

TI-Android-Éclair-DevKit-V1 ReleaseNotes



TI Android Eclair DevKit V1 Release Notes

Release Notes - July 30, 2010

Introduction

This is TI's Devkit V1 release based on Android Eclair 2.1.1 for AM35x EVM, AM37x EVM, OMAP35x EVM, Beagleboard Rev Cx, Beagleboard XM platforms.

This release serves to provide

- Fundamental software platform to build Android based products with TI devices.
- Give Android application developer a stable integrated foundation software.
- Provide benchmark numbers to evaluate Android based solutions with other distributions on TI devices
- A single release package that comprises of all TI components (bootloader, kernel, Tools), TI differentiators (like 3D graphics based on SGX, Overlay libraries) and Android standard components.

Component	Version	Base Repository	Base Tag (or commit id)
OMAP Linux Kernel	2.6.32(Android Linux kernel version)	The baseline was chosen from "PSP" release from [1]	OMAPPSP_03.00.01.06_baseline
U-Boot	2010.06.rc2	[2]	OMAPPSP_03.00.02.07
Android	Eclair 2.1.1	http://gitorious.org/rowboat	rowboat-devkit-v1.xml

The filesystem was built by integrating the sources from rowboat.org project hosted on rowboat gitorious Project ^[3].

The codebase for Linux kernel, SGX kernel drivers, U-Boot included in this release is also hosted at the following repositories:

Component	Repository (Branch)	Commit ID / Baseline
OMAP Linux Kernel	[4] (rowboat-eclair-2.6.32)	b263debb4bd3565f4550bd27cf4bb78ae44ef8c3
SGX Release	[5]	b263debb4bd3565f4550bd27cf4bb78ae44ef8c3
Bootloader	[2]	OMAPPSP_03.00.02.07

For detailed information on the various software components included in the release and how to use them, please refer to the [6].

The Android sources, SGX drivers, Kernel and U-Boot have been compiled with GNU Toolchain for ARM Processors from Android pre-built package ARM Tool Chain GCC 4.4.0 ^[7]

Documentation

The User Guide provides instructions on how to use the TI's Android Eclair DevKit package. A copy of the User Guide is included in the docs folder of the DevKit package.

The Porting Guide gives instructions on building the Android root filesystem using Android sources maintained on rowboat repositories.

What's Supported

This SDK package includes support for the OMAP35x EVM, AM35x EVM, AM37x EVM, Beagleboard Rev Cx, Beagleboard XM.

Software features/components supported in this SDK are

- Android Linux Kernel 2.6.32 integrated with PSP (03.00.01.06) drivers
- Bootloader (u-boot) and x-loader
- SGX Open GL Driver & Libraries
- Android Eclair 2.1.1 release from Google Android
- Example Applications and Demos
 - Desk Clock, Browser, Calendar, Calculator, Contacts, Gallery, GlobalSearch, Launcher, Music, Settings
 - 3D Graphics - OpenGL ES demos including Vase, etc
- Documentation
 - User Guide
 - Release Notes
 - CTS report
 - Software Manifest
 - Filesystem Manifest
- Host Tools
 - Flash Tool
 - Pin Mux Utility
 - SignGP
- Debugging
 - ADB over USB
 - ADB over Ethernet
 - ADB over Ethernet through USB
 - Connecting Eclipse (as provided by Android) with the EVMs, Beagleboards

Complete directory structure of DevKit

```
TI_Android_Eclair_DevKit-V1
|-- Android_Source_Manifest
|   `-- TI-Android-Eclair-DevKit-V1.xml
|-- Docs
|   |-- CTS_Report.tar.gz
|   |-- TI-Android-DevKit-FS-Manifest.doc
|   |-- TI-Android-DevKit-Software-Manifest.doc
|   `-- TI-Android-Eclair-DevKit-V1_UserGuide.pdf
|-- Filesystem
|   |-- rootfs_am35x.tar.bz2
```

```
|  |-- rootfs_am37x.tar.bz2
|  `-- rootfs_omap35x.tar.bz2
|-- OMAP35x_Android_SGX_SDK.tar.gz
|-- Prebuilt_Images
|  |-- AM35x_EVM
|  |   |-- MLO
|  |   |-- boot.scr
|  |   |-- u-boot.bin
|  |   |-- uImage
|  |   `-- x-load.bin.ift
|  |-- OMAP35x_AM37x_EVM
|  |   |-- MLO
|  |   |-- boot.scr
|  |   |-- u-boot.bin
|  |   |-- uImage
|  |   `-- x-load.bin.ift
|  `-- beagleboard
|      |-- MLO
|      |-- boot.scr
|      |-- u-boot.bin
|      |-- uImage
|      `-- x-load.bin.ift
|-- Sources
|  |-- Android_Linux_Kernel_2_6_32.tar.gz
|  |-- boot-strap
|  |   `-- x-loader-03.00.02.07.tar.gz
|  `-- u-boot
|      `-- u-boot-03.00.02.07.tar.gz
|-- TI-Android-Eclair-DevKit-V1_ReleaseNotes.pdf
`-- Tools
    |-- flash-utility.tar.gz
    |-- mk-bootscr
    |   |-- README
    |   |-- mkbootscr
    |   `-- mkimage
    |-- mk-mmc
    |   |-- README
    |   `-- mkmmc-android.sh
    |-- pinmux-utility.tar.gz
    `-- signGP
        |-- signGP
        `-- signGP.c
```

What's Not Supported

- The following items are not supported:
 - U-boot (Unified binary supporting Nand/OneNand on OMAP35x platform)
 - AM/DM37x Processor card with Micron Memory
 - Audio Record feature in Android
 - Power Management
 - USB Mass Storage
 - WLAN, Bluetooth connectivity

New in this Release

- This is the first release, please refer to section above on the Supported features.

Known Issues

Component	Issue Description	Workaround	Comments
Software	Running the Audio Record application from Android fails	NONE	To be fixed in future release
Software	The Keypad on AM35x EVM doesn't work	Use USB Keyboard	To be fixed in future releases
Software	Pinmux Utility: could not resize the GUI, so could not see what the other button on the bottom right corner is.	User may need to adjust the display resolution of their Windows PC	To be fixed in future releases
Software	Pinmux utility requires Left-click to select a peripheral interface cell. The cell should be auto selected when user right-click it.	No impact to functionality. Just a note on the user interface.	To be fixed in future releases

Installation and Usage

On a Linux Host PC download the tar package and do the following

```
tar -xzf TI_Android_Eclair_Devkit-V1.tar.gz
```

Please refer to the TI Android Eclair DevKit User Guide ^[8] for more information on how to install and use the DevKit

Device Support

This release supports the following Texas Instruments devices

- OMAP35x, AM35x, AM37x

This release supports the following platforms

- Texas Instruments AM37x EVM (on the Mistral Rev G AM3715EVM)
- Texas Instruments AM35x EVM
- Texas Instruments OMAP35x EVM (on the Mistral Rev G OMAP35x)
- Beagleboard Rev Cx
- Beagleboard XM

Versioning

This is Release DevKit-V1

Technical Support and Product Updates

For further information or to report any problems, contact <http://e2e.ti.com> "Android" or <http://support.ti.com>.

For community support join <http://groups.google.com/group/rowboat>

For IRC #rowboat on irc.freenode.net

References

- [1] <http://arago-project.org/git/projects/linux-omap3.git>
- [2] <http://arago-project.org/git/projects/u-boot-omap3.git>
- [3] <http://gitorious.org/rowboat>
- [4] <http://gitorious.org/rowboat/kernel>
- [5] http://git.gitorious.org/rowboat/ti_android_sgx_sdk.git
- [6] http://processors.wiki.ti.com/index.php/TI_Android_Eclair_DevKit-V1_Developers_Guide
- [7] <http://android.git.kernel.org/?p=platform/prebuilt.git;a=tree;f=linux-x86/toolchain;h=5ddc481884f7e966d6b0c3ff24cf11c0e7f6f3c8;hb=HEAD>
- [8] http://processors.wiki.ti.com/index.php/TI-Android-%C3%89clair-DevKit-V1_UserGuide

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