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RF Exposure Evaluation Report

Report No. : CQASZ20180800027E-02

Applicant: Shenzhen Mei Sheng Tong Science and Technology Co., Ltd.

Address of Applicant: 3rd Floor Block 2, Fengmen'ao Technology Park, Bantian Town, Longgang District, Shenzhen, China

Manufacturer: Jiangsu saibo yuhua technology

Address of Manufacturer: (D)Building 8, Intelligent Terminal Industrial Park, High-tech Zone, Yancheng City, Jiangsu Province, China

Equipment Under Test (EUT):

Product: X1 Smart Bands

Model No.: X1

Brand Name: N/A

FCC ID: 2AQSD-X1

Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06

Date of Test: 2018-08-13 to 2018-08-16

Date of Issue: 2018-08-16

Test Result : PASS*

Tested By:

Tiny You

(Tiny You)

Reviewed By:

Aaron Ma

(Aaron Ma)

Approved By:

Jack Ai

(Jack Ai)



* In the configuration tested, the EUT complied with the standards specified above.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CQA, this report can't be reproduced except in full.

2 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20180800027E-02	Rev.01	Initial report	2018-08-16

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4 General Information

4.1 Client Information

Applicant:	Shenzhen Mei Sheng Tong Science and Technology Co., Ltd.
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4.2 General Description of EUT

Product Name:	X1 Smart Bands
Model No.:	X1
Trade Mark:	N/A
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.0
Modulation Type:	GFSK
Number of Channel:	40
Sample Type:	☐ Mobile ☒ Portable ☐ Fix Location
Test Software of EUT:	RF test (manufacturer declare)
Antenna Type:	PCB antenna
Antenna Gain:	1.0dBi
Power Supply:	Li-ion battery: DC3.7V,100mAh

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

5.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{[\sqrt{f(\text{GHz})}]} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where} \right.$$

$f(\text{GHz})$ is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

5.1.3 EUT RF Exposure

For BT:

Measurement Data

GFSK mode	
Test channel	Peak Output Power (dBm)
Lowest	-4.63
Middle	-6.52
Highest	-8.21

The Max Conducted Peak Output Power is -4.63dBm in lowest channel(2.402GHz);

The best case gain of the antenna is 1dBi.

EIRP= -4.63dBm + 1dBi = -3.63dBm

-3.63dBm logarithmic terms convert to numeric result is nearly 0.434mW

According to the formula. calculate the EIRP test result:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$$

General RF Exposure = $(0.434\text{mW} / 5 \text{ mm}) \times \sqrt{2.402\text{GHz}} = 0.13$ ①

SAR requirement:

S= 3.0

② ;

① < ②.

So the SAR report is not required.

Remark: The Max Conducted Peak Output Power data refer to report Report No.:CQASZ20180800027E-01