USB to Quad Serial Ports Evaluation Board Description

Version: 1

http://wch.cn

1. Overview

This evaluation board is used to demonstrate the functions related to USB2.0 to quad serial ports chip CH9104L. This evaluation board is TTL level, it can be used to test the full serial port function and 24-channel GPIO function of CH9104L. CH9104L evaluation board for TTL UART supports serial port communication at 3.3V.

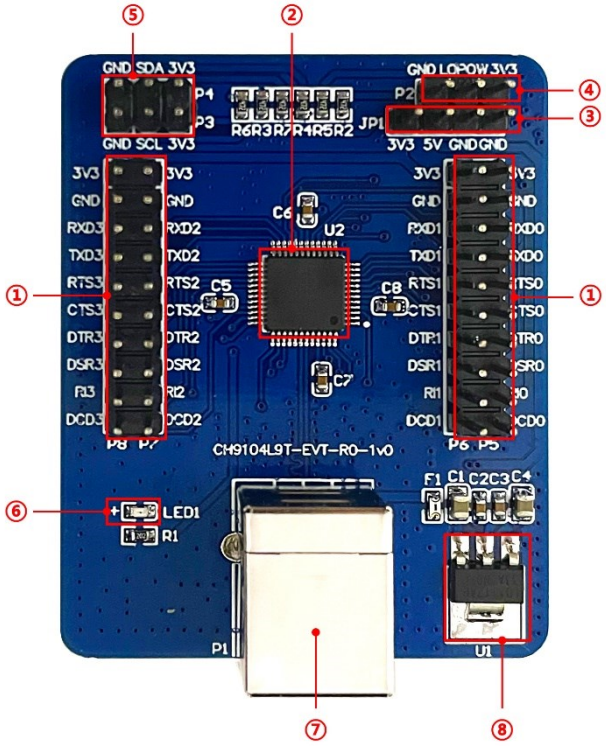
CH9104L has a built-in EEPROM, the parameters of the chip can be configured through the dedicated configuration software CH34xSerCfg.exe, such as VID, PID, vendor information and product information string.

2. Evaluation board hardware

2.1. CH9104L to 4-channel TTL UART

Refer to CH9104SCH.pdf document for evaluation board design.

The picture of the evaluation board is shown below:



Function description of each unit:

①: TTL UART 0/1/2/3, let out by connector

②: Master controller chip CH9104L

③: JP1 provides 5V and 3.3V power output

④: USB suspended state output pin, the LOWPWR pin is suspended, active low, outputs a high level in normal operation and a low level when suspended; During power-up, if a pull-down resistor is detected on the LOWPWR pin, the output polarity of the pin is switched, active high, outputs a low level in normal operation and a high level when suspended.

⑤: Remote wake-up and USB power mode configuration interface, configuration instructions are as follows:

CFG0 (SDA)	CFG1 (SCL)	Support Remote Wake-up	USB Power Mode
1	1	No	Self-Powered
1	0	No	Bus-Powered
0	1	Yes	Self-Powered
0	0	Yes	Bus-Powered

Note: 1 means the pin is suspended or high level, 0 means the pin is low level.

⑥: LED1-VCC power indicator LED, indicates whether the power is connected

⑦: P1-USB interface, connects to USB host via USB cable

⑧: U1-3.3V voltage conversion chip, converting VBUS of USB interface to 3.3V for the master chip power supply, it can also be designed to use an external 3.3V power supply directly to power CH9104L and serial port peripherals

GPIO pins correspondence:

MODEM Mode	GPIO Mode
RI0	GPIO00
DCD0	GPIO01
DSR0	GPIO02
DTR0	GPIO03
CTS0	GPIO04
RTS0	GPIO05
RI1	GPIO10
DCD1	GPIO11

DSR1	GPIO12
DTR1	GPIO13
CTS1	GPIO14
RTS1	GPIO15
RI2	GPIO20
DCD2	GPIO21
DSR2	GPIO22
DTR2	GPIO23
CTS2	GPIO24
RTS2	GPIO25
RI3	GPIO30
DCD3	GPIO31
DSR3	GPIO32
DTR3	GPIO33
CTS3	GPIO34
RTS3	GPIO35