



SABRE Board for Smart Devices Based on the i.MX 6 Series

The Smart Application Blueprint for Rapid Engineering (SABRE) board for smart devices was created to simplify product design by offering a feature-rich development platform that allows developers to work with the majority of the i.MX 6 series processor's primary features.

It provides you with a low-cost development platform which includes all primary features of the processors and serves as an example for how to layout complex, high-speed interfaces such as DDR. The SABRE board for smart devices includes complete hardware design files and board support packages (BSP) for Android™, Linux® and FreeRTOS™*.

SABRE boards enable designers to quickly get started with i.MX 6 series processors. The MCIMX6QP-SDB enables development on i.MX 6QuadPlus and i.MX 6DualPlus processors. The MCIMX6Q-SDB enables development on i.MX 6Quad and i.MX 6Dual processors. The MCIMX6SX-SDB enables development on i.MX 6SoloX processors. There are a number of accessory boards that work with the SABRE-SDB to provide additional capabilities such as multi-touch display and Wi-Fi® connectivity.

SABRE BOARD FOR SMART DEVICES SYSTEM CONTENTS

- ▶ i.MX 6QuadPlus, 6Quad or 6SoloX processor-based system
- ▶ Power supply
- ▶ Quick Start Guide
- ▶ Bootable SD card

SOFTWARE AND TOOLS

The SABRE board comes with an SD card pre-installed with the Android operating system (MCIMX6QP-SDB & MCIMX6Q-SDB) or the Linux operating system (MCIMX6SX-SDB). Additional third-party and proprietary software is available. In addition to optimized BSPs, we also provide a large portfolio of optimized video, speech and audio codecs are available.

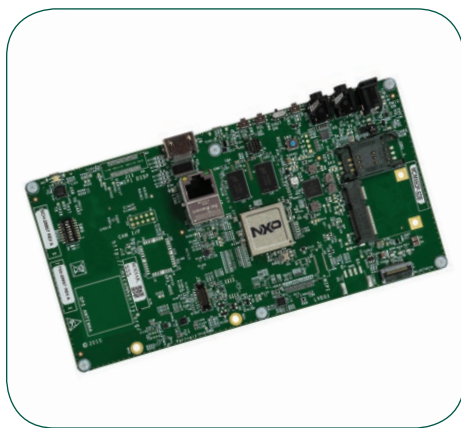
More information is available at www.nxp.com/SABRESDB.

Join fellow i.MX developers online at www.imxcommunity.org — an active community of open source developers.

* For ARM® Cortex®-M4 on i.MX 6SoloX applications processors



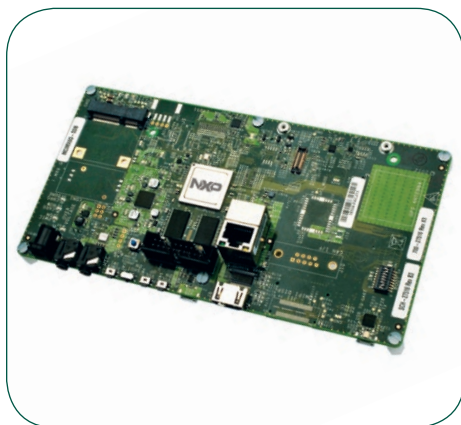
FIGURE 1: MCIMX6QP-SDB



MCIMX6QP-SDB FEATURES

Processor	i.MX 6QuadPlus 1 GHz processor based on the ARM® Cortex®-A9 core
Development for	i.MX 6QuadPlus and i.MX 6DualPlus
Memory/Storage	1 GB DDR3 SDRAM up to 533 MHz (1066 MTPS) memory 8 GB eMMC flash
Display	2 x LVDS connectors - HDMI connector - LCD expansion connector (parallel, 24-bit) - MIPI DSI connector (two data lanes, 1 GHz each)
User Interface	Power, reset, volume buttons
Power Management	NXP MMPF0100F9
Audio	- Audio codec - Microphone and headphone jacks
Expansion Connector	- Camera MIPI CSI port - I²C, SSI, SPI signals
Connectivity	2 x Full-size SD/MMC card slots 22-pin SATA connector 10/100/1000 Ethernet port 1 x USB 2.0 OTG port (micro USB) - mPCIe® connector
Debug	- JTAG connector (10-pin) 1x Serial-to-USB connector (for JTAG)
OS Support	- Linux® and Android™ - Others supported third party (QNX, Windows® Embedded)
Tools Support	- Manufacturing Tool - Processor Expert IOMUX tool
Additional Features	- NXP MMA8451 three-axis accelerometer - NXP MAG3110 three-axis magnetometer - USB plug power supply - NXP 3D magnetometer

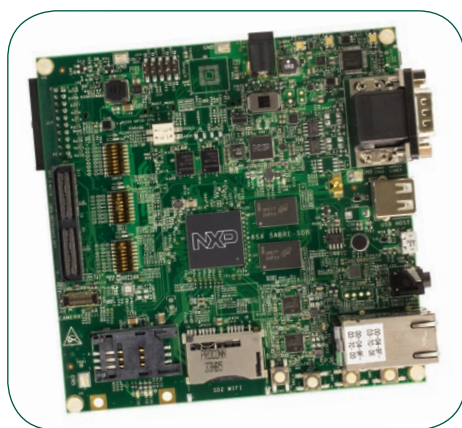
FIGURE 2: MCIMX6Q-SDB



MCIMX6Q-SDB FEATURES

Processor	i.MX 6Quad 1 GHz processor based on the ARM® Cortex®-A9 core
Development for	i.MX 6Quad and i.MX 6Dual
Memory/Storage	1 GB DDR3 SDRAM up to 533 MHz (1066 MTPS) memory 8 GB eMMC Flash
Display	2 x LVDS connectors - HDMI connector - LCD expansion connector (parallel, 24-bit) - MIPI DSI connector (two data lanes, 1 GHz each)
User Interface	Power, reset, volume buttons
Power Management	NXP MMPF0100
Audio	- Audio codec - Microphone and headphone jacks
Expansion Connector	- Camera MIPI CSI port - I²C, SSI, SPI signals
Connectivity	2 x full-size SD/MMC card slots 22-pin SATA connector 10/100/1000 Ethernet port 1 x USB 2.0 OTG port (micro USB) - mPCIe® connector
Debug	- JTAG connector (20-pin) 1 x Serial-to-USB connector (for JTAG)
OS Support	- Linux® and Android™ - Others supported third party (QNX, Windows® Embedded)
Tools Support	- Manufacturing Tool - Processor Expert IOMUX tool
Additional Features	- NXP MMA8451 three-axis accelerometer - NXP MAG3110 three-axis magnetometer - USB plug power supply - NXP 3D magnetometer

FIGURE 3: MCIMX6SX-SDB



MCIMX6SX-SDB FEATURES

Processor	i.MX 6SoloX 1 GHz processor based on the ARM® Cortex®-A9 core and 227 MHz Cortex-M4 core
Development for	i.MX 6SoloX
Memory/Storage	1 GB DDR3L SDRAM up to 400 MHz 32 MB x 2 QSPI NOR flash
Display	- LVDS connector - LCD expansion connector (parallel, 24-bit)
User Interface	- Buttons: Power (sw3), Reset (sw2), Function1, Function2 - Switch: power
Power Management	NXP MMPF0200
Audio	- Audio codec - Microphone and headphone jacks - Board-mounted microphone
Expansion Connector	- Parallel camera MIPI CSI port - I²C and signals
Connectivity	- Full-size SD/MMC card slots (3x) - Two gigabit Ethernet connectors 1 x USB 2.0 OTG port (micro USB) - mPCIe® connector 12-bit ADC connector 2 x CAN (DB-9) using MC34901 CAN transceiver
Debug	- JTAG connector (20-pin) 1 x Serial-to-USB connector (for JTAG)
OS Support	- Linux® and Android™, our proprietary MQX™ RTOS for ARM Cortex-M4 - Others supported via third party (QNX, Windows® Embedded)
Tools Support	- Manufacturing tool - Processor Expert IOMUX tool
Additional Features	- MMA8451 three-axis accelerometer - MAG3110 three-axis magnetometer - Ambient light sensor