

- Resolution is 0.25 degrees
- TEMP analog electronics power down after temperature measurement is completed

To achieve the measurement accuracy stated in the electrical specification, the crystal oscillator must be selected as the HFCLK source, see [CLOCK — Clock control](#) on page 70 for more information.

8.21.1 Operation

TEMP is started by triggering the START task.

When the temperature measurement is finished, a DATARDY event will be generated and the measurement result can be read from the TEMP register.

When the temperature measurement is finished, TEMP analog electronics power-down to save power.

TEMP only supports one-shot operation, meaning that every TEMP measurement has to be explicitly started using the START task.

8.21.2 Registers

Instances

Instance	Domain	Base address	TrustZone			Split access	Description
			Map	Att	DMA		
TEMP : S	GLOBAL	0x500D7000	US	S	NA	No	Temperature sensor TEMP
TEMP : NS		0x400D7000					

Register overview

Register	Offset	TZ	Description
TASKS_START	0x000		Start temperature measurement
TASKS_STOP	0x004		Stop temperature measurement
SUBSCRIBE_START	0x080		Subscribe configuration for task START
SUBSCRIBE_STOP	0x084		Subscribe configuration for task STOP
EVENTS_DATARDY	0x100		Temperature measurement complete, data ready
PUBLISH_DATARDY	0x180		Publish configuration for event DATARDY
INTENSET	0x304		Enable interrupt
INTENCLR	0x308		Disable interrupt
TEMP	0x508		Temperature in °C (0.25° steps)
A0	0x520		Slope of 1st piece wise linear function
A1	0x524		Slope of 2nd piece wise linear function
A2	0x528		Slope of 3rd piece wise linear function
A3	0x52C		Slope of 4th piece wise linear function
A4	0x530		Slope of 5th piece wise linear function
A5	0x534		Slope of 6th piece wise linear function
A6	0x538		Slope of 7th piece wise linear function
B0	0x540		y-intercept of 1st piece wise linear function
B1	0x544		y-intercept of 2nd piece wise linear function
B2	0x548		y-intercept of 3rd piece wise linear function
B3	0x54C		y-intercept of 4th piece wise linear function
B4	0x550		y-intercept of 5th piece wise linear function
B5	0x554		y-intercept of 6th piece wise linear function
B6	0x558		y-intercept of 7th piece wise linear function
T0	0x560		End point of 1st piece wise linear function