

Brainchip and VVDN collaborated to create the innovative and powerful **Akida Edge AI Box**. This collaboration leverages **BrainChip's AKD1000 AI Accelerator** and **NXP i.MX 8M Plus SoC** to produce a compact system with the capability to execute **diverse AI applications** at the **edge**. Applications such as **video analytics, face recognition, and object detection** are among the many use cases supported by this solution.

The **AKD1000 AI Accelerator** utilizes **Brainchip's Akida Neuromorphic AI Technology**. This Neuromorphic approach to computation for AI applications is inspired by the structure and functionality of the human brain. As such, a neuromorphic processor is inherently event-driven in the sense that computations occur as cascades of events where arithmetic operations and transfer of results only occur for non-zero activations. This event-driven method for AI computations significantly reduces power consumption and processing latency.



Highlights

- * NXP i.MX 8M Plus Quad SoC
- * 2x Brainchip AKD1000 Accelerators
- * 4 GB LPDDR4 & 32 GB eMMC
- * Yocto-based Embedded Linux OS
- * Small and compact enclosure
- * Easy to build, deploy, and manage AI at the Edge
- * Pre-installed 4,2,1 demo applications
 - (USB camera not included)

Akida Edge AI Box use cases include:



Smart Factories



Smart Retail



Smart Cities



Healthcare



Security & Surveillance
Smart Logistics

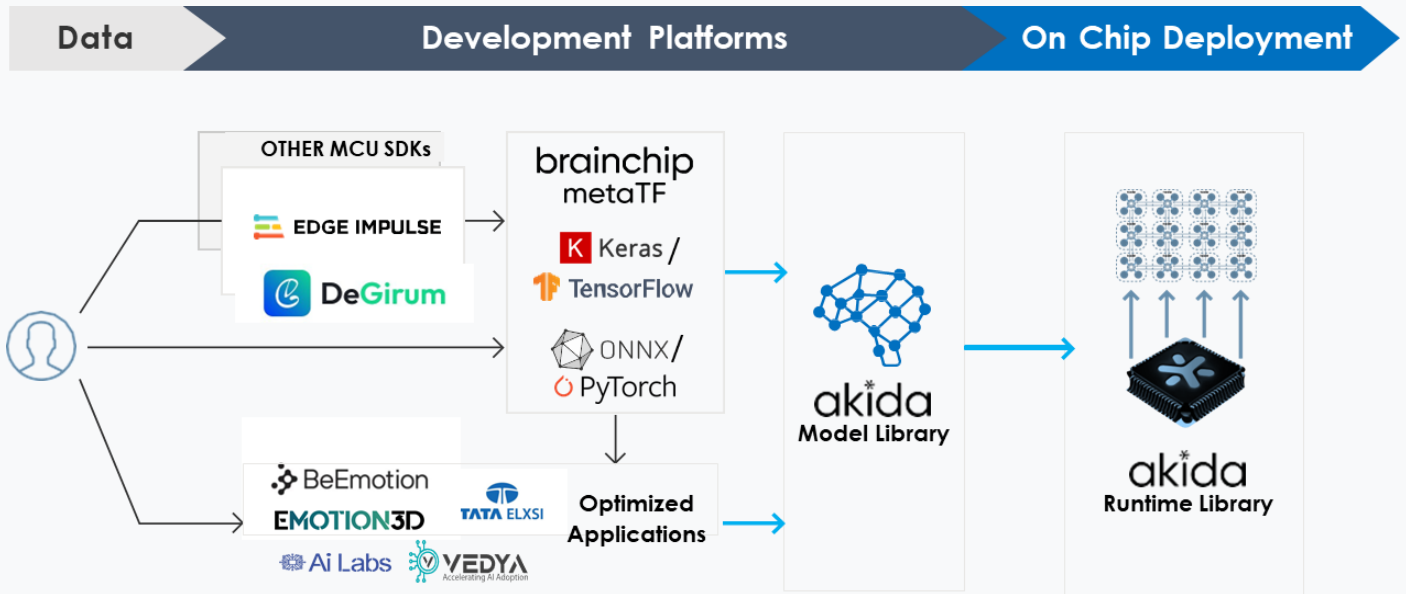


Automotive



Transportation

MetaTF Software Tools



Specifications

SoC	NXP i.MX 8M Plus Quad SOC
CPU	4x Cortex-A53 up to 1.8 GHz
GPU	6 GFLOPS (high-precision) OpenGL® ES 3.1/3.0, Vulkan®, Open CL™ 1.2 FP, OpenVG™ 1.1
OS	Yocto Linux Version 6.1
USB	- USB 3.0 Port Type A Port - USB 2.0 Port Micro B Port (Flashing and Debug Port)
Display	1x HDMI Output with Max Resolutions of 3840 x 2160p30 Pixel clock up-to 297MHZ
Max Encode	1x1080P60 (H265 & H264) / 2x1080P30 (H265 & H264) / 4x720P30 (H265 & H264)
Max Decode	1x1080P60 (H265 & H264) / 2x1080P30 (H265 & H264) / 4x720P30 (H265 & H264)
User Interface	Power / Reset Button
Operating Temperature	0°C to 50°C
Dimensions	110mm x 110mm x 56mm (L x W x H)
AI/ML Accelerator	2x BrainChip AKD1000 Accelerators
Memory	4GB LPDDR4
Storage	32GB eMMC & Supports Micro SDXC card up to 1 TB
Network Connectivity	- Wi-Fi Connectivity: 802.11 ac/b/g/n/c (2.4GHz /5GHz) - Ethernet Connectivity: Two Ethernet ports supporting 10/100/1000 Mbps *-Supports Bluetooth version V5.0, V4.2, V4.1, V4.0 LE
Power Input	12VDC Input using External AC / DC Adapter
Operating Humidity	5% to 95%
Enclosure	- Metal+Plastic Enclosure with heatsink - IP42 ratings
User Indication	- 2x RGB LED for status indication - Power ON / OFF Indication LED (Green)

Hardware Design by



Customization available