



MCX N94x/54x Highly Integrated Multicore MCUs with On-Chip Accelerators, Intelligent Peripherals and Advanced Security

MCX-N94X-N54X

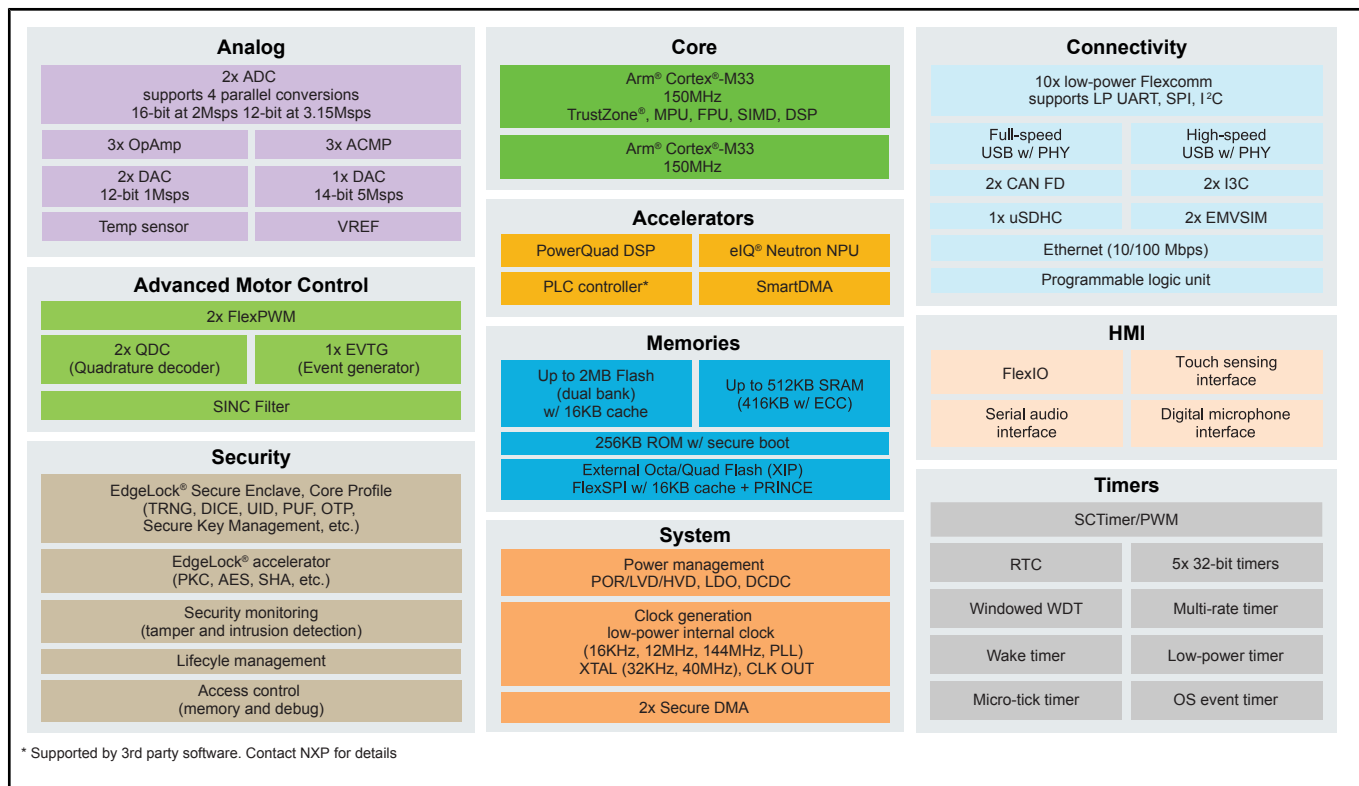
Last Updated: Apr 14, 2025

The MCX N94x and N54x are based on dual high-performance Arm® Cortex®-M33 cores running up to 150 MHz, with 2MB of Flash with optional full ECC RAM, a DSP co-processor and an integrated [eIQ Neutron NPU](#). The NPU delivers up to 42x faster machine learning throughput compared to a CPU core alone enabling it to spend less time awake and reducing overall power consumption.

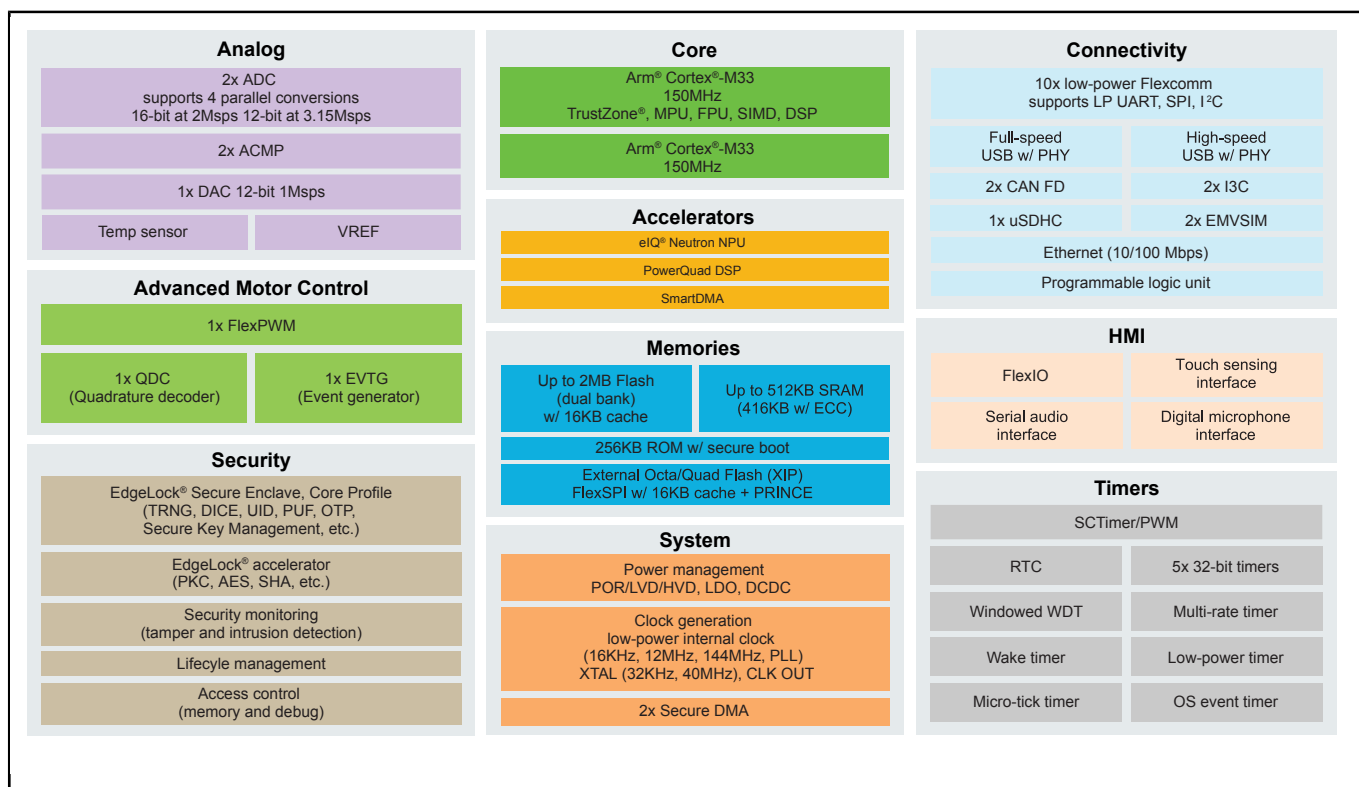
The multicore design delivers improved system performance and reduces consumption by enabling smart, efficient distribution of workloads to the analog and digital peripherals. The devices are supported by the [MCUXpresso Developer Experience](#) to optimize, ease and help accelerate embedded system development.

The MCX N94x offers a wider set of analog and motor control peripherals, while the MCX N54x family provides peripherals ranging from high-speed USB with a PHY to secure digital (SD) and smart card interfaces.

MCX N94x MCUs Block Diagram



MCX N54x MCUs Block Diagram



View additional information for [MCX N94x/54x Highly Integrated Multicore MCUs with On-Chip Accelerators, Intelligent Peripherals and Advanced Security](#).

Note: The information on this document is subject to change without notice.

www.nxp.com

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2025 NXP B.V.