EVALUATION KIT BASED ON i.MX 8M NANO APPLICATIONS PROCESSORS

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

OVERVIEW

The i.MX 8M Nano EVK hardware and software board support packages provide a comprehensive platform for evaluation of the i.MX 8M Nano and i.MX 8M Nano Lite applications processors utilizing 1, 2, or 4 Arm® Cortex®-A53 cores and 1 Cortex-M7 core. The EVK offers a large assortment of features to support graphics, video, image processing, audio and voice functions.

The EVK topology consists of a baseboard and a compute module. The compute module is a size-optimized design that contains the i.MX 8M Nano applications processor, NXP® PMIC, DRAM, eMMC and wireless connectivity via NXP Wi-Fi®/Bluetooth® module. The i.MX 8M Nano and i.MX 8M Mini processors use the same baseboard, proof that a single hardware design can support both solutions.

The compute module plugs into the baseboard, which provides MIPI-DSI and MIPI-CSI connectors, a USB 3.0 connector ideal for embedded and connected high-performance applications. In addition, the baseboard has a microSD™/MMC slot, 10/100/1000 Ethernet port, and a 3.5 mm headphone jack. The MIPI-DSI-to-HDMI adapter card and mini SAS cable are included in the box to provide out-of-the-box display capabilities.

INTEGRATED NXP PMIC AND NXP Wi-Fi/BLUETOOTH SOLUTIONS

NXP has integrated its PMIC drivers, Wi-Fi/Bluetooth drivers and communications stacks to simplify and accelerate application development. By using the Linux®/Android™ board support packages (BSPs), developers can easily combine power management and wireless connectivity with i.MX 8M Nano's capabilities.

TARGET APPLICATIONS

- General-purpose human-machine interface (HMI) solutions
- Building Automation—fire and security panel, elevator control, HVAC control, smart access control, IoT gateway
- Smart Homes—voice-controlled light switches, smart appliances, smart thermostats, service robots
- Imaging and Machine Vision—retail inventory management, thermal/IR scanners, drones, mobile service robots
- Healthcare—patient monitor, infusion pump, activity and wellness monitor
- Audio Entertainment—soundbars, audio video receivers, wireless speakers, portable music players, public address systems

PROVEN HARDWARE DESIGN

The compute module is the processing and connectivity core of your smart, connected system. The hardware design is a size-optimized 6-layer board with high-speed LPDDR4, proven to work at speed with our Linux and Android operating systems. Help fast track your product development by using this design as your starting point. Design collateral is available on nxp.com/iMX8MNanoEVK.

VERSATILE PLATFORM FOR DEVELOPMENT

The EVK system includes the functionality required for you to build your smart, connected application. Wi-Fi 5 is included in the box (no additional board required), and display and camera accessory boards let you prototype an HMI- or vision-based system.

HMI AND CONNECTIVITY

Today, 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 Nano EVK provides capabilities to develop these key functionalities.

i.MX 8M NANO EVK CONTENTS

- i.MX 8M Nano EVK baseboard 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 mini SAS cable

SOFTWARE AND TOOLS

The i.MX 8M Nano EVK comes pre-installed with a boot image flashed to the on-board eMMC device. Hardware design files, software tools and 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/iMX8MNanoEVK.

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

ORDERING INFORMATION

Part Number: 8MNANOLPD4-EVK
Memory: 2 GB LPDDR4, 32 GB eMMC 5.1

i.MX 8M NANO EVK COMPUTE MODULE

Part Number	8MNANOLPD4-EVK
Memory	LPDDR4 x16 w/2 GB
	32GB eMMC
	MicroSD/MMC connector QSPI w/64 MB
Processor	i.MX 8M Nano Quad applications processor 4 x Arm® Cortex-A53 @ 1.5 GHz Arm Cortex-M7 @ 750 MHz
Power Management	NXP PMIC PCA9450B
Wireless	NXP 88W8987 Wi-Fi/BT module: Wi-Fi 5 (1x1) Bluetooth 5 Onboard chip antenna External antenna connector

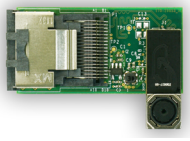
i.MX 8M NANO EVK BASE BOARD

Display/Camera Connectors	MIPI-CSI Camera mini-SAS connector MIPI-DSI Display mini-SAS connector
Audio	Audio DAC 24-bit 192 kHz stereo HP Jack 3.5 mm audio connector Board expansion connector for audio interfaces
Connectivity	10/100/1000 Ethernet USB 3.0 Type C connector
Debug	JTAG connector UART via USB
Tools and OS support	Linux® AndroidTM FreeRTOSTM

i.MX 8M NANO EVK DISPLAY BOARD

Description	Part Number	Photo
MIPI-DSI OLED Display	MX8_DSI_OLED1	

i.MX 8M NANO EVK ACCESSORY BOARDS

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

www.nxp.com/iMX8MNanoEVK and imxcommunity.org

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