

Test Report

Verified code: 138075

Report No.: E20240527499701-3

Customer: Nanjing Mindray Bio-Medical Electronics Co., Ltd.

Address: 666 Middle Zhengfang Road, Jiangning, 211111 Nanjing, Jiangsu, China

Sample Name: Mobile Charging Station

Sample Model: MCSU-III

Receive Sample Date: 2024-06-13

Test Date: 2024-06-26 ~ 2024-06-26

Reference Document: CFR47 FCC Part 1: Subpart I Section 1.1310
CFR47 FCC Part 1: Subpart I Section 1.1307

Test Result: Pass

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GRG METROLOGY & TEST GROUP CO., LTD.

Issued Date: 2024-08-19

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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E20240527499701-3	Original Issue	2024-07-10

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1. GENERAL DESCRIPTION OF EUT

1.1 APPLICANT

Name: Nanjing Mindray Bio-Medical Electronics Co., Ltd.

Address: 666 Middle Zhengfang Road, Jiangning, 211111 Nanjing, Jiangsu, China

1.2 MANUFACTURER

Name: Nanjing Mindray Bio-Medical Electronics Co., Ltd.

Address: 666 Middle Zhengfang Road, Jiangning, 211111 Nanjing, Jiangsu, China

1.3 FACTORY

Name: Nanjing Mindray Bio-Medical Electronics Co., Ltd.

Address: 666 Middle Zhengfang Road, Jiangning, 211111 Nanjing, Jiangsu, China

1.4 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Product Name: Mobile Charging Station

Product Model: MCSU-III

Adding Model: /

Trade Name: **mindray**

Adapter: Input: AC 100-240V, 50/60Hz, 0.3A Max
Output: DC 5V 2.4A
Model: MANGO12SC-05B-MR

Working frequency: 110.6kHz ~ 114.4kHz, 176.6kHz ~ 206.9kHz

FCC ID: 2BHFC-MCS3

Antenna Type: Coil Antenna

Modulation type: AM

Sample submitting way: ☒ Provided by customer ☐ Sampling

Sample No: E20240527499701-0001

Temperature Range: +5°C ~ +40°C

Hardware version: 3.0

Software version: 0.0

Note:

The basic description of the EUT is provided by the applicant. This report is made Solely on the basis of such data and/or information. We accept no responsibility for the authenticity and completeness of the above data and information and the validity of the results and/or conclusions.

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2. LABORATORY AND MEASUREMENT UNCERTAINTY

2.1 LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of GRG METROLOGY & TEST group CO., LTD.

Add : No.1301 Guanguang Road Xinlan Community, Guanlan Street, Longhua District
Shenzhen, 518110, People's Republic of China

P.C. : 518110

Tel : 0755-61180008

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2.2 MEASUREMENT UNCERTAINTY

Parameter	Worst Case Uncertainty	Max. Uncertainty
E/H-Field Level Tester	12.6%	<30%

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95%.
This uncertainty represents an expanded uncertainty factor of $k=2$.

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3. TEST MODE AND SUPPORTIVE INSTRUMENTS

3.1 TEST MODE

Mode No.	Description of the modes
Mode 1	EUT charging mode + RX load(5W)
Mode 2	EUT charging mode + V07XXU RX load
Mode 3	EUT standby mode

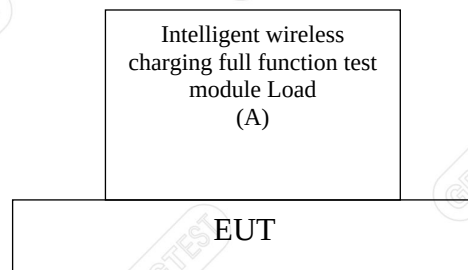
Note: mode 1 working frequency is 110.6kHz ~ 114.4kHz, mode 2 working frequency is 176.6kHz ~ 206.9kHz, mode 3 working frequency is 176.6kHz.

3.2 LOCAL SUPPORTIVE INSTRUMENTS

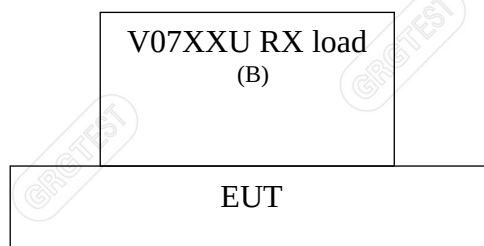
No.	Name of Equipment	Manufacturer	Model	Serial Number
A	Intelligent wireless charging full function test module Load	/	/	/
B	V07XXU RX load	Nanjing Mindray Bio-Medical Electronics Co., Ltd.	/	/

3.3 CONFIGURATION OF SYSTEM UNDER TEST

Mode 1:



Mode 2:



Mode 3:

EUT

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4. LIST OF USED TEST EQUIPMENT AT GRGT**4.1 LIST OF USED TEST EQUIPMENT**

Name of equipment	Manufacturer	Model	Serial number	Calibration due
Long, medium and short wave electromagnetic field frequency selective analyzer	narda	EHP-200A	180ZX00611	2025-06-13

Note: The calibration interval of the test instruments is 12 months.

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5. TECHNICAL REQUIREMENTS SPECIFICATION

5.1 TEST LIMIT

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*(100)	≤6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

The EUT does comply with requirements of KDB 680106 D01.

1) The power transfer frequency is below 1 MHz.

Yes, the operating frequency of the device is 110.6kHz ~ 114.4kHz, 176.6kHz ~ 206.9kHz.

2) The output power from each transmitting element (e.g., coil) is less than or equal to 15 watts..

Yes, the maximum output power of the primary coil is 5W.

3) A client device providing the maximum permitted load is placed in physical contact with the transmitter (i.e., the surfaces of the transmitter and client device enclosures need to be in physical contact).

Yes, client device is placed directly in contact with the transmitter.

4) Only § 2.1091-Mobile exposure conditions apply (i.e., this provision does not cover § 2.1093-Portable exposure conditions)..

Yes, the EUT is a mobile Wireless Charger.

5) The E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit, per KDB 447498, Table 1. These measurements shall be taken along the principal axes of the device, with one axis oriented along the direction of the estimated maximum field strength, and for three points per axis or until a 1/d (inverse distance from the emitter structure) field strength decay is observed. Symmetry considerations may be used for test reduction purposes. The device shall be operated in documented worst-case compliance scenarios (i.e., the ones that lead to the maximum field components), and while all the radiating structures (e.g., coils or antennas) that by design can simultaneously transmit are energized at their nominal maximum power.

Yes, the E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit.

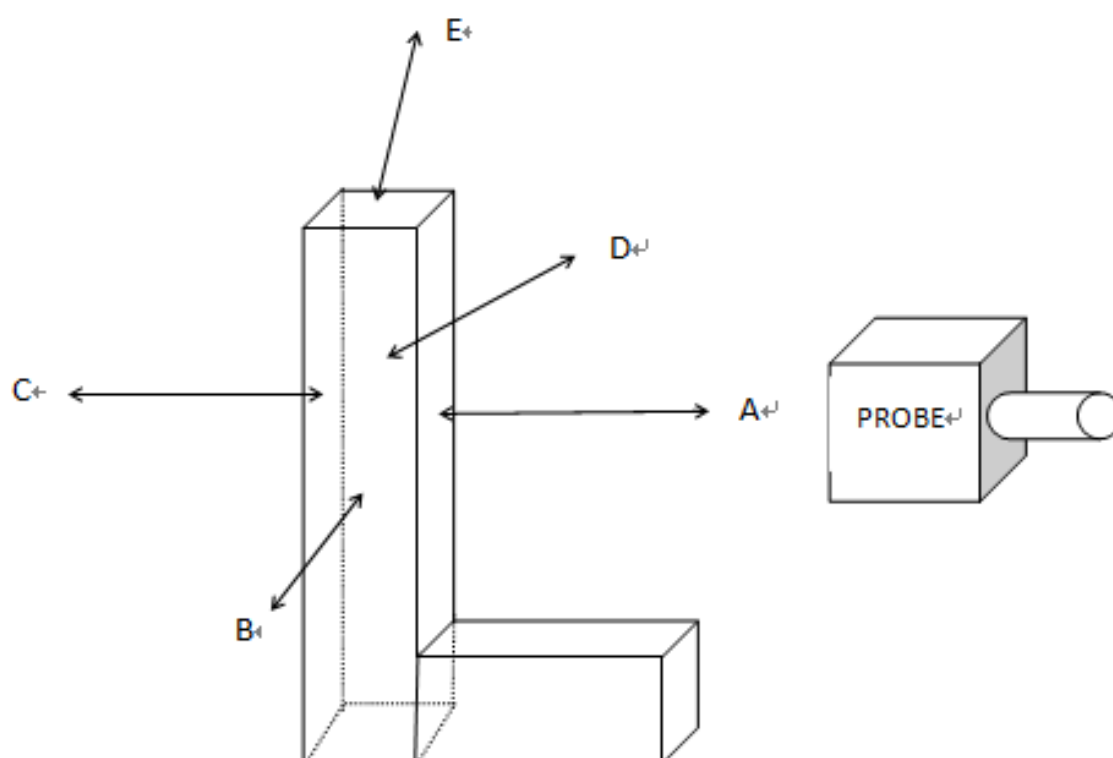
6) For systems with more than one radiating structure, the conditions specified in (5) must be met when the system is fully loaded (i.e., clients absorbing maximum power available), and with all the radiating structures operating at maximum power at the same time, as per design conditions. If the design allows one or more radiating structures to be powered at a higher level while other radiating structures are not powered, then those cases must be tested as well. For instance, a device may use three RF coils powered at 5 W, or one coil powered at 15 W: in this case, both scenarios shall be tested..

Yes, the EUT has only one RF coil, The test is run in maximum power mode, the E-field and H-field strengths, at and beyond 20 cm surrounding the device surface, are demonstrated to be less than 50% of the applicable MPE limit,

5.2 TEST PROCEDURES

Note: Measurements should be made from all sides and the top of EUT, with the 20cm measured from the center of the probe(s) to the edge of the device and the 20cm measured from the center of the probe(s) to the top of the device. Position A is the front of the EUT, position B is the rear of the EUT, position C is the left of the EUT, position D is the right of the EUT, position E is the top of the EUT.

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5.3 TEST RESULT

Date of testing:	2024-06-26
Ambient temperature:	24.6 °C
Relative humidity:	53%RH
Ambient Pressure:	101.0kPa
Test by:	Qin tingting

H-Field Strength at 20 cm from the edges surrounding the EUT and 20cm from the top surface of the EUT.

EUT Test Mode	Measured H-Field Strength Values(A/m)					50% Limit(A/m)	Limit (A/m)	Result
	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E			
Mode 1	0.4985	0.3267	0.3581	0.3127	0.1420	0.815	1.63	Pass
Mode 2	0.1978	0.1292	0.1774	0.1092	0.0841	0.815	1.63	Pass
Mode 3	0.2983	0.1280	0.1286	0.1013	0.1026	0.815	1.63	Pass

E-Field Strength at 20 cm from the edges surrounding the EUT and 20cm from the top surface of the EUT.

EUT Test Mode	Measured E-Field Strength Values(V/m)					50% Limit(V/m)	Limit (V/m)	Result
	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E			
Mode 1	1.8392	3.1031	1.0286	2.2272	0.8569	307	614	Pass
Mode 2	0.6278	0.6711	0.5539	0.7753	0.5636	307	614	Pass
Mode 3	0.4823	1.3786	1.0127	0.8624	0.4853	307	614	Pass

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6. PHOTOGRAPHS OF TEST SET-UP

Please refer to the attached document E20240527499701-test setup photo.

7. PHOTOGRAPHS OF THE EUT

Please refer to the attached document E20240527499701-EUT photo.

----- **End of Report** -----