



TEST REPORT

Reference No...... : WTF21F09100452W002
FCC ID : 2ALA3-CBM003A
Applicant..... : Casambi Technologies Oy
Address..... : Bertel Jungin Aukio 1 E, 02600 Espoo, Finland
Manufacturer : Sanmina Corporation
Address..... : 312, Qing Yang South Road, Economic and Technical Development Zone, Kunshan Jiangsu Sheng, 215300, China
Product Name..... : Lighting control system
Model No..... : CBM-003A
Standards..... : FCC CFR47 Part 15 Subpart C (Section 15.247): 2020
Date of Receipt sample : 2021-10-22
Date of Test : 2021-10-22 to 2021-11-02
Date of Issue..... : 2021-11-30
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 (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

Compiled by:

Roy Hong / Project Engineer

Approved by:



Danny Zhou / Manager



1 Revision History

Test Report No.	Date of Issue	Description	Status
WTF21F09100452W002	2021-11-30	Original	Valid

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2 Contents

	Page
1 REVISION HISTORY	2
2 CONTENTS	3
3 GENERAL INFORMATION	4
3.1 GENERAL DESCRIPTION OF E.U.T	4
3.2 TECHNICAL CHARACTERISTICS OF EUT	4
4 MAXIMUM PERMISSIBLE EXPOSURE (MPE)	5
4.1 STANDARD APPLICABLE	5
4.2 MPE CALCULATION METHOD	6
4.3 MPE CALCULATION RESULT	6

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3 General Information

3.1 General Description of E.U.T

Product Name : Lighting control system
Model No. : CBM-003A
Model Description : ---
Rated Voltage..... : DC 2.5-3.6V
Battery Capacity : ---
Power Adapter : ---

3.2 Technical Characteristics of EUT

Bluetooth Version..... : V4.0(BLE mode)
Frequency Range : 2402-2480MHz
RF Output Power : -0.71dBm (Conducted)
Modulation : GFSK
Data Rate : 1Mbps, 2Mbps
Quantity of Channels : 40
Channel Separation..... : 2MHz
Type of Antenna : External Antenna
Antenna Gain : 0dBi
Lowest Oscillation..... : 32MHz



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	2472	4.71	2.96	-4.611	0.346	0.0002036	1.0

Result: Pass

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

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