



Shenzhen GUOREN Certification Technology Service Co., Ltd.

101#, Building K & Building T, The Second Industrial Zone, Jiazitang Community, Fenghuang Street, Guangming District, Shenzhen, China

RF Exposure evaluation

Report Reference No.: GRCTR250804048-02

FCC ID.: 2AFL-CS-SW021

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Testing Laboratory Name: Shenzhen GUOREN Certification Technology Service Co., Ltd.

Address: 101#, Building K & Building T, The Second Industrial Zone, Jiazitang Community, Fenghuang Street, Guangming District, Shenzhen, China

Applicant's name: C-STAR INDUSTRIAL LIMITED

Address: 4F,C 11 block,Fuyuan Industrial Area,No111 Zhoushi Xixiang, Baoan, Shenzhen, China

Test specification:

Standard: 47CFR §2.1093
KDB447498 v06

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Test item description: Bluetooth Wireless Game Controller

Trade Mark: /

Manufacturer: C-STAR INDUSTRIAL LIMITED

Model/Type reference: CS-SW021

Listed Models: /

Hardware Version: V1.0

Software Version: V1.0

Ratings: DC 5V Powered by adapter or
3.7V ---800mAh By Li-ion rechargeable battery

Result: PASS

TEST REPORT

Equipment under Test : Bluetooth Wireless Game Controller

Model /Type : CS-SW021

Listed Models : /

Applicant : **C-STAR INDUSTRIAL LIMITED**

Address : 4F,C 11 block,Fuyuan Industrial Area,No111 Zhoushi Xixiang, Baoan, Shenzhen, China

Manufacturer : **C-STAR INDUSTRIAL LIMITED**

Address : 4F,C 11 block,Fuyuan Industrial Area,No111 Zhoushi Xixiang, Baoan, Shenzhen, China

Test Result:	PASS
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The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. SUMMARY

1.1. General Remarks

Date of receipt of test sample	:	Aug. 27, 2025
Testing commenced on	:	Aug. 27, 2025
Testing concluded on	:	Sep. 18, 2025

1.2. Product Description

Product Name:	Bluetooth Wireless Game Controller
Model/Type reference:	CS-SW021
Listed Models:	/
Power supply:	DC 5V Powered by adapter or 3.7V ---800mAh By Li-ion rechargeable battery
Testing sample ID:	GRCTR250804048-1# (Engineer sample), GRCTR250804048-2# (Normal sample)
Bluetooth	
Supported type:	Bluetooth low Energy
Modulation:	GFSK
Operation frequency:	2402MHz to 2480MHz
Channel number:	40
Channel separation:	2 MHz
Antenna type:	PCB antenna
Antenna gain*(Supplied by the customer):	2.5 dBi
Remark: *When the information provided by the customer was used to calculate test results, if the information provided by the customer is not accurate, shenzhen GUOREN Certification Technology Service Co., Ltd. does not assume any responsibility.	

1.3. Equipment Under Test

Power supply system utilised

Power supply voltage	:	<input type="radio"/>	230V / 50 Hz	<input type="radio"/>	120V / 60Hz
		<input type="radio"/>	12 V DC	<input type="radio"/>	24 V DC
		<input checked="" type="radio"/>	Other (specified in blank below)		

DC 5V Powered by adapter

1.4. Short description of the Equipment under Test (EUT)

This is a Bluetooth Wireless Game Controller.
For more details, refer to the user's manual of the EUT.

1.5. Modifications

No modifications were implemented to meet testing criteria.

2. TEST ENVIRONMENT

2.1. Address of the test laboratory

Shenzhen GUOREN Certification Technology Service Co., Ltd.

101#, Building K & Building T, The Second Industrial Zone, Jiaxitang Community, Fenghuang Street, Guangming District, Shenzhen, China

2.2. Test Facility

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

FCC-Registration No.: 920798 Designation Number: CN1304

Shenzhen GUOREN Certification Technology Service Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6202.01

Shenzhen GUOREN Certification Technology Service Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

ISED#: 27264 CAB identifier: CN0115

Shenzhen GUOREN Certification Technology Service Co., Ltd. has been listed by Innovation, Science and Economic Development Canada to perform electromagnetic emission measurement.

CNAS-Lab Code: L15631

Shenzhen GUOREN Certification Technology Service Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories for the Competence of Testing and Calibration Laboratories.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

2.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

2.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen GUOREN Certification Technology Service Co., Ltd.quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen GUOREN Certification Technology Service Co., Ltd.:

Test Items	Measurement Uncertainty	Notes
Max output power	0.54 dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3. Method of measurement

3.1. Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1093 RF exposure requirement

KDB447498 v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies

3.2. Requirement

According to KDB447498 D01 General RF Exposure Guidance v06 Section 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 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.²² 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 (see 5) of section 4.1). To qualify for SAR test exclusion, the test separation distances applied must be fully explained and justified by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, typically in the SAR measurement or SAR analysis report, according to the required published RF exposure KDB procedures. When no other RF exposure testing or reporting is required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for the SAR test exclusion. When required, the device specific conditions described in the other published RF exposure KDB procedures must be satisfied before applying these SAR test exclusion provisions; for example, handheld PTT two-way radios, handsets, laptops & tablets etc.²³"

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

- $f \text{ (GHz)}$ 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
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is $\leq 50 \text{ mm}$ and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is $< 5 \text{ mm}$, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

3.3. Manufacturing tolerance

BLE(Peak)			
BLE			
Channel	Channel 00	Channel 19	Channel 39
Target (dBm)	-4.0	-4.0	-4.0
Tolerance \pm (dB)	1.0	1.0	1.0

4. Evaluation Result

Evaluation Results

f (MHz)	Antenna Distance (mm)	RF output power (including tune-up tolerance)		SAR Test Exclusion Threshold	SAR Test Exclusion
		dBm	mW		
2480MHz	5	-3.0	0.5012	0.1579<3.0	Yes

5. Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

.....**End of Report**.....