

TEST REPORT

Reference No..... : WTS20S05028697W002
FCC ID : ZLZ-WMTSTM70
Applicant..... : Shenzhen Mindray BIO-Medical electronics Co.,LTD.
Address..... : Mindray Building, Keji 12th Road South, Hi-tech Ind, Shenzhen, China
Manufacturer : The same as above
Address..... : The same as above
Product..... : Telemetry Monitor
Model(s). : TM70
Brand Name : Mindray
Standards..... : FCC CFR47 Part 95 Subpart H
Date of Receipt sample : 2020-05-19
Date of Test : 2019-05-20 to 2020-05-21
Date of Issue..... : 2020-05-22
Test Result..... : Pass

Remark This report is based on WTS19S09066147W003 for updated the antenna information, Field Strength of Fundamental and Field Strength of Spurious Emissions.

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 MODE	5
1 TEST SUMMARY	6
2 RF EXPOSURE.....	7
2.1 REQUIREMENTS.....	7
2.2 THE PROCEDURES / LIMIT.....	7
2.3 MPE CALCULATION METHOD	8
3 PHOTOGRAPHS OF TEST SETUP AND EUT.....	9

3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS20S05028 697W002	2020-05-19	2019-05-20 to 2020-05-21	2020-05-22	original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	Telemetry Monitor
Model(s):	TM70
Model Description:	N/A
Support:	WMTS
Hardware Version:	1.0
Software Version:	1.0

4.2 Details of E.U.T.

Operation Frequency:	608MHz(608-614MHz) 1.4GHz(1395-1400MHz) 1.4GHz(1427-1432MHz)
Max. RF output power:	608MHz: 102.06 dBuV/m ,1.4GHz: 93.78 dBuV/m
Type of Modulation:	GFSK
Antenna installation:	WMTS: External antenna
Ratings:	DC 3.8V 3800mA

4.3 Test Mode

All channels and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

Support Band	Channel Frequency
608-614MHz	608.66 MHz
	611.06 MHz
	613.46 MHz
1395-1400MHz and 1427-1432 MHz(wide band)	1395.5 MHz
	1399.5 MHz
	1431.5 MHz
1395-1400MHz and 1427-1432 MHz(narrow band)	1395.4 MHz
	1399.6 MHz
	1431.6 MHz

1 Test Summary

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

2 RF Exposure

Test Requirement: FCC Part 1.1307

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

2.1 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.

2.2 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

2.3 MPE Calculation Method

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

From the peak EUT RF output power, the minimum mobile separation distance, d=5mm, as well as the gain of the used antenna, the RF power density can be obtained

611.06MHz

Conducted Peak power(dBm)	Conducted Peak power(mW)	Source-based time-averaged maximum conducted output power(mW)	Minimum test separation distance required for the exposure conditions (mm)	SAR Test Exclusion Thresholds(mW)
6.86	4.85	4.85	5	19.23
-1.42	0.72	0.72	5	12.53

Note: the following is Source-based time-averaged maximum output power Calculation

Frequency	Source-based time-averaged maximum output power	Substituted (0dBm)	Source-based time-averaged maximum output power
(MHz)	(dBμV/m)	(dBμV/m)	(dBm)
608.66	102.06	95.2	6.86
1431.5	93.78	95.2	-1.42

3 Photographs of test setup and EUT.

Note: Please refer to appendix TM70-Photo.

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