TCT 通测检测 TESTING CENTRE TECHNOLOGY

TEST REPORT

FCC ID. ..... :	2AF3W-1235822	
Test Report No..... :	TCT250407E005	
Date of issue..... :	Apr. 11, 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..... :	AOB Products Company	
Address..... :	1800 North Route Z, Columbia, Missouri 65202, United States	
Manufacturer's name ... :	FUZHOU SWELL ELECTRONIC CO., LTD	
Address..... :	BLDG. 4, NO. 6, ZHIHUI AVENUE, NANYU TOWN, FUZHOU, CHINA	
Standard(s) ..... :	FCC CFR Title 47 Part 1.1307	
Product Name..... :	WIRELESS DIGITAL HYGROMETER	
Trade Mark ..... :	LOCKDOWN	
Model/Type reference..... :	1235822	
Rating(s)..... :	DC 3V (2*AAA Battery)	
Date of receipt of test item ..... :	Apr. 07, 2025	
Date (s) of performance of test..... :	Apr. 07, 2025 ~ Apr. 11, 2025	
Tested by (+signature) ... :	Onnado YE	Onnado
Check by (+signature).... :	Beryl ZHAO	Beryl
Approved by (+signature):	Tomsin	Tomsin

SHENZHEN TONGCE TESTING LAB TCT

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1. General Product Information

1.1. EUT description

Product Name.....:	WIRELESS DIGITAL HYGROMETER
Model/Type reference.....:	1235822
Sample Number.....:	TCT25407E004-0101
Operation Frequency.....:	433.92MHz
Modulation Type.....:	ASK
Antenna Type.....:	Spring Antenna
Antenna Gain.....:	0dBi
Rating(s).....:	DC 3V (2*AAA Battery)

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

None.

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2. General Information

2.1. Test environment and mode

Item	Normal condition
Temperature	+25ºC
Voltage	DC 3V
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.

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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.

- IC - Registration No.: 10668A

  SHENZHEN TONGCE TESTING LAB

  CAB identifier: CN0031

  The testing lab has been registered by Innovation, Science and Economic Development Canada for radio equipment testing.

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.*

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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 SRD:** The maximum output power for antenna is -30.83dBm (0.001mW) at 433.92MHz, 0dBi antenna gain(with 1.00 numeric antenna gain.)
Note: E[dBμV/m]= 69.10
computational formula
EIRP[dBm] = E[dBμV/m] + 20 log (d[m]) − 104.77;
Conducted Power = EIRP-4.7;
Where E is the electric field strength in V/m; d is the measurement distance in meters (m); 4.7 is the appropriate maximum ground reflection factor for frequencies between 30 MHz and 1000 MHz

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

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

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=20cm into above equation.
Yields: S=0.000199*P*G

Mode	Power (dBm)	Power (mW)	numeric antenna gain	Power density (mW/cm^2)	Limit (mW/cm^2)	Result
SRD	-30.83	0.001	1.00	0.0000002	0.29	PASS

Note: Limit = f/1500=433.92/1500=0.29 (mW/cm^2)

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

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