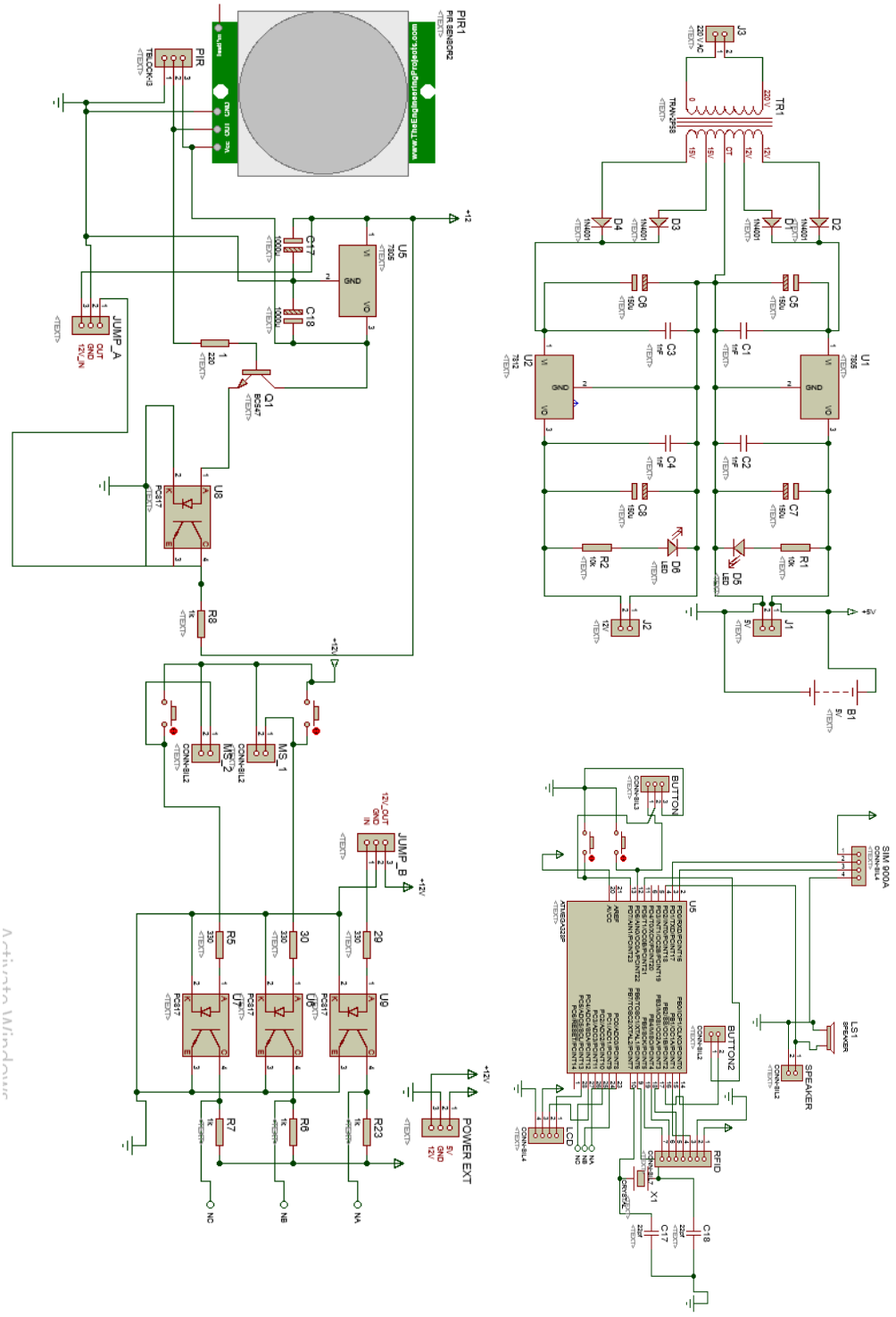
LAMPIRAN

1. Rangkaian Keseluruhan Alat



2. Listing Program

```
#include <MFRC522.h>
#include <SPI.h>
#include <Wire.h>
#include <LiquidCrystal_I2C.h>
#include <SoftwareSerial.h>
#define SS_PIN 10
#define RST_PIN 9
#define buzzer 2
#define btn1 6
#define btn2 7
#define btn3 8
#define btn4 5
#define PIR A0
#define MS_1 A1
#define MS_2 A2
String aktifpir="";
String aktifms1="";
String aktifms2="";
boolean enablePir = true;
boolean enableMS1 = true;
boolean enableMS2 = true;
int intBtnPir = 0;
MFRC522 mfrc522(SS_PIN, RST_PIN);
LiquidCrystal_I2C lcd(0x3F, 16, 2);
String number1 = "085295672740";
String number2 = "082280472507";
String number3 = "087780803513";
String content = "";
String id = "A23588D2";
String id2 = "E28CD0D2";
```

```
unsigned long angka, angka2;
int timer;
boolean tampil = false;
void setup() {
  Serial.begin(9600);
  pinMode(buzzer, OUTPUT);
  pinMode(MS_1, INPUT_PULLUP);
  pinMode(MS_2, INPUT_PULLUP);
  pinMode(PIR, INPUT_PULLUP);
  pinMode(btn1, INPUT_PULLUP);
  pinMode(btn2, INPUT_PULLUP);
  pinMode(btn3, INPUT_PULLUP);
  pinMode(btn4, INPUT_PULLUP);
  lcd.begin();
  lcd.backlight();
  lcd.setCursor(0, 0);
  lcd.print("    STANDBY     ");

  digitalWrite(buzzer, 1);
  delay(5);
  digitalWrite(buzzer, 0);
  delay(5);
  digitalWrite(buzzer, 1);
  delay(500);
  digitalWrite(buzzer, 0);
  SPI.begin();
  mfrc522.PCD_Init();
  lcd.clear();
}
```

```
void loop() {
  if (timer > 0)
  {
    if (millis() - angka >= 1000 * timer)
    {
      enablePir = true;
      content = "               timer = 0;
      angka = millis();
    }
  }
  if (tampil)
  {
    if (millis() - angka2 >= 3000)
    {
      content = "         ";
      tampil = false;
      angka2 = millis();
    }
  }
  if (digitalRead(btn1) == 0)
  {
    delay(10);
    enablePir = !enablePir;
    if (enablePir==0)
    {
      aktifpir=" OFF ";
    }
    if (enablePir==1)
    {
      aktifpir=" ON ";
    }
```

```
    lcd.setCursor(0, 1);
    lcd.print("sensor pir"+aktifpir);
    intBtnPir = 1;
    delay(1500);
    lcd.clear();
  }
  if (digitalRead(btn2) == 0)
  {
    delay(10);
    enableMS1 = !enableMS1;
    if (enableMS1==0)
    {
      aktifms1=" OFF ";
    }
    if (enableMS1==1)
    {
      aktifms1=" ON ";
    }
    lcd.setCursor(0, 1);
    lcd.print("sensor ms1"+aktifms1);
    delay(1500);
    lcd.clear();
  }
  if (digitalRead(btn3) == 0)
  {
    delay(10);
    enableMS2 = !enableMS2;
    if (enableMS2==0)
    {
      aktifms2=" OFF ";
    }
```

```
        if (enableMS2==1)
    {
      aktifms2=" ON ";
    }
    lcd.setCursor(0, 1);
    lcd.print("sensor ms2"+aktifms2);
    delay(1500);
    lcd.clear();
  }
  if (digitalRead(btn4) == 0)
  {
    delay(10);
    enablePir = true;
    enableMS1 = true;
    enableMS2 = true;
     lcd.setCursor(0, 1);
    lcd.print("semua aktif");
    delay(1500);
    lcd.clear();
  }
  if (enablePir)
  {
    if (digitalRead(PIR) == 1)  //ada orang
    {
      lcd.setCursor(11, 0);
      lcd.print(String(digitalRead(PIR)));
      lcd.setCursor(5,1);
      lcd.print("Detected");
      beep();
      delay(3000);
```

```
      lcd.setCursor(5,1);
      lcd.print("        ");
      kirimSms1("Ada Orang");
      kirimSms2("Ada Orang");
      kirimSms3("Ada Orang");
    }
  }
  if (enableMS1)
  {
    if (digitalRead(MS_1) == 1)  //ada orang
    {
      lcd.setCursor(13, 0);
      lcd.print(String(digitalRead(MS_1)));
      lcd.setCursor(5,1);
      lcd.print("Detected");
      beep();
      delay(3000);
      lcd.setCursor(5,1);
      lcd.print("        ");
      kirimSms1("Pintu 1 terbuka");
      kirimSms2("Pintu 1 terbuka");
      kirimSms3("Pintu 1 terbuka");
    }
  }
  if (enableMS2)
  {
    if (digitalRead(MS_2) == 1)
    {
      lcd.setCursor(15, 0);
      lcd.print(String(digitalRead(MS_2)));
```

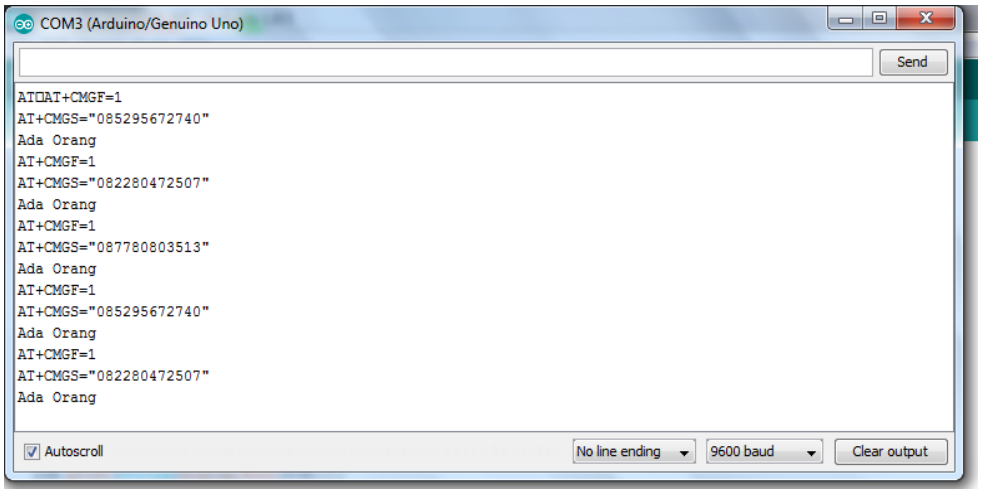
```
            lcd.setCursor(5,1);
        lcd.print("Detected");
        beep();
        delay(3000);
        lcd.setCursor(5,1);
        lcd.print("        ");
        kirimSms1("Pintu 2 terbuka");
        kirimSms2("Pintu 2 terbuka");
        kirimSms3("Pintu 2 terbuka");
      }
    }
    lcd.setCursor(0, 1);
    lcd.print(content);
    lcd.setCursor(11, 0);
    lcd.print(String(digitalRead(PIR)));
    lcd.setCursor(13, 0);
    lcd.print(String(digitalRead(MS_1)));
    lcd.setCursor(15, 0);
    lcd.print(String(digitalRead(MS_2)));
    lcd.setCursor(0, 0);
    lcd.print(String(enablePir));
    lcd.setCursor(2, 0);
    lcd.print(String(enableMS1));
    lcd.setCursor(4, 0);
    lcd.print(String(enableMS2));
  if ( ! mfrc522.PICC_IsNewCardPresent())
    {
      return;
    }
  if ( ! mfrc522.PICC_ReadCardSerial())
```

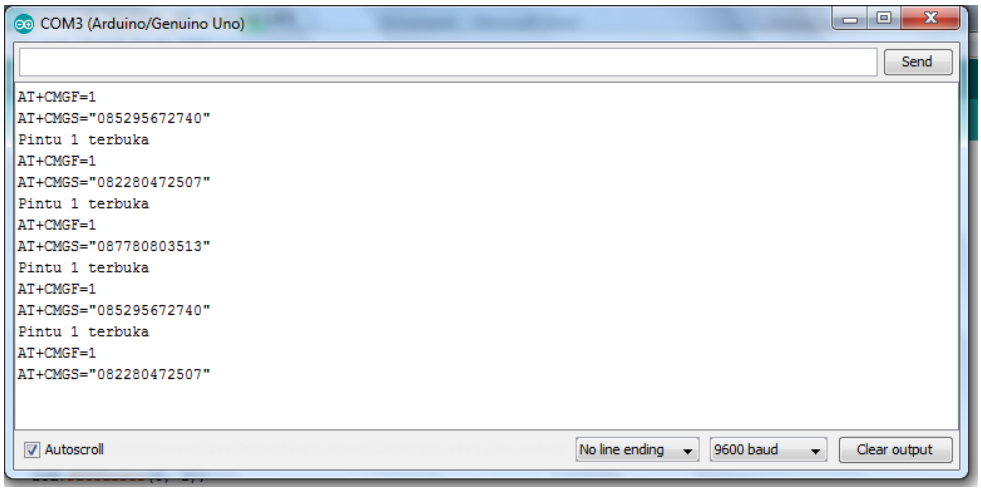
```
{
    return;
  }
mfrc522.PICC_HaltA();
  content = "";
  byte letter;
  for (byte i = 0; i < mfrc522.uid.size; i++)
  {
    content.concat(String(mfrc522.uid.uidByte[i] <
0x10 ? "0" : ""));
    content.concat(String(mfrc522.uid.uidByte[i],
HEX));
    beep();
    tampil = true;
    angka2 = millis();
  }
  content.toUpperCase();
  if ((content == id) or (content == id2))
  {
  lcd.setCursor(0, 1);
  lcd.print("cocok");
  delay(1000);
    if (enablePir)
    {
      if (intBtnPir != 1)
      {
        timer = 10;
        angka = millis();
      }
      enablePir = false;
    }
```

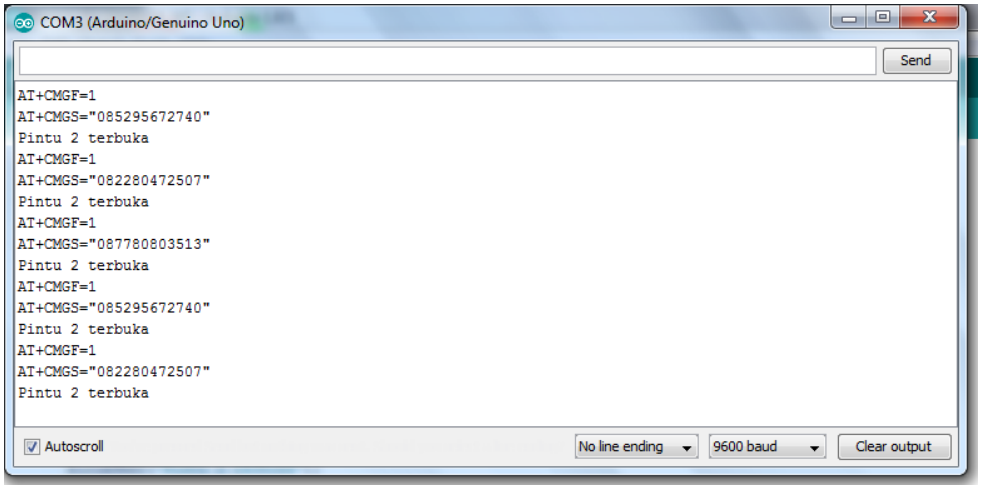
```
else if (!enablePir and intBtnPir == 1)
    {
        timer = 10;
        angka = millis();
      //enablePir = true;
    }
    intBtnPir = 0;
  }
}
void beep()
{
  digitalWrite(buzzer, 1);
  delay(50);
  digitalWrite(buzzer, 0);
  delay(50);
  digitalWrite(buzzer, 1);
  delay(50);
  digitalWrite(buzzer, 0);
  delay(50);
  digitalWrite(buzzer, 1);
  delay(50);
  digitalWrite(buzzer, 0);
}
void kirimSms1(String text)
{
  Serial.println("AT+CMGF=1");
  delay(700);
  Serial.println("AT+CMGS=\"" + number1 + "\"\r");
  delay(1000);
}
```

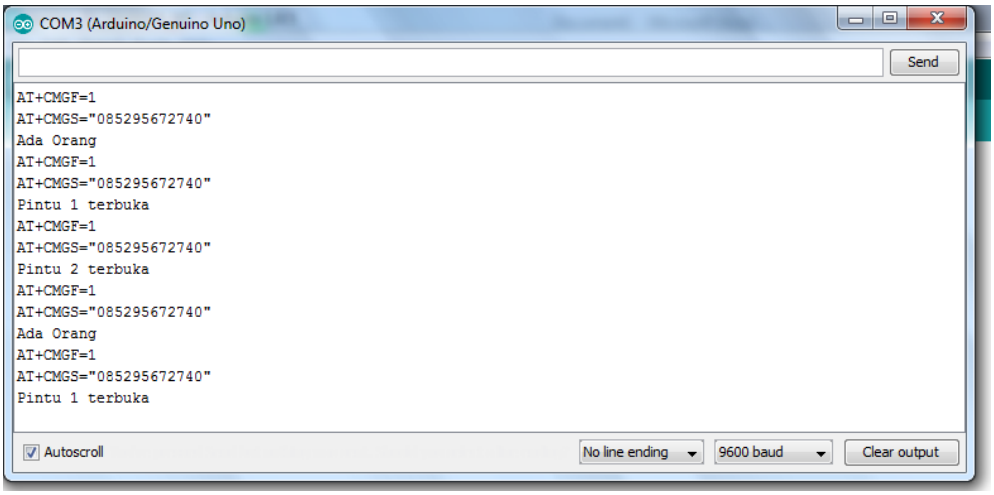
```
Serial.print(text);
  delay(500);
  Serial.println(char(26));
  delay(2000);
  Serial.flush();
}
void kirimSms2(String text)
{
  Serial.println("AT+CMGF=1");
  delay(700);
  Serial.println("AT+CMGS=\"" + number2 + "\"\r");
  delay(1000);
  Serial.print(text);
  delay(500);
  Serial.println(char(26));
  delay(2000);
  Serial.flush();
}
void kirimSms3(String text)
{
  Serial.println("AT+CMGF=1");
  delay(700);
  Serial.println("AT+CMGS=\"" + number3 + "\"\r");
  delay(1000);
  Serial.print(text);
  delay(500);
  Serial.println(char(26));
  delay(2000);
  Serial.flush();
}
```

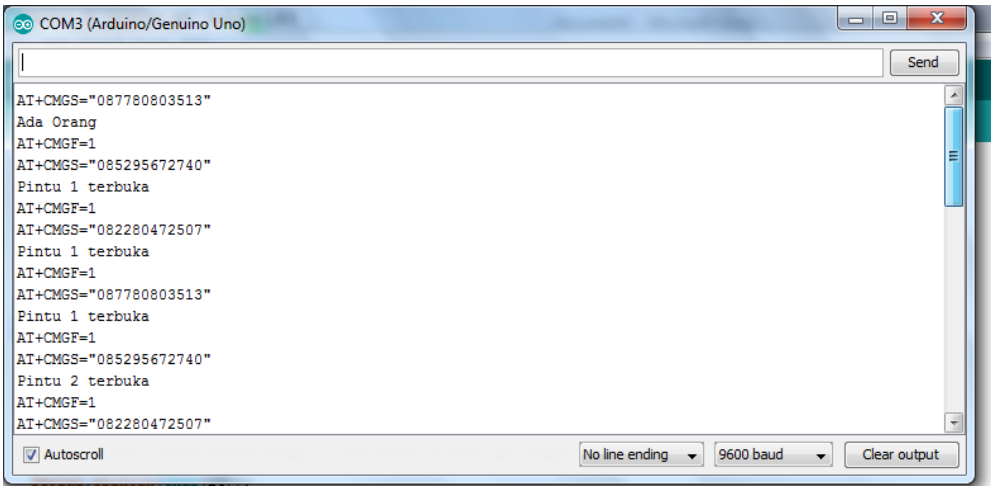
3. Serial Monitor Program








COM3 (Arduino/Genuino Uno)
Send
AT+CMGF=1
AT+CMGS="085295672740"
Ada Orang
AT+CMGF=1
AT+CMGS="085295672740"
Pintu 1 terbuka
AT+CMGF=1
AT+CMGS="085295672740"
Pintu 2 terbuka
AT+CMGF=1
AT+CMGS="085295672740"
Ada Orang
AT+CMGF=1
AT+CMGS="085295672740"
Pintu 1 terbuka
Autoscroll
No line ending
9600 baud
Clear output


COM3 (Arduino/Genuino Uno)
Send
AT+CMGS="087780803513"
Ada Orang
AT+CMGF=1
AT+CMGS="085295672740"
Pintu 1 terbuka
AT+CMGF=1
AT+CMGS="082280472507"
Pintu 1 terbuka
AT+CMGF=1
AT+CMGS="087780803513"
Pintu 1 terbuka
AT+CMGF=1
AT+CMGS="085295672740"
Pintu 2 terbuka
AT+CMGF=1
AT+CMGS="082280472507"
Autoscroll
No line ending
9600 baud
Clear output