

Android™ Quick Start Guide

Contents

1 Overview

This document guides you through the processes of downloading and running this release package. It only explains how to download and run the default release image with default configuration. For details on using the release package, see the *Android™ User's Guide* (AUG) included in this release package.

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2 Hardware Requirements

The hardware requirements for using this release package are as follows:

Supported system-on-chips (SoCs):

- i.MX 8QuadXPlus/8QuadMax

Supported boards:

- i.MX 8QuadXPlus/8QuadMax MEK Board and Platform



3 Working with the i.MX 8QuadXPlus/8QuadMax MEK Board

3.1 Board hardware

The figures below show the different components of the i.MX 8QuadXPlus/8QuadMax MEK boards.

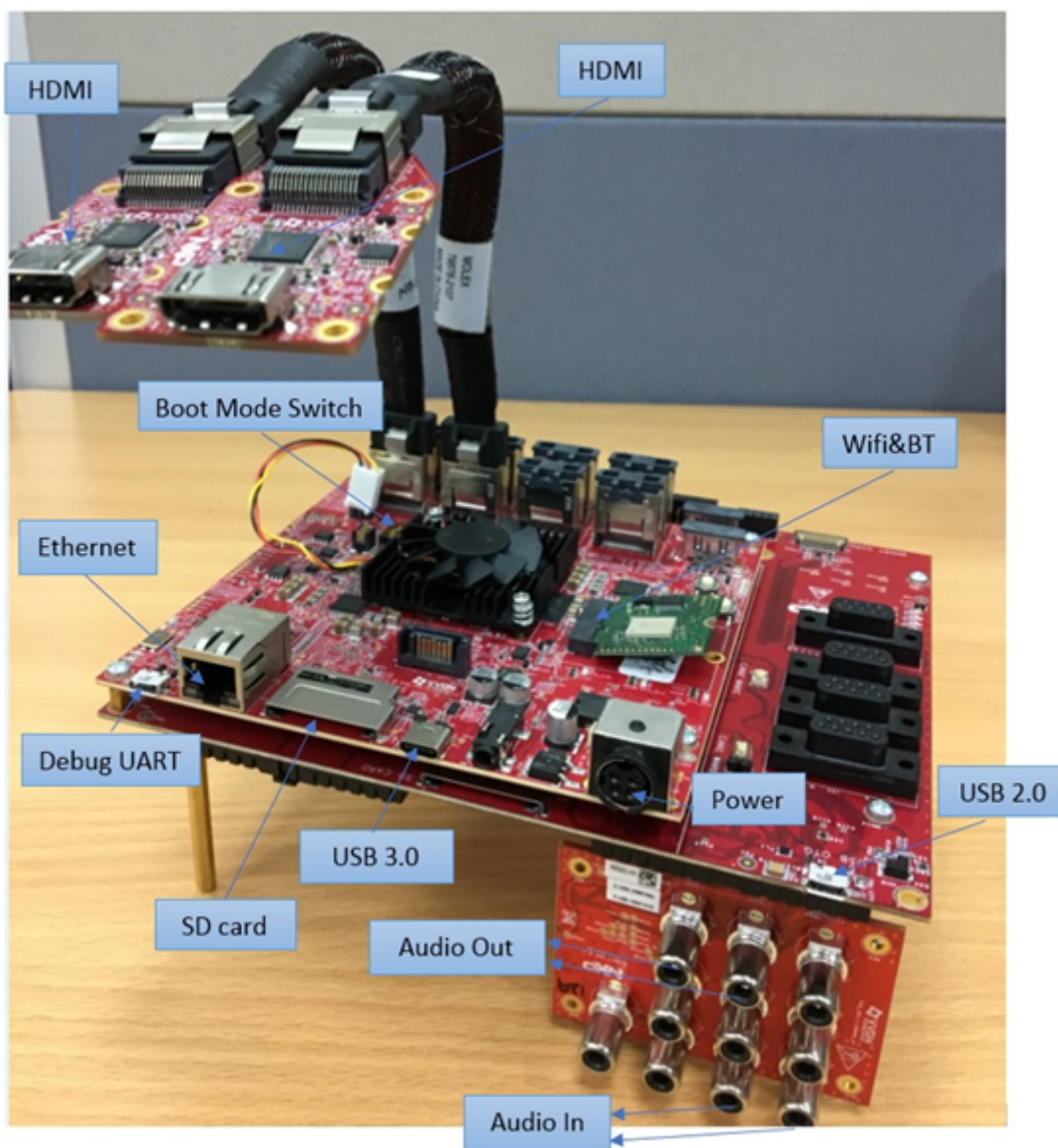


Figure 1. i.MX 8QuadMax MEK board

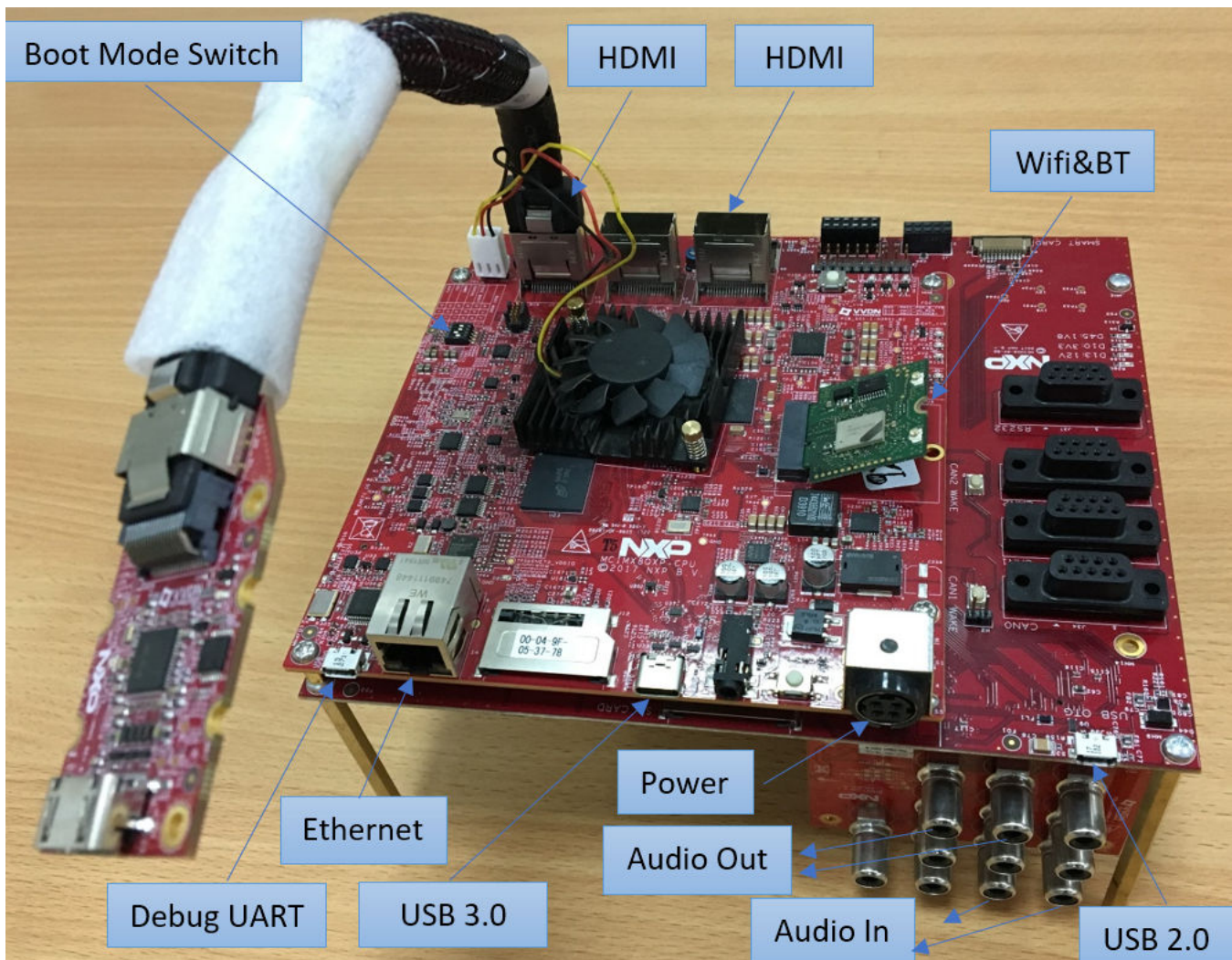


Figure 2. i.MX 8QuadXPlus/8QuadMax MEK board

3.2 Board images

The table below describes the location in the board partitions of the software images in android_o8.1.0_1.1.0_auto-beta_image_8qmek.tar.gz.

Table 1. Board images

Image name	Download target
/u-boot-imx8qm.imx	33K offset of MMC for i.MX 8QuadMax.
/u-boot-imx8qxp.imx	33K offset of MMC for i.MX 8QuadXPlus
/boot-imx8qm.img	boot_a and boot_b partitions for i.MX 8QuadMax to support LVDS-to-HDMI display.
/boot-imx8qxp.img	boot_a and boot_b partitions for i.MX 8QuadXPlus to support LVDS-to-HDMI display.
/partition-table.img	Program to first 17 KB, and then back up to last 17 KB of the boot storage. GPT table image for 16 GB boot storage.

Table continues on the next page...

Table 1. Board images (continued)

/partition-table-7GB.img	Program to first 17 KB, and then back up to last 17 KB of the boot storage. GPT table image for 8 GB boot storage.
/partition-table-28GB.img	Program to first 17 KB, and then back up to last 17 KB of the boot storage. GPT table image for 32 GB boot storage.
/vbmata-imx8qm.img	vbmata_a and vbmata_b partitions for i.MX 8QuadMax to support LVDS-to-HDMI display.
/vbmata-imx8qxp.img	vbmata_a and vbmata_b partitions for i.MX 8QuadXPlus to support LVDS-to-HDMI display with LVDS0 connected.
/system.img	system_a and system_b partitions.
/vendor.img	vendor_a and vendor_b partitions.

3.3 Flashing board images

The board images can be flashed to the target board by using the MFGTool. The release package includes MFGTool for i.MX 8QuadXPlus/8QuadMax in android_o8.1.0_1.1.0_auto-beta_tools.tar.gz. The MFGTool is mfgtools.zip.

NOTE

The MFGTool only works in the Windows OS environment.

Perform the following steps to download the board images:

1. Unzip the mfgtools.zip file to a selected location. The directory is named MFGTool-Dir in this example.
2. Copy the following files from release_package/android_o8.1.0_1.1.0_auto-beta_image_8qmek.tar.gz to your MFGTool-Dir/Profiles/Linux/OS Firmware/files/android/mek directory.
 - /u-boot-imx8qxp.imx
 - /partition-table.img
 - /boot-imx8qxp.img
 - /vbmata-imx8qxp.img
 - /system.img
 - /vendor.img

NOTE

- Do not replace other files in the file directory and OS Firmware directory.
- To download images for i.MX 8QuadMax, replace the name "imx8qxp" in Step 2 with "imx8qm".
- If the boot storage is 32 GB, copy partition-table-28GB.img and rename it to partition-table.img.
- If the boot storage is 16 GB, use the default partition-table.img.
- If the boot storage is 8 GB, copy partition-table-7GB.img and rename it to partition-table.img.

3. Change the board's SW2 (boot mode) to 001000 (from 1 bit to 6 bit) to enter serial download mode for i.MX 8QuadMax.

Change the board's SW2 (boot mode) to 1000 (from bit to 4 bit) to enter serial download mode for i.MX 8QuadXPlus.

4. Power on the board. Use the USB cable on the board USB 2.0 port, and connect a computer running Windows OS with the board.

NOTE

- There are three USB ports in the i.MX 8QuadXPlus/8QuadMax MEK board: USB to UART, USB 2.0, and USB 3.0.

- The USB to UART can be referenced as debug UART, and can be used to watch the log of hardware boot processing.
- USB 2.0 is USB OTG and USB 3.0 is USB Host.

5. Double-click the *.vbs file according to the target device as shown in the following table.

Table 2. MFGTool VBS file

Target device and boot storage	VBS file
i.MX 8QuadMax MEK eMMC	mfgtool2-android-mx8qm-mek-emmc.vbs
i.MX 8QuadXPlus MEK eMMC	mfgtool2-android-mx8qxp-mek-emmc.vbs

6. Click Start to start flashing images.

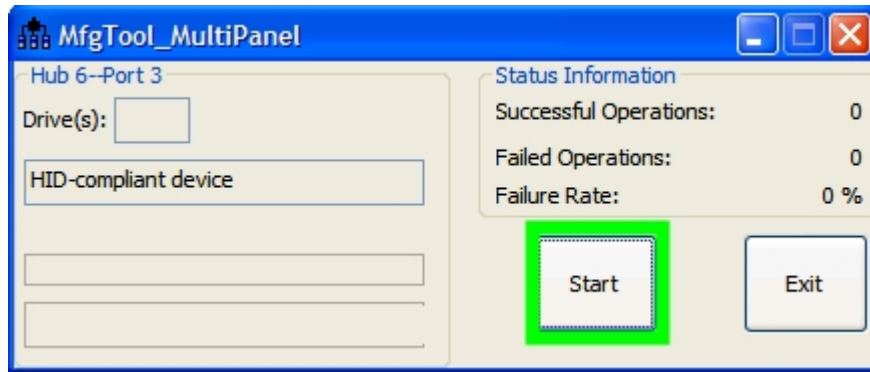


Figure 3. Starting flash

The figure below shows flashing in progress, and the status bar shows the flash status. The flash may take one to two minutes depending on the host machine.

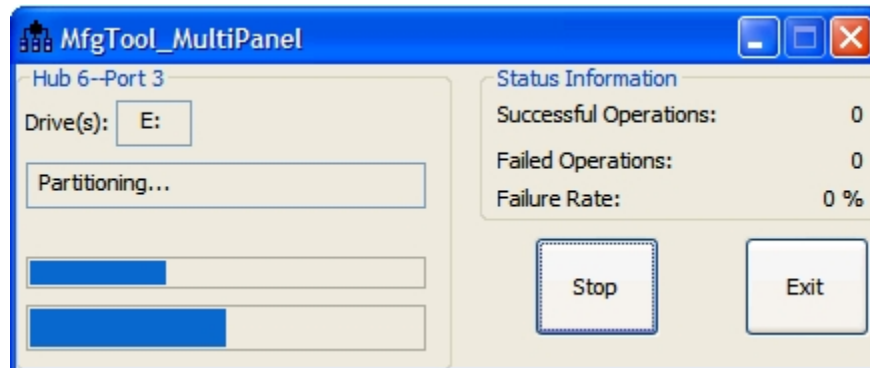


Figure 4. Download status

The figure below shows the tool when the flash is complete.



Figure 5. Download complete

7. Click Stop and disconnect the USB cable.
8. Change SW2 to switch the board back to 000100 (from 1 bit to 6 bit) to enter eMMC boot mode for i.MX 8QuadMax.
Change SW2 to switch the board back to 0100 (from 1 bit to 4 bit) to enter eMMC boot mode for i.MX 8QuadXPlus.

3.4 Booting with HDMI display

In the U-Boot prompt, set the U-Boot environment variables as shown below:

```
U-Boot > setenv bootcmd boota mmc1
U-Boot > setenv bootargs console=ttyLP0,115200 earlycon=lpuart32,0x5a060000,115200,115200
init=/init androidboot.console=ttyLP0 consoleblank=0 androidboot.hardware=freescale cma=800M
U-Boot > saveenv
```

With the settings above, the Android platform does not start the shell console. To disable selinux, "androidboot.selinux=permissive" needs to be appended to the U-Boot's bootargs. Boot environment variables are as follows:

```
U-Boot > setenv append_bootargs androidboot.selinux=permissive
U-Boot > saveenv
```

NOTE

i.MX 8QuadXPlus/8QuadMax MEK supports LVDS-to-HDMI display. They share the same bootargs.

3.5 Board reboot

After you have completed download and setup, reboot the board and wait for the Android platform to boot up.

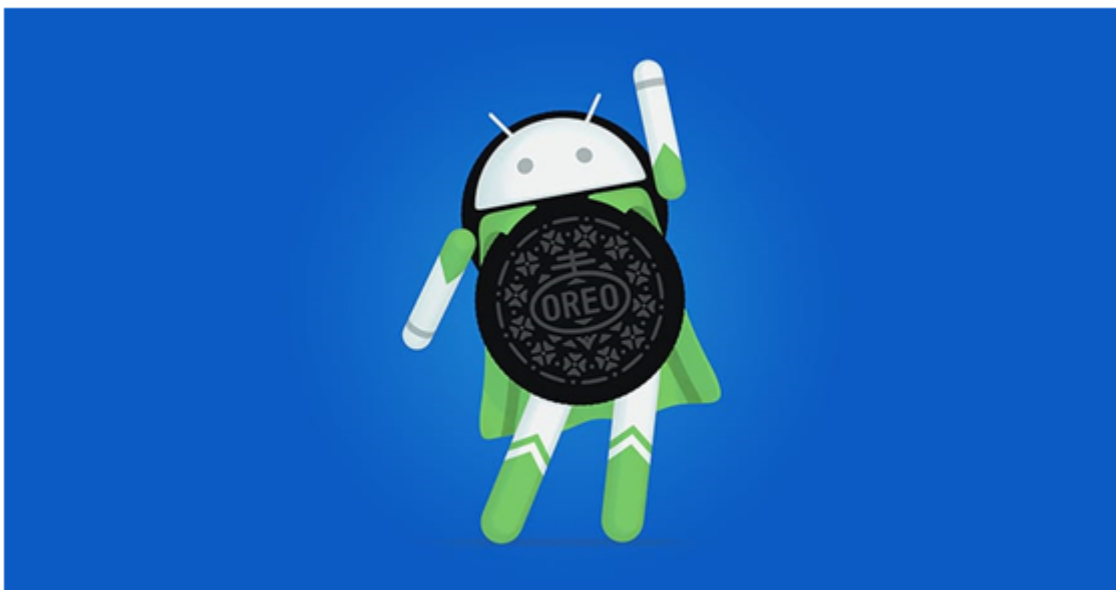


Figure 6. Android Oreo image

4 Revision History

Table 3. Revision history

Revision number	Date	Substantive changes
O8.1.0_1.1.0_AUTO-EAR	02/2018	Initial release
O8.1.0_1.1.0_AUTO-beta	05/2018	i.MX 8QuadXPlus/8QuadMax Beta release

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Document Number: AQSUG
Rev. 08.1.0_1.1.0_AUTO-beta
05/2018

