



**MOV-A-LOAD CORP. TEST REPORT**

**FOR THE**

**TRAILER MOUNTED RECEIVER, PROJACK M1 RECEIVER BOARD**

**FCC PART 15 SUBPART C SECTIONS 15.209 & 15.249,  
SUBPART B SECTION 15.109 CLASS B AND RSS-210**

**COMPLIANCE**

**DATE OF ISSUE: JUNE 19, 2006**

**PREPARED FOR:**

Mov-A-Load Corp.  
2245 Industrial Road  
Dyersburg, TN 38024

W.O. No.: 84961

**PREPARED BY:**

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Date of test: June 5-14, 2006

**Report No.: FC06-038**

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## **ADMINISTRATIVE INFORMATION**

**DATE OF TEST:** June 5-14, 2006

**DATE OF RECEIPT:** June 5, 2006

**MANUFACTURER:** Mov-A-Load Corp.  
2245 Industrial Road  
Dyersburg, TN 38024

**REPRESENTATIVE:** Sandy Hutcherson

**TEST LOCATION:** CKC Laboratories, Inc.  
1120 Fulton Place  
Fremont, CA 94539

**TEST METHOD:** ANSI C63.4 (2003), RSS-210 and RSS GEN

**PURPOSE OF TEST:** To demonstrate the compliance of the Trailer Mounted Receiver, ProJack M1 Receiver Board with the requirements for FCC Part 15 Subpart C Sections 15.209 & 15.249 and Subpart B Section 15.109 Class B and RSS-210 devices.

## FCC TO CANADA STANDARD CORRELATION MATRIX

Canadian Standard	Canadian Section	FCC Standard	FCC Section	Test Description
RSS 210	6.2.1	47CFR	15.209	General Radiated Emissions Requirement
RSS 210	6.3	47CFR	15.205	Restricted Bands of Operation
RSS 210	6.4	47CFR	15.215(c)	Frequency Stability Recommendation
RSS 210	6.5	47CFR	15.35(c)	Pulsed Operation
RSS 210	6.6	47CFR	15.207	AC Mains Conducted Emissions Requirement
RSS 210	6.2.2(m1)(1)	47 CFR	15.249(a)	Field Strength Limitations
N/A	N/A	47 CFR	15.249(b)	Point-to-Point Operations Limitations
RSS 210	6.2.2(m1)(2)	47 CFR	15.249(c)	Test Distance Requirement
RSS 210	6.2.2(m1)(3)	47 CFR	15.249(d)	Spurious Emissions Attenuation Requirement
RSS 210	6.2.2(m1)(4)	47 CFR	15.249(e)	Detector Functions
N/A	N/A	47 CFR	15.249(e)	Peak to Average Limit Requirement
RSS 210	6.2.2(m1)(5)	N/A	N/A	Cross Reference
RSS 210	5.9.1	N/A	N/A	99% Emissions Bandwidth Requirement
RSS 210	5.9.2	N/A	N/A	Emissions Designator
	IC 5933		958979	Site File No.

### CONDITIONS FOR COMPLIANCE

No modifications to the EUT were necessary to comply. Conducted emissions not required for this device.

### APPROVALS

Steve Behm, Director of Engineering Services

#### QUALITY ASSURANCE:



Joyce Walker, Quality Assurance Administrative Manager

#### TEST PERSONNEL:



Art Rice, EMC Test Engineer



Christine Nicklas, Project Manager & Principal Consultant



Norberto Gamez Jr., EMC Test Technologist

**FCC 15.31(e) Voltage Variations**

Testing was performed with a new battery.

**FCC 15.31(m) Number Of Channels**

This device was tested on three channels.

**FCC 15.33(a) Frequency Ranges Tested**

15.109 Radiated Emissions: 30 MHz – 5 GHz

15.209/15.249 Radiated Emissions: 3 MHz – 10 GHz

<b>FCC SECTION 15.35: ANALYZER BANDWIDTH SETTINGS PER FREQUENCY RANGE</b>			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
RADIATED EMISSIONS	3 MHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	10 GHz	1 MHz

**FCC 15.203 Antenna Requirements**

The antenna is an integral part of the EUT and is non-removable; therefore the EUT complies with Section 15.203 of the FCC rules.

**EUT Operating Frequency**

The EUT was operating at 902-928 MHz.

**Temperature And Humidity During Testing**

The temperature during testing was within +15°C and + 35°C.

The relative humidity was between 20% and 75%.

## **EQUIPMENT UNDER TEST (EUT) DESCRIPTION**

The customer declares the EUT tested by CKC Laboratories was representative of a production unit.

## **EQUIPMENT UNDER TEST**

### **Trailer Mounted Receiver**

Manuf: Mov-A-Load Corp.  
Model: ProJack M1 Receiver Board  
Serial: 006  
FCC ID: pending

## **PERIPHERAL DEVICES**

The EUT was not tested with peripheral devices.

## REPORT OF MEASUREMENTS

The following tables report the worst case emissions levels recorded during the tests performed on the EUT. All readings taken were peak readings unless otherwise stated. The data sheets from which the emissions tables were compiled are contained in Appendix C.

**Table 1: FCC 15.109 Six Highest Radiated Emission Levels: 30-1000 MHz**

FREQUENCY MHz	METER READING dB $\mu$ V	CORRECTION FACTORS				CORRECTED READING dB $\mu$ V/m	SPEC LIMIT dB $\mu$ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
58.580	53.5	5.8	-26.1	0.9		34.1	40.0	-5.9	V
116.996	32.2	11.0	-25.8	1.0		18.4	43.5	-25.1	V
147.553	29.2	10.8	-25.7	1.2		15.5	43.5	-28.0	H
201.494	32.4	8.7	-25.6	1.4		16.9	43.5	-26.6	V
552.485	35.0	19.2	-27.0	2.0		29.2	46.0	-16.8	V
611.076	29.9	19.3	-27.3	2.3		24.2	46.0	-21.8	H

Test Method: ANSI C63.4 (2003)  
Spec Limit: FCC Part 15 Subpart B Section 15.109 Class B  
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization  
V = Vertical Polarization

COMMENTS: Trailer Mounted Receiver is located at the center of the turntable with the cables draped back to the edge of the table and then down towards the floor. This is to simulate as close as possible the actual installation. Board is ProJack M1 Receiver Board, Assembly Number: ASY-00002-REVB. A FALCON-900 RF Modem board (DCS-00001-REV B is piggy-backed onto the Receiver Board. Customer states this is representative of a production unit. Radiated Emissions 30-1000MHz

**Table 2: FCC 15.109 Highest Radiated Emission Levels: 1-5 GHz**

FREQUENCY MHz	METER READING dBμV	CORRECTION FACTORS				CORRECTED READING dBμV/m	SPEC LIMIT dBμV/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
3950.782	38.3	31.8	-37.5	6.7		39.3	54.0	-14.7	H
3968.254	38.5	31.8	-37.5	6.6		39.4	54.0	-14.6	V
4136.451	37.6	31.8	-37.4	5.7		37.7	54.0	-16.3	H
4673.506	36.6	32.0	-37.2	6.1		37.5	54.0	-16.5	V

Test Method: ANSI C63.4 (2003)  
Spec Limit: FCC Part 15 Subpart B Section 15.109 Class B  
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization  
V = Vertical Polarization

COMMENTS: Trailer Mounted Receiver is located at the center of the turntable with the cables draped back to the edge of the table and then down towards the floor. This is to simulate as close as possible the actual installation. Board is ProJack M1 Receiver Board, Assembly Number: ASY-00002-REVB. A FALCON-900 RF Modem board (DCS-00001-REV B is piggy-backed onto the Receiver Board. Customer states this is representative of a production unit. NOTES: 1) Receiver in receive mode. 2) NOT using 1.5 GHz Hi Pass Filter. Scanning 1-5 GHz. Measurements above 1 GHz used RBW=1 MHz, VBW=100 kHz for initial peak readings.



**Table 3: FCC 15.209 Six Highest Radiated Emission Levels: 3-30 MHz**

FREQUENCY MHz	METER READING dB $\mu$ V	CORRECTION FACTORS				CORRECTED READING dB $\mu$ V/m	SPEC LIMIT dB $\mu$ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
3.071	26.9	10.0		0.2		37.1	49.5	-12.4	V
3.098	25.5	10.0		0.2		35.7	49.5	-13.8	H
3.234	26.4	10.0		0.2		36.6	49.5	-12.9	H
3.840	26.4	10.0		0.2		36.6	49.5	-12.9	V
4.687	26.1	10.0		0.3		36.4	49.5	-13.1	H
4.899	26.5	10.0		0.3		36.8	49.5	-12.7	H

Test Method: ANSI C63.4 (2003)  
Spec Limit: FCC Part 15 Subpart C Section 15.209  
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization  
V = Vertical Polarization

COMMENTS: Trailer Mounted Receiver is located at the center of the turntable with the cables draped back to the edge of the table and then down towards the floor. This is to simulate as close as possible the actual installation. Board is ProJack M1 Receiver Board, Assembly Number: ASY-00002-REVB. A FALCON-900 RF Modem board (DCS-00001-REV B is piggy-backed onto the Receiver Board. Customer states this is representative of a production unit. Note 1) Receiver is in transmit mode. Signals include LO, MID, and HI channels. Radiated emissions 3-30 MHz.

**Table 4: FCC 15.209 Six Highest Radiated Emission Levels: 30-1000 MHz**

FREQUENCY MHz	METER READING dB $\mu$ V	CORRECTION FACTORS				CORRECTED READING dB $\mu$ V/m	SPEC LIMIT dB $\mu$ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
58.489	34.5	5.8	-26.1	0.9		15.1	40.0	-24.9	V
149.498	33.5	10.7	-25.7	1.2		19.7	43.5	-23.8	H
162.496	33.4	10.0	-25.7	1.2		18.9	43.5	-24.6	H
201.492	32.4	8.7	-25.6	1.4		16.9	43.5	-26.6	V
526.487	32.8	18.4	-27.0	2.2		26.4	46.0	-19.6	H
552.481	35.1	19.2	-26.9	2.0		29.4	46.0	-16.6	V

Test Method: ANSI C63.4 (2003)  
Spec Limit: FCC Part 15 Subpart C Section 15.209  
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization  
V = Vertical Polarization

COMMENTS: Trailer Mounted Receiver is located at the center of the turntable with the cables draped back to the edge of the table and then down towards the floor. This is to simulate as close as possible the actual installation. Board is ProJack M1 Receiver Board, Assembly Number: ASY-00002-REVB. A FALCON-900 RF Modem board (DCS-00001-REV B is piggy-backed onto the Receiver Board. Customer states this is representative of a production unit. Radiated Emissions 30-1000 MHz.

**Table 5: FCC 15.209 Six Highest Radiated Emission Levels: 1-10 GHz**

FREQUENCY MHz	METER READING dB $\mu$ V	CORRECTION FACTORS				CORRECTED READING dB $\mu$ V/m	SPEC LIMIT dB $\mu$ V/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	HPF dB				
1804.538	57.3	27.6	-38.3	4.9	0.6	52.1	54.0	-1.9	VA-L
1830.120	56.2	27.8	-38.3	5.0	0.6	51.3	54.0	-2.7	VA-M
1855.346	58.0	28.0	-38.2	5.1	0.6	53.5	54.0	-0.5	VA-H
2706.808	53.0	28.9	-37.7	6.2	0.2	50.6	54.0	-3.4	VA-L
2745.199	53.7	29.1	-37.7	6.2	0.2	51.5	54.0	-2.5	VA-M
2783.019	52.5	29.2	-37.7	6.3	0.2	50.5	54.0	-3.5	VA-H

Test Method: ANSI C63.4 (2003)  
Spec Limit: FCC Part 15 Subpart C Section 15.209  
Test Distance: 3 Meters

NOTES:  
A = Average Reading  
V = Vertical Polarization  
L = Low Channel  
M = Mid Channel  
H = High Channel

COMMENTS: Trailer Mounted Receiver is located at the center of the turntable with the cables draped back to the edge of the table and then down towards the floor. This is to simulate as close as possible the actual installation. Board is ProJack M1 Receiver Board, Assembly Number: ASY-00002-REVB. A FALCON-900 RF Modem board (DCS-00001-REV B is piggy-backed onto the Receiver Board. Customer states this is representative of a production unit. Note 1) Receiver is in transmit mode. Measurements above 1 GHz used RBW=1 MHz, VBW=1 MHz for initial peak readings.

**Table 6: FCC 15.249 Fundamental Emission Levels**

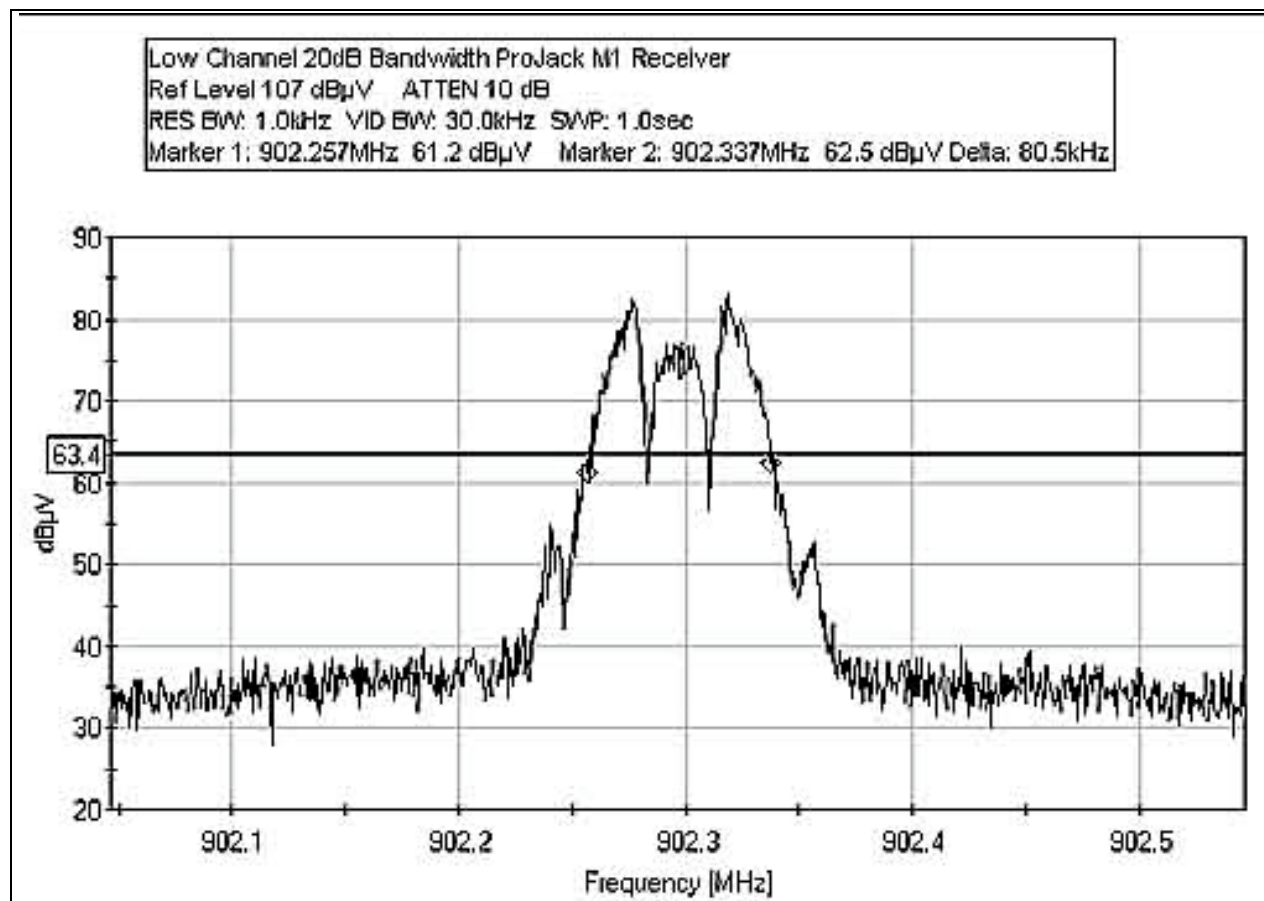
FREQUENCY MHz	METER READING dBμV	CORRECTION FACTORS				CORRECTED READING dBμV/m	SPEC LIMIT dBμV/m	MARGIN dB	NOTES
		Ant dB	Amp dB	Cable dB	Dist dB				
902.268	90.3	22.4	-26.6	2.9		89.0	94.0	-5.0	V
902.268	82.4	22.4	-26.6	2.9		81.1	94.0	-12.9	H
915.063	93.1	22.7	-26.7	2.8		91.9	94.0	-2.1	V
915.063	83.6	22.7	-26.7	2.8		82.4	94.0	-11.6	H
927.659	83.4	23.0	-26.6	2.9		82.7	94.0	-11.3	H
927.673	90.8	23.0	-26.6	2.9		90.1	94.0	-3.9	V

Test Method: ANSI C63.4 (2003)  
Spec Limit: FCC Part 15 Subpart C Section 15.249  
Test Distance: 3 Meters

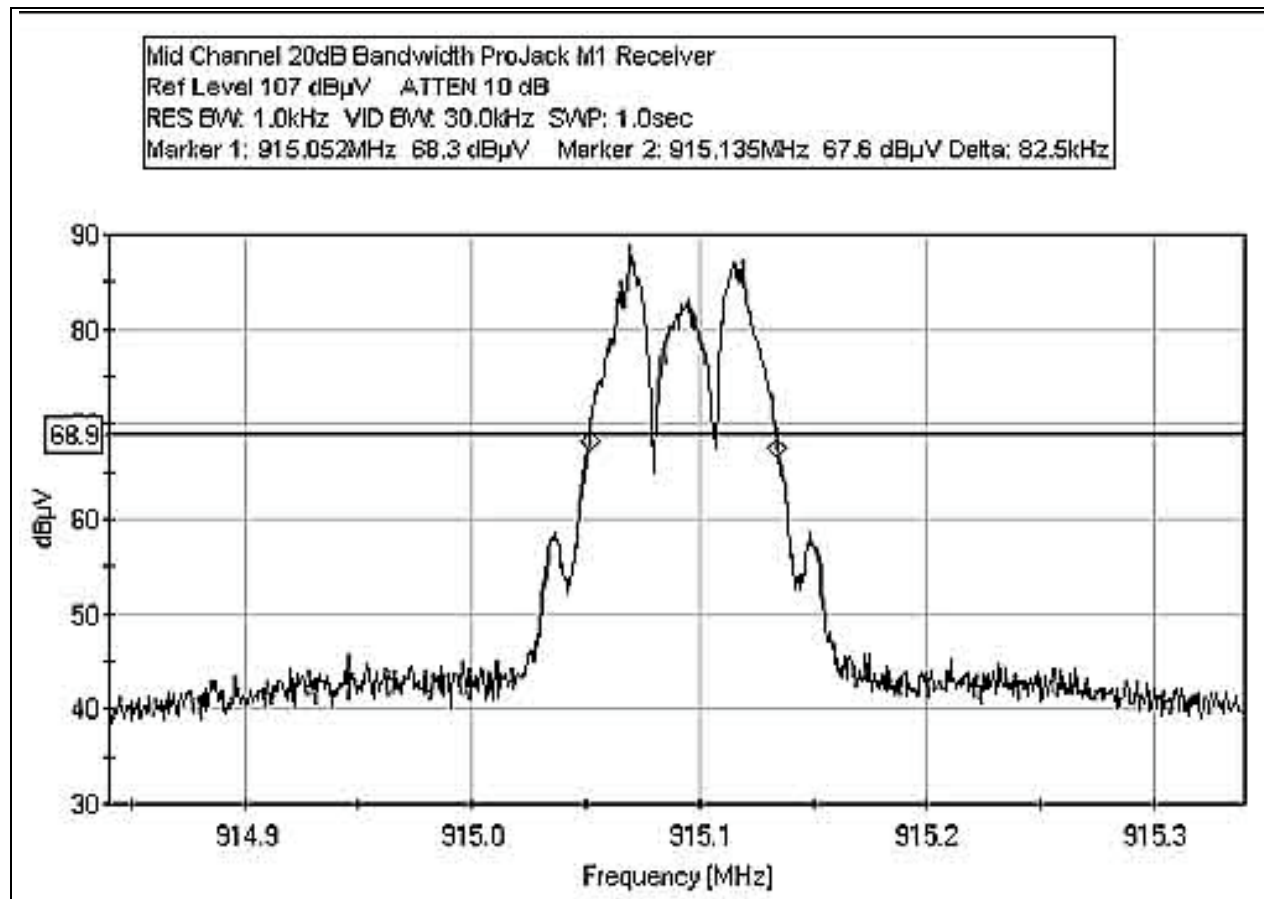
NOTES: H = Horizontal Polarization  
V = Vertical Polarization

COMMENTS: Trailer Mounted Receiver is located at the center of the turntable with the cables draped back to the edge of the table and then down towards the floor. This is to simulate as close as possible the actual installation. Board is ProJack M1 Receiver Board, Assembly Number: ASY-00002-REVB. A FALCON-900 RF Modem board (DCS-00001-REV B is piggy-backed onto the Receiver Board. Customer states this is representative of a production unit.

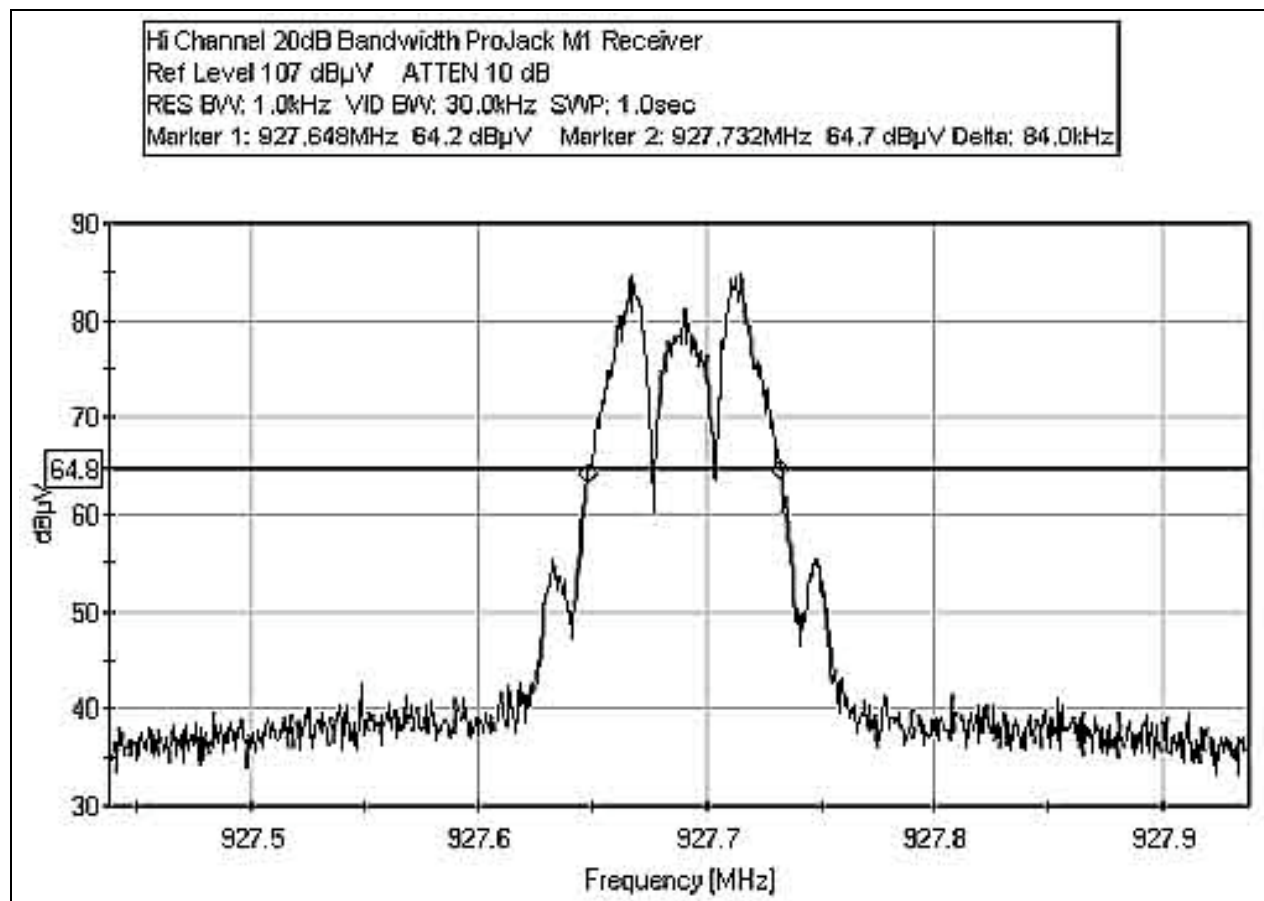
## 20dB BANDWIDTH - LOW CHANNEL



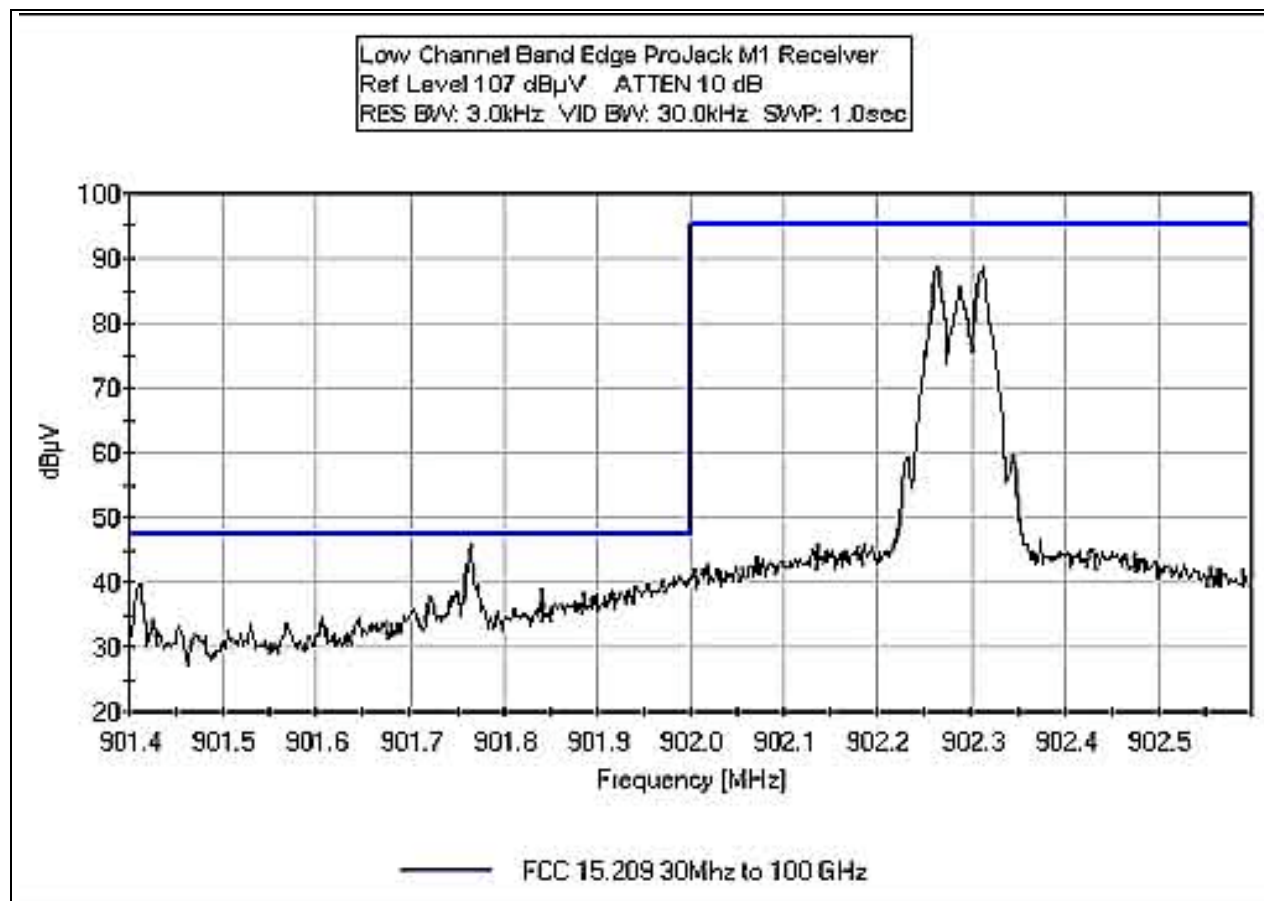
## 20dB BANDWIDTH - MID CHANNEL



## 20dB BANDWIDTH - HIGH CHANNEL

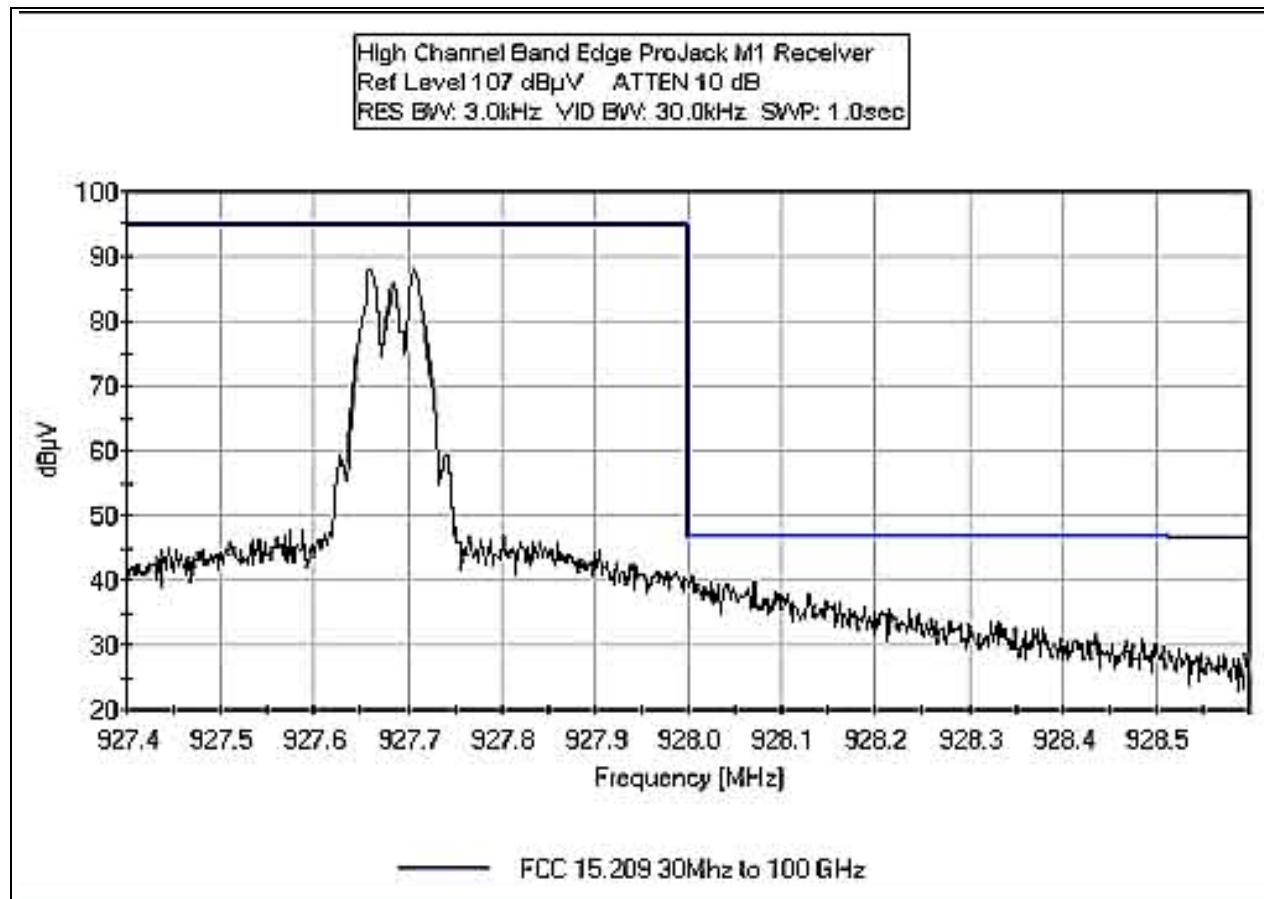


## BAND EDGE - LOW CHANNEL





## BAND EDGE - HIGH CHANNEL



## EUT SETUP

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the photographs in Appendix A. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables. The corrected data was then compared to the applicable emission limits to determine compliance.

The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available I/O ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. I/O cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The radiated and conducted emissions data of the EUT was taken with the HP Spectrum Analyzer. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in Table A.

Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

## CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dB $\mu$ V/m, the spectrum analyzer reading in dB $\mu$ V was corrected by using the following formula in Table A. This reading was then compared to the applicable specification limit to determine compliance.

TABLE A: SAMPLE CALCULATIONS		
	Meter reading	(dB $\mu$ V)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dB $\mu$ V/m)

## **TEST INSTRUMENTATION AND ANALYZER SETTINGS**

The test instrumentation and equipment listed in Appendix B were used to collect both the radiated and conducted emissions data. For radiated measurements from 3 to 30 MHz, the magnetic loop antenna was used. For frequencies from 30 to 1000 MHz, the biconilog antenna was used. The horn antenna was used for frequencies above 1000 MHz.

The HP spectrum analyzer was used for all measurements. Table B shows the analyzer bandwidth settings that were used in designated frequency bands. During radiated testing, the measurements were made with 0 dB of attenuation, a reference level of 97 dB $\mu$ V, and a vertical scale of 10 dB per division.

## **SPECTRUM ANALYZER DETECTOR FUNCTIONS**

The notes that accompany the measurements contained in the Tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the six highest readings, this is indicated as a "Q" or an "A" in the appropriate table. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

### **Peak**

In this mode, the Spectrum Analyzer or test engineer recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the analyzer called "peak hold," the analyzer had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the analyzer made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

### **Quasi-Peak**

When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the HP Quasi-Peak Adapter for the HP Spectrum Analyzer. The detailed procedure for making quasi peak measurements contained in the HP Quasi-Peak Adapter manual were followed.

### **Average**

For certain frequencies, average measurements may be made using the spectrum analyzer. To make these measurements, the test engineer reduces the video bandwidth on the analyzer until the modulation of the signal is filtered out. At this point the analyzer is set into the linear mode and the scan time is reduced.

## **EUT TESTING**

### **Radiated Emissions**

The EUT was mounted on a nonconductive, rotating table 80 cm above the conductive grid. The nonconductive table dimensions were 1 meter by 1.5 meters.

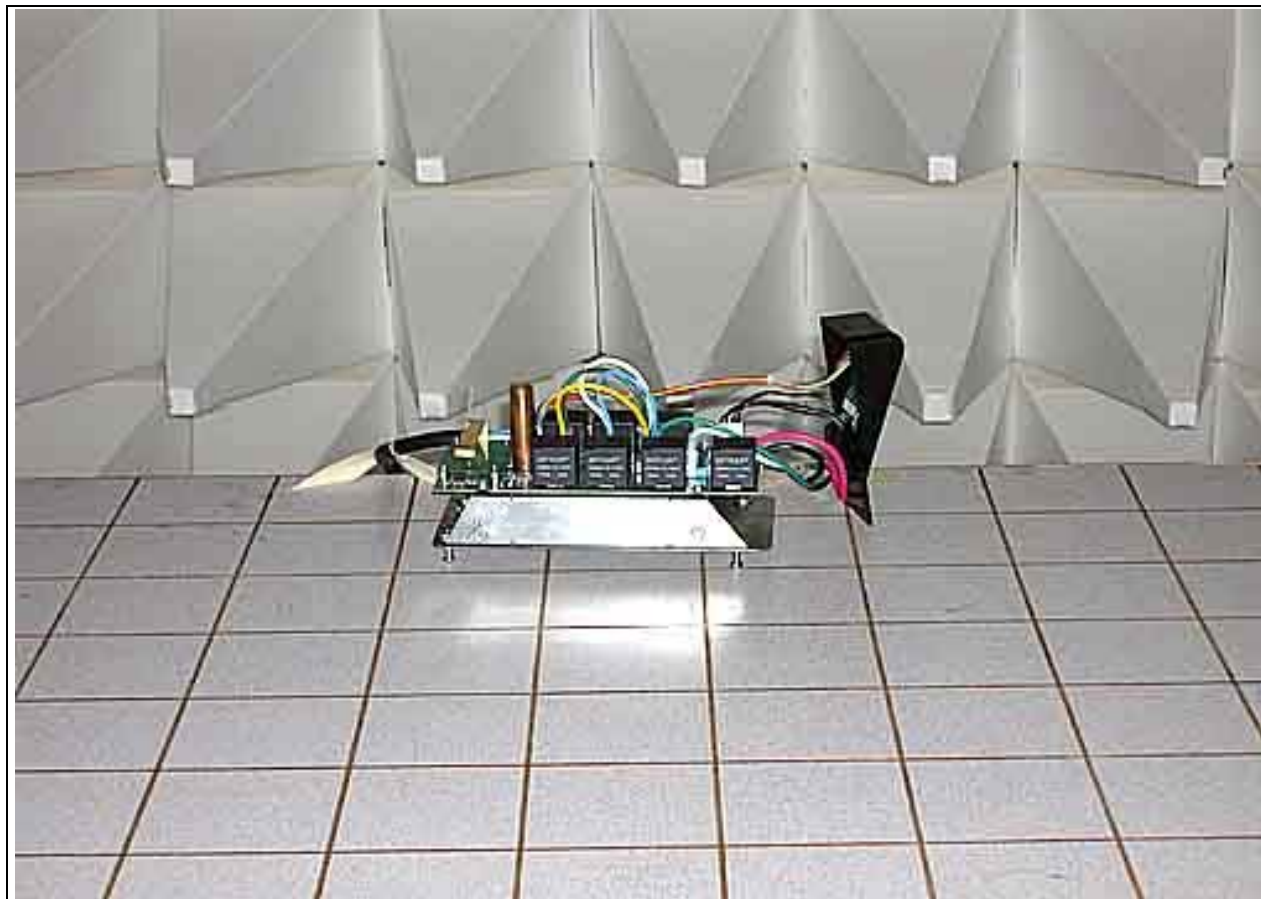
During the preliminary radiated scan, the EUT was powered up and operating in its defined FCC test mode. For radiated measurements from 3 to 30 MHz, the magnetic loop antenna was used. The frequency range of 30 MHz to 1000 MHz was scanned with the biconilog antenna located about 1.5 meter above the ground plane in the vertical polarity. During this scan, the turntable was rotated and all peaks at or near the limit were recorded. A scan of the FM band from 88 to 110 MHz was then made using a reduced resolution bandwidth and frequency span. The biconilog antenna was changed to the horizontal polarity and the above steps were repeated. For frequencies exceeding 1000 MHz, the horn antenna was used. Care was taken to ensure that no frequencies were missed within the FM and TV bands.

A thorough scan of all frequencies was made manually using a small frequency span, rotating the turntable and raising and lowering the antenna from one to four meters as needed. The test engineer maximized the readings with respect to the table rotation, antenna height, and configuration of EUT. Maximizing of the EUT was achieved by monitoring the spectrum analyzer on a closed circuit television monitor.

**APPENDIX A**

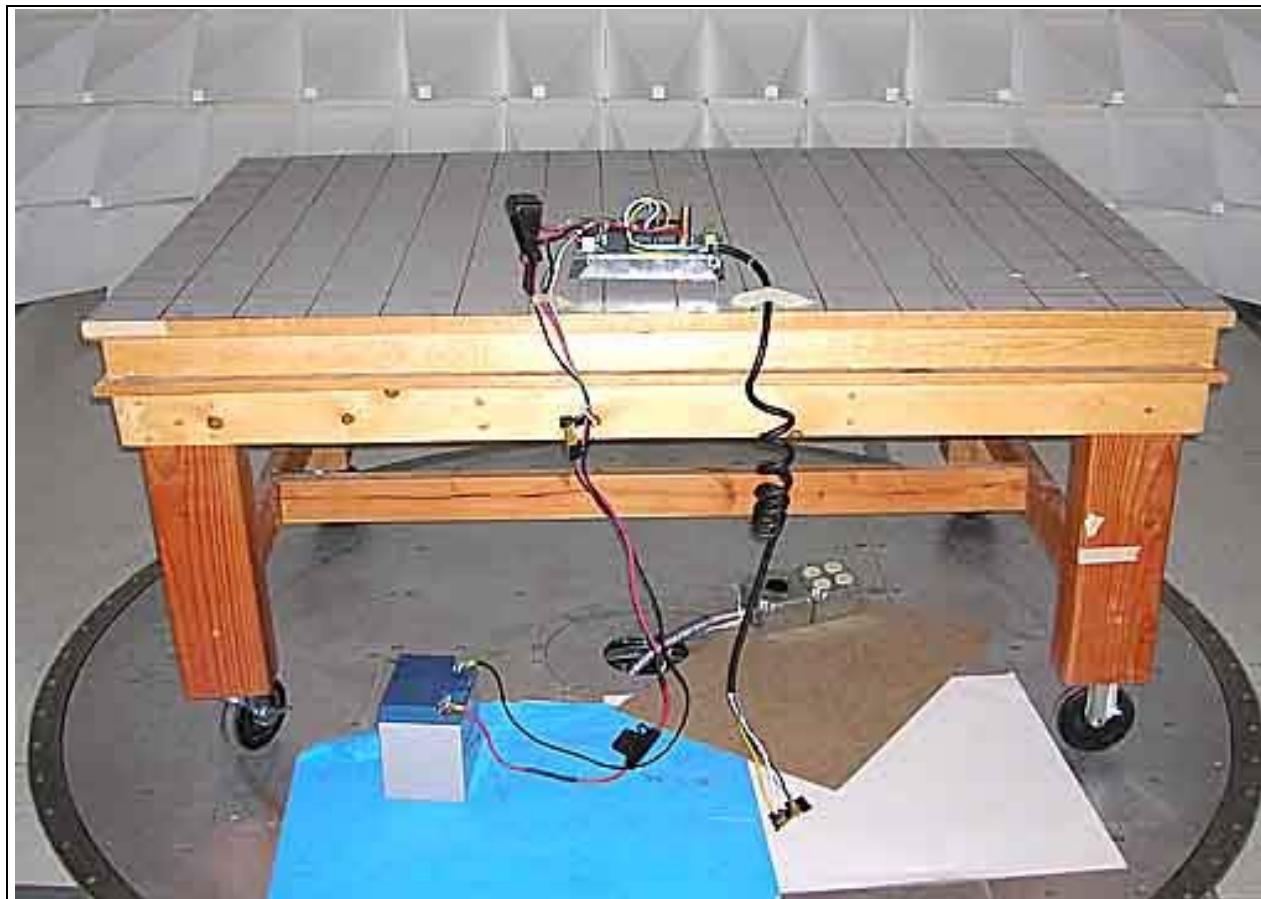
**TEST SETUP PHOTOGRAPHS**

**PHOTOGRAPH SHOWING RADIATED EMISSIONS**



Radiated Emissions - Front View

**PHOTOGRAPH SHOWING RADIATED EMISSIONS**



Radiated Emissions - Back View



## APPENDIX B

### TEST EQUIPMENT LIST

#### *FCC 15.109: 30-1000 MHz*

Function	S/N	Calibration Date	Cal Due Date	Asset #
S.A., Display HP-85662A	2542A12169	11/28/2005	11/28/2007	02662
S.A., RF Section HP-8568B	2601A02492	11/28/2005	11/28/2007	02663
QP Adapter HP-85650A	2043A00188	10/23/2004	10/23/2006	01508
HP8447F opt H64 preamp	2944A03850	03/05/2005	03/05/2007	00501
Cable	None	06/21/2005	06/21/2007	P05299
Cable	None	06/21/2005	06/21/2007	P05300
Cable	None	06/21/2005	06/21/2007	P05296

#### *FCC 15.109: >1 GHz*

Function	S/N	Calibration Date	Cal Due Date	Asset #
HF-Cable FSJ1P-50A-4A		02/20/2006	02/20/2008	P05138
Antenna, Horn	1064	03/08/2005	03/08/2007	02061
S.A. HP 8593EM	3624A00159	10/31/2004	10/31/2006	02111
Preamp, HP83017A	3123A00283	05/09/2005	05/09/2007	00785
Cable, HF 36"	n/a	02/08/2005	02/08/2007	P05200
Cable, 6'	n/a	06/07/2006	06/07/2008	P04241

#### *FCC 15.209: 3-30MHz*

Function	S/N	Calibration Date	Cal Due Date	Asset #
S.A., Display HP-85662A	2542A12169	11/28/2005	11/28/2007	02662
S.A., RF Section HP-8568B	2601A02492	11/28/2005	11/28/2007	02663
QP Adapter HP-85650A	2043A00188	10/23/2004	10/23/2006	01508
Cable	None	06/21/2005	06/21/2007	P05300
Cable	None	06/21/2005	06/21/2007	P05296
Antenna-Mag Loop-6502	2078	05/13/2005	05/13/2007	00432

#### *FCC 15.209/15.249: 30-1000 MHz*

Function	S/N	Calibration Date	Cal Due Date	Asset #
S.A., Display HP-85662A	2542A12169	11/28/2005	11/28/2007	02662
S.A., RF Section HP-8568B	2601A02492	11/28/2005	11/28/2007	02663
HP8447F opt H64 preamp	2944A03850	03/05/2005	03/05/2007	00501
QP Adapter HP-85650A	2043A00188	10/23/2004	10/23/2006	01508
Cable	None	06/21/2005	06/21/2007	P05299
Cable	None	06/21/2005	06/21/2007	P05300
Cable	None	06/21/2005	06/21/2007	P05296
Chase Bilog CBL6111C	2630	01/24/2005	01/24/2007	00852

#### *FCC 15.209: >1 GHz*

Function	S/N	Calibration Date	Cal Due Date	Asset #
HF-Cable FSJ1P-50A-4A		02/20/2006	02/20/2008	P05138
Antenna, Horn	1064	03/08/2005	03/08/2007	02061
HF-Cable-72" Pasternack	None	07/12/2005	07/12/2007	P05317
S.A. HP 8593EM	3624A00159	10/31/2004	10/31/2006	02111
Cable, HF 48"	n/a	02/08/2005	02/08/2007	P05201
Preamp, HP83017A	3123A00283	05/09/2005	05/09/2007	00785
1.5GHz HP Filter	PN 83400-80037	03/07/2006	03/07/2008	P04215



**APPENDIX C:**  
**MEASUREMENT DATA SHEETS**

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer: **Mov-A-Load Corp.**  
 Specification: **FCC 15.109 Class B Radiated**  
 Work Order #: **84961**  
 Test Type: **Radiated Scan**  
 Equipment: **Trailer Mounted Receiver**  
 Manufacturer: **Mov-A-Load Corp.**  
 Model: **ProJack M1 Receiver Board**  
 S/N: **006**

Date: 6/9/2006  
 Time: 13:44:58  
 Sequence#: 10  
 Tested By: N. Gamez

**Equipment Under Test (\* = EUT):**

Function	Manufacturer	Model #	S/N
Trailer Mounted Receiver*	Mov-A-Load Corp.	ProJack M1 Receiver Board	006

**Support Devices:**

Function	Manufacturer	Model #	S/N
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**Test Conditions / Notes:**

Trailer Mounted Receiver is located at the center of the turntable with the cables draped back to the edge of the table and then down towards the floor. This is to simulate as close as possible the actual installation. Board is ProJack M1 Receiver Board, Assembly Number: ASY-00002-REVB. Customer states this is representative of a production unit. NOTES: 1) Receiver in receive mode. Radiated Emissions 30-1000MHz.

**Transducer Legend:**

T1=0852-Bi-Log Antenna	T2=Cable P05296 25' RG214 N-N
T3=Cable P05299 2' RG214 N-N	T4=Cable P05300 12' RG214 N-N
T5=Amp Cal.HP-8447F OPT H64- AN 00501	

**Measurement Data:** Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBμV	dB	dB	dB	dB	Table	dBμV/m	dBμV/m	dB	Ant
1	58.580M	53.5	+5.8 -26.1	+0.5	+0.1	+0.3	+0.0 2	34.1	40.0	-5.9	Vert 180
2	552.485M	35.0	+19.2 -27.0	+1.3	+0.1	+0.6	+0.0 178	29.2	46.0	-16.8	Vert 143
3	611.076M	29.9	+19.3 -27.3	+1.4	+0.2	+0.7	+0.0 12	24.2	46.0	-21.8	Horiz 99
4	116.996M	32.2	+11.0 -25.8	+0.6	+0.1	+0.3	+0.0 180	18.4	43.5	-25.1	Vert 100
5	201.494M	32.4	+8.7 -25.6	+0.8	+0.1	+0.5	+0.0 316	16.9	43.5	-26.6	Vert 105
6	147.553M	29.2	+10.8 -25.7	+0.7	+0.1	+0.4	+0.0 214	15.5	43.5	-28.0	Horiz 166

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer: **Mov-A-Load Corp.**  
 Specification: **FCC 15.109 Class B Radiated**  
 Work Order #: **84961**  
 Test Type: **Maximized Emissions**  
 Equipment: **Trailer Mounted Receiver**  
 Manufacturer: **Mov-A-Load Corp.**  
 Model: **ProJack M1 Receiver Board**  
 S/N: **006**

Date: 6/13/2006  
 Time: 16:52:33  
 Sequence#: 27  
 Tested By: Art Rice

**Equipment Under Test (\* = EUT):**

Function	Manufacturer	Model #	S/N
Trailer Mounted Receiver*	Mov-A-Load Corp.	ProJack M1 Receiver Board	006

**Support Devices:**

Function	Manufacturer	Model #	S/N
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**Test Conditions / Notes:**

Trailer Mounted Receiver is located at the center of the turntable with the cables draped back to the edge of the table and then down towards the floor. This is to simulate as close as possible the actual installation. Board is ProJack M1 Receiver Board, Assembly Number: ASY-00002-REVB. Customer states this is representative of a production unit. NOTES: 1) Receiver in receive mode. 2) NOT using 1.5 GHz Hi Pass Filter. Scanning 1-5 GHz. Measurements above 1 GHz used RBW=1 MHz, VBW=100 kHz for initial peak readings.

**Transducer Legend:**

T1=Horn Antenna AN02061 sn1064 (Fremont)	T2=P05138 HF Cable 25ft
T3=HP-83017A, A/N 00785	T4=ANP05200 1-40GHz
T5=ANP04241 HF-Helias Cable	

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dB $\mu$ V	dB	dB	dB	dB	Table	dB $\mu$ V/m	dB $\mu$ V/m	dB	Ant
1	3968.254M	38.5	+31.8 +1.2	+3.8	-37.5	+1.6	+0.0 370	39.4	54.0	-14.6	Vert 119
2	3950.782M	38.3	+31.8 +1.2	+3.9	-37.5	+1.6	+0.0 369	39.3	54.0	-14.7	Horiz 149
3	4136.451M	37.6	+31.8 +0.8	+3.3	-37.4	+1.6	+0.0 -10	37.7	54.0	-16.3	Horiz 149
4	4673.506M	36.6	+32.0 +0.8	+3.6	-37.2	+1.7	+0.0 -10	37.5	54.0	-16.5	Vert 119

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer: **Mov-A-Load Corp.**

Specification: **FCC 15.209 3-30MHz**

Work Order #: **84961**

Date: 6/14/2006

Test Type: **Maximized Emissions**

Time: 16:29:29

Equipment: **Trailer Mounted Receiver**

Sequence#: 44

Manufacturer: Mov-A-Load Corp.

Tested By: Art Rice

Model: ProJack M1 Receiver Board

S/N: 006

**Equipment Under Test (\* = EUT):**

Function	Manufacturer	Model #	S/N
Trailer Mounted Receiver*	Mov-A-Load Corp.	ProJack M1 Receiver Board	006

**Support Devices:**

Function	Manufacturer	Model #	S/N
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**Test Conditions / Notes:**

Trailer Mounted Receiver is located at the center of the turntable with the cables draped back to the edge of the table and then down towards the floor. This is to simulate as close as possible the actual installation. Board is ProJack M1 Receiver Board, Assembly Number: ASY-00002-REVB. Customer states this is representative of a production unit. Note 1) Receiver is in transmit mode. Signals include LO, MID, and HI channels. Radiated emissions 3-30 MHz.

**Transducer Legend:**

T1=Cable P05296 25' RG214 N-N	T2=Cable P05300 12' RG214 N-N
T3=Mag Loop A/N 00432, S/N 2078	

**Measurement Data:**

Reading listed by margin.

Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	T3 dB		Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	3.071M	26.9	+0.1	+0.1	+10.0		+0.0 370	37.1	49.5	-12.4	Vert 100
2	4.899M	26.5	+0.2	+0.1	+10.0		+0.0 -10	36.8	49.5	-12.7	Horiz 100
3	3.840M	26.4	+0.1	+0.1	+10.0		+0.0 -10	36.6	49.5	-12.9	Vert 100
4	3.234M	26.4	+0.1	+0.1	+10.0		+0.0 -10	36.6	49.5	-12.9	Horiz 100
5	4.687M	26.1	+0.2	+0.1	+10.0		+0.0 370	36.4	49.5	-13.1	Horiz 100
6	3.098M	25.5	+0.1	+0.1	+10.0		+0.0 333	35.7	49.5	-13.8	Horiz 100

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer: **Mov-A-Load Corp.**  
 Specification: **FCC 15.209 30MHz to 1 GHz**  
 Work Order #: **84961**  
 Test Type: **Radiated Scan**  
 Equipment: **Trailer Mounted Receiver**  
 Manufacturer: **Mov-A-Load Corp.**  
 Model: **ProJack M1 Receiver Board**  
 S/N: **006**

Date: 6/9/2006  
 Time: 12:38:28  
 Sequence#: 7  
 Tested By: N. Gamez

**Equipment Under Test (\* = EUT):**

Function	Manufacturer	Model #	S/N
Trailer Mounted Receiver*	Mov-A-Load Corp.	ProJack M1 Receiver Board	006

**Support Devices:**

Function	Manufacturer	Model #	S/N
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**Test Conditions / Notes:**

Trailer Mounted Receiver is located at the center of the turntable with the cables draped back to the edge of the table and then down towards the floor. This is to simulate as close as possible the actual installation. Board is ProJack M1 Receiver Board, Assembly Number: ASY-00002-REVB. Customer states this is representative of a production unit. NOTES: 1) Receiver in receive mode. Radiated Emissions 30-1000MHz.

**Transducer Legend:**

T1=0852-Bi-Log Antenna	T2=Cable P05296 25' RG214 N-N
T3=Cable P05299 2' RG214 N-N	T4=Cable P05300 12' RG214 N-N
T5=Amp Cal.HP-8447F OPT H64- AN 00501	

**Measurement Data:** Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	T1 T5 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	552.481M	35.1	+19.2 -26.9	+1.3	+0.1	+0.6	+0.0 179	29.4	46.0	-16.6	Vert 126
2	526.487M	32.8	+18.4 -27.0	+1.3	+0.2	+0.7	+0.0 226	26.4	46.0	-19.6	Horiz 126
3	149.498M	33.5	+10.7 -25.7	+0.7	+0.1	+0.4	+0.0 317	19.7	43.5	-23.8	Horiz 152
4	162.496M	33.4	+10.0 -25.7	+0.7	+0.1	+0.4	+0.0 168	18.9	43.5	-24.6	Horiz 146
5	58.489M	34.5	+5.8 -26.1	+0.5	+0.1	+0.3	+0.0 359	15.1	40.0	-24.9	Vert 99
6	201.492M	32.4	+8.7 -25.6	+0.8	+0.1	+0.5	+0.0 204	16.9	43.5	-26.6	Vert 137
7	188.500M	32.1	+8.6 -25.6	+0.8	+0.1	+0.5	+0.0 317	16.5	43.5	-27.0	Horiz 152
8	56.858M	31.5	+6.3 -26.1	+0.5	+0.1	+0.3	+0.0 -9	12.6	40.0	-27.4	Vert 99

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer: **Mov-A-Load Corp.**  
 Specification: **FCC 15.209 30MHz to 10 GHz**  
 Work Order #: **84961** Date: 6/6/2006  
 Test Type: **Radiated Scan/Maximized** Time: 11:13:07  
 Equipment: **Trailer Mounted Receiver** Sequence#: 5  
 Manufacturer: **Mov-A-Load Corp.** Tested By: Art Rice  
 Model: **ProJack M1 Receiver Board**  
 S/N: **006**

**Equipment Under Test (\* = EUT):**

Function	Manufacturer	Model #	S/N
Trailer Mounted Receiver*	Mov-A-Load Corp.	ProJack M1 Receiver Board	006

**Support Devices:**

Function	Manufacturer	Model #	S/N
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**Test Conditions / Notes:**

Trailer Mounted Receiver is located at the center of the turntable with the cables draped back to the edge of the table and then down towards the floor. This is to simulate as close as possible the actual installation. Board is ProJack M1 Receiver Board, Assembly Number: ASY-00002-REVB. Customer states this is representative of a production unit. Note 1) Receiver is in transmit mode. Measurements above 1 GHz used RBW=1 MHz, VBW=1 MHz for initial peak readings.

**Transducer Legend:**

T1=Horn Antenna AN02061 sn1064 (Fremont)	T2=CAB HF 72" ANP05317 Pasternack
T3=ANP5201 1-40GHz	T4=P05138 HF Cable 25ft
T5=HP-83017A, A/N 00785	T6=HPF AN01415 1.5GHz

**Measurement Data:** Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBμV	T1 T5 dB	T2 T6 dB	T3 dB	T4 dB	Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	1855.346M	58.0	+28.0	+1.9	+1.1	+2.1	+0.0	53.5	54.0	-0.5	Vert
	Ave		-38.2	+0.6			275		Hi channel		157
^	1855.309M	59.2	+28.0	+1.9	+1.1	+2.1	+0.0	54.7	54.0	+0.7	Vert
			-38.2	+0.6			275		Hi channel		157
3	1804.538M	57.3	+27.6	+1.8	+1.1	+2.0	+0.0	52.1	54.0	-1.9	Vert
	Ave		-38.3	+0.6			262		Low channel		138
^	1804.538M	58.4	+27.6	+1.8	+1.1	+2.0	+0.0	53.1	54.0	-0.9	Vert
			-38.3	+0.6			262		Low channel		138
5	2745.199M	53.7	+29.1	+2.3	+1.4	+2.5	+0.0	51.5	54.0	-2.5	Vert
	Ave		-37.7	+0.2			238		Mid Channel		138
^	2745.230M	55.4	+29.1	+2.3	+1.4	+2.5	+0.0	53.2	54.0	-0.8	Vert
			-37.7	+0.2			345		Mid Channel		138
7	1830.120M	56.2	+27.8	+1.9	+1.1	+2.0	+0.0	51.3	54.0	-2.7	Vert
	Ave		-38.3	+0.6			264		Mid Channel		138
^	1830.145M	58.2	+27.8	+1.9	+1.1	+2.0	+0.0	53.3	54.0	-0.7	Vert
			-38.3	+0.6			264		Mid Channel		138

9	2706.808M Ave	53.0	+28.9 -37.7	+2.3 +0.2	+1.4	+2.5	+0.0 266	50.6	54.0 Low channel	-3.4	Vert 149
^	2706.821M	55.2	+28.9 -37.7	+2.3 +0.2	+1.4	+2.5	+0.0 266	52.8	54.0 Low channel	-1.2	Vert 149
11	2783.019M Ave	52.5	+29.2 -37.7	+2.3 +0.2	+1.4	+2.6	+0.0 250	50.5	54.0 Hi channel	-3.5	Vert 160
^	2782.990M	54.4	+29.2 -37.7	+2.3 +0.2	+1.4	+2.6	+0.0 -10	52.4	54.0 Hi channel	-1.6	Vert 157
13	5413.881M	43.8	+33.7 -36.8	+3.2 +0.2	+2.0	+3.7	+0.0 241	49.8	54.0 Low channel	-4.2	Vert 116
14	1804.493M	53.1	+27.6 -38.3	+1.8 +0.6	+1.1	+2.0	+0.0 226	47.9	54.0 Low channel	-6.1	Horiz 150
15	1830.218M Ave	52.2	+27.8 -38.3	+1.9 +0.6	+1.1	+2.0	+0.0 218	47.3	54.0 Mid Channel	-6.7	Horiz 135
^	1830.198M	54.9	+27.8 -38.3	+1.9 +0.6	+1.1	+2.0	+0.0 218	50.0	54.0 Mid Channel	-4.0	Horiz 135
17	2706.858M	49.6	+28.9 -37.7	+2.3 +0.2	+1.4	+2.5	+0.0 257	47.2	54.0 Low channel	-6.8	Horiz 121
18	2745.258M	49.1	+29.1 -37.7	+2.3 +0.2	+1.4	+2.5	+0.0 152	46.9	54.0 Mid Channel	-7.1	Horiz 135
19	4575.540M	44.2	+31.7 -37.3	+3.0 +0.1	+1.8	+3.4	+0.0 266	46.9	54.0 Mid Channel	-7.1	Vert 136
20	2783.119M	48.8	+29.2 -37.7	+2.3 +0.2	+1.4	+2.6	+0.0 109	46.8	54.0 Hi channel	-7.2	Horiz 121
21	5566.038M Ave	40.3	+33.9 -36.9	+3.3 +0.1	+2.0	+3.8	+0.0 345	46.5	54.0 Hi channel	-7.5	Vert 119
^	5566.038M	44.5	+33.9 -36.9	+3.3 +0.1	+2.0	+3.8	+0.0 345	50.7	54.0 Hi channel	-3.3	Vert 119
23	5413.768M Ave	40.5	+33.7 -36.8	+3.2 +0.2	+2.0	+3.7	+0.0 241	46.5	54.0 Low channel	-7.5	Vert 116
24	5490.372M Ave	39.6	+33.9 -36.8	+3.2 +0.2	+2.0	+3.8	+0.0 346	45.9	54.0 Mid Channel	-8.1	Vert 166
^	5490.373M	47.1	+33.9 -36.8	+3.2 +0.2	+2.0	+3.8	+0.0 346	53.4	54.0 Mid Channel	-0.6	Vert 166
26	3660.115M	44.4	+31.2 -37.7	+2.6 +0.1	+1.6	+3.5	+0.0 241	45.7	54.0 Mid Channel	-8.3	Vert 136
27	1855.384M	49.0	+28.0 -38.2	+1.9 +0.6	+1.1	+2.1	+0.0 370	44.5	54.0 Hi channel	-9.5	Horiz 121
28	5413.643M Ave	37.6	+33.7 -36.8	+3.2 +0.2	+2.0	+3.7	+0.0 223	43.6	54.0 Low channel	-10.4	Horiz 121
^	5413.680M	46.1	+33.7 -36.8	+3.2 +0.2	+2.0	+3.7	+0.0 223	52.1	54.0 Low channel	-1.9	Horiz 121
30	3609.078M	41.9	+31.1 -37.7	+2.6 +0.1	+1.6	+3.3	+0.0 276	42.9	54.0 Low channel	-11.1	Vert 131
31	3710.680M	41.3	+31.3 -37.7	+2.6 +0.1	+1.6	+3.5	+0.0 252	42.7	54.0 Hi channel	-11.3	Vert 160

32	4511.486M	40.4	+31.5 -37.3	+2.9 +0.1	+1.8	+3.3	+0.0 276	42.7	54.0 Low channel	-11.3	Vert 131
33	5490.381M Ave	35.8	+33.9 -36.8	+3.2 +0.2	+2.0	+3.8	+0.0 296	42.1	54.0 Mid Channel	-11.9	Horiz 135
^	5490.350M	45.0	+33.9 -36.8	+3.2 +0.2	+2.0	+3.8	+0.0 296	51.3	54.0 Mid Channel	-2.7	Horiz 135
35	5566.038M Ave	34.0	+33.9 -36.9	+3.3 +0.1	+2.0	+3.8	+0.0 128	40.2	54.0 Hi channel	-13.8	Horiz 122
^	5566.013M	44.8	+33.9 -36.9	+3.3 +0.1	+2.0	+3.8	+0.0 128	51.0	54.0 Hi channel	-3.0	Horiz 130



Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • 510-249-1170

Customer: **Mov-A-Load Corp.**  
 Specification: **FCC 15.249 902-928MHz**  
 Work Order #: **84961** Date: 6/5/2006  
 Test Type: **Radiated Scan** Time: 14:01:20  
 Equipment: **Trailer Mounted Receiver** Sequence#: 4  
 Manufacturer: **Mov-A-Load Corp.** Tested By: C. Nicklas  
 Model: **ProJack M1 Receiver Board**  
 S/N: **006**

**Equipment Under Test (\* = EUT):**

Function	Manufacturer	Model #	S/N
Trailer Mounted Receiver*	Mov-A-Load Corp.	ProJack M1 Receiver Board	006

**Support Devices:**

Function	Manufacturer	Model #	S/N
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**Test Conditions / Notes:**

Trailer Mounted Receiver is located at the center of the turntable with the cables draped back to the edge of the table and then down towards the floor. This is to simulate as close as possible the actual installation. Board is ProJack M1 Receiver Board, Assembly Number: ASY-00002-REVB. Customer states this is representative of a production unit.

**Transducer Legend:**

T1=0852-Bi-Log Antenna	T2=Cable P05296 25' RG214 N-N
T3=Cable P05299 2' RG214 N-N	T4=Cable P05300 12' RG214 N-N
T5=Amp Cal.HP-8447F OPT H64- AN 00501	

**Measurement Data:** Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBμV	dB	dB	dB	dB	Table	dBμV/m	dBμV/m	dB	Ant
1	915.063M	93.1	+22.7 -26.7	+1.7	+0.2	+0.9	+0.0 263	91.9	94.0	-2.1	Vert 99
2	927.673M	90.8	+23.0 -26.6	+1.8	+0.2	+0.9	+0.0 260	90.1	94.0	-3.9	Vert 99
3	902.268M	90.3	+22.4 -26.6	+1.6	+0.3	+1.0	+0.0 262	89.0	94.0	-5.0	Vert 99
4	927.659M	83.4	+23.0 -26.6	+1.8	+0.2	+0.9	+0.0 328	82.7	94.0	-11.3	Horiz 225
5	915.063M	83.6	+22.7 -26.7	+1.7	+0.2	+0.9	+0.0 289	82.4	94.0	-11.6	Horiz 164
6	902.268M	82.4	+22.4 -26.6	+1.6	+0.3	+1.0	+0.0 286	81.1	94.0	-12.9	Horiz 174