



TEST REPORT

Reference No...... : WTF22F02016045E
FCC ID : 2A78BHU25-03B
Applicant..... : GUANGDONG KEGAO ELECTRONICS CO.,LTD
Address..... : No.39 East Science & Technology Ave. Zone A Shishan Science & Technology Industrial Park, Nanhai District, Foshan, Guangdong, P.R.China.
Manufacturer : The same as above
Address..... : The same as above
Product Name..... : Humidifier
Model No...... : HU25-03B, HMAW-25US, HU35-02D, HMAW-35US, HMAW-xxUS, HMAW-xxEU, HMAB-xxUS, HMAB-xxEU, HMAL-xxUS, HMAL-xxEU (xx can be 1 to 100, represent different appearance and color.)
Test specification..... : FCC CFR47 Part 1 Subpart I (Section1.1307): 2020
Date of Receipt sample : 2022-07-12
Date of Test : 2022-07-27
Date of Issue..... : 2022-08-24
Test Report Form No. : WEW-MPE-01A
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

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1 Revision History

Test Report No.	Date of Issue	Description	Status
WTF22F02016045E	2022-08-24	Original	Valid

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3 General Information

3.1 General Description of E.U.T

Product Name : Humidifier

Model No. : HU25-03B, HMAW-25US, HU35-02D, HMAW-35US, HMAW-xxUS, HMAW-xxEU, HMAB-xxUS, HMAB-xxEU, HMAL-xxUS, HMAL-xxEU (xx can be 1 to 100, represent different appearance and color.)

Model Description : All models are with same RF module and electric circuit only their indicator light quantity, appearance and color are different. Therefore the full tests were performed on model HMAW-25US.

Rated Voltage..... : AC 120V, 60Hz, 28W

3.2 Technical Characteristics of WiFi Mode

Support Standards : 802.11b, 802.11g, 802.11n

Frequency Range : 2412-2462MHz for 802.11b/g/n(HT20)

RF Output Power : 14.85dBm (Conducted)

Modulation : 802.11b: DSSS(DBPSK/DQPSK/CCK)
802.11g/n: OFDM (BPSK/QPSK/16QAM/64QAM)

Data Rate : 1Mbps for 802.11b;54Mbps for 802.11g;MCS7 for 802.11n

Quantity of Channels : 11 for 802.11b/g/n(HT20)

Channel Separation..... : 5MHz

Type of Antenna : PCB Printed Antenna

Antenna Gain : 2.5dBi

3.3 Technical Characteristics of BLE Mode

Bluetooth Version : V4.2(BLE mode)

Frequency Range : 2402-2480MHz

RF Output Power : 5.39dBm (Conducted)

Modulation : GFSK

Data Rate : 1Mbps

Quantity of Channels : 40

Channel Separation..... : 2MHz

Type of Antenna : PCB Printed Antenna

Antenna Gain : 2.5dBi

3.4 Disclaimer

The antenna gain information is provided by the customer. The laboratory is not responsible for the accuracy of the antenna gain information.



4 MAXIMUM PERMISSIBLE EXPOSURE (MPE)

4.1 Standard Applicable

According to §1.1307(b)(1) and KDB 447498 D01 General RF Exposure Guidance v06, system operating under the provisions of this section shall be operating in a manner that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure.

(a) Limits for Occupational / Controlled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	F/300	6
1500-100000	/	/	5	6

(b) Limits for General Population / Uncontrolled Exposure

Frequency range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	F/1500	30
1500-100000	/	/	1	30

Note: f = frequency in MHz; * = Plane-wave equivalents power density



4.2 MPE Calculation Method

$$S = (30 \cdot P \cdot G) / (377 \cdot R^2)$$

S = power density (in appropriate units, e.g., mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor is normally numeric gain.

R = distance to the center of radiation of the antenna (in appropriate units, e.g., cm)

4.3 MPE Calculation Result

Prediction distance (mm)	Prediction frequency (MHz)	Antenna Gain (dBi)	Numeric gain	Maximum Tune-up output power (dBm)	Maximum peak output power (mW)	PD (mW/cm ²)	Limit (mW/cm ²)
>200	WiFi (2437MHz)	2.5	1.78	15.00	31.6228	0.0111872	1.0
>200	BLE (2440MHz)	2.5	1.78	5.50	3.5481	0.0012552	1.0

Result: Pass

=====End of Report=====

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