Sleep mode and wake-up source

LGT8FX8P stand by 5 Species sleep mode, the user can select the appropriate sleep mode according to application requirements. SMCR Register contains control set the sleep mode is performed SLEEP After instructions, the core enters sleep mode. In order to obtain a more ideal sleep power consumption, the kernel is recommended before entering Sleep mode, turn off all clocks and analog modules are not used. But note that the wake-up source to generate some of the need to work the clock, if you need to use this type of wake-up source, keep working condition-related clock source.

Sleep mode and wake-up:

Sleep Mode	Effective Clock				Wake-up source							
	Core clock	The peripheral clock	ADC	Asynchronous Clock	Pin Change	External Interrupt 0/1	AWI	TMR2 Interrupt	Address Matching	End of Conversion	ADC PD	Watchdog overflow Peripheral Interrupt	Level change
Idle mode (IDLE)		X	X	X	X	X	X	X	X	X	X	X	
ADC Noise suppression			X	X	X	X	X	X	X	X		X	
Power-saving mode (SAVE)				X	X	X	X	X		X		X	
Power-down mode (DPS0) (With RC32K)				X	X	X		X		X		X	
Power-down mode (DPS1) (Without RC32K)				X	X	X		X				X	
Power-down mode (DPS2) (Without LDO)												X	

If you need to enter more than 5 Kind of sleep mode, SMCR middle SE Bit must be set 1 , To enable a sleep mode control. And then executing a SLEEP Command can be. SMCR middle SM0 / 1/2 For selecting various sleep modes. Specific information, refer to the following description.

in MCU The next is in sleep mode, if the wake-up source is active, MCU Will be 4 After wake cycles, we continue to execute instructions. If the interruption remains active, the interrupt will also respond immediately, the interrupt service routine. If the SLEEP Mode system reset has occurred, MCU Also it will wake up and start the reset vector.

when MCU In Power / Off Mode, the system can be interrupted by external INT0 / 1 Wake up, wake up after MCU From sleep Position before continuing execution.

Idle mode (IDLE)

when SM2 ... 0 Set as 000 ,carried out SLEEP Instruction, MCU Enter IDLE mode, IDLE Kernel mode will shut off the clock work, in addition to the other peripherals are working properly.

IDLE Mode via external interrupt and internal interrupts wake. If you do not use comparator, and ADC As a wakeup source, it is recommended to turn it off.

IDLE Close kernel mode because only the clock running, it does not significantly reduce power consumption. IDLE Mode, the kernel will stop execution and instruction fetch, the program can be reduced internal FLASH The operating power consumption.

but IDLE Wake-up mode has a relatively flexible manner, the user can acquire a more desirable system operation by reducing the power consumption of the master clock, and turning off unneeded modules.