

1 Cover Page

RF Exposure Evaluation Report

Application No.: KSCR2109000083AT
FCC ID: 2A2VW-V8S
Applicant: Shenzhen Zhiling Technology Co., Ltd
Address of Applicant: Room 201, Building A, No.1 Qianwan Road, Qianhai Shenzhen-Hong Kong Cooperation Zone, Shenzhen, Guangdong, China
Manufacturer: Shenzhen Zhiling Technology Co., Ltd
Address of Manufacturer: Room 201, Building A, No.1 Qianwan Road, Qianhai Shenzhen-Hong Kong Cooperation Zone, Shenzhen, Guangdong, China
Equipment Under Test (EUT):
EUT Name: Video Doorbell
Model No.: V8S1AX11, V8S1AX12, V8S1AX13, V8S1AX14, V8S1AX15, V8S1AX16, V8S1AX17, V8S1AX18, V8S1AX19, V8S1AX20, V8S1AX21, V8S1AX22, V8S2AX11, V8S2AX12, V8S2AX13, V8S2AX14, V8S2AX15, V8S2AX16, V8S2AX17, V8S2AX18, V8S2AX19, V8S2AX20, V8S2AX21, V8S2AX22, V8S3AX11, V8S3AX12, V8S3AX13, V8S3AX14, V8S3AX15, V8S3AX16, V8S3AX17, V8S3AX18, V8S3AX19, V8S3AX20, V8S3AX21, V8S3AX22
 □ Please refer to section 2 of this report which indicates which model was actually tested and which were electrically identical.
Standard(s) : FCC Rules 47 CFR §2.1091
Date of Receipt: 2021-09-18
Date of Test: 2021-09-18 to 2021-10-09
Date of Issue: 2021-10-10

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

Eric Lin
Laboratory Manager

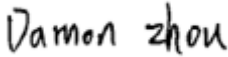
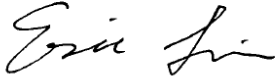
The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



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Revision Record			
Version	Description	Date	Remark
00	Original	2021-10-10	/

Authorized for issue by:			
	 Damon Zhou / Project Engineer		
	 Eric Lin / Reviewer		



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Compliance Certification Services (Kunshan) Inc.
EMC Laboratory

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3 General Information

General Description of E.U.T.

Power supply:	DC 3.7V by Rechargeable Lithium ion Battery Pack charged by DC 5V Adapter Battery Model: DLJN 1865a 2P Nominal Voltage: 3.7V Rated Capacity:5200mAh/19.24Wh
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Technical Specifications

Frequency Range:	24000-24250MHz
Modulation Technique:	FMCW
Antenna Type:	Integrated Patch Antenna



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Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Test Facility

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

• **CNAS (No. CNAS L4354)**

CNAS has accredited Compliance Certification Services (Kunshan) Inc. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

• **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• **FCC (Designation Number: CN1172)**

Compliance Certification Services Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

• **ISED (CAB identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

Company Number: 2324E

• **VCCI (Member No.: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600,C-11707, T-11499, G-10216 respectively.



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4 Test Standards and Limits

FCC Radiofrequency radiation exposure limits:

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm ²)	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30



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5 Measurement and Calculation

Maximum transmit power

The Power Data is based on the RF Test Report KSCR210900008301

Test Mode	Level (dBuV/m)	Power [dBm]	Power [mW]
24GHz	96.48	1.28	1.3428

$$\text{EIRP}[\text{dBm}] = \text{E}[\text{dB}\mu\text{V}/\text{m}] + 20 \log(\text{d}[\text{meters}]) - 104.77$$

$$\text{EIRP}[\text{dBm}] = \text{E}[\text{dB}\mu\text{V}/\text{m}] - 95.2$$

$$= 96.48 \text{ dB}\mu\text{V}/\text{m} - 95.2$$

$$= 1.28 \text{ dBm} = 1.3428 \text{ mW}$$

MPE Calculation

The Max EIRP is 1.28 dBm (1.3428 mW) in 24GHz;

According to the formula $S = \frac{PG}{4R^2\pi}$, we can calculate S which is MPE.

Note:

- 1) P (Watts) =Power Input to antenna
- 2) G (Antenna gain in numeric) = $10^{\text{Antenna gain in dBi} / 10}$
- 3) R = distance to the center of radiation of antenna (in meter) = 20cm
- 4) MPE limit = $1 \text{ mW}/\text{cm}^2$

$$S = \frac{PG}{4R^2\pi} = \frac{1.3428}{4 \times 400 \times 3.14} = 0.000267 \text{ mW}/\text{cm}^2 \leq 1 \text{ mW}/\text{cm}^2$$

So the device is exclusion from SAR test.

--End of the Report--



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