

```
64 int main(void)
65 {
66     adc_init();
67
68     int8_t sigrow_offset = SIGROW.TEMPSENSE1; /* Read signed offset from signature row */
69     uint8_t sigrow_gain = SIGROW.TEMPSENSE0; /* Read unsigned gain/slope from signature row */
70
71     while(1)
72     {
73         ADC0.COMMAND |= ADC_START_IMMEDIATE_gc; /* Start ADC conversion */
74         while(!(ADC0.INTFLAGS & ADC_RESRDY_bm)); /* Wait until conversion is done */
75
76         /* Calibration compensation as explained in the data sheet */
77         adc_reading = ADC0.RESULT >> 2; /* 10-bit MSb of ADC result with 1.024V internal reference */
78         uint32_t temp = adc_reading - sigrow_offset;
79
80         temp *= sigrow_gain; /* Result might overflow 16-bit variable (10-bit + 8-bit) */
81         temp += 0x80; /* Add 256/2 to get correct integer rounding on division below */
82         temp >>= 8; /* Divide result by 256 to get processed temperature in Kelvin */
83         temperature_in_K = temp;
84         temperature_in_degC = temperature_in_K - 273;
85
86         _delay_ms(500);
87     }
88 }
```