

TEST REPORT

Product Name : IRONMAN SHUNT CAR
Model Number : ET-0473
FCC ID : 2ADM5-ET-0473

Prepared for : Zeeva International Limited
Address : Suite 1007B, 10th Floor, Exchange Tower, 33 Wang Chiu Road, Kowloon Bay, Hong Kong, China

Prepared by : EMTEK (DONGGUAN) CO., LTD.
Address : -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China

TEL: +86-0769-22807078
FAX: +86-0769-22807079

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1. TEST RESULT CERTIFICATION

Applicant : Zeeva International Limited
 Address : Suite 1007B, 10th Floor, Exchange Tower, 33 Wang Chiu Road, Kowloon Bay, Hong Kong, China
 Manufacturer : Zeeva International Limited
 Address : Suite 1007B, 10th Floor, Exchange Tower, 33 Wang Chiu Road, Kowloon Bay, Hong Kong, China
 EUT : IRONMAN SHUNT CAR
 Model Name : ET-0473
 Trademark : N/A

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
§ 1.1307(b), § 2.1093	PASS

The above equipment was tested by EMTEK(DONGGUAN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC § 1.1307(b), § 2.1093.

The test results of this report relate only to the tested sample identified in this report

Date of Test : April 24, 2023 to May 12, 2023

Prepared by : 
 Xia Yang /Editor

Reviewer : 
 Tim Dong/ Supervisor

Approve & Authorized Signer :  
 Sam Lv / Manager

Modified History

Version	Report No.	Revision Date	Summary
	EDG2304240162E00102R	/	Original Report



2. EUT Specification

Characteristics	Description
Product:	IRONMAN SHUNT CAR
Model Number:	IRONMAN SHUNT CAR
Sample:	1#
SKU#:	9083001
UPC#:	1922344946020
Operating Frequency Range(s) :	49.86MHz
Number of Channels:	1 Channel
Max Field Strength	26.45 dBuV@3m
Antenna Type:	Hose antenna
Antenna gain:	0 dBi
Power Supply	DC 3V from Battery
Evaluation applied:	<input type="checkbox"/> MPE Evaluation <input checked="" type="checkbox"/> SAR Evaluation

3. Test Requirement

RF EXPOSURE EVALUATION

According to KDB 447498 and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

- a) For 100 MHz to 6 GHz and *test separation distances* ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{(\text{min. test separation distance, mm})} \cdot \sqrt{f_{(\text{GHz})}} \right] \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR,}^{30} \text{ where}$$

- $f_{(\text{GHz})}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation³¹
- The result is rounded to one decimal place for comparison
- The values 3.0 and 7.5 are referred to as *numeric thresholds* in step b) below

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

- b) For 100 MHz to 6 GHz and *test separation distances* > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B):³²

- 1) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot (f_{(\text{MHz})}/150)]\}$ mW, for 100 MHz to 1500 MHz
- 2) $\{[\text{Power allowed at numeric threshold for 50 mm in step a)}] + [(\text{test separation distance} - 50 \text{ mm}) \cdot 10]\}$ mW, for > 1500 MHz and ≤ 6 GHz

- c) For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):³³

- 1) For *test separation distances* > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by $[1 + \log(100/f_{(\text{MHz})})]$
- 2) For *test separation distances* ≤ 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$
- 3) SAR measurement procedures are not established below 100 MHz.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval. One antenna is available for the EUT. The minimum separation distance is 5mm.

According to ANSI C63.10-2013

9.5 Equations to calculate EIRP

Calculate the EIRP from the radiated field strength in the far field using Equation (22):

$$\text{EIRP} = E + 20 \log(d) - 104.7 \quad (22)$$

where

EIRP is the equivalent isotropically radiated power, in dBm

E is the field strength of the emission at the measurement distance, in dB μ V/m

d is the measurement distance, in m

4. Measurement Result

Antenna gain: 0 dBi

When a single module works, the measurement results are as follows:

49.86MHz

Channel Freq. (MHz)	Max Field Strength (dBuV/m)	peak output power (dBm)	Tune upPower (dBm)	Max tune up power (dBm)	Calculation Result	1-g SAR
49.86	26.45	-68.7076	-69±1	-68	0.0000000018	3

According to KDB 447498, no stand-alone required for BT antenna, and no simultaneous SAR measurement is required.

*** End of Report ***