

## SMC controller API 说明:

1. *void FSmcPs\_initDev(FSmcPs\_T \*pSmc, FSmcPs\_Instance\_T \*pInstance)*

描述	* This function is initialize the SMC device.
参数	* @param * pSmc is the pointer to a smc device. * pInstance is the pointer to instance structure.
返回值	* @return * NA.

2. *void FSmcPs\_resetController(void);*

描述	* Reset the SMC controller by SLCR registers.
参数	* @param * NA.
返回值	* @return * NA.

3. *void FSmcPs\_setTimingRegs(FSmcPs\_T \*pSmc, u8 index, u32 data);*

描述	* This function sets value to the SMC timing registers.
参数	* @param * pSmc is the pointer to the SMC device. * index is the timing register numer. * data is the value which writes to the timing register.
返回值	* @return * NA.

4. *u32 FSmcPs\_getTimingRegs(FSmcPs\_T \*pSmc, u8 index);*

描述	* This function gets value from the SMC timing register.
参数	* @param * pSmc is the pointer to the SMC device. * index is the timing register numer.
返回值	* @return * the value reads from the timing register.

5. *void FSmcPs\_setMaskRegs(FSmcPs\_T \*pSmc, u8 index, u32 data);*

描述	* This function sets value to the SMC address mask registers.
参数	* @param *               pSmc is the pointer to the SMC device. *               index is the address mask register numer. *               data is the value which writes to the address mask register.
返回值	* @return *               NA.

6. *u32 FSmcPs\_getMaskRegs(FSmcPs\_T \*pSmc, u8 index);*

描述	* This function gets value from the SMC address mask register.
参数	* @param *               pSmc is the pointer to the SMC device. *               index is the address mask register numer.
返回值	* @return *               the value reads from the address mask register.

7. *void FSmcPs\_setCtlRegs(FSmcPs\_T \*pSmc, u32 data);*

描述	* This function sets value to the SMC control registers.
参数	* @param *               pSmc is the pointer to the SMC device. *               data is the value which writes to the control register.
返回值	* @return *               NA.

8. *u32 FSmcPs\_getCtlRegs(FSmcPs\_T \*pSmc);*

描述	* This function gets value from the SMC control register.
参数	* @param *               pSmc is the pointer to the SMC device.
返回值	* @return *               the value reads from the control register.

9. *int FSmcPs\_resetInstance(FSmcPs\_T \*pSmc, u8 chip\_sel, u8 bus\_width);*

描述	* This function is reset the SMC instance.
参数	* @param pSmc is the pointer to the SMC device. * chip_sel is the select of the flash memory. * bus_width is the width of the flash memory, in bits.
返回值	* @return * FMSH_SUCCESS if reset is performed. * FMSH_ENXIO if the select of the flash memory is outof range.

10. *void NORFLASH\_Reset(NorFlash\_T \*pNorFlash, uint32\_t address);*

描述	* This function invokes different associate function to * implement a RESET command.
参数	* @param * pNorFlash Pointer to an NorFlash instance. * address Address offset.
返回值	* @return * NA.

11. *uint32\_t NORFLASH\_ReadDeviceID(NorFlash\_T \*pNorFlash);*

描述	* This function invokes associate function to * implement a read device ID command.
参数	* @param * pNorFlash Pointer to an NorFlash instance.
返回值	* @return * Returns 0 or data if the operation was successful.

12. *uint8\_t NORFLASH\_EraseSector(NorFlash\_T \*pNorFlash, uint32\_t sectorAddr);*

描述	* This function erases the specified block of the device.
参数	* @param * pNorFlash Pointer to an NorFlash instance. * address Address offset to be erase.
返回值	* @return * Returns 0 if the operation was successful. * otherwise returns an error code.

13. *uint8\_t NORFLASH\_EraseChip(NorFlash\_T \*pNorFlash);*

描述	* This function erases the specified block of the device.
参数	* @param *           pNorFlash Pointer to an NorFlash instance. *           address Address offset to be erase.
返回值	* @return *           Returns 0 if the operation was successful. *           otherwise returns an error code.

14. *uint8\_t NORFLASH\_WriteData(NorFlash\_T \*pNorFlash, uint32\_t address, uint8\_t \*buffer, uint32\_t size);*

描述	* This function sends data to the pNorFlash chip from the provided buffer.
参数	* @param *           pNorFlash Pointer to an NorFlash instance. *           address Start address offset to be wrote. *           buffer Buffer where the data is stored. *           size Number of bytes that will be written.
返回值	* @return *           Returns 0 if the operation was successful. *           otherwise returns an error code.

15. *void NORFLASH\_ReadData(NorFlash\_T \*pNorFlash, uint32\_t address, uint8\_t \*buffer, uint32\_t size);*

描述	* This function reads data from the NorFlash chip into the provided buffer.
参数	* @param *           pNorFlash Pointer to an NorFlash instance. *           address Address offset to be read. *           buffer Buffer where the data will be stored. *           size Number of bytes that will be read.
返回值	* @return *           NA.

16. `uint8_t NorFlash_CFI_Detect(NorFlash_T *pNorFlash, uint8_t hardwareBusWidth);`

描述	* This function looks for query struct in Norflash common flash interface.
参数	* @param * pNorFlash Pointer to an pNorFlash instance. * hardwareBusWidth the bus width.
返回值	* @return * returns 0 if a matching model has been found. * otherwise returns an error code.

17. `uint32_t NorFlash_GetDeviceNumOfBlocks(NorFlash_T *pNorFlash);`

描述	* This function returns the numbers of block in all Norflash regions.
参数	* @param * pNorFlash Pointer to an pNorFlash instance.
返回值	* @return * total block number.

18. `uint32_t NorFlash_GetDeviceMinBlockSize(NorFlash_T *pNorFlash);`

描述	* This function returns the minimum block size in all Norflash regions.
参数	* @param * pNorFlash Pointer to an pNorFlash instance.
返回值	* @return * the minimum block size.

19. `uint32_t NorFlash_GetDeviceMaxBlockSize(NorFlash_T *pNorFlash);`

描述	* This function returns the maximum block size in all Norflash regions.
参数	* @param * pNorFlash Pointer to an pNorFlash instance.
返回值	* @return * the maximum block size.

20. *uint32\_t NorFlash\_GetDeviceBlockSize(        NorFlash\_T \*pNorFlash, uint32\_t sector);*

描述	* This function returns the block size in giving block number.
参数	* @param *                pNorFlash    Pointer to an NorFlash instance. *                sector    Sector number.
返回值	* @return *                block size.

21. *uint16\_t NorFlash\_GetDeviceSectorInRegion(        NorFlash\_T \*pNorFlash, uint32\_t memoryOffset);*

描述	* This function returns sector number on specified memory offset.
参数	* @param *                pNorFlash    Pointer to an NorFlash instance. *                memoryOffset    Memory offset.
返回值	* @return *                sector num.

22. *uint32\_t NorFlash\_GetDeviceSectorAddress(        NorFlash\_T \*pNorFlash, uint32\_t sector);*

描述	* This function returns start address of specified sector number.
参数	* @param *                pNorFlash    Pointer to an NorFlash instance. *                sector    Sector number.
返回值	* @return *                sector address.

23. *uint32\_t NorFlash\_GetByteAddress(NorFlash\_T \*pNorFlash, uint32\_t offset);*

描述	* This function converts address to byte addressing.
参数	* @param *                pNorFlash    Pointer to an NorFlash instance. *                offset    Address offset.

返回值	* @return * byte address.
-----	------------------------------

24. *uint32\_t NorFlash\_GetByteAddressInChip(NorFlash\_T \*pNorFlash, uint32\_t offset);*

描述	* This function converts address to byte addressing and * return the address in chip.
参数	* @param * pNorFlash Pointer to an NorFlash instance. * offset Address offset.
返回值	* @return * address in chip.

25. *uint32\_t NorFlash\_GetAddressInChip(NorFlash\_T \*pNorFlash, uint32\_t offset);*

描述	* This function returns the address in chip.
参数	* @param * pNorFlash Pointer to an NorFlash instance. * offset Address offset.
返回值	* @return * address in chip.

26. *uint8\_t NorFlash\_GetDataBusWidth(NorFlash\_T \*pNorFlash);*

描述	* This function returns bus width in bits of giving device.
参数	* @param * pNorFlash Pointer to an NorFlash instance.
返回值	* @return * bus width.

27. *unsigned long NorFlash\_GetDeviceSizeInBytes(NorFlash\_T \*pNorFlash);*

描述	* This function returns the size of the whole device in bytes.
参数	* @param * pNorFlash Pointer to an NorFlash instance.
返回值	* @return

	* device size.
--	----------------

28. *void AMD\_Reset(NorFlash\_T \*pNorFlash);*

描述	* This function implements a RESET command (amd command).
参数	* @param * pNorFlash Pointer to an NorFlash instance.
返回值	* @return * NA.

29. *uint32\_t AMD\_ReadDeviceID(NorFlash\_T \*pNorFlash);*

描述	* This function instructs the device to output device id * by Read Device Identifier command.
参数	* @param * pNorFlash Pointer to an NorFlash instance.
返回值	* @return * Returns 0 if the operation was successful.

30. *uint8\_t AMD\_EraseSector(NorFlash\_T \*pNorFlash, uint32\_t sectorAddr);*

描述	* This function erases the specified block of the device.
参数	* @param * pNorFlash Pointer to an NorFlash instance. * address Address offset to be erase.
返回值	* @return * Returns 0 if the operation was successful. * otherwise returns an error code.

31. *uint8\_t AMD\_EraseChip(NorFlash\_T \*pNorFlash);*

描述	* This function erases all the block of the device.
参数	* @param * pNorFlash Pointer to an NorFlash instance.
返回值	* @return * Returns 0 if the operation was successful. * otherwise returns an error code.



32. *uint8\_t AMD\_Write\_Data(NorFlash\_T \*pNorFlash, uint32\_t address, uint8\_t \*buffer, uint32\_t size);*

描述	* This function sends data to the NorFlash chip from the provided buffer.
参数	* @param *           pNorFlash   Pointer to an NorFlash instance. *           address Start address offset to be wrote. *           buffer Buffer where the data is stored. *           size Number of bytes that will be written.
返回值	* @return *           Returns 0 if the operation was successful. *           otherwise returns an error code.

33. *void INTEL\_Reset(NorFlash\_T \*pNorFlash, uint32\_t address);*

描述	* This function implements a RESET command (amd command).
参数	* @param *           pNorFlash   Pointer to an NorFlash instance.
返回值	* @return *           NA.

34. *uint32\_t INTEL\_ReadDeviceID(NorFlash\_T \*pNorFlash);*

描述	* This function instructs the device to output device id * by Read Device Identifier command.
参数	* @param *           pNorFlash   Pointer to an NorFlash instance.
返回值	* @return *           Returns 0 if the operation was successful.

35. *uint8\_t INTEL\_EraseSector(NorFlash\_T \*NorFlash, uint32\_t sectorAddr);*

描述	* This function erases the specified block of the device.
参数	* @param *           pNorFlash Pointer to an NorFlash instance. *           address Address offset to be erase.
返回值	* @return *           Returns 0 if the operation was successful.

	* otherwise returns an error code.
--	------------------------------------

36. *uint8\_t INTEL\_EraseChip(NorFlash\_T \*NorFlash);*

描述	* This function erases all the block of the device.
参数	* @param * pNorFlash Pointer to an NorFlash instance.
返回值	* @return * Returns 0 if the operation was successful. * otherwise returns an error code.

37. *uint8\_t INTEL\_Write\_Data(NorFlash\_T \*NorFlash, uint32\_t address, uint8\_t \*buffer, uint32\_t size);*

描述	* This function sends data to the NorFlash chip from the provided buffer.
参数	* @param * pNorFlash Pointer to an NorFlash instance. * address Start address offset to be wrote. * buffer Buffer where the data is stored. * size Number of bytes that will be written.
返回值	* @return * Returns 0 if the operation was successful. * otherwise returns an error code.

38. *void WriteCommand(uint32\_t commandAddress, uint32\_t command);*

描述	* This function writes a command to address.
参数	* @param * commandAddress Command address offset. * command Command to be send.
返回值	* @return * NA.

39. *void ReadRawData(uint32\_t dataAddress, uint8\_t \*buffer);*

描述	* This function reads data from the NorFlash chip into the provided buffer.
参数	* @param

	* address Address of data. * buffer Buffer where the data will be stored.
返回值	* @return * NA.

40. *void WriteRawData(uint32\_t dataAddress, uint8\_t \*buffer);*

描述	* This function writes data to the NorFlash chip from the provided buffer.
参数	* @param * address Address of data. * buffer Buffer where the data will be stored.
返回值	* @return * NA.