i.MX Applications Processors

Evaluation Kit Based on i.MX 7ULP Applications Processors

NXP® delivers the next installment in a line of highly flexible, market-focused development tools with an evaluation kit (EVK) based on the i.MX 7ULP applications processors.

The i.MX 7ULP applications processors represents NXP's latest achievement in ultra-low-power processing for use cases demanding long battery life. Targeted towards the growing market of power conscious devices, the i.MX 7ULP family of processors features NXP's advanced implementation of the Arm® Cortex®-A7 core, the Arm Cortex-M4 core, as well as a 3D and 2D Graphics Processing Units (GPUs). The i.MX 7ULP provides up to 32-bit LPDDR2/LPDDR3 memory interface and a number of other interfaces for connecting peripherals, such as WLAN, Bluetooth, GPS, displays, and camera sensors. The EVK provides a platform for rapid evaluation of the i.MX 7ULP.

The EVK enables HDMI output for simple out-of-the-box bring up, but allows reconfiguration for MIPI displays. The EVK is designed as a System-On-Module (SOM) board that connects to an associated baseboard. The SOM provides 1 GB LPDDR3, 8 MB Quad SPI flash, Micro SD 3.0 card socket, WiFi/ Bluetooth capability, USB 2.0 OTG with Type C connector and an NXP PF1550 power management IC (PMIC). The baseboard provides additional capabilities including a full SD/MMC 3.0 card socket, audio codec, multiple sensors, an HDMI connector, and an alternate MIPI display connector. Additionally, the EVK facilitates software development with the ultimate goal of faster time to market through the support of both Linux® OS and Android™ rich operating systems, as well as FreeRTOS.

TARGET APPLICATIONS

▶ Smart home controls

▶ Wearables

▶ Smart locks

▶ IoT edge solutions

▶ Portable patient monitoring

▶ Building automation

▶ Portable scanners and printers

i.MX 7ULP EVK SYSTEM CONTENTS

▶ i.MX 7ULP applications processors-based SOM and baseboard

▶ Power supply and USB cables

▶ Quick Start Guide

▶ One bootable SD card containing a Linux OS

SOFTWARE AND TOOLS

The i.MX 7ULP EVK comes with an SD card pre-installed with the Linux operating system. Also offered are the

Android™ OS, as well as FreeRTOS for the Cortex-M4 core.

i.MX 7ULP EVK

Pictured with the complementary MIPI TOUCH LCD panel TFT3P5581-T

i.MX 7ULP EVK FEATURES

Processor	i.MX 7ULP applications processors
Power management	• NXP PF1550 PMIC • Battery socket
Memory	• 1 GB LPDDR3 running at 400 MHz • 8 MB Quad SPI Flash • Footprint for managed NAND (eMMC/eSD) • Micro SD 3.0 card socket • Full SD/MMC 3.0 card socket
Display Connectors	• HDMI connector • MIPI display panel connector
Wireless	• Bluetooth 4.1/EDR • Wi-Fi 802.11 b/g/n • On-board antenna • External antenna connector
Audio	• Wolfson WM8960 audio codec • Audio headphone jack • External speaker connection
Connectivity	• USB 2.0 OTG Type C connector • Micro USB 2.0 OTG Type B connector • USB HSIC interface • Arduino connector • MFI interface • ADC/DAC connector
Sensors	• 6-axis sensor with integrated linear accelerometer and magnetometer • Gyroscope • I2C precision pressure sensor with altimetry
Debug	• JTAG connector • UART via USB
i.MX 7ULP EVK Part Number	MCIMX7ULP-EVK
MIPI Touch LCD Panel Part Number	TFT3P5581-T

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