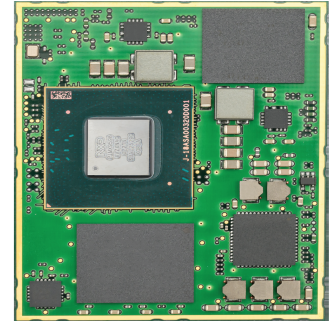


# EP-200N System-on-Module

High-Performance, Always-Connected Edge Computing  
Powered by NXP i.MX95



## OVERVIEW

The EP-200N is a compact, production-ready System-on-Module (SoM) built on NXP's i.MX95 applications processor. Designed for next-generation connected edge devices, it exposes the full connectivity and performance capabilities of the i.MX95 in a compact 40mm x 50mm surface-mount module.

Pre-integrated with Yocto Linux and the Silex SX-SDMAX6E Wi-Fi 6E solution (powered by NXP IW623), the EP-200N delivers robust, industrial-grade wireless connectivity out of the box. With pre-validated SoC and Wi-Fi integration, it significantly reduces development complexity and accelerates time to market.

The EP-200N is engineered for scalable AI, real-time control, and high-performance edge computing in demanding industrial environments.

## KEY FEATURES & BENEFITS

- Production-ready SoM for connected edge (i.MX95)
- Hexa-core Cortex-A55 up to 1.8 GHz + M7/M33
- Integrated GPU, ISP & NPU (PCIe expandable)
- Industrial Wi-Fi 6E (SX-SDMAX6E / IW623, SDIO)
- Yocto Linux with validated drivers
- Up to 8GB LPDDR4, 32GB eMMC
- Highly reliable always-on connectivity
- Long-term lifecycle support
- Pre-validated HW & Linux BSP
- Compact surface-mount form factor

## THE EP-200N ADVANTAGE

### Always-On Connectivity with Wi-Fi Expertise



Industrial Grade Wi-Fi 6E optimized for high reliability and superior power efficiency

### Power-efficient, secure AI-accelerated edge processors



Cortex-A55 hexa-core CPU, real-time cores and NPU

### Scalable Edge AI



Integrated NPU with PCIe expansion for advanced AI workloads

### Versatile Interfaces



Reliable, always-on connectivity

# USE CASES

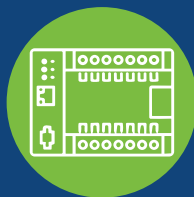
Designed for Healthcare and Industrial Automation.



Smart Hospital  
Bed



Sensor Hub



PLC



HMI



Connected Edge  
computer

## Feature List

|                       |                                                                                                                                                 |                                                                                                                                   |             |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------|
| Model number          | EP-200N                                                                                                                                         |                                                                                                                                   |             |
| Processors            | 6 x ARM Cortex-A55 up to 1.8GHz, ARM Cortex-M33, ARM Cortex-M7                                                                                  |                                                                                                                                   |             |
| GPU                   | Arm® Mali™ 3D GPU + 2D GPU <ul style="list-style-type: none"><li>OpenGL ES 3.2, Vulkan 1.2, OpenCL 3.0</li></ul>                                |                                                                                                                                   |             |
| NPU                   | NXP eIQ® Neutron Neural Processing Unit                                                                                                         | 2 TOPS (8 eTOPS)                                                                                                                  |             |
| ISP                   | NXP ISP with RGB-IR support                                                                                                                     |                                                                                                                                   |             |
| DPU                   | 1x 333Mpixel/s MIPI-DSI (4-lane, 2.5 Gbps/lane) supporting 4K30P or 3840x1440P60<br>Up to 1080p60 LVDS Tx (1x 8-lane) or 2x 1080P30 (2x 4-lane) |                                                                                                                                   |             |
| VPU                   | 4K60P H.265/H.264 decode or encode (4K30P H.265/H.264 simultaneous encode & decode)                                                             |                                                                                                                                   |             |
| Memory/Storage        | 8GB LPDDR5 32-bit up to 6.4GT/s 32-bit<br>32GB eMMC Ver 5.1 compliant                                                                           |                                                                                                                                   |             |
| Network Interfaces    | 1x10GbE + 2x Gb Ethernet w/TSN; AVB and IEEE 1588 for sync; EEE                                                                                 |                                                                                                                                   |             |
| Display Interfaces    | 1x 4-lane MIPI DSI <ul style="list-style-type: none"><li>Exclusive use with one of MIPI CSI</li></ul> 2x LVDS                                   | DSI: Up to 4kp30 or 3840x1440p60<br>LVDS: Up to 1080p60 LVDS Tx (2x 4-lane or 1x 8-lane)<br>Up to three concurrent display output |             |
| Camera Interfaces     | 2x 4-lane MIPI CSI <ul style="list-style-type: none"><li>One is exclusive use with MIPI DSI</li></ul>                                           | Up to 1x4Kp60fps, 2x4Kp30, 4x1080p60, or 8x1080p30 cameras with MIPI virtual channels                                             |             |
| PCI Express           | 2x PCIe Gen 3 (1 lane)                                                                                                                          |                                                                                                                                   |             |
| USB                   | 1x USB 3.0<br>1x USB 2.0 with PHY                                                                                                               |                                                                                                                                   |             |
| SDC                   | 3x 4-bit SDIO                                                                                                                                   |                                                                                                                                   |             |
| CAN Interface         | 5x CAN-FD                                                                                                                                       |                                                                                                                                   |             |
| Peripheral interfaces | Customizable by BSP                                                                                                                             |                                                                                                                                   |             |
| Power supply          | DC 5V±5%                                                                                                                                        |                                                                                                                                   |             |
| Power consumption     | T.B.D.                                                                                                                                          |                                                                                                                                   |             |
| Size                  | 40mm x 50mm x (height T.B.D.)                                                                                                                   | Form-factor                                                                                                                       | LGA package |
| Operating temperature | -40°C - 85°C                                                                                                                                    |                                                                                                                                   |             |
| Operating humidity    | 20% - 90% without condensation                                                                                                                  |                                                                                                                                   |             |

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