TEST REPORT

Reference No.	:	WTS19S11080405W002
FCC ID	:	ZLZ-PANLINK3
Applicant	:	Shenzhen Mindray Bio-Medical Electronics Co.,Ltd.
Address	:	Mindray Building, Keji 12th Road South, High-tech Industrial Park, Nanshan, 518057 Shenzhen,PEOPLE'S REPUBLIC OF CHINA
Manufacturer	:	The same as above
Address	:	The same as above
Product	:	Bluetooth module
Model(s)	:	panlink3
Brand Name	:	Mindray
Standards	:	FCC 1.1307
Date of Receipt sample	:	2019-11-20
Date of Test	:	2019-11-21 to 2020-02-24
Date of Issue	:	2020-02-25
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.

Prepared By:
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Compiled by:

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Ford Wang / Project Engineer

Approved by:

Philo Zhong

Philo Zhong / Manager

Test Facility:

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

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

Waltek Services(Shenzhen) 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 Services(Shenzhen) 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.

2 Contents

Page

3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS19S11080405W001	2019-11-20	2019-11-21 to 2020-04-16	2020-04-17	original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	Bluetooth module
Model(s):	panlink3
Model Description:	N/A
Bluetooth Version:	Bluetooth V5.0
Hardware Version:	1.0
Software Version:	1.0
Highest frequency (Exclude Radio):	32MHz
Storage Location:	Internal Storage
Note:	N/A

4.2 Details of E.U.T.

Operation Frequency:	BLE:2402-2480MHz
Max. RF output power:	BLE:6.78dBm [manufacturers advertise rated power: 8dBm(±4dBm)]
Type of Modulation:	BLE:GFSK
Antenna installation:	BLE: Externally connected antenna
Antenna Type:	ANT1: FPC dipole; ANT2: FPC PIFA; ANT3: copper pipe dipole; ANT4: FPC dipole; ANT5: PCB PIFA; ANT6: FPC PIFA
Antenna Gain:	BLE: ANT1: 2.0dBi; ANT2: 1.0dBi; ANT3: 3.53dBi; ANT4: 2.0dBi; ANT5: 1.0dBi; ANT6: 0.64dBi
Ratings:	DC 1.75~3.6V

5 Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	1.1307(b)(1)	PASS

6 RF Exposure

Test Requirement: FCC Part 1.1307

Test Mode: The EUT work in test mode(Tx).

6.1 Requirements

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 levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

6.2 The procedures / limit

FCC Part 1.1307:

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	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

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

6.3 MPE Calculation Method

E (V/m) $= \frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) $= \frac{E^2}{377}$

E = Electric field (V/m)
P = Peak RF output power (W)
G = EUT Antenna numeric gain (numeric)
d = Separation distance between radiator and human body (m)
The formula can be changed to

$$\boldsymbol{Pd} = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

Antenna Gain (dBi)	Antenna Gain (numeric)	Max.Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm2)	Limit of Power Density (mW/cm2)
3.53	2.254	6.78	4.76	0.002137	1

7 Photographs of test setup and EUT.

Note: Please refer to appendix- panlink3-Photo.

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