USING THE HC12 A/D CONVERTER

1. Power up A/D Converter (ADPU = 1 in ATDCTL2)
2. Set ATDCTL4 = 0x01 (Gives 2 MHz AD clock with 8 MHz E-clock, final sample
time is 2 AD clocks, this will achieve a Nyquist Frequency of 55.5 KHz)
3. Select 8-channel mode (S8CM = 1 in ATDCTL5)
4. Set CD = 0 in ATDCTL5 (CD = 1 for factory test only)
5. Select MULT in ATDCTL5:
   o MULT = 0: Convert one channel eight times
     ▪ Choose channel to convert with CC, CB, CA of ATDCTL5.
   o MULT = 1: Convert eight channels
6. Select SCAN in ATDCTL5:
   o SCAN = 0: Convert eight samples, then stop
   o SCAN = 1: Convert continuously
7. After writing to ATDCTL5, the A/D converter starts, and the SCF bit is cleared.
   After eight conversions are complete, the SCF flag in ATDSTAT is set. You can read
   the results of the conversions in ADR[0-7]H.
8. If SCAN = 0, you need to write to ATDCTL5 to start a new sequence. If SCAN = 1, the
   conversions continue automatically, and you can read new values in ADR[0-7]H.
9. To get interrupt after eight conversions completed, set ASCIE bit of ATDCTL2.
   After eight conversions, ASCIF bit in ATDCTL2 will be set, and an interrupt will be
   generated.
10. You can get more accuracy by averaging multiple conversions. If you need only
    one channel, set MULT = 0, then average all eight result registers.