

**RF EXPOSURE EVALUATION**  
**Maximum Permissible Exposure (MPE)**

**Applicant Name:**  
 Sirius XM Satellite Radio  
 1500 Eckington Place, NE  
 Washington, DC 20002  
 United States

**Date of Testing:**  
 3/20/2023 - 3/30/2023  
**Test Site/Location:**  
 Element Lab. Columbia, MD, USA  
**Test Report Serial No.:**  
 1M2303100028-02-R1.RS2

<b>FCC ID:</b>	<b>RS2SXZR2</b>
<b>IC:</b>	<b>5750A-SXZR2C</b>
<b>APPLICANT:</b>	<b>Sirius XM Satellite Radio</b>

**EUT Type:** Satellite Radio with FM transmitter  
**FCC Classification:** Low Power Communication Device Transmitter (DXX)  
**FCC Rule Part:** FCC Part 1 (§1.1310) and Part 2 (§2.1091)  
**ISED Specification(s):** RSS-102 issue 5  
**Test Procedure(s):** KDB 447498 D01

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in FCC KDB 447498 D01. Test results reported herein relate only to the item(s) tested.


Note: This revised Test Report (S/N: 1M2303100028.02-R1.RS2) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

I 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.



**RJ Ortanez**  
**Executive Vice President**




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<b>Test Report S/N:</b> 1M2303100028-02-R1.RS2	<b>Test Dates:</b> 3/20/2023 - 3/30/2023	<b>EUT Type:</b> Satellite Radio with FM transmitter
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# 1.0 RF EXPOSURE EVALUATION – MAXIMUM PERMISSIBLE EXPOSURE (MPE)

## 1.1 Introduction

This document is prepared to show compliance with the RF Exposure requirements as required in §1.1310 of the FCC Rules and Regulations and RSS-102 of Industry Canada.

The limit for Maximum Permissible Exposure (MPE), specified in FCC §1.1310, is listed in Table 1-1 and Rss-102, is listed in Table 1-2. According to FCC §1.1310 and RSS-102: the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b).

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (Minutes)
(A) Limits For Occupational / Control Exposures (f = frequency)				
30-300	61.4	0.163	1.0	6
300-1500	...	...	f/300	6
1500-100,000	...	...	5.0	6
(B) Limits For General Population / Uncontrolled Exposure (f = frequency)				
30-300	27.5	0.073	0.2	30
300-1500	...	...	f/1500	30
1500-100,000	...	...	1.0	30

Table 1-1. FCC Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m <sup>2</sup> )	Reference Period (minutes)
0.003-10 <sup>12</sup>	83	90	-	Instantaneous*
0.1-10	-	0.73/ f	-	6**
1.1-10	87/f <sup>0.5</sup>	-	-	6**
10-20	27.46	0.0728	2	6
20-48	58.07/ f <sup>0.25</sup>	0.1540/ f <sup>0.25</sup>	8.944/ f <sup>0.5</sup>	6
48-300	22.06	0.05852	1.291	6
300-6000	3.142 f <sup>0.3417</sup>	0.008335 f <sub>0.3417</sub>	0.02619 f <sup>0.6834</sup>	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	616000/ f <sup>1.2</sup>
150000-300000	0.158 f <sup>0.5</sup>	4.12 x 10 <sup>-4</sup> f <sub>0.5</sub>	6.67 x 10 <sup>-5</sup> f	616000/ f <sup>1.2</sup>
<p>Note: f is frequency in MHz.            *Based on nerve stimulation (NS).            ** Based on specific absorption rate (SAR).</p>				

Table 1-2. ISED Limits for Maximum Permissible Exposure (MPE)

The **Sirius XM Radio Inc. FCC ID: RS2SXZR2, IC: 5750A-SXEZR2C** is a Satellite Radio with FM Transmitter.

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## 1.2 Test Procedure

The procedure used to determine the RF power density was based upon measurements using a calibrated probe. The probe was set at a distance of 20cm from multiple sides of the EUT to determine the E-Field and H-Field measurements for FCC and for ISED compliance. The exposure was averaged over a time period not to exceed 6 minutes to determine the compliance.

### Test Setup

The EUT and measurement equipment were set up per Figure 1-1 below and test setup photos provided.

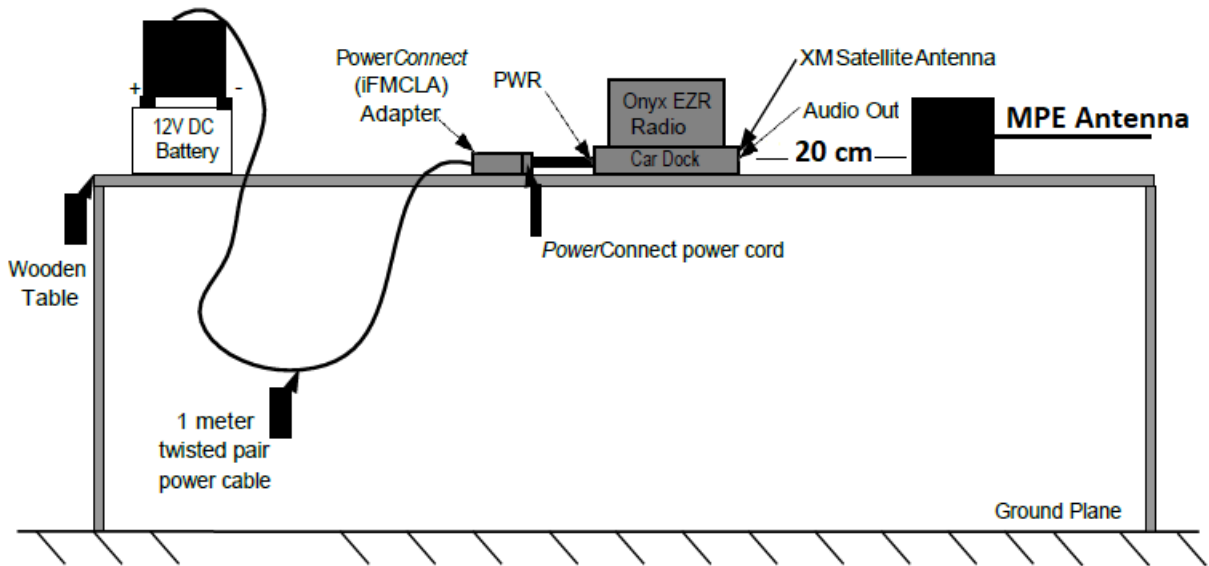



Figure 1-1. MPE Test Setup

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### 1.3 Measurement Data

Probe location to DUT	E-Field Measurements (V/m)	Distant from Probe (cm)	FCC Limit (V/m)	ISED Limit (V/m)
Front	0.73	20	27.5	22.06
Left side	0.73	20	27.5	22.06
Right side	0.63	20	27.5	22.06
Back	0.63	20	27.5	22.06

**Table 1-2. Electric Field Strength Data for FM band**

Probe location to DUT	H-Field Measurements (A/m)	Distant from Probe (cm)	FCC Limit (A/m)	ISED Limit (A/m)
Front	0.0274	20	0.073	0.05852
Left side	0.0254	20	0.073	0.05852
Right side	0.0254	20	0.073	0.05852
Back	0.0274	20	0.073	0.05852


**Table 1-3. Magnetic Field Strength Data for FM band**

### 1.4 Test Equipment Calibration Information

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.


Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Narda	EHP-200A	Electric and Magnetic field Analyzer	10/21/2022	Biennial	10/20/2024	170WX50922

**Table 1-4. Equipment List**

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## 2.0 CONCLUSION

The device meets the mobile RF exposure limit at a 20cm separation distance as specified in §2.1091 of the FCC Rules and Regulations and Health Canada Safety Code 6. An appropriate RF exposure compliance statement will be placed in the user's manual.

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