

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: <u>http://www.prolific.com.tw/eng/Products-2.asp?ID=10</u>
- [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.

PL-2303 Driver Installer Program	×
Setup Status	No.
PL-2303 USB-to-Serial is configuring your new software installation.	
InstallShield	Cancel

(Step 4) Click ^C 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.

CP210x_VCP_Win_XP_S2K3_Vista_7.exe

- New version driver program and download information, please see Silicon Labs website: <u>http://www.silabs.com/products/interface/usbtouart/Pages/default.aspx</u>
- **(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 $\lceil I | accept the terms of the license agreement_], then press <math>\lceil Next_{\parallel} |$.

Please read the following license	agreement carefully.		
			~
END-USER LICENSE AGREEM IMPORTANT: READ CAREFUL BEFORE AGREEING TO TERM	ENT LY IS		
SILICON LABORATORIES INC. LTD., AND THEIR AFFILIATES DEVELOPED CENTAIN MATEF EMBEDDABLE CODE, DLLS, SI THIRD PARTY PROPRIETARY MAY USE IN CONJUNCTION W THE LICENSED MATERIALS IS CORFERENT FUNCTION AND	, SILICON LABORATORIE (COLLECTIVELY, "SILICO NALS (E.G., DEVELOPME) DFTWARE/COMPUTER P MATERIAL) ("LICENSED /ITH SILICON LABS' MCU S SUBJECT TO THIS END- VIDE OF TO THIS END-	S INTERNATIONAL PTE. N LABS") HAVE NT TOOLS, EXAMPLE CC ROGRAMS AND OTHER MATERIALS") THAT YOU PRODUCTS. ANY USE (USER LICENSE WATERIAL OR DATUSE	IDE, J DF
I accept the terms of the licen	se agreement	E	rint
I do not accept the terms of the	ne license agreement		

This document is Weltrend confidential information. Do not copy.



[Step 4] Choose installation location. If use destination location, please press $\lceil \text{Next} \rfloor$ directly.

Silicon Laboratories CP210x VCP Drivers for Windows XP/2003 Server/Vista/7 🔀
Choose Destination Location Select folder where setup will install files.
Setup will install Silicon Laboratories CP210x VCP Drivers for Windows XP/2003 Server/Vista/7 v6.2.00 in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.
Destination Folder c:\\MCU\CP210x\Windows_XP_S2K3_Vista_7
InstallShield <u>Kancel</u> Cancel

[Step 5] This figure is \lceil Ready to Install the Program ightharpoonup. If want to modify the installation setting, please press \lceil Back ightharpoonup to previous procedure. If confirm to install driver to PC, please press \lceil Install ightharpoonup.

Silicon Laboratories CP210x VCP Drivers for Windows XP/2003 Server/Vista/7 🗙
Ready to Install the Program The wizard is ready to begin installation.
Click Install to begin the installation. If you want to review or change any of your installation settings, click Back. Click Cancel to exit
the wizard.
InstallShield



[Step 6] This is driver installation process.

Silicon Laboratories CP210x VCP Drivers for Windows XP/2003 Server/Vista/7 🗙
Setup Status
The InstallShield Wizard is installing Silicon Laboratories CP210x VCP Drivers for Windows XP/2003 Server/Vista/7 v6.2.00
Installing
C:\\{98281769-F1D9-42EC-836F-E24D22D0A9E9}\\ISSetup.dll
InstallShield
Cancel

[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)

	SWUT input Schmitt trigger levelVIHVIL			
חחע				
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

Front View

Rear View



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.





Pad Number	Description
1	VDD
2	SWUT
3	GND

2.7 UART Interface Port (CON2)

This is UART serial transmission interface port.



	Pin	pitch	(1.2	5 mm)
	Ordering Inf	ormation	& Dim	ensions
	DART NO	Dimensions]
	FART NO.	Α	В	
	2P	1.25	4.25	
1.25±0.10	3P	2.50	5.50]
- A±0.20	4P	3.75	6.75]
	5P	5.00	8.00	
B±0.25	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	
Ψ, Ψ, Ψ Ψ Ψ	14P	16.25	19.25]
Circuit 1	15P	17.50	20.50]

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

Weltrend 偉詮電子

WLINK-SWUT Installation Manual

Chapter 3 Appendix

3.1 Circuit Diagram





3.2 Product Outline

Use PL2303 USB to UART Bridge chip



3.3 Supporting Product

ІС Туре	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