

AT32F415 20-Channel PWM

Introduction

This sample code demonstrates how to generate 20-channel synchronous PWM waves on AT32F415RCT7.

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	AT32F415xx	
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List of major peripherals used:

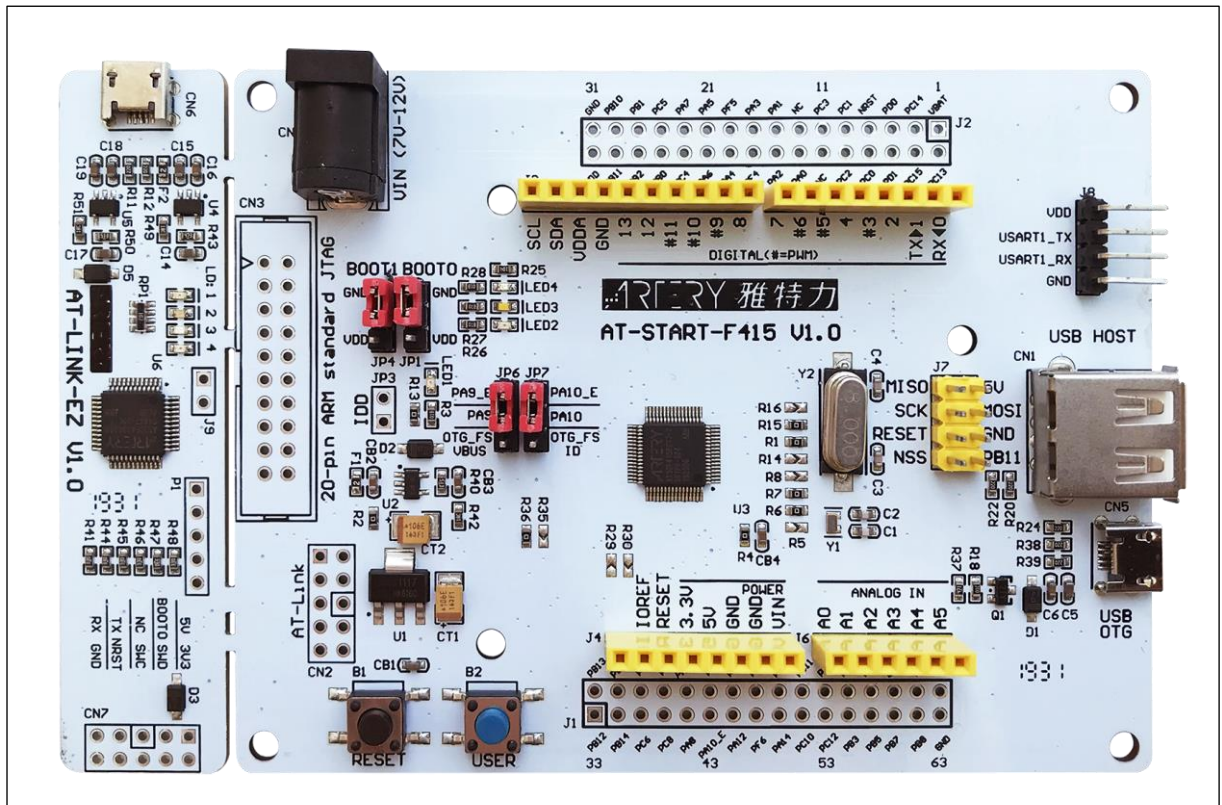
Peripherals	TMR
	GPIO

1 Quick start

1.1 Hardware resources

- 1) AT-START-F415 V1.0 evaluation board (use evaluation board corresponding to specific product series)

Figure 1. AT-START-F415 V1.0 evaluation board



1.2 Software resources

- 1) SourceCode
 - pwm_output_20channel
 which is stored at
 SC0100_AT32F415_20_Channel_PWM_V2.0.0\SourceCode\SC0091_SourceCode_V2.0.0\utilities\SC0100_demo\pwm_output_20channel

Note: All of projects are built based on Keil 5. For the need to run them 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 “pwm_output_20channel”, compile and download it to the board, then use logic analyzer to capture PWM waveforms
- 2) TMR relationships: TMR1(master timer)----internal trigger----->TMR2/3/4(slave timer)----tmr2 internal trigger----->TMR5(slave timer)
- 3) Correspondence between TMR and IO ports

	Channel1	Channel2	Channel3	Channel4
TMR1	PA8	PA9	PA10	PA11
TMR2	PA15	PB3	PB10	PB11
TMR3	PA6	PA7	PB0	PB1
TMR4	PB6	PB7	PB8	PB9
TMR5	PA0	PA1	PA2	PA3

Note: This demo is based on AT32F415RCT7 MCU. To run it on other part number, it is necessary to check if whether the above IO ports are present before starting use.

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
2022.09.08	2.0.0	Initial release

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