EMI Research and Development Laboratory
Department of Electrical Engineering
Florida Atlantic University
3998 FAU Blvd, Suite 310
Boca Raton, Florida 33431
(561) 361-4390

Technical Report No. 06-081a
FCC ID: RS2SA10113A

"EMI Evaluation of the XM Satellite Radio, Inc. MyFi XM Satellite Radio Receiver to FCC Class B Conducted and Radiated Emission Requirements"

Date Performed: 10/11/2006 – 10/18/2006

Customer: XM Satellite Radio, Inc.
Attn: Terry Helstrom
3161 S.W. 10th street
Deerfield Beach, FL 33442

Company Official responsible for product(s) tested: _____
Terry Helstrom, Engineer

Test Performed and Reported By: _____
Raymond Aina, Test Engineer
FAU EMI R&D Laboratory

Approved by: _____
Vichate Ungvichian, Ph.D., P.E.
Director, FAU EMI R&D Laboratory

Date of Test Report: 19 October 2006

ACCREDITED
2129.01

Table of Contents

1. INTRODUCTION 3
2. OBJECTIVE 3
3. CONCLUSION 3
4. GENERAL TEST PROCEDURES 4
5. SPECIFIC TEST PROCEDURES AND RESULTS 5
5.1. CONDUCTED EMISSIONS – Section 15.107(a) 5
5.1.1. Test Setup – Conducted Emissions 5
5.1.2. Test Data – Conducted Emissions 6
5.2. UNTENTIONAL RADIATED EMISSIONS – Section 15.109(a) 7
5.2.1. General Test Setup 7
5.2.2 Portable Mode 8
5.2.2.1 Live XM while Recording – Internal Antenna 8
5.2.2.2 Playing Recorded Content 9
5.2.2.3 Radiated Emissions Live XM using Accessory Antenna 10
5.2.2.4 Radiated Emissions – Live XM using Headphone Antenna 10
5.2.3 Home Cradle 12
5.2.3.1 Test Setup – Home Cradle 12
5.2.3.2 Test Data - Home Cradle, Live XM 13
5.2.4 Car Cradle and FM Direct Adapter 15
5.2.4.2 Test Setup – FM Direct Adapter 15
5.2.4.2 Test Data – FM Direct Adapter 16
5.2.5 Car Cradle and XM Antenna 18
5.2.5.1 Test Setup – Car Cradle and XM Antenna 18
5.2.5.2 Test Data – Car Cradle and XM antenna only 19
5.3. INTENTIONAL RADIATED EMISSIONS – Section 15.239 21
5.3.1. Test Setup – FM Aerial antenna 21
5.3.2. Test Data – FM Aerial Antenna 23
5.4. INTENTIONAL RADIATED EMISSIONS – Section 15.239, Measured On Vehicle 28
5.4.1 Test Setup – In Vehicle Measurements 28
5.4.2 Test Data – In-Vehicle Measurements 31
5.5. OCCUPIED BANDWIDTH– Section 15.239(a) 32
5.6 FM TUNING RANGE 32
6 TEST EQUIPMENT 33
6.1 FAU EMI LAB – Radiated Emissions 33
6.2 FAU EMI LAB – Conducted Emissions 34
6.3 In-Vehicle Test Equipment 34
TEST FACILITY 35

1. INTRODUCTION

The XM Satellite Radio, Inc. MyFi receiver was evaluated for compliance to the FCC Class B requirements and the results apply only to the specific items of equipment, configurations and procedures supplied to the Florida Atlantic University EMI Research Lab by XM Satellite Radio, Inc., as reported in this document.

2. OBJECTIVE

Test Specifications

This evaluation was performed to verify conformance of the MyFi XM Satellite Radio receiver to U.S. Federal Communications Commission (FCC) Code of Federal Regulations (CFR), Title 47 - Telecommunication, Part 15 - Radio Frequency Devices,

- Subpart B - Unintentional Radiators, Section 15.107(a) Conducted limits, and Section 15.109(a) Radiated Class B Emission limits.
- Subpart C – Section 15.239 (a) (b) (c) – Operation in the band 88 MHz to 108 MHz

Modes of Operation

- During FCC Part 15 Subpart C, Section 15.239 (b), (c) radiated emissions tests, the EUT was configured to transmit a continuous FM signal at 88.1 MHz and 107.9 MHz using the XM Satellite Radio's SureConnect accessory attached to a standard FM aerial antenna attached to a large ground plane.
- During FCC Part 15 Subpart C, Section 15.239(b), (c), the EUT was configured to transmit a continuous FM signal at 88.7 MHz and 107.1 MHz in three representative vehicles, using the XM Satellite Radio's SureConnect adapter, attached to the vehicle's in-glass FM antennas, in accordance with the intentional radiator limits described in Section 15.239(b).
- During FCC Part 15 Subpart B, Section 15.107 (a), conducted emissions tests, the EUT was configured to receive an XM Satellite Radio signal, with the EUT in the home cradle.
- During FCC Part 15 Subpart B, Section 15.109 (a), the EUT was configured to receive an XM Satellite Radio signal, with the EUT in several different configurations:

    - In Portable Mode, under battery power, several operating modes.
    - In a home cradle, using a Home Antenna.
    - In a car cradle, using an FM Direct Adapter.
    - In a car cradle, using only an XM Satellite Radio car antenna.

3. CONCLUSION

The MyFi XM Satellite Radio receiver met the FCC Class B conducted and radiated emission requirements, as well as the intentional radiator limits, as described in the following pages.

4. GENERAL TEST PROCEDURES

The measurement techniques identified in the measurement procedure of ANSI C63.4-2003 *"American National Standard of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz"* were followed as close as practical during this evaluation. Complete details and specific procedures used are discussed in the respective test result sections.

5. SPECIFIC TEST PROCEDURES AND RESULTS

This section contains all test procedures and results for the device being tested as a Class B Low Power Communication Device Transmitter.

5.1. CONDUCTED EMISSIONS – Section 15.107(a)

5.1.1. Test Setup – Conducted Emissions

The EUT was powered by the following AC power adapter: I.T.I Power Supply Model No. SMPS5V2A-XM.

The EUT was installed in the FAU EMI Research facilities conducted emissions shielded enclosure on a wooden test table 80 centimeters above the ground plane floor and 40 centimeters from the rear wall. The power supply was then plugged into an EMCO Model No.3825/2R Serial No. 1095, 50 Ω, 50 μH Line Impedance Stabilization Network (LISN).

Conducted power line emissions were measured on both the phase and neutral lines with reference to earth ground, over the specified 150 kHz to 30 MHz range on a Hewlett Packard HP 8566B Spectrum Analyzer operated in the peak detection mode, together with an HP 85685A Preselector, with a bandwidth of 9 kHz obtained through the HP 85650A Quasi Peak Adapter.

5.1.2. Test Data – Conducted Emissions

The EUT was tested for the peak-detected emissions on phase and neutral lines while the EUT was receiving a live XM broadcast. For those emissions which were at or near the limit, an average measurement was made. Results are shown in Figure 1 below.

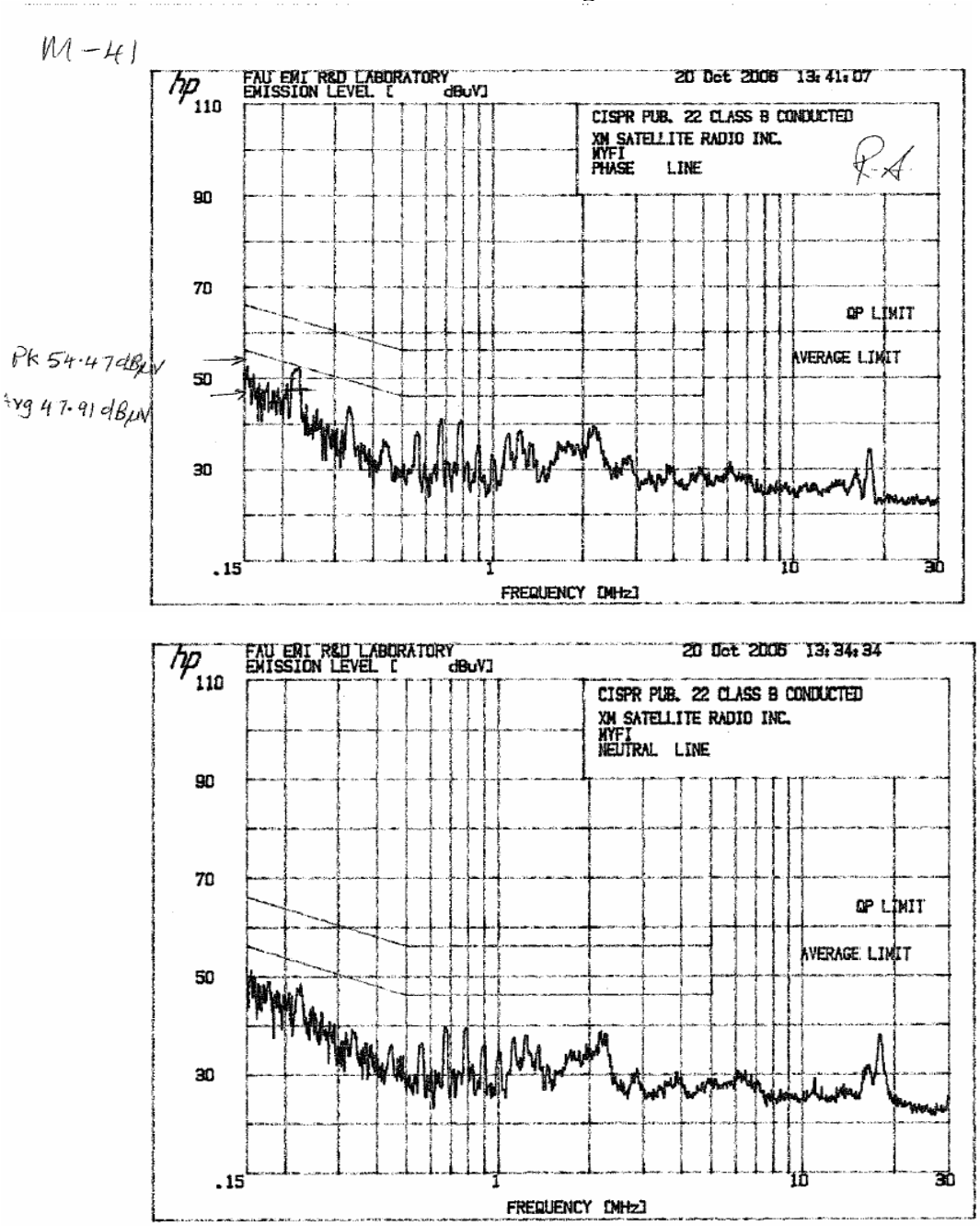

Figure 1
Phase and Neutral Line Conducted Emissions (150 kHz-30 MHz)

Frequency (MHz)	Peak (dBµV)	Average dBµV	Average Limit dBµV	Margin to Limit (dB)
0.22	54.5	47.9	52	4.1

Table 1 Conducted Emissions

5.2. UNTENTIONAL RADIATED EMISSIONS – Section 15.109(a)

5.2.1. General Test Setup

The EUT was set up on a wooden table 80 centimeters above the ground plane turntable of the FCC listed Semi-Anechoic test site.

An EMCO 3104 Broadband Biconical antenna was installed on an EMCO pneumatically controlled Antenna Mast at a distance of 3 meters from the system. The 30 to 200 MHz frequency range was automatically scanned on the HP 8566B Spectrum Analyzer operated in the peak detector mode with a bandwidth of 120 kHz obtained through the HP 85650A Quasi Peak Adapter. It should be noted that the RES BW and VBW of the spectrum analyzer must be set to 1 MHz for the Quasi Peak Adaptor to provide 120 kHz bandwidth correctly. Hence, in the figures RES BW and VBW are still indicated as 1 MHz. The turntable was incrementally rotated through 360 degrees and at the same time the receiving antenna was scanned in height from 1 to 4 meters in both the horizontal and vertical polarizations. An EMCO 3146 Log Periodic antenna was then installed and the above procedure was repeated for the 200 to 1000 MHz ranges.

The FCC Class B limit lines have been corrected for the appropriate antenna factors, cable loss, and amplifier gain based on the following equation:

E (dBμV/m) = SA reading (dBμV) + Antenna Factor (dB/m) + Cable Loss (dB) - Amp Gain (dB)

The EUT was tested in four configurations under Section 15.109(a)

- Portable Mode under battery power (several operating modes)
- Home Cradle with Speakers attached
- Car Cradle using FM Direct Adaptor
- Car Cradle using XM antenna only

In all measurements, at least three attempts were performed to obtain the worst-case emissions. The volume was set to maximum throughout all of the tests, and a ferrite was placed on both ends of the cigarette lighter adapter cable.

5.2.2 Portable Mode

Note: For *portable* mode measurements, data was analyzed in each of 3 axes. Only data from the axis with highest emissions is shown.

5.2.2.1 Live XM while Recording – Internal Antenna

The EUT is placed on the table with earbuds attached. The EUT is receiving a live XM broadcast from its internal antenna and recording the content into internal FLASH memory.

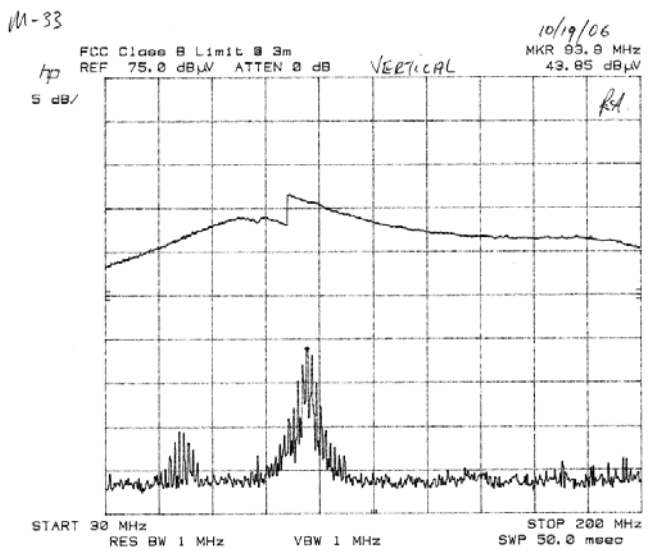

Figure 2
30MHz to 200MHz Vertical

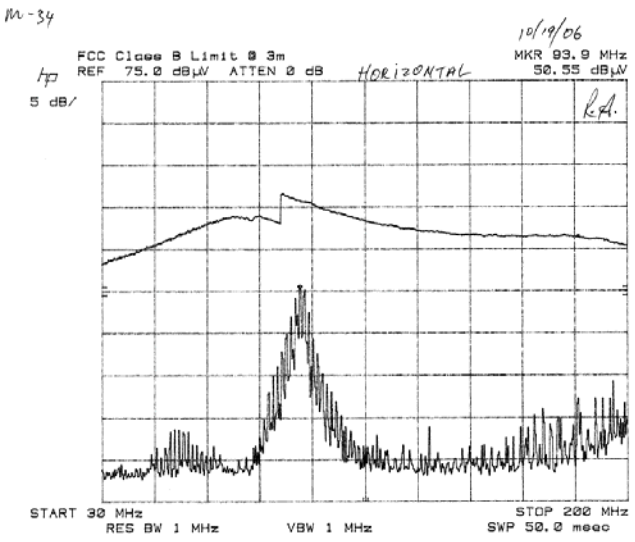

Figure 3
30MHz to 200MHz Horizontal

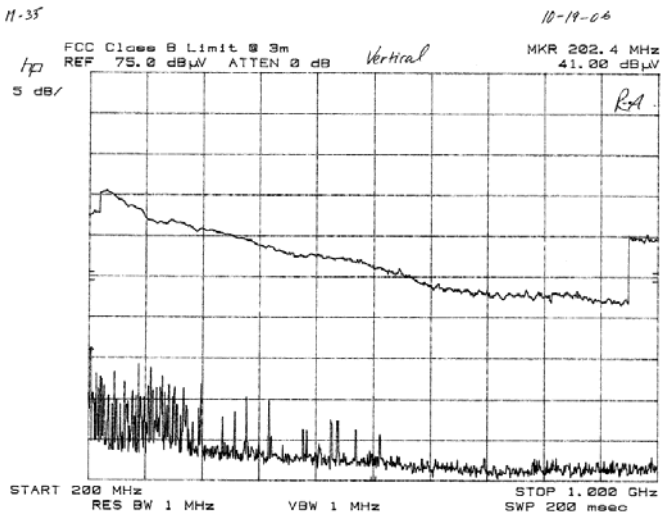

Figure 4
200MHz to 1GHz Vertical

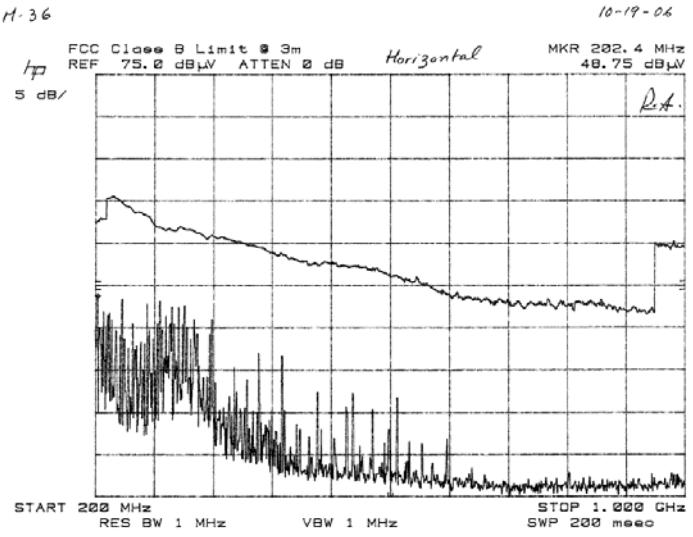

Figure 5
200MHz to 1GHz Horizontal

5.2.2.2 Playing Recorded Content

The EUT is placed on the table with earbuds attached. The EUT is playing recorded XM content.

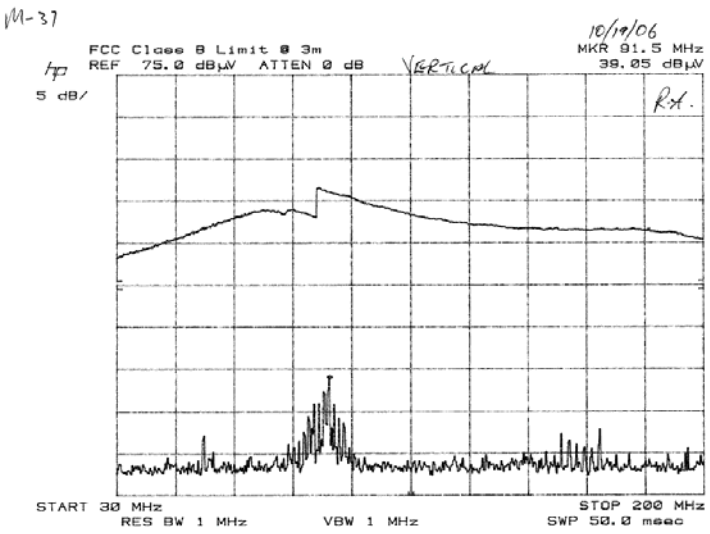

Figure 6
30MHz to 200MHz Vertical

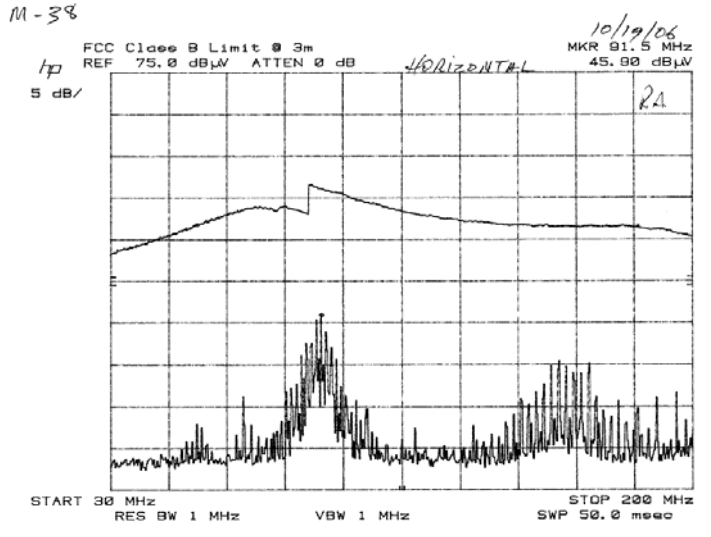

Figure 7
30MHz to 200MHz Horizontal

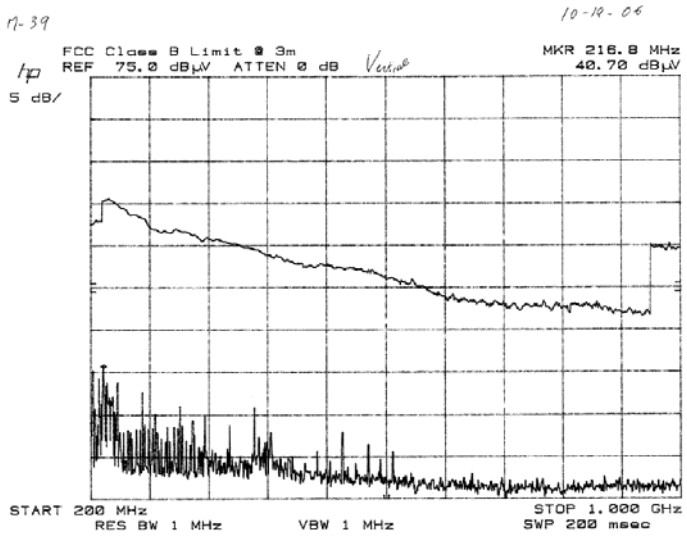

Figure 8
200MHz to 1GHz Vertical

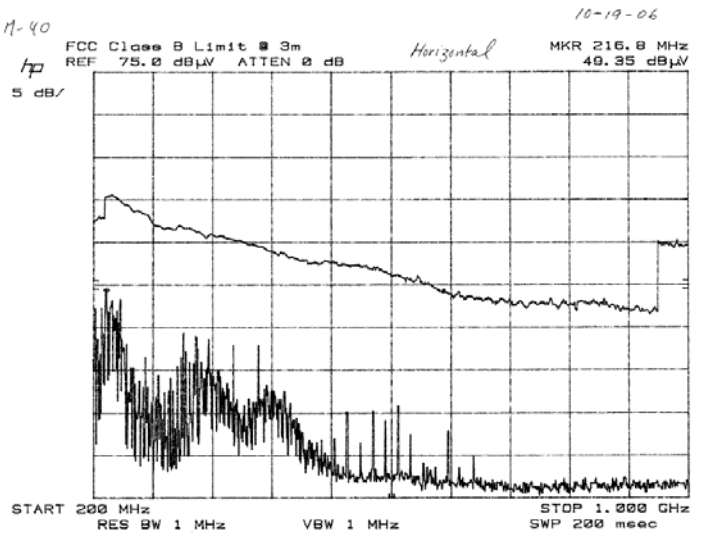

Figure 9
200MHz to 1GHz Horizontal

5.2.2.3 Radiated Emissions Live XM using Accessory Antenna

The EUT is placed on the table with the portable mode antenna accessory attached. The EUT is receiving a live XM broadcast from the portable antenna.

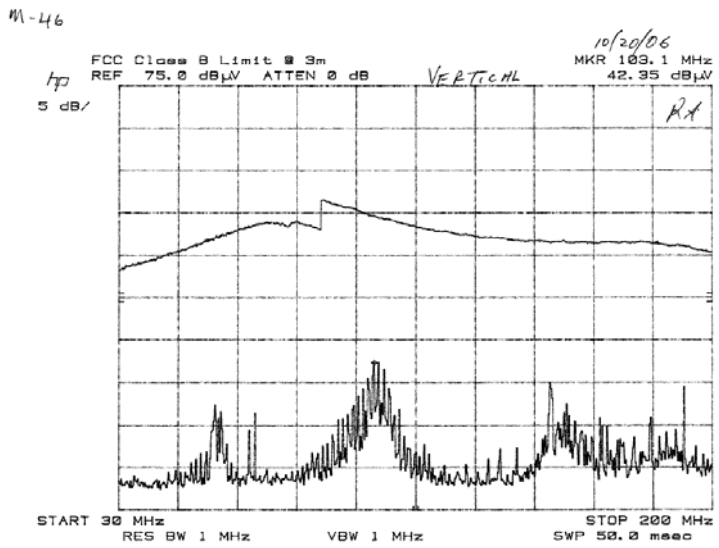

Figure 10
30MHz to 200MHz Vertical

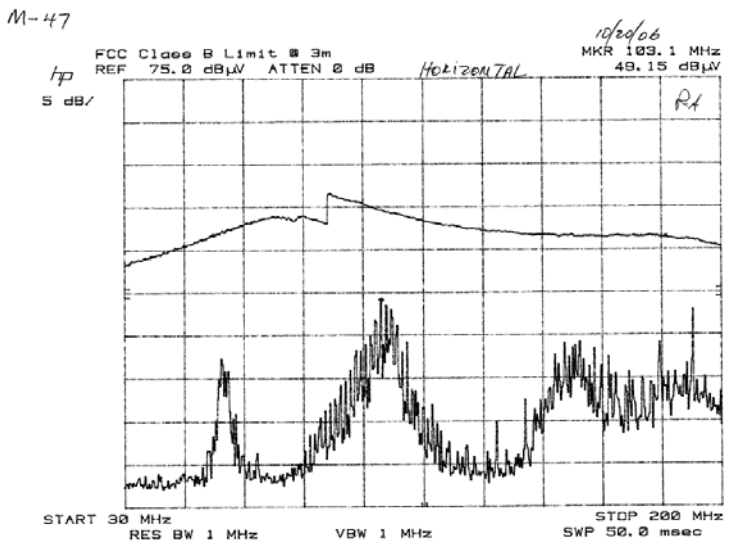

Figure 11
30MHz to 200MHz Horizontal

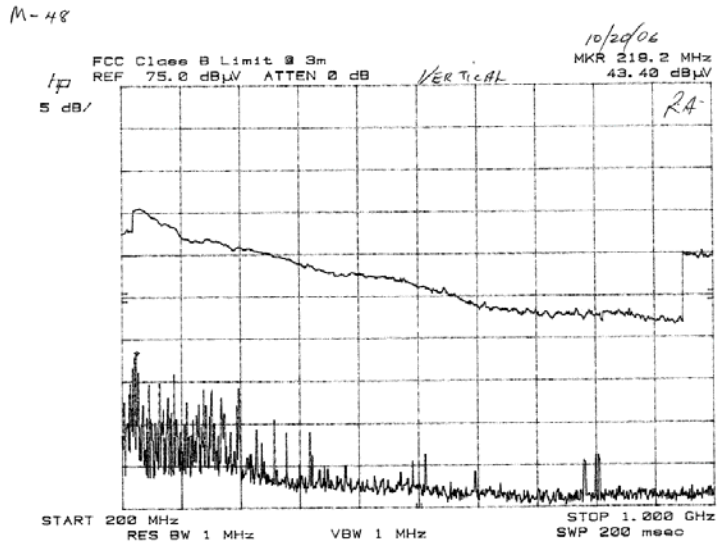

Figure 12
200MHz to 1GHz Vertical

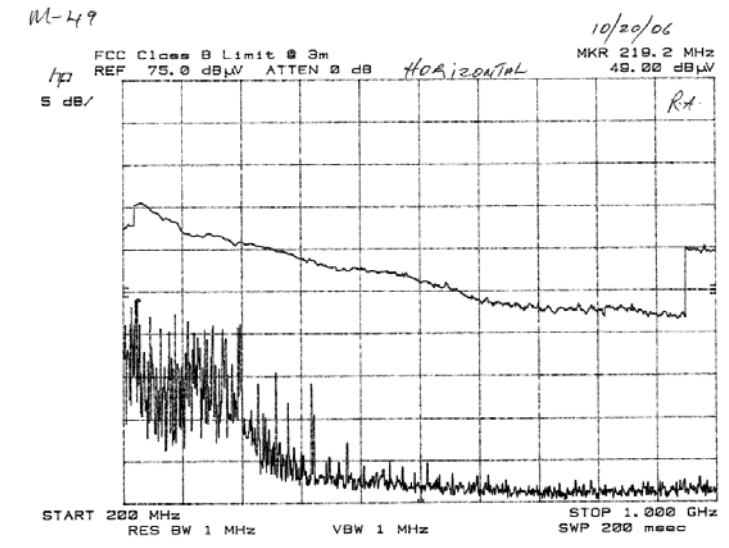

Figure 13
200MHz to 1GHz Horizontal

5.2.2.4 Radiated Emissions – Live XM using Headphone Antenna

The EUT is placed on the table with the headphone antenna accessory attached. The EUT is receiving a live XM broadcast from the headphone antenna.

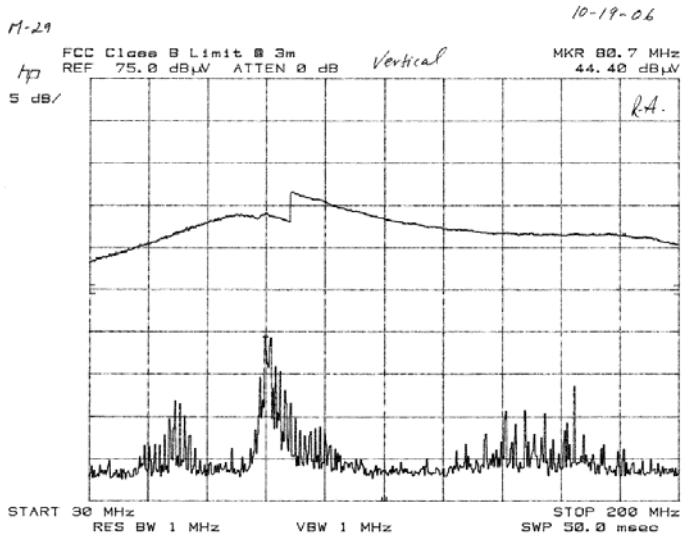

Figure 14
30MHz to 200MHz Vertical

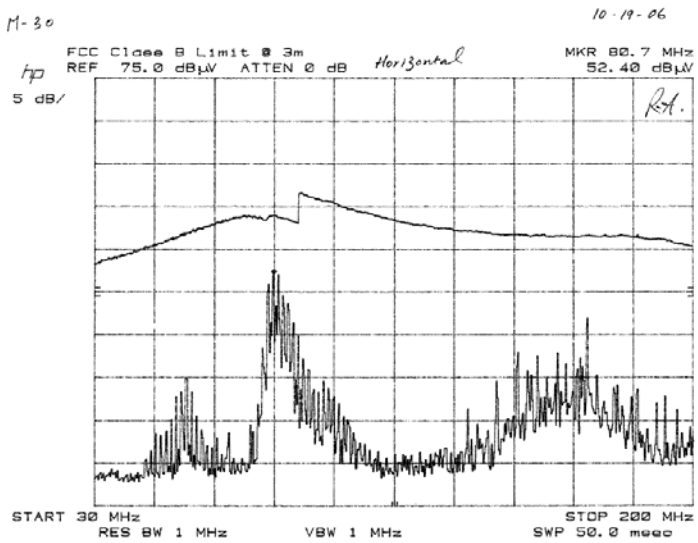

Figure 15
30MHz to 200MHz Horizontal

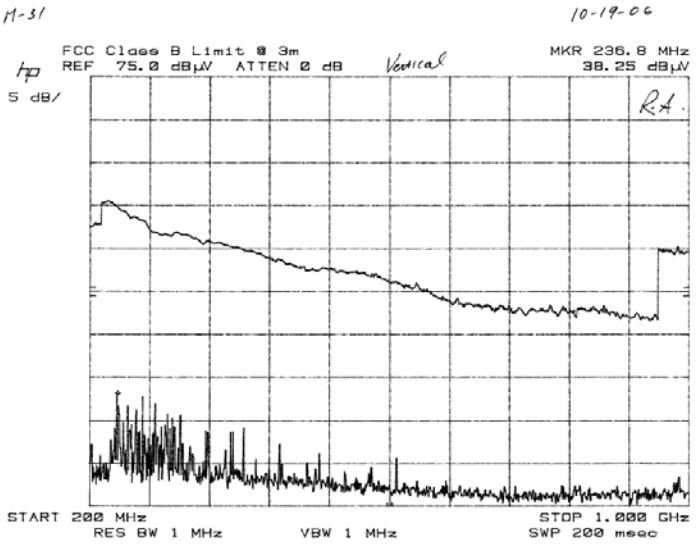

Figure 16
200MHz to 1GHz Vertical

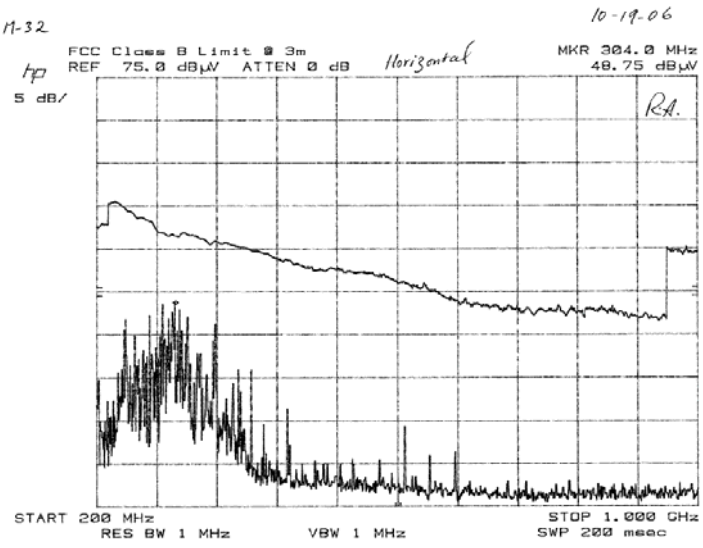

Figure 17
200MHz to 1GHz Horizontal

5.2.3 Home Cradle

5.2.3.1 Test Setup – Home Cradle

In the home cradle setup, the EUT was placed into the home cradle, with an XM home antenna and XM 5V AC power adaptor. External speakers were connected to the audio output connector on the home cradle with the unit receiving a live XM broadcast signal.

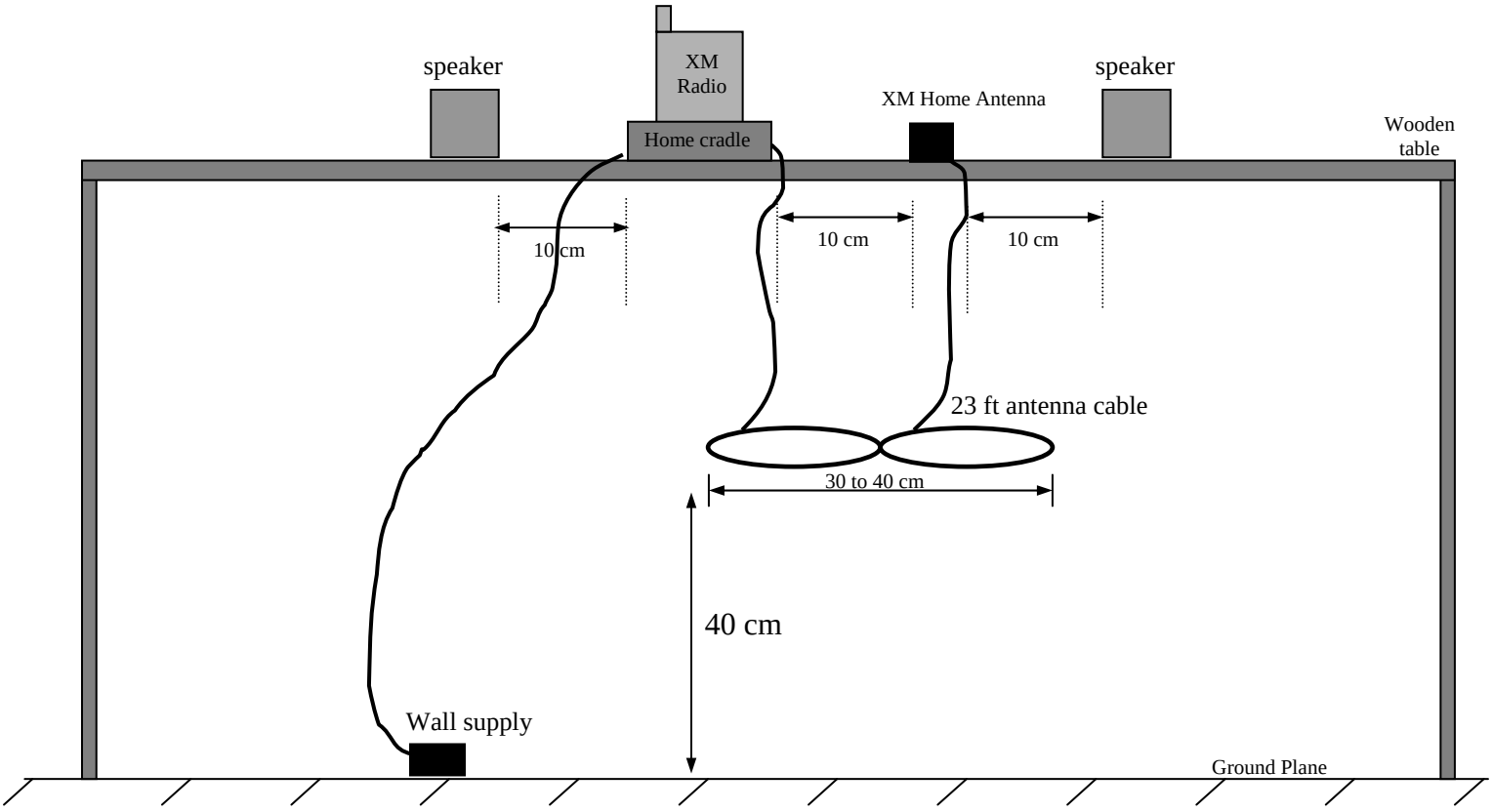

Diagram 1
Home Cradle Radiated Emissions Setup

5.2.3.2 Test Data - Home Cradle, Live XM

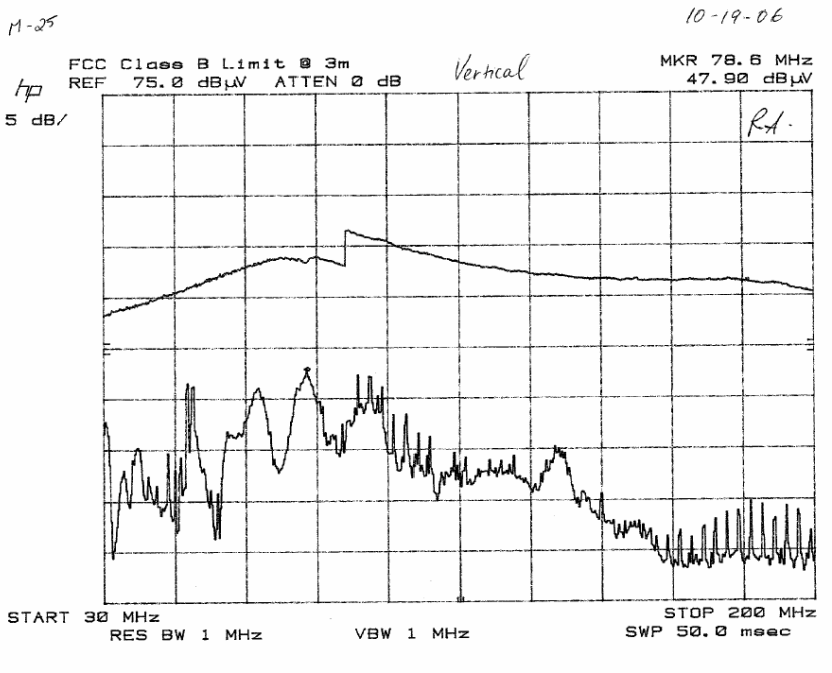

Figure 18
Radiated Emission 30 – 200 MHz Vertical Polarization

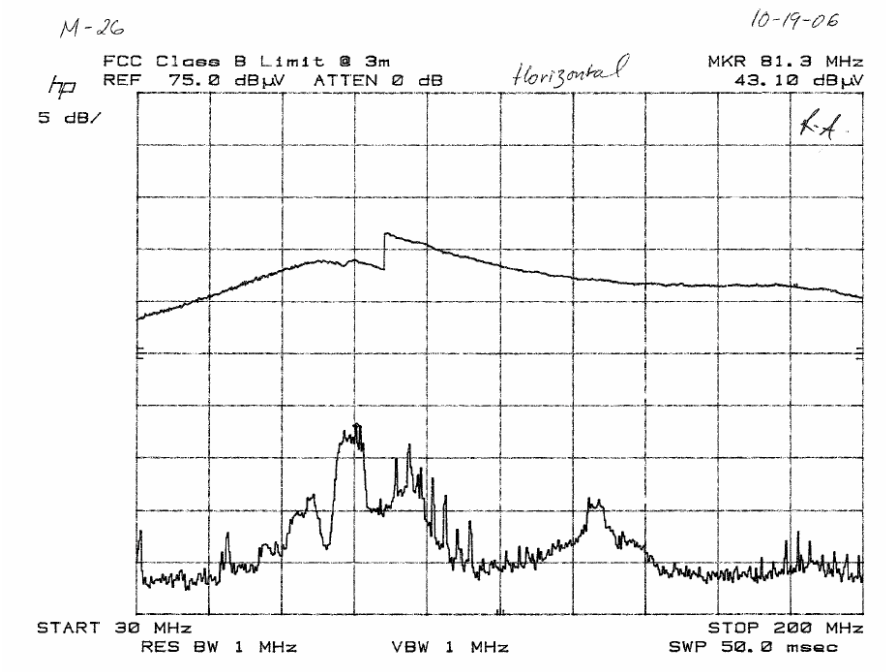

Figure 19
Radiated Emission 30 – 200 MHz Horizontal Polarization

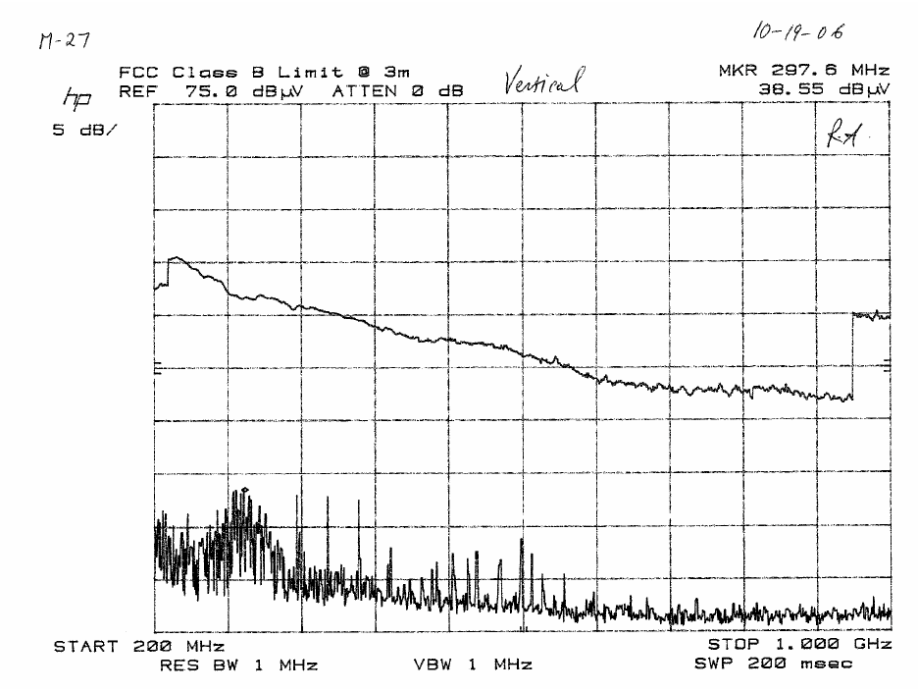

Figure 20
Radiated Emission 200MHz – 1 GHz Vertical Polarization

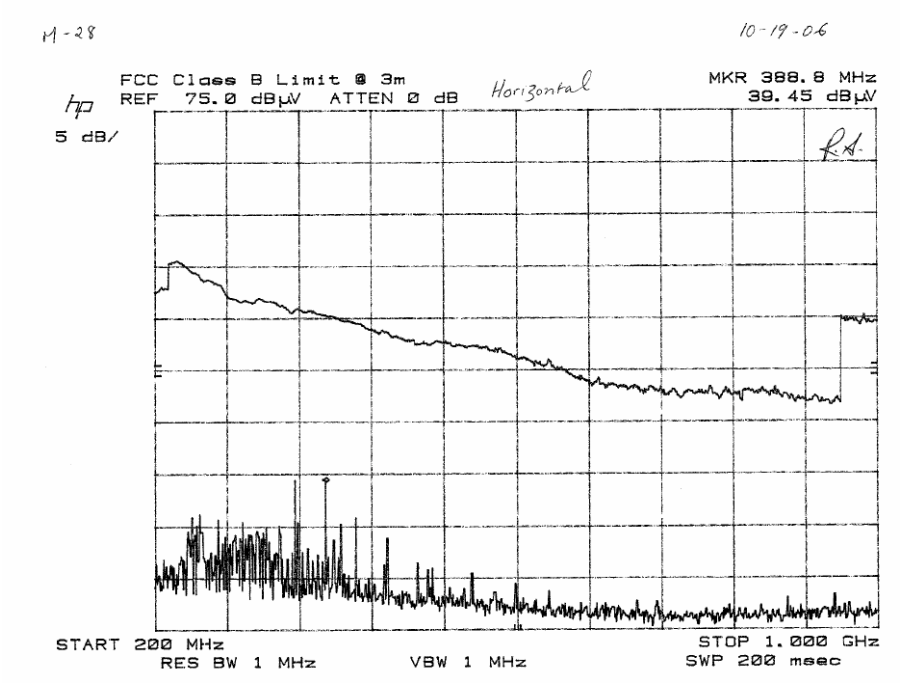

Figure 21
Radiated Emission 200 MHz – 1 GHz Horizontal Polarization

5.2.4 Car Cradle and FM Direct Adapter

5.2.4.2 Test Setup – FM Direct Adapter

In the FM Direct Adaptor setup, the EUT was placed in the car cradle, with an XM FM Direct Adapter, XM car antenna and XM 5V cigarette lighter adapter (CLA) power supply. The FM Direct Adapter FM OUT cable was terminated with 75 ohms to simulate an FM radio's FM input jack. The FM Direct Adaptor FM IN cable was attached to an FM aerial antenna on a ground plane to simulate a vehicle's FM antenna. The ground plane is connected to the negative supply of the vehicle battery.

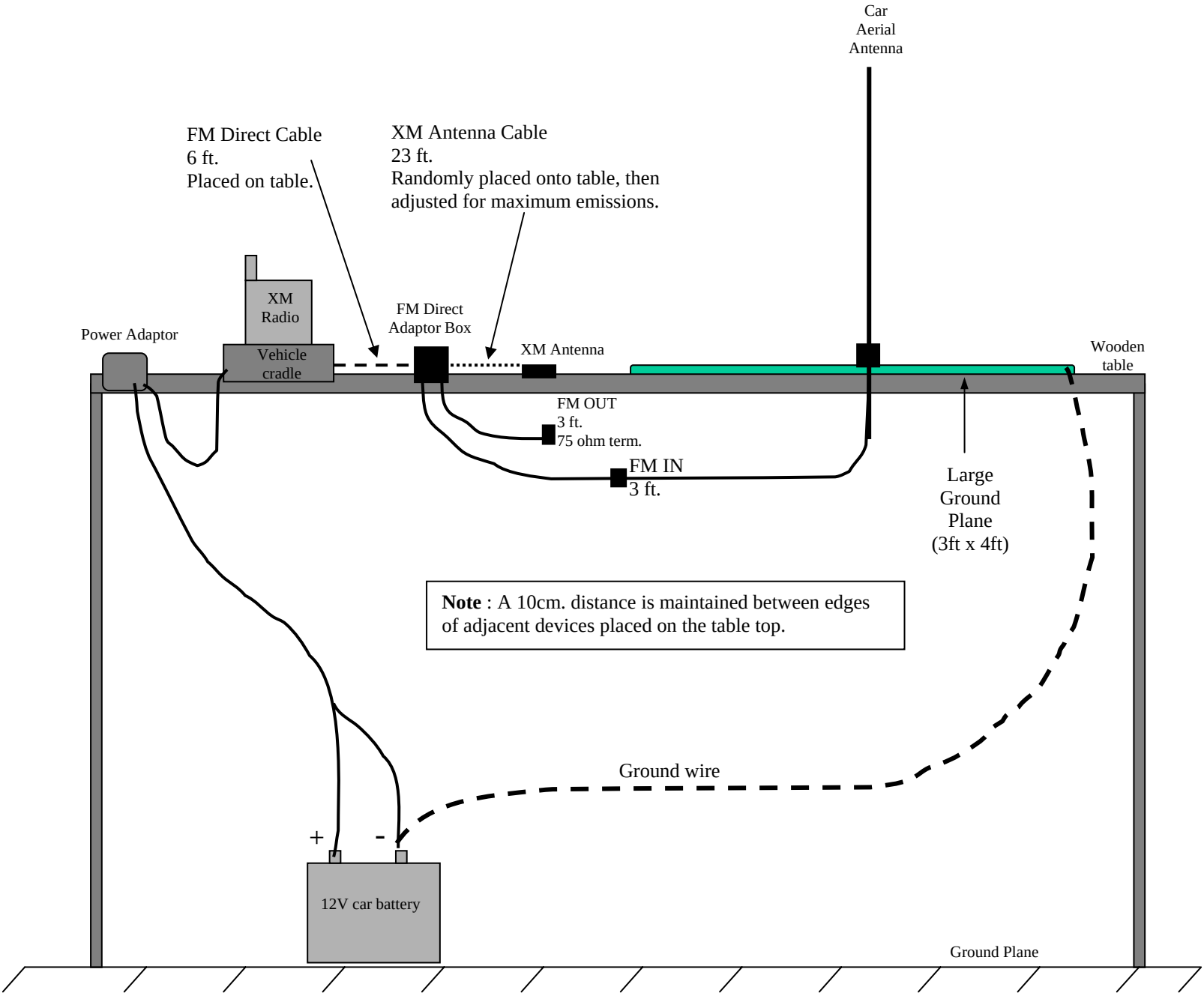

Diagram 2 : FM Direct Adapter Radiated Emissions Setup

5.2.4.2 Test Data – FM Direct Adapter

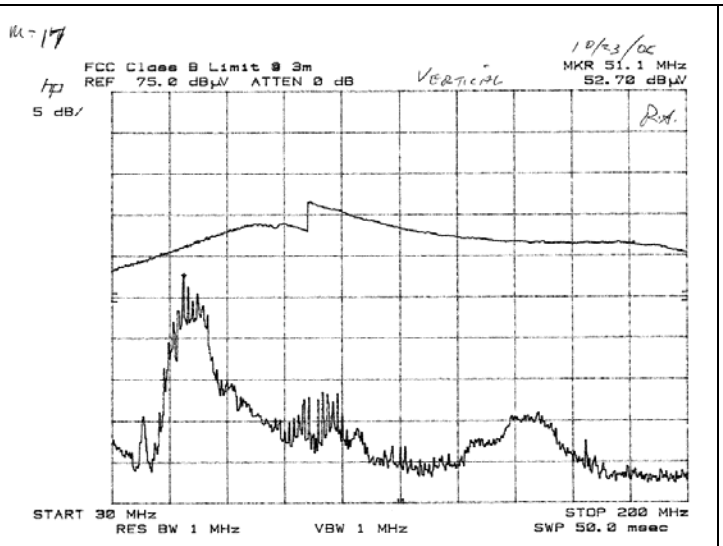

Figure 22 30 MHz to 200 MHz Vertical
(FM programmed to 88.1 MHz)

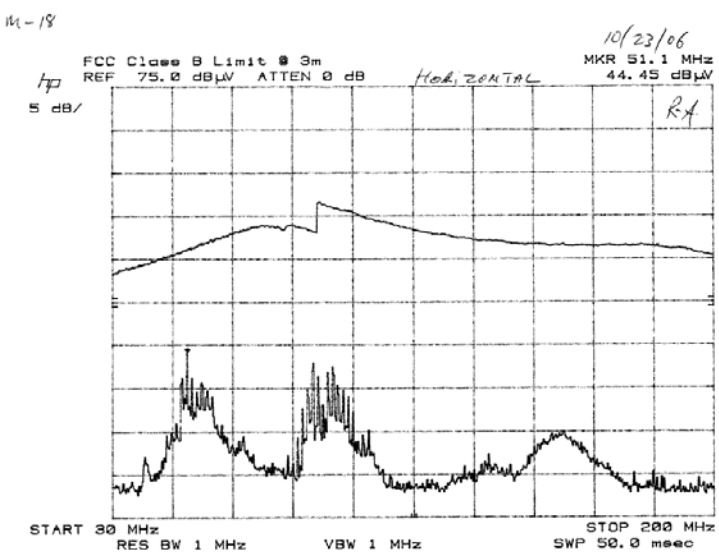

Figure 23 30 MHz to 200 MHz Horizontal
(FM programmed to 88.1 MHz)

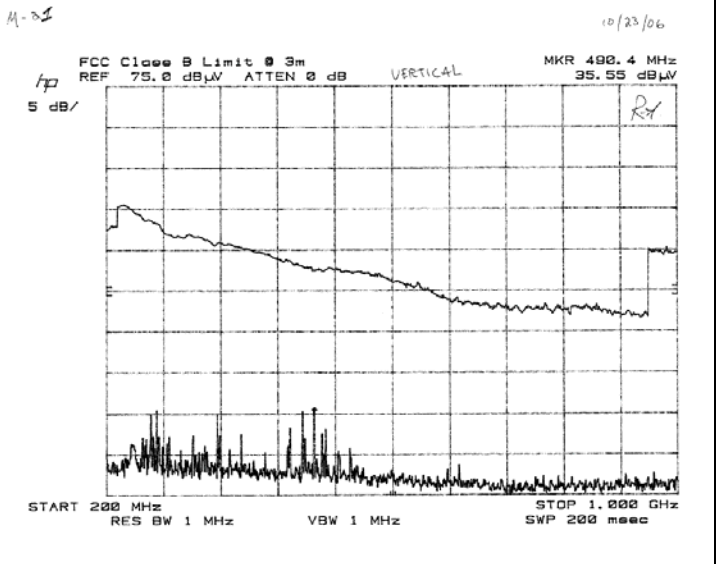

Figure 24 200 MHz to 1 GHz Vertical
(FM programmed to 88.1 MHz)

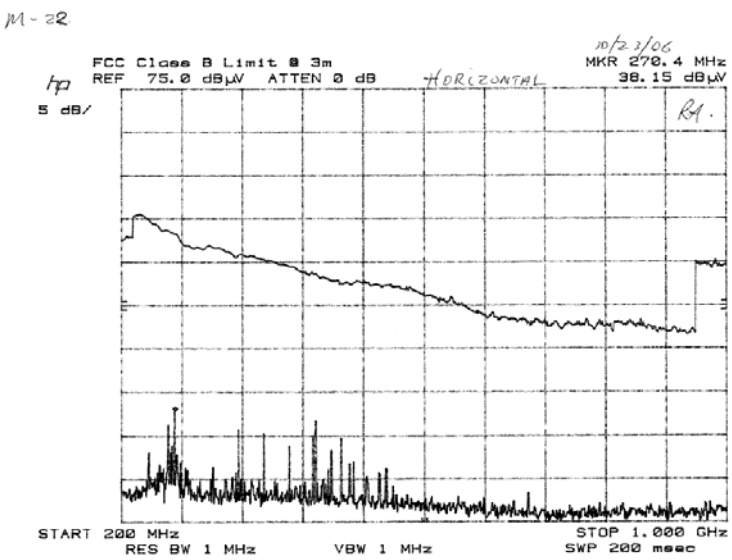

Figure 25 200 MHz to 1 GHz Horizontal
(FM programmed to 88.1 MHz)

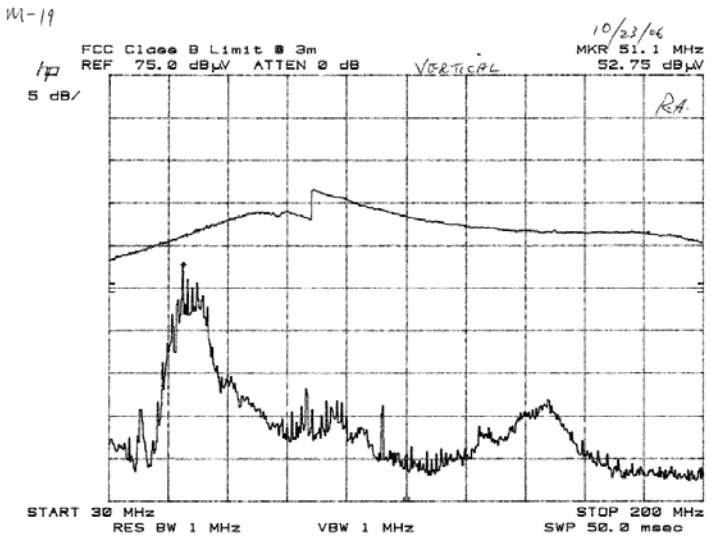

Figure 26 30 MHz to 200 MHz Vertical
(FM programmed to 107.9 MHz)

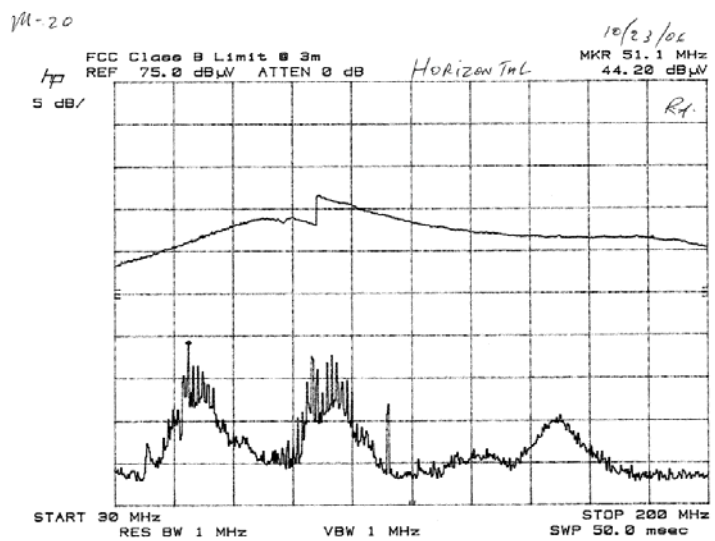

Figure 27 30 MHz to 200 MHz Horizontal
(FM programmed to 107.9 MHz)

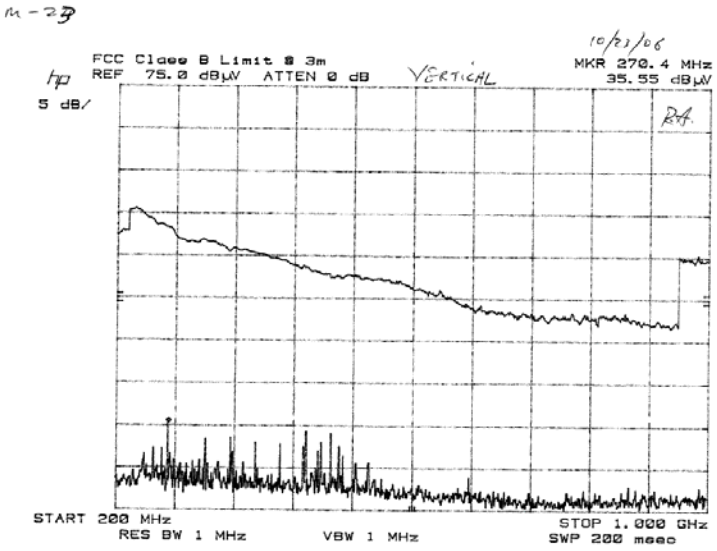

Figure 28 200 MHz to 1 GHz Vertical
(FM programmed to 107.9 MHz)

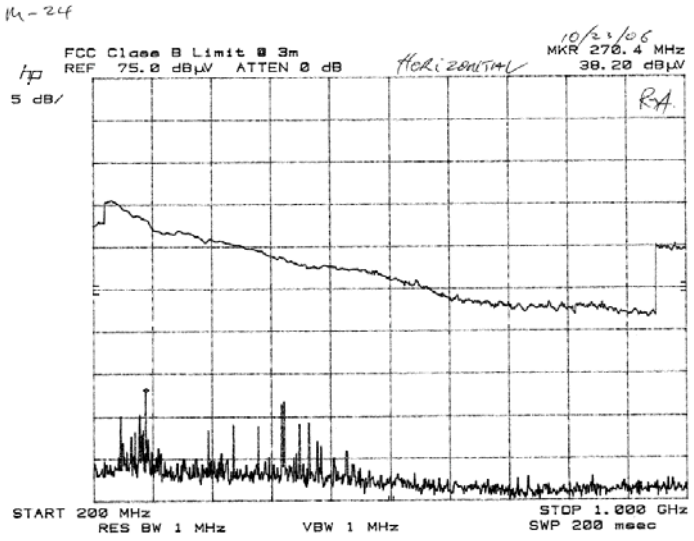

Figure 29 200 MHz to 1 GHz Horizontal
(FM programmed to 107.9 MHz)

5.2.5 Car Cradle and XM Antenna

5.2.5.1 Test Setup – Car Cradle and XM Antenna

In this test setup, the EUT was placed into a Xpress car cradle with an XM antenna and 5V CLA power supply connected to the radio. The EUT is programmed to operate in the 88.1 MHz to 107.9 MHz range only. Hence, the operating frequencies of 88.1 MHz and 107.9 MHz were selected for the evaluations.

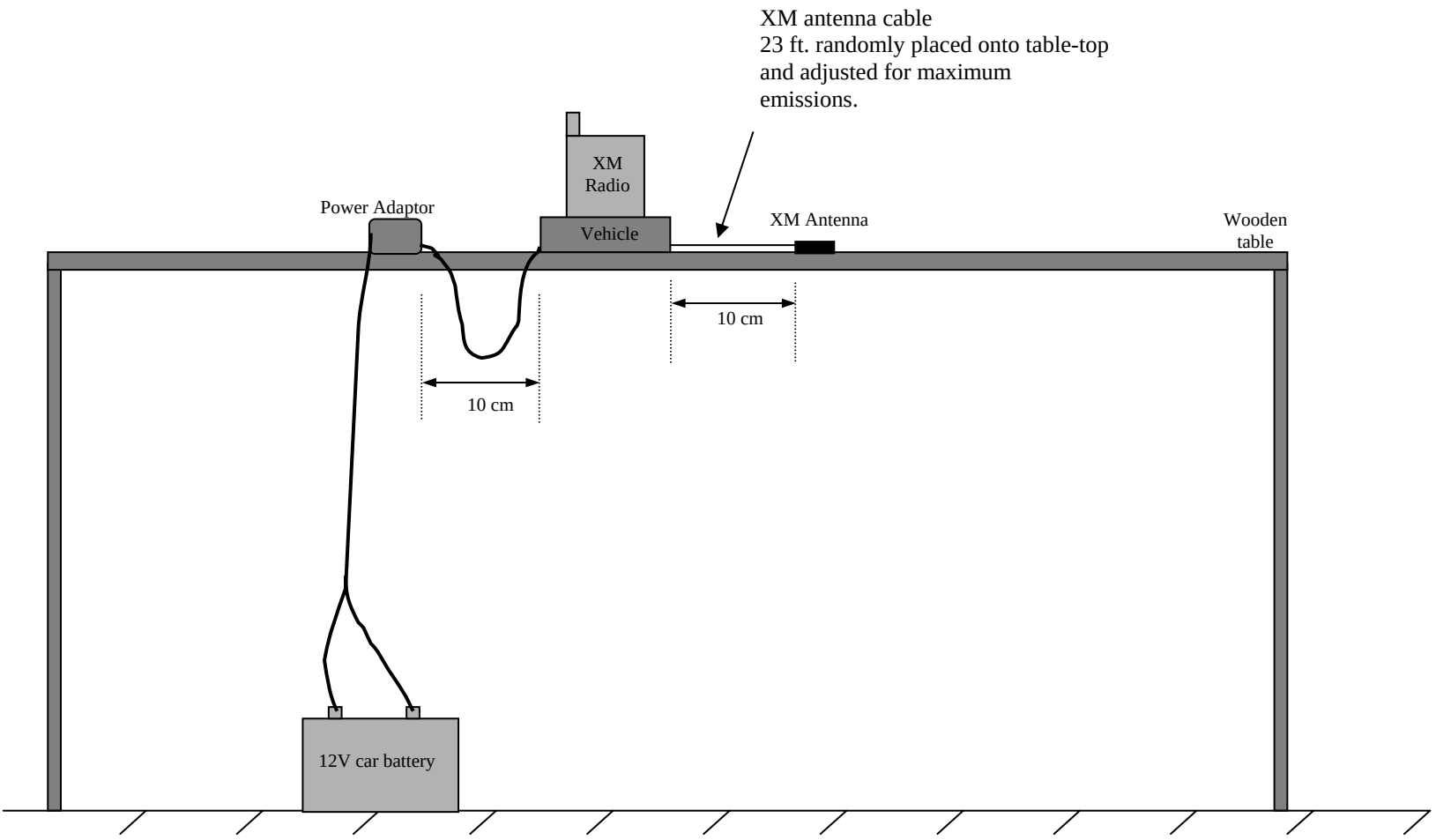

Diagram 3: XM Antenna Only
Radiated Emissions Setup

5.2.5.2 Test Data – Car Cradle and XM antenna only

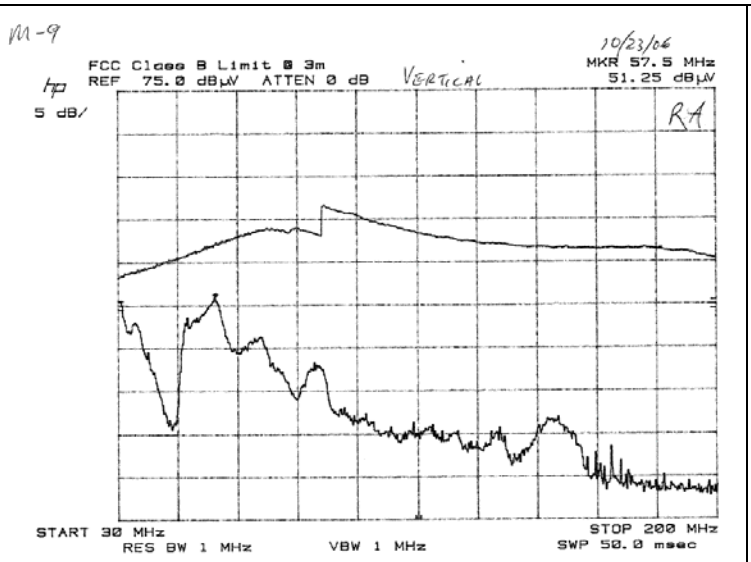

Figure 30 30 MHz to 200 MHz Vertical
(FM programmed to 88.1 MHz)

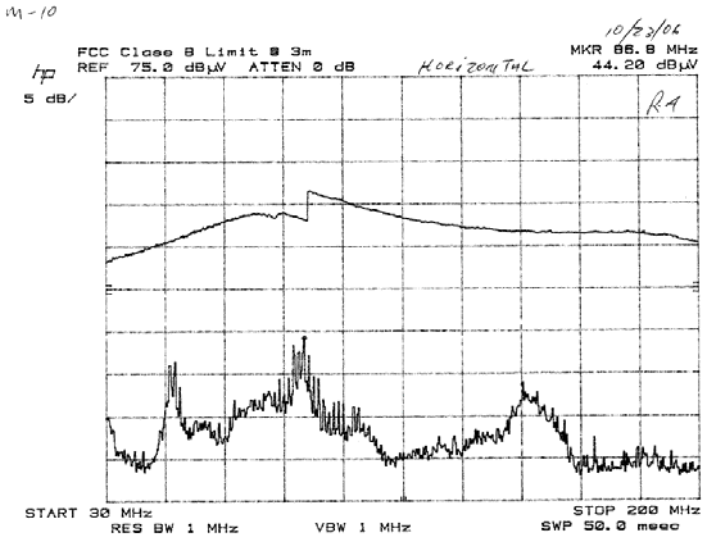

Figure 31 30 MHz to 200 MHz Horizontal
(FM programmed to 88.1 MHz)

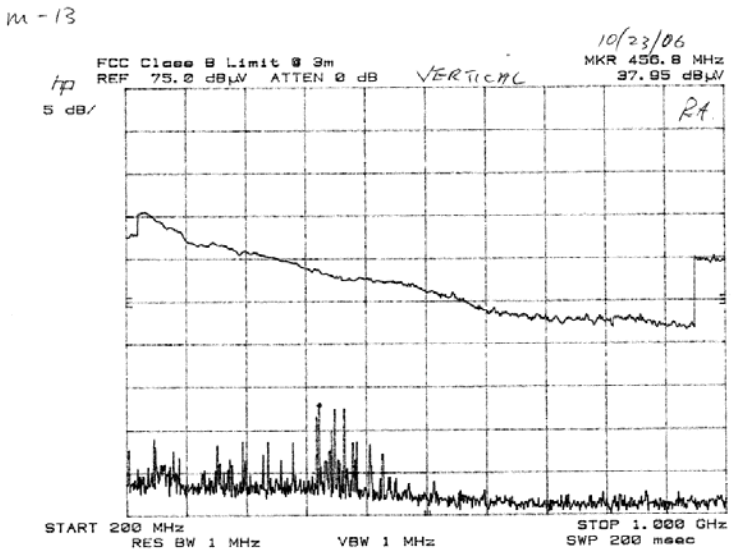

Figure 32 200 MHz to 1 GHz Vertical
(FM programmed to 88.1 MHz)

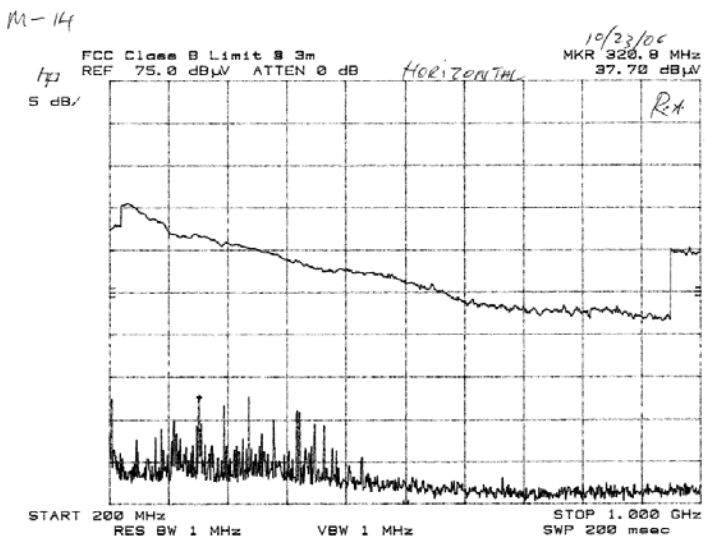

Figure 33 200 MHz to 1 GHz Horizontal
(FM programmed to 88.1 MHz)

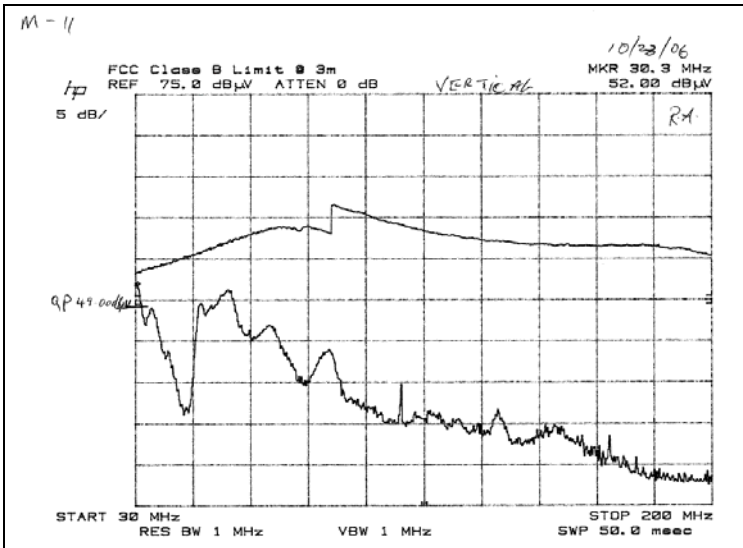

Figure 34 30 MHz to 200 MHz Vertical
(FM programmed to 107.9 MHz)

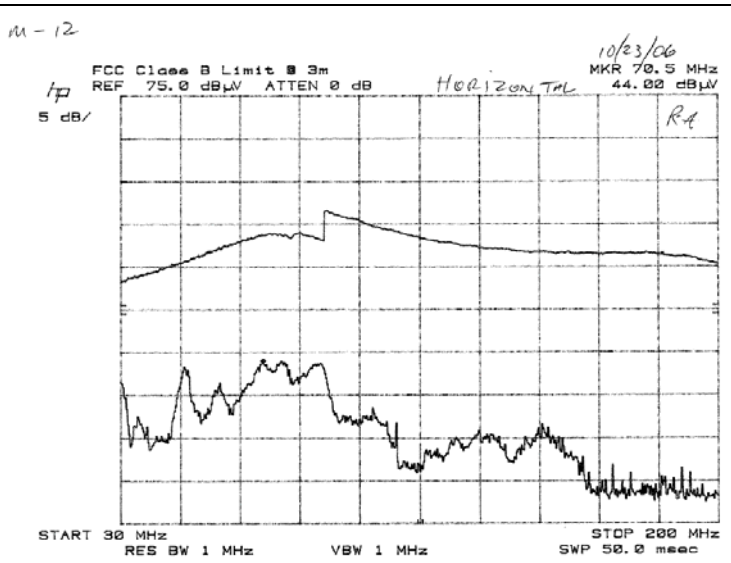

Figure 35 30 MHz to 200 MHz Horizontal
(FM programmed to 107.9 MHz)

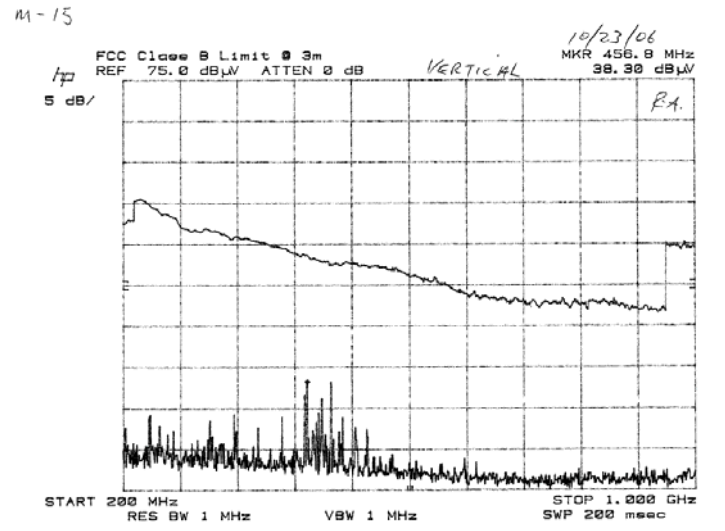

Figure 36 200 MHz to 1 GHz Vertical
(FM programmed to 107.9 MHz)

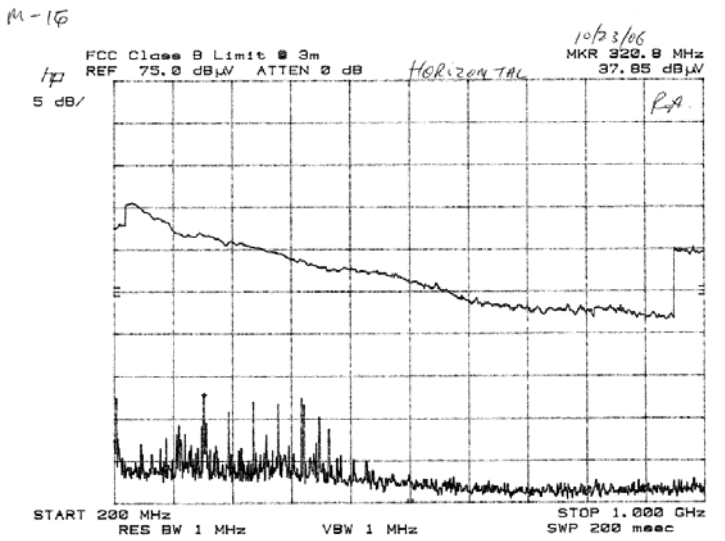

Figure 37 200 MHz to 1 GHz Horizontal
(FM programmed to 107.9 MHz)

5.3. INTENTIONAL RADIATED EMISSIONS – Section 15.239 Operation in the Band 88 MHz to 108 MHz

5.3.1. Test Setup – FM Aerial antenna

The EUT was set up on a wooden table 80 centimeters above the ground plane turntable of the FCC listed Semi-Anechoic test site.

An EMCO 3104 Broadband Biconical antenna was installed on an EMCO pneumatically controlled Antenna Mast at a distance of 3 meters from the system. The 30 to 200 MHz frequency range was automatically scanned on the HP 8566B Spectrum Analyzer operated in the peak detector mode with a bandwidth of 120 kHz obtained through the HP 85650A Quasi Peak Adapter. It should be noted that the RES BW and VBW of the spectrum analyzer must be set to 1 MHz for the Quasi Peak Adaptor to provide 120 kHz bandwidth correctly. Hence, in the figures RES BW and VBW are still indicated as 1 MHz. The turntable was incrementally rotated through 360 degrees and at the same time the receiving antenna was scanned in height from 1 to 4 meters in both the horizontal and vertical polarizations. An EMCO 3146 Log Periodic antenna was then installed and the above procedure was repeated for the 200 MHz to 1 GHz ranges.

The FCC Class B limit lines have been corrected for the appropriate antenna factors, cable loss, and amplifier gain based on the following equation:

E (dBμV/m) = SA reading (dBμV) + Antenna Factor (dB/m) + Cable Loss (dB) - Amp Gain (dB)

The intentional limit as per Section 15.239 is 250 μV/m or 47.96 dBμV/m, which is 4.45dB higher than the FCC Class B unintentional limit, as indicated in the following figures. As an example, in Fig. 43, the 108 MHz emission is about 4.5dB below the intentional limit.

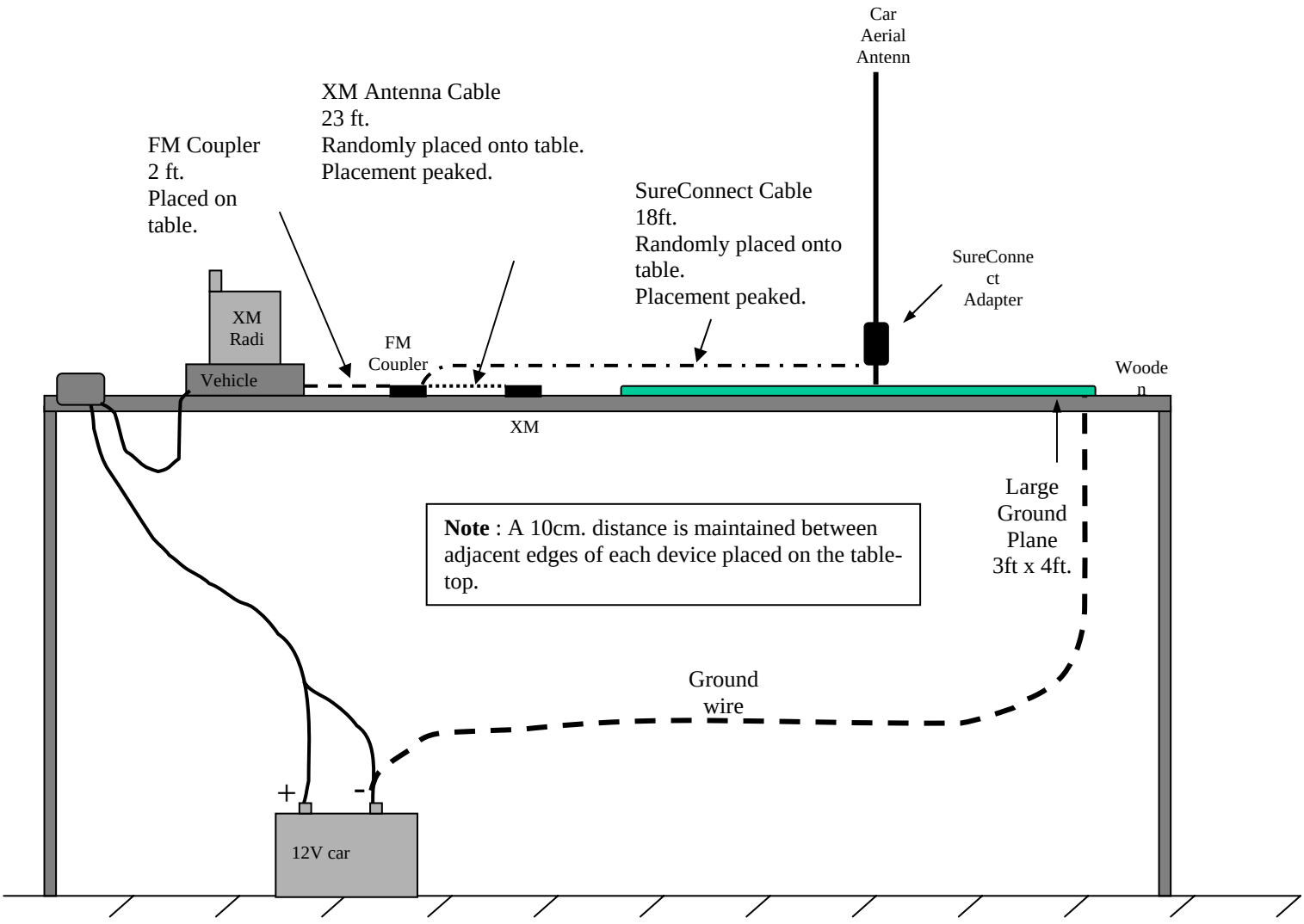

Diagram 4: XM SureConnect Accessory
Radiated Emissions Setup

5.3.2. Test Data – FM Aerial Antenna

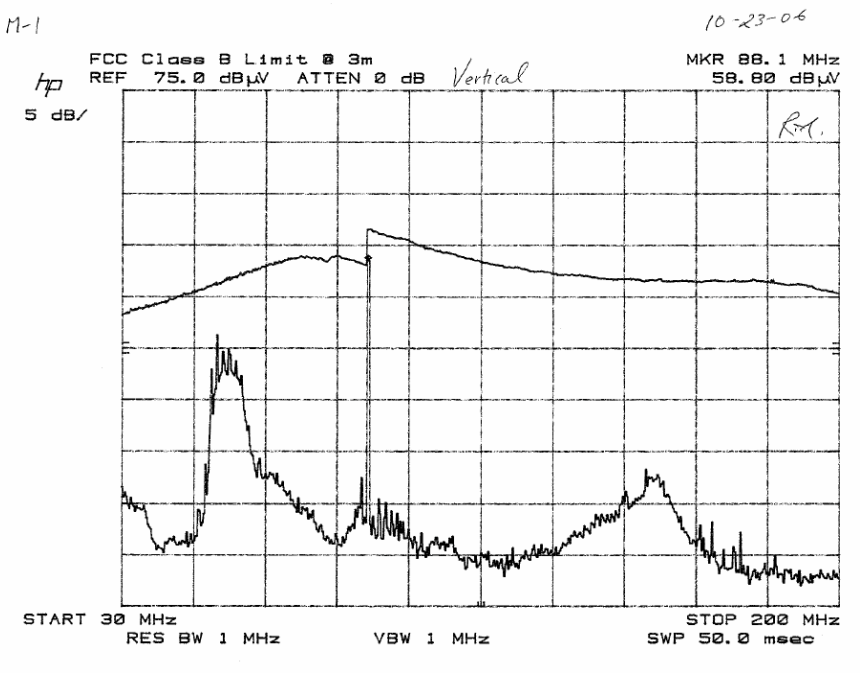

Figure 38 30 MHz to 200 MHz Vertical
(FM programmed to 88.1 MHz)

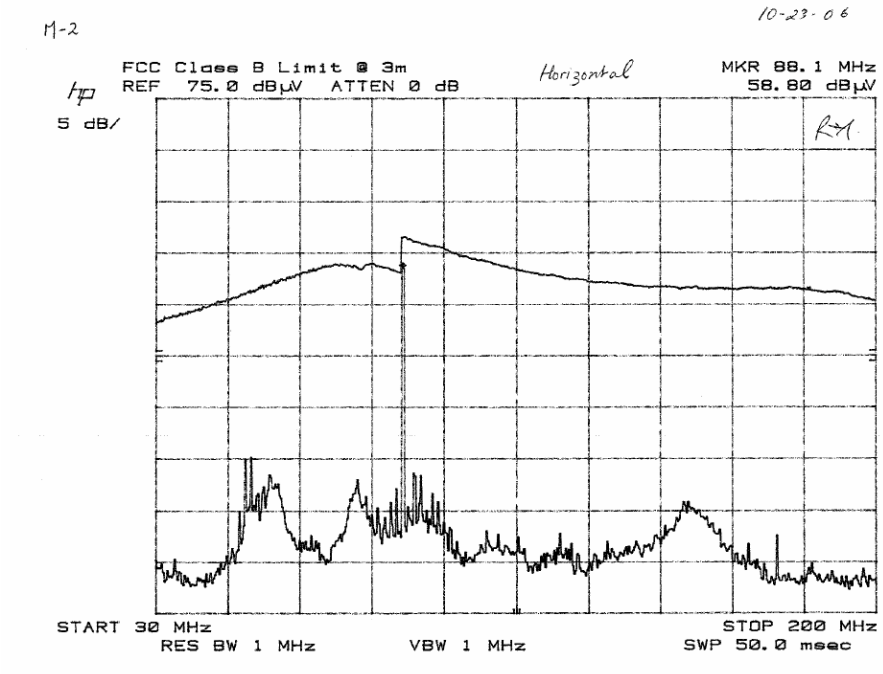

Figure 39 30 MHz to 200 MHz Horizontal
(FM programmed to 88.1 MHz)

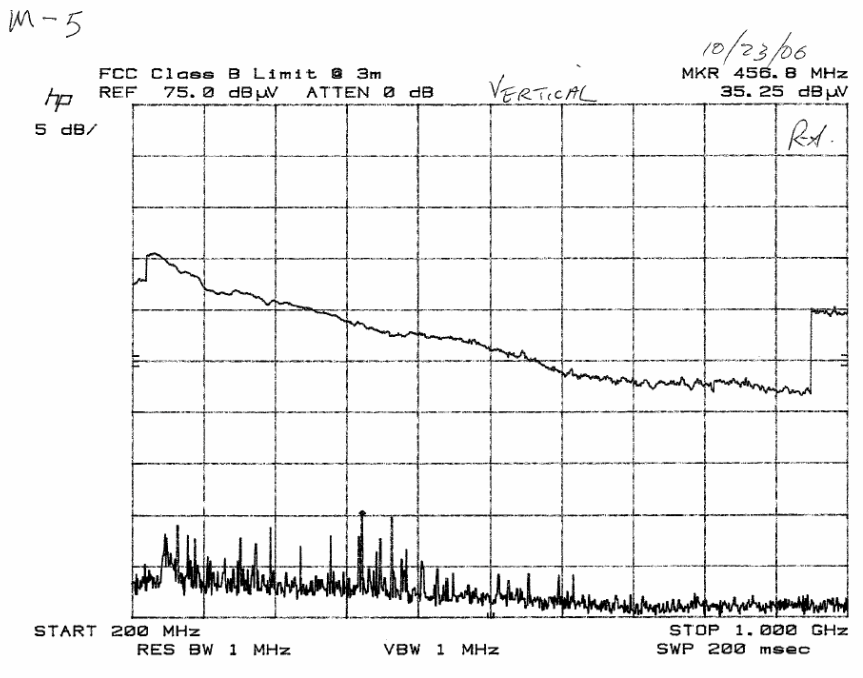

Figure 40 200 MHz to 1 GHZ Vertical
(FM programmed to 88.1 MHz)

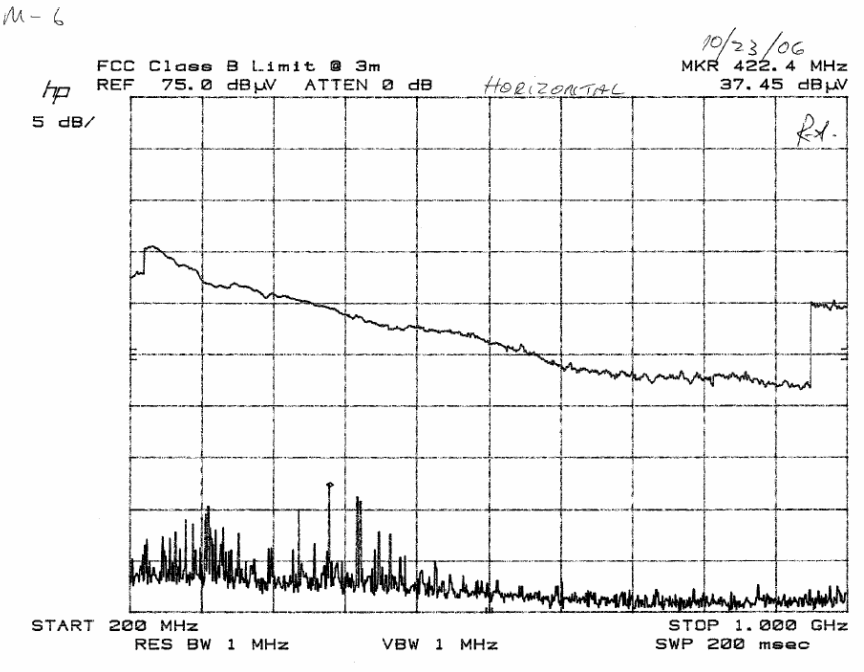

Figure 41 200 MHz to 1 GHz Horizontal
(FM programmed to 88.1 MHz)

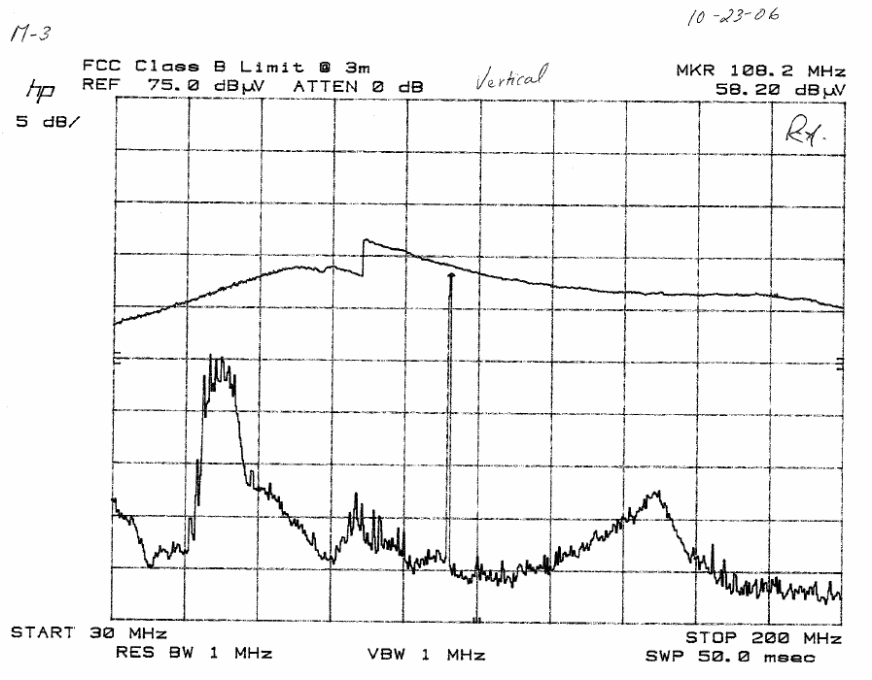

Figure 42 30 MHz to 200 MHz Vertical
(FM programmed to 107.9 MHz)

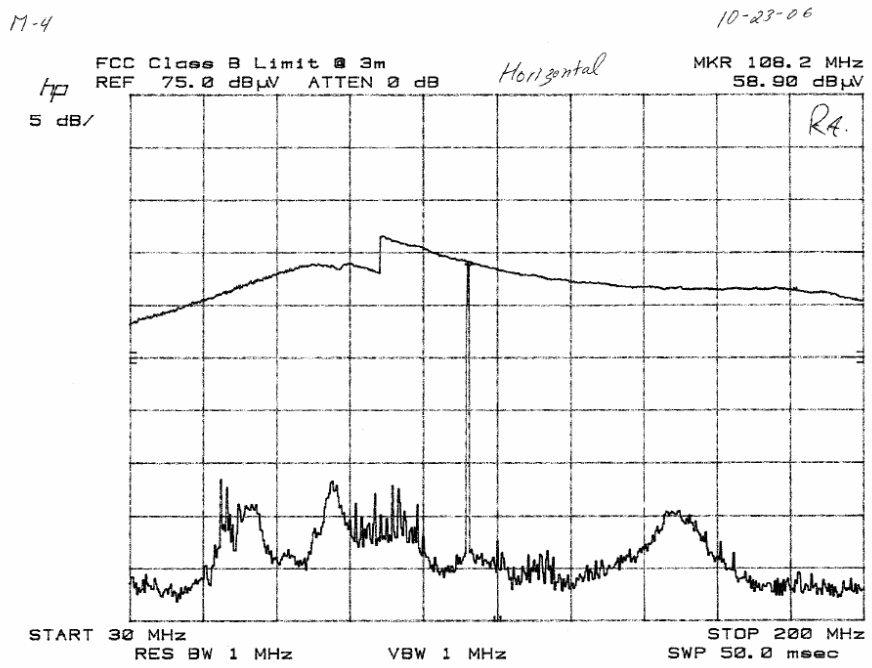

Figure 43 30 MHz to 200 MHz Horizontal
(FM programmed to 107.9 MHz)

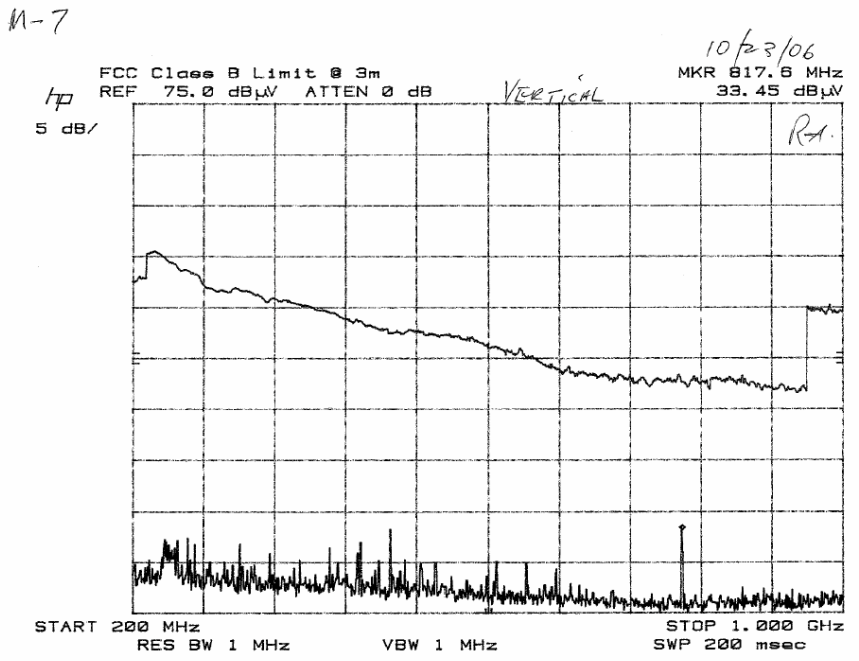

Figure 44 200 MHz to 1 GHz Vertical
(FM programmed to 107.9 MHz)

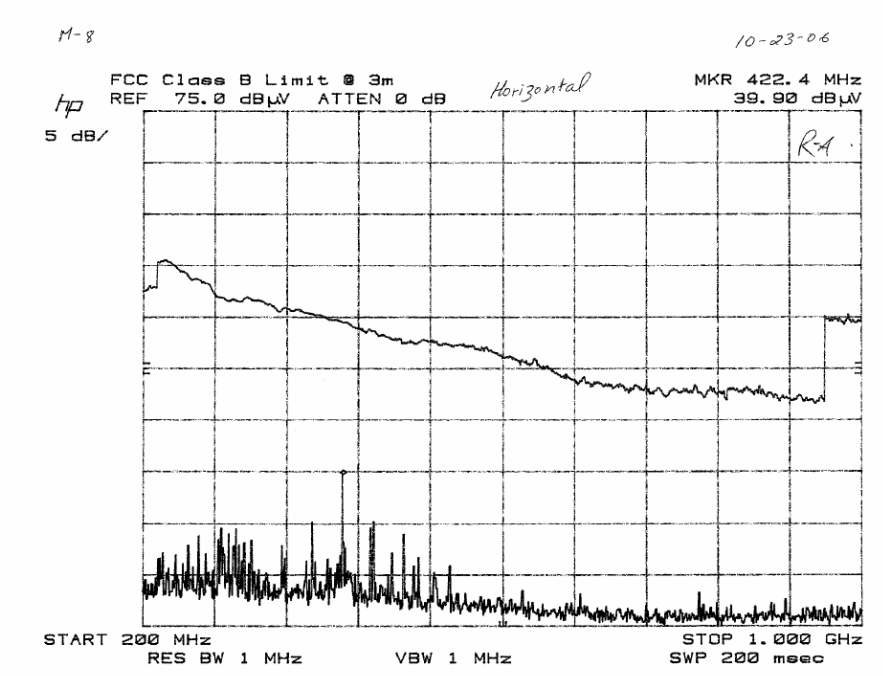

Figure 45 200 MHz to 1 GHz Horizontal
(FM programmed to 107.9 MHz)

Test Mode Configuration	Figure Number	Frequency (MHz)	Spectrum Analyzer Peak Reading (dBμV/m)	FAU corrected Limit (dBμV/m)	Margin to Limit (dB)
FM Direct	22	51.1	52.7	56.7	4.0
FM Direct	26	51.1	52.8	56.7	3.9
Car cradle with XM antenna only	30	57.5	51.3	57.8	6.5
Car cradle with XM antenna only	34	30.3	49.0 *	53.7	4.7
FM Coupler	38	88.1	58.8	66.5	7.7
FM Coupler	39	88.1	58.8	66.5	7.7
FM Coupler	42	108.2	58.2	64.4	6.2
FM Coupler	43	108.2	58.9	64.4	5.5

* Quasi peak reading

Table 2: Maximum emissions from all radiated emission plots above

5.4. INTENTIONAL RADIATED EMISSIONS – Section 15.239, Measured On Vehicle

The FM fundamental power measurements using the XM SureConnect accessory were measured on three different vehicles which utilize embedded FM antennas in the vehicle's glass.

The test vehicles that were used during the test include:

- Toyota Camry
- Toyota Avalon
- Cadillac Escalade

5.4.1 Test Setup – In Vehicle Measurements

TEST PROCEDURE

1. The satellite radio receiver and SureConnect accessory were installed in each vehicle per the installation guidelines provided to the user and tuned to one of the three test FM frequencies.
2. The RBW and VBW of the spectrum analyzer were set to 120 kHz and 300 kHz respectively. A peak detector was utilized.
3. For tests where the receiving antenna is in Vertical polarization, the receive antenna is initially placed at one meter from the ground. For Horizontal polarization, the receive antenna is initially placed at three meters above the ground.
4. While monitoring the power of the fundamental FM emission, the receive antenna base is moved horizontally along one of the vehicles sides, at 3 meters from the vehicle. The position that produces the highest emission is found.
5. At the position found in step (4) above, the antenna is moved vertically from 1 meter to 4 meters. The highest FM emission is found and recorded.
6. The above procedure is repeated for each of the four sides of the vehicle.
7. The above procedure is repeated for each of two FM frequencies (88.7 MHz and 107.1 MHz). These frequencies are chosen due to FM co-channel interfering signals at the extreme band edges.
8. The cable loss, amplifier gain, and antenna factors are used to determine the absolute field strength from each peak power measurement as shown in the table below.

Test Frequency	Vertical Polarization V-Factor	Horizontal Polarization H-Factor
88.7 MHz	-19.2 dB	-18.8 dB
107.1 MHz	-21.0 dB	-18.7 dB

Table 3: Calibration Factors for In-Vehicle Measurement

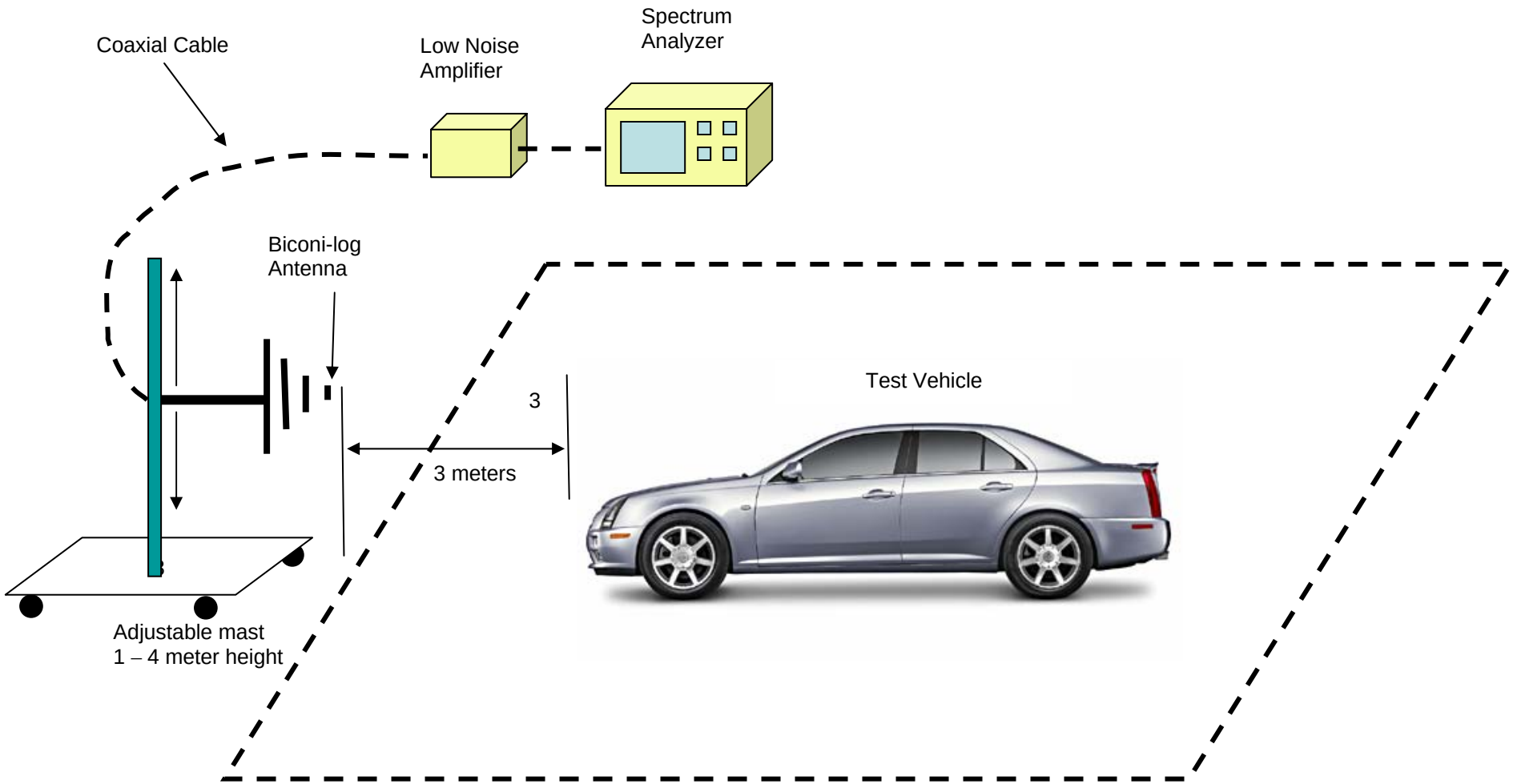

Diagram 5: In-Vehicle Measurement Method

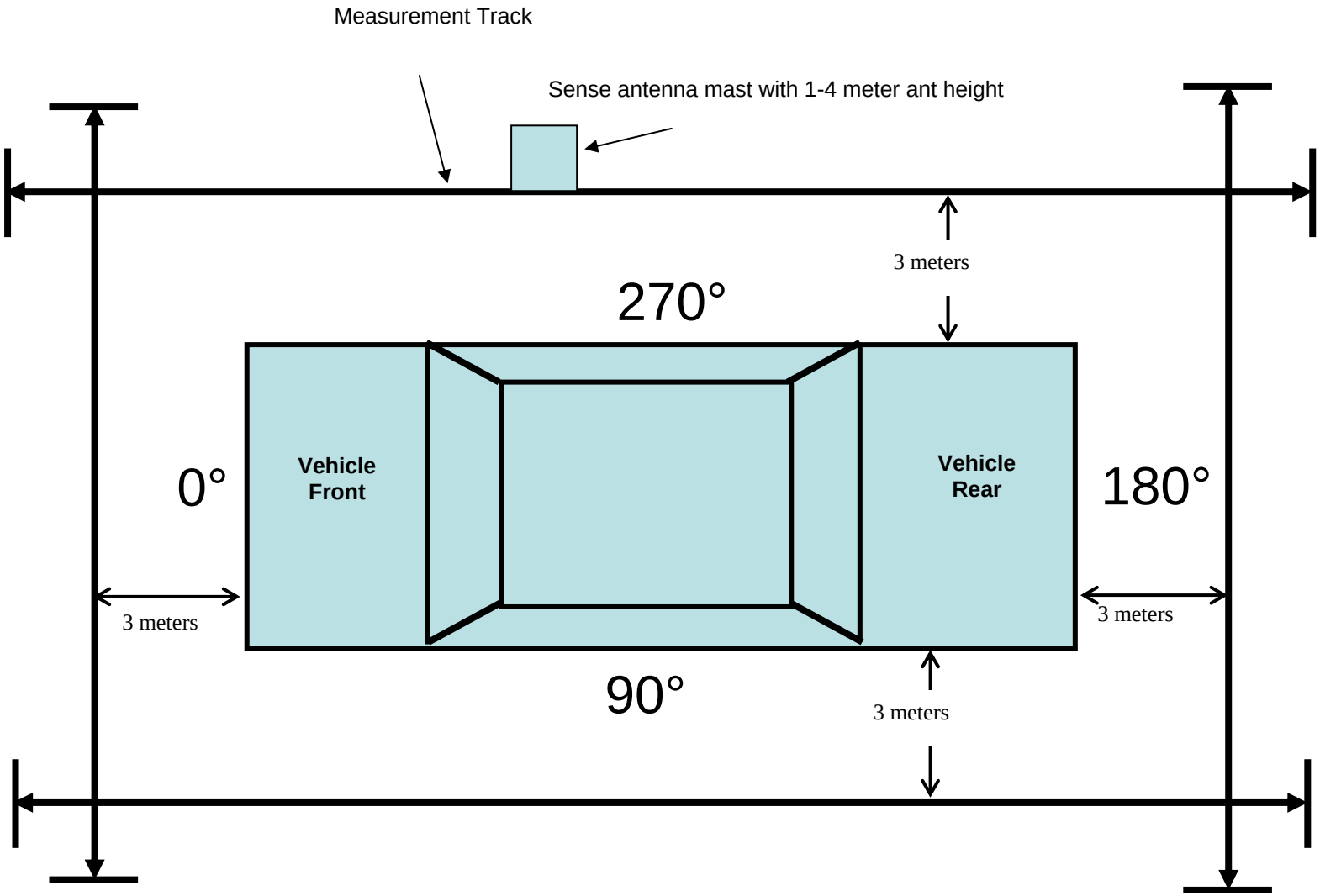

Diagram 6: In-Vehicle Measurement Method

5.4.2 Test Data – In-Vehicle Measurements

Product Description	Freq (MHz)	V-factor	FAU OATS reading VERTICAL (dBµV)				Meas. Peak	Corr. Peak	Limit	Margin
		dB	0 deg	90 deg	180 deg	270 deg	(dBµV)	(dBµV/m)	(dBµV/m)	dB
Cadillac Escalade	88.7	-19.20	53.7	56.9	55.3	65.0	65.0	45.8	48	2.2
	107.1	-21.00	52.3	58.0	63.6	65.0	65.0	44.0	48	4.0
Toyota Avalon	88.7	-19.20	56.9	54.0	61.4	56.7	61.4	42.2	48	5.8
	107.1	-21.00	57.3	55.0	63.9	59.5	63.9	42.9	48	5.1
Nissan Maxima	88.7	-19.20	42.7	44.7	50.7	45.9	50.7	31.5	48	16.5
	107.1	-21.00	54.0	57.3	62.3	55.3	62.3	41.3	48	6.7

Table 4: Vertical Polarization results from In-Vehicle Measurements

Product Description	Freq (MHz)	H-factor	FAU OATS reading HORIZONTAL (dBµV)				Meas. Peak	Corr. Peak	Limit	Margin
		dB	0 deg	90 deg	180 deg	270 deg	(dBµV)	(dBµV/m)	(dBµV/m)	dB
Toyota Camry	88.7	-18.8	54.1	53.6	54.4	54.6	54.6	35.8	48	12.2
	107.1	-18.7	52.8	51.8	52.4	49.8	52.8	34.1	48	13.9
Toyota Avalon	88.7	-18.8	53.2	58.3	48.1	59.0	59.0	40.2	48	7.8
	107.1	-18.7	54.9	59.7	53.4	61.7	61.7	43.0	48	5.0
Cadillac Escalade	88.7	-18.8	38.2	51.1	38.5	49.5	51.1	32.3	48	15.7
	107.1	-18.7	50.7	58.1	51.5	57.8	58.1	39.4	48	8.6

Table 5: Horizontal Polarization results from In-Vehicle Measurements

5.5 OCCUPIED BANDWIDTH– Section 15.239(a)

The MyFi unit was evaluated in the Delphi car cradle. The occupied bandwidth measurement procedures and data are presented in detail in the Technical Report 07-038c.

5.6 FM TUNING RANGE

The FM tuning range of the EUT was verified to be restricted by software to within the range of 88.1 MHz to 107.9 MHz in step sizes of 200 kHz.

6 TEST EQUIPMENT

6.1 FAU EMI LAB – Radiated Emissions

FAU EMI R&D LABORATORY TEST EQUIPMENT						
Equipment Type	**Manufacturer**	**Description**	**Model**	**Serial No.**	**Calibration Date**	**Calibration Interval (Years)**
Spectrum Analyzer	Hewlett Packard	RF Section	8566B	2403A06381	Aug-22-06	2
Spectrum Analyzer	Hewlett Packard	Display	85662A	2407A06381	Aug-22-06	2
Spectrum Analyzer	Hewlett Packard	Quasi Peak Adapter	85650A	2430A00559	Aug-22-06	2
RF Preselector	Hewlett Packard	Preselector	85685A	2510A00151	Feb-8-06	2
Antenna	EMCO	Biconical Antenna	3108	2147	Feb-24-06	2
Antenna	EMCO	Log Periodic Antenna	3146	1385	Feb-24-06	2
Preamp	Hewlett Packard	Preamplifier 0.1 – 1300 MHz	8447D	2443A03952	Aug-1-05	2

6.2 FAU EMI LAB – Conducted Emissions

FAU EMI R&D LABORATORY TEST EQUIPMENT						
Equipment Type	**Manufacturer**	**Description**	**Model**	**Serial No.**	**Calibration Date**	**Calibration Interval (Years)**
Spectrum Analyzer	Hewlett Packard	RF Section	8566B	2403A06381	Aug-22-06	2
Spectrum Analyzer	Hewlett Packard	Display	85662A	2407A06381	Aug-22-06	2
Spectrum Analyzer	Hewlett Packard	Quasi Peak Adapter	85650A	2430A00559	Aug-22-06	2
RF Preselector	Hewlett Packard	Preselector	85685A	2510A00151	Feb-8-06	2
LISN	EMCO	Line Impedance Stabilization Network	3825/2R	1095	Mar-10-06	2

6.3 In-Vehicle Test Equipment

Equipment Type	**Manufacturer**	**Model**	**Cal Date**	**Due Date**
Spectrum Analyzer	R&S	FSIQ7	3/28/2006	3/28/2007
Low Noise Amplifier	Sonoma	Inst310	6/9/2006	6/9/2007
Biconilog Antenna	ETS-Lindgren	3142C	6/5/2006	6/5/2007

TEST FACILITY

FAU EMI Research and Development Laboratory
Department of Electrical Engineering
Florida Atlantic University
Boca Raton, Florida 33431
(561) 361-4390

A2LA Certificate Number: 2129.01
FCC Registration: 90599
Industry Canada: IC46405-4076

Description:	The 3-m semi-anechoic chamber and Power Line Conducted Spurious Voltage test setup is constructed and calibrated to meet the FCC requirements of Section 2.948, as well as Industry Canada RSS 212 Issue 1.
Site Filing:	A site description is on file with the Federal Communications Commission, 7435 Oakland Mills Road, Columbia, MD 21046, and with the Industry Canada, Certification and Engineering Bureau, 3701 Carling Ave., Building 94, P.O. Box 11490, Station "H", Ottawa Ontario, K2H 8S2.
Instrument Tolerance:	All measuring equipment is in accordance with ANSI C63.4 and CISPR 22 requirements.

End Report