AI Inference / ARM Series

AIB-MR1B-B1/ AIE-KR1B-B1



Features

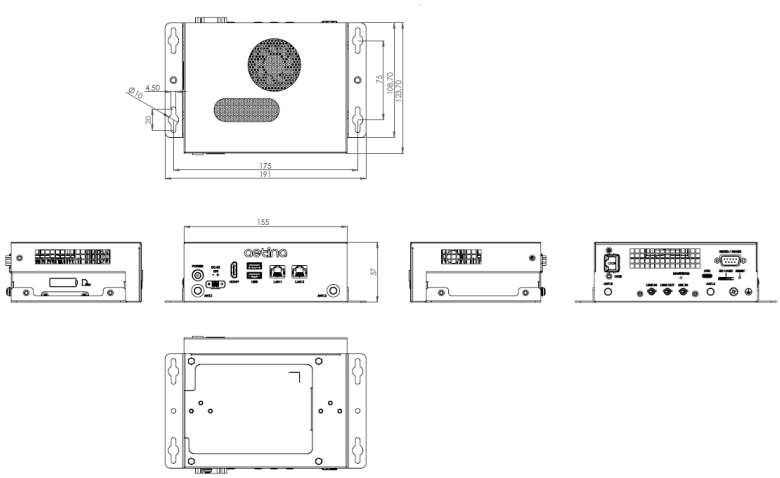
- Powered by Rockchip RK3588 with CPU, GPU, VPU, ISP, and RGA 3.0 for efficient Edge AI vision processing.
- True PCIe Gen3 x4 expansion for scalable AI accelerator modules.
- 16GB LPDDR4 and 32GB eMMC 5.1 for fast data processing and onboard storage.
- Supports USB 3.0, IP cameras, and optional GMSL2 FAKRA/MIPI interface.
- 4-wire RS-232/RS-485 for sensor connectivity and control.

Specifications

Model Number	AIB-MR1B-B1 (Platform)	AIE-KR1B-B1 (Fan-based System)
CPU	Rockchip RK3588 (8-core ARM® Architecture: 4 x Cortex-A76 @ 2.4GHz + 4 x Cortex-A55 @ 1.8GHz) with integrated 6 TOPS NPU (Supports INT8/INT16/FP16 mixed precision).	
Memory	LPDDR4X 16GB	
Storage	Onboard eMMC: 32GB eMMC 5.1 (Optional: 64GB) Internal Expansion: 1 x M.2 M-Key 2280 (SATA 3.0) for SSD (Bottom Side) External Expansion: 1 x Micro-SD Slot (Supports SD 2.0)	
Display	Interface: 1 x HDMI 2.0 Max Resolution: 3840 x 2160 @ 30Hz	
Audio	1 x MIC-In, 1 x Line-Out, 1 x Line-In (Optional with daughter board)	
LAN	2 x RJ45 GbE Indicator: Link / Activity LED on each port	
USB	1 x USB 3.2 Gen1 Type-A (High-speed for peripherals) 1 x USB 2.0 Type-A 1 x USB 2.0 Type-C OTG (Dedicated for system programming/recovery)	
COM	1 x RS-232 header (TXD/RXD/CTS/RTS), 1 x RS-485 header	1 x DB9 for RS-232(TXD/RXD/CTS/RTS) / RS485
Expansion	High-Speed Slot: 1 x M.2 M-Key 2280 (PCIe 3.0 x4) for AI Accelerator or NVMe SSD (Top Side) Storage: 1 x M.2 M-Key 2280 (SATA) for expansion storage (Bottom Side) Wireless (WiFi): 1 x M.2 E-Key 2230 (PCIe 2.1 x1 + USB 2.0) for WiFi/BT(Bottom Side) Wireless (Cellular): 1 x mPCIe Full-size (USB 2.0) for 4G LTE with Micro-SIM Slot(Bottom Side)	
GMSL / MIPI	(Optional) GMSL & MIPI : MIPI 4lane (22pin) & 2lane (15pin) onboard to support MIPI CAM GMSL2 CAM with the GMSL2 to MIPI-CSI adapter (Supports GMSL2 cameras via optional daughter board)	NA
MISC. Function	1 x Power Button 1 x Reset Button 1 x Recovery Button 1 x Maskrom Button	
Board Feature	TPM 2.0	
Power Input /Connector	DC-in 12V / Terminal Block 2-pin	
Dimension (WxDxH)	131 x 120mm (5.16” x 4.72”)	155 x 123 x 51mm (6.10” x 4.84” x 2.01”)
Net Weight	0.237 kg (0.522 lb)	0.827 kg (1.822 lb)
Temperature	Operating Temperature: 0°C ~ 70°C (32°F ~ 158°F) Storage Temperature: -40°C ~ 85°C (-40°F ~ 185°F)	Operating Temperature: 0°C ~ 70°C (32°F ~ 158°F) Storage Temperature: -40°C ~ 85°C (-40°F ~ 185°F)
Humidity	95% @ 40°C Related Humidity (non-condensing)	
OS/BSP Support	Operating System: Debian 12 (Bookworm) Kernel Version: Linux Kernel 6.1.x (LTS) Driver Support: Fully integrated drivers for AI ASIC Driver	
Certification	CE / FCC / LVD	

*Product Specifications Are Subject To Change Without Prior Notice

System & Mounting Dimensions



I/O Mechanical Layout



Ordering Information

Model Name	Description
AIB-MR1B-B1	Platform, ROCKCHIP RK3588, 16GB LPDDR4X, 32GB eMMC, 1 x HDMI, 2 x GbE, 2 x USB, 2 x M KEY, 12 VDC INPUT, 0°C ~ +70°C
AIE-KR1B-B1	Fan-based System, ROCKCHIP RK3588, 16GB LPDDR4X, 32GB eMMC, 1 x HDMI, 2 x GbE, 2 x USB, 2 x M KEY, 12 VDC INPUT, 0°C ~ +70°C

Accessories (Optional)

Part No.	Description
32-010000-0005	US Power Cord
32-010000-0006	EU Power Cord
32-010000-0008	JP Power Cord
3102000037N000	UK Power Cord

Packing List

Item/Part No.	Description
53-0FGSEC-0000	9-264V 60W 12V 5A Power Adaptor
3102000097N000	Power Din to Terminal Block Cable

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