

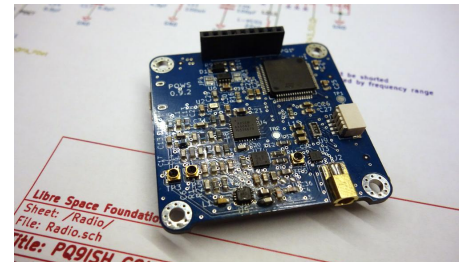


PQ9ISH-COMMS

The PQ9ISH-COMMS is a UHF software configurable radio transceiver specifically designed for Telemetry and Telecommand (TMTC) in the 70cm band.

The radio module supports full in-flight reconfiguration of the carrier and intermediate frequencies, bitrate, modulation options, and channel-filter bandwidth.

PQ9ISH-COMMS is fully compatible with SatNOGS Network for all TMTC functionality. The software and hardware are released as open source projects, which can be tailored to user needs.



PQ9ISH-COMMS KEY FEATURES

Transceiver / Controller

- STM32L4 ARM® Cortex®-M4 based microcontroller
- AX5043 high flexibility transceiver
- Memory: MicroSD SLC 16GB (more upon request)

RF Features

- UHF Band, Half-duplex operation
- Adjustable TX power: **-9 to +31.9 dBm**, 1dB step with no ALC and stability ± 1.5 dB (uncalibrated)
- BER on typical LEO mission profile: [tests available](#)
- Frequency step size: 2Hz in UHF
- Frequency Stability: ± 0.5 ppm (uncalibrated)
- Frequency Range: 400-440MHz (Rx/Tx)

Baseband and Protocol

- GMSK/GFSK,BPSK,QPSK modulation schemes
- Data rates: 0.1 to 125 kbps
- Framing encapsulation
 - CCSDS
 - IEEE 802.15.4
 - AX.25
- Framing options
 - CCSDS convolutional coding (TX only)
 - CCSDS RS(255, 223)

Interfaces

- Electrical: CAN, 3x GPIO/UART (configuration dependent)
- Mechanical: PQ9ISH compliant
- RF Connector: MMCX

Mass

12 g

Dimensions

42x42x11 mm

Power

- DC supply voltage: 3.3 or 5V
- Power consumption: 4.4 W (@5V) 1.7 W (@3.3V) on peak TX power

Environmental

Operating Temperature: -40 to +85 °C

Availability

6 weeks lead-time