

# SKAIDOCK Datasheet

## OVERVIEW

The SKAIDOCK carrier board is designed to support Xiphos Q8(S) computational module, utilizing the Xilinx® Zynq™ UltraScale+™ Multi-Processor System-on-Chip (MPSoC) architecture. It provides seamless integration into satellite systems, with a CubeSat compatible PC104 form factor and versatile interface options through its side connectors.

## Technical specification

### CAMERA CONNECTOR

The camera connector is fully compatible with the Simera Sense CubeSat imager, featuring I2C, SPI, PPS, and LVDS pairs. It also supports LVDS pairs for SpaceWire signals and provides a 5V power output to the camera.

### CAN

SKAIDOCK includes two CAN interfaces, with optional bus termination.

### I2C

The I2C interface operates at 3.3V. It is available through both the Camera connector and a separate I2C connector.

### SPI

The SPI interface, also operating at 3.3V, is accessible via two different connectors. The Camera connector provides one chip select pin, while the standalone SPI connector offers three chip select pins.

### SERIAL

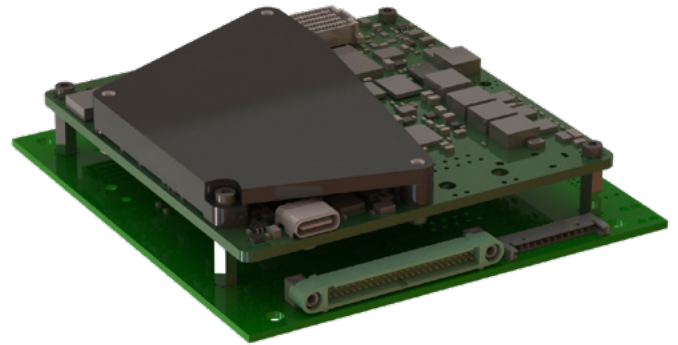
SKAIDOCK supports a configurable serial interface. It can be configured as 1x RS422, 1x RS485, or 2x RS232, depending on the application requirements.

## Qualification Testing

SKAIDOCK has been qualified for operation in a space environment. During thermal-vacuum (TVAC) testing, it was tested for operational temperatures between -40°C and +80°C. The board has also undergone sine and random vibration testing, shock testing, and radiated emissions measurements. The Xiphos Q8 module, with extensive flight heritage, has also been fully qualified.

## FEATURES

- Designed for Xiphos Q8(S) computational module
- CubeSat compatible PC104 form factor
- Fully qualified for space environment
- Achieves TRL9 by Q1 2025, demonstrated on the TROLL 6U mission



<b>Interfaces</b>	2xCAN I2C SPI LVDS Ethernet USB RSxxx (configurable 1x RS422 or 1x RS485 or 2x RS232) Power input Power output
<b>Temperature range</b>	-40 to +80 °C
<b>Dimensions</b>	94.0mm * 90.02mm
<b>Voltage range signal input</b>	6 - 15V

## Delivery

### SKAIDOCK IS DELIVERED WITH:

- Interface Control Document (ICD)
- Full schematic and CAD model
- Board support package (BSP)

SKAIDOCK can be ordered as a full payload, which includes the Q8 module and an aluminium enclosure.