



Test Report No.:
FCCSZ2024-0073-H

RF Test Report

FCC ID : VMIMR4KVDB
EUT : MaxRanger4K Video Doorbell
APPLICANT : Swann Communications U.S.A. Inc
Classification of Test : N/A

CVC Testing Technology (Shenzhen) Co., Ltd.



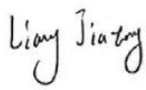
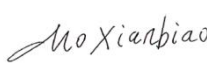
Applicant		Name : Swann Communications U.S.A. Inc Address : 12110 E. Slauson Avenue, Suite 4.Santa Fe Springs, CA, 90670,USA	
Manufacturer		Name : Shenzhen Infinova Limited Address : Infinova Building,Guan Lan High Tech Park,Huan Guan Road South. Longhua New District , Shenzhen Guangdong	
Equipment Under Test		Name :MaxRanger4K Video Doorbell Model/Type: NVW-MR4KVDB Additional Model: N/A Trade mark : swann Serial NO.:N/A Sample NO.: 4-1	
Date of Receipt.	2024.09.29	Date of Testing	2024.09.29~2025.01.03
Test Specification		Test Result	
FCC Part 2 (Section 2.1091) KDB 447498 D04 IEEE C95.3		PASS	
Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. seal of CVC Issue Date: 2025.01.03		
Compiled by:  <u>Liang Jiatong</u> Name Signature	Reviewed by:  <u>Mo Xianbiao</u> Name Signature	Approved by:  <u>Dong Sanbi</u> Name Signature	
Other Aspects: NONE.			
Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested			



TABLE OF CONTENTS

RELEASE CONTROL RECORD4

1. GERTIFICATION5

2. LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (FCC) 6

3. CLASSIFICATION 7

4. MAXIMUM CONDUCTED AV POWER 7

5. CALCULATION MAXIMUM PERMISSIBLE EXPOSURE 8



RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCCSZ2024-0073-H	Original release	2025.01.03



1. GERTIFICATION

PRODUCT	MaxRanger4K Video Doorbell
BRAND	swann
MODEL	NVW-MR4KVDB
ADDITIONAL MODEL	N/A
HVIN	NVW-MR4KVDB
POWER SUPPLY	DC 3.7V from Li-ion battery or DC 5V from USB host unit
STANDARDS	FCC Part 2 (Section 2.1091)
	KDB 447498 D04v01
	IEEE C95.3
Remark:	
1. For more detailed features description, please refer to the manufacturer’s specifications or the User's Manual.	
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.	
3. EUT photo refer to the report (Report NO.: FCCSZ2024-0073-EUT).	



2. LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (FCC)

(Option C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda / 2 \pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda / 4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

RF SOURCE FREQUENCY (MHZ)	THRESHOLD ERP(W)
0.3 -1.34	$1,920 R^2$
1.34 - 30	$3,450 R^2 F^2$
30 -300	$3.83 R^2$
300-1500	$0.0128 R^2 F$
1500-100,000	$19.2 R^2$



3. CLASSIFICATION

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

4. MAXIMUM CONDUCTED PEAK POWER

The formula for dBμV/m to dBm is calculated as follows:

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

If d is 3 m

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

Note:

E is the field strength in V/m

D is the measurement distance in m

EIRP is the equivalent isotropically radiated power in W

According to the report FCCSZ2024-0073-RF2, the 433.92 field strength is 62.41 dBμV/m, EIRP is 62.41-95.2=-32.79.

The measured conducted Peak Power

Mode	Peak Power (dBm)
WiFi HaLow 1Mbps	21.90
WiFi HaLow 2Mbps	20.46
WiFi HaLow 4Mbps	20.46
WiFi HaLow 8Mbps	21.48
433.92MHz	-32.79

The tuned conducted Peak Power (declared by client)

Mode	Frequency (MHz)	Target Power (dBm)	Tolerance (dBm)	Lower Tolerance (dBm)	Upper Tolerance (dBm)
WiFi HaLow 1Mbps	903.5MHz~926.5MHz	22	±1	21	23
WiFi HaLow 2Mbps	905MHz~925MHz	21	±1	20	22
WiFi HaLow 4Mbps	906MHz~922MHz	21	±1	20	22
WiFi HaLow 8Mbps	908MHz~916MHz	22	±1	20	23
LORA	433.92MHz	-33	±1	-34	-32



5. CALCULATION MAXIMUM PERMISSIBLE EXPOSURE

MAXIMUM PERMISSIBLE EXPOSURE (FCC)

Frequency Band (MHz)	Max Power (dBm)	Antenna Gain (dBi)	Distance (cm)	EIRP (dBm)	ERP (dBm)	ERP (W)	Threshold ERP(W)	Ratio
WiFi HaLow 1Mbps	23	1.08	20	24.08	21.93	0.0156	0.46	0.034
WiFi HaLow 2Mbps	22	1.08	20	23.08	20.93	0.0124	0.46	0.027
WiFi HaLow 4Mbps	22	1.08	20	23.08	20.93	0.0124	0.46	0.027
WiFi HaLow 8Mbps	23	1.08	20	24.08	21.93	0.0156	0.46	0.034
433.92MHz	-32	0.98	20	-31.02	-33.17	0.0005	0.46	0.001
Sum of ratio = WiFi HaLow+433.92MHz=0.035								

Note1: This device can operate simultaneously in WiFi HaLow and 433.92MHz.

Note2: ERP=EIRP-2.15dB

Conclusion:

Therefore, the worst-case situation is 0.035(Sum of Ratios), which is less than "1". This confirmed that the device compliance with FCC RF exposure requirements.

----- End of the Report -----



Important

- (1) The test report is invalid without the official stamp of CVC;
- (2) Any part photocopies of the test report are forbidden without the written permission from CVC;
- (3) The test report is invalid without the signatures of Approval and Reviewer;
- (4) The test report is invalid if altered;
- (5) Objections to the test report must be submitted to CVC within 15 days.
- (6) Generally, commission test is responsible for the tested samples only.
- (7) As for the test result “-” or “N” means “not applicable”, “/” means “not test”, “P” means “pass” and “F” means “fail”

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