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RF Exposure Evaluation Report

CQASZ20180900015E-03 Report No.:

Shenzhen Shuaixian Electronic Equipment Co., Ltd. Applicant:

NO.10 Lane3, Longxing Rd., Dakang Long Village, Henggang Town, Longgang **Address of Applicant:**

Dist., Shenzhen, China

Manufacturer: Shenzhen Shuaixian Electronic Equipment Co., Ltd.

NO.10 Lane3, Longxing Rd., Dakang Long Village, Henggang Town, Longgang Address of Manufacturer:

Dist., Shenzhen, China

Shenzhen Shuaixian Electronic Equipment Co., Ltd. Factory:

NO.10 Lane3, Longxing Rd., Dakang Long Village, Henggang Town, Longgang Address of Factory:

Dist., Shenzhen, China

Equipment Under Test (EUT):

Bluetooth headset **Product:**

All Model No.: SX-823, SX-823B, T7841

Test Model No.: SX-823 **Brand Name: SUICEN** FCC ID: UHBSX-823

47 CFR Part 1.1307 Standards:

47 CFR Part 2.1093

KDB447498D01 General RF Exposure Guidance v06

2018-09-06 to 2018-09-11 Date of Test:

2018-09-11 Date of Issue:

Test Result: PASS*

martin Lee Tested By:

Martin Lee)

Reviewed By:

(Aaron Ma)

Approved By:

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.

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



Report No.: CQASZ20180900015E-03

2 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20180900015E-03	Rev.01	Initial report	2018-09-11





Report No.: CQASZ20180900015E-03

3 Contents

			Page
1	COVE	R PAGE	1
2	VERSI	ON	2
3	CONTI	ENTS	3
		RAL INFORMATION	
	4.1 CLIE	ENT INFORMATION	4
	4.2 GEN	IERAL DESCRIPTION OF EUT	4
		VALUATION	
	5.1 RF E	Exposure Compliance Requirement	5
	5.1.1	Standard Requirement	5
	5.1.2	Limits	5
	5.1.3	EUT RF Exposure	5



Report No.: CQASZ20180900015E-03

4 General Information

4.1 Client Information

Applicant:	Shenzhen Shuaixian Electronic Equipment Co., Ltd.	
Address of Applicant:	NO.10 Lane3, Longxing Rd., Dakang Long Village, Henggang Town, Longgang Dist., Shenzhen, China	
Manufacturer:	Shenzhen Shuaixian Electronic Equipment Co., Ltd.	
Address of Manufacturer:	NO.10 Lane3, Longxing Rd., Dakang Long Village, Henggang Town, Longgang Dist., Shenzhen, China	
Factory:	Shenzhen Shuaixian Electronic Equipment Co., Ltd.	
Address of Factory:	NO.10 Lane3, Longxing Rd., Dakang Long Village, Henggang Town, Longgang Dist., Shenzhen, China	

4.2 General Description of EUT

Product Name:	Bluetooth headset
All Model No.:	SX-823, SX-823B, T7841
Test Model No.:	SX-823
Trade Mark:	SUICEN
Hardware Version:	A0
Software Version:	A0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V4.1
Modulation Type:	BT classic: GFSK, π/4DQPSK, 8DPSK BLE: GFSK
Number of Channel:	BT classic:79 BLE:40
Sample Type:	portable production
Test Software of EUT:	Blue test 3(manufacturer declare)
Antenna Type:	Ceramic antenna
Antenna Gain:	2.0dBi
Power Supply:	lithium battery:DC3.7V 120mAh, Charge by DC5.0V

Note:

All model: SX-823, SX-823B, T7841

Only the model SX-823 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance and model name.





Report No.: CQASZ20180900015E-03

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:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] $\cdot [\sqrt{f(GHz)}] \le 3.0$ 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 17

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is \leq 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	1.990		
Middle	2.880		
Highest	3.080		
π/4DQPSK mode			
Test channel	Peak Output Power (dBm)		
Lowest	-0.580		
Middle	0.430		
Highest	0.590		
8DPSK mode			
Test channel	Peak Output Power (dBm)		
Lowest	Lowest -0.120		
Middle	Middle 0.860		
Highest	Highest 1.030		

Remark: The Conducted Peak Output Power data refer to report Report No.: CQASZ20180900015E-01



Report No.: CQASZ20180900015E-03

For BLE:

Measurement Data

GFSK mode		
Test channel	Peak Output Power (dBm)	
Lowest	-2.47	
Middle	-2.09	
Highest	-2	

Remark: The Conducted Peak Output Power data refer to report Report No.: CQASZ20180900015E-02

BDR, EDR and BLE can not simultaneous transmitting at same time.

The worst case data: GFSK_highest channel

The Max Conducted Peak Output Power is 3.08dBm in highest channel(2.480GHz);

The best case gain of the antenna is 2.0dBi.

EIRP= 3.08dBm + 2.0dBm= 5.08dBm

5.08dBm logarithmic terms convert to numeric result is nearly 3.22mW

According to the formula. calculate the EIRP test result:

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

General RF Exposure = $(3.22 \text{mW} / 5 \text{ mm}) \times \sqrt{2.480 \text{GHz}} = 1.01$ ①

SAR requirement:

S = 3.0

2;

(1) < (2).

So the SAR report is not required.