

TEST REPORT

FCC ID.	ZZ2-ALL411W
Test Report No.	TCT250829E038
Date of issue	Sep. 05, 2025
Testing laboratory	SHENZHEN TONGCE TESTING LAB
Testing location/ address:	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China
Applicant's name	Amcrest Technologies LLC
Address	16727 Park Row Dr. Houston, Texas 77084, United States
Manufacturer's name	Amcrest Industries LLC.
Address	16727 Park Row Dr, Houston, Texas 77084, United States Of America
Standard(s)	FCC CFR Title 47 Part 1.1307
Product Name	4MP ULTRAHD Light Bulb Wi-Fi Pan Tilt Indoor/Outdoor Security Camera
Trade Mark	AMCREST, AMCREST LINK
Model/Type reference	AL-L411W, AL-L412W, L411W, L412W, FLB440
Rating(s)	Input: AC 100-240V, 50/60Hz, 1.5A, 18W
Date of receipt of test item	Aug. 29, 2025
Date (s) of performance of test	Aug. 29, 2025 ~ Sep. 05, 2025
Tested by (+signature)	Ronaldo LUO
Check by (+signature)	Beryl ZHAO
Approved by (+signature) :	Tomsin



General disclaimer:

This report shall not be reproduced except in full, without the written approval of SHENZHEN TONGCE TESTING LAB. This document may be altered or revised by SHENZHEN TONGCE TESTING LAB personnel only, and shall be noted in the revision section of the document. The test results in the report only apply to the tested sample.

Table of Contents

1. General Product Information	3
1.1. EUT description	3
1.2. Model(s) list.....	3
2. General Information.....	4
2.1. Test environment and mode.....	4
2.2. Description of Support Units	4
3. Facilities and Accreditations	5
3.1. Facilities	5
3.2. Location	5
4. Limit.....	6
5. Test Results and Measurement Data	7

1. General Product Information

1.1. EUT description

Product Name.....	4MP ULTRAHD Light Bulb Wi-Fi Pan Tilt Indoor/Outdoor Security Camera
Model/Type reference.....	AL-L411W
Sample Number.....	TCT250829E013-0101
Operation Frequency	For BLE: 2402MHz~2480MHz For 2.4G WIFI: 2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20)/802.11ax(HE20)) 2422MHz~2452MHz (802.11n(HT40)/802.11ax(HE40)) For 5G WIFI: Band 1: 5180MHz~5240MHz Band 3: 5745MHz~5825MHz
Modulation Type	For BLE: GFSK For 2.4G WIFI: 802.11b: Direct Sequence Spread Spectrum (DSSS) 802.11g/802.11n/802.11ax: Orthogonal Frequency Division Multiplexing (OFDM) For 5G WIFI: 256QAM, 64QAM, 16QAM, BPSK, QPSK
Antenna Type.....	FPC Antenna
Antenna Gain.....	For BLE/2.4G WIFI: 1.68dBi For 5G WIFI: Band 1: 1.01dBi Band 3: 0.96dBi
Rating(s).....	Input: AC 100-240V, 50/60Hz, 1.5A, 18W

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

No.	Model No.	Tested with
1	AL-L411W	<input checked="" type="checkbox"/>
Other models	AL-L412W, L411W, L412W, FLB440	<input type="checkbox"/>

Note: AL-L411W is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names, trade mark, image pixel, flash memory capacity and product appearance color. So the test data of AL-L411W can represent the remaining models.

2. General Information

2.1. Test environment and mode

Item	Normal condition
Temperature	+25°C
Voltage	AC 120V
Humidity	56%
Atmospheric Pressure:	1008 mbar
Test Mode:	
Transmitting Mode:	Keep the EUT in continuous transmitting by select channel

2.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 20dB Occupied Bandwidth, Carrier Frequencies Separation, Hopping Channel Number, Dwell Time, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

3. Facilities and Accreditations

3.1. Facilities

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

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- A2LA-No.: 4320.01

SHENZHEN TONGCE TESTING LAB

The testing lab has been accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories.

3.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

4. Limit

According to §1.1310, the limit is as follow,

TABLE 1 TO § 1.1310(e)(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)	Averaging time (minutes)
-----------------------	-------------------------------	-------------------------------	-------------------------------------	--------------------------

(i) 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
300-1,500			f/300	<6
1,500-100,000			5	<6

(ii) LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

*f = frequency in MHz. * = Plane-wave equivalent power density.*



5. Test Results and Measurement Data

According to §1.1307(b), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Remark: 1)**For BLE:** The maximum output power for antenna is 3.75dBm (2.37mW) at 2402MHz, 1.68dBi antenna gain (with 1.47 numeric antenna gain.)
For 2.4G WIFI: The maximum output power for antenna is 11.67dBm (14.69mW) at 2412MHz, 1.68dBi antenna gain (with 1.47 numeric antenna gain.)
For 5G WIFI: The maximum output power for antenna is 15.24dBm (33.42mW) at 5745MHz, 0.96dBi antenna gain (with 1.25 numeric antenna gain.)
2) For mobile or fixed location transmitters, no SAR consideration applied. The minimum separation generally be used is at least 20cm, even if the calculation indicate that the MPE distance would be lesser.

Calculation

$$\text{Given } E = \sqrt{\frac{30 \times P \times G}{d}} \quad \& \quad S = \frac{E^2}{3770}$$

Where E = Field Strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power Density in milliwatts / square centimeter

Substituting the MPE safe distance using $d=20\text{cm}$ into above equation.

Yields: $S=0.000199*P*G$

Mode	Power(mW)	numeric antenna gain	Power density (mW/cm ²)	Limit (mW/cm ²)	Result
BLE	2.37	1.47	0.000693	1.0	PASS
2.4G WIFI	14.69	1.47	0.004297		
5G WIFI	33.42	1.25	0.008313		

*****END OF REPORT*****