



PCTEST ENGINEERING LABORATORY, INC.

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<http://www.pctestlab.com>



VERIFICATION OF COMPLIANCE FCC Part 15 / ICES-003 Verification

Manufacturer Name & Address:

Sirius XM Satellite Radio, Inc.
3161 S.W. 10th Street
Deerfield Beach, FL 33442

Attn: Beejay Jolayemi
202-680-4288

Date of Testing:

November 18, 2009

Test Site/Location:

PCTEST Lab, Columbia, MD, USA

Test Report Serial No.:

0911162099.RS2


| | |
|----------------------------------|--|
| TRADE NAME: | SIRIUS XM |
| EUT MODEL: | XPVD1 |
| U.S. RESPONSIBLE PARTY | Sirius XM Satellite Radio, Inc. |
| Address: | 3161 S.W. 10th Street Deerfield Beach, FL 33442 |
| Contact Person: | Beejay Jolayemi |
| Contact Telephone Number: | 202-680-4288 |

EUT Type: PowerConnect XMp3i Vehicle Dock
Model: XPVD1
FCC Rule Part(s): FCC Part 15 Subpart B, Part 2 (Verification)
IC Rule Part(s): ICES-003, RSS-Gen, RSS-210
FCC Classification: FCC Class B Digital Device
IC Classification: Class B Digital Apparatus
Test Procedure: ANSI C63.4-2003 / CISPR22 (ICES-003)

The device bearing the trade name and model specified above has been shown to comply with the applicable technical standards as indicated in the measurement report and has been tested in accordance with the measurement procedures specified in ANSI C63.4-2003 and CIS PR22 (ICES-003) (See Test Report). These measurements were performed with no deviation from the standards. Test results reported herein relate only to the item(s) tested.

I authorize and attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

NVLAP accreditation does not constitute any product endorsement by NVLAP or any agency of the United States Government. PCTEST certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.



Randy Ortanez
President








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|---|---|--|---|--|
| Model: XPVD1 |  | FCC / IC VERIFICATION OF COMPLIANCE TEST REPORT |  | Reviewed by: Quality Manager |
| Test Report S/N: 0911162099.RS2 | Test Dates: November 18, 2009 | EUT Type: PowerConnect XMp3i Vehicle Dock | Page 1 of 18 | |

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MEASUREMENT REPORT

FCC Part 15B / IC RSS-Gen



§ 2.1033 General Information

APPLICANT: Sirius XM Satellite Radio, Inc.
APPLICANT ADDRESS: 3161 S.W. 10th Street
 Deerfield Beach, FL 33442,
TEST SITE: PCTEST ENGINEERING LABORATORY, INC.
TEST SITE ADDRESS: 6660-B Dobbin Road, Columbia, MD 21045 USA
FCC RULE PART(S): FCC Part 15 Subpart B, Part 2 (Verification)
IC RULE PART(S): ICES-003, RSS-Gen, RSS-210
MODEL : XPVD1
EUT TYPE: PowerConnect Xmp3i Vehicle Dock
Test Device Serial No.: N/A Production Pre-Production Engineering
FCC CLASSIFICATION: FCC Class B Digital Device
IC CLASSIFICATION: Class B Digital Apparatus
DATE(S) OF TEST: November 18, 2009



Test Methodology

Radiated measurements were taken using the methods and procedures described in ANSI C63.4-2003. Radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility / NVLAP Accreditation

Conducted and radiated tests were performed at PCTEST Engineering Lab in Columbia, MD 21045, U.S.A.

- PCTEST facility is an FCC registered (PCTEST Reg. No. 90864) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules and Industry Canada (IC 2451).
- PCTEST Lab is accredited by U.S. National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) in EMC, Telecommunication, and FCC for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. (NVLAP Lab code: 100431-0).
- PCTEST Lab is a recognized U.S. Conformity Assessment Body (CAB) in EMC and R&TTE (n.b. 0982) under the U.S.-EU Mutual Recognition Agreement (MRA).
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC Guide 65 by the American National Standards Institute (ANSI) in all scopes of FCC Rules and Industry Canada Standards (RSS).
- PCTEST facility is an IC registered (IC-2451) test laboratory with the site description on file at Industry Canada.

| | | | | |
|---|---|--|---|--|
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1.0 INTRODUCTION

1.1 Evaluation Procedure

The evaluation of the Sirius XM PowerConnect XMP3i Vehicle Kit was performed as described in the Sirius XM New Product Certification test plan dated November 2, 2009. The measurement procedure described in the American National Standard for Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40GHz (ANSI C63.4-2003) was used in the measurement of radiated and conducted emissions from the **Sirius XM PowerConnect XMP3i Vehicle Dock Model: XPVD1**.

Deviation from measurement procedure.....None

1.2 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and Industry Canada.

1.3 PCTEST Test Location

The map at the right shows the location of the PCTEST LABORATORY, its proximity to the FCC Laboratory, the Columbia vicinity area, the Baltimore-Washington Intern't'l (BWI) airport, the city of Baltimore and the Washington, DC area. (see Figure 1-1).

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility in New Concept Business Park, Guilford Industrial Park, Columbia, Maryland. The site address is 6660-B Dobbin Road, Columbia, MD 21045. The test site is one of the highest points in the Columbia area with an elevation of 390 feet above mean sea level. The site coordinates are 39° 11'15" N latitude and 76° 49'38" W longitude. The facility is 1.5 miles North of the FCC laboratory, and the ambient signal and ambient signal strength are approximately equal to those of the FCC laboratory. There are no FM or TV transmitters within 15 miles of the site. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2003 on January 27, 2006 and Industry Canada.

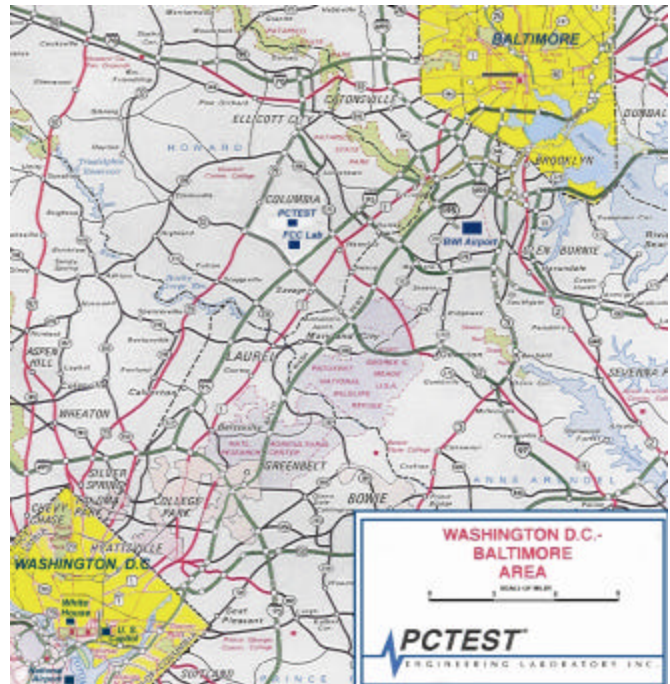


Figure 1-1. Map of the Greater Baltimore and Metropolitan Washington, D.C. area

| | | | |
|---|--|---|--|
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2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Sirius XM PowerConnect XMp3i Vehicle Dock**. The test data contained in this report pertains only to the emissions due to the digital circuitry of the EUT.

| Manufacturer / Model | FCC ID | Description |
|--------------------------|----------|---------------------------------|
| Sirius XM / Model: XPVD1 | RS2XPVD1 | PowerConnect XMp3i Vehicle Dock |

Table 2-1. EUT Equipment Description

| Manufacturer | Model | Description |
|--------------|----------|------------------------------------|
| Sirius XM | GEX-XMP3 | Sirius/XM Satellite Radio Receiver |
| Sirius | FMDA25 | FM Direct Adapter |
| XM | N/A | Cassette Adapter |
| Sirius | SXDPIP1 | Cigarette Lighter Power Supply |
| N/A | N/A | Stereo Ear Buds |



Table 2-2. Support Equipment Description

2.2 Operation Mode

The Sirius XM PowerConnect XMp3i Vehicle Dock Model: XPVD1 was connected to one cradle in order to record all of the necessary measurements. Three different setups were examined for radiated emission compliance to sections 15.109, and Industry Canada: ICES-003, RSS-Gen using the vehicle cradle with the XM receiver. Please see test setup photographs exhibits for more information on the test setup.

2.3 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

| | | | | |
|---|---|--|---|--|
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3.0 DESCRIPTION OF TEST

3.1 Conducted Emissions

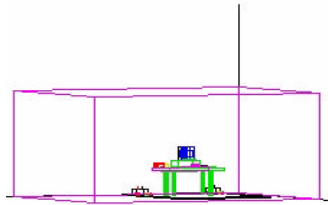


Figure 3-1. Shielded Enclosure Line-Conducted Test Facility

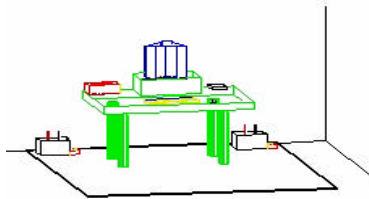


Figure 3-2. Line Conducted Emission Test Set-Up

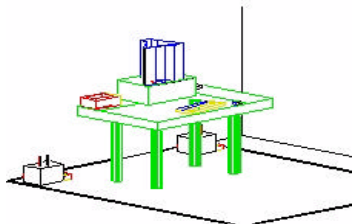


Figure 3-3. Wooden Table & Bonded LISNs

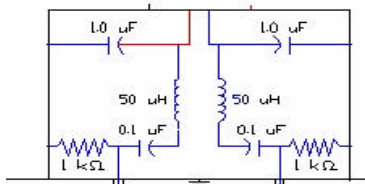


Figure 3-4. LISN Schematic Diagram

The line-conducted facility is located inside a 16'x20'x10' shielded enclosure, manufactured by Ray Proof Series 81 (see Figure 3-1). The shielding effectiveness of the shielded room is in accordance with MIL-Std-285 or NSA 65-5. A 1m x 1.5m wooden table 80cm high is placed 40cm away from the vertical wall and 1.5m away from the sidewall of the shielded room (see Figure 3-2). Solar Electronics and EMCO Model 3725/2 (10kHz-30MHz) 50Ω/50μH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room (see Figure 3-3). The EUT is powered from the Solar LISN and the support equipment is powered from the EMCO LISN. Power to the LISNs are filtered by a high-current high-insertion loss Ray Proof power line filter (100dB 14Hz-10GHz). The purpose of the filter is to attenuate ambient signal interference and this filter is also bonded to the shielded enclosure. All electrical cables are shielded by braided tinned copper zipper tubing with an inner diameter of ½". If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply line(s) will be connected to the Solar LISN. The LISN schematic diagram is shown (see Figure 3-4). All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion). Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the spectrum analyzer to determine the frequency producing the maximum EME from the EUT.

The spectrum was scanned from 150kHz to 30MHz with a spectrum analyzer. The detector function was set to CISPR quasi-peak and average mode. The bandwidth of the analyzer was set to 10kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each EME emission. Each emission was maximized by: switching power lines; varying the mode of operation or resolution; clock or data exchange speed; scrolling H pattern to the EUT and/or support equipment, and powering the monitor from the floor mounted outlet box and the computer aux AC outlet, if applicable; whichever determined the worst-case emission. Photographs of the worst-case emission can be seen in the test setup photographs. Each EME reported was calibrated using the Agilent E8257D (250kHz – 20GHz) PSG Signal Generator.

| | | |
|---|--|---|
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3.2 Radiated Emissions

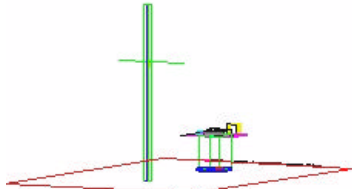


Figure 3-5. 3-Meter Test Site

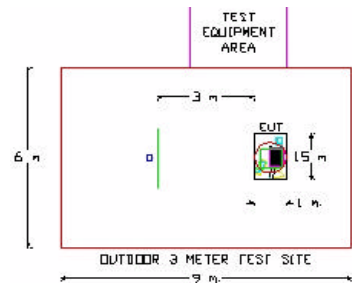


Figure 3-6. Dimensions of Outdoor Test Site

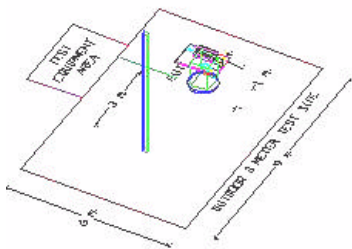


Figure 3-7. Turntable and System Setup

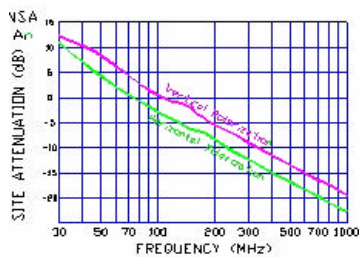


Figure 3-8. Normalized Site Attenuation Curves (H&V)

Preliminary measurements were made indoors at 1-meter using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequency producing the maximum EME. Appropriate precaution was taken to ensure that all EME from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, and turntable azimuth with respect to the antenna was noted for each frequency found. The spectrum was scanned from 30 to 200 MHz using a bi-conical antenna and from 200 to 1000 MHz using a log-spiral antenna. Above 1 GHz, linearly polarized double ridge horn antennas were used.

Final measurements were made outdoors at 3-meter test range using Roberts™ Dipole antennas or horn antennas (see Figure 3-5). The test equipment was placed on a wooden and plastic bench situated on a 1.5m x 2m area adjacent to the measurement area (see Figure 3-6). Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The detector function was set to CISPR quasi-peak mode and the bandwidth of the spectrum analyzer was set to 100kHz for frequencies below 1GHz or 1MHz for frequencies above 1GHz. Above 1GHz the detector function was set to average mode (RBW = 1MHz, VBW = 10Hz).

The half-wave dipole antenna was tuned to the frequency found during preliminary radiated measurements. The EUT, support equipment and interconnecting cables were re-configured to the set-up producing the maximum emission for the frequency and were placed on top of a 0.8-meter high non-metallic 1 x 1.5 meter table (see Figure 3-7). The EUT, support equipment, and interconnecting cables were re-arranged and manipulated to maximize each EME emission. The turntable containing the system was rotated and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by: varying the mode of operation or resolution; clock or data exchange speed; scrolling H pattern to the EUT and/or support equipment, and powering the monitor from the floor mounted outlet box and the computer aux AC outlet, if applicable; and changing the polarity of the antenna, whichever determined the worst-case emission. Photographs of the worst-case emission can be seen in the test setup photographs. Each EME reported was calibrated using the Agilent E8257D (250kHz – 20GHz) PSG Signal Generator. The Theoretical Normalized Site Attenuation Curves for both horizontal and vertical polarization are shown in Figure 3-8.

| | | | |
|---|--|---|--|
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4.0 SAMPLE CALCULATIONS

4.1 Conducted Emission Measurement Sample Calculation

@ 20.3 MHz

Class B limit = 60.0 dBmV (Quasi-peak limit)
 Reading = - 57.8 dBm (calibrated quasi-peak level)
 Convert to dBμV = - 57.8 + 107 = 49.2 dBμV

 Margin = 49.2 - 60.0 = - 10.8 dB
 = **10.8 dB below limit**

4.2 Radiated Emission Measurement Sample Calculation

@ 66.7 MHz



Class B limit = 100 mV/m = 40.0 dBmV/m
 Reading = - 76.0 dBm (calibrated level)
 Convert to dBμV = - 76.0 + 107 = 31.0 dBμV
 Antenna Factor + Cable Loss = 5.8 dB/m
 Total = 36.8 dBμV/m

 Margin = 36.8 - 40.0 = - 3.2 dB
 = **3.2 dB below limit**

Note:

$$\text{Level}_{[\text{dB}\mu\text{V}]} = 20 \log_{10} (\text{Level}_{[\mu\text{V}/\text{m}]})$$

$$\text{Level}_{[\text{dB}\mu\text{V}]} = \text{Level}_{[\text{dBm}]} + 107$$



| | | | | |
|---|---|--|---|--|
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5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST).

| Manufacturer | Model | Description | Cal Date | Cal Interval | Cal Due | Serial Number |
|--------------|----------|------------------------------------|-----------|--------------|-----------|---------------|
| - | No.165 | (30MHz - 1000MHz) RG58 Coax Cable | N/A | | N/A | N/A |
| - | No.166 | (1000-26500MHz) Microwave RF Cable | N/A | | N/A | N/A |
| - | No.167 | (100kHz - 100MHz) RG58 Coax Cable | N/A | | N/A | N/A |
| Agilent | 11713A | Attenuation/Switch Driver | 12/4/2008 | Annual | 12/4/2009 | 3439A02645 |
| Agilent | 8447D | Broadband Amplifier | N/A | | N/A | 1937A03348 |
| Agilent | 8447D | Broadband Amplifier | N/A | | N/A | 2443A01900 |
| Agilent | 8449B | (1-26.5GHz) Pre-Amplifier | 12/4/2008 | Annual | 12/4/2009 | 3008A00985 |
| Agilent | 85650A | Quasi-Peak Adapter | 12/4/2008 | Annual | 12/4/2009 | 3303A01872 |
| Agilent | 85650A | Quasi-Peak Adapter | 3/24/2009 | Annual | 3/24/2010 | 2043A00301 |
| Agilent | 8566B | (100Hz-22GHz) Spectrum Analyzer | 3/24/2009 | Annual | 3/24/2010 | 2618A02866 |
| Agilent | 8566B | (100Hz-22GHz) Spectrum Analyzer | 3/24/2009 | Annual | 3/24/2010 | 2542A11898 |
| Agilent | 8566B | (100Hz-22GHz) Spectrum Analyzer | 12/5/2008 | Annual | 12/5/2009 | 3638A08713 |
| Agilent | E4407B | ESA Spectrum Analyzer | 9/28/2009 | Annual | 9/28/2010 | US39210313 |
| Agilent | E4448A | PSA (3Hz-50GHz) Spectrum Analyzer | 10/1/2009 | Annual | 10/1/2010 | US42510244 |
| Agilent | E8257D | (250kHz-20GHz) Signal Generator | 3/25/2009 | Biennial | 3/25/2011 | MY45470194 |
| Emco | 6502 | Active Loop Antenna (10k - 30 MHz) | 5/15/2009 | Biennial | 5/15/2011 | 267 |
| Emco | 3816/2 | LISN | 9/8/2008 | Biennial | 9/8/2010 | 9707-1077 |
| Emco | 3816/2 | LISN | 9/8/2008 | Biennial | 9/8/2010 | 9707-1079 |
| Pasternack | PE7000-6 | 6 dB Attenuator | N/A | | N/A | N/A |
| Sunol | JB5 | Bi-Log Antenna (30M - 5GHz) | 7/17/2009 | Biennial | 7/17/2011 | A051107 |

Table 5-1. Annual Test Equipment Calibration Schedule




| | | | | |
|---|---|--|---|--|
| Model: XPVD1 |  | FCC / IC VERIFICATION OF COMPLIANCE TEST REPORT |  | Reviewed by: Quality Manager |
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6.0 ENVIRONMENTAL CONDITIONS

The temperature is controlled within range of 15°C to 35°C.

The relative humidity is controlled within range of 10% to 75%.

The atmospheric pressure is controlled within the range 86-106kPa (860-1060mbar).

| | | | | |
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| Model: XPVD1 |  PCTEST ENGINEERING LABORATORY, INC. | FCC / IC VERIFICATION OF COMPLIANCE TEST REPORT |  SIRIUS  | Reviewed by: Quality Manager |
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7.0 TEST DATA

7.1 Summary

Test Date(s): November 18, 2009

Test Engineer: Baron Chan

| FCC Part 15 | IC RSS-Gen | Description | Result |
|-------------|------------|---------------------|--------|
| 15.107 | 7.2.2 | Conducted Emissions | N/A |
| 15.109 | 7.2.3 | Radiated Emissions | PASS |

Table 7-1. Summary of Test Results

| Frequency [MHz] | IC Field Strength Limit [dBmV/m] | Measured Distance [Meters] |
|-----------------|----------------------------------|----------------------------|
| 30 – 230 | 40.46 | 3 |
| 230 – 1000 | 47.46 | 3 |



Table 7-2. Industry Canada ICES-003 3-Meter Radiated Limits

| Frequency | Field Strength Limit [mV/m] | Field Strength Limit [dBmV/m] | Measured Distance [Meters] |
|-------------------|-----------------------------|-------------------------------|----------------------------|
| 30.00 – 88.00 MHz | 100 | 40 | 3 |
| 88.00 – 216.0 MHz | 150 | 43.52 | 3 |
| 216.0 – 960.0 MHz | 200 | 46.02 | 3 |
| Above 960.0 MHz | 500 | 53.98 | 3 |

Table 7-3. FCC Pt. 15.109 3-Meter Radiated Limits

Note:

- To show compliance to the Industry Canada limits specified in ICES-003, the 10 meter radiated limits were extrapolated to 3 meters using a conversion equal to the square of the distances (i.e. $10\log_{10}(10^2/3^2) = 10.46\text{dB}$).

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7.2 Test Configuration # 1 – EUT with FM Direct Adapter

§15.107, §15.109, ICES-003

7.2.1 Test Configuration 1 Details:

- ⌚ Car cradle's 'FM Out' port connected to FM Direct Adapter's 'To Sirius Radio' port.
- ⌚ Car cradle powered by 5V iFMCLA power adapter and twisted pair CLA socket.
- ⌚ Car cradle's 'Audio' port populated with RCA audio cable.
- ⌚ XM satellite antenna connected to car cradle's 'Ant In' port.
- ⌚ FM Direct Adapter's 'To Vehicle FM Antenna' port connected to FM antenna.
- ⌚ FM Direct Adapter's 'To Vehicle FM Radio' port is terminated with a 75 ohm load.
- ⌚ FM (whip) antenna is mounted on 3ft x 4ft antenna.
- ⌚ Receiver configured to receive live XM broadcast channels.
- ⌚ Receiver configured for Max audio output level.

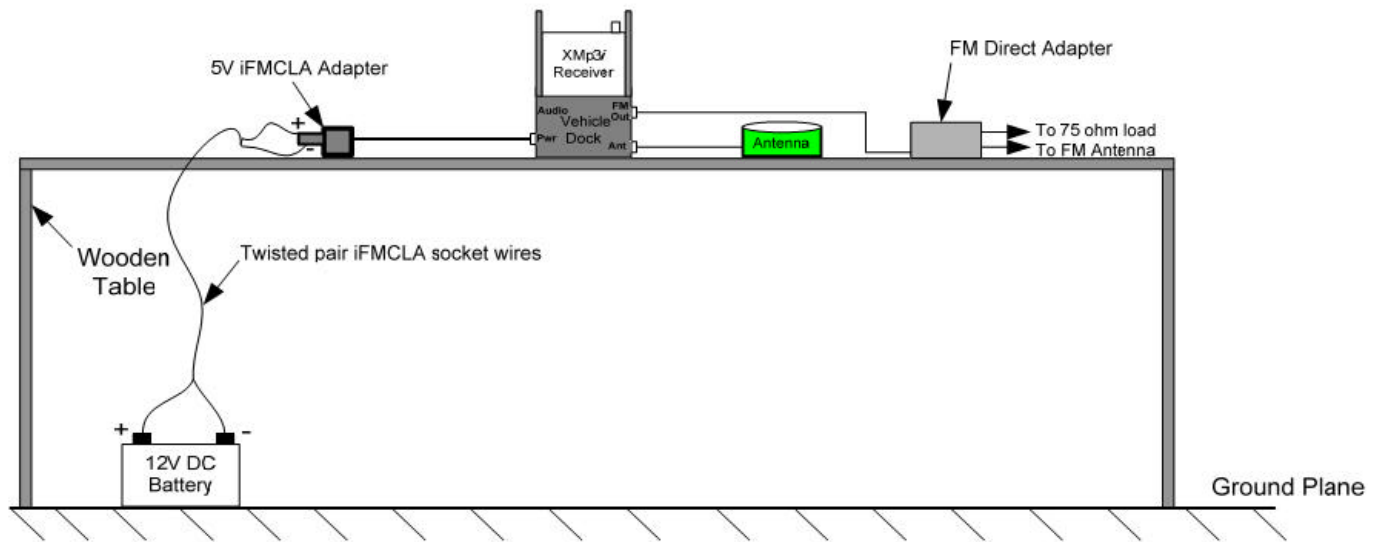


Figure 7-1. Test Configuration #1

| | | | | |
|------------------------------------|-------------------------------------|---|-------------|---------------------------------|
| Model: XPVD1 | PCTEST ENGINEERING LABORATORY, INC. | FCC / IC VERIFICATION OF COMPLIANCE TEST REPORT | SIRIUS XM | Reviewed by: Quality Manager |
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7.2.2 Radiated Measurement Data – Test Configuration # 1
§15.109, ICES-003

| Frequency [MHz] | Level [dBm] | AFCL [dB] | Pol [H/V] | Height [m] | Azimuth [degrees] | Field Strength [dBmV/m] | FCC Field Strength Limit [dBmV/m] | Margin [dB] |
|-----------------|-------------|-----------|-----------|------------|-------------------|-------------------------|-----------------------------------|-------------|
| 47.70 | -93.84 | 10.45 | V | 1.30 | 300 | 23.61 | 40.00 | -16.39 |
| 56.90 | -88.93 | 9.89 | V | 1.50 | 155 | 27.96 | 40.00 | -12.04 |
| 73.40 | -90.33 | 10.61 | H | 1.30 | 205 | 27.29 | 40.00 | -12.71 |
| 77.30 | -93.41 | 10.77 | V | 1.20 | 50 | 24.36 | 40.00 | -15.64 |
| 312.00 | -95.99 | 16.34 | V | 1.50 | 150 | 27.35 | 46.02 | -18.67 |
| 404.80 | -97.41 | 18.56 | H | 1.30 | 160 | 28.15 | 46.02 | -17.87 |

Table 7-4 Radiated Measurements at 3-meters – FCC Part 15

| Frequency [MHz] | Level [dBm] | AFCL [dB] | Pol [H/V] | Height [m] | Azimuth [degrees] | IC Field Strength [dBmV/m] | IC Field Strength Limit [dBmV/m] | Margin [dB] |
|-----------------|-------------|-----------|-----------|------------|-------------------|----------------------------|----------------------------------|-------------|
| 47.70 | -93.84 | 10.45 | V | 1.30 | 300 | 23.61 | 40.46 | -16.85 |
| 56.90 | -88.93 | 9.89 | V | 1.50 | 155 | 27.96 | 40.46 | -12.50 |
| 73.40 | -90.33 | 10.61 | H | 1.30 | 205 | 27.29 | 40.46 | -13.17 |
| 77.30 | -93.41 | 10.77 | V | 1.20 | 50 | 24.36 | 40.46 | -16.10 |
| 312.00 | -95.99 | 16.34 | V | 1.50 | 150 | 27.35 | 47.46 | -20.11 |
| 404.80 | -97.41 | 18.56 | H | 1.30 | 160 | 28.15 | 47.46 | -19.31 |

Table 7-5 Radiated Measurements at 3-meters – ICES-003

| | | | | |
|---|---|--|---|--|
| Model: XPVD1 |  | FCC / IC VERIFICATION OF COMPLIANCE TEST REPORT |  | Reviewed by: Quality Manager |
| Test Report S/N: 0911162099.RS2 | Test Dates: November 18, 2009 | EUT Type: PowerConnect Xmp3i Vehicle Dock | | Page 13 of 18 |

7.3 Test configuration # 2 – EUT with Cassette Adapter §15.109.ICES-003

7.3.1 Test Configuration 2 Details

- ⌚ Car cradle's 'Audio' port connected to audio cassette adapter.
- ⌚ Car cradle powered by 5V iFMCLA power adapter and twisted pair CLA socket.
- ⌚ Ensure FM Modulator is enabled.
- ⌚ Receiver configured to receive live XM broadcast channels.
- ⌚ Receiver configured for Max audio output level.
- ⌚ The FM modulator feature in the receiver automatically disables when the cassette adapter is plugged into the cradle.
- ⌚ XM satellite antenna connected to car cradle's 'Ant In' port.

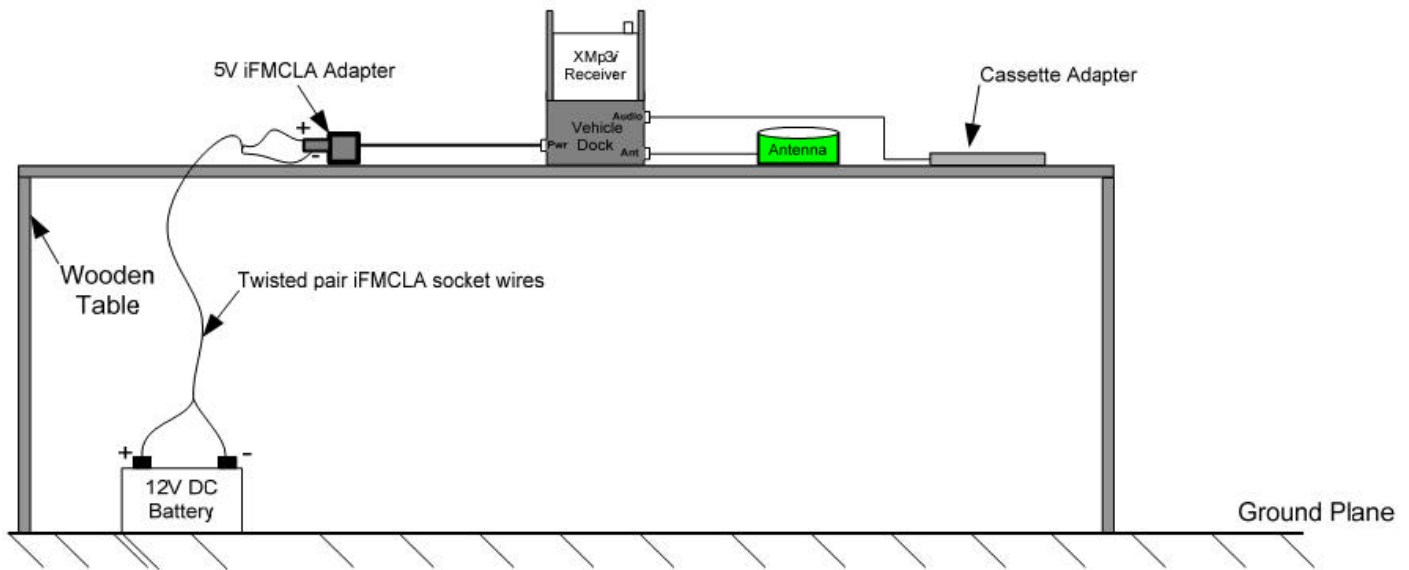


Figure 7-2. Test Configuration #2

| | | | | |
|------------------------------------|--|---|--|---------------------------------|
| Model: XPVD1 | PCTEST ENGINEERING LABORATORY, INC. | FCC / IC VERIFICATION OF COMPLIANCE TEST REPORT | | Reviewed by: Quality Manager |
| Test Report S/N: 0911162099.RS2 | Test Dates: November 18, 2009 | EUT Type: PowerConnect XMP3i Vehicle Dock | | Page 14 of 18 |

7.3.2 Radiated Measurement Data – Test Configuration # 2
§15.109, ICES-003

| Frequency [MHz] | Level [dBm] | AFCL [dB] | Pol [H/V] | Height [m] | Azimuth [degrees] | Field Strength [dBmV/m] | FCC Field Strength Limit [dBmV/m] | Margin [dB] |
|-----------------|-------------|-----------|-----------|------------|-------------------|-------------------------|-----------------------------------|-------------|
| 56.20 | -88.93 | 9.85 | V | 1.30 | 320 | 27.92 | 40.00 | -12.08 |
| 80.00 | -93.86 | 10.87 | V | 1.20 | 215 | 24.01 | 40.00 | -15.99 |
| 92.10 | -92.47 | 11.28 | V | 1.20 | 30 | 25.81 | 43.52 | -17.72 |
| 404.40 | -93.81 | 18.55 | H | 1.40 | 200 | 31.74 | 46.02 | -14.28 |
| 437.40 | -95.65 | 19.22 | H | 1.30 | 85 | 30.57 | 46.02 | -15.45 |
| 550.90 | -95.72 | 21.25 | H | 1.20 | 20 | 32.53 | 46.02 | -13.49 |

Table 7-6 Radiated Measurements at 3-meters – FCC Part 15

| Frequency [MHz] | Level [dBm] | AFCL [dB] | Pol [H/V] | Height [m] | Azimuth [degrees] | IC Field Strength [dBmV/m] | IC Field Strength Limit [dBmV/m] | Margin [dB] |
|-----------------|-------------|-----------|-----------|------------|-------------------|----------------------------|----------------------------------|-------------|
| 56.20 | -88.93 | 9.85 | V | 1.30 | 320 | 27.92 | 40.46 | -12.54 |
| 80.00 | -93.86 | 10.87 | V | 1.20 | 215 | 24.01 | 40.46 | -16.45 |
| 92.10 | -92.47 | 11.28 | V | 1.20 | 30 | 25.81 | 40.46 | -14.65 |
| 404.40 | -93.81 | 18.55 | H | 1.40 | 200 | 31.74 | 47.46 | -15.72 |
| 437.40 | -95.65 | 19.22 | H | 1.30 | 85 | 30.57 | 47.46 | -16.89 |
| 550.90 | -95.72 | 21.25 | H | 1.20 | 20 | 32.53 | 47.46 | -14.93 |

Table 7-7 Radiated Measurements at 3-meters – ICES-003

7.4 Test Configuration # 3 – EUT with XM Antenna and Ear Buds

§15.109, ICES-003

7.4.1 Test Configuration 3 Details:

- ⌚ Car cradle's 'Ant In' port connected to XM satellite antenna.
- ⌚ Car cradle powered by 5V iFMCLA power adapter and twisted pair CLA socket wires
- ⌚ 12 VDC battery placed on floor underneath the table.
- ⌚ Receiver configured to receive live XM broadcast channels.
- ⌚ Receiver configured for Max audio output level.
- ⌚ Make sure the FM modulator is enabled.
- ⌚ All other ports in the car cradle should be left open.

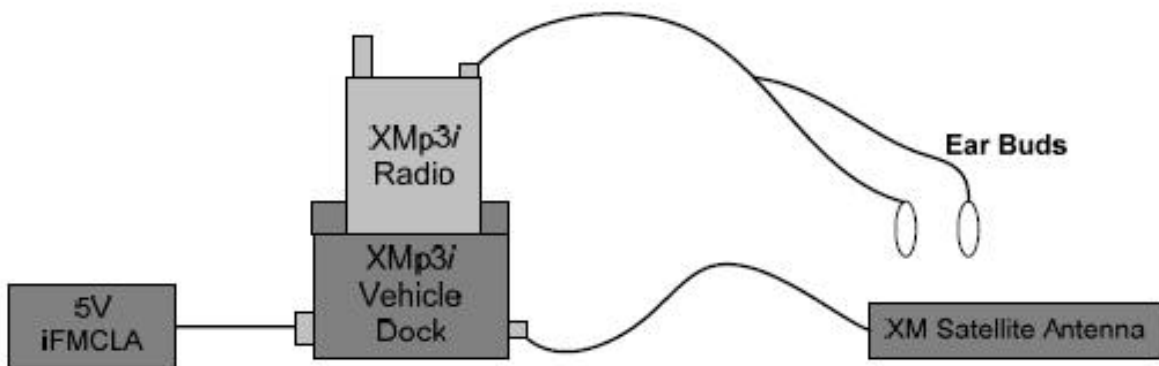




Figure 7-3. Test Configuration #3

| | | | | |
|------------------------------------|--|---|---|---------------------------------|
| Model: XPVD1 |  PCTEST ENGINEERING LABORATORY, INC. | FCC / IC VERIFICATION OF COMPLIANCE TEST REPORT |  SIRIUS XM | Reviewed by: Quality Manager |
| Test Report S/N: 0911162099.RS2 | Test Dates: November 18, 2009 | EUT Type: PowerConnect XMp3i Vehicle Dock | | Page 16 of 18 |



7.4.2 Radiated Measurement Data – Test Configuration # 3
§15.109, ICES-003

| Frequency [MHz] | Level [dBm] | AFCL [dB] | Pol [H/V] | Height [m] | Azimuth [degrees] | Field Strength [dBmV/m] | FCC Field Strength Limit [dBmV/m] | Margin [dB] |
|-----------------|-------------|-----------|-----------|------------|-------------------|-------------------------|-----------------------------------|-------------|
| 42.40 | -97.10 | 13.19 | V | 1.30 | 270 | 23.09 | 40.00 | -16.91 |
| 57.90 | -87.43 | 9.94 | V | 1.30 | 0 | 29.50 | 40.00 | -10.50 |
| 63.70 | -94.45 | 10.21 | V | 1.20 | 350 | 22.76 | 40.00 | -17.24 |
| 86.80 | -89.88 | 11.11 | V | 1.50 | 330 | 28.22 | 40.00 | -11.78 |
| 312.00 | -97.99 | 16.34 | H | 1.30 | 340 | 25.35 | 46.02 | -20.67 |
| 336.10 | -94.93 | 16.97 | H | 1.20 | 300 | 29.04 | 46.02 | -16.98 |

Table 7-8 Radiated Measurements at 3-meters – FCC Part 15



| Frequency [MHz] | Level [dBm] | AFCL [dB] | Pol [H/V] | Height [m] | Azimuth [degrees] | IC Field Strength [dBmV/m] | IC Field Strength Limit [dBmV/m] | Margin [dB] |
|-----------------|-------------|-----------|-----------|------------|-------------------|----------------------------|----------------------------------|-------------|
| 42.40 | -97.10 | 13.19 | V | 1.30 | 270 | 23.09 | 40.46 | -17.37 |
| 57.90 | -87.43 | 9.94 | V | 1.30 | 0 | 29.50 | 40.46 | -10.96 |
| 63.70 | -94.45 | 10.21 | V | 1.20 | 350 | 22.76 | 40.46 | -17.70 |
| 86.80 | -89.88 | 11.11 | V | 1.50 | 330 | 28.22 | 40.46 | -12.24 |
| 312.00 | -97.99 | 16.34 | H | 1.30 | 340 | 25.35 | 47.46 | -22.11 |
| 336.10 | -94.93 | 16.97 | H | 1.20 | 300 | 29.04 | 47.46 | -18.42 |

Table 7-9 Radiated Measurements at 3-meters – ICES-003

| | | | | |
|---|---|--|---|--|
| Model: XPVD1 |  | FCC / IC VERIFICATION OF COMPLIANCE TEST REPORT |  | Reviewed by: Quality Manager |
| Test Report S/N: 0911162099.RS2 | Test Dates: November 18, 2009 | EUT Type: PowerConnect Xmp3i Vehicle Dock | | Page 17 of 18 |

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **PowerConnect XMp3i Vehicle Dock Model: XPVD1** has been verified to comply with the requirements specified in Part 15 (§15.107, §15.109) and Part 2 of the FCC Rules as well as ICES-003 and RSS-Gen for Industry Canada.

| | | | | |
|---|---|--|---|--|
| Model: XPVD1 |  PCTEST ENGINEERING LABORATORY, INC. | FCC / IC VERIFICATION OF COMPLIANCE TEST REPORT |  SIRIUS XM3i | Reviewed by: Quality Manager |
| Test Report S/N: 0911162099.RS2 | Test Dates: November 18, 2009 | EUT Type: PowerConnect XMp3i Vehicle Dock | | Page 18 of 18 |