The espBerry Project
Extending ESP32 Functionality

The *espBerry* DevBoard combines the ESP32-DevKitC development board with any Raspberry Pi HAT by connecting to the onboard RPi-compatible 40-pin GPIO header.

The purpose of the *espBerry* should not be perceived as a Raspberry Pi alternative but as extending the ESP32's functionality by tapping into the vast offerings of RPi HATs in the market and taking advantage of the multiple and flexible hardware options.

The *espBerry* is the perfect solution for Internet of Things (IoT) applications, especially those requiring wireless capabilities. All open-source code samples take advantage of the popular Arduino IDE with its excellent programming capabilities.
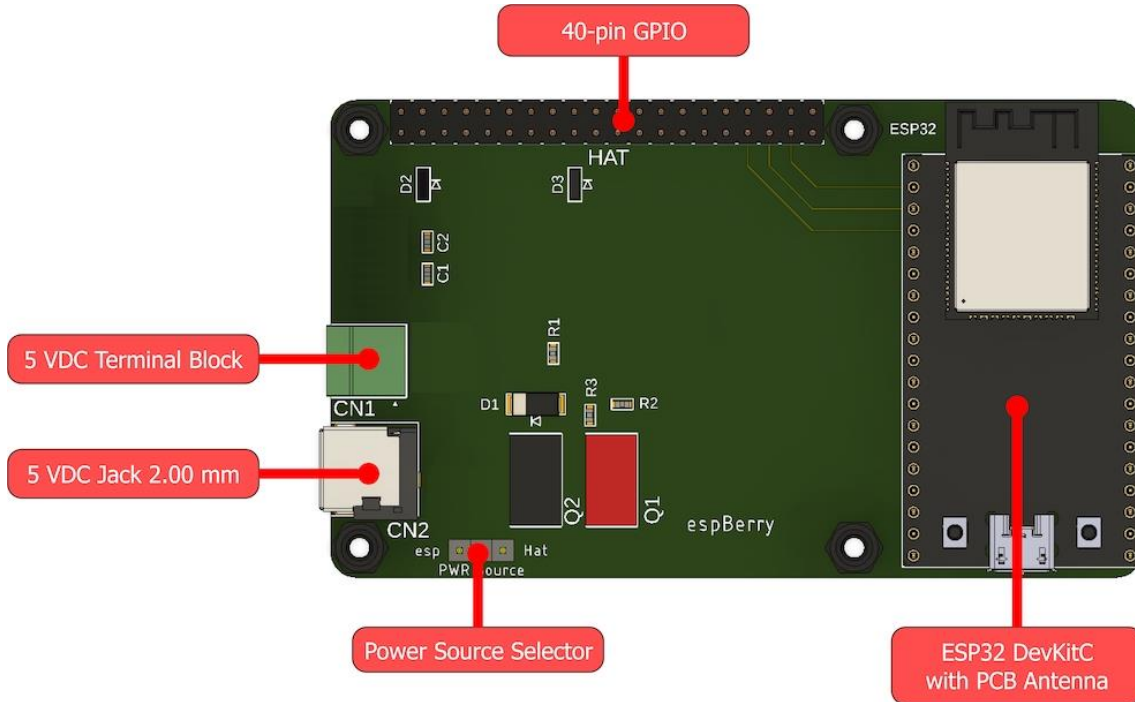
espBerry Features

- Processor: ESP32 DevKitC
  - 32-Bit Xtensa dual-core @240 MHz
  - WiFi IEEE 802.11 b/g/n 2.4 GHz
  - Bluetooth 4.2 BR/EDR and BLE
  - 520 kB SRAM (16 kB for cache)
  - 448 kB ROM
  - Programmable per USB A/micro–USB B cable
- Raspberry Pi Compatible 40-pin GPIO header
  - 20 GPIO
  - 2 x SPI
  - 1 x UART
- Input Power: 5 VDC
  - Reverse polarity protection
  - Overvoltage Protection
  - Power Barrel Connector Jack 2.00mm ID (0.079"), 5.50mm OD (0.217")
  - 12/24 VDC options available
- Operating Range: -40°C ~ 85°C
  Note: Most RPi HATs operate at 0°C ~ 50°C
- Dimensions: 95 mm x 56 mm – 3.75" x 2.2"
  Complies to Standard Raspberry Pi HAT Mechanical Specifications…

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espBerry Board Components

40-pin GPIO

ESP32

HAT

5 VDC Terminal Block

CN1

5 VDC Jack 2.00 mm

CN2

Power Source Selector

ESP32 DevKitC
with PCB Antenna

espBerry

espBerry Schematic (Preliminary)