13.Testing of Flash Memory of ESP 32(Practical)

#include "SPIFFS.h"  // Include SPIFFS library(SPI Flash File System)

#include <esp\_spi\_flash.h>  // ESP32 Flash Library

void setup() {

    Serial.begin(115200);

    delay(1000);

    // Get Flash Chip Information

    Serial.println("ESP32 Flash Memory Test");

    Serial.print("Flash Chip ID: ");

    Serial.println(ESP.getFlashChipSize()); // Get Flash Size

    // Get total and free SPIFFS space

    if (!SPIFFS.begin(true)) {

        Serial.println("SPIFFS Mount Failed!");

        return;

    }

    Serial.println("SPIFFS Mounted Successfully.");

    Serial.print("Total SPIFFS Space: ");

    Serial.print(SPIFFS.totalBytes());

    Serial.println(" bytes");

    Serial.print("Free SPIFFS Space: ");

    Serial.print(SPIFFS.usedBytes());

    Serial.println(" bytes");

    // Test Writing and Reading a File

    File file = SPIFFS.open("/test.txt", "w");

    if (!file) {

        Serial.println("Failed to create file!");

        return;

    }

    file.println("ESP32 Flash Memory Test Successful!");

    file.close();

    // Read the file

    file = SPIFFS.open("/test.txt", "r");

    if (!file) {

        Serial.println("Failed to open file for reading!");

        return;

    }

    Serial.println("Reading file content:");

    while (file.available()) {

        Serial.write(file.read());

    }

    file.close();

}

void loop() {

    // No continuous loop needed

}

Output:

SPIFFS Mounted Successfully.

Total SPIFFS Space: 1318001 bytes

Free SPIFFS Space: 0 bytes

Reading file content:

ESP32 Flash Memory Test Successful!

13.Scanning Bluetooth Devices using ESP 32(Skill)

#include <BluetoothSerial.h>

#if !defined(CONFIG\_BT\_ENABLED) || !defined(CONFIG\_BLUEDROID\_ENABLED)

#error Bluetooth is not enabled! Please run `make menuconfig` to and enable it

#endif

#if !defined(CONFIG\_BT\_SPP\_ENABLED)

#error Serial Bluetooth not available or not enabled. It is only available for the ESP32 chip.

#endif

BluetoothSerial SerialBT;

#define BT\_DISCOVER\_TIME  10000

static bool btScanSync = true;

void setup() {

  Serial.begin(115200);

  SerialBT.begin("ESP32test"); //Bluetooth device name

  Serial.println("The device started, now you can pair it with bluetooth!");

  if (btScanSync) {

    Serial.println("Starting discover...");

    BTScanResults \*pResults = SerialBT.discover(BT\_DISCOVER\_TIME);

    if (pResults)

      pResults->dump(&Serial);

    else

      Serial.println("Error on BT Scan, no result!");

  }

}

void loop() {

  delay(100);

}

Output:

The device started, now you can pair it with bluetooth!

Starting discover...

>> Dump scan results: 3

- 1: Name: Redmi, Address: 20:34:fb:5e:7f:b0, cod: 0x5a020c, rssi: -88

- 2: Name: OPPO A5s, Address: 44:ae:ab:cd:69:22, cod: 0x5a020c, rssi: -46

- 3: Name: realme X7 Max, Address: d0:97:fe:39:27:b6, cod: 0x5a020c, rssi: -78

-- Dump finished --