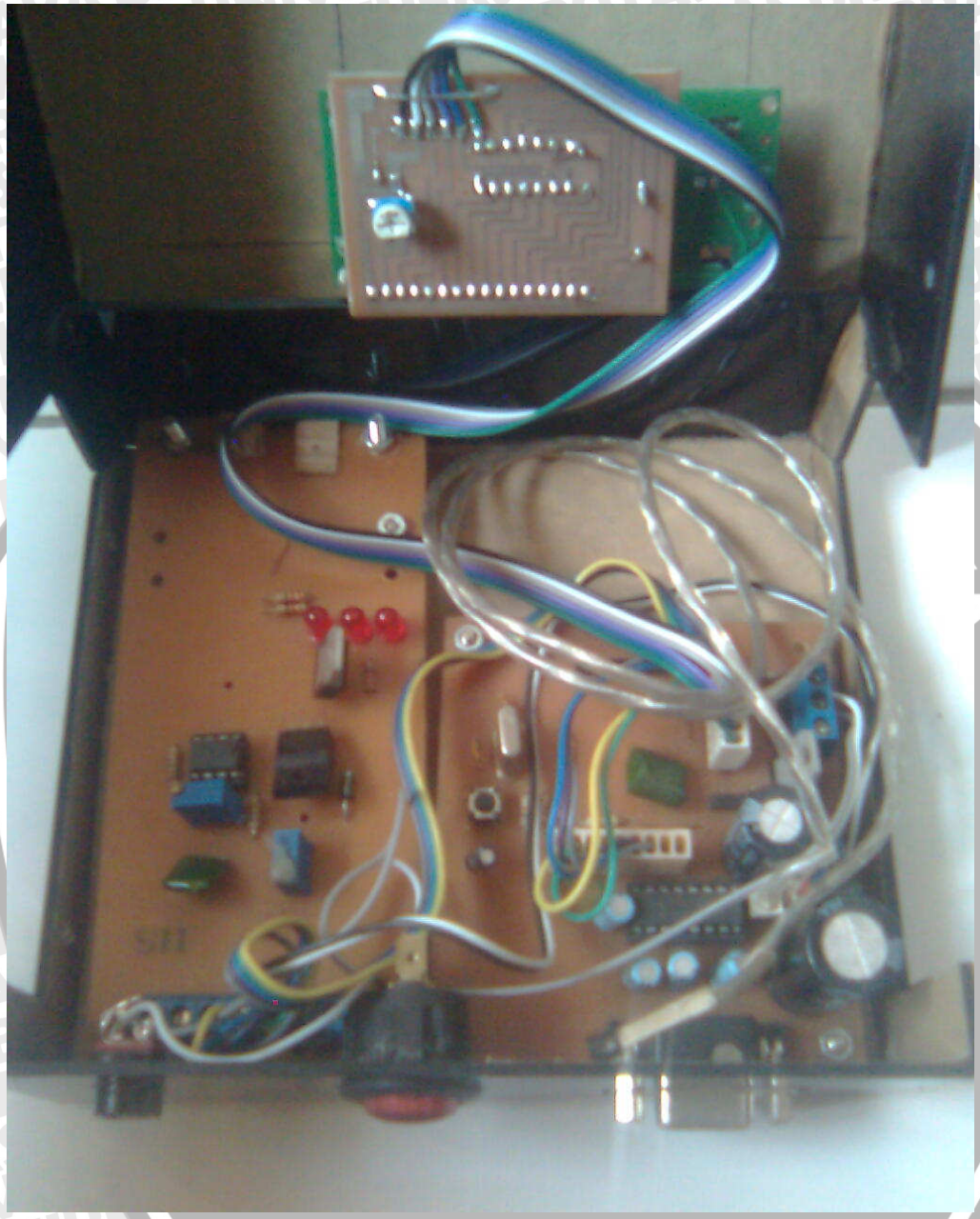
LAMPIRAN

LAMPIRAN I

FOTO ALAT

Alat Pengukur Kadar Glukosa Darah Tampak Depan

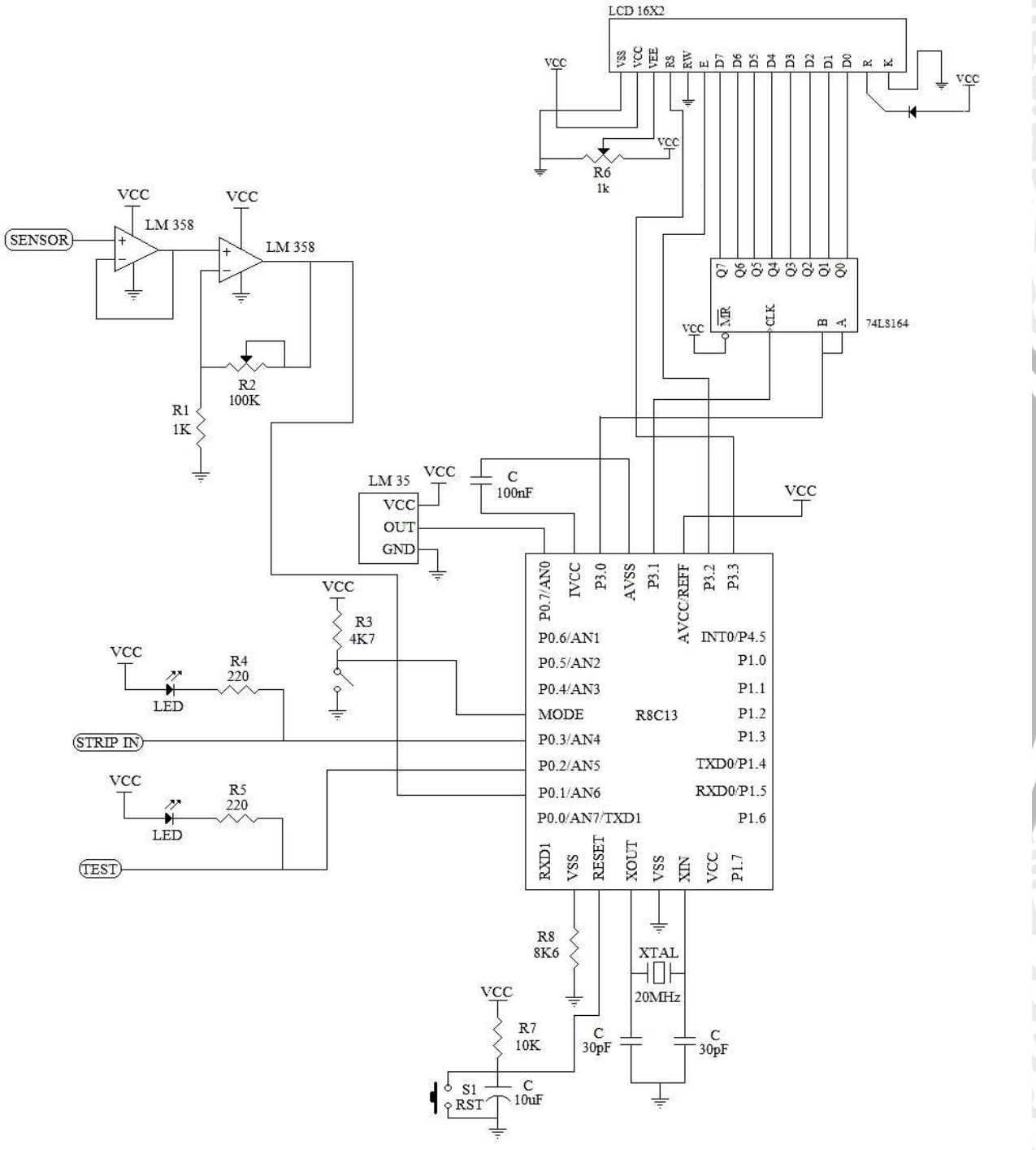


Alat Pengukur Kadar Glukosa Darah Tampak Dalam

LAMPIRAN II

GAMBAR RANGKAIAN

SKEMATIK RANGKAIAN



LAMPIRAN III

LISTING PROGRAM

LISTING PROGRAM

```
/*-------------------------------------------------------------------------*/
/*PROGRAM ALAT PENGUKUR KADAR GLUKOSA DARAH*/
/*-------------------------------------------------------------------------*/

#include <stdio.h>
//#include <math.h>
#include "sfr_r813.h"
//#include "timer.h"
#include "lcdku.h"
#include "serial.h"

#define testpoint       p0_2//1_1
#define stripin         p0_3//1_0

unsigned char tnormal,is,strip;
unsigned int i,a,ai,d[400],b;
unsigned long c;

void initADC(void)    //rutin inisialisasi adc
{
    adcon0 = 0x01;    //prescaler fAD/2 (invalid), A/D conv disabled, P0 group selected,
                      oneshot mode, pin AN1 selected
    adcon1 = 0x38;    //Vref  connected, freq select at fAD valid, 10 bit mode
    adcon2 = 0x00;    //without sample and hold
}

void tampila(int ta)
{
    asa=ta/1000;dataout(asa+0x30);kirim_serial(asa+0x30);
    asa=(ta/100)%10;dataout(asa+0x30);kirim_serial(asa+0x30);
    asa=(ta/10)%10;dataout(asa+0x30);kirim_serial(asa+0x30);
    asa=ta%10;dataout(asa+0x30);kirim_serial(asa+0x30);
}

void tampil()
{
    kirim_serial('a');
    asa=ai/1000;dataout(asa+0x30);kirim_serial(asa+0x30);
    asa=(ai/100)%10;dataout(asa+0x30);kirim_serial(asa+0x30);
    asa=(ai/10)%10;dataout(asa+0x30);kirim_serial(asa+0x30);
    asa=ai%10;dataout(asa+0x30);kirim_serial(asa+0x30);
    kirim_serial('z');
}
void adckadargula()
{
    adcon0 &= 0xF8 ;
    adcon0 |= 0x06;
    asm("nop");
```

```
    adst = 1;
    while(adst) ;
}

void delaym(unsigned int de)
{
    unsigned int la;
    for(la=0;la<de;la++)
    {asm("nop");asm("nop");asm("nop");asm("nop");asm("nop");asm("nop");asm("nop");}
}

void main(void)
{
/* Inisialisasi Variable*/

    /* Inisialisasi Awal MK */
    asm("FCLR I");    // Interrupt disable
    prcr = 1;         // Protect off
    cm13 = 1;         // X-in X-out = Clock External
    cm15 = 1;         // XCIN-XCOUT drivecapacity select bit : HIGH
    cm05 = 0;         // X-in on
    cm16 = 0;         // Main clock = No division mode
    cm17 = 0;
    cm06 = 0;         // CM16 and CM17 enable
    asm("nop");
    asm("nop");
    asm("nop");
    asm("nop");
    ocd2 = 0;         // Main clock change (x-tal)
    prcr = 0;         // Protect on

    /* p1 sebagai keluaran dan p0 sebagai masukan */
    pd0=0;pd1=0xf0;pd3=0xff;
    prc2 = 1;pd0_0=1;
    prc2 = 1;pd0=0b00000001;
    stripin=1;ai=0;txic=1;testpoint=1;
    tnormal=1;

    /* Proses memasukkan dan mengeluarkan data */
    asm("FCLR I");
    initlcd();
    initSerial();
    initADC();

    p0_0=0;clear();
    while (1)
    {
    adckadargula();
    pos(2,1);
    tampila(ad);
    a=0;
```

```
for(ai=0;ai<20;ai++)
{
adcon0 &= 0xF8 ;
adcon0 |= 0x0;//adcon0 |= 0x01;
asm("nop");
adst = 1;
while(adst) ;
a=ad+a;
}
ai=a/40;
a=((ai)/10)+48;dataout(a);
a=((ai)%10)+48;dataout(a);
dataout(0xdf);
if(ai<15) {cetak(1,1,"Tidak ada data");kirimenter('d');tnormal=0;}
else if(ai>35) {cetak(1,1,"Tidak ada data");kirimenter('p');tnormal=0;}
else {cetak(1,1,"Suhu normal  ");tnormal=1;}

if((testpoint==0)&&(tnormal==1))
{
cetak(1,1,"Kartu test    ");kirimenter('t');
while(testpoint==0);
clear();kirim_serial('h');tnormal=0;
}
if((stripin==0)&&(tnormal==1))
{
adckadargula();
if(ad>650)
    {
cetak(1,1,"Kartu baru    ");kirimenter('b');delay(2000);
ad=1000;
while(ad>650)      adckadargula();
d[0]=ad;
i=0;
while(i<400)
{
i++;
adckadargula();
d[i]=ad;
if(ad>1000)i=0;

}
c=0;
for(i=11;i<21;i++){c=c+d[i];}
c=c/10;
b=116+(397*10/518);
c=b-(c*10/518);
clear();
cetak(1,1,"Kadar gula:");
pos(2,1);tampila(c);
delay(1500);
while(stripin==0);
```

```
    clear();kirimenter('h');tnormal=0;
        }
    else
        {
    cetak(1,1,"Kartu lama    ");kirimenter('l');
    while(stripin==0);
    clear();kirimenter('h');tnormal=0;
        }
    }
    }

}
```

LAMPIRAN IV

DATASHEET