

RF TEST REPORT

Report No.: SZ25080439W03

Applicant : SHENZHEN AONI ELECTRONIC CO.,LTD

Product Name : Smart Battery Doorbell Camera

Brand Name : MERKURY or aoni

Model Name : MI-CW093-115

Series Model : ER02301,GN-CW121-101,GNC-CW121-101,ER05301,
ER06XYZ,ER02XYZ,ER05XYZ,(X=0-9,Y=0-9,
Z=0-9 ,stands for marketing purpose)

FCC ID : Z63-ER02301

Test Standard : FCC CFR Title 47 Part 2.1091

Date of Sample Arrival : Jul.29, 2025

Date of Test : Jul.29, 2025~Aug.29, 2025

Issue Date : Aug.29, 2025

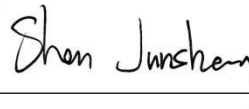


Edited by:



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Approved by:



Shen Junsheng (Supervisor)

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REVISION HISTORY

Rev.	Issue Date	Revisions	Revised by
A0	Aug.29, 2025	Initial Release	Shen Junsheng

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DECLARATION OF REPORT

1. The device has been tested by Morlab, and the test results show that the equipment under test (EUT) is in compliance with the requirements of 47 CFR Part 2.1091. And it is applicable only to the tested sample identified in the report.
2. This report shall not be reproduced except in full, without the written approval of Morlab, this document only be altered or revised by Morlab, personal only, and shall be noted in the revision of the document.
3. The general information of EUT in this report is provided by the customer or manufacture, Morlab is only responsible for the test data but not for the information provided by the customer or manufacture.
4. The results in this report is only apply to the sample as tested under conditions. The customer or manufacturer is responsible for ensuring that the additional production units of this model have the same electrical and mechanical components.
5. In this report, '☐' indicates that EUT does not support content after '☐', and '☑' indicates that it supports content after '☑'

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1. GENERAL DESCRIPTION

1.1.Applicant

Name : SHENZHEN AONI ELECTRONIC CO.,LTD
Address : No.5,Bldg.,Honghui Industrial Park,2nd Liuxian Road,Xin'An streets,
Bao'an District,ShenZhen,China

1.2.Manufacturer

Name : SHENZHEN AONI ELECTRONIC CO.,LTD
Address : No.5,Bldg.,Honghui Industrial Park,2nd Liuxian Road,Xin'An streets,
Bao'an District,ShenZhen,China

1.3.Factory

Name : Aoni Intelligent Technology (Zhongshan) Co., LTD
Address : Floor 4,5,6,7,8,9, Building 2, NO. 138, Lefeng South Road, Lianfeng, Xiaolan Town,
Zhongshan City, Guangdong Province

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1.4.General Information of EUT

General Information	
Equipment Name	Smart Battery Doorbell Camera
Brand Name	MERKURY or aoni
Model Name	MI-CW093-115
Series Model	ER02301,GN-CW121-101,GNC-CW121-101,ER05301,ER06XYZ,ER02XYZ,ER05XYZ,(X=0-9, Y=0-9 , Z=0-9 ,stands for marketing purpose)
Model Difference	They are only different in model, color and appearance, while the rest is the same.
Operation Frequency	433.92MHz; WiFi 2.4GHz:2400MHz - 2483.5MHz
Modulation Type	433.92MHz:ASK WiFi 2.4GHz: 802.11b: DSSS (DBPSK/DQPSK/CCK) 802.11g/n(HT): OFDM (BPSK/QPSK/16QAM/64QAM)
Antenna type:	433.92MHz:Spring Antenna WiFi 2.4GHz:FPC Antenna
Antenna gain:	433.92MHz:-8.81dBi WiFi 2.4GHz:3.07dBi
Power supply:	DC 3.7V From Battery
Battery:	Rated Voltage: 3.7V Capacity: 4400mAh
Adapter:	Input:100-240V~50/60Hz 0.2A Max Output:DC 5V/1.0A
Hardware Version:	ER02301-V1.0
Software Version:	v3.0.0.088

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1.5.Laboratory Information

Laboratory Name	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone	+86 755 36698555
Facsimile	+86 755 36698525
FCC Designation Number	CN1192
FCC Test Firm Registration Number	226174

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2. FCC 47CFR §2.1091 Requirement

2.1. Test Standards

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 §2.1091 RF exposure is calculated.

KDB447498 D01: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies

2.2. Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	6
3.0 – 30	1842/f	4.89/f	(900/f ²)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	/	/	f/300	6
1500 – 100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	30
3.0 – 30	824/f	2.19/f	(180/f ²)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	/	/	f/1500	30
1500 – 100,000	/	/	1.0	30

F=frequency in MHz

*=Plane-wave equivalent power density

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2.3.MPE Calculation Method

Predication of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S=PG/4\pi R^2$$

Where: S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

2.4.Antenna Information

EUT can only use antennas certificated as follows provided by manufacturer;

Transmitter Circuit	Peak Gain (dBi)	Antenna Type	Note
Antenna 1	-8.81	Spring Antenna	For 433.92MHz
Antenna 1	3.07	FPC Antenna	For 2.4GHz WIFI

2.5.Manufacturing Tolerance

Function	Target (dBm)	Tolerance $\pm$ (dB)	Antenna Port
SISO Transmit			
433.92MHz	65.82dBuV/m(-29.38dBm)	± 1.00	Antenna 1
802.11g_2462MHz	21.03	± 1.00	Antenna 1

Note:

1. The target power has included the maximum transmission power and tolerance values.
- 2.WIFI Output power (EIRP) including turn-up tolerance.

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2.6. Test Result

As declared by the Applicant, the EUT is a wireless device used in a Mobile application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, $r=20\text{cm}$, as well as the gain of the used antenna is refer to section 4, the RF power density can be obtained.

Modulation Type	Target		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
SISO Transmit						
433.92MHz	-28.38	0.00145	-8.81	0.1315	0.00000038	0.29
802.11g_2462M Hz	20.03	100.693	3.07	2.0276	0.0406	1.0000

Simultaneous transmission:

$$2.4\text{GHz} + 433.92\text{MHz} = 0.0406/1 + 0.000000038/0.29 = 0.04060013\text{mW/cm}^2 < 1$$

Note:

1. If nothing else, the report will only record the worst power.
2. The Maximum power is less than the limit, complies with the exemption requirements.
3. WIFI Output power including turn-up tolerance.
4. The calculated distance is 20 cm.

※※※※※END OF THE REPORT※※※※※

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