i.MX Applications Processors
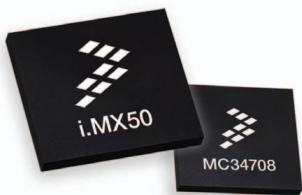
Evaluation Kit for the i.MX50 Applications Processor

Overview

The i.MX50 Evaluation Kit (EVK) offers developers a price effective platform for developing products with the i.MX50 family of applications processors based on the ARM® Cortex™-A8 core. The EVK is a small, single board design which includes a complementary power management IC (PMIC), the MC34708 and support for multiple display options. Users can output directly to a monitor via HDMI or use the optional LCD or electronic paper display (EPD) add-on boards.

The i.MX50 EVK is also supported with a comprehensive software package, including board support packages (BSPs) for both Linux® and Android™ operating systems. Supporting the major features of the chip and the development board, the BSP simplifies product development and improves customer time to market.

With this EVK, customers can begin developing their i.MX50-based product for under $500 USD MSRP.

Platform Features

Processor	• Freescale i.MX50 800 MHz ARM® Cortex™-A8 processor
Power Management	• Freescale MC34708 PMIC
Memory	• 512 MB Double Data Rate2 Mobile (LPDDR2) DRAM memory • Socket for raw NAND flash (48-TSOP) • Footprint for managed NAND (eMMC/eSD) • SPI flash • Two Secure Digital (SD)/multimedia card (MMC) sockets
Display	• Parallel WVGA LCD add-on card via expansion connector • EPD add-on card via expansion connector • HDMI digital video output connector
Audio	• Freescale SGTL5000 audio codec • Audio HP jack • External speaker connection • Microphone
Connectivity	• USB host connectors • Micro USB OTG connector • Ethernet (10/100T) connector • SIM card socket • Mini PCIe connector
Debug	• JTAG connector • One console UART

Software and Tools

The i.MX50 EVK comes preinstalled with the Linux OS flashed on an SD card. With an array of peripheral support and a breadth of optimized software, the i.MX50 EVK allows for immediate demonstration of product capabilities. The EVK contains a VMware® player image running ready-to-go Linux, allowing those with Windows PCs to bypass the typical setup of a standard Linux-based development system. The kit includes a Getting Started DVD and documentation which provides the step by step guide on board bring-up. Furthermore, i.MX ecosystem partners offer a wide selection of debugging tools and development suites that allow for maximum flexibility and support. More information is available at **freescale.com/iMX50tools**.

About the i.MX50 Family of Applications Processors

The i.MX50 family of processors runs at core speeds of 800 MHz and offers a low-power, streamlined solution for customers seeking ARM Cortex-A8 performance levels with flexible design features. Target applications include eReaders, portable navigation and mobile devices, outdoor and digital signage, patient/client monitoring, and home and office automation. Based on the market-leading i.MX508 processor for eReaders, the expanded i.MX50 family has the unique advantage of offering support for both LCDs and EPDs. With an enhanced pixel processing pipeline (ePxP) and an OpenVG™ 2-D graphics accelerator,

customers can achieve enhanced graphics and user interfaces with minimal CPU overhead. Low power features, such as state retention power gating (SRPG) and dynamic voltage frequency scaling (DVFS), make the i.MX50 ideal for portable applications that demand exceptional battery life.

About the MC34708 PMIC

The Freescale MC34708 PMIC is optimized for use with the i.MX50 and helps maximize power efficiency and battery life while supporting higher levels of integration to minimize board space and cost.

The MC34708 PMIC provides dual phase switchers for the i.MX50 core and memory, and USB/UART/audio switching for the mini/micro USB connector, which reduces the connector count for a more compact design. A switching charger with dual inputs enables faster charging from a current limited source, such as USB, and the dual path enables power on even when the battery has died. The MC34708 supports the universal charging standard to enable the selection of the optimal charging profile for the given charger source.

Freescale PMICs are exclusively designed to work with our i.MX processor family, providing optimized feature sets for specific applications. Freescale's proven combined solutions are available as reference designs with full software BSPs and backed by integrated technical support to offer quality solutions that get our customers to market faster.

Ordering Information

Part Number	Description	MSRP (USD)
MCIMX50EVK	i.MX50 Evaluation Kit (EVK)	$499
MCIMX28LCD	LCD	$199
MX50EBOOKDC1	EPD	$499

i.MX50EVK
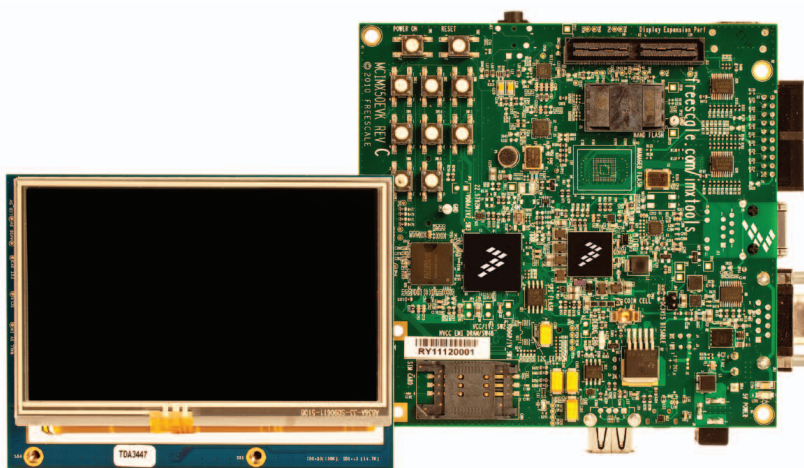
For current information about Freescale products and documentation, please visit freescale.com/iMX50EVK. Join fellow i.MX developers online at imxcommunity.org —an active community of open source developers.