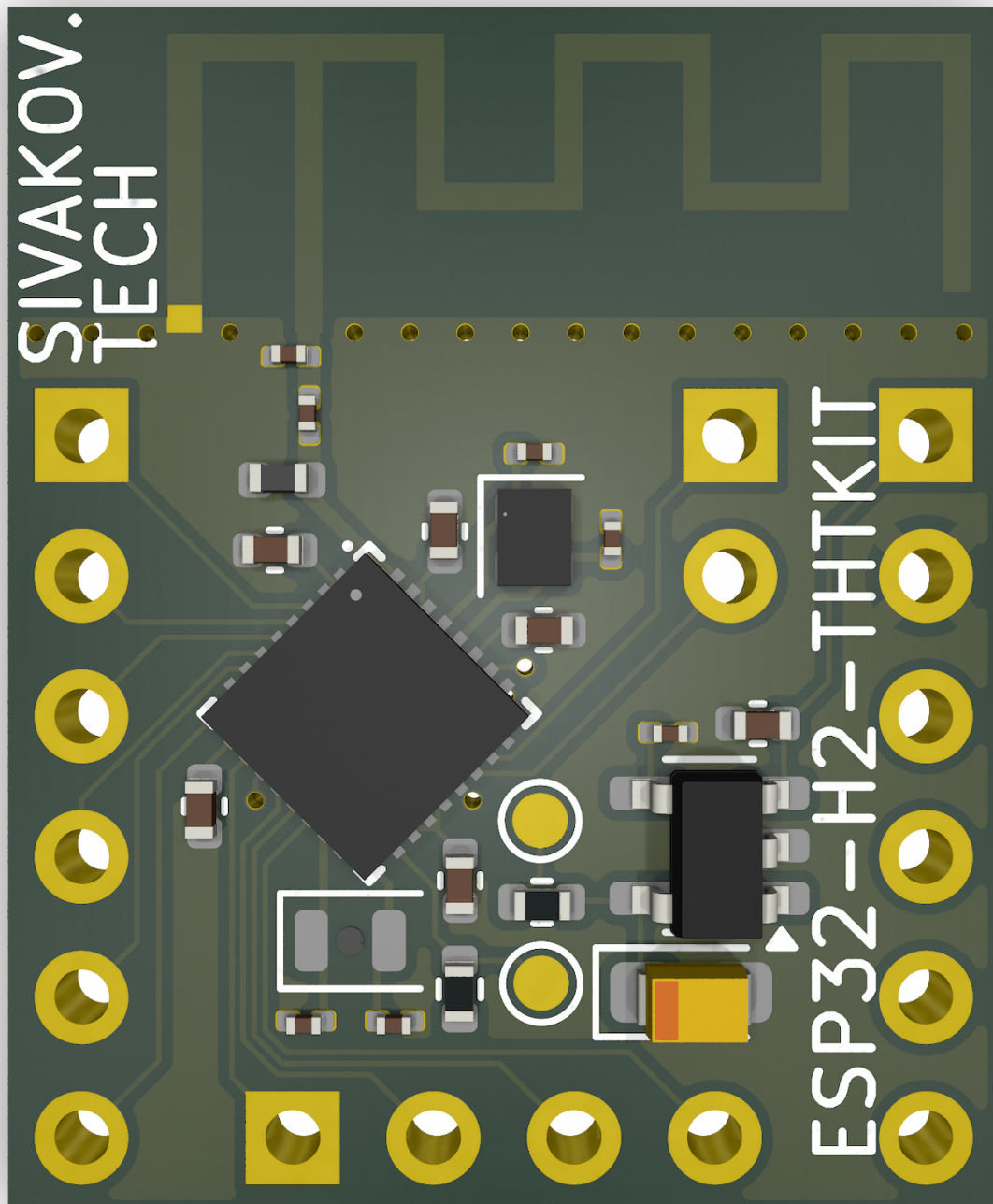# ESP32-H2-THTKIT

Ultra-Compact
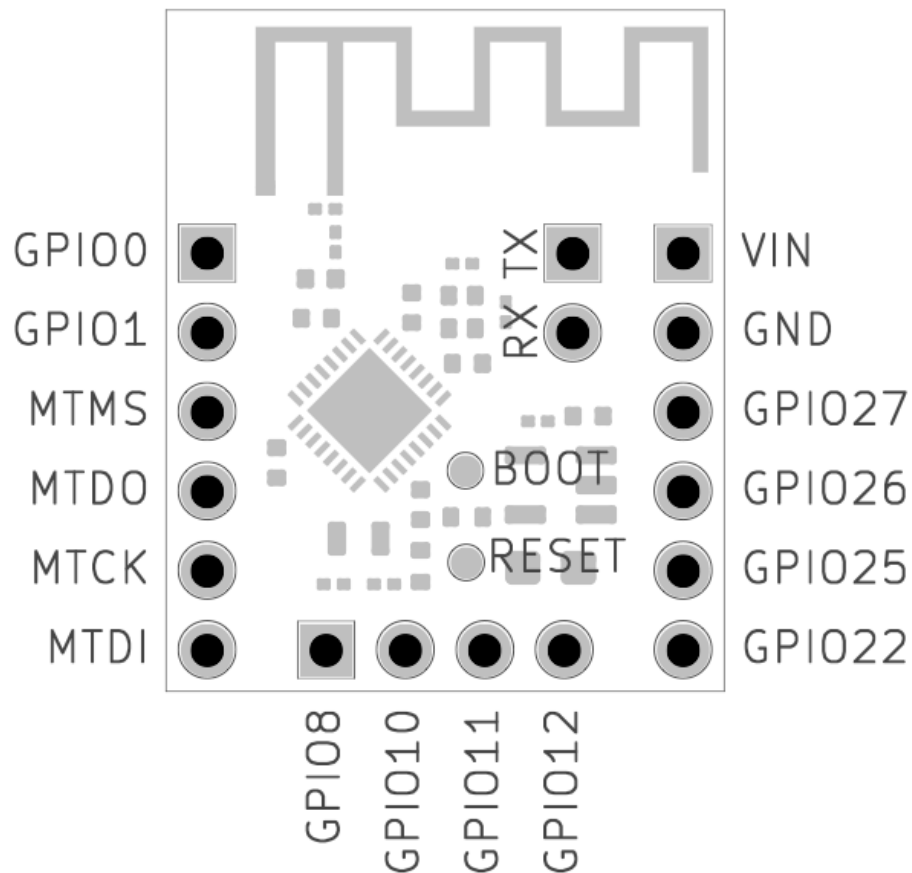## THT-Friendly DevKit

Revision: v1.0.1

Overview

ESP32-H2-THTKIT is an ultra-compact development board based on the ESP32-H2FH4 SoC. Designed for direct integration into through-hole (THT) projects, it contains only the essential components and remains breadboard-friendly. UART debug pins are routed to the top for easy access during development, regardless of installation density.

Pinout & Layout

- Left header (THT): GPIO0 to GPIO5 (also FSPI2-capable)

- Right header (THT): VIN, GND, GPIO27 to GPIO22

- Bottom header (THT): GPIO8, GPIO10, GPIO11, GPIO12 (can be used as JTAG)

- Top edge: UART TX/RX pins

- BOOT/RESET: pad-based activation (short to GND)

- Pin pitch: 2.54 mm standard

- Bottom header deliberately offset by 1.27 mm (half pitch) to prevent accidental shorts when inserted into a breadboard
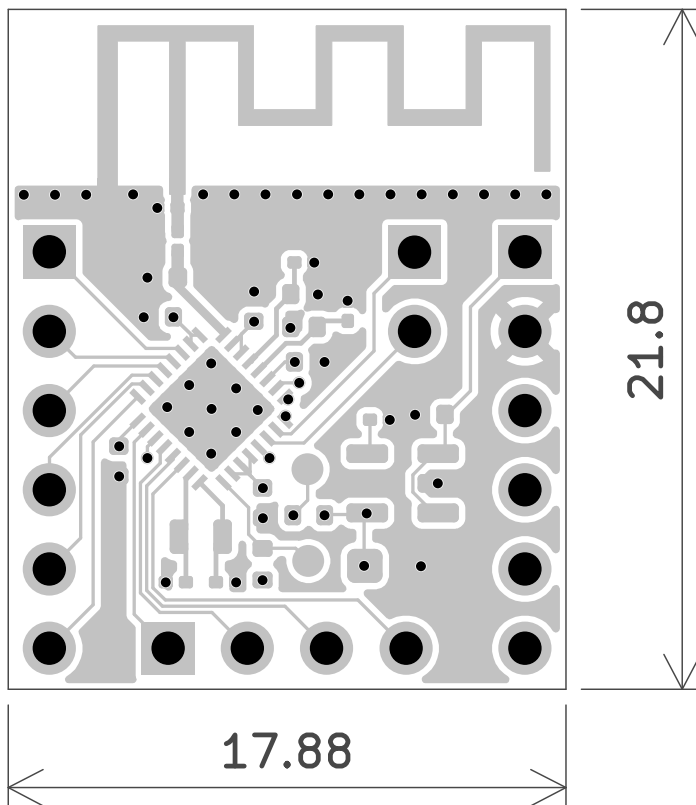
Programming & Debugging

- UART programming recommended via top pins

- JTAG support via GPIO8/10/11/12 (if remapped)

- No USB functionality

Electrical

- Input Voltage: 3.3V to 12V

- On-board LDO stabilizes to 3.3V

- No onboard USB

Mechanical

- Dimensions: 21.8 mm x 17.88 mm

- 3x THT headers: left, right, and optional bottom (user-soldered)

Reference

- ESP32-H2 Datasheet (Espressif)