



# Evaluation Kit Based on i.MX 8M Mini Applications Processors

The i.MX 8M Mini EVK is a feature-rich development platform that enables evaluation and development of high-performance, scalable and cost-optimized solutions.

The i.MX 8M Mini EVK hardware and software board support packages provide a comprehensive platform for evaluation of the i.MX 8M Mini and i.MX 8M Mini Lite applications processors utilizing 1, 2, or 4 Arm® Cortex®-A53 cores and 1 Cortex-M4 core. It offers high performance with low power, flexible options for memory and high-speed interfaces, as well as industry-leading audio and video capabilities.

The EVK offers a large assortment of features to support graphics, video, image processing, audio and voice functions. It is complemented by optimized drivers and software to enable a variety of applications for the embedded consumer and industrial markets.

The EVK topology consists of a base board and a compute module. The compute module plugs into the base board, which enables the MIPI-DSI and MIPI-CSI connectors, USB 3.0 connector, and PCIe high-speed interfaces ideal for connected, high performance embedded applications. In addition, the base board has SD/MMC slot, 10/100/1000 Ethernet port, and includes a 3.5mm speaker jack. Included in the box is the MIPI-DSI to HDMI adapter card and miniSAS cable, to provide out-of-the-box display capabilities.

The compute module is a size-optimized design that contains the i.MX 8M Mini applications processor, PMIC, LPDDR4 or DDR4 DRAM, eMMC, and provides wireless connectivity via a Murata SDIO-based Wi-Fi/BT module.

## AUDIO, VIDEO, AND GRAPHICS

The EVK includes hardware-accelerated video and graphics capabilities. The integrated video support decodes most relevant video formats such as 264, VP8, and VP9 for video decode, and H.264, VP8 for video encode and renders up to 1080p60 video resolution. Applications such as video streaming HMI, surveillance and robotics can take advantage of the high level of multimedia integration. Proven system solutions for audio and voice enablement are provided through NXP's ecosystem partners.

## HMI AND CONNECTIVITY

Today, Human Machine Interface (HMI) applications must respond accurately, and in 4 milliseconds, to touch screen and gesture inputs. Connectivity is a must, demanding increasingly faster and more reliable wired and wireless capabilities, associated with security to protect privacy and sensitive data. The i.MX 8M Mini EVK provides capabilities to develop these key functionalities.



## TARGET APPLICATIONS

- ▶ General-purpose Human Machine Interface (HMI) solutions
- ▶ Building Automation - fire and security panel, elevator control, HVAC control, surveillance monitoring
- ▶ Smart Homes - surveillance monitoring, video doorbell, voice controlled light switches, smart appliances, smart thermostats
- ▶ Imaging and Machine Vision - retail inventory management, thermal/IR scanners, drones, mobile service robots
- ▶ Video Conferencing - two-way 1080p video conferencing for industrial, consumer or medical applications
- ▶ Audio Entertainment - soundbars, audio video receivers, wireless speakers, portable music players, public address systems

## i.MX 8M MINI EVK COMPUTE MODULE

Part Number	8MMINILPD4-EVK	8MMINID4-EVK
<b>Memory</b>	<ul style="list-style-type: none"> <li>• LPDDR4 x32 w/2 GB</li> <li>• SD/MMC connector</li> <li>• QSPI w/64 MB</li> </ul>	<ul style="list-style-type: none"> <li>• DDR4 x16 w/2 GB</li> <li>• MicroSD (external)</li> </ul>
<b>Processor</b>	<ul style="list-style-type: none"> <li>• i.MX 8M Mini Quad applications processor</li> <li>• 4x Arm Cortex-A53 @ 1.8 GHz</li> <li>• Arm Cortex-M4 @ 400 MHz</li> </ul>	
<b>Power Management</b>	• Murata Type 1PJ	• Murata Type 1MW
<b>Wireless</b>	<ul style="list-style-type: none"> <li>• Wi-Fi 802.11 a/b/g/n/ac MIMO 2x2</li> <li>• Onboard chip antenna</li> <li>• External antenna connector</li> </ul>	

## i.MX 8M MINI EVK BASE BOARD

<b>Display/ Camera Connectors</b>	<ul style="list-style-type: none"> <li>• MIPI-CSI Camera mini-SAS connector</li> <li>• MIPI-DSI Display mini-SAS connector</li> </ul>
<b>Audio</b>	<ul style="list-style-type: none"> <li>• Audio DAC 24-bit 192 kHz stereo</li> <li>• HP Jack 3.5 mm audio connector</li> <li>• Board expansion connector for audio interfaces</li> </ul>
<b>Connectivity</b>	<ul style="list-style-type: none"> <li>• 10/100/1000 Ethernet</li> <li>• USB 3.0 Type C connector</li> <li>• PCIe M.2 interface</li> </ul>
<b>Debug</b>	<ul style="list-style-type: none"> <li>• JTAG connector</li> <li>• UART via USB</li> </ul>
<b>Tools and OS support</b>	<ul style="list-style-type: none"> <li>• Linux</li> <li>• Android</li> <li>• FreeRTOS</li> </ul>

## ORDERING INFORMATION

Part Number: 8MMINILPD4-EVK or 8MMINID4-EVK

Memory: 2 GB LPDDR4, 16 GB eMMC 5.0/5.1

## i.MX 8M MINI EVK CONTENTS


- ▶ i.MX 8M Mini EVK base board and compute module
- ▶ Quick Start Guide
- ▶ USB 3.0 Type C to Type A
- ▶ USB 2.0 Type A to Type Micro
- ▶ USB Type C Power Supply
- ▶ HDMI MIPI-DSI to HDMI Adapter Card and miniSAS Cable

## SOFTWARE AND TOOLS

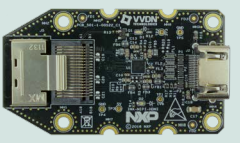

The i.MX 8M Mini EVK comes pre-installed with a boot image flashed. Hardware design files, software tools and board support packages (BSPs) for Linux, Android and FreeRTOS are available from NXP to use as a reference for starting designs. Other reference designs and tools are also available from NXP's ecosystem partners. Additional information can be found at [www.nxp.com/iMX8MMiniEVK](http://www.nxp.com/iMX8MMiniEVK).

There are a number of accessory boards that pair with the i.MX 8M Mini EVK including support for cameras and displays. Visit [www.nxp.com/i.MX8-ACCESSORY-BOARDS](http://www.nxp.com/i.MX8-ACCESSORY-BOARDS) to see the complete list.

## i.MX 8M MINI EVK DISPLAY BOARD

Description	Part Number	Photo
<b>MIPI-DSI OLED Display</b>	MX8_DSI_OLED1	

## i.MX 8M MINI EVK ACCESSORY BOARDS

Description	Part Number	Photo
<b>MIPI-DSI to HDMI Adapter</b>	(IMX-MIPI-HDMI included with the Evaluation Kit)	
<b>MIPI-CSI Camera</b>	MINISASTOCSI	

[www.nxp.com/iMX8MMiniEVK](http://www.nxp.com/iMX8MMiniEVK) and [imxcommunity.org](http://imxcommunity.org)

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