

How to Achieve I2C DMA Dual Buffer Function

Introduction

This sample code demonstrates how to use AT32F4xx series I2C DMA half transfer interrupt and full transfer interrupt to store data in the same way as DMA dual buffers do.

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	AT32F4xx
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List of major peripherals used:

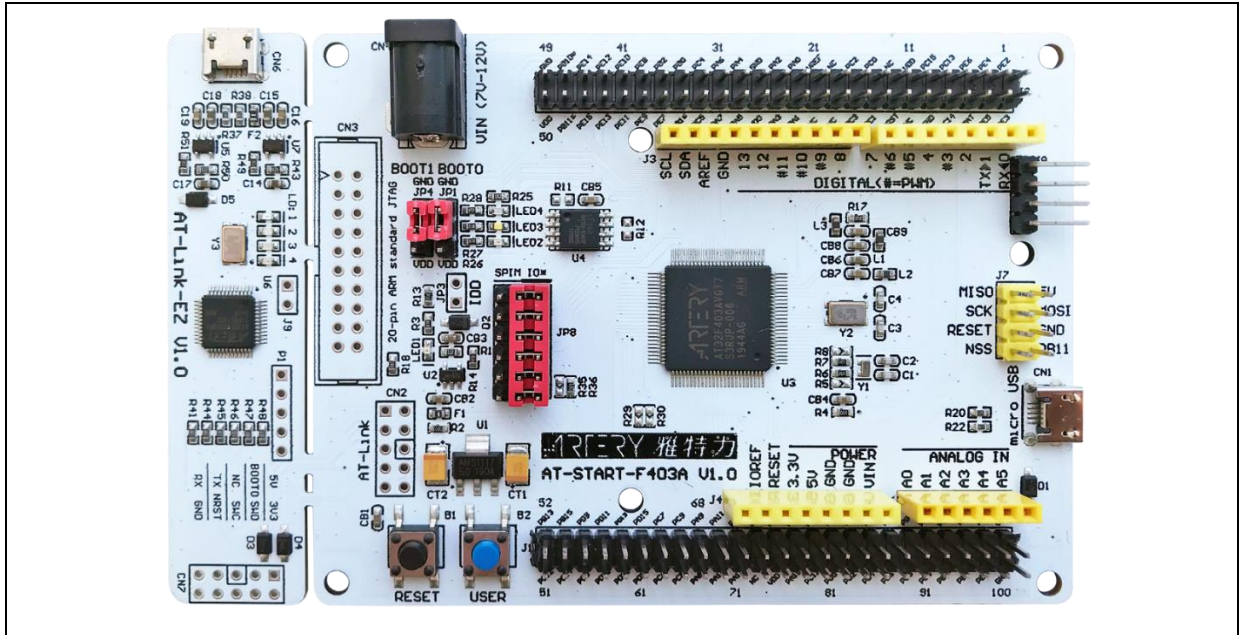
Peripherals	I2C & DMA
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1 Quick start

1.1 Hardware resources

- 1) AT-START-F403A V1.0 evaluation board (select evaluation board according to the corresponding MCU series)
- 2) I2S2: PB12,PB13,PB15; I2S3: PA15, PB3,PB5

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



1.2 Software resources

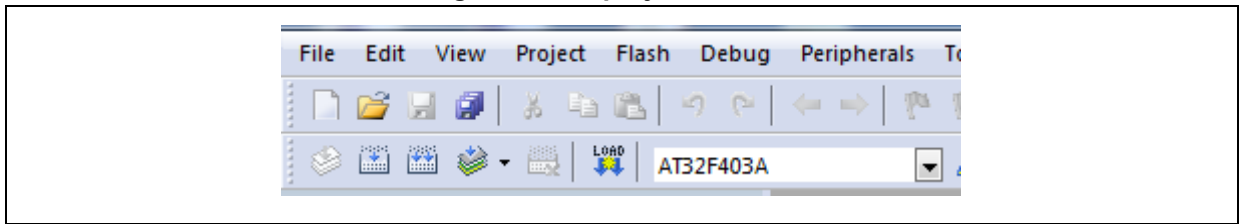
- 1) Source code
 - i2s_dma_half_full_transfer

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) i2s_dma_half_full_transfer, compile and download it to the evaluation board AT-START-F403A
- 2) AT-START-F403A V1.0 evaluation board is used here, so we select AT32F403A project
- 3) Connection method
 - PB12 < ---- > PA15
 - PB13 < ---- > PB3
 - PB15 < ---- > PB5
- 4) If successful and data are correct, LED2 will turn on.

Figure 2. Keil project selection



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
2021.12.03	2.0.0	Initial release

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