

# RF EVALUATION TEST REPORT

Applicant..... :Sichuan Green Science & Technology Co., Ltd.

Address..... :Room 401, Block B, Building 11, Lide Times, No. 17, Wuxing 2nd Road, Chengdu, Sichuan, China

Manufacturer..... :Sichuan Green Science & Technology Co., Ltd.

Address..... :Room 401, Block B, Building 11, Lide Times, No. 17, Wuxing 2nd Road, Chengdu, Sichuan, China

Factory ..... :Sichuan Green Science & Technology Co., Ltd.

Address ..... :5th Floor, Area B, Building 2, High-quality Industrial Space, No. 2, Digital 2nd Road, Modern Industrial Port New Economic Industrial Park, Chengdu, Sichuan, China

Product Name..... :AC EV Charger

Brand Name..... :GERUNSAISI

Model No. ..... :GS-AC48-B02, GS-AC40-B02, GS-AC32-B02  
(For model difference refer to section 2.)

FCC ID..... :2BEVA-CHG50A

Measurement Standard..... :47 CFR PART 2, Section 2.1091& 1.1310

Receipt Date of Samples.... :January 11, 2024

Date of Tested..... :January 11, 2024 to January 30, 2024

Date of Report..... :March 11, 2024

This report shows that above equipment is technically compliant with the requirements of the standards above. All test results in this report apply only to the tested sample(s). Without prior written approval of Dongguan Nore Testing Center Co., Ltd, this report shall not be reproduced except in full.



Prepared by

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## Revision History

## 1. General Description of EUT

Product Information	
Product name:	AC EV Charger
Main Model Name:	GS-AC48-B02
Additional Model Name:	GS-AC40-B02, GS-AC32-B02
Model Difference:	These models have the same circuitry, electrical mechanical, PCB Layout and physical construction. The difference are model name, current and power due to marketing purpose. The current is adjusted and controlled by software, but not hardware.
S/N:	2401-0205
Brand Name:	GERUNSAISI
Hardware version:	V1.3
Software version:	V1.0.7
Rating:	AC 240V 50/60Hz, 48A 11KW for model GS-AC48-B02; 40A 9KW for model GS-AC40-B02; 32A 7KW for model GS-AC32-B02
Typical Arrangement:	Table-top
I/O Port:	N/A
Accessories Information	
Adapter:	N/A
Cable:	AC output line: 3.60m unshielded, undetachable.
Other:	N/A
Additional information	
Note:	According to the model difference, all tests were performed on model GS-AC48-B02.
Remark:	All the information above are provided by the manufacturer. More detailed feature of the EUT please refers to the user manual.

Technical Specification	
Declaring the Frequency:	13.56MHz
Modulation Type:	ASK
Antenna Type:	PCB antenna
Antenna Gain:	0 dBi (Declared by manufacturer)
Number of Channels:	1

Technical Specification	
Frequency Range:	2412-2462MHz for IEEE 802.11b/g/n(HT20) 2422-2452MHz for IEEE 802.11n(HT40)
Modulation Technology:	DSSS, OFDM
Modulation Type:	CCK, DQPSK, DBPSK, QPSK, BPSK, 16-QAM, 64-QAM,
Number of Channel:	11 for IEEE 802.11b/g/n(HT20) 7 for IEEE 802.11n(HT40)
Channel Space:	5MHz
Antenna Type:	FPC antenna
Number of Antenna	1
Antenna Gain:	3.56 dBi (Declared by the manufacturer)

Technical Specification (BLE)	
Bluetooth Version:	V5.1
Frequency Range:	2402-2480MHz
Modulation Type:	GFSK
Number of Channel:	40
Channel Space:	2MHz
Antenna Type:	FPC antenna
Number of Antenna	1
Antenna Gain:	3.56 dBi (Declared by the manufacturer)
RF PHY Support:	1Mbps

## 2. Test Facility and Location

Test Site	:	Dongguan Nore Testing Center Co., Ltd. (Dongguan NTC Co., Ltd.)
Accreditations and Authorizations	:	<p>The Laboratory has been assessed and proved to be in compliance with CNAS/CL01</p> <p>Listed by CNAS, August 13, 2018</p> <p>The Certificate Registration Number is L5795.</p> <p>The Certificate is valid until August 13, 2024</p> <p>The Laboratory has been assessed and proved to be in compliance with ISO17025</p> <p>Listed by A2LA, November 01, 2017</p> <p>The Certificate Registration Number is 4429.01</p> <p>Listed by FCC, November 06, 2017</p> <p>Test Firm Registration Number: 907417</p> <p>Listed by Industry Canada, June 08, 2017</p> <p>The Certificate Registration Number. Is 46405-9743A</p>
Test Site Location	:	Building D, Gaosheng Science and Technology Park, Hongtu Road, Nancheng District, Dongguan City, Guangdong Province, China

### 3. Applicable Standards and References

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

**Test Standards:**

47 CFR Part 1, 1.1307

47 CFR Part 2, 2.1091 & 1.1310

KDB 447498 D01 v06

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## 4. Maximum Permissible Exposure Limit

### **§ 1.1310 Radiofrequency radiation exposure limits.**

(a) Specific absorption rate (SAR) shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in [§ 1.1307\(b\) of this part](#) within the frequency range of 100 kHz to 6 GHz (inclusive).

(b) The SAR limits for occupational/controlled exposure are 0.4 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 8 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit for occupational/controlled exposure is 20 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 6 minutes to determine compliance with occupational/controlled SAR limits.

(c) The SAR limits for general population/uncontrolled exposure are 0.08 W/kg, as averaged over the whole body, and a peak spatial-average SAR of 1.6 W/kg, averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the parts of the human body treated as extremities, such as hands, wrists, feet, ankles, and pinnae, where the peak spatial-average SAR limit is 4 W/kg, averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Exposure may be averaged over a time period not to exceed 30 minutes to determine compliance with general population/uncontrolled SAR limits.

(d) (1) Evaluation with respect to the SAR limits in this section must demonstrate compliance with both the whole-body and peak spatial-average limits using technically supported measurement or computational methods and exposure conditions in advance of authorization (licensing or equipment certification) and in a manner that facilitates independent assessment and, if appropriate, enforcement. Numerical computation of SAR must be supported by adequate documentation showing that the numerical method as implemented in the computational software has been fully validated; in addition, the equipment under test and exposure conditions must be modeled according to protocols established by FCC-accepted numerical computation standards or available FCC procedures for the specific computational method.

(2) For operations within the frequency range of 300 kHz and 6 GHz (inclusive), the limits for maximum permissible exposure (MPE), derived from whole-body SAR limits and listed in Table 1 in [paragraph \(e\)\(1\)](#) of this section, may be used instead of whole-body SAR limits as set forth in [paragraphs \(a\) through \(c\)](#) of this section to evaluate the environmental impact of human exposure to RF radiation as specified in [§ 1.1307\(b\) of this part](#), except for portable devices as defined in [§ 2.1093 of this chapter](#) as these evaluations shall be performed according to the SAR provisions in [§ 2.1093](#).

(3) At operating frequencies above 6 GHz, the MPE limits listed in Table 1 in [paragraph \(e\)\(1\)](#) of this section shall be used in all cases to evaluate the environmental impact of human exposure to RF radiation as specified in [§ 1.1307\(b\) of this part](#).

(4) Both the MPE limits listed in Table 1 in [paragraph \(e\)\(1\)](#) of this section and the SAR limits as set forth in [paragraphs \(a\) through \(c\)](#) of this section are for continuous exposure, that is, for indefinite time periods. Exposure levels higher than the limits are permitted for shorter exposure times, as long as the average exposure over a period not more than the specified averaging time in Table 1 in paragraph (e)(1) is less than (or equal to) the exposure limits. Detailed information on our policies regarding procedures for evaluating compliance with all of these exposure limits can be found in the most recent edition of FCC's *OET Bulletin 65*, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields," and its supplements, all available at the FCC's internet website: <https://www.fcc.gov/general/oet-bulletins-line>, and in the Office of Engineering and Technology (OET) Laboratory Division Knowledge Database (KDB)

(e)(1) Table 1 to [§ 1.1310\(e\)\(1\)](#) sets forth limits for Maximum Permissible Exposure (MPE) to radiofrequency electromagnetic fields.

Table 1 to [§ 1.1310\(e\)\(1\)](#)—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(i) Limits for Occupational/Controlled Exposure</b>				
0.3–3.0	614	1.63	*(100)	≤6
3.0–30	1842/f	4.89/f	*(900/f <sup>2</sup> )	<6
30–300	61.4	0.163	1.0	<6
300–1,500	-	-	f/300	<6
1,500–100,000	-	-	5	<6
<b>(ii) Limits for General Population/Uncontrolled Exposure</b>				
0.3–1.34	614	1.63	*(100)	<30
1.34–30	824/f	2.19/f	*(180/f <sup>2</sup> )	<30
30–300	27.5	0.073	0.2	<30
300–1,500	-	-	f/1500	<30
1,500–100,000	-	-	1.0	<30
<p><b>Note:</b></p> <p>f = frequency in MHz.</p> <p>* = Plane-wave equivalent power density.</p>				

Power density (S) is calculated by the following formula:

$$S = (P * G) / 4\pi R^2$$

Where, S = Power density (W/m<sup>2</sup>)

P = Output power to antenna (W)

R = Distance between radiating structure and observation point (m)

R= 0.2cm

G = Gain of antenna in numeric

$\pi$  = 3.1416

## 5. RF Exposure Evaluation Results

Single RF Source					
Mode	Frequency (MHz)	Max. Power E (dBuV/m)	Antenna Gain (dBi)	Electric field strength (V/m)	Electric field strength Limits (V/m)
ASK	13.56	37.38	0	7.40e-5	60.77

Wi-Fi & Bluetooth:

Single RF Source							
Mode	Frequency (MHz)	Max. Conducted Power (dBm)	Antenna Gain (dBi)	Max. EIRP (dBm)	Max. ERP (mW)	Power density at 20cm (mW/cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )
2.4G WLAN	2462	22.143	3.56	25.703	371.79	0.073965	1.0
BT	2402	5.223	3.56	8.783	7.56	0.001503	1.0

Multiple RF Source (Simultaneous Transmission)				
RFID (Ratio)	2.4G WLAN (Ratio)	BT (Ratio)	Total Ratio	Limit
0.000001218	0.073965	0.001503	0.075469	1.0

### Conclusion:

According to 47 CFR §1.1310 (b)(c)(d)(e)(1), the RF exposure analysis concludes that the product is compliant with the FCC RF exposure requirements in mobile exposure condition.

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