

# OPALE-V2



DESIGNED & PRODUCED  
IN FRANCE

## Trusted and reliable embedded industrial PC's

### Ready for OEM with Modified COTS services

When generic doesn't fit, multi-Core OPALE V2 family, based on standard PICMG 1.3 form factor, offers flexibility to fit into many applications for OEM, System Integrators and Application Providers in a variety of domains: test bench systems, FPGA/GPGPU intensive computing, rugged servers for harsh environments (Aero/Mil), high availability embedded computers for cybersecurity, vision, central data acquisition, control/command...

To precisely meet your requirements, even for small quantities, ECRIN Systems takes full system development responsibility and guarantee long term availability to allow you to concentrate on your added value and core business.

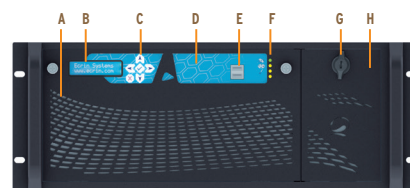
From mechanical parts to industrial design, with front and remote user interfaces, user's LED's and I/O's, easy customized front and rear connectors fitting your activity, specific face-plate color and design, Lexan polycarbonate sheet with your logo and brand name, we will offer you a unique look that will shape your image and promote your sales.

- Modified COTS with easy brand naming, configuration and customization for competition advantage
- Security with Trusted boot
- Local and remote active management to detect errors before they occur
- Enhanced asset protection for continuous operation:
  - Durable connectors: 15 microinch Gold/ Metal plated connectors assure long term reliability
  - Enhanced USB compatibility: USB power supply ensures stability (5V +/-5%)
  - Rugged EMI construction: EN55032 Class B radiation test, -10dB than competition Class A
- MIL-STD tests passed (for T°C, shocks & vibrations, humidity, noise)
- Reduced TCO with reporting Log file and downtime in harsh environments
- Green power / Low noise at 37dBA (equivalent to no risk)
- Long life management: up to 7 years with revision control
- Advanced Multi-Core "Raptor Lake" boosted computing performance with DDR5 speeds and timings
- Flexible backplane options for PCIe configuration with dedicated bandwidth to accommodate GPGPU/FPGA intensive computing
- Up to 14 full length cards / 451 mm depth only



## Rack specifications

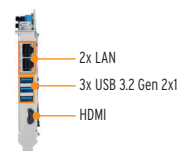
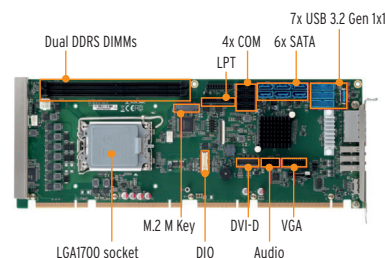
Construction	Anti-corrosion and long term heavy-duty steel, black color
Dimensions (W x H x D)	19"/ 4U with 17.8 inch depth (483x177x451 mm)
Weight	18 kg (standard configuration)
Cooling	Three 92mm ball bearing low noise fans with monitoring Front access for easy maintenance
Power supply	PS2 form factor, compliant with Mini Redundant PSU
Drive bays	Two 5 1/4 front accessible drive bays
Backplane configuration	14 slots backplane, all for full length I/O boards
Front panel	Front door with lock, two USB and drive bay access Front door for dust filter and fan maintenance Embedded MMI, 4 LEDs with I/O capabilities Lexan for easy customization
Cards lock	Adjustable hold down bar for cards - Rugged holding parts for full length CPU and I/O cards
Carton size (W x H x D)	600 mm x 345 mm x 640 mm



- A: Dust filter & Fan access door  
B: LCD 2x16 characters  
C: Keyboard (Power & Reset)  
D: Lexan for easy customization  
E: 2 x USB (optional)  
F: 4 x tri-color LEDs  
G: Key lock  
H: Drive bay door

## SHB specifications

Form factor	PICMG 1.3 - Graphic Class / Server Class - PCI Express Gen 3
Processor	14/13/12 <sup>th</sup> Gen Intel® Core™ i9/i7/i5/i3 Processor
Chipset	Intel® Q670E Express Chipset
Memory	Dual-channel Non-ECC DDR5 4800 MHz, up to 64 GB
Video	Integrated Intel® HD Graphics series 1x HDMI on rear I/O, DVI-D and VGA via on board pin header
Ethernet	LAN1: Intel® I226-V via RJ45 - LAN2: Intel® I226-LM via RJ45
Disk	6x SATA 3.0 onboard with RAID support - 1x M.2 M-Key, 2280, support PCIe Gen 4 x 4
Audio	Option via module DB-Audio2 (Realtek® ALC262)
USB	3x USB 3.2 Gen 2 x1 ports (10Gbps) on rear I/O 6x USB 3.2 Gen 1 x1 via onboard box headers 1x USB 3.2 Gen 1 x1 vertical type A port 4x USB 2.0 to backplane
Watchdog timer	1~65535 sec software programmable, can generate system reset
Hardware monitor	CPU/System temperature, CPU fan speed and onboard DC voltages
TPM	Infineon TPM SLB 9670XQ2.0 or 9670VQ2.0
I/O	Serial port (pin header): 2x RS-232/422/485 + 2x RS-232 DIO (pin header): 8-bit in and 8-bit out - Parallel port (pin header) : 1x LPT port



## Backplane specifications

EBP-13E4	1xSHB / 1xPCIe x16 / 3xPCIe x4 / 7xPCI
EBP-13E2	1xSHB / 1xPCIe x16 / 3xPCIe x4 / 10xPCI
EBP-10E5	1xSHB / 1xPCIe x16 / 4xPCIe x1 / 4xPCI



## Environmental specifications

Temperature	Operating : 0~50°C / Storage -20~80°C
Humidity	Operating : 5 à 90% non condensing
Altitude	0-3000m (0-10.000ft) operating
Shock & vibration	Operating: 15G, 11ms 6 axis (MIL STD 810 F, method. 516.5) - 5~100 Hz 0.8G (MIL STD 810 F, method. 514.5)
Noise	37 dBA (MIL-STD-740-1)
CE Certification	EMC : NF EN IEC 61000-3-2 :2019/A1 :2021/A2 :2024, NF EN 61000-3-3 :2014/A1 :2019/A2 :2021, NF EN IEC 61000-6-4 : 2019, NF EN 55032 :2015/A1 :2020, NF EN IEC 61000-6-2 :2019, NF EN 55035 : 2017/A11 : 2020. SAFETY : NF EN IEC 62368-1: 2024 / A11 :2024

## System Monitoring and management

- Intel® AMT for remote management
- Local control with embedded HMI (Windows & Linux services)
  - FAN control & monitoring
  - System & network information
  - Watchdog & elapsed time counter
  - Redundant P/S default
  - Alarm (fan, temperature, redundant P/S), Log file
  - User script launch form menu entry
  - Easy configuration with .TXT file

## OEM Services

- Branding user's Lexan - Costless, NRE fees only
  - Modified COTS customization:
    - Front panel design
    - Specific I/O on front panel / special connectors on rear panel
    - Specific H/W configurations
    - Specific S/W functionality
- Call us for more information ...

## Standard configuration

Power Supply Unit	ATX 12V - 400W - High Efficiency 80+ 90 ~ 240 VAC full range / 47~63 Hz 5V@20A, 12V@30A, -12V@0.8A, 3.3V@20A, 5VSB@3.5A Option for 2x 500W Redundant P/S, 80 Plus Gold 90-264Vac full range / 47-63Hz	Processor	- Core™ i9-14901E (8P+0E Cores, 2.8~5.6GHz, 36MB Cache, 65W TDP) - Core™ i7-14701E (8P+0E Cores, 2.6~5.4GHz, 33MB Cache, 65W TDP) - Core™ i5-14501E (6P+0E Cores, 3.3~5.2GHz, 24MB Cache, 65W TDP) - Core™ i9-13900E (8P+16E Cores, 5.2GHz max., 36MB Cache, 65W TDP) - Core™ i7-13700E (8P+6E Cores, 5.1GHz max., 30MB Cache, 65W TDP) - Core™ i5-13500E (6P+8E Cores, 4.6GHz max., 24MB Cache, 65W TDP)
Backplane	EBP-13E4	Memory	DDR5-4800 : 8GB / 16GB / 32GB / 64GB
Drives	1 x 2 1/2 SATA Removable Drive Enclosure 1 x 5 1/4 front accessible drive bay free 1 x Slim CD drive bay free	Disk	- 2 1/2 7200 RPM Hard Drive (1TB ~ 4TB) - SLC & 3D TLC Solid State Drive (32 Go ~ 8TB) - Up to 6x hot swap 2 1/2 HDD/SSD with optional drive bay
Front I/O (behind door)	2x USB 2.0	OS	- Microsoft® Windows 11 64-bitRear I/O - Linux (Kernel 5.8 and up)
Rear I/O	HDMI + 2x 2.5GbE + 5xUSB 3.2 + 2xCOM		