



# SAR Evaluation Report

**Application No.:** HKEM1911001124AT  
**Applicant:** Nacon (HK) Limited  
**Address of Applicant:** Unit 1505, 148 Electric Road, North Point, Hong Kong.  
**Manufacturer:** Nacon (HK) Limited.  
**Address of Manufacturer:** Unit 1505, 148 Electric Road, North Point, Hong Kong.  
**Equipment Under Test (EUT):**  
**EUT Name:** PS4 Revolution Unlimited Pro Controller  
**Model No.:** BB4462  
**Trade mark:** Nacon  
**FCC ID:** 2AVPR-4462C  
**Standards:** 47 CFR Part 1.1310  
 47 CFR Part 2.1093  
 KDB447498D01 General RF Exposure Guidance v06  
**Date of Receipt:** 2019-11-07  
**Date of Test:** 2019-11-08 to 2019-11-23  
**Date of Issue:** 2019-11-29

<b>Test Result :</b>	<b>PASS*</b>
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\* In the configuration tested, the EUT complied with the standards specified above.

Keny Xu  
EMC Laboratory Manager





## 2 Version

<i>Revision Record</i>				
<i>Version</i>	<i>Chapter</i>	<i>Date</i>	<i>Modifier</i>	<i>Remark</i>
01		2019-11-29		Original

<b>Authorized for issue by:</b>			
		 <hr/> <b>Calvin Weng /Project Engineer</b>	
		 <hr/> <b>Eric Fu /Reviewer</b>	





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## 4 General Information

### 4.1 General Description of EUT

Power Supply:	DC3.7V by Li-Polymer battery Recharge input: DC5V500mA
Cable:	USB type C cable: 3m shielded cable with two ferrite cores
Operation Frequency:	2402MHz to 2480MHz
Bluetooth Version:	4.2
Spectrum Spread Technology:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, $\pi/4$ DQPSK
Number of Channels:	79
Channel Spacing:	1MHz
Antenna Type:	PCB antenna
Antenna Gain:	2.64dBi
HW version:	2.15
SW version:	1.25
SN:	0000000
Test software:	eclipse.exe



## 4.2 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China  
518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594

No tests were sub-contracted.

## 4.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 3816.01)**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

- **VCCI**

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

- **FCC –Designation Number: CN1178**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

- **Innovation, Science and Economic Development Canada**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

## 4.4 Deviation from Standards

None.

## 4.5 Abnormalities from Standard Conditions

None.

## 4.6 Other Information Requested by the Customer

None.



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## 5 SAR Evaluation

### 5.1 RF Exposure Compliance Requirement

#### 5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

##### 4.3.1. 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:

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

- $f(\text{GHz})$  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. power (including tune-up tolerance) is  $\overline{7.16}$  dBm on the lowest channel 2.402 GHz (\*)  
 7.16 dBm logarithmic terms convert to numeric result is nearly 5.20 mW

According to the formula. calculate the test exclusion thresholds:

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

$$\text{General RF Exposure} = (5.20 \text{ mW} / 5 \text{ mm}) \times \sqrt{2.402 \text{ GHz}} = 1.61 \quad (1)$$

SAR requirement:

$$S = 3.0 \quad (2)$$

$$(1) < (2)$$

So the SAR report is not required.

(\*) Max. power refer to Report No.:HKEM191100112402

- End of the Report -

