











SAR Exemption Evaluation Report

Product Name: EZ-BLE Module with HomeKit

Model No. : CYBLE-413136-01

FCC ID : WAP3136

Applicant: Cypress Semiconductor

Address: 198 Champion Ct, San Jose, California 95134

United States

Date of Receipt: Mar. 09, 2017

Test Date Mar. 09, 2017~ Apr. 09, 2017

Issued Date : Apr. 19, 2017

Report No. : 1732037R-RF-US-P20V02

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 any agency of the government.

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

Co., Ltd. Corporation.



Test Report Certification

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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

FCC ID : WAP3136

EUT Voltage : DC 3.0V-3.6V

Applicable Standard : KDB 447498 D01v06

Test Result : Complied

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

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1. RF Exposure Evaluation

1.1. Limits

According to KDB 447498 D01 General RF Exposure Guidance v06

4.3.1 Standalone SAR test exclusion considerations

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] \cdot [f(GHz)] \leq 3.0 for 1-g SAR and \leq 7.5 for 10-g extremity SAR,where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is \leq 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is \leq 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

- 2) At 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following, and as illustrated in Appendix B:
- a) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz
- b) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance 50 mm)·10] mW at > 1500 MHz and \leq 6 GHz
- 3) The 1-g and 10-g SAR test exclusion thresholds for below 100 MHz at test separation distances ≤ 50 mm are determined by:
- a) The power threshold at the corresponding test separation distance at 100 MHz in step 2) is multiplied by [1 + log(100/f(MHz))] for test separation distances > 50 mm and < 200 mm
- b) The power threshold determined by the equation in a) for 50 mm and 100 MHz is multiplied by $\frac{1}{2}$ for test separation distances \leq 50 mm
- c) SAR measurement procedures are not established below 100 MHz. When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any test results to be acceptable. Note: when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.



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 and 78% RH.

1.3. Test Result of RF Exposure Evaluation

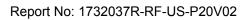
Product		EZ-BLE Module with HomeKit
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

Antenna Gain:

- 7 internia Gann								
Model No.	N/A							
Antenna manufacturer	N/A							
Antenna Delivery		1*TX+1*RX						
Antenna technology								
		МІМО		Basic				
				CDD				
				Sectorized				
				Beam	n-forming			
Antenna Type		External		Dipole				
				Sectorized				
		Internal		PIFA				
				РСВ				
				Ceramic Chip Antenna				
				Metal plate type F antenna				
A	Ant Gain							
Antenna Technology	(dBi)							
⊠SISO	-0.5							

Based on The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm and the formula below:

Estimated SAR=
$$\sqrt{f(GHz)} * \frac{\text{(Max Power of channel, mW)}}{\text{Min. Separation Distance, mm}}$$



Conclusion: 2400MHz-2480MHz SAR was not required.



Band Exposure Condition		Pmax	Pmax	Distance			Stand-alone		
				f(GHz)	calculation result	Test	SAR Test		
	(dBm)	(mu)	(mm)			exclusion	SAN 1681		
	(ubiii)	(mw)				threshold			
ВТ	Body	9.17	8.26	5	2.44	2.58	3.00	No	

———— The End	