Android™ Release Notes

Contents

1   Release Description

The i.MX Android™ O8.0.0_1.2.0_8QXP-EAR release is an EAR release for the Android 8.0 Oreo (O) platform on the i.MX 8QuadXPlus MEK board applications processors.

i.MX Android O8.0.0_1.2.0_8QXP-EAR release includes all necessary code, documents, and tools to assist users in building and running the Android 8.0 platform on the i.MX 8QuadXPlus MEK board from the scratch. Pre-built images are also included for a quick trial on the following platforms:
   • i.MX 8QuadXPlus MEK Board and Platform

This release includes all porting and enhancements based on the Android open source code.

Most of the deliveries in this release are provided in source code with the exception of some proprietary modules/libraries from third parties.

2   Supported Hardware SoC/ Boards

The supported hardware system-on-chip (SoCs)/boards are listed as follows:

   • i.MX 8QuadXPlus MEK Board and Platform

3 Release Package Contents

The O8.0.0_1.2.0_8QXP-EAR release package includes the following software and documents.

Table 1. Release package contents

i.MX Android proprietary source code package	• imx-o8.0.0_1.2.0_8qxp-ear.tar.gz: i.MX Android proprietary source code package to enable the Android platform on i.MX boards.
Documents	The following documents are included in android_O8.0.0_1.2.0_8QXP-EAR_docs.tar.gz • *Android™ Quick Start Guide* (AQSUG): A document that explains how to run the Android platform on an i.MX board using prebuilt images. • *Android™ User's Guide* (AUG): A document describing procedures for configuring and building this release package. • *Android™ Release Notes* (ARN): A document that introduces key updates and known issues in this release. • *i.MX Android™ Extended Codec Release Notes* (IMXACRN): A document that provides the extended codec information. • *Android™ Frequently Asked Questions* (AFAQ): A document that contains the answers to the Frequently Asked Questions (FAQs). • *i.MX Graphics User's Guide* (IMXGRAPHICUG): A document that describes GPU 2D API, Tools, Memory, and Application programming guidelines.
Tools	Tools in android_O8.0.0_1.2.0_8QXP-EAR_tools.tar.gz • VivanteVTK-v6.2.4.1.7.4.tgz: GPU tools for VeriSilicon GPU 6.2.4 driver. For more information about these tools, see *i.MX Graphics User's Guide* (IMXGRAPHICUG). • fsl-sdcard-partition.sh: tool to make partition and flash Android images.
Prebuilt images	You can test the Android platform with a prebuilt image on i.MX reference board before building any code: • android_O8.0.0_1.2.0_8QXP-EAR_image_8qxpmek.tar.gz: Prebuilt images with NXP extended features for the i.MX 8QuadXPlus MEK board. The extended features include more multimedia format support. All prebuilt images are in a separate package. See the *Android™ Quick Start Guide* (AQSUG) and *Android™ User's Guide* (AUG) to choose the appropriate image.

4 Features

This section contains features in this package.

Table 2. Features

Feature	i.MX 8QuadXPlus MEK	Remarks
Linux 4.9.56 kernel	Y	Based on Linux® OS BSP L4.9.51_imx8qxp-alpha release.
Google Oreo 8.0 release	Y	Based on android-8.0.0_r25
Boot source	External SD	-
Splash Screen for LVDS	N	-
UI (input)	Y	-

Table continues on the next page...

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Table 2. Features (continued)

Feature	i.MX 8QuadXPlus MEK	Remarks
UI (display)	HDMI display	HDMI display needs to connect two miniSAS cables.
UI (dual display, HDMI+HDMI, UI mirror displayed on second device)	N	-
UI (brightness control)	N	-
Storage - External Media	Y	The USB 2.0 port supports udisk, but the USB 3.0 port does not support udisk.
Connectivity - Ethernet	Y	-
Connectivity - Bluetooth® wireless technology	N	Hardware: • Broadcom BCM4359 Profiles: • A2DP Source • HID • OPP • PBAP • AVRCP • PAN • FTP
Connectivity - Wi-Fi	N	Hardware: • Broadcom BCM4359 Features: • AP mode
Connectivity - USB Tethering	Y	Supports Wi-Fi and Ethernet as upstream
Power - CPU Freq	Y	-
Power - Bus Freq	Y	-
Media - Music Play	Y	ESAI+CS42888 (not support multichannel)
Media - Sound Record	Y	ESAI+CS42888
Media - Video Play	Y	-
Media - Camera	Y	MAX9286
Media - TVIN	N/A	PAL/NTSC
Media - Dual Camera	N	-
Media - Camcorder	N	-
Media - USB Camera	N	-
Media - USB Mic	Y	-
Media - HDMI audio output	N	-
Graphic - HW 3D acceleration	Y	OpenGL ES1.1/2.0/3.2 through GC7000
Graphic - HW accelerated UI surface composition	Y	-
Misc - ADB over USB	Y	-
Misc - Fastboot utility	Y	-
Misc - SW update and factory reset	Y	-

Table continues on the next page...

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Table 2. Features (continued)

Feature	i.MX 8QuadXPlus MEK	Remarks
Sensor - Magnetometer	Y	FXOS8700
Sensor - Accelerometer	Y	FXOS8700
Sensor - Gyroscope	Y	FXAS2100
Sensor - Light	Y	ISL29023
Sensor - Pressure	Y	MPL3115
Sensor - Temperature	Y	MPL3115
Data Partition Encryption	Y	-
USB Accessory	Y	Google AOA v2.0
Screen Recording	Y	-
Ethernet APK	Y	-
webGL	Y	-
OTA for A/B	Y	-

In this release, you need to connect two miniSAS cables. You can customize it in BoardConfig.mk under `${MY_ANDROID}/device/fsl/mek_8q`. The following is an example to connect only one miniSAS cable on lvds0.

```
diff --git a/mek_8q/BoardConfig.mk b/mek_8q/BoardConfig.mk
index 42e8097..ef3b48b 100644
--- a/mek_8q/BoardConfig.mk
+++ b/mek_8q/BoardConfig.mk
@@ -118,7 +118,7 @@ $(error "TARGET_USERIMAGES_USE_UBIFS and TARGET_USERIMAGES_USE_EXT4
config open
 endif
 endif

-TARGET_BOARD_DTS_CONFIG := imx8qm:fsl-imx8qm-mek-it6263.dtb imx8qxp:fsl-imx8qxp-mek-lvds0-
lvds1-it6263.dtb
+TARGET_BOARD_DTS_CONFIG := imx8qm:fsl-imx8qm-mek-it6263.dtb imx8qxp:fsl-imx8qxp-mek-lvds0-
it6263.dtb
 TARGET_BOOTLOADER_CONFIG := imx8qm:mx8qm_mek_android_defconfig
imx8qxp:mx8qxp_mek_android_defconfig

 BOARD_SEPOLICY_DIRS := \
```

5 Multimedia Codecs

For multimedia codecs and features, see Section 5 in the Android 8.0 Compatibility Definition Document(CDD).

6 Extended Feature Packages

The release extends the default AOSP Android version with the following features. For more information about the features below, contact "L2manager-android@nxp.com". For detailed extended and additional features, see *i.MX Android™ Extended Codec Release Notes* (IMXACRN).

7 Known Issues and Limitations

The known issues about the hardware and hardware rework instructions are not included in this document. Read all hardware-related reference material and ensure the necessary hardware modifications have been made before using the software.

Table 3. Known issues and limitations

Issue description	Remarks
The Google USB driver must be installed multiple times for the MTP, PTP, MTP&ADB, PTP&ADB, and ADB function settings.	Some Windows XP environment may display MTP and PTP windows even with only PTP enabled in the device.
There is silence in the first few seconds for HDMI output when connecting the board to some kinds of TV-sets.	This issue is related with TV-sets. Some TV-sets have no issue. Some TV-sets have issue.

8 Revision History

Table 4. Revision history

Revision number	Date	Substantive changes
O8.0.0_1.2.0_8QXP-EAR	12/2017	Initial release

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