

FCC

MPE

TEST REPORT

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.



FOR
SensorSafe Dongle

ISSUED TO
Seibert Williams Glass, LLC

458 West Main St. Batavia, OH 45103 United States



Tested by: *Zong Liyao*

Zong Liyao
(Engineer)

Date *Oct. 25, 2017*

Approved by: *Wei Yanquan*

Wei Yanquan
(Chief Engineer)

Date *Oct. 25, 2017*

Report No.: BL-SZ1780179-702

EUT Name: SensorSafe Dongle

Model Name: SS2

Brand Name: SensorSafe

FCC ID: 2ABS2-SS2

Test Standard: 47CFR 2.1093

Test Conclusion: Pass

Test Date: Aug. 11, 2017 ~ Aug. 18, 2017

Date of Issue: Oct. 25, 2017

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Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Oct. 25, 2017</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China.
Phone Number	+86 755 6685 0100
Fax Number	+86 755 6182 4271

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China.
Accreditation Certificate	<p>The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1.</p> <p>The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.</p> <p>The laboratory is a testing organization accredited by American Association for Laboratory Accreditation (A2LA) according to ISO/IEC 17025. The accreditation certificate is 4344.01.</p> <p>The laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6791.</p>
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Test Environment Condition

Ambient Temperature	21 to 23 °C
Ambient Relative Humidity	40 to 50%
Ambient Pressure	100 to 102 KPa

1.4 Announce

- (1) The test report reference to the report template version v2.0.
- (2) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
- (3) The test report is invalid if there is any evidence and/or falsification.
- (4) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
- (5) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.
- (6) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Seibert Williams Glass, LLC
Address	458 West Main St. Batavia, OH 45103 United States

2.2 Manufacturer Information

Manufacturer	Seibert Williams Glass, LLC
Address	458 West Main St. Batavia, OH 45103 United States

2.3 Factory Information

Factory	N/A
Address	N/A

2.4 General Description for Equipment under Test (EUT)

EUT Name	SensorSafe Dongle
Model Name Under Test	SS2
Series Model Name	N/A
Description of Model Name Differentiation	N/A
Hardware Version	1.0
Software Version	2.0
Dimensions (Approx)	N/A
Weight (Approx)	N/A
Network and Wireless connectivity	Bluetooth 4.0 Low Energy (BLE),

2.5 Ancillary Equipment

Note: Not applicable.

2.6 Technical Information

The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	Bluetooth
Frequency Range	2400MHz ~ 2483.5MHz
Antenna Type	PCB Antenna
Exposure Category	General Population/Uncontrolled Exposure
EUT Stage	Portable Device

3 STANDARD INFORMATION

3.1 Test Standard

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation portable devices
2	FCC KDB 447498 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
3	47 CFR Part 1.1310	Radiofrequency radiation exposure limits

4 RF EXPOSURE EVALUTION

4.1 §2.1093 Portable Devices

CFR Title 47 §2.1093(b)

(b) For purposes of this section, a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.

4.2 KDB 447498 D01 General RF Exposure Guidance v06 Limit

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 Test Exclusion Threshold condition, listed below, is satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions. The minimum test separation distance is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander.

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:

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

Where

- f (GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- 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 ASSESSMENT RESULT

5.1 Output Power

BLUETOOTH			
Mode	GFSK(BLE)		
	Low Channel	Middle Channel	High Channel
Peak Power (dBm)	-3.96	-4.86	-5.75

Note: This report listed the maximal case Peak power value, please refer to RF test report for more details.

Turn-up power

Mode	Range (dBm)
Bluetooth	(-6.30)-(-3.50)

5.2 Conclusion

FCC exclusion condition= $[0.5 \text{ mW}/5 \text{ mm}] \cdot [\sqrt{2.402 \text{ GHz}}] = 0.15 < 3.0$

RF Exposure Evaluation Result: **Pass**

--END OF REPORT--