```
// i2c_scanner informing on serial, parallel LCD,
// PCF8574 i2c LCD, & OLED   can work @3.3V with OLED
// Si4732 testing
//
// For OLED adafruits LIB; @20240522 OK 3.3V operation!
//
// For R909OLED PCB with lcd(8,9,10,11,12.13); @20231029
// LCD&i2c connection OK  serial OK
//
// Expecting address Si5351a:0x60, Si4732:0x63(0x11), i2c
LCD:0x27
//   OLED:0x3C
//
// Version 5, March 28, 2013
// Cover over 7-bit(127d), not handle extention address
//

#include <Wire.h>

// PCF8574 i2c lcd instance
//  Thanks for giving information about i2c LCD adapter
// https://github.com/marcoschwartz/LiquidCrystal_I2C
 #include <LiquidCrystal_I2C.h>
 LiquidCrystal_I2C lcdi2c(0x27,16,2);

// Parallel LCD for Adru5351 PCB
// instanciate the library and pass pins for (RS, Enable, D4,
D5, D6, D7)
 #include <LiquidCrystal.h>             // Sure 8x2 LCD
works with this lib
 LiquidCrystal   lcd(8,9,10,11,12,13);

//////// OLED SSD1306 ////
// Thanks Adafruit for providing the library of OLED SSD1306
//Adafruit  GFX https://github.
com/adafruit/Adafruit-GFX-Library
//Adafruit SSD1306 https://github.
com/adafruit/Adafruit_SSD1306
#include <Adafruit_GFX.h>
#include<Adafruit_SSD1306.h>
Adafruit_SSD1306 display = Adafruit_SSD1306(128, 64, &Wire);
```

```
#define led_pin 15
#define lcd_backlight 7

  byte error, address;
  int nDevices;
  boolean led_status;
  char charbuf[6];

void setup()
{
  Wire.begin();
  Serial.begin(9600);
  Serial.println("\ni2c Scanner");

  display.begin(SSD1306_SWITCHCAPVCC, 0x3C);
  display.clearDisplay();
  display.setTextColor(WHITE);

  pinMode(led_pin, OUTPUT);
  pinMode(lcd_backlight, OUTPUT);
  digitalWrite( lcd_backlight, 1);

// PCF8574 i2c lcd
// Iniatilize i2c LCD
  lcdi2c.init();
  lcdi2c.backlight();

// 4 bits parallel LCD
   lcd.begin(16,2);                    // set lib for display
size (2x16)
   lcd.clear();                       // clear the screen

// OLED banner
  display.setTextSize(2);
  display.setCursor(0, 0);
  display.print("i2c scan");
  display.setCursor(55, 15);
  display.print("kpa");
  display.display();
```

```
}

void loop()
{
  Serial.println("i2c Scanning start");
  digitalWrite(led_pin, led_status);
  led_status = !led_status;
  delay(1000);

   lcdi2c.setCursor( 0, 0) ;            // Set position
   lcdi2c.print( "i2c Scan test" ) ;    // Let to display

  lcd.setCursor(0,0);
   lcd.print("i2c Scan test   ") ;

  display.setCursor(0, 15);
  display.print("i2c scan");
  display.display();

   lcdi2c.setCursor( 0, 1) ;            // Set column position
   lcdi2c.print( "ADR:" ) ;             // Let to display

  lcd.setCursor(0,1);
  lcd.print("ADR:") ;

  display.setCursor(0, 30);
 display.print("AD:");
 display.display();

  nDevices = 0;
  int cnt = 0;
  for(address = 1; address < 127; address++ )
  {
    // Check WIRE function return back result
    // The value of Write.endTransmisstion
    // Is there ACK response (yes:0)  or no
   Wire.beginTransmission(address);
    error = Wire.endTransmission();

    if (error == 0)         // Got response
    {
```

```
    Serial.print("i2c device found at address 0x");
    if (address<16) Serial.print("0");
    Serial.print(address,HEX);
    Serial.println("  !");

    sprintf(charbuf, "%02X", address );

    lcdi2c.print(charbuf) ;
    lcdi2c.print(",") ;

    lcd.print(charbuf) ;
    lcd.print(",") ;

    cnt++;
    display.setCursor(cnt*36, 32);
    display.print(charbuf);
    display.print(",");
    display.display();

    nDevices++;
  }
  else if (error==4)
  {
    Serial.print("Unknown error at address 0x");
    if (address<16) Serial.print("0");
    Serial.println(address,HEX);
  }
}

if (nDevices == 0)
{
  Serial.println("No i2c devices found\n");
  lcdi2c.print("No devices found") ;
  lcd.print("No devices found") ;
  display.setCursor(0, 49);
  display.print("No devices");
  display.display();
}
else{
  Serial.println("done\n");
  lcdi2c.print("done          ") ;
```

```
    lcd.print("done           ") ;
    display.setCursor(cnt*15, 49);
    display.print("Done");
    display.display();
   }

  delay(2000);                  // Wait 2 sec
  lcd.clear();                  // clear the screen
  lcdi2c.clear();               // clear the screen
 display.clearDisplay();
 display.display();
}
```