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.

**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
- Freescale 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.

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Technical Specifications

Compliance
OpenVPX (VITA 65)
Backplane’s peripheral slot profile SLT3-PER-1F-14.3.2

Power Consumption

<table>
<thead>
<tr>
<th>minimum</th>
<th>typical</th>
<th>maximum</th>
<th>units</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>150</td>
<td>180</td>
<td>Watts</td>
</tr>
</tbody>
</table>

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 (1000BASE-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 (1)
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 (2)

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

**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

Related BuiltSAFE Hardware Products

BuiltSAFE ROCK-2B/C Qualified (3) 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

<table>
<thead>
<tr>
<th>Condition</th>
<th>Limits/Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating</td>
<td>-40°C to +70°C</td>
</tr>
<tr>
<td>Storage</td>
<td>-55°C to +85°C</td>
</tr>
</tbody>
</table>

(1) For Intel CPU only
(2) Depends on payload
(3) 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  •  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

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www.mrcy.com