



TEST REPORT

Reference No...... : WTU22F07136949E
FCC ID : 2AJ2N-S830-PL-DBT
Applicant..... : EuControls Corporation
Address..... : 19210 S. Vermont Ave Bldg C, Ste 310 Gardena, CA 90248 United State
Manufacturer : The same as above
Address..... : The same as above
Product Name..... : Dimmer
Model No..... : S830-PL-DBT, S830-DBT
Test specification..... : FCC CFR47 Part 1 Subpart I (Section 1.1307): 2020
Date of Receipt sample : 2022-09-13
Date of Test : 2022-09-13
Date of Issue..... : 2022-09-28
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.

Prepared By:

Waltek Testing Group (Foshan) Co., Ltd.

Address: No.13-19, 2/F., 2nd Building, Sunlink International Machinery City,
Chencun, Shunde District, Foshan, Guangdong, China

Tel:+86-757-23811398 Fax:+86-757-23811381 E-mail:info@waltek.com.cn

Tested by:

Roy Hong

Approved by:

Danny Zhou



1 Revision History

Test Report No.	Date of Issue	Description	Status
WTU22F07136949E	2022-09-28	Original	Valid

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3 General Information

3.1 General Description of E.U.T

Product Name	: Dimmer
Model No.	: S830-PL-DBT, S830-DBT
Model Description	: Two models are identical except for the sensor. Therefore the full tests were performed on model S830-PL-DBT.
Rated Voltage.....	: DC 12V
Battery Capacity	: ---
Power Adapter	: ---

3.2 Technical Characteristics of EUT

Bluetooth Version	: V4.2(BLE mode)
Frequency Range	: 2402-2480MHz
RF Output Power	: 6.961dBm (Conducted)
Modulation	: GFSK
Data Rate	: 1Mbps
Quantity of Channels	: 40
Channel Separation.....	: 2MHz
Type of Antenna	: Ceramic Antenna
Antenna Gain	: 2.5dBi

3.3 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	2480	2.5	1.78	7.0	5.0119	0.0017731	1.0

Result: Pass

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

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