

## ADC conversion group switching issue

**Questions:**

In ADC regular group repetition conversion mode, switching from regular group to preempted group may get the former out of order.

**Answer:**

ADC controller has two internal clock domains (PCLK and ADC CLK). Both clock domains have their respective status machine. Due to synchronization logic, there will have crossover frequency issue between signals of the two status machines. If switching channel conversion group — such as, from regular group to preempted group, occurs in the event of the emergence of crossover frequency, the accuracy of conversion results are not guaranteed.

For example, when the regular group is converting 1,2,3,4 channels, if there are two consecutive attempts to switch from regular group to preempted group at channel 2, it is likely that the conversion order of regular group will change to 1,2,2,3,4 channels.

Solution: enable ADC preempted group, and keep it unchanged in the ADC interrupt functions. In other words, never change it after enabling preempted group.

**Type:** MCU application

**Applicable products:** AT32F403, AT32F413, AT32F415

**Main function:** ADC

**Minor function:** None

**Document revision history**

Date	Revision	Changes
2022.2.16	2.0.0	Initial release

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