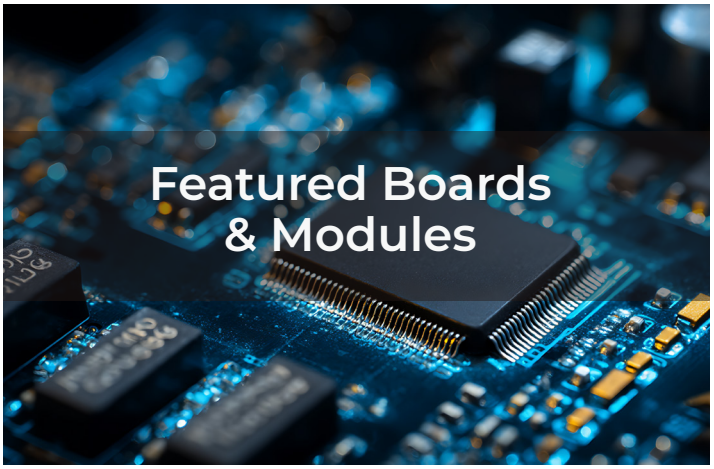
Vantron NXP-Powered Edge Solutions

From Low-Power Computing to High-Performance Edge AI

Vantron delivers NXP-powered modules, single board computers, industrial PCs, tablets, routers, and gateways—providing scalable edge computing solutions to support digital transformation across industries.

i.MX 8M Plus	i.MX 91	i.MX 93	i.MX 94	i.MX 95
2/4×Cortex-A53 NPU · dual ISP · 1080p60	1×Cortex-A55 RGB · dual GbE	1/2×Cortex-A55+M33 Ethos-U65 NPU	1/2/4×Cortex-A55+M7+M33 2.5GbE TSN · industrial protocols	4/6×Cortex-A55 NPU · 4K video · 1GbE/10GbE TSN



Edge AI Vision & Industrial HMI

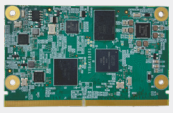


VT-SBC-SMARC-IMX952
Computer-on-Module

SMARC module

- NXP i.MX952, 4/2 × Cortex-A55, up to 1.7 GHz; 1 × M7 + 1 × M33
- 8GB LPDDR4x, 64GB eMMC 5.1
- Arm Mali-G310 GPU, 2 TOPS NPU
- Wi-Fi IEEE 802.11 a/b/g/n/ac + Bluetooth 5.0
- 1 × GbE (TSN); 1 × 2.5Gbps (TSN)
- 2 × 4-lane LVDS / 1 × 8-lane LVDS, 1 × 4-lane MIPI DSI / HDMI
- 1 × 4-Lane / 2 × 2-Lane MIPI CSI
- 2 × USB 2.0, 3 × Communication UART ; 1 × Debug UART
- CAN FD, GPIO, SPI, I²C, PCIe, SD/SDIO
- Android, Linux Yocto

Efficient IoT & Industrial Edge



SMARC module

VT-SBC-SMARC-IMX91
Computer-on-Module

- NXP i.MX9131 single-core processor
- 512MB LPDDR4 (Optional: 2GB/8GB), 16GB eMMC 5.1
- 2 x 1000Mbps
- 1 x USB 2.0 OTG, 4 x USB 2.0 host
  2 x Communication UART, 1 x Debug UART
- 40 x GPIO for GPIO/UART/SDIO/SPI
- Linux
- Operating temperature: -40℃~+85℃
- 82mm x 50mm



SMARC module

VT-SBC-SMARC-IMX93
Computer-on-Module

- NXP i.MX9332 dual-core/i.MX9331 single-core processors
- 512MB LPDDR4 (Optional: 2GB/8GB), 16GB eMMC 5.1
- 2 x 1000Mbps
- 1 x MIPI DSI, 1 x LVDS (Optional: 2 x LVDS), 1 x MIPI CSI
- 1 x USB OTG, 4 x USB 2.0 Host, 3 x UART, 40 x GPIO
- Linux Yocto
- Operating temperature: -40℃~+85℃
- 82mm x 50mm

Advanced AI & Real-Time Computing



SMARC module

VT-SBC-SMARC-8MP
Computer-on-Module

- NXP i.MX8M Plus dual- or quad-core processor
- 2GB LPDDR4, 16GB eMMC 5.1, 1 x SDIO
- 2 x 1000Mbps, Wi-Fi 802.11 a/b/g/n/ac + BT5.0
- 1 x MIPI DSI, 2 x LVDS, 1 x HDMI 2.0a, 2 x MIPI CSI
- 1 x UART with CTS/RTS, 2 x UART without CTS/RTS
  1 x USB OTG, 2 x USB 2.0, 2 x USB 3.0, 14 x GPIO
- Android, Linux Yocto
- Operating temperature: -20°C~+70°C (Optional: -40°C~+85°C)
- 82mm x 50mm



SMARC module

VT-SBC-SMARC-IMX95
Computer-on-Module

- NXP i.MX9596 hexa-core processor 1 × M7 + 1 × M33,
  2 TOPS NPU
- 8GB LPDDR4x, 64GB eMMC 5.1
- 2 x 1000Mbps, 1 x 10Gbps
- Wi-Fi IEEE 802.11 a/b/g/n/ac + Bluetooth 5.0
- 2 x 4-lane LVDS / 1 x 8-lane LVDS, 1 x HDMI 2.0
- 1 x 2-Lane MIPI CSI, 1 x 4-lane MIPI CSI
- 1 x USB 2.0 OTG, 4 x USB 2.0 host, 3 x Communication UART,
  1 x Debug UART
- Android, Linux Yocto
- Operating temperature: 0℃~+70℃ (Optional: -40℃~+85℃)
- 82mm x 50mm

Compact & Scalable Modules



OPEN STANDARD MODULE™

VOSM93
System-on-Module

- NXP i.MX9352/i.MX9332 dual-core processor
- 2GB LPDDR4, 16GB eMMC 5.1
- Wi-Fi 802.11 a/b/g/n/ac + Bluetooth 5.0
- Linux Yocto
- Operating temperature: 0°C ~ +60°C (Optional: -40°C ~ +85°C)
- 45mm x 45mm



OPEN STANDARD MODULE™

VOSM800
System-on-Module

- NXP i.MX 8M Mini quad-core processor
- 2GB LPDDR4 (Optional: 4GB), 16GB eMMC 5.1 (Optional: 64GB)
- Wi-Fi 802.11 a/b/g/n/ac + Bluetooth 5.0
- Android 11, Linux
- Operating temperature: -10℃ ~ +60℃ (Optional: -40℃ ~ +85℃)
- 45mm x 45mm

Box PCs, Panel PCs, Gateways Built on i.MX9 Series



IBOX95 Edge AI Box PC

- NXP i.MX9594, 4 × Cortex A55 + 1 × Cortex-M7 + 1 × Cortex-M33, up to 1.8GHz
- 8GB LPDDR4x, 64GB eMMC 5.1, scalable
- Arm Mali-G310 GPU
- 3 × USB 2.0-A, 1 × USB 2.0-C (OTG)
- M.2 B-Key for 4G/5G
- GbE/Wi-Fi 5/BT 5.0
- -20℃~+70℃ (Optional: -40℃~+85℃)
- Android, Ubuntu



RPC215-IMX95 Rugged All-in-One Panel PC

- NXP i.MX9596, 6 × Cortex-A55, up to 1.8 GHz
- 8GB LPDDR4x, 64GB (M.2 B-Key)
- 21.5" TFT LCD, 1920 x 1080, 1000nits
- AG Cover glass, OCR optical bonding, PCAP, 10-point touch
- Rich I/O in M12 connectors: RS232, RS485, USB, CAN
- -20~70℃, IP69K-Rated
- 9~36V DC, M12
- VESA, YOKE
- Android, Linux



AG605 Automotive Gateway

- NXP i.MX94, 4 × Cortex-A55; 2 × Arm Cortex-M7 MCU
- 2GB LPDDR4, 32GB eMMC
- 2 × 4G LTE (Optional: 4G LTE+ 5G), 2 x Micro SIM slot
- 4 × M12 X-coded (1000Base-T), 2 × TE MATEnet (1000Base-T 1)
- Wi-Fi 5 (Optional Wi-Fi 6), BT5.3
- 1 × RS232, 1 × RS485, 1 × USB 3.0 Type-A,
- 1 × USB 2.0 Type-C (OTG); 2 × CAN
- Dual SIM failover, automatic switch
- VantronOS

Network Solution for Long-Range Connectivity

Wi-Fi HaLow is a low-power, long-range extension of traditional Wi-Fi. Operating in the sub-1 GHz band, it is optimized for remote IoT scenarios.



HAP202 Wi-Fi HaLow Unit

· Wi-Fi HaLow & traditional dual-band Wi-Fi operation
· 1/2/4/8MHz HaLow bandwidth
· Dual Ethernet ports for flexible connectivity
· Standard HaLow & Mesh networking modes
· iperf, ping, traceroute, nslookup diagnostic utilities



VT-USB-AH-SA Wi-Fi HaLow Dongle

· Single-stream data rates no less than 16Mbps @8MHz bandwidth
· Standard, AP, and mesh networking modes
· Robust security, including WPA3, PMF, OWE, AES, SHA1, SHA2
· Driver-free for seamless integration
· Web UI for configuration and monitoring

NXP i.MX6ULL for power-efficient processing

Morse Micro MM8108 for HaLow connectivity

Real-World Deployments



Rugged CODESYS HMI for Marine Stabilizer Control

· NXP i.MX 93 processor
· 5-inch LCD with 1000-nit high brightness
· PCAP touchscreen, wet-touch support
· IP65 waterproof and dustproof protection
· Rich I/O: RS232, RS485, CAN, ETH
· Integrated CODESYS runtime
· Linux Yocto OS with QT & WebEngine support



5G Edge Gateway for Data Collection in Harsh Environments

· NXP i.MX 8M Mini processor
· Ethernet, Wi-Fi, Bluetooth, 4G and 5G
· Modbus TCP and Modbus RTU
· MQTT data transmission
· Rich I/O with M12 connectors
· IP40 enclosure
· Arcing protection at 20kV voltage
· Wall-mount and DIN-rail installation



Automotive Gateway for Connected Bus Fleet Operations

· NXP i.MX 94, 4 × A55 + 2 × M7 for processing and real-time data handling
· 6 × GbE with 1000BASE-T1 and 1000BASE-T
· 5G/4G, Wi-Fi 6, BT, and dual-band GNSS for connectivity and fleet tracking
· CAN, serial, and OBD-II for vehicle data acquisition and diagnostics
· ADAS data offloading, remote management & OTA
· 9-36V DC; -30℃ ~ +70℃ operating temp.
· E-Mark, ITxPT; AT & T, Verizon, T-Mobile







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