MPE Test Report

Report No.:	CIDG-ESH-P23020103B-3-A1
FCC ID:	2A789SC053
Product:	Smart Camera
Test Model:	SC053-WQ2B
Series Model:	SC053-WQ2, SC053-WQ2A, SC053-WQ2C, SC053-WQ1, SC053-WQ1A, SC053-WQ1B, SC053-WQ1C, SC053-WQ3, SC053-WQ3A, SC053-WQ3B, SC053-WQ3C
Received Date:	Oct.18, 2024
Test Date:	Oct.18 to Oct.31, 2024
Issued Date:	Nov.04, 2024
Applicant:	Ningbo Lingzhu Technology CO., Ltd.
Address:	No.578,Building 7,No.535 Kangqiao South Road, Jiangbei District, Ningbo City, Zhejiang Province, China
Manufacturer:	Ningbo Lingzhu Technology CO., Ltd.
Address:	No.578,Building 7,No.535 Kangqiao South Road, Jiangbei District, Ningbo City, Zhejiang Province, China
Issued By:	BUREAU VERITAS ADT (Shanghai) Corporation
Lab Address:	No. 829, Xinzhuan Road, Shanghai, P.R.China (201612)
FCC Registration / Designation Number:	176467/ CN1213

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Release Control Record

Issue No.	Description	Date Issued
CIDG-ESH-P23020103B-3	Original release	Mar.08, 2023
CIDG-ESH-P23020103B-3-A1	Updating charging port form Micro USB to Type-C and updating new antenna	Nov.04, 2024

1 Certificate of Conformity

Product: Smart Camera

Brand: --

Test Model: SC053-WQ2, SC053-WQ2A, SC053-WQ2B, SC053-WQ2C,
SC053-WQ1, SC053-WQ1A, SC053-WQ1B, SC053-WQ1C,
SC053-WQ3, SC053-WQ3A, SC053-WQ3B, SC053-WQ3C

Applicant: Ningbo Lingzhu Technology CO., Ltd.

Test Date: Oct.18 to Oct.31, 2024

Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D01 General RF Exposure Guidance v06
IEEE C95.1-1992

The above equipment has been tested by **BUREAU VERITAS ADT (Shanghai) Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : _Yuan Zhang_ , Date: _Nov.04, 2024_
Yuan ZHANG

Project Engineer

Approved by : _Sean Yu_ , Date: _Nov.04, 2024_
Sean YU

RF Supervisor

2 General Information

2.1 General Description of EUT

Product	Smart Camera
Brand	--
Model	SC053-WQ2, SC053-WQ2A, SC053-WQ2B, SC053-WQ2C, SC053-WQ1, SC053-WQ1A, SC053-WQ1B, SC053-WQ1C, SC053-WQ3, SC053-WQ3A, SC053-WQ3B, SC053-WQ3C
Difference	sensor, color and tiny enclosure difference, such as different chamfering These differences are not related to the radio frequency function. 1, 2, 3 in model name for different sensor and A, B, C in model name for different color and tiny enclosure difference.
Power Rating	DC 5V 1A
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
Modulation Technology	DSSS, OFDM
Operating Frequency	2412MHz ~ 2462MHz
Number of Channel	802.11b, 802.11g and 802.11n (HT20):11
Output Power	15.21dBm
Antenna Type	FPC Antenna
Antenna Connector	--
Antenna Gain	3.42dBi

Note:

1. For more details, please refer to the User's manual of the EUT.

3 RF Exposure

3.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1,500	-	-	F/1500	30
1,500-100,000	-	-	1.0	30

F = Frequency in MHz

3.2 MPE Calculation Formula

Power density (S) is calculated according to the formula:

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

Where S = power density in mW/cm^2

P = transmit power in mW

G = numeric gain of transmit antenna (numeric gain=Log-1(dB antenna gain/10))

R = distance (cm)

3.3 MPE Calculation Formula

The antenna of this product, under normal use condition, is at least 20cm from the body of the user. So the device is classified as **Mobile Device**.

3.4 Calculation Result of Maximum Permissible Exposure

The tuned conducted Power (declared by client)

Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
2412-2462	15	±1	14	16

The measured conducted Power

Mode	Frequency (MHz)	Max. Conducted Output power(dBm)
11b	2412	15.21

Frequency Band (MHz)	Max. Conducted output power(dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
WLAN 2.4GHz					
2412-2462	16	3.42	20	0.0174161	1

Conclusion: The calculation result of MPE is less than the limit.

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