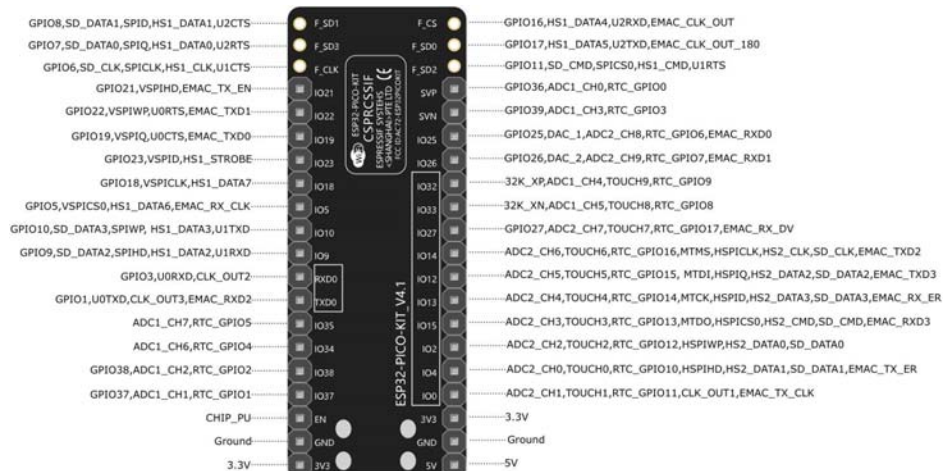


# ESP32-PICO-KIT Development Board

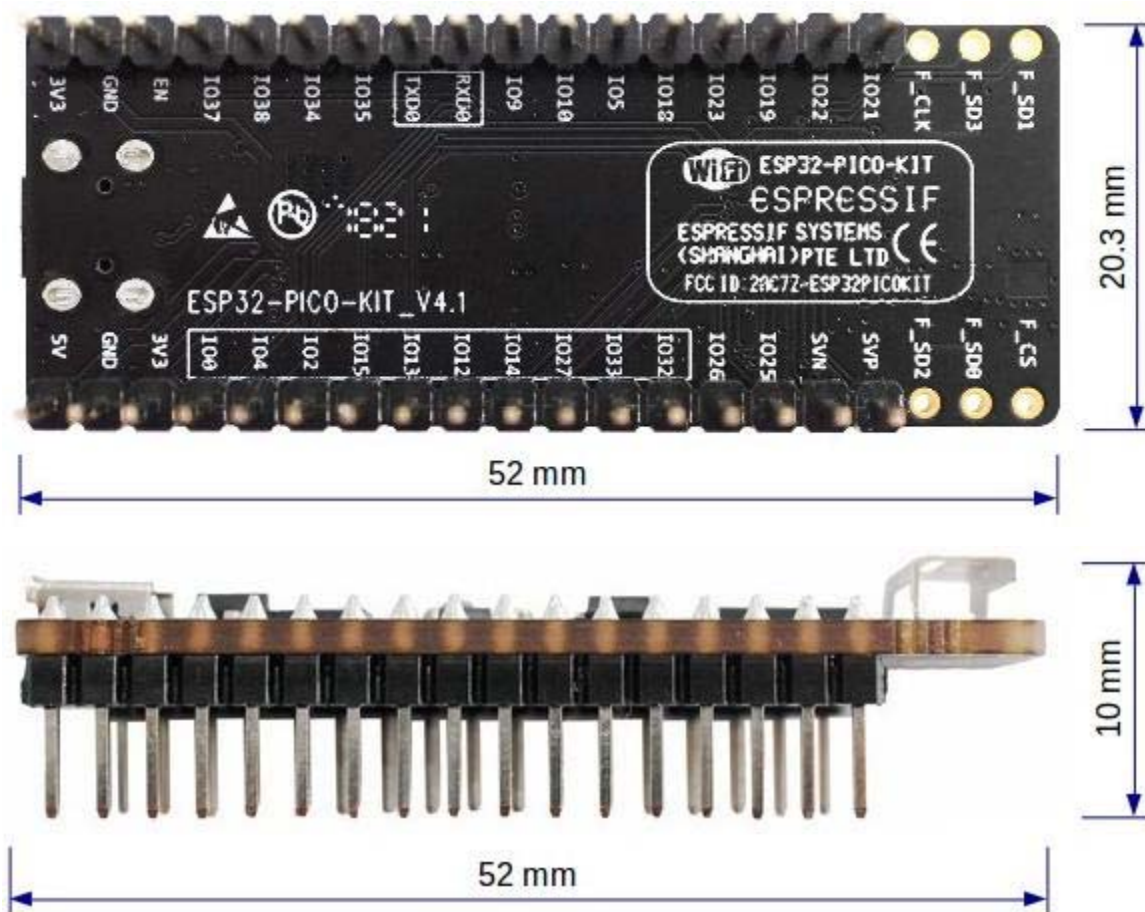
SKU:DFR0625

## INTRODUCTION

ESP32-PICO-KIT is a mini IoT development board with functionalities of WiFi and Bluetooth. With a size of 52x 20.3x10mm, the module integrates a 4 MB SPI flash, and a USB-UART Bridge circuit, allowing the developers to connect the board a PC's USB port for downloading and debugging. Featuring a compact body, robust performance and low power, this product is well suited for any space-limited or battery-operated applications, such as wearable electronics, medical equipment, sensors, and other IoT products.



At the core of this board is ESP32 chip, which is a single 2.4GHz WiFi and Bluetooth combo chip designed with TSMC's 40 nm ultra-low power technology. ESP32-PICO-D4 integrates all peripheral components seamlessly, including a crystal oscillator, flash, filter capacitors and RF matching links in one single package. Given that on other peripheral components are involved, module welding and testing is not required either. For easy interfacing, all the IO signals and system power ESP32-PICO-D4 are led out through two rows of 20×0.1" pitch header pads on both sides of the development board. To make the ESP32-PICO-KIT easier for Dupont wires, 2 ×3 header pads grouped on each side of the board besides the antenna are not populated and may be populated later by the user if required. As such, ESP32-PICO-D4 reduces the complexity of the supply chain and improves control efficiency.



## SPECIFICATION

### Wi-Fi

- Protocols: 802.11 b/g/n (802.11n up to 150 Mbps)  
A-MPDU and A-MSDU aggregation and 0.4  $\mu$ s guard interval support
- Frequency: 2.4 ~ 2.5 GHz

## Bluetooth

- Protocols: Bluetooth V4.2 BR/EDR and BLE specification
- Radio: NZIF receiver with  $-97$  dBm sensitivity  
Class-1, class-2 and class-3 transmitter  
AFH
- Audio: CVSD and SBC

## Hardware

- Module Interfaces: ADC, DAC, touch sensor, SD/SDIO/MMC Host Controller, SPI, SDIO/SPI Slave Controller, EMAC, motor PWM, LED PWM, UART, I2C, I2S, infrared remote controller, GPIO, pulse counter
- On-chip sensor: Hall sensor
- Integrated crystal: 40 MHz crystal
- Integrated SPI flash: 4 MB
- Operating voltage/Power supply: 2.7V~3.6V
- Average Operating current: 80 mA
- Minimum current delivered by power supply: 500 mA
- Operating temperature range:  $-40$  °C ~  $85$  °C
- Package size: 52 x 20.3 x 10 mm/2.05 x 0.80 x 0.39"

## SHIPPING LIST

- ESP32-PICO-KIT Development Board x1

