ODALISS TTC

Telemetry and Telecommand

ODALISS TTC is an embedded CubeSat radio communication unit, based in a fully configurable integrated half-duplex VHF/UHF transceiver and designed to simplify space to ground communications.

M4

HIGH PERFORMANCE CPU

DIGITAL CONTROL LINES

FULLY CONFIGURABLE FROM GROUND

SELECTABLE VHF/UHF BANDS

The **ODALISS TTC** unit has been designed as an advanced radio transceiver capable of communicating within the VHF and UHF bands, with fully remote reconfiguration capability by command from the On-Board Computer or the ground station.

Main features:

- Powered by Cortex®M4 CPU, with a wide set of commands providing configuration flexibility.
- Fully remote configuration capability.
- High reception sensitivity.
- Redundant configuration possibility for increased reliability.
- Nominal mode: non-proprietary protocol based on packet radio as AX.25.
- Beacon mode: periodic beacons using 2FSK Radioteletype (RTTY).

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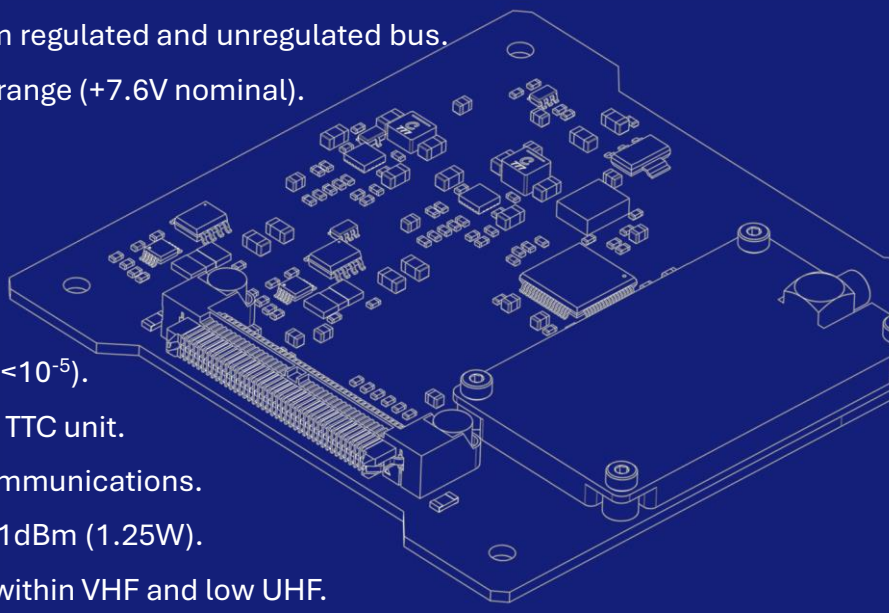
SPECIFICATIONS

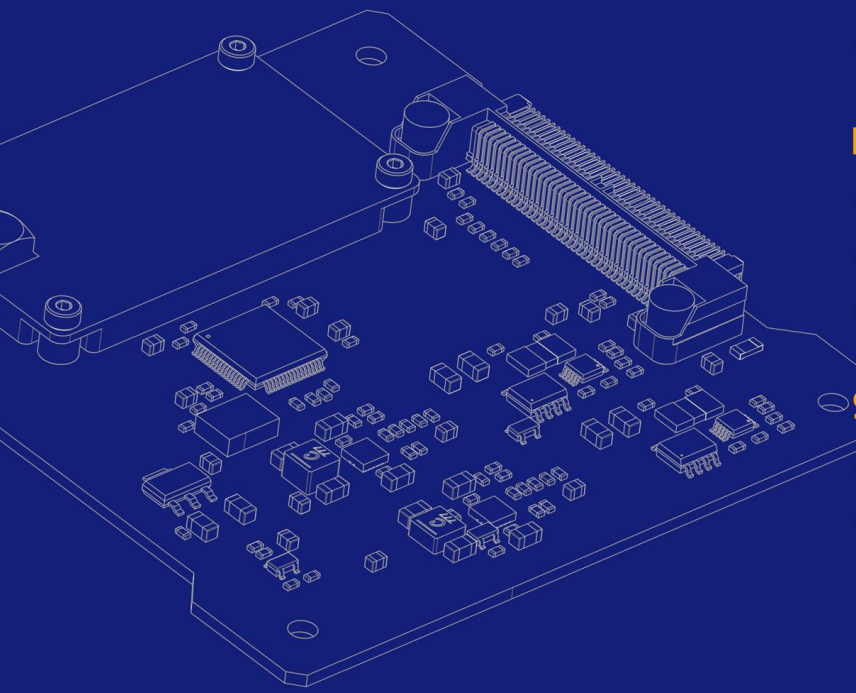
CPU & POWER

- STM32 processor based on the ARM Cortex®-M4 32bit core operating up to168MHz.
- Redundant power supply from regulated and unregulated bus.
- +5.8V to +8.4V power supply range (+7.6V nominal).
- TTC Enable and Status lines.



RF

- RX sensibility: -110dBm (BER <10^{-5}).
- Possibility to use a redundant TTC unit.
- Half-duplex ground-space communications.
- TX maximum output power: 31dBm (1.25W).
- Selectable output frequency within VHF and low UHF.
- Output radio frequency modulation: 2FSK (alternatively 3FSK, 4FSK, and GMFSK).
- Possibility to program a secondary output frequency on request.
- Selectable baud rate from 1200bps to 115200bps.
- Transmitter/receiver protocol: AX.25.
- Beacon mode: 2FSK Radioteletype (RTTY) ASCII-8 at 50bps.



CONNECTORS

- One 80-pin high-speed backplane connector.

INTEGRATION

- Operating temperature: -45ºC to +85ºC.
- Size: 87mm x 87mm x 9.3mm.
- Weight: 41 grams.

SERIAL LOGIC INTERFACES

- Two UARTs.
- One I2C interface.

For more info:

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