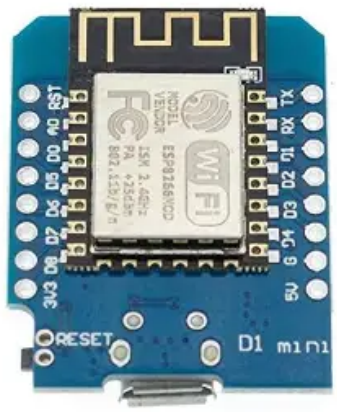
Wemos D1 Mini ESP8266

Compact Wi-Fi Development Board



The Wemos D1 Mini is a compact ESP8266-based development board with built-in Wi-Fi and a familiar Arduino-style layout. Its small size, wireless connectivity and easy programming make it ideal for IoT, smart home, automation and connected sensor projects.

TOP USES

- IoT Projects
- Smart Home
- Wi-Fi Sensors
- Automation

KEY FEATURES

- ESP8266 Wi-Fi
- 80 MHz CPU
- 11 Digital I/O
- Analog Input
- USB Programming
- Compact Design

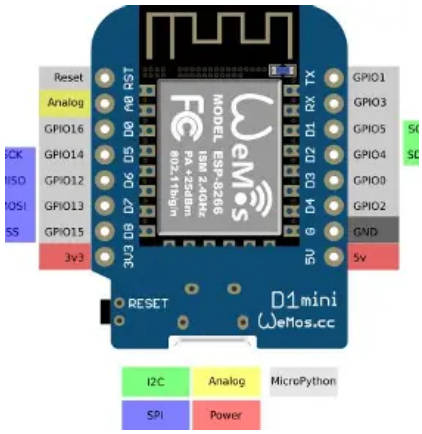
Technical Specifications

Wemos D1 Mini ESP8266

Parameter	Value
Microcontroller	ESP8266EX
Operating Voltage	3.3 V
CPU Frequency	80 MHz
Wi-Fi	802.11 b/g/n
Digital I/O	11
Analog Input	1
Flash Memory	4 MB
USB	Micro-USB

Pinout

Wemos D1 Mini ESP8266



PIN FUNCTIONS

Pin	Function	Notes
D0 - D8	Digital I/O	
D1 / D2	I2C SCL / SDA	
D5 / D6 / D7	SPI SCK / MISO / MOSI	
D3 / D4	GPIO / Boot Functions	
RX / TX	Serial Communication	
A0	Analog Input	
3V3	3.3 V Power	
5V	5 V Input	
G	Ground	

WIRING NOTES

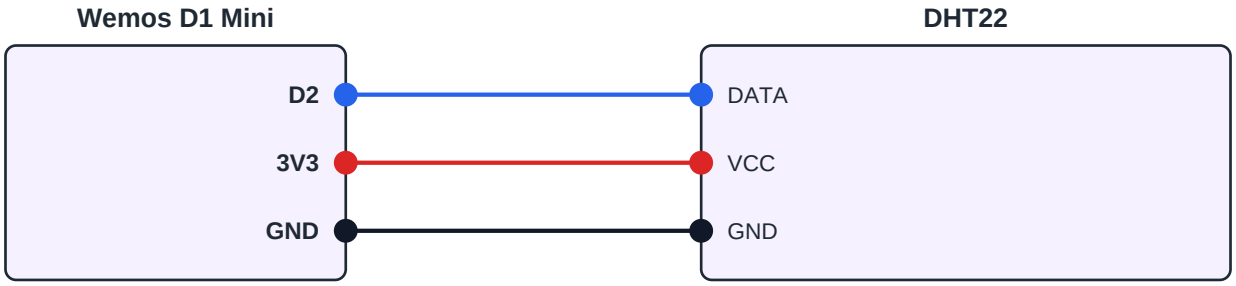
- GPIO logic is 3.3 V.
- Do not apply 5 V directly to GPIO pins.
- D1 and D2 are commonly used for I2C.
- The board can be programmed directly through its Micro-USB port.

Example Project

Wi-Fi Temperature Monitor

Read temperature and humidity from a DHT22 sensor and display the values through the Serial Monitor.

CIRCUIT



EXAMPLE CODE

```
#include <ESP8266WiFi.h>
#include <DHT.h>

#define DHTPIN D2
#define DHTTYPE DHT22

DHT dht(DHTPIN, DHTTYPE);

void setup() {
  Serial.begin(115200);
  dht.begin();
}

void loop() {
  float temperature = dht.readTemperature();
  float humidity = dht.readHumidity();

  if (!isnan(temperature) && !isnan(humidity)) {
    Serial.print("Temperature: ");
    Serial.print(temperature);
    Serial.print(" C | Humidity: ");
    Serial.print(humidity);
    Serial.println(" %");
  }

  delay(2000);
}
```

EXPECTED RESULT

- DHT22 measures temperature and humidity.
- Wemos D1 Mini reads the sensor data.
- Values appear on the Serial Monitor.

Useful Links

Wemos D1 Mini ESP8266

Resource	Link
ESP8266 Arduino Core	https://github.com/esp8266/Arduino
ESP8266 Documentation	https://arduino-esp8266.readthedocs.io/
Arduino IDE	https://www.arduino.cc/en/software

COMPATIBLE COMPONENTS

- DHT22
- HC-SR04
- OLED Display
- Relay Module
- PIR Motion Sensor

Need this component?

Buy Wemos D1 Mini ESP8266 >>

https://techzoneegypt.com/p/wemos-d1-mini-esp8266