



NXP's New i.MX 95 Family of Applications Processors Delivers Safe, Secure and Scalable AI-enabled Edge Platforms

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- *The i.MX 95 family combines multi-core high performance compute, immersive 3D graphics and an integrated NXP eIQ® Neutron Neural Processing Unit (NPU) to enable machine learning and advanced edge applications across automotive, industrial and IoT applications*
- *Part of the NXP SafeAssure® portfolio, the i.MX 95 family's advanced heterogeneous domain design powers safety-enabled platforms with integrated real-time safety domain*
- *Features high-throughput time-sensitive networking (TSN) capabilities and advanced I/O expansion for automotive connectivity domain controllers and Industry 4.0 applications*

LAS VEGAS, Jan. 04, 2023 (GLOBE NEWSWIRE) -- CES -- NXP Semiconductors (NASDAQ: NXPI) today announced the i.MX 95 family, the newest addition to its i.MX 9 series of applications processors. The new i.MX 95 family combines high-performance compute, immersive Arm® Mali™-powered 3D graphics, an innovative new NXP accelerator for machine learning, and high-speed data processing. Together, this technology enables advanced applications in automotive, industrial, networking, connectivity, advanced human machine interface (HMI), and more. Additionally, the i.MX 95 family delivers high performance safety and security features, developed in compliance with automotive ASIL-B and industrial SIL-2 functional safety standards and including an integrated EdgeLock® secure enclave.

A critical requirement for the next wave of edge applications is advanced processing and machine learning capabilities, combined with high-speed connectivity, in order to better analyze the environment and make intelligent decisions locally. The i.MX 95 family is the first i.MX applications processor family to integrate NXP's eIQ Neutron neural processing unit (NPU) and a new image signal processor (ISP) developed by NXP to help developers to build these powerful, next-generation edge platforms.

"The i.MX 95 family brings unparalleled features and performance to markets like automotive and industrial where security and safety are key. The i.MX 95 brings together NXP eIQ Neutron NPU, Arm Mali graphics, integrated heterogeneous safety domain, and networking capabilities to create a truly unique solution," said Rafael Sotomayor, Executive Vice President and General Manager of Secure Connected Edge at NXP. "Combining our deep expertise in functional safety with AI acceleration, high performance CPU cores, and high-throughput connectivity, NXP is creating the standard for a new generation of safe and secure edge platforms."

Expansive Machine Vision Capabilities

The i.MX 95 family enables machine vision through its integrated eIQ Neutron NPU as part of a vision processing pipeline for use with multiple camera sensors or network-attached smart cameras. The i.MX 95 SoC integrates an NXP ISP supporting a wide array of imaging sensors to enable vision-capable industrial, robotics, medical and automotive applications, all backed by comprehensive NXP developer support. A rich, vibrant graphics experience for the user is enabled by Arm Mali GPU capabilities, scaling from multi-display automotive infotainment centers to industrial and IoT HMI based applications.

High Performance Compute and Safety-Enabled Platforms

The i.MX 95 family capabilities include a multi-core application domain with up to six Arm Cortex®-A55 cores, as well as an independent safety domain consisting of high-performance Arm Cortex-M7 and Arm Cortex-M33 CPUs, combining low-power, real-time, and high-performance processing. The i.MX 95 family is designed to enable ISO 26262 ASIL-B and SIL-2 IEC 61508 compliant platforms, with the functional safety domain serving as a critical capability for many automotive and industrial applications. Platforms based on i.MX 95 serve to help ensure safety critical actions in a vehicle, like voice warnings, instrumentation, and cameras meet high reliability standards set by automotive OEMs. Similarly, in industrial factory automation platforms, the functional safety domain helps to ensure that an industrial control system will always return to a pre-determined state, even when rest of the system fails.

Edge Platform Connectivity

The next generation of edge platforms for Industry 4.0, automotive connectivity domain controllers, and IoT smart home gateways will benefit from the integrated 10-gigabit Ethernet plus two 1-gigabit Ethernet ports, with TSN capabilities. Adding wireless connectivity such as Wi-Fi, Bluetooth LE, satellite radio, or 5G, is simple thanks to two independent PCIe ports, USB 3 port and integrated BSP-level drivers for NXP's wide array of wireless connectivity solutions. With expansive capabilities and robust processing, next-generation platforms based on i.MX 95 family application processors will be capable of securely processing local and network data.

Advanced Security, Simplified

Security is an essential foundation for edge applications. The i.MX 95 family integrates a secure enclave to simplify implementation of security critical

functions like secure boot, cryptography, trust provisioning, and run-time attestation. Combined with NXP's EdgeLock 2 GO key management services, manufacturers can securely provision i.MX 95 SoC-based products for secure remote management of devices deployed in the field, including secure over-the-air updates (OTA).

Additional Details:

- NXP eIQ Neutron NPU and machine learning application development are supported by the award-winning eIQ machine learning software development environment
- NXP ISP is optimized for machine vision applications and supports two Regions of Interest, HDR combination of two exposures, and advanced de-noising and edge enhancement with support for color, monochrome and RGB-IR camera sensors
- NXP SafeAssure helps customers confidently develop and meet the most stringent international safety standards (ISO 26262 and IEC 61508), for platforms based on i.MX 95
- On-the-fly memory encryption enables secure data processing to help ensure privacy and security in a wide range of applications
- Dedicated cryptographic engine with support for a wide range of standards enables next-generation automotive V2X applications
- The i.MX 95 family implements NXP's innovative Energy Flex architecture that enables fine-grained independent power management of Cortex-A applications domain and real-time Cortex-M safety domain. This allows developers to run the real-time safety domain at all times for sensor data monitoring; and power up the applications domain only when necessary to minimize system-level energy consumption
- Support for LPDDR5 and LPDDR4X DRAM delivers the high bandwidth needed to serve computing domains and high-performance graphics, while offering flexibility of memory choice to meet customer needs
- The i.MX 95 family will be available in multiple options, scaling performance and features to suit power, performance, and application requirements while addressing customer platform value targets

Availability

NXP's i.MX applications processors are available worldwide through distributors and eTailers. They are enabled with NXP software, a broad ecosystem of tools and software and comprehensive support. To help ensure a stable supply of products for embedded designs, all i.MX 8 series and i.MX 9 series products are guaranteed for a minimum of 15 years of availability as members of the NXP [product longevity program](#).

The i.MX 95 applications processors are expected to begin sampling for lead customers in 2H 2023.

For more information on the family, please visit nxp.com/imx95 or contact NXP Sales worldwide.

About NXP Semiconductors

NXP Semiconductors N.V. (NASDAQ: NXP) enables a smarter, safer and more sustainable world through innovation. As a world leader in secure connectivity solutions for embedded applications, NXP is pushing boundaries in the automotive, industrial & IoT, mobile, and communication infrastructure markets. Built on more than 60 years of combined experience and expertise, the company has approximately 31,000 employees in more than 30 countries and posted revenue of \$11.06 billion in 2021. Find out more at www.nxp.com.

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For more information, please contact:

Americas & Europe

Phoebe Francis

Tel: +1 737-274-8177

Email: phoebe.francis@nxp.com

Greater China / Asia

Ming Yue

Tel: +86 21 2205 2690

Email: ming.yue@nxp.com

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A photo accompanying this announcement is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/4a88bc50-b22d-4cf4-b421-03463076760b>



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Source: NXP USA, Inc.