Shenzhen Huatongwei International Inspection Co., Ltd.
1/F,Bldg 3,Hongfa Hi-tech Industrial Park,Genyu Road,Tianliao,Gongming,Shenzhen,China
Phone:86-755-26748019 Fax:86-755-26748089 http://www.szhtw.com.cn

# RF EXPOSURE REPORT

| | |
|---|---|
| **Report Reference No. ..... :** | **TRE1606009702** R/C…….: 69473 |
| **FCC ID. ..... :** | **ZLZEPC002** |
| **Applicant's name ..... :** | **Shenzhen Mindray BIO-Medical electronics Co.,LTD.** |
| Address.....: | Mindray Building,Keji 12th Road South,High-tech Industrial Park,Nanshan,Shenzhen, China |
| Manufacturer.....: | Shenzhen Mindray BIO-Medical electronics Co.,LTD. |
| Address.....: | Mindray Building,Keji 12th Road South,High-tech Industrial Park,Nanshan,Shenzhen, China |
| **Test item description ..... :** | **ECG Patch Charger（Professional）** |
| Trade Mark .....: | Mindray |
| Model/Type reference.....: | EPC002 |
| Listed Model(s) .....: | - |
| **Standard ..... :** | **FCC Per 47 CFR 2.1093(d)** |
| Date of receipt of test sample.....: | Jun.16, 2016 |
| Date of testing .....: | Jun.17, 2016- Jul.08,2016 |
| Date of issue… .....: | Jul.08,2016 |
| **Result..... ……..:** | **PASS** |

| | | |
|---|---|---|
| Compiled by ( position+printed name+signature)..: | File administrators Jeff Sun | Jeff Sun |
| Supervised by ( position+printed name+signature)..: | Project Engineer Jeff Sun | Jeff Sun |
| Approved by ( position+printed name+signature)..: | RF Manager Hans Hu | Hans Hu |

| | |
|---|---|
| **Testing Laboratory Name ..... :** | **Shenzhen Huatongwei International Inspection Co., Ltd** |
| Address.....: | 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China |

# Contents

# 1. SUMMARY

## 1.1. Client Information

| | |
|---|---|
| Applicant: | Shenzhen Mindray BIO-Medical electronics Co.,LTD. |
| Address: | Mindray Building,Keji 12th Road South,High-tech Industrial Park,Nanshan,Shenzhen, China |
| Manufacturer: | Shenzhen Mindray BIO-Medical electronics Co.,LTD. |
| Address: | Mindray Building,Keji 12th Road South,High-tech Industrial Park,Nanshan,Shenzhen, China |

## 1.2. Product Description

| | |
|---|---|
| Name of EUT | ECG Patch Charger（Professional） |
| Trade Mark: | Mindray |
| Model No.: | EPC002 |
| Listed Model(s): | - |
| Power supply: | AC 120V/60Hz |
| Adapter information: | - |
| Hardware version: | - |
| Software version: | - |
| Wireless Charger | |
| Operation Frequency Range: | 100kHz~205kHz |

Operation Frequency List:

0.117630 MHz

Note:In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the above gray bottom.

## 1.3. EUT operation mode

The EUT tested in Bluetooth and charing funcation is active at the same time.

Modulation type:GFSK

## 1.4. EUT configuration

**The following peripheral devices and interface cables were connected during the measurement:**

● - supplied by the manufacturer

○ - supplied by the lab

| | | | |
|---|---|---|---|
| ○ | Power Cable | Length (m) : | / |
| | | Shield : | / |
| | | Detachable : | / |
| ○ | Multimeter | Manufacturer : | / |
| | | Model No. : | / |

## 1.5. Modifications

No modifications were implemented to meet testing criteria.

# 2. TEST ENVIRONMENT

## 2.1. Address of the test laboratory

Laboratory:Shenzhen Huatongwei International Inspection Co., Ltd.
Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China
Phone: 86-755-26748019 Fax: 86-755-26748089

## 2.2. Test Facility

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

**CNAS-Lab Code: L1225**
Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories, Date of Registration: February 28, 2015. Valid time is until February 27, 2018.

**A2LA-Lab Cert. No. 3902.01**
Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. Valid time is until December 31, 2016.

**FCC-Registration No.: 317478**
Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 317478, Renewal date Jul. 18, 2014, valid time is until Jul. 18, 2017.

**IC-Registration No.: 5377A&5377B**
The 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377A on Dec. 31, 2013, valid time is until Dec. 31, 2016.
Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377B on Dec.03, 2014, valid time is until Dec.03, 2017.

**ACA**
Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

**VCCI**
Radiated disturbance above 1GHz measurement of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-292. Date of Registration: Dec. 24, 2013. Valid time is until Dec. 23, 2016.
Telecommunication Ports Conducted Interference Measurement of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: T-1837. Date of Registration: May 07, 2013. Valid time is until May 06, 2016.

**DNV**
Shenzhen Huatongwei International Inspection Co., Ltd. has been found to comply with the requirements of DNV towards subcontractor of EMC and safety testing services in conjunction with the EMC and Low voltage Directives and in the voluntary field. The acceptance is based on a formal quality Audit and follow-ups according to relevant parts of ISO/IEC Guide 17025 (2005), in accordance with the requirements of the DNV Laboratory Quality Manual towards subcontractors. Valid time is until Aug. 24, 2016.

## 2.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

| | |
|---|---|
| Temperature: | 15~35°C |
| lative Humidity: | 30~60 % |
| Air Pressure: | 950~1050mba |

## 2.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics;Part 1" and TR-100028-02 "Electromagnetic compatibilityand Radio spectrum Matters (ERM);Uncertainties in the measurementof mobile radio equipment characteristics;Part 2 " and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

| Test Items | Measurement Uncertainty | Notes |
|---|---|---|
| Transmitter power | 0.57 dB | (1) |

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

# 3. METHOD OF MEASUREMENT

## 3.1. Applicable Standard

According to §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.

According to §1.1310,KDB447498 and §2.1093 RF exposure is required.

680106 D01 RF Exposure Wireless Charging Apps v02 : RF Exposure Considerations for Low Power Consumer Wireless Power Transfer Applications

## 3.2. Limit

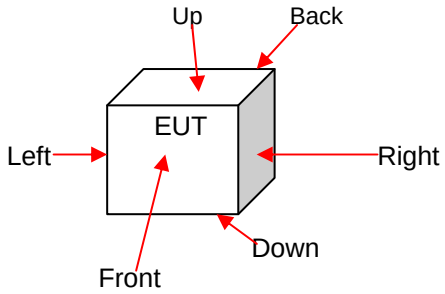
The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)
Limits for Maximum Permissible Exposure (MPE)

| Frequency range (MHz) | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm2) | Averaging time (minutes) |
|---|---|---|---|---|
| (A) Limits for Occupational/Controlled Exposures | | | | |
| 0.3–3.0 | 614 | 1.63 | *(100) | 6 |
| 3.0–30 | 1842/f | 4.89/f | *(900/f2) | 6 |
| 30–300 | 61.4 | 0.163 | 1.0 | 6 |
| 300–1500 | - | - | f/300 | 6 |
| 1500–100,000 | - | - | 5 | 6 |
| (B) Limits for General Population/Uncontrolled Exposure | | | | |
| 0.3–1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34–30 | 824/f | 2.19/f | *(180/f2) | 30 |
| 30–300 | 27.5 | 0.073 | 0.2 | 30 |
| 300–1500 | - | - | f/1500 | 30 |
| 1500–100,000 | - | - | 1.0 | 30 |

f = frequency in MHz

## 3.3. Test Procedure

The probe distance place distance 10 cm.



# 4. Test Result of RF Exposure Evaluation

| Test Position (MHz) | Test Frequency (MHz) | Probe Measure Result(V/m) | Limit (V/m) | Result |
|---|---|---|---|---|
| Front | 0.117630 | 4.53 | 614 | Pass |
| Back | 0.117630 | 4.32 | 614 | Pass |
| Left | 0.117630 | 4.12 | 614 | Pass |
| Right | 0.117630 | 4.46 | 614 | Pass |
| Up | 0.117630 | 6.94 | 614 | Pass |
| Down | 0.117630 | 3.95 | 614 | Pass |

**.....End of Report.....**