

QuieTek

a  **DEKRA** company



RF Exposure Evaluation Declaration

Product Name : Cassia Bluetooth Multi-color LED

Model No. : CLT1000

FCC ID : 2AGF9CLT1000

Applicant : Beijing Cassia Networks Technology Co.,Ltd

Address : Room 206, District B, 2/F, No. 12, Xinxing Road, Haidian District, Beijing

Date of Receipt : Feb. 04, 2016

Issued Date : Feb. 26, 2016

Report No. : 1612104R-RF-US-P20V01

Report Version : V1.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF or any agency of the government.

The test report shall not be reproduced without the written approval of QuieTek Corporation.

Test Report Certification

Issued Date : Feb. 26, 2016

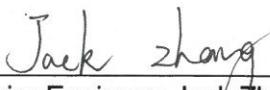
Report No. : 1612104R-RF-US-P20V01

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Product Name : Cassia Bluetooth Multi-color LED
Applicant : Beijing Cassia Networks Technology Co.,Ltd
Address : Room 206,Distrif B,2/F,No.12,Xinxi Road,Haidian District,Beijing
Manufacturer : Beijing Cassia Networks Technology Co.,Ltd
Address : Room 206,Distrif B,2/F,No.12,Xinxi Road,Haidian District,Beijing
Model No. : CLT1000
FCC ID : 2AGF9CLT1000
EUT Voltage : 120-240Vac
Brand Name : Cassia
Applicable Standard : KDB 447498D01V06V02
FCC Part1.1310(b)
Test Result : Complied
Performed Location : Quietek Corporation - Suzhou EMC Laboratory
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: 800392

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(Engineering Manager : Harry Zhao)

Laboratory Information

We, **QuieTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited/accepted(audited or listed) by the following related bodies in compliance with ISO 17025, EN 45001 and specified testing scope:

Taiwan R.O.C. : BSMI, NCC, TAF
USA : FCC
Japan : VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from QuieTek Corporation's Web Site : <http://www.quietek.com/english/about/certificates.aspx?bval=5>
The address and introduction of QuieTek Corporation's laboratories can be founded in our Web site : http://www.quietek.com/index_en.aspx

If you have any comments, Please don't hesitate to contact us. Our contact information is as below:

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TEL : +86-512-6251-5088 / FAX : 86-512-6251-5098 E-Mail : service@quietek.com

History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1612104R-RF-US-P20V01	V1.0	Initial Issued Report	Feb. 26, 2016

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	Cassia Bluetooth Multi-color LED
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

- Antenna Gain:

Antenna	Manufacturer	Model No.	Peak Gain
Monopole Antenna	DONGGUAN WENCHANG ELECTRONIC CO LTD	N/A	1.66dBi

RF Exposure Evaluation

- Output Power into Antenna & RF Exposure Evaluation Distance:

Test Mode	Frequency Band (MHz)	Maximum Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm ²)
Bluetooth	2402~2480MHz	4.7315	0.001380

Note: The standalone power density P_d (4th column) at a distance of 20 cm calculated from the Friis transmission formula is below the limit of 1 mW/cm².

The End
