

TEST REPORT

Product Name : Outdoor Camera
Model Number : IPC 198, IPC 484
FCC ID : 2AQ7B-IPC198

Prepared for : Shenzhen Interthings Technology Co., Ltd.
Address : L310, Jinhedian Business Center, NO. 329, 3rd Road
Longhuan, Helian Community, Longhua Street, Longhua
District, Shenzhen, China

Prepared by : EMTEK (DONGGUAN) CO., LTD.
Address : -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology
Research and Development Base, No.9, Xincheng Avenue,
Songshanhu High-technology Industrial Development Zone,
Dongguan, Guangdong, China

TEL: +86-0769-22807078

FAX: +86-0769-22807079

Report Number : EDG2212300006E00102R
Date(s) of Tests : December 30, 2022 to February 28, 2023
Date of issue : February 28, 2023

Table of Contents

1. TEST RESULT CERTIFICATION	3
2. EUT SPECIFICATION	5
3. TEST REQUIREMENT	6
4. MEASUREMENT RESULT	7



1. TEST RESULT CERTIFICATION

Applicant : Shenzhen Interthings Technology Co., Ltd.
 Address: : L310, Jinhedian Business Center, NO. 329, 3rd Road Longhuan, Helian Community, Longhua Street, Longhua District, Shenzhen, China
 Manufacturer : Shenzhen Interthings Technology Co., Ltd.
 Address: : L310, Jinhedian Business Center, NO. 329, 3rd Road Longhuan, Helian Community, Longhua Street, Longhua District, Shenzhen, China
 EUT : Outdoor Camera
 Model Name : IPC 198, IPC 484
 Trademark : 

Measurement Procedure Used:

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 1.1310: §1.1307(b)	PASS

The above equipment was tested by EMTEK(DONGGUAN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC 1.1310: §1.1307(b).

The test results of this report relate only to the tested sample identified in this report

Date of Test : December 30, 2022 to February 28, 2023

Prepared by : 

Xia Yang /Editor

Reviewer : 

Tim Dong/ Supervisor

Approved & Authorized Signer : 

Sam Lv / Manager



Modified History

Version	Report No.	Revision Date	Summary
	EDG2212300006E00102R	/	Original Report



2. EUT Specification

Characteristics	Description
Product:	Outdoor Camera
Model Number:	IPC 198, IPC 484 All products are the same, only the model number and color of appearance are different Here we selected IPC 484 for all the test
Sample:	2#
Device Type:	2.4G WIFI
Data Rate:	802.11b 802.11g 802.11n(20MHz channel bandwidth) 802.11n(40MHz channel bandwidth)
Modulation:	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Operating Frequency Range(s) :	2412-2462MHz for 802.11b/g/n(HT20); 2422-2452MHz for 802.11n(HT40);
Number of Channels:	11 channels for 802.11b/g/n(HT20); 7 Channels for 802.11n(HT40);
Transmit Power Max:	17.57 dBm(0.0571W)
Antenna Gain:	-0.57 dBi
Power supply:	AC 100-240V 50/60Hz form adapter
Evaluation applied:	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation

3. Test Requirement

RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in §1.1307(b)

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
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

Friis transmission formula: $Pd = \frac{P_{out} * G}{4 * \pi * R^2}$

Where

Pd= Power density in mW/cm²

Pout=output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

Pi=3.1416

R= distance between observation point and center of the radiator in cm

Pd the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

4. Measurement Result

Antenna gain: -0.57 dBi

Operation Mode	Channel Number	Channel Frequency (MHz)	Measurement Level (dBm)	Limit (dBm)	Verdict
802.11b	1	2412	17.57	30	PASS
	6	2437	15.03	30	PASS
	11	2462	13.79	30	PASS
802.11g	1	2412	10.76	30	PASS
	6	2437	9.44	30	PASS
	11	2462	8.20	30	PASS
802.11n (HT20)	1	2412	10.92	30	PASS
	6	2437	9.38	30	PASS
	11	2462	8.05	30	PASS
802.11n (HT40)	3	2422	10.41	30	PASS
	6	2437	9.67	30	PASS
	9	2452	8.71	30	PASS

Operating Mode	Test Channel	Tune up tolerance (dBm)	Max tune up conducted power(dBm)	Output Peak power (mW)	Ant. Gain (dBi)	Ant. Gain (numeric)	Power density at 20cm (mW/cm ²)	Limits (mW/cm ²)
802.11b	1	17±1	18	63.10	-0.57	0.877001	0.011009	1
	6	15±1	16	39.81	-0.57	0.877001	0.006946	1
	11	13±1	14	25.12	-0.57	0.877001	0.004383	1
802.11g	1	10±1	11	12.59	-0.57	0.877001	0.002196	1
	6	9±1	10	10.00	-0.57	0.877001	0.001745	1
	11	8±1	9	7.94	-0.57	0.877001	0.001386	1
802.11n (HT20)	1	10±1	11	12.59	-0.57	0.877001	0.002196	1
	6	9±1	10	10.00	-0.57	0.877001	0.001745	1
	11	8±1	9	7.94	-0.57	0.877001	0.001386	1
802.11n (HT40)	3	10±1	11	12.59	-0.57	0.877001	0.002196	1
	6	9±1	10	10.00	-0.57	0.877001	0.001745	1
	9	8±1	9	7.94	-0.57	0.877001	0.001386	1

*** End ofReport ***