

WLINK-SWUT
Installation Manual
REV. 1.1
April 27, 2012

Revision	Date	Applicant	Description
V1.0	2012/01/10	Louis	preliminary
V1.1	2012/04/27	Louis	2.5 added VDD voltage pad selection 2.7 added UART function port 3.1 updated circuit

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Chapter 1 WLINK-SWUT Installation Description

1.1 WLINK-SWUT Adapter Interface Description


SWUT (Single Wire UART): Through PC USB port and WLINK-SWUT, and then transfer UART to SWUT.

1.2 WLINK USB to UART (SWUT) Installation Description

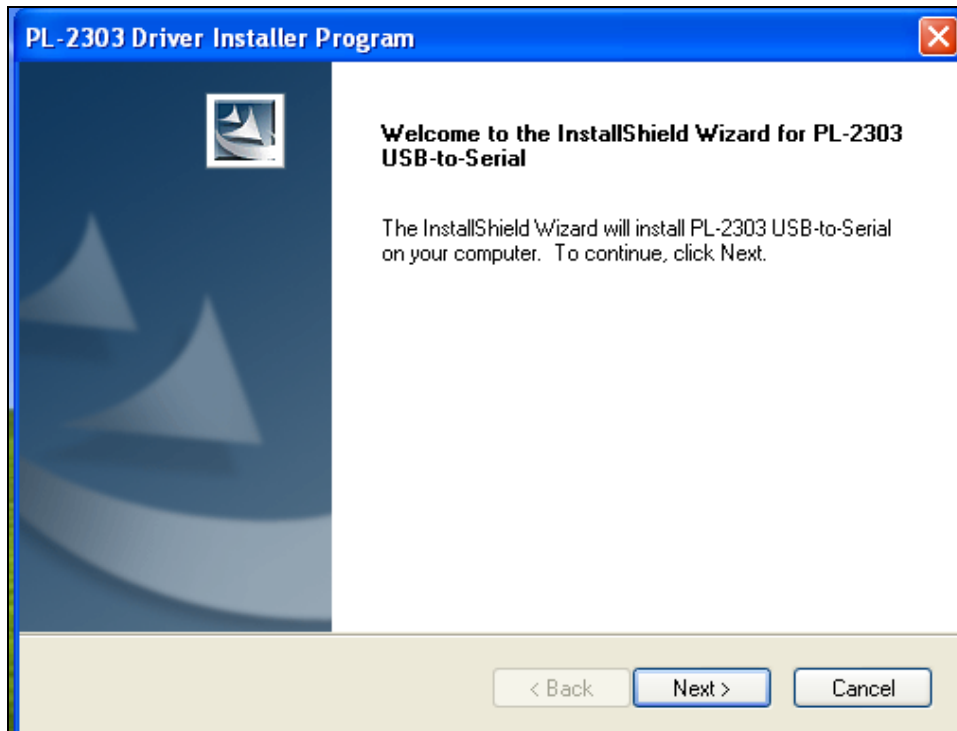
Please see page 15 Section 3.2 Product Outline for WLINK-SWUT driver chip type.

➤ **Use PL2303 USB to UART Bridge chip**

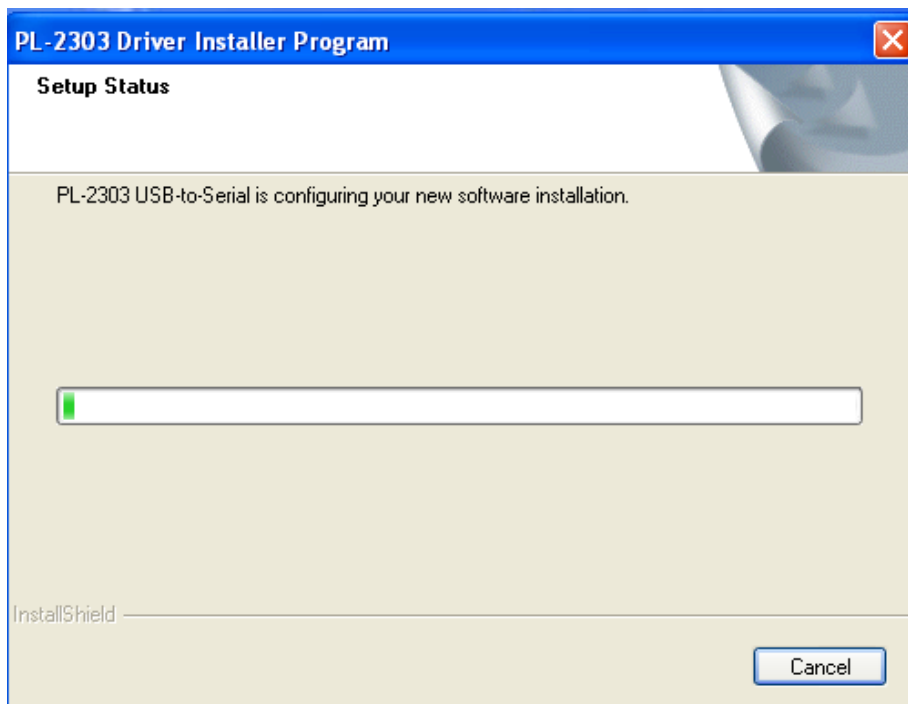
【Step 1】 Install WLINK USB to UART Driver Program:

- Click PL-2303_Driver.exe in the disk then open installation program.
-  PL2303_Prolific_DriverInstaller_v1417.exe
- New version driver program and download information, please see Prolific website:
<http://www.prolific.com.tw/eng/Products-2.asp?ID=10>

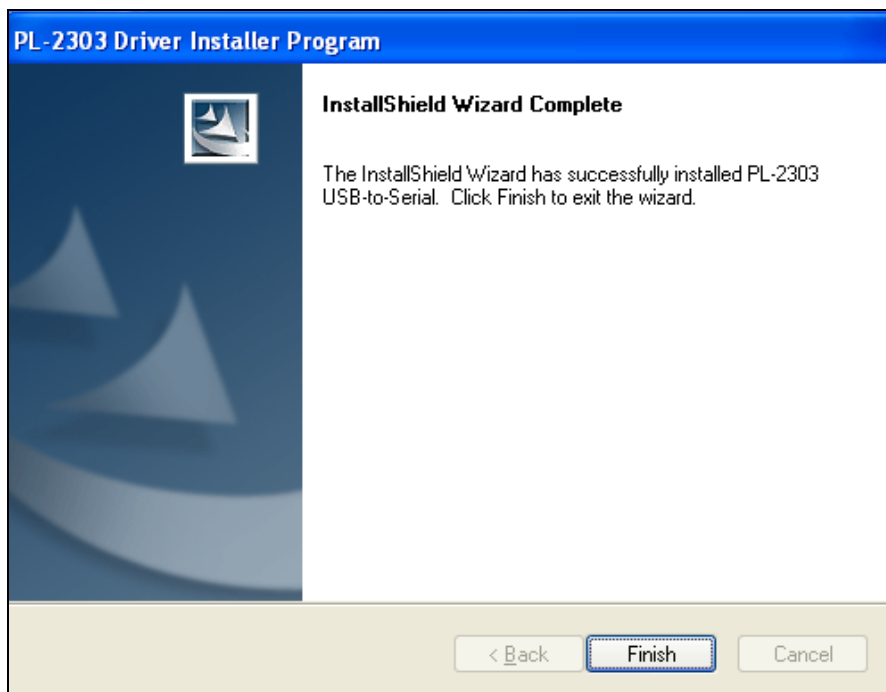
【Step 2】 Now the screen will show “Welcome to the InstallShield Wizard for PL-2303 USB-to-Serial”, and then press 『Next』 to install.



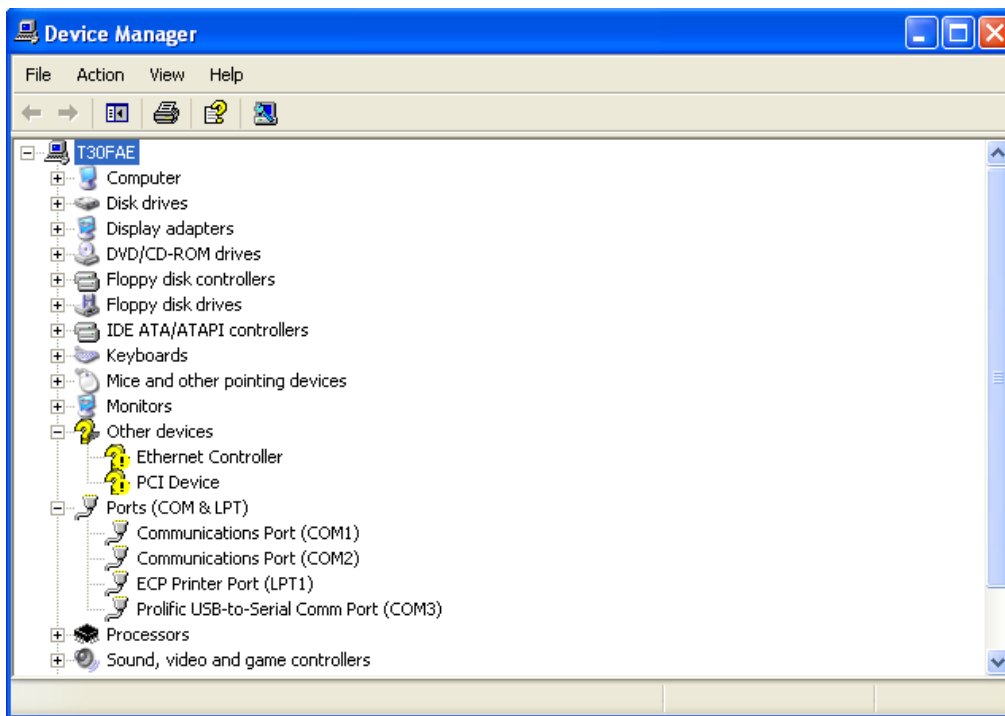
【Step 3】 Driver program will start installing procedure, and then execute the installation.



【Step 4】 Click 『Finish』 to exit the installation process. If WLINK has connected to PC, please re-plug USB to make PC examine the installed device.



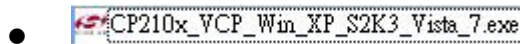
【Step 5】 After plugging, it can open Device Manager then see 『Prolific USB-to-Serial Comm Port』. It means WLINK has recognized UART device in the PC, and Windows has assigned appropriate COM Port.



➤ Use CP2102 USB to UART Bridge Chip

【Step 1】 Install WLINK USB to UART driver program:

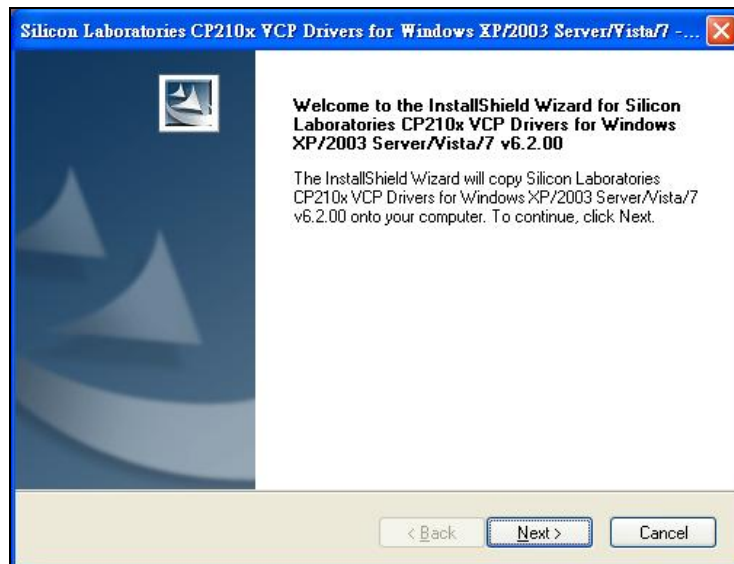
- Click CP210x_VCP_Win_XP_S2K3_Vista_7.exe in the disk to start installation procedure.



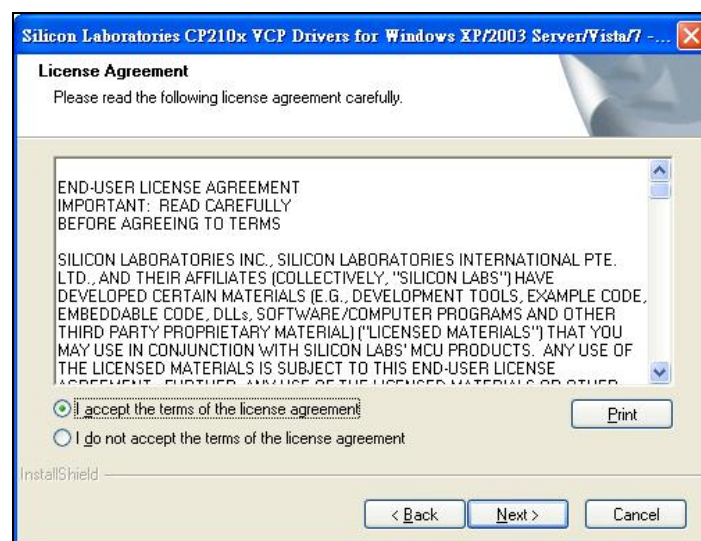
- New version driver program and download information, please see Silicon Labs website:

<http://www.silabs.com/products/interface/usbtouart/Pages/default.aspx>

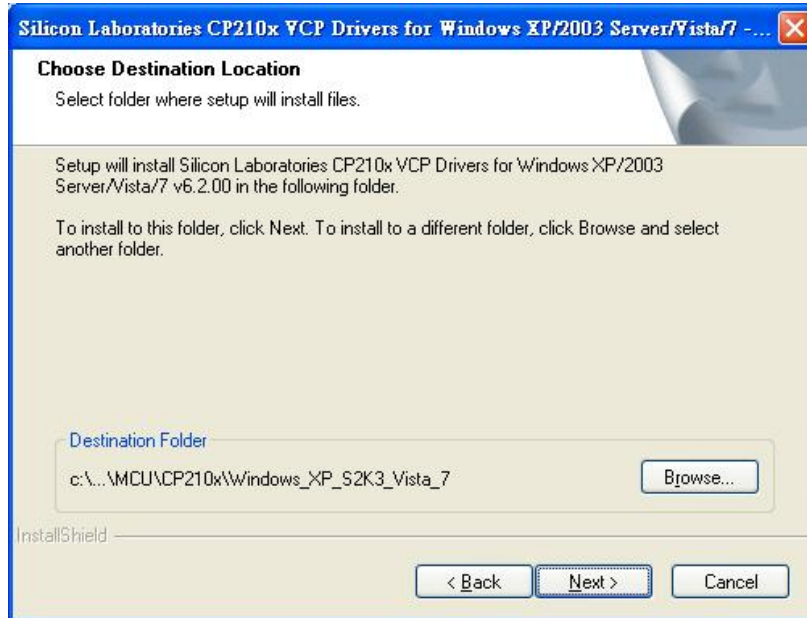
【Step 2】 Now the screen will show “Welcome to the InstallShield Wizard for Silicon Labs CP210x”; press 『Next』 to start installation procedure.



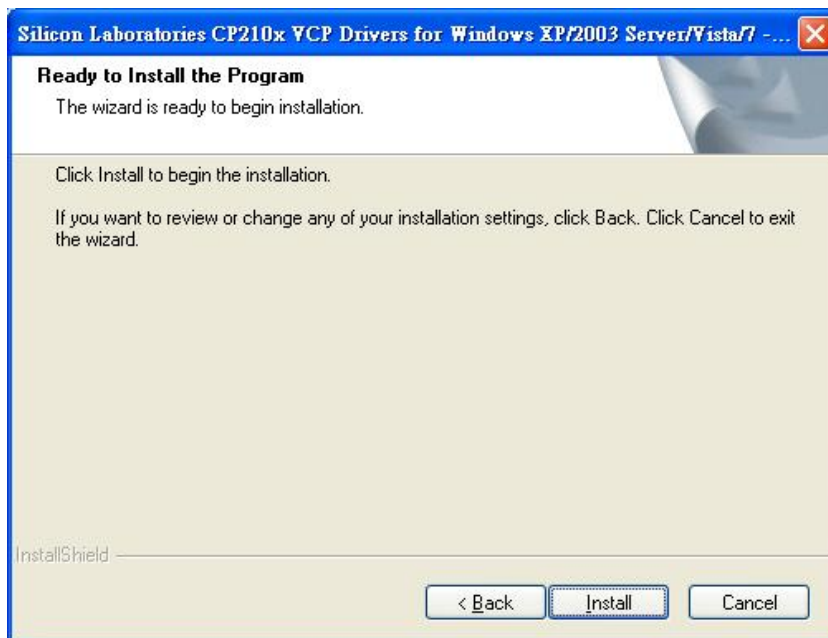
【Step 3】 Then driver program shows License Agreement description, choose 「I accept the terms of the license agreement」, then press 「Next」.



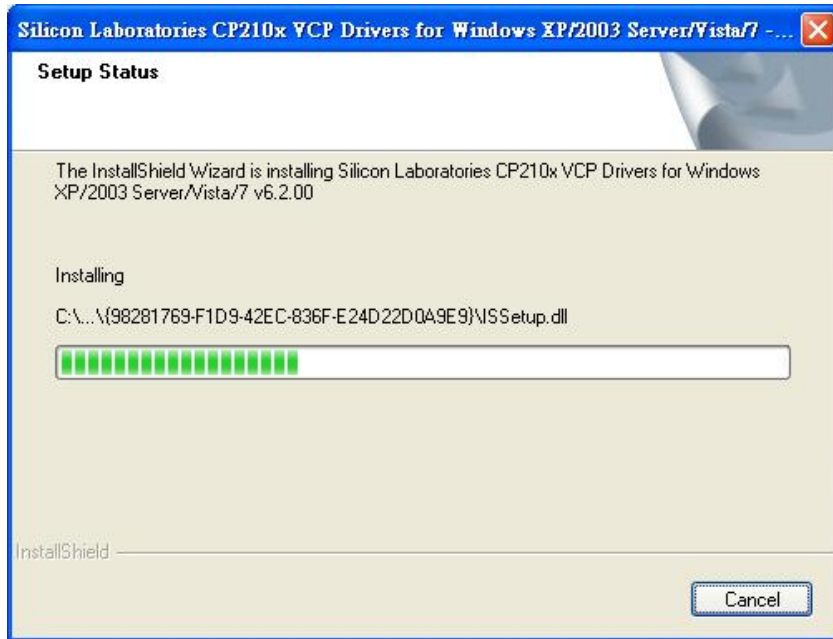
【Step 4】 Choose installation location. If use destination location, please press 「Next」 directly.



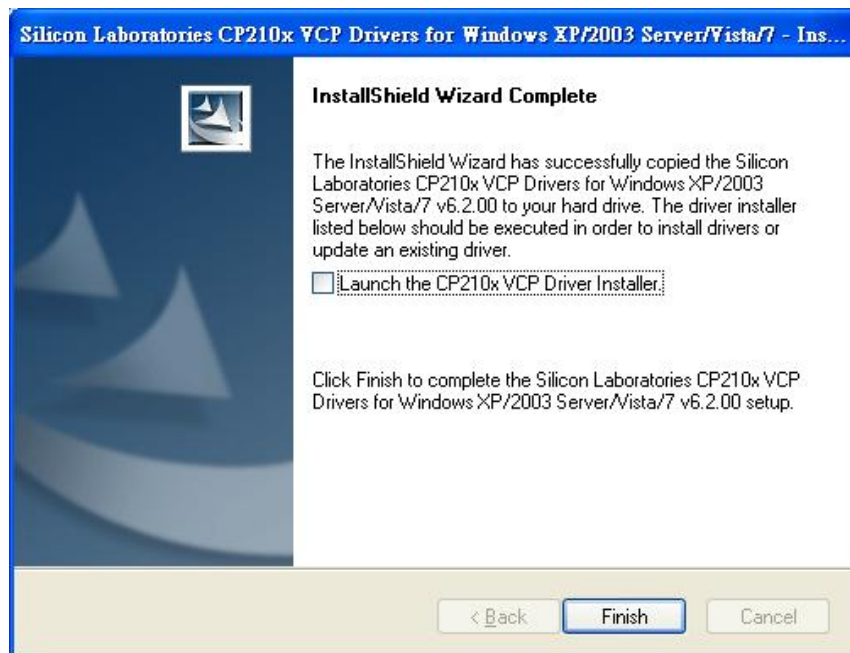
【Step 5】 This figure is 「Ready to Install the Program」. If want to modify the installation setting, please press 「Back」 to previous procedure. If confirm to install driver to PC, please press 「Install」.



【Step 6】 This is driver installation process.



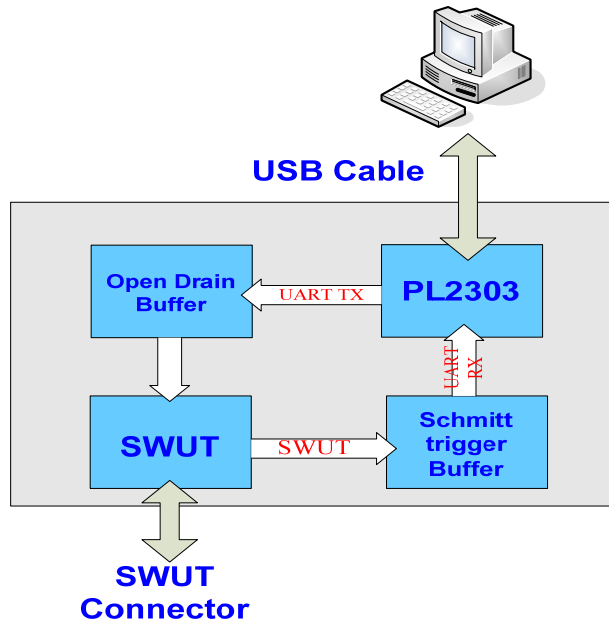
【Step 7】 The following figure shows installation completed. If WLINK-SWUT connects to PC, and start driver program to connect with WLINK-SWUT, please click 「Launch the CP210x VCP Driver Installer」. If WLINK-SWUT does not connect to PC, it does not click 「Launch the CP210x VCP Driver Installer」. After setting up, press 「Finish」 to complete installation procedure.



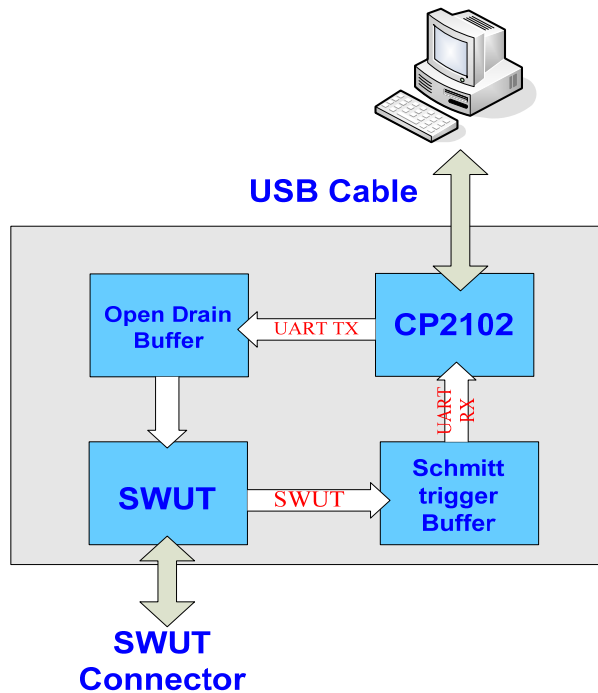
Chapter 2 WLINK-SWUT Hardware Description

2.1 WLINK-SWUT Hardware Block Diagram

- Use PL2303 USB to UART Bridge chip

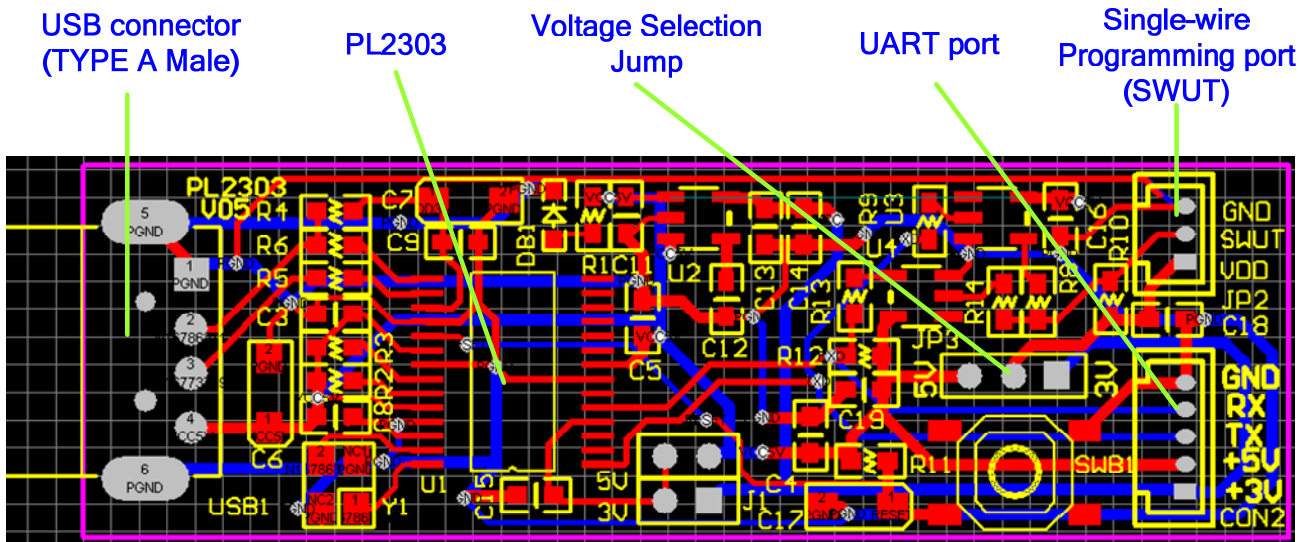


- Use CP2102 USB to UART Bridge Chip



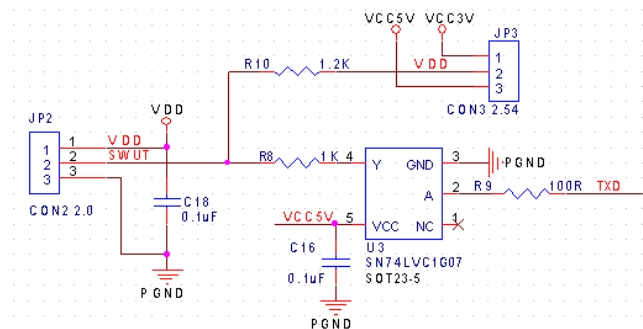
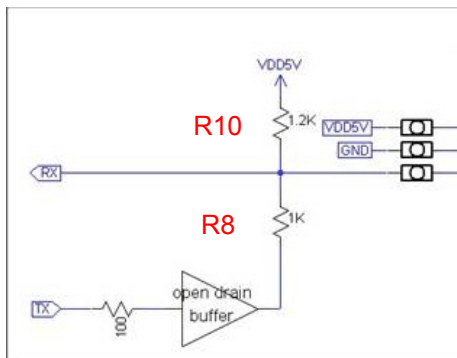
2.2 PCB Component Location

- Use PL2303 USB to UART driver chip



2.3 SWUT Circuit Diagram

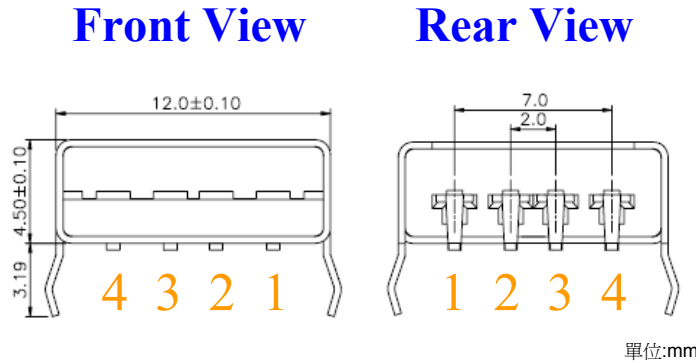
SWUT (Single Wire UART): Making UART (TX/RX) signal and through Buffer to combine one wire (SWUT) signal. Figure R8 and R10 is voltage divider to adjust SWUT input Schmitt trigger level.



VDD = 2.2V ~5.5V (R8 = 1K / R10 = 1.2K)

VDD	SWUT input Schmitt trigger level	
	VIH	VIL
5V	0.83*VDD	0.56*VDD
3.5V	0.81*VDD	0.52*VDD
2V	0.78*VDD	0.48*VDD

2.4 USB (TYPE A Male) Connector SPEC

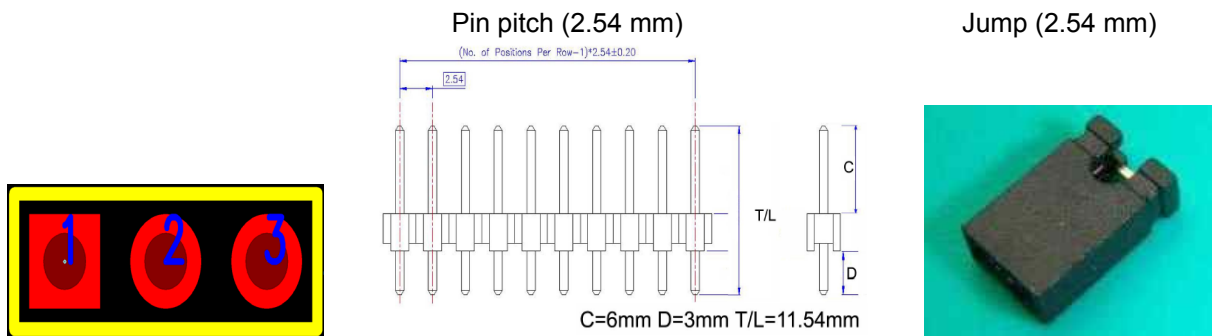


Pad Number	Description
1	5V
2	D-
3	D+
4	GND

2.5 Voltage Selection Jump (JP3)

This is VDD Voltage Selection Jump, WLINK-SWUT can select three voltages when programming.

1. JP3 pad 1-2 short: means WLINK-SWUT can offer 3.3V voltage for SWUT programming and development board.
2. JP3 pad 2-3 short: means WLINK-SWUT can offer 5V voltage for SWUT programming and development board.
3. JP3 pad open: Using the power on the development board and offers SWUT voltage when on programming (voltage range 2.2V ~ 5.5V)



Pad Number	Description
1	3.3V (1-2 short use Jump)
2	VDD
3	5V (2-3 short use Jump)

2.6 SWUT (Single Wire UART) Programming Interface (JP2)

This is SWUT programming interface.

pin pitch (1.25 mm)

Ordering Information & Dimensions

PART NO.	Dimensions	
	A	B
2P	1.25	4.25
3P	2.50	5.50
4P	3.75	6.75
5P	5.00	8.00
6P	6.25	9.25
7P	7.50	10.50
8P	8.75	11.75
9P	10.00	13.00
10P	11.25	14.25
11P	12.50	15.50
12P	13.75	16.75
13P	15.00	18.00
14P	16.25	19.25
15P	17.50	20.50

Pad Number	Description
1	VDD
2	SWUT
3	GND

2.7 UART Interface Port (CON2)

This is UART serial transmission interface port.

Pin pitch (1.25 mm)

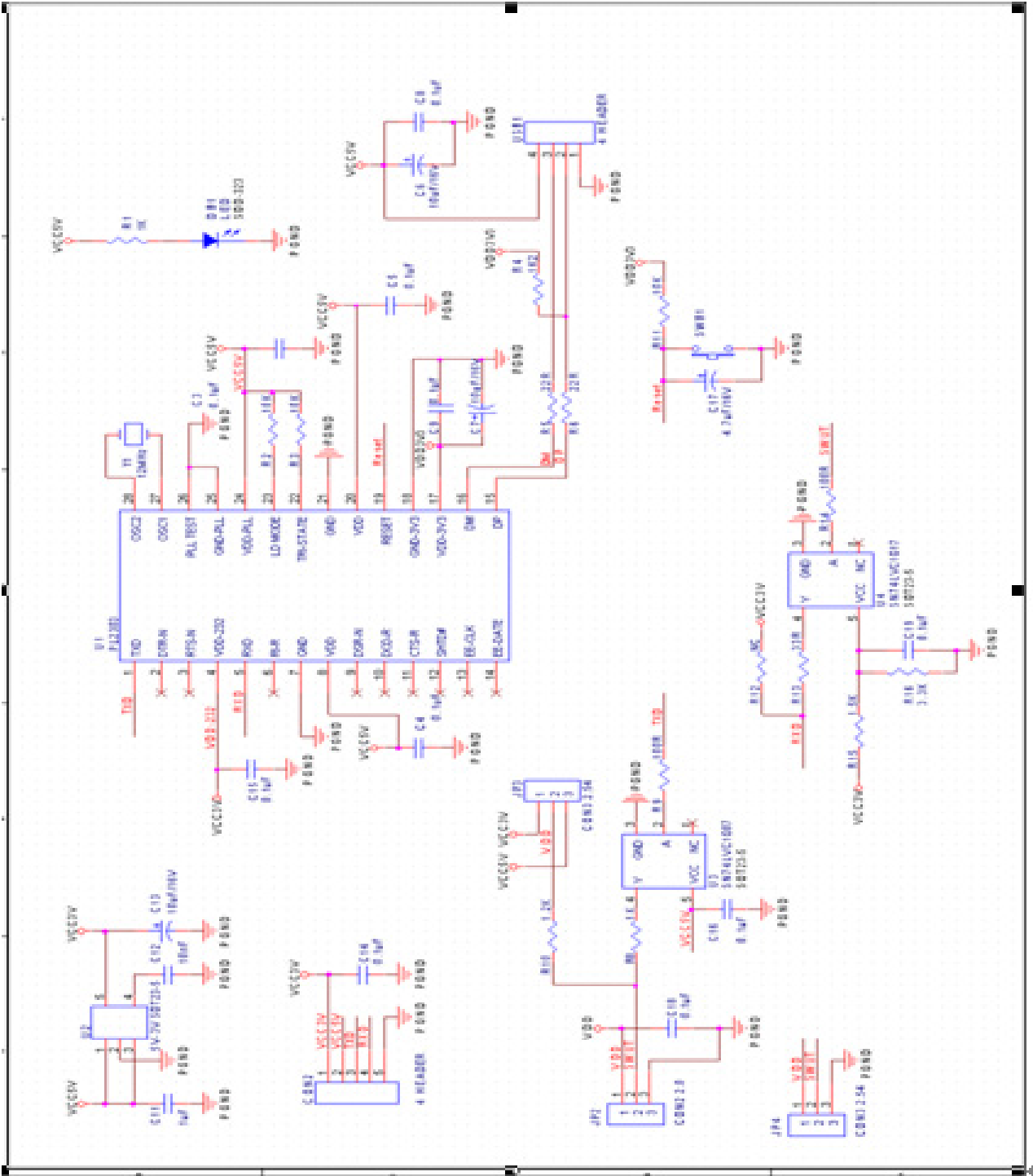
Ordering Information & Dimensions

PART NO.	Dimensions	
	A	B
2P	1.25	4.25
3P	2.50	5.50
4P	3.75	6.75
5P	5.00	8.00
6P	6.25	9.25
7P	7.50	10.50
8P	8.75	11.75
9P	10.00	13.00
10P	11.25	14.25
11P	12.50	15.50
12P	13.75	16.75
13P	15.00	18.00
14P	16.25	19.25
15P	17.50	20.50

Pad Number	Description
1	3.3V
2	5V
3	TXD
4	RXD
5	GND

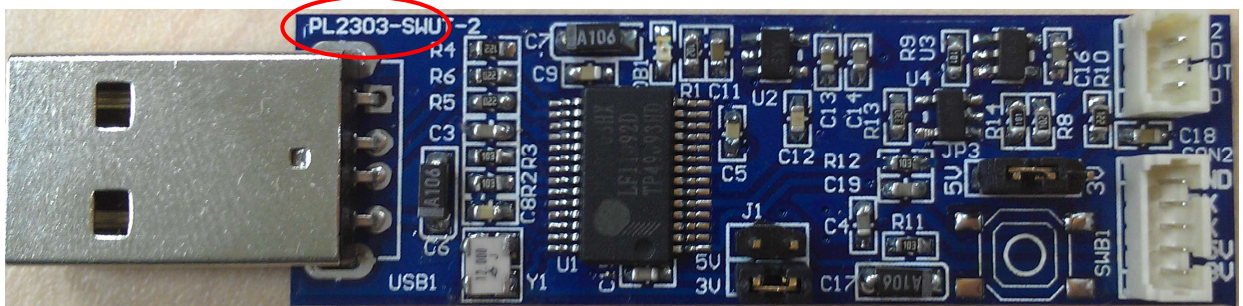
Chapter 3 Appendix

3.1 Circuit Diagram



3.2 Product Outline

- Use PL2303 USB to UART Bridge chip



3.3 Supporting Product

IC Type	Product Name	Remark
WT51F104	1T 8052 Micro-controller with ADC Function	
WT56F216	1T 8052 Micro-controller with ADC + LCD Driver	

3.4 Ordering Information

Kit Name	Product Name	No.
Single-wire Programming EVB WLINK-SWUT	Single-wire Programming EVB PL-2303 (WLINK-SWUT)	WA000
	Single-wire Programming EVB CP-2102 (WLINK-SWUT)	
	WLINK-SWUT Installation Manual	DOC2