
Program error triggered by structure members

Questions:

What kind of failure may be triggered if structure members are not fully initialized?

Answer:

The use of non-official application may cause program error because of its peripheral drivers unable to initialize all of the members in a structure group.

Take FSMC as an example, there are 15 members in the *FSMC_NORSRAMInitStructure*.

If the *FSMC_NORSRAMInitStructure.FSMC_AsynchronousWait* is not configured, the following circumstance may occur:

When using IAP to boot APP, the LCD screen refresh

Of those 15 members, *FSMC_NORSRAMInitStructure.FSMC_AsynchronousWait* is not configured so that it becomes a random value in SRAM, which causes wrong parameters to be written into BK1CTRL1.

Solutions:

1. Use ARTERY official applications
2. Initialize all the members in a structure. For the FSMC above, this problem can be solved by adding the sentence "FSMC_NORSRAMInitStructure.FSMC_AsynchronousWait=FSMC_AsynchronousWait_Disable;" into the void *ILI9806_GPIO_FSMC_Init(void)*

Extended analysis

It is important to ensure the normative compiling of C programming language to avoid the above-mentioned problems as this kind of issues may happen in any type of peripherals such as TMR, USART and CAN and they are difficult to debug.

Type: MCU applications

Applicable products: All AT32 MCUs

Main function: Application

Minor function: None

Document revision history

Date	Revision	Changes
2022.2.16	2.0.0	Initial release

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