



BPCAL03

Supports Wide Temperature Range
-20°C ~ +60°C

Embedded Box PC BPCAL02/03

ENGINEERED FOR REAL-TIME COMPUTING

in Industrial and Extreme Environments

Shuttle Embedded Box PC series is engineered for professional Industrial-grade applications: Featuring a reliable aluminum chassis, fanless and fins thermal design, flexible modular configuration, and 24/7 operational stability. This robust system delivers real-time edge computing solutions across harsh environments, perfectly supporting factories, clean rooms, transportation, and digital out-of-home applications.

12th Gen Intel® Alder Lake Core™ Processor

- Hybrid P-cores and E-cores architecture delivers superior multi-tasking performance
- DDR5-4800 MHz support with up to 64GB memory capacity

Connectivity and Expansion

- 4 USB 3.2 Gen 2 ports for high-speed data transfer
- Dual M.2 slots : 2280 for NVMe/SATA SSD and 2230 E-key for wireless solutions

Quad Displays Capability

- 4K Ultra HD output via HDMI 2.0b at 60Hz refresh rate
- Multi-display support enables real-time monitoring and visual management

Customize Modular Design

- 4-section front panel with versatile I/O expansion options

APPLICATIONS



Industrial Control



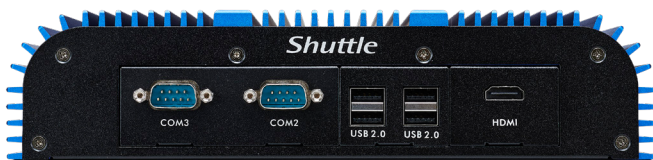
Images Recognition



Automation



Digital Signage in Shopping Mall



SPECIFICATIONS

	BPCAL02	BPCAL03
System		
Processor	12 th Gen. Intel® Alder Lake Core i3-1215UE (default) Optional: i5-1235U, i5-1245UE, i7-1255U, i7-1265UE, Celeron® 7305E	
Memory	• 2 x 262 pin SO-DIMM up to 64GB • Dual Channel DDR5 4800 MHz	
BIOS	AMI UEFI 64 Mbit	
Graphics		
Chipset	Intel® UHD or Iris® Xe Graphics	
Display Interface	2 x HDMI 2.0: 4096 x 2160@60Hz	
Display Output	Max: 4 independent or clone	
Video Decoder	WMV,AVC/H264,JPEG/MJPEG,HEVC/H265,VP9,AV1	
Storage		
Internal	1 x M.2 2280 M key (PCIe NVMe / SATA)	
Audio		
Audio Codec	Realtek ALC888S-VD 2-channel	
Network		
Ethernet	• 2 x Intel® LAN • Support Wake On LAN	
WLAN	Realtek RTL8821CE 802.11a/b/g/n/ac + Bluetooth 5.0 WLAN card M.2 2230 E key (Optional) External antenna (Dipole) x2 (Optional)	
I/O Interface		
Serial Ports	• 1 x RS-232 (DB-9) • 2 x RS-232/422/485 (DB-9) (RS-232 with power supply: ring in/ 5V (standard) &12V (with specific optional board)	
Memory	• 4 x USB3.2 Gen 2 (Type A) • 4 x USB2.0	
BIOS	AMI UEFI 64 Mbit	
Power		
Bundled Adapter	19V/4.74A 90W external adapter	19V/7.89A 150W external adapter
Option	With option wide range board, MB support 9-36V DC-in	
Watchdog Timer		
Watchdog	Support watchdog	
OS Support		
OS Support	• Windows 11 64bit • Linux 64bit	
Mechanism		
Mounting	• VESA Mount 75 x 75 mm • Ear Mount 256 x 100 mm • Din Rail	
Dimension (L/W/H) mm	245 x 169 x 57	245 x 169 x 57
Weight	2.85kg	2.85kg
Environment		
Operating Temperature	0°C ~ 40°C	-20°C ~ 60°C
Relative Humidity	20% - 80% RH (non-condensing)	20% - 80% RH (non-condensing)
EMC	CE, FCC, VCCI, BSMI, RCM	CE, FCC, VCCI, BSMI, RCM
Safety	CB, CEC, cTUVus, BSMI, EAC	CB, CEC, cTUVus, BSMI, EAC