![VEST logo] **Your Partner in Innovation**
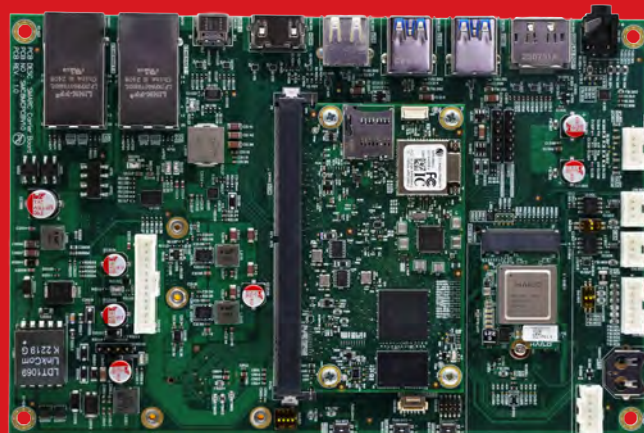Embedded Solutions

# VEST i.MX8M Mini SMARC Dev Kit

### VEST-8MM-07-SMX-DEV

VEST is a leading embedded solutions provider, committing to excellence and innovation. VEST i.MX8M Mini 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.



## Industrial / Commercial IoT

## Efficient CPU

## Robust Security Features

## Edge Computing

## ABOUT OUR PRODUCT

Introducing the VEST i.MX8M Mini 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 Mini, featuring ARM® Cortex®-A53 processor. 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), allowing optional upgrade possibilities on your product.

VEST i.MX8M Mini SMARC 2.1 SOM suitable for diverse range of applications, such as

- 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

- Accelerate real-time data processing, with dual display
- Integrated Hailo-8™ AI accelerator with 26 TOPs capacity AI computing budget (optional)
- Rich multimedia capabilities
- 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

![Linux] ![Android] ![Ubuntu] ![Qt] ![TensorFlow] **VESTConnect360** Cloud Management System ![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®-M4 @ 400MHz |
| GPU | GC NanoUltra (1shader) OpenGL® ES 2.0, GC520L (2D) |
| AI Accelerator | Support Hailo AI Accelerator module up to 26 TOPs (Optional Upgrade) |

| Memory | |
|---|---|
| Memory | 2GB (up to 8GB) 32-bit LPDDR4-3000 |
| 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 |

| Multimedia | |
|---|---|
| Video Encoder | 1080p60 H.264, VP8 |
| Video Decoder | 1080p60 HEVC, H.264, VP9, VP8 |
| 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 | 10/100/1000 BaseT RJ45 Ethernet with PoE, 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 <br><br> M.2 Key B Expansion Daughter Board Socket │ LVDS (4/8-lane, default) or MIPI DSI (4-lane) │ I2C │ GPIO <br><br> PCIe M.2 Key E 2230 Form Factor │ 1 Lane PCIe Gen 2.0 │ 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 | 3x On/Off Button, Reset and Force Recovery │ 5 Pin Header 2mm Pitch Header │ 1x On/Off, Reset, User LED Control │ 5 Pin Header │ Power LED Indicator-5x, PoE Sected, SYS_5V0, VDD_5V0, POE_OUT & VDD_3V3 │Boot Mode Dip Switch |
| 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 Mini SMARC Development Kit        Optional Upgrade

| VEST i.MX8M Mini SMARC Dev Kit Board | LCD 7" or 10" (Option) | Heat Sink | Power Adapter | Plug and Socket | Antenna | Hailo-8™ AI accelerator |
|---|---|---|---|---|---|---|

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