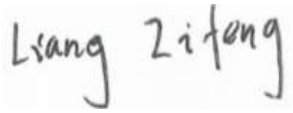
FCC SAR Exemption Evaluation Report

Product Name:	Smart Watch
Model:	TIA-B09
Report No.:	SYBH(Z-SAR)20210113008001
FCC ID:	2ATEYTIA-B09

Prepared by: (Test Engineer) **2021-01-18**	**Liang Zifeng**	
Reviewed by: (Test Engineer) **2021-01-18**	**Lin Jiekai**	
Approved by: (Lab Manager) **2021-01-18**	**Sun Shaobin**	
Date	Name	Signature

Reliability Laboratory of Huawei Technologies Co., Ltd.

(Global Compliance and Testing Center of Huawei Technologies Co., Ltd)

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※ ※ Notice ※ ※

1. The laboratory has passed the accreditation by The American Association for Laboratory Accreditation (A2LA). The accreditation number is 2174.01 & 2174.02 & 2174.03
2. The laboratory (Reliability Lab of Huawei Technologies Co., Ltd) is also named “Global Compliance and Testing Center of Huawei Technologies Co., Ltd”, the both names have coexisted since 2009.
3. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
4. The test report is invalid if there is any evidence of erasure and/or falsification.
5. The test report is only valid for the test samples.
6. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
7. If any question about this report, please contact the laboratory (PublicGCTC@huawei.com).

※ ※ Modified History ※ ※

REV.	DESCRIPTION	ISSUED DATE	REMARK
v1.0	Initial Test Report Release	2021-01-18	Liang Zifeng

Table of Contents

1 EUT Description

Device Information：			
Product Name :	Smart Watch		
Model :	TIA-B09		
Device Type :	Portable Device		
Device Phase:	Identical Prototype		
Exposure Category:	Uncontrolled environment/general population		
Hardware Version :	R2		
Software Version :	1.1.2.5		
Antenna Type :	Internal Antenna		
Device Operating Configurations:			
Test Modulation	GFSK		
Operating modes and Frequency Range	Band	Tx (MHz)	Rx (MHz)
	BT	2400-2483.5	2400-2483.5

1.1 General Description

TIA-B09 is a smart watch based on Lite OS; it can be communicated with mobile phone via Bluetooth. It supports Bluetooth, alarm clock, intelligent user can judge the state of motion, with PPG measurement of heart rate, GPS function and supports 5ATM waterproof level.

Battery information:

Name	Manufacturer/Trademark	Description
Li-polymer Battery	Huawei Device Co., Ltd. (Tianjin LISHEN battery joint-stock Co., LTD.)	Li-ion Polymer Battery Capacity:180mAh Rated Voltage:3.87V Cutoff Voltage:4.45V Discharge Voltage:3.0V
	Huawei Device Co., Ltd. (Dongguan NVT Technology Co., LTD.)	
	Huawei Device Co., Ltd. (Huizhou Desay Battery Co., Ltd.)	
	Huawei Device Co., Ltd. (Zhuhai CosMX Power Jinwan Subsidiary Co., Ltd.)	

2 Test specification(s)

IEEE C95.1:1991	Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.
KDB 447498 D01	General RF Exposure Guidance v06

3 Testing laboratory

Test Site	Reliability Laboratory of Huawei Technologies Co., Ltd.
Test Location	NO.2 New City Avenue Songshan Lake Sci. & Tech. Industry Park, Dongguan, Guangdong, P.R.C
Telephone	+86 769 23830808
Fax	+86 769 23837628
State of accreditation	The Test laboratory (area of testing) is accredited according to ISO/IEC 17025.

4 Applicant and Manufacturer

Company Name	HUAWEI DEVICE CO., LTD.
Address	No.2 of Xincheng Road, Songshan Lake Zone, Dongguan, Guangdong 523808, People's Republic of China

5 Application details

Start Date of test	2021-01-18
End Date of test	2021-01-18

6 Ambient Condition

Ambient temperature	18°C – 25°C
Relative Humidity	30% – 70%

7 RF Exposure Limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain/Body/Arms/Legs)	1.60 mW/g	8.00 mW/g
Spatial Average SAR** (Whole Body)	0.08 mW/g	0.40 mW/g
Spatial Peak SAR*** (Hands/Feet/Ankle/Wrist)	**4.00 mW/g**	20.00 mW/g

Table 1: RF exposure limits

The limit applied in this test report is shown in **bold** letters.

Notes:

* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time

** The Spatial Average value of the SAR averaged over the whole body.

*** The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation.

8 SAR Exemption Evaluation

Per FCC KDB 447498D01, the 1-g SAR and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]•[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Exposure Condition	Band	P_{max} (dBm)*	P_{max} (mW)	Distance (mm)	f (GHz)	Calculation Result	Exclusion threshold	SAR evaluation
10-g Extremity	BT	6.00	3.98	5	2.48	1.25	7.50	Not required

Table 2: Standalone SAR test exclusion for BT

Note:

1)*- Maximum possible output power (including tune-up tolerance) declared by manufacturer

2) The test separation distance for 10-g Extremity exposure is ≤ 5 mm, so a distance of 5 mm is applied to determine SAR test exclusion per FCC KDB 447498D01.

3) The device does not support voice speaker mode. So Next-to-Mouth Exposure SAR test for BT is not required.

According to the table above, SAR evaluation is not required.

End