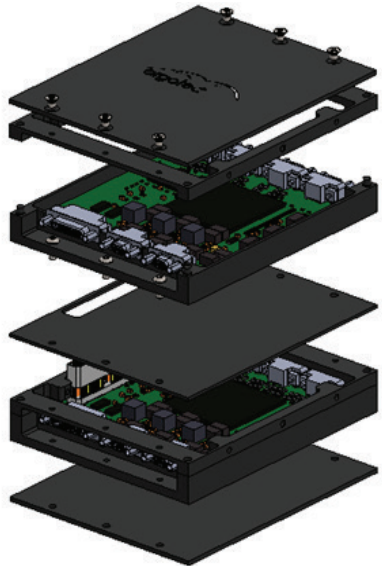
HACK

High-Performance Modular On-Board Computer

2020 PRODUCT SHEET

Product Brief

Argotec HACK OBC offers unprecedented flexibility thanks to its design developed from scratch to be modular and easily reconfigurable.
Different standard modules, based on both state-of-the-art SoCs and FPGAs, can be assembled without the need of external harness to face a wide variety of applications, from spacecraft management to hardware acceleration.
Each module is designed to be powered by a single +5VDC rail and has standardized thermal and mechanical interfaces, allowing the installation both as single unit or as part of a complex OBC subsystem.
The standard configuration, which includes one Core Board and one aXelerator Module, has a volume of about 0.5U and offers unmatched performance and interfaces.



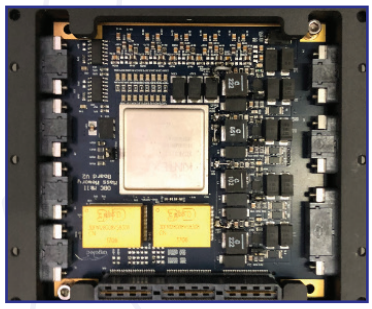
HACK Core Board

The board is designed to offer full spacecraft management capability, thanks to a powerful rad-hard SoC.
The processor features a Sparc-V8 quad-core architecture, with two-level cache and a fault-tolerant memory controller. Up to 6Gb of EDAC-protected main memory are available for the on-board software. The heterogenous set of peripherals includes: 4x RS422 UARTs, 4x SpaceWire, 1x CAN bus, 1x I2C, RS644 and Single Ended GPIO.



HACK aXelerator Module

The aXelerator Module allows to increase the computing capabilities of Argotec HACK OBC. Featuring a run-time reconfigurable FPGA, it can implement mission-specific hardware accelerators to ensure high computing throughput and efficiency. Four SpaceWire links and 256Gb of embedded FLASH NAND allow the operation both as independent processor node and as mass memory unit. Auxiliary interfaces, including 2x CAN bus, 1x I2C, 1x SPI, 2x RS422 UARTs, 1x Single Ended UART, RS644 and Single Ended GPIO, complete the extremely flexible interface options.



On-Board Software

Specifically designed for Argotec's on-board computers, the on-board software offers a ready-to-use environment based on RTEMS operating system. It features built-in task manager, command and telemetry management as per ECSS-E-ST-70-41C, data handling functions and support for FDIR service.
The custom BSP allows the user to develop its own application software to meet mission-specific requirements.



For further information

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