

# SLAMWARE

Modular Autonomous Robot Localization and Navigation Solution

BREAKOUT User Manual

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SLAMWARE CORE BREAKOUT is an expansion board used for instructing user to debug. It provides SLAMWARE CORE MODULE output including ETH, LBUS, CBUS.

## Function & Feature

- **Power supply:** 5V voltage direct current supply
- **Port:** output including ETH LBUS CBUS

## Interface Structure & Usage

The following photo describes the connection structure of SLAMWARE CORE BREAKOUT. This expansion board requires 5v voltage direct current supply and the required power supply of other parts in the board can be obtained through power network inside the module.

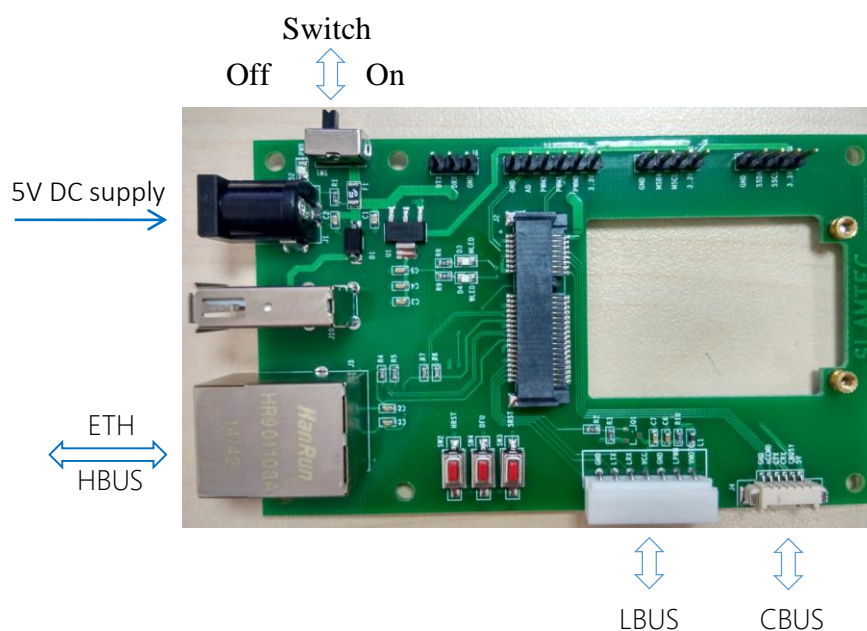


Figure 1-1 SLAMWARE Breakout Module Internal Structure

Main operational interfaces:

- LBUS RPLIDAR communication interface (Serial port)
- CBUS Low-speed control bus interface (Serial port)
- HBUS High-speed control bus interface(Ethernet)

## Maximum Rating

Item	Range
Power supply voltage	-0.5V ~+6.0V
Pin voltage	-0.3V ~V <sub>sc</sub> +0.3V
Operating temperature range	-20°C ~+65°C

Figure 2-1 SLAMWARE Breakout Maximum Rating

## Electrical Characteristics

TA = 20°C

Symbol	Parameter	Minimum Value	Typical Value	Maximum Value	Unit
V <sub>DD</sub>	Rated system working voltage	4.75	5	5.25	V
I <sub>DD</sub>	System current consumption	-	TBD	TBD	mA
V <sub>DD_IO</sub>	Digital interface voltage range	2.9	3.3	3.8	V
I <sub>DD_IO</sub>	Digital interface current consumption	-	-	TBD	mA
V <sub>DIL</sub>	Low-level digital input	-	-	0.2*V <sub>DD_IO</sub>	V
V <sub>DIH</sub>	High-level digital input	0.8*V <sub>DD_IO</sub>	-	-	V
V <sub>DOL</sub>	Low-level digital output	-	-	0.2*V <sub>DD_IO</sub>	V
V <sub>DOH</sub>	High-level digital output	0.8*V <sub>DD_IO</sub>	-	-	V
I <sub>STANDBY</sub>	Current consumption @ off mode	-	-	TBD	mA

Figure 2-2 SLAMWARE Breakout Electrical Characteristics

The main interfaces of SLAMWARE CORE BREAKOUT are power, LBUS, CBUS, ETH, etc. ETH is the standard interface, and the usage of power, LBUS, CBUS is defined as below:

#### Pin Definition

- Power: Positive pole is the inside one and negative is outside



No.	Name	Description
1	NC	Floating pin. Please set the pin not connected and not receiving any signal.
3	GND	System ground wires

*Figure 3-1 SLAMWARE Breakout Power Pin Definition*

- LBUS:

No.	Name	Description
1	VMOTO	RPLIDAR Electrical machine power supply. +5V
2	LPWM	RPLIDAR Electrical machine PWM speed control signal. High effective
3	GND	RPLIDAR Electrical machine ground wires
4	VCC	RPLIDAR Ranging core power supply. +5V
5	LRX	RPLIDAR Ranging core digital input
6	LTX	RPLIDAR Ranging core digital output
7	GND	RPLIDAR Ranging core ground wires

*Figure 3-2 SLAMWARE Breakout LBUS Pin Definition*

- CBUS:

No.	Name	Description
1	5V	Control bus power output
2	CBUSY	Control bus busy signal
3	CRX	Control bus digital output signal
4	CTX	Control bus digital input signal
5	nCCMD	Control bus command interrupt request signal
6	GND	Control bus system ground wires

*Figure 3-3 SLAMWARE Breakout CBUS Pin Definition*

## 4. Mechanical Design

The mechanical configuration of SLAMWARE CORE BREAKOUT is as below:

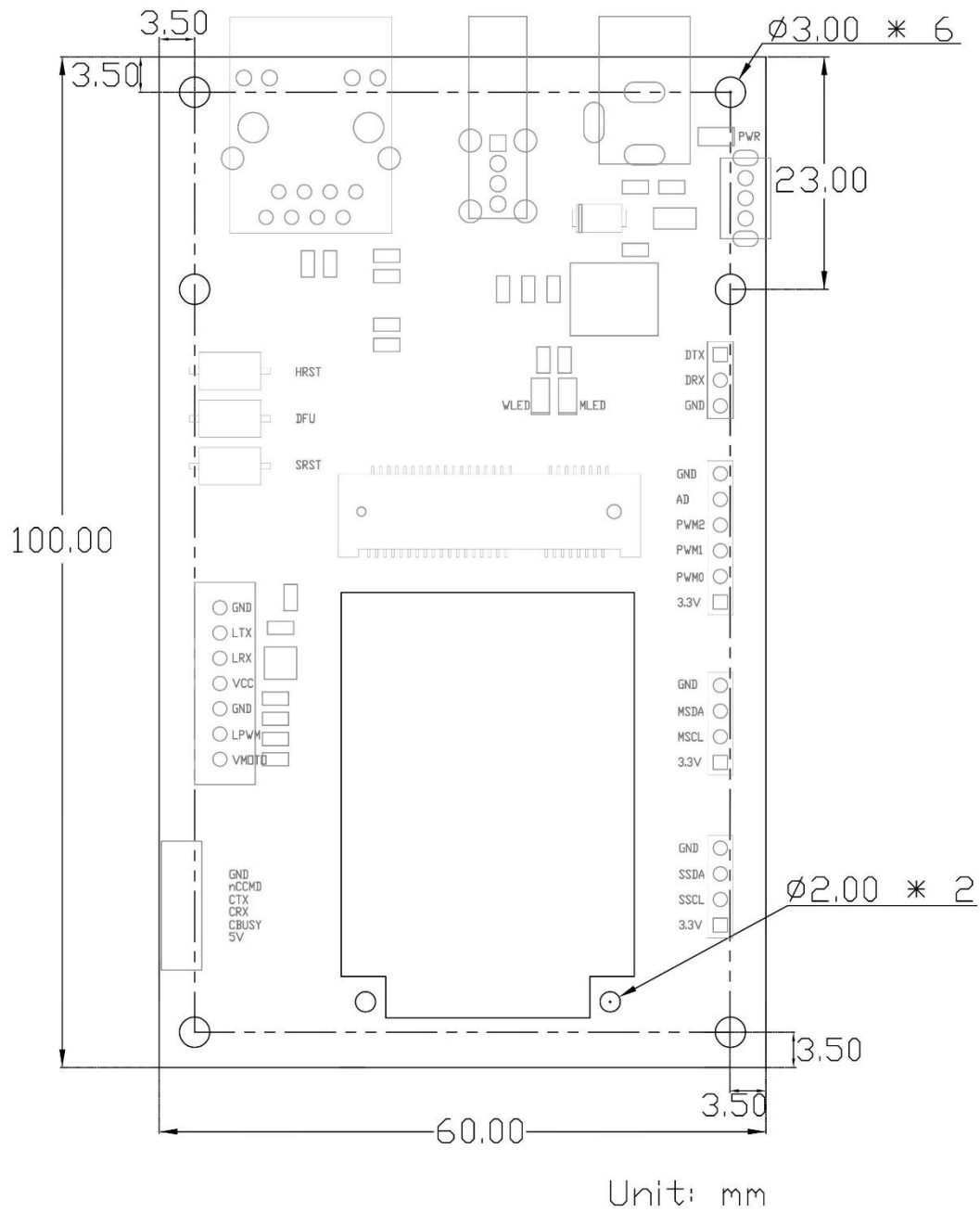


Figure 4-1 SLAMWARE Breakout's External Design

## 5. Contact Us



The product is designed and produced by SLAMTEC and our homepage is:

<http://www.slamtec.com>

If you have any questions or suggestions, please contact us via the following support email:

[support@slamtec.com](mailto:support@slamtec.com)

## 6. Revision History

Date	Version	Remark
2015-6-30	0.1	Initial version
2015-12-30	0.2	Remove the logo of RoboPeak and polish up the text
2016-05-25	1.8	Updated the layout



## Image and Table Index

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