

Uno, Nano, Teensy, Feather, ESP32

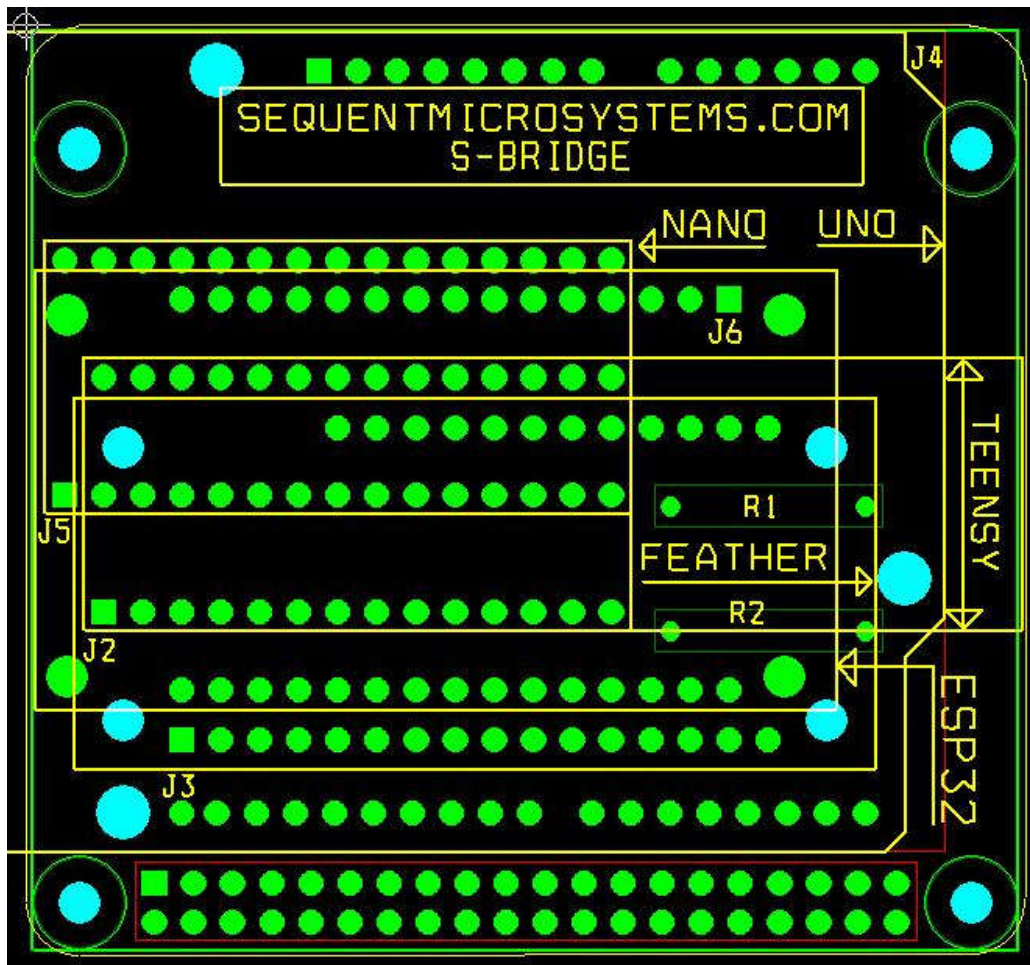
Raspberry Pi Replacement CARD

USER'S GUIDE VERSION 1.0

SequentMicrosystems.com

GENERAL DESCRIPTION.....	2
FEATURES.....	2
WHAT IS IN YOUR KIT.....	3
ASSEMBLY INSTRUCTIONS	5
ARDUINO UNO ASSEMBLY	6
ARDUINO NANO ASSEMBLY.....	7
FEATHER PROCESSOR ASSEMBLY.....	8
TEENSY PROCESSOR ASSEMBLY	9
ESP32 PROCESSOR ASSEMBLY	10
MECHANICAL SPECIFICATIONS	11

GENERAL DESCRIPTION



The Raspberry Pi Replacement card is an adaptor between any Raspberry Pi add-on card which used the I2C port for communication, and five of the most popular processor platforms in use today: UNO, NANO, TEENSY, FEATHER and ESP32.

The card has a 2x20 pin connector, similar to the GPIO connector of the Raspberry Pi family. It has also male or female sockets where you can install any of the five listed processors.

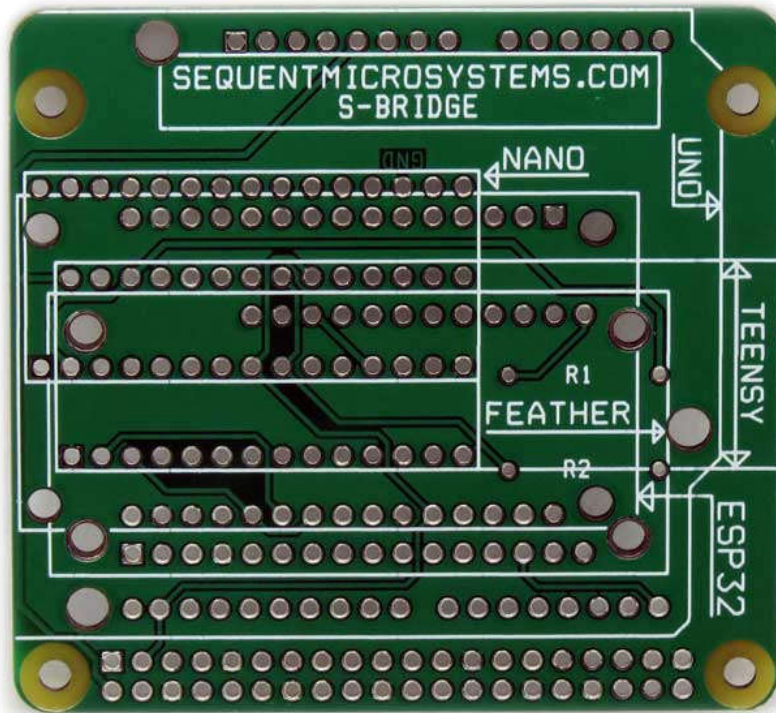
FEATURES

- Mechanical dimensions identical with Raspberry Pi HAT
- Replace Raspberry Pi with Arduino UNO or NANO, TEENSY, FEATHER or ESP32
- All required hardware included for any one of the five families
- Connector soldering required

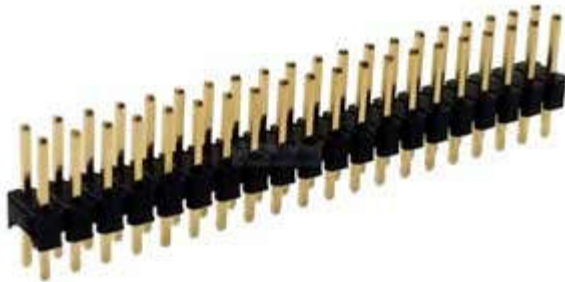
WHAT IS IN YOUR KIT

The Raspberry Pi Replacement shipping kit contains the following:

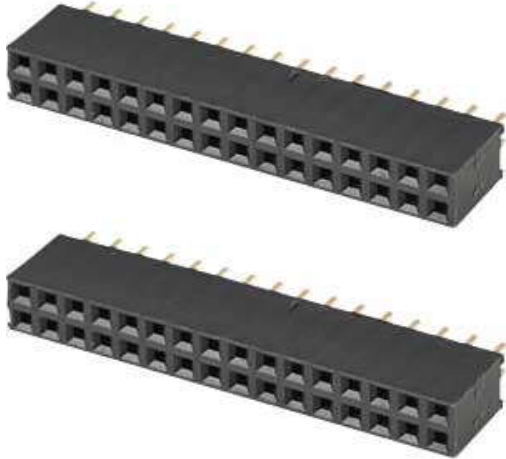
1. Raspberry Pi Replacement bare PCB.



2. 2X20 male header (similar with Raspberry Pi GPIO connector).



3. 2 x 16 pin female headers.



4. 1 x 40 pin male breakable header.



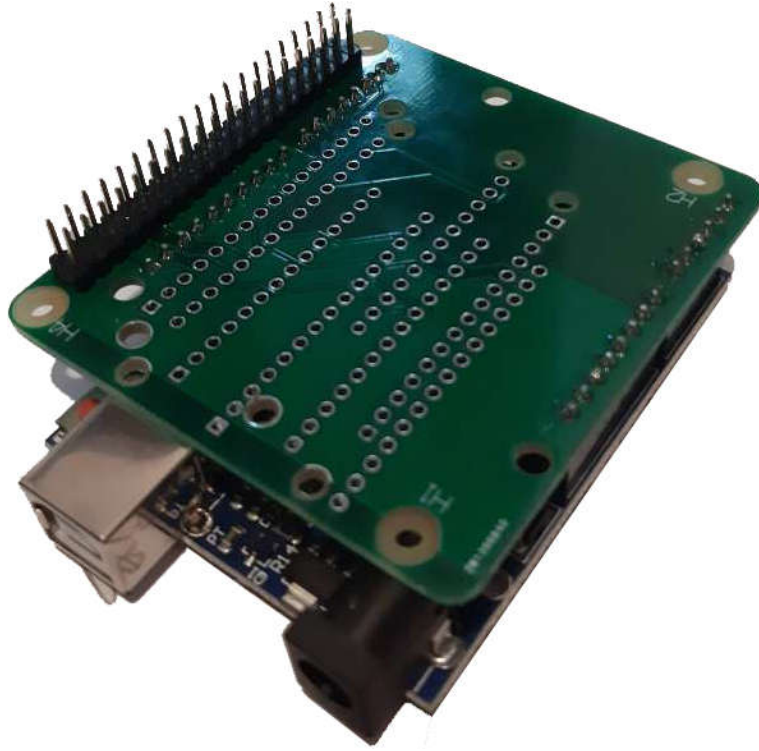
5. Two 2.2K TH resistors.



Since the Raspberry Pi Replacement can accommodate five different families of processors, it comes unassembled. You will need to solder the 2x20 pin connecting to any Raspberry Pi add-on card, two pull-up resistors on the I2C lines, and the connectors that fit your target processor.

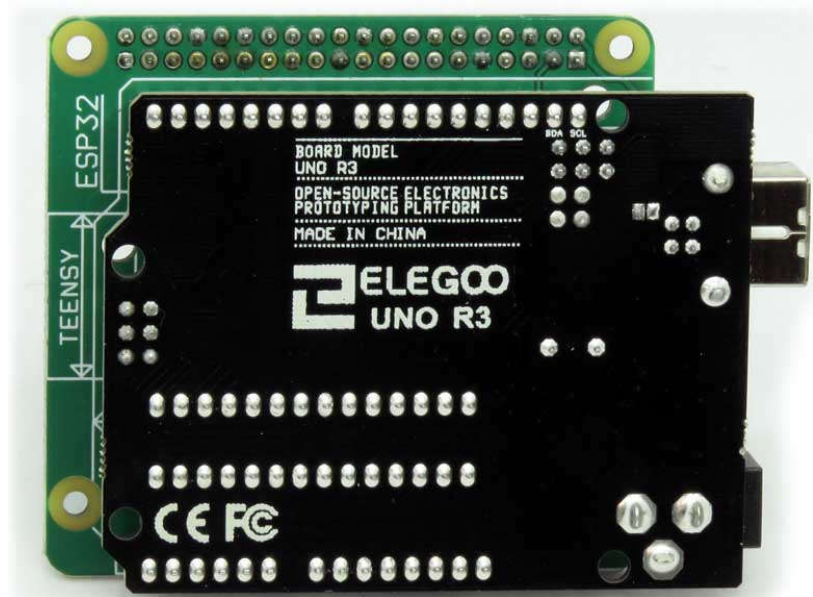
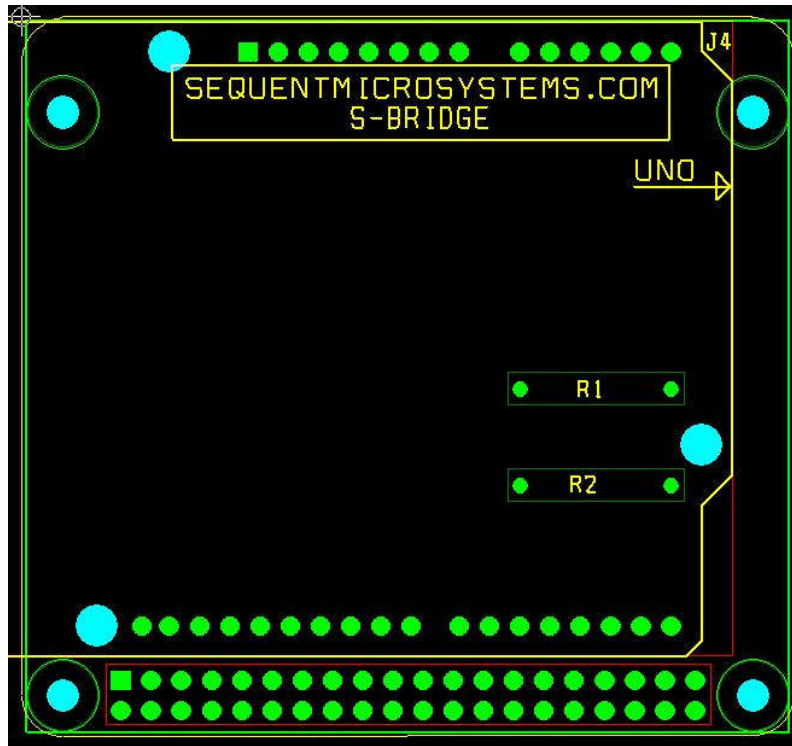
ASSEMBLY INSTRUCTIONS

In all configurations, the 2x20 pin connector is installed on top, and the processor adaptor connectors on bottom. The 2 pull-up resistors can be installed on either side. Shown bellow is an assembly of the Raspberry Pi Replacement and ARDUINO-UNO.



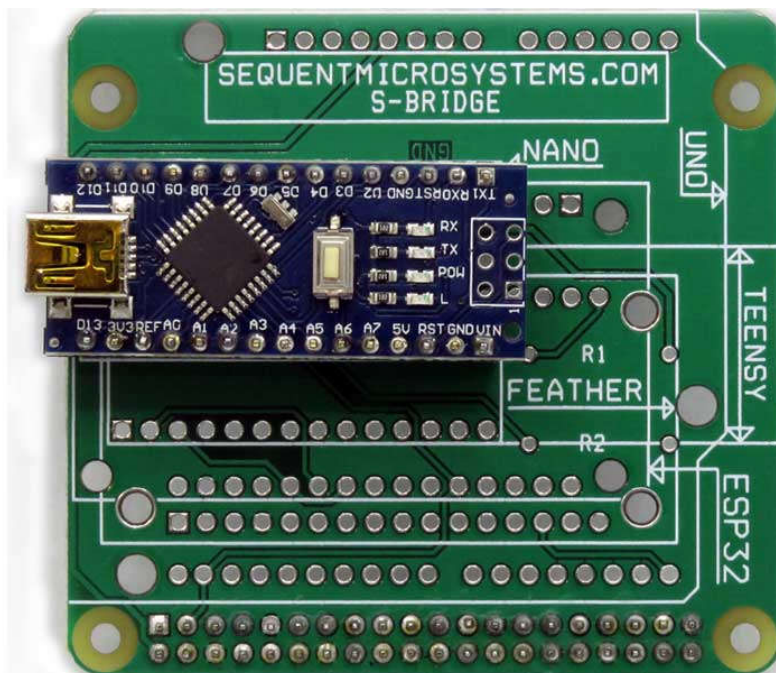
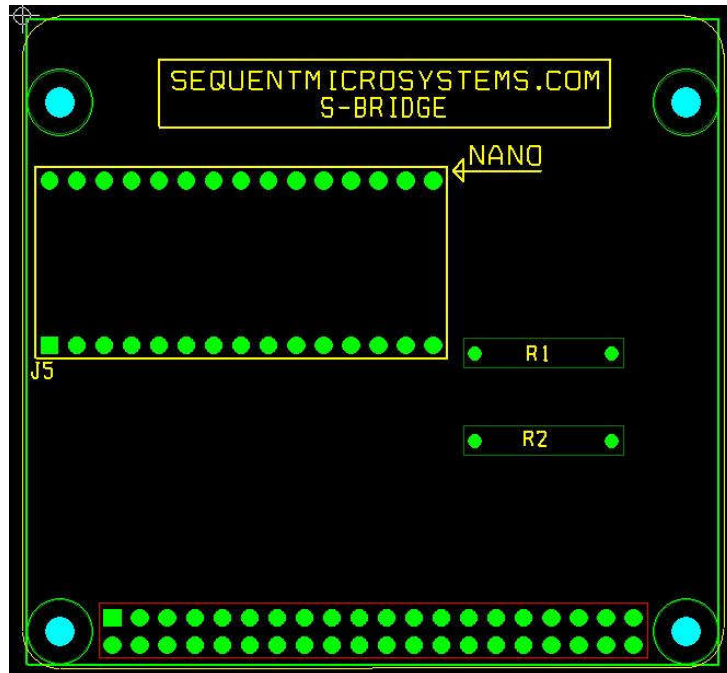
ARDUINO UNO ASSEMBLY

Solder the R1 and R2 resistors and the 2x20 pin connector. Break the 40 pin male header provided into 6, 2 x 8, and 10 pins. Solder the breakout pins on the footprint of connector J4 as shown. Plug the UNO into the J4 connectors and secure with standoffs (not provided), if necessary.



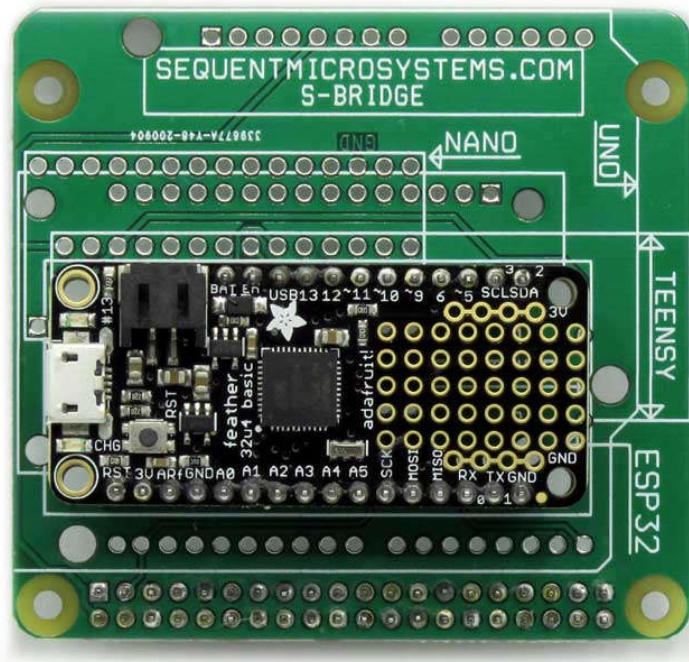
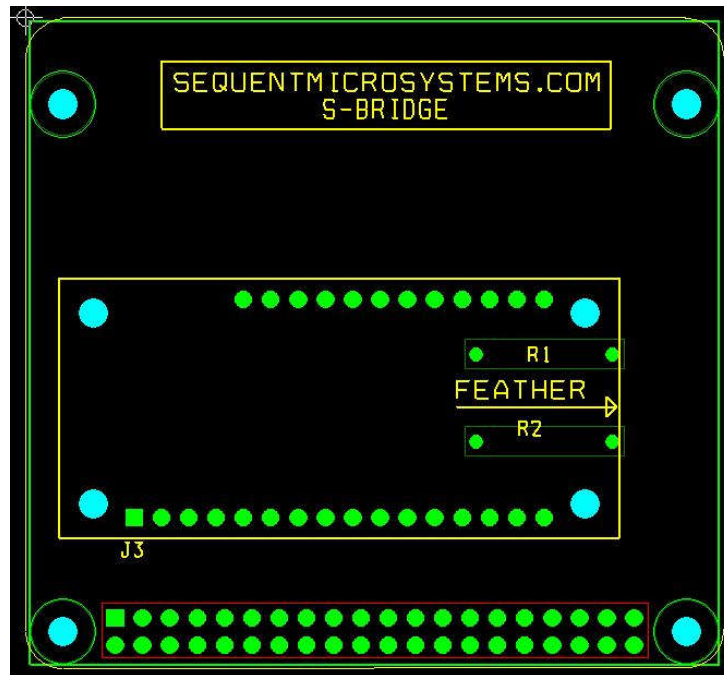
ARDUINO NANO ASSEMBLY

Solder the R1 and R2 resistors and the 2x20 pin connector. Cut or pull one end pin of the two 16 pin female headers provided. Solder the female headers on the footprint of connector J5 as shown bellow. Plug the NANO into the J5 connectors.



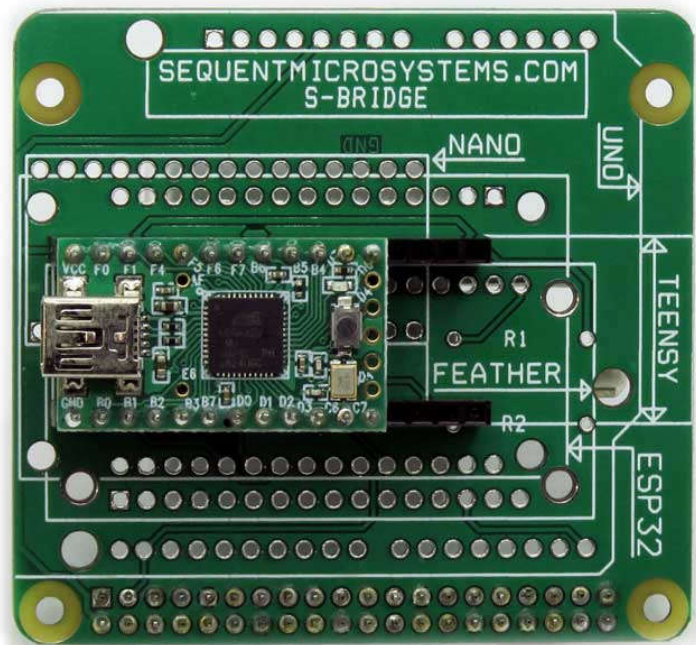
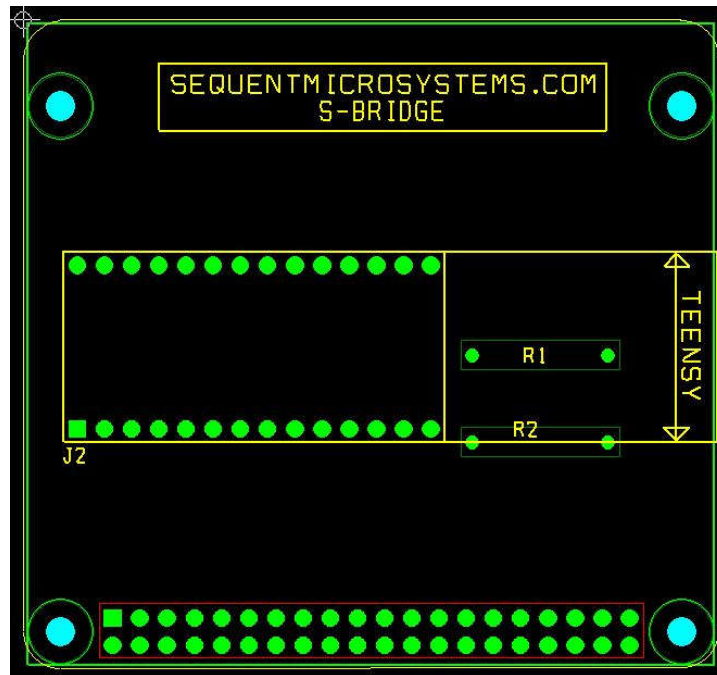
FEATHER PROCESSOR ASSEMBLY

Solder the R1 and R2 resistors and the 2x20 pin connector. If your FEATHER does not have the pins soldered, you can break a 12 pin and a 16 pin sections from the 40 pin male header provided and solder the FEATHER directly on the J3 connector. If the FEATHER has the pins soldered, break 4 pins from one of the 16 pin female headers provided, and solder the female headers into the J3 connector as shown. Plug the FEATHER into the J3 connector and secure with extra stand-offs (not provided) if necessary.



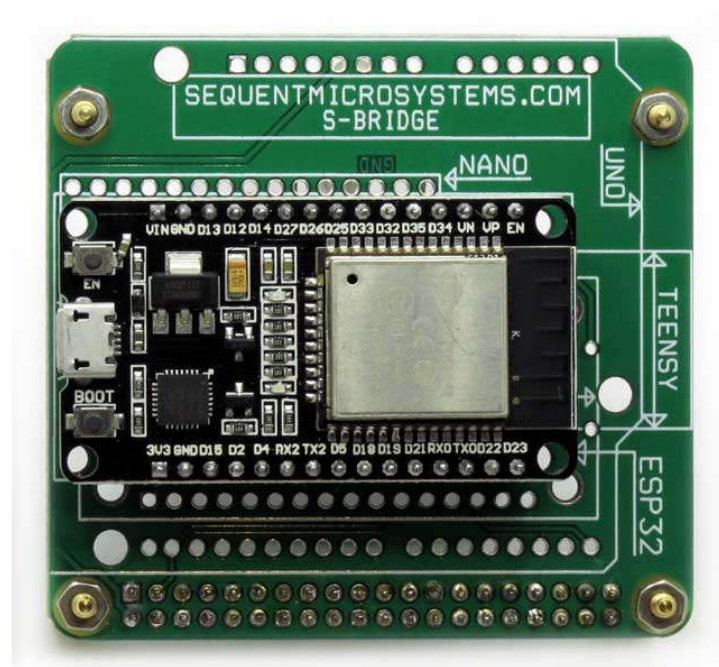
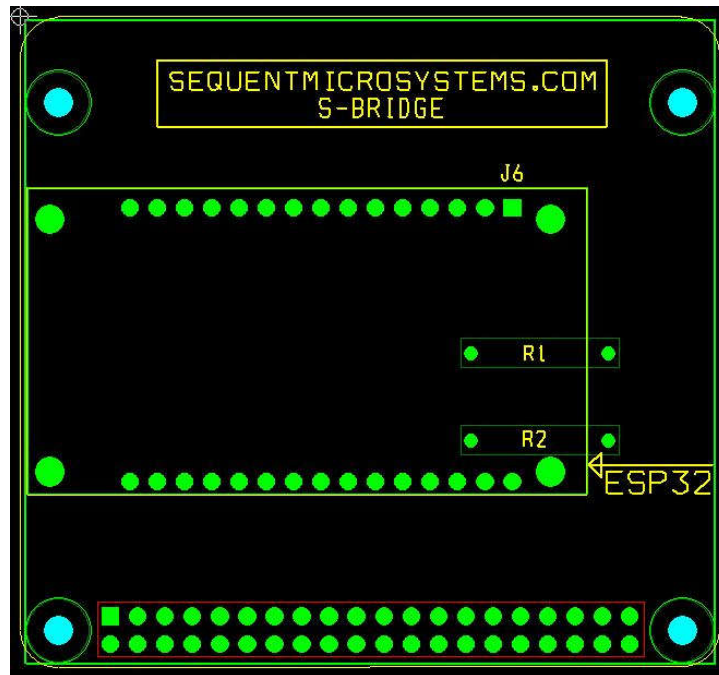
TEENSY PROCESSOR ASSEMBLY

Solder the R1 and R2 resistors and the 2x20 pin connector. If your TEENSY does not have the pins soldered, you can break two 14 pin sections from the 40 pin male header provided and solder the TEENSY directly on the J2 connector. If the TEENSY has the pins soldered, break 2 pins from each of the 16 pin female headers provided, and solder the female headers into the J2 connector as shown. Plug the TEENSY into J2 connector.



ESP32 PROCESSOR ASSEMBLY

Solder the R1 and R2 resistors and the 2x20 pin connector. If your ESP32 does not have the pins soldered, you can break two 15 pin sections from the 40 pin male header provided and solder the FEATHER directly on the J3 connector. If the FEATHER has the pins soldered, break 1 pin from each of the 16 pin female headers provided, and solder the female headers into the J6 connector as shown. Secure the ESP32 processor with stand-offs (not provided) if necessary.



MECHANICAL SPECIFICATIONS

