Home (/) / Development Boards (/design/development-boards:EVDEBRDSSYS) / i.MX Evaluation and Development Boards (/design/development-boards/i-mx-evaluation-and-development-boards:SABRE_HOME) / i.MX RT1060 Evaluation Kit

MIMXRT1060-EVK: i.MX RT1060 Evaluation Kit

FOLLOW

Overview

The i.MX RT1060 EVK is a 4-layer through-hole USB-powered PCB. At its heart lies the i.MX RT1060 crossover MCU, featuring NXP's advanced implementation of the Arm® Cortex®-M7 core. This core operates at speeds up to 600 MHz to provide high CPU performance and excellent real-time response.

Support for FreeRTOS™ available within the MCUXpresso SDK.

The i.MX RT1060 Evaluation Kit is supported by Zephyr™ OS for developing the Internet of Things with a free, open-source embedded operating system. Click here ⧉ to learn more.

Target Applications

Electricity Generation (/applications/industrial/power-and-energy/electricity-generation:ELECTRICITY-GENERATION)

Motion Control and Robotics (/applications/industrial/aerospace-and-mobile-robotics/motion-control-and-robotics:MOTION-CONTROL-ROBOTICS)

Smart Lighting (/applications/smart-city/infrastructure/smart-lighting:SMART-LIGHTING-ASP)

Home Control Panel (/applications/smart-home/smart-appliance/home-control-panel:HOME-CONTROL-PANEL)

🛒 Buy

📦 Get Started

▦ Schematics

MIMXRT1060-EVKB: i.MX RT1060 EVK

MIMXRT1060-EVK: i.MX RT1060 EVK

i.MX RT1060 Evaluation Kit for Arm Cortex-M7 Board LCD

i.MX RT1060 Evaluation Kit for Arm Cortex-M7 Board LCD Bottom

i.MX RT Crossover MCUs

i.MX RT1050 Running an Embedded Wizard Powered GUI Application

uClinux Demo Running on the NXP EVK Board

Specifications

Supported Devices

Processors and Microcontrollers	
i.MX RT Crossover MCUs	• i.MX-RT1060 (/products/processors-and-microcontrollers/arm-microcontrollers/i-mx-rt-crossover-mcus/i-mx-rt1060-crossover-mcu-with-arm-cortex-m7-core:i.MX-RT1060) : i.MX RT1060 Crossover MCU with Arm® Cortex®-M7 Core
Sensors	
Accelerometers	• FXOS8700CQ (/products/sensors/accelerometers/digital-motion-sensor-3d-accelerometer-2g-4g-8g-plus-3d-magnetometer:FXOS8700CQ) : Digital Motion Sensor - 3D Accelerometer (±2g/±4g/±8g) + 3D Magnetometer
Interfaces	
USB PD-PHY and CC-Logic	• PTN5110 (/products/interfaces/usb-interfaces/usb-type-c/usb-pd-phy-and-cc-logic/usb-pd-tcpc-phy-ic:PTN5110) : USB PD TCPC PHY IC

Technical and Functional Specifications

Processor	MIMXRT1062DVL6A processor
Board Memory	• 256 Mb SDRAM memory • 512 Mb Hyper Flash • 64 Mb QSPI Flash • TF socket for SD card
Connectivity	• Micro USB host and OTG connectors • Ethernet (10/100M) connector • CAN transceiver • Arduino® interface
Audio	• Audio codec • 4-pole audio headphone jack • External speaker connection • Microphone • S/PDIF connector • Audio extension support (MIMXRT1060-EVKB only)

Debug Capabilities	
	• JTAG connectorr
	• On-board DAP-Link debugger

Expansion Connectors	
	• Parallel LCD connector
	• Camera connector
	• M.2 interface (MIMXRT1060-EVKB only)
	• I^{2}C interface extension (MIMXRT1060-EVKB only)

| Software and Support Application Development		
		• MCUXpresso SDK with optional FreeRTOS support (/design/software/development-software/mcuxpresso-software-and-too
		• MCUXpresso IDE (/design/software/development-software/mcuxpresso-software-and-tools-/mcuxpresso-integrated-develop
		• MCUXpresso Config Tools (/design/software/development-software/mcuxpresso-software-and-tools-/mcuxpresso-config-too
		• Supported by Zephyr OS

Buy
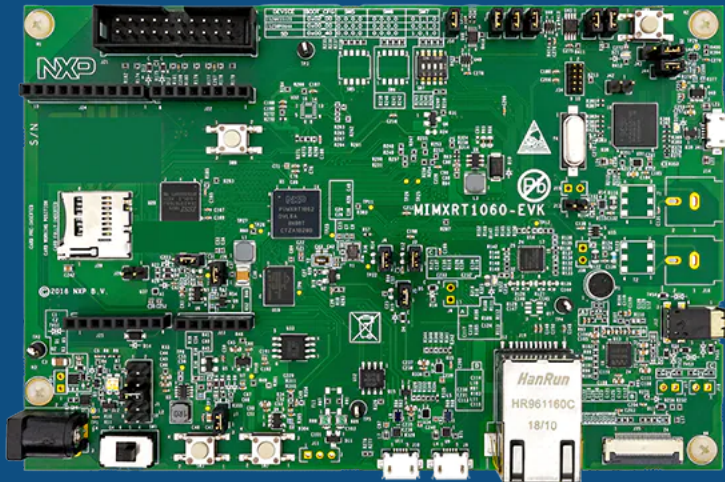
MIMXRT1060-EVK (/part/MIMXRT1060-EVK)   ACTIVE

i.MX RT1060 Evaluation Kit

- MIMXRT1060-EVK board
- USB cable (Micro B)
- Camera sensor module

1 @ US
$99.00

DISTRIBUTOR
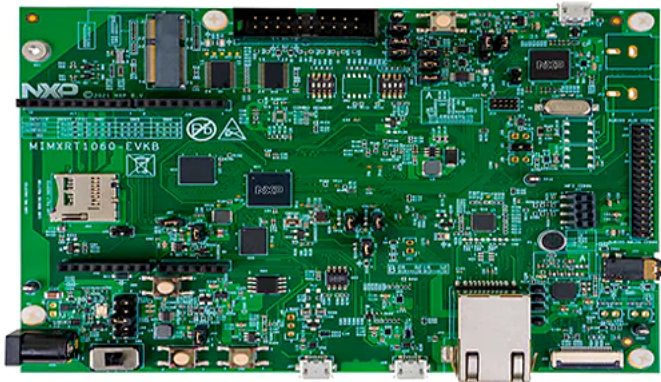
MIMXRT1060-EVKB (/part/MIMXRT1060-EVKB) ACTIVE

i.MX RT1060 Evaluation Kit

- MIMXRT1060-EVKB board

1 @ US
$99.00

🛒 **USE COUPON (HTTPS://STORE.NXP.COM/WEBAPP/ECOMMERCE.ADD_ITEM.FRAMEWORK?PART_NUMBER=MIMXRT1060-EVKB&QUANTITY=1&ITEM_TYPE=TOOL_HW)**

Availability?

DISTRIBUTOR

Don't have an NXP coupon? You can purchase this product from one of our authorized distributors.

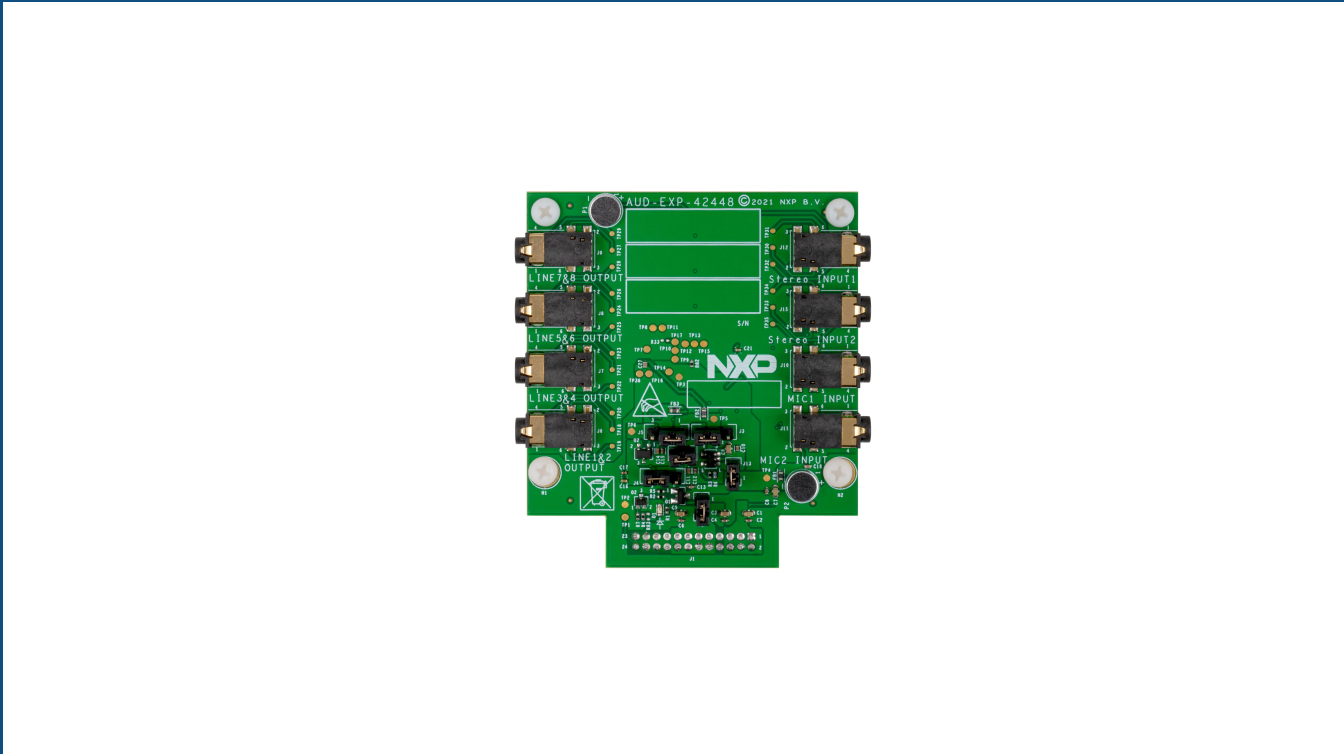## RK043FN02H-CT (/part/RK043FN02H-CT) ACTIVE

LCD Display

1 @ US
$29.00

🛒 **USE COUPON (HTTPS://STORE.NXP.COM/WEBAPP/ECOMMERCE.ADD_ITEM.FRAMEWORK?PART_NUMBER=RK043FN02H-CT&QUANTITY=1&ITEM_TYPE=TOOL_HW)**

Availability?

AUD-EXP-42448 (/part/AUD-EXP-42448) ACTIVE

i.MX RT1060 Evaluation Kit

1 @ US
$39.00

🛒 USE COUPON (HTTPS://STORE.NXP.COM/WEBAPP/ECOMMERCE.ADD_ITEM.FRAMEWORK?PART_NUMBER=AUD-EXP-42448&QUANTITY=1&ITEM_TYPE=TOOL_HW)

Availability?

Related Products

(/design/automotive-software-and-tools/model-based-design-toolbox-mbdt:MBDT)

Model-Based Design Toolbox (MBDT) (/design/automotive-software-and-tools/model-based-design-toolbox-mbdt:MBDT)

Embedded Software
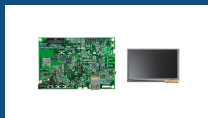
(/design/development-boards/i-mx-evaluation-and-development-boards/4-3-lcd-panel:RK043FN02H-CT)

4.3" LCD Panel (/design/development-boards/i-mx-evaluation-and-development-boards/4-3-lcd-panel:RK043FN02H-CT)

Evaluation and Development Boards

Design Resources

Get Started

1. Review this Get Started and User's Guides to get familiar with the hardware specifications.

Get Started and User's Guide

Get Started with the MIMXRT1060-EVK (/document/guide/get-started-with-the-mimxrt1060-evk:GS-MIMXRT1060-EVK)

HTML   Jul 14, 2020   GS-MIMXRT1060-EVK

PMSM Field-Oriented Control on MIMXRT10xx EVK (/webapp/Download?colCode=PMSMFOCRT10xxUG)

HTML   Rev 0   Dec 12, 2018   2.8 MB   PMSMFOCRT10xxUG   English

Getting Started with NXP Wi-Fi® modules using i.MX RT platform ()

HTML   Rev 1   Jul 22, 2020   GS-WIFI-MODULES-IMXRT-PLATFORM-LINK   English

DOCUMENTS (12)

Application Note (3)

User Guide (5)

Application Note Software (1)

Brochure (1)

Quick Reference Guide (2)

DESIGN RESOURCES (4)

Design Tools & Files (4)

SOFTWARE (16)

Embedded Software (15)

Development Software (7)

Documents

Application Note (3)

Modifying debug firmware on i.MX RT boards with LPC4322 debug probe (/docs/en/application-note/AN13206.pdf)
This application note describes how to switch between the default OpenSDA, LPC-Link2 style CMSIS-DAP and J-Link firmware options on i.MX RT 1xxx boards with an LPC4322 based debug probe.

PDF   Rev 0   Apr 9, 2021   1.1 MB   AN13206   English, 中文 (/docs/zh/application-note/AN13206.pdf)

FLAC7.1 Implementation and Audio Quality Measurement on RT1060 and CS42448 Audio Card (/docs/en/application-note/AN13291.pdf)
The i.MX RT series are the industry's first crossover processor. i.MX RT1060 is a part of the EdgeVerse™ edge computing platform. The i.MX RT1060 device runs on the Arm® Cortex®-M7 core at 600 MHz, which can support high-performance applications. application note, AN13291, FLAC7.1, Audio Quality, Audio Performance, Audio Card, i.MXRT1060, CS42448

PDF   Rev 0   Jun 10, 2021   2.6 MB   AN13291   English, 中文 (/docs/zh/application-note/AN13291.pdf)

Associated File: AN13291SW1 (/docs/en/application-note-software/AN13291SW1.zip) AN13291SW2 (/docs/en/application-note-software/AN13291SW2.zip)

PMSM Field-Oriented Control on MIMXRT10xx EVK (/docs/en/application-note/AN12214.pdf)
This application note describes the implementation of the sensor and sensorless speed and position motor control software for 3-phase Permanent Magnet Synchronous Motors (PMSM), including the motor parameters identification algorithm, on the MIMXRT10xx Evaluation Kit (EVK) based on the NXP i.MX RT10xx processor.

PDF   Rev 0   Dec 12, 2018   2.2 MB   AN12214   English, 中文 (/docs/zh/application-note/AN12214.pdf)

Associated File: AN12214SW (/webapp/Download?colCode=AN12214SW&docLang=en)

User Guide (5)

PMSM Field-Oriented Control on MIMXRT10xx EVK (/webapp/Download?colCode=PMSMFOCRT10xxUG)
This user's guide provides a step-by-step guide on how to open, compile, debug, and run Permanent Magnet Synchronous Motor (PMSM) projects in most common IDEs, such as IAR Embedded Workbench®, MCUXpresso, and Vision® Keil® IDEs on MIMRT10xx EVK boards.

PDF   Rev 0   Dec 12, 2018   2.8 MB   PMSMFOCRT10xxUG   English

Getting Started with NXP Wi-Fi® modules using i.MX RT platform (/document/guide/getting-started-with-nxp-wi-fi-modules-using-i-mx-rt-platform:GS-WIFI-MODULES-IMXRT-PLATFORM)
Let's take your Wi-Fi module for a test drive. This guide uses the 88W8801 Wi-Fi platform with the i.MX RT1060 board but the same steps apply to other Wi-Fi modules and i.MX RT platforms!

HTML   May 28, 2020   GS-WIFI-MODULES-IMXRT-PLATFORM   English

Get Started with the MIMXRT1060-EVK (/document/guide/get-started-with-the-mimxrt1060-evk:GS-MIMXRT1060-EVK)
This page will help guide you through the process of learning about your MIMXRT1060-EVK board.

HTML   Jul 14, 2020   GS-MIMXRT1060-EVK   English

Getting Started with NXP Wi-Fi® modules using i.MX RT platform (/document/guide/getting-started-with-nxp-wi-fi-modules-using-i-mx-rt-platform:GS-WIFI-MODULES-IMXRT-PLATFORM)
HTML   Rev 1   Jul 22, 2020   GS-WIFI-MODULES-IMXRT-PLATFORM-LINK   English

MIMXRT1060-EVKB Board User Manual (/webapp/Download?colCode=MIMXRT1060EVKBUM) NEW
This document provides detailed information about MIMXRT1060-EVKB board interfaces, power supplies, clocks, connectors, jumpers, user buttons, and LEDs.

PDF   Rev 0   Jan 11, 2022   MIMXRT1060EVKBUM   English

Application Note Software (1)

Application note software for AN12214 (/webapp/Download?colCode=AN12214SW)
ZIP   Rev 0   Dec 12, 2018   10.8 MB   AN12214SW   English

Brochure (1)

i.MX RT Series of Crossover MCUs (/docs/en/brochure/IMXRTPORTBR.pdf)
NXP's crossover processors and MCUs marry the simplicity of MCUs with the complexity of applications processors into a hybrid device designed to address the growing consumer demand for enhanced user experiences in smart and secure high-performance products. Included in this class of products is the i.MX RT series of crossover MCUs that combines unprecedented performance with reliability and high levels of integration and security to propel industrial, IoT and automotive applications.

PDF   Rev 4   Dec 1, 2021   1.4 MB   IMXRTPORTBR   English, 中文 (/docs/zh/brochure/IMXRTPORTBR.pdf), 日本語 (/docs/ja/brochure/IMXRTPORTBR.pdf)

Quick Reference Guide (2)

Quick Start Guide – MIMXRT1060-EVK (/docs/en/quick-reference-guide/IMXRT1060QSG.pdf)
Get started using the MIMXRT1060-EVK and enjoy design freedom.

PDF   Rev 0   Sep 11, 2018   497.6 KB   IMXRT1060QSG   English

Quick Start Guide – MIMXRT1060-EVKB (/webapp/Download?colCode=MIMXRT1060-EVKB-QSG)
Get started using the MIMXRT1060-EVKB and enjoy design freedom.

PDF   Rev 0   Nov 17, 2021   MIMXRT1060-EVKB-QSG   English

Design Resources

Design Tools & Files (4)

Models (2)

IBIS Model file for i.MXRT1060 (/downloads/en/ibis-model/RT1060_BGA12X12.ibs)

iMXRT1060 IBS

IBS   Rev 1   Mar 23, 2020   20.5 MB   RT1060_BGA12X12

BDSL file for i.MXRT1060 (/downloads/en/bsdl/RT1060.bsdl)
iMXRT1060 BDSL

BSDL   Rev 1   Mar 23, 2020   33.9 KB   RT1060-BSDL

Printed Circuit Boards and Schematics (2)

MIMXRT1060_EVKB Design files (/webapp/Download?colCode=MIMXRT1060-EVKB-DESIGNFILES)
Get started using the MIMXRT1060-EVKB and enjoy design freedom.

ZIP   Rev B1   Nov 17, 2021   MIMXRT1060-EVKB-DESIGNFILES

MIMXRT1060_EVK Design files (/webapp/Download?colCode=MIMXRT1060-EVK-DESIGNFILE-A3)
iMXRT1060 EVK

ZIP   Rev A3   Aug 26, 2020   9.8 MB   MIMXRT1060-EVK-DESIGNFILE-A3

Software

Embedded Software (1)

Embedded Software (1)

Model-Based Design Toolbox (MBDT) (/design/automotive-software-and-tools/model-based-design-toolbox-mbdt:MBDT)
The NXP Model-Based Design Toolbox (MBDT) is a comprehensive collection of tools that plug into the MATLAB and Simulink model-based design environment to support fast prototyping, verification, and validation

DOWNLOAD OPTIONS (/DESIGN/AUTOMOTIVE-SOFTWARE-AND-TOOLS/MODEL-BASED-DESIGN-TOOLBOX-MBDT:MBDT?TAB=DESIGN_TOOLS_TAB)

Development Software (7)

IDE and Build Tools (3)

MCUXpresso Integrated Development Environment (IDE) (/design/software/development-software/mcuxpresso-software-and-tools-/mcuxpresso-integrated-development-environment-ide:MCUXpresso-IDE)
Easy-to-use software development tools for Kinetis, LPC, i.MX controllers based on Arm Cortex-M cores - GNU, Eclipse, profiling, debugger, trace

DOWNLOAD OPTIONS (/DESIGN/SOFTWARE/DEVELOPMENT-SOFTWARE/MCUXPRESSO-SOFTWARE-AND-TOOLS-/MCUXPRESSO-INTEGRATED-DEVELOPMENT-ENVIRONMENT-IDE:MCUXPRESSO-IDE?TAB=DESI

GUI Guider (/design/software/development-software/gui-guider:GUI-GUIDER)
User-friendly graphical user interface (GUI) development tool from NXP that enables the rapid development of high quality displays with the open-source LVGL graphics library

DOWNLOAD OPTIONS (/DESIGN/SOFTWARE/DEVELOPMENT-SOFTWARE/GUI-GUIDER:GUI-GUIDER?TAB=DESIGN_TOOLS_TAB)

MCUXpresso Secure Provisioning Tool (/design/software/development-software/mcuxpresso-software-and-tools-/mcuxpresso-secure-provisioning-tool:MCUXPRESSO-SECURE-PROVISIONING)
NXP's MCUXpresso Secure Provisioning Tool is a GUI-based application provided to simplify generation and provisioning of bootable executables on NXP MCU devices.

DOWNLOAD OPTIONS (/DESIGN/SOFTWARE/DEVELOPMENT-SOFTWARE/MCUXPRESSO-SOFTWARE-AND-TOOLS-/MCUXPRESSO-SECURE-PROVISIONING-TOOL:MCUXPRESSO-SECURE-PROVISIONING?TAB=DE

Test, Debug and Analyzer Software (1)

FreeMASTER Run-Time Debugging Tool (/design/software/development-software/freemaster-run-time-debugging-tool:FREEMASTER)
Graphical PC host tool to control and debug embedded applications in run-time.

DOWNLOAD OPTIONS (/DESIGN/SOFTWARE/DEVELOPMENT-SOFTWARE/FREEMASTER-RUN-TIME-DEBUGGING-TOOL:FREEMASTER?TAB=DESIGN_TOOLS_TAB)

UI Developer (3)

Azure® RTOS for NXP Microcontrollers (/design/software/embedded-software/azure-rtos-for-nxp-microcontrollers:AZURE-RTOS)
Azure RTOS is an embedded development suite including a small but powerful operating system that provides reliable, ultra-fast performance for resource-constrained devices.

DOWNLOAD OPTIONS (/DESIGN/SOFTWARE/EMBEDDED-SOFTWARE/AZURE-RTOS-FOR-NXP-MICROCONTROLLERS:AZURE-RTOS?TAB=DESIGN_TOOLS_TAB)

STORYBOARD - Embedded GUI devel (/webapp/connect/displayPartnerProfile.sp?partnerId=1-BFZK-3&offeringId=1-E2V5B4)
Storyboard provides a faster way to create best-in-class GUIs across the widest range of target devices and was built with scalability and resource management at the forefront, ensuring that teams can build modern GUIs on budget, and on time.

by Crank Software Inc.   Gold

Embedded Wizard (/webapp/connect/displayPartnerProfile.sp?partnerId=12240&offeringId=17100)

Embedded Wizard is a solution that enables the creation of sophisticated GUIs for MCUs and MPUs. The GUI development is speeded-up with the use of the built-in WYSIWYG editing facility, instant prototyping, simulating and debugging on PC.

by TARA Systems GmbH   Gold

Get Help

Search NXP Community	SEARCH (HTTPS://COMMUNITY.NXP.COM/T5/FORUMS/SEARCHPAGE/TAB/MESSAGE?Q=)

RECOMMENDED COMMUNITIES

i.MX RT ↗

i.MX Solutions ↗

MCUXpresso Config Tools ↗

MCUXpresso IDE ↗

MCUXpresso SDK ↗

SUGGESTED LINKS

Webinar: Speed Up Automotive, Industrial and IoT Applications with NXP MBDT ↗

i.MX RT1050 CMSIS-DAP drag-and-drop programming ↗

Switched Mode Power Supply ↗

RT1050 - Booting from serial NOR flash to SDRAM ↗

Generating a Bootable Image for the RT1050 ↗

RT1060 Normal GPIO vs Fast GPIO ↗

Training and Events

Hands-free Interaction and Customization Through Alexa Voice Services (/design/training/hands-free-interaction-and-customization-through-alexa-voice-services:TIP-CUSTOMIZATION-THROUGH-ALEXA) 🔒

Type: On-Demand   **Duration:** 30:08

Implement Alexa capability to a wide range of home and industry systems with NXP's MCU-based Alexa Voice Service solution.

Secure Access, Authorization and User Customization Using MCU-based Face Recognition (/design/training/secure-access-authorization-and-user-customization-using-mcu-based-face-recognition:TIP-SECURE-ACCESS-MCU-FACE-RECOGNITION) 🔒

Type: On-Demand   **Duration:** 31:17

Implement secure and private face recognition capability to a wide range of home and industry systems with NXP's i.MX RT106F.

Implementing Graphics in Real-time Industrial HMI Systems (/design/training/implementing-graphics-in-real-time-industrial-hmi-systems:TIP-GRAPHICS-REALTIME-HMI) 🔒

Type: On-Demand   **Duration:** 30:00

Learn how to enable GUIs with Crank Software Storyboard Designer integrated to NXP's MCUXpresso SDK for i.MX RT.

Microsoft: Edge to Cloud—Enabling New Intelligent Capabilities with Azure IoT and NXP's i.MX RT Crossover MCUs (/design/training/microsoft-edge-to-cloudenabling-new-intelligent-capabilities-with-azure-iot-and-nxps-i-mx-rt-crossover-mcus:TIP-CONNECTS2021-ENT520A) 🔒

Type: On-Demand   **Duration:** 37

In this session you will learn more about Azure RTOS, how to connect a device to the cloud, and deploy over-the-air updates leveraging the Azure IoT services.

MCU-based Voice Control for Industrial Systems (/design/training/mcu-based-voice-control-for-industrial-systems:TIP-SECURE-VOICE-CONTROL-IS) 🔒

Type: On-Demand   **Duration:** 33:10

Implement hands free, low latency, secure voice control for home and industry systems with NXP's SLN-LOCAL-IOT.

Implementing Graphics in Real-time Industrial HMI with NXP MCUs and Embedded Wizard (/design/training/implementing-graphics-in-real-time-industrial-hmi-with-nxp-mcus-and-embedded-wizard:TIP-GRAPHICS-REALTIME-HMI-WIZARD) 🔒

Type: On-Demand   **Duration:** 28:56

Learn how to use TARA's Embedded Wizard GUI, integrated into MCUXpresso.

Getting Starting with MCUXpresso Secure Provisioning Tool (/design/training/getting-starting-with-mcuxpresso-secure-provisioning-tool:TIP-MCUXPRESSO-SECURE-PROVISIONING-TOOL) 🔒

Type: ondemandmultivideo   **Duration:** 45:00

Getting started videos series for the MCUXpresso Secure Provisioning Tool

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News Jan 4, 2022 | Read More (https://media.nxp.com/news-releases/news-release-details/nxp-ramps-flagship-4d-imaging-radar-chip-production-adds-new)