



中国认可
国际互认
检测
TESTING
CNAS L5313



DEKRA

RF Exposure Evaluation Declaration

Product : EZ-BLE Module with HomeKit
Model No. : CYBLE-413136-01
CYBLE-473142-01
CYBLE-413149-01
CYBLE-473148-01

Applicant : Cypress Semiconductor

Address : 198 Champion Ct, San Jose, California 95134 United States

Date of Receipt : Mar. 30, 2018

Report No. : 1832181R-RF-CE-P19V01

Issued Date : Apr. 16, 2018

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 CNAS, TAF or any agency of the government.

The test report shall not be reproduced without the written approval of DEKRA Testing & Certification (Suzhou) Co., Ltd.

Test Report Certification

Issued Date : Apr. 16, 2018

Report No. 1832181R-RF-CE-P19V01



Product Name : EZ-BLE Module with HomeKit

Applicant : Cypress Semiconductor

Address : 198 Champion Ct, San Jose, California 95134
United States

Manufacturer : Wujiang Sigmatron Electronics Co., Ltd

Address : 386 Huahong Rd, Wujiang, Suzhou, Jiangsu, China

Model No. : CYBLE-413136-01
CYBLE-473142-01
CYBLE-413149-01
CYBLE-473148-01

EUT Voltage : DC 3.0V-3.6V

Test Voltage : AC 230V/50Hz


Applicable : EN 62479: 2010


Standard : Radio Communications (Electromagnetic Radiation - Human Exposure) Standard 2003 Australia + A1: 2011, No 1
Maximum Exposure Levels to Radiofrequency Fields — 3 kHz to 300 GHz Radiation Protection Series Publication No. 3


Test Result : Complied

Performed : DEKRA Testing & Certification (Suzhou) Co., Ltd.

Location : No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China
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1. RF Exposure Evaluation

1.1.Limits

According to EN 62479:Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)

Annex A

Derivation of low-power exclusion level from ICNIRP and IEEE exposure limits

A.2 Low-power exclusion level P_{\max} based on considerations of SAR

When SAR is the basic restriction, a conservative minimum value for P_{\max} can be derived, equal to the localized SAR limit (SAR_{\max}) multiplied by the averaging mass (m):

$$P_{\max} = SAR_{\max} * m$$

Table A.1 – Example values of SAR-based P_{\max} for some cases described by ICNIRP, IEEE Std C95.1-1999 and IEEE Std C95.1-2005

Guideline / Standard	SAR limit, SAR_{\max} W/kg	Averaging mass, m g	P_{\max} mW	Exposure tier ^a	Region of body ^a
ICNIRP [1]	2	10	20	General public	Head and trunk
	4	10	40	General public	Limbs
	10	10	100	Occupational	Head and trunk
	20	10	200	Occupational	Limbs
IEEE Std C95.1-1999 [2]	1,6	1	1,6	Uncontrolled environment	Head, trunk, arms, legs
	4	10	40	Uncontrolled environment	Hands, wrists, feet and ankles
	8	1	8	Controlled environment	Head, trunk, arms, legs
	20	10	200	Controlled environment	Hands, wrists, feet and ankles
IEEE Std C95.1-2005 [3]	2	10	20	Action level	Body except extremities and pinnae
	4	10	40	Action level	Extremities and pinnae
	10	10	100	Controlled environment	Body except extremities and pinnae
	20	10	200	Controlled environment	Extremities and pinnae
^a Consult the appropriate standard for more information and definitions of terms.					

1.2. RF Exposure calculations

From EN 62479 table A.1, the Low power exclusion level should be calculated by the following formula:

$$P_{\max} = SAR_{\max} * m = 20mW$$

Where, P_{\max} = Low power exclusion level (mW), SAR_{\max} = SAR limit (W/kg), m = The weight of tissue (kg)

1.3. The Result of RF Exposure Evaluation

Antenna Gain

BT Antenna List

Antenna manufacturer	N/A								
Antenna Delivery	<input checked="" type="checkbox"/>	1*TX+1*RX		<input type="checkbox"/>	2*TX+2*RX		<input type="checkbox"/>	3*TX+3*RX	
Antenna technology	<input checked="" type="checkbox"/>	SISO							
	<input type="checkbox"/>	MIMO	<input type="checkbox"/>	Basic					
			<input type="checkbox"/>	CDD					
			<input type="checkbox"/>	Beam-forming					
Antenna Type	<input type="checkbox"/>	External	<input type="checkbox"/>	Dipole					
	<input checked="" type="checkbox"/>	Internal	<input type="checkbox"/>	PIFA					
			<input checked="" type="checkbox"/>	PCB					
			<input type="checkbox"/>	Ceramic Chip Antenna					
			<input type="checkbox"/>	Metal plate type F antenna					
Antenna Gain	-0.5dBi								

RF Exposure Evaluation:

The maximum average power of the device is 7.38dBm and it is less than 20 mW (13.01dBm), so it is compliance with exposure requirement.

_____ The End _____