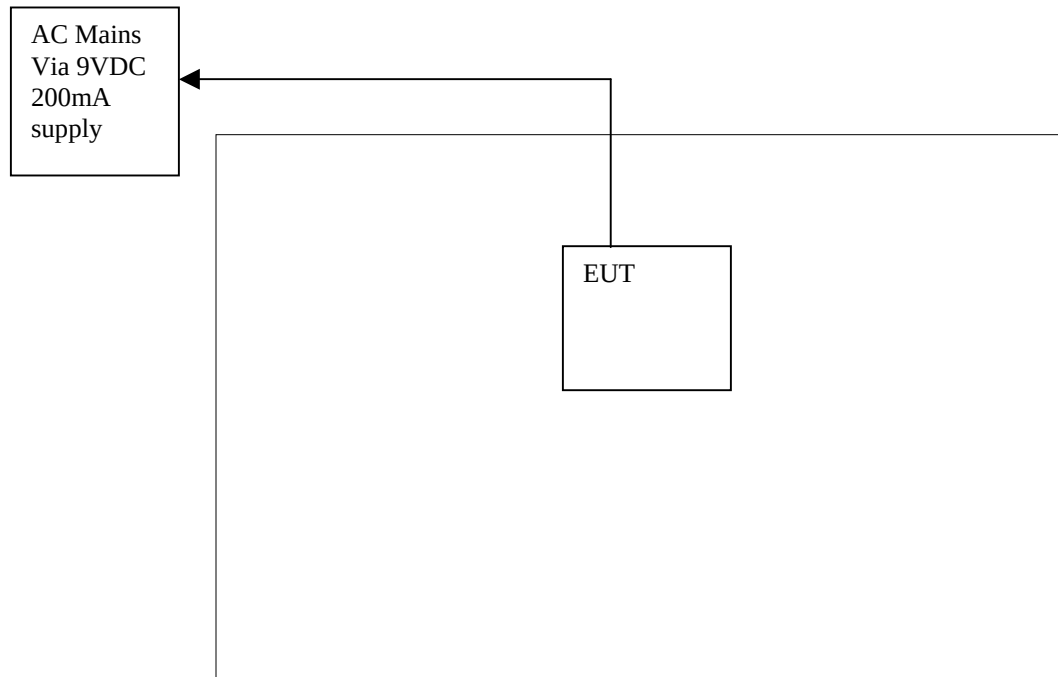
The radiated site is a 3/10 meter indoor site with an enclosure for the product and a basement for the personnel, support equipment and test equipment.

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.

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**TEST SET UP
AND
PERIPHERAL CONNECTION INFORMATION**



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PLEASE NOTE - EUT (equipment under test) is 49MHz Baby Monitor.
The cables directly connected to this equipment are listed below.

Connection Descriptions

1. Power Cable _____
(description)
EUT _____
(from device)
AC Mains Via Class 2 power supply block _____
(to device)
CABLE LENGTH 2m (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

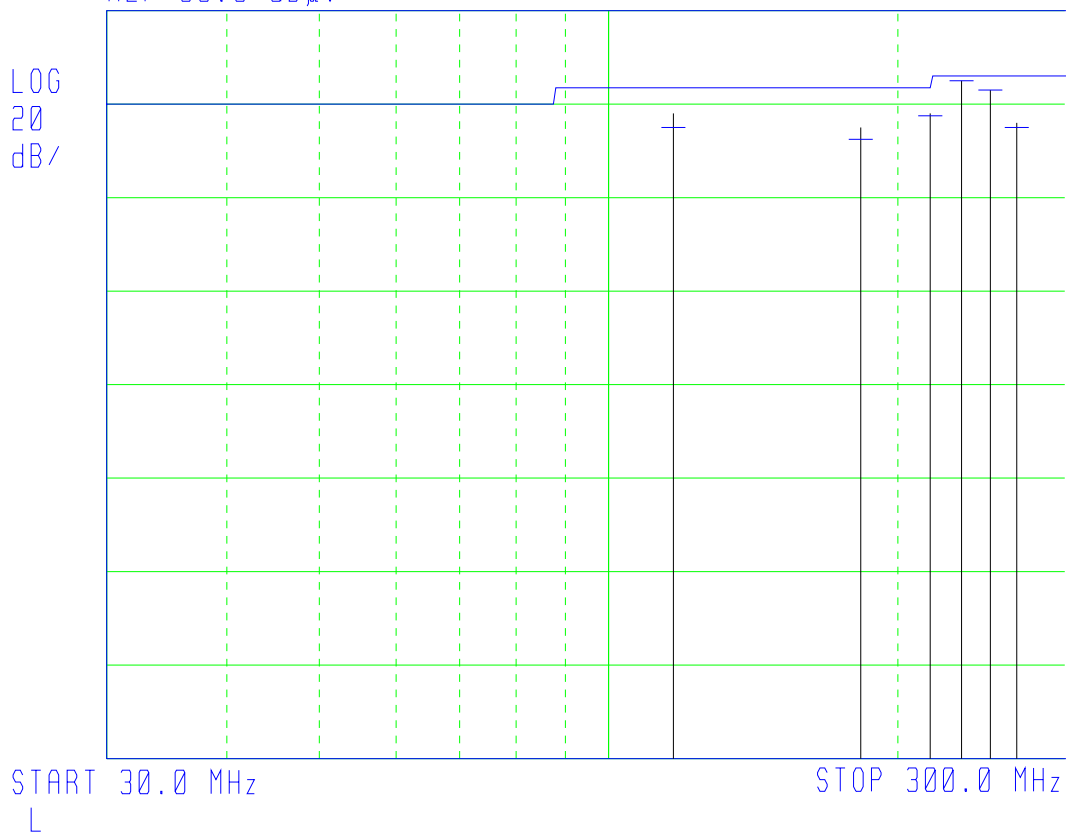
PLEASE SEE NEXT PAGE FOR RADIATED TEST DATA

All Harmonics of the 16 MHz crystal, including harmonics of the 49MHz fundamental were examined, all signals greater than 26dBuV/m were recorded.

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Radiated Horizontal channel A Data Log Plot

14:39:58 13 OCT 2004 RADIATED HORIZONTAL CHA
350-04 SAFETY 1ST08044 TRANSMITTER
REF 60.0 dB μ V



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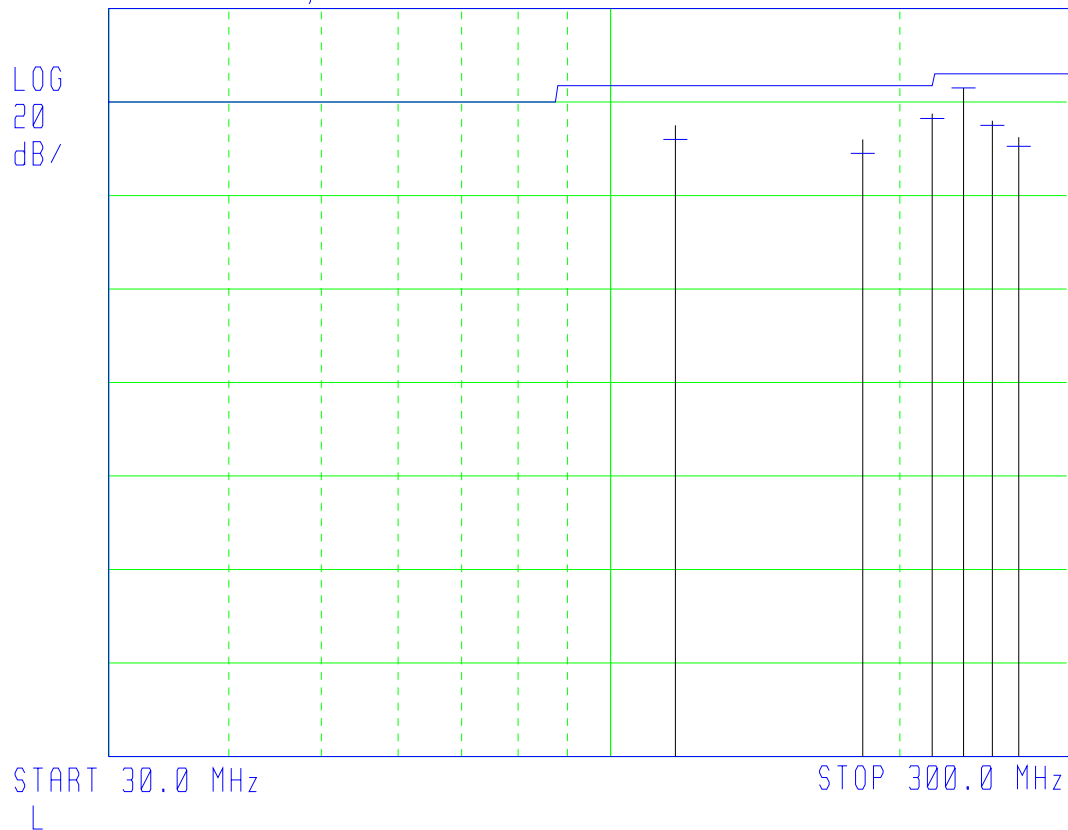
Radiated Horizontal Channel A Tabular Data

Freq (MHz)	Peak Amp (dBuV)	QP Amp (dBuV)	QP Limite1 (dBuV)	QP Margin n (dB)
116.321327	38.31	35.15	43.50	-8.35
182.788500	35.64	33.28	43.50	-10.22
216.014400	38.58	37.91	46.00	-8.09
232.622050	45.62	45.33	46.00	-0.67
249.236750	43.59	43.13	46.00	-2.87
265.867600	35.86	35.21	46.00	-10.79

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Radiated Vertical Channel A Data Log Plot

14:16:41 13 OCT 2004 RADIATED VERTICAL CHA
350-04 SAFETY 1ST08044 TRANSMITTER
REF 60.0 dBμV



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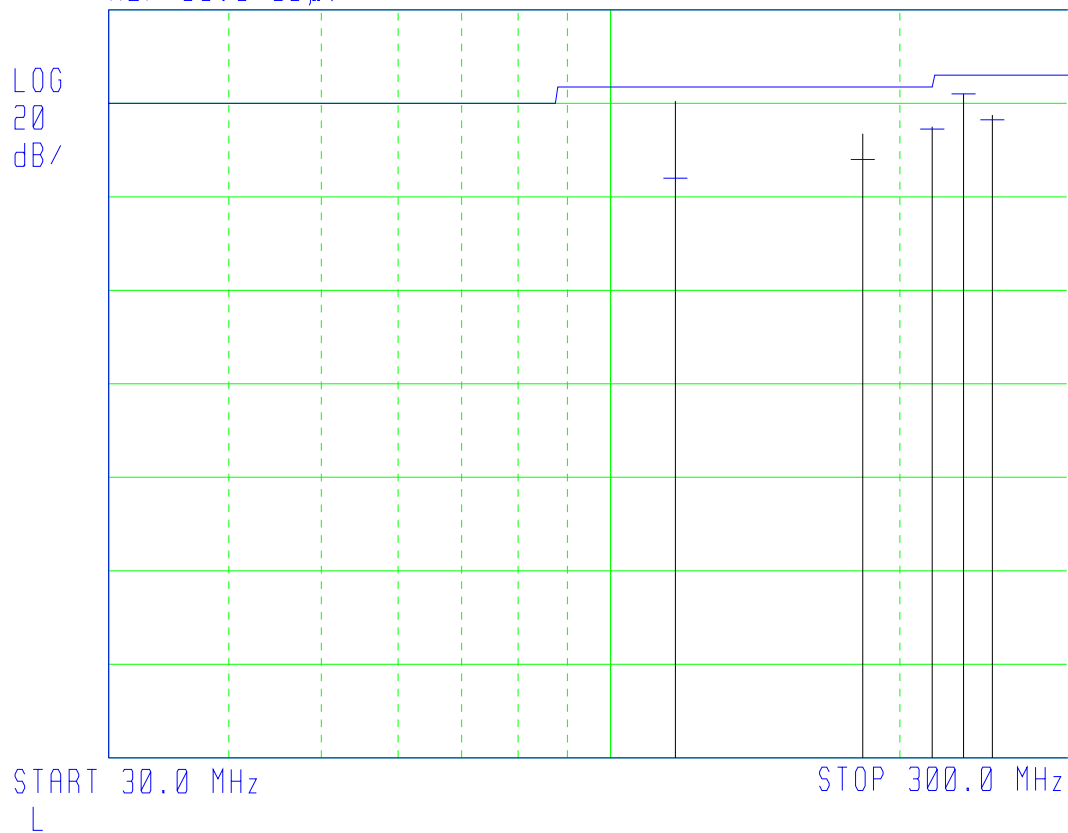
Radiated Vertical Channel A Tabular Data

Freq (MHz)	Peak Amp (dBuV)	QP Amp (dBuV)	QP Limite1 (dBuV)	QP Margin n (dB)
116.321327	35.62	32.00	43.50	-11.50
182.788500	32.64	28.80	43.50	-14.70
216.014400	38.03	37.06	46.00	-8.94
232.647700	43.37	42.88	46.00	-3.12
249.260750	36.51	35.76	46.00	-10.24
265.867600	32.81	30.69	46.00	-15.31

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Radiated Vertical Channel B Log Plot

13:55:57 13 OCT 2004 RADIATED VERTICAL CHB
350-04 SAFETY 1ST08044 TRANSMITTER
REF 60.0 dB μ V



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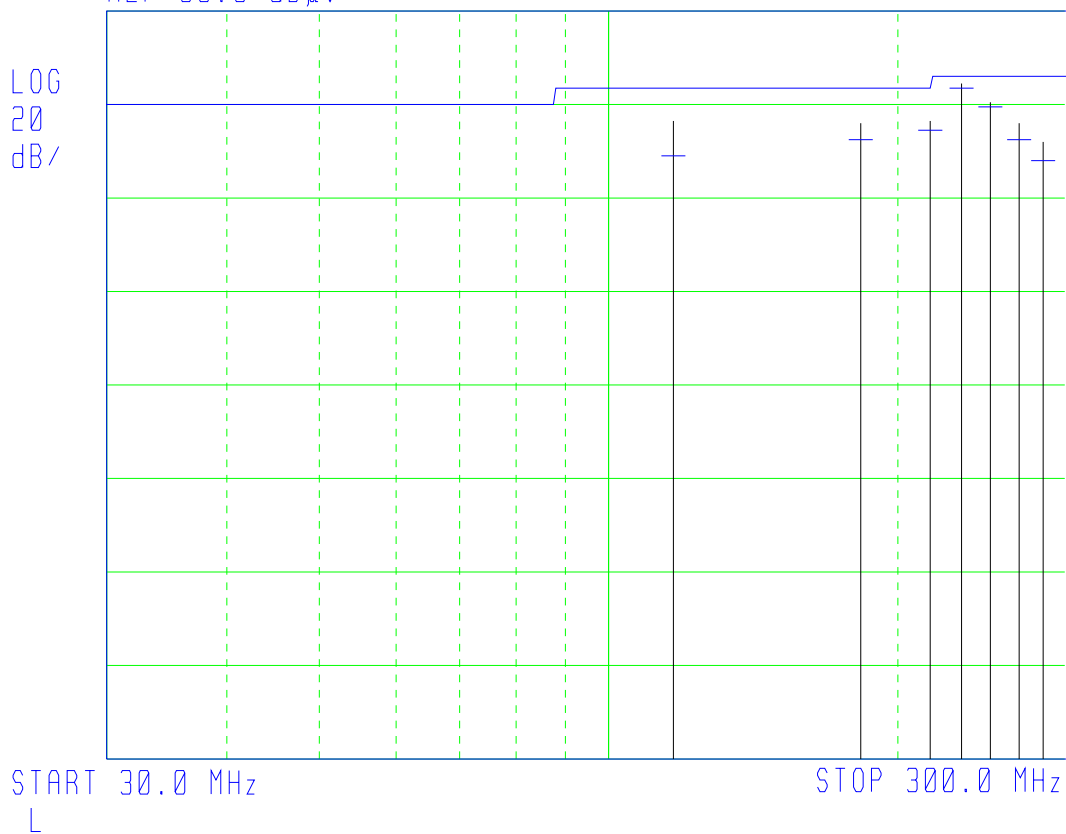
Radiated Vertical Channel B Tabular Data

Freq (MHz)	Peak Amp (dBuV)	QP Amp (dBuV)	QP Limite1 (dBuV)	QP Margin n (dB)
116.368902	41.00	24.80	43.50	-18.70
182.861450	33.88	28.64	43.50	-14.86
216.093975	35.35	34.47	46.00	-11.53
232.717100	42.82	42.37	46.00	-3.63
249.339875	37.51	36.85	46.00	-9.15

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Radiated Horizontal Channel B Log Plot

13:37:39 13 OCT 2004 RADIATED HORIZONTAL CHB
350-04 SAFETY 1ST08044 TRANSMITTER
REF 60.0 dBμV



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Radiated Horizontal Channel B Tabular Data

Freq (MHz)	Peak Amp (dBuV)	QP Amp (dBuV)	QP Limite1 (dBuV)	QP Margin n (dB)
116.379062	36.89	29.28	43.50	-14.22
182.872635	35.95	32.87	43.50	-10.63
216.119433	36.96	34.82	46.00	-11.18
232.734069	45.12	43.85	46.00	-2.15
249.363637	40.90	40.09	46.00	-5.91
265.981875	36.04	33.39	46.00	-12.61
282.618206	32.17	28.18	46.00	-17.82

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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 C63.4-1992.
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 OCCUPIED BANDWIDTH RADIATED TEST DATA

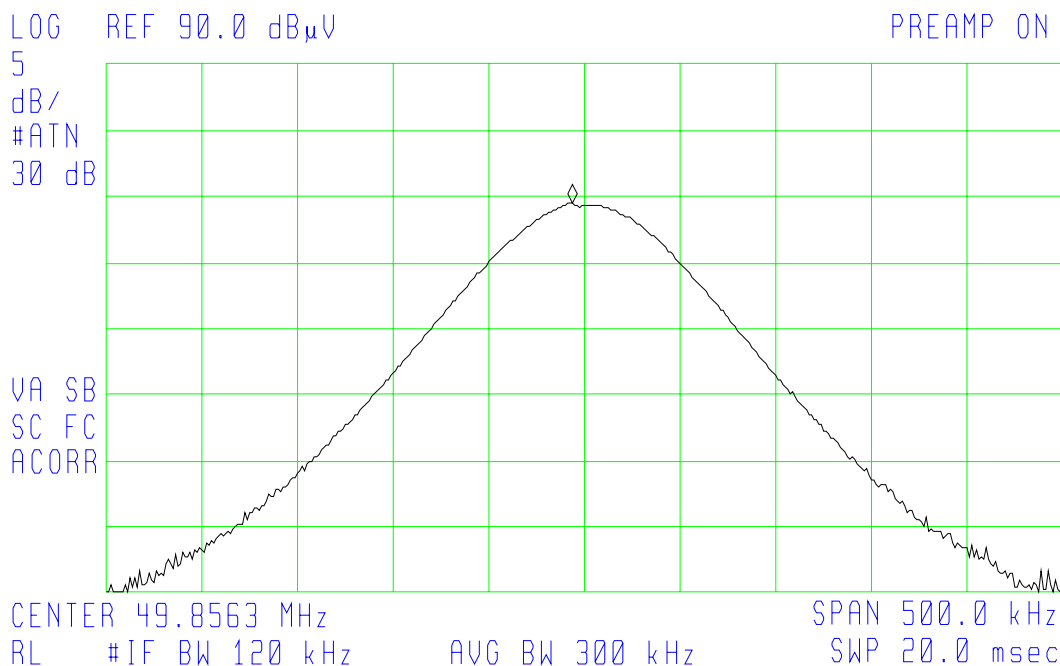
Worst Case Polarization was Vertical for Channels 1 and 2.

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Channel A Output Power Plot

15:38:06 11 OCT 2004 CHANNEL 1 FEILD STRENGTH
350-04 SAFETY 1ST 08044 TRANSMITTER

FREQ 49.85 MHz
PEAK 79.7 dB μ V
QP 79.5 dB μ V
AVG 79.5 dB μ V



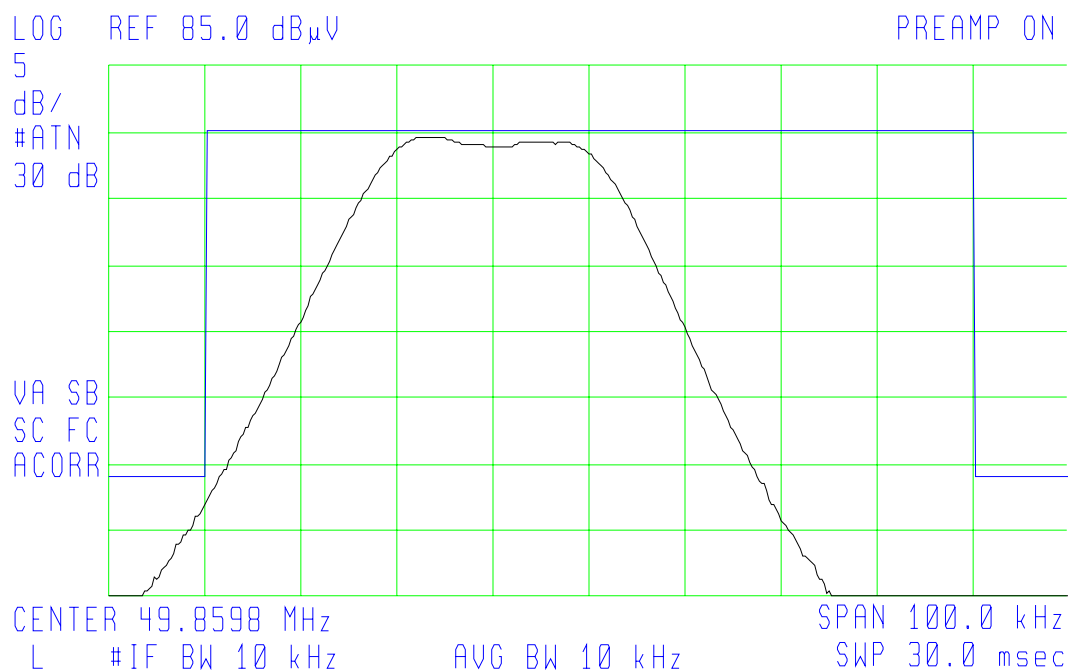
Freq (MHz)	Pol. (H/V)	Peak Amp (dBuV/m)	Avg Amp (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)
49.85	V	79.7	79.5	80.0	-0.5

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Channel A Occupied Bandwidth Plot

15:56:02 11 OCT 2004 CHANNEL 1 BANDWIDTH
350-04 SAFETY 1ST 00044 TRANSMITTER

ACTV DET: PEAK
MEAS DET: PEAK QP AVG



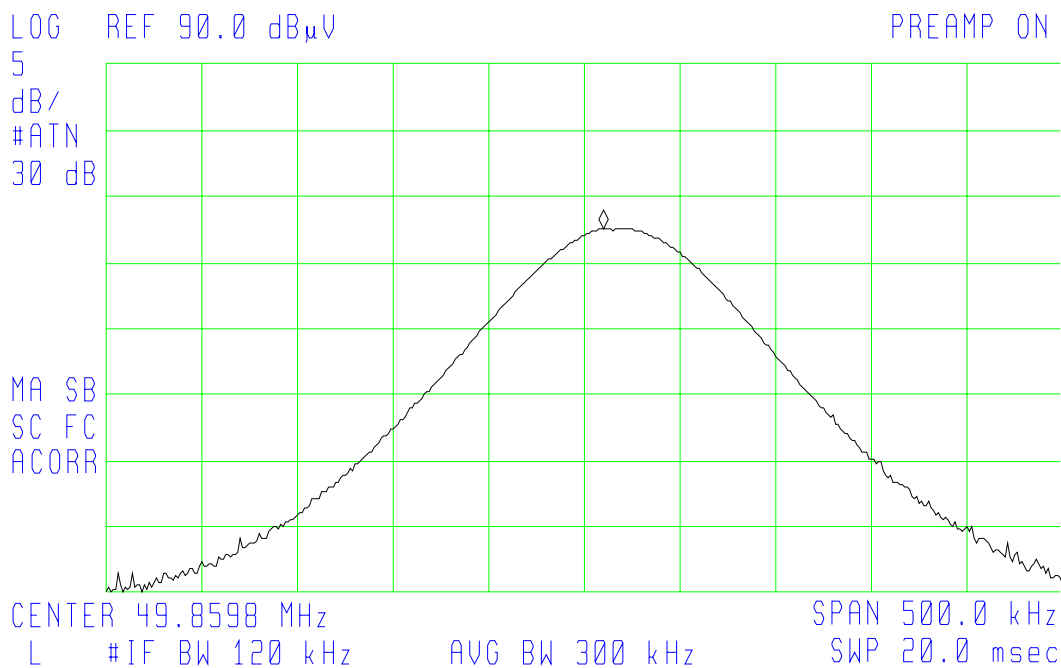
Plot shows limit and 26 dB down with edges at 49.82 and 49.90.
Emission is within the band at maximum modulation using a 2.5kHz tone.
Bandwidth was examined with 80dB SPL audio from 100 Hz to 8kHz, worst case is as shown.

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Channel B Output Power Plot

16:21:21 11 OCT 2004 CHANNEL 2 FEILD STRENGTH
350-04 SAFETY 1ST 08044 TRANSMITTER

FREQ 49.87 MHz
PEAK 77.9 dB μ V
QP 77.6 dB μ V
AVG 77.6 dB μ V



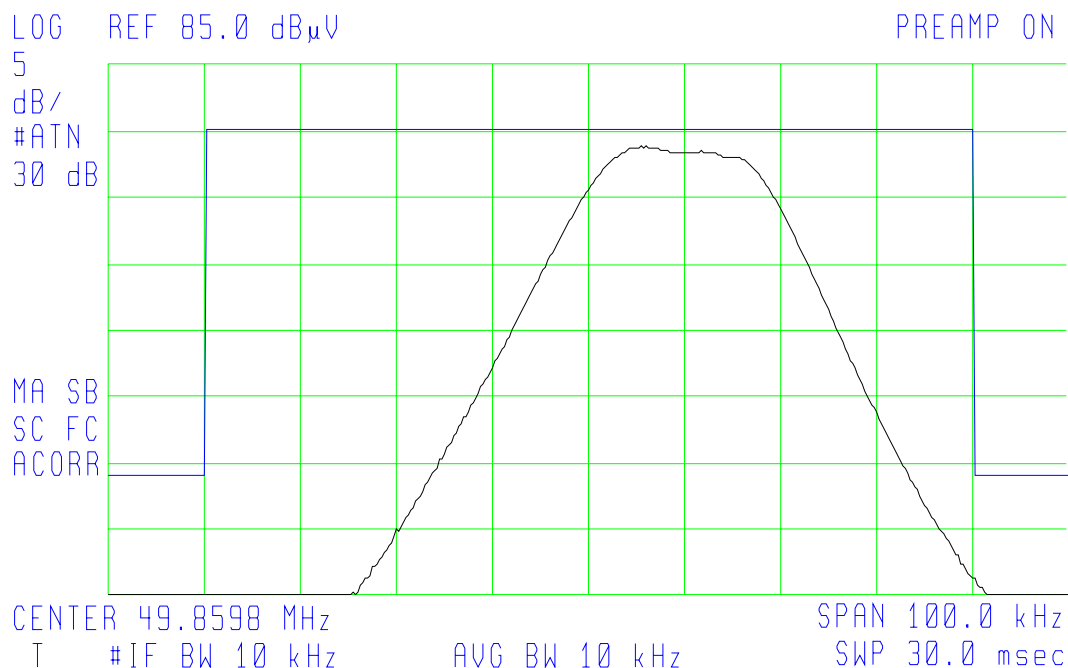
Freq (MHz)	Pol (H/V)	Peak Amp (dBuV/m)	Avg Amp (dBuV/m)	Avg Limit (dBuV/m)	Avg Margin (dB)
49.87	V	77.9	77.6	80.0	-2.4

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Channel B Occupied Bandwidth Plot

16:13:25 11 OCT 2004 CHANNEL 2 BANDWIDTH
350-04 SAFETY 1ST 08044 TRANSMITTER

ACTV DET: PEAK
MEAS DET: PEAK QP AVG



Plot shows limit and 26 dB down with edges at 49.82 and 49.90.
Emission is within the band at maximum modulation using a 2.5kHz tone.
Bandwidth was examined with 80dB SPL audio from 100 Hz to 8kHz, worst case is as shown.

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CONDUCTED TEST RESULTS

Frequency Range:	150 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

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Conducted Channel A 120V 60Hz Phase Data Log Plot

15:57:52 29 SEP 2004 120VAC 60HZ PHASE CH 1
350-04 SAFETY 1ST 08044 49MHZ TRANSMITTER

FREQ 16.62 MHz
PEAK 43.6 dB μ V
QP 43.5 dB μ V
AVG 43.4 dB μ V

LOG REF 75.0 dB μ V

10
dB/
ATN
10 dB

VA SB
SC FC
ACORR

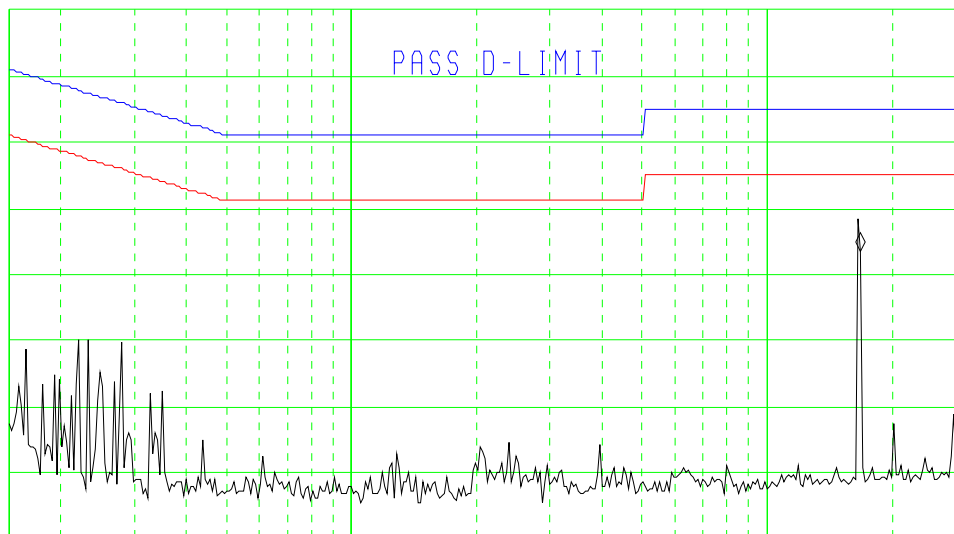
START 150 kHz

L #IF BW 9.0 kHz

AVG BW 30 kHz

STOP 30.00 MHz

SWP 2.49 sec



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Conducted Channel A 120V 60Hz Neutral Data Log Plot

16:01:08 29 SEP 2004 120VAC 60HZ NEUTRAL CH 1
350-04 SAFETY 1ST 08044 49MHZ TRANSMITTER

FREQ 16.62 MHz
PEAK 47.5 dB μ V
QP 47.2 dB μ V
AVG 47.2 dB μ V

LOG REF 75.0 dB μ V

10
dB/
ATN
10 dB

VA SB
SC FC
ACORR

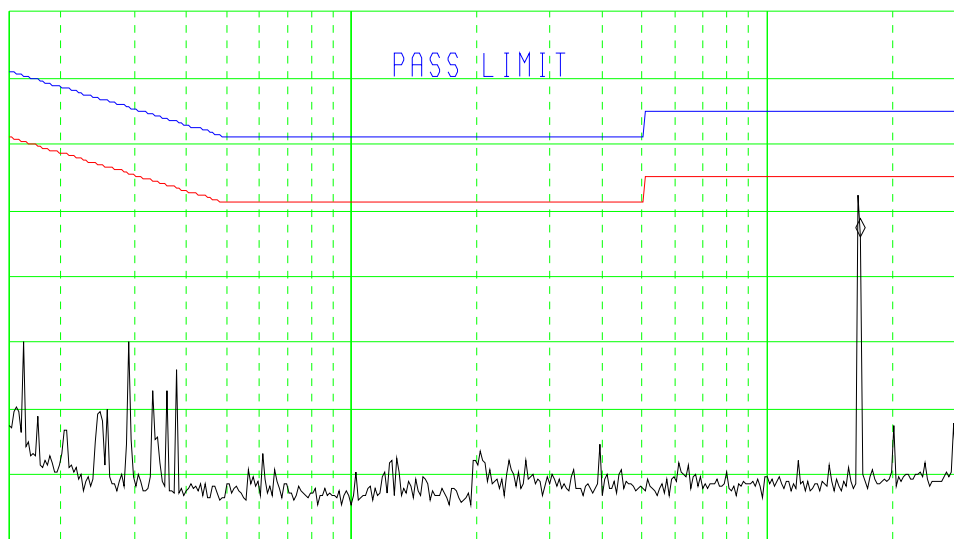
START 150 kHz

L #IF BW 9.0 kHz

AVG BW 30 kHz

STOP 30.00 MHz

SWP 2.49 sec

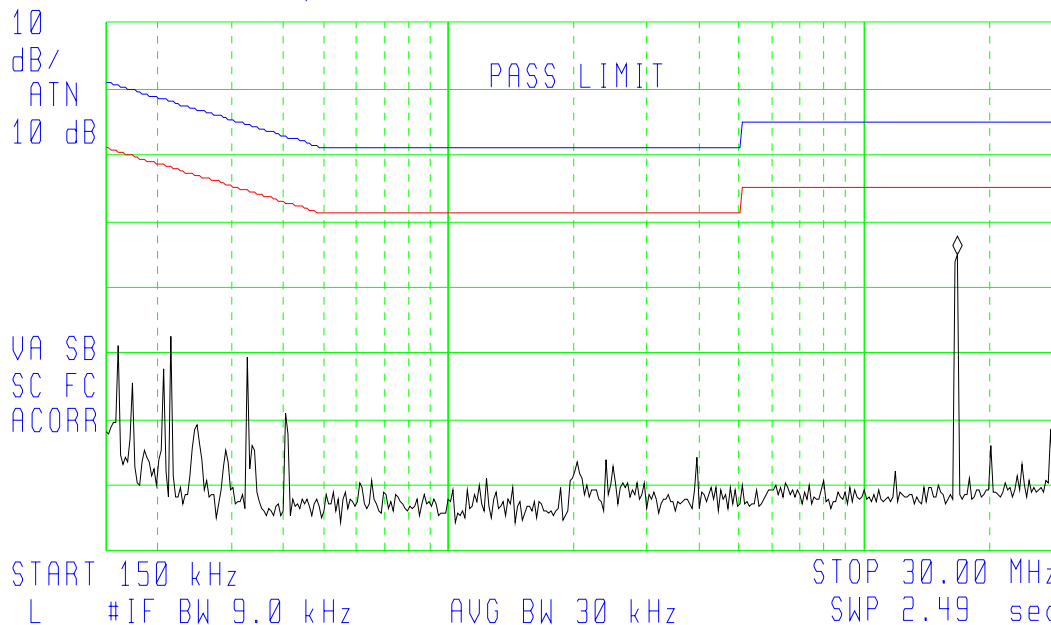


Conducted Channel B 120V 60Hz Phase Data Log Plot

16:04:12 29 SEP 2004 120VAC 60HZ PHASE CH 2
350-04 SAFETY 1ST 08044 49MHZ TRANSMITTER

FREQ 16.62 MHz
PEAK 40.1 dB μ V
QP 39.9 dB μ V
AVG 39.8 dB μ V

LOG REF 75.0 dB μ V

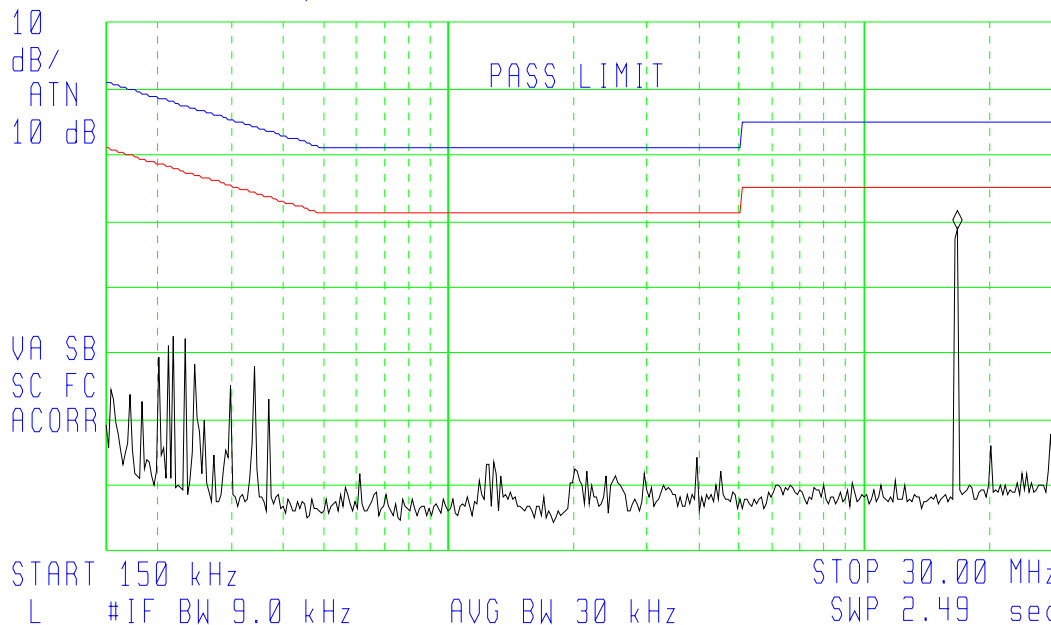


Conducted Channel B 120V 60Hz Neutral Data Log Plot

16:07:17 29 SEP 2004 120VAC 60HZ NEUTRAL CH 2
350-04 SAFETY 1ST 08044 49MHZ TRANSMITTER

FREQ 16.62 MHz
PEAK 40.1 dB μ V
QP 39.9 dB μ V
AVG 39.8 dB μ V

LOG REF 75.0 dB μ V



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NOTES AND COMMENTS

(Special conditions unique to this test)

None.