Template:Open407V-D User Manual

From Waveshare Wiki

Open407V-D Testing Guide

- Programming Interface: SWD
- Serialport settings: Select a proper COM port, configure as follows:
- Baud rate:115200;
- Data bits:8;
- Stop bits:1;
- Parity bits:None;
- Flow control:None
- Power supply: 5V power supply is required.
- Hardware Connection: For the tests that require the serial port converter for debugging, please connect the converter to the board via pin headers, and then connect it to PC through USB cable.

Contents

ADC+DMA

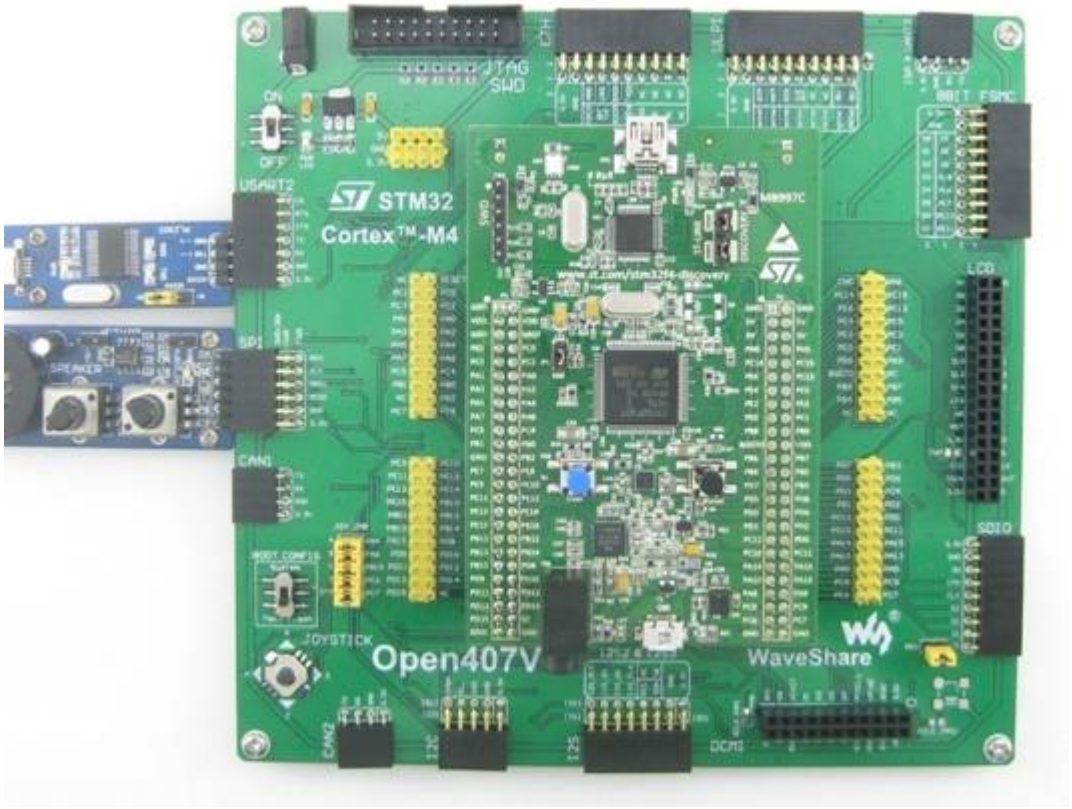
Overview

ADC analog voltage acquisition demo

Hardware Connection

- Connect the serial port converter to the board via USART2 interface.
- Connect the Analog Test Board to the board via SPI1 interface.

As shown in the figure below:



Operation and Result

Launch the serial debugging assistant, and configure it as described in chapter "Preparation".

Info/message will be displayed on the serial debugging assistant as adjusting the resistor on themodule.

CAN1TO CAN2-Normal

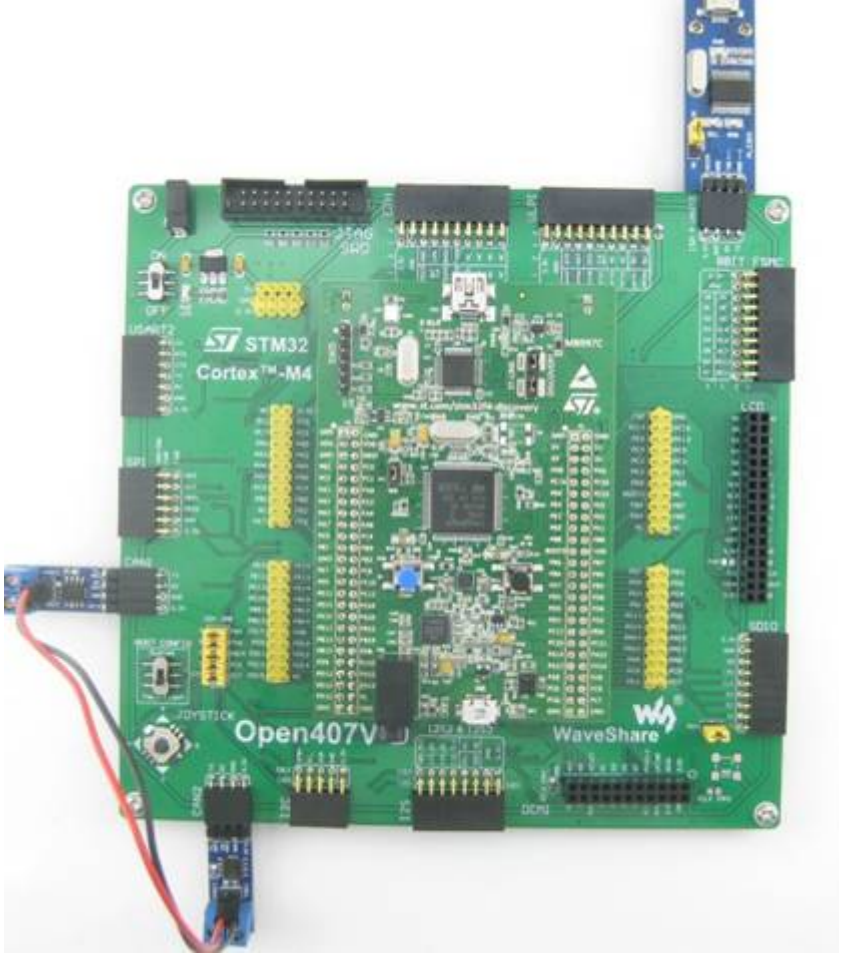
Overview

CAN1TO CAN2-Normal demo

Hardware Connection

- Connect the serial port converter to the board via USART3.
- Two "SN65HVD230 CAN Board" are required for this test.
- Connect the two "CAN Board" tothe onboard CAN1, CAN2 interface respectively.
- Connect the two "CAN Board" by jumper wires(CANH <-> CANH, CANL <-> CANL).

As shown in the figure below:



Operation and Result

Launch the serial debugging assistant, and configure it as described in chapter "Preparation".

Press the JOYSTICK and Check the results on the serial debugging assistant.

DCMI_OV7670

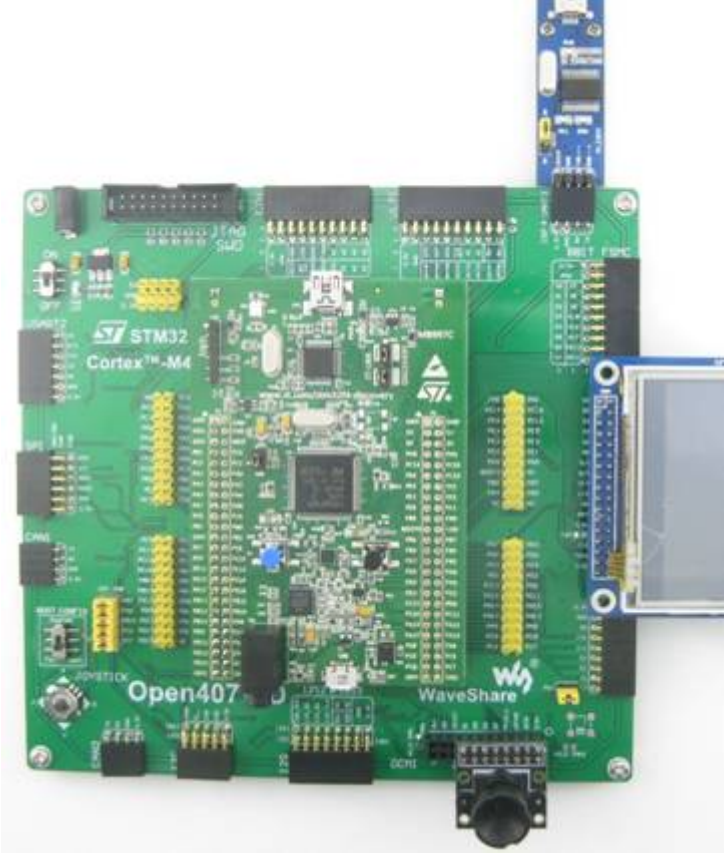
Overview

OV7670 Digital camera data acquisition and display on the LCD

Hardware Connection

- Connect the OV7670 Camera Board to the board via DCMI interface.
- Connect the serial port converter to the board via USART3.
- Connect the 3.2inch 320x240 Touch LCD (C) to the board via LCD interface.

As shown in the figure below:



Operation and Result

Images acquired from the camera will be displayed on the LCD.

DCMI_OV9655

Overview

OV9655Digital camera data acquisition and display on the LCD

Hardware Connection

- Connect the OV9655 Camera Board to the board via DCMI interface.
- Connect the serial port converter to the board via USART3 interface.
- Connect the 3.2inch 320x240 Touch LCD (C) to the board via LCD interface.

As shown in the figure below:

Operation and Result

Images acquired from the camera will be displayed on the LCD.

I2C

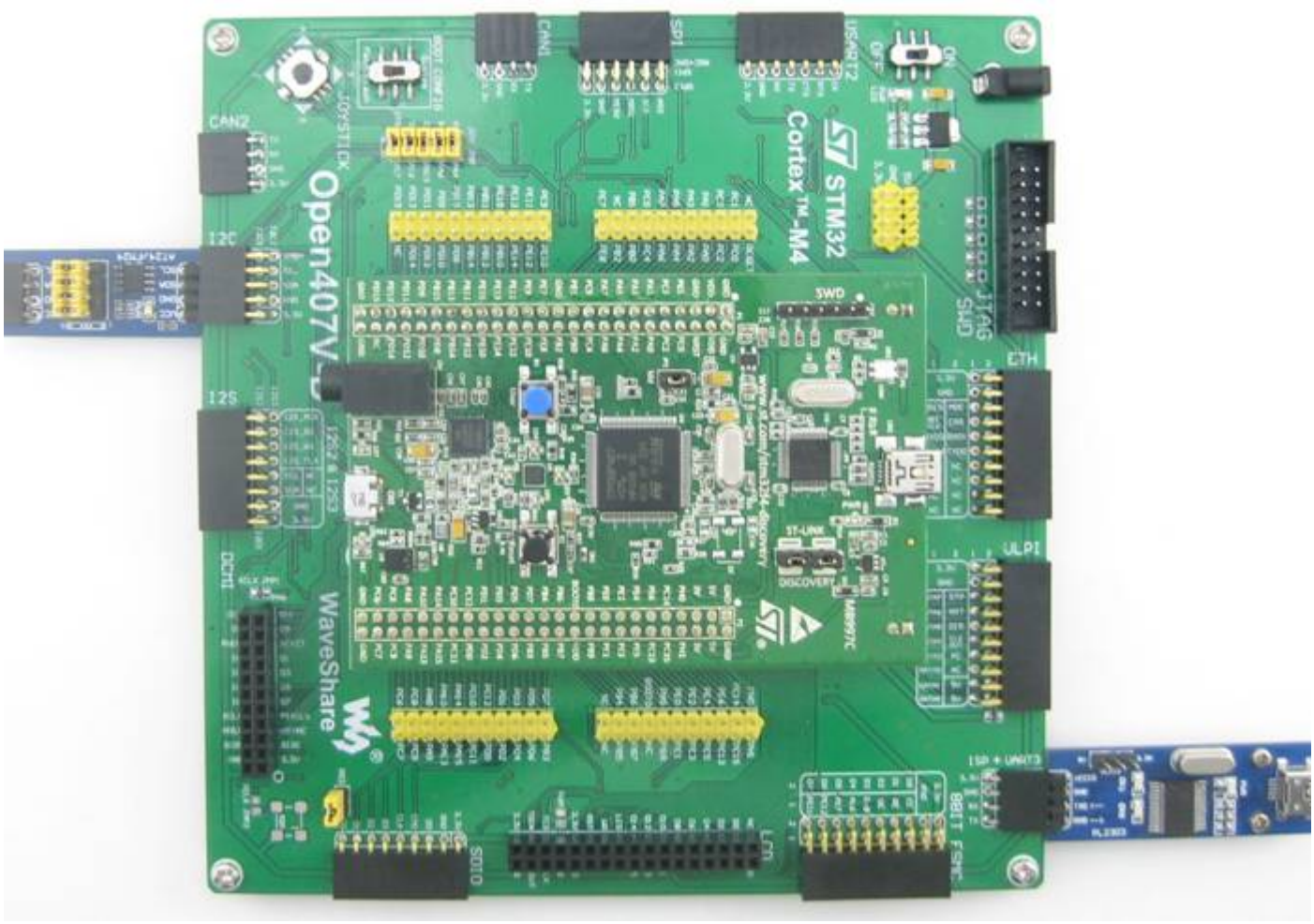
Overview

I2C EEPROM demo

Hardware Connection

- Connect the serial port converter to the board via USART3 interface.
- Connect the AT24CXX EEPROM Board to the board via I2Cx interface (I2C1 or I2C2, depending on the software configuration).

As shown in the figure below:



Operation and Result

Launch the serial debugging assistant, and configure it as described in chapter "Preparation".

Info/message will be displayed on the serial debugging assistant.

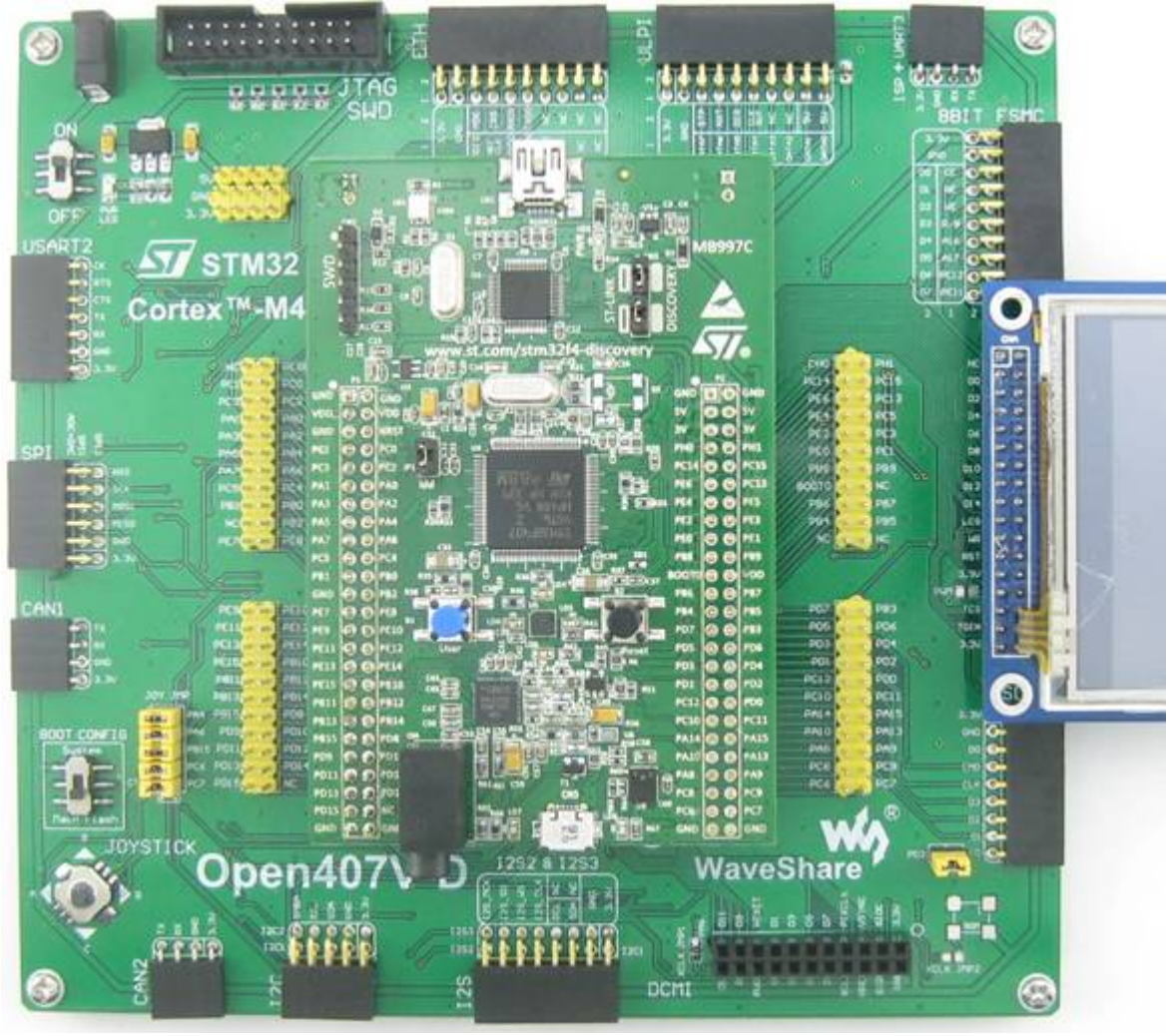
LCD-HY32D_FSMC

Overview

LCD display demo

Hardware Connection

- Connect the 3.2inch 320x240 Touch LCD (C) via LCD Interface to the board. As shown in the figure below:



Operation and Result

Information will be displayed on the LCD.

Nand Flash_PCB0

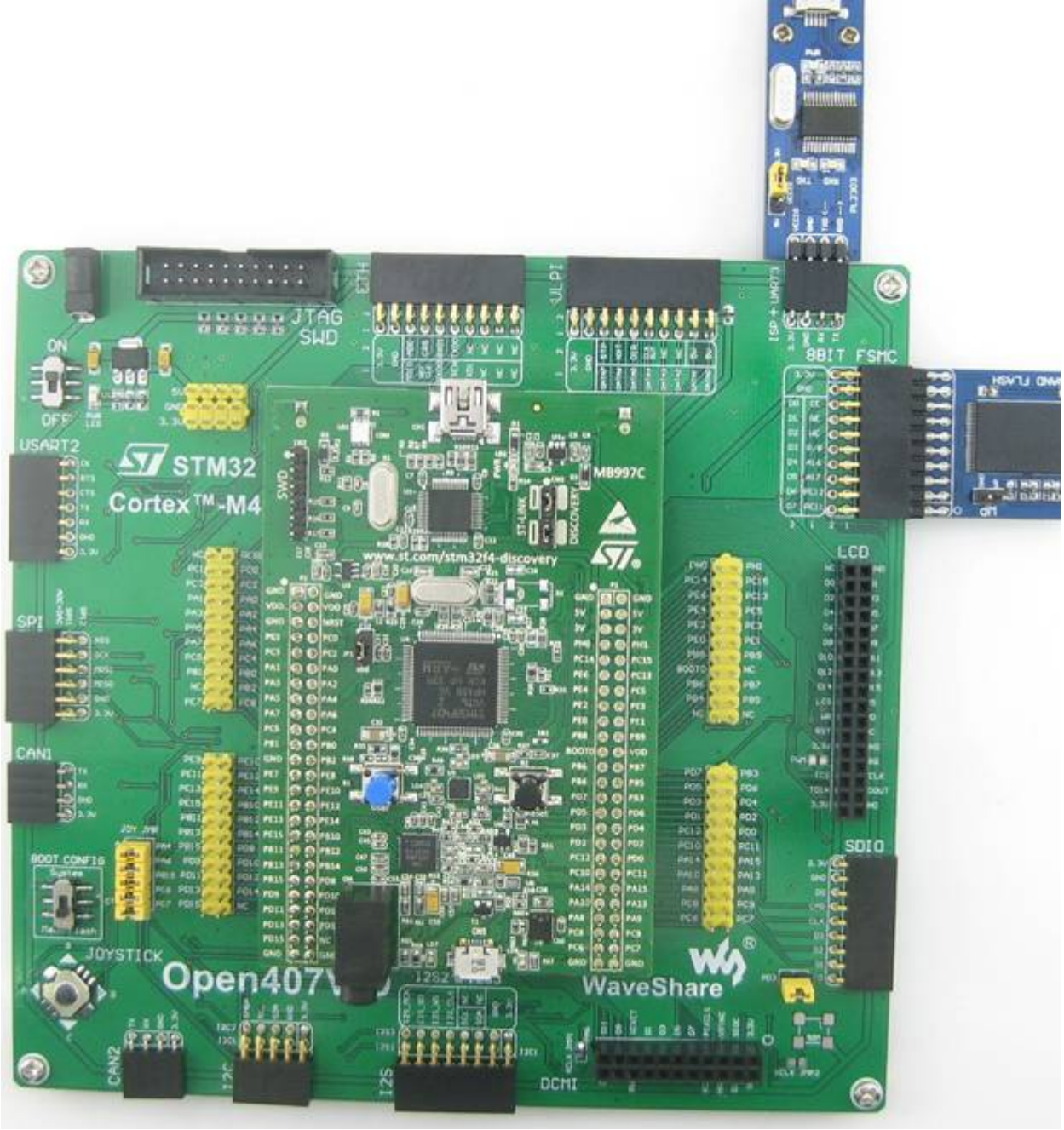
Overview

NandFlash_PCB0 demo

Hardware Connection

- Connect the K9F1G08U0C Nand Flash Board(K9F1G08U0C PCB0 onboard) to the board via 8BIT FSMC interface.
- Connect the serial port converter to the board via USART3.

As shown in the figure below:



Operation and Result

Launch the serial debugging assistant, and configure it as described in chapter "Preparation".

Info/message will be displayed on the serial debugging assistant.

NandFlash_SCB0

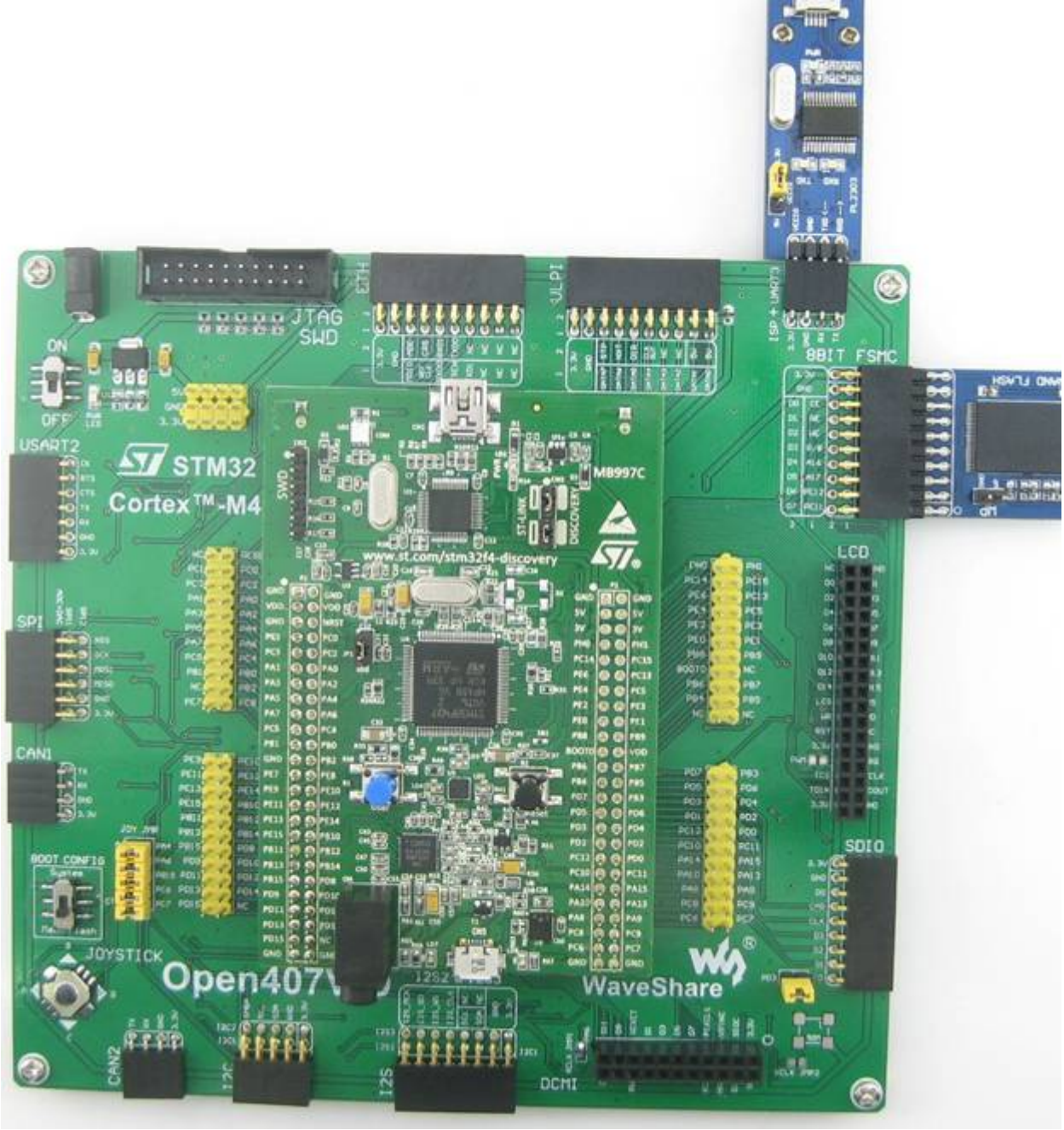
Overview

NandFlash_SCB0 demo

Hardware Connection

- Connect the NandFlashBoard (A) (K9F1G08U0D SCB0 onboard) to the board via 8BIT FSMC interface.
- Connect the serial port converter to the board viaUSART3.

As shown in the figure below:



Operation and Result

Launch the serial debugging assistant, and configure it as described in chapter "Preparation".

Info/message will be displayed on the serial debugging assistant.

SD_Fat FS

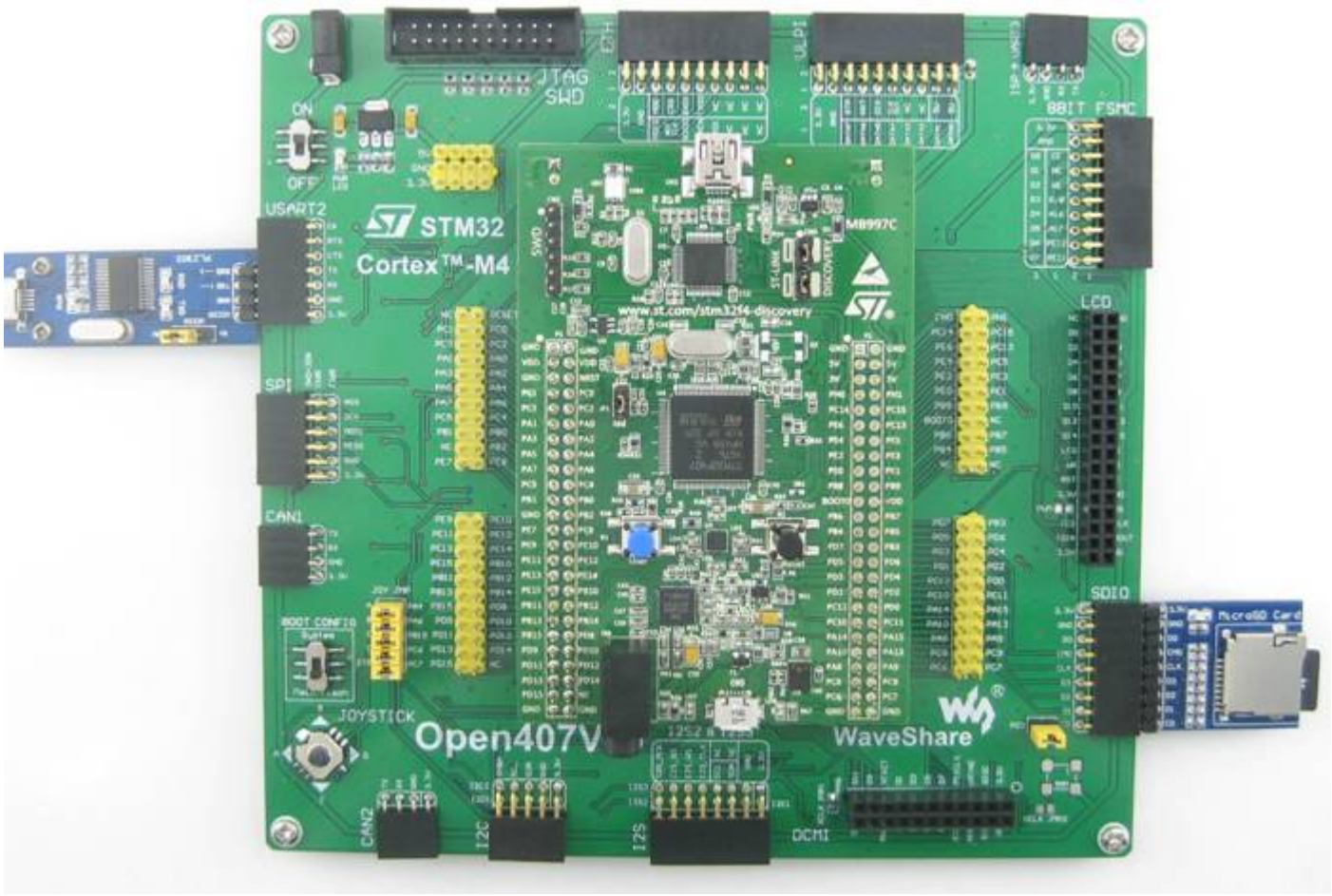
Overview

SDIO interface+ FatFS demo

Hardware Connection

- Connect the Micro SD Storage Board (with SD card) to the board via SDIO interface.
- Connect the serial port converter to the board via USART2 interface.

As shown in the figure below:



Operation and Result

Launch the serial debugging assistant, and configure it as described in chapter "Preparation".

Info/message will be displayed on the serial debugging assistant.

SDIO

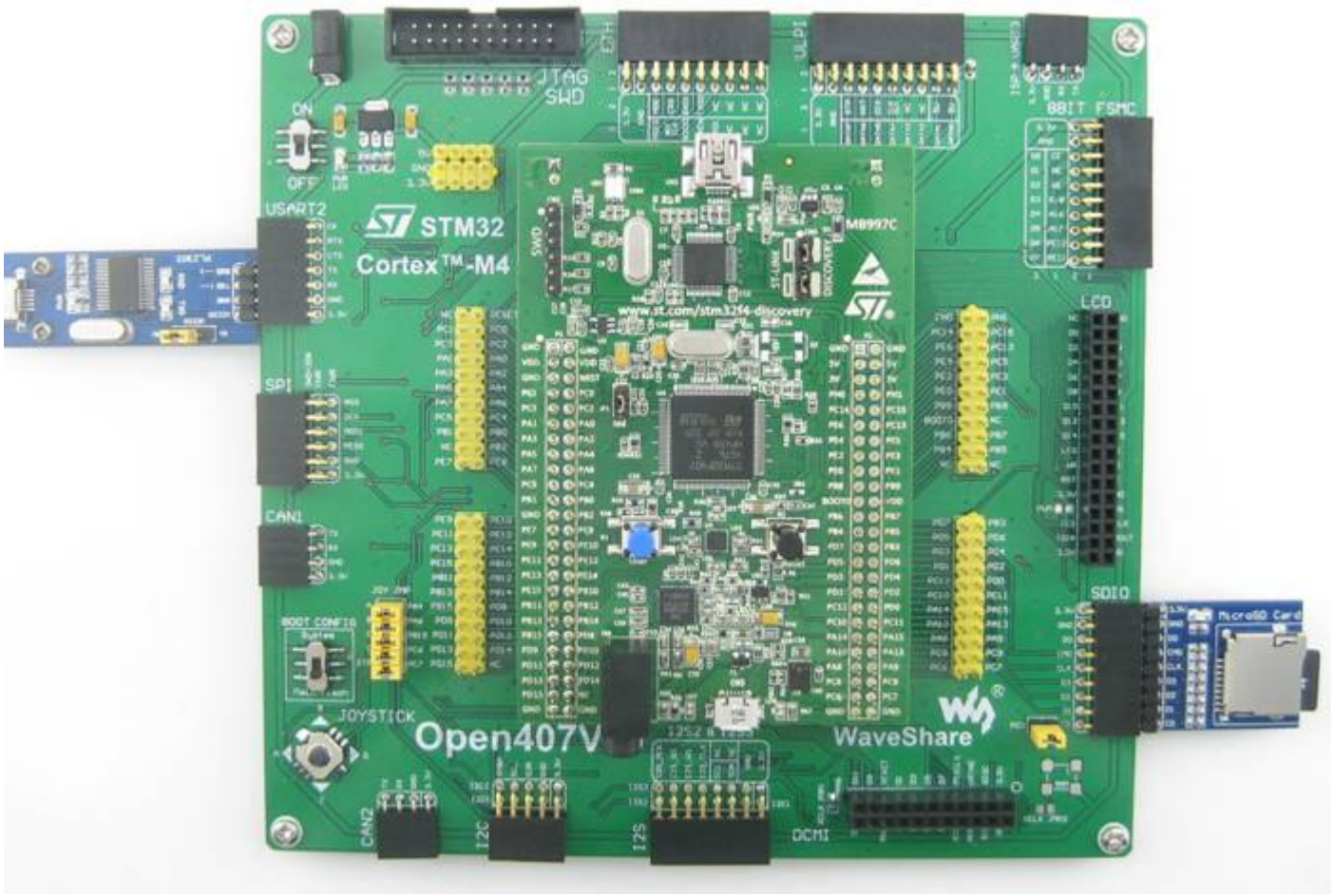
Overview

SDIO interface demo

Hardware Connection

- Connect the Micro SD Storage Board (with SD card) to the board via SDIO interface.
- Connect the serial port converter to the board via USART2 interface.

As shown in the figure below:



Operation and Result

Launch the serial debugging assistant, and configure it as described in chapter "Preparation".

Info/message will be displayed on the serial debugging assistant.

SPI

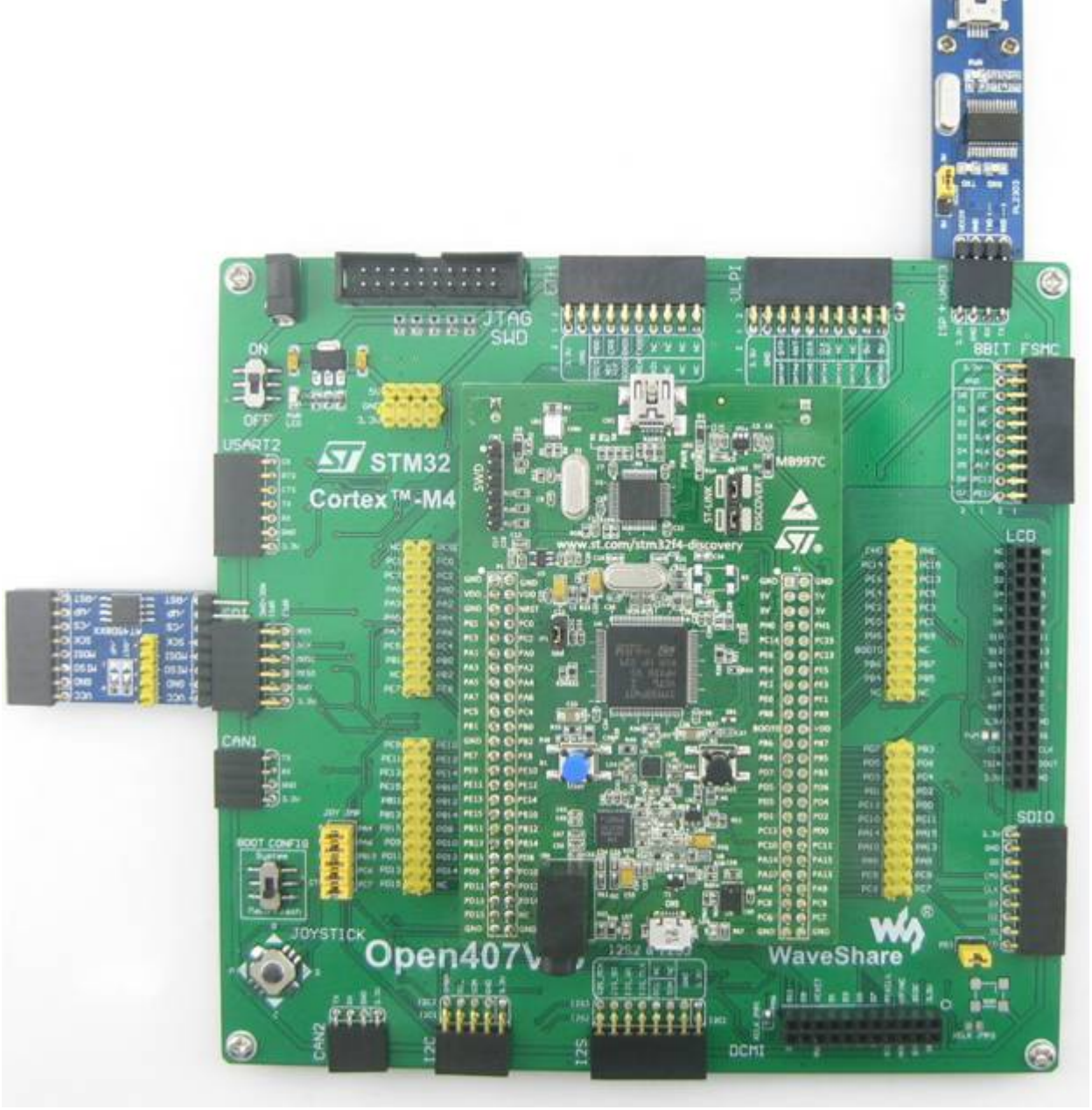
Overview

SPI Flash demo

Hardware Connection

- Connect the serial port converter to the board via USART3.
- Connect the AT45DBXX Data Flash Board to the board via SPIx interface.

As shown in the figure below:



Operation and Result

Launch the serial debugging assistant, and configure it as described in chapter "Preparation".

Info/message will be displayed on the serial debugging assistant.

Touch Panel

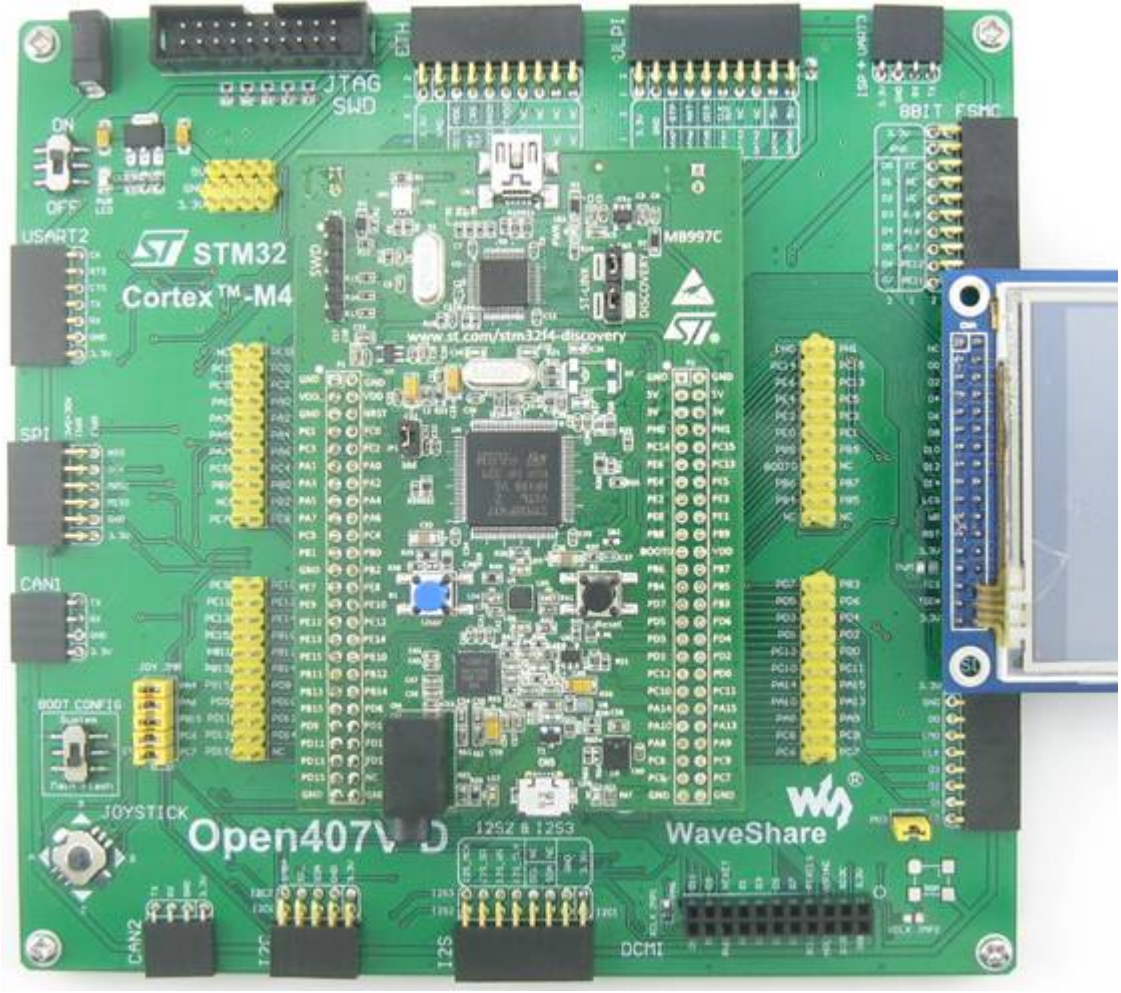
Overview

LCD touch screen demo

Hardware Connection

- Connect the 3.2inch 320x240 Touch LCD (C) to the board via LCD interface.

As shown in the figure below:



Operation and Result

LCD touch screen function works, and allows writing and drawing on the LCD.

UcosII2.91+UCGUI3.90A

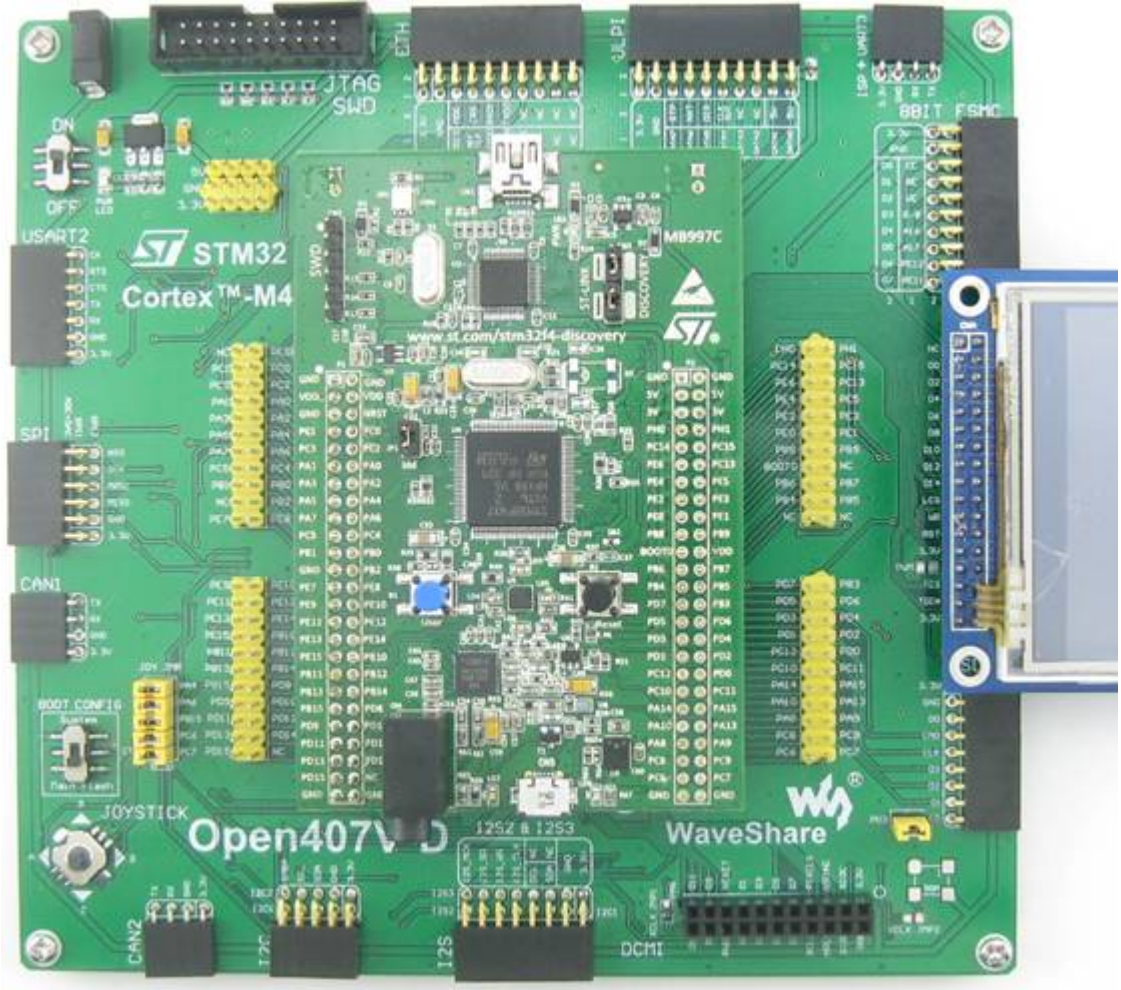
Overview

UcosII2.91+UCGUI3.90ADEMO

Hardware Connection

- Connect the 3.2inch 320x240 Touch LCD (C) to the board via LCD Interface.

As shown in the figure below:



Operation and Result

Launch the serial debugging assistant, and configure it as described in chapter "Preparation".

Info/message will be displayed on the uCOSView-V310G and LCD.

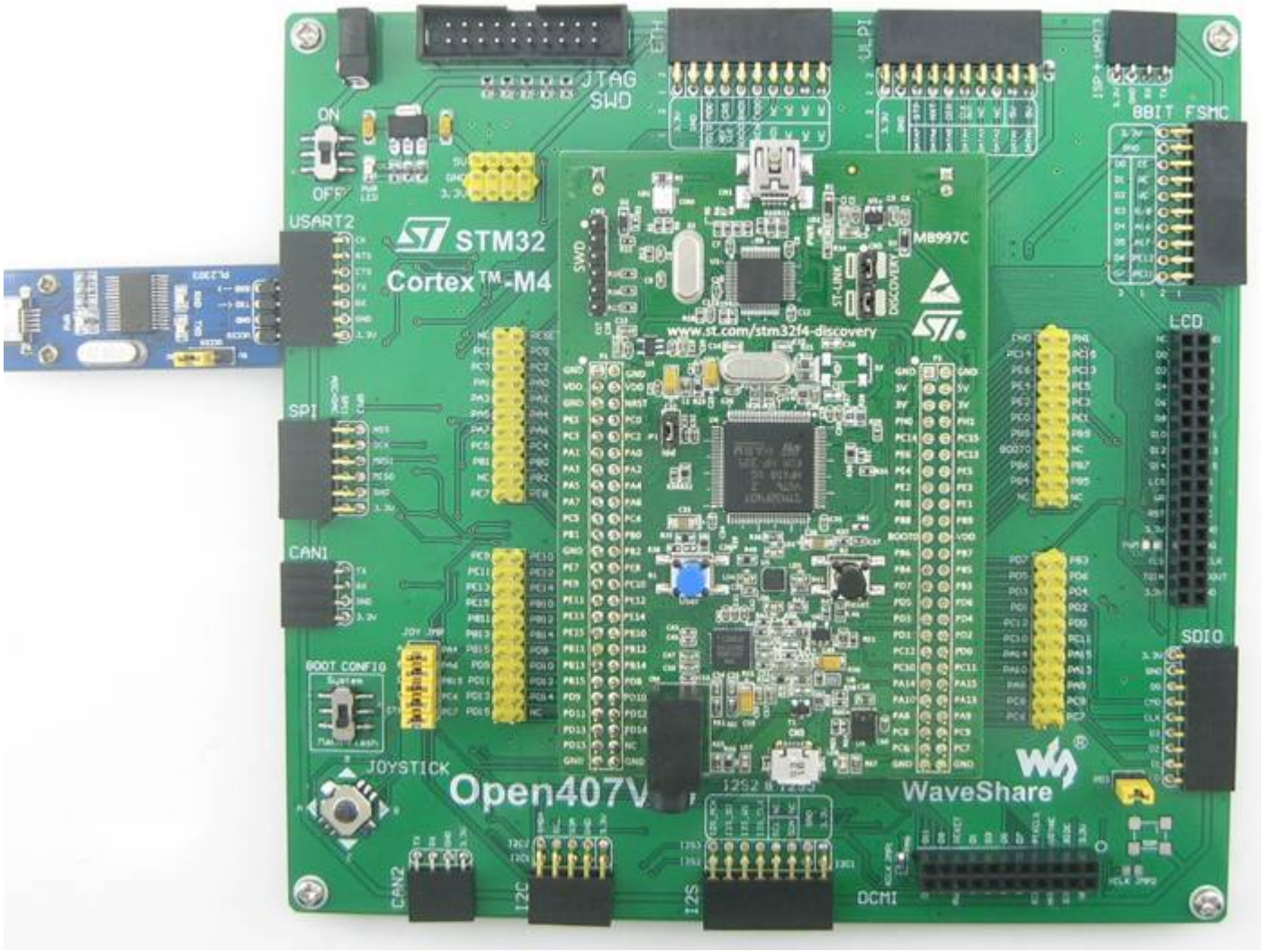
USARTx_pritf

Overview

USART serial port demo

Hardware Connection

- Connect the serial port converter to the board via USART2 Interface. As shown in the figure below:



Operation and Result

Launch the serial debugging assistant, and configure it as described in chapter "Preparation".

Info/message will be displayed on the serial debugging assistant.

I2S

Overview

I2Sdemo

(1) MCU_FLASH

Hardware Connection

- Connect the UDA1380 Board to the board via I2S interface. As shown in the figure below:

Operation and Result

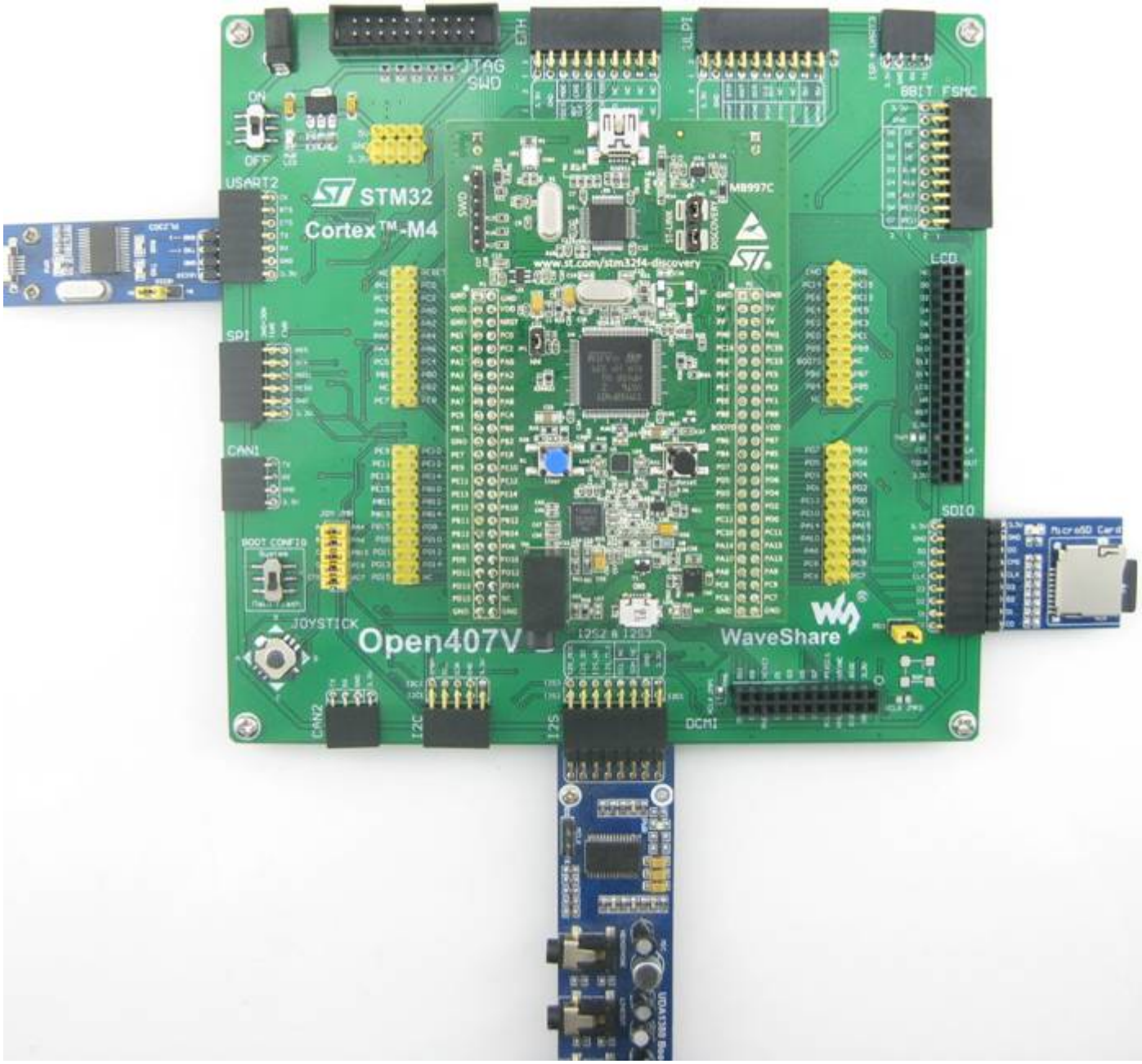
Put the headset to the HEADPHONE jack, then will hear the music stored in the MCUFLASH.

(2) SD_Fat FS

Hardware Connection

- Connect the UDA1380 Board to the board via I2S interface.
- Connect the Micro SD Storage Board (with SD Card) to the board via SDIO interface.
- Connect the serial port converter to the board via USART2.

As shown in the figure below:



Operation and Result

- Put the audio file named"Audio.wav" on SD card root directory.
- Put the headset to the HEADPHONE jack.
- SD card audio file information displayed on the Serial debugging assistant.
- Headset will output the music named Audio.wav on SD card root directory.

USBHS Example

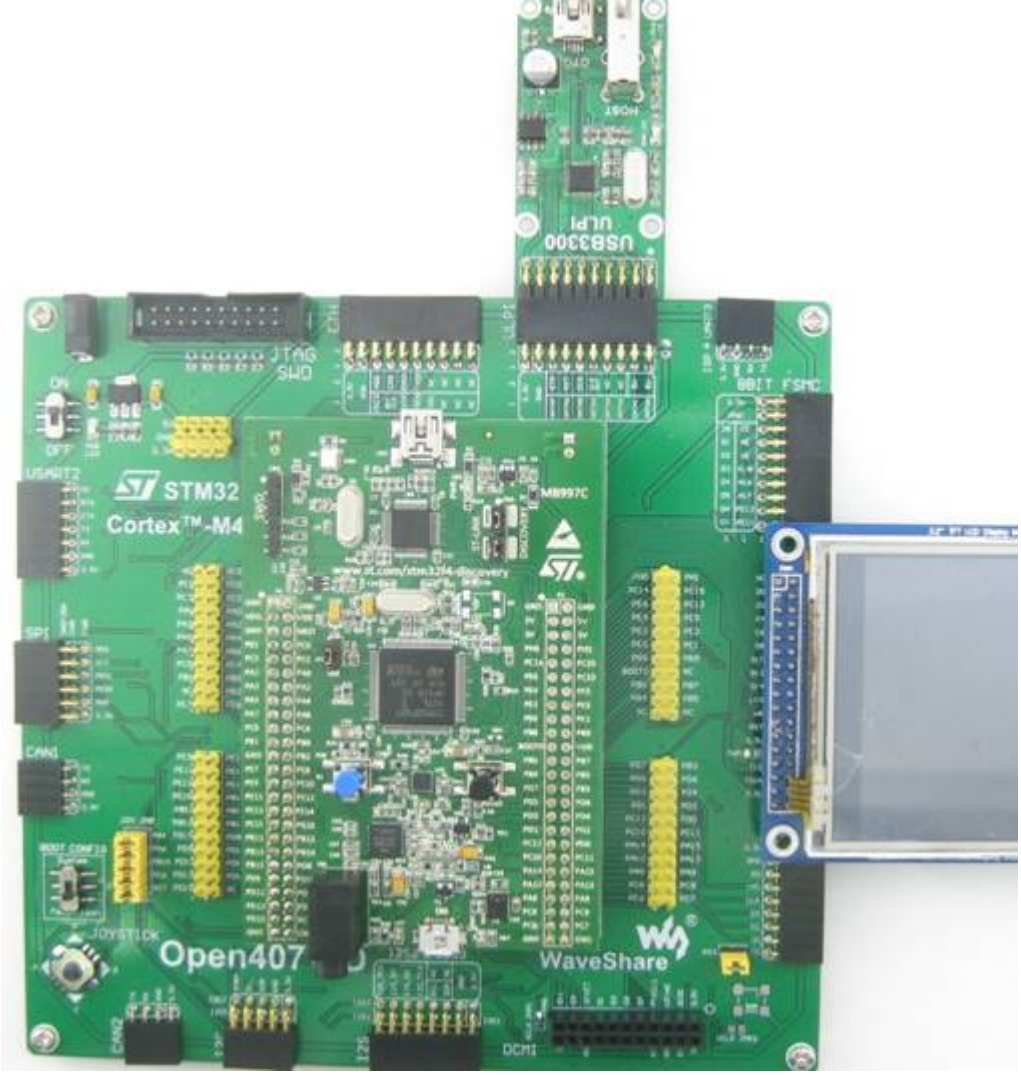
Overview

USBHS demo

Hardware Connection

- Connect the 3.2inch 320x240 Touch LCD(A) to the board via LCD interface.
- Connect the USB3300 USB HS Board to the board via ULPI interface.

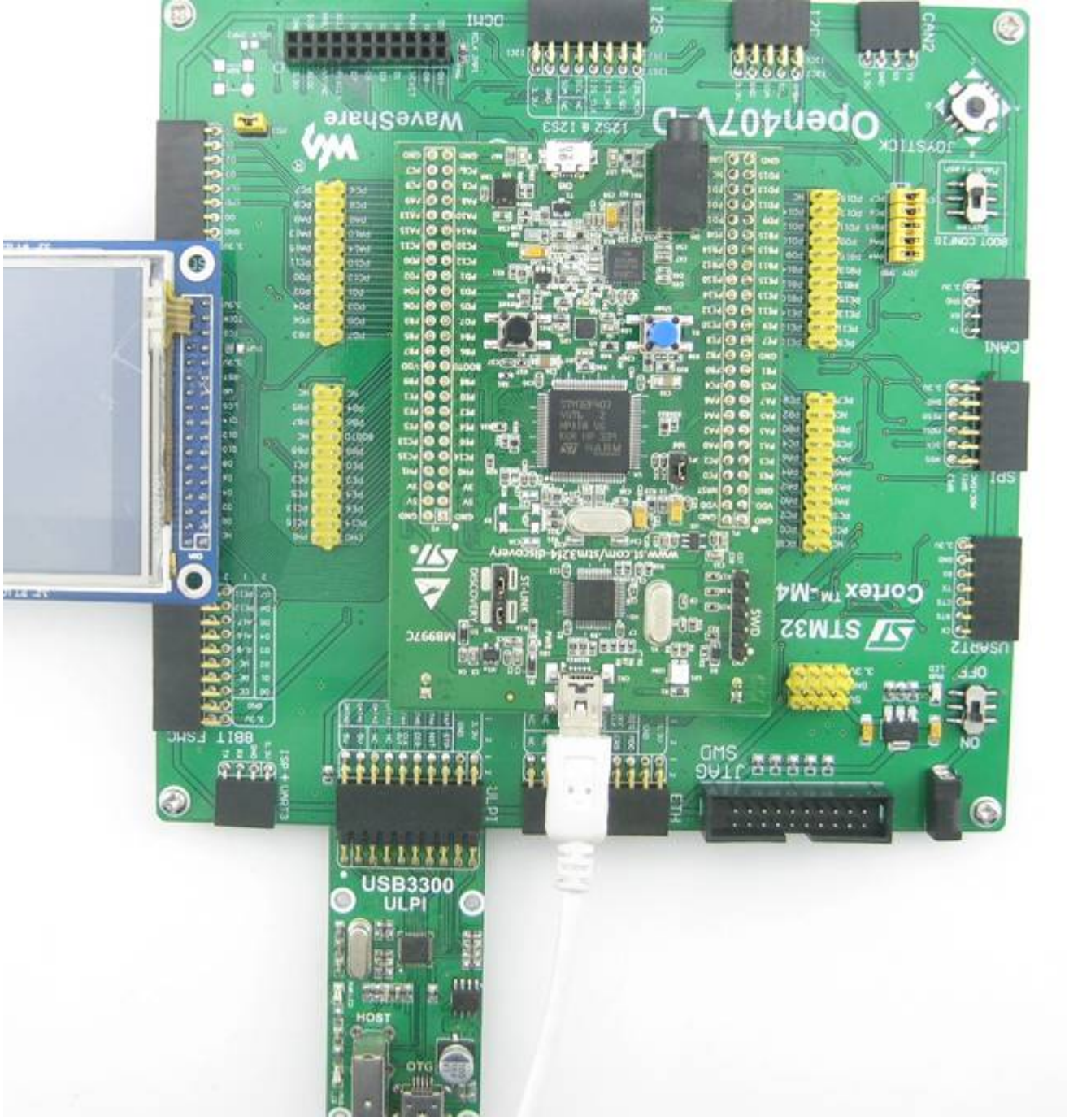
As shown in the figure below:



(1) USB_Device_Examples--HID

Hardware Connection

- Connect the PC and USB3300 USB HS Board OTG receptacle by USB cable. As shown in the figure below:



Operation and Result

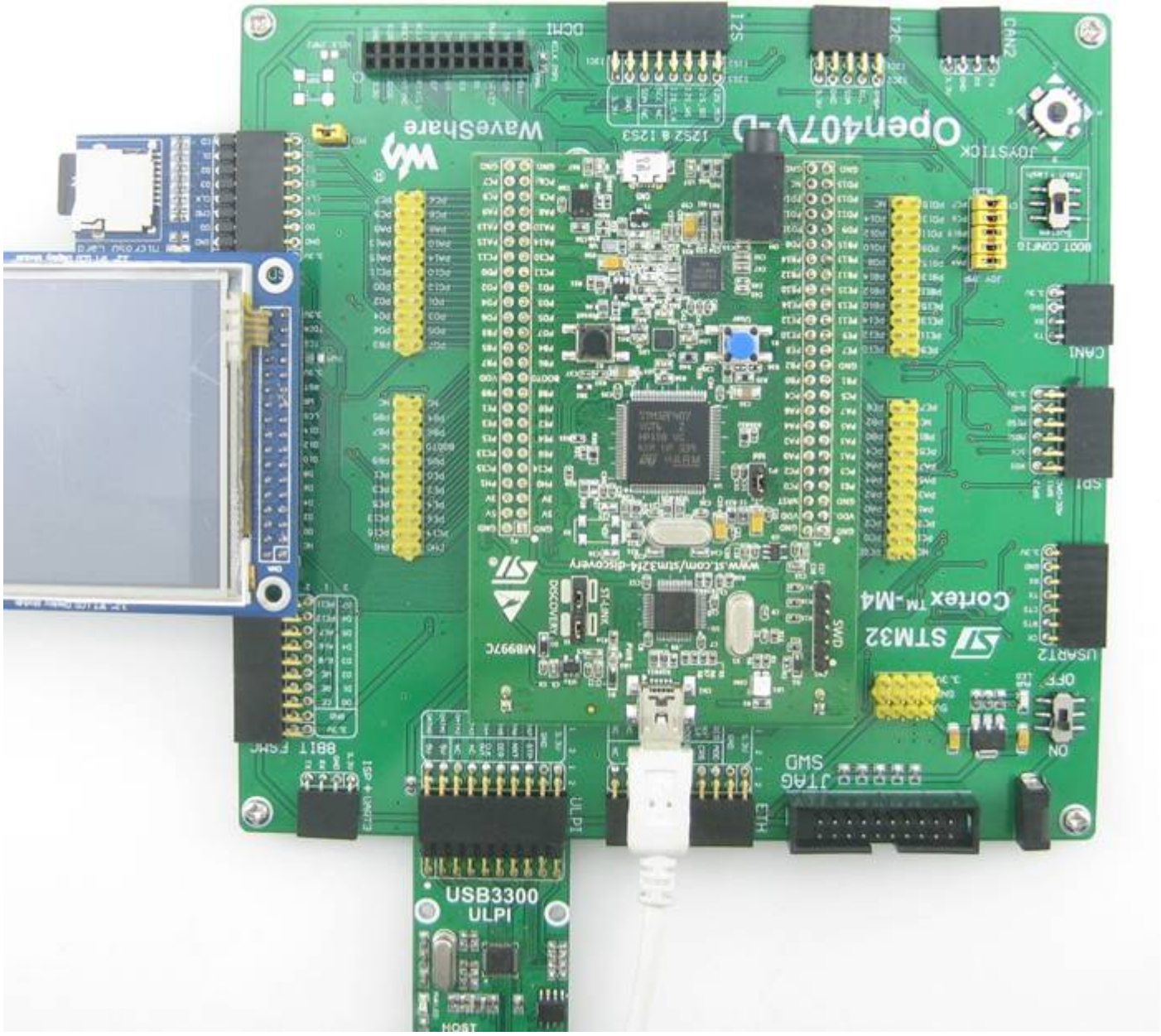
Message/infowill be displayed on the LCD, and JOYSTICK can be used for simulating the mouse and controlling movement of the computer and mouse.

(2) USB_Device_Examples--MSC

Hardware Connection

- Connect the PC and USB3300 USB HS Board OTG receptacle by USB cable.

.Connect the Micro SD Storage Board (with SD card) to the board via SDIO interface, As shown in the figure below:



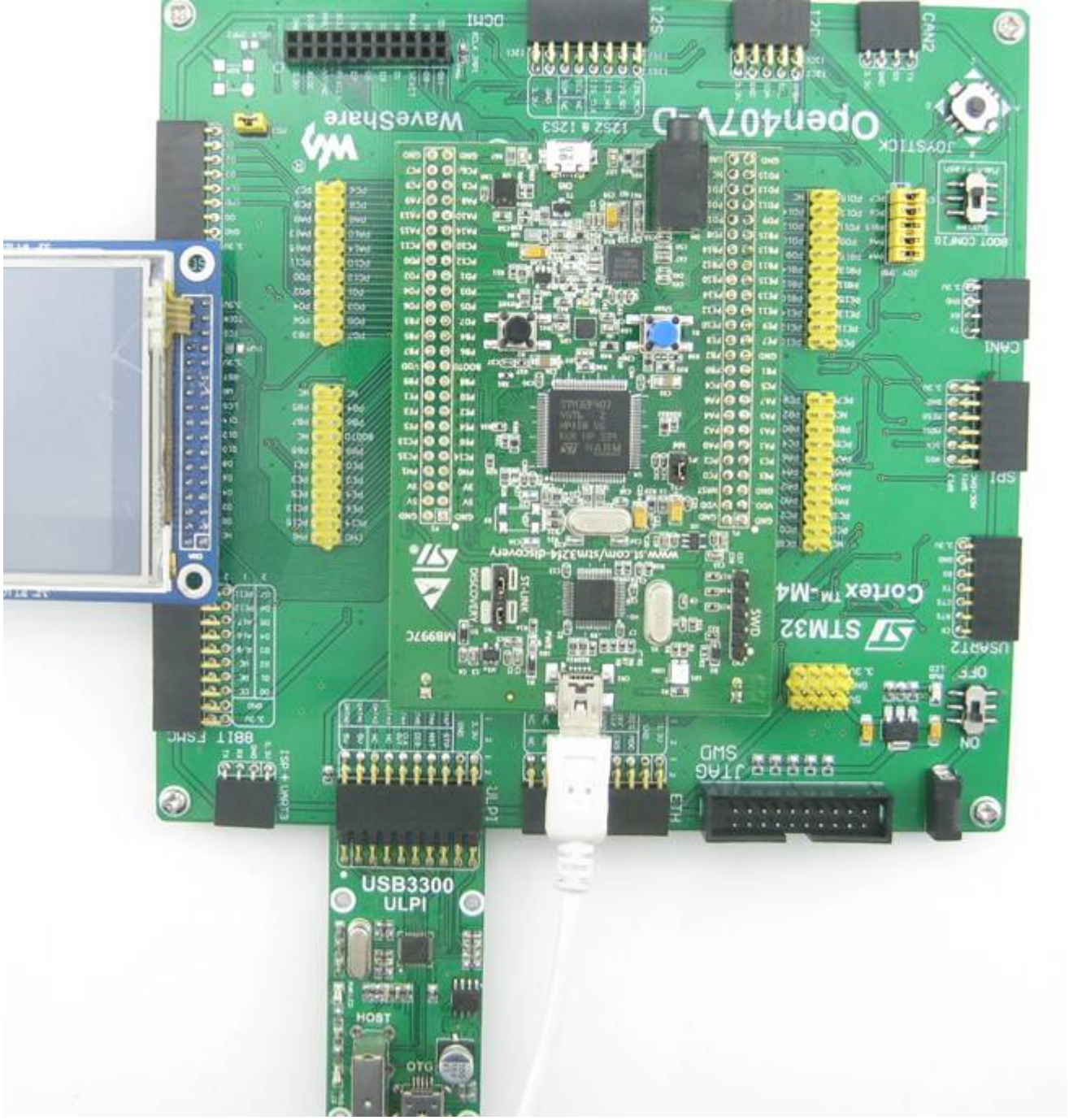
Operation and Result

You should find the SD card as a removable storage device on the computer.

(3) USB_Device_Examples--VCP

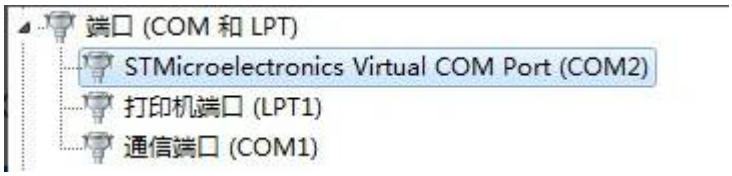
Hardware Connection

- Connect the PC and the USB3300 USB HS Board OTG receptacle by USB cable, as shown in the figure below:



Operation and Result

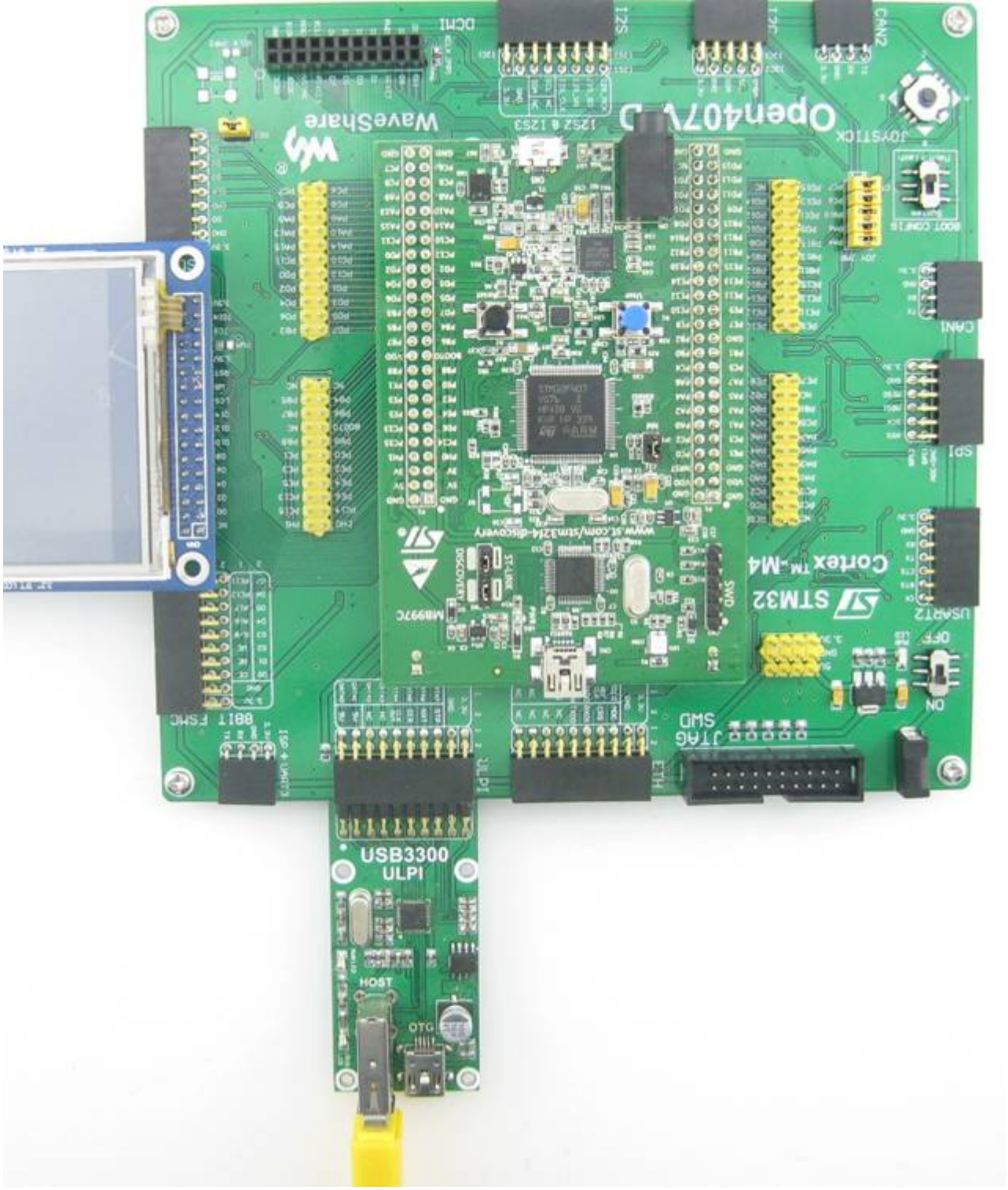
After installed the driver, a USB VCP (Virtual Com Port) exists on the PC. As shown in the figure below:



(4) USB_Host_Examples--MSC

Hardware Connection

- Connect a USB flash drive to the USB3300 USB HS Board HOST receptacle. As shown in the figure below:



Operation and Result

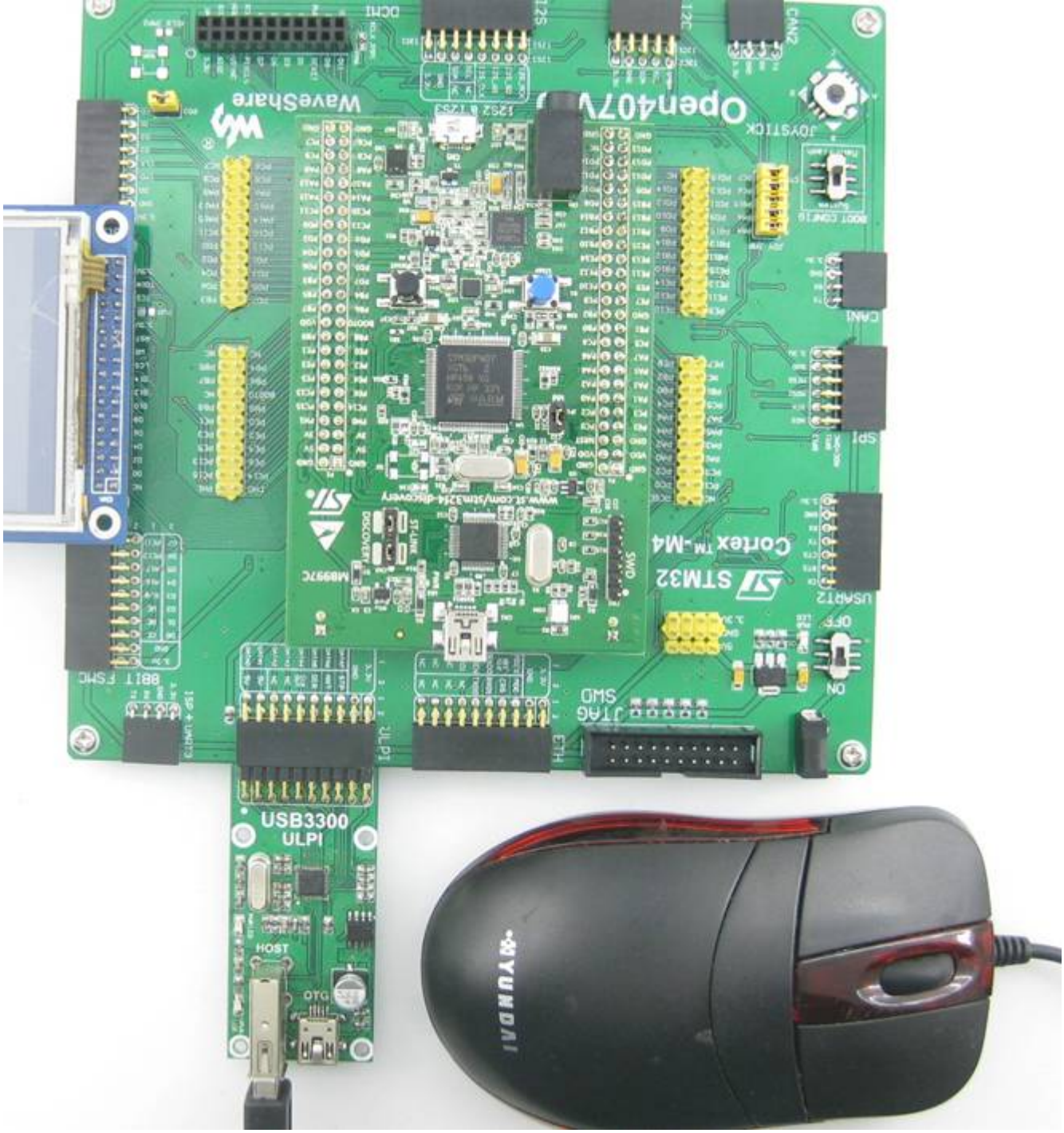
Message/info will be displayed on the LCD; the example code will place a TXT file into the USB Flash Drive, list the files in the USB Flash Drive, and display the picture.bmp.

(5) USB_Host_Examples--HID

Hardware Connection

- Connect a USB mouse or keyboard to the USB3300 USB HS Board HOST receptacle.

As shown in the figure below:



Operation and Result

The mouse or keyboard will be detected:

- •When identified as USB keyboard, the LCD will display the information input from the keyboard.

.When identified as USB mouse, the LCD will display the mouse current status.

ETH

Overview

Ethernet demo

PC IP Setting

Configure the local connection of PC as follows:

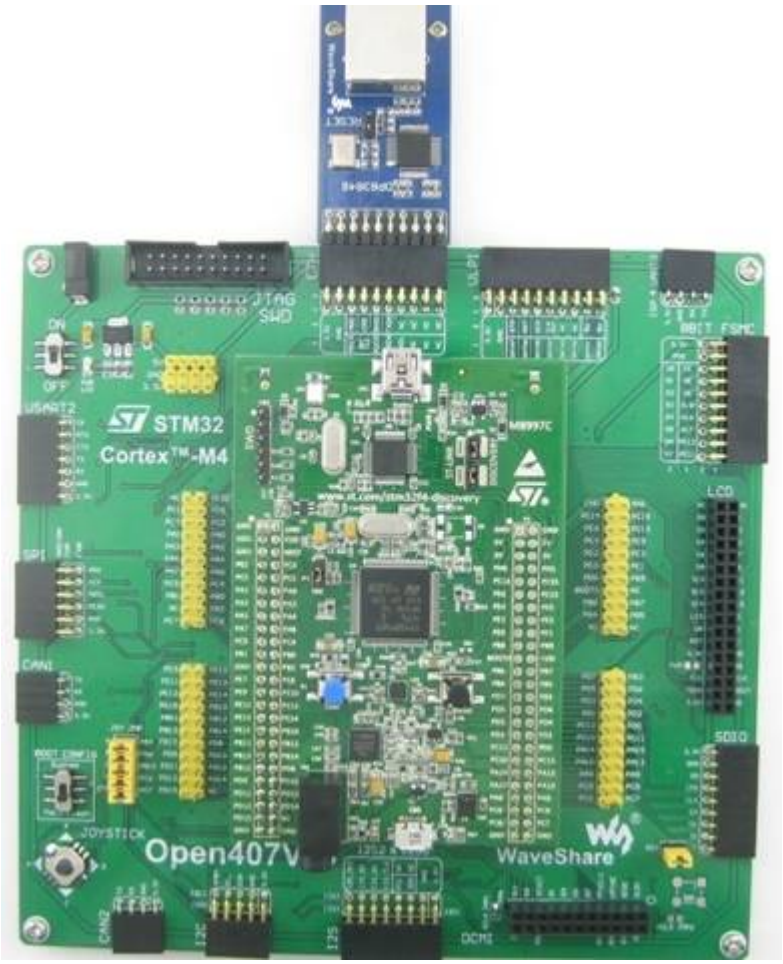
IPadd: 192.168.1.11

NETMASK_ADDR:255.255.255.0

GW_ADDR:192.168.1.1

Hardware Connection

- Connect the DP83848 Ethernet Board to the board via ETH interface, then connect it to the PC through a straight-through Ethernet cable. As shown in the figure below:



Operation and Result

Enter192.168.1.103 in the Internet Explorer URL bar and then there will be a demo page.

As shown in the figure below: