

I2C Slave Firmware instruction

Overview

This document provides instructions/directions for building, flashing and running I2C slave firmware on STM32F429 Discovery board.

User can use this document to connect STM32F429 Discovery board working as Slave with the other Master board.

Instruction

1. Setup environment instructions

- Download GCC ARM compiler from bellowed link:
<https://launchpad.net/gcc-arm-embedded/+download>
Choose: gcc-arm-none-eabi-4_8-2014q2-20140609-linux.tar.bz2
- Copy and extract compiler to /opt/ folder
Example:

```
$ cd /opt/  
$ mkdir toolchains/  
$ cp gcc-arm-none-eabi-4_8-2014q2-20140609-linux.tar.bz2 /opt/toolchain/  
$ cd /opt/toolchains  
$ sudo tar xjvf gcc-arm-none-eabi-4_8-2014q2-20140609-linux.tar.bz2  
$ export PATH=/opt/toolchains/eabi/gcc-arm-none-eabi-4_8-2014q2/bin:$PATH  
$ source ~/.bashrc
```

2. Flashing instructions

- Download and set up st-flash as below:

```
$ sudo apt-get install libusb-1.0-0-dev git  
$ git clone https://github.com/texane/stlink  
$ cd stlink.git  
$ make  
$ cd flash  
$ sudo cp st-flash /usr/bin  
$ cd ..  
$ sudo cp *.rules /etc/udev/rules.d  
$ sudo restart udev
```

3. Building instruction

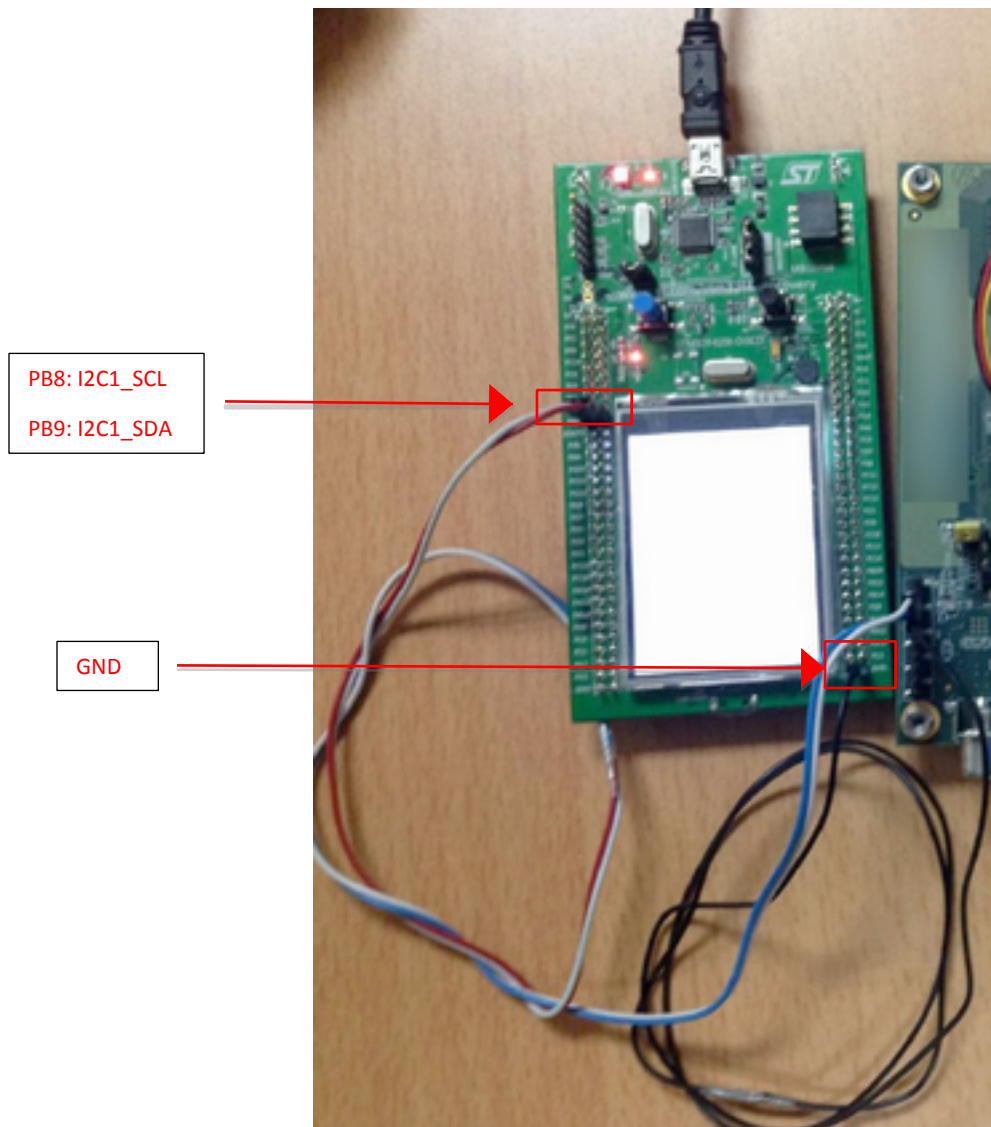
- Change to firmware directory and run make file

```
$ make
```
- Flashing image to STM32F429 board

```
$ make flash
```

4. Connect I2C for testing I2C slave.

- Wire three I2C pins on STM32F429 to corresponding pins on Master board as below figure:



- Reset STM32 board

5. Verify I2C slave driver

- Configure I2C slave as below:
 - Slave address: 0x18
 - Slave address mode: 7-bits
 - Bus speed: 100 kHz or 400 kHz
 - Read command: 0x2003
- I2C Slave will return 0xAA55 to Master if there are no errors.

