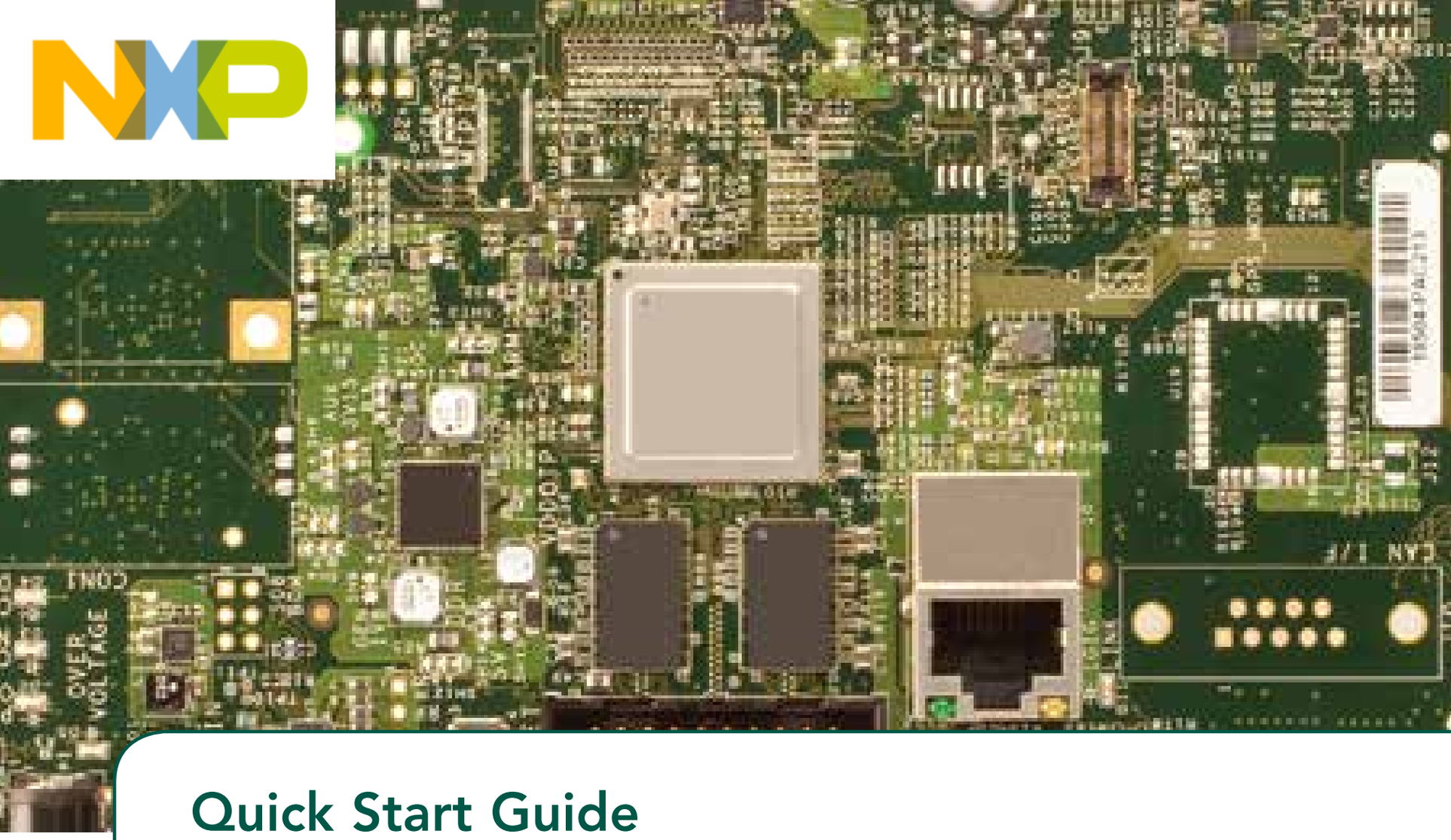


Quick Start Guide

SABRE Board for Smart Devices

Based on the iMX 6 Series

FREEDOM DEVELOPMENT PLATFORM

ABOUT THE SABRE BOARD FOR SMART DEVICES BASED ON THE I.MX 6 SERIES

The Smart Application Blueprint for Rapid Engineering (SABRE) board for smart devices introduces developers to the i.MX 6 series of applications processors. Designed for ultimate scalability, this entry level development system ships with the i.MX 6Quad applications processor but is schematically compatible with i.MX 6Dual, i.MX 6DualLite and i.MX 6Solo applications processors. This helps to reduce time to market by providing a foundational product design and serves as a launching point for more complex designs. Included with the design are links to the hardware design files, tools and board support packages (BSP) for Linux® and Android™ along with a bootable Android image on an SD card to get you up and running quickly.

The following features are available with the SABRE board for smart devices:

- i.MX 6Quad applications processor
- 1 GHz
- 1 GB DDR3, 533MHz
- 8 GB eMMC iNAND
- Two SD card slots
- SATA 22-pin connector
- HDMI connector
- Two LVDS connectors
- LCD expansion port connector
- Serial camera connector
- Two 3.5 mm audio ports (stereo HP and microphone)
- USB OTG connector
- Debug out via USB µAB device connector
- Gigabit Ethernet connector
- JTAG 20-pin connector
- mPCIe connector
- Sensor package including:
  - 3-axis accelerometer
  - Digital compass

GET TO KNOW SABRE BOARD FOR SMART DEVICES BASED ON THE i.MX 6 SERIES



*Board also includes Bluetooth® Connector J13



J500–SD2 AUX SDIO Socket

J502–LVDS1 Connector

J504–LCD Expansion Port Connector

J506–22-Pin SATA Connector

BT500–Lithium Coin Cell Connector

CON500–External Speaker Connector

J503–LVDS0 Connector

J505–Micro USB Connector

J507–SD3 Card Socket

J509–Serial-To-USB Debug Port

GETTING STARTED

This section describes how to use the SABRE board for smart devices and the components in the kit. This section also describes the PC requirements to develop applications using the SABRE board for smart devices.

1 Unpacking the Kit

The SABRE board for smart devices is shipped with the items listed in Table 1. Ensure the items listed in Table 1 are available in the i.MX 6 series development kit. Remove the board from the antistatic bag and perform a visual inspection.

ITEM	DESCRIPTION
Board	i.MX 6 SABRE board for smart devices
Cable	USB cable (micro-B to standard-A)
Power Supply	5 V/5 A universal power supply
Documentation	Quick Start Guide (this document)
8 GB SD Card	Bootable demonstration code for smart device platform

Table 1: SABRE Board for Smart Devices Based on i.MX 6 Series Development Kit Contents

2 Download Software and Tools



Download installation software and documentation under **"Jump Start Your Design"** at **www.nxp.com/SABRESDB**. Table 2 lists the documents available on the kit website.

"JUMP START YOUR DESIGN" CONTENTS

ITEM	DESCRIPTION
SABRE board for smart devices documentation	▸ Schematics, layout and Gerber files ▸ SABRE board for smart devices quick start guide (this document)
Software development tools	Android and Linux board support packages
SABRE board for smart devices demo images	Copy of the Android image provided on the SD card

Table 2: "Jump Start Your Design" Contents

SETTING UP THE SYSTEM

1 Insert SD Card

Insert the supplied SD card into socket SD3.

2 Connect USB Debug Cable (Optional)

Connect the micro-B end of the supplied USB cable into debug port J509. Connect the other end of the cable to a PC acting as a host terminal. If needed, the serial-to-USB drivers can be found at **ftdichip.com/FTDrivers.htm.**

Terminal window configuration: 115.2 kbaud, 8 data bits, 1 stop bit, no parity

3 Connect HDMI Cable

Connect an HDMI cable to the HDMI connector J8. Connect the other end to the HDMI cable to an HDMI capable monitor.

4 Connect User Interface Devices

Attach a keyboard and mouse to interact with the Android OS displayed on the monitor. Attach a USB hub to USB jack J505 and connect the keyboard and mouse to the hub. If only one device is used, it can be plugged directly into the USB jack. A micro B male to A female adapter cable may be needed.

5 Connect Ethernet Cable (optional)

Connect an Ethernet cable to the Ethernet jack J7.

6 Connect Power Supply

Connect the 5 V power supply cable to the 5 V DC power jack P1. When power is connected to the smart device, it will automatically begin the boot sequence.

BOOT PROCESS FOR ANDROID IMAGE

1 Boot Process

- During the boot process, there will be operating system status information scrolling on the terminal window of the PC (if connected). The Linux penguin images will initially appear in the upper left corner of the display, one for each operating ARM® core.
- When the boot process is complete, the Android operating system will be displayed.
- To work from the terminal window on the host PC, press enter at the terminal window to get the command prompt.

DIP SWITCH CONFIGURATION

Table 3 shows the jumper configuration to boot the smart device from SD card slot SD3.

DIP SWITCH CONFIGURATION (SW6)

D1	D2	D3	D4	D5	D6	D7	D8
Off	On	Off	Off	Off	Off	On	Off

Table 2: “Jump Start Your Design” Contents

SWITCH FUNCTIONS

Table 4 shows the functions of the five pushbutton switches on the board.

BUTTON OPERATIONS

ITEM	DESCRIPTION
POWER SW1	SABRE board POWER button ▸ Momentary depress of button will place the system in standby. ▸ Long press of the button will display a software drive shutdown option menu. ▸ Prolonged depress (> 5 sec) will force an immediate hardware shutdown. ▸ If board is in the OFF state, momentary depress of button will restart (boot) the system. ▸ If board is in the STANDBY state, momentary depress of the button will bring the system out of standby (resume operations, no boot)
RESET SW2	SABRE board RESET button ▸ Momentary depress of button will reset the system and begin a boot sequence.
SHUTDOWN SW3	SABRE board shutdown switch ▸ Sliding the switch to the O position connects the 5 V power supply to the SABRE board main power system. ▸ Sliding the shutdown switch immediately removes all power to the board.
Volume up SW4	Volume +
Volume down SW5	Volume -

Table 4: SABRE Board for Smart Devices Button Operations



ɱmunity at
www.imxcommunity.org.

WARRANTY

Visit **www.nxp.com/warranty** for complete warranty information.



Get Started

Download installation software and documentation under **"Jump Start Your Design"** at **www.nxp.com/SABRESDB**.

www.nxp.com/iMXSABRE

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