

Report No.: SZCR210602184303

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# TEST REPORT

Application No.: SZCR2106021843HS

Applicant: Theragun, Inc.

Address of Applicant: 6100 Wilshire Blvd. Suite 200 Los Angeles, CA 90048-5107, USA

Manufacturer: Theragun, Inc.

Address of Manufacturer: 6100 Wilshire Blvd. Suite 200 Los Angeles, CA 90048-5107, USA

**Equipment Under Test (EUT):** 

EUT Name: Massager

Model No.: RecoveryAir PRO

Trade Mark: RecoveryAir

**Standard(s):** EN 62479: 2010

**Date of Receipt:** 2017-12-11

**Date of Test:** 2018-03-06 to 2018-03-20

**Date of Issue:** 2018-05-10 (for original report GZEM171200709703)

2019-01-15 (for the report GZEM181200555803) 2021-07-12(for new report SZCR210602184303)

Test Result: Pass\*

Keny Xu EMC Laboratory Manager

Ceny. Ku



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<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



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Revision Record				
Remark	Modifier	Date	Chapter	Version
Original		2021-07-12		01
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Authorized for issue by:			
	(eo-li		
	Leo Li/Project Engineer	-	
	Exic Fu		
	Eric Fu/Reviewer	-	



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# 2 Test Summary

RF Exposure Part for Tx & Rx					
Evaluation	Evaluation Requirement	Evaluation Method	Class / Severity	Result	
RF Exposure	EN 62479	EN 62479	20 mW (13dBm)	PASS	

### Remark:

EUT: In this whole report EUT means Equipment Under Test.

Tx: In this whole report Tx (or tx) means Transmitter. Rx: In this whole report Rx (or rx) means Receiver. RF: In this whole report RF means Radio Frequency.

### Remark for the report GZEM181200555803:

This report GZEM181200555803 was a supplement report based on the original report GZEM171200709703. Only added EUT name and two models: 737R, 737A

According to the declaration from the applicant, the models 737R, 737A added in this report and model 912 in original report are identical in RF module. And evaluation base on the technical information of the RF module shows that RF performance should be the same.

Therefore data in GZEM171200709703 was kept in this report GZEM181200555803.





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### Remark for report SZCR210602184303:

Model No.: RecoveryAir PRO

This test report SZCR210602184303 is an additional report copied from the original test report (Ref. No.: GZEM181200555803).

Compared with the original report, this report just changed the information of applicant and manufacturer, deleted the factory, added the trade mark and changed the product name and mode No.

Since according to the declaration of the applicant, the model in this report were identical in the electrical circuit design, layout, components used and internal wiring with the models in original report, only difference on model name.

Therefore original data were kept in this report.





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# **General Information**

#### 4.1 Details of E.U.T.

Power Supply: MODEL: UES90-120700SPA1

INPUT:AC 100-240V 50/60Hz 1.5A

OUTPUT:12.0V 7.00A

Test Voltage: AC 230V

Cable: 1.2m x 2wires unscreened AC power cable

1.5m x 2wires unscreened DC power cable

Antenna Gain 0dBi

Antenna Type Integral Antenna

**Channel Spacing** 2MHz Modulation Type **GFSK** 

Number of Channels 40

Operation Frequency 2402MHz to 2480MHz

Power Class <10mW

### 4.2 Description of Support Units

The EUT was tested as an independent unit.

# 4.3 Deviation from Standards

None.

### **Abnormalities from Standard Conditions**

None.





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### 4.5 Other Information Requested by the Customer

None.

#### **Test Location** 4.6

All tests were sub-contracted to:

Guangzhou, China 510663

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou Branch EMC Laboratory, 198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District,

Tel: +86 20 82155555 Fax: +86 20 82075059

#### 4.7 **Test Facility**

The test facility is recognized, certified, or accredited by the following organizations:

A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• FCC –Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.





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# **Test Requirements Specification in EN 62479**

### **General Description of Applied Standards**

### EN 62479

Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)

### 5.2 RF Exposure Evaluation

According to EN 62479 clause 4.2

Low-power electronic and electrical equipment is deemed to comply with the provisions of this standard if it can be demonstrated using routes B, C or D that the available antenna power and/or the average total radiated power is less than or equal to the applicable low-power exclusion level Pmax.

Here:

P max = 20 mW(13 dBm) according to ICNIRP guidelines and IEEE Std C95.1-2005 since the EUT is General public used.

Note:

Routes B The input power level to electrical or electronic components that are capable of radiating electromagnetic energy in the relevant frequency range is so low that the available antenna power and/or the average total radiated power cannot exceed the low-power exclusion level.

Routes C The available antenna power and/or the average total radiated power are limited by product standards for transmitters to levels below the low-power exclusion level.

Routes D Measurements or calculations show that the available antenna power and/or the average total radiated power are below the low-power exclusion level.

### 5.2.1 RF Output Power

Test requirement: EN 300 328 Clause 4.3.1.2

**Test Method:** EN 300 328 V2.1.1 clause 5.4.2.2.1.2

**EUT Operation:** 

Status: Enter test mode for the product, keep EUT in continuously transmitting status

with hoping on mode.

Conducted measurement for this kind of products which be used for integral

antenna equipment connect to the measuring equipment. Refer to the clause 5.7.2.2 of standard EN 300 328. Test the EUT in TX mode with GFSK modulation.



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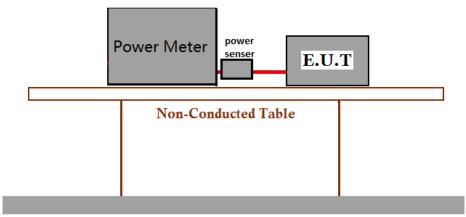
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### Test setup:



Ground Reference Plane

### Test procedure:

- 1. Remove the antenna from the EUT and then connect a low attenuation RF cable from the antenna port to the spectrum.
- 2. Use a fast power sensor suitable for 2, 4 GHz and capable of 1 MS/s.
- 3. Sample speed 1 MS/s or faster, and must represent the power of the signal.
- 4. For adaptive equipment, the measurement duration shall be long enough to ensure a minimum number of bursts (at least 10) are captured.
- 5. For conducted measurements on devices with one transmit chain:
  - -Connect the power sensor to the transmit port, sample the transmit signal and store the raw data. use these stored samples in all following steps.
- 6. For conducted measurements on devices with multiple transmit chains:
  - Connect one power sensor to each transmit port for a synchronous measurement on all
  - -Trigger the power sensors so that they start sampling at the same time. Make sure the time difference between the samples of all sensors is less than half the time between two samples.
  - -For each instant in time, sum the power of the individual samples of all ports and store them. Use these stored samples in all following steps.
- 7. Find the start and stop times of each burst in the stored measurement samples.
- 8. Between the start and stop times of each individual burst calculate the RMS power over the burst. Save these Pburst values, as well as the start and stop times for each burst.
- 9. The highest of all Pburst values (value "A" in dBm) will be used for maximum e.i.r.p. calculations.
- 10. Add the (stated) antenna assembly gain "G" in dBi of the individual antenna, If applicable, add the additional beamforming gain "Y" in dB.



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11. If more than one antenna assembly is intended for this power setting, the maximum overall antenna gain (G or G + Y) shall be used.

- 12. The RF Output Power (P) shall be calculated using the formula below: P = A + G + Y
- 13. Keep the EUT in transmitting at lowest, middle and highest channel individually. Record the max value.



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### Test conclusion:

The antenna power emitted by the apparatus operating in the frequency range: 2.402 GHz to 2.480 GHz is less than 20 mW. The apparatus is deemed to comply with the basic restrictions without testing. It's complied with standards' requirement.

Frequency Range:

2.402 GHz to 2.480 GHz

The harmonized requirement EN 62479 had been used for the conformity assessment.

According this requirement the SAR-measurement has not to be conducted when the sending level is < 20 mW(13dBm).

### 5.2.1.1 Measurement Record:

RF Output Power	Limit
(dBm)	(dBm)
-3.7	13

Based on above test data, we do not need to conduct SAR measurement.





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# 6 Photographs

#### **EUT Constructional Details** 6.1

Refer to Appendix - Photographs of EUT Constructional Details for SZCR2106021843HS.

-End of Report-



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