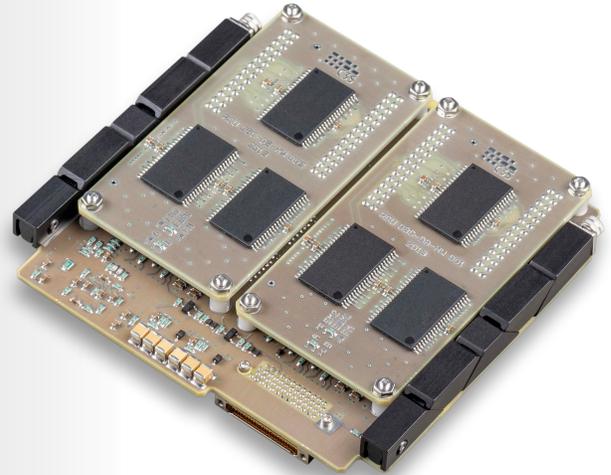


ON-BOARD COMPUTER (OBC)

MAIN FEATURES

- **Flight heritage** acquired in 2021 with the launch of RadCube
- Single-point failure tolerant design
- Cold redundancy
- High-performance MCU
- Optional Daughterboard for memory expansion
- Serial communication interfaces using differential signaling (CAN, M-LVDS)
- Computing performance: up to 642 DMIPS
- Space grade connector to the backplane
- ESA approved Interface Control Document
- Radiation tested (TID)



SPECIFICATION

Property	Value/Options	Notes
MCU	32-bit ARM Cortex-M7	
MCU frequency	up to 300 MHz	
Program memory	2 MByte	Internal flash
Data memory	384 kByte	Internal RAM
Command bus	2 x CAN bus	1 cold-redundant pair
Data bus	4 x M-LVDS	2 cold-redundant pairs
Mass storage capacity	16 GByte eMMC	
	16 MByte MRAM	With daughterboard
Nominal power consumption	460 mW	Measured in test mode, using eMMC as mass storage.
Power supply	3.3 V	
Dimensions	92 x 89.5 x 12.3 mm (W x L x H)	Excluding daughterboard
	92 x 89.5 x 13.6 mm (W x L x H)	Including daughterboard

Continues on page 2/2



TITLE
COMPANY
ADDRESS
CONTACT

C3S OBC DATA SHEET, v01 - 05/01/2022
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On-Board Computer (OBC) / Specification

Mass	65 g	Excluding daughterboard
	100 g	Including daughterboard
Multi-level Watchdog system	Internal and external	
Time	On-Board Elapsed and UTC, TAI	Real-time clock
In-flight firmware update	YES	
Operating Systems	FreeRTOS	
Multiple Debug interface	SWD	For standard debug probes
	USB	Custom debug TC/TM interface for on ground testing
Computing performance	up to 642 DMIPS	
Operating temperature range	-40°C ... +85°C	