



User Guide Standards

SILK_ demo board



Table of Contents

Firmware Update SOP	1
1 Hardware Guide	1
(1) Hardware Requirements.....	1
(2) Hardware Installation	1
2 Software Guide.....	2
(1) Software Requirements	2
(2) Firmware Update by Application Software	3
Hardware Guide	5
1 Hardware Requirements.....	5
(1) Demo Kit Hardware Description	6
(2) Hardware Installation	7
2 SILK Function Block.....	8
3 Legal Information	9

Firmware Update SOP

1 Hardware Guide

(1) Hardware Requirements

Buy a set of ST-LINK/V2 (in-circuit debugger/programmer for STM8 and STM32) from Digi-Key or STMicroelectronics

Digi-Key:

<http://www.digikey.com/product-detail/en/stmicroelectronics/ST-LINK-V2/497-10484-ND/2214535?cur=TWD&lang=en>

You will get following stuffs in the package



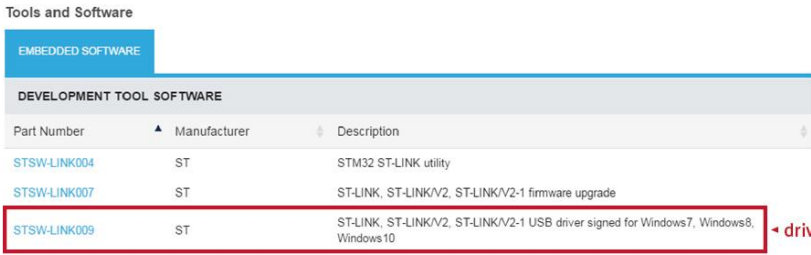
(2) Hardware Installation

Refer to following figure to setup ST-LINK/V2 and connect it to your PC



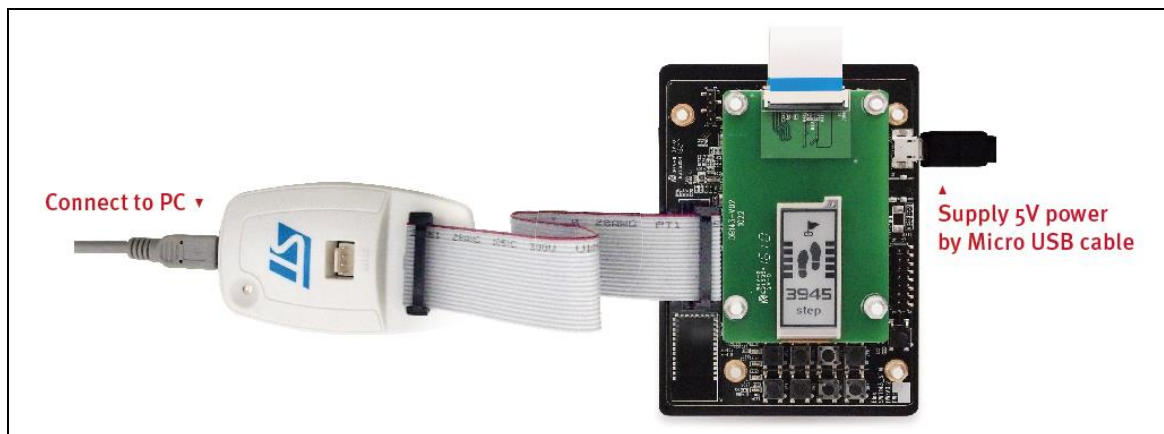
Refer the guideline in following STMicroelectronics's website to download and setup driver of ST-LINK/V2

http://www.st.com/content/st_com/en/products/development-tools/hardware-development-tools/development-tool-hardware-for-mcus/debug-hardware-for-mcus/debug-hardware-for-stm32-mcus/st-link-v2.html?icmp=tt3469_gl_gron_apr2016



Tools and Software		
EMBEDDED SOFTWARE		
DEVELOPMENT TOOL SOFTWARE		
Part Number	Manufacturer	Description
STSW-LINK004	ST	STM32 ST-LINK utility
STSW-LINK007	ST	ST-LINK, ST-LINK/V2, ST-LINK/V2-1 firmware upgrade
STSW-LINK009	ST	ST-LINK, ST-LINK/V2, ST-LINK/V2-1 USB driver signed for Windows7, Windows8, Windows10

Refer to following figure to connect ST-LINK/V2 with your PC and Silk together. Otherwise, your should supply 5V to Silk by Micro USB cable.



2 Software Guide

(1) Software Requirements

Refer the guideline in following STMicroelectronics's website to download and setup application software of ST-LINK/V2

http://www.st.com/content/st_com/en/products/development-tools/hardware-development-tools/development-tool-hardware-for-mcus/debug-hardware-for-mcus/debug-hardware-for-stm32-mcus/st-link-v2.html?icmp=tt3469_gl_gron_apr2016


Tools and Software

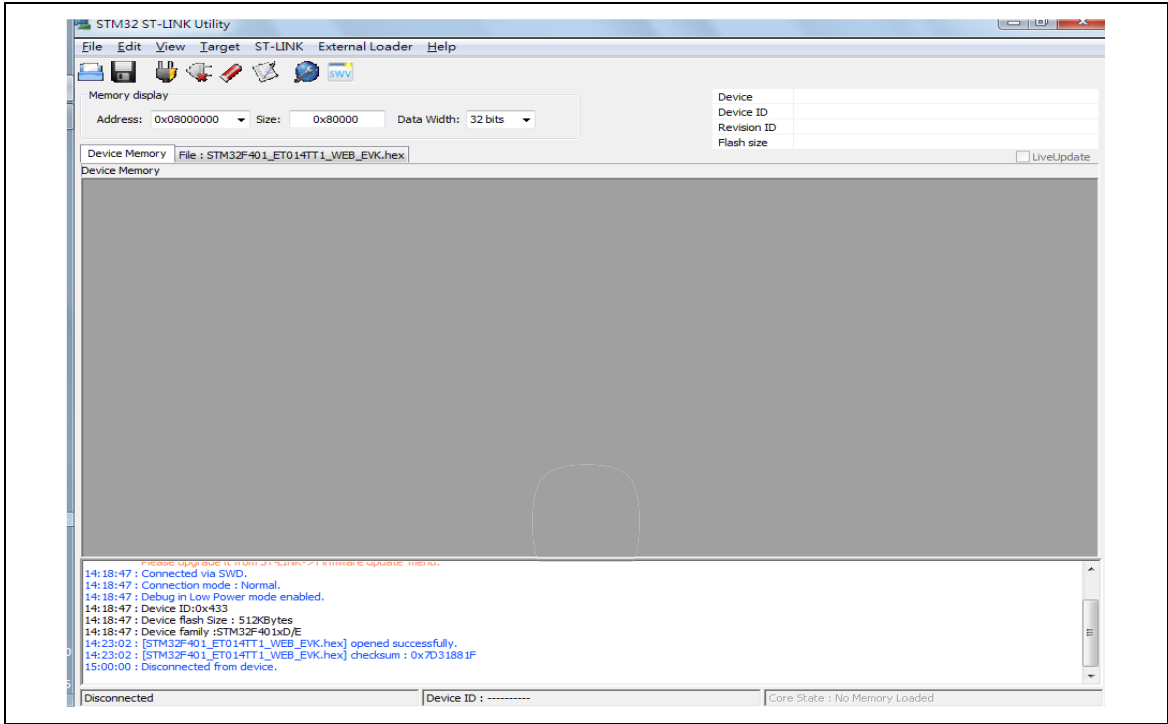
EMBEDDED SOFTWARE

DEVELOPMENT TOOL SOFTWARE


Part Number	Manufacturer	Description
STSW-LINK004	ST	STM32 ST-LINK utility
STSW-LINK007	ST	ST-LINK, ST-LINK/V2, ST-LINK/V2-1 firmware upgrade
STSW-LINK009	ST	ST-LINK, ST-LINK/V2, ST-LINK/V2-1 USB driver signed for Windows7, Windows8, Windows10

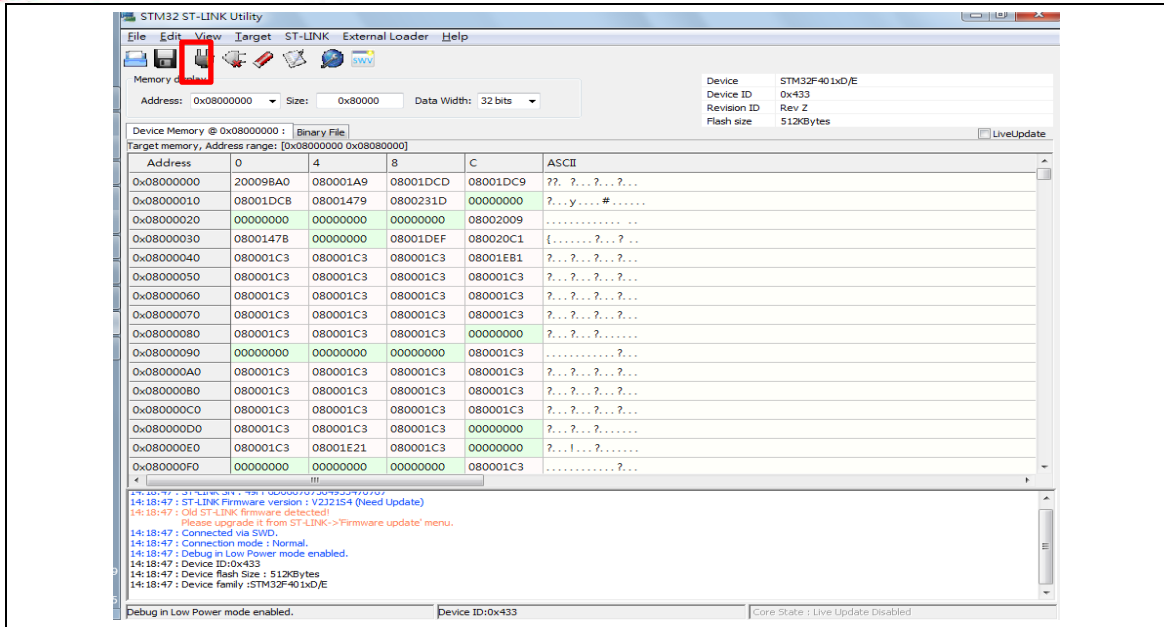
◀ application software


- Press icon  to open application software

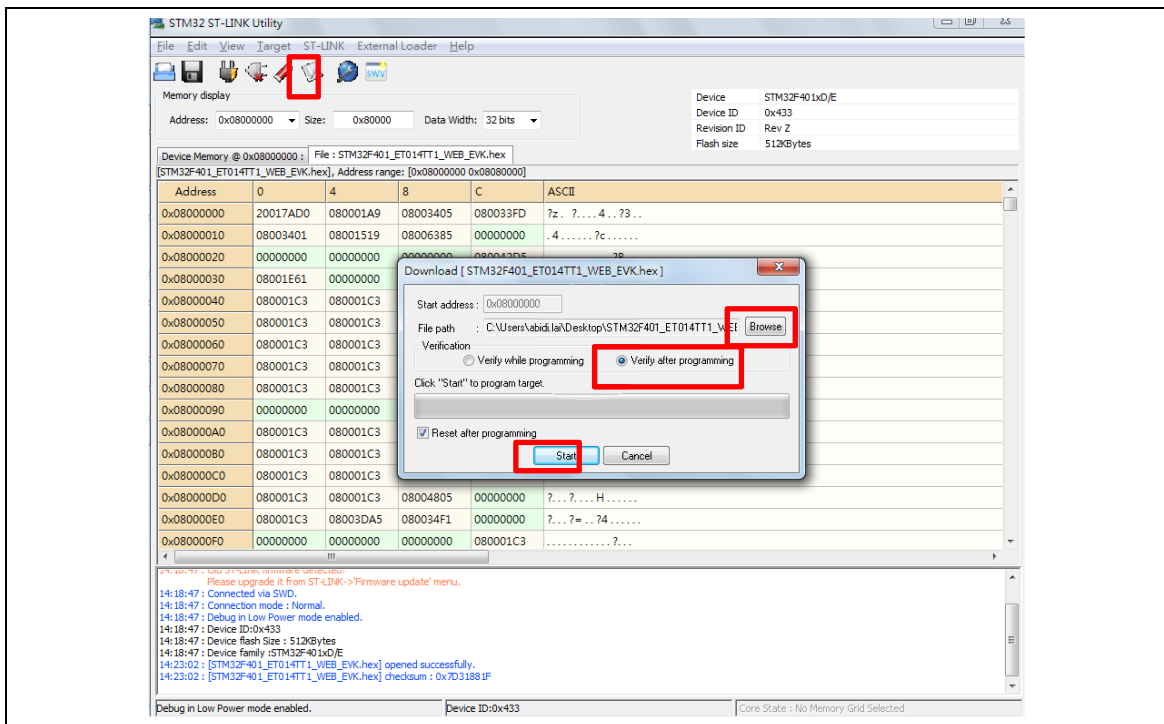


(2) Firmware Update by Application Software

Press icon  “Connect to the target” to read firmware from MCU on Silk.



- Press icon  "Program verify" to select a firmware file (.hex)
- Press "Start" button to update the firmware into MCU



Hardware Guide

1 Hardware Requirements



MCU board and display adapter



Micro USB cable



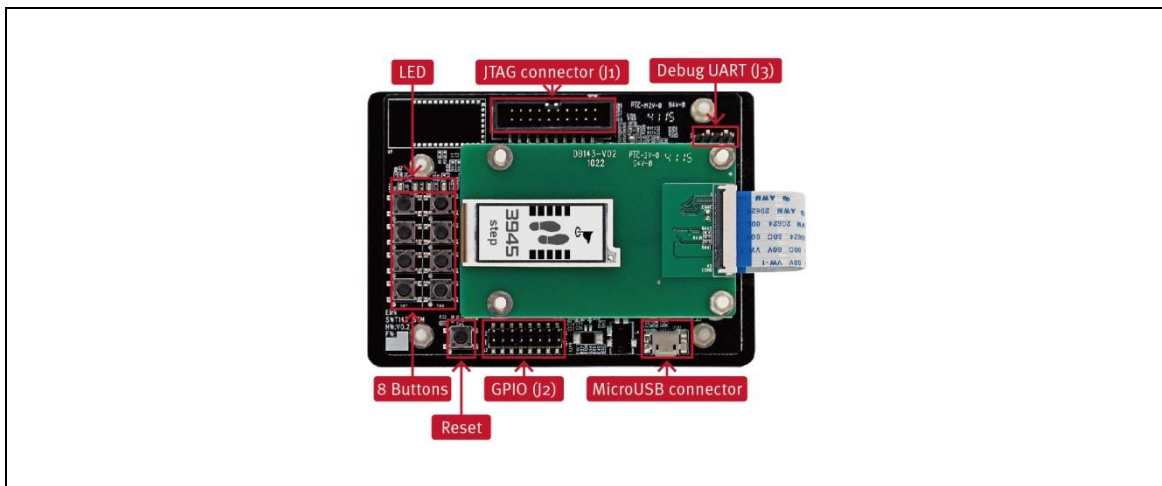
Windows PC

Table 1 Minimum PC Requirements

CPU	Pentium III 800 MHz or later
RAM	128MB or greater
Required Software	Windows XP
Interface	USB port

(1) Demo Kit Hardware Description

The SILK demo Kit includes an MCU board. The micro USB port on the demo kit supplies data and power to the MCU board and E Ink panel. Using the E Ink PC application, users can send image data to the board or update settings.



A. GPIO (J2) pin assignment

Table 1 GPIO (J2) Pin Define

Pin #	Signal	Description
1	GPIO_PA8	GPIO pin PA8 / I2C3_SCL
2	GPIO_PC9	GPIO pin PC9 / I2C3_SDA
3	GPIO_PA0	GPIO pin PA0
4	GPIO_PA1	GPIO pin PA1
5	GPIO_PA15	GPIO pin PA15 / SPI3_NSS
6	GPIO_PC10	GPIO pin PC10 / SPI3_SCK
7	GPIO_PC11	GPIO pin PC11 / SPI3_MISO
8	GPIO_PC12	GPIO pin PC12 / SPI3_MOSI
9	GPIO_PA2	GPIO pin PA2 / UART2
10	GPIO_PA3	GPIO pin PA3 / UART2
11	GPIO_PE4	GPIO pin PE4
12	GPIO_PE5	GPIO pin PE5
13	GPIO_PE0	GPIO pin PE0
14	GPIO_PE1	GPIO pin PE1
15	GND	Ground
16	GND	Ground

B. Button/Switch pin assignment

Table 2 Button/Switch Pin Define

Switch #	Signal	Description
SW1	GPIO_PB4	GPIO pin PB4
SW2	GPIO_PB5	GPIO pin PB5
SW3	GPIO_PB0	GPIO pin PB0
SW4	GPIO_PB1	GPIO pin PB1
SW5	GPIO_PB2	GPIO pin PB2
SW6	GPIO_PE15	GPIO pin PE15
SW7	GPIO_PB10	GPIO pin PB10
SW8	GPIO_PD15	GPIO pin PD15

C. Debug UART (J3) pin assignment

Table 3 Debug UART (J3) Pin Define

Pin #	Signal	Description
1	VDD	VMCU
2	TX	UART2_TX
3	RX	UART2_RX
4	GND	Ground

D. LED pin assignment

Table 4 LED Pin Define

LED #	Signal	Description
UIF_LED0	GPIO_PE2	GPIO pin PE2
UIF_LED1	GPIO_PE3	GPIO pin PE3

(2) Hardware Installation

A. Install USB driver:

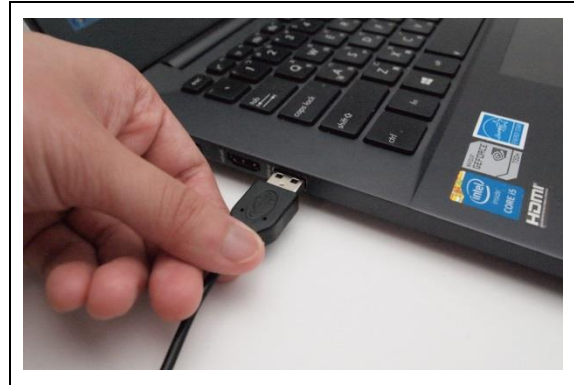
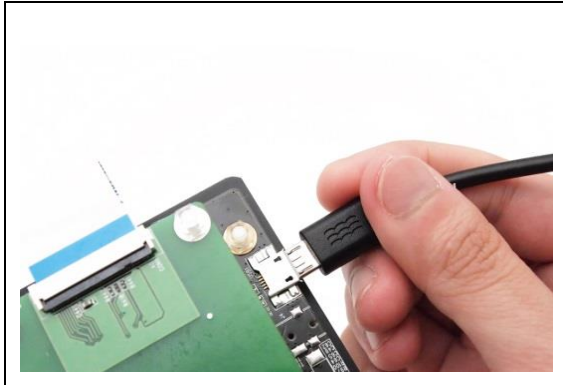
Win7 32 bits : USB_driver\VirtualComportDriver\Win7\dpinst_x86.exe

Win7 64 bits : USB_driver\VirtualComportDriver\Win7\dpinst_amd64.exe

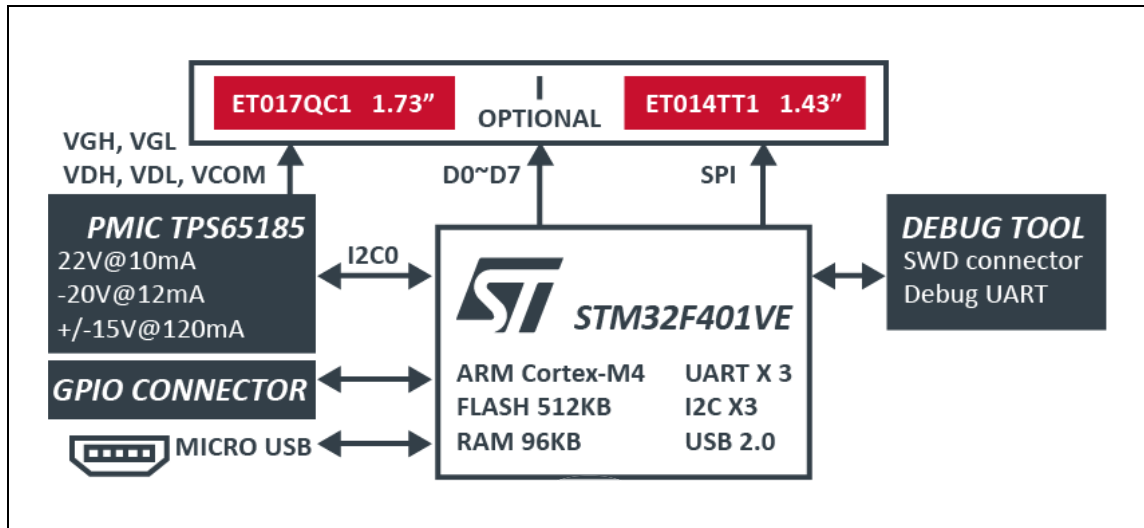
Win8 32 bits : USB_driver\VirtualComportDriver\Win8\dpinst_x86.exe

Win8 64 bits : USB_driver\VirtualComportDriver\Win8\dpinst_amd64.exe

B. Please use Micro USB cable to connect demo kit and PC/NB, as following figure



2 SILK Function Block



3 Legal Information

- Definitions

The document is a draft version only. The content is still under internal review and subject to formal approval which may result in modifications or additions. E Ink does not give any representations or warranties as to the accuracy or completeness of information included herein and shall have no liability for the consequences of use of such information.

- Right to make changes

E Ink reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice.

- Suitability for use

Products described in this document are intended for development purposes only and comes without any warranty. E Ink accepts no liability for inclusion and/or use of E Ink products in commercial products or applications and therefore such inclusion and/or use is at the customer's own risk. In no event shall E Ink be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liability, arising in any way out of the use of the software.

- Applications

Applications that are described herein for any of these products are for illustrative purposes only. E Ink makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

- No offer to sell or license

Nothing in this document may be interpreted or construed as an offer to sell products that is open for acceptance or the grant, conveyance or implication of any license under any copyrights, patents or other industrial or intellectual property rights.

- Trademarks

Notice: All referenced brands, product names, service names, and trademarks are the property of their respective owners.

- Revision History

Version	Date	Pag	Description	Author
1.0	2017/05/10		Initial	Yaozu