



## Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

Telephone: +86-755-26648640  
Fax: +86-755-26648637  
Website: [www.cqa-cert.com](http://www.cqa-cert.com)

Report Template Version: V05  
Report Template Revision Date: 2021-11-03

# RF Exposure Evaluation Report

**Report No.:** CQASZ20220400713E-02  
**Applicant:** Shenzhen Inkbird Technology Co., Ltd.  
**Address of Applicant:** Room 1803, Guowei Building, NO.68 Guowei Road, Xianhu Community, Liantang, Luohu District, Shenzhen, China  
**Equipment Under Test (EUT):**  
**EUT Name:** TEMPERATURE HUMIDITY SENSOR  
**Test Model No.:** IBS-TH3-WIFI, IBS-TH5-WIFI, IBS-TH3-PLUS-WIFI, IBS-TH5-PLUS-WIFI  
**Model No.:** IBS-TH3-WIFI  
**Brand Name:** INKBIRD  
**FCC ID:** 2AYZD-IBSTH3  
**Standards:** 47 CFR Part 1.1307  
47 CFR Part 2.1093  
KDB447498D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2022-04-28  
**Date of Test:** 2022-04-28 to 2022-05-11  
**Date of Issue:** 2022-05-26  
**Test Result:** **PASS\***

\*In the configuration tested, the EUT complied with the standards specified above

**Tested By:** Lewis Zhou  
( Lewis Zhou )

**Reviewed By:** K. Liao  
( K Liao )

**Approved By:** Jack Ai  
( Jack Ai )



## 1 Version

### Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20220400713E-02	Rev.01	Initial report	2022-05-26

## 2 Contents

	Page
<b>1 VERSION</b> .....	2
<b>2 CONTENTS</b> .....	3
<b>3 GENERAL INFORMATION</b> .....	4
3.1 CLIENT INFORMATION .....	4
3.2 GENERAL DESCRIPTION OF EUT .....	4
3.3 GENERAL DESCRIPTION OF BT .....	4
<b>4 SAR EVALUATION</b> .....	6
4.1 RF EXPOSURE COMPLIANCE REQUIREMENT .....	6
4.1.1 <i>Standard Requirement</i> .....	6
4.1.2 <i>Limits</i> .....	6
4.1.3 <i>EUT RF Exposure</i> .....	7

### 3 General Information

#### 3.1 Client Information

Applicant:	Shenzhen Inkbird Technology Co., Ltd.
Address of Applicant:	Room 1803, Guowei Building, NO.68 Guowei Road, Xianhu Community, Liantang, Luohu District, Shenzhen, China
Manufacturer:	Shenzhen Inkbird Technology Co., Ltd.
Address of Manufacturer:	Room 1803, Guowei Building, NO.68 Guowei Road, Xianhu Community, Liantang, Luohu District, Shenzhen, China
Factory:	INKBIRD TECH.C.L.
Address of Factory:	6th Floor, Building 713, Pengji Liantang Industrial Area, NO.2 Pengxing Road, Luohu District, Shenzhen, China

#### 3.2 General Description of EUT

Product Name:	TEMPERATURE HUMIDITY SENSOR
Model No.:	IBS-TH3-WIFI, IBS-TH5-WIFI, IBS-TH3-PLUS-WIFI, IBS-TH5-PLUS-WIFI
Test Model No	IBS-TH3-WIFI
Trade Mark:	INKBIRD
EUT Supports Radios application:	2.4GHz: Wi-Fi: 802.11b/g/n(HT20): 2412MHz~2462MHz; 802.11n(HT40): 2422MHz~2452MHz
Software Version:	V1.0
Hardware Version:	V2.0
Sample Type:	<input type="checkbox"/> Mobile <input checked="" type="checkbox"/> Portable <input type="checkbox"/> Fix Location
EUT Power Supply:	AAA Battery*3 4.5V

#### 3.3 General Description of BT

Operation Frequency:	IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz IEEE 802.11n(HT40): 2422MHz to 2452MHz
Modulation Type:	IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g : OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20 and HT40) : OFDM (64QAM, 16QAM, QPSK, BPSK)
Number of Channel:	IEEE 802.11b/g, IEEE 802.11n HT20: 11 Channels IEEE 802.11n HT40: 7 Channels
Transfer Rate:	IEEE for 802.11b: 1Mbps/2Mbps/5.5Mbps/11Mbps IEEE for 802.11g : 6Mbps/9Mbps/12Mbps/18Mbps/24Mbps/36Mbps/48Mbps/54Mbps IEEE for 802.11n(HT20) : 6.5Mbps/13Mbps/19.5Mbps/26Mbps/39Mbps/52Mbps/58.5Mbps/65Mbps IEEE for 802.11n(HT40) : 13.5Mbps/27Mbps/40.5Mbps/54Mbps/81Mbps/108Mbps/121.5Mbps/135Mbps
Test Software of EUT:	WifiTestTool(v1.5.2)
Antenna Type:	PCB antenna

---

Antenna Gain:	2.21dBi
---------------	---------

Note:

Model No.: IBS-TH3-WIFI, IBS-TH5-WIFI, IBS-TH3-PLUS-WIFI, IBS-TH5-PLUS-WIFI

Only the model IBS-TH3-WIFI was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being capacity.

## 4 SAR Evaluation

### 4.1 RF Exposure Compliance Requirement

#### 4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

##### 4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

#### 4.1.2 Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$$\left[ \frac{\text{max. power of channel, including tune-up tolerance, mW}}{(\text{min. test separation distance, mm}) \cdot \sqrt{f(\text{GHz})}} \right] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

$f(\text{GHz})$  is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion

#### 4.1.3 EUT RF Exposure

##### Measurement Data

Channel	Maximum Peak Conducted Output Power (dBm)	Maximum tune-up Power	Calculated value	Exclusion threshold
		(mW)		
Lowest (2412MHz)	8.12	6.486	2.011	3.0
Middle (2437MHz)	8.92	7.798	2.437	
Highest (2462MHz)	7.29	5.358	1.688	
Conclusion: the calculated value $\leq 3.0$ , SAR is exempted.				

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20220400713E-01.

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