ESP8266-DevKitC

Getting Started Guide

Version 1.0
Espressif Systems
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About This Guide

This user guide shows how to get started with ESP8266-DevKitC development board.

Release Notes

Date	Version	Release notes
2018.09	V1.0	Initial release.

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1. Overview

ESP8266-DevKitC is a small-sized ESP8266-based development board produced by Espressif. All of the I/O pins of the module are broken out to the female pin headers on both sides of the board for easy interfacing. Developers can connect these pins to peripherals as needed.

The board supports various ESP8266 modules, including ESP-WROOM-02D and ESP-WROOM-02U. For details about ordering codes, please see Table 1-1 below:

Table 1-1. Ordering Information

Ordering code	Module on board
ESP8266-DevKitC-02D-F	ESP-WROOM-02D
ESP8266-DevKitC-02U-F	ESP-WROOM-02U

2. Functional Description

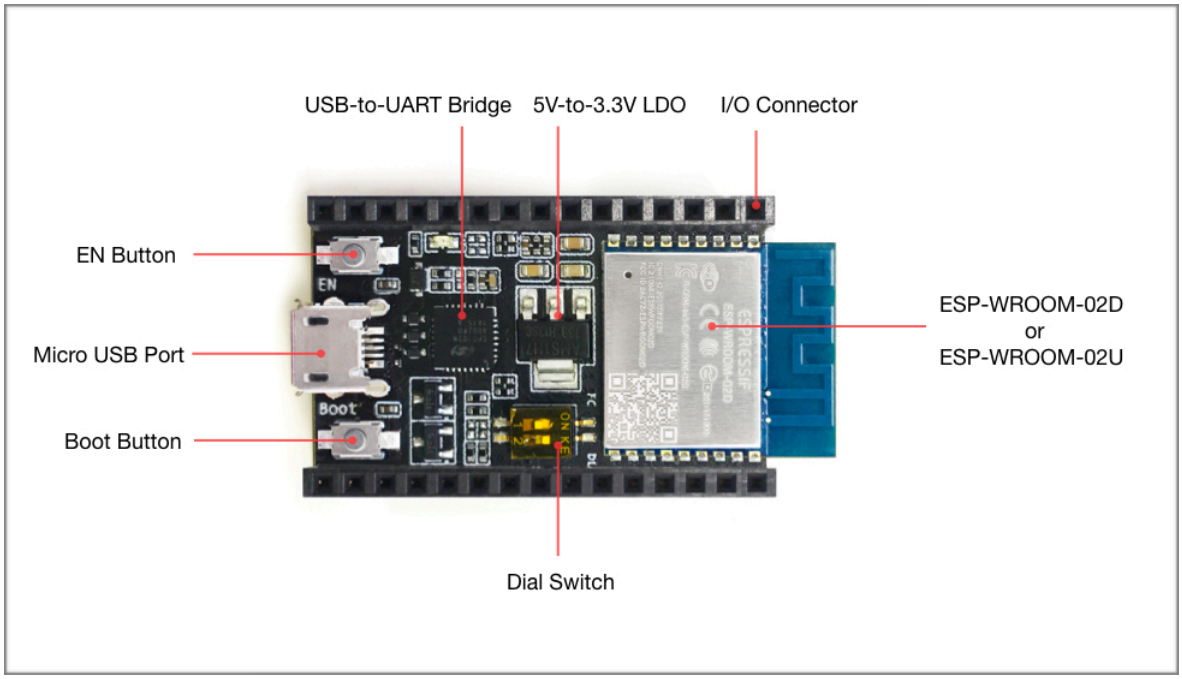

Figure 2-1. ESP8266-DevKitC

The following list describes key components, interfaces and controls of ESP8266-DevKitC development board:

- ***5V to 3.3V LDO***

  A LDO regulator with a maximum current output of 800 mA, which provides power supply for ESP8266 module and user's peripherals.

- ***Dial Switch***

  A dial switch used for switching between ***Auto Download*** and ***Flow Control***

  - Bit1=OFF, Bit2=ON (***Auto Download***)
  - Bit1=ON, Bit2=OFF (***Flow Control***)

> ⚠ ***Notice:***
>
> *Bit1 and Bit2 cannot be set to ON at the same time.*

- ***USBtoUART Bridge***

  A single chip USB-UART bridge provides up to 3 Mbps transfers rates.

- ***Boot Button***

  Download button. Holding down the Boot button and pressing the EN button initiates the firmware download mode. Then users can download firmware through the serial port.

- ***Micro USB Port***

  USB interface. It functions as the power supply for the board and the communication interface between PC and the board.

- ***EN Button***

  Reset button. Pressing this button resets the system.

- ***I/O Connector***

  All of the pins on the ESP8266 module are broken out to the female pin headers on the board. Users can program ESP8266 to enable multiple functions. For details, please refer to *ESP8266EX Datasheet*.

3. Application Development

3.1. Hardware Preparation

- 1 x ESP8266-DevKitC development board
- 1 x USB A / micro USB cable
- 1 x PC loaded with Windows, Linux or Mac OS

3.2. Software Compiling

For step-by-step introductions, please refer to *ESP8266 Quick Start Guide*.

3.3. Firmware Downloading

For step-by-step introductions, please refer to *ESP8266 Quick Start Guide*.

4. Board Dimensions

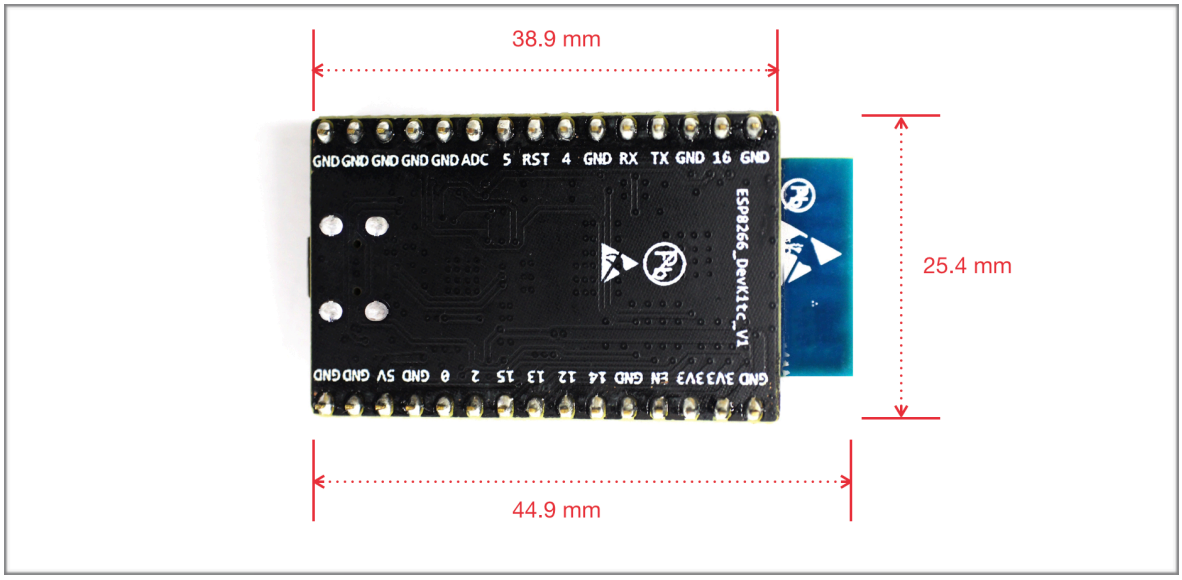

Figure 4-1. Board Dimensions

A. Appendix—Learning Resources

A.1. Must-Read Documents

- *ESP8266 Quick Start Guide*

  Description: This document is a quick user guide to getting started with ESP8266. It includes an introduction to the ESP-LAUNCHER, how to download firmware on to the board and run it, how to compile the AT application, structure and the debugging method of RTOS SDK. Basic documentation and other related resources for the ESP8266 are also provided.

- *ESP8266 SDK Getting Started Guide*

  Description: This document takes ESP-LAUNCHER and ESP-WROOM-02 as examples to introduce how to use ESP8266 SDK. The contents include preparations before compilation, SDK compilation and firmware download.

- *ESP-WROOM-02 PCB Design and Module Placement Guide*

  Description: The ESP-WROOM-02 module is designed to be soldered to a host PCB. This document compares six different placements of the antenna on a host board and provides notes on designing PCB.

- *ESP8266 Hardware Resources*

  Description: This zip package includes manufacturing specifications of the ESP8266 board and the modules, manufacturing BOM and schematics.

- *ESP8266 AT Command Examples*

  Description: This document introduces some specific examples of using Espressif AT commands, including single connection as a TCP Client, UDP transmission and transparent transmission, and multiple connection as a TCP server.

- *ESP8266 AT Instruction Set*

  Description: This document provides lists of AT commands based on ESP8266_NONOS_SDK, including user-defined AT commands, basic AT commands, Wi-Fi AT commands and TCP/IP-related AT commands. It also introduces the downloading of AT firmware into flash.

- *TCP/UDP UART Passthrough Test Demonstration*

  Description: This guide is intended to help users run a TCP & UDP passthrough test on the ESP8266 IoT platform.

- *FAQ*

A.2. Must-Have Resources

- *ESP8266 SDKs*

  Description: This website page provides links to the latest version of ESP8266 SDK and the older ones.
- *ESP8266 Tools*

  Description: This website page provides links to the ESP8266 flash download tools and ESP8266 performance evaluation tools.
- *ESP8266 App*
- *ESP8266 Certification and Test Guide*
- *ESP8266 BBS*
- *ESP8266 Resources*

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