2NDSpace

MASTER OBC

CUBESAT ON-BOARD COMPUTER

MASTER is 2NDSPACE's flexible OBC, offering high versatility combined with **performances** and **reliability**. The product is designed to ensure high robustness and a wide range of capabilities and interfaces to support CubeSats and nanosatellite platforms to meet most operational-demanding missions.

The product family includes two solutions fully based on 2NDSPACE proprietary IP: MASTER, a flexible OBC designed for a wide range of CubeSat applications, and MASTER II, a cutting-edge solution offering exceptional performance and flexibility for demanding commercial missions and high-end small satellites.

Dual-core processor for real-time operation

Over-The-Air updates for in-orbit software implementation

13 communication interfaces and multiple sensor integrations

Supports FreeRTOS and MBed software ecosystems

Integrated libraries for interface with 2NDSPACE avionics

Integrated libraries for interface with reference COTS

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PRODUCT **FEATURES**

	MASTER
Dimensions [mm]	97 x 92 x 20
Mass [g]	130 g
Section 1 Processor	Dual-Core ARM Cortex M7 @ 480 MHz + Cortex M4 @ 240 MHz
RAM	32 MB SDRAM
Flash Memory	16 MB NOR flash + 1Mb FRAM
Operating System	FreeRTOS; Mbed
Storage	Dual µSD slots up to 32GB
Interfaces	2x CAN, 2x RS422, 2x RS485, 2x UART, 2x I2C, 2x SPI
ADC Inputs	8x configurable
Sensors	3x IMU 6DOF / 1x Temperature Sensor
Operating Voltage	5V
Peak Power	2W
Operating Temp.	-40°C to +85°C

QUALIFICATION AND **ACCEPTANCE TEST**

	Functional/AIT	Electrical control	Vibration test	Mechanical Shock	TVAC Test
Qualification Test	✓	✓	NASA GEVS: GSFC-STD-7000A ESA ECSS-E-ST-10-03C	NASA GEVS: GSFC-STD-7000A ESA ECSS-E-ST-10-03C	NASA GEVS: GSFC-STD-7000A ESA ECSS-E-ST-10-03C
Acceptance Test	✓	✓			

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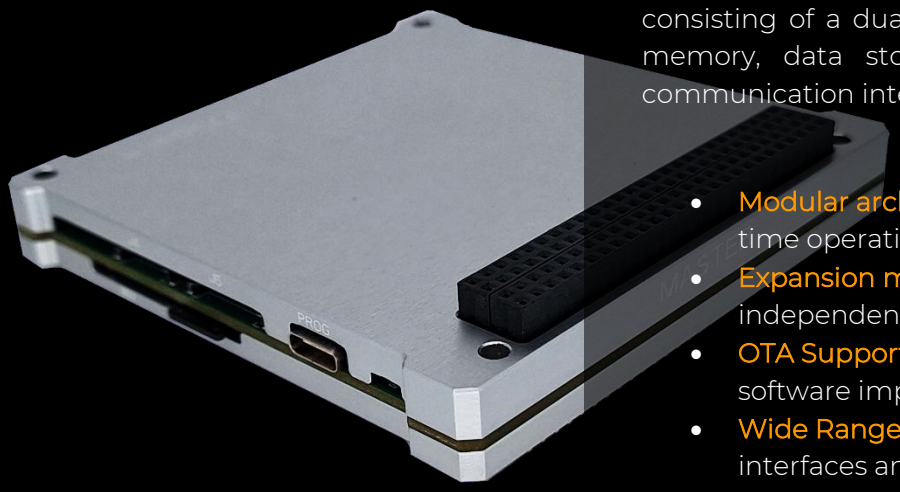
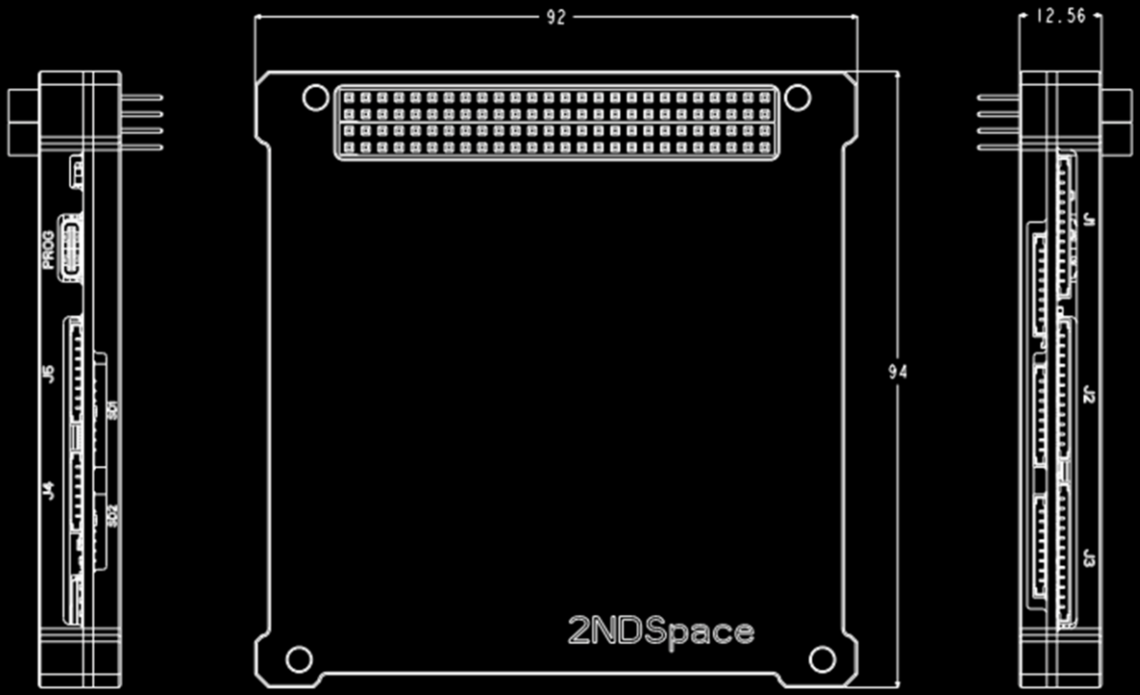


MASTER is designed to meet the needs of CubeSat platforms from 1U to 16U, offering high versatility and consisting of a dual-core processing unit with integrated memory, data storage, and a comprehensive set of communication interfaces.

- Modular architecture: Dual-core processor for real-time operation and high-performance computing
- Expansion module for integrating and additional independent OBC
- OTA Support: Over-The-Air updates for continuous software improvement
- Wide Range of Interfaces: 13 communication interfaces and multiple sensor integrations
- Compatible Environments: Supports FreeRTOS and MBed software ecosystems



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