The MCX N Series of general-purpose MCUs feature dual Arm® Cortex®-M33 cores operating up to 150 MHz. This advanced series introduces the new instantiation of the NXP designed Neural Processing Unit (NPU). The integrated NPU delivers up to 30x faster machine learning (ML) throughput compared to a CPU core alone enabling it to spend less time awake and reducing overall power consumption. The low power cache enhances system performance and the dual bank Flash and full ECC RAM support system safety providing an extra layer of protection and assurance.

The EdgeLock® secure subsystem offers a secured boot and crypto accelerators to meet demanding requirements for over-the-air transactions. The on-the-fly encrypt and decrypt for external serial Flash/PSRAM is connected via the FlexSPI to ensure code and externally stored data is protected.

**TARGET APPLICATIONS**
- Industrial IoT
- Industrial Automation
- Smart Home
- Secure Applications
- Consumer Electronics
- General Embedded
HIGH INTEGRATION AND MEMORY EXPANSION

The multicore design improves system performance and reduces power consumption by enabling smart, efficient distribution of workloads to the analog and digital peripherals. The MCU N series offers a combination of analog integration (operational amplifier, precision reference supply for ADC and DAC), low power consumption and motor control PWMs.

With multiple connectivity options including Ethernet, CAN 2.0, CAN FD, USB HS, FS (Device/Host) and FlexComm interfaces (configurable as either SPI/I2C/JUART), these devices feature versatile integration for demanding application needs. The FlexSPI with 16KB Cache support on-the-fly Encrypt/Decrypt enables applications to expand the on-chip memory, support various boot options and execute directly from external serial memories.

COMPREHENSIVE ENABLEMENT

The MCX MCU portfolio is supported by the widely adopted MCUXpresso suite of software and tools to optimize, ease and help accelerate embedded system development. The MCUXpresso suite includes tools for simple device configuration and secure programming. Developers can choose to work with the fully featured MCUXpresso IDE or with IDEs from IAR and Keil. NXP provides drivers and middleware with extensive examples and support for a range of RTOS choices, further complemented by a wide range of compatible middleware from NXP’s partner ecosystem, allowing rapid development of a broad range of end applications.

MCX N9xx EVK

MCX N9XX AND N5XX MCU OPTIONS

<table>
<thead>
<tr>
<th>Family</th>
<th>Flash</th>
<th>SRAM</th>
<th>CoolFlux DSP</th>
<th>USB HS</th>
<th>DAC</th>
<th>Op Amp</th>
<th>Flexcomm</th>
<th>CAN-FD</th>
<th>Packages</th>
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</thead>
<tbody>
<tr>
<td>N94x</td>
<td>2 MB</td>
<td>416 KB w ECC</td>
<td>Yes</td>
<td>Only for N947</td>
<td>2x 12b + 1x 14b</td>
<td>3</td>
<td>10</td>
<td>2</td>
<td>LFQFP100, VFBGA184</td>
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<tr>
<td>N54x</td>
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<td>512 KB</td>
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<td>Yes</td>
<td>1x 12b</td>
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<td>1</td>
<td>LFQFP100, VFBGA184</td>
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<td>N5xx EVK</td>
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<td>EVK has VFBGA184</td>
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<tr>
<td>N9xx EVK</td>
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<td>EVK has VFBGA184</td>
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www.nxp.com/MCXNSeries

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