

TEST REPORT

Reference No...... : WTD24D12292209W002
FCC ID : ZLZ-9900NFC
Applicant..... : Shenzhen Mindray BIO-Medical electronics Co.,LTD.
Address..... : Mindray Building, Keji 12th Road South, Hi-tech Ind, Shenzhen, China
Manufacturer : Shenzhen Mindray BIO-Medical electronics Co.,LTD.
Address..... : Mindray Building, Keji 12th Road South, Hi-tech Ind, Shenzhen, China
Product..... : 9900 NFC Module
Model(s) : 9900NFC
Standards..... : 47 CFR Part 2 §2. 1091
Date of Receipt sample : 2024-12-12
Date of Test : 2024-12-12 to 2024-12-25
Date of Issue..... : 2025-07-18
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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2. Contents

	Page
1 COVER PAGE.....	1
2. CONTENTS.....	2
3. REVISION HISTORY.....	3
4. GENERAL INFORMATION.....	4
4.1. GENERAL DESCRIPTION OF E.U.T.....	4
4.2. DETAILS OF E.U.T.	4
4.3. TEST FACILITY	5
4.4. SUBCONTRACTED	5
4.5. ABNORMALITIES FROM STANDARD CONDITIONS	5
5. TEST SUMMARY	6
6. RF EXPOSURE.....	7
6.1. DEFINITIONS	7
6.2. METHOD OF EVALUATION	7
6.3. CALCULATION FORMULA	8
6.4. EVALUATION RESULTS	9

3. Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTD24D12292209W002	2024-12-12	2024-12-12 to 2024-12-25	2025-07-18	Original	-	Valid

4. General Information

4.1. General Description of E.U.T.

Product:	9900 NFC Module
Model(s):	9900NFC
Test Sample No.:	1-1/3
Model Description:	N/A
Hardware Version:	V1.0
Software Version:	V1.0

4.2. Details of E.U.T.

Operation Frequency:	13.56MHz±7kHz
Transmitted Power:	61.86dBuV/m @3m distance
Type of Modulation:	ASK
Antenna installation:	PCB Printed Antenna
Antenna gain:	N/A

Note:

#: The antenna gain is provided by the applicant, and the applicant should be responsible for its authenticity, WALTERK lab has not verified the authenticity of its information.

Ratings:	Supply voltage: 5V±5%
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4.3. Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group 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 number 523476, September 10, 2019.

4.4. Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab: N/A

Lab address: N/A

Test items: N/A

4.5. Abnormalities from Standard Conditions

None.

5. Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	47 CFR Part 2 §2. 1091	PASS

6. RF Exposure

Test Requirement: FCC 47CFR Part 2 Subpart J Section 2.1091
 47 CFR Part 1 §1.1307
 47 CFR Part 1 §1.1310
 Evaluation Method: 447498 D04 Interim General RF Exposure Guidance v01

6.1. Definitions

According to § 2.1093 (b), A mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the RF source's radiating structure(s) and the body of the user or nearby persons.

This device belongs to mobile device and with single RF source.

6.2. Method of Evaluation

Determination of Exemption:
For single RF sources

Option A

Option A 1-mW Test Exemption

Applies to all frequencies and all distances

- a) Could be considered SAR-based and MPE-based exclusions
- b) $P < 1\text{mW}$
- c) Limitation—when there are simultaneously operating transmitters this exclusion only applies when all simultaneously operating transmitters meet this exemption
- d) Refer 1.1307(b)(3)(i)(A) and 1.1307(b)(3)(ii)(A)

Option B SAR-Based Exemption

Frequency range 300 MHz -6 GHz, $5\text{mm} \leq \text{distance} \leq 40\text{cm}$

- a) The maximum time-averaged power or effective radiated power (ERP), whichever is greater, $\leq P_{th}$.
- b) P_{th} is calculated based on separation distance d cm from transmitter to person for the device operating at f GHz.

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20\text{ cm}} (d/20\text{ cm})^x & d \leq 20\text{ cm} \\ ERP_{20\text{ cm}} & 20\text{ cm} < d \leq 40\text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20\text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20\text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3\text{ GHz} \leq f < 1.5\text{ GHz} \\ 3060 & 1.5\text{ GHz} \leq f \leq 6\text{ GHz} \end{cases}$$

d = the separation distance (cm);

Option C MPE-Based Exemption

1.1307(b)(3)(i)(C): ERP is below a threshold calculated based on the distance R between the person and the antenna / radiating structure, where $R > \lambda / 2\pi$.

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	$1,920 R^2$.
1.34-30	$3,450 R^2/f^2$.
30-300	$3.83 R^2$.
300-1,500	$0.0128 R^2f$.
1,500-100,000	$19.2R^2$.
Note: R in meters, f in MHz	

For multiple RF sources

According to 47CFR 1.1307(b)(3)(ii), the calculation formula is as follow:

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

6.3. Calculation formula

According to ANSI C63.10,

$$E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] - 20 \log(d[\text{m}]) + 104.77$$

For conducted measurements below 1000 MHz, the field strength shall be computed as specified in above, and then an additional 4.7 dB shall be added as an upper bound on the field strength that would be observed on a test range with a ground plane for frequencies between 30 MHz and 1000 MHz, or an additional 6 dB shall be added for frequencies below 30 MHz.

6.4. Evaluation Results

E[dB μ V/m]	d[m]	EIRP[dBm]	EIRP[mW]
61.86	3	-33.37	0.00046

EIRP=0.007893mW<1mW

Option A is applicable.

Conclusion:

RF Exposure is FCC compliant.

=====End of Report=====