



**XIAMEN EVERESPORTS GOODS CO., LTD**  
No. 101 Ji'an Road, Tong'an District, Xiamen, China  
Tel : 0086-592-5216578

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# **EVS BLE Module**

## **User Guide**

Version 1.0



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## Introduction

EVS BLE module is a Bluetooth Low Energy (BLE) module based on Nordic nRF51822 SoC, incorporating a rich set of peripherals, such as GPIO, UART, SPI, I2C, ADC, PWM, Timers, etc..

EVS BLE module simply populates the pins of nRF51822 to easily accessible stamp-like pads, allowing fast prototyping and fast product integration. This module may act as a BLE client, master or both at the same time.

For details on nRF51822, please consult the product specification of nRF51822. Some of the highlights:

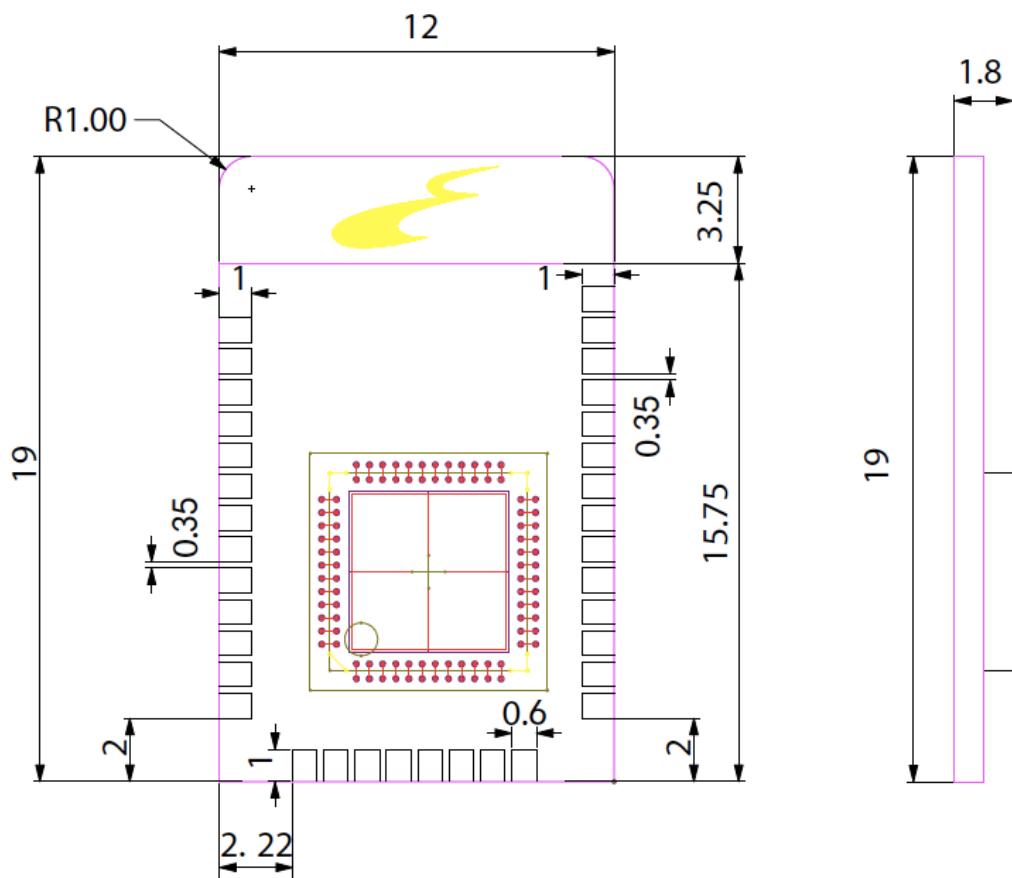
- ARM Cortex M0 processor with SWD debug interface
- BLE ready
- Memory: 256kB Flash + 16kB RAM
- Flexible pin multiplex configurations
- Rich set of peripherals: GPIO, UART, SPI, I2C, ADC, PWM, Timer, AES HW encryption, quadrature decoder, RTC, etc.



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## PCB Dimensions

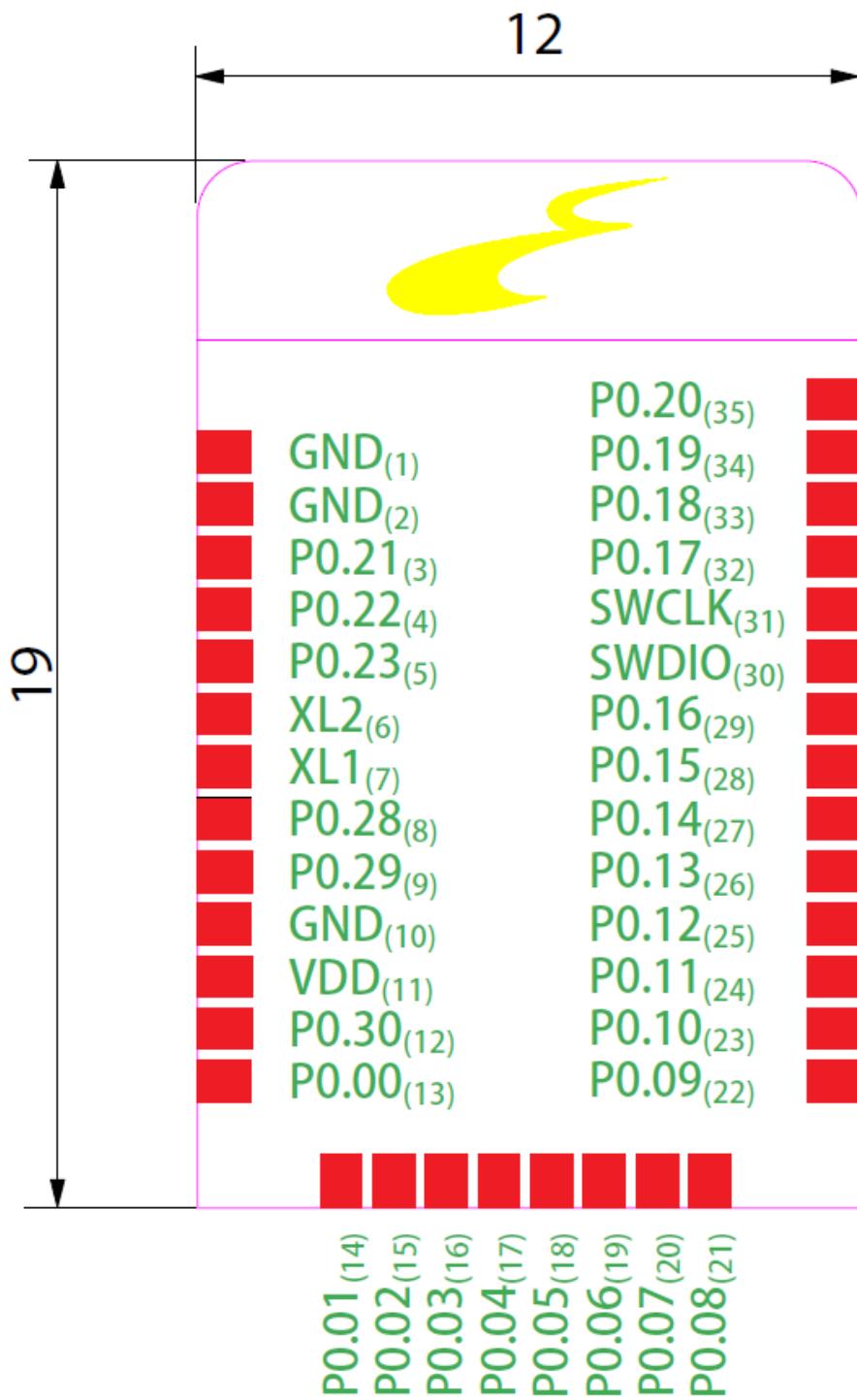
PCB SIZE : (L) 19 x (W) 12 mm



Top View (unit: mm)



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Top View (unit: mm)



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## Pin Assignment

Pin No.	Name	Function	Description
(1)(2)	<b>GND</b>	Ground	The pad must be connected to a solid ground plane.
(3)	<b>P0.21</b>	Digital I/O	General purpose I/O pin.
(4)	<b>P0.22</b>	Digital I/O	General purpose I/O pin.
(5)	<b>P0.23</b>	Digital I/O	General purpose I/O pin.
	<b>P0.26</b>	Digital I/O	General purpose I/O pin.
(6)	<b>AIN0</b>	Analog input	ADC/LPCOMP input 0.
	<b>XL2</b>	Analog output	Connection for 32.768 kHz crystal.
	<b>P0.27</b>	Digital I/O	General purpose I/O pin.
(7)	<b>AIN1</b>	Analog input	ADC/LPCOMP input 1.
	<b>XL1</b>	Analog input	Connection for 32.768 kHz crystal or external 32.768 kHz clock reference.
(8)	<b>P0.28</b>	Digital I/O	General purpose I/O pin.
(9)	<b>P0.29</b>	Digital I/O	General purpose I/O pin.
(10)	<b>GND</b>	Ground	The pad must be connected to a solid ground plane.
(11)	<b>VDD</b>	Power	Power supply.
(12)	<b>P0.30</b>	Digital I/O	General purpose I/O pin.
	<b>P0.00</b>	Digital I/O	General purpose I/O pin.
(13)	<b>AREF0</b>	Analog input	ADC/LPCOMP reference input 0.
	<b>P0.01</b>	Digital I/O	General purpose I/O pin.
(14)	<b>AIN2</b>	Analog input	ADC/LPCOMP input 2.
	<b>P0.02</b>	Digital I/O	General purpose I/O pin.
(15)	<b>AIN3</b>	Analog input	ADC/LPCOMP input 3.
	<b>P0.03</b>	Digital I/O	General purpose I/O pin.
(16)	<b>AIN4</b>	Analog input	ADC/LPCOMP input 4.
	<b>P0.04</b>	Digital I/O	General purpose I/O pin.
(17)	<b>AIN5</b>	Analog input	ADC/LPCOMP input 5.



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<b>Pin No.</b>	<b>Name</b>	<b>Function</b>	<b>Description</b>
<b>(18)</b>	<b>P0.05</b>	Digital I/O	General purpose I/O pin.
	<b>AIN6</b>	Analog input	ADC/LPCOMP input 6.
<b>(19)</b>	<b>P0.06</b>	Digital I/O	General purpose I/O pin.
	<b>AIN7</b>	Analog input	ADC/LPCOMP input 7.
	<b>AREF1</b>	Analog input	ADC/LPCOMP reference input 1.
<b>(20)</b>	<b>P0.07</b>	Digital I/O	General purpose I/O pin.
<b>(21)</b>	<b>P0.08</b>	Digital I/O	General purpose I/O pin.
<b>(22)</b>	<b>P0.09</b>	Digital I/O	General purpose I/O pin.
<b>(23)</b>	<b>P0.10</b>	Digital I/O	General purpose I/O pin.
<b>(24)</b>	<b>P0.11</b>	Digital I/O	General purpose I/O pin.
<b>(25)</b>	<b>P0.12</b>	Digital I/O	General purpose I/O pin.
<b>(26)</b>	<b>P0.13</b>	Digital I/O	General purpose I/O pin.
<b>(27)</b>	<b>P0.14</b>	Digital I/O	General purpose I/O pin.
<b>(28)</b>	<b>P0.15</b>	Digital I/O	General purpose I/O pin.
<b>(29)</b>	<b>P0.16</b>	Digital I/O	General purpose I/O pin.
<b>(30)</b>	<b>SWDIO/nRESET</b>	Digital I/O	System reset (active low). Also hardware debug and flash programming I/O.
<b>(31)</b>	<b>SWCLK</b>	Digital input	Hardware debug and flash programming I/O.
<b>(32)</b>	<b>P0.17</b>	Digital I/O	General purpose I/O pin.
<b>(33)</b>	<b>P0.18</b>	Digital I/O	General purpose I/O pin.
<b>(34)</b>	<b>P0.19</b>	Digital I/O	General purpose I/O pin.
<b>(35)</b>	<b>P0.20</b>	Digital I/O	General purpose I/O pin.



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## **Electrical Specifications**

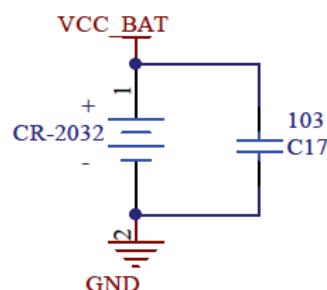
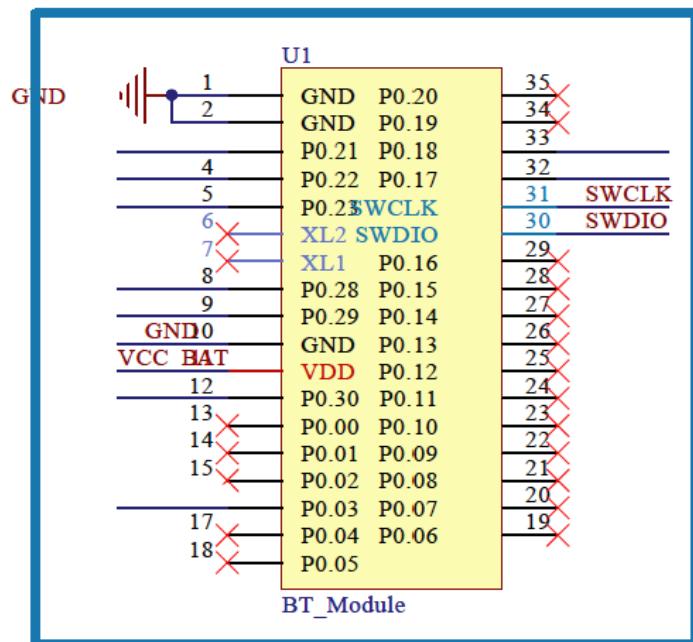
### ***Operating Conditions***

Symbol	Description	Notes	Min	Typical	Max	Units
VDD	Supply voltage		2.1	3	3.6	V
TA	Operating temperature		0	25	80	°C



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## Typical Setup





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## **FCC Caution**

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.