# FGPMMOPA6H GPS Breakout Board v1.1

Simple breakout board for the FGPMMOPA6H GPS module

- To use with a 5V FTDI cable, orient cable with RESET (green) at pin 1 on J1.
- To use with 5V controllers, connect VCC, 5V_RX, 5V_TX, and GND.
- To use with 3.3V controllers, connect VCC, 5V_RX, 3.3V_TX, and GND.

1PPS, RTCM, and the FIX are 3.3V-level signals and may not be interpreted correctly by a 5V system.

**Notes on 3.3V/5V compatibility**

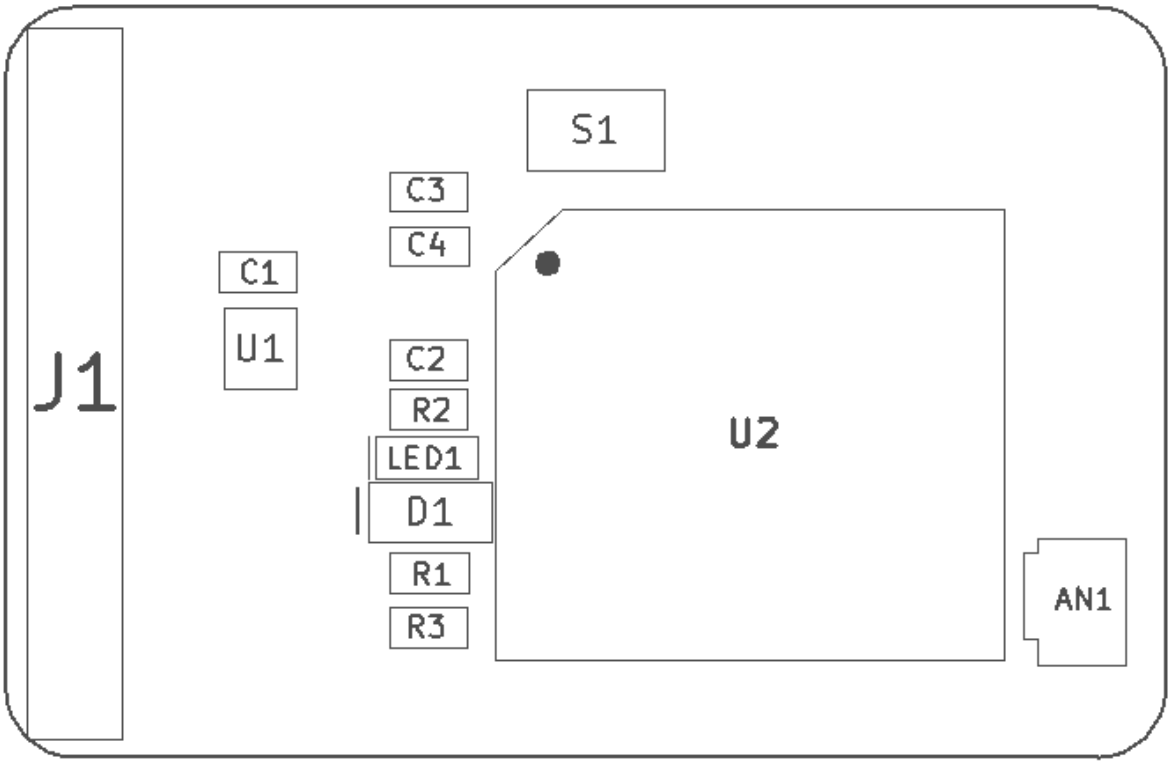
- Atmega328 provides output signals above 4.2V for HIGH and below 0.9V for LOW.
- Atmega328 detects input signals above 3V as HIGH and below 1.5V for LOW.
- The FGPMMOPA6H provides output signals 2.0-3.3V for HIGH and 0-0.8V for LOW.
- The FGPMMOPA6H detects input signals 2.4-3.3V for HIGH and 0-0.4V for LOW.

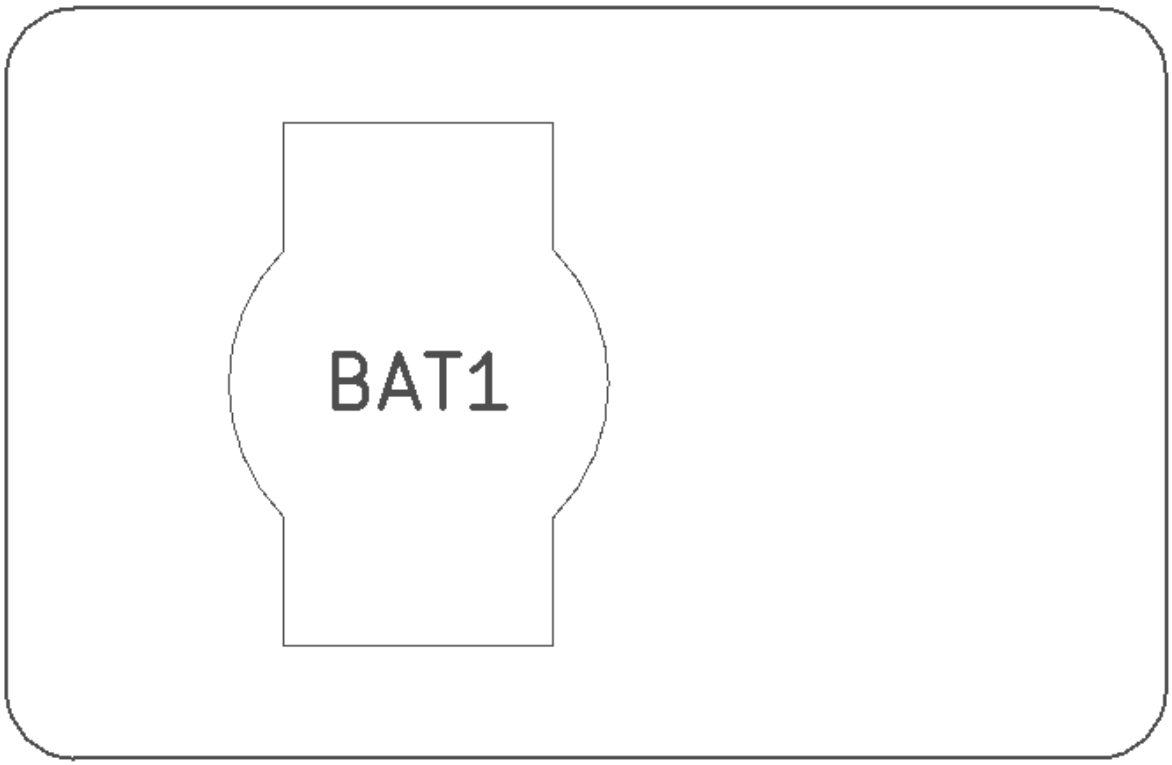
**Bill of Materials**

| Ref | Qty | Description | Digikey PN |
|---|---|---|---|
| AN1 | 1 | CONN UFL JACK STR 50 OHM SMD | H122041-ND |
| BAT1 | 1 | CR1220 BATTERY HOLDER SMT FLATPIN | BK-916-CT-ND |
| C3 C2 C1 | 3 | CAP CER 1UF 10V X7R 0603 | 1276-1946-1-ND |
| C4 | 1 | CAP CER 0.01UF 50V X7R 0603 | 490-1512-1-ND |
| D1 | 1 | DIODE GEN PURP 75V 250MA 1N4148 SOD123 | 1655-1360-1-ND |
| J1 | 1 | HEADER MALE 10POS TH 1x10 0.1” | 952-1902-ND |
| LED1 | 1 | LED AMBER DIFFUSED 0603 SMD | 475-2712-1-ND |
| R1 | 1 | RES SMD 10K OHM 1% 1/8W 0603 | RNCP0603FTD10K0CT-ND |
| R3 R2 | 2 | RES SMD 470 OHM 5% 1/4W 0603 | RHM470DCT-ND |
| S1 | 1 | SWITCH TACTILE SPST-NO 0.05A 12V | SW1020CT-ND |
| U1 | 1 | IC REG LDO 3.3V 0.15A SOT353 | 576-3193-1-ND |

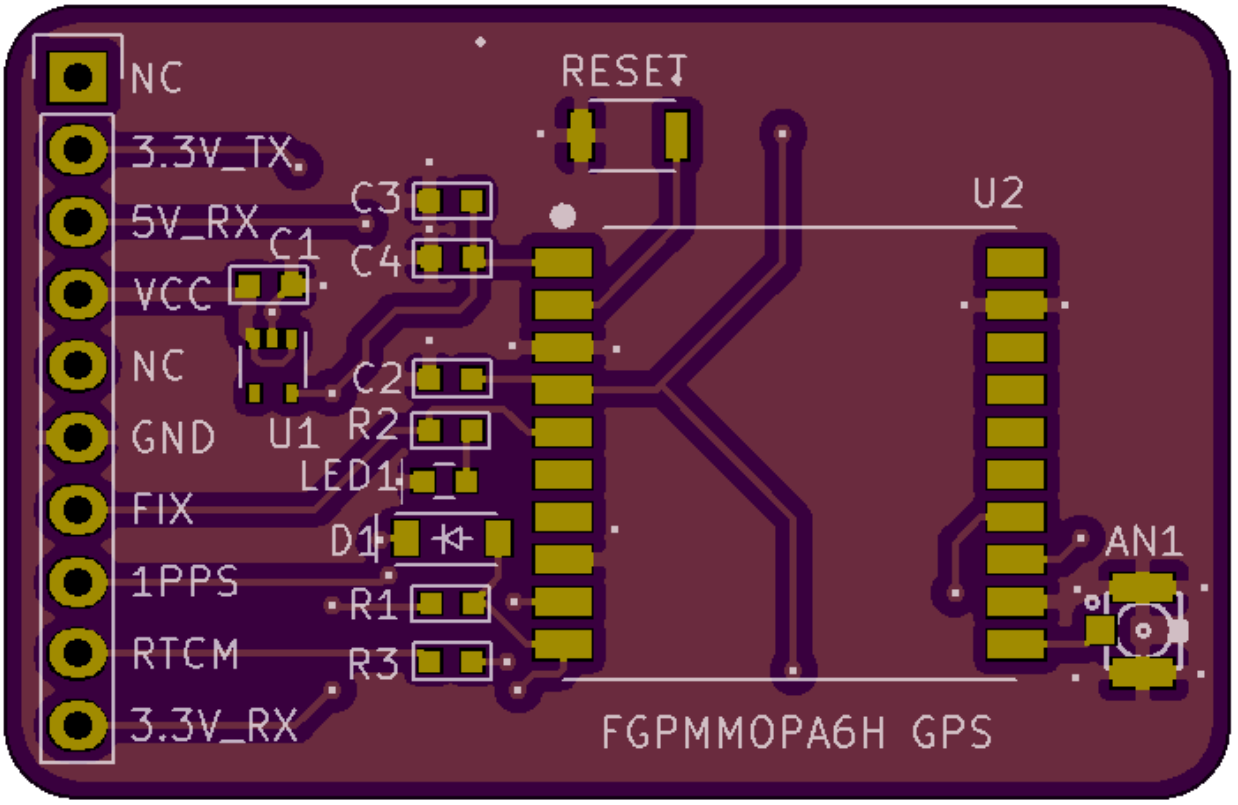
| Ref | Qty | Description | Adafruit PN |
|---|---|---|---|
| U2 | 1 | GPS MODULE PA6H MTK3339 | 790 |

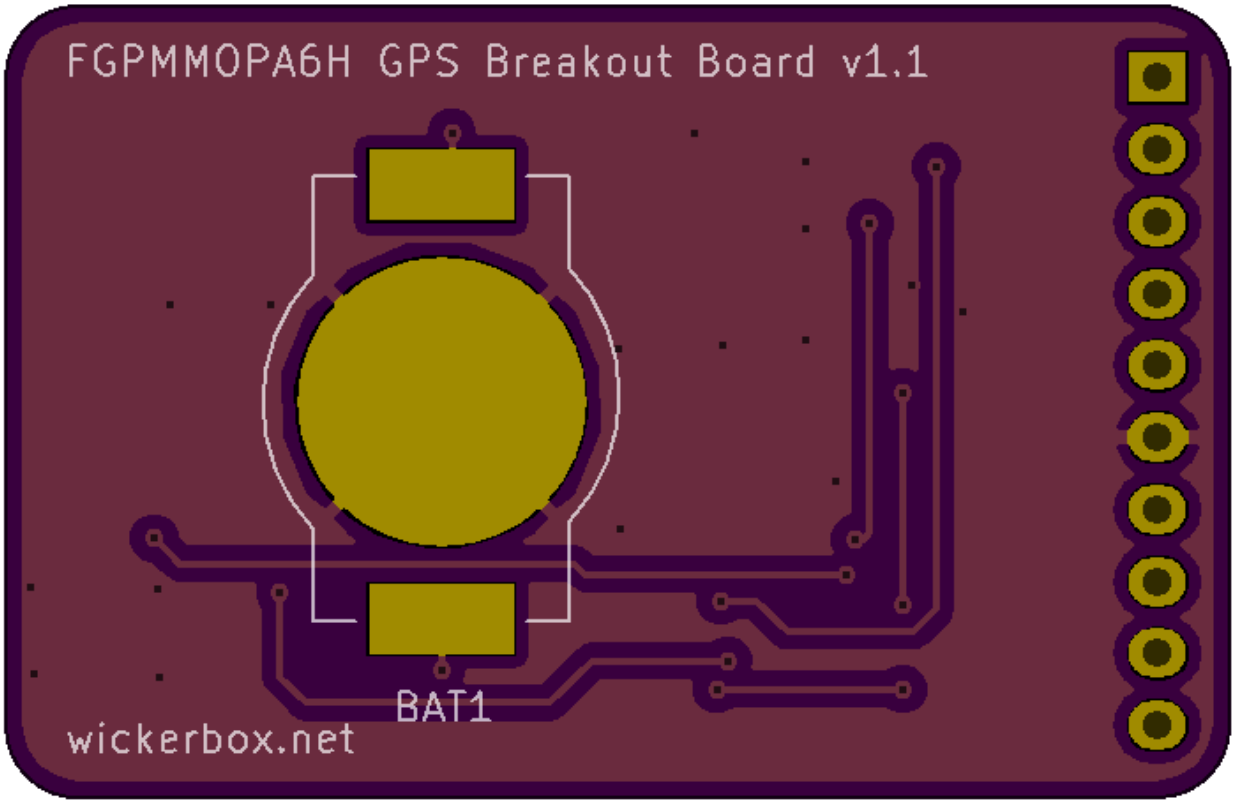
FGPMMOPA6H GPS Breakout Board v1.1 Assembly Diagram Top View




FGPMMOPA6H GPS Breakout Board v1.1 Assembly Diagram Bottom View


NC
3.3V_TX
5V_RX
VCC
NC
GND
FIX
1PPS
RTCM
3.3V_RX
RESET
C3
C1
C4
C2
U1
R2
LED1
D1
R1
R3
U2
AN1
FGPMMOPA6H GPS


FGPMMOPA6H GPS Breakout Board v1.1
BAT1
wickerbox.net