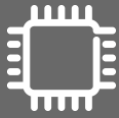# VEST i.MX8M Plus SMARC Dev Kit

VEST-8MP-00-SMX-DEV

VEST is a leading embedded solutions provider, committing to excellence and innovation. VEST i.MX8M Plus SMARC Dev Kit in SMARC 2.1 standard form factor expedite product development and manufacturing for supply resilience, enabling swift market entry for your products and ensuring a competitive advantage.

Edge Computing

Rich Multimedia

High Performance CPU

Robust Security Features

ABOUT OUR PRODUCT

Introducing the VEST i.MX8M Plus SMARC Development (Dev) Kit. This comprehensive solution comprises a System on a Module (SOM) and a Carrier board.

Unleash the full potential of the NXP i.MX8M Plus, featuring ARM® Cortex®-A53 processor and Neural Processing Unit (NPU). This empowers Artificial Intelligence (AI) and Machine Learning (ML) capabilities, enhances multimedia performance, supports cutting-edge Edge Computing, provides robust video graphics, and enables rapid processing – all within a compact, cost-efficient, and power-efficient package. VEST software board support package contains software drivers for Hailo-8™ AI accelerator (up to 26 TOPs capacity) and Leopard Imaging 8.4 Megapixels LI-IMX715-MIPI Camera, allowing optional upgrade possibilities on your product.

VEST i.MX8M Plus SMARC 2.1 SOM suitable for diverse range of applications, such a

- Edge Computing
- Video / Audio Conferencing
- Advanced Human Machine Interface Application
- Point of Sales, Digital Signage, Smart Retail, Smart Cities
- Point of Care
- Portable Test and Measurement Instruments
- Automation for Industry 4.0

Key Features

- Dedicated NPU to accelerate AI and machine learning
- Integrated Hailo-8™ AI accelerator with 26 TOPs capacity AI computing budget (optional)
- Accelerate real-time data processing, with dual display
- Rich multimedia capabilities
- Up to 4K camera support
- Built-in 10W audio amplifier (plug and play speaker driver)
- Secured data integrity, safeguard against unauthorized access
- Multiple high-speed interfaces that comply with industrial standards facilitate seamless integration with various peripherals

Support

VESTConnect360
Cloud Management System

LEOPARD IMAGING

HAILO Empowering Intelligence

SMARC module

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Website: apc-vest.com
Email: sales@apc-vest.com
E-Store: shop.apc-vest.com
LinkedIn: www.linkedin.com/company/advanced-product-corporation

Specifications

CPU Details

CPU	Up to Cortex®-A53 @ 1.8GHz, Cortex-M7 @ 800MHz
GPU	1GC7000UL (2 shaders) OpenGL® ES 1.1/2.0/3.0/3.1, Open VG™ 1.1, Vulkan®, Open CL™ 1.2 FP, GC520L (2D)
NPU	Neural Processing Unit (NPU) Operating at up to 2.3 TOPS
AI Accelerator	Support Hailo AI Accelerator module up to 26 TOPs (Optional Upgrade)

Memory

Memory	2GB (up to 8GB) 32-bit LPDDR4 up to 4.0GT/s
Storage	8GB (up to 128GB) eMMC5.1
External Storage	Micro SD 3.0 Socket Push-Push Type

Operating System / Driver

BSP	Yocto Linux, Ubuntu and Android
Driver	HailoRT, LI-IMX715-MIPI Camera (Leopard Imaging)

Multimedia

Video Encoder	1080p60 H.265, H.264
Video Decoder	1080p60 HEVC, H.265, H.264, VP9, VP8
Hi-Fi Audio	Cadence® Tensilica® HiFi 4 DSP @ 800MHz
Camera	2x MIPI CSI (4-lane each) 2x ISP up to 12 MP Resolution
Display and Touch	HDMI 2.0a Tx | LVDS Connector with backlight for 7" & 10" LCD Panel | I2C Touch Connector for 7" & 10" LCD Panel
Audio	Headphone Jack with Microphone Input | 4 Pin Header for Speaker L&R, Up to 10W/ch into 8ohm Load

Connectivity

Wireless	On SOM Board Dual Band Wi-Fi/Bluetooth Module (802.11a/b/g/n/ac and BT 5.0)
Networking	2x 10/100/1000 BaseT RJ45 Ethernet with PoE, 1x Ethernet with TSN Support, 2x CAN FD
USB	1x USB 2.0/3.0 Type C with PD | 2x USB 2.0/3.0 Type A | 1x USB 2.0 Type A
Serial Communication	RS485 with 120ohm Termination Resistor (Default) or RS232
I/O Expansion	M.2 Key B Form Factor Expansion Daughter Board Socket | 4-Lane MIPI CSI x 2 | I2C x 2 | UART x 2 | SPI x 2 | GPIO M.2 Key B Expansion Daughter Board Socket | LVDS (4/8-lane, default) or MIPI DSI (4-lane) | I2C | GPIO PCIe M.2 Key E 2230 Form Factor | 1 Lane PCIe Gen 3.0 | USB | SDIO | I2S | UART | GPIO
Debugging & Programming	2x Debug-UART Header, 2.54mm Pitch 5pin Header | JTAG-1.27mm Pitch 2 x 5 Pin Header
Buttons and Indicators	1x On/Off Button | 1x Reset Button | 1x On/Off, Reset, Power LED Control Signal Connector-2mm Pitch 5 Pin Header | Power LED Indicator-2x, 3.3V & 5V
Power	PoE (25w/channel), USB-C (60w)

Physical

Form Factor	180mm x 120mm (Carrier Board) , 82mm x 50mm SMARC SOM
Operating Temperature	Commercial | Industrial (Optional)

What Encompasses i.MX8M Plus SMARC Development Kit   Optional Upgrade

VEST i.MX8M Plus SMARC Dev Board	Heat Sink	Power Adapter	Plug and Socket	Antenna x2	Hailo-8™ AI accelerator	LI-IMX715-MIPI Camera

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