ROCK 3

3U OpenVPX SOSA aligned Mission Computers, BuiltSAFE®

Accelerate safety-critical applications and their deployment

- SOSA-aligned, open software tested
- 11th Gen Intel® Core i7™ quad core processors with integrated GPU
- DO-254 and DO-178C artifacts, certifiable up to DAL A
- Rugged, SWaP optimized
- Discrete, MIL-STD-1553, ARINC-429, RS-485, CAN avionics interfaces
- Certifiable RTOS, CAST-32A compliant

Safely tackle multiple mission- and safety-critical workloads and speed technology integration with Mercury's open software tested, SOSA-aligned 3U OpenVPX mission computers.

Highlights

- Deliver 20x more performance than legacy safety-critical processors with dual 11th Gen Intel Core i7 (codename Tiger Lake) CPUs with an integrated GPU
- Run mixed safety-domain workloads ranging up to DAL A and save space with fully configurable, independent and certifiable 3U boards
- Simplify integration and operate in demanding flight conditions with open software tested, SOSA aligned, flight-ready, and compact computers
- Maximize interoperability and throughput with DAL A certifiable Ethernet and numerous avionics I/O including MIL STD-1553 bus, ARINC-429, RS-485 and CAN
- Speed integration with complete safety-certifiable board support packages (BSPs) that include drivers and BIT functionality
- Streamline certification and meet multicore certification CAST-32A objectives up to DAL-A with support from Mercury's expert engineering and certification team
- Optimized for size, weight, power and cooling to deliver the best performance per watt for consistent and efficient operation – anywhere

Designed with Proven BuiltSAFE™ technologies

Mercury's ROCK3 mission computer is architected using Mercury's proven BuiltSAFE Commercial-Off-The-Shelf (COTS) elements and artifacts to deliver flawless performance and ease of systems integration. Modular and reusable, BuiltSAFE technologies maximize interoperability and speed technology refresh by minimizing the need for recertification. Mercury's BuiltSAFE solutions have been designed, tested, certified and fielded over three decades on multiple safety-critical platforms.

CONTACT US

TECHNICAL SPECIFICATIONS

Processing Blades

Certifiable up to DAL-A

1-2 Intel® Core i7 11th Gen quad core processors

Integrated Intel Iris® GPU

32GB DDR4 with ECC

64 MB FLASH

80GB M.2 SSD storage

Ethernet Switch Blade

Up to 32x 1GBase-Kx or 10GBase-KR

Maintenance and Diagnostics

Integrated Built-in-test (BIT) capability

BuiltSAFE® Proven Elements

DO-254 hardware

DO-178C graphics CoreAVI OpenGLSC 1.0, 2.0

DO-178C GPU accelerated compute

DO-178C video encode/decode

Design and information assurance

Mechanical and Environmental

Dimensions

ARINC 600 case size: 5 MCU

6.2 x 7.64 x 12.76”

157 x 194 x 318mm

Weight: ~18 lbs (8.16 kg) ±2%

Power: 150 - 335W*

**configuration dependent*

Software Board Support Packages (BSP)

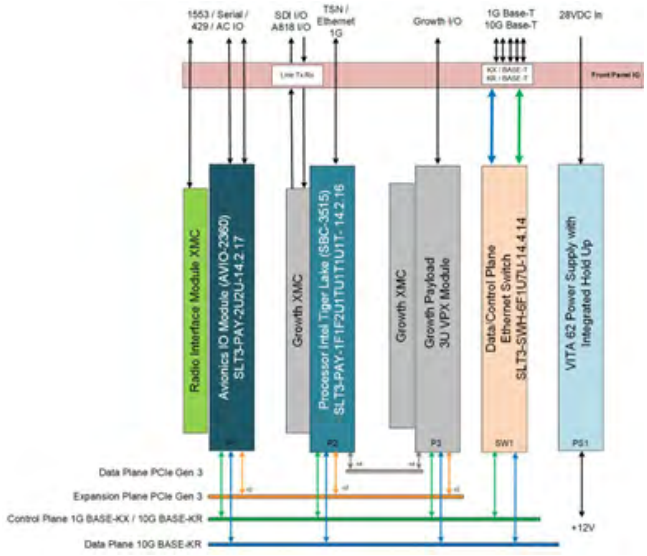
Green Hills Integrity tuMP RTOS drivers

Support to meet CAST-32A objectives

Avionics I/O and Configuration Comparison

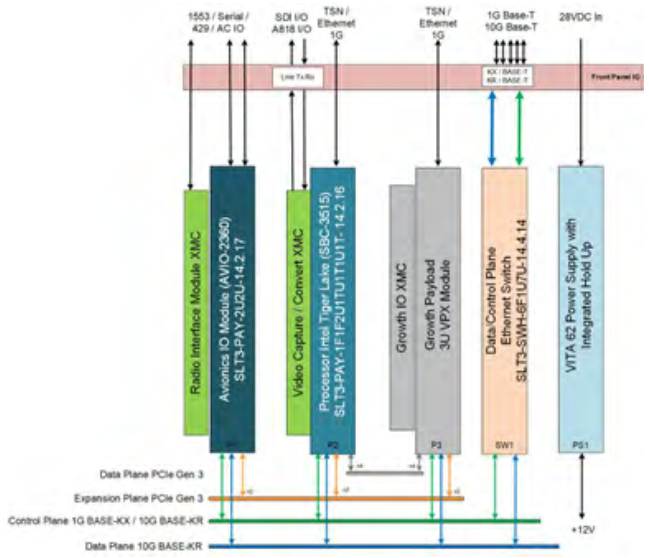
Interface		ROCK301	ROCK302	ROCK303
Mission	Mil-STD-1553	3	3	3
	ARINC429	2 Rx / 2 Tx	2 Rx / 2 Tx	2 Rx / 2 Tx
	RS-422/485	7 Rx / 7 Tx	7 Rx / 7 Tx	7 Rx / 7 Tx
	10/100 Ethernet	3	3	3
	1G Ethernet	8	8	8
	1G/10Gb Ethernet	4	4	4
	Video (input)	0	1	1
	Video (output)	0	3	3
	Radio Interface	4	4	4
Maintenance	USB Console	1	1	1
	Gigabit Ethernet	1	1	1
	RS-232	2	2	2
Processing	Core i7 Processors	1	1	2
	Performance (DMIPS)	105K	105K	210K
	Intel Iris GPU	1	1	2

ROCK 301 Block Diagram

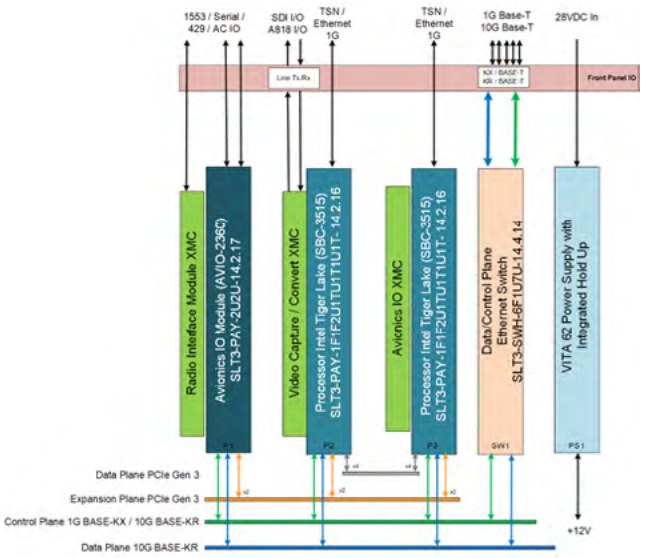


TECHNICAL SPECIFICATIONS

ROCK 302 Block Diagram



ROCK 303 Block Diagram



Corporate Headquarters
50 Minuteman Road
Andover, MA 01810 USA
+1 978.967.1401 tel
+1 866.627.6951 tel
+1 978.256.3599 fax

International Headquarters
Mercury International
Avenue Eugène-Lance, 38
PO Box 584
CH-1212 Grand-Lancy 1
Geneva, Switzerland
+41 22 884 51 00 tel

Learn more
Visit: mrcy.com/rock3
Contact: mission@mrcy.com