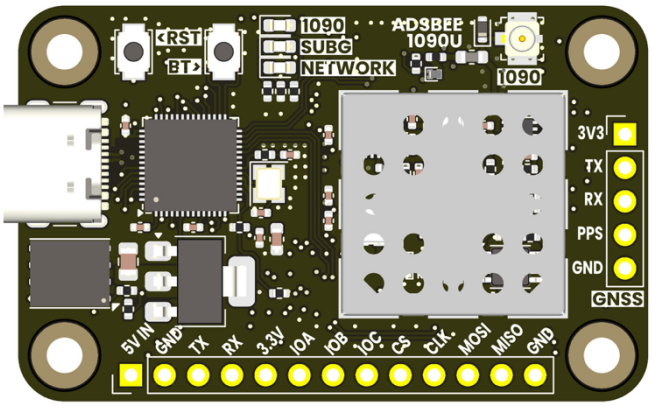
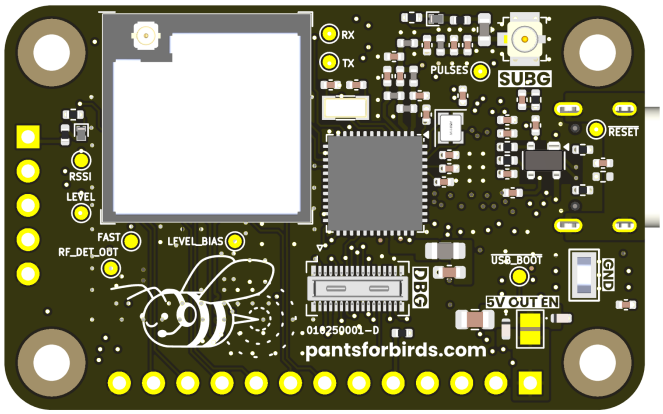
ADSBee 1090

Open Source Embedded ADS-B Receiver





Features

- 1090MHz Mode S and ADS-B packet decoding.
- Adjustable receive gain and trigger levels for customized tuning in diverse RF environments.
- Tunable sub-GHz transceiver for UAT / additional protocols.
- Multiple output formats over UART or USB: Raw Frames / ADSBee CSV / MAVLINK1 / MAVLINK2 / Mode S Beast / GDL90
- GNSS module input (UART + PPS) for MLAT or Remote ID applications.
- 2.4GHz 802.11 module for connecting directly to ADS-B databases via WiFi or broadcasting Remote ID beacon frames in UAS applications.
- Integrated M2.5 mounting holes.
- Optional PoE pant for power + data over Ethernet.
- Firmware updates over USB, Serial, WiFi, Ethernet.

Applications

- Aircraft detection for robotics and embedded projects.
- Electronic Flight Bag ADS-B receiver.
- Standalone feeder device for online ADS-B databases. No external compute required, just add power and WiFi!

Quick Specs

Supply Voltage	5V (via USB or 5V pin)
Supply Current	120mA (WiFi disabled) ~400mA (WiFi enabled)
Minimum RF Input Power Level	-70dBm
Simultaneous Aircraft Tracks Supported	≤400
Connectors	1090MHz RF In: U.FL / MHF1 Sub-GHz RF In/Out: U.FL / MHF1 802.11 RF Out: W.FL / MHF3 Power / Data: USB C GPIO / UART: 0.1” Pin Headers

Open Source Hardware + Software

Github Repository: https://github.com/coolnamesalltaken/adsbee

All hardware schematics and source code files required to build ADSBee 1090 are available under a GNU GPL v3 license. This means that they can be freely incorporated into other open-source projects that utilize a compatible license. The hope is that by opening the design to contributions and feedback from a community of users, the functionality of the ADSBee 1090 will be enhanced over time.

Note that the GPL v3 license applies to design and source code files, and not devices. ADSBee 1090 units purchased from Pants for Birds may be used in commercial applications without any licensing restrictions.

For commercial licensing requests of ADSBee hardware or software design files, please contact john@pantsforbirds.com.