

## AT32F4xx I2C Master RX and Slave TX with 10-bit Address

### Introduction

This sample code demonstrates how to use 10-bit address to perform master reception and slave transmission for AT32F403Axx series I2C.

*Note: This sample code is written based on Artery's V2.x.x BSP. For other versions of BSP, users should pay attention to the differences in use.*

Applicable products:

Product series	AT32F403Axx
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List of major peripherals used:

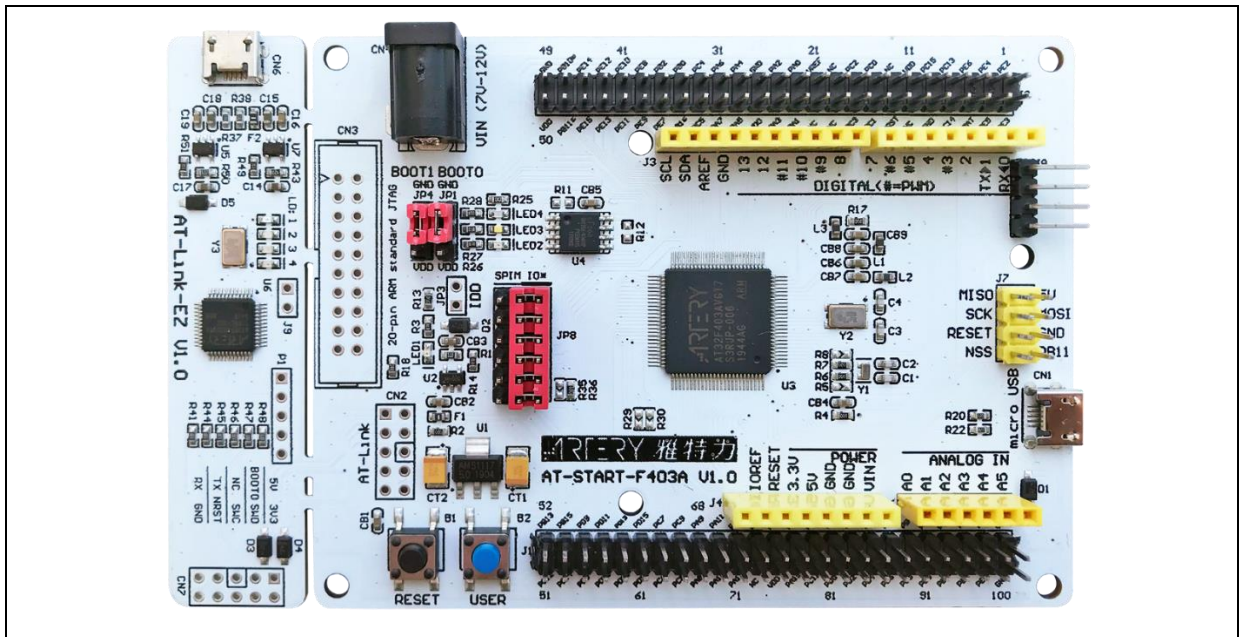
Peripherals	I2C
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# 1 Quick start

## 1.1 Hardware resources

- 1) AT-START-F403A V1.0 evaluation board (select evaluation board according to the corresponding MCU series)
- 2) I2C1: PB6, PB7

Figure 1. AT-START-F403A V1.0 evaluation board



## 1.2 Software resources

- 1) Source code
  - i2c\_10bitaddr\_poll\_ma\_rx\_sla\_tx

Note: All of projects are built based on Keil 5. For the need to run in other compiling environments, user can make simple adjustments according to AT32xxx\_Firmware\_Library\_V2.x.x\project\at\_start\_xxx\templates.

## 1.3 Example case

- 1) Open i2c\_10bitaddr\_poll\_ma\_rx\_sla\_tx, compile and download it to the evaluation board AT-START-F403A
- 2) In main. c, configure a macro definition to select master or slave

Figure 2. Master/Slave selection

```
48 #define MASTER_BOARD
```

- 3) After power-on reset for both master and slave, first press USER (PA0) on slave, and then USER on master for starting test
- 4) If LED3 is ON, it means success, otherwise, LED2 will keep blinking

## 2 Revision history

**Table 1. Document revision history**

Date	Revision	Changes
2021.12.03	2.0.0	Initial release
2022.03.25	2.0.1	Updated document format

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