# AKD1500 RPi 5
## Product Brief

## Key Capabilities

The AKD1500 Raspberry Pi 5 Developer Kit pairs the Raspberry Pi 5 single-board computer with BrainChip's AKD1500 neuromorphic accelerator, delivering Akida-enabled edge AI with event-based, real-time inference at low deterministic latency, efficient low-power operation for embedded and IoT use cases, and on-device processing with no cloud dependency — fully compatible with BrainChip's MetaTF tooling and Edge Impulse for rapid model development, one-click deployment, and on-chip learning.

## Key Specs

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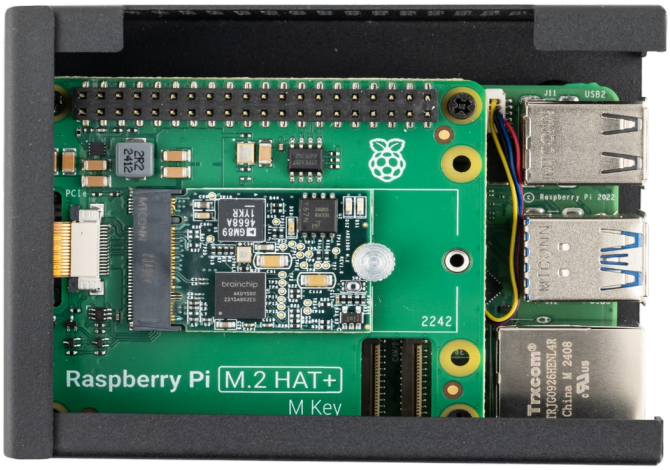
|---|---|
| **SoC** | Broadcom BCM2712, 2.4GHz quad-core 64-bit Arm Cortex-A76 |
| **GPU** | Broadcom VideoCore VII, 800MHz (OpenGL ES 3.1, Vulkan 1.2) |
| **RAM** | 8GB LPDDR4 SDRAM |
| **Networking** | Gigabit Ethernet, Bluetooth 5.0, dual-band 802.11ac Wi-Fi |
| **AI Accelerator** | 1x Akida AKD1500 M.2 Card (B+M Key) |
| **Interfaces** | Single-lane PCIe 2.0; 2x USB 3.0 ports |
| **Display** | Dual 4Kp60 HDMI with HDR, 4Kp60 HEVC decode |
| **Storage** | MicroSD (SDR104); 8/16/32GB eMMC (CM4) |
| **OS** | Linux (MetaTF pre-installed) |




## Designed For

- Edge AI Prototyping — rapid development with AKD1500 + MetaTF
- Visual Object Classification — real-time inference
- Anomaly Detection — on-chip learning, no cloud required
- Edge Impulse Model Deployment — deploy models in minutes
- Target Applications: Industrial IoT & Predictive Maintenance, Smart Home & Building Automation, Security & Surveillance, Smart Retail, Healthcare, Robotics


BrainChip Inc. ©2026
www.brainchip.com
23041 Avenida de Carlotta, #250, CA 92653
T: +1 949.784.0041