

# ***RF EXPOSURE EVALUATION REPORT***

**Application No.:** GZEM2009015103CR  
**Applicant:** Chamberlain Group Inc,The  
**Address of Applicant:** 300 Windsor DrOak Brook, 60523, Illinois, United States  
**Manufacturer:** Grupo Chamberlain S de RL de CV  
**Address of Manufacturer:** Boulevard Luis Donaldo Colosio Murrieta 1891 Colonia Obrera Codigo Postal 84048 Nogales, Sonora, Mexico  
**Factory:** Foshan Foresee Intelligent Control Technology Co., Ltd  
**Address of Factory:** 33 Changbao West Road, Rongli, Ronggui, Shunde, Foshan, 528305 Guangdong, China  
**Equipment Under Test (EUT):**  
**EUT Name:** Sliding Gate Operator  
**Model No.:** SL1000  
**Standard(s):** 47 CFR Part 1, subpart I 1.1310  
**Date of Receipt:** 2020-09-16  
**Date of Test:** 2020-09-30 to 2020-12-23  
**Date of Issue:** 2021-02-07

<b>Test Result:</b>	<b>Pass*</b>
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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		2021-02-07		Original

<b>Authorized for issue by:</b>			
<b>Tested By</b>			2020-09-30 to 2020-12-23
	Lily_Kuang /Project Engineer		<b>Date</b>
<b>Checked By</b>			2021-02-07
	Ricky_Liu /Reviewer		<b>Date</b>



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## 2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
RF Exposure	47 CFR Part 1, subpart I 1.1310	47 CFR Part 1, subpart I 1.1310	47 CFR Part 1, subpart I 1.1310	Pass



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## 4 General Information

### 4.1 Details of E.U.T.

Power Supply:	AC 120 V, 60Hz
Cable:	AC mains
Antenna Gain:	-5 dBi declared by applicant
Antenna Type:	Integrated antenna
Channel Spacing:	500 kHz
Modulation Type:	GFSK
Number of Channels:	50
Operation Frequency:	902.25MHz to 926.75MHz
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Hardware Version:	SL1000-R
Firmware Version:	V1.1
S/N:	SN00652
Test Software Version:	N/A
RF Power setting level	Default

### 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, Scientech 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 Radio Spectrum Technical Requirement

### 5.1 RF Exposure

#### 5.1.1 Standard requirement

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 limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

#### (a) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S)(mW/cm <sup>2</sup> )	Averaging Times  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	F/300	6
1500-100000	--	--	5	6

#### (b) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S)(mW/cm <sup>2</sup> )	Averaging Times  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	F/1500	30
1500-100000	--	--	1.0	30

Note: f=frequency in MHz; \*Plane-wave equivalent power density



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**5.1.2 Conclusion**

**MPE Calculation Method**

$E (V/m) = (30 \cdot P \cdot G) / 0.5 / d$  Power Density:  $P_d (W/m^2) = E^2 / 377$

E=Electric Field (V/m)

P=Peak RF output Power (W)

G=EUT Antenna numeric gain (numeric)

d= Separation distance between radiator and human body (m)

The formula can be changed to

$P_d = (30 \cdot P \cdot G) / (377 \cdot d^2)$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

**Calculated Result and Limit:**

Frequency (MHz)	Antenna Gain (Numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Test Result
902.25	0.316	14.439	27.791	0.00175	1	Complies
914.75	0.316	14.202	26.315	0.00166	1	Complies
926.75	0.316	14.054	25.433	0.00160	1	Complies

Note: Refer to report No. GZEM200901510302 for EUT test Max Conducted Peak Output Power value.

The device meets the maximum permissible exposure requirement.



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## 6 Photographs

### 6.1 EUT Constructional Details

Please refer to Appendix A - Photographs of EUT Constructional Details for GZEM2009015103CR.

--End of Report--



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