

DRA7xx GLSDK 6.02.01.02 Release Notes

Generic Linux Software Development Kit (GLSDK) 6.02.01.02 for DRA7xx

October 15, 2013

This is the EA release of the Generic Linux Software Development Kit (GLSDK) for the DRA7xx platform. This GLSDK Software release gives developers the ability to evaluate the hardware and software capabilities of the DRA7xx platform.

This document is divided into the following sections:

Contents

Generic Linux Software Development Kit (GLSDK) 6.02.01.02 for DRA7xx

- Documentation
- Components
- What's New
- Installation and Usage
- Host Support
- Dependencies
- Device Support
- Validation Information
- Upgrade and Compatibility Information
- Known Issues and Limitations
- Versioning
- Technical Support and Product Updates
- Download the Latest GLSDK

Documentation

- Latest up to the minute information and updates may be found on the [Texas Instruments Processors Wiki](http://processors.wiki.ti.com/index.php/Main_Page) (http://processors.wiki.ti.com/index.php/Main_Page).
- The *Quick Start Guide* (http://downloads.ti.com/infotainment/esd/jacinto6/glsdk/latest/exports/DRA7xx_EVM_Quick_Start_Guide.pdf) contains information on how to set up your EVM for an out of box demo showcase as well as for software development. It is located in the *docs/* folder in the GLSDK along with other documentation.
- The *EVM_GLSDK_Software_Developers_Guide Software Developer's Guide* (<http://processors.wiki.ti.com/index.php/DRA7xx>) contains information on how to start developing software on the DRA7xx EVM and is located in the *docs/* folder in the GLSDK along with other documentation.

Components

The Linux GLSDK is a single package that includes the following components:

- U-boot support (2013.04)
 - Boot from: SD card, eMMC (FAT load), QSPI, UART (J6 only)
 - tftp, dhcp
 - Secure Boot (MLO, HS J6 only)
- Linux kernel 3.8.13
 - FS Media: SD card, eMMC, NFS
 - USB Host: Isochronous A/V, HID, MSC
 - UART, I2C, QSPI, Ethernet, SATA
 - VIP (V4L2, mmaped buffer, single-instance, one slice, one port, YUYV format capture)
 - VPE (V4L2 M2M – DEI only)
 - DSS (LCD, HDMI)
 - McASP
 - WiLink 8 (WLAN)
 - MPU DVFS, AVS Class 0
 - MPU Thermal Mgmt (via CPU freq)
- Multimedia
 - H.264, MPEG2, MPEG4 & VC1 decoders @ 1080p60
 - MJPEG decoder
 - Gstreamer plugin for video decode acceleration
 - Gstreamer plugin for KMS display sink
 - AAC audio codec (ARM based, open-source)
- Graphics
 - 2D graphics acceleration (BLTville)
 - 3D graphics acceleration (OpenGL ES 2.0)

- Wayland , with Weston compositor
- Frameworks
 - BIOS (IPU2, SMP-only)
 - DCE (IPU2)
 - IPC 3.x
 - OMAPDRM
- Demo applications
 - Single camera capture -> display demo using native VIP & DSS drivers
 - Dual-decode demo with one display on HDMI and other on LCD (VIDDEC3 interface, J6 only)

The Software Build of Materials is deprecated, please look at the repo manifest file and yocto layers for details.

What's New

Changes from GLSDK v6.01:

- U-boot support for booting from QSPI, eMMC and UART
- File system support (kernel drivers) for eMMC, QSPI and Ethernet (NFS)
- Audio input/output through McASP (ALSA)
- Video capture support (using VIP), with capture / display application
- Video de-interlacing support (using VPE)
- H/w accelerated video decoders with VIDDEC3 test application & GStreamer.
- IPC 3.x
- 2D graphics acceleration (BLTville)
- Wayland, with Weston compositor
- WiLink WLAN support is integrated
- Dual-decode / display application

Installation and Usage

The *EVM_GLSDK_Software_Developers_Guide Software Developer's Guide* (<http://processors.wiki.ti.com/index.php/DRA7xx>) contains information on how to start developing software on the DRA7xx EVM and is located in the *docs/* folder in the GLSDK along with other documentation.

Note: In this release, Linux kernel and u-boot remote repositories are migrated from git.ti.com to the omapzoom.org. For information to how to port the patches, please refer to the section "Migrating from previous release to 6_02_01_02 release" in the SDG

Host Support

This release supports Ubuntu 12.04 LTS (<http://www.ubuntu.com>) as your development host.

Dependencies

The GLSDK requires the Linaro toolchain, more information is there in the *Software Developer's Guide* (http://processors.wiki.ti.com/index.php/{{sdk_platform}}_GLSDK_Software_Developers_Guide)

Device Support

This GLSDK release supports the DRA7xx EVM and has been validated on the following boards:

- DRA75x Rev-H EVM
 - JAMR3 Apps board
 - 10" OSD LCD display
 - PG 2.0 Silicon
- DRA75x Rev-G EVM
 - JAMR3 Apps board
 - 10" LG LCD display
- DRA72x Rev-B EVM

The DRA72x Rev-B EVM is not compatible with Vision application card. Therefore, the vision OVcamera and LVDS cameras cannot be used as is. The baseboard needs modification to support these use cases.

Validation Information

Please get in touch with your TI contact for validation information / test report.

Upgrade and Compatibility Information

Known Issues and Limitations

Known Issues:

- OMAPS00293304: Got warning when running gst-launch first time
- OMAPS00293402: Frame drop with kms sink.
- OMAPS00297282: Running kmscube for long duration crash the system

- OMAPS00299337: Memory Leak in GFX driver
- OMAPS00299771: QSPI boot can't be done once kernel is loaded
- OMAPS00299773: VPE firmware can't be loaded through userspace
- OMAPS00300317: Viddec3test: Mpeg4 decoding takes more time to display the first frame
- OMAPS00300658: Viddec3test: H264 QCIF resolution is failing on Omap5
- OMAPS00300660: Viddec3test: MPEG4 QCIF resolution playack failed
- OMAPS00300662: Viddec3test: MPEG4 CIF resolution playack failed
- OMAPS00301594: Viddec3test fails after long duration playback
- OMAPS00301595: Gstreamer crashes when Playing AV files in a loop by assigning audio=fakesink
- OMAPS00301597: Frame drop observed in Gstreamer when playing 60fps AV streams
- OMAPS00301600: Always getting mmrpc error when playing a particular stream using gstreamer
- OMAPS00301699: VIP cannot be used unless HDMI is disabled
- OMAPS00301723: Caught SIGSEGV error with gstreamer playbin2 for interlace streams
- OMAPS00301764: EDID read misses all supported modes of HDMI
- OMAPS00301768: KMSCube shows aliasing artifacts on HDMI
- OMAPS00301807: Long boot up time if ethernet is not connected
- OMAPS00301898: Image is cropped when framebuffer size is bigger than display mode when using omapdrm API
- OMAPS00301948: Double free or corruption error while playing dual decode using viddec3test
- OMAPS00301952: viddec3test runs out of memory during overnight regression
- OMAPS00301953: getting the error: unable to declare buffer use with mpeg4 specific stream
- OMAPS00302007: VPE test app processes exactly 20 frames
- OMAPS00302008: VPE failed to deinterlace UYVY
- OMAPS00302057: symbolic link to blitsville libraries not found in file system
- OMAPS00302060: ipumm binary does not show the right tag information
- OMAPS00302070: Screen saver settings specified in the weston.ini are not taking effect
- OMAPS00302071: Kernel crash when stress testing Wayland
- OMAPS00302074: PVR Kernel module failure while running Weston clients and closing abruptly
- OMAPS00302076: Cannot unlock screen saver when the weston goes into screensaver mode the second time
- OMAPS00302079: Failure seen during very long duration Weston tests

Limitations:

- USB 3.0 support is not available.
- u-boot QSPI can't read / erase more than 0x10000.
- VIP support is limited to mmaped buffer, single-instance, one slice, one port, YUYV format capture.
- VPE support is limited to single-instance de-interlacer.
- Audio playback is limited to 44.1 kHz.
- NAND/NOR FS support not available.
- GP Device support only.

Versioning

This is EA release (GLSDK 6.02.01.02) for DRA7xx ES 1.0.

Technical Support and Product Updates

Latest up to the minute information and updates may be found on the <http://processors.wiki.ti.com/index.php/Category:GLSDK>.
E2E Linux Forum - <http://e2e.ti.com/support/embedded/t/354.aspx>] can be used for discussing the Linux GLSDK development.

Download the Latest GLSDK

The latest GLSDK is available for download from http://downloads.ti.com/infotainment/esd/jacinto6/glSDK/latest/index_FDS.html

GLSDK releases can be downloaded from <http://downloads.ti.com/infotainment/esd/jacinto6/glSDK/>

The current version is 6.02.01.02.

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