TEST REPORT

Reference No.	:	WTU24D12294095W003
FCC ID	:	2AOTUKDDYM002D
Applicant	:	Changzhou Kaidi Electrical Inc.
Address	:	Jiangcun, Henglin Town, 213101, Changzhou City , Jiangsu Province, China
Manufacturer	:	Changzhou Kaidi Electrical Inc.
Address	:	Jiangcun, Henglin Town, 213101, Changzhou City , Jiangsu Province, China
Product	:	Control Box
Model(s)	:	KDDYM002D
Standards	:	FCC 47CFR Part 2 Subpart J Section 2.1091
Date of Receipt sample	:	2024-12-17
Date of Test	:	2024-12-26 to 2024-12-31
Date of Issue	:	2025-01-07
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 compiler and approver.

Prepared By:
Waltek Testing Group Co., Ltd.
Address: No. 77, Houjie Section, Guantai Road, Houjie Town, Dongguan City, Guangdong, China
Tel: +86-769-2267 6998
Fax: +86-769-2267 6828

Compiled by:

James Cheng / Project Engineer

Approved by:

Deval Qin / Designated Reviewer

2. Contents

3. Revision History

Test Report No.	Date of Receipt Sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTU24D12294095W003	2024-12-17	2024-12-26 to 2024-12-31	2025-01-07	Original	-	Valid

4. General Information

4.1. General Description of E.U.T.

Product:	Control Box
Model(s):	KDDYM002D
Model Description:	N/A
Test Sample No.:	1-1/1
Bluetooth Version:	4.0
Hardware Version:	V00
Software Version:	V00

4.2. Details of E.U.T.

Operation Frequency:	2402~2480MHz
Max. RF output power:	0.51dBm
Type of Modulation:	GFSK
Antenna installation:	MULTILAYER CERAMIC ANTENNA
Antenna Gain:	2.66dBi

Note:

#: The antenna gain is provided by the applicant, and the applicant should be responsible for its authenticity, WALTEK lab has not verified the authenticity of its information.

Ratings:	Input: 29.0V⎓2.0A 58.0W from adapter Input: 29.0V⎓4.0A Max 116.0W from adapter
Adapter: (Sale Without Adapter)	Model No.: KDDY008H Input: AC100-240V, 50/60Hz, 2.4A Output: 29.0V⎓2.0A 58.0W Output: 29.0V⎓4.0A Max 116.0W(Duty Cycle:Max 10%;2min ON/18min OFF) Manufacturer:CHANGZHOU KAIDI ELECTRICAL INC.

4.3. Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

4.4. Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab: N/A

Lab address: N/A

Test items: N/A

4.5. Abnormalities from Standard Conditions

None.

5. Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	FCC Part 2.1091	PASS

6. RF Exposure

Test Requirement: FCC 47CFR Part 2 Subpart J Section 2.1091

Evaluation Method: FCC 47CFR Part 1 Subpart I Section 1.1310,
KDB 447498 D01 General RF Exposure Guidance v06

6.1. Requirements

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

6.2. The procedures / limit

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	<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	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

6.3. MPE Calculation Method

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

S = power density (in appropriate units, e.g. mW/cm^2)
P = output power 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 (appropriate units, e.g., cm)

From the peak EUT RF output power, the minimum mobile separation distance, R=20cm,

as well as the gain of the used antenna, the RF power density can be obtained

6.4. Radio Frequency Radiation Exposure Evaluation

Band	Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (mW/cm^2)	Limit (mW/cm^2)
BLE	2.66	1.85	0.51	1.12	0.000413	1.0

Note:

1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.
2. Chose the maximum power to do MPE analysis.

Conclusion:

RF Exposure is FCC compliant.

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