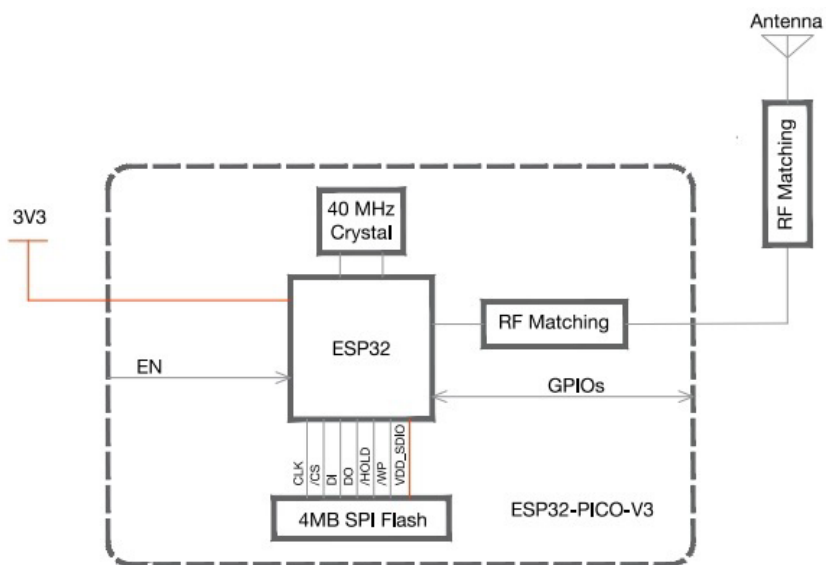


DACMCU

ESP32-V3 WIFI/BLE **RETRO**



ESP32-PICO-V3 Block Diagram

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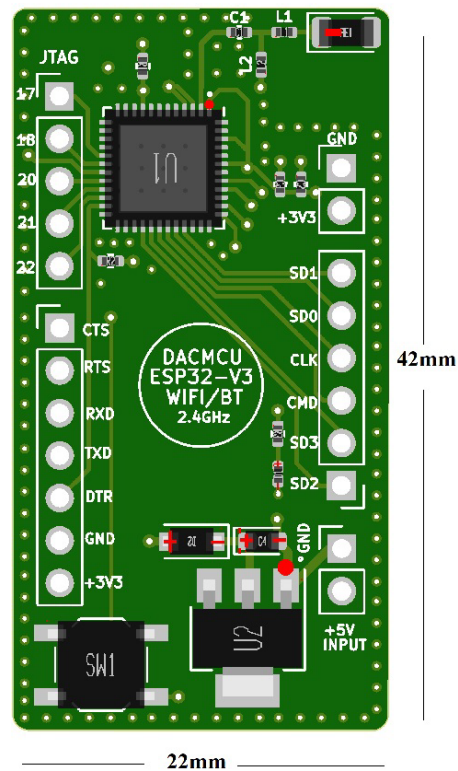
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INTRODUCTION:

DACMCU ESP32-V3 WIFI/BLE is a microcontroller based on Espressif Systems' System-in-a-Package(SIP) chip: ESP32-Pico-V3. Ultimately, this chip is designed to be a microcontroller with wireless control capabilities and a full computational system that includes two core processor, a ROM, a SRAM and a flash memory. With this full computational system in one small package, which includes WiFi and Bluetooth, this chip can prove to be very useful in our everyday life. While, DACMCU implemented this SIP into one of its microcontroller designs, engineers, makers and hobbyist will find this design and form factor to be significant when prototyping ideas.



SPECIFICATIONS:

- ESP32-Pico-V3: System-In-A-Package(SIP)
- Microcontroller
- Dual Core
- 32 Bit
- 240MHz Microprocessor
- 448KB ROM
- 520KB SRAM
- 4MB SPI Flash
- 40MHz Crystal Oscillator
- 2.4GHz Radio Frequency(Wifi/Bluetooth)
- Radiant Distance 95m
- Dimensions – 42mm x 22mm
- +3V3, +5V
- GPIO current 20 - 40mA
- SIP current 500 – 800mA
- 14 GPIO Pins
- Arduino IDE, Espressif IDF, MicroPython

The form-factor design for this board is significant from the dimensions to the pin access. The dimensions are significant to the design that enables a full radiant capacity for remote access through Wifi/BLE. Creating the ground plane layer with a surface area of 924mm gives the chip antenna a significant amount of metal surface to bounce radio signals for remote access. The pins are labeled specifically to access the main and significant partitions of the chip's System-in-a-Package. This design should prove to be very intuitive with lots of space on the board for prototype upgrades and add-ons of extra SRAM or flash memory.

Applications:

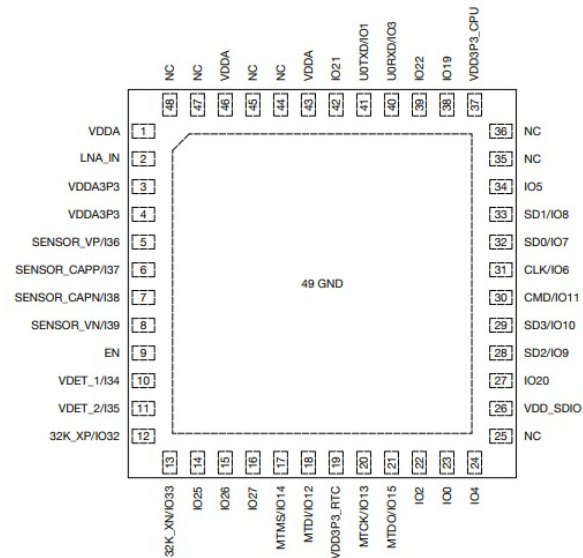
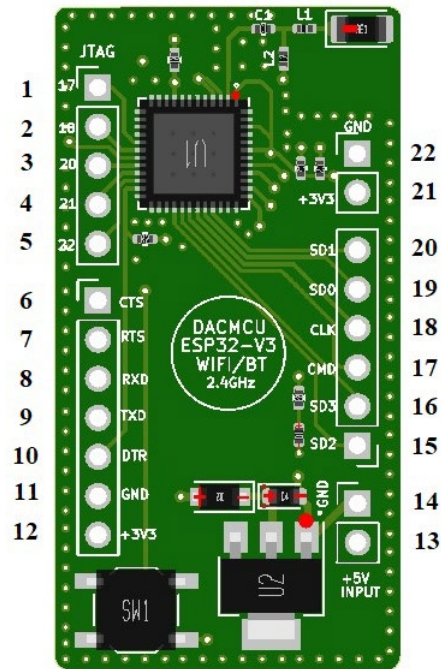
- Generic Low-power IoT Sensor Hub
- Cameras for Video Streaming
- Speech Recognition
- Mesh Network
- Smart Building
- Smart Agriculture
- Health Care Applications
- Wearable Electronics
- Generic Low-power IoT Data Loggers
- Over-the-top (OTT) Devices
- Image Recognition
- Home Automation
- Industrial Automation
- Audio Applications
- Wi-Fi-enabled Toys
- Retail & Catering Applications

DACMCU ESP32 V3 device can extend to Wifi and Bluetooth applications but are not limited to these IoT or Low power implementations. This microcontroller unit includes 14 GPIO pins for programmable automated use. The GPIO pins can be access through a number of integrated development environment software: Espressif Systems' ESP32 IDF, Arduino IDE or MicroPython platform. This board was designed and engineered for creative, educational and prototyping purposes and can be implemented in real world applications.

DACMCU-ESP32-V3 PINOUT:

The pin-out access to the chip is based on the ESP32-Pico-V3 and will coincide:

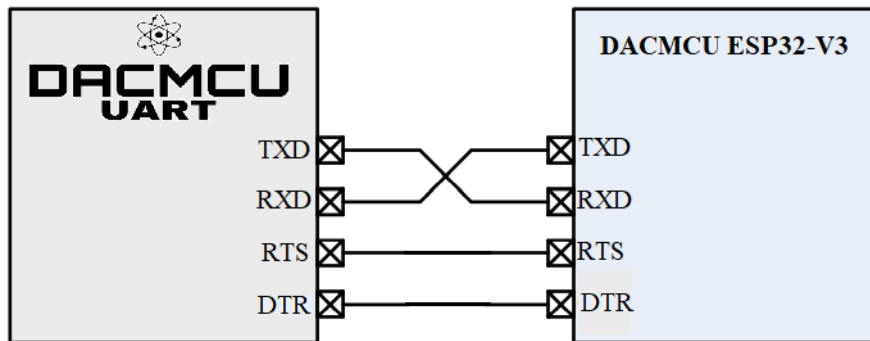
Pins: 1 – 4 JTAG **Pins: 7 – 12 UART** **Pins: 13, 14 Battery** **Pins: 15 – 20 Memory**



Note: The ESP32-PICO-V3 GPIO pin reference.

PIN REFERENCE:

PINS	GPIO	PERIPHERALS
1	14	JTAG
2	12	
3	13	
4	15	
5	2	GPIO
6	19	
7	-	UART
8	3	
9	1	
10	0	
11	GND	INPUT/OUTPUT
12	+3V3	
13	+5V	INPUT
14	GND	
15	9	MEMORY
16	10	
17	11	
18	6	
19	7	
20	8	
21	+3V3	INPUT/OUTPUT
22	GND	

PIN CONNECTION REFERENCE:

Hardware Flow Control Typical Connection Diagram

Note: This board is recognized as the ESP32-Pico-D4 board in the Arduino IDE

SPECIAL NOTES: The DACMCU ESP32 V3 WIFI-BLE requires a minimum of 500ma of current with a potential voltage of +3.3V for seamless functionality.