

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™ i7-1185GRE
- AI and hardware accelerators
- Passive cooling, easy to install
- Rugged, SFF, 3.5kg computer
- 1 GbE Ethernet port
- Secure boot and crypto key management
- D0-254 and D0-178C artifacts



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, passively cooled 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 C 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.

Design 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/octethread @2.8 GHz
 Vector (AVX-512) and AI accelerators

Memory

16 GB DDR4-3200 in-band ECC memory
 Up to 2 TB on-board SSD

Networking

(2) 1GbE 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
ARCINC 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
 Weight: <3.5 kg (7.7 lb)
 Supply voltage: 28 VDC
 30 W passive cooling
 Up to 60 W with air flow

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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