Retlif Testing Laboratories

795 Marconi Avenue, Ronkonkoma, NY 11779
631-737-1500 - Fax: 631-737-1497

BRANCH LABORATORIES
101 New Boston Road
Goffstown, NH 03045
603-497-4600 Fax 603-497-5281

WASHINGTON
REGULATORY OFFICE
703-533-1614 Fax 703-533-1612

MEMBER ACIL

FCC Test Results

On

XM Radio Receiver
Containing an
88 to 108 Low Power Transmitter
FCC ID Number: BGA-XMXP03

Customer Name:	XM Radio
Customer P.O.:	115178-0-IECH
Date of Results:	August 10, 2006
Test Results No.:	R-11574-2
Test Start Date:	August 3, 2006
Test Finish Date:	August 9, 2006
Test Technician:	R. Aina
Test Engineer:	D. Lerner
Supervisor:	R. Reitz
Results Prepared By:	S. Fabbri

Certification and Signatures

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

FOR 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 expressed 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.

Test Program Summary

Test Results Number:	R-11574-2
Customer:	XM Radio
P.O. Number:	115178-0-IECH
Test Sample:	XM Radio Receiver containing an 88 to 108 MHz Low Power Transmitter
Brandname:	Xpress
Model Number:	136-4335
Serial Number:	051101005213640400
FCC ID Number:	BGA-XMXP03

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.

Notes:

All Radiated and Conducted Emissions test data contained within this test report was acquired by Florida Atlantic University. 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.

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

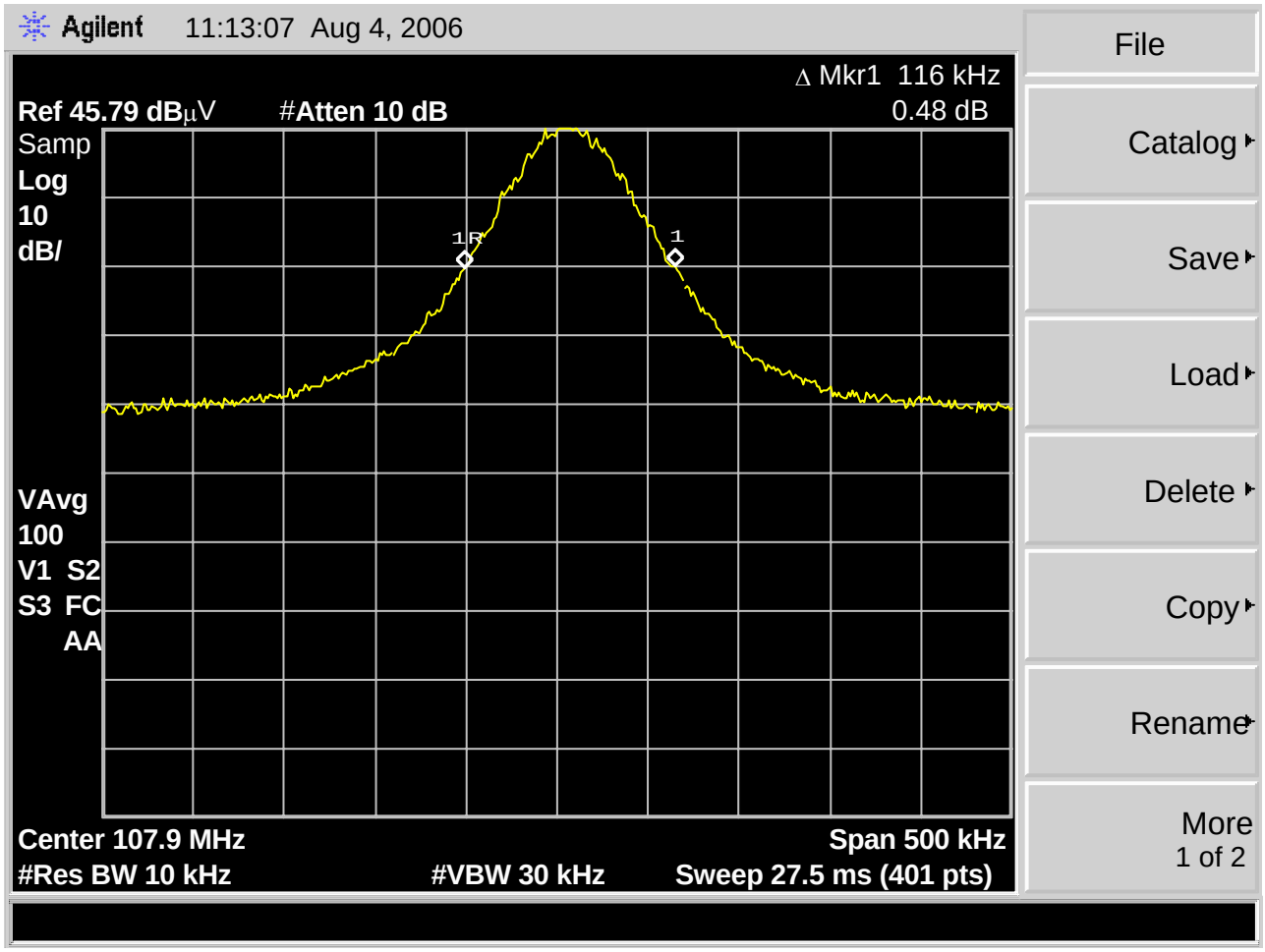
Revision History

Revision	Date	Pages Affected

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 was 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.

15.239(a), Occupied Bandwidth
Test Data

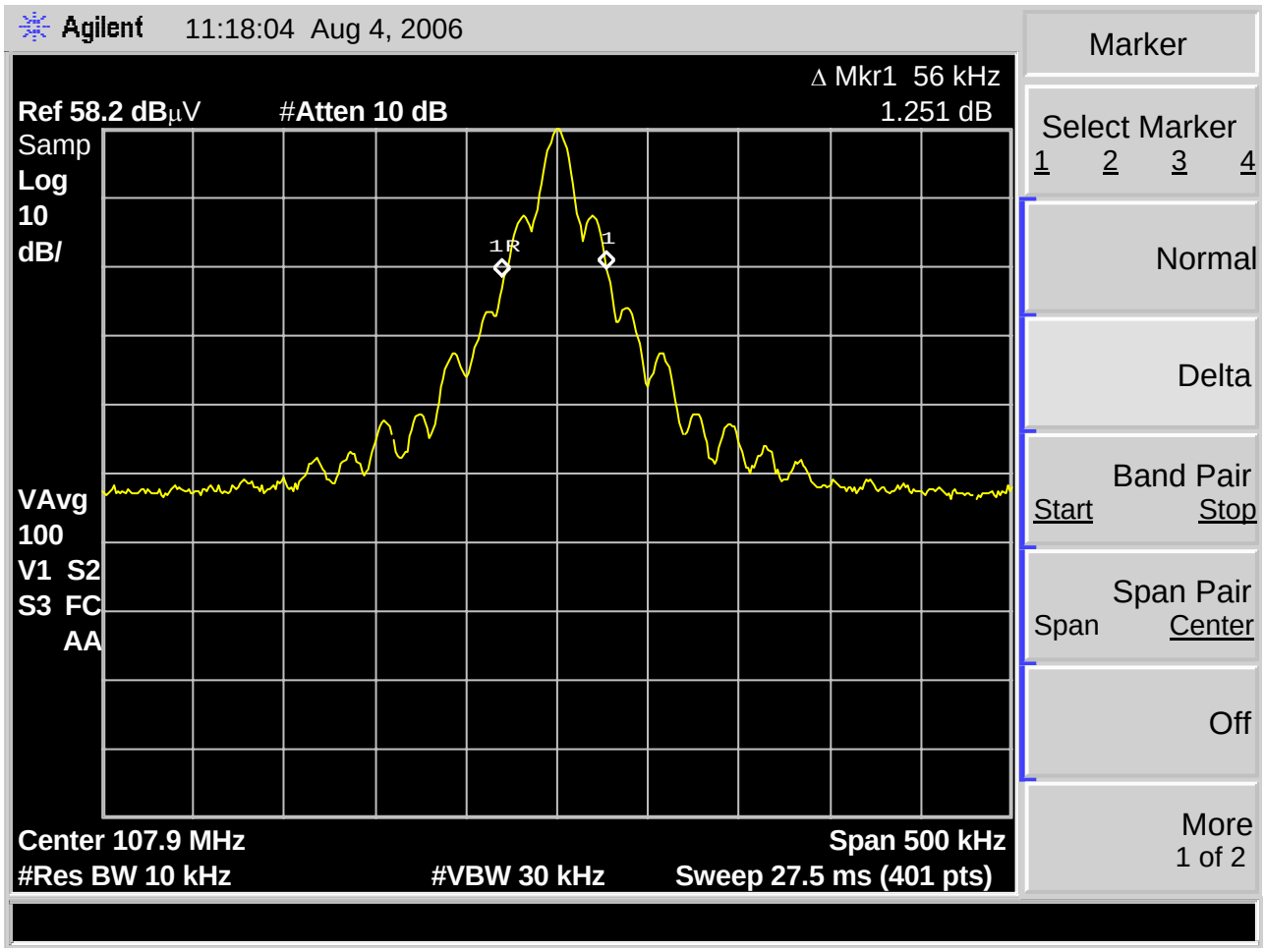


FCC Part 15, Subpart C, Section 15.239(a) Bandwidth
EUT Transmitting at 107.9 MHz, Modulation applied
The bandwidth of the emission was confined within a band 200 kHz wide centered on the operating frequency

Customer	XM Radio	
Test Sample	XM Radio Receiver	
Brand Name	Xpress	
Date: 8-4-2006	Tech: D. Lerner	Sheet 1 of 6

Retlif Testing Laboratories

Test Results No. R-11574-2

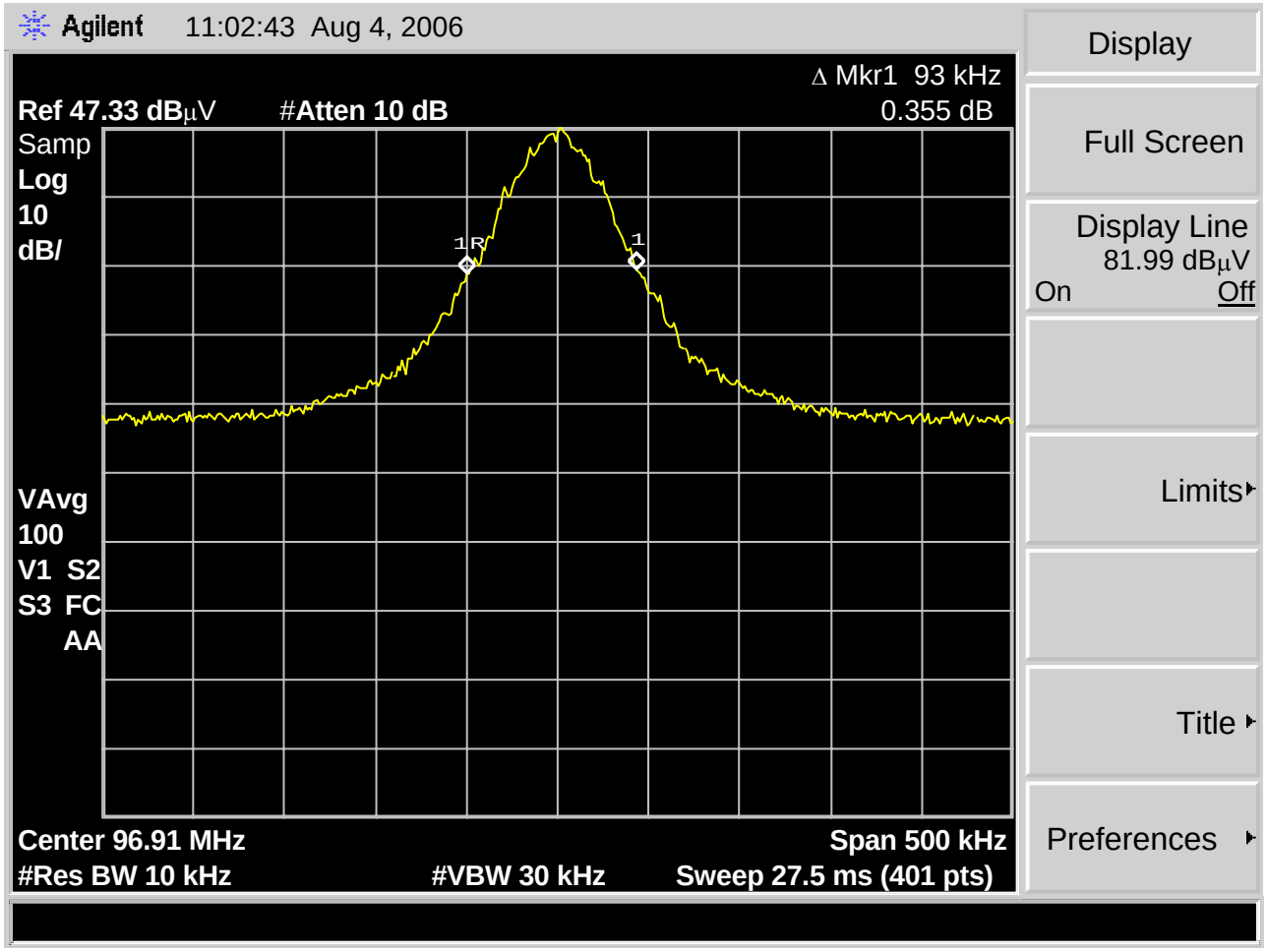


FCC Part 15, Subpart C, Section 15.239(a) Bandwidth
EUT Transmitting at 107.9 MHz, No Modulation applied
The bandwidth of the emission was confined within a band 200 kHz wide centered on the operating frequency

Customer	XM Radio	
Test Sample	XM Radio Receiver	
Brand Name	Xpress	
Date: 8-4-2006	Tech: D. Lerner	Sheet 2 of 6

Retlif Testing Laboratories

Test Results No. R-11574-2

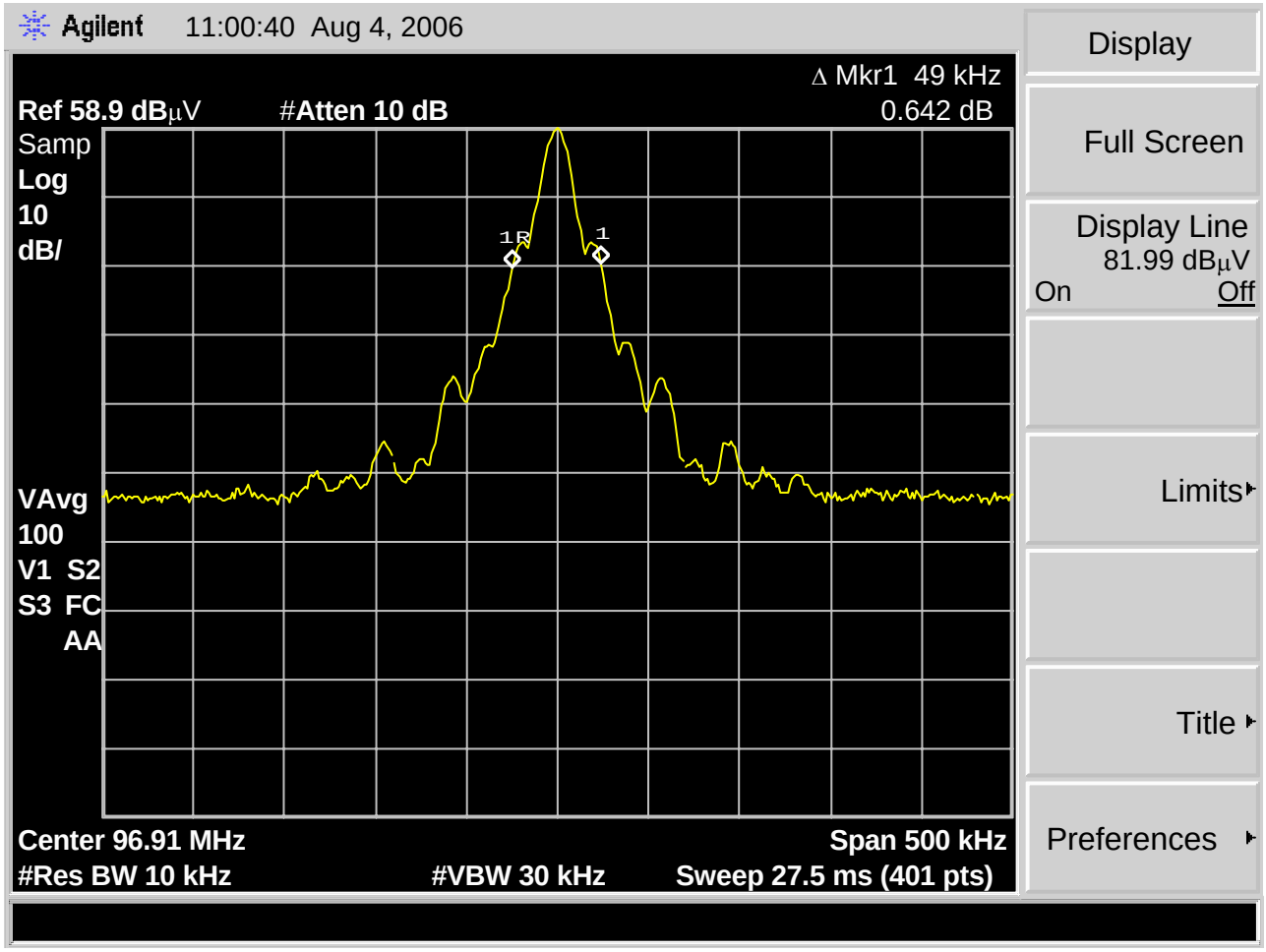


FCC Part 15, Subpart C, Section 15.239(a) Bandwidth
EUT Transmitting at 96.9 MHz, Modulation applied
The bandwidth of the emission was confined within a band 200 kHz wide centered on the operating frequency

Customer	XM Radio	
Test Sample	XM Radio Receiver	
Brand Name	Xpress	
Date: 8-4-2006	Tech: D. Lerner	Sheet 3 of 6

Retlif Testing Laboratories

Test Results No. R-11574-2

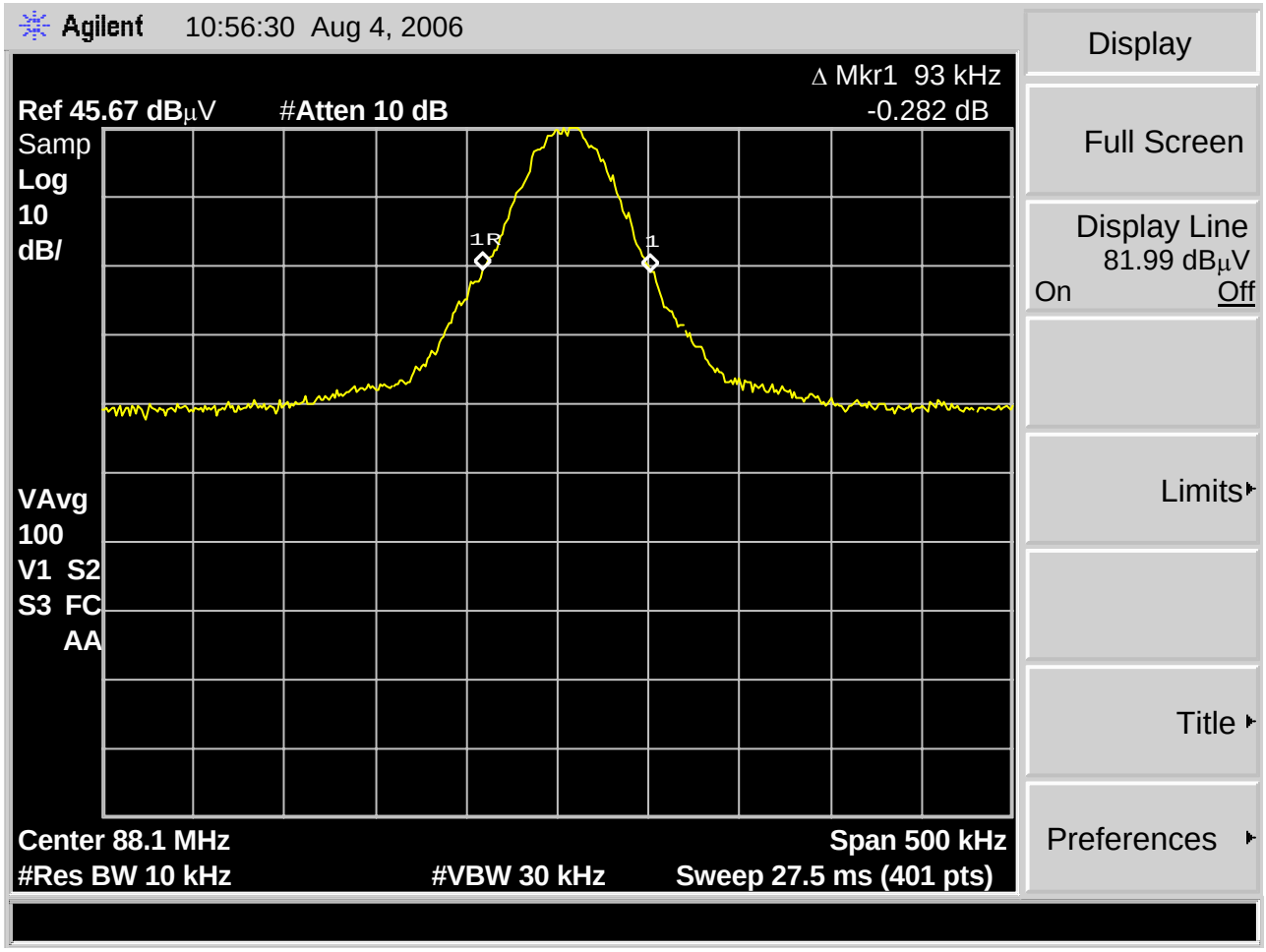


FCC Part 15, Subpart C, Section 15.239(a) Bandwidth
EUT Transmitting at 96.9 MHz, No Modulation applied
The bandwidth of the emission was confined within a band 200 kHz wide centered on the operating frequency

Customer	XM Radio	
Test Sample	XM Radio Receiver	
Brand Name	Xpress	
Date: 8-4-2006	Tech: D. Lerner	Sheet 4 of 6

Retlif Testing Laboratories

Test Results No. R-11574-2

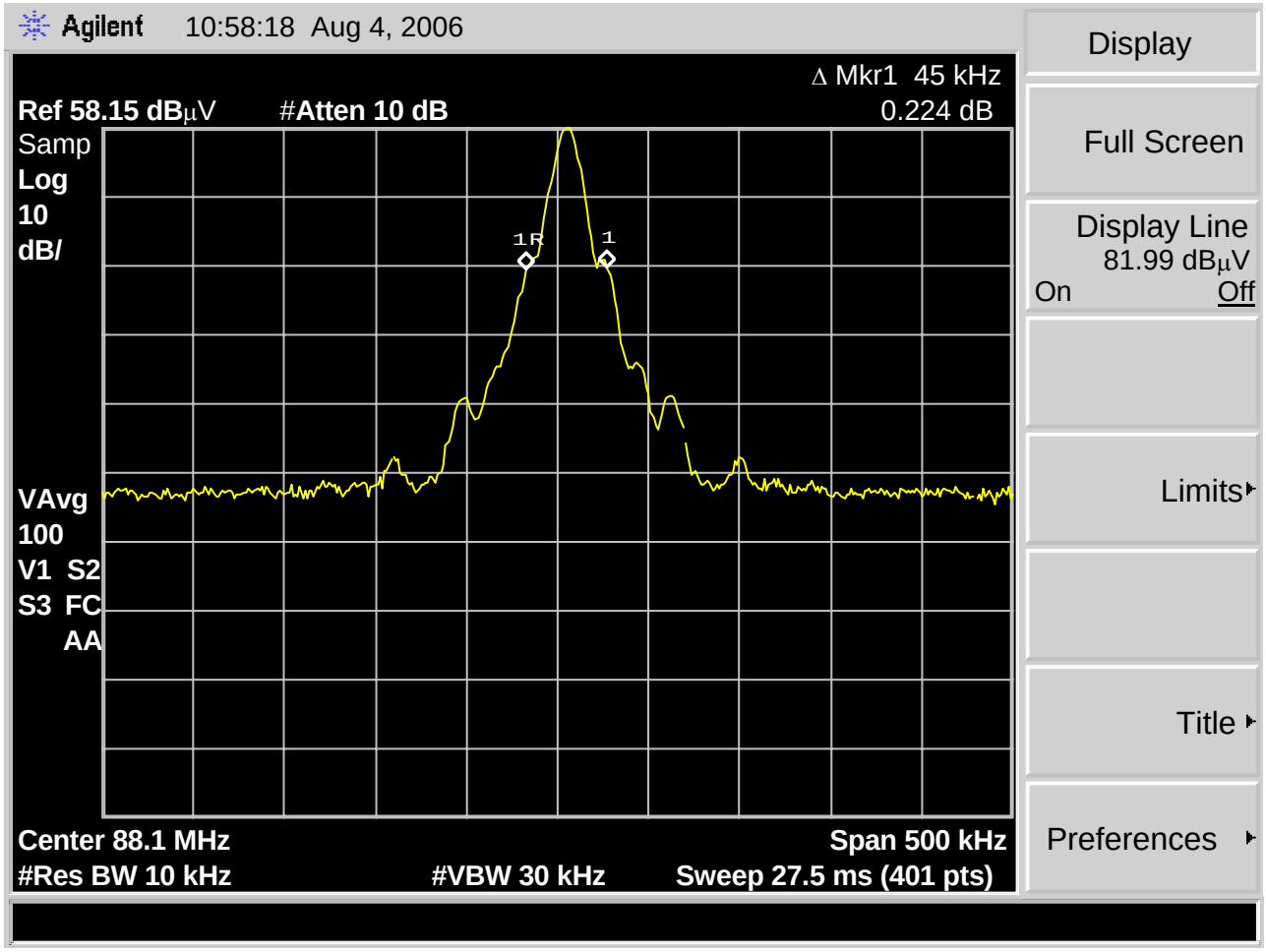


FCC Part 15, Subpart C, Section 15.239(a) Bandwidth
EUT Transmitting at 88.1 MHz, Modulation applied
The bandwidth of the emission was confined within a band 200 kHz wide centered on the operating frequency

Customer	XM Radio	
Test Sample	XM Radio Receiver	
Brand Name	Xpress	
Date: 8-4-2006	Tech: D. Lerner	Sheet 5 of 6

Retlif Testing Laboratories

Test Results No. R-11574-2



FCC Part 15, Subpart C, Section 15.239(a) Bandwidth
EUT Transmitting at 88.1 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	Xpress	
Date: 8-4-2006	Tech: D. Lerner	Sheet 6 of 6

Retlif Testing Laboratories

Test Results No. R-11574-2

EQUIPMENT LIST

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

Type	Manufacturer	Model No.	Cal Date	Due Date
Spectrum Analyzer	Hewlett Packard	E4405B	7/25/2006	7/25/2007

FCC Part 15, Subpart C, Paragraph 15.239, Radiated Emissions Test Methods

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 10^{th} 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 twenty-four (24) data sheets for a full presentation of the results obtained.

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

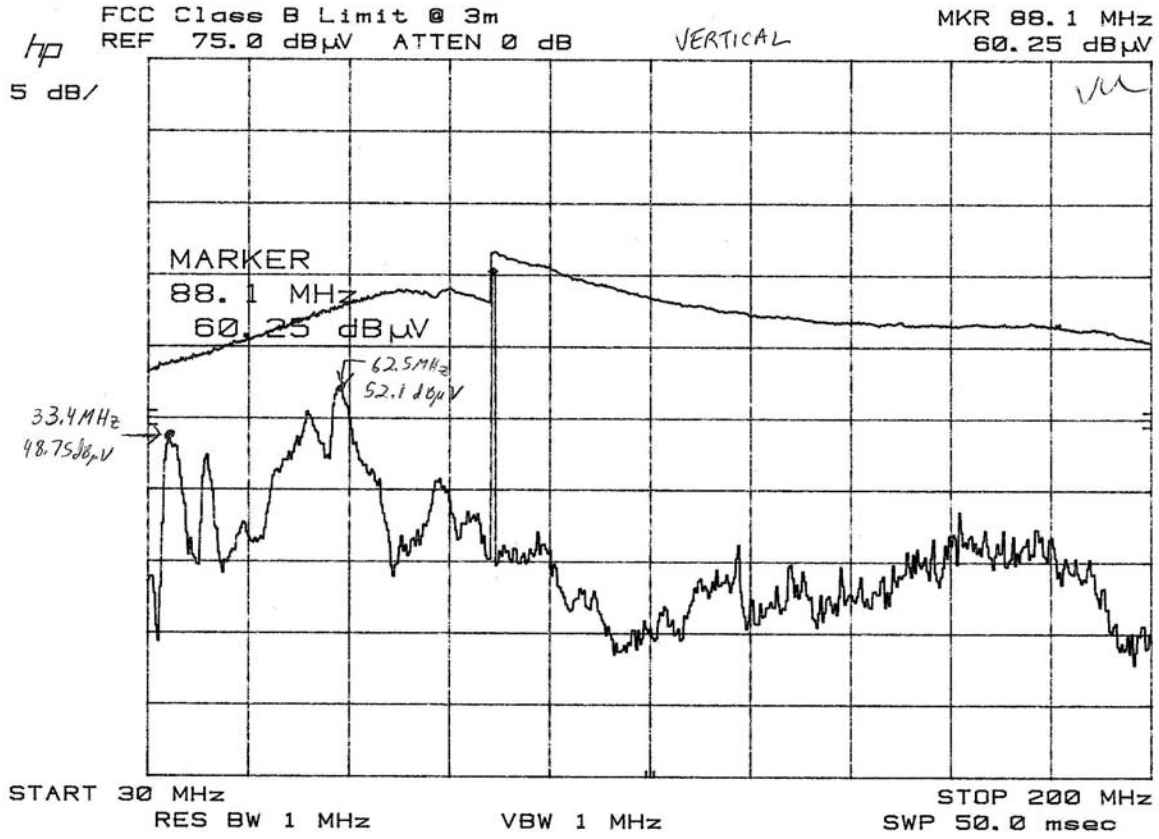
The following table describes the graphical test data.

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

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

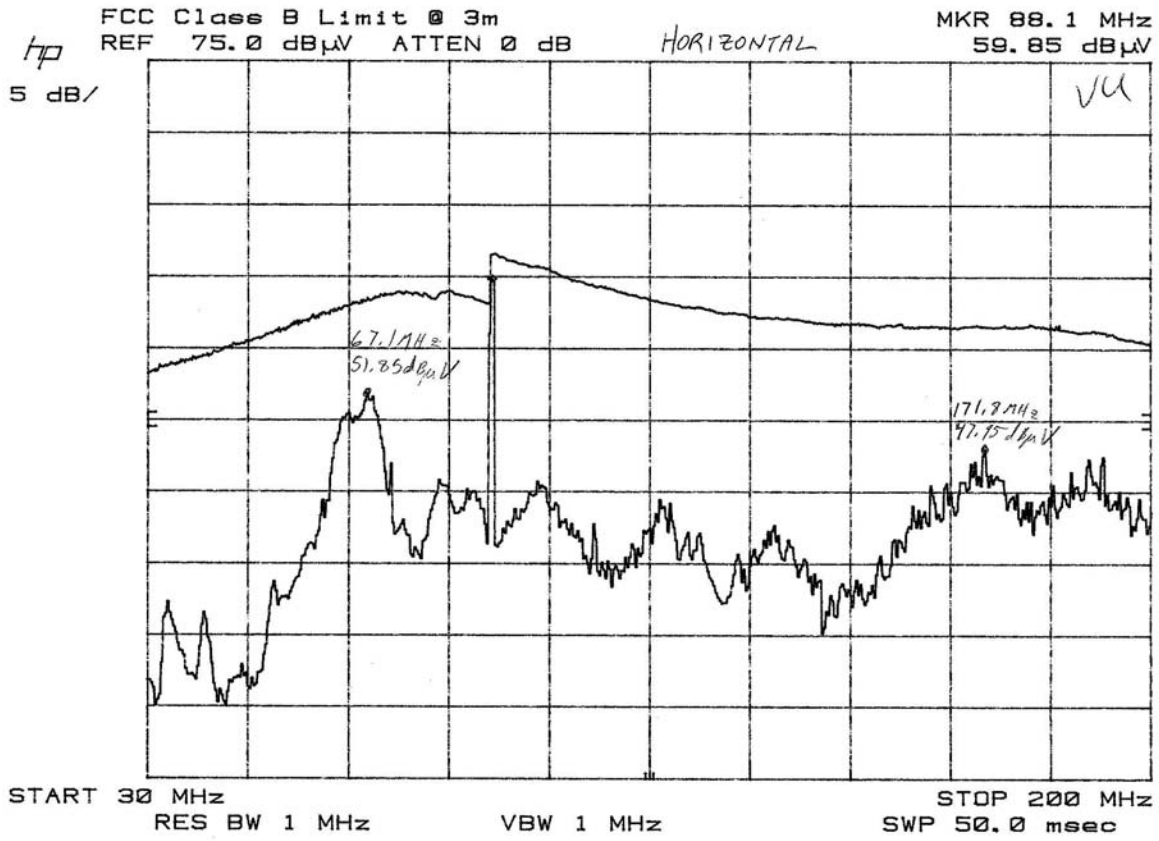
B-1

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
VERTICAL
MKR 88.1 MHz
60.25 dBµV
5 dB/
MARKER
88.1 MHz
60.25 dBµV
62.5MHz
52.1 dBµV
33.4MHz
48.75dBµV
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 200 MHz
SWP 50.0 msec

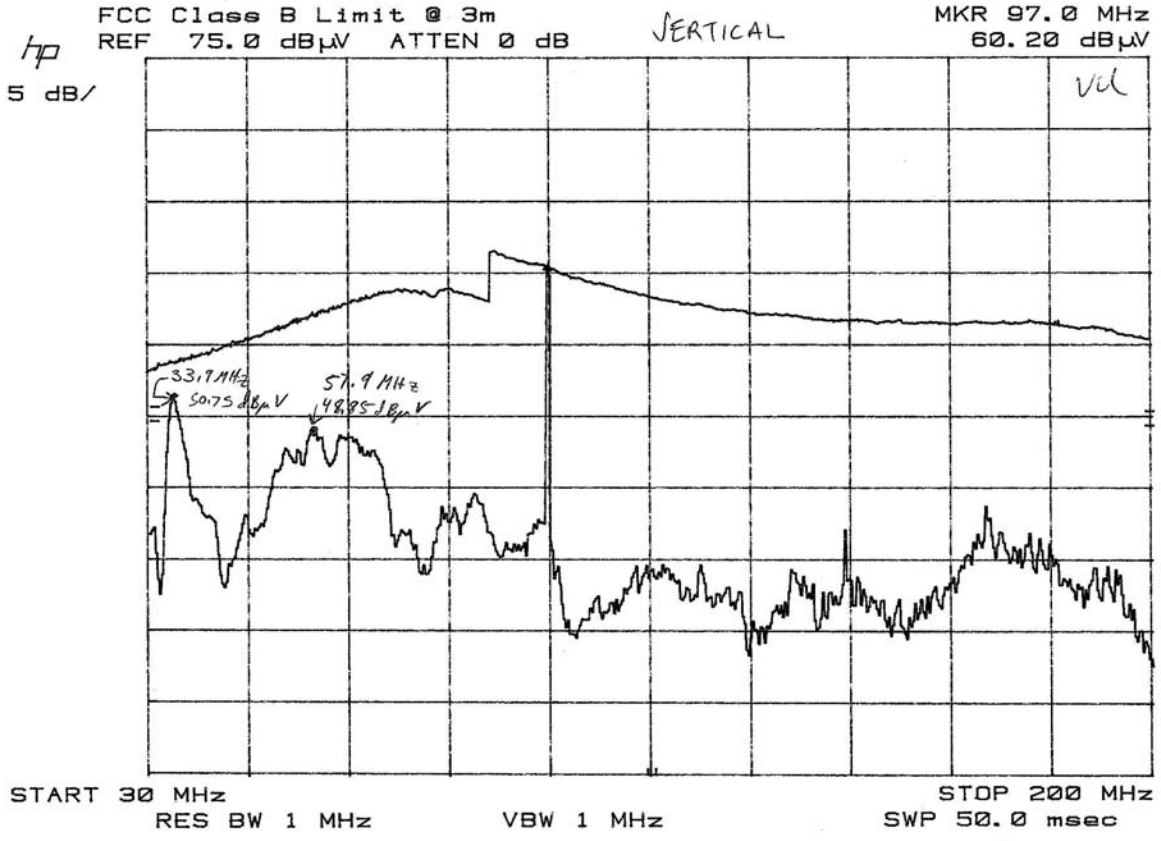
B-2

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
HORIZONTAL
MKR 88.1 MHz
59.85 dBµV
hp
5 dB/
VU
67.1 MHz
51.85 dBµV
171.8 MHz
47.15 dBµV
START 30 MHz
STOP 200 MHz
RES BW 1 MHz
VBW 1 MHz
SWP 50.0 msec

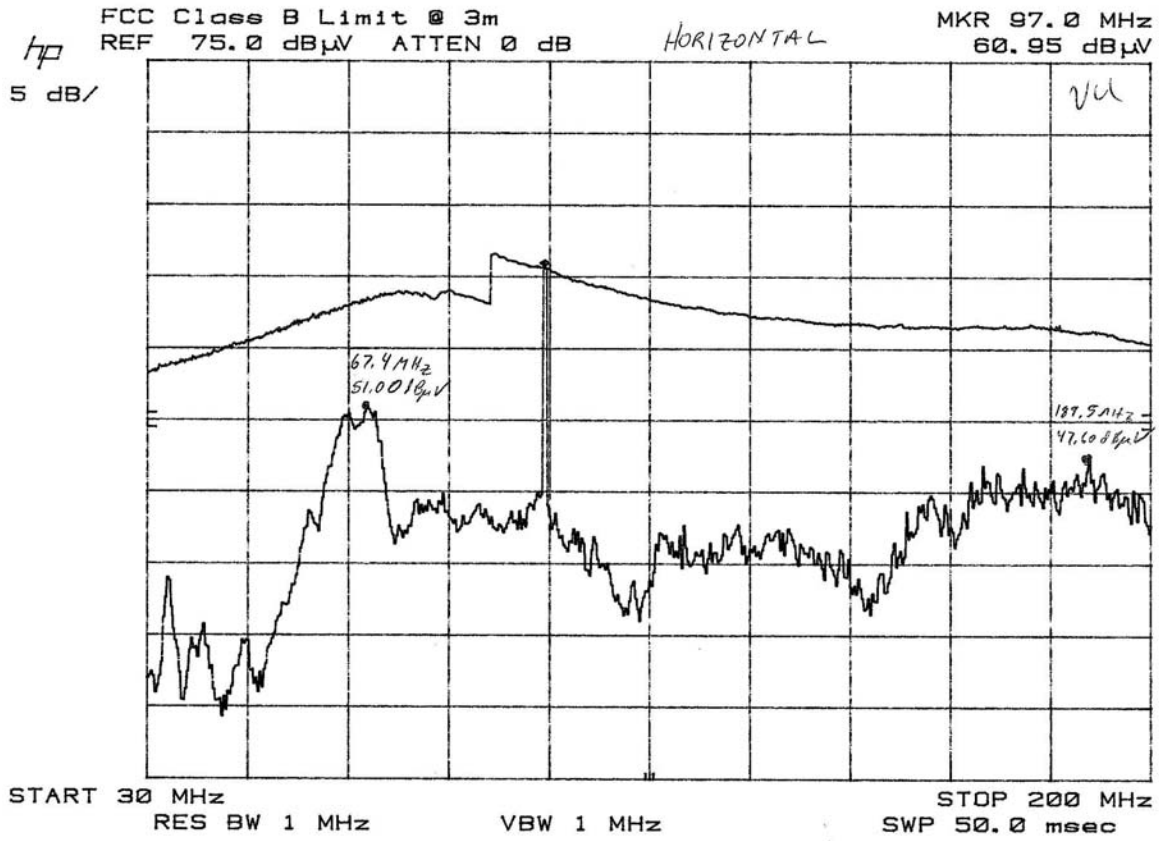
B-3

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
VERTICAL
MKR 97.0 MHz
60.20 dBµV
hp
5 dB/
VIL
33.7 MHz
50.75 dBµV
57.9 MHz
48.85 dBµV
START 30 MHz
STOP 200 MHz
RES BW 1 MHz
VBW 1 MHz
SWP 50.0 msec

B-4_2

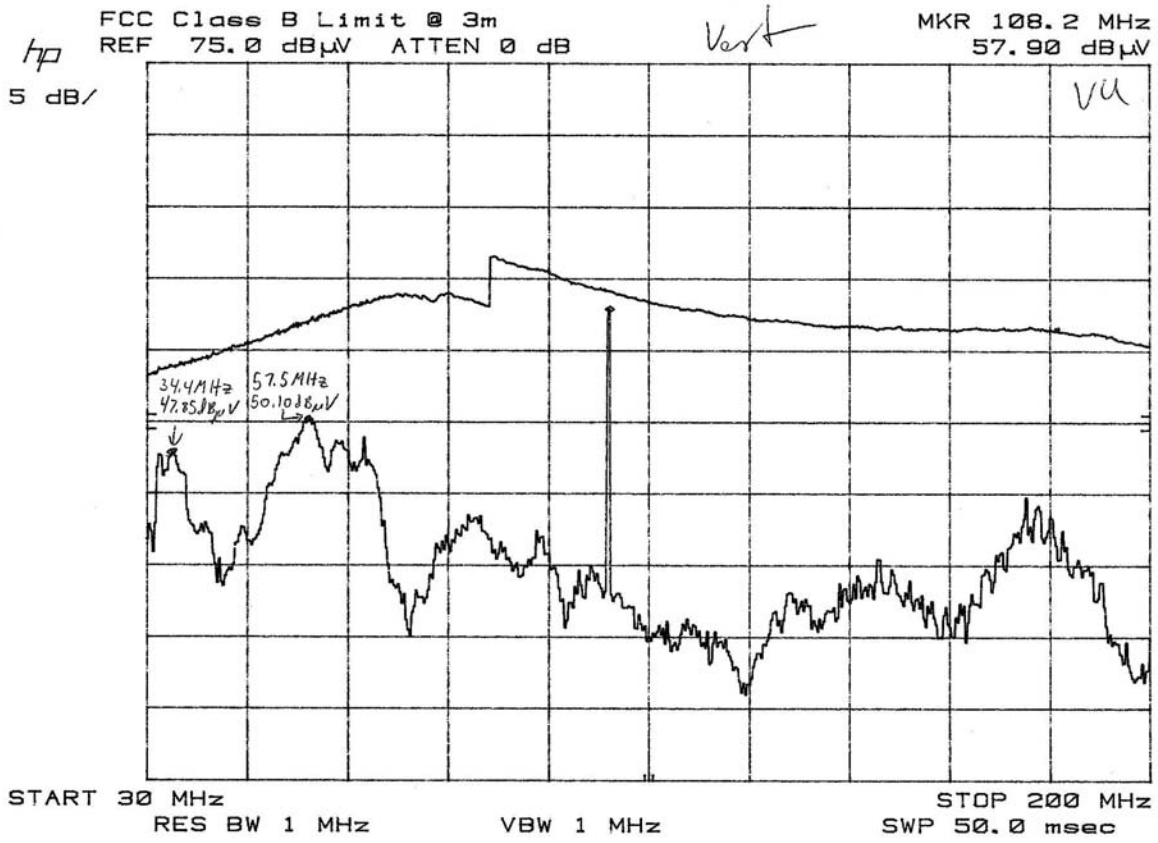
8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
HORIZONTAL
MKR 97.0 MHz
60.95 dBµV
hp
5 dB/
VL
67.4 MHz
51.00 dBµV
137.5 MHz
47.60 dBµV
START 30 MHz
STOP 200 MHz
RES BW 1 MHz
VBW 1 MHz
SWP 50.0 msec

B-5

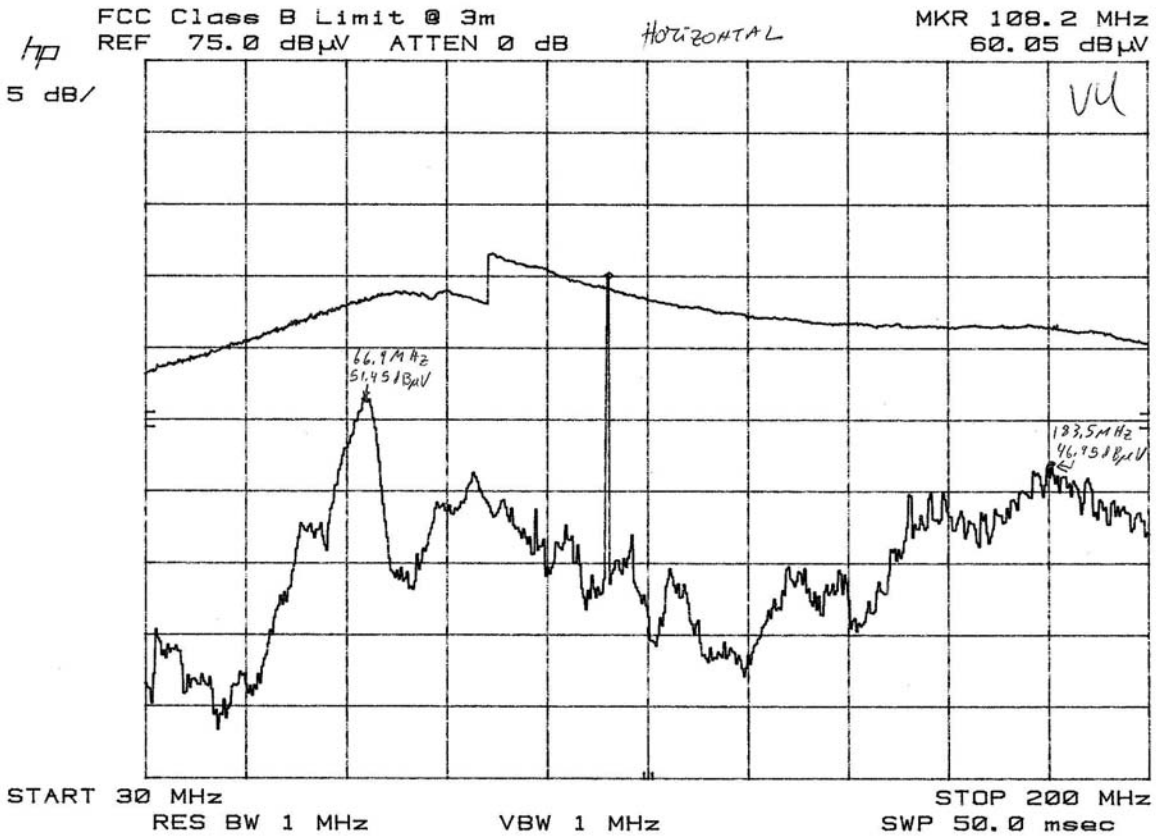
795-799
Pictures
B1-B12

8/9/06



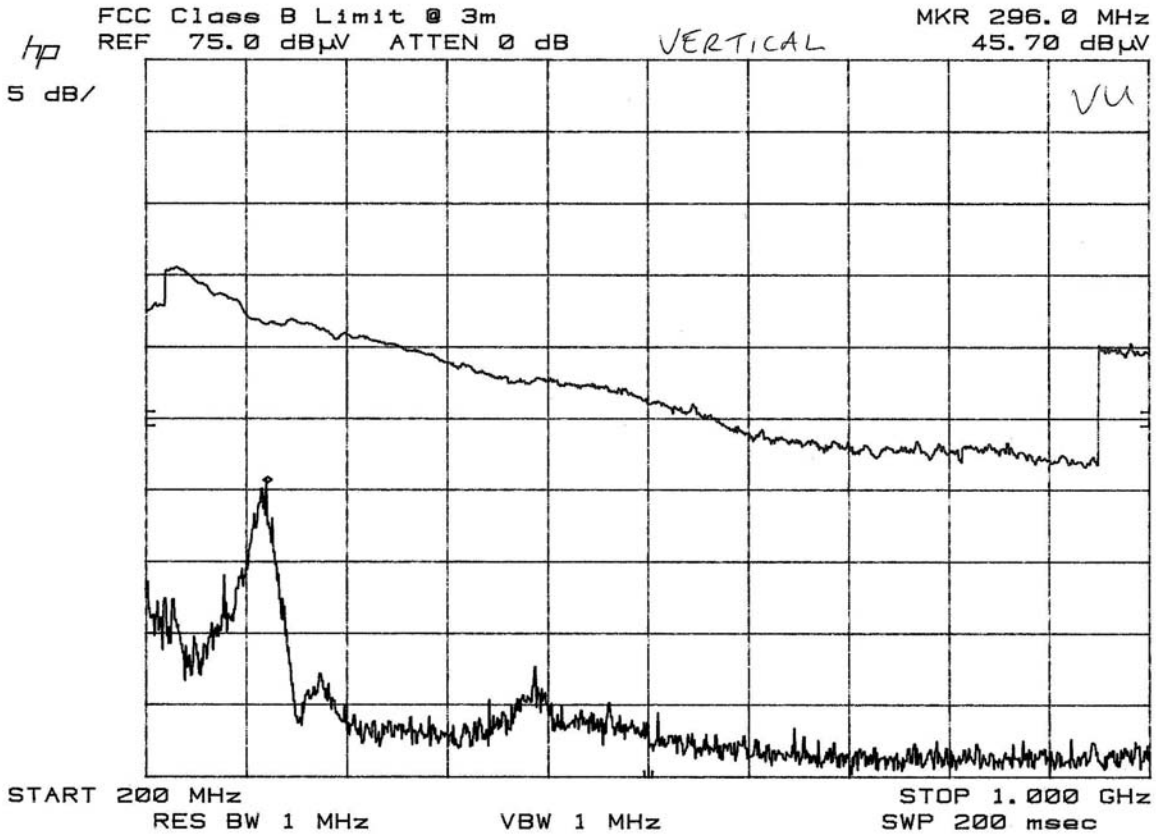
B-6

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
HORIZONTAL
MKR 108.2 MHz
60.05 dBµV
hp
5 dB/
VH
66.9MHz
51.45 dBµV
133.5MHz
46.95 dBµV
START 30 MHz
STOP 200 MHz
RES BW 1 MHz
VBW 1 MHz
SWP 50.0 msec

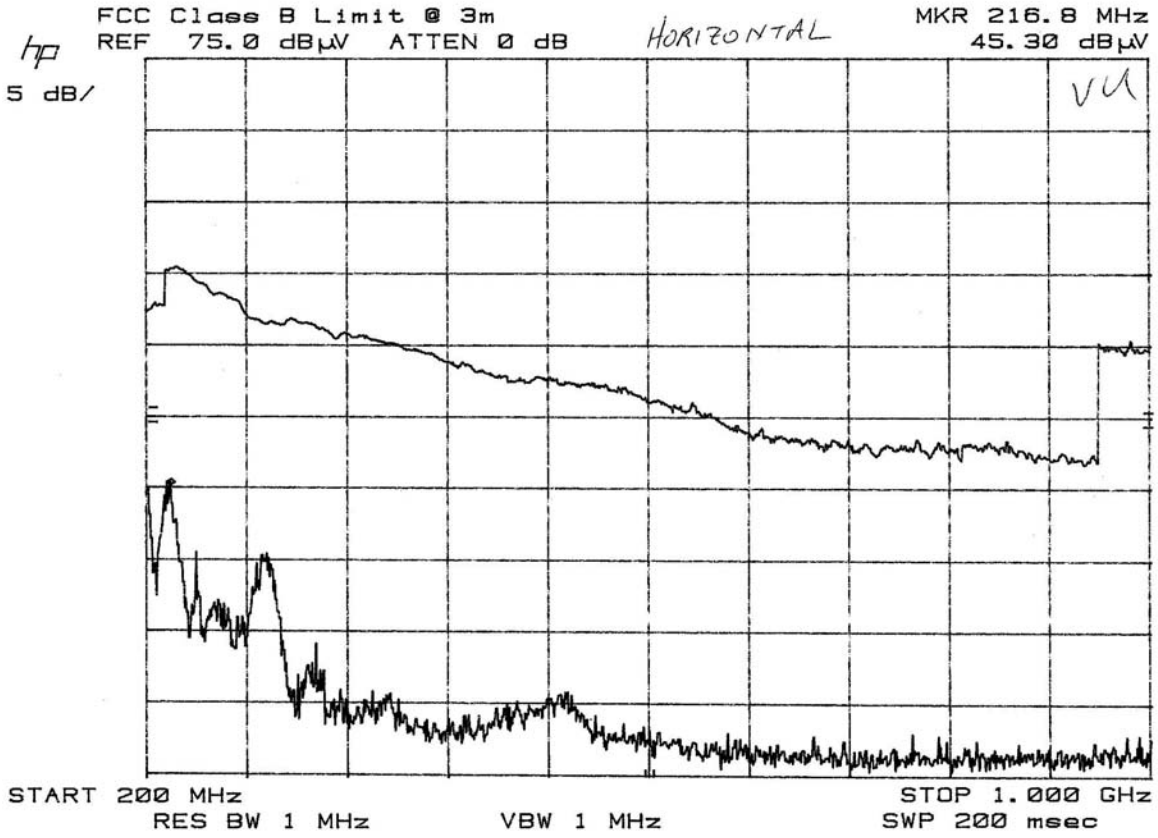
B-7

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
VERTICAL
MKR 296.0 MHz
45.70 dBµV
hp
5 dB/
VU
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

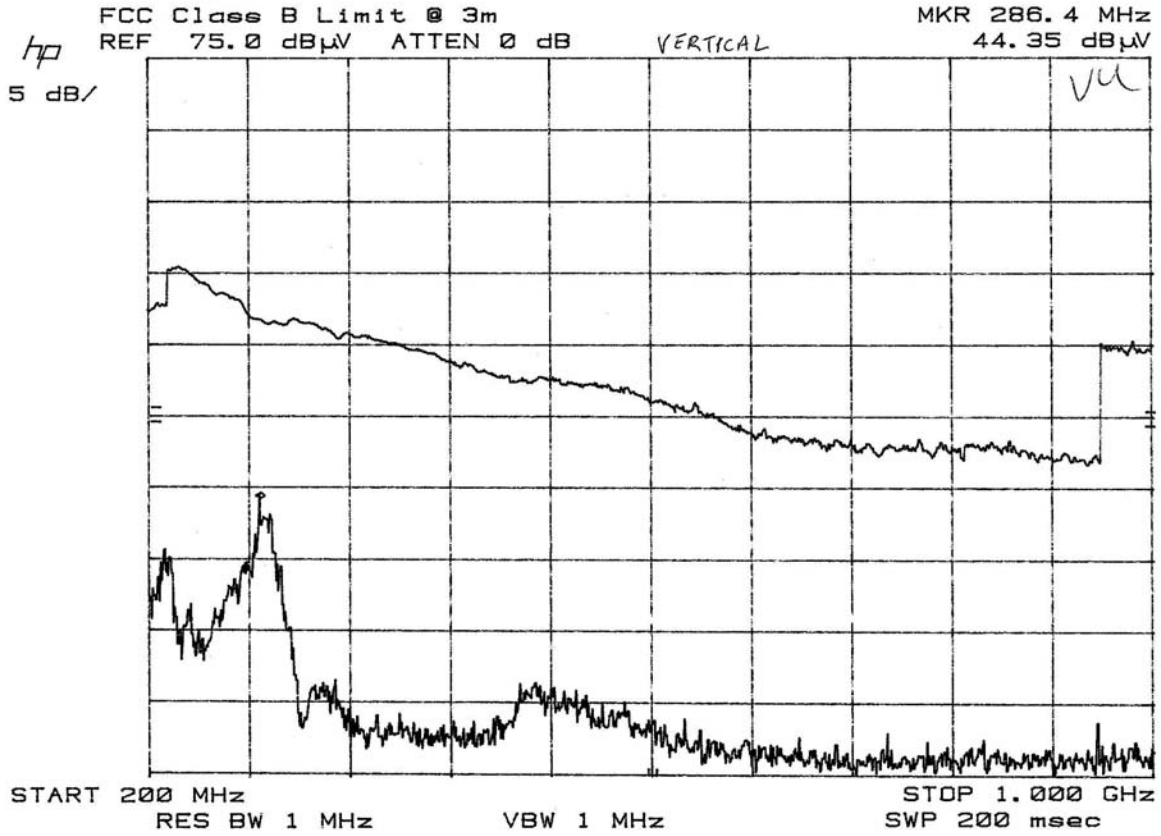
B-8

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
HORIZONTAL
MKR 216.8 MHz
45.30 dBµV
hp
5 dB/
VL
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

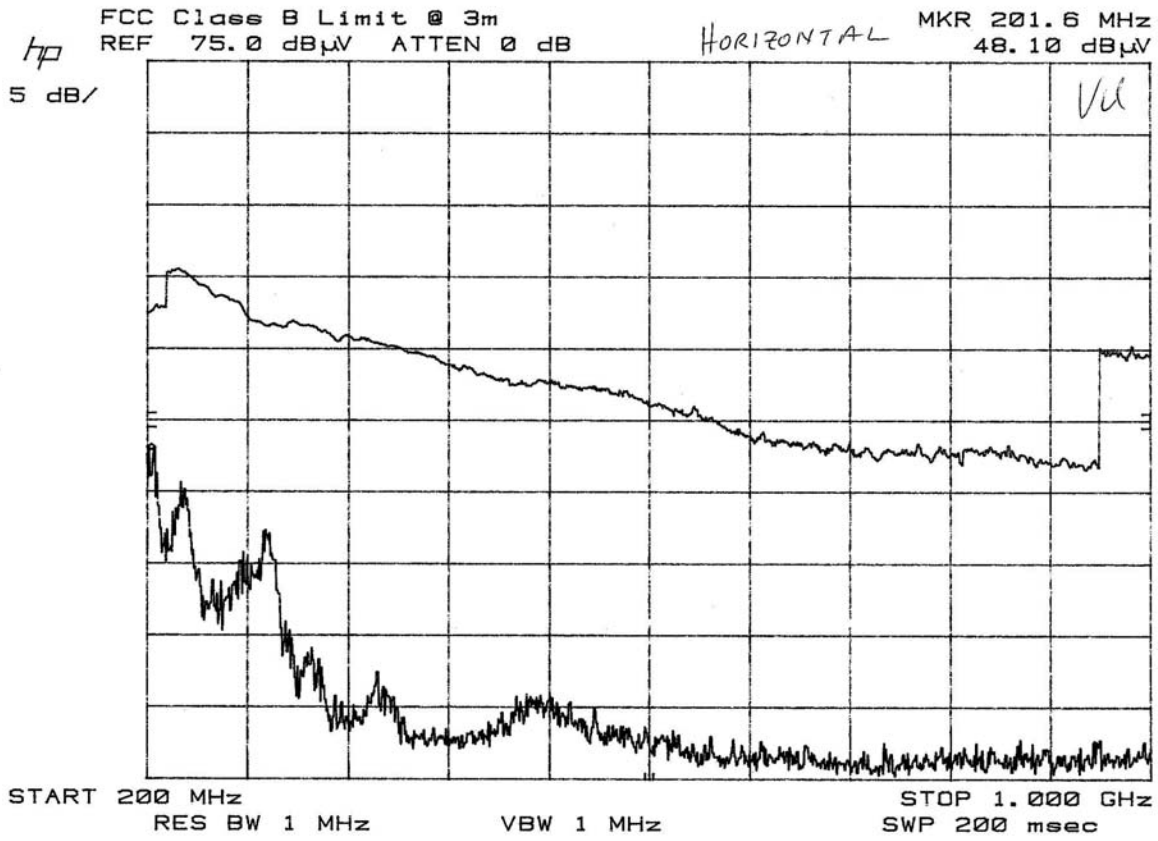
B-9

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
VERTICAL
MKR 286.4 MHz
44.35 dBµV
hp
5 dB/
VL
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

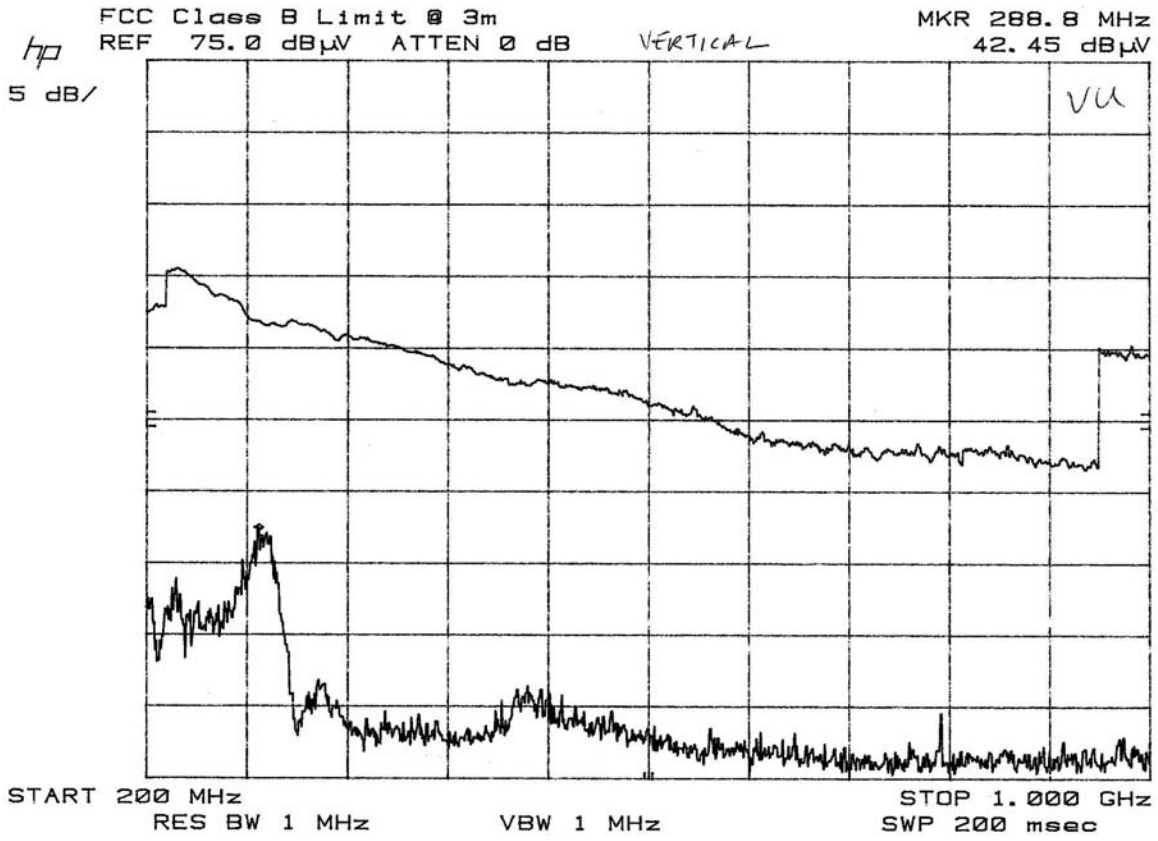
B-10

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
HORIZONTAL
MKR 201.6 MHz
48.10 dBµV
hp
5 dB/
Vil
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

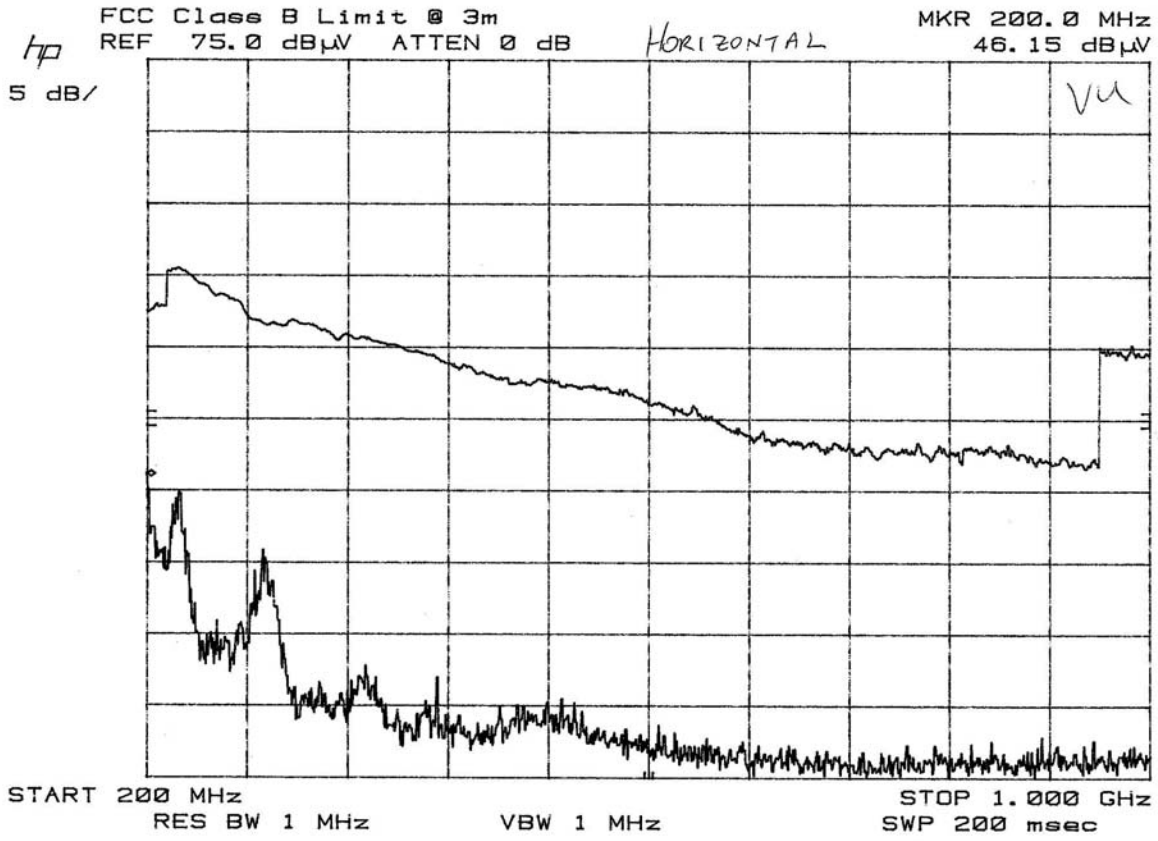
B-11

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
VERTICAL
MKR 288.8 MHz
42.45 dBµV
5 dB/
VU
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

B-12

8/9/06

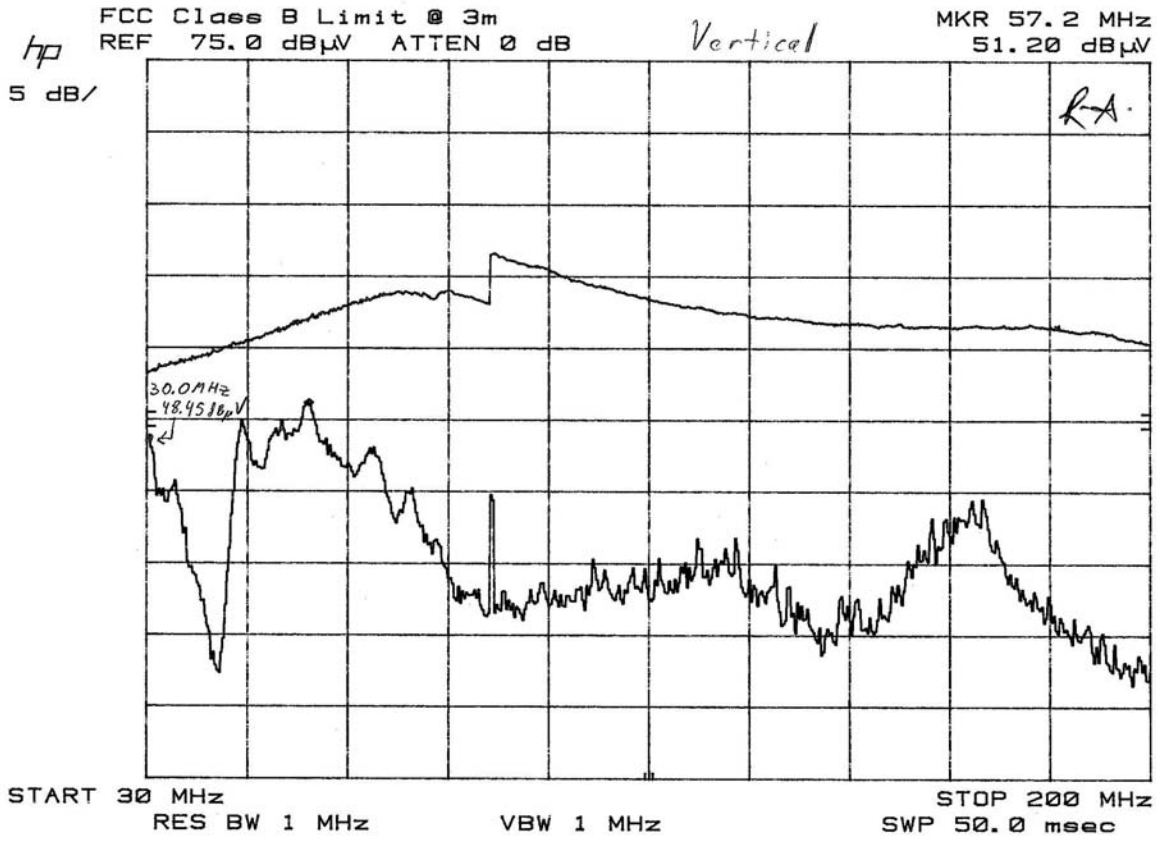

FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
HORIZONTAL
MKR 200.0 MHz
46.15 dBµV
hp
5 dB/
VM
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

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

B-13

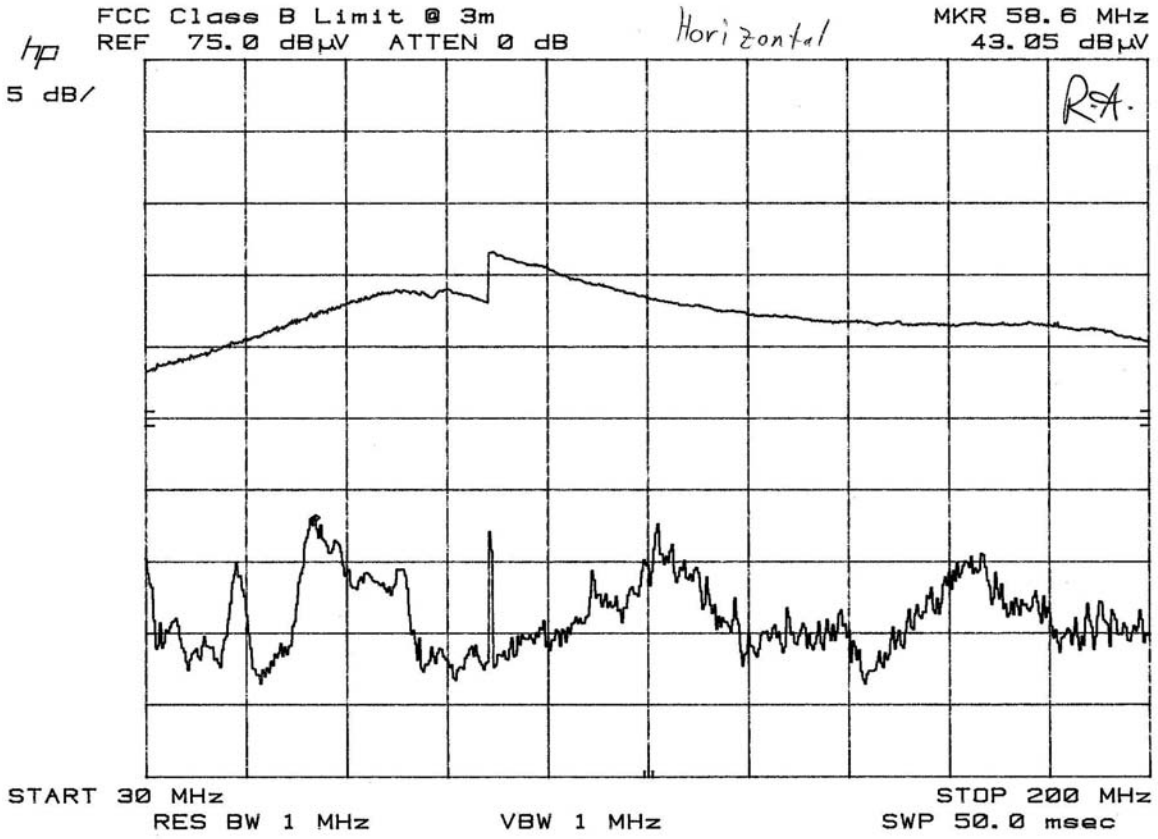
800] Pictures
801] B-13-24

8/9/06



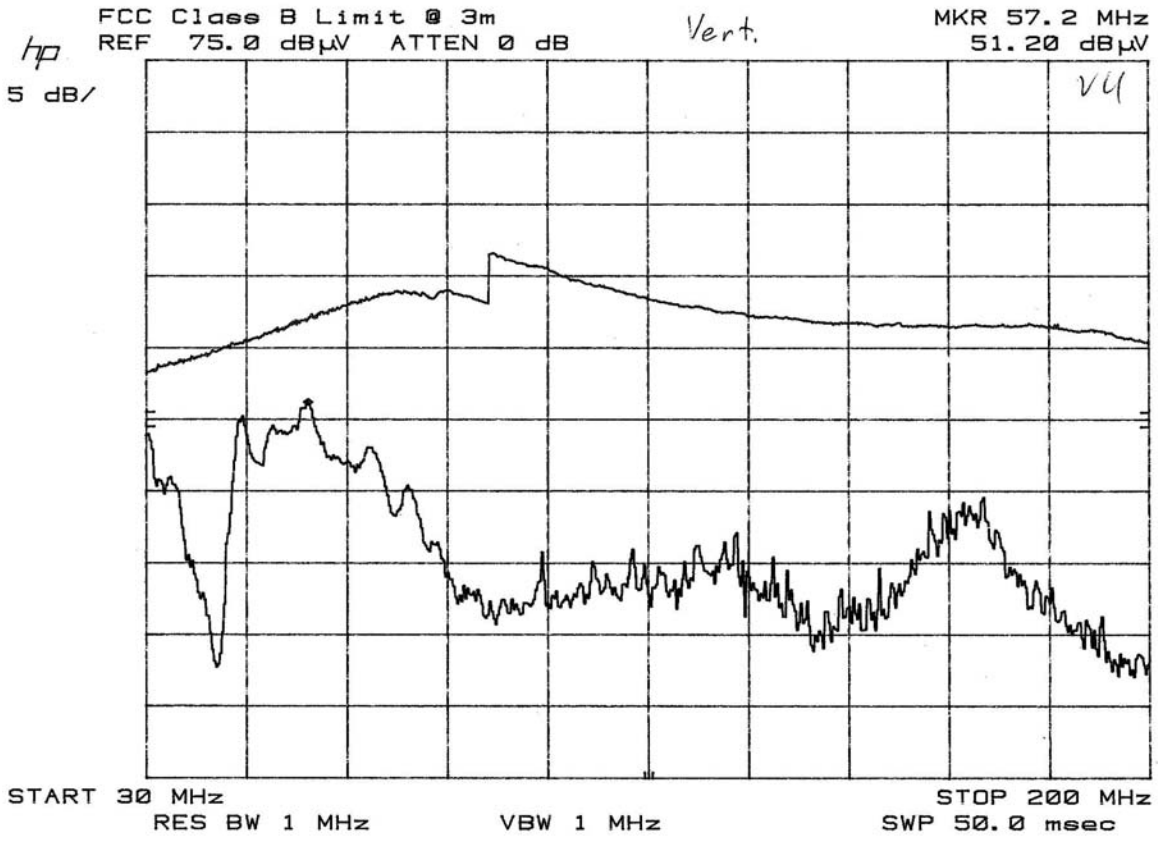
B-14

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Horizontal
MKR 58.6 MHz
43.05 dBµV
hp
5 dB/
R-A.
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 200 MHz
SWP 50.0 msec

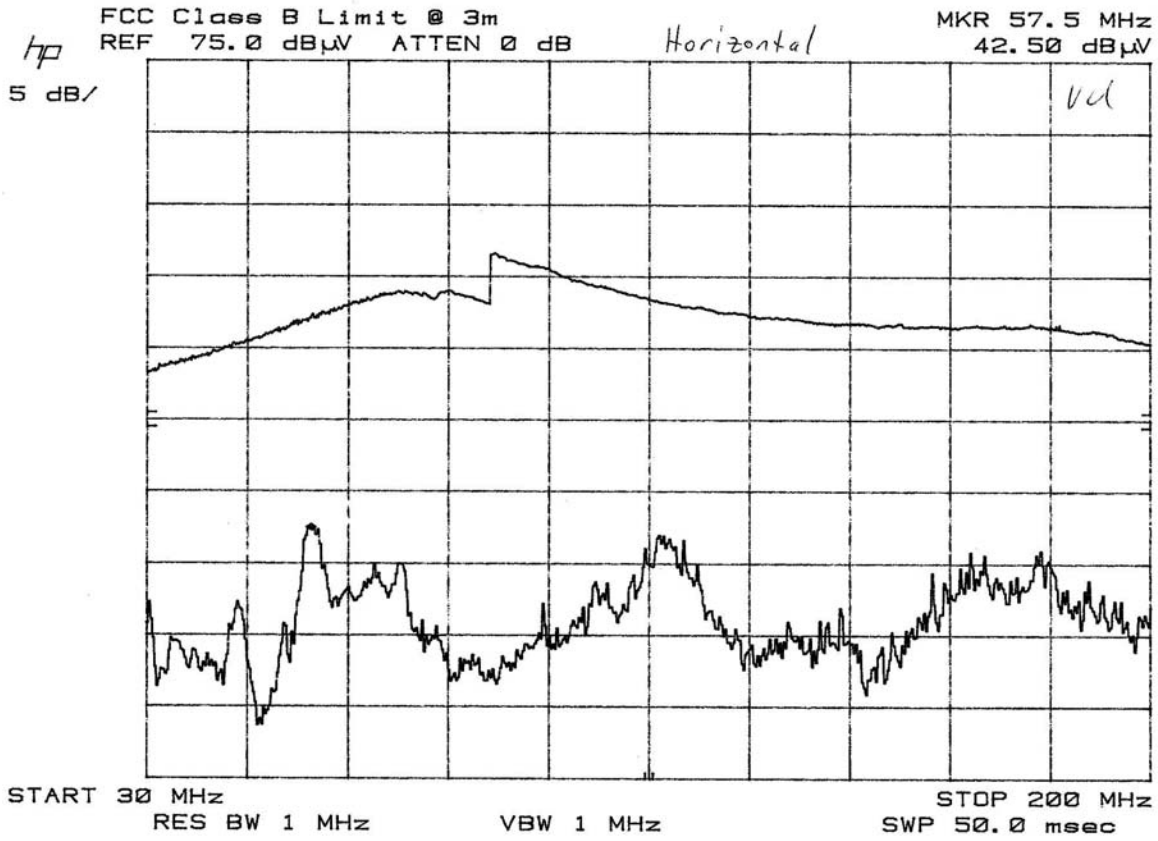
B-15

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Vert.
MKR 57.2 MHz
51.20 dBµV
hp
5 dB/
VU
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 200 MHz
SWP 50.0 msec

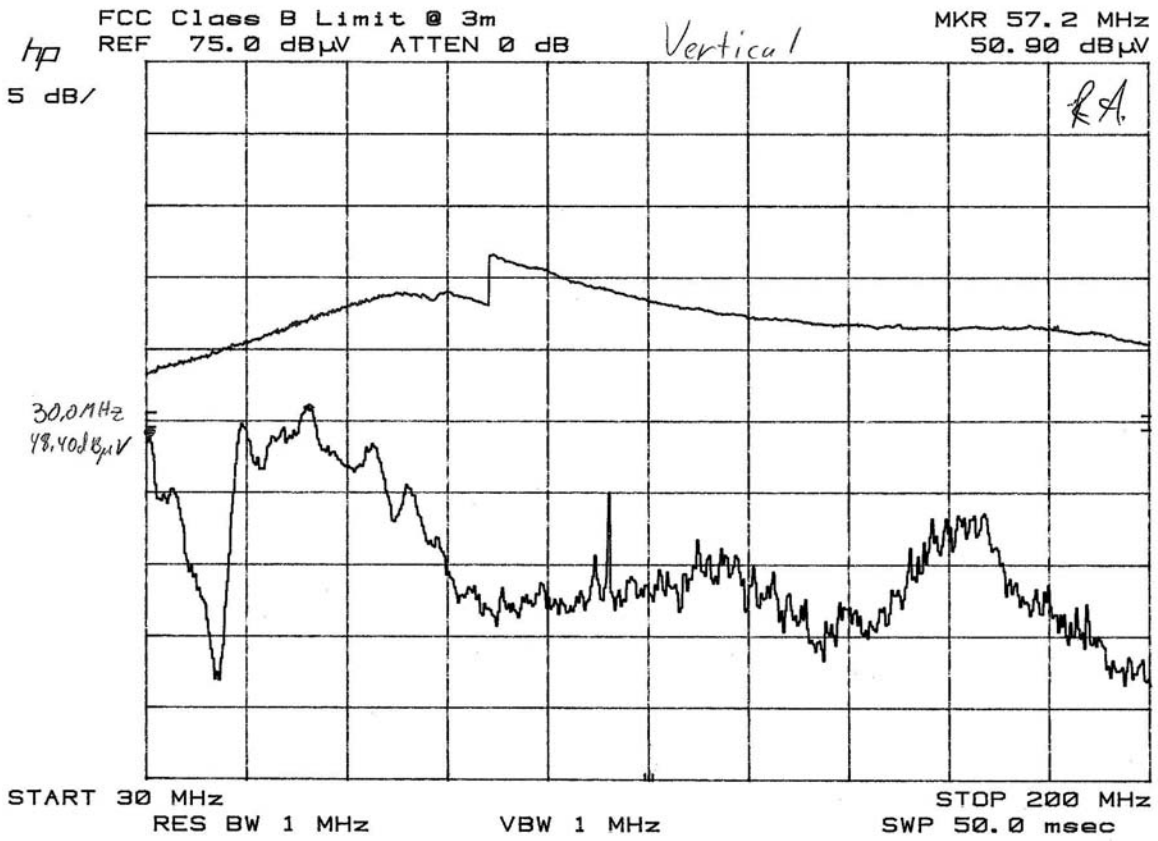
B-16

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Horizontal
MKR 57.5 MHz
42.50 dBµV
hp
5 dB/
vd
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 200 MHz
SWP 50.0 msec

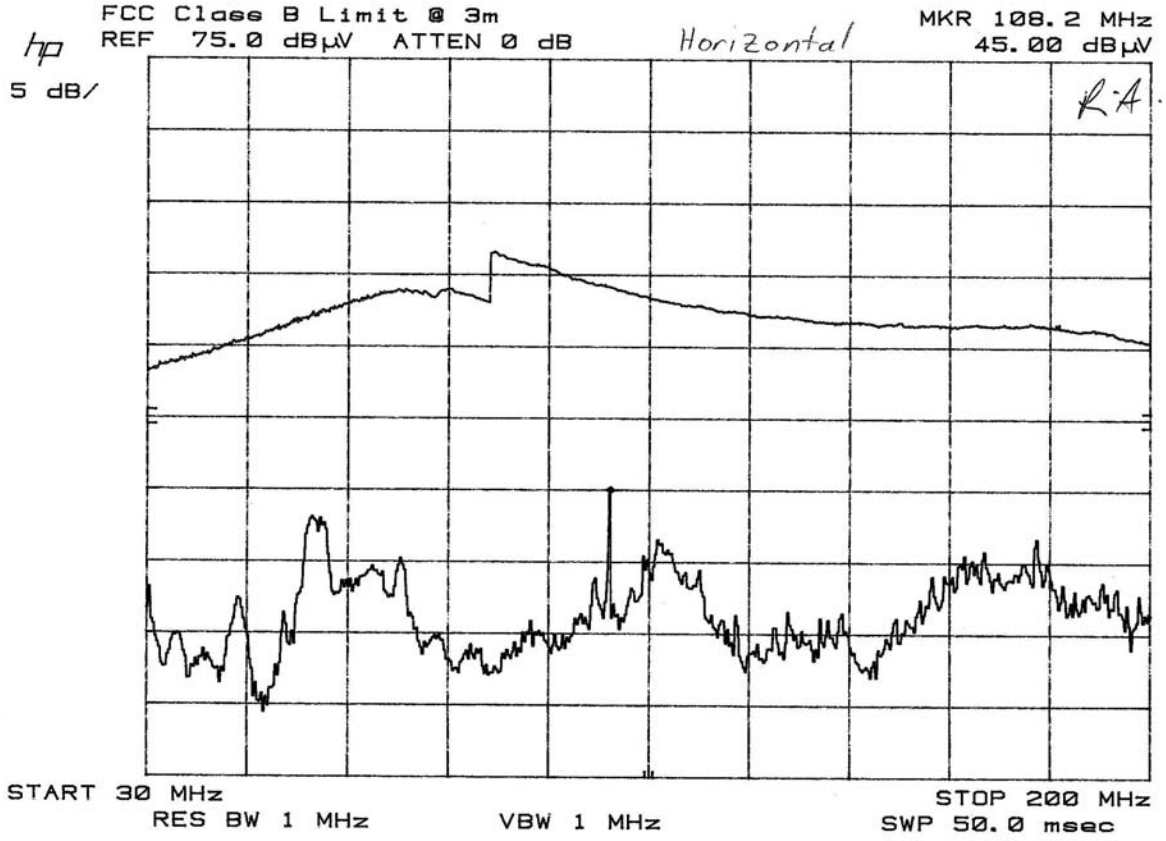
B-17

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Vertical
MKR 57.2 MHz
50.90 dBµV
hp
5 dB/
RA
30.0MHz
48.40dBµV
START 30 MHz
STOP 200 MHz
RES BW 1 MHz
VBW 1 MHz
SWP 50.0 msec

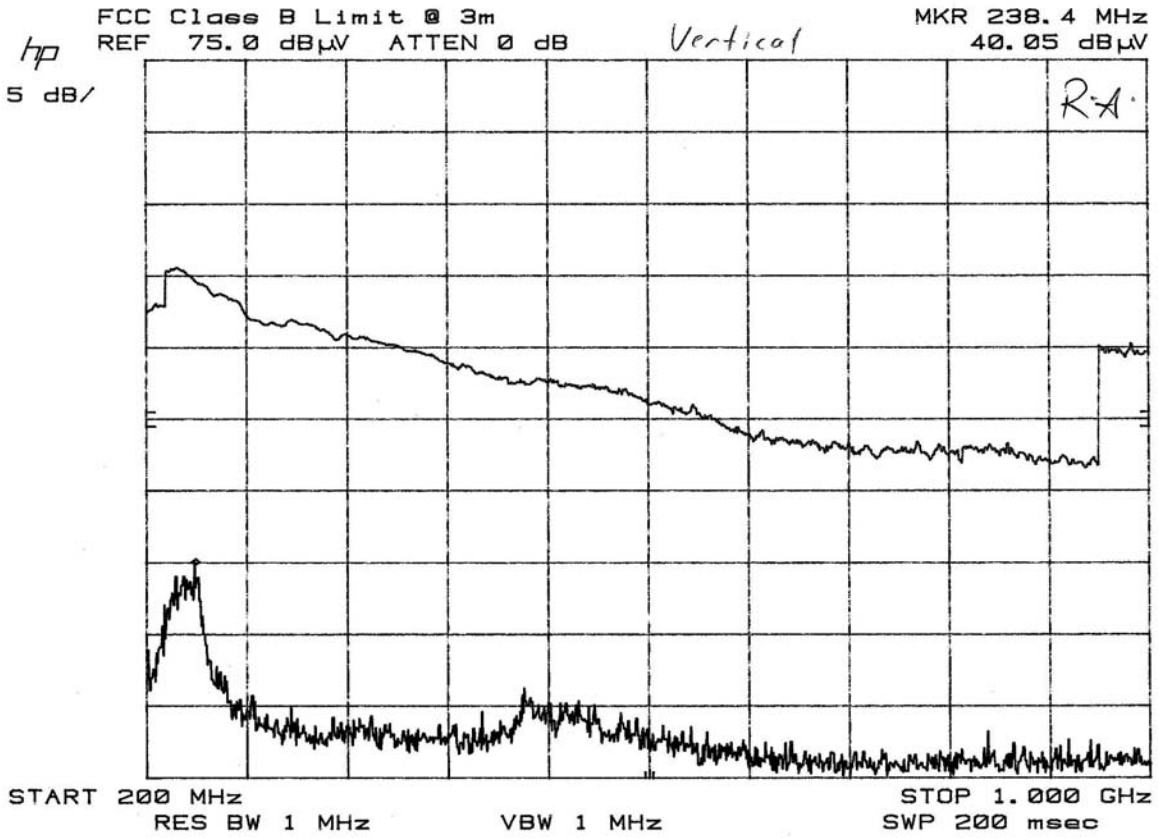
B-18

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Horizontal
MKR 108.2 MHz
45.00 dBµV
hp
5 dB/
RA
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 200 MHz
SWP 50.0 msec

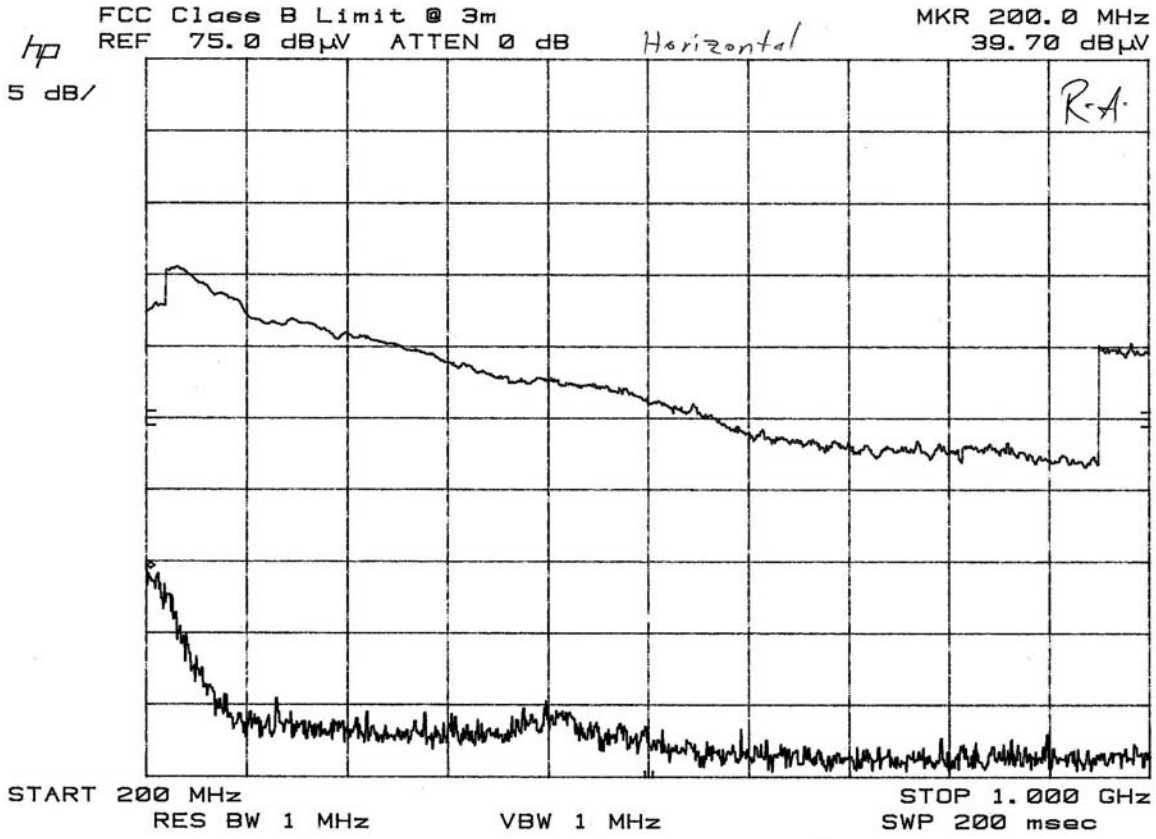
B-19

3/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Vertical
MKR 238.4 MHz
40.05 dBµV
5 dB/
R-A
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

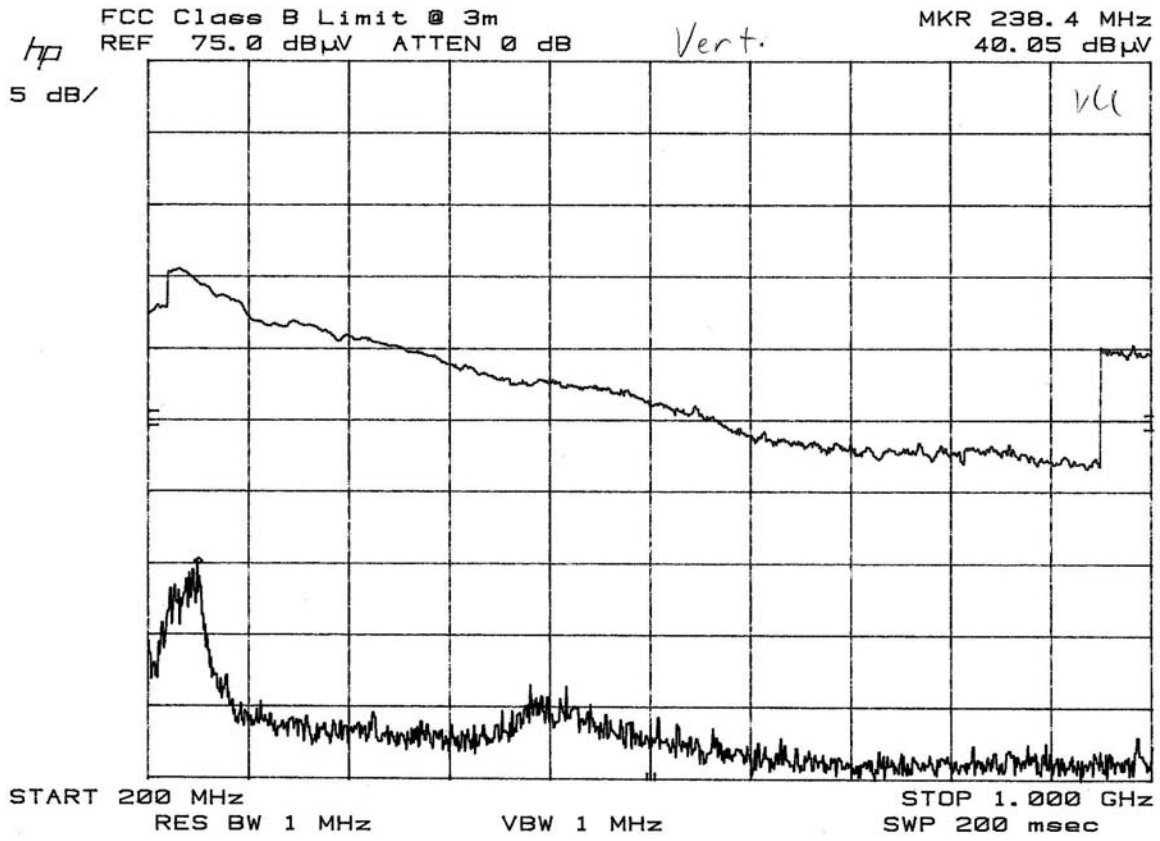
B-20

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV
ATTEN 0 dB
Horizontal
MKR 200.0 MHz
39.70 dBµV
5 dB/
R-A
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

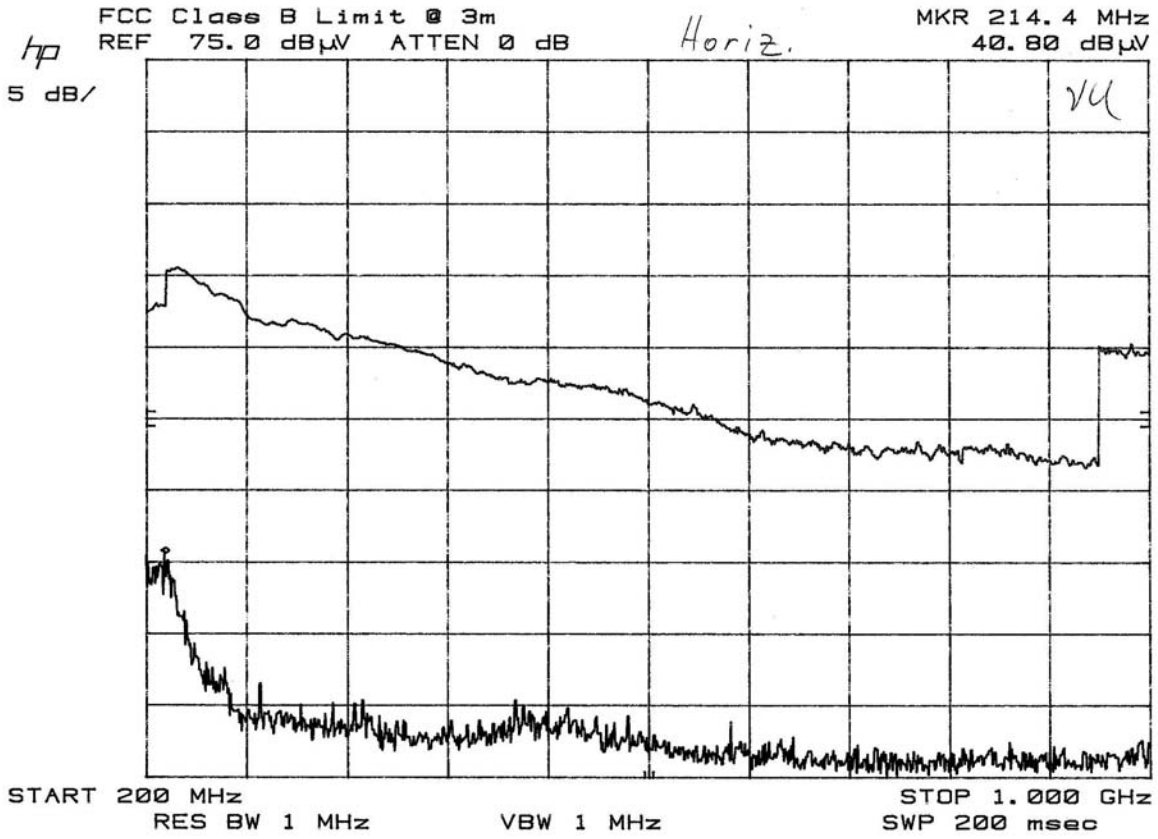
B-21

8/9/10


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Vert.
MKR 238.4 MHz
40.05 dBµV
hp
5 dB/
VC
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

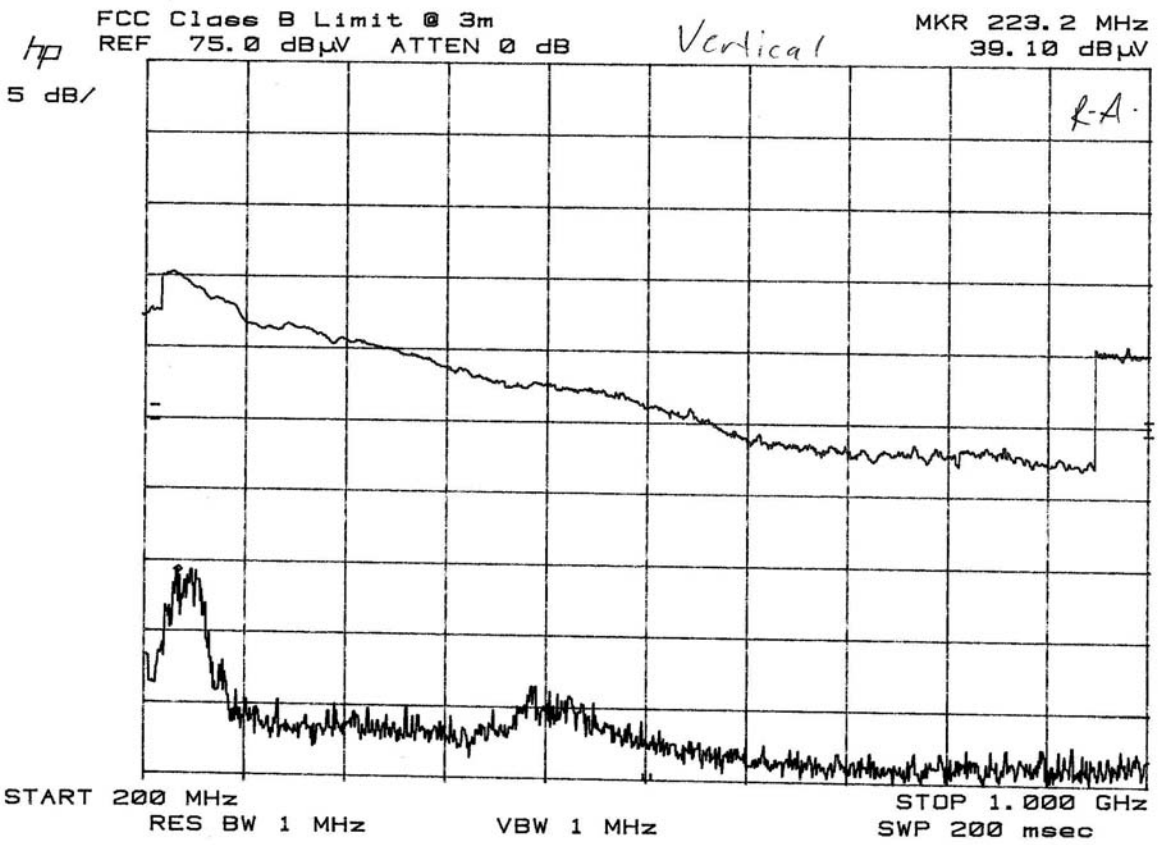
B-22

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Horiz.
MKR 214.4 MHz
40.80 dBµV
hp
5 dB/
VU
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

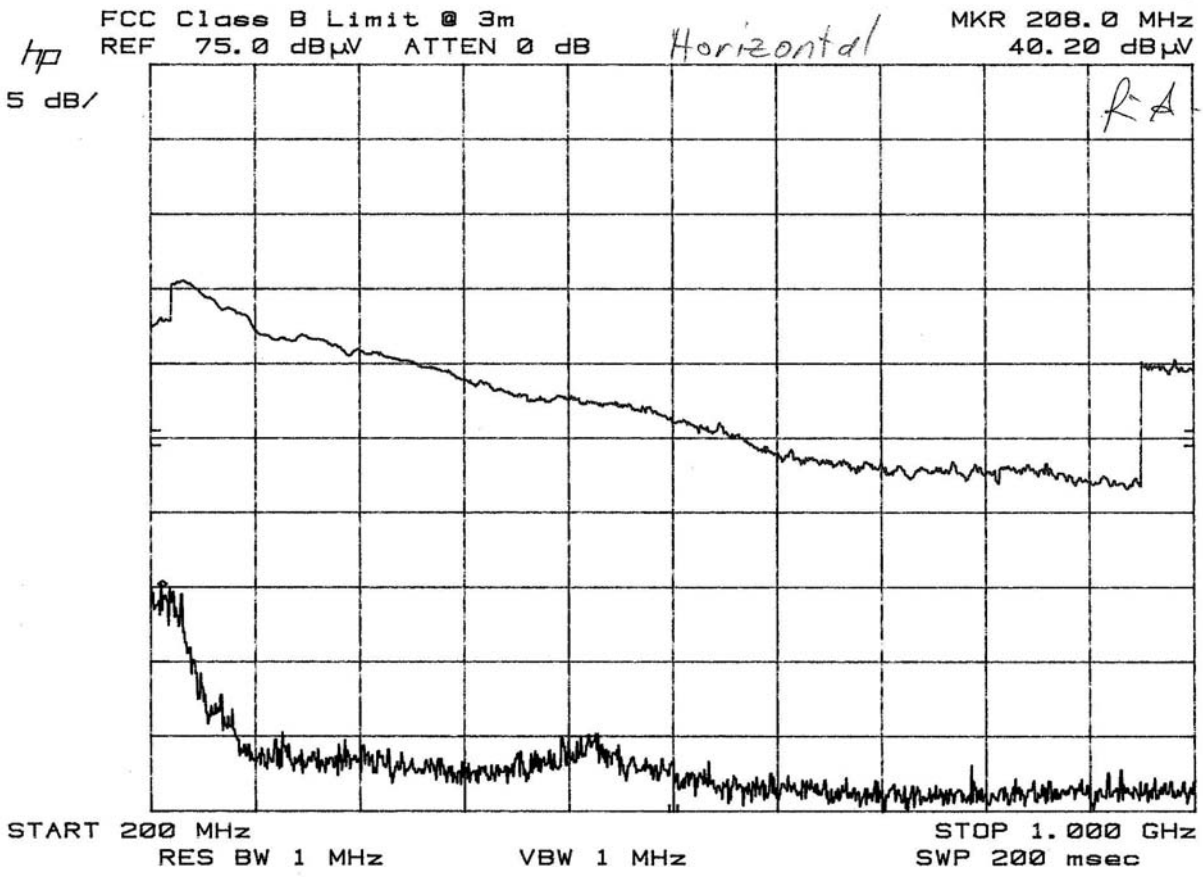
B-23

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Vertical
MKR 223.2 MHz
39.10 dBµV
hp
5 dB/
R-A
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

B-24

8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Horizontal
MKR 208.0 MHz
40.20 dBµV
hp
5 dB/
RA
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

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

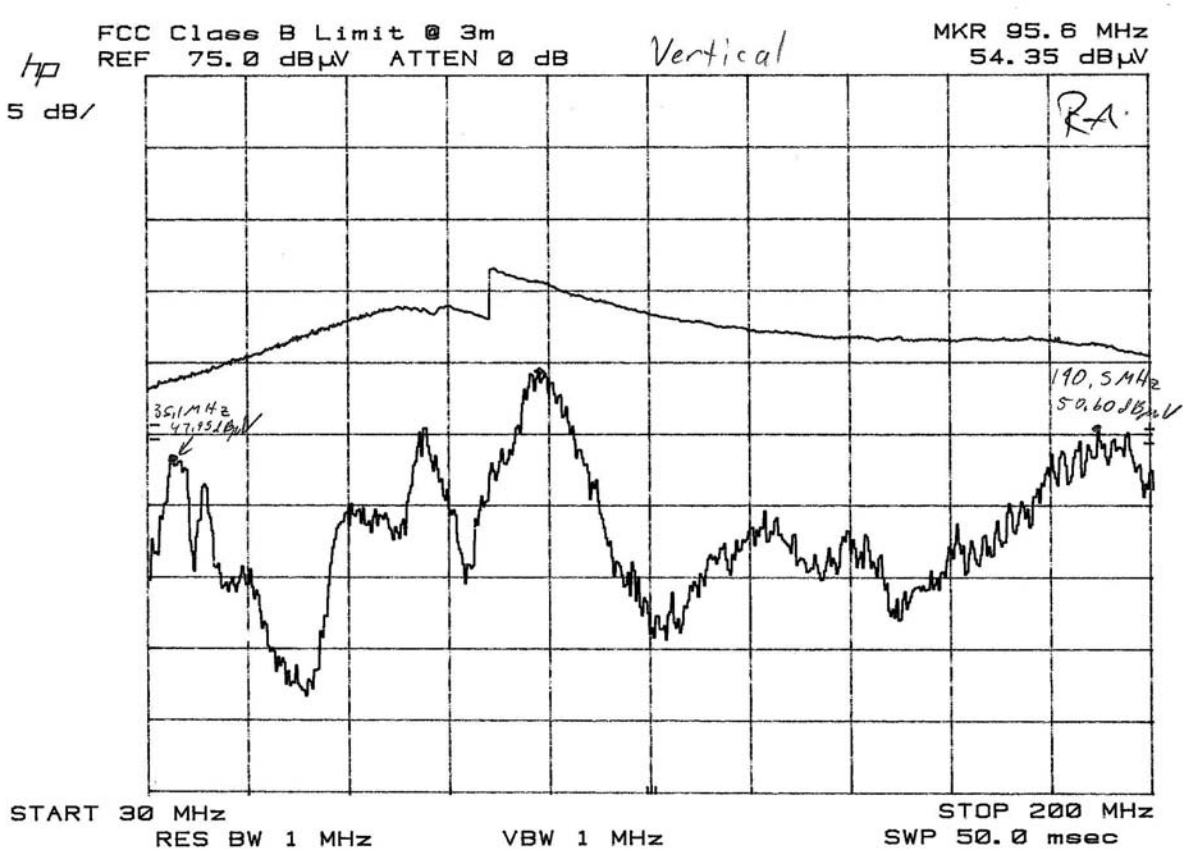
No emissions which exceeded the specified limits were observed and the EUT was found to comply with the requirements specified for this method.

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

15.109(a), Radiated Emissions
Home Cradle Test Data

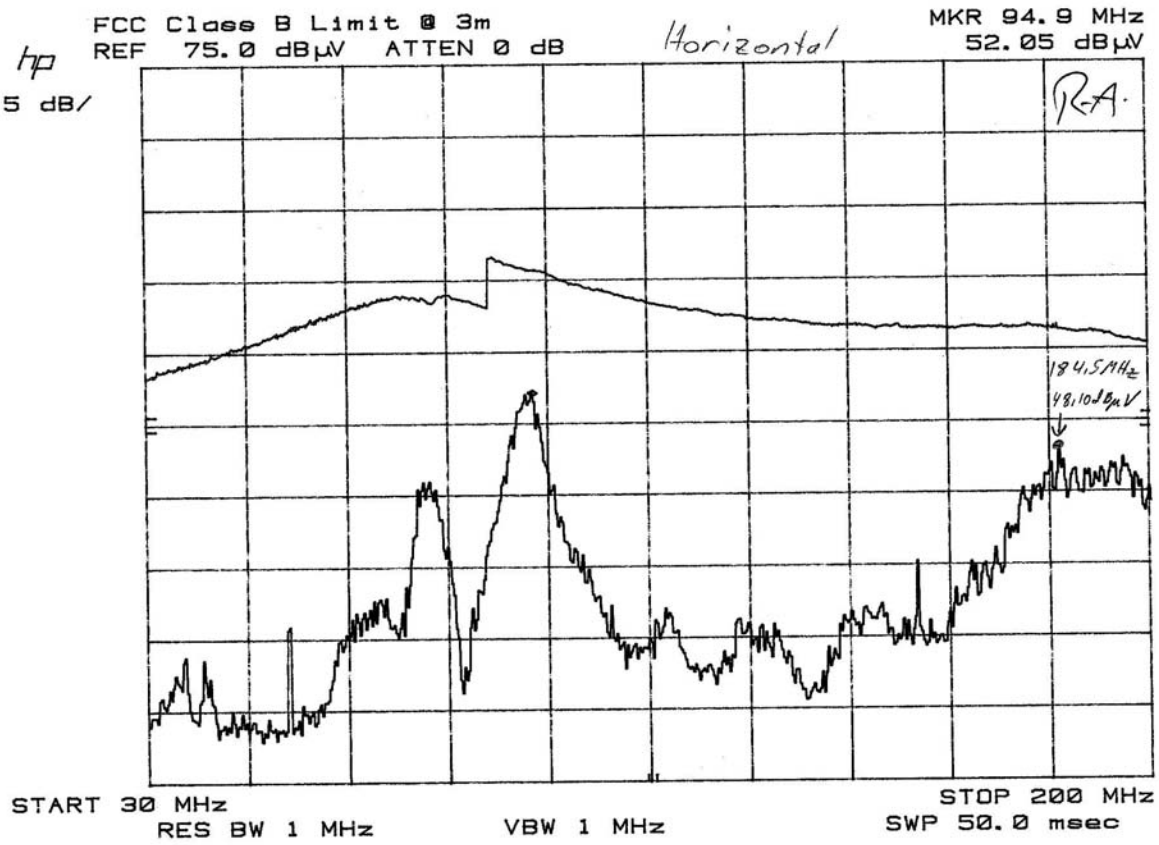
B-25

8/9/06

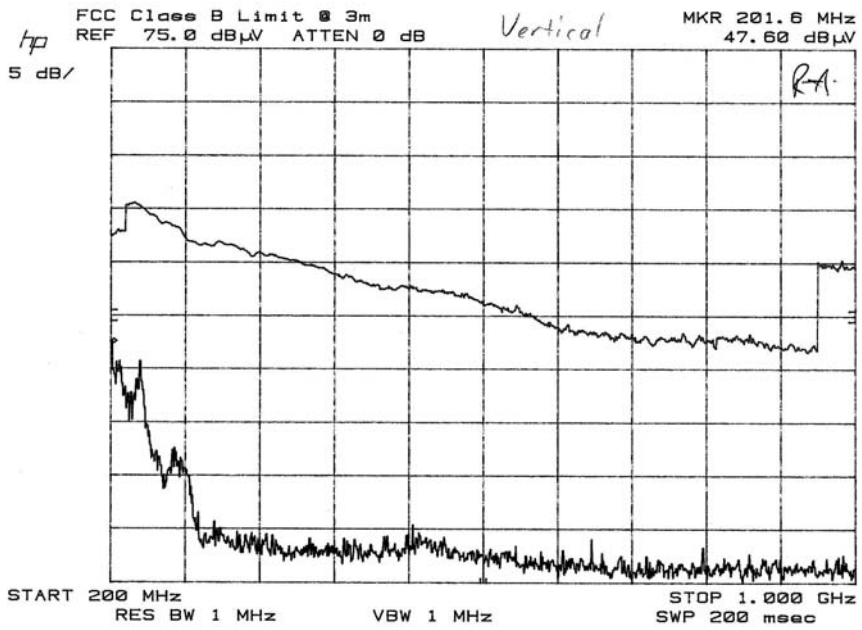

FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Vertical
MKR 95.6 MHz
54.35 dBµV
hp
5 dB/
RA
35.1 MHz
47.95 dBµV
190.5 MHz
50.60 dBµV
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 200 MHz
SWP 50.0 msec

B-26

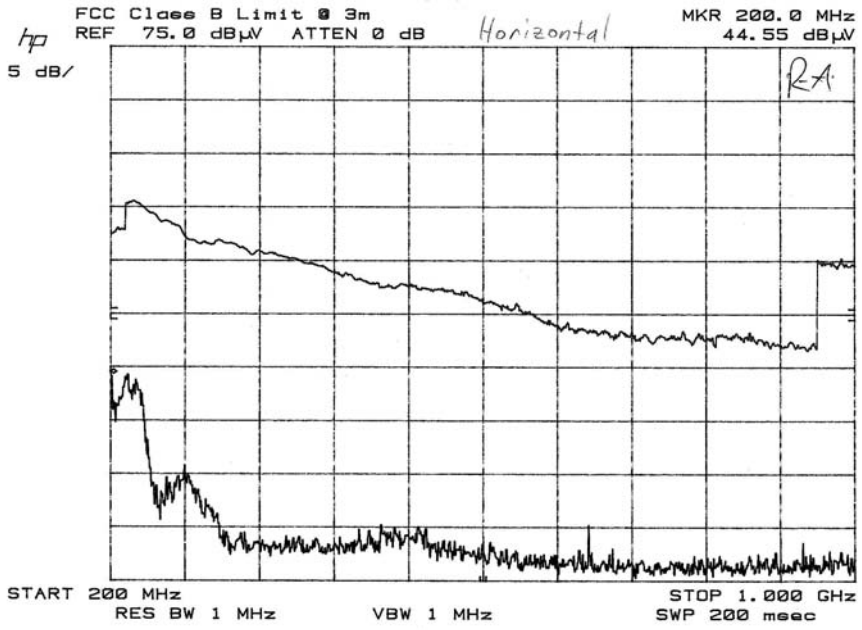
8/9/06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Horizontal
MKR 94.9 MHz
52.05 dBµV
hp
5 dB/
RA
1941.5 MHz
48.10 dBµV
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 200 MHz
SWP 50.0 msec

B-27 8/9/06



B-28 8/9/06



Tabular Test Data

Xpress with FM Coupler Data Points		Correction Factors		Corrected Readings		Limit	
Plot ID	Peak Frequency (MHz)	Peak Power (dBµV)	Rotation (°)	Height (m)	dB	Peak Power (dBµV)	dBuV/meter
B-1	88.10	60.25	358	102	-18.6	41.65	48
	62.50	52.10	220	102	-18.5	33.60	40
	33.40	48.75	310	102	-13.9	34.85	40
B-2	88.10	59.85	357	372	-18.6	41.25	48
	67.10	51.85	240	372	-18.9	32.95	40
	171.80	47.95	320	372	-13.6	34.35	43.5
B-3	69.90	60.20	133	100	-17.5	42.70	48
	33.90	50.75	280	100	-13.9	36.85	40
	57.90	48.85	240	100	-17.9	30.95	40
B-4	96.90	60.95	106	357	-17.5	43.45	48
	67.40	51.00	270	340	-18.9	32.10	40
	189.50	47.60	41	198	-12.3	35.30	43.5
B-5	107.90	57.90	269	101	-16.4	41.50	48
	57.50	50.10	308	101	-17.9	32.20	40
	34.40	47.85	13	101	-13.9	33.95	40
B-6	107.90	60.05	213	327	-16.4	43.65	48
	66.90	51.45	190	327	-18.9	32.55	40
	183.50	46.95	230	327	-13	33.95	43.5
B-7	296.00	45.70	3	100	-11.2	34.50	46
B-8	216.80	45.30	1	325	-13.8	31.50	46
B-9	286.40	44.35	4	110	-11.7	32.65	46
B-10	201.60	48.10	4	181	-13.9	34.20	43.5
B-11	288.80	42.45	2	110	-11.6	30.85	46
B-12	200.00	46.15	121	259	-14	32.15	43.5
B-13	57.20	51.20	359	138	-17.8	33.40	40
	30.00	48.45	222	138	-13.7	34.75	40
B-14	58.60	43.05	240	255	-18	25.05	40
B-15	57.20	51.20	3	268	-17.8	33.40	40
	30.50	48.95	136	100	-13.8	35.15	40
B-16	57.50	42.50	300	100	-17.9	24.60	40
B-17	57.20	50.90	129	146	-17.8	33.10	40
	30.00	48.40	1	146	-13.7	34.70	40
B-18	108.20	45.00	169	290	-16.4	28.60	48
B-19	238.40	40.05	107	101	-13.7	26.35	46
B-20	200.00	39.70	294	234	-11.5	28.20	43.5
B-21	238.40	40.05	4	100	-13.7	26.35	46
B-22	214.40	40.80	4	190	-13.8	27.00	43.5
B-23	223.20	39.10	0	100	-13.8	25.30	46
B-24	208.00	40.20	202	280	-13.9	26.30	43.5
B-25	95.60	54.35	303	163	-18.3	36.05	43.5
	190.50	50.60	294	123	-12.1	38.50	43.5
	35.10	47.95	195	107	-14.1	33.85	40
B-26	94.90	52.05	0	304	-18.3	33.75	43.5
	184.50	48.10	237	173	-13	35.10	43.5
B-27	201.60	47.60	252	100	-14	33.60	43.5
B-28	200.00	44.55	234	158	-11.5	33.05	43.5

EQUIPMENT LIST

FCC Part 15, Subpart B and 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

15.107(a), Conducted Emissions
Home Cradle Test Data

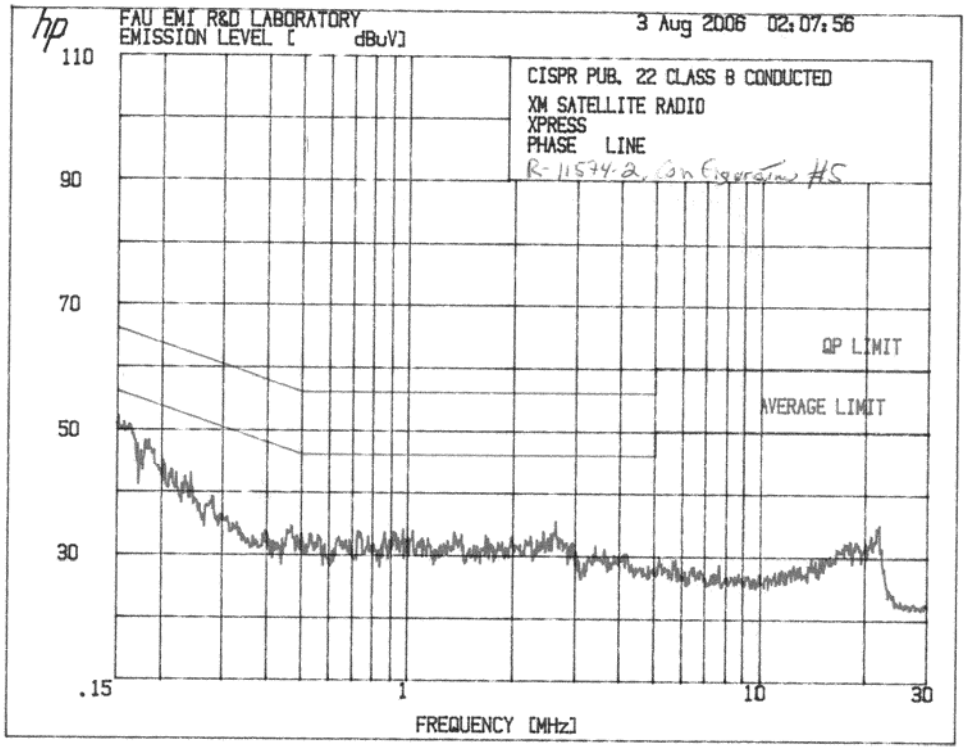
FCC Part 15, Subpart B, Class B, Conducted Emissions Test Method (Home Cradle)

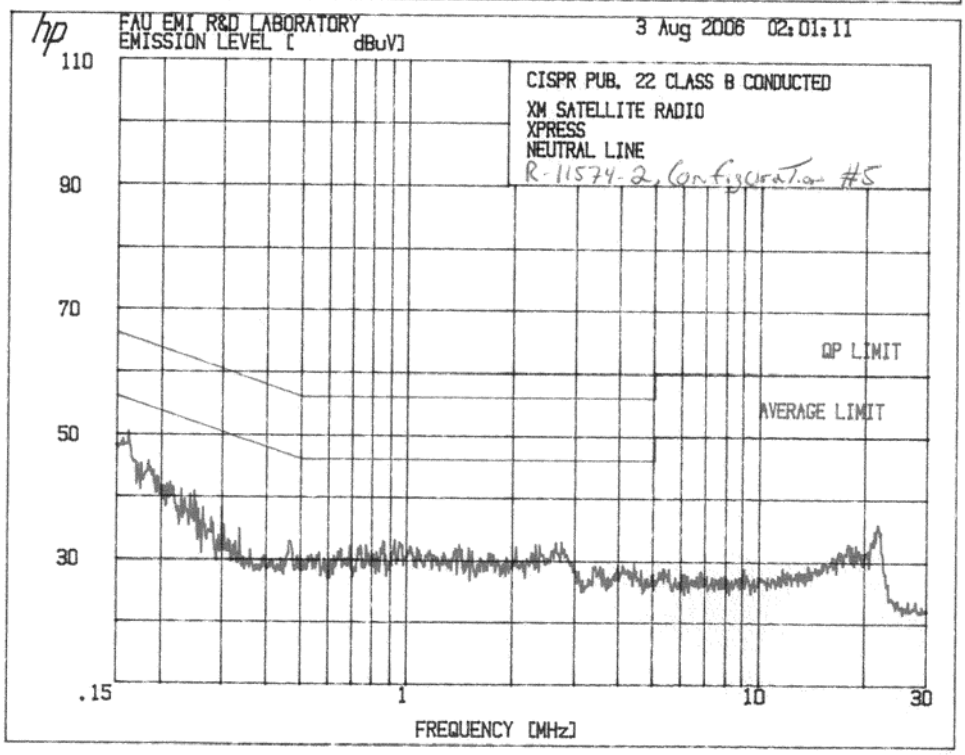
1. The satellite radio receiver was tested at Florida Atlantic University (FAU) three-meter indoor test site. Test firm FCC registration number is 447616.
2. Test personnel at FAU obtained all conducted emissions test data.
3. The spectrum analyzer was configured to display the frequency range of 0.15 to 30 MHz.
4. The spectrum analyzer was then configured to attain a max hold trace of the Hot lead in the 0.15 to 30 MHz frequency band utilizing a peak detector function.
5. The attained peak data was then compared to the average specified limit. If the obtained data was found to be in compliance with the average limit, then the test sample was found to comply.
6. If the obtained data did not comply with the average limit the scan was repeated utilizing a CISPR compliant receiver with a Quasi-Peak detector.
7. The attained Quasi-Peak data was then compared to the average specified limit. If the obtained data was found to be in compliance with the average limit, then the test sample was found to comply.
8. If the obtained data did not comply with the average limit step 6 was repeated utilizing an average detector.
9. The attained average data was then compared to the average specified limit. If the obtained data was found to be in compliance with the average limit, then the test sample was found to comply.
10. Steps 3 through 8 were repeated for each remaining lead of the EUT.

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 one (1) data sheet for a full presentation of the results obtained.


FAU EMI R&D LABORATORY
EMISSION LEVEL [dBuV]
3 Aug 2006 02:07:56
110
90
70
50
30
.15
1
10
30
CISPR PUB. 22 CLASS B CONDUCTED
XM SATELLITE RADIO
XPRESS
PHASE LINE
R-11574-2, Configuration #5
QP LIMIT
AVERAGE LIMIT
FREQUENCY [MHz]


FAU EMI R&D LABORATORY
EMISSION LEVEL [dBuV]
3 Aug 2006 02:01:11
110
90
70
50
30
.15
1
10
30
CISPR PUB. 22 CLASS B CONDUCTED
XM SATELLITE RADIO
XPRESS
NEUTRAL LINE
R-11574-2, Configuration #5
QP LIMIT
AVERAGE LIMIT
FREQUENCY [MHz]

EQUIPMENT LIST

FCC Part 15, Subpart B, Conducted 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
L.I.S.N	EMCO	3835/2R	3-10-06	3-10-07