# RF EXPOSURE REPORT



#### Report No.: Q190505S005-FCC-H

Supersede Report No.: N/A						
Applicant	3Dconnexic	3Dconnexion				
Product Name	CADMOUS	E PRO WIRELESS LEFT				
Model No.	3DX-60006	6				
Serial No.	3DX-70007	9				
Test Standard	FCC 2.1093	3				
Test Date	June 12, 20	)19				
Issue Date	June 13, 20	)19				
Test Result	Pass	Fail				
Equipment compl	ied with the s					
Equipment did no	t comply with	the specification				
Aaron Liang David Huang						
Aaron Liang David Huang						
Test Engineer Checked By						
This test report may be reproduced in full only						
Test result presented in this test report is applicable to the tested sample only						

Issued by:

#### SIEMIC (SHENZHEN-CHINA) LABORATORIES

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# Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Country/Region	Scope		
USA	EMC, RF/Wireless, SAR, Telecom		
Canada	EMC, RF/Wireless, SAR, Telecom		
Taiwan	EMC, RF, Telecom, SAR, Safety		
Hong Kong	RF/Wireless, SAR, Telecom		
Australia	EMC, RF, Telecom, SAR, Safety		
Korea	EMI, EMS, RF, SAR, Telecom, Safety		
Japan	EMI, RF/Wireless, SAR, Telecom		
Singapore	EMC, RF, SAR, Telecom		
Europe	EMC, RF, SAR, Telecom, Safety		

## Accreditations for Conformity Assessment



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## 1. Report Revision History

Report No.	Report Version	Description	Issue Date
Q190505S005-FCC-H	NONE	Original	June 13, 2019

## 2. Customer information

Applicant Name	3Dconnexion
Applicant Add	7, Boulevard du Jardin Exotique, 98000 Monaco
Manufacturer	3Dconnexion
Manufacturer Add	7, Boulevard du Jardin Exotique, 98000 Monaco

## 3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park
Lab Address	South Side of Zhoushi Road, Bao'an District, Shenzhen, Guangdong China
	518108
FCC Test Site No.	535293
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0



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# 4. Equipment under Test (EUT) Information

Description of EUT:	CADMOUSE PRO WIRELESS LEFT
Main Model:	3DX-600066
Serial Model:	3DX-700079
Date EUT received:	May 05, 2019
Test Date(s):	June 12, 2019
Antenna Gain:	0.5dBi
Antenna Type:	Ceramic Antenna
Anomia Type.	
Type of Modulation:	BLE: GFSK 2.4G: GFSK
RF Operating Frequency (ies):	BLE: 2402-2480 MHz 2.4G: 2404-2477MHz
Number of Channels:	BLE: 40CH 2.4G: 5CH
Port:	Please refer to user's manual
Input Power:	Battery: Model: 603450 Spec: 3.7V, 1100mAh, 4.07Wh Limited Charge Voltage: 4.2V
Trade Name :	3Dconnexion
FCC ID:	2AAHQ-CMPWL



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# 5. <u>FCC §2.1093 - Radiofrequency radiation exposure evaluation: portable</u> devices.

## 5.1 RF Exposure

#### Standard Requirement:

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

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:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)].

- $[\sqrt{f_{(GHz)}}] \le 3.0$  for 1-g SAR and  $\le 7.5$  for 10-g extremity SAR,<sup>16</sup> where
- f<sub>(GHz)</sub> 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  $\leq$  5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

#### result = $P\sqrt{F}/D$

P= Maximum turn-up power in mW

- F= Channel frequency in GHz
- D= Minimum test separation distance in mm



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## 5.2 Test Result

BLE Mode:

Modulation	СН	Freq (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	-0.87	-0.5±1	0.5	1.12	0.35	3
	Mid	2440	-2.07	-2.5±1	-1.5	0.71	0.22	3
	High	2480	-3.24	-2.5±1	-1.5	0.71	0.22	3

## Result: Compliance

No SAR measurement is required.