

# USB to Serial Port Evaluation Board Description

Version: 1C

<http://wch.cn>

## 1. Overview

These evaluation board are used to the functions related to USB2.0 to serial port chip CH9102, including CH9102F and CH9102X. These evaluation board are TTL level, it can be used to test full serial port function of CH9102, and test the 5-channel GPIO function of CH9102F, the 6-channel GPIO function of CH9102X. It also provides transmit/receive indicator LED to indicate the status of serial communication. The TTL serial port I/O of CH9102F is powered independently, supports 5V, 3.3V, 2.5V, 1.8V power supply, and CH9102X supports 3.3V power supply.

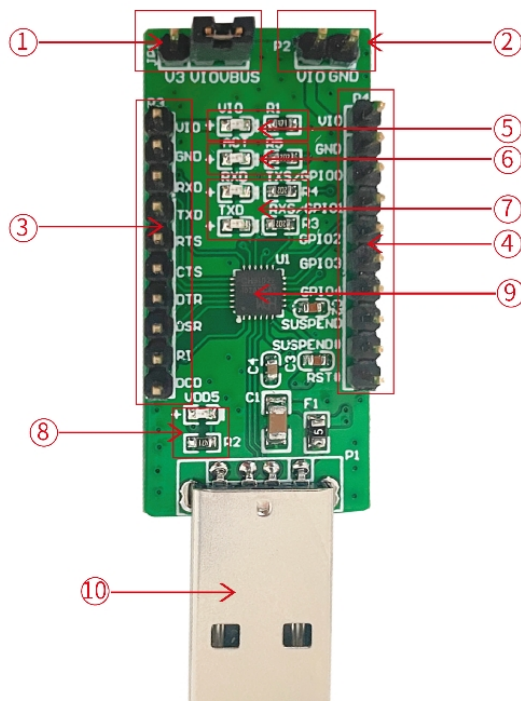
CH9102F has a built-in EEPROM, the parameters of the chip can be configured through the dedicated configuration software CH34xSerCfg.exe, such as VID, PID, vendor information and product information string.

## 2. Evaluation board hardware

### 2.1. CH9102F to TTL UART

Refer to CH9102SCH.pdf document for evaluation board design.

The picture of the evaluation board is shown below:



**Function description of each unit:**

- ①: VIO power supply selection interface, the serial port IO voltage is 3.3V when VIO is shorted to V3, and 5V when VIO is shorted to VBUS.
- ②: VIO external power supply interface, JP1 must be suspended when using
- ③: TTL UART
- ④: GPIO and other auxiliary pins: TXS(GPIO0), RXS(GPIO1), TNOW(GPIO2), WAKEUP(GPIO3), GPIO4, SUSPEND

**GPIO pins correspondence:**

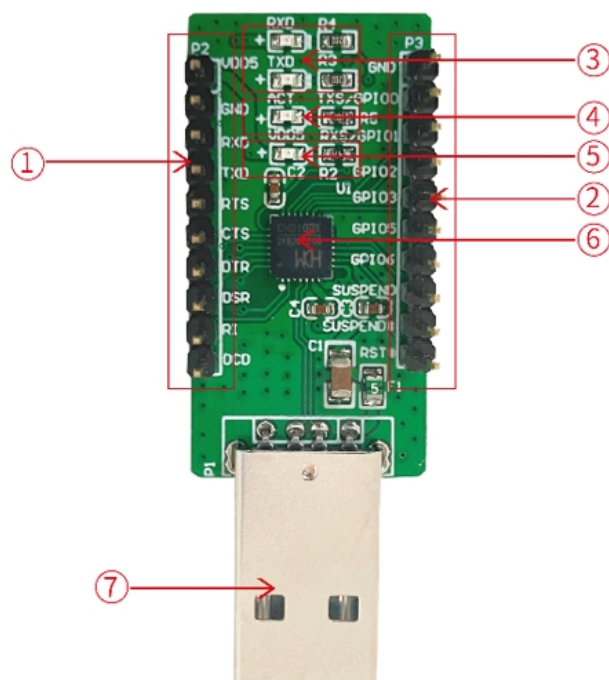
Multiplexing Pin Function	GPIO Mode
TXS	GPIO0
RXS	GPIO1
TNOW	GPIO2
WAKEUP	GPIO3
/	GPIO4

- ⑤: VIO power indicator LED
- ⑥: ACT pin indicator LED, indicates USB configuration completion status
- ⑦: UART transmit/receive indicator LED
- ⑧: VDD5 power indicator LED
- ⑨: Master controller chip CH9102F
- ⑩: P1-USB interface, connects to USB host via USB cable

## 2.2. CH9102X to TTL UART

Refer to CH9102SCH.pdf document for evaluation board design.

The picture of the evaluation board is shown below:



**Function description of each unit:**

- ①: TTL interface
- ②: GPIO and other auxiliary pins, TXS(GPIO0), RXS(GPIO1), TNOW(GPIO2), WAKEUP(GPIO3), GPIO5, GPIO6, SUSPEND, SUSPEND#

**GPIO pins correspondence:**

Multiplexing Pin Function	GPIO Mode
TXS	GPIO0
RXS	GPIO1
TNOW	GPIO2
WAKEUP	GPIO3
/	GPIO5
/	GPIO6

- ③: UART transmit/receive indicator LED
- ④: ACT pin indicator LED, indicates USB configuration completion status
- ⑤: VDD5 power indicator LED
- ⑥: Master controller chip CH9102X
- ⑦: P1-USB interface, connects to USB host via USB cable