



VARISCITE LTD

VAR-SOM-MX6

## 4.2.2 Jelly Bean (JB) release 110 R3

### Release notes

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# 1. Release Description

VAR-SOM-MX6 Android jb4.2.2\_1.1.0-ga R3 is a GA release for Android 4.2.2 Jelly Bean (JB) on Variscite's VAR-SOM-MX6 Quad, VAR-SOM-MX6 Dual, VAR-SOM-MX6 6DualLite and VAR-SOM-MX6 Solo SOMs kit.

VAR-SOM-MX6 Android jb4.2.2\_1.1.0-ga R3 release includes all necessary code, documents, and tools to assist the customers in building and running Android 4.2.2 on the VAR-SOM-MX6 Quad, VAR-SOM-MX6 Dual, VAR-SOM-MX6 DualLite and VAR-SOM-MX6 Solo hardware boards from scratch.

The NAND-RECOVERY SD-Card pre-built images are also included for a quick installation on Variscite VAR-DVK-MX6 SOMs, AR-VAR-DVK-MX6 Quad, AR-DVK-MX6 Dual, AR-DVK-MX6 DualLite and AR-DVK-MX6 Solo. This release includes all Freescale porting and enhancements based on Android open source code and all Variscite add-on to support Variscite's VAR-DVK-MX6 development platform.

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

# 2. Supported Hardware Boards

- VAR-DVK-MX6 Development platform
  - VAR-SOM-MX6 Quad System-on-Modules
  - VAR-SOM-MX6 Dual System-on-Modules
  - VAR-SOM-MX6 DualLite System-on-Modules
  - VAR-SOM-MX6 Solo System-on-Modules

# 3. Release Package Content

Release package contains software and documentation.

The jb4.2.2\_1.1.0-ga R2 release package includes the following software and documents:

Name	Description
Freescale Android source code patch	All Freescale i.MX specific patches (applicable to Google Android repo) to enable Android on i.MX based boards. For example Hardware Abstraction Layer implementation, hardware codec

	<p>acceleration, etc. Packed in android_jb4.2.2_1.1.0-ga_source.tar.gz</p>
Variscite Android source code patch	<p>All Variscite's VAR-DVK-MX6 and VAR-SOM-MX6 specific patches (applicable to Google Android repo) to enable Android on Variscite I.MX6 based SOMs. Packed in var_jb422_110_r3_v10.tar.bz2</p>
Documents	<p>The following documents are released by Freescale android_jb4.2.2_1.1.0-ga_docs.tar.gz</p> <ul style="list-style-type: none"> <li>• Android Quick Start Guide: A manual that explains how to run Android on an i.MX board by using prebuilt images.</li> <li>• Android User's Guide: A detailed manual for this release package.</li> <li>• Android Frequently Asked Questions: A document that contains Frequently Asked Questions (FAQs).</li> <li>• Android Release Notes: A document that introduces key updates and known issues in this release.</li> <li>• Android Codec Release Notes: A document that introduces key updates and known issues of the multimedia codecs part of the BSP release.</li> <li>• Variscite WIKI: A detailed WEB WIKI for this release package.</li> </ul> <p>We list Freescale documents. Please use the WIKI as a first point of information and after that you can use Freescale document for additional information.</p>
Prebuilt images	<p>You can test Android with a prebuilt image on the VAR-SOM-MX6 board before building any source code:</p> <ul style="list-style-type: none"> <li>• mx6solo-som-nand-recovery-sd.v23.img.gz for Solo System-on-Modules</li> <li>• mx6dl-som-nand-recovery-sd.v23.img.gz for DualLite System-on-Modules</li> <li>• mx6qd-som-nand-recovery-sd.v23.img.gz for Quad and Dual System-on-Modules</li> </ul>

## 4. Features

Feature	VAR-SOM-MX6 Quad & Dual	VAR-SOM-MX6 Dual Lite	VAR-SOM-MX6 Solo	Comments
Linux 3.0.35 kernel	Y	Y	Y	Based on i.MX 6Quad BSP L3.0.35_4.0.0 GA release
Google Jelly Bean 4.2.2 release	Y	Y	Y	Based on android-4.2.2_r1 release
Boot source	SD, NAND	SD, NAND	SD, NAND	
Splash Screen for RGB	Y	Y	Y	
UI (input)	Y	Y	Y	Touch panel, GPIO buttons, USB mouse and keyboard
UI (display)	Y	Y	Y	LCD-Capacitive, LCD-Resistive, LVDS panel, HDMI,
UI (dual display, LVDS+HDMI, UI mirror displayed on second device)	Y	Y	Y	
UI(brightness control)	Y	Y	Y	
Storage - External Media	SD,DOK	SD,DOK	SD,DOK	DOK=Disk On Key
Connectivity Ethernet	Y	Y	Y	10/100/1000 Mb/s
Connectivity - BT	Y	Y	Y	
Connectivity - Wi-Fi	Y	Y	Y	
Power - Battery status report	Y	Y	Y	
Power - CPU Freq	Y	Y	Y	
Power - Bus Freq	Y	Y	Y	
Media - Music Play	Y	Y	Y	
Media - Sound Record	Y	Y	Y	Android native audio recording application using low sampling rate

Media - Video Play	Y	Y	Y	
Media - Camera	Y	Y	Y	MIPI CSI2
Media - Camcorder	Y	Y	Y	
Media - USB Micro	Y	Y	Y	
Media - Movie Studio	Y	Y	Y	
Graphic - HW 3D acceleration	Y	Y	Y	OpenGL-ES 1.1/2.0 via GC2000 or GC880 3D core
Graphic - HW accelerated UI surface composition	Y	Y	Y	
Misc - ADB over USB	Y	Y	Y	
Misc - SW update and factory reset	Y	Y	Y	NAND recovery SD
NAND	Y	Y	Y	Support 0.5GB 1.0GB 2.0GB NAND Look at SOM For detail information.
Fastboot	Y	Y	N	Require 1GB DRAM on target.

## 5. Multimedia Codecs

See the details about Multimedia Codec in the "Android Codec Release Notes" document included in the release package

## 6. Change Lists

### 6.1 Freescale's change list

- Added Data Partition Encryption support
- Added USB Accessory, align the USB product ID with Google default setting
- Integrated Freescale CactusPlayer application to demo the advanced media playback feature as a Trick Mode/Audio Track Selection/Subtitle Track Selection
- Updated GPU library to fix several issues with UI&HTML5 and improve benchmark performance, specifically for
- GLBenchmark and HTML5 test
- Updated VPU firmware to v2.3.10 and VPU lib to v5.4.14 to resolve multi-instance issues on VPU decoder and encoder
- Fixed two CTS test failures:  
android.hardware.cts.CameraTest#testJpegExif and  
android.hardware.cts.CameraTest#testVideoSnapshot
- Fixed system hang issue on Sabre-AI board with 2G memory setting

### 6.2 Variscite R2

- VAR-SOM-MX6 Solo support
- 0.5 MB RAM support
- MIPI CSI2 cameras sensor support for VAR-SOM-MX6 for all SOMs.
- Bluetooth support for all VAR-SOM-MX6 SOMs
- HDMI DVI adapter support
- WIFI power sleep support
- Many kernel bug fixes.
- Nand-recovery.sh version 21 support Android4.2.2/Yocto Dora 4.1/Linux

## 6.3 Variscite R3

### 6.3.1 u-boot

- 512M/1GB auto ram detect
- Buffix: SD-Card saveenv problem corrupting ulmage due to overlapping.
- DDR3 Calibration parameters fine-tuned.
- MII U-BOOT command fixed.
- Set default boot delay to 1 instead of 3.
- Bugfix: A delay from boot to debug-uart prints was added to allow the buffer to open. Fix racing condition.
- Enable FASTBOOT by default for Dual Lite and Quad

### 6.3.2 Linux

- Can bus driver enable

### 6.3.3 Android

- Added canutils to the build
- Add the ubifs fix for fastboot.



## 7. Legal notice

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