VEST
Your Partner in Innovation
Embedded Solutions

VEST SMARC Development Kit

Build the next generation of Home and Industrial Automation, IoT, Smart Cities, and Industry 4.0 solutions using VEST Dev Kits — delivering AI/ML, Vision, Multimedia, Matter Protocol, and seamless connectivity to speed innovation and reduce time-to-market for intelligent, connected solutions.

Applications

- Advanced Multimedia Human Machine Interface
- Video & Audio Conferencing
- Medical & Healthcare Devices
- Point of Sales, Digital Signage, Smart Retail, Smart Cities
- Test and Measurement Instruments
- Home, Building & Industrial Automation
- Industrial IoT & Industry 4.0

180mm x 120mm (Carrier Board)
82mm x 50mm (SMARC SOM)

Specifications

- **VEST i.MX8M Plus Dev Kit S:**
  Up to Quad-Core Cortex®-A53, Cortex®-M7, 2D/3D graphics, NPU (2.3 TOPS), 2GB RAM, 16GB eMMC, Micro SD slot, Hailo-8/8L AI module via M.2 Key E (Optional)
- **VEST i.MX8M Mini Dev Kit S:**
  Up to Quad-Core Cortex®-A53, Cortex®-M4, 2D/3D graphics, 2GB RAM, 16GB eMMC, Micro SD slot, Hailo-8/8L AI module via M.2 Key E (Optional)
- **VEST i.MX8M Nano Dev Kit S:**
  Up to Quad-Core Cortex®-A53, Cortex®-M7, 3D graphics, 2GB RAM, 16GB eMMC, Micro SD slot
- **Operating System**

debian Zephyr FreeRTOS

SMARC module
TELEDYNE Teledyne e2v
HAILO Empowering Intelligence
NXP Gold Partner

VEST i.MX8M Plus Dev Kit S

VED8MPNSMX/VED8MPNH8SMX/
VED8MPNH8LSMX

Omnivision OV5640, LI-IMX715-MIPI Camera (Leopard Imaging), Teledyne e2v (Optimom 2.0)

2x MIPI CSI (4-Lane each), ISP up to 12 MP

On SOM Dual Band Wi-Fi/Bluetooth, Intel® AX210 Wi-Fi 6E module/BE200 Wi-Fi 7 module via M.2 Key E slot (Optional)*

2x Gigabit Ethernet with PoE (1x TSN)

2x M.2 Key B Form Factor Expansion Daughter Board Socket for MIPI CSI & LDVS

Telit LN920 via M.2 NGFF (LTE Cat 12/13/6, GNSS: GPS/GLONASS/Galileo/Beidou) (Optional)*

NXP Real-Time Edge Software, NXP eIQ®, HailoRT (AI Accelerator)

VEST i.MX8M Mini Dev Kit S

VED8MM7SMX/VED8MM7H8SMX/
VED8MM7H8LSMX

Omnivision OV5640, LI-IMX715-MIPI Camera (Leopard Imaging), Teledyne e2v (Optimom 2.0)

1x MIPI CSI (4-Lane)

On SOM Dual Band Wi-Fi/Bluetooth, Intel® AX210 Wi-Fi 6E module/BE200 Wi-Fi 7 module via M.2 Key E slot (Optional)*

1x Gigabit Ethernet with PoE

2x M.2 Key B Form Factor Expansion Daughter Board Socket for MIPI CSI & LDVS

Telit LN920 via M.2 NGFF (LTE Cat 12/13/6, GNSS: GPS/GLONASS/Galileo/Beidou) (Optional)*

NXP Real-Time Edge Software, NXP eIQ®, HailoRT (AI Accelerator)

VEST i.MX8M Nano Dev Kit S

VED8MN7SMX

1x MIPI CSI (4-Lane)

LVDS Connector with backlight for 7" & 10" LCD Pane, I2C Touch Connector for 7" & 10" LCD Panel

Headphone Jack with Microphone Input, 4 Pin Header for Speaker L&R, Up to 10W/ch into 8ohm Load

Dual Band Wi-Fi/Bluetooth (Optional on SOM module)

1x Gigabit Ethernet with PoE

1x USB 2.0 Type-C with PD

2x M.2 Key B Form Factor Expansion Daughter Board Socket for MIPI CSI & LDVS

M.2 Key E (SDIO, UART, GPIO)

NXP eIQ®

*: *The Intel® BE200/AX210 Wi-Fi 6E/Telit LN920 LTE and Hailo AI modules utilize the same M.2 Key E interface. Only one module can be installed at a time. Concurrent operation is not supported.*

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VEST SMARC NXP i.MX8M Family System On Module

VEST SMARC modules offer a complete, scalable solution for Edge Computing, integrating powerful capabilities like rich multimedia, real-time control, and on-board AI/Machine Learning. They are fully equipped for industrial deployment, featuring support for common industrial communication buses and robust connectivity options.

Applications

- Advanced Multimedia Human Machine Interface
- Video & Audio Conferencing Intercom
- Smart Home with Matter Protocol and Building Automation
- Point of Sales, Digital Signage, and Industrial Scanning
- Machine Vision Inspection and Test & Measurement Equipment
- Transportation and Healthcare Devices
- Industrial IoT and Industry 4.0 Solutions

82mm x 50mm (SMARC SOM)

Specifications

- **VEST SMX i.MX8M Plus:**
  Up to Quad-Core Cortex®-A53, Cortex®-M7, 2D/3D graphics, NPU (2.3 TOPS), 2GB RAM, 16GB eMMC, Micro SD slot
- **VEST SMX i.MX8M Mini:**
  Up to Quad-Core Cortex®-A53, Cortex®-M4, 2D/3D graphics, 2GB RAM, 16GB eMMC, Micro SD slot
- **VEST SMX i.MX8M Nano:**
  Up to Quad-Core Cortex®-A53, Cortex®-M7, 3D graphics, 2GB RAM, 16 GB eMMC, Micro SD slot
- **Operating System**

debian Zephyr RTOS

SMARC module

NXP Gold Partner

VEST SMX i.MX8M Plus

VE8MP4SMX42WC/VE8MP4SMX42WI

- Arm® Cortex®-A53 (Dual/Quad-Core), Arm® TrustZone® DRM Ciphers, Security key Storage
- 2x MIPI CSI (2 & 4-lane), ISP up to 12 MP
- HDMI 2.0a TX, LVDS (4/8-Lane) TX, MIPI DSI (4-Lane)
- Cadence® Tensilica® HiFi 4 DSP @ 800MHz
- Dual Antenna Wi-Fi/BT 2.5 GHz/ 5GHz (optional)
- 2x Gigabit Ethernet (1x TSN)
- 1x USB 3.0/USB 2.0 OTG, 2x USB 2.0 Host, 2x USB 3.0 Host via on-board USB Hub
- 3x UART(with Wifi)/4x UART, 2x CAN FD, 2x SPI, 1x PCIe Gen 3.0, 5x I2C, 9x GPIOs
- NXP Real-Time Edge Software, NXP eIQ®

VEST SMX i.MX8M Mini

VE8MM4SMX42WC/VE8MM4SMX42WI

- Arm® Cortex®-A53 (Dual/Quad-Core), Arm® TrustZone® DRM Ciphers, Security key Storage
- 1x MIPI CSI (4-Lane)
- Dual Channel LVDS (default) or MIPI DSI (4-Lane)
- Dual Band Wi-Fi/Bluetooth (optional)
- 1x Gigabit Ethernet
- 1x USB 2.0 OTG, 4x USB 2.0 Host
- 3x UART (with Wifi-BT version) or 4x UART (for without Wifi-BT version)
- 2x CAN FD or 1x CAN FD & SPI
- 1x PCIe Gen 2.0, 4x I2C, 9x GPIOs
- NXP Real-Time Edge Software, NXP eIQ®

VEST SMX i.MX8M Nano

VE8MN4SMX42WC/VE8MN4SMX42WI

- Arm® Cortex®-A53 (Dual/Quad-Core), Arm® TrustZone® DRM Ciphers, Security key Storage
- 1x MIPI CSI (4-Lane)
- Dual Channel LVDS (default) or MIPI DSI (4-Lane)
- Dual Band Wi-Fi/Bluetooth (optional)
- 1x Gigabit Ethernet
- 1x USB 2.0 OTG
- 3x UART (for Wifi-BT version) or 4x UART (for without Wifi-BT version)
- 2x CAN FD or 1x CAN FD & SPI
- 4x I2C, 9x GPIOs
- NXP eIQ®

SMARC module

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VEST Open Standard Module (OSM)

The compact VEST OSM form factor (30x30mm) unlocks a vast range of Edge Computing solutions. It supports a versatile processor selection, from the powerful NXP i.MX8M Plus and efficient i.MX93 (both ideal for AI/ML applications like vision and time-series predictive maintenance) down to the ultra-low-power i.MX 8ULP, which is perfect for voice-enabled applications.

Applications

- Advanced Multimedia HMI, Video/Audio Conferencing
- Medical & Healthcare Devices, Portable Patient Monitoring
- Smart Home, Building Automation, Matter Controller/devices
- Energy Management (EV charging, Generation, HVAC)
- Industrial IoT, Industry 4.0, Edge Gateways
- Intelligent Machine Vision, Robotics, Scanning, Test & Measurement Equipment
- Smart city: Lighting, Safety, Transport

30mm x 30mm (OSM Size-S)

Specifications

- **VEST OSM i.MX8M Plus:**
  Up to Quad-Core Cortex®-A53, Cortex®-M7, 2D/3D graphics, NPU (2.3 TOPS), 2GB RAM, 16GB eMMC, Micro SD slot, 1x MMC (8-bit), 1x SDIO 3.0 (4-bit)
- **VEST OSM i.MX 8ULP:**
  Dual-Core Cortex®-A35, Cortex®-M33, 2D/3D graphics & PXP, 2GB RAM, 16GB eMMC, Micro SD slot
- **VEST OSM i.MX93/i.MX91:**
  i.MX93: Up to Dual-Core Cortex®-A55, Cortex®-M33, PXP, NPU (Arm Ethos™-U65 0.5 TOPS), 2GB RAM, 16GB eMMC, Micro SD slot
  i.MX91: Single-Core Cortex®-A55, 2GB RAM, 16GB eMMC, Micro SD slot
- **Operating System**

debian Zephyr FreeRTOS

OPEN STANDARD MODULE™

NXP Gold Partner

VEST OSM i.MX8M Plus

VE8MPN4OSS420C/VE8MPN4OSS420I

- Arm® Cortex®-A53 (Quad-Core), Arm® TrustZone® DRM Ciphers, Security key Storage
- 2x MIPI CSI (4-Lane)
- HDMI 2.0a TX, LVDS (4/8-Lane) TX, MIPI DSI (4-Lane)
- Cadence® Tensilica® HiFi 4 DSP @ 800MHz
- Temperature compensated RTC (optional)
- 2x Gigabit Ethernet (1x TSN)
- 2x USB 3.0 OTG
- 4x UART, 2x SPI, 2x CAN FD
- 1x PCIe Gen 3.0, 4x I2C, 24x GPIOs
- NXP Real-Time Edge Software, Matter, NXP eIQ®

VEST OSM i.MX 8ULP

VE8ULP2OSS420C/VE8ULP2OSS420I

- Arm® Cortex®-A35 (Dual-Core), EdgeLock® Secure Enclave
- 1x MIPI CSI (4-Lane)
- MIPI DSI (4-Lane), 18-bit RGB
- Tensilica® Fusion DSP for low power audio
- 1x 10/100 Mbps RMII for Ethernet
- 2x USB 2.0 OTG
- 1x I2S
- 2x UART (TX,RX,CTS,RTS), 3x UART (TX,RX), CAN FD, 2x SPI, 6x PWM
- 2x I2C, 1x 3C
- 24x GPIOs (can use to configure 8 Ch DMIC)
- NXP eIQ®, Matter

VEST OSM i.MX93/i.MX91

VE932OSS420C/VE932OSS420I
VE911OSS420C/VE911OSS420I

- i.MX93 (Arm® Dual-core Cortex®-A55), i.MX91 (Arm® Single-Core Cortex®-A55), EdgeLock® Secure Enclave
- MIPI CSI (2-Lane) with ISI, 8 bpp parallel YUV/RGB Camera*
- MIPI DSI (4-Lane), LVDS (4-Lane), 24 bpp parallel RGB Display*
- 2x Gigabit Ethernet (1x TSN)
- 2x USB 2.0 OTG (Controller and PHY)
- 3x I2C, 22x GPIOs (option for I2S, PWM)
- 2x UART (TX, RX, CTS, RTS), 2x UART (TX, RX), 2x CAN-FD, 2x SPI, PWM, 4x ADC, 1x I2S
- NXP Real-Time Edge Software, Matter, NXP eIQ®
- *N.B i.MX93/91 are pin to pin compatible*

For 8bpp parallel YUV/RGB Camera Application, and 24 bpp parallel RGB Display Application. Contact **sales@apc-vest.com*

OPEN STANDARD MODULE™

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VEST
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VEST Single Board Computer (SBC)

VEST series of industrial SBCs, available in Mini-ITX or custom formats, they feature the high-performance Intel® Core™ Ultra Processors Series 2 (Arrow Lake) and the robust iMX8M Mini. These platforms are optimized for commercial and industrial environments. They enable advanced AI/ML capabilities using their embedded NPU or optional Hailo AI Accelerators. Get powerful, accelerated edge computing solutions.

Applications

- Factory Automation, Process Control & Robotics (AGV/AMR)
- Industrial PCs and Energy Management (EV Charging, Smart Grid)
- Advanced HMI & Smart Retail (Kiosks, Signage, POS)
- Industrial and Commercial IoT
- Medical Edge Compute, Point of care, Remote Monitoring
- Telematics, Video/Audio Streaming
- Gateway, Edge Vision, Traffic & Warehouse Management

Picture does not represent the actual product

170mm x 170mm (Mini ITX)

Specifications

- **VEST SBC i.MX8M Mini:**
  Quad-core Cortex®-A53, Cortex®-M4, 2D/3D graphics, 2GB RAM, 8GB eMMC, Micro SD slot
- **Operating System**

debian Zephyr RTOS

- **VEST SBC Intel® Core™ Ultra Processors Series 2 (Arrow Lake):**
  Intel® Core™ Ultra 5 (235UA, 225U, 235U), Intel® Core™ Ultra 7 (255U, 265U):
  Up to 12 cores (2P + 8E + 2e)
  Platform TOPS: Up to 24
  Intel® Graphics: Up to 8 TOPS Integrated
  NPU: Up to 13 TOPS, Intel Deep Learning Boost
- **Operating System**

debian Windows 11

HAILO
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VEST SBC i.MX8M Mini

VED8MM4SBC41WC

Arm® Cortex®-A53 (Quad-Core)

Support up to1080p60 Display through MIPI DSI

LVDS & I2C touch connector for 7"/10" LCD, Dual-channel LVDS, 4-lane MIPI-DSI, I2C, PWM, up to 1A backlight output

Dual Band Wi-Fi/Bluetooth with 1x Antenna (optional)

1x USB 2.0 OTG (Micro Type-B), 6x USB 2.0 Host (Type-A)

1x Gigabit Ethernet with AVB, IEEE 1588, EEE (Energy Efficient Ethernet for Low Power)

0.5mm 2×25-pin header: MIPI CSI (4-Lane), SPDIF, SPI, PWM, UART, I2C, GPIO
Mini PCIe (half/full size) with Micro SIM socket

1x Power & Reset buttons, 1x 2mm 3-pin header for power/reset,
1x GPIO-controlled LED indicator

Picture does not represent the actual product

VEST SBC Intel® Core™ Ultra Processors Series 2 (Arrow Lake)

Intel® Core™ Ultra 5 (235UA, 225U, 235U)
Intel® Core™ Ultra 7 (255U, 265U)

Memory Support: Up to LPDDR5/X 8400 MT/s, Up to DDR5 6400 MT/s

PCIe Support: Up to 20 PCIe 4.0

Connectivity: Integrated Wi-Fi 7, Bluetooth 5.4, Up to 4x Thunderbolt 4 ports

Graphics Output: DP 2.1 UHBR20, HDMI 2.1 FRL, eDP1.4b

Base Power: 15W

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NXP Gold Partner

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VEST
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VEST Embedded High-Speed Scanning Kit

VEST, in partnership with Teledyne e2V, provides an embedded vision hardware kit leveraging a selection of NXP i.MX8M Plus, Mini, and i.MX93 processors. Integrating SCANDIT software, the kit offers a high-speed scanning solution that instantly captures and deciphers multiple 1D/2D barcodes, such as QR, Matrix, and Aztec Codes simultaneously. This makes the VEST High-speed scanning kit suitable for a wide range of applications, including warehousing, logistics, medical, and factory automation.

Applications

- Logistics & Warehousing: Inventory handling, parcel scanning
- Manufacturing: Label detection, PCBA label identification
- Factory Automation: Tracking, sorting, and inspection of items and packaging
- Transportation: Shipment tracking, order picking, and sorting
- Healthcare: Medical label scanning
- Retail: Product and point-of-sale barcode scanning

Specifications

- **VEST Embedded Vision Kit:**
  Up to Quad-Core Cortex-A53, Cortex®-M7, 2D/3D graphics & GPU computing, NPU (2.3 TOPS), 2GB RAM, 16GB eMMC, Micro SD slot
- **Operating System**

debian Zephyr™ FreeRTOS

180mm x 120mm (Carrier Board)
82mm x 50mm (SMARC SOM)

100mm x 72mm (Carrier Board)
30mm x 30mm (OSM Size-S)

SCANDIT TELEDYNE Teledyne e2v NXP Gold Partner

VEST Embedded High-Speed Scanning Kit

VEV8MPSMXTB01/VEV8MPSMXTC01
VEV8MPSMXTB02/VEV8MPSMXTC02

180mm x 120mm (Carrier Board)
82mm x 50mm (SMARC SOM)

Features

- Arm® Cortex®-A53 (Quad-Core)
- 2x MIPI CSI (4-Lane each), 2x ISP
- LVDS connector with backlight for LCD Panel, I2C Touch Connector, HDMI 2.0a TX
- Optimom 1.5: 1920 (H) x 800 (V), 2.5µm, F/4.0, 10 cm, 100fps @ 8bit, 65fps @ 10 bit, 3.5e-, 37.4 dB
- Optimom 2.0: 1920 (H) x 1080 (V), 2.5µm, F/4.0, 10 cm, 130fps @ 8bit, 80fps @ 10 bit, 3.5e-, 37.4 dB
- Dual Band WiFi, 2x2 MIMO + Bluetooth 5.2
- 2x Gigabit Ethernet with PoE (1x TSN)
- 1x USB2.0/3.0 Type-C with PD, 2x USB 2.0/3.0 Type-A, 1x USB 2.0 Type-A
- M.2 KeyB (4-lane 2x MIPI CSI < 2x I2C, 2x UART, 2x SPI, GPIO)
  M.2 KeyB (LVDS 4/8-Lane default or MIPI DSI (4-Lane), 2x I2C, 2x UART)
  PCIe M.2 Key E 2230 (1-Lane PCIe Gen 3.0, USB, SDIO, I2S, UART, GPIO)
- NXP Real-Time Edge Software, NXP eIQ®, HailoRT (AI Accelerator) and Scandit (High-Speed Scanning) software
- Also available on **VEST PICO ITX**

SCANDIT

TELEDYNE
Teledyne e2v

NXP Gold Partner

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VEST **Your Partner in Innovation**
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VEST People Detection & Counting Kit

VEST delivers a robust People Detection & Counting Kit by partnering with camera module vendors like Leopard Imaging, Omnivision, and Teledyne e2V and leveraging the Hailo-8 and Ara-2 AI module. It supports accurate vision-based counting, detection, and identification in real-world applications.

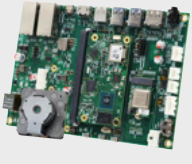
Applications

- Retail footfall and customer flow analytics
- Building occupancy and facility usage monitoring
- Meeting room and office space utilization
- Passenger counting in transportation hubs
- Crowd density and safety monitoring
- Access control and presence detection
- Industrial safety zone monitoring

Specifications

- **VEST People Detection & Counting Kit:** Up to Quad-Core Cortex-A53, Cortex®-M7, 2D/3D graphics & GPU computing, NPU (2.3 TOPS), 2GB RAM, 16GB eMMC, Micro SD slot, Hailo-8 AI module
- **Operating System**

debian



180mm x 120mm (Carrier Board), 82mm x 50mm (SMARC SOM)

100mm x 72mm (Carrier Board) 30mm x 30mm (OSM Size-S)

LEOPARD IMAGING · TELEDYNE Teledyne e2v · HAILO Empowering Intelligence · NXP Gold Partner

VEST People Detection Counting Kit

VEV8MPSMXTB01/VEV8MPSMXTC01
VEV8MPSMXTB02/VEV8MPSMXTC02

180mm x 120mm (Carrier Board)
82mm x 50mm (SMARC SOM)

Features

- Arm® Cortex®-A53 (Quad-Core)
- 2x MIPI CSI (4-Lane each), 2x ISP
- LVDS connector with backlight for LCD Panel, I2C Touch Connector, HDMI 2.0a TX
- Optimom 1.5: 1920 (H) x 800 (V), 2.5µm, F/4.0, 10 cm, 100fps @ 8bit, 65fps @ 10 bit, 3.5e-, 37.4 dB
- Optimom 2.0: 1920 (H) x 1080 (V), 2.5µm, F/4.0, 10 cm, 130fps @ 8bit, 80fps @ 10 bit, 3.5e-, 37.4 dB
- Dual Band WiFi, 2x2 MIMO + Bluetooth 5.2
- 2x Gigabit Ethernet with PoE (1x TSN)
- 1x USB2.0/3.0 Type-C with PD, 2x USB 2.0/3.0 Type-A, 1x USB 2.0 Type-A
- M.2 KeyB (4-Lane 2x MIPI CSI < 2x I2C, 2x UART, 2x SPI, GPIO) M.2 KeyB (LVDS 4/8-Lane default or MIPI DSI (4-Lane), 2x I2C, 2x UART) PCIe M.2 Key E 2230 (1-Lane PCIe Gen 3.0, USB, SDIO, I2S, UART, GPIO)
- NXP Real-Time Edge Software, NXP eIQ®, HailoRT (AI Accelerator)
- Also available on **VEST PICO ITX**

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VEST SMARC i.MX95 Development Kit

Experience the future of Edge Computing with the powerful NXP i.MX95 processor family. Powered by Hexa Arm Cortex®-A55 cores, it delivers high-performance computing for demanding applications. Boost AI and ML tasks with the integrated NXP eIQ® Neutron NPU (2.0 TOPS), and create immersive HMIs using the embedded Mali 3D GPU. Enjoy ultra-fast, reliable connectivity with 10GbE and TSN, expandable via dual PCIe ports—all secured by the EdgeLock® Secured Enclave.

Applications

- AI/ML
- Smart Appliances, Smart Home, AV Conferencing
- Industrial Control & Automation, Robotics, Scanning & Inspection
- Advanced Ruggedized HMI, Industrial Gateway, & PCs
- Smart Kiosk, Signage, Vision Payment Systems
- Medical Devices & Equipment

Specifications

- **VEST i.MX95 Dev Kit S:**
  Up to Hexa-Core Cortex®-A55, Arm Cortex®-M7, Arm Cortex®-M33, Arm Mali-G310, 2D/3D graphics, NXP eIQ® Neutron NPU (up to 2.0 TOPS), Up to 16GB LPDDR5 (with inline ECC), Up to 256GB eMMC 5.1, Micro SD slot
- **Operating System**

170mm x 170mm (Carrier Board)
82mm x 50mm (SMARC SOM)

Package:
NXP VZ (19mm x 19mm, 0.7mm pitch)
NXP VT (15mm x 15mm, 0.5mm pitch)

SMARC module
DEEPX
HAILO
Empowering Intelligence
NXP Gold Partner

VEST SMARC i.MX95 Development Kit

VED95XXSMX84WX

170mm x 170mm (Carrier Board)
82mm x 50mm (SMARC SOM)

Package:
NXP VZ (19mm x 19mm, 0.7mm pitch)
NXP VT (15mm x 15mm, 0.5mm pitch)

Features

- Arm® Cortex®-A55 (Hexa-Core), EdgeLock® Secure Enclave
- 1x USB Type-C with PD for Power (Up to 20V, 65W) or POE (25W)
- 1x MIPI CSI (2-Lane) shared with MIPI DSI**
- Dual-Channel LVDS interface up to 1080p60, 1x MIPI DSI (4-Lane) supporting up to 3840x1440p60 (optional), 7" or 10" LCD with I2C touch, 1x HDMI Type-A (optional)**
- Wi-Fi 6/Bluetooth 5.3 (optional)
- DeepX, Hailo-8, and NXP Ara240 (Generative AI)
- 1GbEthernet with PHY and support TSN, IEEE 1588
  1GbEthernet with PHY support TSN, with POE (25W)
  1x 10 GbEthernet (only on 19x19mm package)
- 4x USB 3.0 Type-A, 1x USB 2.0 Type-A, 1x USB 2.0 OTG Type-C
- 1x M.2 Key E, 1x M.2 Key M, 1x M.2 Key B with Nano SIM Card Socket
- 1x RS232/RS422/RS485, 2x CAN FD, 2x UART Debug Header
- 2x Expansion Daughter Board Socket for Display and Camera
- NXP Real-Time Edge Software, NXP eIQ®, Matter

Combination options due to i.MX95 multiplexing MIPI DSI and MIPI CSI. Contact **sales@apc-vest.com

TELEDYNE Teledyne e2v SCANDIT Telit Cinterion

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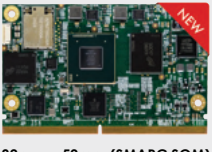
VEST SMARC i.MX95 SOM

VEST i.MX95 SMARC module design for consumer to industrial applications with high-computing & processing performance, including high-speed connectivity. With a multimedia focus by Arm Mali GPU for immersive graphics & 4K display resolution. The solution for secure, connected, & intelligent needs.

Applications

- Industrial Automation, Industry 4.0 and Gateways
- Medical: Pumps, Respirators, Clinical Monitoring
- IoT: Smart Appliances, Video & Audio Conferencing, IP Phones, Smart Carts, Home Automation Gateways



82mm x 50mm (SMARC SOM)

Package:
NXP VZ (19mm x 19mm, 0.7mm pitch)
NXP VT (15mm x 15mm, 0.5mm pitch)

Specifications

- **VEST i.MX95 Dev Kit S:**
  Up to Hexa-core Cortex®-A55,
  Arm Cortex®-M7, Arm Cortex®-M33,
  Arm Mali-G310, 2D/3D graphics,
  NXP eIQ® Neutron NPU (Up to 2.0 TOPS),
  Up to 16GB LPDDR5 (with inline ECC),
  Up to 256GB eMMC 5.1, Micro SD slot
- **Operating System**

debian Zephyr RTOS

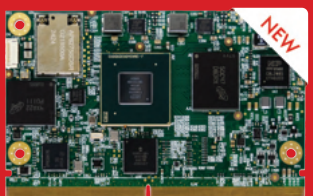
SMARC module

NXP Gold Partner

VEST SMARC i.MX95 SOM

VE9596SMX84WI

82mm x 50mm (SMARC SOM)



Package:
NXP VZ (19mm x 19mm, 0.7mm pitch)
NXP VT (15mm x 15mm, 0.5mm pitch)

Features

- Arm® Cortex®-A55 (Hexa-Core), EdgeLock® Secure Enclave
- 1x MIPI CSI (2 & 4-Lane SMARC exception), 1x MIPI CSI (4-Lane)**
- Dual-Channel LVDS interface up to 1080p60, 1x MIPI DSI (4-Lane) supporting up to 3840x1440p60 (optional), 1x HDMI 2.0 (optional)**
- Wi-Fi 6/Bluetooth 5.3 (optional)
- 2x 1Gb Ethernet with PHY and support TSN, IEEE 1588
  1x 10 GbEthernet SerDes Interface (only on 19x19mm package)
- 2x USB 2.0, 2x USB 3.0, 1x USB 2.0 OTG
- 2x PCIe Gen 3.0 (1-Lane), 2x I2S
- 2x UART (TX,RX,CTS,RTS), 2x UART (TX,RX), 2x CAN, 5x I2C, SPI
- PWM, 14x GPIOs
- NXP Real-Time Edge Software, NXP eIQ®, Matter

Combination options due to i.MX95 multiplexing MIPI DSI and MIPI CSI. Contact **sales@apc-vest.com

SMARC module

NXP Gold Partner

For More Enquiries, Scan Here.
Website: apc-vest.com
LinkedIn: Advanced Products Corporation
Email: sales@apc-vest.com

VEST
Your Partner in Innovation
Embedded Solutions

VEST Generative AI (NXP Ara240)

The VEST PICO ITX SBC integrates NXP i.MX8M Plus with the Ara240 AI accelerator, delivering up to 40 TOPS of AI performance for edge computing. Built on an efficient dataflow architecture, Ara240 enables real-time execution of large language models (LLMs), vision transformers, and generative AI workloads with low latency.

Applications

- Smart Cities: Public Safety, Traffic Monitoring
- Healthcare: Diagnostics, Patient Monitoring
- Retail: Video Analytics for Customer Behavior, Inventory Monitoring, Automated Checkout Systems
- Physical Security: Facial Recognition, Object Detection, Anomaly detection, Real-Time Alerts, Edge-Based Threat Analysis
- Factory Automation: Defect Detection, Robotic Control, Sensor & Camera Integration, Predictive Maintenance

VEST PICO ITX i.MX8M Plus
NXP Ara240 Module

Specifications

- **VEST PICO ITX i.MX8M Plus with NXP Ara240 Module:**
  PICO ITX i.MX8M Plus:
  Up to Quad-Core Cortex®-A53, Cortex®-M7, 2D/3D graphics, NPU (2.3 TOPS), 4GB RAM, 32GB eMMC, Micro SD slot
  NXP Ara240 Module:
  40 TOPS INT8 AI Module via M.2 M-Key, up to 16GB LPDDR4
- **Operating System**

yocto PROJECT

TELEDYNE
Teledyne e2v

NXP Gold Partner

VEST Generative AI (NXP Ara240)

VEST PICO ITX i.MX8M Plus
NXP Ara240 Module

Features

VEST PICO ITX i.MX8M Plus:

- Arm® Cortex®-A53 (Quad-Core)
- 1 x HDMI 2.0 Type-A, 1x HDMI 1.4 Type-A
- 1x with I2C Touch & Backlight, 1x MIPI CSI-2 (4-Lane)
- 2x Gigabit Ethernet (1x TSN)
- USB: 1x Type-C (3.0), 2x Type-A (3.0), 1x Header (2.0)
- M.2 Key E 2230 slot: 1x PCIe (1-Lane), 1x SDIO, 1x UART, 1x SAI, 1x I2C
- 1x RTC & Coin Battery, USB Type-C with PD (up to 20V, 3A)
- NXP Real-Time Edge Software, NXP eIQ®

NXP Ara240 Module:

- TensorFlow, PyTorch, ONNX
- Stable Diffusion 1.4: 7 sec/image
- Llama2-7B: 12 output tokens/sec
- MobileNetV1 SSD: 974 IPS (1.03 ms latency)
- 3W (typical workload), 8W (full performance)
- Active cooling (heatsink with fan)

AI Model Architectures Supported:

- Convolutional Neural Networks (CNNs)
- Transformer Models
- Large Language Models (LLMs)
- Multimodal Language Models (MMLMs)
- Vision Language Models (VLMs)
- Vision Language Actions (VLAs)

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For More Enquiries,
Scan Here.

Website: apc-vest.com
LinkedIn: Advanced Products Corporation
Email: sales@apc-vest.com

VEST **Your Partner in Innovation**
Embedded Solutions

VEST PICO-ITX 2.5" Single Board Computer (SBC)

The compact VEST PICO-ITX SBC family provides scalable performance, spanning the i.MX8M Plus to the i.MX93 processors. It offers comprehensive multimedia (MIPI, HDMI, audio) and industrial communication support. Critical for AI/ML, the M.2 Key E interface accelerates operations using the Hailo-8 module or the ARA-2 for generative AI use cases.

Applications

- HMI (Commercial, Industrial)
- Vision Systems (Smart Cameras)
- Industrial Automation, Robotics & Edge Gateways (Industry 4.0)
- Voice Recognition, Audio Intercom, Audio & Video Communication
- Smart POS, Smart Retail & Digital Signage
- Energy Management (EV Charging, Metering, Smart Grid)
- Test & Measurement, Healthcare & Medical Devices

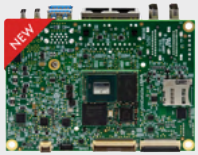
100mm x 72mm (Carrier Board-PICO ITX)
30mm x 30mm (OSM Size-S)

Specifications

- **VEST PICO ITX i.MX8M Plus:**
  Up to Quad-Core Cortex®-A53, Cortex®-M7, 2D/3D graphics, NPU (2.3 TOPS), 4GB RAM, 32GB eMMC, Micro SD slot, Hailo-8/8L AI module (Optional)
- **VEST PICO ITX i.MX93:**
  Up to Dual-Core Cortex®-A55, Cortex®-M33, PXP, NPU (Arm Ethos™-U65 0.5 TOPS), 2GB RAM, 16GB eMMC, Micro SD slot
- **VEST PICO ITX i.MX 8ULP:**
  Dual-Core Cortex®-A35, Cortex®-M33, 2D/3D graphics & PXP, 2GB RAM, 16GB eMMC, Micro SD slot
- **Operating System**

debian Zephyr RTOS

SMARC module | TELEDYNE Teledyne e2v | HAILO Empowering Intelligence | NXP Gold Partner



VEST PICO ITX i.MX8M Plus

VE8MPN4PX530C/VE8MPN4PX530I/
VE8MPN4PX53H8C/VE8MPN4PX53H8I/
VE8MPN4PX53H9I

- Arm® Cortex®-A53 (Quad-Core), Arm® TrustZone® DRM Ciphers
- 1x HDMI 2.0 Type A, 1x HDMI 1.4 Type A
- 1x with I2C Touch & Backlight
- 1x MIPI CSI (4-Lane)
- 2x Gigabit Ethernet (1x TSN)
- USB: 1x Type-C (3.0), 2x Type-A (3.0), 1x Header (2.0)
- M.2 Key E 2230 slot: 1x PCIe (1-Lane), 1x SDIO, 1x UART, 1x SAI, 1x I2C, AI modules (Hailo-8/8L)
- 1x RTC & Coin Battery
- USB Type-C with PD (up to 20V, 3A)
- NXP Real-Time Edge Software, Matter, NXP eIQ®

VEST PICO ITX i.MX93

VE9352PTX420C/VE9352PTX420I

- Arm® Cortex®-A55 (Dual-Core), EdgeLock® Secure Enclave
- 1x HDMI 1.4 Type A
- 1x with I2C Touch & Backlight
- 1x MIPI CSI (2-Lane)
- 2x Gigabit Ethernet (1x TSN)
- USB: 1x Type-C (3.0), 2x Type-A (3.0), 1x Header (2.0)
- M.2 Key E 2230 slot: 1x SDIO, 1x UART, 1x SAI, 1x I2C
- 1x RTC & Coin Battery
- USB Type-C with PD (up to 20V, 3A)
- NXP Real-Time Edge Software, NXP eIQ®, HailoRT (AI Accelerator)

Picture does not represent the actual product

VEST PICO ITX i.MX 8ULP

VE8ULP2PTX420C

- Arm® Cortex®-A35 (Dual-Core), EdgeLock® Secure Enclave
- 1x HDMI 1.4 Type A (via MIPI DSI, No Audio)
- 1x MIPI CSI (2-Lane)
- 1x Camera LED FFC (SPI, I2C)
- 1x 10/100 Mbps RMII for Ethernet
- USB: 1x Type-C DRP (2.0), 2x Type-A (2.0), 1x Header (2.0)
- M.2 Key E 2230 slot: 1x SDIO, 1x UART, 1x SAI, 1x I2C
- 1x RTC & Coin Battery
- USB Type-C with PD (up to 20V, 3A)
- NXP Real-Time Edge Software, NXP eIQ®

OMNIVISION™ SCANDIT OPEN STANDARD MODULE™ NXP Gold Partner

For More Enquiries, Scan Here.

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Email: sales@apc-vest.com