



FCC RF EXPOSURE REPORT

Applicant : Guangzhou Bresser Optical Instruments Co., Ltd.

Address : Kangda Rd. 12, Yunpu Ind. Area, Huangpu,
Guangzhou, PRC

Equipment : 4-days Smart weather station

Model No. : WSH4103

Trade Name : 

FCC ID. : 2AE3N-WSH4103

I HEREBY CERTIFY THAT :

The sample was received on May 18, 2022 and the testing was completed on May 27, 2022 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:



Leevin Li / Supervisor



Contents

1. Test Configuration of Equipment under Test.....	4
1.1 Feature of Equipment.....	4
1.2 General Information of Test.....	5
2. Radio Frequency Exposure	6



History of this test report

☒ Original

☐ Additional attachment as following record:

Attachment No.	Issue Date	Description
DEFJ2203163	May 31, 2022	Original



1. Test Configuration of Equipment under Test

1.1 Feature of Equipment

Equipment	4-days Smart weather station
Model Name	WSH4103
Model Discrepancy	N/A
Frequency Range	WIFI 2.4G: 2400MHz-2483.5MHz
Modulation Type	2.4GHz 802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM
Data Rate	WIFI 2.4GHz: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0-MCS15, HT20/HT40
Antenna Type	PCB Antenna
Antenna Gain.	For Wlan 2400~2483.5MHz: ANT A: 2.2dBi
Adapter	Model: HS06-0501000US Input: 100-240V~ 50/60Hz 0.2A Max Output: 5.0V---1.0A 5.0W
Temperature Range	-10℃~+50℃

Note: for more details, please refer to the User's manual of the EUT.

**1.2 General Information of Test**

Test Site	CerpPASS Technology Corporation(CerpPASS Laboratory) Address: Room 102, No. 5, Xing'an Road, Chang'an Town, Dongguan City, Guangdong Province Tel: +86-769-8547-1212 Fax: +86-769-8547-1912
FCC Designation No.:	CN1288
Frequency Range Investigated:	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 40,000MHz
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.



2. Radio Frequency Exposure

Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure ($S = 5\text{mW/cm}^2$) ☒ General Population/Uncontrolled exposure ($S=1\text{mW/cm}^2$)
Antenna diversity	☒ Single antenna ☐ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☒ Tx/Rx diversity
Evaluation applied	☒ MPE Evaluation* ☐ SAR Evaluation ☐ N/A

TEST RESULTS

No non-compliance noted.

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

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{3770 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm
 P = Power in mW
 G = Numeric antenna gain
 S = Power density in mW / cm^2



Maximum Permissible Exposure

Test Mode	Frequency band (MHz)	Measured power(dBm)	Tuneuptolerance(dBm)	Max.TuneupPower(dBm)	Peak output power(mW)	Antenna Gain (dBi)	Antenna gain (Numeric)	Distance (cm)	Power density (mW/cm2)	Limit (mW/cm2)
WLAN 2.4G	2412-2462	17.77	17.77±1	18.77	75.33555637	2.2	1.66	20	0.024880155	1

----- End of the report -----