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.

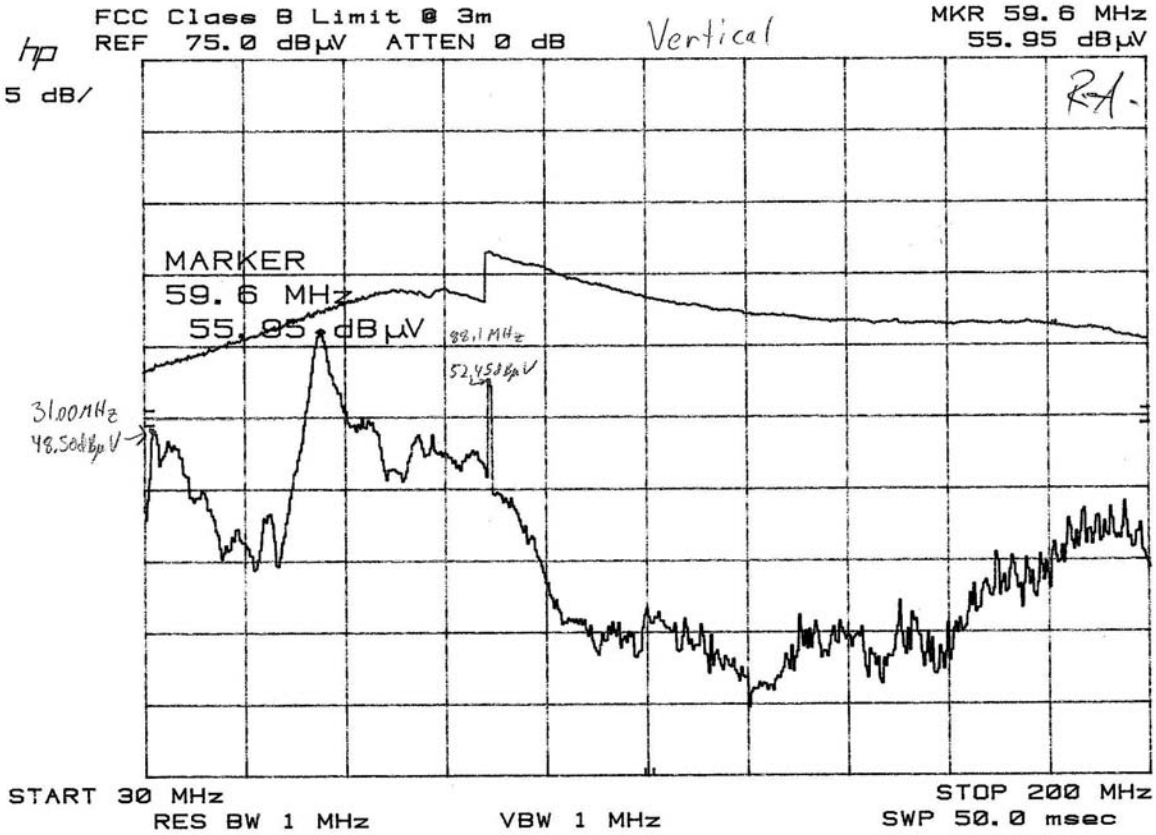
15.109(b), Radiated Emissions
FM Direct Test Data

The following table describes the graphical test data:

Plot ID#	Test Description	
	FM Direct Adaptor & FM Arial Antenna	
B-29	88.1MHz Low-Band Vertical	
B-30	88.1MHz Low-Band Horizontal	
B-31	96.9MHz Low-Band Vertical	
B-32	96.9MHz Low-Band Horizontal	
B-33	107.9MHz Low-Band Vertical	
B-34	107.9MHz Low-Band Horizontal	
B-35	88.1MHz High-Band Vertical	
B-36	88.1MHz High-Band Horizontal	
B-37	96.9MHz High-Band Vertical	
B-38	96.9MHz High-Band Horizontal	
B-39	107.9MHz High-Band Vertical	
B-40	107.9MHz High-Band Horizontal	

B-29

16 Aug 06

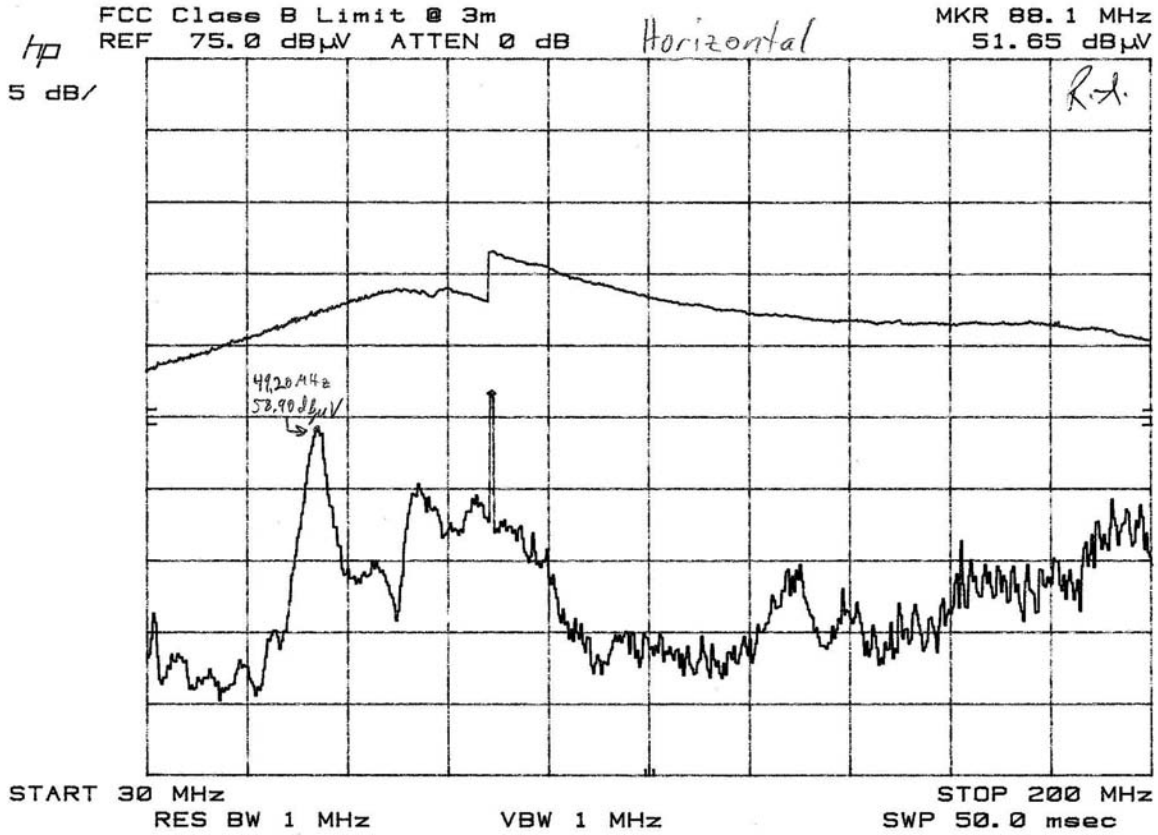


Retlif Testing Laboratories

Test Results No. R-11574-2

B-30

16 Aug 06

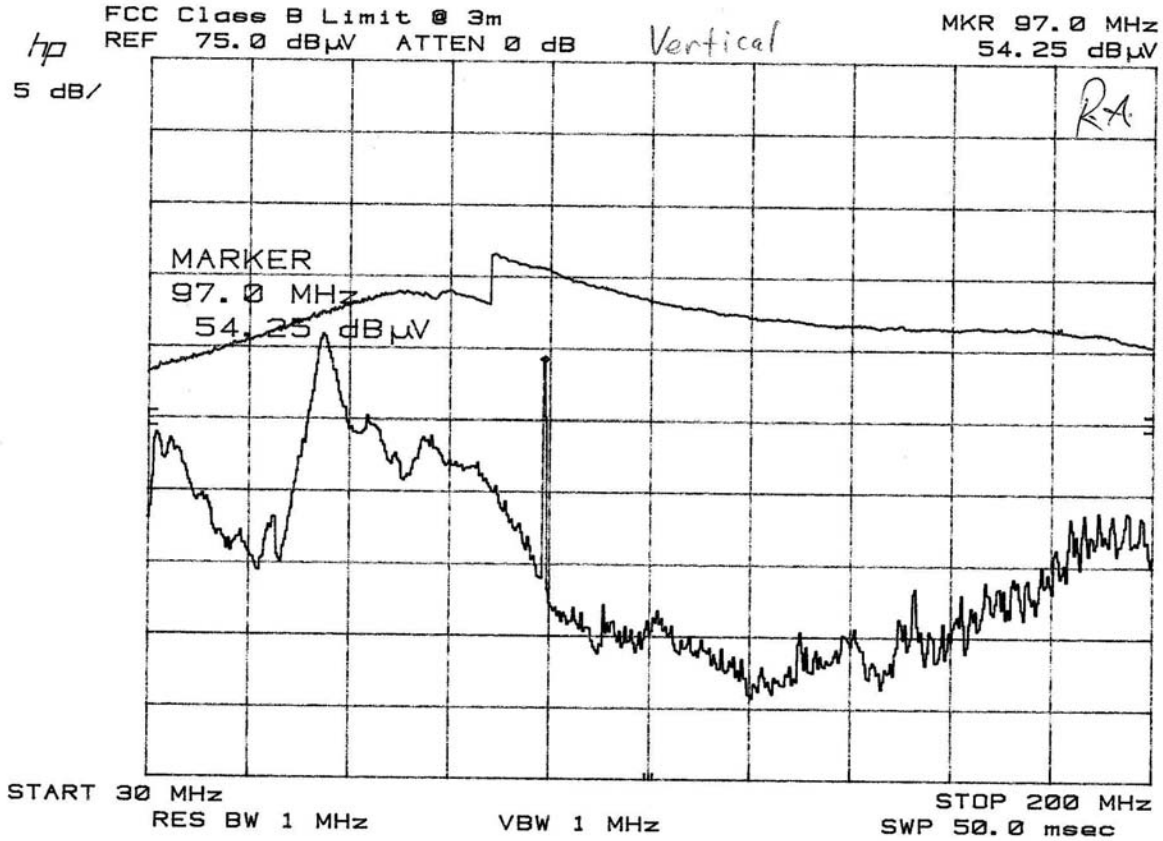


Retlif Testing Laboratories

Test Results No. R-11574-2

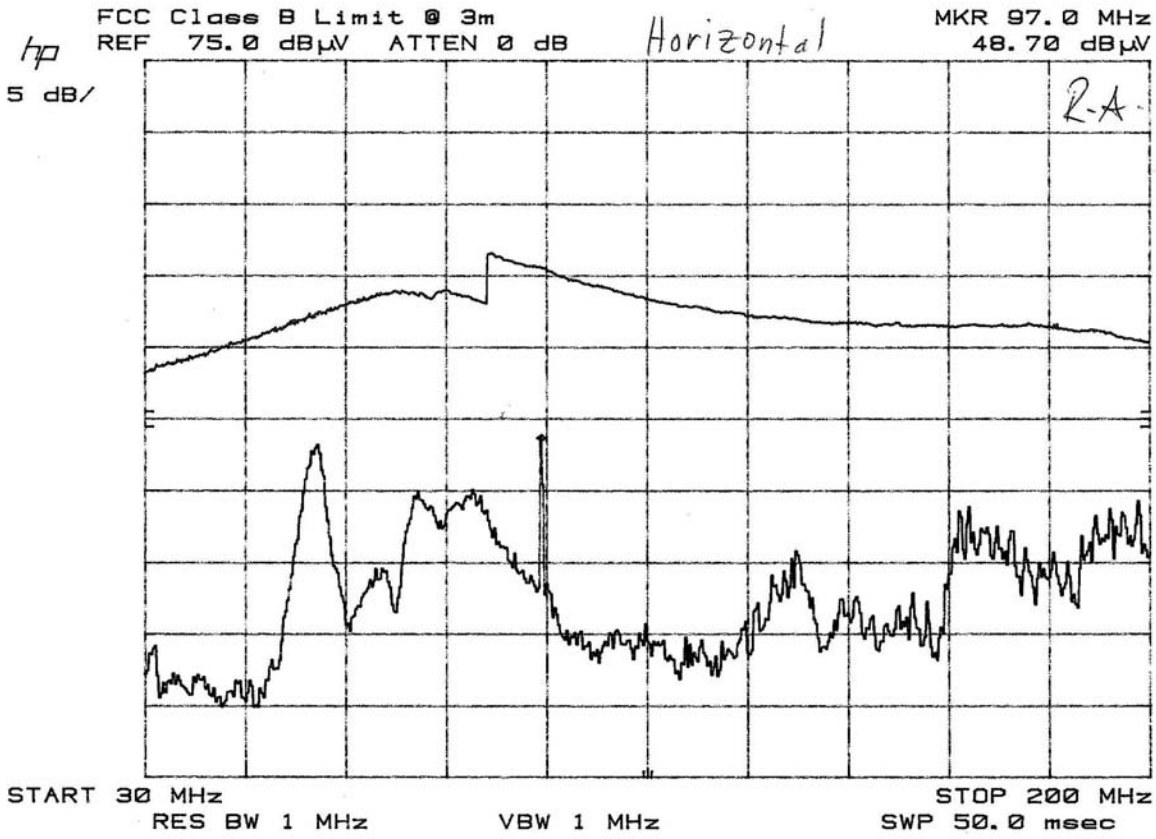
B-3.1

16 Aug 06


FCC Class B Limit @ 3m
REF 75.0 dBμV ATTEN 0 dB
Vertical
MKR 97.0 MHz
54.25 dBμV
5 dB/
RA
MARKER
97.0 MHz
54.25 dBμV
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 200 MHz
SWP 50.0 msec

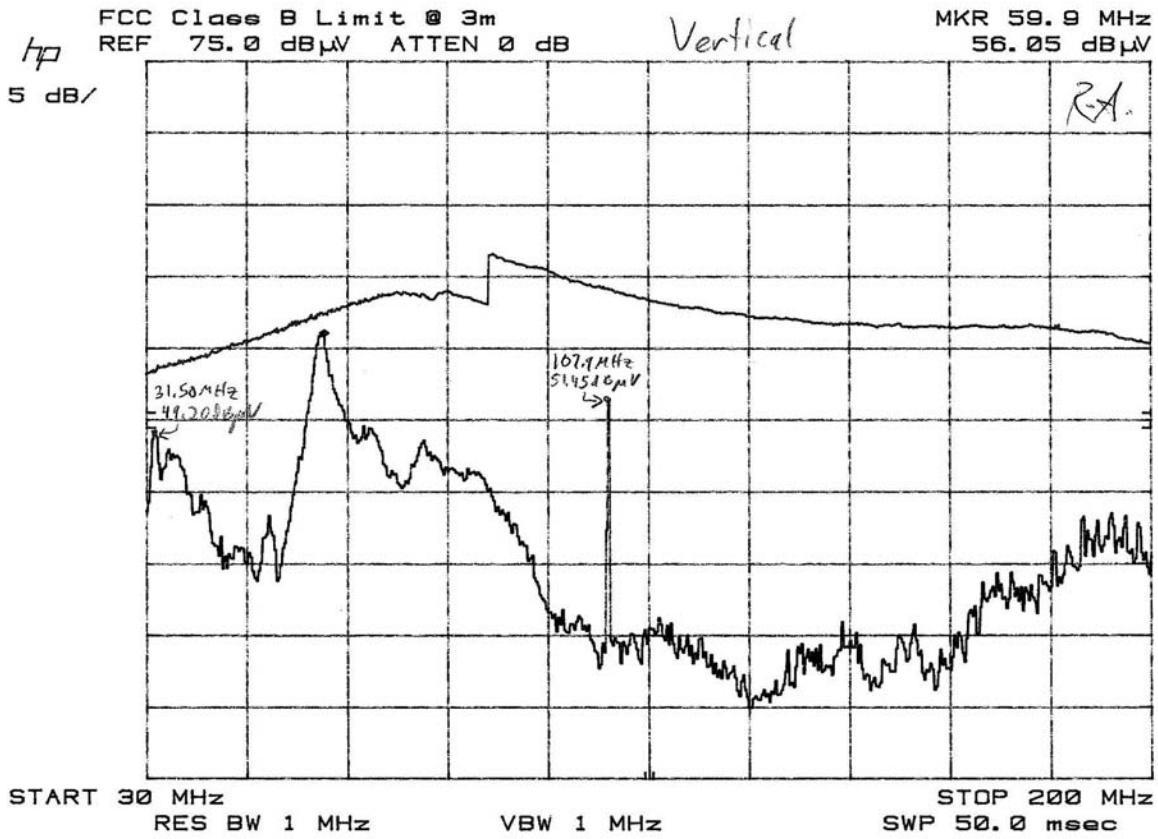
B-32

16 Aug 06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Horizontal
MKR 97.0 MHz
48.70 dBµV
hp
5 dB/
R-A
START 30 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 200 MHz
SWP 50.0 msec

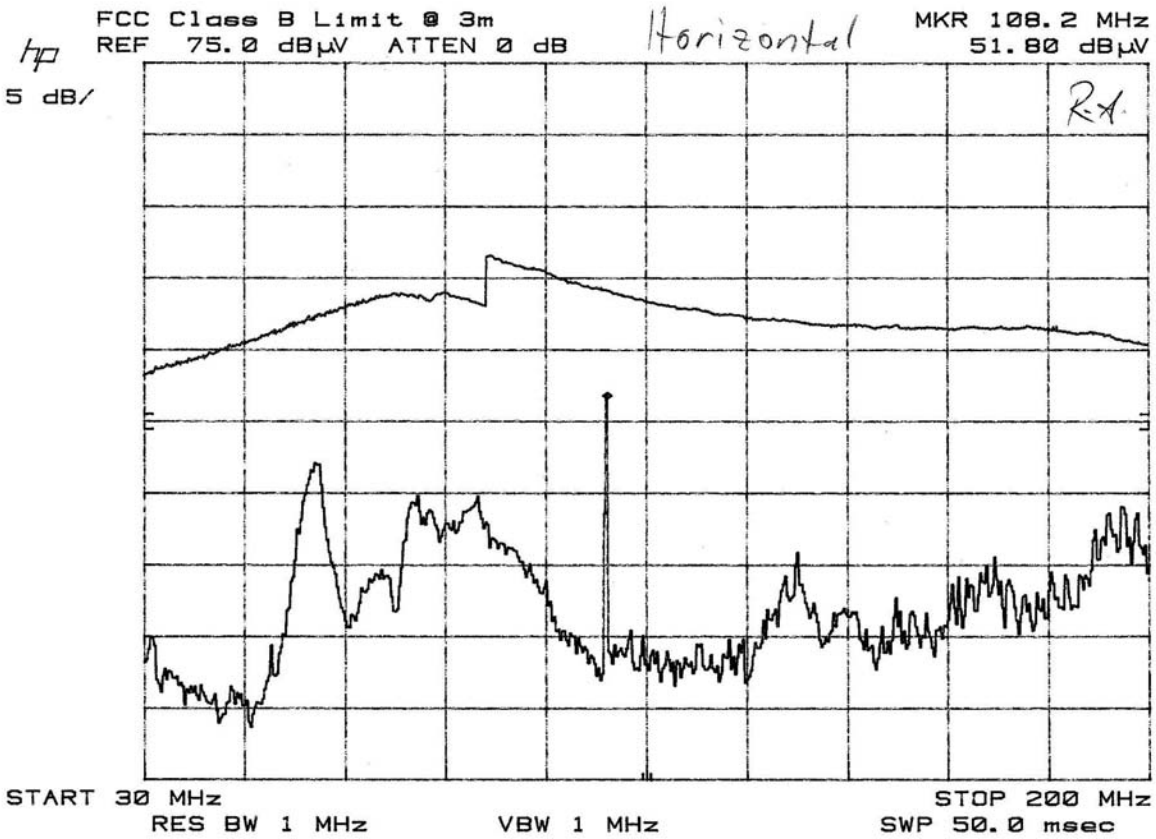
B-33

16 Aug 06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Vertical
MKR 59.9 MHz
56.05 dBµV
5 dB/
R-A.
31.50MHz
107.9MHz
51.45 10µV
START 30 MHz
STOP 200 MHz
RES BW 1 MHz
VBW 1 MHz
SWP 50.0 msec

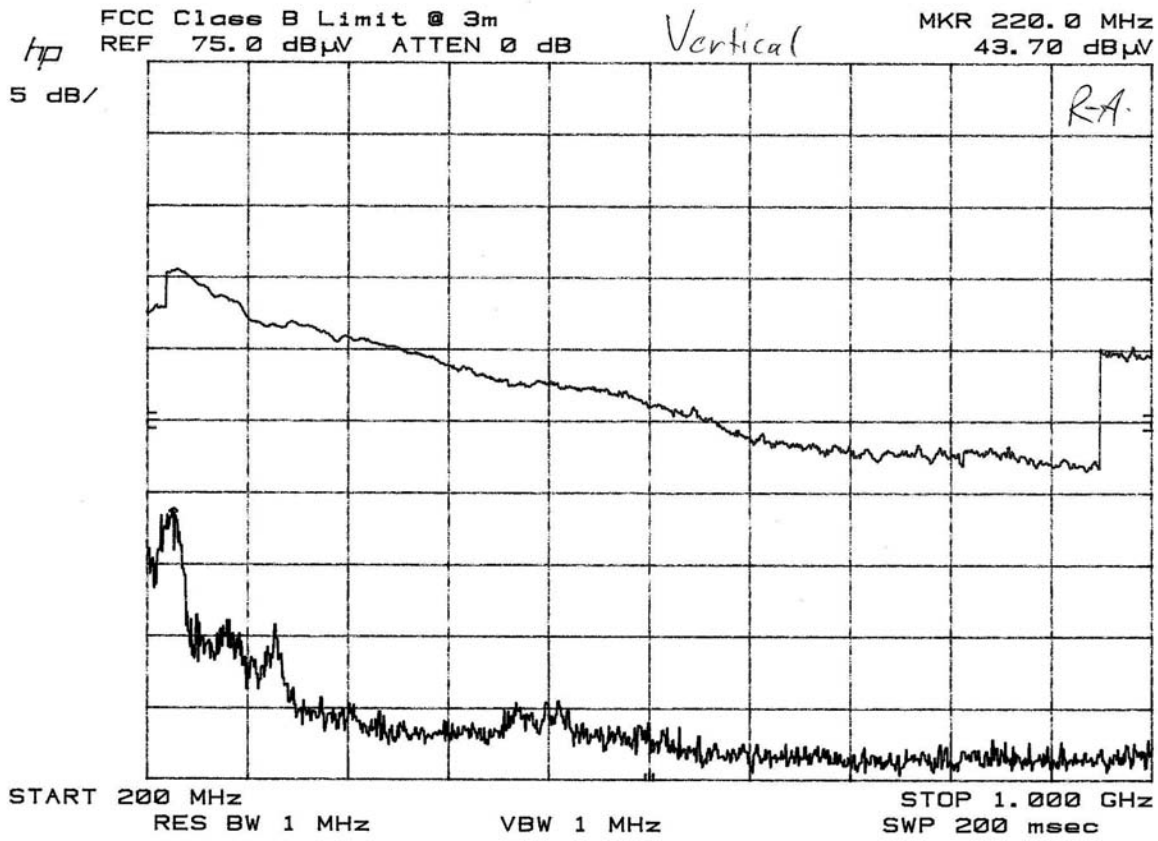
B-34

16 Aug 06


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

B- 35

16 Aug 06



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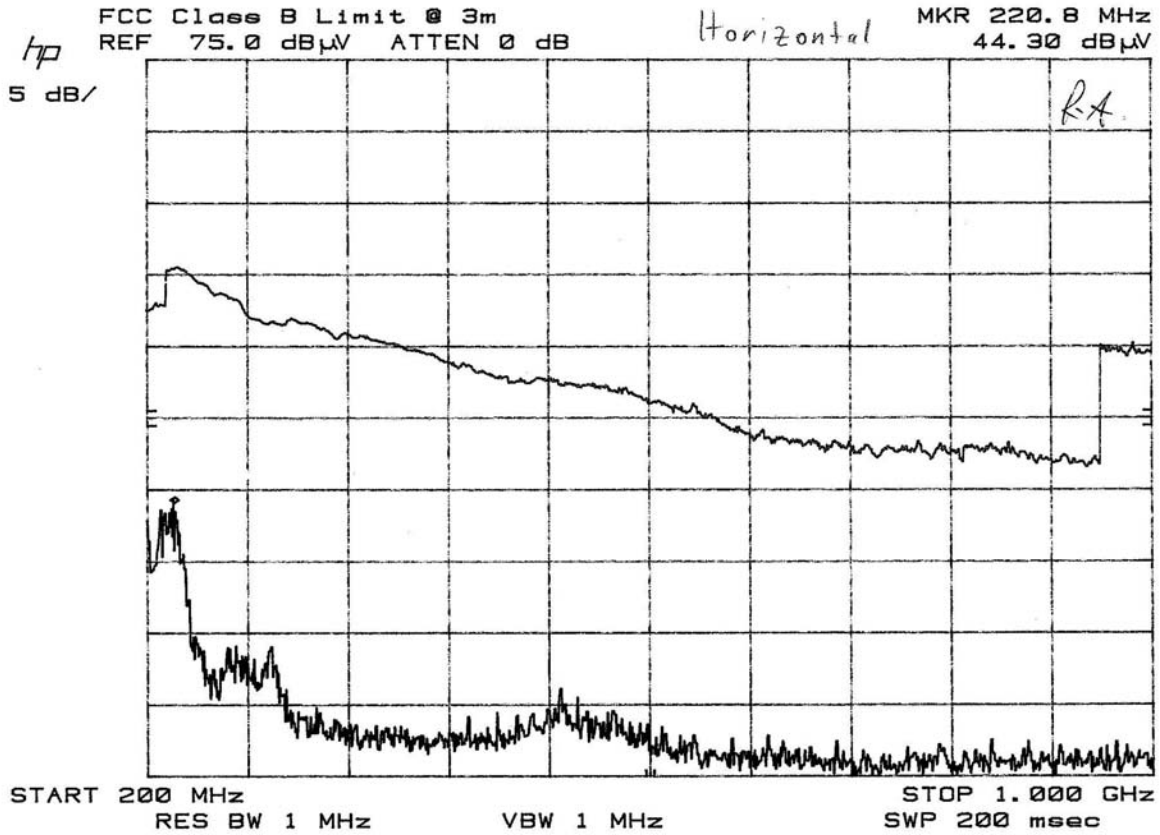
Test Results No. R-11574-2

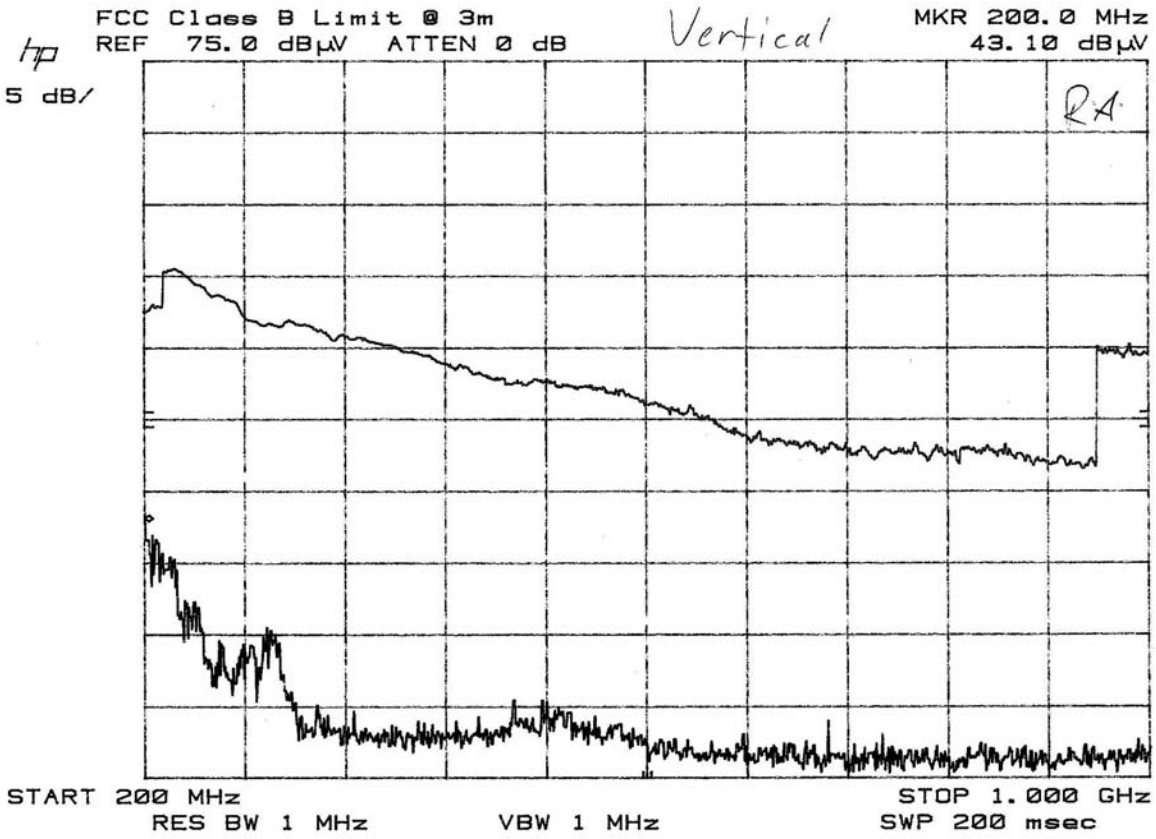
B-36

16 Aug 06


FCC Class B Limit @ 3m
REF 75.0 dBµV ATTEN 0 dB
Horizontal
MKR 220.8 MHz
44.30 dBµV
hp
5 dB/
RA
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

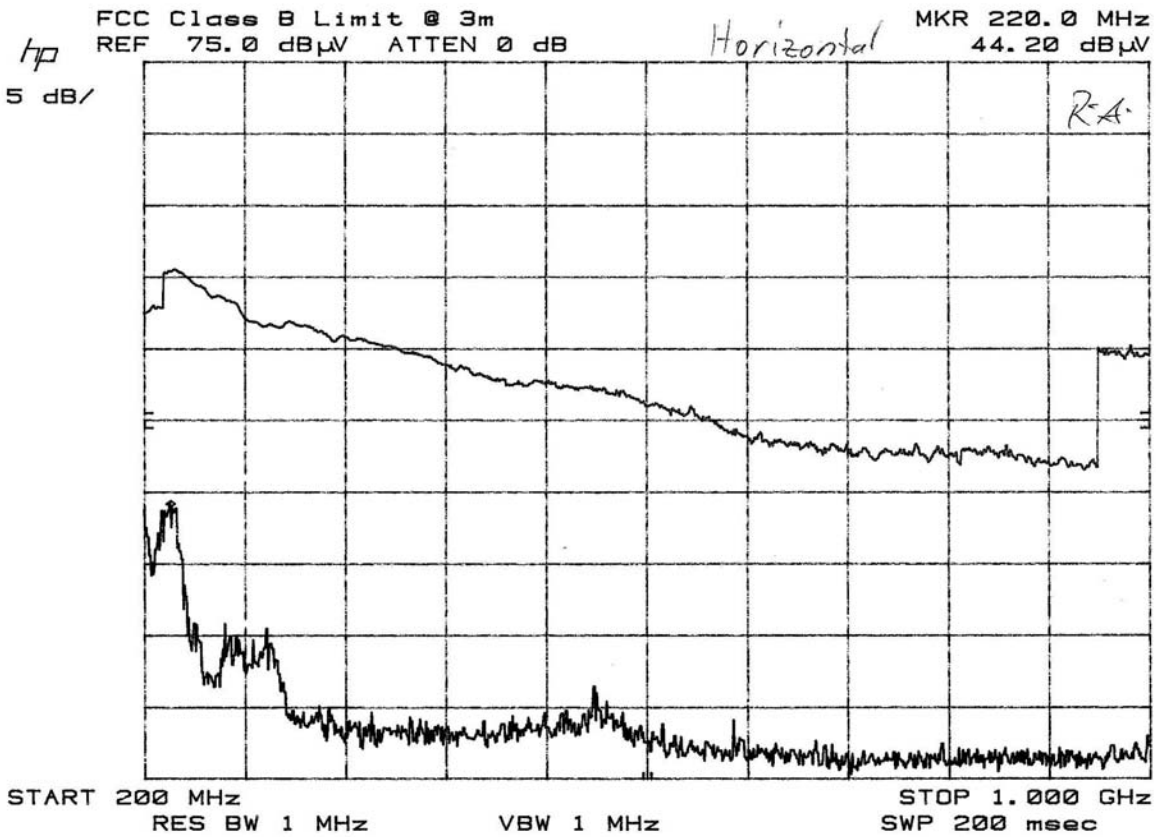
B-37

16 Aug 06


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

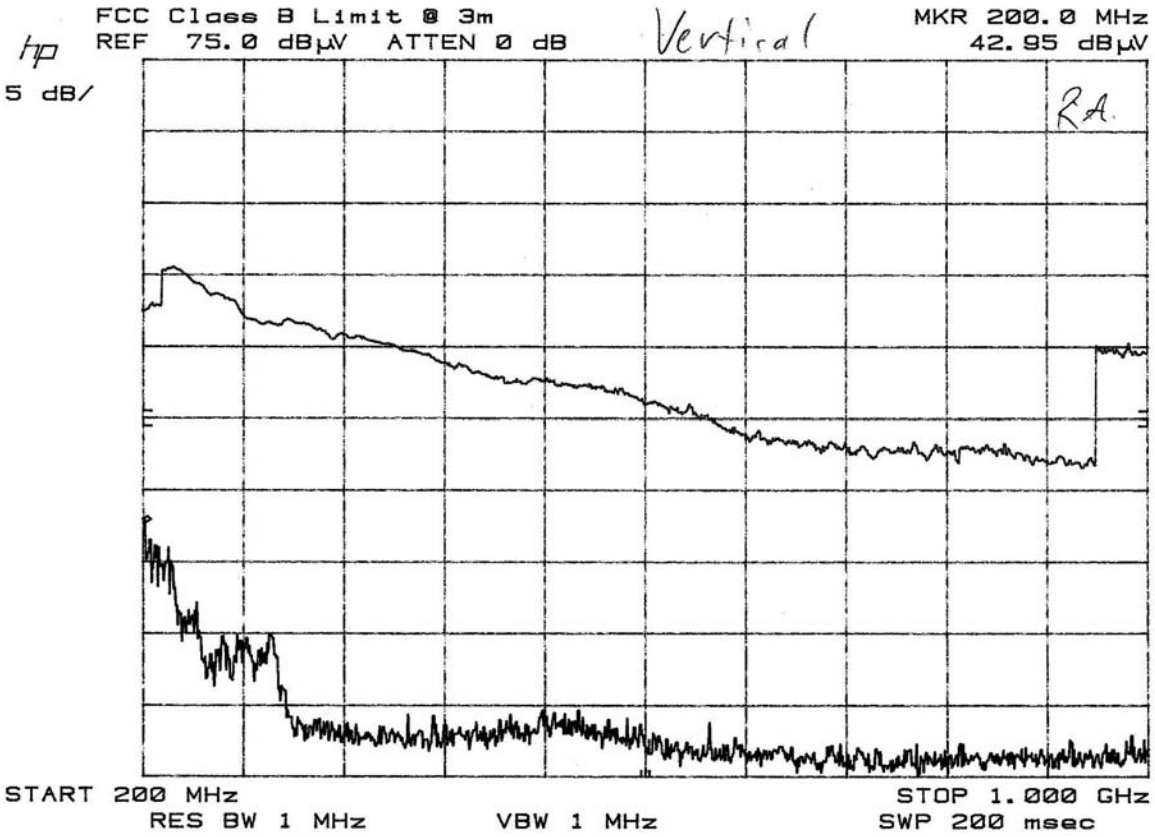
B-38

16 Aug 06


FCC Class B Limit @ 3m
REF 75.0 dBμV ATTEN 0 dB
Horizontal
MKR 220.0 MHz
44.20 dBμV
hp
5 dB/
RA
START 200 MHz
RES BW 1 MHz
VBW 1 MHz
STOP 1.000 GHz
SWP 200 msec

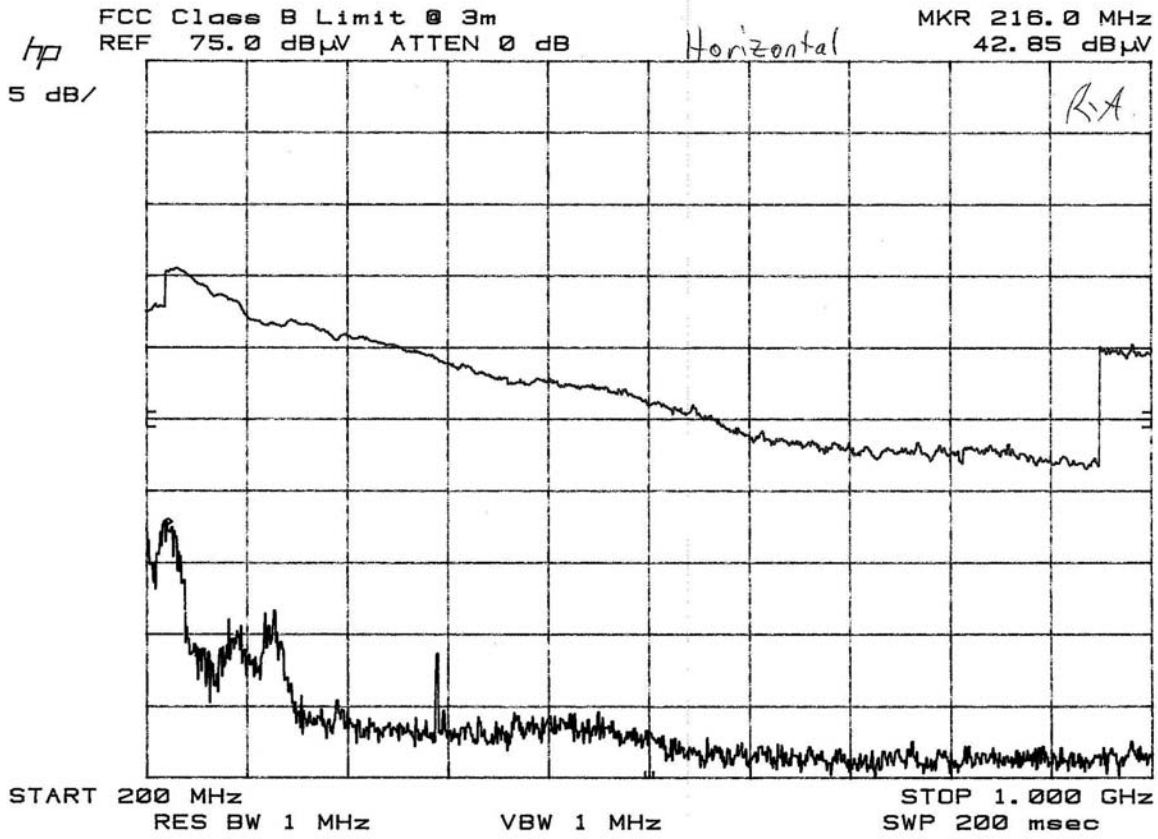
B-39

16 Aug 06


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

B-40

16 Aug 06



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Test Results No. R-11574-2

Tabular Test Data

Xpress with FM Direct Data Points					Correction Factors	Corrected Readings	Limit
Plot ID	Peak Frequency (MHz)	Peak Power (dBµV)	Rotation (°)	Height (cm)	dB	Peak Power (dBuV)	DbuV/meter
B-29	56.90	55.95	236	100	-18.3	37.65	40
	31.00	48.50	112	100	-13.7	34.80	40
	88.10	52.45	269	130	-18.5	33.95	43.5
B-30	58.90	49.20	299	148	-18.3	30.90	40
	88.10	51.65	158	340	-18.5	33.15	43.5
B-31	96.90	54.25	312	100	-17.5	36.75	43.5
	59.20	55.55	265	142	-18.3	37.25	40
	31.50	48.95	73	100	-13.7	35.25	40
B-32	96.90	48.70	29	188	-17.5	31.20	43.5
	59.10	47.95	63	222	-18.3	29.65	40
B-33	107.90	51.45	300	100	-16.5	34.95	43.5
	59.90	56.05	279	100	-18.3	37.75	40
	31.50	49.20	80	100	-13.7	35.50	40
B-34	107.90	51.80	278	107	-16.7	35.10	43.5
B-35	220.00	43.70	51	100	-13.8	29.90	46
B-36	220.80	44.30	144	255	-13.8	30.50	46
B-37	43.10	43.10	326	121	-14.4	28.70	40
B-38	220.00	44.20	161	182	-13.8	30.40	46
B-39	200.00	42.95	81	100	-14	28.95	46
B-40	216.00	42.85	260	142	-13.8	29.05	46

Test Setup Photograph
Radiated Emissions

FM Direct Test Setup

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