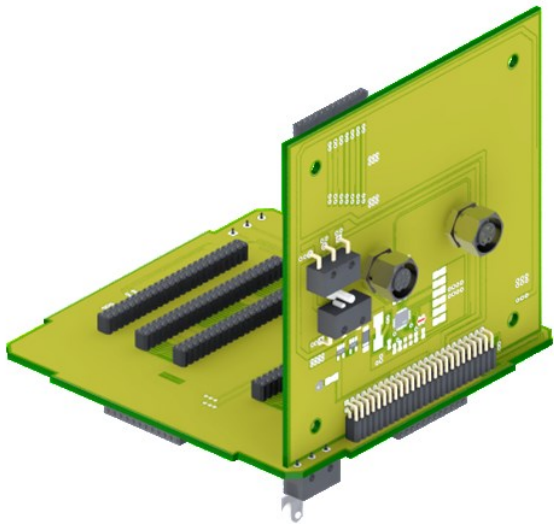


## Flexible Multifunctional Backplane and Front Access Board



### Unique Features:

- Enables flexible, modular satellite architecture
- Fast and easy change between different variants of subsystem
- Hosts complete satellite harness – no wires needed
- Redundant deployment switches
- Redundant Remove-Before-Flight switches
- Easy integration: compatible to UNISEC Europe electrical interface standard

### Description:

This standardized backplane implements the entire harnessing of the CubeSat. Subsystem boards and satellite side panels can be plugged to the backplanes subsystem bus interface and panel bus interface. The resulting electrical structure is fully functional, independent of any further structural component.

The backplane implements a redundant set of deployment switches while the front access board implements a backplane extension to provide umbilical line connectors and redundant remove-before-flight switches.

The backplane can carry I<sup>2</sup>C signals (two redundant busses), as well as JTAG, three serial lines (UART), Spy-By-Wire as well as multiple GPIO signals.

The power distribution integrated into the backplane carries dual redundant battery lines (unregulated), as well as 3.3 V and 5.0 V, along with three times the solar panel supply.

The umbilical line is divided in an analog interface for test activation and battery maintenance and a digital interface for software flashing, test and in-system debugging of the onboard computer.

### Specifications:

Dimensions			
• Backplane	98x98x8	mm	
• FAB	90x87x9	mm	
Data busses			<ul style="list-style-type: none"> <li>• 2x I<sup>2</sup>C</li> <li>• JTAG</li> <li>• 3x UART</li> <li>• Spy-By-Wire</li> <li>• Multiple GPIOs</li> </ul>
Power busses			<ul style="list-style-type: none"> <li>• 2x battery unregulated</li> <li>• 3x solar panel supply</li> <li>• 3.3 V</li> <li>• 5.0 V</li> </ul>

