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CNAS L0310



FCC SAR Exemption Evaluation Report

Product Name: Smart Band

Model: CRS-B19

Report No.: SYBH(Z-SAR) 20180728010001-2

FCC ID: QISCRS-B19

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DATE	2018-08-24	2018-08-24

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※ ※ **Notice** ※ ※

1. The laboratory has passed the accreditation by China National Accreditation Service for Conformity Assessment (CNAS). The accreditation number is L0310.
2. The laboratory has passed the accreditation by The American Association for Laboratory Accreditation (A2LA). The accreditation number is 2174.01 & 2174.02 & 2174.03
3. The laboratory (Reliability Lab of Huawei Technologies Co., Ltd) is also named as “Global Compliance and Testing Center of Huawei Technologies Co., Ltd”, the both names have coexisted since 2009.
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※ ※ Modified History ※ ※

REV.	DESCRIPTION	ISSUED DATE	REMARK
v1.0	Initial Test Report Release	2018-08-24	Bao Fengkai

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1 EUT Description

Device Information:			
Product Name :		Smart Band	
Model :		CRS-B19	
FCC ID:		QISCRS-B19	
Device Type :		Portable Device	
Device Phase:		Identical Prototype	
Exposure Category:		Uncontrolled environment/general population	
Hardware Version :		971R1	
Software Version :		1.0.0.5	
Antenna Type :		Internal Antenna	
Device Operating Configurations:			
Supporting Mode(s)		BT	
Test Modulation		GFSK	
Operating Frequency Range(s)	Band	Tx (MHz)	Rx (MHz)
	BT	2400-2483.5	2400-2483.5

1.1 General Description

CRS-B19 is a smart band 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 and supports 5ATM waterproof level.

Battery information:

Name	Manufacturer	Model name	Description
Li-polymer Battery	COSLIGHT	HB351329ECW	Li-ion Polymer Battery Capacity:100mA/h Rated Voltage:3.82V Cutoff Voltage:4.4V Discharge Voltage:3.0V Size: 29.0mm*12.5mm*3.5mm
	LISHEN		

2 Test specification(s)

ANSI Std C95.1-1992	Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.(IEEE Std C95.1-1991)
KDB 447498 D01	General RF Exposure Guidance v06

3 Testing laboratory

Test Site	The 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	+86 755 28780808
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State of accreditation	The Test laboratory (area of testing) is accredited according to ISO/IEC 17025. CNAS Registration number: L0310 A2LA TESTING CERT #2174.01& 2174.02 & 2174.03

4 Applicant and Manufacturer

Company Name	HUAWEI TECHNOLOGIES CO., LTD
Address	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C

5 Application details

Start Date of test	2018-08-24
End Date of test	2018-08-24

6 Ambient Condition

Ambient temperature	20°C – 24°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:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where:

- $f(\text{GHz})$ 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	5.00	3.16	<5	2.48	1.00	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, the device can meet the SAR test exclusion thresholds requirement of FCC KDB 447498 D01 and SAR evaluation is not required.

End