



TEST REPORT

Application No.: GZEM1911016932CR
Applicant: GREE Electric Appliances, Inc. of Zhuhai
Address of Applicant: West Jinji Rd, Qianshan, Zhuhai, Guangdong, China 519070
Manufacturer: GREE Electric Appliances, Inc. of Zhuhai
Address of Manufacturer: West Jinji Rd, Qianshan, Zhuhai, Guangdong, China 519070
Factory: GREE Electric Appliances, Inc. of Zhuhai
Address of Factory: West Jinji Rd, Qianshan, Zhuhai, Guangdong, China 519070
Equipment Under Test (EUT):
EUT Name: GREE CUBE CONTROLLER, GREE SCENE CUBE CONTROLLER
Model No.: LYMF-02, COB-02. □
□ Please refer to section 2 of this report for more details.
Trade Mark: GREE
Standard(s) : 47 CFR Part 1.1307, Part 2.1093, KDB 447498
Date of Receipt: 2019-07-16
Date of Test: 2019-08-12 to 2019-08-13
Date of Issue: 2019-12-10 (for original report GZEM190701432702)
2020-01-14 (for the report GZEM190701432704)

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

Kobe Jian
EMC Laboratory Manager



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Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2019-12-10		Original
02		2020-01-14		Copy report: Added new model.

Authorized for issue by:			
Tested By	 Curry_Wu /Project Engineer		2019-08-12 to 2019-08-13
			Date
Checked By	 Jerry_Chan /Reviewer		2020-01-14
			Date



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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

▣ Remark for the report GZEM190701432704:

This test report (Ref. No.: GZEM190701432704) is a supplement report of the original test report (Ref. No.: GZEM190701432702), only added new model.

According to the declaration from the applicant, the model COB-02 added in report GZEM190701432704 and model LYMF-02 in original report are identical, only difference being as below in the PCB layout.

1. Cancel Infrared transmitter circuit;
2. Cancel indicator light circuit;
3. Cancel 32.768KHz crystal oscillator circuit.

Therefore, the original data was kept in this report GZEM190701432704.



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4 General Information

4.1 Details of E.U.T.

Power Supply:	DC 3V = 2 x DC 1.5V size of 'AAA' battery
Test Voltage:	DC3V
Antenna Gain	0dBi
Antenna Type	PCB antenna
Channel Spacing	2MHz
Modulation Type	GFSK
Number of Channels	40
Operation Frequency	2402MHz to 2480MHz

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., Guangzhou Branch EMC Laboratory,
198 Kezhu Road, Sciencetech Park, Guangzhou Economic & Technology Development District,
Guangzhou, China 510663

Tel: +86 20 82155555 Fax: +86 20 82075059

No tests were sub-contracted.



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4.4 Test Facility

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

● **NVLAP (Lab Code: 200611-0)**

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

● **ACMA**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.

● **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**

Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.

● **CNAS (Lab Code: L0167)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAS-CL01:2018 accreditation criteria for testing laboratories (identical to

ISO/IEC 17025:2017 General Requirements) for the Competence of Testing Laboratories.

● **FCC Recognized 2.948 Listed Test Firm(Registration No.: 282399)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002.

● **FCC Recognized Accredited Test Firm(Registration No.: 486818)**

SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been accredited and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Designation Number: CN5016, Test Firm Registration Number: 486818, Jul 13, 2017.

● **Industry Canada (Registration No.: 4620B, CAB identifier: CN0052)**

SGS-CSTC Standards Technical Services Co., Ltd., has been registered by Innovation Science and Economic Development Canada for Wireless Device Testing laboratories to test to Canadian radio equipment requirements. Registration No. 4620B, CAB identifier: CN0052.

● **VCCI (Registration No.: R-12460, C-12584, G-10449 and T-11179)**

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-12460, C-12584, G-10449 and T-11179 respectively.

● **CBTL (Lab Code: TL129)**

SGS-CSTC Standards Technical Services Co., Ltd., E&E Laboratory has been assessed and fully comply with the requirements of ISO/IEC 17025:2005, the Basic Rules, IECEE 01 and Rules of procedure IECEE 02, and the relevant IECEE CB-Scheme Operational documents.



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4.5 Deviation from Standards

None

4.6 Abnormalities from Standard Conditions

None



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5 Equipment List

Conducted Peak Output Power					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
EXA Signal Analyzer	AgilentTechnologies	N9010A	EMC2138	2018-11-19	2019-11-18
6dB Attenuator	HP	8491A	EMC2062	2018-04-04	2020-04-03
Test Software JS1120-3	HangTianXing	V2.6	GZE100-69	N/A	N/A
MI CABLE	SGS	0.8M	EMC2136	2017-11-02	2019-11-01
MI CABLE	SGS	0.8M	EMC2137	2017-11-02	2019-11-01



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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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}] \leq 3.0$ 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

6.1.2 Conclusion

The Max conducted output power is -3.807 dBm in middle channel (2.442 GHz);

-3.807 dBm logarithmic terms convert to numeric result is nearly 0.42 mW

According to the formula. calculate the test result:

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

General RF Exposure = $(0.42 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.442 \text{ GHz}} = 0.130$ ①

SAR requirement:

$S = 3.0$ ② ;

① $<$ ②.

So the SAR report is not required.



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7 Photographs

7.1 EUT Constructional Details

Please refer to Appendix A - Photographs of EUT Constructional Details for GZEM1911016932CR.

--End of Report--



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