

# BuiltSAFE™ ROCK-2A

3U OpenVPX™ Development Platform for ROCK-2 Pre-integrated Processing Subsystems



- **ROCK-2 series development platform (commercial front-panel I/O interconnects)**
- **Commercial ARINC 429, STD-1553, RS232/422/485, GbE, USB 2.0, discrete I/Os**
- **Freescal QorIQ™ P3, T2 - Intel® Core™ i7 Gen 5 processing**
- **Seamlessly interoperable with BuiltSAFE Rock-2B/C processing subsystems**
- **2D/3D video/graphics, digital/analog video in/out - Overlay, stream, record**

Mercury's BuiltSAFE™ products bring the highest level of flight safety assurance to aerospace and defense applications. Our proven, reusable Design Assurance Level (DAL) certified artifacts for mission computing, avionics, networking and datalink comms processing save time and cost while decreasing risk.

The BuiltSAFE ROCK-2A is a development platform for conduction-cooled boards used in the BuiltSAFE ROCK-2 series of pre-integrated processing subsystems. The development platform's front-panel is populated with commercial connectors for easy accessibility from test and development benches. Both the hardware and software are identical across the BuiltSAFE ROCK-2 development (ROCK-2A) and rugged airborne (ROCK-2B/C) platforms, enabling our customer's applications to migrate from one platform to the other without modification.

## Pre-integration with interoperable building blocks

The BuiltSAFE ROCK-2 series uses our BuiltSAFE Series of interoperable processing, graphics and I/O building blocks to provide all the functions required for modern mission-critical and avionics applications.

## Works right out of the box

The BuiltSAFE ROCK-2A development platform includes a software package with all the development tools required to build an application right out of the box. The board support package integrates all the drivers required for VxWorks® 653. Other operating systems, including Linux® and VxWorks will be soon available.

## I/O Interconnects

Mercury's BuiltSAFE ROCK-2A's front-panel and underlying I/O board are designed for customization enabling application specific I/O interconnects to be quickly implemented.

## BuiltSAFE for Avionics

Mercury's expertise and experience in safety certifiable solutions has been built on successful execution of dozens of programs over three decades. This domain knowledge is the foundation of our BuiltSAFE portfolio of open architecture modules, systems and software for avionics, communications, video servers, and mission computing.

*Mercury Systems is a leading commercial provider of secure sensor and mission processing subsystems. Optimized for customer and mission success, Mercury's solutions power a wide variety of critical defense and intelligence programs.*



## Technical Specifications

### Compliance

OpenVPX (VITA 65)

Backplane's peripheral slot profile SLT3-PER-1F-14.3.2

### Power Consumption

minimum	typical	maximum	units
40	150	180	Watts

### Memory

Up to 512GB flash disk

### Interfaces

ARINC 429 Tx/Rx for high and low speed

Dual redundant STD-1553

RS232/422/485 configurable serial channels

Fast Ethernet (100BASE-T)

Gigabit Ethernet (1000BASE-T)

USB 2.0 HOST

USB 2.0 OTG

Discrete I/O

Digital and/or analog video inputs

Digital and/or video outputs

### Software

Maintenance/Mission mode

Board Support Package

VxWorks®653, Linux <sup>(1)</sup>

Built In Tests (PBIT, CBIT and IBIT)

Drivers

STD-1553

ARINC 429

RS232/422/485

Gigabit Ethernet

DSIO

USB

Audio

Video

APIs

OpenGL SC, Mission File System, Inter Process Communication

### Dimensions

Without connectors: 132.6 x 269 x 390 mm (W x H x D)

### Weight

Typical 8Kg <sup>(2)</sup>

## Product Ordering

### ROCK-2A000201

3U OpenVPX mission computer development platform with 1x Freescale P3041 processor board, 1x avionics I/O board and 1x video and graphics board

#### Front Panel

#### I/O Board



#### Backplane

### ROCK-2A000401

3U OpenVPX mission computer development platform with 1x Freescale P3041 processor board, 1x Intel Core i7 Gen5 processor board and 1x avionics I/O board

#### Front Panel

#### I/O Board



#### Backplane

## Related BuiltSAFE Hardware Products

BuiltSAFE ROCK-2B/C Qualified <sup>(3)</sup> Airborne 3U OpenVPX mission computer with, 1x Freescale P3041 processor board, 1x avionics I/O board and 1x video and graphics board

MFCC-8557 Freescale QorIQ™ P3041 XMC safety-certifiable Single Board Computer

AVIO-2353 3U OpenVPX avionics I/O board

VGP-2870 3U OpenVPX video I/O and graphic processor

CIOV-2231 3U OpenVPX Intel Core i7 Gen 5 Single Board Computer

## Environmental Specification

Condition	Limits/Standards
Operating temperature	-40°C to +70°C
Storage temperature	-55°C to +85°C

<sup>(1)</sup> For Intel CPU only

<sup>(2)</sup> Depends on payload

<sup>(3)</sup> Contact factory for more information

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INNOVATION THAT MATTERS™

### MERCURY MISSION SYSTEMS INTERNATIONAL S.A.

Avenue Eugène-Lance 38, PO Box 584  
CH-1212 Grand Lancy 1 • Geneva – Switzerland  
+41 (0)22 884 51 00

### CORPORATE HEADQUARTERS

50 Minuteman Road • Andover, MA 01810 USA  
(978) 967-1401 • (866) 627-6951 • Fax (978) 256-3599