

ROCK 4

Small-Form Factor Mission Computer, BuiltSAFE®

Quickly deploy AI and autonomous applications for situational awareness

- 4x4 3G HD-SDI video I/O video matrix
- 11th Gen Intel® Core™ i7-1185G7
- AI and hardware accelerators
- Rugged, SFF, 3.5kg computer
- 1 GbE + 2.5GbE Ethernet ports
- Secure boot and crypto key management
- DAL-D DO-254 and DO-178C artifacts upon request



Save space and quickly scale computing to deploy new applications with ROCK 4, the first safety-certifiable, small-form factor, ruggedized mission computer with 11th Gen Intel® Core™ i7 processors. Support AI interface and recording with avionics I/O and video capabilities.

Highlights

- Support AI and graphics/video capabilities without swapping out entire computing infrastructures with 11th Gen Intel® Core™ i7 CPUs built-in AI acceleration and an embedded GPU.
- Built-in video switch allows software engineers to dynamically configure video output through standard APIs and redirect video to four displays.
- Save resources and space with a stackable, form factor that delivers the best performance per watt for consistent and efficient operation anywhere.
- Streamline certification and meet multicore certification CAST-32A/AMC20-193 objectives up to DAL D with support from Mercury's expert engineering and design assurance team.
- Support cybersecurity requirements to meet EUROCAE ED-202, ED-203 and ED-204 with secure boot and crypto key management.

Designed with BuiltSAFE™ technologies—tested, certified and fielded over three decades

The ROCK 4 mission computer is architected using Mercury's proven BuiltSAFE commercial-off-the-shelf (COTS) elements and artifacts for flawless performance and ease of systems integration. Modular and reusable, BuiltSAFE technologies maximize interoperability and speed technology refresh by minimizing the need for recertification.

CONTACT US

TECHNICAL SPECIFICATIONS

Processor

Intel® Core™ i7-1185GRE CPU
Quad-core/octet-thread @2.8 GHz
Vector (AVX-512) and AI accelerators

Memory

16 GB DDR4-3200 in-band ECC memory +
32GB DDR4-3200 SODIMM non-ECC
Up to 2 TB on-board SSD 4 TB

Networking

(2) 1 GbE ports (1) 1 GbE (1) 2.5 GbE Ports
USB 3.1

Video I/O

4x4 3G HD-SDI full featured video matrix
ARINC 818 support on demand

Integrated Graphics Processing Unit

13th Gen Intel® Iris® Xe graphics with
96 EUs
Video encode/decode H264/H265

Environment Test

DO-160G

Avionics I/O

Interface	In	Out
ARINC 429	4	4
RS-422/485	4	
Gigabit Ethernet	2	
Discrete	6	5
HD-SDI	4	4
Audio	1	1
GPS	1	
USB 2.0	2	
USB 3.1	1	

Other I/O options can be made available.

Maintenance and Diagnostics

Integrated Built-in-test (BIT) capability

BuiltSAFE® Proven Elements

DO-254 hardware
DO-178C graphics OpenGL 1.0, 2.0, Vulkan
DO-178C GPU accelerated compute
DO-178C video encode/decode
Design and information assurance

Mechanical

Dimensions: 215 x 188 x 72 mm
(without connectors)
Weight: <3.5 kg (7.7 lb)
Supply voltage: 28 VDC
Up to 60 W with air flow up to 70W

Board Support Packages (BSP)

Linux Distribution. Ubuntu, RedHat
Upon request:
Greenhills INTEGRITY
DDCi Deos
Lynx Software MOSA.ic, LynxOS
SYSGO PikeOS
WindRiver VxWorks



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