

```

1  #include <33FJ32MC204.h>
2  #include "32MC204RegsV1.h"
3  #FUSES NOWDT                      //No Watch Dog Timer
4  #FUSES CKSFSM                     //Clock Switching is enabled, fail Safe clock monitor
   is enabled
5  #FUSES NOJTAG                     //JTAG disabled
6
7  /*
8  Izgleda da je za AN0 i AN1, da uzimaju iz BUF0 i BUF1 potrebno za
9  CH0 pojačalo staviti AN1, a za CH1, AN0, u respektivnim CHS0A i CH123
10 registrima.
11
12 Ovo radi, hvala Allahu dž.š. Naredni primjeri, kao nastavak ovoga bi trebali
13 da uključe ostale kanale.
14 Nakon toga, aBd, ostale nacine rada ADC-a, tj. prekidi, skeniranje kanala
15 i alternativno skeniranje.
16
17 Trebam imati 4 ili makar 3 konverzije kanala na raspolaganju, za punu
18 kontrolu motora, poput FOC ili recimao za mjerenje temperature modula
19 ili struje i napona mosta itd.
20
21
22 */
23
24
25
26 #device ICSP=1
27 #use delay(crystal=10M)
28
29 volatile unsigned int  ADCValue,ADResultAN ;
30 void PORT_Init(void);
31 void ADC_Init(void);
32
33
34 void main()
35 {
36
37     PORT_Init();
38     ADC_Init();
39     while(TRUE)
40     {
41         AD1CON1.SAMP = 1;
42         delay_ms(30);
43         AD1CON1.SAMP = 0;
44         while(!AD1CON1.DONE);
45         ADResultAN = ADC1BUF1.ADCBUF;
46         ADCValue=ADC1BUF0.ADCBUF;
47         LATC.LAT=ADCValue;
48         LATB.LAT=ADResultAN;
49     }
50
51 }
52
53 void PORT_Init(void)
54 {
55     TRISA.TRISA0=1;//Ulazni pin
56     TRISA.TRISA1=1;//Ulazni pin
57     TRISB.TRIS=0x0000;
58     TRISC.TRIS=0x0000;//PORTC je izlazni.
59     AD1PCFGL.PCFG=0b11111111;//Početno, svi digitalni pinovi.
60     AD1PCFGL.PCFG0=0;//Analogni pin.
61     AD1PCFGL.PCFG1=0;//Analogni pin.
62 }
63
64 void ADC_Init(void)
65 {
66     AD1CON1.ADON=0;//Isključimo AD dok se konfigurise.
67     AD1CON1.ADCON1=0x0000;
68     AD1CON1.AD12B=0;//10-bitna konverzija.
69     AD1CON1.FORM=0b00;//Integer bez znaka format
70     AD1CON1.SSRC=0;//Internal counter ends sampling and starts conversion
71                     //(auto-convert)
72     AD1CON1.SIMSAM=1;

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```
73 AD1CON2.CHPS=0b11;
74 AD1CON1.ASAM=1;//0 = Sampling begins when SAMP bit is set
75 AD1CON2.ALTS=0;//Always uses channel input selects for Sample A
76 AD1CON2.VCFG=100;//AVdd-AVss=Vref+--Vref-
77 AD1CON3.ADCS=0x3F;//Tad=64xTcy=12.8ms, za odabrani clock od 10MHz.
78 AD1CON3.ADRS=0;//0 = Clock derived from system clock
79 AD1CON3.SAMC=31;
80 AD1CHS0.CH0NA=0;//0 = Channel 0 negative input is VREF-
81 AD1CHS0.CH0SA=0b0001;//00000 = Channel 0 positive input is AN1
82 AD1CHS123.CH123NA=0b00;//00 = CH1, CH2, CH3 negative input is VREF-
83 AD1CHS123.CH123SA=0;//0 = CH1 positive input is AN0, CH2 positive input
84 //is AN1, CH3 positive input is AN2
85 //AD1CHS123.CH123NB=0b00;//00 = CH1, CH2, CH3 negative input is VREF-
86 //AD1CHS123.CH123SB=0;//1 = CH1 positive input is AN3, CH2 positive
87 //input is AN4, CH3 positive input is AN5
88 AD1CON1.SAMP= 0;
89 AD1CON1.ADON=1;
90 }
91
92
93
94
95
```