



i.MX Applications Processors

# Freescale Product Development Kit (PDK) for the i.MX25 Applications Processor Design. Debug. Demo.



## Overview

Freescale's new feature packed i.MX25 product development kit (PDK) builds on the success and extensive software code base of the i.MX31, i.MX27 and i.MX35 PDKs and gets this comprehensive kit into the hands of developers for under \$1000. Based on a powerful and well-proven ARM926EJ-S™ core, the i.MX25 PDK delivers exceptional performance without sacrificing on battery life, and for wall-powered devices, it can help you to design products that meet today's demands for energy efficiency. A wide range of connectivity options makes the i.MX25 PDK suitable for developing many different types of user applications. The provided Board Support Package (BSP) for Linux® and Windows® Embedded 6.0 enables rapid prototyping to help speed up your processor selection process and quickly get something demonstrable into the hands of your project stakeholders.

The i.MX25 PDK is preconfigured with your choice of Linux® (MCIMX25LPDK) or Windows® Embedded CE 6.0 (MCIMX25WPKD), making it an outstanding choice for a wide range of industrial, general embedded and automotive applications. The i.MX25 PDK supports the entire i.MX25 family of products.

## Key Benefits

- Explore the many connectivity options with the i.MX25 applications processor—display, touchscreen, USB, SDIO, Ethernet, CAN, audio and others
- Power management offers a variety of different power saving modes, giving the system developer the ability to make trade-offs between power savings during system idle state and the needed system recovery times
- Proven design examples and software drivers to reduce hassle associated with design-in of key connectivity and power management options
- Simplified product design
- Rapid prototyping to accelerate processor selection process

## Design

With the i.MX25 PDK, designers have access to key features needed for an end design. The Freescale i.MX25 PDK's personality module provides designers with the hardware functionality and connectivity required for developing many applications, such as human machine interface (HMI) for graphical display of data and user interaction (e.g. factory and home automation, security panels and auto infotainment), smart metering devices for better management of home energy consumption, industrial printers, data acquisition devices and automotive infotainment. With production-ready software components, an optimized OS and a system-validated board support package (BSP), designers have the tools to test and maximize the performance of the applications they have developed. Speed up your product development by using the Freescale MC34704 power management IC. With application note and software drivers included in the i.MX25 PDK, it's a smart choice for power sensitive applications.



## Debug

Software and hardware engineers are provided with the key resources to test their developed code. They can also download this code to the target PDK to test and validate their software and run and evaluate performance metrics. The debug board provides multiple test points to allow the engineer to take power measurements that will help to understand system power consumption and areas for code optimization. The ability to have all communications ports working (serial, USB, Ethernet) and to debug over JTAG and Ethernet is essential for product development. The debug board is common across all i.MX PDKs.

## Demo

Freescale's PDK for the i.MX25 applications processor allows designers to quickly prototype and demonstrate the results of their development efforts in a small, portable form-factor, giving confidence to your project decision makers that your product is ready for production. Connectivity options on the kit lets you prototype add-on cards that support your own product specific features, without having to redesign the base system. Develop user-interactive software and display your product-specific graphical data on the large, high quality, touchscreen-enabled 5.7" TFT LCD included in the kit. With Freescale's i.MX25 PDK, designers and stakeholders can hold their projects in their hands and evaluate its compelling features, all within weeks of starting development.

## i.MX25 PDK Key Features

### Processor Module

- i.MX25 with ARM926EJ-S core
- Freescale MC34704B power management IC
- Freescale SGT5000 ultra low-power audio codec

- Memory
  - 512 Mb DDR2
  - 2 GB NAND flash

### Personality Module

- Programmable user I/O
- 5.7" TFT VGA with touchscreen
- CMOS image sensor
- U/I connector to support other LCD panels (with or without touchscreen)
- Audio input connectors
- Headphone jack
- CAN connector
- Two USB 2.0 ports
- 10/100 Ethernet port
- SD /SDIO interface for Wi-Fi card or external data storage

### Debug Module

- Debug Ethernet port
- Debug serial port
- JTAG
- Reset, interrupt, boot switches
- Debug LEDs
- Power source
- Current/power monitoring

### Software Development Kit

- Optimized and validated for Linux or Windows Embedded CE 6.0 operating systems
- Integrated and validated BSP for the i.MX25 PDK feature set
- Functional software packages with production-ready components that have been developed by Freescale
- Highly optimized software that is coded by Freescale processor experts
- Consistent application programming interface (API) and frameworks across software packages
- Evaluation and production software packages available through a streamlined, Web-based licensing and delivery system
- Freescale development tools, test streams and documentation

## The i.MX25 Applications Processor

- CPU complex with Freescale's fast, power-efficient, proven ARM926EJ-S core
- Internal 128 KB SRAM for performance optimization and low-power LCD refresh
- External memory interface supports the latest memory standards, including DDR2 and mDDR
- Boot from SD, SPI, NOR or NAND flash
- Packed with system connectivity, including Ethernet, High-Speed USB 2.0 OTG, CAN, MMC 4.2, SD/SDIO, and standard serial connectivity (CSPI, UART, I<sup>2</sup>C)
- Enables highly secure devices through integrated High-Assurance Boot (HAB) library, robust tamper detection, secure key erase, secure JTAG, true random number generator and user programmable e-fuses

### Ordering Information

Part Number	Operating System	MSRP
MCIMX25LPDKJ	Linux®	\$995.00
MCIMX25WPKJ	Windows Embedded CE 6.0	\$995.00
MCIMX25LPDK	Linux	\$995.00
MCIMX25WPKDK	Windows® Embedded CE 6.0	\$995.00

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