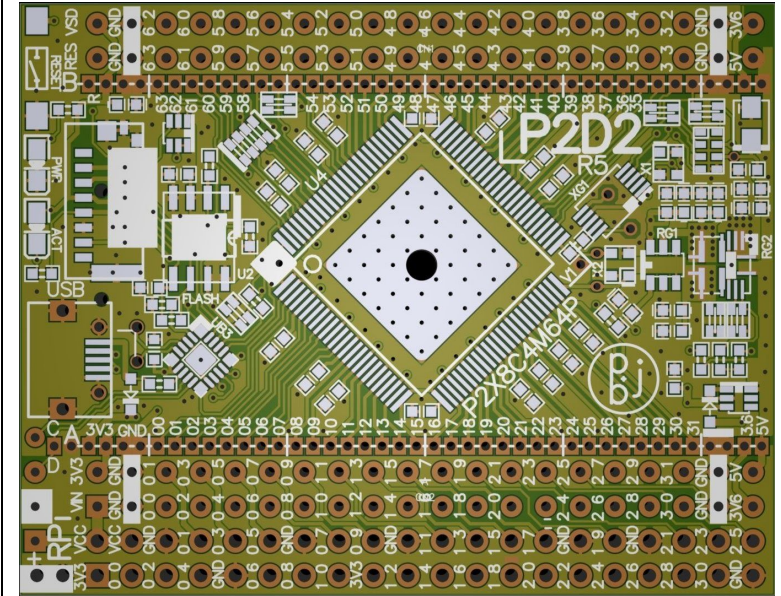


# P2D2 - P2 embedded module for the Parallax P2X8C4M64P 8-Core MCU

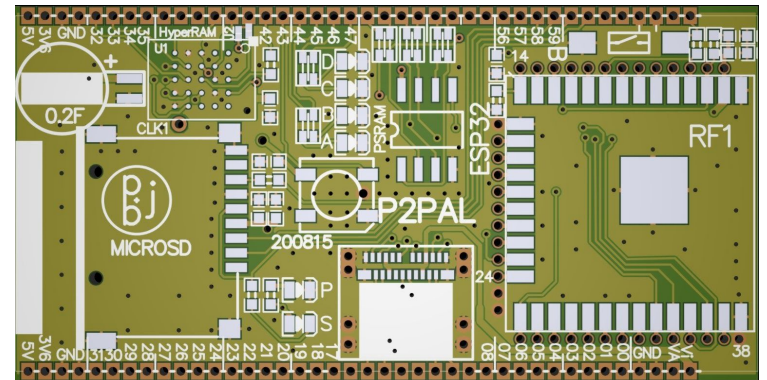
## P2D2-r5 Features (standard)

- Small sized 55mm x 42mm (2.2" x 1.7") or 55mm x 27mm in SMD configuration
- Single sided components - surface mountable
- All 64 I/O arranged onto dual 40-pin 20x2 0.1" headers or 40x1 50mil for half-hole SMD castellations.
- RPi compatible 40-pin header extension
- Sheltered microSD (faces inward and protected from damage)
- \* Optional flipside microSD socket (push eject)
- 16MB SPI Winbond Flash
- USB serial (8Mbd CP2102N compatible) and system supervisor MCU (firmware upgradable as USB HID)
- Smart serial detects serial program load mode and forces P2 serial boot.
- I2C Watchdog and supply and reset monitoring (including 1.8V)
- I2C RTC + backup supercap + UNIX time and other features
- Si5351A I2C Clock generator with two additional outputs
- 26MHz 0.5ppm GPS TXO delivers high-precision 20MHz P2 clock via clock gen.
- Dual 1.8V + 3.6V 2A SMPS plus dual 3.3V LDO (3.6V available for external devices)
- USB or external 3.6 to 5.5V supply.
- microSD soft power switch plus bidirectional external reset
- Power and status LED plus reset switch



## P2PAL Features

- Flip-side surface mounted companion to P2D2
- ESP32-WROOM with console + second serial + HSPI to P2
- 16MB 8-bit HyperRAM
- 8MB QSPI PSRAM
- USB-C socket with 10 Smartpins (USB, HDMI, VGA etc)
- WS2812 RGB status LED + power and Flash status
- 4 general-purpose indicator LEDs
- Reset button
- Push eject microSD socket
- Additional RTC backup options



# P2D2 SCHEMATIC

