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Report Template Revision Date: Mar.1st, 2017

RF Exposure Evaluation Report

Report No. :	CQASZ20180900015E-03
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
Equipment Under Test (EUT):	
Product:	Bluetooth headset
All Model No.:	SX-823, SX-823B, T7841
Test Model No.:	SX-823
Brand Name:	SUICEN
FCC ID:	UHBSX-823
Standards:	47 CFR Part 1.1307
	47 CFR Part 2.1093
	KDB447498D01 General RF Exposure Guidance v06
Date of Test:	2018-09-06 to 2018-09-11
Date of Issue:	2018-09-11
Test Result :	**PASS***

Tested By: Martin Lee

(Martin Lee)

Reviewed By: Aaron Ma

(Aaron Ma)

Approved By:

(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
CQASZ20180900015E-03	Rev.01	Initial report	2018-09-11

3 Contents

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.

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)] · [√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[17]
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	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	-0.120
Middle	0.860
Highest	1.030

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

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)] · [√f(GHz)]

General RF Exposure = (3.22mW / 5 mm) x √2.480GHz = 1.01 ①

SAR requirement:

S= 3.0 ② ;

① < ②.

So the SAR report is not required.