

ANALOG-TO-DIGITAL CONVERTER UNIT

EXERCISES

ex. 1) Initialize the AD converter and display the conversion result. Use the following configuration for channel 0:

- ATD Power UP
- SCAN mode enabled
- FIFO disabled
- 1 conversion / sequence
- ADC 8 bit res.
- Left justified data (ATD Conversion Result Registers ATDDRHx/ATDDRLx)
- ADC clock frequency 0.5 MHz
- Disable ADC interrupts
- Analog Input Channel = AN0
 - obs: writing the ATDCTL2,3,4 reg. aborts current conv. sequence
 - writing the ATDCTL5 reg. aborts current activity and starts a new conversion

ex. 2) Take 6 measurements from ADC channel 0 at each 100 ms, compute the average value
Use the following configuration:

- SCAN mode disabled
- left justified
- 8 bit res.
- 6 conversion / sequence

Display the 1st, 2nd... 6th conversion in the sequence and the average value.
Use the switches connected to PortT to select which information is displayed.

ex. 3) Perform four conversions in a sequence from channel 6, 7, 0, 1.

- 10 bit mode.
- right justified
- SCAN mode

Display the conversion result from channel 0.