



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

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241000371403

Amendment 01

Page: 1 of 6

RF EXPOSURE EVALUATION REPORT

Application No.: SZCR2410003714AT
Applicant: Shakespeare Company LLC.
Address of Applicant: 6111 Shakespeare Road Columbia, SC 29223
Manufacturer: Exceltek Electronics Technology (DongGuan) Co., Ltd
Address of Manufacturer: No.1 Huanzhu Road, Changping, Dongguan, Guangdong, China
Factory: Exceltek Electronics Technology (DongGuan) Co., Ltd
Address of Factory: No.1 Huanzhu Road, Changping, Dongguan, Guangdong, China
Equipment Under Test (EUT):
EUT Name: CommLight Antenna
Model No.: CL-6, GLX-4L-VHF, GLX-8L-VHF, CL-6BL-VHF, GLX-4BL-VHF, GLX-8BL-VHF ♣
♣ Please refer to section 3 of this report which indicates which model was actually tested and which were electrically identical.
Trade Mark: Shakespeare, CommLight
FCC ID: 2BLST0024692907
Standard(s) : 47 CFR PART 1, Subpart I, Section 1.1310
47 CFR PART 2, Subpart J, Section 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2024-10-09
Date of Evaluation: 2024-10-10 to 2024-10-15
Date of Issue: 2024-10-16, Amendment 01: 2024-11-29

Evaluation Result:	Pass*
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* In the configuration evaluated, the EUT complied with the standards specified above.

This report supersedes our previous report SZCR241000371403, issued on 2024-10-16, which is hereby deemed null and void.

Kenx. Xu

Kenx Xu
EMC Laboratory Manager



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

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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2024-10-16		Original
02		2024-11-29		Added the model No..

Authorized for issue by:				
		<div>Bill Chen</div>		
		Bill Chen/Project Engineer		
		<div>Eric Fu</div>		
		Eric Fu/Reviewer		

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3 General Information

3.1 General Description of E.U.T.

Product Type:	<input checked="" type="checkbox"/> Portable device
	<input type="checkbox"/> Mobile device
	<input type="checkbox"/> Fixed device

3.2 Details of E.U.T.

Power supply:	DC 12V
Bluetooth Version:	V5.0 LE
Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK
Channel Spacing:	2MHz
Rate data:	1Mbps
Number of Channels:	40
Antenna Type:	Omni Directional
Antenna Gain:	2dBi

Remark: The information in this section is provided by the applicant or manufacturer, SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

Declaration of EUT Family Grouping:

Model No.: CL-6, GLX-4L-VHF, GLX-8L-VHF, CL-6BL-VHF, GLX-4BL-VHF, GLX-8BL-VHF

Only the model CL-6 was tested, since according to the declaration from the applicant, the electrical circuit design, PCB layout, components used and internal wiring and functions were identical for the above models, with only difference as below.

GLX-4L-VHF, GLX-8L-VHF have different lengths and the same color.

CL-6BL-VHF has different color and the same length.

GLX-4BL-VHF, GLX-8BL-VHF have different lengths and different color.

3.3 Separation Distance

Minimum test separation distance:	5mm
Remark: This 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.	

3.4 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, Nanshan District, Shenzhen, Guangdong, China. 518057.

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

No tests were sub-contracted.

3.5 Test Facility

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

• 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 (Member No. 1937)

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. Shenzhen EMC laboratory 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: CN1336

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

Designation Number: CN1336. Test Firm Registration Number: 787754.

• Innovation, Science and Economic Development Canada

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

CAB identifier: CN0006.

IC#: 4620C.

3.6 Deviation from Standards

None

3.7 Abnormalities from Standard Conditions

None

4 Technical Requirements Specification

4.1 RF Exposure Evaluation

4.1.1 Limit & Test Method

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:

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

- $f(\text{GHz})$ 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

4.1.2 Conclusion

The Max. power (including tune-up tolerance) is 2.30 dBm on the highest channel 2.402 GHz (*)
2.30 dBm logarithmic terms convert to numeric result is nearly 1.70 mW

According to the formula, calculate the test exclusion thresholds:

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

$$\text{General RF Exposure} = (1.70 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.402 \text{ GHz}} = 0.53 \quad (1)$$

SAR requirement:

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

(1) < (2)

So the SAR report is not required.

(*) Max. power refer to Report No.:SZCR241000371402, Amendment 01

--End of the Report--