

GigaDevice Semiconductor Inc.

GD32A50x_Firmware_Library

Release Note

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1. 发布内容 Publishing content

1.1. 代码 Code

- GD32A50x Standard Peripheral Firmware
- GD32A50x Peripheral Examples
- GD32A50x Utilities
- GD32A50x Template

1.2. 文档 Document

- 《GD32A50x_固件库使用指南》
- 《GD32A50x_Firmware_Library_User_Guide》

2. 版本信息 Version information

名称Name	GD32A50x_Firmware_Library.7z
版本Version	V1.4.0
发布日期Release date	2024.12.06
支持的开发板Supported boards	GD32A503V-EVAL-V1.1
编译环境Compiling environment	<ul style="list-style-type: none">■ IAR Embedded Workbench 8.32.1■ ARM Keil 5.29

3. 发布版本功能描述 Release feature description

类型Type	例程名称Demo Name	备注Description
Examples- ADC	ADC0_ADC1_regular_parallel	-
	ADC0_analog_watchdog_0	-
	ADC0_analog_watchdog_1	-
	ADC0_oversample_shift	-
	ADC0_regular_channel_discontinuous_mode	-
	ADC0_regular_channel_with_DMA	-
	ADC0_resolution	-
	ADC0_software_trigger_regular_channel_polling	-

	ADC0_temperature_Vref	-
Examples-BKP	Tamper	-
Examples-CAN	communication_classical_CAN	-
	communication_FDmode	展示如何使用CAN FD帧。 Demonstrate how to use CAN FD frames.
	communication_Loopback	-
	Pretended_Networking_mode	-
Examples-CMP	Blanking_output	-
	Interrupt	
	Port_output	-
	Timer0_CH0IC	-
Examples-CRC	CRC_calculate	-
Examples-DAC	DAC_ADC_convert	-
	DAC_output_voltage	-
	DAC_DMA_convert	-
	DAC_LFSR_noise_mode	-
	DAC_TRGISEL_trigger	通过TRGISEL选配触发信号，触发DAC。 Trigger the DAC by selecting the trigger signal through TRGISEL.
	DAC_triangle_noise_mode	-
Examples-DBG	DBG_timer1_stop	-
Examples-DMA	DMA_RequestGen	-
	DMA_SYNC	-
	RAM_TO_RAM	-
	RAM_TO_USART	-
	Reload_exti	-
Examples-EXTI	Key_external_interrupt_mode	-
Examples-FMC	Data_flash_erase_program	展示对Data flash进行擦除和编程，包括正常编程和快速编程操作。 Demonstrate the erasing and programming of Data flash, including normal programming and fast programming operations.
	Erase_Program	-
	Write_protection	-
Examples-FWDGT	FWDGT_key	-
Examples-GPIO	Keyboard_polling_mode	-
	Running_led	-

Examples-I2C	I2C_EEPROM	-
	I2C_EEPROM_dma	-
	I2C_EEPROM_interrupt	-
	Master_receiver	-
	Master_receiver&slave_transmitter	-
	Master_receiver&slave_transmitter_interrupt	-
	Master_transmitter	-
	Master_transmitter&slave_receiver	-
	Master_transmitter&slave_receiver_dma	-
	Master_transmitter&slave_receiver_interrupt	-
	Slave_receiver	-
	Slave_transmitter	-
Examples-MFCOM	MFCOM_I2C	-
	MFCOM_I2S	-
	MFCOM_SPI	-
	MFCOM_UART	-
Examples-PMU	Deepsleep_wakeup_exti	-
	Deepsleep_wakeup_RTC	-
	Low_voltage_detector	-
	Over_voltage_detector	-
	Standby_wakeup_pin	-
	Standby_wakeup_RTC	-
Examples-RCU	Ckout_pin_clock_output	-
	Reset_source_detect	-
	System_clock_switch	-
Examples-RTC	Calendar_demo	-
Examples-SPI	I2S_master_transmit_dma	-
	I2S_slave_recieve_dma	-
	SPI_master_slave_full duplex_dma	-
	SPI_master_slave_full duplex_nssp_mode	-
	SPI_master_slave_full duplex_polling	-
	SPI_master_slave_full duplex_ti_mode	-
	SPI_master_slave_simplex_dma	-
	SPI_master_transmit_slave_receive_interrupt	-
Examples-TIMER	TIMER0_6-steps	展示如何配置TIMER0外设以生成带有死区时间的三个互补信号。 Demonstrate how to configure the TIMER0 peripheral to generate three complementary signals with dead time.
	TIMER0_deadtime_break	-
	TIMER0_dma	-

	TIMER0_dma_burst	-
	TIMER0_pwmout_complementarysignals	-
	TIMER0_pwmout_independtsignals	-
	TIMER1_extclock_count	-
	TIMER1_exttrigger	-
	TIMER1_inputcapture	-
	TIMER1_ocactive	-
	TIMER1_ocinactive	-
	TIMER1_octoggle	-
	TIMER1_pwminputcapture	-
	TIMER1_pwmout	-
	TIMER1_singlepulse	-
	TIMER1_timebase	-
	TIMERs_cascadesynchro	-
	TIMERs_parallelsynchro	-
Examples- TRIGSEL	cmp_trigger_extout	展示如何使用CMP和TRIGSEL输出CMP0_OUT。TRIGSEL选择CMP0_OUT作为触发源，然后CMP0_OUT输出到TRIGSEL EXTOUT0。 Demonstrate how to use CMP and TRIGSEL to output CMP0_OUT. TRIGSEL selects CMP0_OUT as the trigger source, and then CMP0_OUT is output to TRIGSEL EXTOUT0.
	extinput_trigger_timer1	-
	Timer0_pwm_trigger_adc	-
Examples- USART	DMA_transmitter&receiver	-
	DMA_transmitter&receiver_interrupt	-
	Half_duplex_transmitter&receiver	-
	IDLE_receiver_interrupt	-
	Printf	-
	Receiver_timeout	-
	Synchronous	-
	Transmitter&receiver_interrupt	-
Examples- WWDGT	WWDGT_delay_feed	-

4. 发布版本变更列表 Release the changelist

序号 Serial number	模块 Module	接口名 Interface name	变更原因 Reason of change	变更内容 Content of change	变更版本 Change version
1	System	void	To enhance the	Add a three-step frequency switching	V1.4.0

		SystemInit(void) / static void system_clock_24m_ pll_irc8m(void) / static void system_clock_48m_ pll_irc8m(void) / static void system_clock_72m_ pll_irc8m(void) / static void system_clock_100m_ _pll_irc8m(void) / static void system_clock_24m_ pll_hxtal(void) / static void system_clock_48m_ pll_hxtal(void) / static void system_clock_72m_ pll_hxtal(void) / static void system_clock_100m_ _pll_hxtal(void)	robustness of the MCU operation, switch frequencies in a stepwise manner during frequency switching.	function in the system_gd32a50x.c file for both increasing and decreasing frequency stages.	
2	FMC	-	Remove the EEPROM function in the GD32A50x series.	Remove all API interfaces and function macros related to EPROM functions from the FMC standard library.	V1.4.0
3	USART	void usart_baudrate_set(uint32_t usart_periph, uint32_t baudval)	Improve the robustness of the API interface.	The API interface should add a judgment for the baud rate parameter being 0 to prevent the application layer from setting the baud rate parameter to 0, which would cause a divide-by-zero error.	V1.4.0
4	SYSCFG	-	Remove the boot from SRAM feature for version B of MCU, only reflect it for version E.	In the syscfg_bootmode_get function for retrieving the boot status, remove the boot from SRAM status.	V1.4.0
6	CRC	uint32_t crc_block_data_calculate(void *array, uint32_t size, uint8_t data_format)	Resolve the issue of API interfaces violating the MISRA C 2004 rule 17.4.	Modify the internal implementation of the API interface to avoid using array indexing on pointers.	V1.4.0
7	CAN-	-	The use of the CAN	The CAN clock source defaults to PCLK2	V1.4.0

	Example		module clock source is restricted and should be referred to the errata.of GD32A50x series.		
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5. 发布版本已知问题勘误 Known errata in the release version

序号 Serial number	模块 Module	BUG 描述 BUG description	规避方式 Method of evasion

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