

# Open407V-D User Manual

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## Preparation

### Basic settings of the experiment

- Programming Interface: SWD
- Serial port 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.

## ADC+DMA

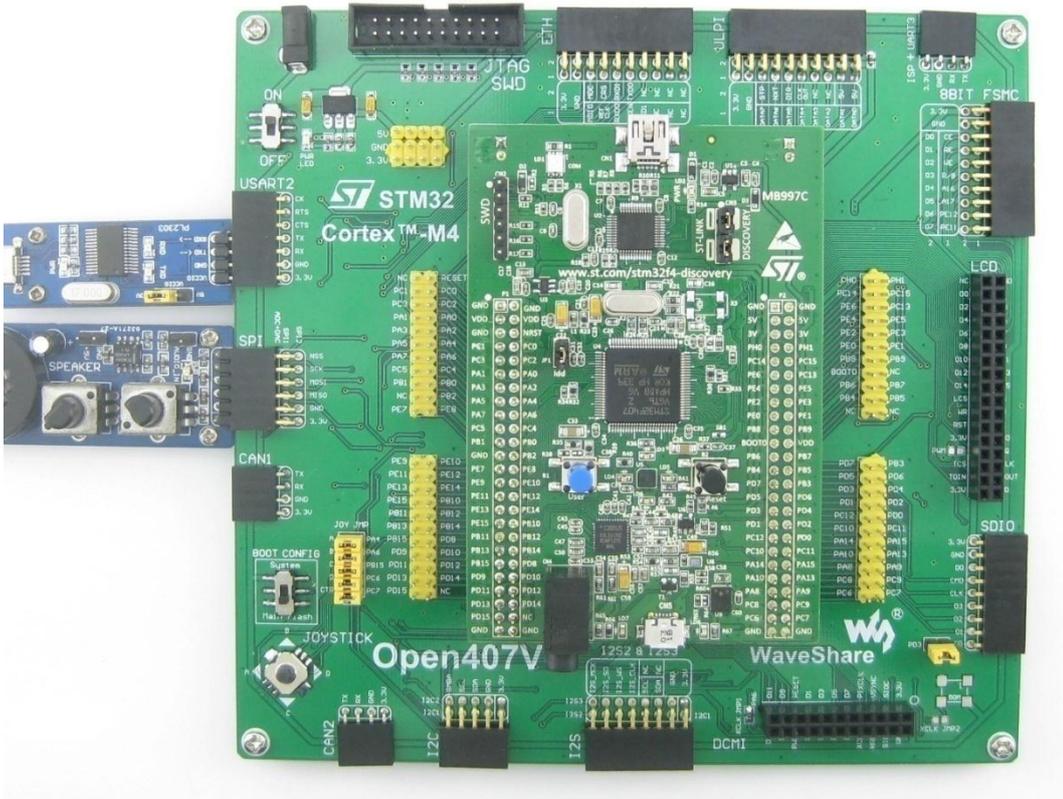
### Overview

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 the module.

## CAN1 TO CAN2-Normal

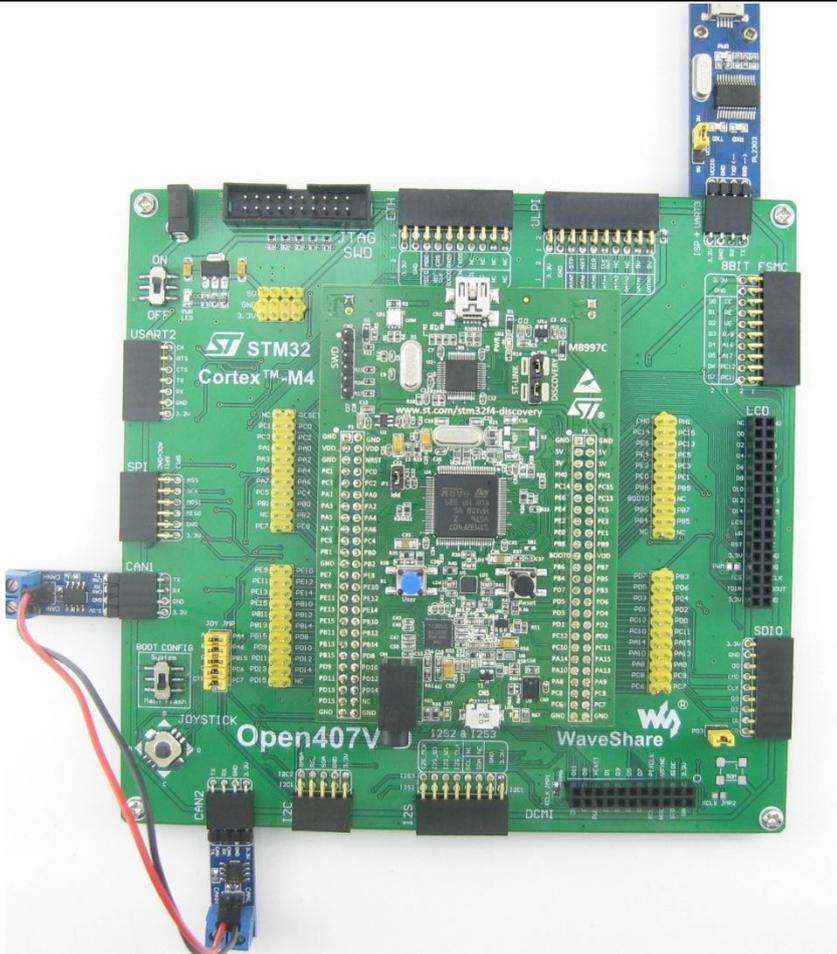
### Overview

CAN1 TO 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" to the 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

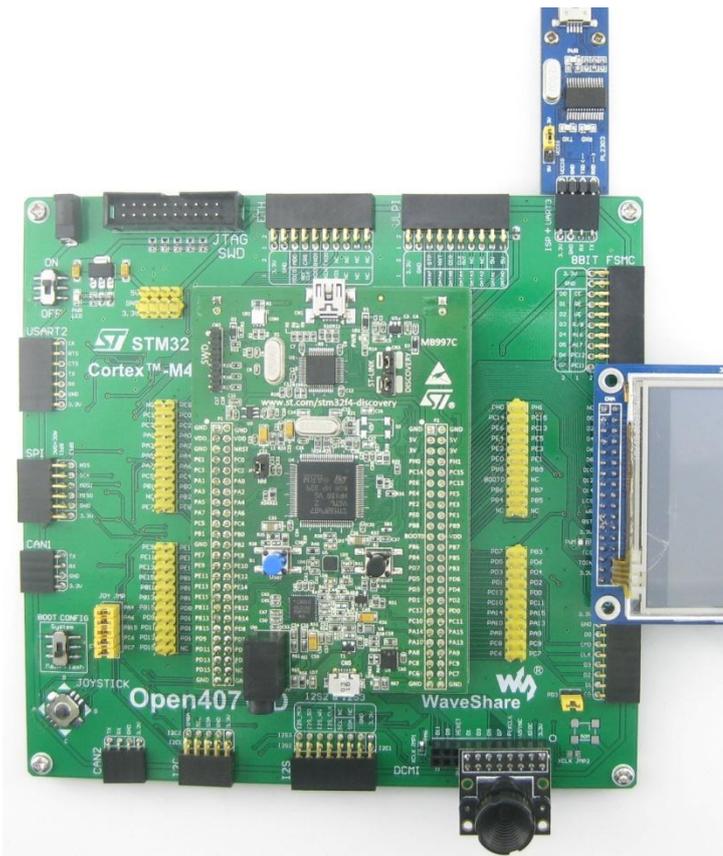
### Overview

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 (A) 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

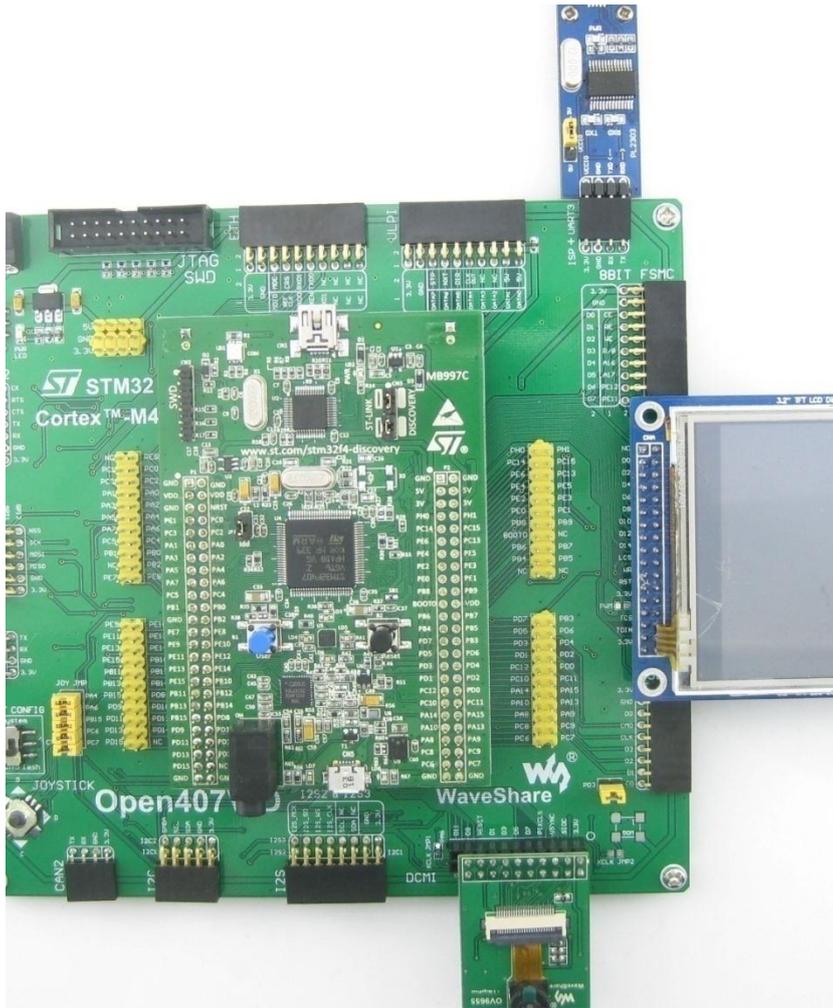
## Overview

OV9655 Digital 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 (A) 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

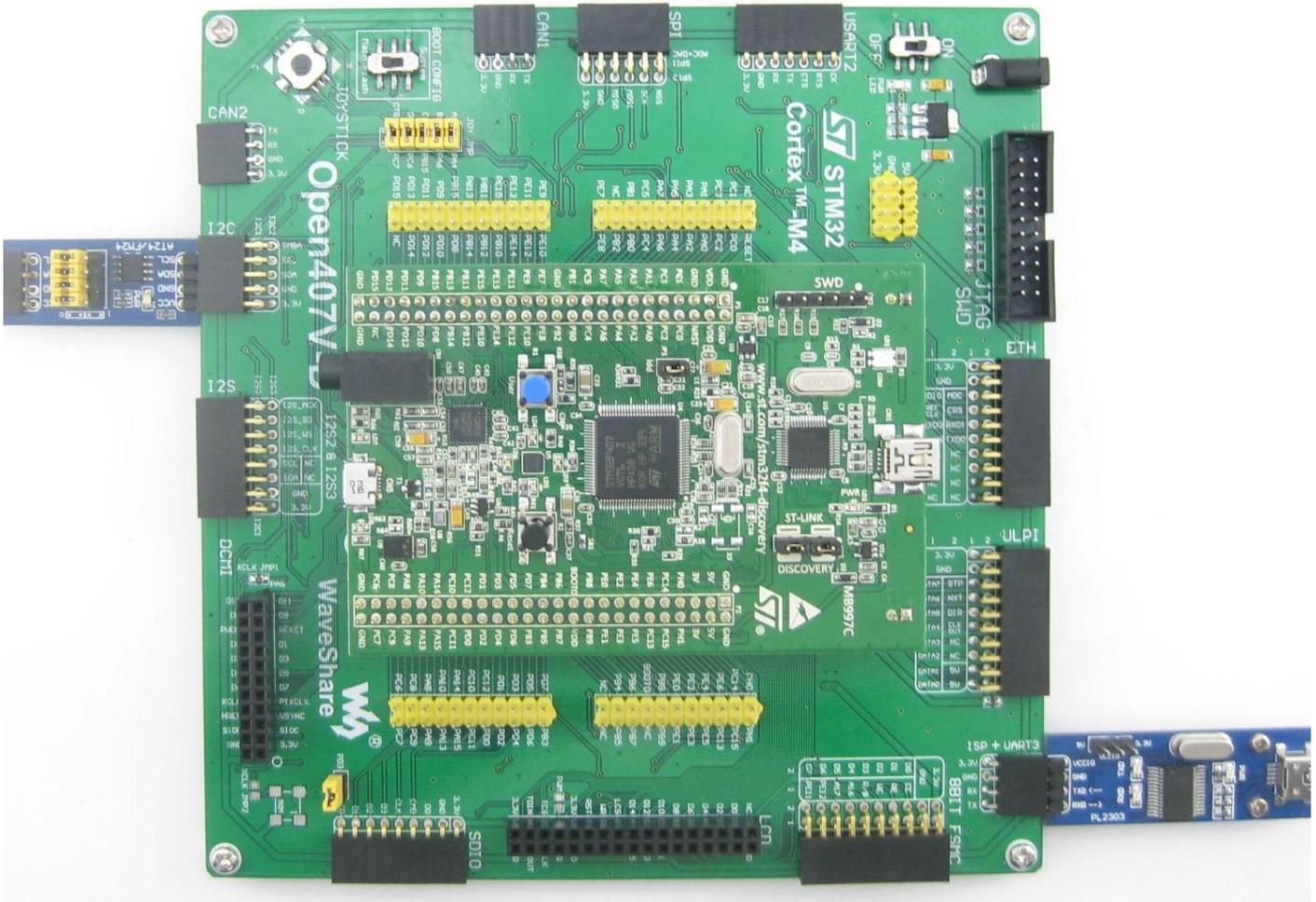
### Overview

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.

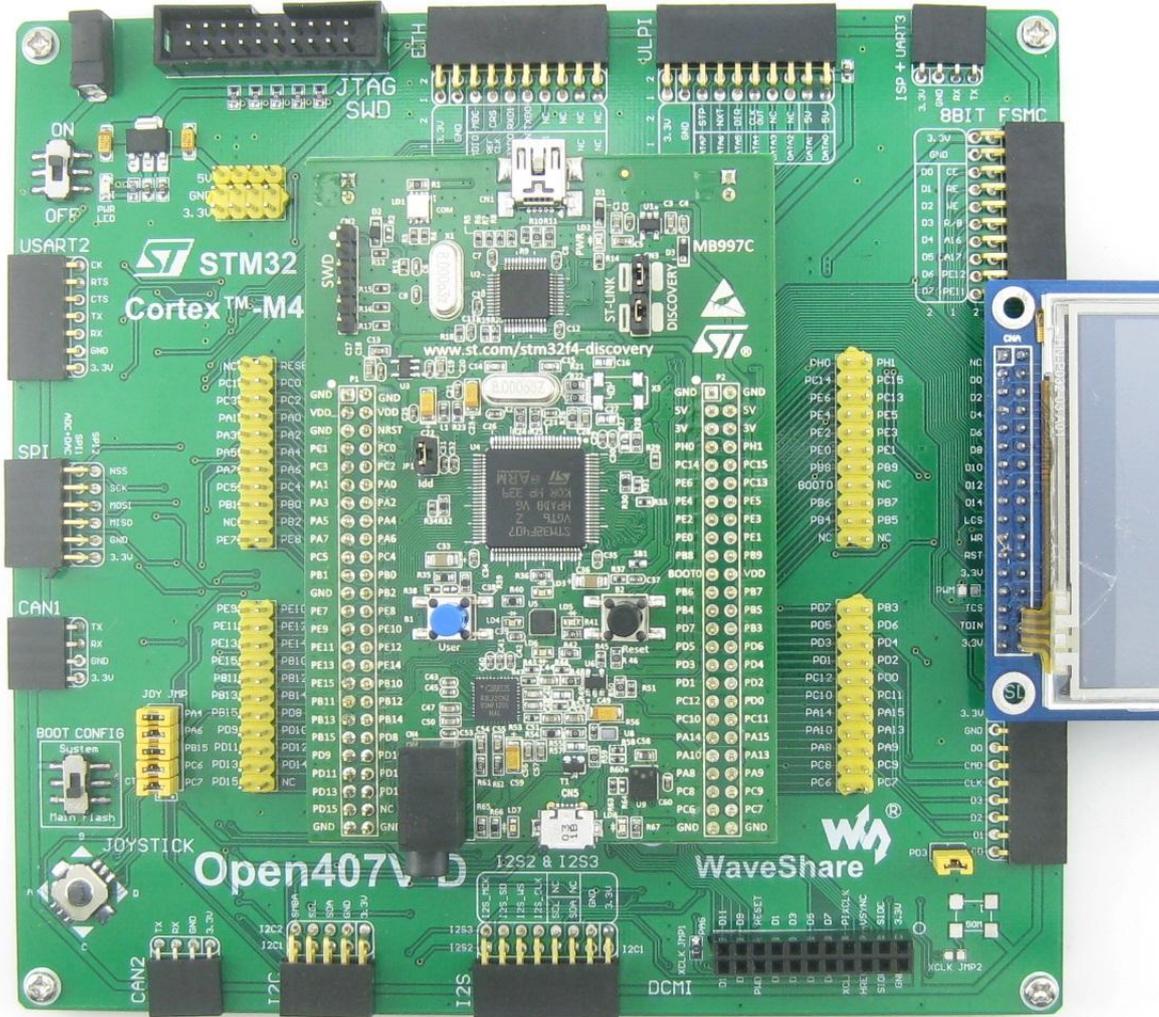
## LCD-HY32D\_FSMC

### Overview

LCD display demo

### Hardware Connection

·Connect the 3.2inch 320x240 Touch LCD (A) 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

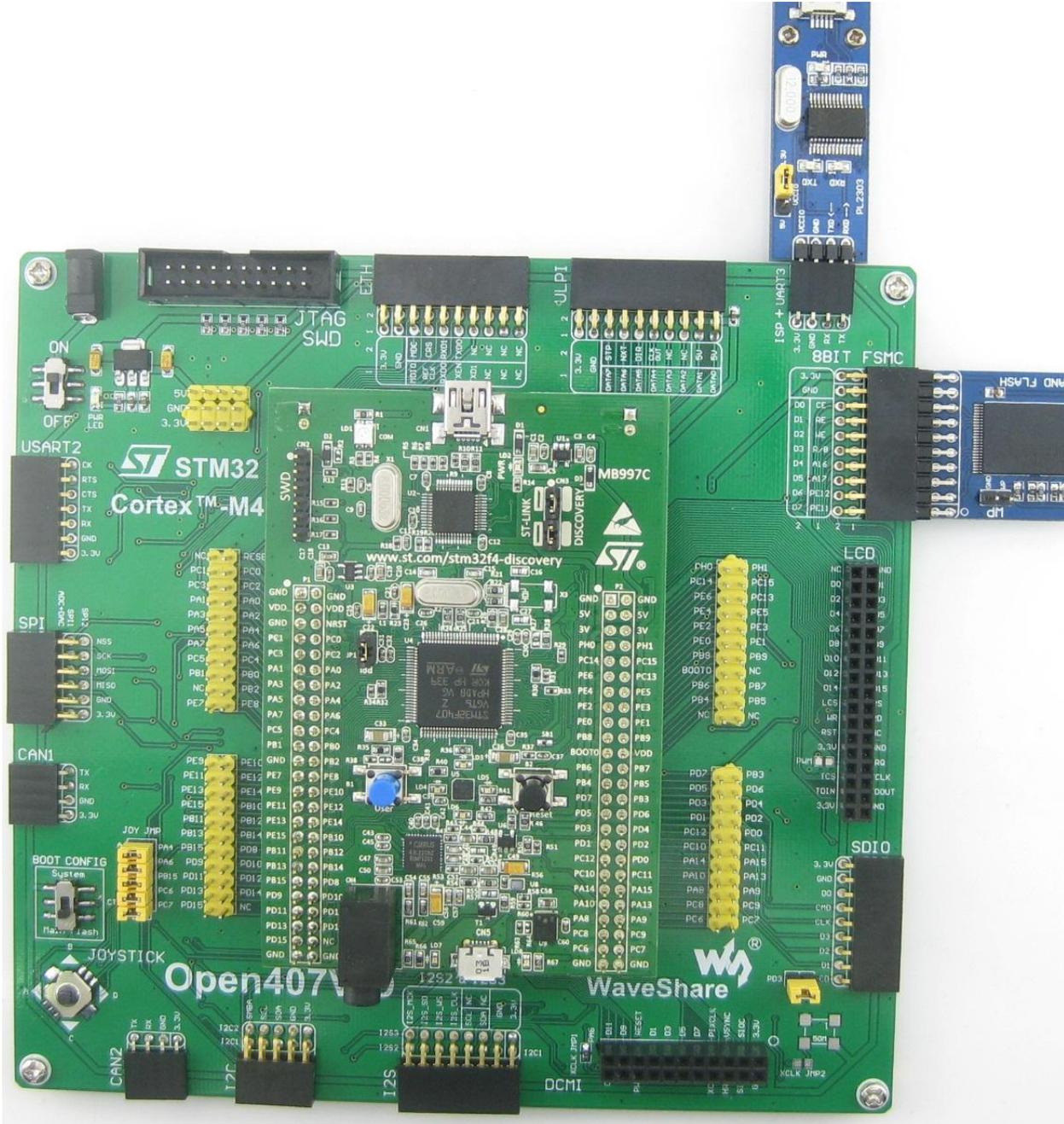
Nand Flash\_PCB0 demo

### Hardware Connection

·Connect the K9F1G08U0C NandFlash 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.

## Nand Flash\_SCB0

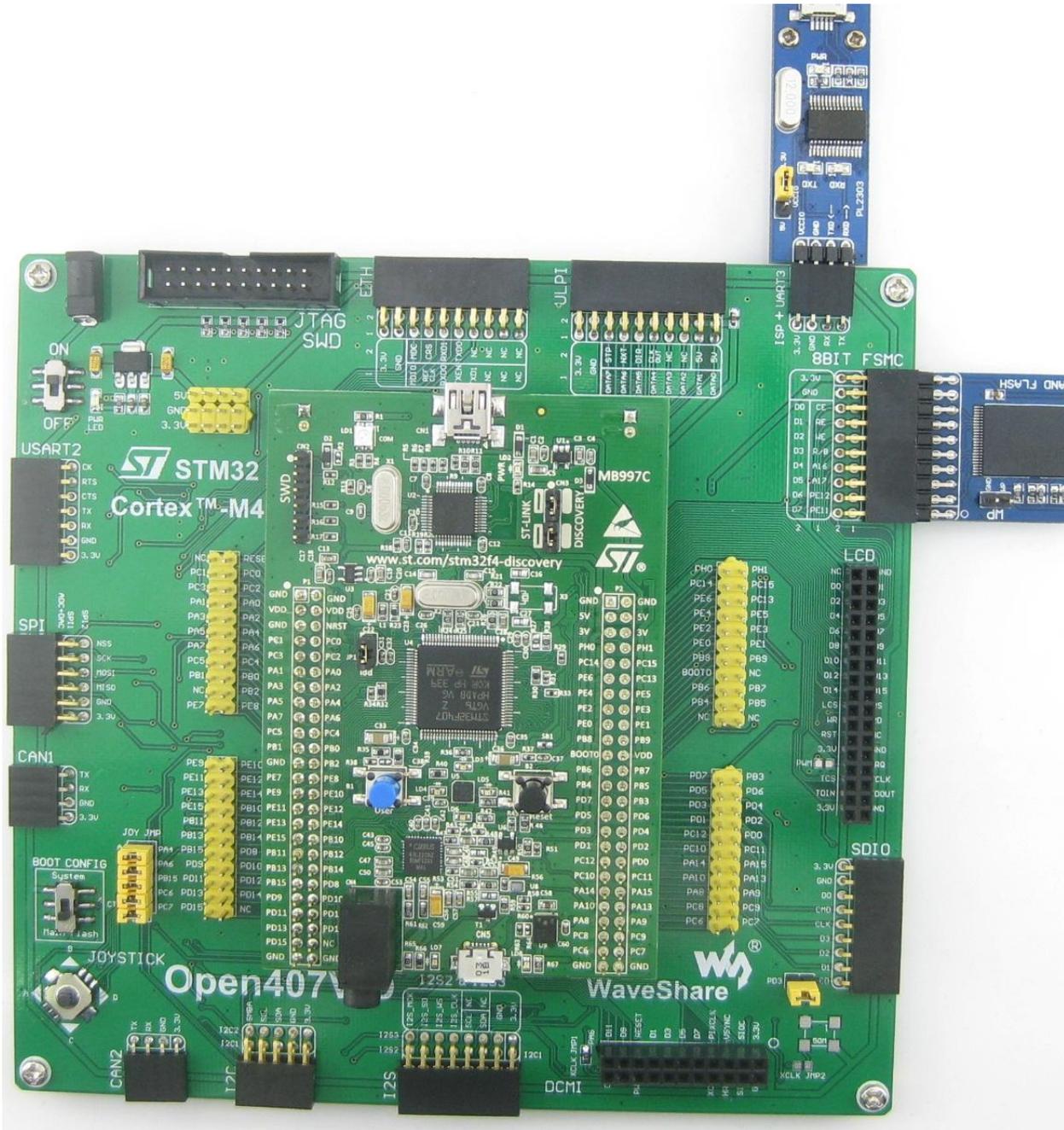
### Overview

Nand Flash\_SCB0 demo

### Hardware Connection

- Connect the NandFlash Board (A) (K9F1G08U0D SCB0 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.

## SD\_FatFS

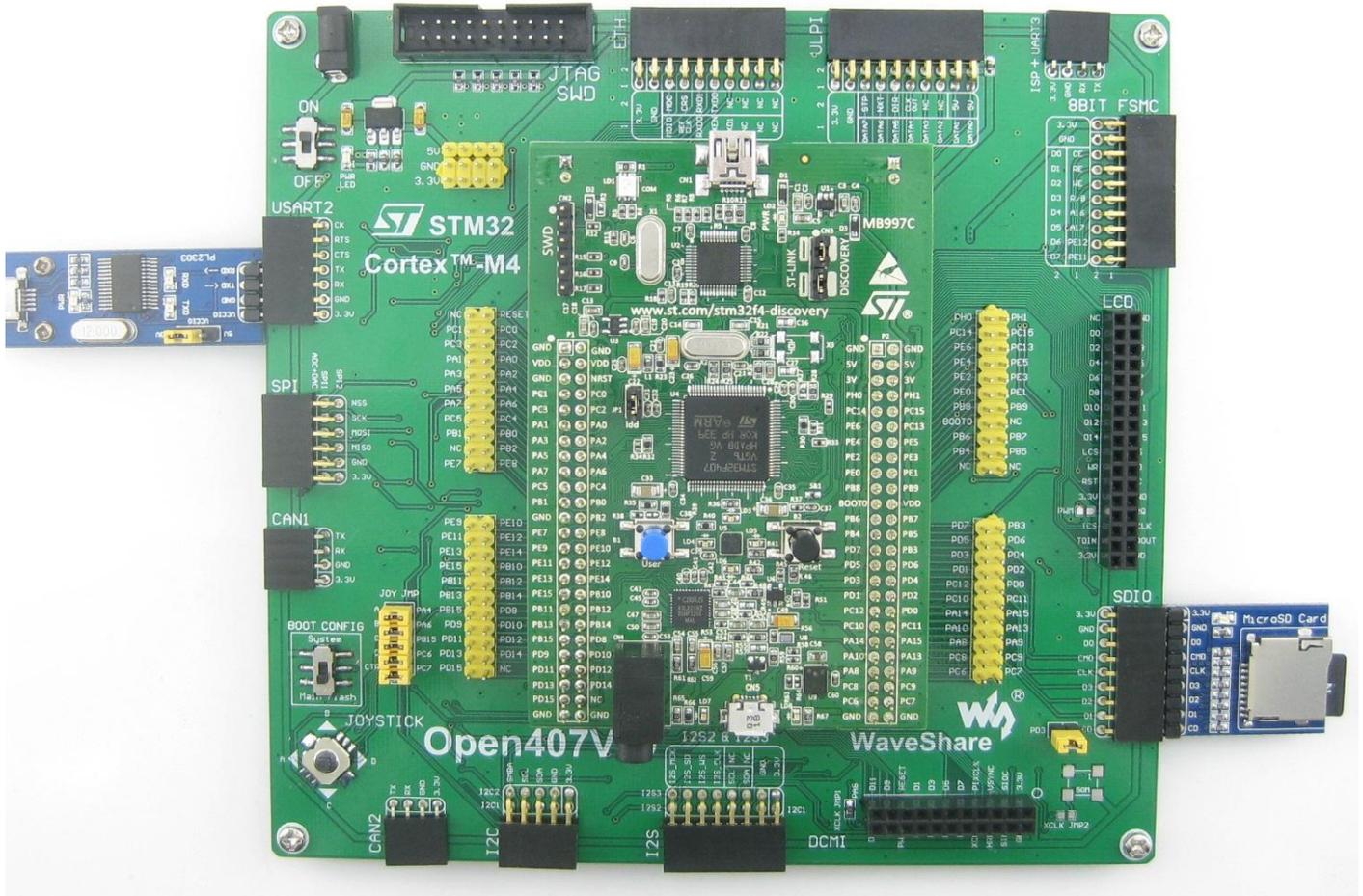
## Overview

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

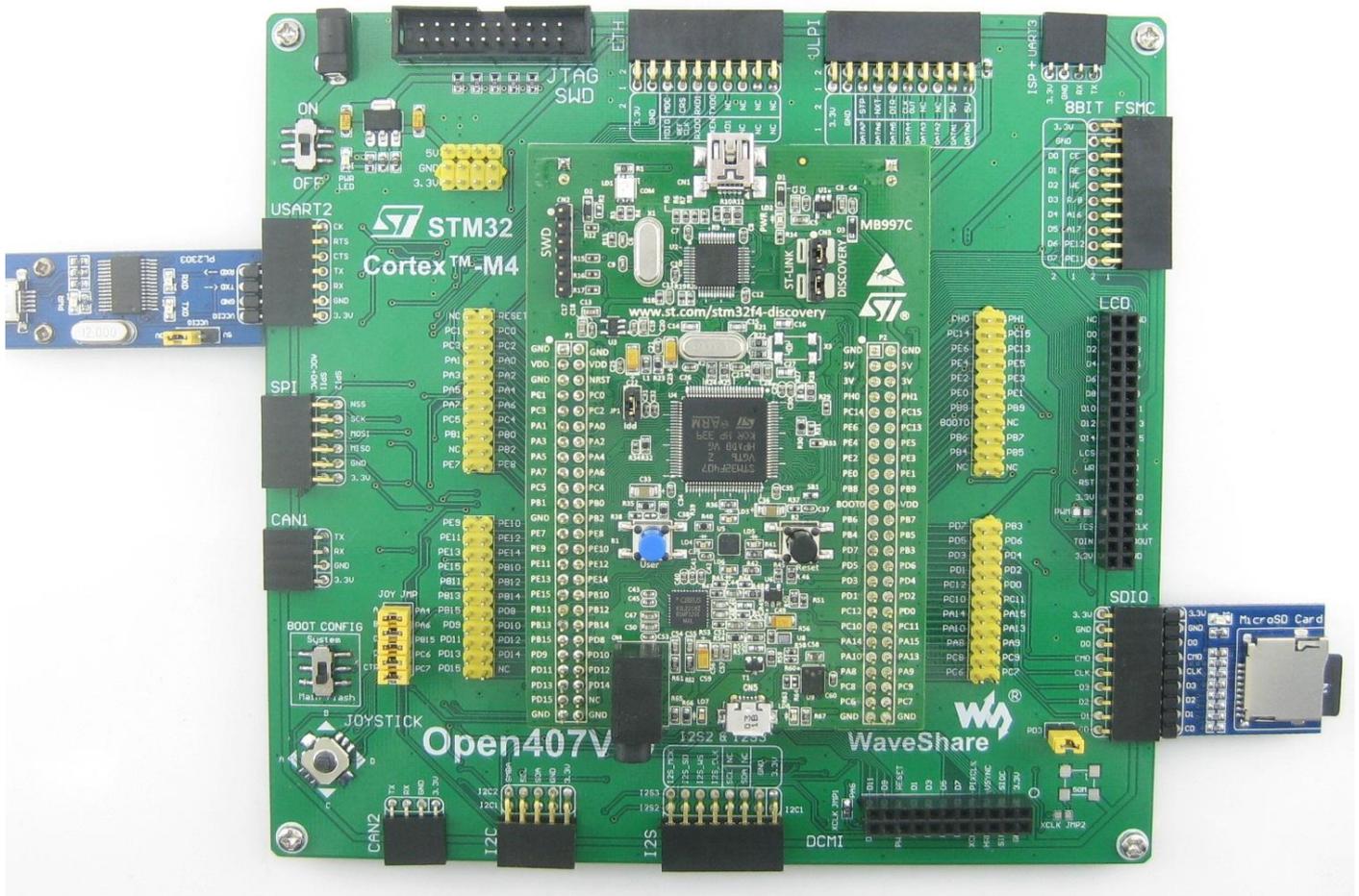
## Overview

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 DataFlash Board to the board via SPIx interface.

As shown in the figure below:



# TouchPanel

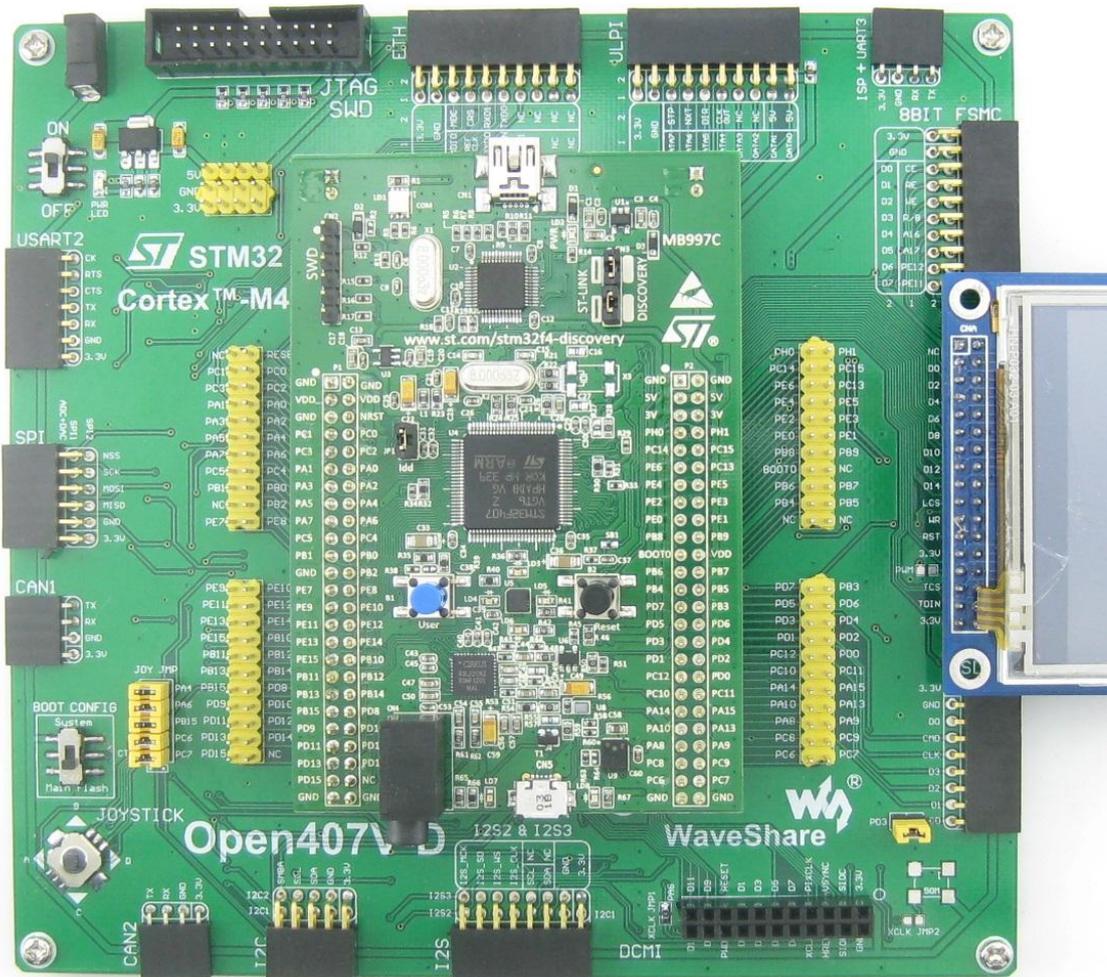
## Overview

LCD touch screen demo

## Hardware Connection

·Connect the 3.2inch 320x240 Touch LCD (A) 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

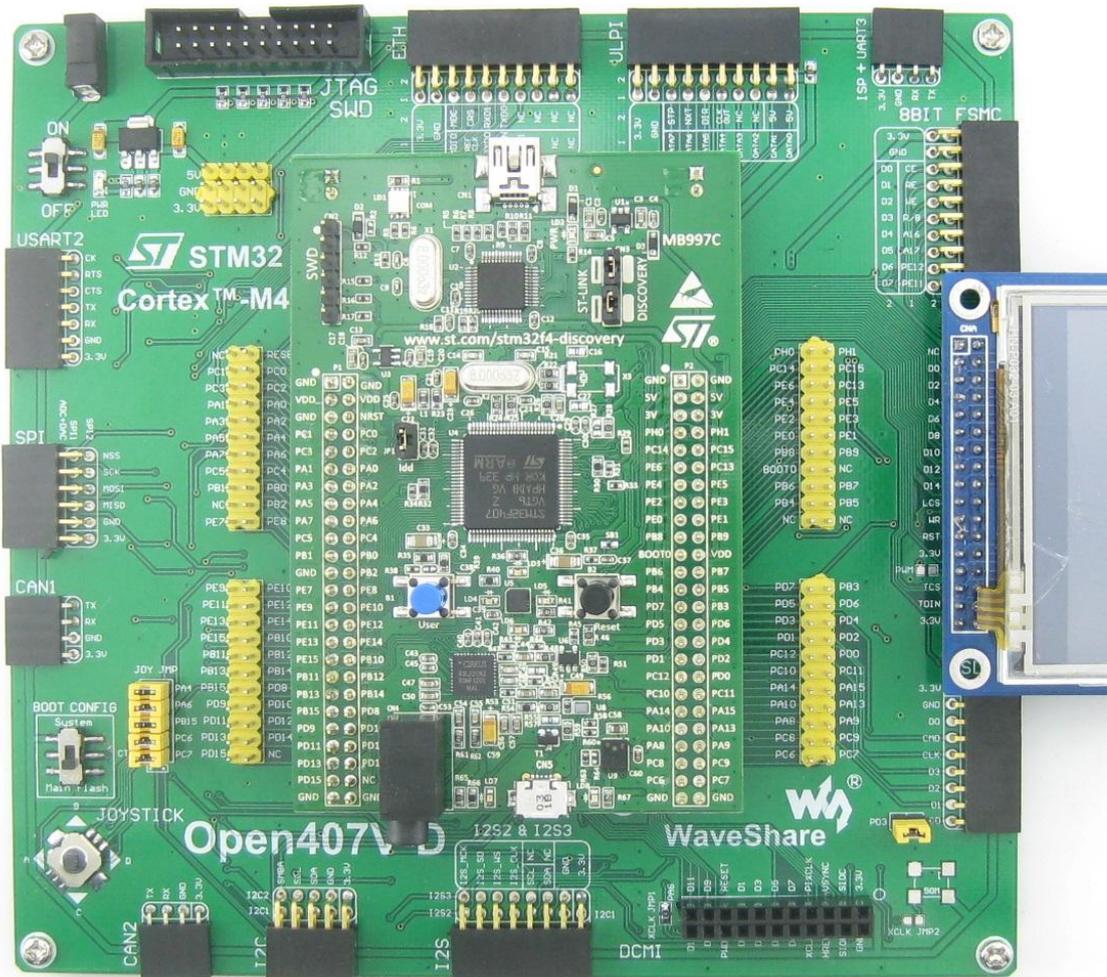
### Overview

UcosII2.91+UCGUI3.90A DEMO

### Hardware Connection

·Connect the 3.2inch 320x240 Touch LCD (A) 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.

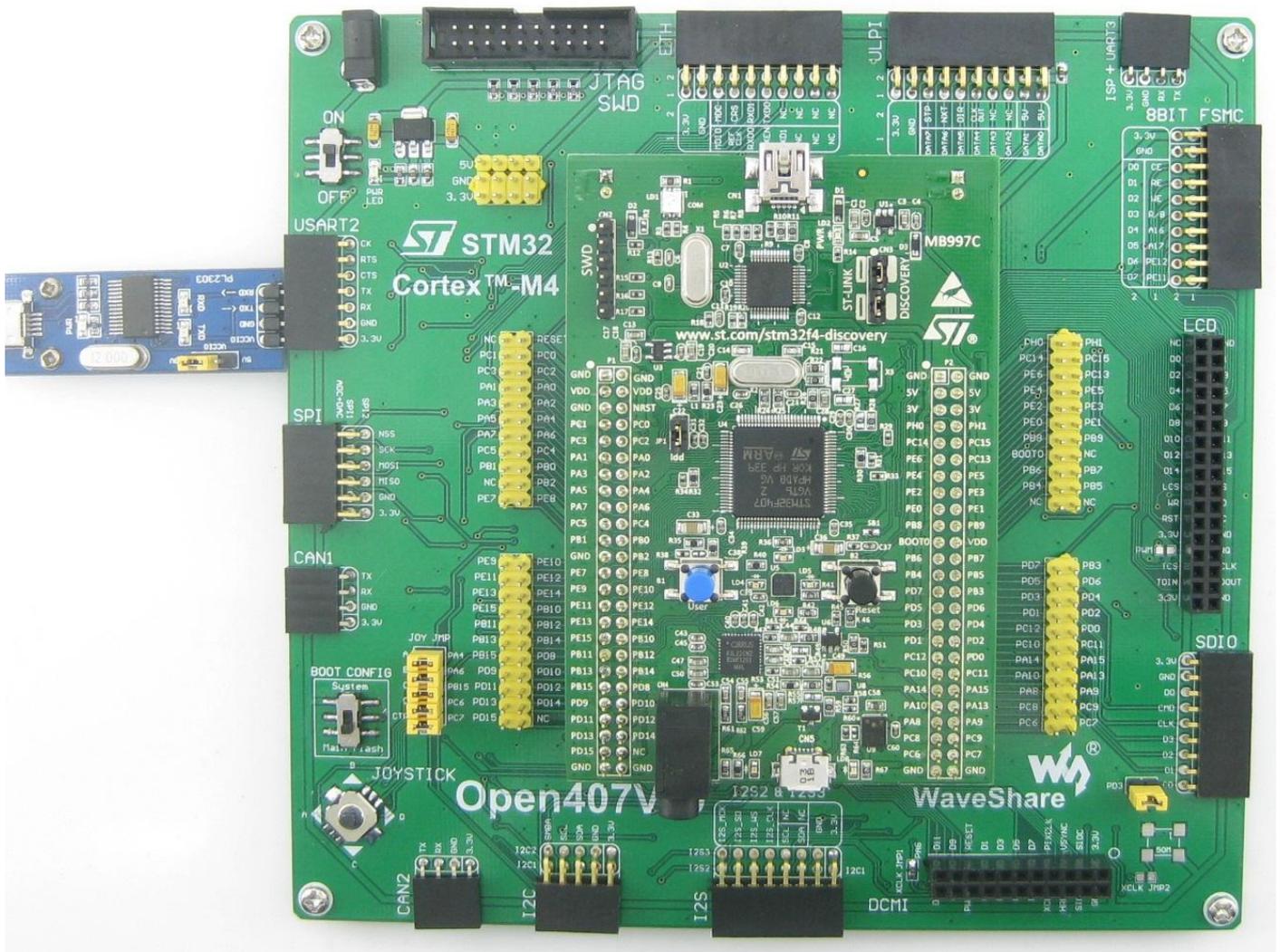
# USARTx\_prtff

## 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

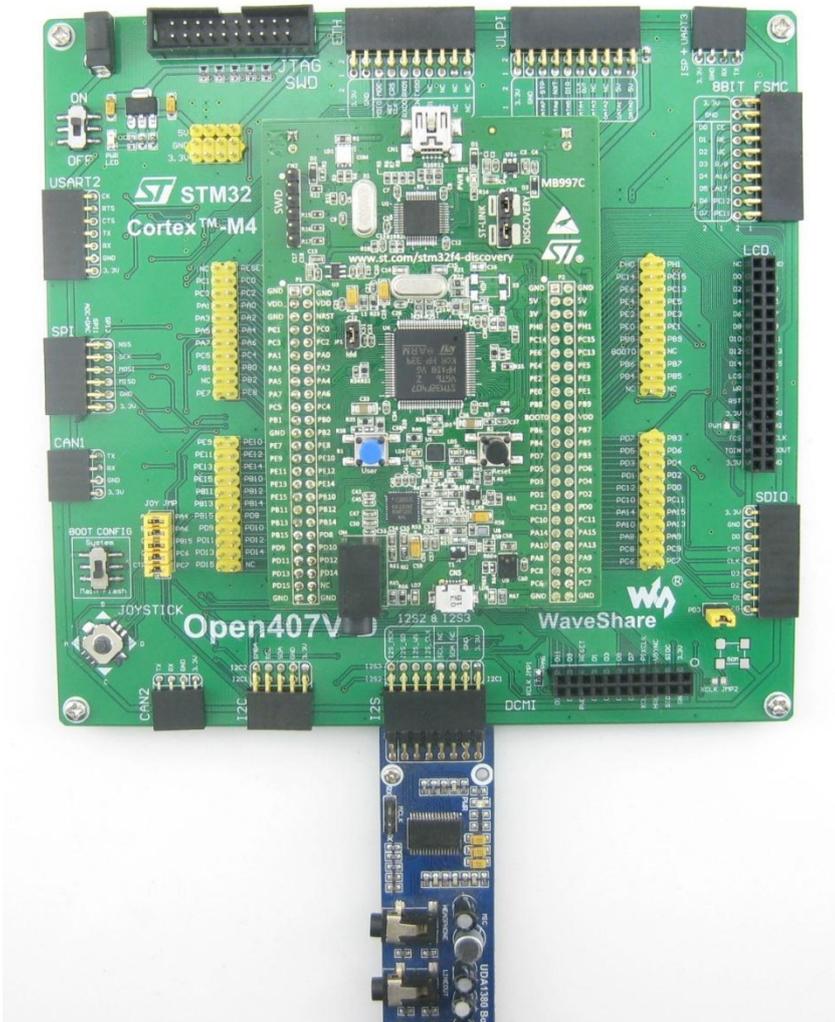
### Overview

I2S demo

### (1) MCU\_FLASH

### Hardware Connection

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



### Operation and Result

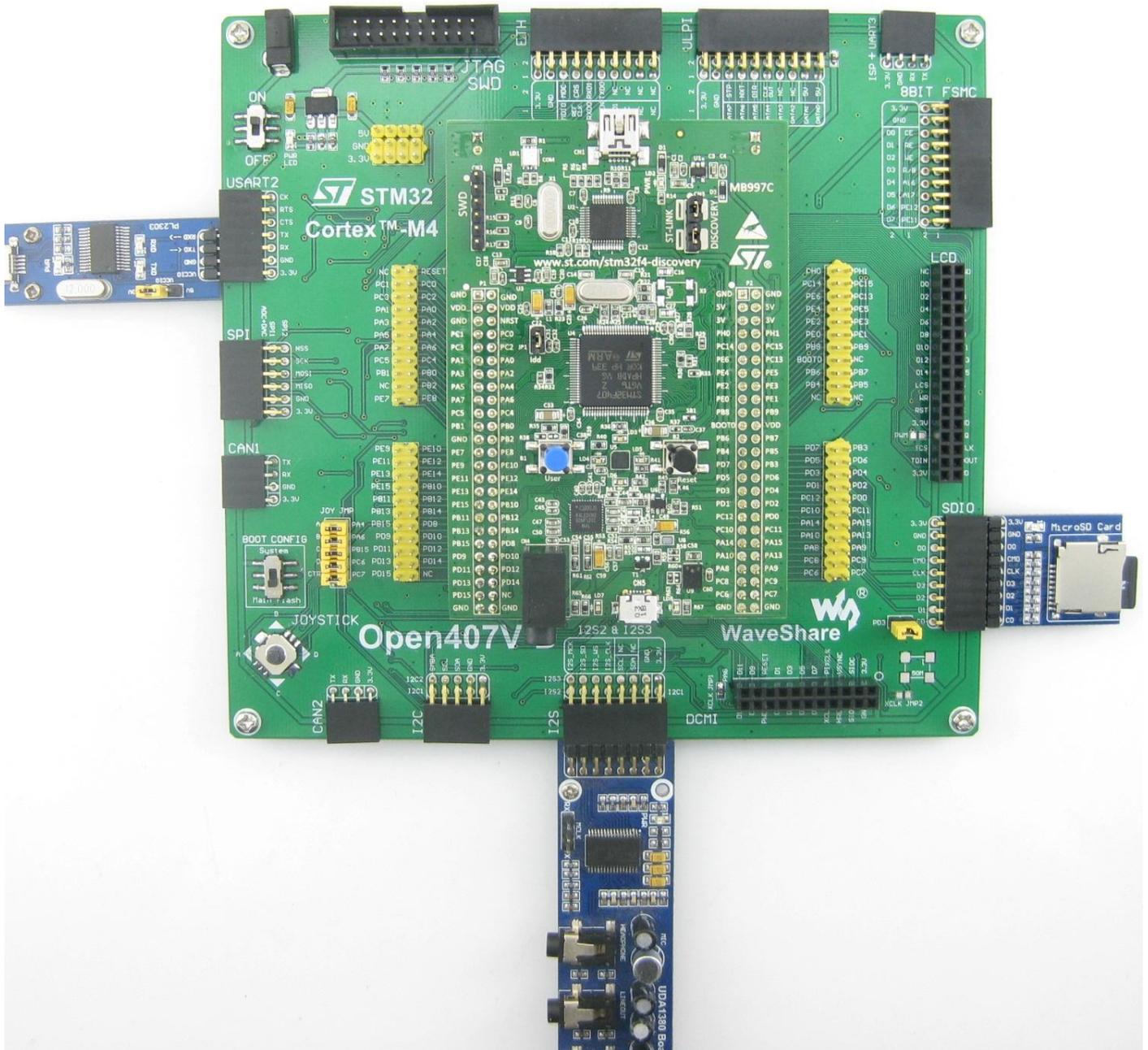
Put the headset to the HEADPHONE jack, then will hear the music stored in the MCU FLASH.

## (2) SD\_FatFS

### 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.

## USB HS Example

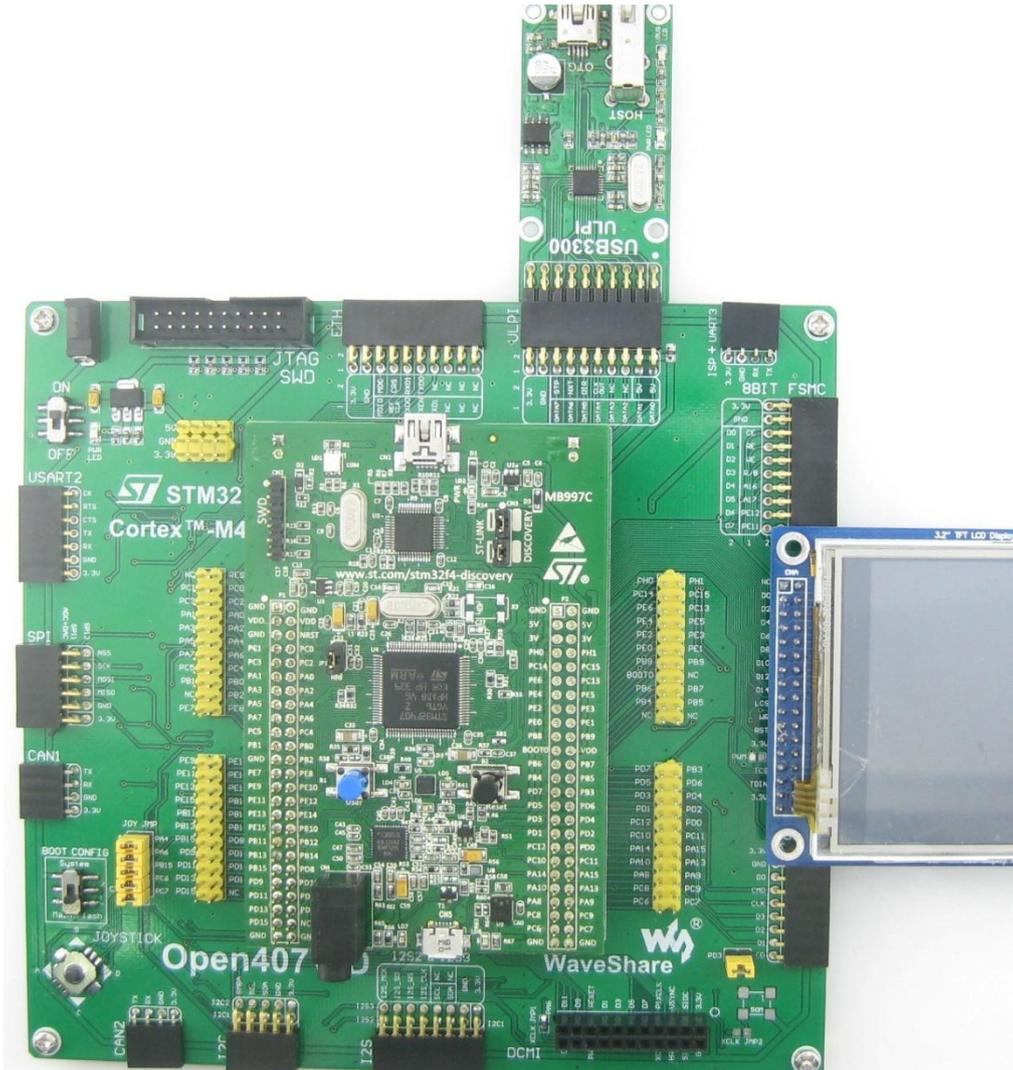
### Overview

USB HS 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.

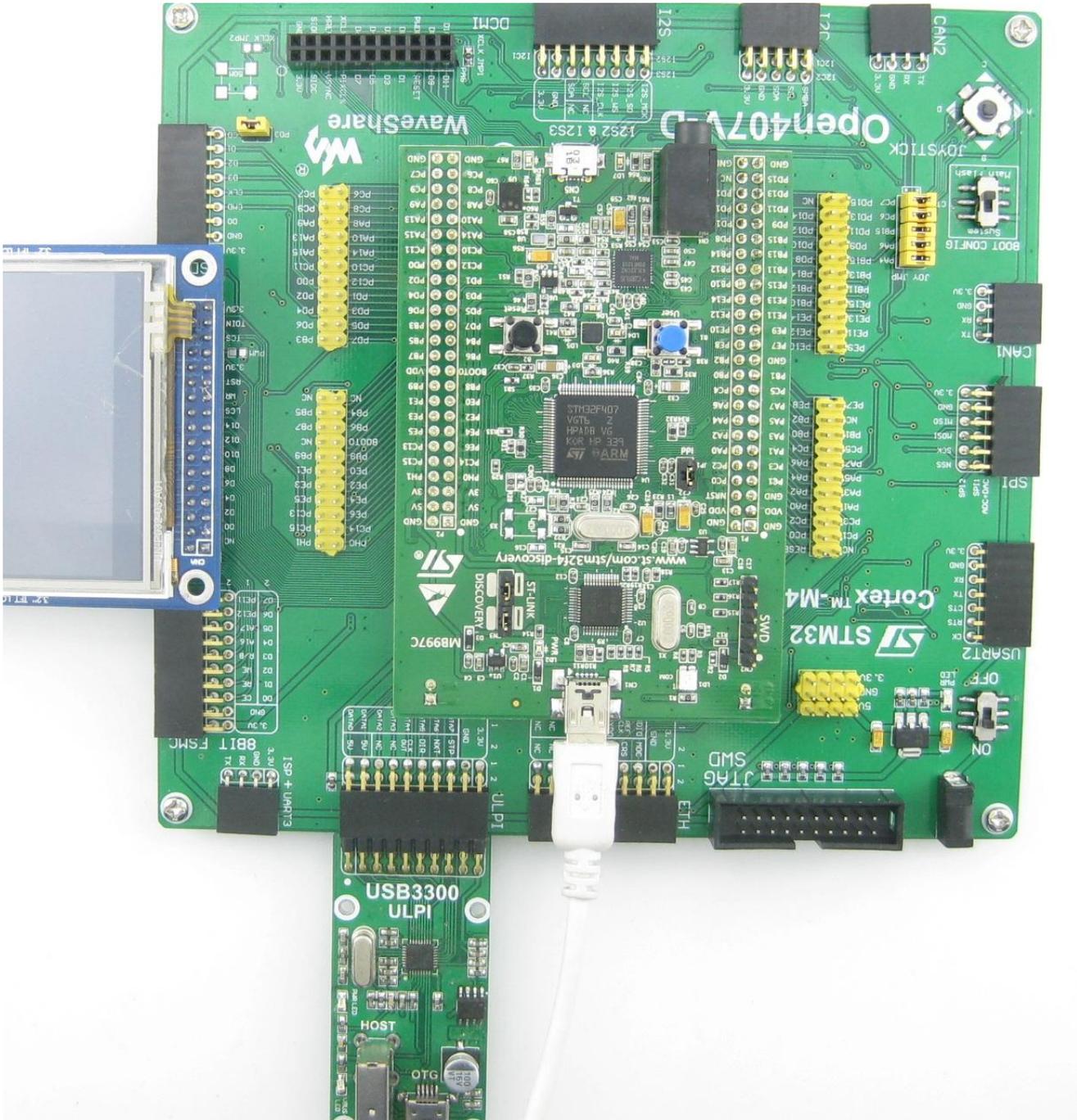
As shown in the figure below:



## (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:



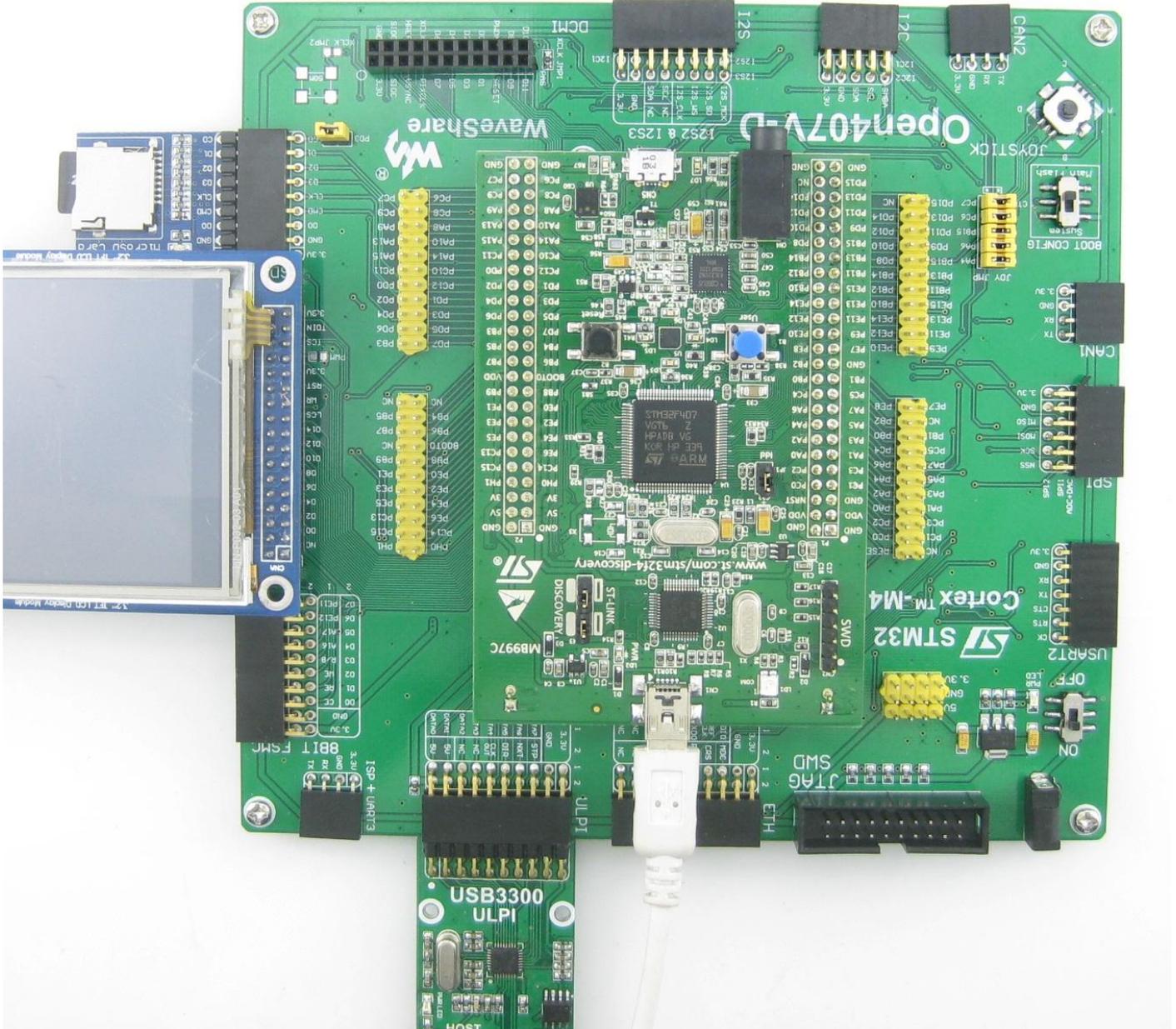
## Operation and Result

Message/info will 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:



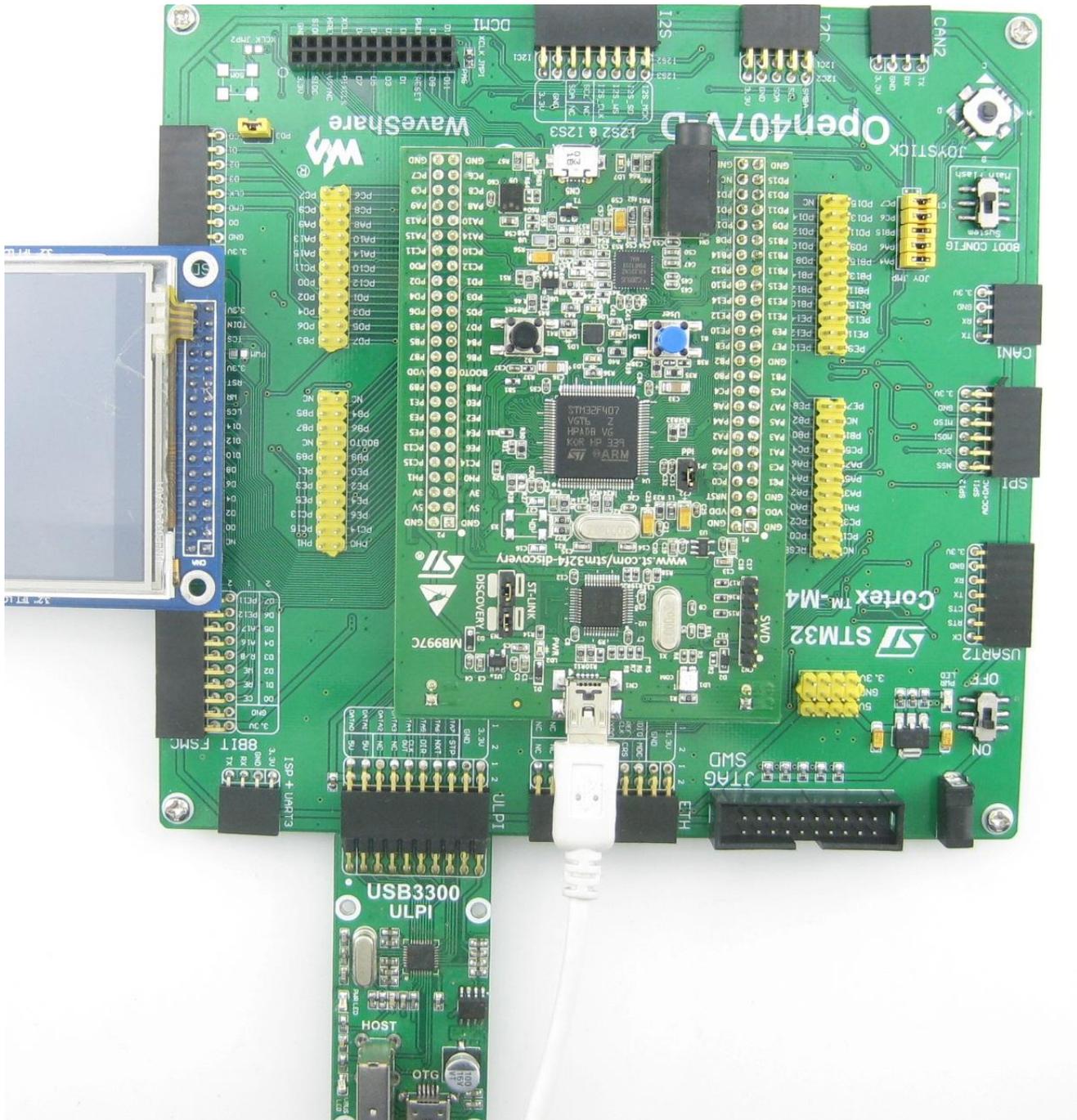
## Operation and Result

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

## (3) USB\_Device\_Examples--VCP

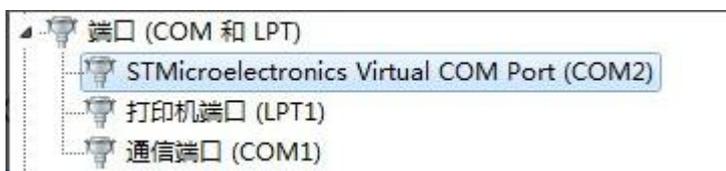
### Hardware Connection

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



## Operation and Result

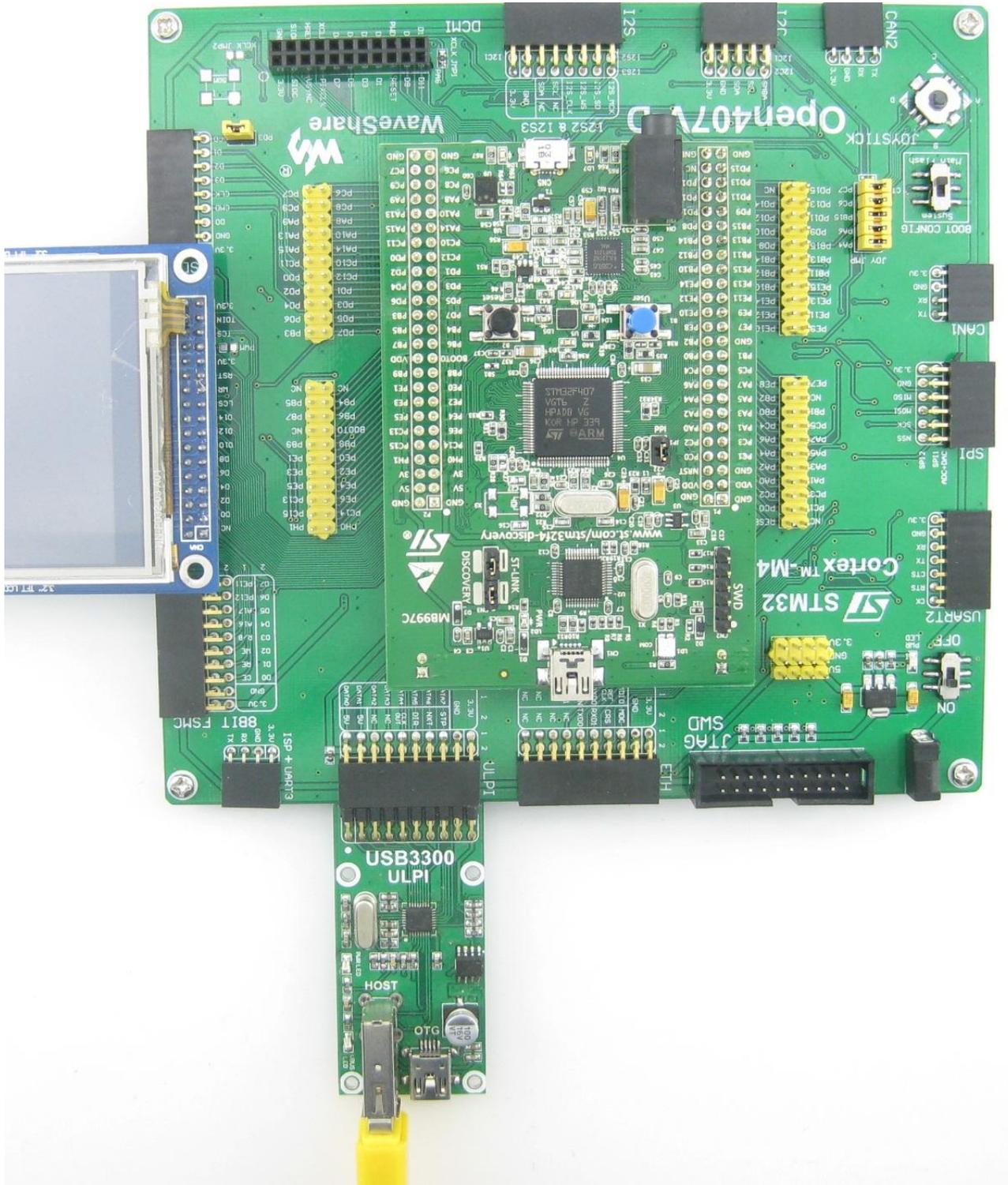
After installed the driver, a USB VCP (Virtual Com Port) exists on the PC. As shown in the figure below:



## (4) USB\_Device\_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\_Device\_Examples--HID

### Hardware Connection

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

As shown in the figure below:



## ETH

### Overview

Ethernet demo

### PC IP Setting

Configure the local connection of PC as follows:

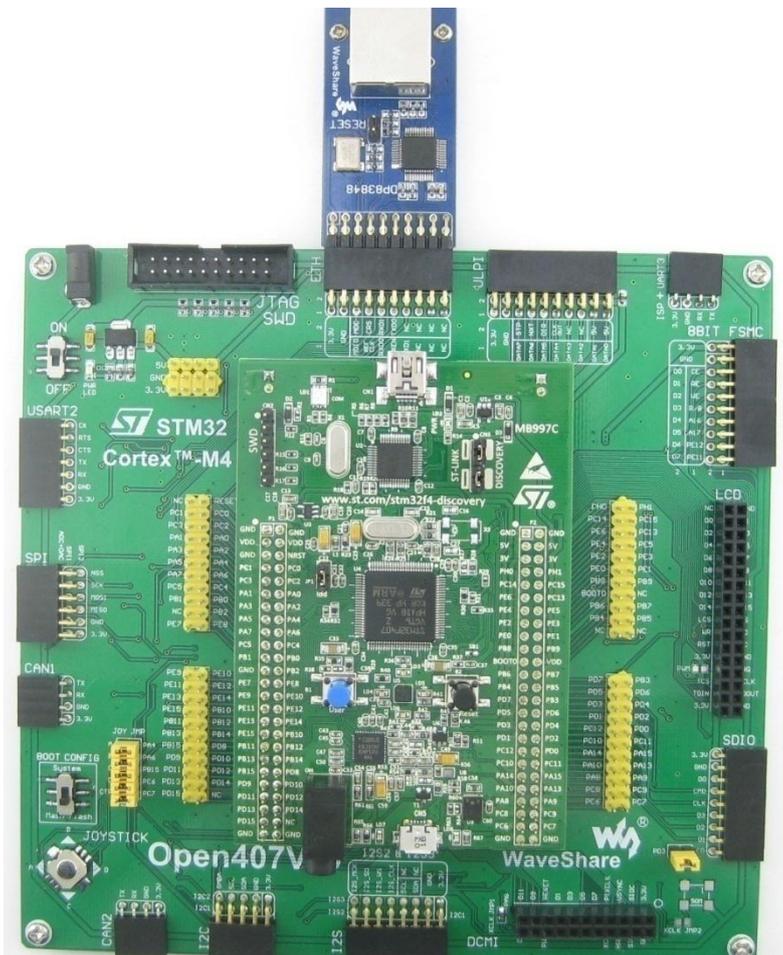
IP add: 192.168.1.11

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

Enter 192.168.1.10 in the Internet Explorer URL bar and then there will be a demo page.

As shown in the figure below:

