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Source History
1 // 1ChannelADCvaryingSignal.c
2 // system at 4 MHz
3 // UART2 at 9,600 bps
4 // RA4 is ADC input
5 // DC = 25% PWM5, TMR2 = 32 ms PS = 128 pin RC6
6 // MPLAB Data Visualizer
7 // button on RD1
8
9
10 #include "mcc_generated_files/mcc.h"
11 #include "putty.h"
12 #include <stdio.h>
13 #include <stdbool.h>
14 #include <math.h>
15
16 #define vrefplus 3856
17 #define vrefminus 1286
18
19 unsigned int convertADCtoMillivolts(unsigned int adcValue);
20 /*
21 | | | | | | | | Main application
22 */
23 void main(void)
24 {
25     // Initialize the device
26     SYSTEM_Initialize();
27     unsigned int ADCvoltage1, ADCvoltage2;
28     adc_result_t convertedValue;
29     /*
```

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28     adc_result_t convertedValue;
29     /*
30     while(IO_RD1_GetValue() == 0); //wait for button press;
31     //clearPuTTY();
32     IO_RD2_SetHigh(); // led on
33     */
34
35     while (1)
36     {
37         // Add your application code
38
39         convertedValue = ADCC_GetSingleConversion(channel_ANA4);
40         //ADCvoltage1 = convertADCtoMillivolts(convertedValue);
41         //printf("ANA4: %u = %u mV \n\r",
42         //convertedValue, ADCvoltage1);
43
44         // unsigned int value as two 8bit pieces to Data Visualizer
45         UART2_Write(0x5F); // frame start Decimal 95
46         UART2_Write(convertedValue & 0x00FF); // send lower 8 bits first
47         UART2_Write(convertedValue >> 8); // send upper 8 bits seconds
48         UART2_Write(0xA0); // frame end Decimal 160 (Note 160 + 95 = 2
49         DELAY_milliseconds(200);
50     }
51 }
52
53 unsigned int convertADCtoMillivolts(unsigned int adcValue)
54 {
55     return ((unsigned int)((adcValue + 0.5)*(vrefplus - vrefminus)/4096 + vrefminus)
56 }

```