

# Guangdong Hailea Group Co., Ltd.

# **MPE ASSESSMENT REPORT**

## **Report Type:**

FCC MPE assessment report

#### Model:

74012 74013

### **REPORT NUMBER:**

220302634SHA-004

#### **ISSUE DATE:**

Aug 17, 2022

#### **DOCUMENT CONTROL NUMBER:**

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Report no.: 220302634SHA-004

**Applicant:** Guangdong Hailea Group Co., Ltd.

Hailea Industrial Zone, Hailea Road, Raoping County, Chaozhou,

Guangdong Province 515700, China.

**Manufacturer:** Guangdong Hailea Group Co., Ltd.

Hailea Industrial Zone, Hailea Road, Raoping County, Chaozhou,

Guangdong Province 515700, China.

**PRODUCT NAME:** Smart Pond Thermometer

**TYPE/MODEL:** 74012

74013

**FCC ID:** 2AVM6-74013

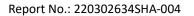
#### **SUMMARY:**

The equipment complies with the requirements according to the following standard(s) or Specification:

KDB447498 D01 General RF Exposure Guidance v07 FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

PREPARED BY:	KEVIEWED BY:	
	J kw	
Scout Gong	Wakeyou Wang	
Project Engineer	Reviewer	

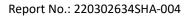
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# **Revision History**

Report No.	Version	Description	Issued Date
220302634SHA-004	Rev. 01	Initial issue of report	Aug 17, 2022

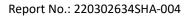




## **1 GENERAL INFORMATION**

## 1.1 Description of Equipment Under Test (EUT)

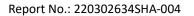
Product name:	Smart Pond Thermometer	
Type/Model:	74012	
	74013	
Description of EUT:	The EUTs covered by this report are smart pond thermometers with	
	Wi-Fi function. There are two models, they use the same electrical	
	system, the only different is that the model 74013 equipped with low-	
	voltage transformer. After assessment, model 74013 was tested as	
	representative. The worst RF data were listed in this report.	
Rating:	AC Adaptor: Input 120VAC, 60Hz, Output 12VDC, 300mA, 3.6W	
	RF module: 3.3V DC	
EUT type:	☐ Tabletop ☐ Floor standing	
Brand name:	/	
Software Version:	/	
Hardware Version:	/	
Sample received date:	July 22, 2022	
Date of test:	July 23, 2022~August 10, 2022	





# 1.2 Technical Specification

Frequency Band:	2400MHz ~ 2483.5MHz
Support Standards:	IEEE 802.11b, IEEE 802.11g, IEEE 802.11n(HT20)
Type of Modulation:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK)
Channel Number:	IEEE 802.11n(HT20): OFDM (64-QAM, 16-QAM, QPSK, BPSK)  11 Channels for 802.11b, 802.11g and 802.11n(HT20)
Data Rate:	IEEE 802.11b: Up to 11Mbps IEEE 802.11g: Up to 54Mbps IEEE 802.11n(HT20): Up to MCS7
Channel Separation:	5 MHz
Antenna Information:	PCB Antenna, 2.0dBi Gain

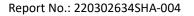




## 1.3 Description of Test Facility

Name:	Intertek Testing Services Shanghai		
Address:	Building 86, No. 1198 Qinzhou Road (North), Shanghai 200233, P.R. China		
Telephone:	86 21 61278200		
Telefax:	86 21 54262353		

The test facility is recognized,	CNAS Accreditation Lab Registration No. CNAS L0139
certified, or accredited by these	FCC Accredited Lab Designation Number: CN1175
organizations:	IC Registration Lab CAB identifier.: CN0014
	VCCI Registration Lab Registration No.: R-14243, G-10845, C-14723, T-12252
	A2LA Accreditation Lab Certificate Number: 3309.02





## 2 MPE Assessment

Test result: Pass

### 2.1 MPE Assessment Limit

Mobile device exposure for standalone operations:

Frequency range	E-field strength (V/m)	H-field strength (A/m) B-field (uT)		Equivalent plane wave power density $S_{eq}\left(W/m^2\right)$	
0-1 Hz	-	$3.2 \times 10^4$	4 × 10 <sup>4</sup>	-	
1-8 Hz	10 000	$3.2 \times 10^4/f^2$	$4 \times 10^4/f^2$	-	
8-25 Hz	10 000	4 000/f	5 000/f	-	
0,025-0,8 kHz	250/f	4/f	5/f	-	
0,8-3 kHz	250/f	5	6,25	-	
3-150 kHz	87	5	6,25	-	
0,15-1 MHz	87	0,73/f	0,92/f	-	
1-10 MHz	87/f <sup>1/2</sup>	0,73/f	0,92/f	-	
10-400 MHz	28	0,073	0,092	2	
400-2 000 MHz	1,375 f <sup>1/2</sup>	0,0037 f <sup>1/2</sup>	0,0046 f <sup>1/2</sup>	f/200	
2-300 GHz	61	0,16	0,20	10	

Mobile device exposure for simultaneous transmission operations: the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0



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## 2.2 Assessment Results

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

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

**TEST REPORT** 

Where S = power density in mW/cm<sup>2</sup>

G = Antenna Gain, dBi to numeric

P = Radiated transmit power in Mw

R = distance (cm)

As we can see from the test report 220302634SHA-003:

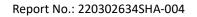
The calculations in the table below use the highest gain of antenna for client EUT. These calculations represent worst case in terms of the exposure levels.

Mode	Frequency band	Max Power	Antenna Gain	R	S	Limits
	(MHz)	dBm	dBi	(cm)	(mW/cm <sup>2</sup> )	(mW/cm <sup>2</sup> )
WIFI	2412-2462	13.00	2.0	20	0.0062	1

Note: 1 mW/cm<sup>2</sup> from 1.310 Table 1

The sum of the MPE ratios for all simultaneously transmitting is  $0.0039 \text{mW/cm}^2 \le 1.0$ 

For the device can support simultaneous transmission, according to 447498 D01 General RF Exposure Guidance v07





## **Appendix I**

Definition below must be outlined in the User Manual:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained
between the antenna of this device and persons during device operation.
To ensure compliance, operations at closer than this distance is not recommended.