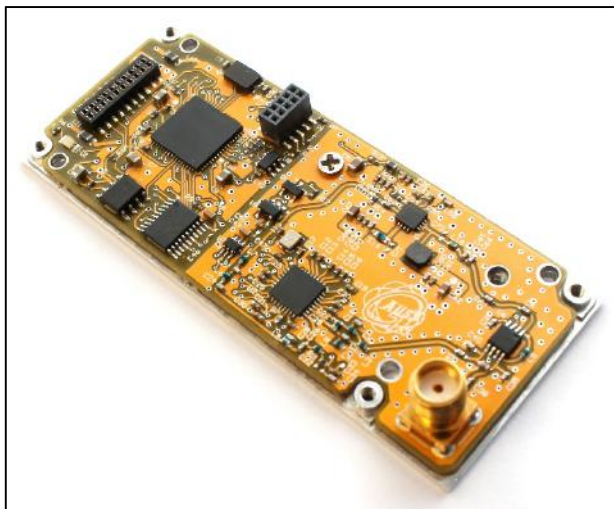




GAUSS Radio UHF 2W



Description

The **Low Power** GAUSS Radio UHF 2W has been designed for the smallest satellites, keeping in mind its high efficiency and low mass and envelope.

This radio is able to output up to 2W of power with more than 50% efficiency, being fed with a single 3.3V line.

The uplink and downlink are totally independent, meaning that they can be configured with different frequencies, modulations and protocols.

The radio can be reconfigured via software, changing dynamically also the output power.

Thanks to its dimensions, two radios can be stacked on the same PCB/104 using them in parallel or for redundancy.

Together with the radio, an adapter board for testing and a computer software interface are included.

Primary Features

- Up to **33dBm** of output power;
- **55%** efficiency;
- Powered by a **single 3.3V** bus;
- UHF frequency band for TT&C;
- AX.25 protocol supported;
- FEC Viterbi k4 supported;
- Integrated TNC, radio can be interfaced using KISS;
- Transparent mode supported (radio behaves like the analog fronted and the user implements its own protocols);
- Data-rate: 300bps to 100kbps;
- Sensitivity: -122dBm @1.2kbps, -119dBm @9.6kbps, -109dBm @50kbps;
- Configurable autonomous beacon;
- GPIOs available that can be commanded from ground;
- Configurable output power and frequencies in orbit;
- Firmware can be updated while in orbit;
- I2C, UART, SPI and CAN-bus interface support;
- FSK/MSK/GFSK/GMSK modulations;





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- Off the shelf industrial grade / automotive components;
- Operating temperature range -40°C to +110°C;
- Kits for PC/104 CubeSat form factor compatibility;
- Full Compatibility with USB Mini Ground Dongle;
- Radio Self protects itself when temperatures are beyond specification;
- SMA and MCX connectors available.
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Features on Request

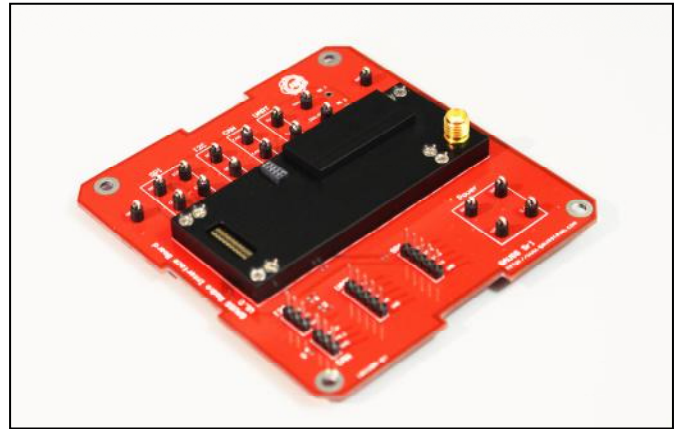
- FEC Viterbi k7 & Reed-Solomon;
- Speeds up to 250kbps (with 4GFSK);
- PCB/104 to stack two radios in parallel;
- SDR compatible software modules.

GAUSS PC104 Adapters

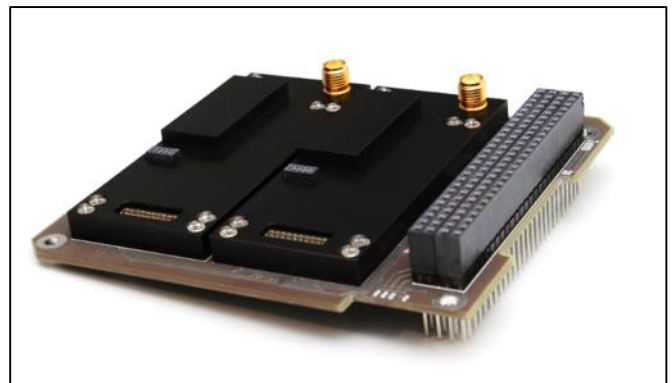
The GAUSS PC104 Adapters are passive PCB adapters that allow to easily mount GAUSS radios on CubeSat-compatible PC104 boards. Two versions are available, the single and the dual radio options.

These boards can be configured during assembly, based on users' requirements, in order to make it as much compatible as possible with other satellite subsystems.

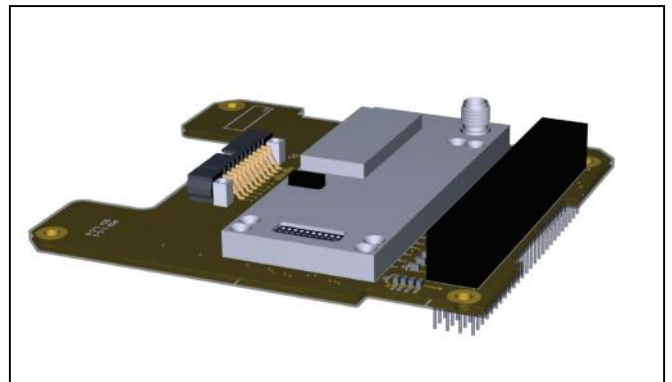
- **ECSS** compliant;
- The PC104 main connector pinout can be selected before assembly to adapt it based on user's needs;
- The radios can be powered from different power channels or from the permanent powered channel;
- The single radio adapter features an external, high-reliability connector to input/output power and logic lines to/from the radio by devices outside of the PC104 stack;
- The connector allows to integrate GAUSS radios anywhere inside the satellite, away from the main PC104 electronics stack;
- The radios can be connected to the PC104 using different types of bus: CAN Bus, I2C, UART and SPI.



Radio with the Test board



Two radios stacked on the same PCB104 adapter board



One GAUSS radio on the single Test adapter board