SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park,
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TEST REPORT

Application No.:	SZEM1802001342CR
Applicant:	Shure Incorporated
Address of Applicant:	5800 West Touhy Ave, Niles, IL 60714-4608, United States
Manufacturer:	Shure Incorporated
Address of Manufacturer:	5800 West Touhy Ave, Niles, IL 60714-4608, United States
Factory:	Innovation Sound Technology Co., Ltd
Address of Factory:	Building 2nd/3rd/4th, Industrial Area of Huaide Cuihai Fengtang Road, Fuyong Town,Shenzhen
Equipment Under Test (EUT):	
EUT Name:	Bluetooth Earphone
Model No.:	RMCE-BT2
FCC ID:	DD4-RMCE-BT2
Trade mark:	Shure
Standard(s) :	47 CFR Part 1.1307, Part 2.1093, KDB 447498
Date of Receipt:	2018-02-09
Date of Test:	2018-02-11 to 2018-02-28
Date of Issue:	2018-03-01
Test Result:	**Pass***

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

Keny Xu
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

Revision Record				
Version	**Chapter**	**Date**	**Modifier**	**Remark**
01		2018-03-01		Original

Authorized for issue by:				
				
		Harry Wu /Project Engineer		
				
		Eric Fu /Reviewer		

2 Test Summary

Radio Spectrum Technical Requirement				
Item	**Standard**	**Method**	**Requirement**	**Result**
RF Exposure	47 CFR Part 1.1307, Part 2.1093, KDB 447498	CFR 47 Part 2.1093	CFR 47 Part 2.1093	Pass

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	DC3.7V rechargeable battery
BT Version:	5.0
Operation Frequency	2402MHz to 2480MHz
Antenna Type	Chip Antenna
Antenna Gain:	1.6 dBi

4.2 Description of Support Units

The EUT has been tested as an independent unit.

4.3 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

• **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

• **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

• **Industry Canada (IC)**

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

4.5 Deviation from Standards

None

4.6 Abnormalities from Standard Conditions

None

5 Equipment List

General used equipment					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2017-09-29	2018-09-28
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2017-09-29	2018-09-28
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2017-09-29	2018-09-28
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2017-04-18	2018-04-17

Conducted Peak Output Power					
Equipment	**Manufacturer**	**Model No**	**Inventory No**	**Cal Date**	**Cal Due Date**
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2017-09-27	2018-09-26
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2017-09-27	2018-09-26
Measurement Software	JS Tonscend	JS1120-2 BT/WIFI V2.	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2017-07-13	2018-07-12
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2017-09-27	2018-09-26
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2017-09-27	2018-09-26

6 Radio Spectrum Technical Requirement

6.1 RF Exposure

6.1.1 Test Requirement:

CFR 47 Part 2.1093

Limit:

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

6.1.2 Conclusion

BT:

The Max. power (including tune-up toleranc	3.36	dBm on the middle channe	2.441	GHz (*)
3.36 dBm logarithmic terms convert to numeric result is nearly 2.17 mW				
According to the formula. calculate the test exclusion thresholds:				
$General\ RF\ Exposure = \frac{Max.\ Power\ of\ channel,\ including\ tune-up\ tolerance,\ mW}{(min.\ test\ separation\ distance,mm) * \sqrt{f\ (GHz)}}$				
$General\ RF\ Exposure = (2.17\ mW / 5\ mm)\ x\ \sqrt{2.441\ GHz} = 0.68$			(1)	
SAR requirement:				
$S = 3.0$			(2)	
(1) < (2)				
So the SAR report is not required.				
(*) Max. power refer to Report No.:SZEM180200134202				

BLE:

The Max. power (including tune-up toleranc 3.51 dBm on the middle channe 2.44 GHz (*)
3.51 dBm logarithmic terms convert to numeric result is nearly 2.24 mW
According to the formula. calculate the test exclusion thresholds:

$$General\ RF\ Exposure = \frac{Max.\ Power\ of\ channel,\ including\ tune{-}up\ tolerance,\ mW}{(min.\ test\ separation\ distance,mm) * \sqrt{f\ (GHz)}}$$

$$General\ RF\ Exposure = (2.24\ mW / 5\ mm)\ x \sqrt{2.44\ GHz} = 0.70 \qquad (1)$$

SAR requirement:

$$S = 3.0 \qquad (2)$$

(1) < (2)
So the SAR report is not required.

(*) Max. power refer to Report No.:SZEM180200134203

- End of the Report -