

# RF Exposure Evaluation Report

**Product** : TouchLock Bike Pro  
**Trade mark** : BIO-key  
**Model/Type reference** : BF1509  
**Serial Number** : N/A  
**Report Number** : EED32K00105702  
**FCC ID** : 2AIKJ-BF1509  
**Date of Issue** : Jun. 05, 2018  
47 CFR Part 1.1307  
**Test Standards** : 47 CFR Part 2.1093  
KDB 447498D01v06  
**Test result** : PASS

Prepared for:

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Check No.: 1022518894



## 2 Version

Version No.	Date	Description
00	Jun. 05, 2018	Original

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## 4 General Information

### 4.1 Client Information

Applicant:	BIO-key Hong Kong Limited
Address of Applicant:	Unit 1212, 12/F, Grand City Plaza, 1-17 Sai Lau Kok Road, Tsuen Wan, New Territories, Hong Kong
Manufacturer:	Dongguan Otoma Industrial Co., Ltd.
Address of Manufacturer:	No. 8, Shanglang Road, Xiabian Zone, Chang' an Town, Dongguan City, Guangdong Province, P. R. China
Factory:	Dongguan Otoma Industrial Co., Ltd.
Address of Factory:	No. 8, Shanglang Road, Xiabian Zone, Chang' an Town, Dongguan City, Guangdong Province, P. R. China

### 4.2 General Description of EUT

Product Name:	TouchLock Bike Pro
Model No.(EUT):	BF1509
Trade mark:	BIO-key
EUT Supports Radios application:	BT 4.1 Signal mode , 2402-2480MHz

### 4.3 Product Specification subjective to this standard

Frequency Range:	2402-2480MHz
Modulation Type:	GFSK
Test power grade:	(manufacturer declare)N/A
Test software of EUT:	(manufacturer declare)BLUENRG_GUI.exe
Antenna Type:	PCB Antenna
Antenna Gain:	0.49dBi
Power Supply:	Battery:3.7V, 130mAh
Hardware Version:	(manufacturer declare)5.0
Software version:	(manufacturer declare)29
Output Power:	3.361dBm
	The Conducted Peak Output Power data refer to the report EED32K00105701
Sample Received Date:	May 03, 2018
Sample tested Date:	May 03, 2018 to Jun. 05, 2018
Remark:The tested sample(s) and the sample information are provided by the client.	

#### **4.4 Test Location**

All tests were performed at:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101

Telephone: +86 (0) 755 3368 3668 Fax: +86 (0) 755 3368 3385

No tests were sub-contracted.

FCC Designation No.: CN1164

#### **4.5 Deviation from Standards**

None.

#### **4.6 Abnormalities from Standard Conditions**

None.

#### **4.7 Other Information Requested by the Customer**

None.



## 5 SAR Evaluation

### 5.1 RF Exposure Compliance Requirement

#### 5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06  
Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

#### 5.1.2 Limits

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

$$\left[ \frac{\text{max. power of channel, including tune-up tolerance, mW}}{(\text{min. test separation distance, mm}) \cdot \sqrt{f(\text{GHz})}} \right] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$
$$f(\text{GHz}) \text{ is the RF channel transmit frequency in GHz}$$

Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>

The result is rounded to one decimal place for comparison

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  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion

#### 5.1.3 EUT RF Exposure

The Max Conducted Output Power is 3.361dBm;

The best case gain of the antenna is 0.49dBi.

$\text{EIRP} = 3.361\text{dBm} + 0.49\text{dBi} = 3.851\text{dBm}$

3.851dBm logarithmic terms convert to numeric result is nearly 2.427mW

According to the formula. calculate the EIRP test result:

$$\left[ \frac{\text{max. power of channel, including tune-up tolerance, mW}}{(\text{min. test separation distance, mm}) \cdot \sqrt{f(\text{GHz})}} \right]$$

General RF Exposure =  $(2.427\text{mW} / 5 \text{ mm}) \times \sqrt{2.480\text{GHz}} = 0.764$  ①

SAR requirement:

S= 3.0

② ;

① < ②.

So the SAR report is not required.

## PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32K00105701 for EUT external and internal photos.

\*\*\* End of Report \*\*\*

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