



M5STACK

Stamp-C5

Company Name: M5Stack Technology Co.,Ltd

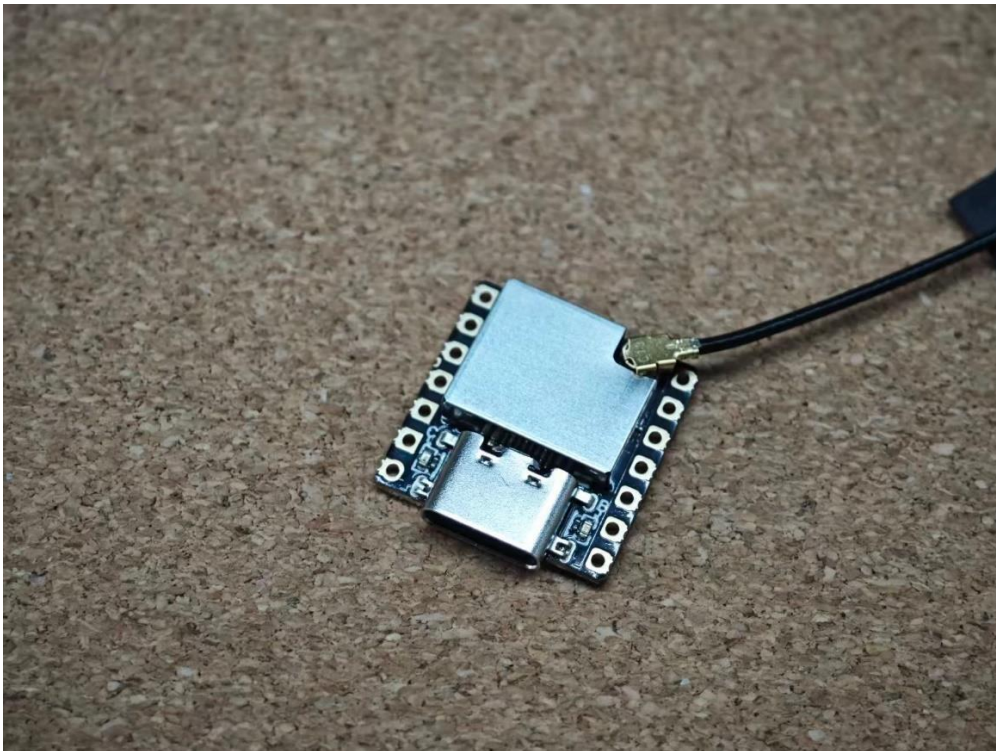
Address: Block A10, Expo Bay South Coast, Fuhai Street, Bao'an District, Shenzhen,Guangdong,China

1. Description

Stamp-C5 is a highly integrated wireless communication module built on Espressif's ESP32-C5HF4, specifically designed for IoT applications requiring efficient and stable communication. It supports multi-protocol connectivity, including 2.4 GHz and 5 GHz fully meeting the device access requirements in different network scenarios.

The module is equipped with a 32-bit single-core RISC-V processor operating at up to 240 MHz, integrating 4 MB of on-board flash memory, a 48 MHz crystal oscillator, and a wealth of hardware peripherals such as USB Type-C ports, battery power interfaces, FPC expansion connectors, and IPEX-1 antenna connectors. It adopts a standard 2.54mm pad spacing, enabling seamless connection with various peripherals and facilitating flexible functional expansion.

While providing reliable connectivity performance and strong security, this module can also help developers accelerate prototype verification and simplify the process of large-scale product deployment.



2. Specifications

Specification	Parameters
SoC	ESP32-C5HF4, RISC-V 32-bit single-core processor, up to 240 MHz
SRAM	384KB
Flash	4MB
Wi-Fi	2.4 & 5 G
BLE	BLE 5
USB Interface	USB Type-C
Battery Power Interface	DC 3.7 V
Antenna Interface	IPEX-1
Dual-band Duplexer	LFD182G45DCHD481 (shared antenna for 2.4 & 5 GHz)
Charging IC	SGM40567-4.2XG/TR
Status Indicators	2 × LED (RED: Charging; BLUE: G28 / BOOT)
GPIO Pins	Total 19 × GPIO (11 × GPIO via pads + 8 × GPIO via FPC)
Pad GPIO	G1, G2, G3, G4, G5, G6, G7, G8, G9, G10, G28
FPC GPIO	G23, G0, G24, G25, G26, G27, G11, G12
Pad Pitch	2.54 mm
Expansion Interface	0.5 mm 12-Pin FPC
Hardware version NO	V1.0
Software version NO	V1.0

3. Quick Start

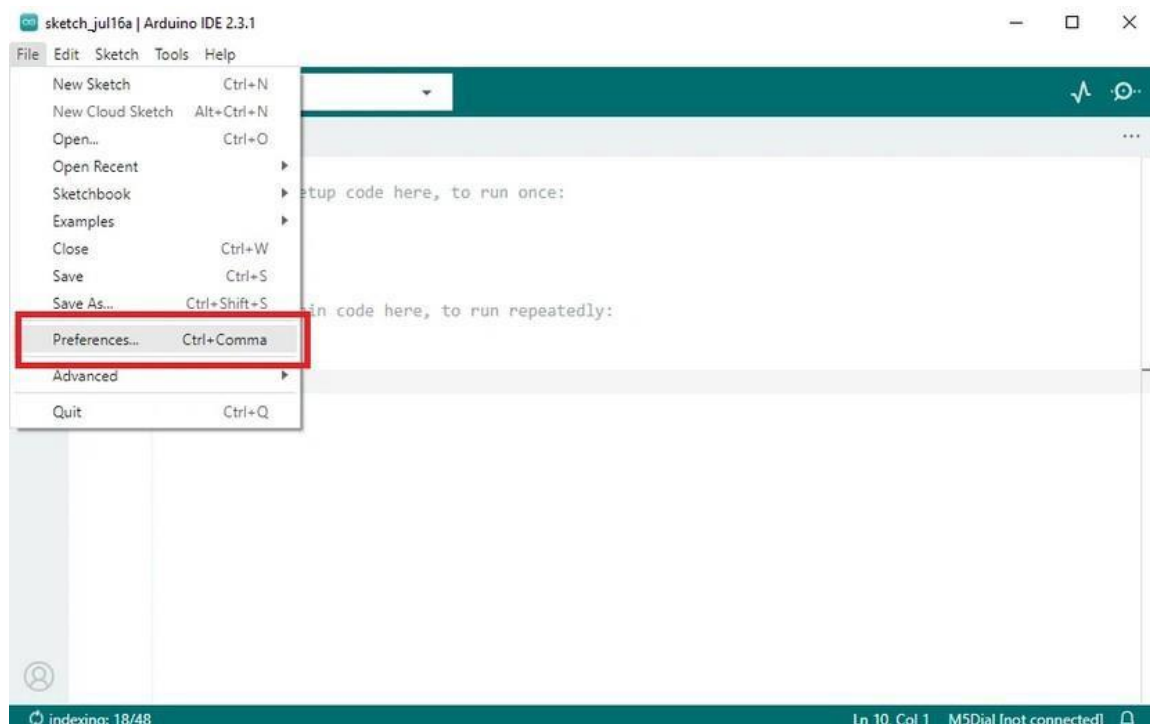
3.1 Preparation

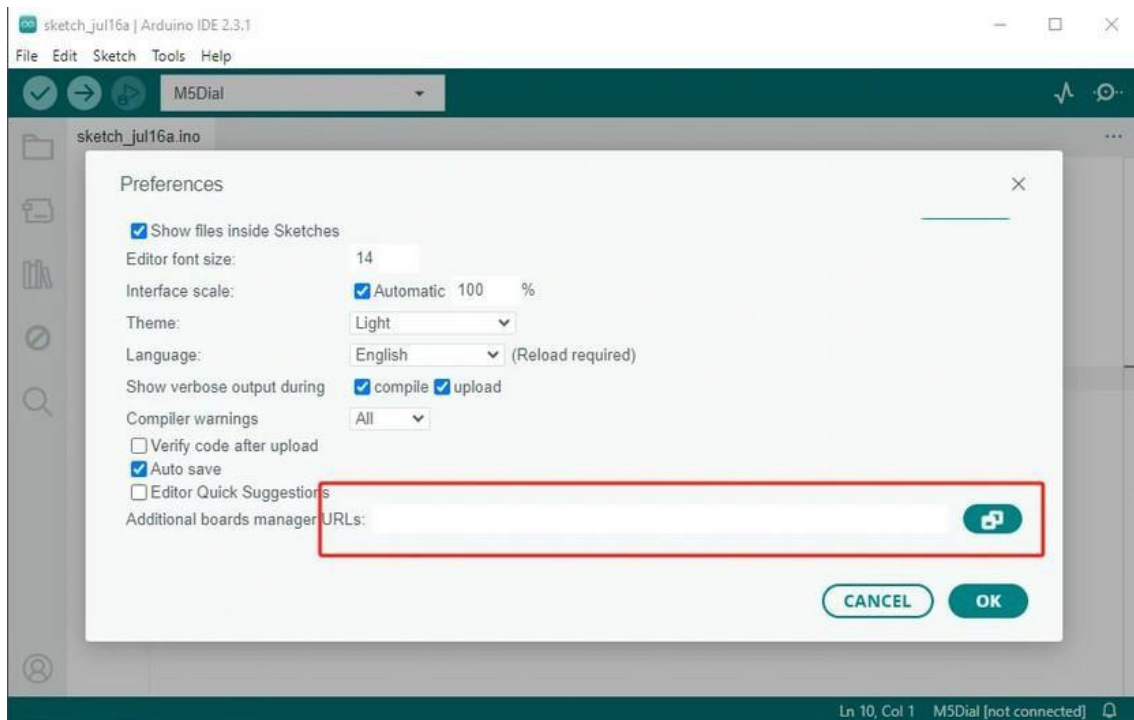
1. Visit the official Arduino website and install the Arduino IDE

<https://www.arduino.cc/en/Main/Software>

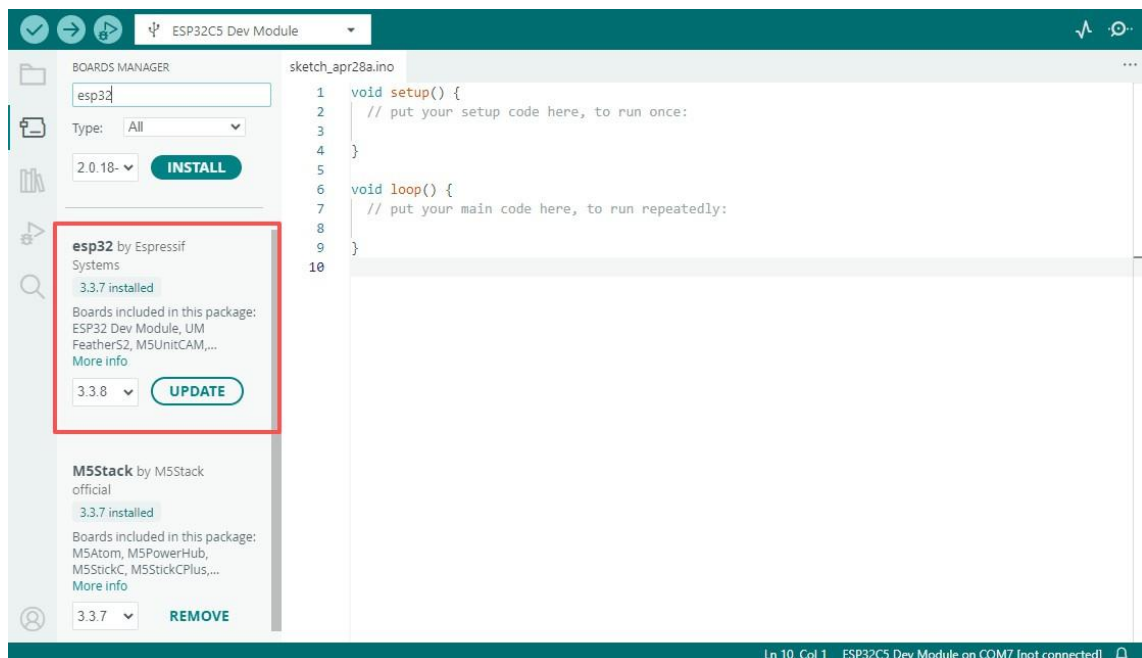
2. Add the following Board Manager URL to File → Preferences → Additional Boards Manager URLs:

https://espressif.github.io/arduino-esp32/package_esp32_dev_index.json



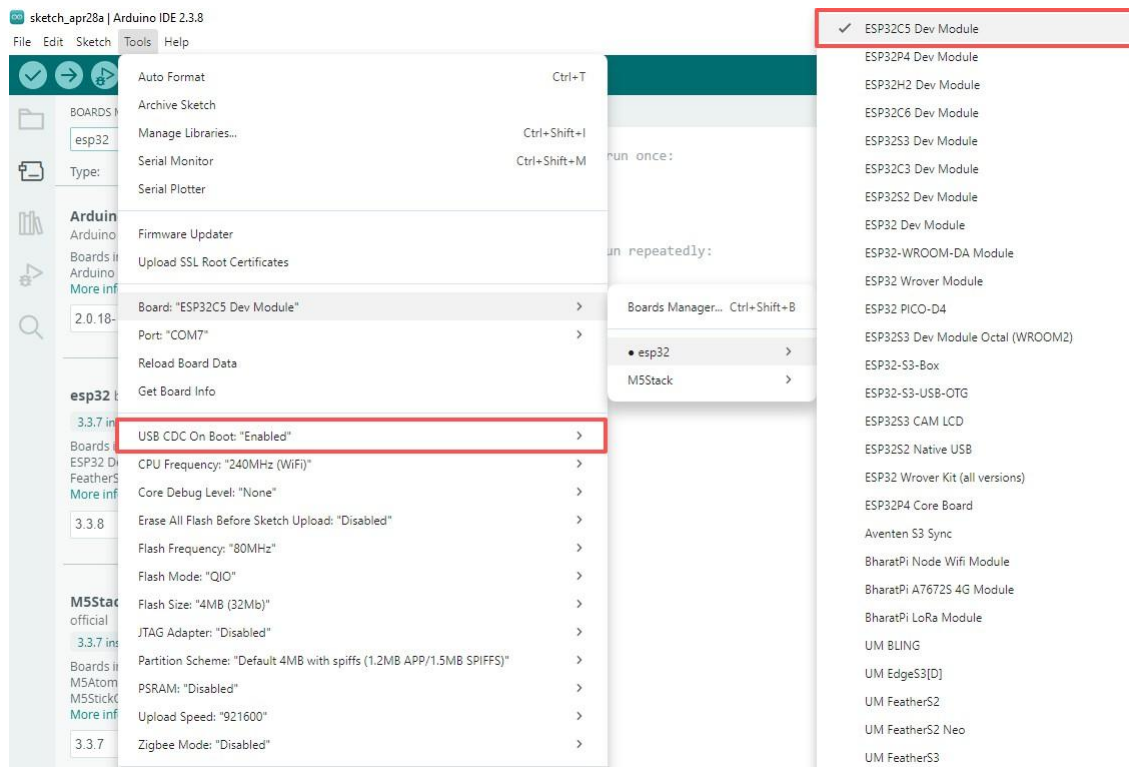


3. Open the Boards Manager, search for "ESP32", and click install.



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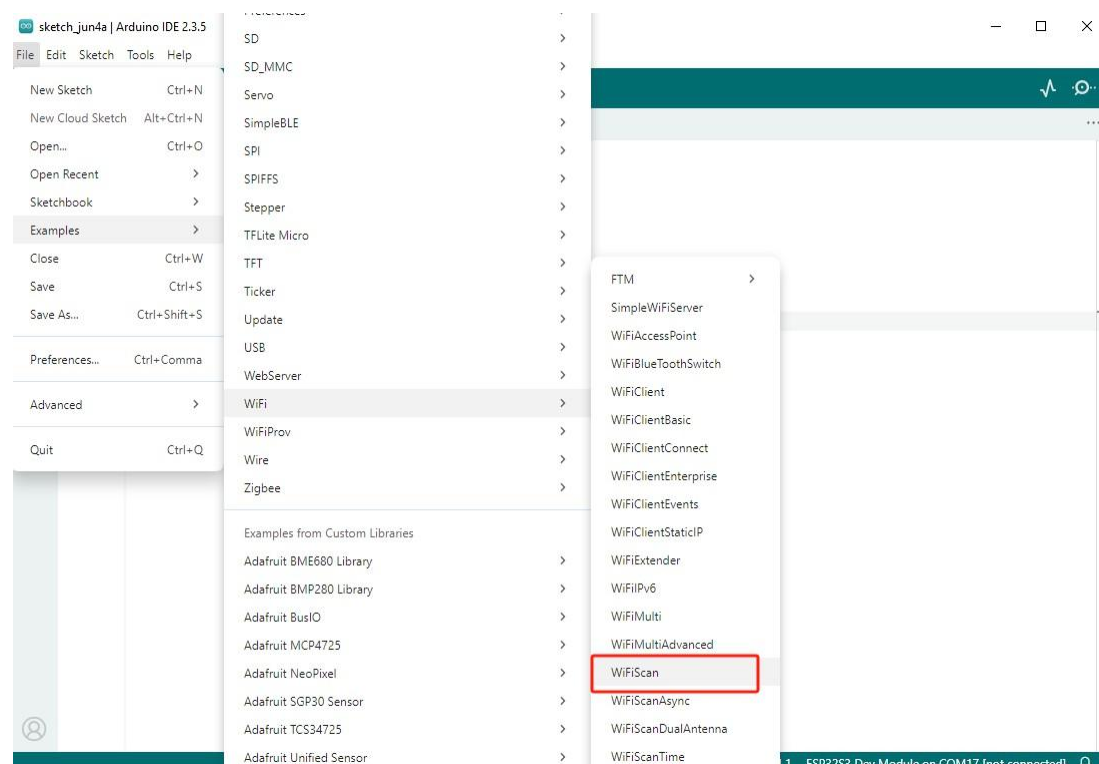
4. After installation, select the board "ESP32C5 Dev Module"
5. Configure the following options. USB CDC On Boot: "Enabled"

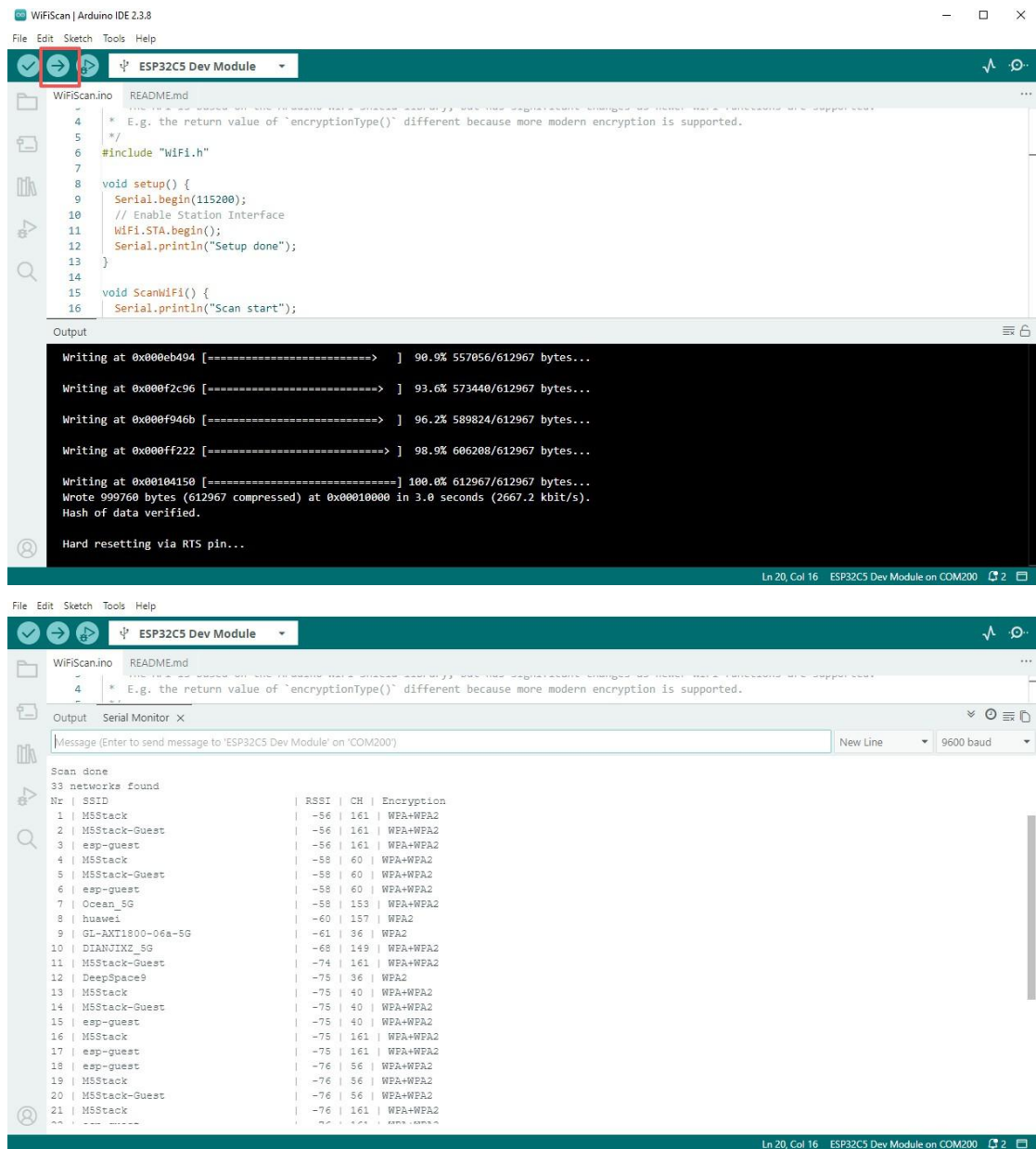


3.2 Wi-Fi Scan

Select the example program "Examples" → "WiFi" → "WiFiScan", choose the port corresponding to your device, and click the compile and upload button in the top-left corner.

After uploading is complete, open the Serial Monitor to view Wi-Fi scan information.





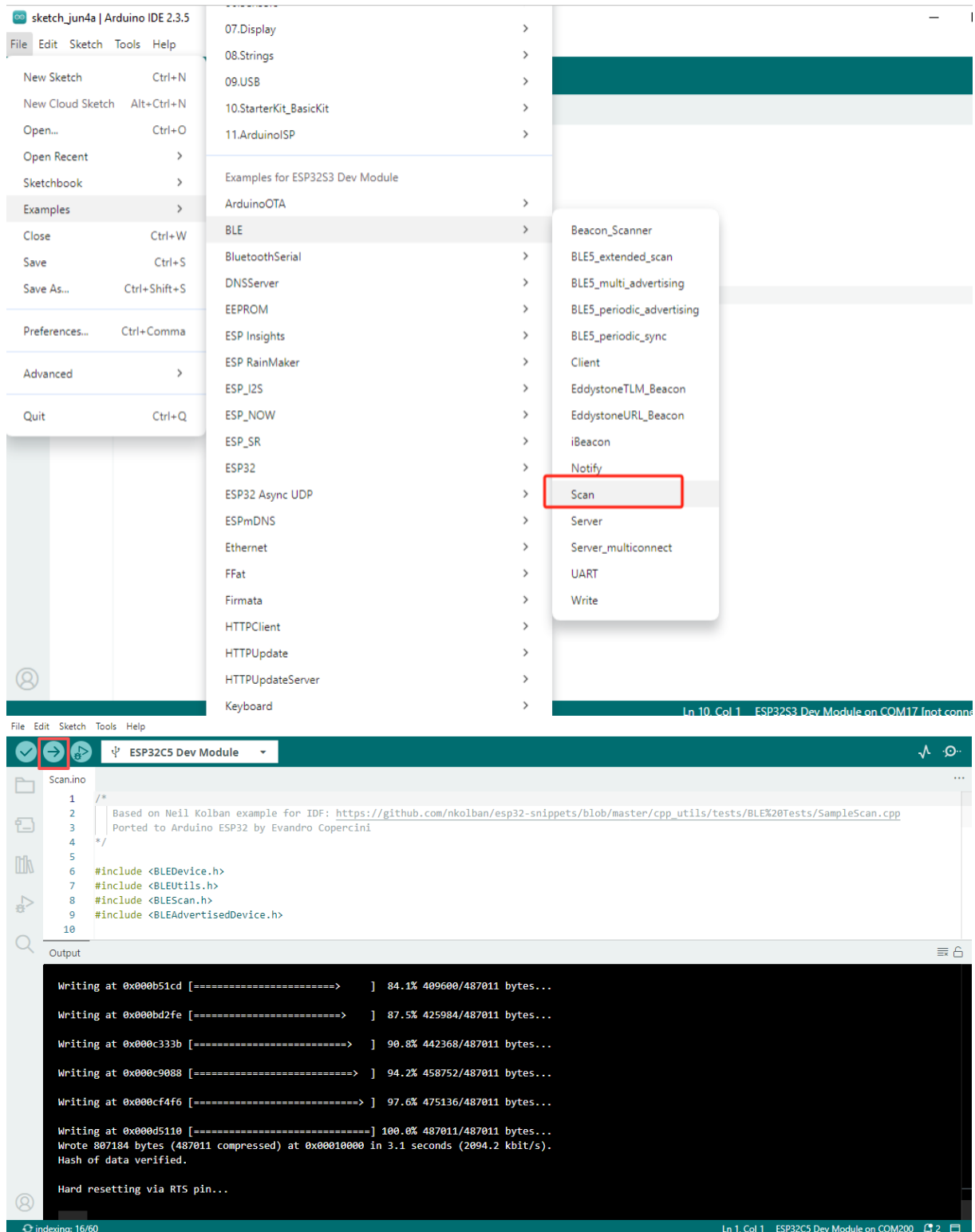
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3.3 BLE Scan

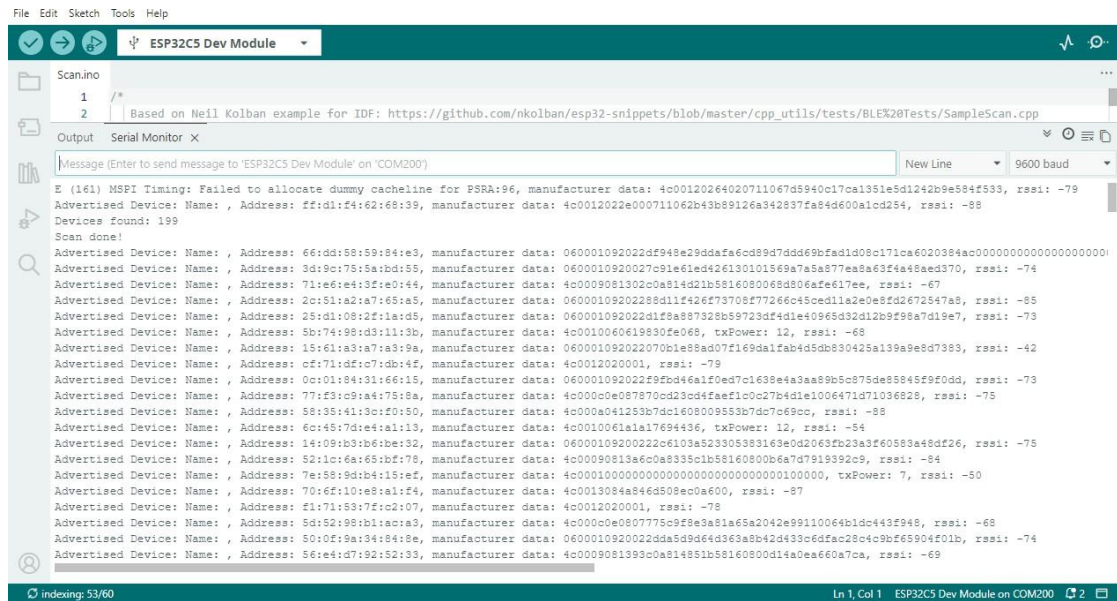
Select the example program "Examples" → "BLE" → "Scan", choose the port corresponding to your device, and click the compile and upload button in the top-left corner.

After uploading is complete, open the Serial Monitor to view BLE scan information.



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4. FCC Warning

FCC Caution:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

Integration instructions for host product manufacturers

2.1 General

This document refers to FCC 996369 D03 OEM Manual v01r01, and lists the requirements for module integrators.

2.2 List of applicable FCC rules

CFR 47 FCC PART 15.247 and FCC PART 15.407 has been investigated. It is applicable to the modular.

2.3 Specific operational use conditions

This module is stand-alone modular. If the end product will involve the Multiple simultaneously transmitting condition or different operational conditions for a stand-alone modular transmitter in a host, host manufacturer have to consult with module manufacturer for the installation method in end system.

2.4 Limited module procedures

Not applicable.

2.5 Trace antenna designs

Not applicable.

2.6 RF exposure considerations

To maintain compliance with FCC's RF Exposure guidelines, this equipment should be installed and operated with minimum distance of 20cm from your body.

2.7 Antennas

This radio transmitter FCC ID: 2AN3WM5STAMPC5 has been approved by Federal Communications Commission to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

For model Stamp-C5, the EUT using one antenna:

BLE

Frequency (MHz)	Antenna Gain (dBi)	Type
2402-2480	2.11	PCB

2.4G Wi-Fi&5G Wi-Fi

Frequency(MHz)	Antenna Gain(dBi)	Type
2412-2462	2.11	PCB
5150-5250	0.99	PCB
5250-5350	0.99	PCB
5470-5725	4.08	PCB
5725-5850	3.29	PCB

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For specific information, please refer to the Antenna spec report.

2.8 Label and compliance information

The final end product must be labeled in a visible area with the following "Contains FCC ID: 2AN3WM5STAMPC5"

2.9 Information on test modes and additional testing requirements

Host manufacturer is strongly recommended to confirm compliance with FCC requirements for the transmitter when the module is installed in the host.

2.10 Additional testing, Part 15 Subpart B disclaimer

Host manufacturer is responsible for compliance of the host system with module installed with all other applicable requirements for the system such as Part 15 B.