

Retlif Testing Laboratories

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FCC Test Results

On

XM Radio Receiver
Containing an
88 to 108 MHz Low Power Transmitter
FCC ID Number:RS2SA10177B

Customer Name: XM Radio

Customer P.O.: 115178-0-IECH

Date of Results: August 23, 2006

Test Results No.: R-11574-4

Test Start Date: August 9, 2006

Test Finish Date: August 17, 2006

Test Technician: R. Aina

Test Engineer: D. Lerner

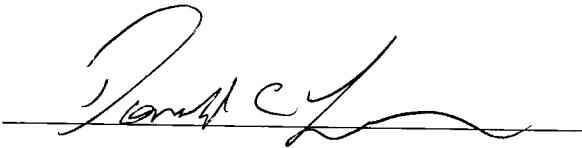
Supervisor: R. J. Reitz

Results Prepared By: W. Balgobin

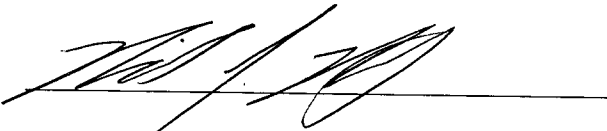
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We certify that this report is a true representation of the results obtained from the tests of the equipment stated and relates only to the equipment tested. We further certify that the measurements shown in this report were made in accordance with the procedures indicated and vouch for the qualifications of all Retlif Testing Laboratories personnel taking them.



Donald C. Lerner
EMC Test Engineer



Richard J. Reitz
Corporate Laboratory Manager

Non-Warranty Provision

The testing services have been performed, findings obtained and reports prepared in accordance with generally accepted laboratory principles and practices. This warranty is in lieu of all others, either eSportscastered or implied.

Non-Endorsement

This test report contains only findings and results arrived at after employing the specific test procedures and standards listed herein. It is not intended to constitute a recommendation, endorsement or certification of the product or material tested. This test report may not be used by the client to claim product endorsement by NVLAP, NIST or any agency of the U.S. Government.



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Test Results No. R-11574-4

Test Program Summary

Test Results Number:	R-11574-4
Customer:	XM Radio
P.O. Number:	115178-0-IECH
Test Sample:	XM Radio Receiver containing an 88 to 108 MHz Low Power Transmitter
Brandname:	RoadyXT
Model Number:	SA10177
Serial Number:	URTXG08A
FCC ID Number:	RS2SA10177B

Test Specification:

- FCC Rules and Regulations, Part 15, Subpart C, Paragraph 15.239 (a) (b) (c).
- FCC Rules and Regulations, Part 15, Subpart B, Paragraph 15.107 (a) and 15.109 (a).
- FCC Rules and Regulations, Part 15, Subpart A, Paragraph 15.31 (d).
- ANSI C63.4-2003 (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).

Modes of Operation:

- During FCC Part 15 Subpart C, Paragraph 15.239 (b)(c) radiated emissions tests; the EUT was configured to transmit a continuous Frequency Modulated (FM) frequency with normal modulation at 88.1, 96.9 and 107.9 MHz onto a representative FM aerial antenna.
- During FCC Part 15 Subpart C, Paragraph 15.239 (b)(c) radiated emissions tests; the EUT was configured to transmit a continuous Frequency Modulated (FM) frequency with normal modulation at 88.1, 96.9 and 107.9 MHz into an XM antenna.
- During FCC Part 15 Subpart C, Paragraph 15.239 (a) bandwidth tests, the EUT was configured to transmit a continuous Frequency Modulated (FM) frequency with normal modulation at 88.1, 96.9 and 107.9 MHz and without modulation.
- During FCC Part 15 Subpart B, Paragraph 15.107(a) conducted emissions tests and 15.109(a) radiated emissions tests; the EUT was configured to receive an XM satellite radio signal then send the audio out to support stereo speakers and through an FM Direct module to an FM Aerial antenna.

Notes:

All Radiated Emissions test data contained within this test report was acquired by Florida Atlantic University and all Occupied Bandwidth test data was acquired by XM Radio. Retlif was contracted only to complete the test report and files associated with the filing for certification. Inquiries regarding test data should be directed to Florida Atlantic University.



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Test Results No. R-11574-4

Test Methods:

The following table depicts the test methods that were performed on the XM Radio Receiver and the corresponding test results:

FCC Paragraph	Test Method	Test Results
15.239(a)	Occupied Bandwidth	Complied
15.239(b)	Radiated Emissions Fundamental Field Strength	Complied
15.239(c)	Radiated Emissions, Spurious	Complied
15.109(a)	Radiated Emissions	Complied
15.107(a)	Conducted Emissions	Complied



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Revision History

Revision	Date	Pages Affected
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Bandwidth Test Method

- The satellite radio receivers were placed on a bench.
- The satellite radio receivers were directly connected to a spectrum analyzer using the antenna port and an XM FM Direct accessory.
- The satellite radio receivers were set to three of the operating frequencies utilizing normal modulation and no modulation.
- The adjustment for FM audio level was set to maximum to measure the peak modulation bandwidth of the unit.
- The RBW and VBW of the spectrum analyzer were set to 10 kHz and 30 kHz respectively with a convenient span to include the 200 kHz bandwidth of emission.
- Display lines were used to measure the bandwidth from the peak of the emission to -20 dB below the peak.
- The above procedure was repeated until all of the selected fundamental frequencies were completed.



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Test Results No. R-11574-4

15.239(a), Occupied Bandwidth
Test Data

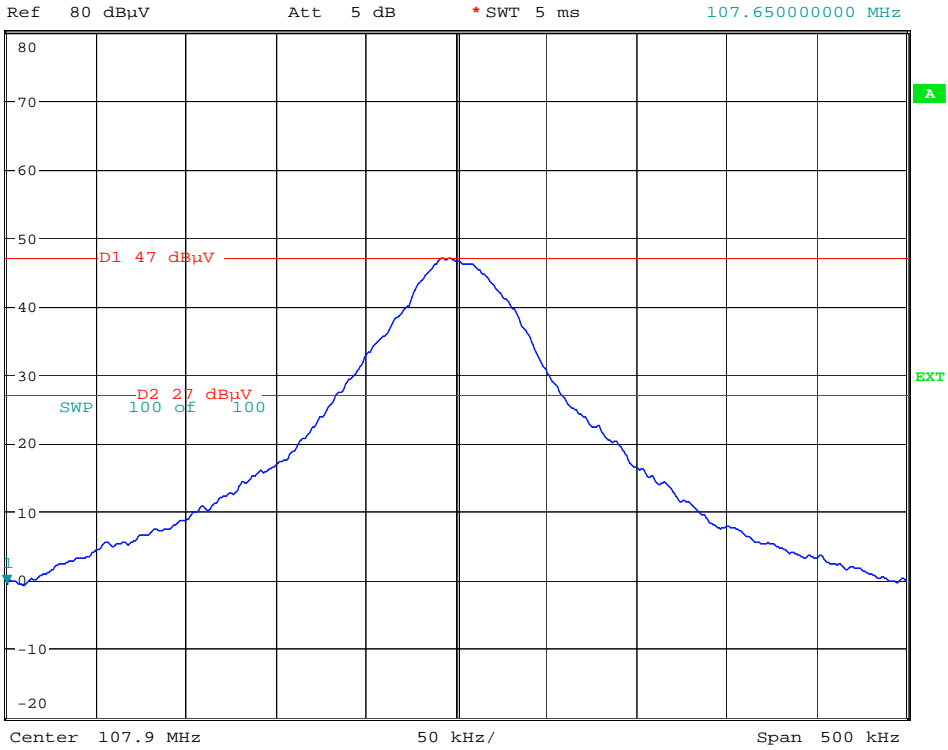


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Test Results No. R-11574-4



*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -0.48 dBuV
 *SWT 5 ms 107.65000000 MHz



Date: 23.AUG.2006 15:10:23

FCC Part 15, Subpart C, Section 15.239(a) Bandwidth
EUT Transmitting at 107.9 MHz, Modulation applied
The bandwidth of the emission was confined within a band 200 kHz wide centered on the operating frequency

Customer	XM Radio	
Test Sample	XM Radio Receiver	
Brand Name	Rody XT	
Date: 8-23-2006	Tech: B. Andre	Sheet 1 of 6



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Test Results No. R-11574-4



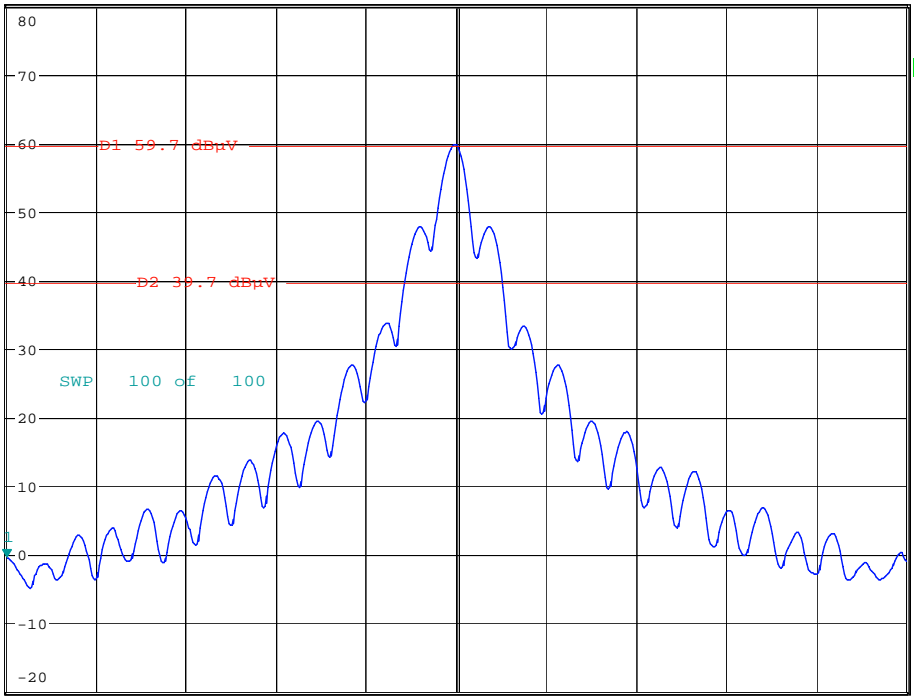
*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -0.66 dBuV
 *SWT 5 ms 107.65000000 MHz

Ref 80 dBuV

Att 5 dB

UNCAL

1 SA
VIEW



Center 107.9 MHz

50 kHz/

Span 500 kHz

Date: 23.AUG.2006 15:11:09

**FCC Part 15, Subpart C, Section 15.239(a) Bandwidth
 EUT Transmitting at 107.9 MHz, Modulation applied
 The bandwidth of the emission was confined within a band 200 kHz wide centered on the operating
 frequency**

Customer	XM Radio	
Test Sample	XM Radio Receiver	
Brand Name	Rody XT	
Date: 8-23-2006	Tech: B. Andre	Sheet 2 of 6



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Test Results No. R-11574-4



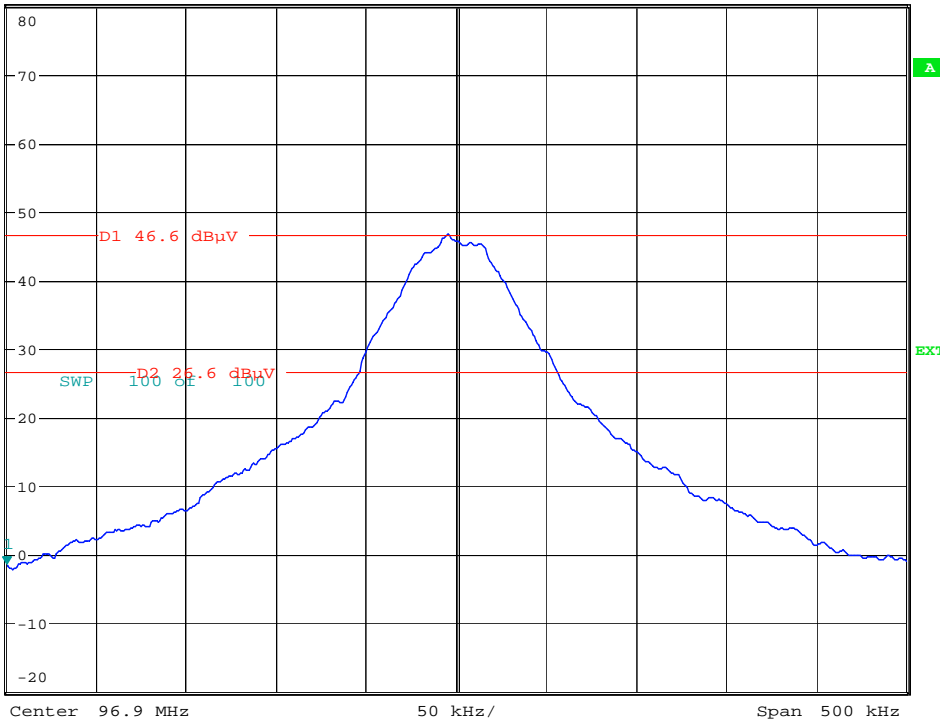
*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -1.70 dBμV
 *SWT 5 ms 96.65000000 MHz

Ref 80 dBμV

Att 5 dB

UNCAL

1 SA
VIEW



Date: 23.AUG.2006 15:08:04

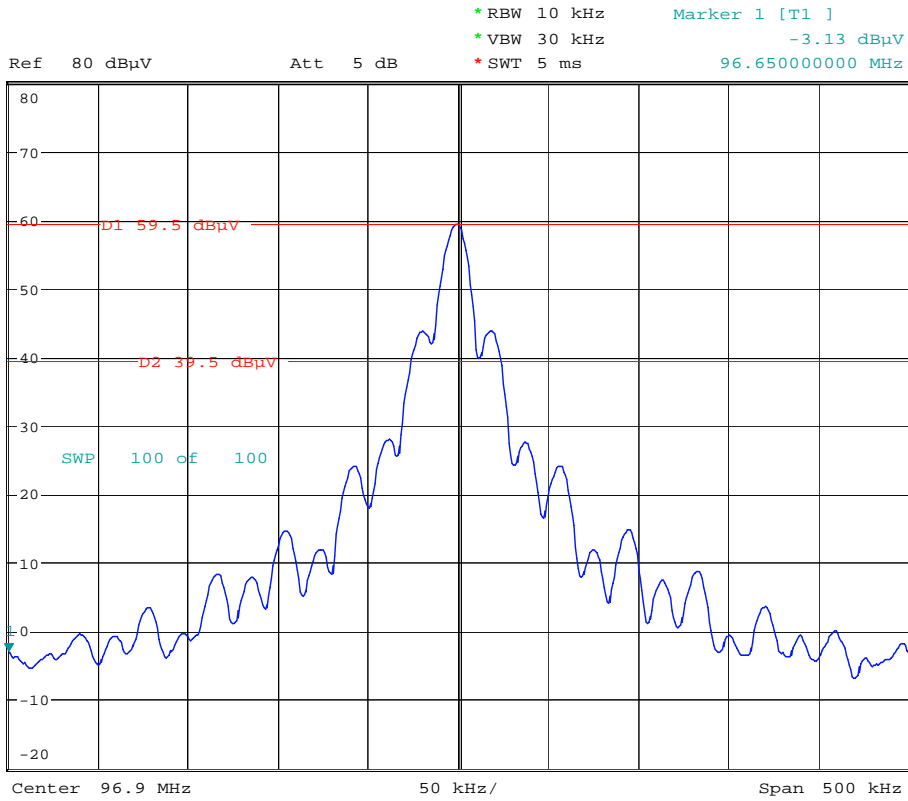
FCC Part 15, Subpart C, Section 15.239(a) Bandwidth
EUT Transmitting at 96.9 MHz, Modulation applied
The bandwidth of the emission was confined within a band 200 kHz wide centered on the operating frequency

Customer	XM Radio		
Test Sample	XM Radio Receiver		
Brand Name	Rody XT		
Date: 8-23-2006	Tech: B. Andre	Sheet 3 of 6	



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Test Results No. R-11574-4



Date: 23.AUG.2006 15:09:11

FCC Part 15, Subpart C, Section 15.239(a) Bandwidth
EUT Transmitting at 96.9 MHz, No Modulation applied
The bandwidth of the emission was confined within a band 200 kHz wide centered on the operating frequency

Customer	XM Radio	
Test Sample	XM Radio Receiver	
Brand Name	Rody XT	
Date: 8-23-2006	Tech: B. Andre	Sheet 4 of 6

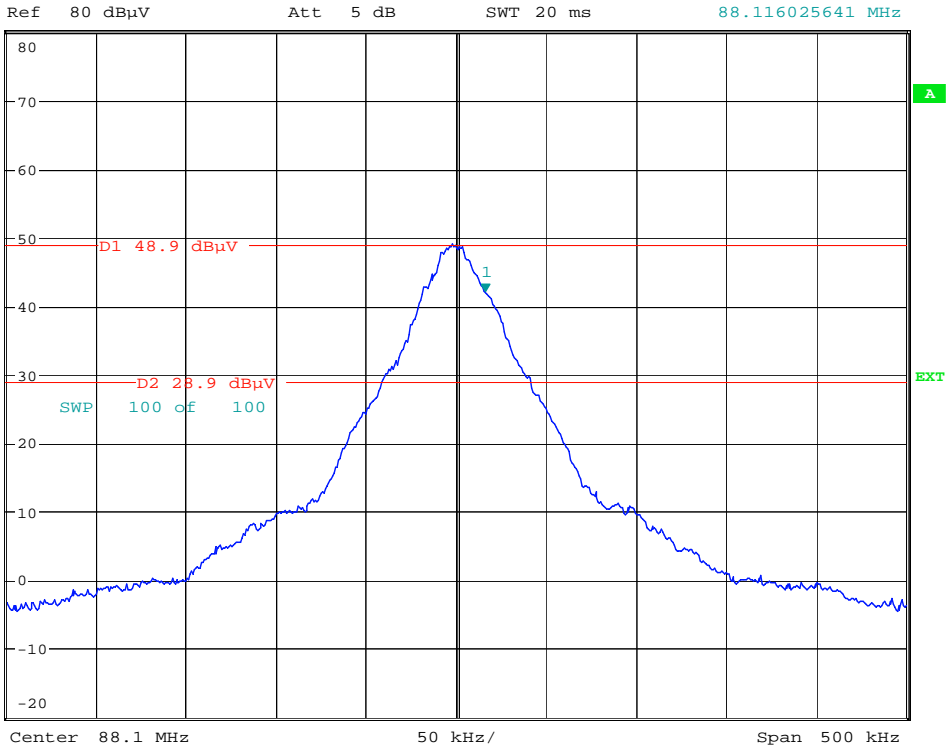


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Test Results No. R-11574-4



*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz 41.84 dBµV
SWT 20 ms 88.116025641 MHz



Date: 23.AUG.2006 15:00:31

FCC Part 15, Subpart C, Section 15.239(a) Bandwidth
EUT Transmitting at 88.1 MHz, Modulation applied
The bandwidth of the emission was confined within a band 200 kHz wide centered on the operating frequency

Customer	XM Radio	
Test Sample	XM Radio Receiver	
Brand Name	Roady XT	
Date: 8-23-2006	Tech: B. Andre	Sheet 5 of 6

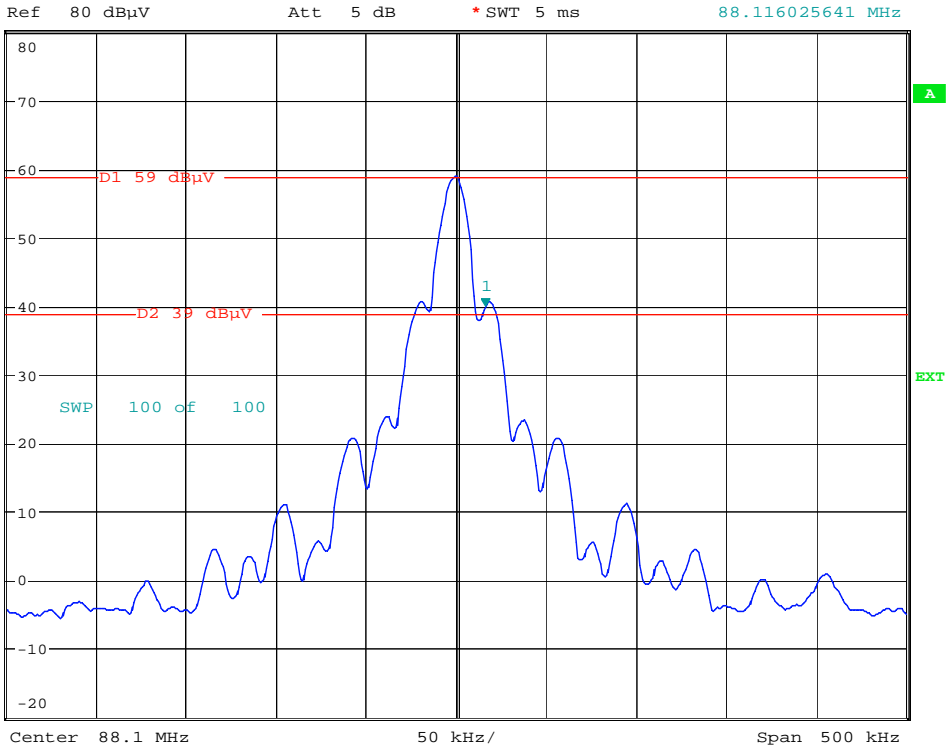


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Test Results No. R-11574-4



*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz 39.81 dBµV
 *SWT 5 ms 88.116025641 MHz



Date: 23.AUG.2006 15:05:45

FCC Part 15, Subpart C, Section 15.239(a) Bandwidth
EUT Transmitting at 88.7 MHz, No Modulation applied
The bandwidth of the emission was confined within a band 200 kHz wide centered on the operating frequency

Customer	XM Radio	
Test Sample	XM Radio Receiver	
Brand Name	Roady XT	
Date: 8-23-2006	Tech: B. Andre	Sheet 6 of 6



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EQUIPMENT LIST

FCC Part 15, Subpart C, Occupied Bandwidth, Paragraph 15.239(a)

Type	Manufacturer	Model No.	Cal Date	Due Date
Spectrum Analyzer	Rhode & Schwarz	FSQ8	3/28/2006	3/28/2007



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FCC Part 15, Subpart C, Paragraph 15.239, Radiated Emissions Test Method:

1. Each satellite radio receiver was tested at Florida Atlantic University (FAU) three-meter indoor test site. Test firm FCC registration number is 447616.
2. All radiated emissions test data was obtained by test personnel at FAU.
3. Testing consisted of determining the maximum emissions by placing the test sample three meters away from the measuring antenna. With the spectrum analyzer in max hold, the antenna placed in a vertical polarity was raised and lowered from 1 meter to 4 meters until the maximum emission was determined.
4. After the antenna was raised and lowered the turntable was rotated 360°. The spectrum analyzer set to max hold until the maximum emission was determined. The data was recorded utilizing both data points and graphical plots for each configuration.
5. Steps 3 and 4 were repeated with the antenna in horizontal polarity.
6. The RBW and VBW of the spectrum analyzer were set to 120 kHz and 300 kHz respectively. A peak detector was utilized
7. The fundamental frequency and harmonics up to the 10th were measured
8. The above procedure was repeated at three frequencies representing the lower, middle, and upper end of the provided FM range. The frequencies selected were 88.1 MHz, 96.9 MHz, and 107.9 MHz.
9. Graphical Plots indicate the maximum emission. The FCC Part 15, Subpart B, Class B, test limit line was adjusted utilizing the correction factors for each operating frequency and mode of testing. There were four (4) plots; one plot displayed the emissions from 30 MHz and 200 MHz, one plot displayed 200 MHz -1000 MHz, one set in vertical polarity and one set in horizontal polarity.

Test Results

No emissions which exceeded the specified limits were observed and the EUT was found to comply with the requirements specified for this method.

See the following forty (40) data sheets for a full presentation of the results obtained.



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Test Results No. R-11574-4

15.239(b), Radiated Emissions, Fundamental Field Strength
Test Data



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Test Results No. R-11574-4

The following table describes the graphical test data

Plot ID#	Test Description
	Car-Cradle - Using FM Coupler & FM arial antenna
E-1	88.1MHz Low-Band Vertical
E-2	88.1MHz Low-Band Horizontal
E-3	96.9MHz Low-Band Vertical
E-4	96.9MHz Low-Band Horizontal
E-5	107.9MHz Low-Band Vertical
E-6	107.9MHz Low-Band Horizontal
E-7	88.1MHz High-Band Vertical
E-8	88.1MHz High-Band Horizontal
E-9	96.9MHz High-Band Vertical
E-10	96.9MHz High-Band Horizontal
E-11	107.9MHz High-Band Vertical
E-12	107.9MHz High-Band Horizontal
	Car-Cradle - Using XM antenna ONLY
E-13	88.1MHz Low-Band Vertical
E-14	88.1MHz Low-Band Horizontal
E-15	96.9MHz Low-Band Vertical
E-16	96.9MHz Low-Band Horizontal
E-17	107.9MHz Low-Band Vertical
E-18	107.9MHz Low-Band Horizontal
E-19	88.1MHz High-Band Vertical
E-20	88.1MHz High-Band Horizontal
E-21	96.9MHz High-Band Vertical
E-22	96.9MHz High-Band Horizontal
E-23	107.9MHz High-Band Vertical
E-24	107.9MHz High-Band Horizontal
	Home Cradle
E-25	Low-Band Vertical
E-26	Low-Band Horizontal
E-27	High-Band Vertical
E-28	High-Band Horizontal



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The following table describes the graphical test data (con't)

Plot ID#	Test Description
	FM Direct Adaptor & FM Arial
E-29	88.1MHz Low-Band Vertical
E-30	88.1MHz Low-Band Horizontal
E-31	96.9MHz Low-Band Vertical
E-32	96.9MHz Low-Band Horizontal
E-33	107.9MHz Low-Band Vertical
E-34	107.9MHz Low-Band Horizontal
E-35	88.1MHz High-Band Vertical
E-36	88.1MHz High-Band Horizontal
E-37	96.9MHz High-Band Vertical
E-38	96.9MHz High-Band Horizontal
E-39	107.9MHz High-Band Vertical
E-40	107.9MHz High-Band Horizontal
	Conducted Emissions
	Line & Phase
	Occupied Bandwidth
	88.1MHz (with modulation)
	88.1MHz (no modulation)
	96.9MHz (with modulation)
	96.9MHz (no modulation)
	107.9MHz (with modulation)
	107.9MHz (no modulation)



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Test Results No. R-11574-4

15.239(b), Radiated Emissions, Fundamental Field Strength
Car-Cradle utilizing FM aerial antenna Test Data

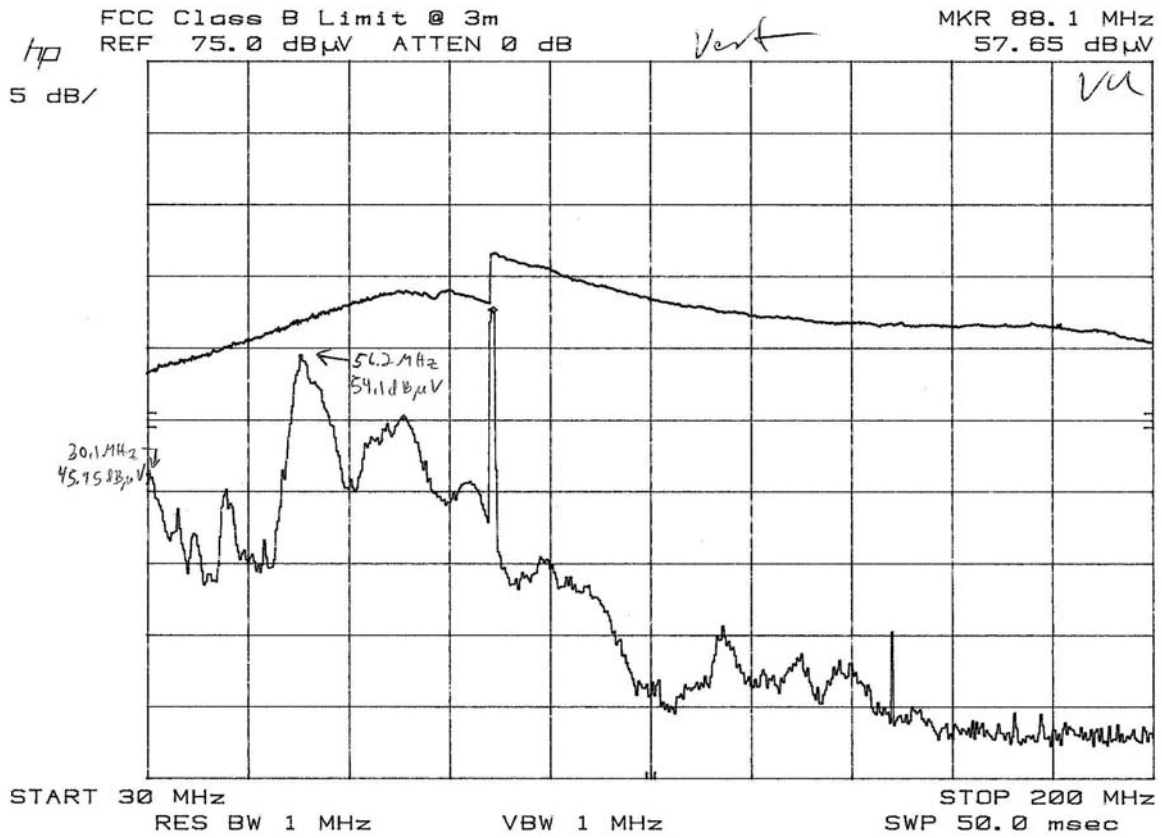


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Test Results No. R-11574-4

E-1

12 Aug 06

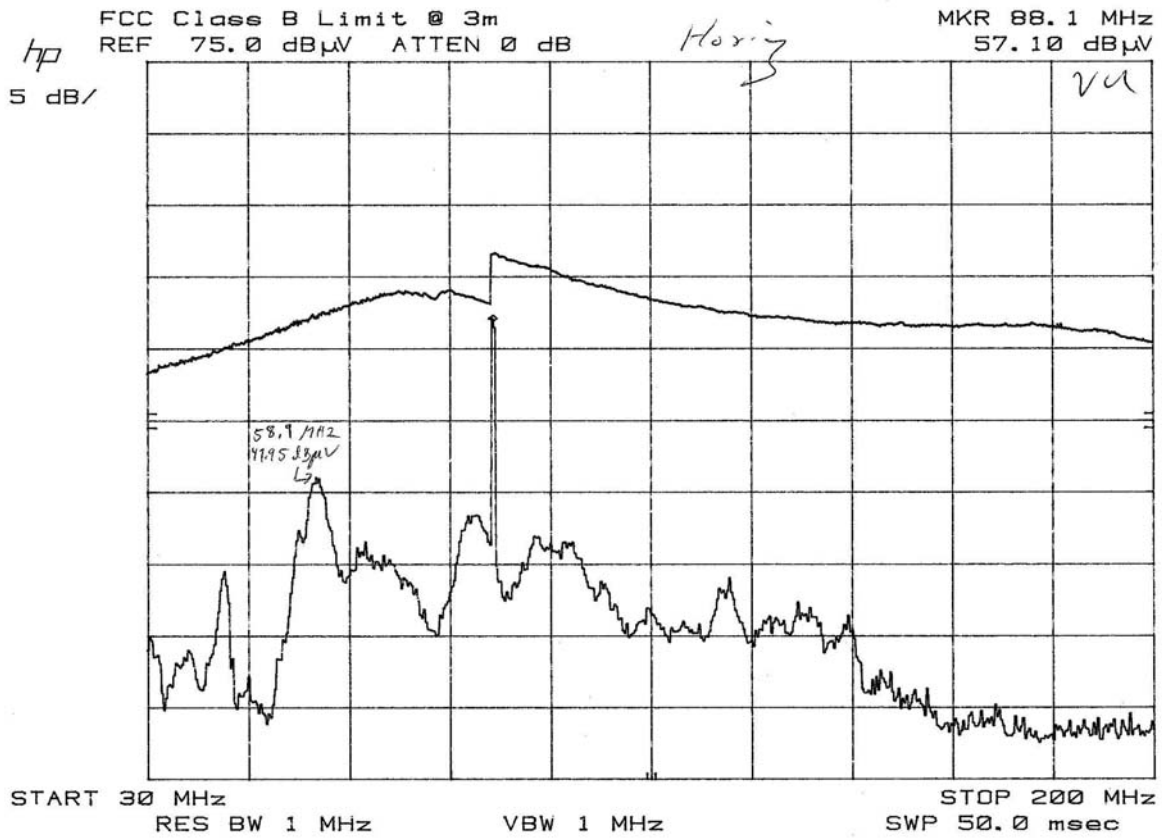


Retlif Testing Laboratories

Test Results No. R-11574-4

E-2

12 Aug 06

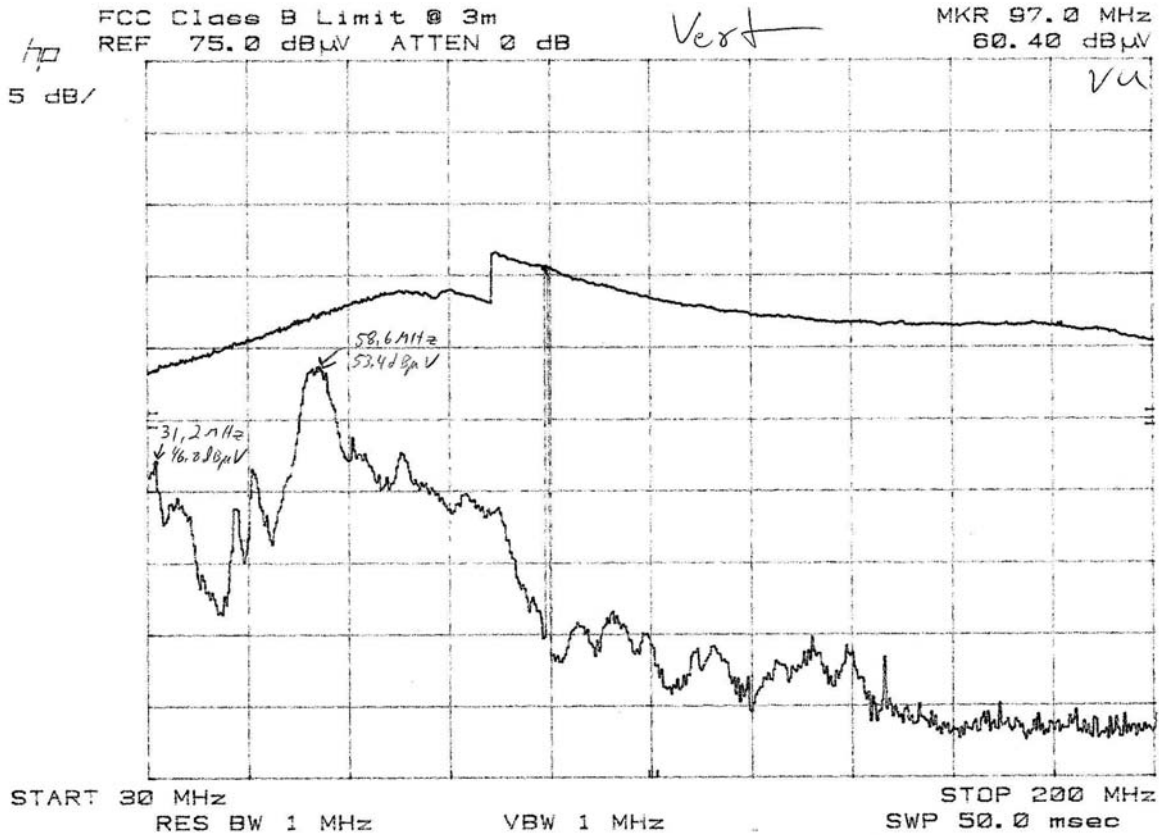


Retlif Testing Laboratories

Test Results No. R-11574-4

E-3

12 Aug 06

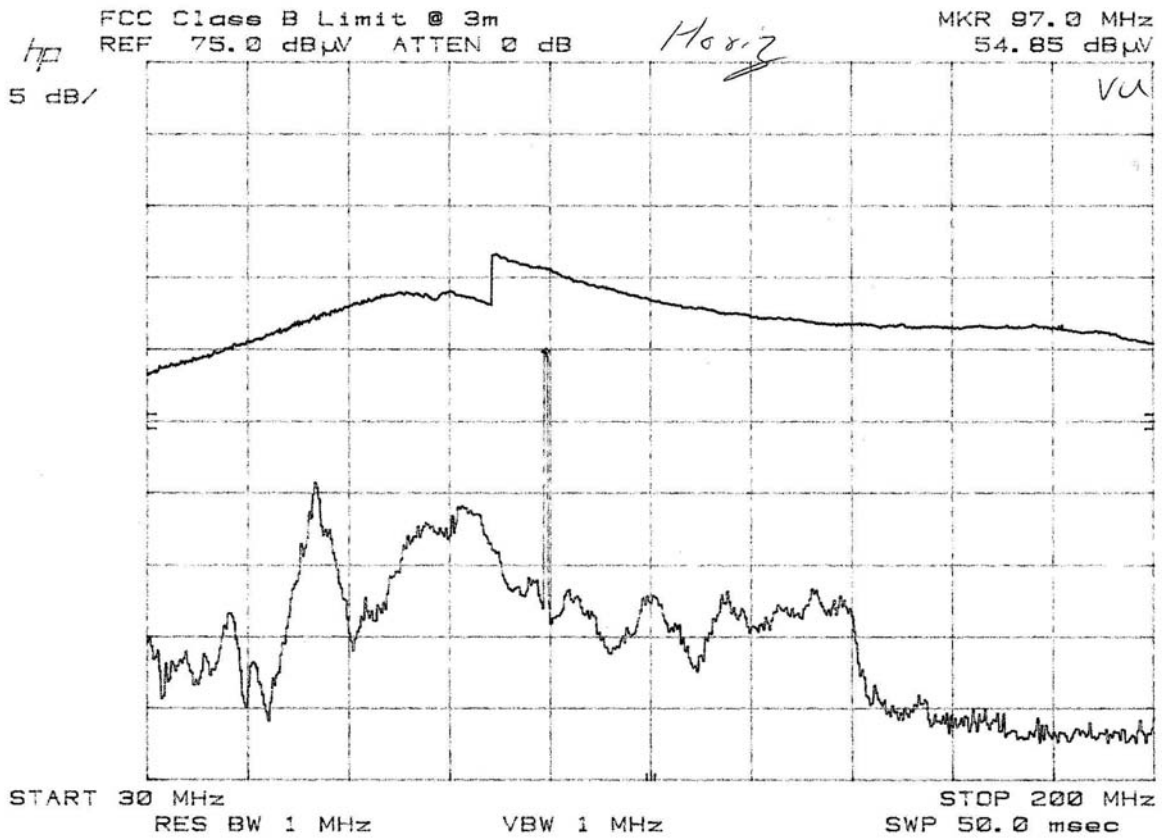


Retlif Testing Laboratories

Test Results No. R-11574-4

E-4

12 Aug 06

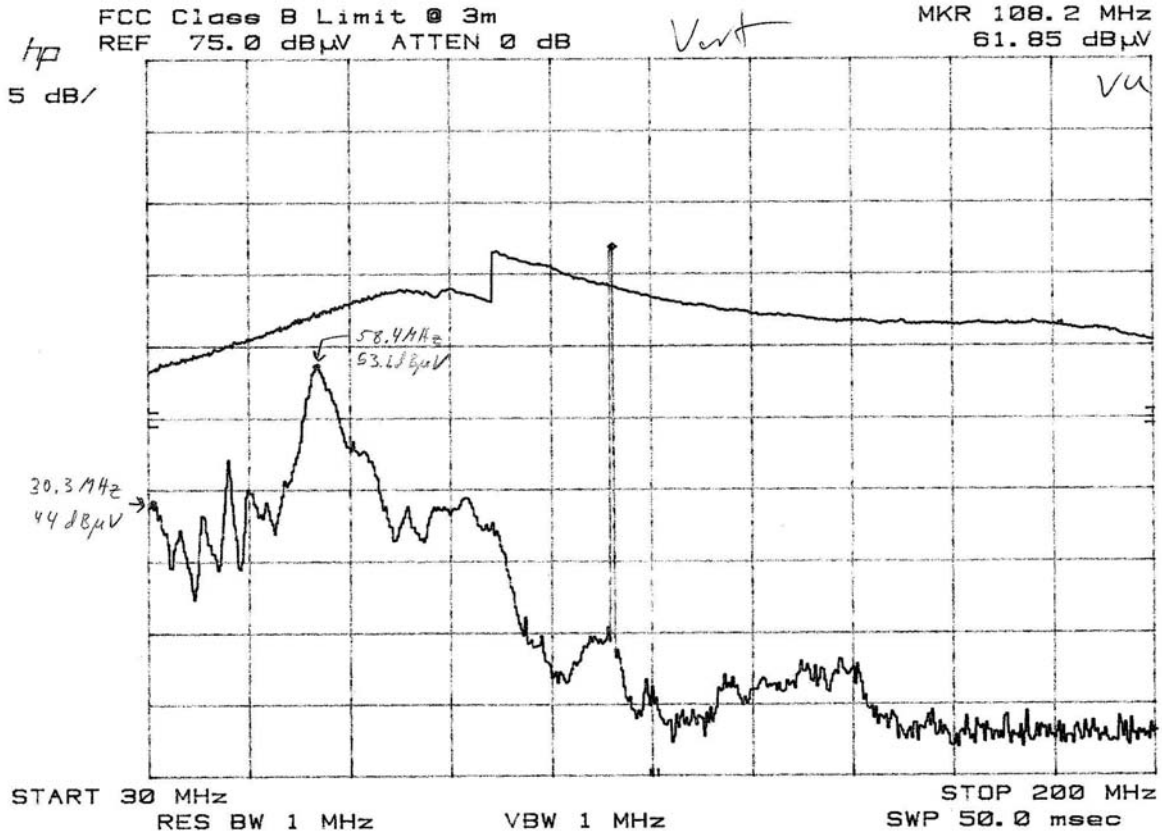


Retlif Testing Laboratories

Test Results No. R-11574-4

E-5

12 Aug 06

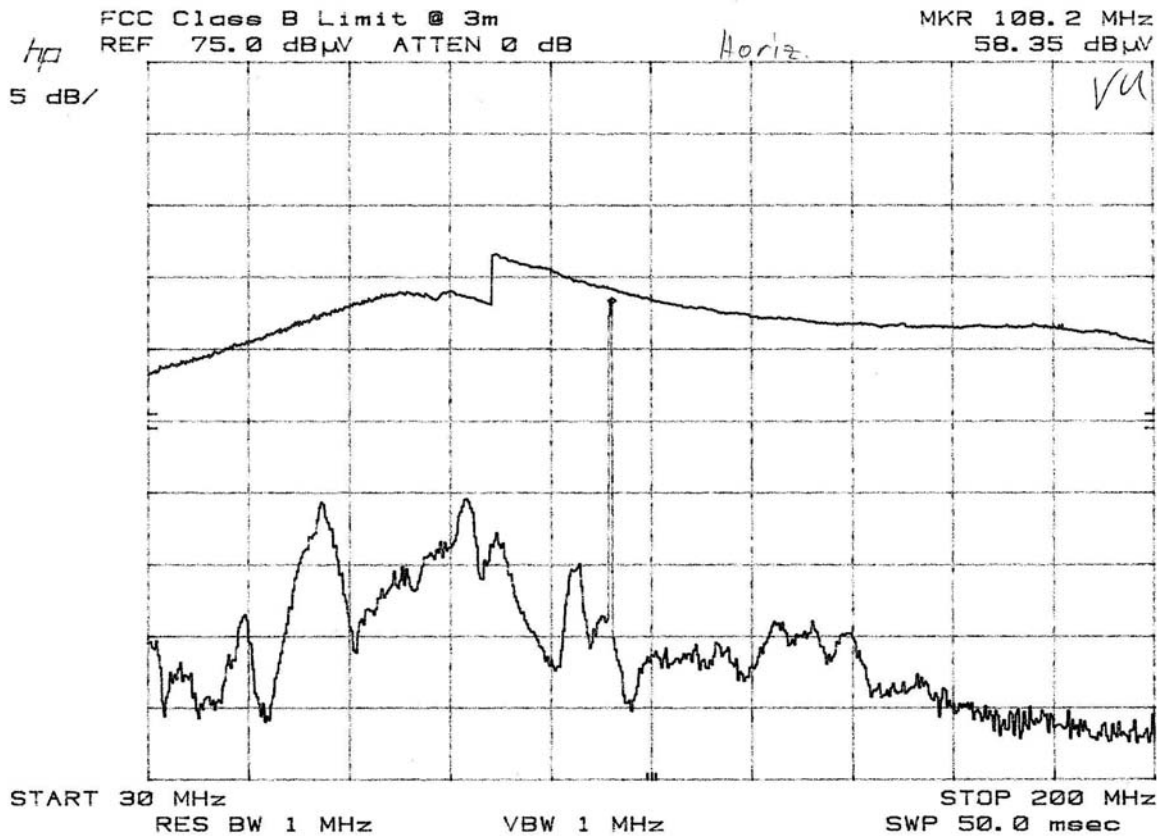


Retlif Testing Laboratories

Test Results No. R-11574-4

E-6

12 Aug 06



Retlif Testing Laboratories

Test Results No. R-11574-4

E-7

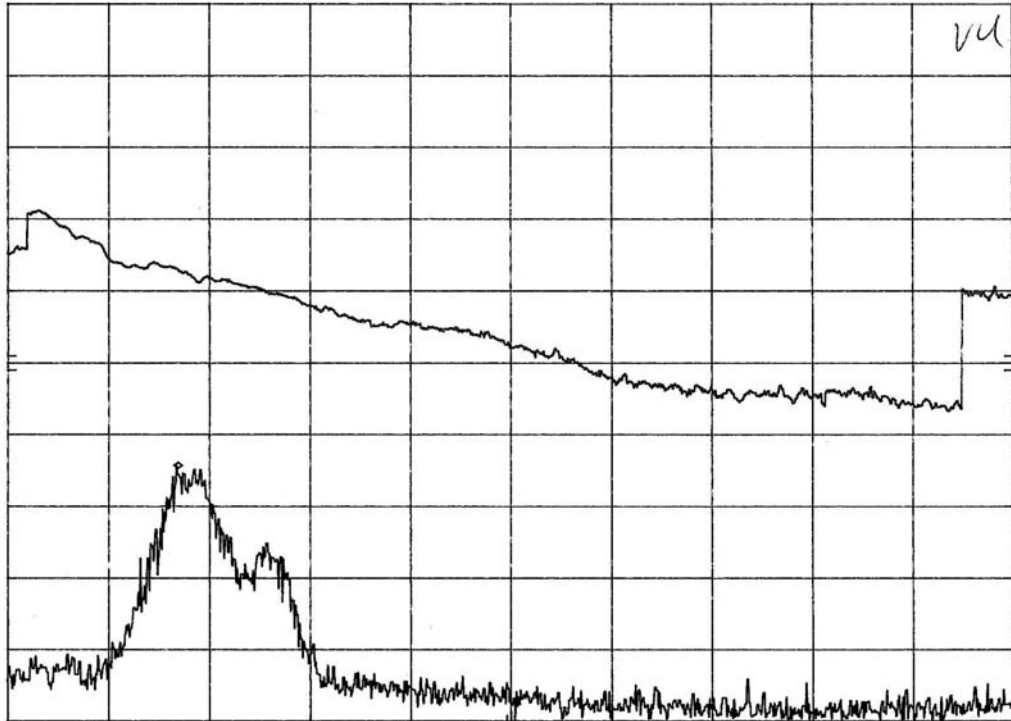
12 Aug 06

hp
5 dB/
FCC Class B Limit @ 3m
REF 75.0 dB μ V ATTEN 0 dB

Vert

MKR 334.4 MHz
42.85 dB μ V

VU



START 200 MHz
RES BW 1 MHz

VBW 1 MHz

STOP 1.000 GHz
SWP 200 msec

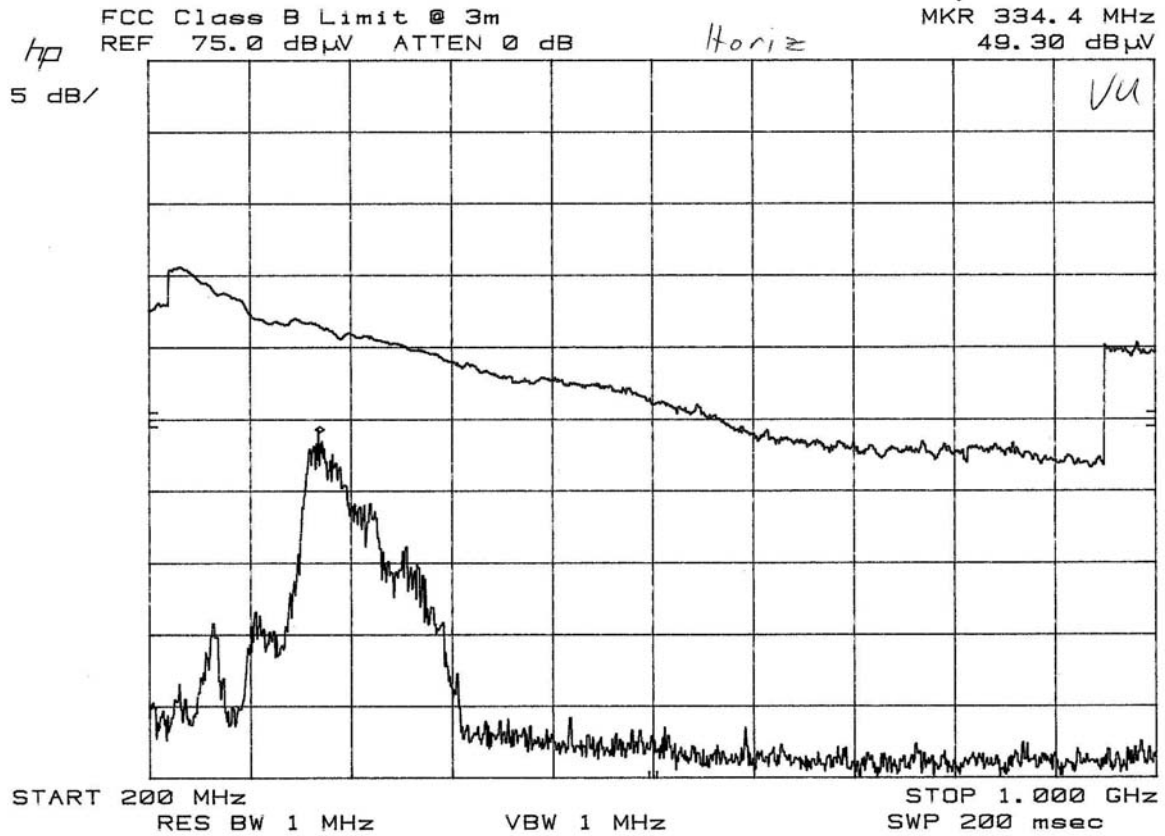


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Test Results No. R-11574-4

E-8

12 Aug 06



Retlif Testing Laboratories

Test Results No. R-11574-4

E-9

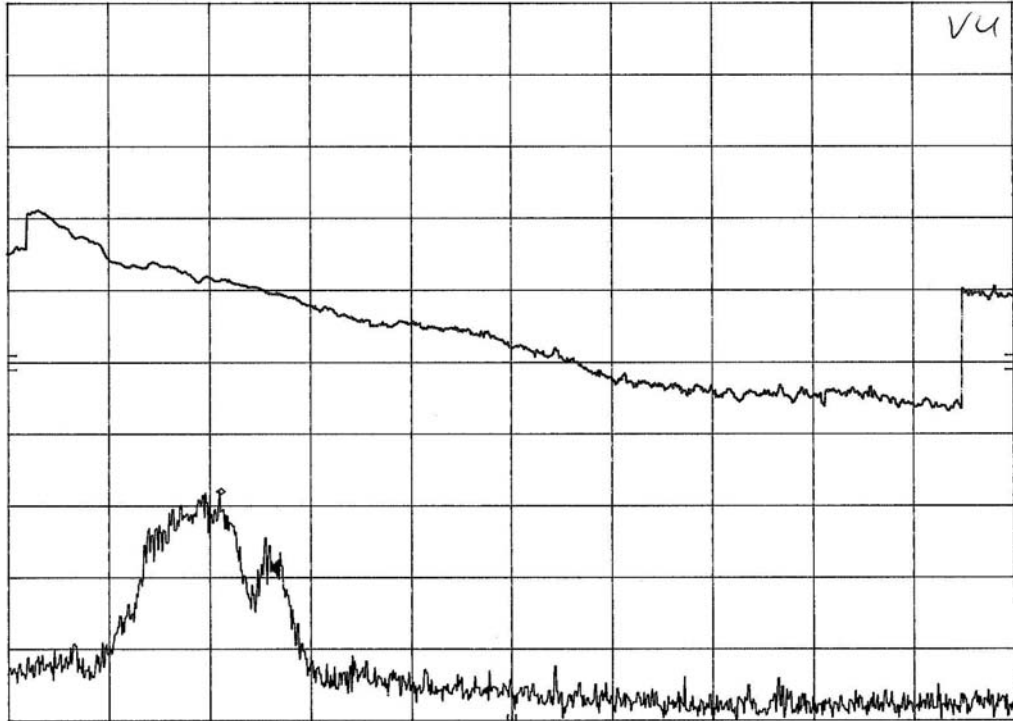
12 Aug 06

FCC Class B Limit @ 3m
hp REF 75.0 dBμV ATTEN 0 dB
5 dB/

Vert

MKR 368.0 MHz
41.00 dBμV

V4



START 200 MHz RES BW 1 MHz VBW 1 MHz STOP 1.000 GHz SWP 200 msec



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Test Results No. R-11574-4

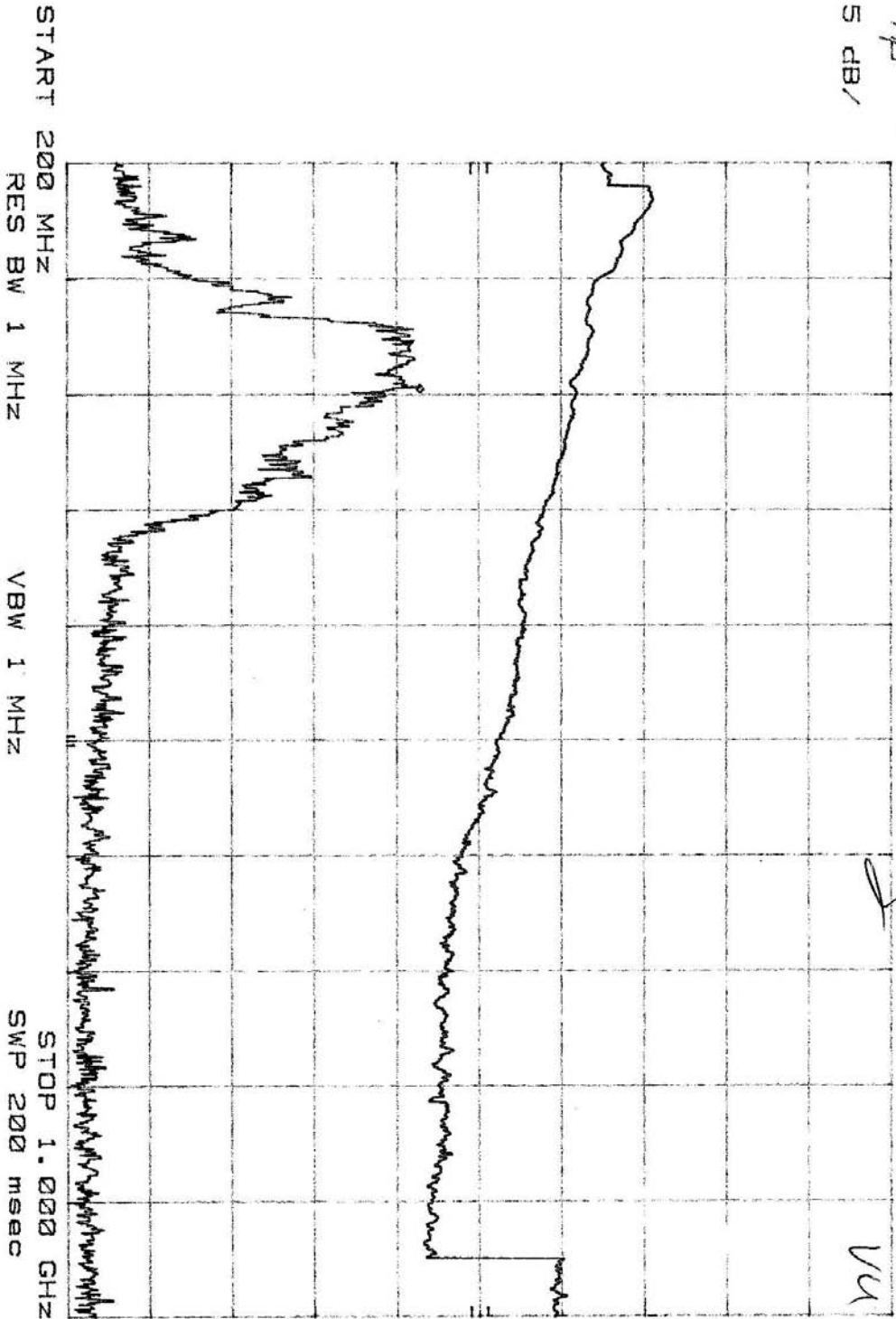
E-10

12 Aug 06

FCC Class B Limit @ 3m
REF 75.0 dBµV ATTN 0 dB
HP
5 dB

Horiz

MKR 355.2 MHz
46.40 dBµV
VV



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Test Results No. R-11574-4

E-11

12 Aug 06

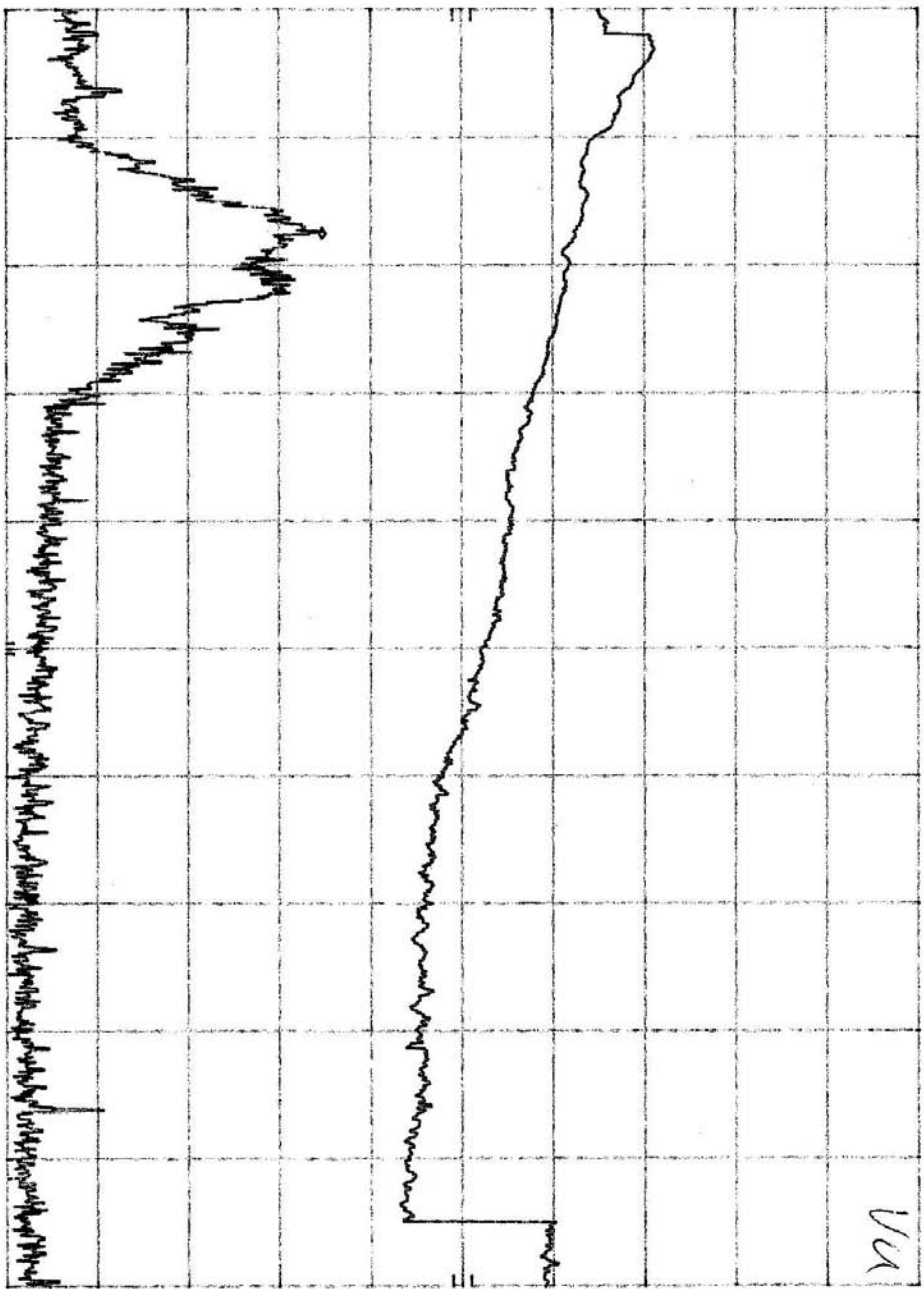
FCC Class B Limit @ 3m
REF 75.0 DBµV ATTN 0 DB
5 DB/

Verd

VA

MKR 339.2 MHz
42.35 DBµV

START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec



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Test Results No. R-11574-4

E-12

12 Aug 06

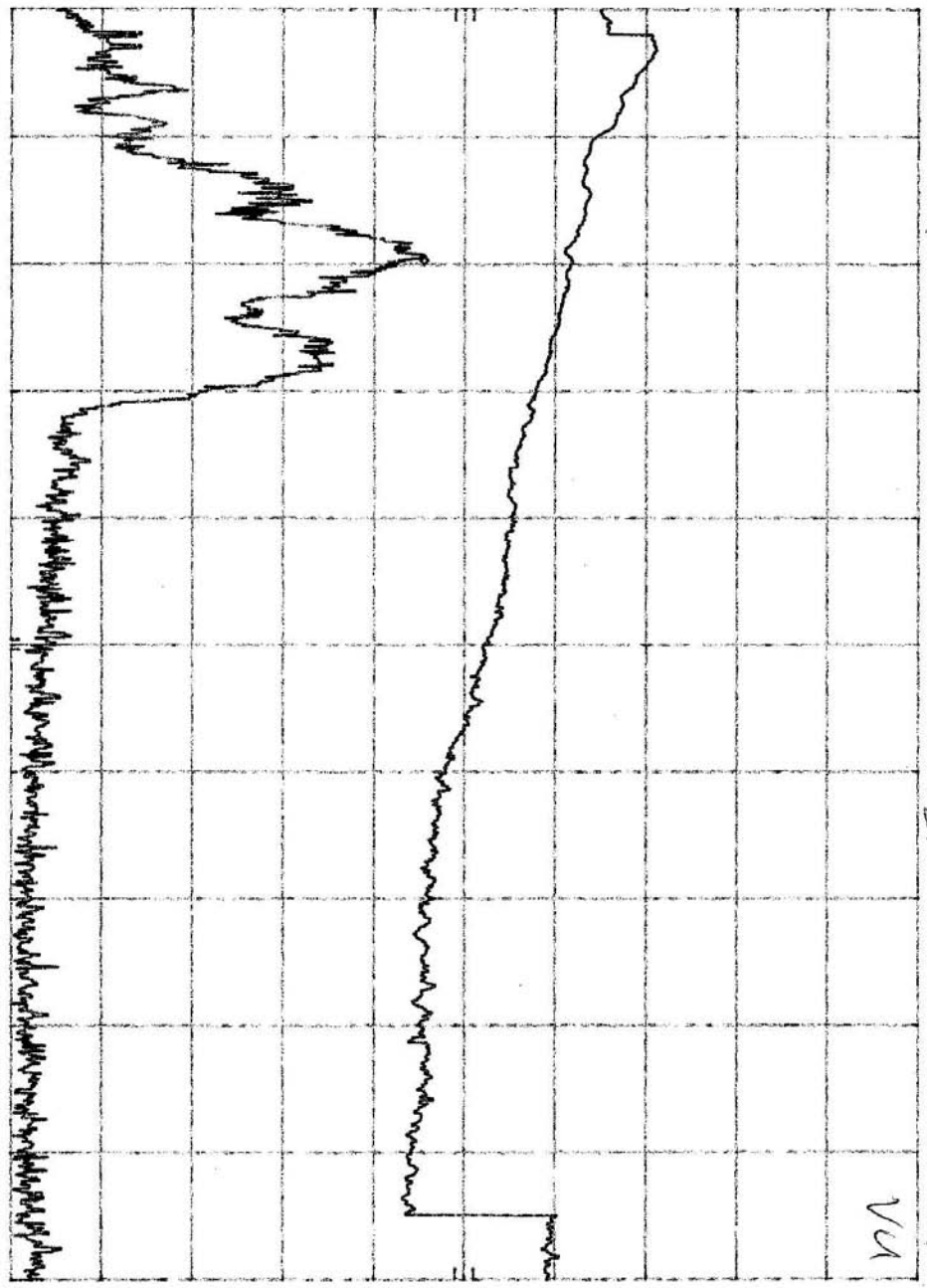
FCC Class B Limit @ 3m
REF 75.0 DBµV ATTEN 0 DB
HP
5 DB/

Horiz.

VU

MKR 356.8 MHz
47.75 DBµV

START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec



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Test Results No. R-11574-4

15.239(b), Radiated Emissions, Fundamental Field Strength
Car-Cradle utilizing XM antenna only Test Data



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Test Results No. R-11574-4

E-13

12 Aug 06

hp
5 dB/

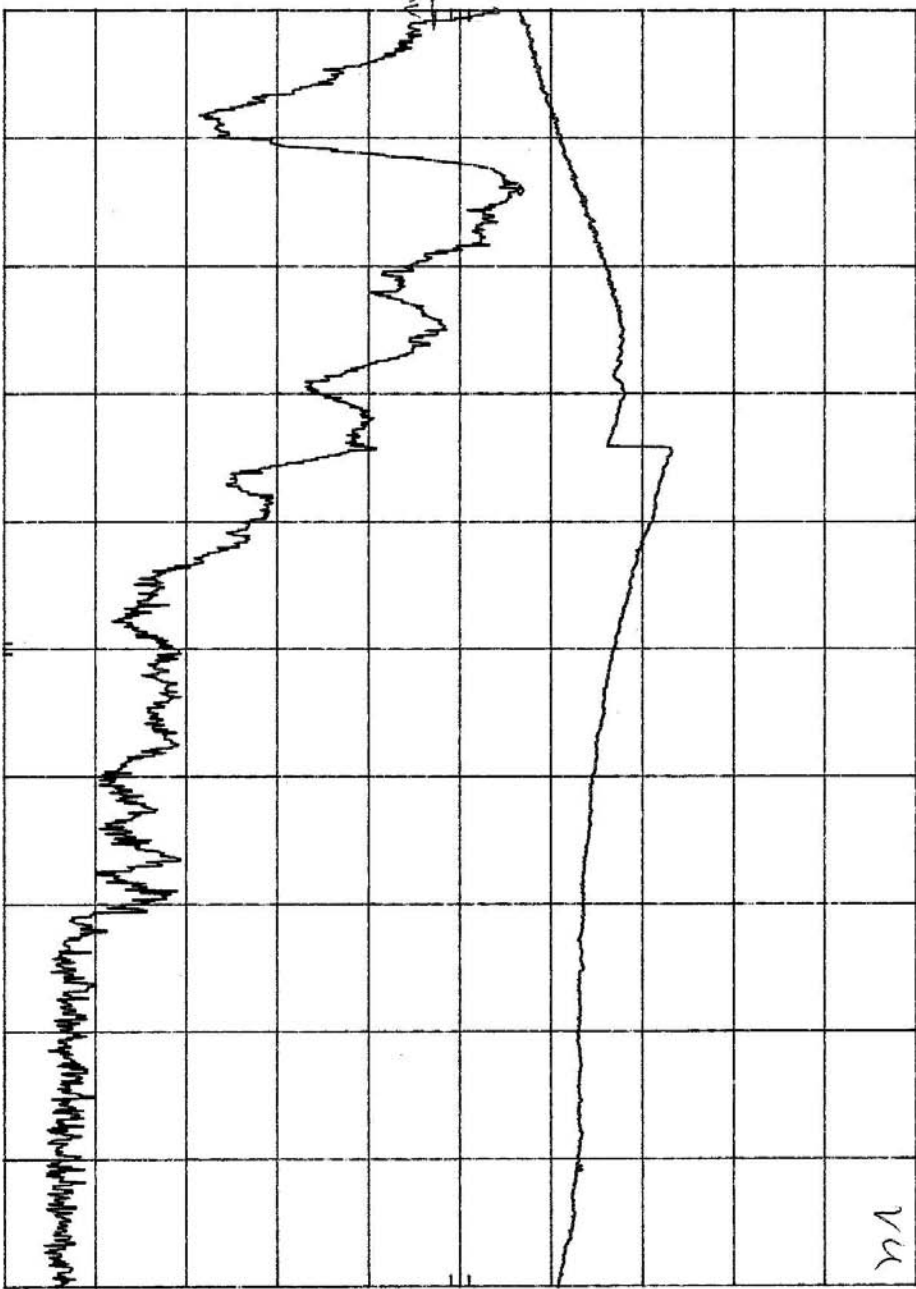
FCC Class B Limit @ 3m
REF 75.0 dBµV ATTN 0 dB

Vert

MKR 53.8 MHz
53.30 dBµV

VU

START 30 MHz RES BW 1 MHz VBW 1 MHz STOP 200 MHz
SWP 100 msec



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Test Results No. R-11574-4

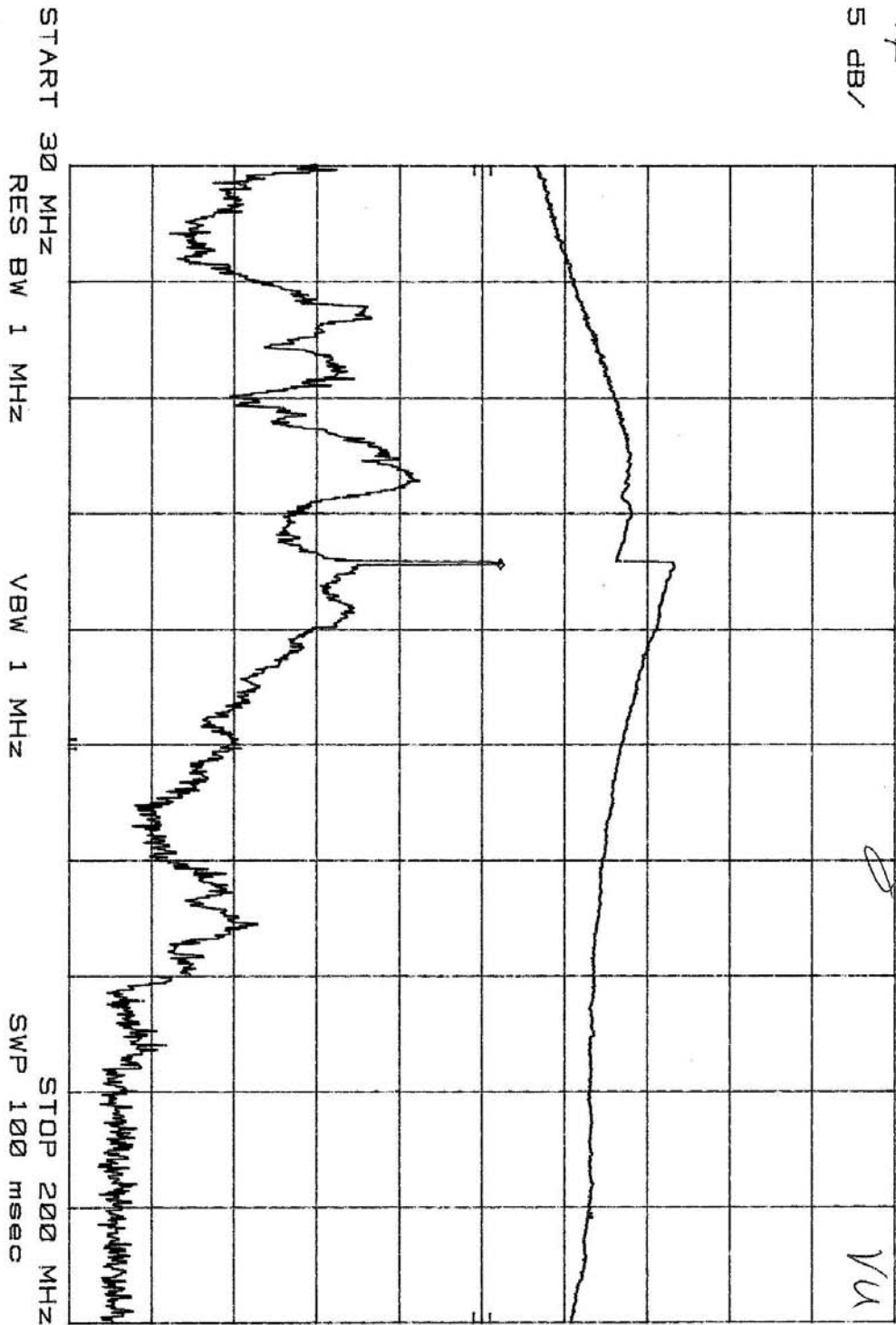
E-14

12 Aug 06

FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
HP
5 dB/

Horiz

MKR 88.3 MHz
51.10 dBµV
VU



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Test Results No. R-11574-4

E-15

12 Aug 06

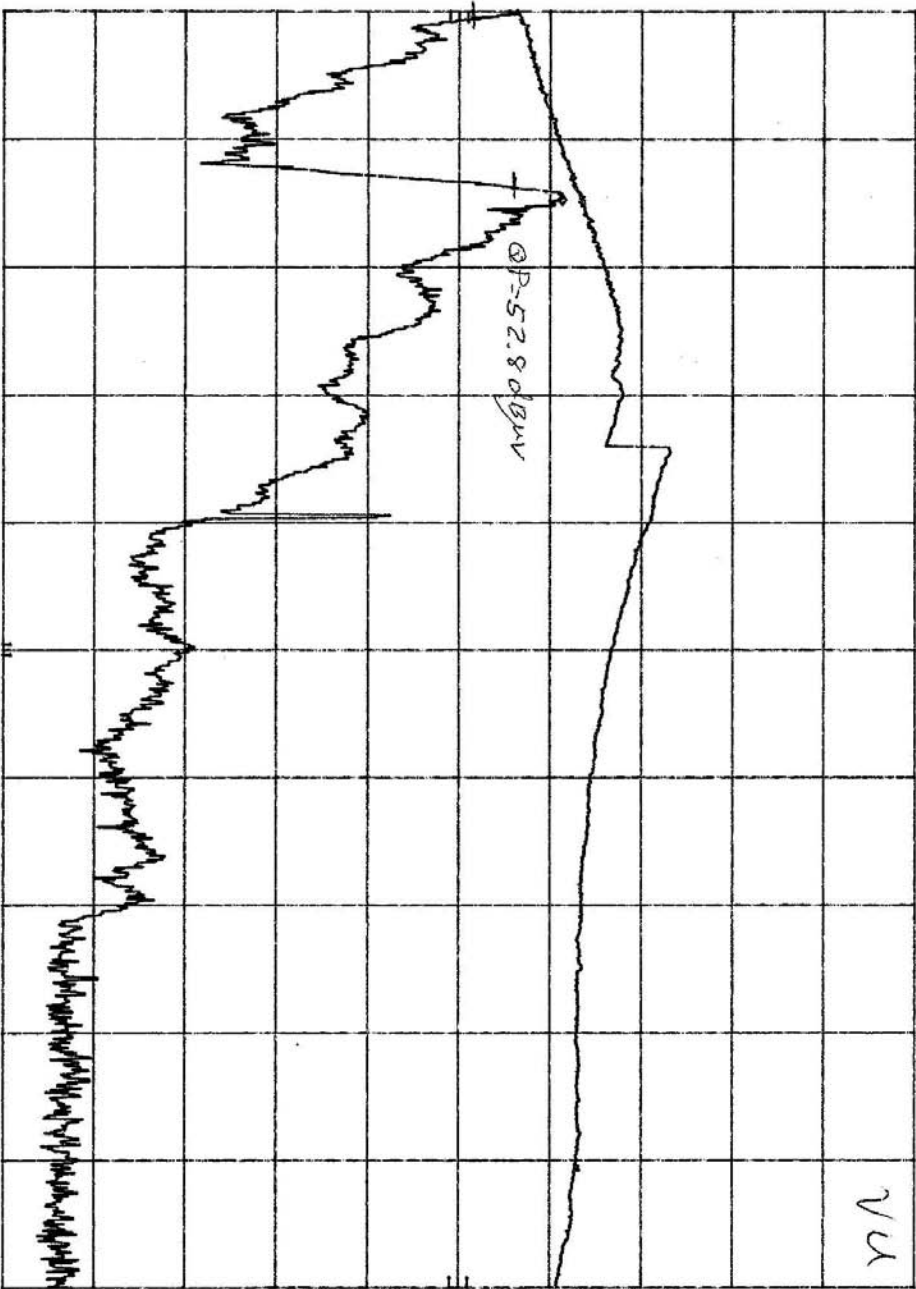
FCC Class B Limit @ 3m
REF 75.0 dBμV ATTN 0 dB
HP
5 dB/

Verf.

MKR 54.8 MHz
55.65 dBμV

VU

START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 200 MHz
SWP 100 msec



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Test Results No. R-11574-4

E-16

12 Aug 06

HP
5 dB/

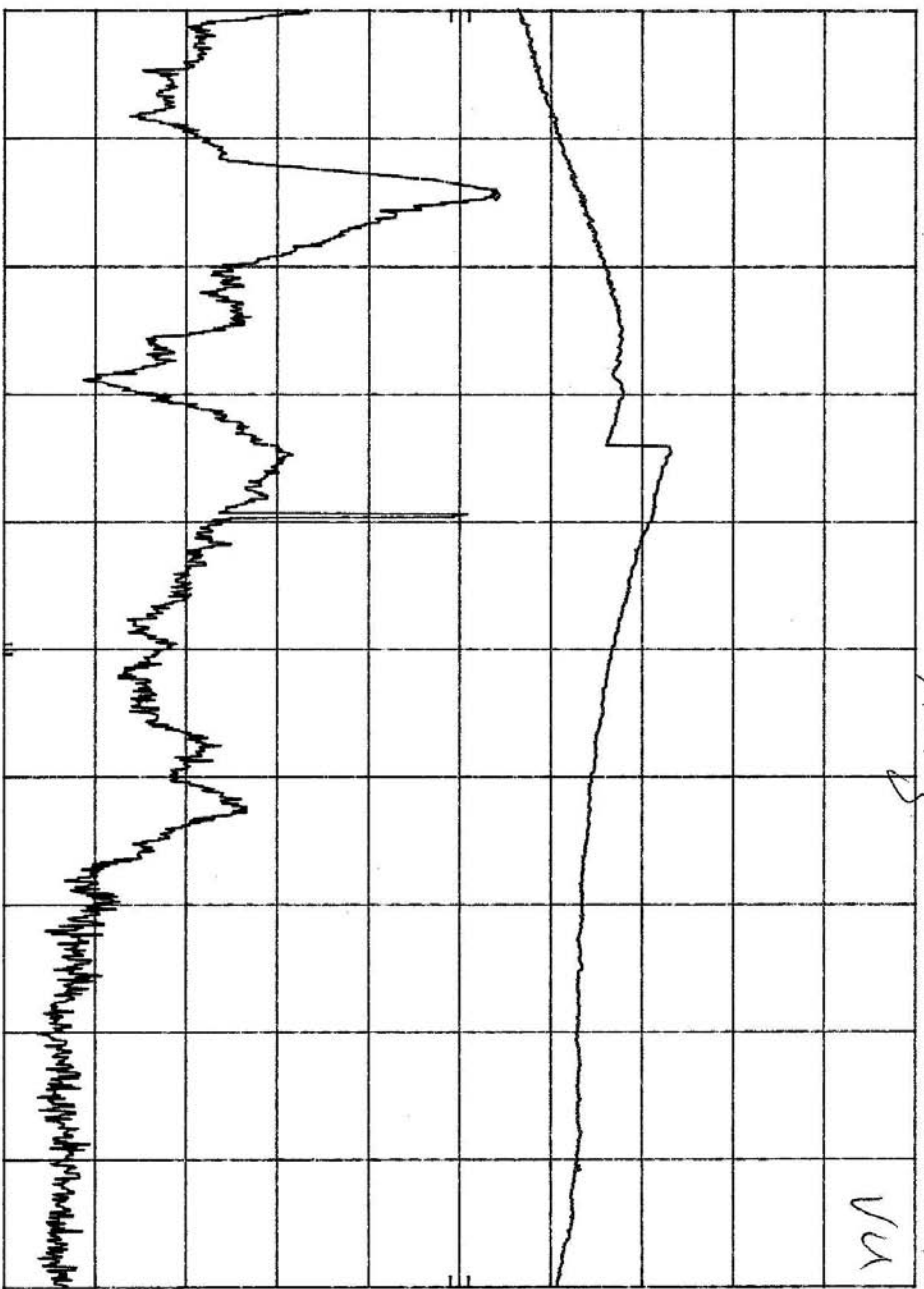
FCC Class B Limit @ 3m
REF 75.0 DBµV ATTEN 0 DB

Horiz

MKR 54.3 MHz
51.95 DBµV

VU

START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 200 MHz
SWP 100 msec



Retlif Testing Laboratories

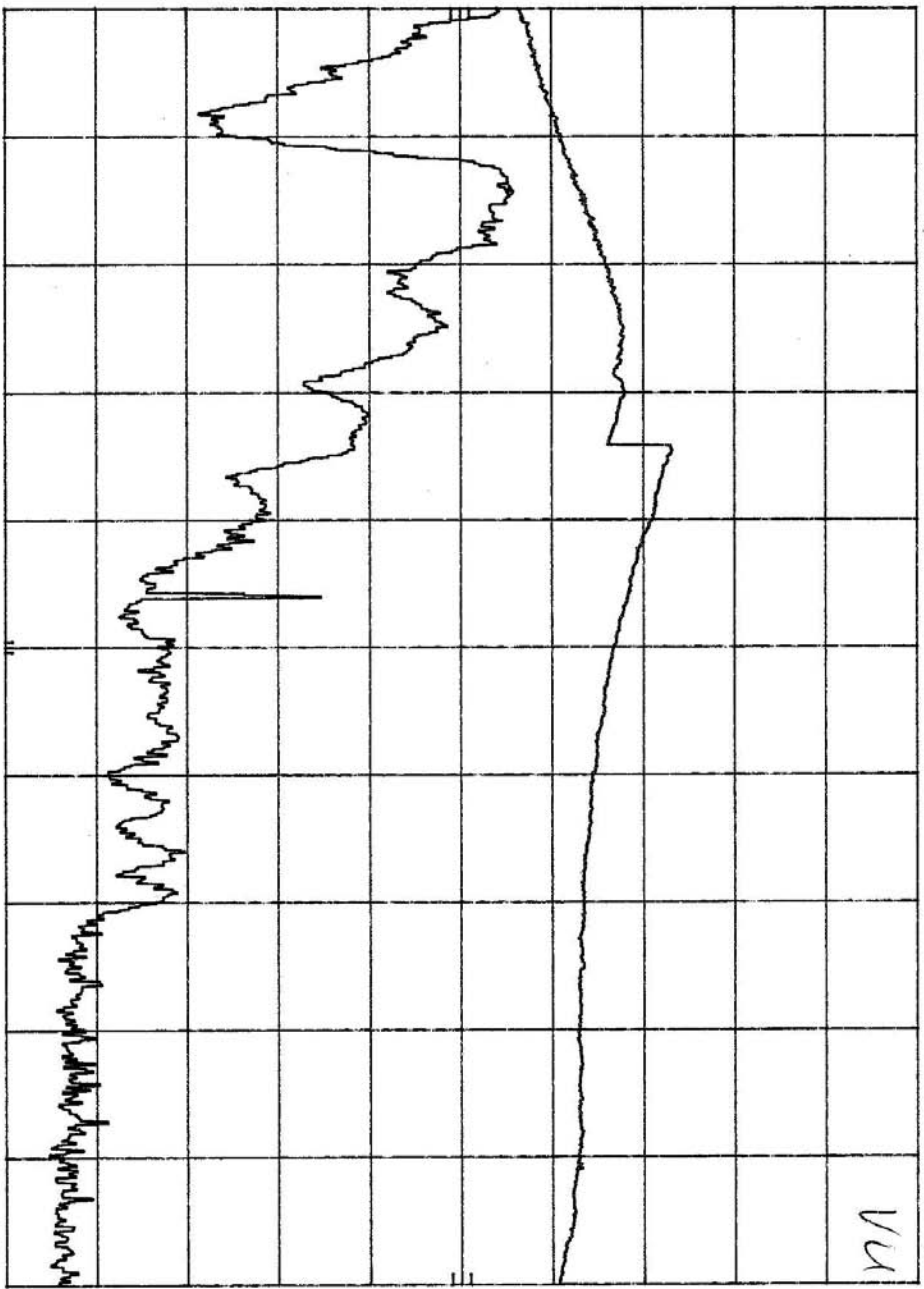
Test Results No. R-11574-4

E-17

12 Aug 06

FCC Class B Limit @ 3m
 REF 75.0 DBµV ATTEN 0 DB
 MKR 54.1 MHz
 52.70 DBµV
 hp
 5 dB/

START 30 MHz
 RES BW 1 MHz
 VBW 1 MHz
 STOP 200 MHz
 SWP 50.0 msec



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Test Results No. R-11574-4

E-18

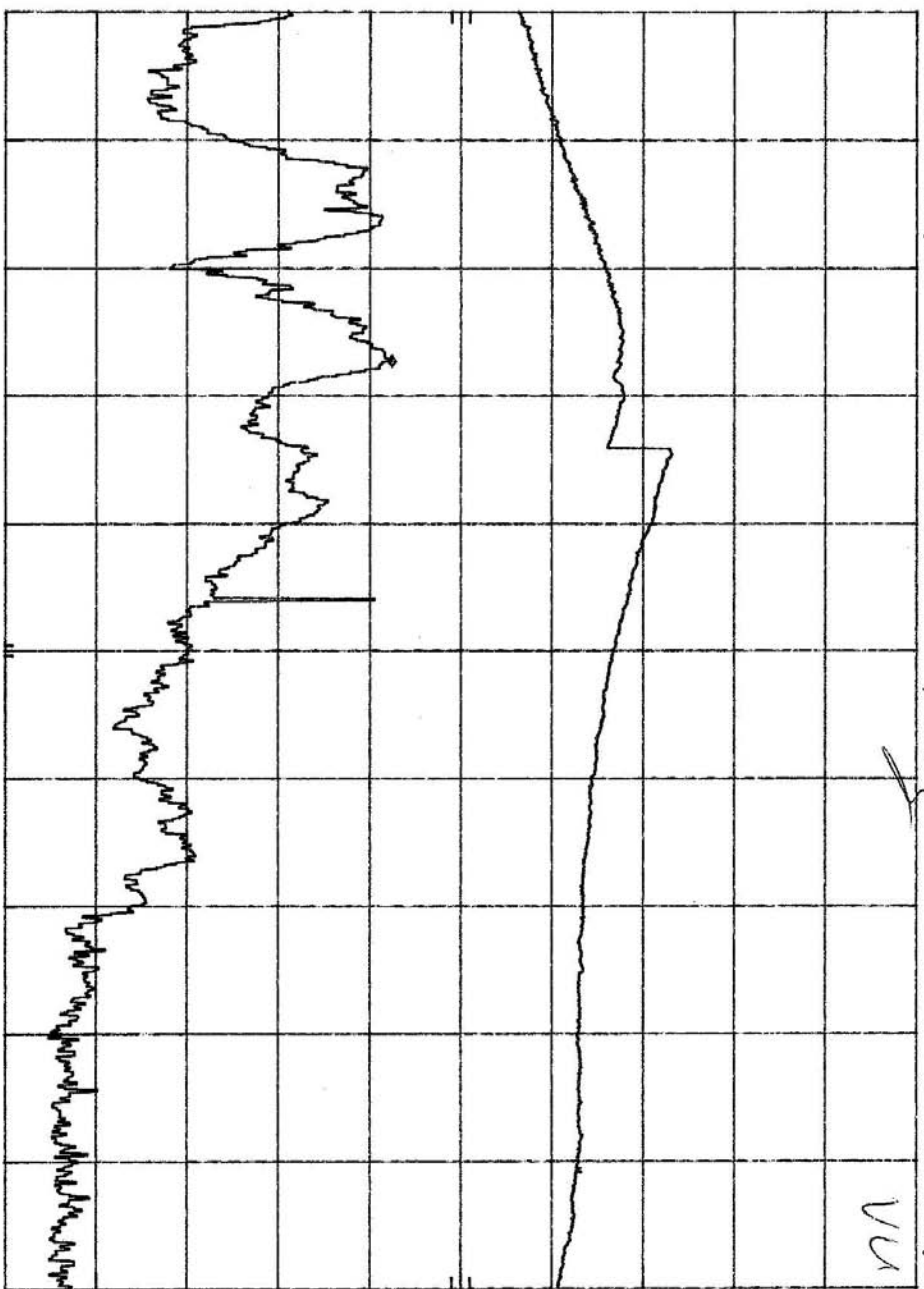
12 Aug 06

FCC Class B Limit @ 3m
REF 75.0 dBµV ATEN 0 dB
HP
5 dB/

Horiz

MKR 76.2 MHz
46.20 dBµV
VV

START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 200 MHz
SWP 50.0 msec



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Test Results No. R-11574-4

E-19

12 Aug 06

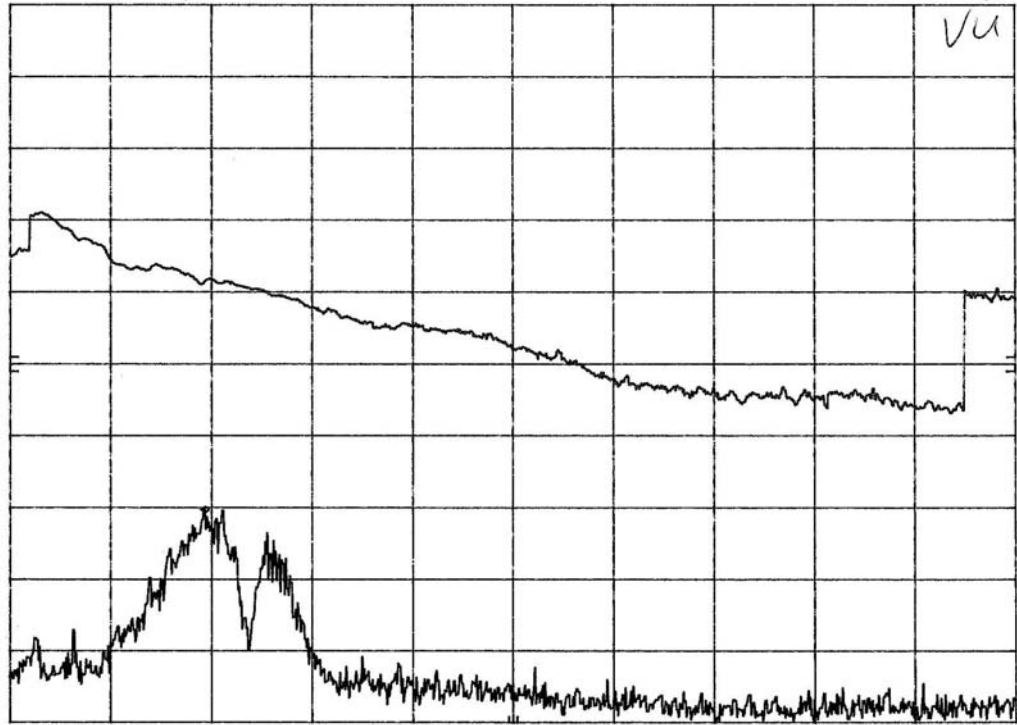
hp
5 dB/

FCC Class B Limit @ 3m
REF 75.0 dB μ V ATTN 0 dB

Vert

MKR 354.4 MHz
39.85 dB μ V

VU



START 200 MHz RES BW 1 MHz VBW 1 MHz STOP 1.000 GHz SWP 200 msec



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Test Results No. R-11574-4

E-20

12 Aug 06

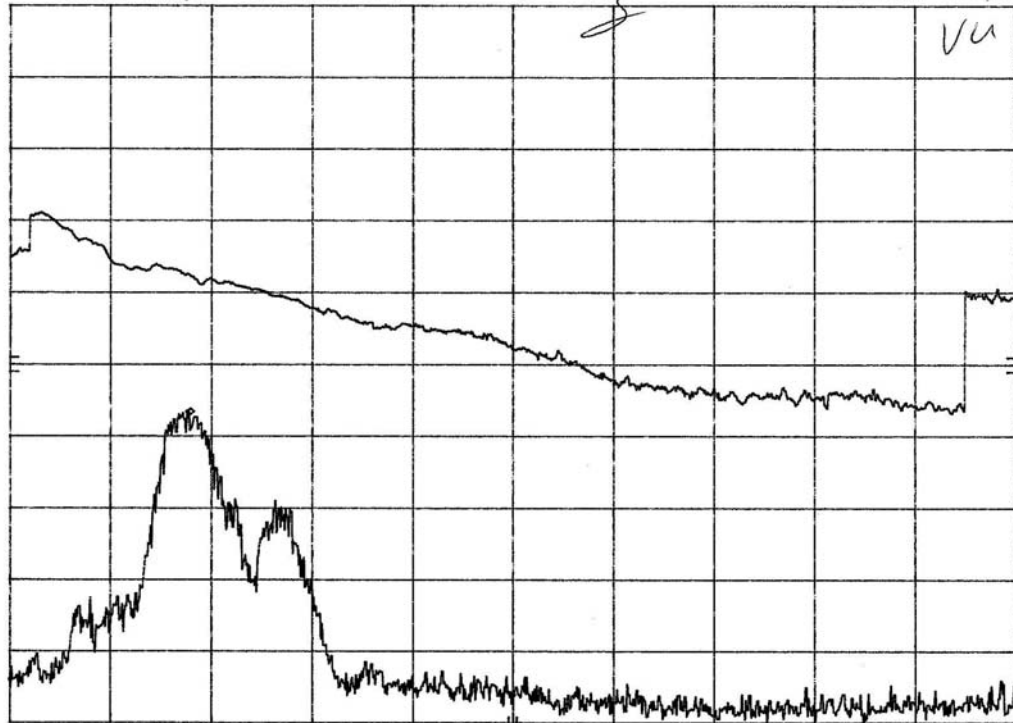
hp
5 dB/

FCC Class B Limit @ 3m
REF 75.0 dB μ V ATTEN 0 dB

MKR 342.4 MHz
46.70 dB μ V

Horiz

VU



START 200 MHz RES BW 1 MHz VBW 1 MHz STOP 1.000 GHz SWP 200 msec



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Test Results No. R-11574-4

E-21

12 Aug 10

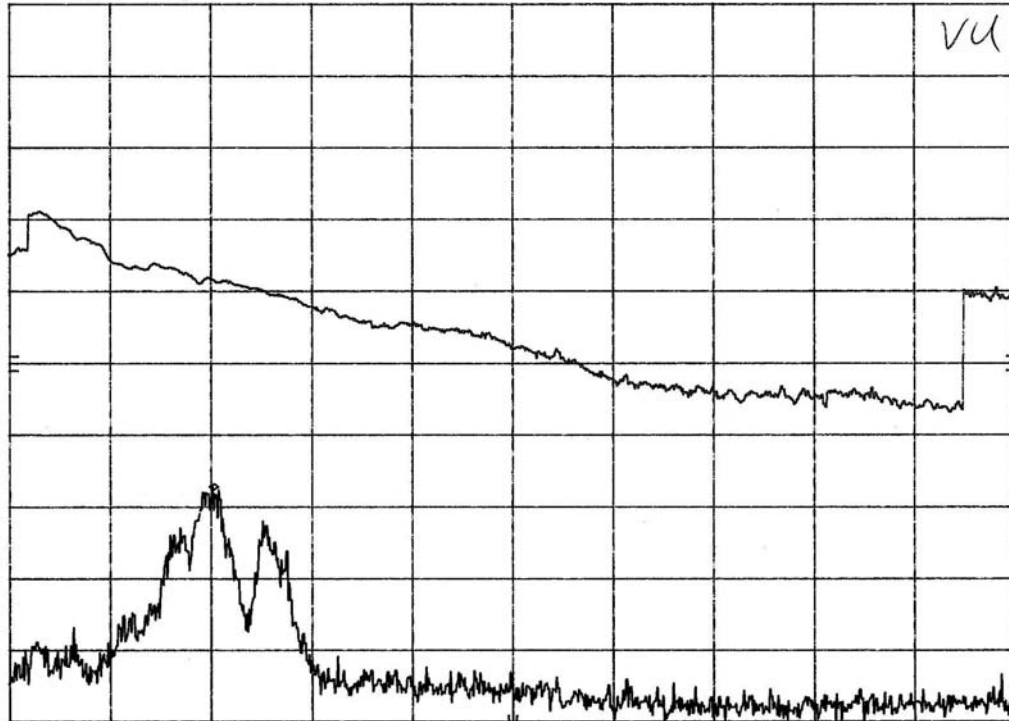
hp
5 dB/

FCC Class B Limit @ 3m
REF 75.0 dB μ V ATTN 0 dB

Vest

MKR 361.6 MHz
41.40 dB μ V

VU



START 200 MHz
RES BW 1 MHz

VBW 1 MHz

STOP 1.000 GHz
SWP 200 msec

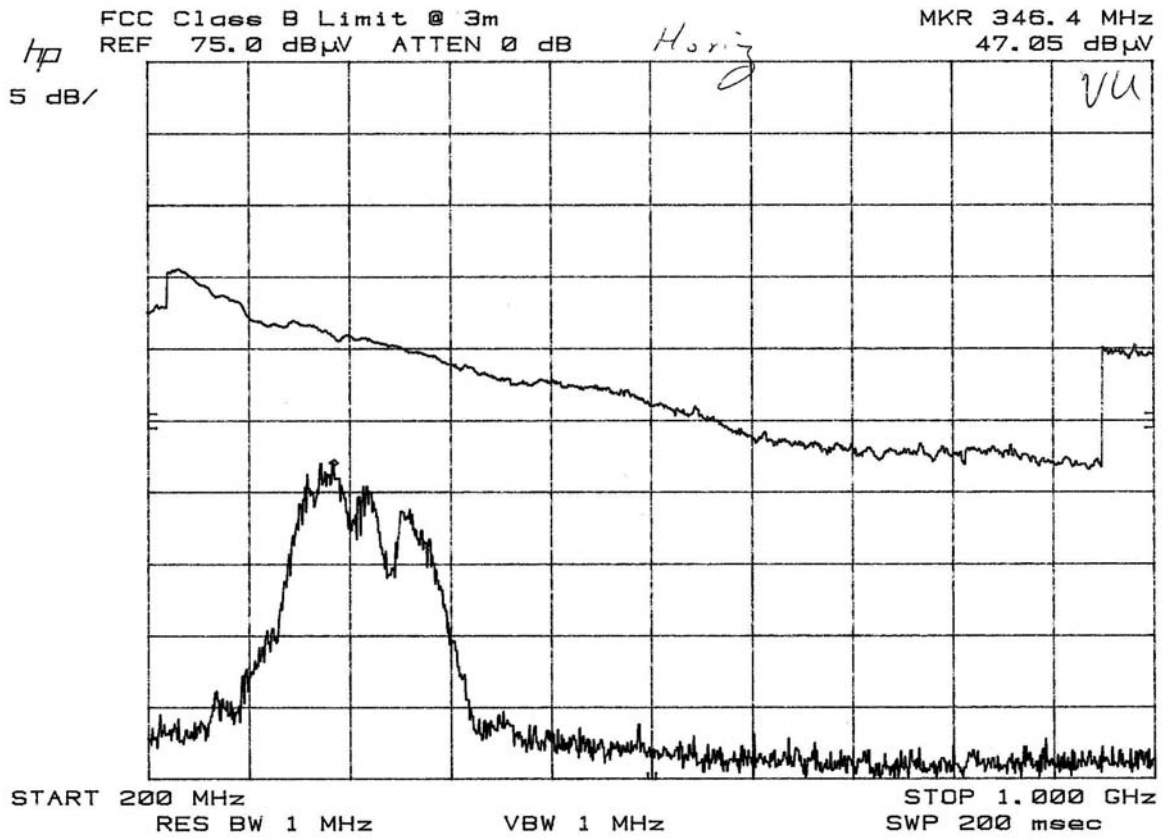


Retlif Testing Laboratories

Test Results No. R-11574-4

E-22

12 Aug 06

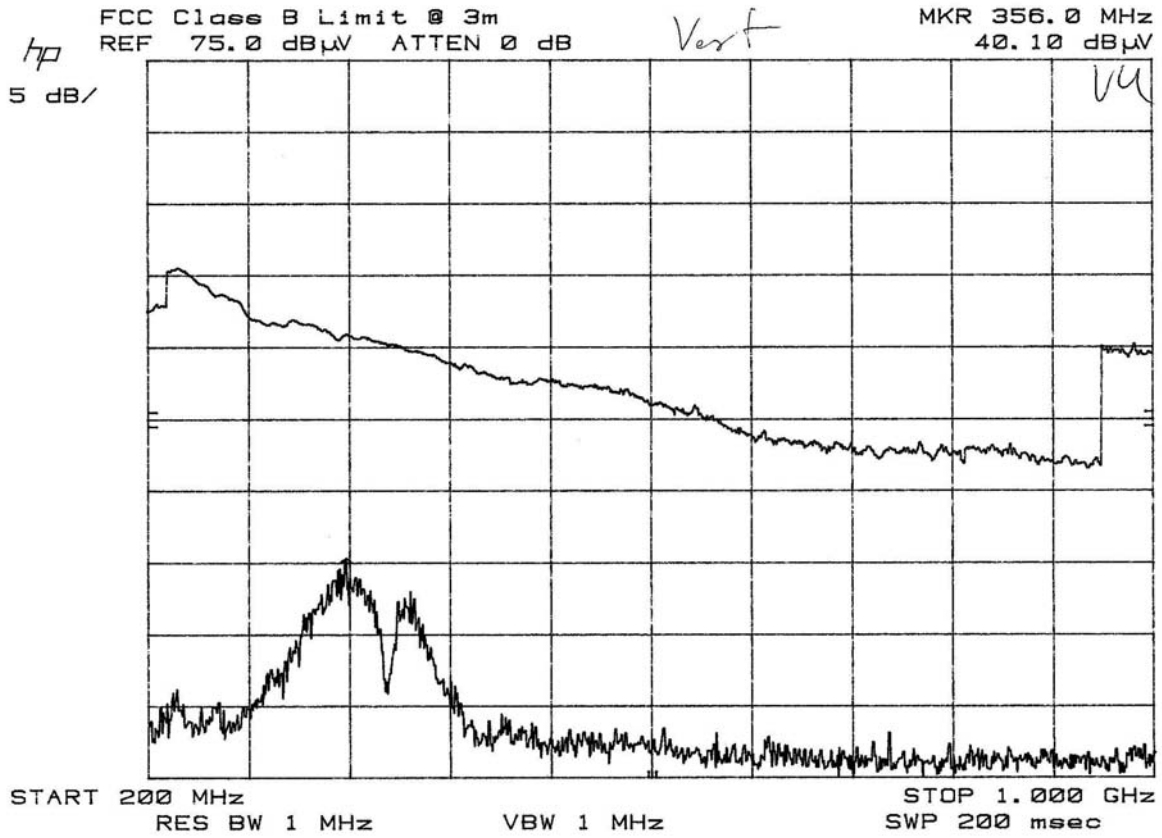


Retlif Testing Laboratories

Test Results No. R-11574-4

E-23

12 Aug 06



Retlif Testing Laboratories

Test Results No. R-11574-4

E-24

12 Aug 06

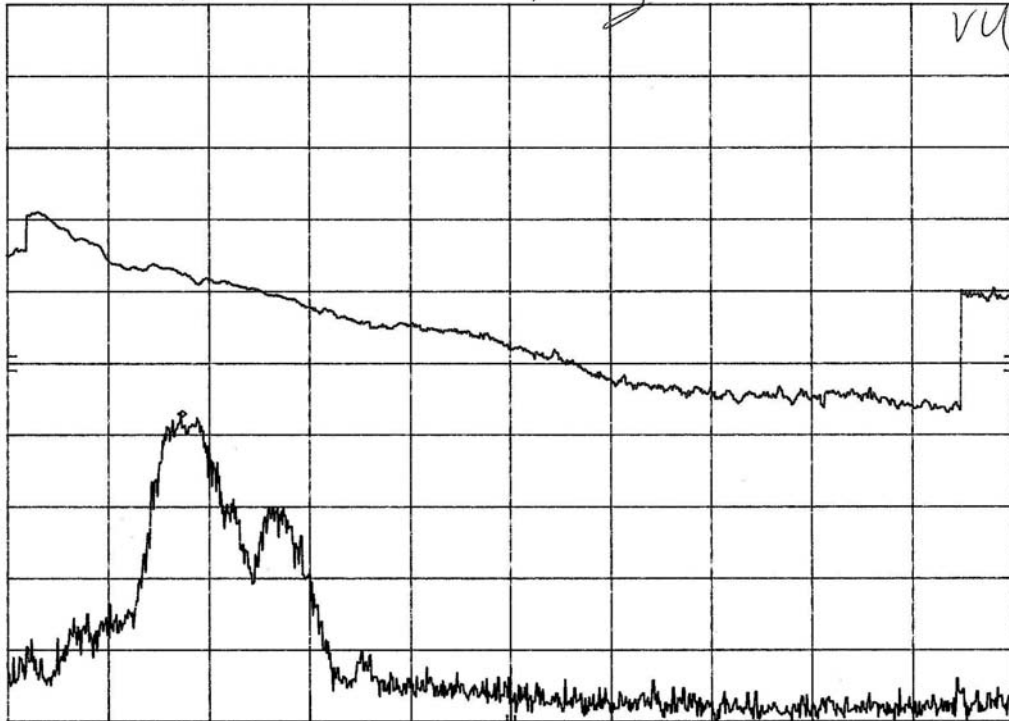
hp
5 dB/

FCC Class B Limit @ 3m
REF 75.0 dB μ V ATTN 0 dB

MKR 337.6 MHz
46.45 dB μ V

Horiz

VU



START 200 MHz RES BW 1 MHz VBW 1 MHz STOP 1.000 GHz SWP 200 msec



Retlif Testing Laboratories

Test Results No. R-11574-4

FCC Part 15, Subpart B, Class B, Radiated Emissions Test Method (Home Cradle)

1. Each satellite radio receiver was tested at Florida Atlantic University (FAU) three-meter indoor test site. Test firm FCC registration number is 447616.
2. All radiated emissions test data was obtained by test personnel at FAU.
3. Testing consisted of determining the maximum emissions by placing the test sample three meters away from the measuring antenna. With the spectrum analyzer in max hold, the antenna placed in a vertical polarity was raised and lowered from 1 meter to 4 meters until the maximum emission was determined.
4. After the antenna was raised and lowered the turntable was rotated 360°. The spectrum analyzer set to max hold until the maximum emission was determined. The data was recorded utilizing both data points and graphical plots for each configuration.
5. Steps 3 and 4 were repeated with the antenna in horizontal polarity.
6. The RBW and VBW of the spectrum analyzer were set to 120 kHz and 300 kHz respectively. A peak detector was utilized
7. Graphical Plots indicate the maximum emission. The FCC Part 15, Subpart B, Class B, test limit line was adjusted utilizing the correction factors for each operating frequency and mode of testing. There were four (4) plots; one plot displayed the emissions from 30 MHz and 200 MHz, one plot displayed 200 MHz -1000 MHz, one set in vertical polarity and one set in horizontal polarity.

Test Results

No emissions which exceeded the specified limits were observed and the EUT was found to comply with the requirements specified for this method.

See the following four (4) data sheets for a full presentation of the results obtained.



Retlif Testing Laboratories

Test Results No. R-11574-4

15.109(a), Radiated Emissions,
Home Cradle Test Data



Retlif Testing Laboratories

Test Results No. R-11574-4

E-25

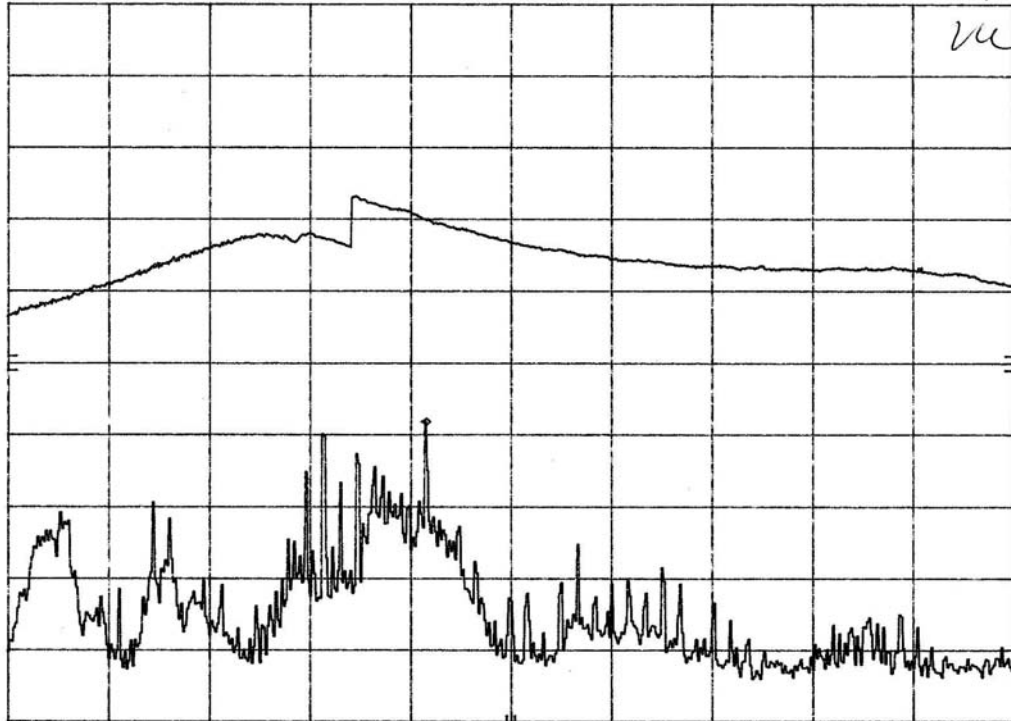
12 Aug 06

hp
5 dB/
FCC Class B Limit @ 3m
REF 75.0 dB μ V ATTN 0 dB

Vert

MKR 100.4 MHz
45.90 dB μ V

VU



START 30 MHz RES BW 1 MHz VBW 1 MHz STOP 200 MHz SWP 50.0 msec

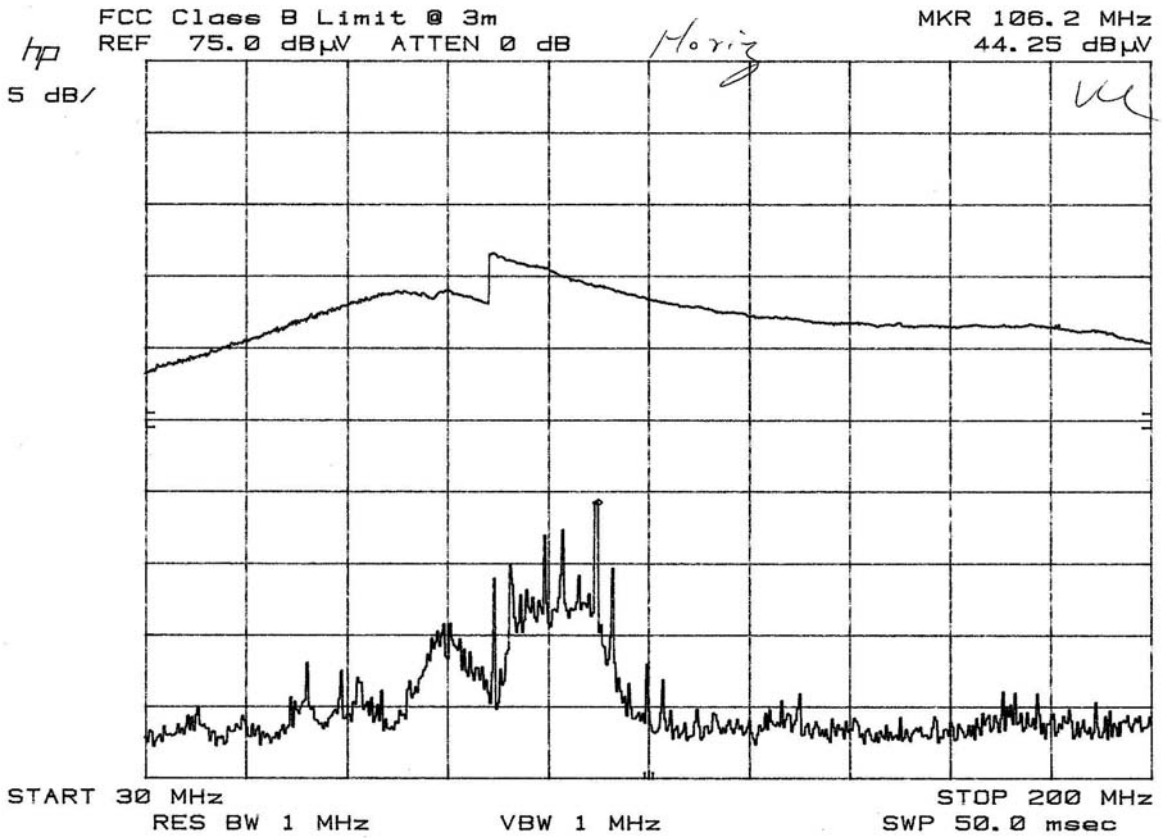


Retlif Testing Laboratories

Test Results No. R-11574-4

E-26

12 Aug 06

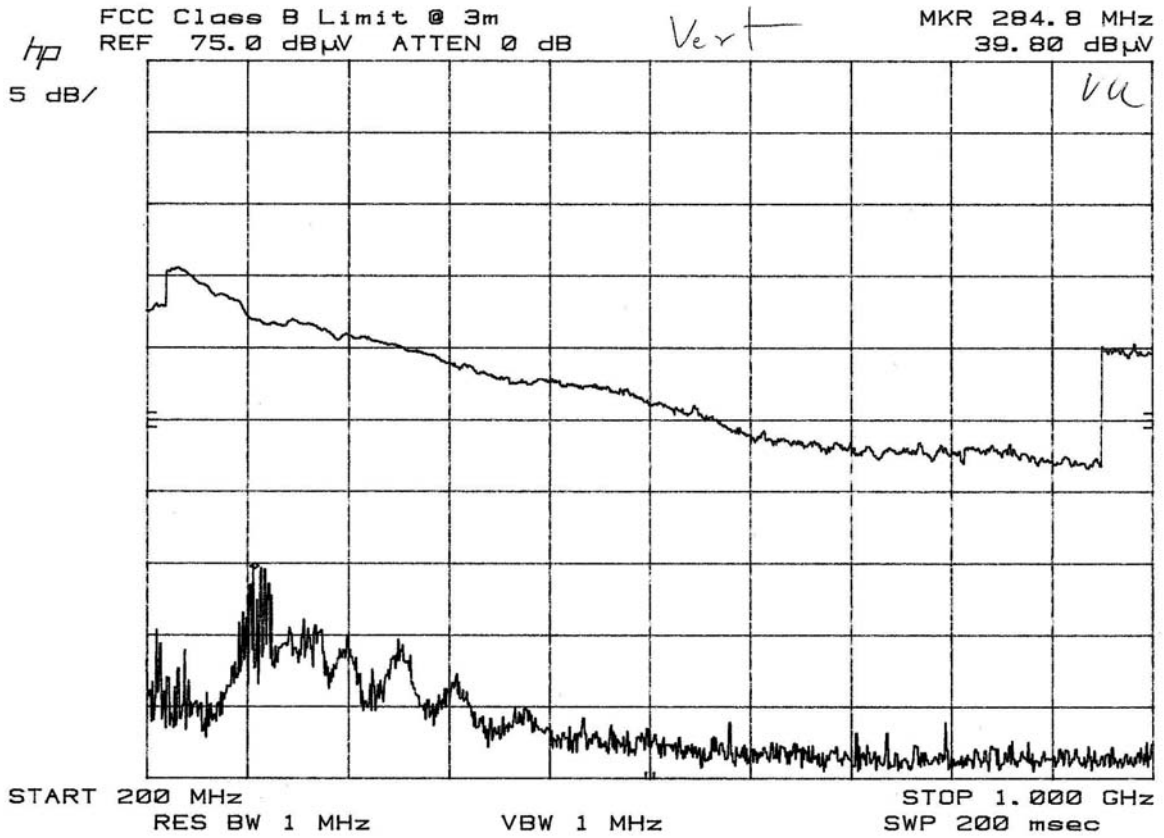


Retlif Testing Laboratories

Test Results No. R-11574-4

E-27

12 Aug 06

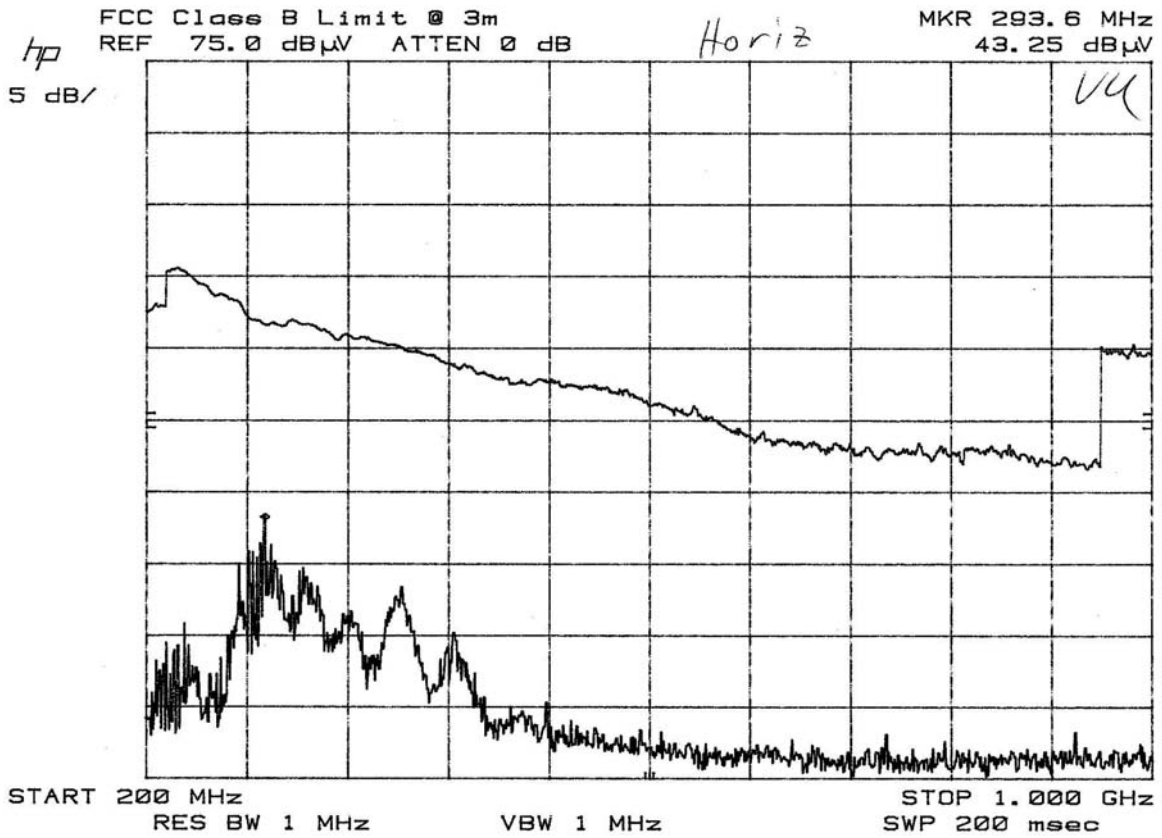


Retlif Testing Laboratories

Test Results No. R-11574-4

E-28

12 Aug 06



Retlif Testing Laboratories

Test Results No. R-11574-4

FCC Part 15, Subpart B, Class B, Radiated Emissions Test Method (FM Direct)

1. Each satellite radio receiver was tested at Florida Atlantic University (FAU) three-meter indoor test site. Test firm FCC registration number is 447616.
2. All radiated emissions test data was obtained by test personnel at FAU.
3. Testing consisted of determining the maximum emissions by placing the test sample three meters away from the measuring antenna. With the spectrum analyzer in max hold, the antenna placed in a vertical polarity was raised and lowered from 1 meter to 4 meters until the maximum emission was determined.
4. After the antenna was raised and lowered the turntable was rotated 360°. The spectrum analyzer set to max hold until the maximum emission was determined. The data was recorded utilizing both data points and graphical plots for each configuration.
5. Steps 3 and 4 were repeated with the antenna in horizontal polarity.
6. The RBW and VBW of the spectrum analyzer were set to 120 kHz and 300 kHz respectively. A peak detector was utilized
7. Graphical Plots indicate the maximum emission. The FCC Part 15, Subpart B, Class B, test limit line was adjusted utilizing the correction factors for each operating frequency and mode of testing. There were four (4) plots; one plot displayed the emissions from 30 MHz and 200 MHz, one plot displayed 200 MHz -1000 MHz, one set in vertical polarity and one set in horizontal polarity.

Test Results

No emissions which exceeded the specified limits were observed and the EUT was found to comply with the requirements specified for this method.

See the following twelve (12) data sheets for a full presentation of the results obtained.



Retlif Testing Laboratories

Test Results No. R-11574-4

15.109(a), Radiated Emissions,
FM Direct Test Data



Retlif Testing Laboratories

Test Results No. R-11574-4

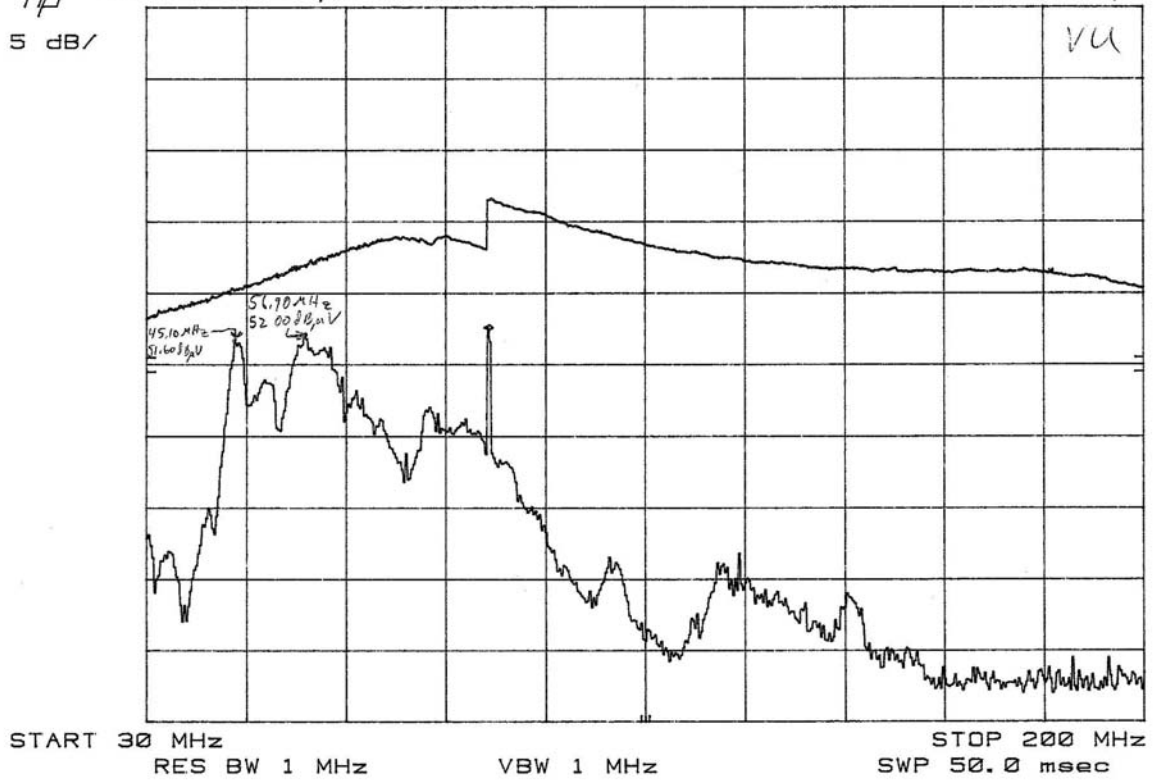
E-29

8/17/06

hp
5 dB/
FCC Class B Limit @ 3m
REF 75.0 dBμV ATTEN 0 dB

Vertical

MKR 88.1 MHz
52.60 dBμV



Retlif Testing Laboratories

Test Results No. R-11574-4

E-30

8/17/06

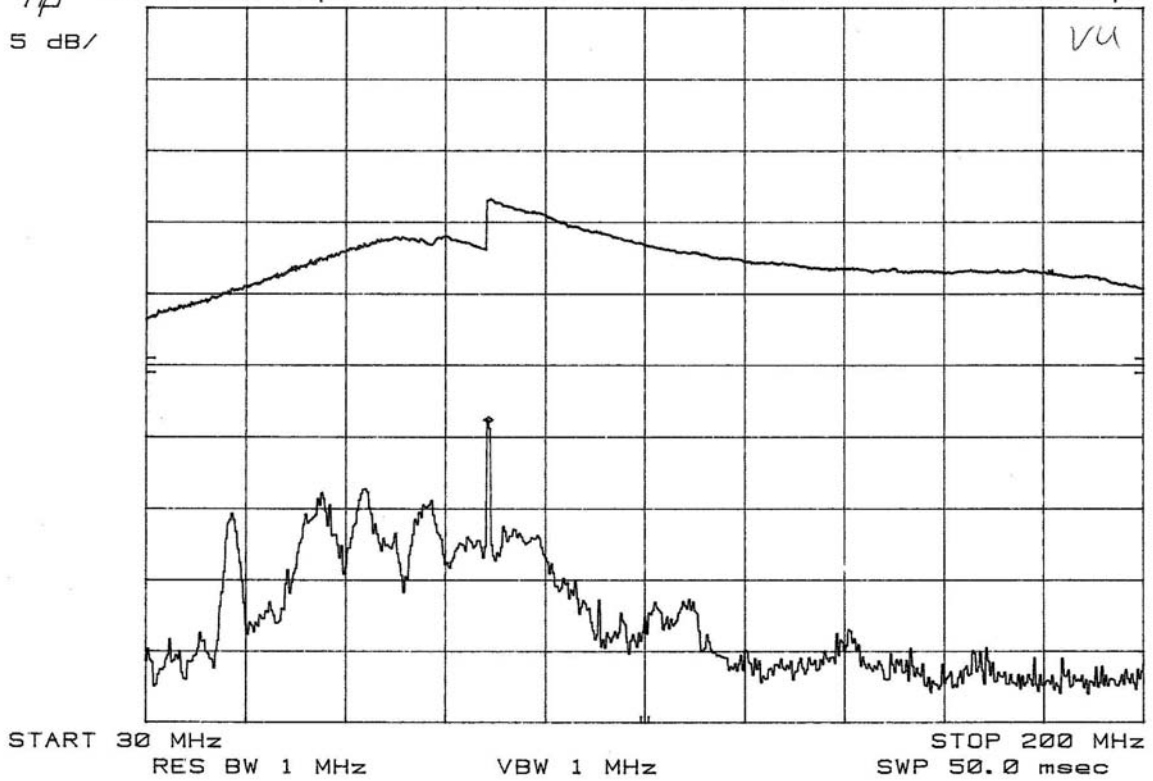
hp
5 dB/

FCC Class B Limit @ 3m
REF 75.0 dB μ V ATTEN 0 dB

Horizontal

MKR 88.1 MHz
46.20 dB μ V

VU



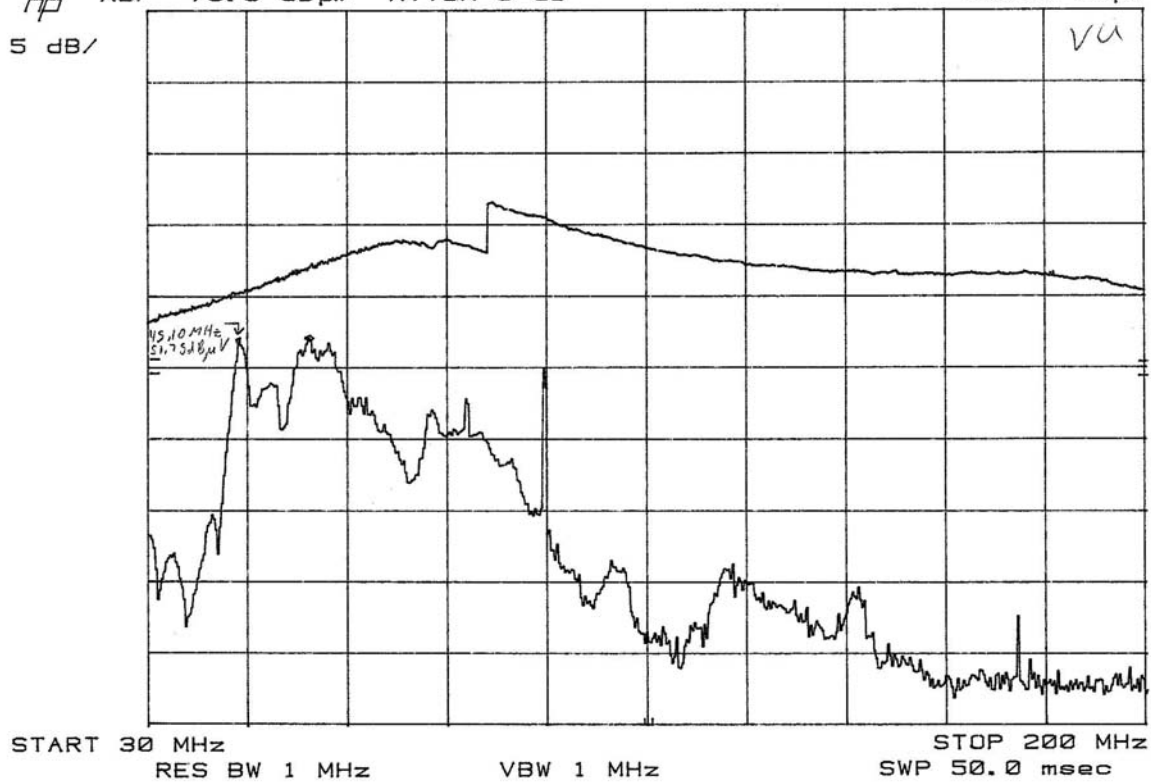
Retlif Testing Laboratories

Test Results No. R-11574-4

E-31

8/17/06

FCC Class B Limit @ 3m
REF 75.0 dB μ V ATTN 0 dB
MKR 56.9 MHz
52.00 dB μ V
Vertical
5 dB/

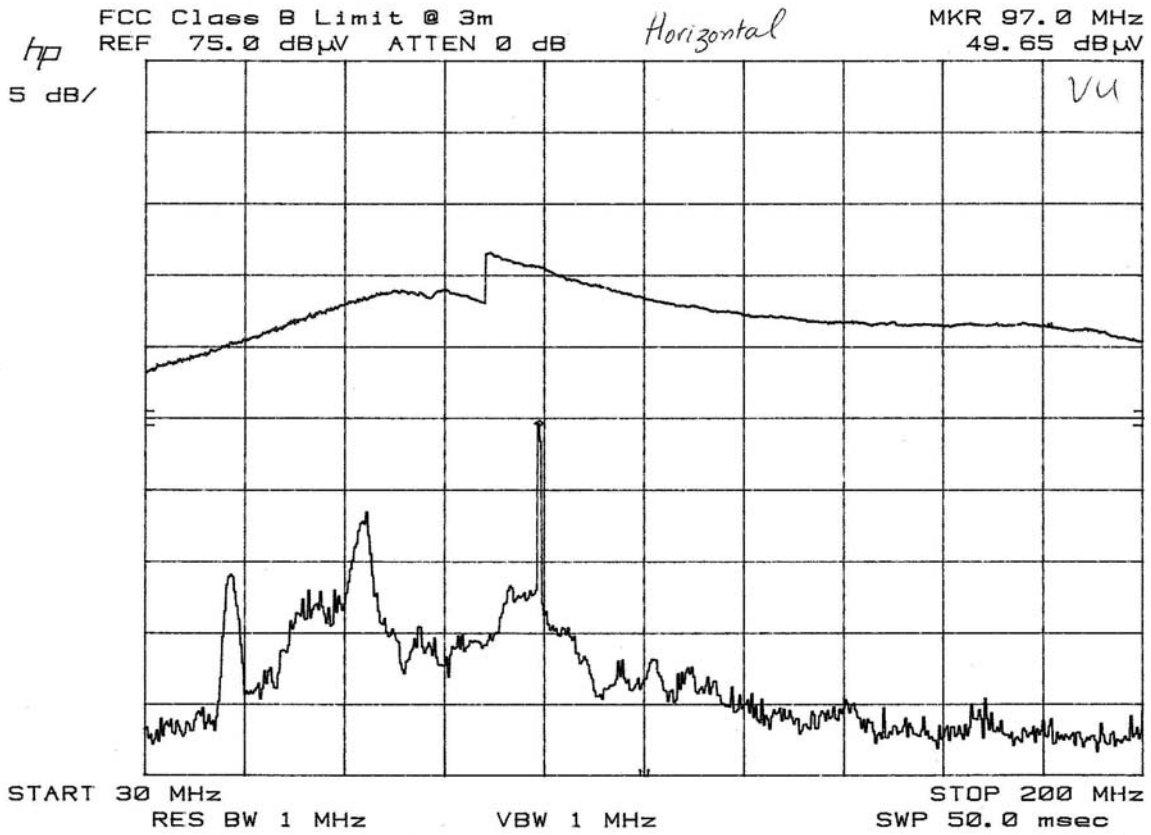


Retlif Testing Laboratories

Test Results No. R-11574-4

E-32

8/17/06

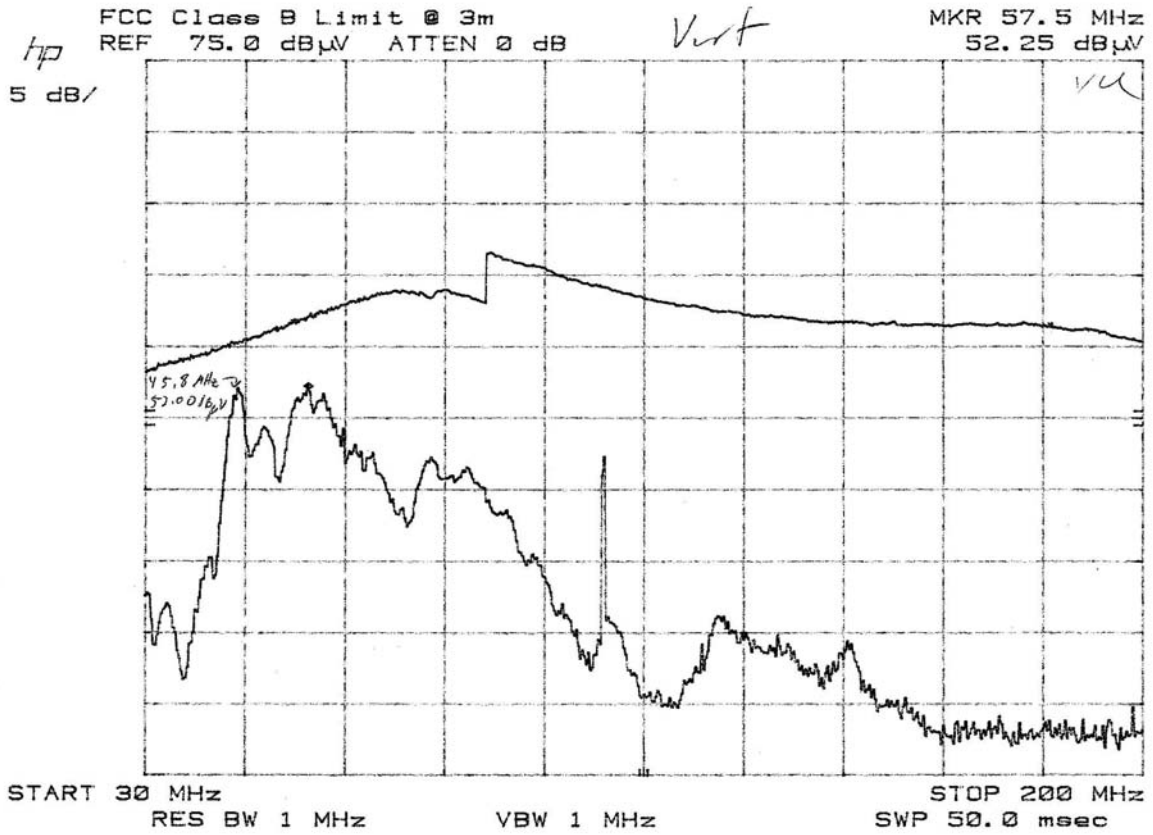


Retlif Testing Laboratories

Test Results No. R-11574-4

E-33

17 Aug 06

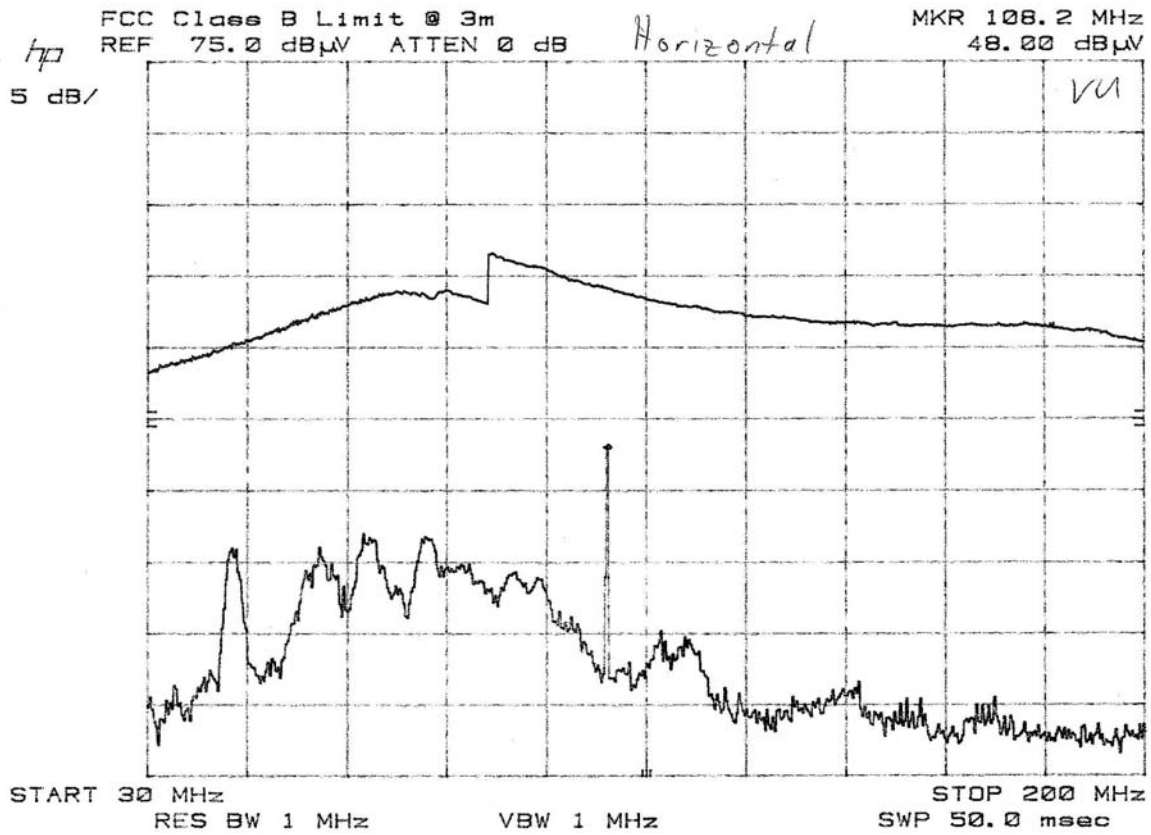


Retlif Testing Laboratories

Test Results No. R-11574-4

E-34

17 Aug 06



Retlif Testing Laboratories

Test Results No. R-11574-4

E-35

8/17/06

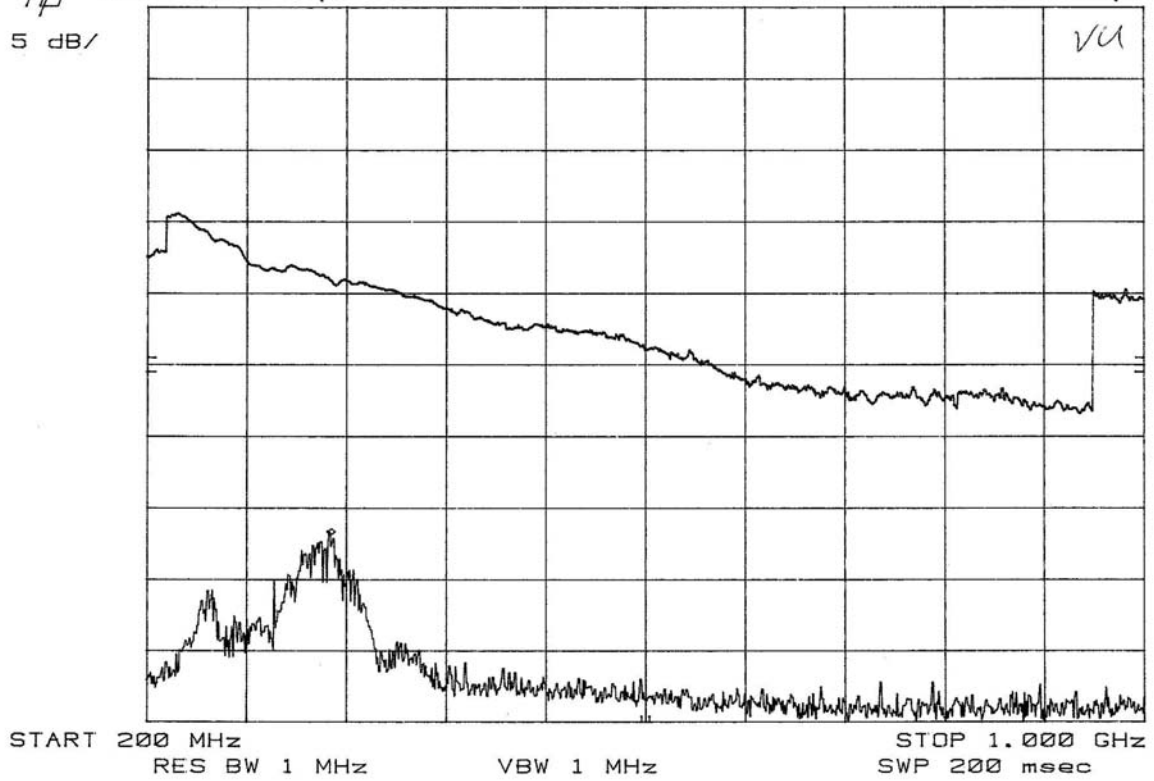
hp
5 dB/

FCC Class B Limit @ 3m
REF 75.0 dB μ V ATTN 0 dB

Vertical

MKR 347.2 MHz
38.35 dB μ V

VU



Retlif Testing Laboratories

Test Results No. R-11574-4

E-36

8/17/06

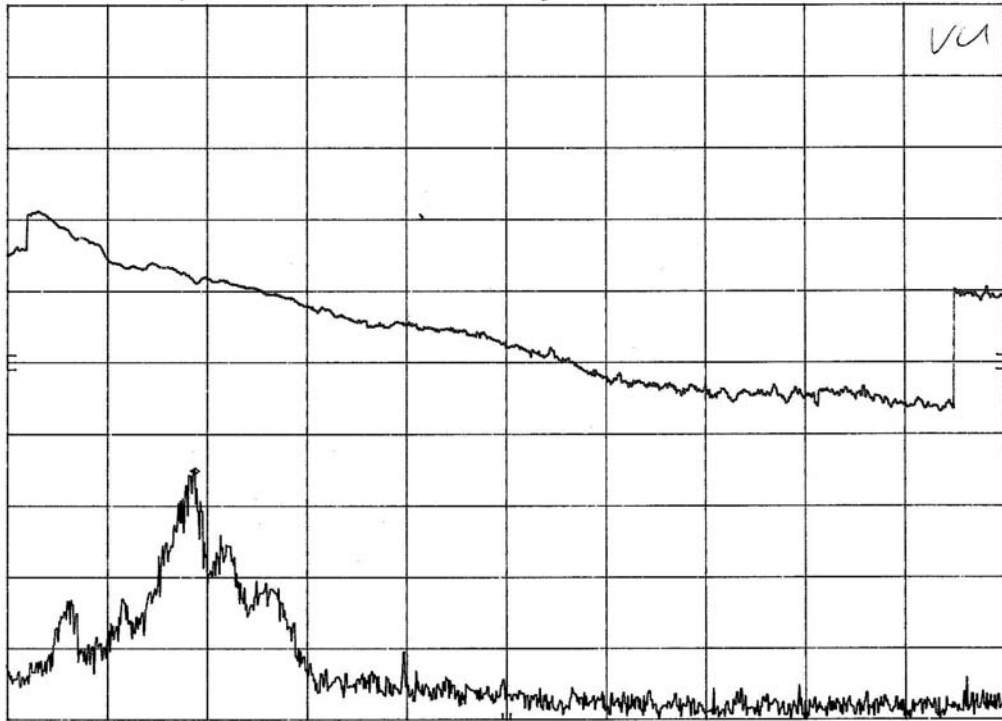
hp
5 dB/

FCC Class B Limit @ 3m
REF 75.0 dBμV ATTN 0 dB

Horizontal

MKR 349.6 MHz
42.45 dBμV

VU



START 200 MHz
RES BW 1 MHz
VBW 1 MHz

STOP 1.000 GHz
SWP 200 msec



Retlif Testing Laboratories

Test Results No. R-11574-4

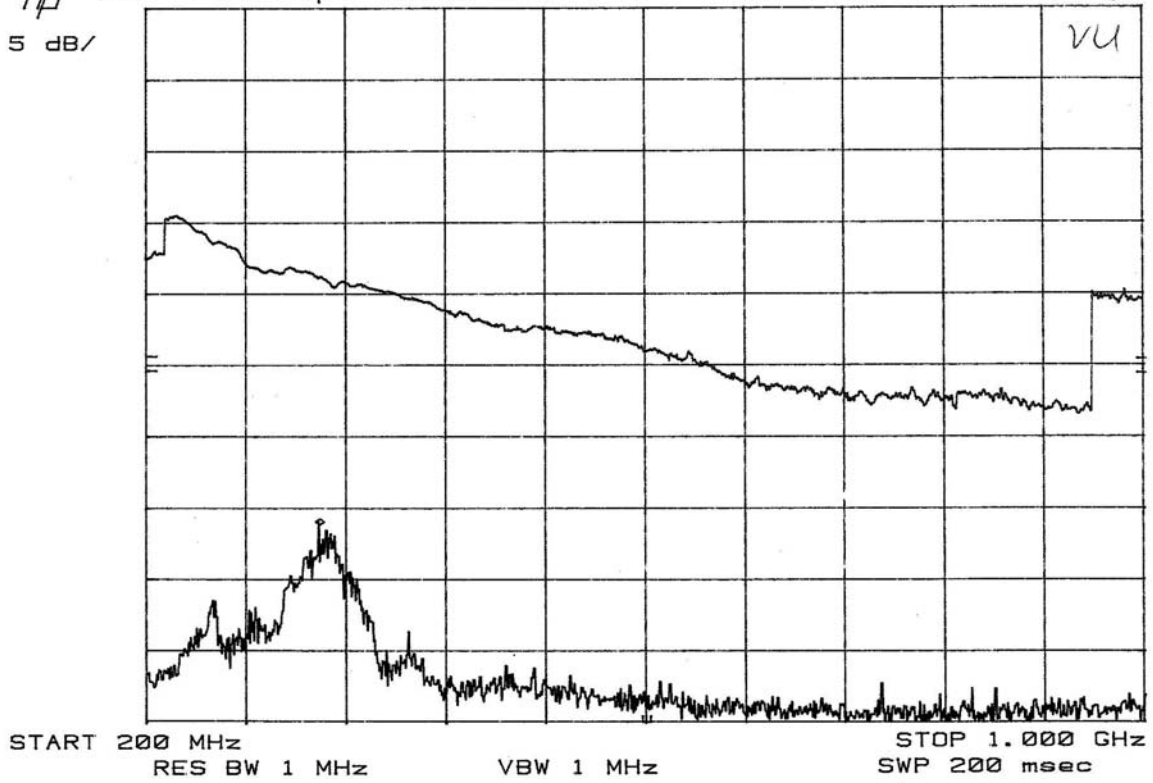
E-37

8/17/06

hp
5 dB/
FCC Class B Limit @ 3m
REF 75.0 dB μ V ATTEN 0 dB

Vertical

MKR 337.6 MHz
39.00 dB μ V



Retlif Testing Laboratories

Test Results No. R-11574-4

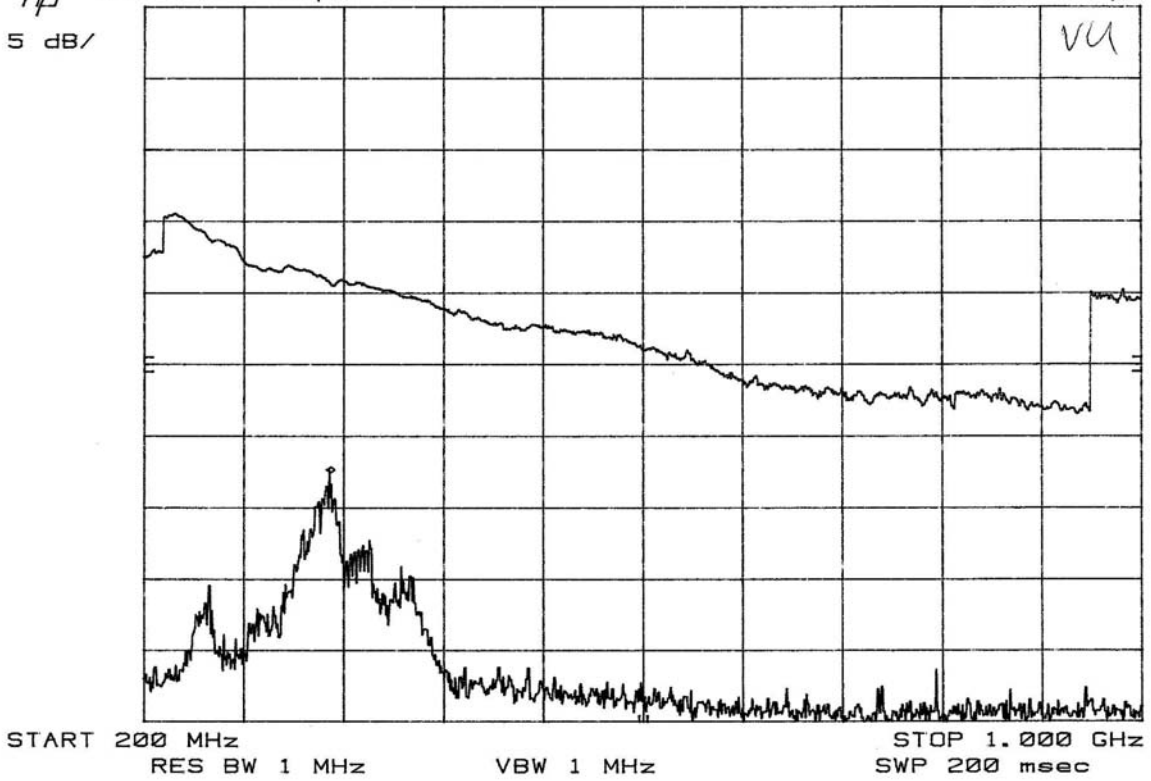
E-38

8/17/06

hp
5 dB/
FCC Class B Limit @ 3m
REF 75.0 dB μ V ATTEN 0 dB

Horizontal

MKR 348.8 MHz
42.65 dB μ V

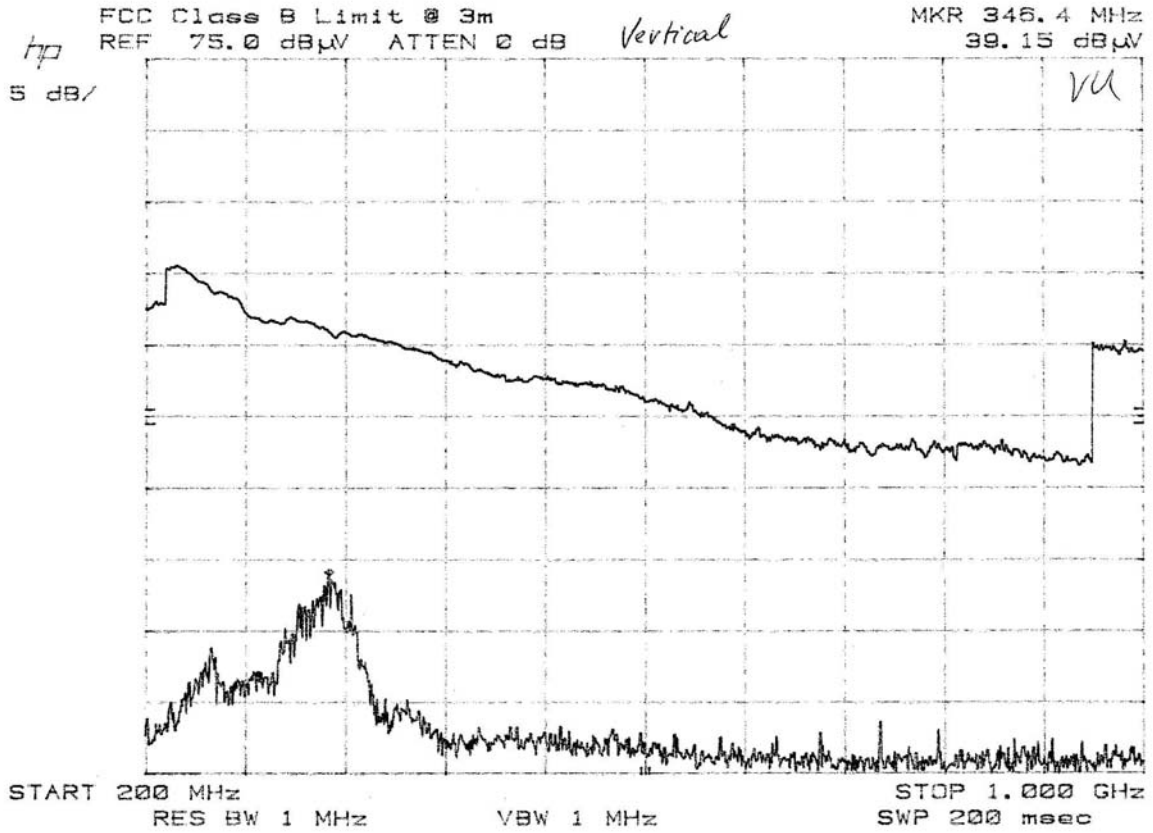


Retlif Testing Laboratories

Test Results No. R-11574-4

E-39

8/17/06

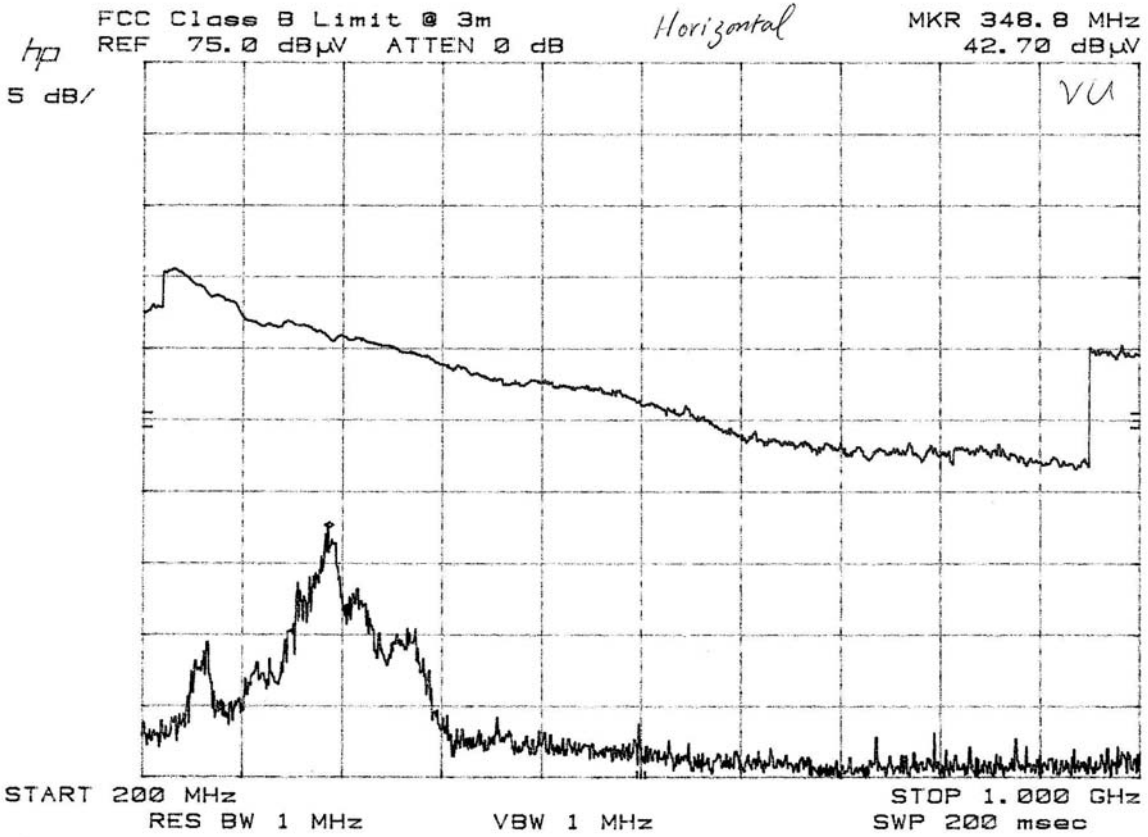


Retlif Testing Laboratories

Test Results No. R-11574-4

E-40

8/17/06



Retlif Testing Laboratories

Test Results No. R-11574-4

RodyXT – Tabular Data

Rody XT with FM Coupler Data Points					Correction Factors	Corrected readings	Limit
Plot ID	Peak Frequency (MHz)	Peak Power (dBµV)	Rotation (°)	Height (cm)	dB	Peak Power (dBµV)	dBµV/meter
E-1	88.10	57.65	88	100	-18.6	39.05	48
	56.20	54.10	229	123	-17	37.10	40
	30.10	45.95	30	101	-13.7	32.25	40
E-2	88.10	57.10	14	221	-18.6	38.50	48
	58.90	49.95	282	193	-18.3	31.65	40
E-3	96.90	60.40	357	119	-17.5	42.90	48
	58.60	53.40	301	107	-18.3	35.10	40
	31.20	46.80	54	107	-13.7	33.10	40
E-4	96.90	54.85	105	312	-17.5	37.35	48
E-5	107.90	61.85	194	100	-16.4	45.45	48
	30.30	44.00	103	100	-13.7	30.30	40
	58.40	53.60	3	100	-18.3	35.30	40
E-6	107.90	58.53	83	289	-16.4	42.13	48
E-7	334.40	42.85	290	195	-10.7	32.15	46
E-8	334.40	49.30	21	102	-10.7	38.60	46
E-9	368.00	41.00	45	101	-14.4	26.60	46
E-10	355.20	46.40	60	101	-10	36.40	46
E-11	339.20	42.35	120	101	-10.8	31.55	46
E-12	356.80	47.75	57	116	-10	37.75	46
E-13	53.80	53.30	230	100	-17	36.30	40
	32.00	52.00	144	115	-13.7	38.30	40
E-14	88.10	51.10	0	363	-18.6	32.50	40
E-15	54.80	55.65	240	105	-17	38.65	40
	30.00	54.00	33	116	-13.7	40.30	40
E-16	96.90	50.40	358	355	-17.5	32.90	40
	54.30	51.95	300	393	-17	34.95	40
E-17	30.00	51.95	26	100	-13.7	38.25	40
	54.10	52.70	148	100	-17	35.70	40
E-18	76.20	46.20	347	255	-15	31.20	40
E-19	354.40	39.85	16	101	-10	29.85	46
E-20	342.40	46.70	119	111	-11	35.70	46
E-21	361.10	41.40	25	101	-10	31.40	46
E-22	346.40	37.05	134	114	-11	26.05	46
E-23	356.00	40.10	100	101	-10	30.10	46
E-24	337.60	46.45	124	135	-10.7	35.75	46
E-25	100.40	45.90	156	101	-17	28.90	43.5
E-26	106.20	44.25	233	245	-16.5	27.75	43.5
E-27	284.80	39.80	345	101	-12	27.80	46
E-28	293.60	43.25	110	210	-12	31.25	46
E-29	88.10	52.60	210	100	-18.6	34.00	40
	56.90	52.00	270	100	-17	35.00	40



Retlif Testing Laboratories

Test Results No. R-11574-4

RodyXT – Tabular Data (con't)

Rody XT with FM Coupler Data Points					Correction Factors	Corrected readings	Limit
Plot ID	Peak Frequency (MHz)	Peak Power (dBμV)	Rotation (°)	Height (cm)	dB	Peak Power (dBμV)	dBuV/meter
	45.10	51.60	165	100	-15	36.60	40
E-30	88.10	46.20	107	212	-18.6	27.60	40
E-31	45.10	51.75	100	100	-15	36.75	40
	56.90	52.00	268	100	-17	35.00	40
E-32	96.90	49.65	142	168	-17.5	32.15	40
E-33	45.80	52.00	100	100	-15	37.00	40
	57.50	52.25	100	100	-17	35.25	40
E-34	107.90	48.00	200	150	-16.4	31.60	43.5
E-35	347.20	38.35	228	100	-11	27.35	46
E-36	349.60	42.45	3	115	-10	32.45	46
E-37	337.60	39.00	26	100	-10.7	28.30	46
E-38	348.80	42.65	357	260	-11	31.65	46
E-39	346.40	39.15	23	100	-11	28.15	46
E-40	348.80	42.70	4	200	-10.7	32.00	46



Retlif Testing Laboratories

Test Results No. R-11574-4

EQUIPMENT LIST

FCC Part 15, Subpart C, Radiated Emissions

Type	Manufacturer	Model No.	Cal Date	Due Date
Spectrum Analyzer	Hewlett Packard	8566B	8-23-04	8-23-06
Spectrum analyzer display	Hewlett Packard		8-23-04	8-23-06
Quasi-peak adapter	Hewlett Packard	85650A	8-23-04	8-23-06
Biconnical Antenna	EMCO	3108	2-24-06	2-24-08
Log Periodic Antenna	EMCO	3146	2-24-06	2-24-08
Amplifier	Hewlett Packard	8447D	8-01-05	8-01-07
Rx System cable (RE tests)			8-04-05	8-04-07



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