# SKAIDOCK Datasheet

SKAIDOCK serves as a carrier board designed for the Xiphos Q8(S) modules equipped with the Xilinx Zynq UltraScale+ Multi-Processor System-on-Chip (MPSoC). Its primary purpose is to facilitate seamless integration into satellite systems, boasting a mechanical PC104 form factor and offering configurable interfaces accessible through the side connectors of the carrier board. The board has a matching connector to Simera Sense Cubesat imagers.

FEATURES

- Carrier board for Xiphos Q8(S)

- PC104 form-factor (CubeSat compatible)

- Qualified for space environment

- TRL9 in Q4 2024 on TROLL 6U mission
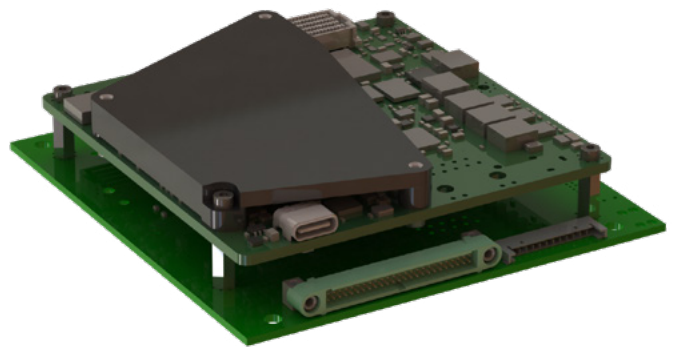
Technical specification

CAMERA CONNECTOR

Camera connector is configured with one-to-one matching interfaces and pinout as a Simera Sense Cubesat imager. It contains I2C, SPI, PPS, LVDS pairs compatible with Simera protocol as well as LVDS pairs for SpaceWire signals, and 5V power output to the camera.

CAN

SKAIDOCK features two CAN interfaces, connected to the PS side of the MPSoC. Bus termination can be enabled in the connector, by connecting specified pins.

I2C

I2C operates at 3V3. The interface is taken out to the Camera connector and to the separate I2C connector. Only one connector can be used.

SPI

SPI interface also operates at 3V3 and has also two different connectors. SPI in the Camera connector has one chip select pin, standalone SPI has three chip select pins. Only one connector can be used.

RSXXX

RSxxx interface is dependent on Q8 configuration (1x RS422 or 1x RS485 or 2x RS232).

Interfaces	2xCAN I2C SPI LVDS Ethernet USB RSxxx (configurable 1x RS422 or 1x RS485 or 2x RS232) Power input Power output
Temperature range	–40 to +60 °C
Dimensions	94.0mm * 90.02mm
Voltage range signal input	6 – 15V

Technical specification

SKAIDOCK does not require any additional software or hardware on top of Xiphos delivered SDK and user manual. The board serves purely as an interface board without breaking any compatibility with existing Xiphos or Xilinx tools. Pinnout and schematic are provided to configure interfaces correctly.