

DRA7xx GLSDK 7.04.00.03 Release Notes

Generic Linux Software Development Kit (GLSDK) 7.04.00.03 for DRA7xx

Mar 25, 2016

This is the GA-Refresh 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) 7.04.00.03 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
 - Known Issues
 - Limitations
- Issues closed since GLSDK v7.03.00.03
- Post Release Updates
- 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 *Software Developer's Guide* (http://processors.wiki.ti.com/index.php/DRA7xx_GLSDK_Software_Developers_Guide) contains information on how to start developing software on the DRA7xx and is located in the *docs/* folder in the GLSDK along with other documentation.

Components

The Linux GLSDK 7.04.00.03 release package for DRA75x/DRA72x includes the following components:

- U-boot support (2014.07)
 - Boot from: SD card, eMMC (FAT load), QSPI.
 - tftp, dhcp
- Linux kernel 3.14
 - FS Media: SD card, eMMC, NFS
 - USB Host: Isochronous A/V, HID, MSC
 - USB 3.0 Host: MSC
 - USB Peripheral: NCM Gadget
 - UART, I2C, QSPI, Ethernet
 - VIP (V4L2, DMABUF)
 - OV1063x, TVP5158 and FPD3 serdes drivers (i2c client, v4l2 subdev)
 - VPE (V4L2 M2M, DMABUF)
 - DSS (LCD, HDMI)
 - Audio playback and capture
 - WiLink 8 (WLAN/BT)
 - MPU DVFS, AVS Class 0, ABB
 - RTC
- Multimedia
 - H.264, MPEG2, MPEG4 & VC1 decoders @ 1080p60
 - MJPEG decoder
 - H.264, MPEG4 encoders

- Gstreamer plugin for video decode acceleration
- Gstreamer plugin for video encode acceleration
- Gstreamer plugin for video processing acceleration (using VPE)
- Gstreamer plugin for KMS display sink
- Gstreamer plugin for Wayland sink
- Gstreamer plugin for video capture (using VIP)
- AAC audio codec (ARM based, open-source)
- Graphics
 - 3D graphics acceleration (OpenGL ES 2.0)
 - 2D graphics acceleration (G2D)
 - Wayland, with Weston compositor, multiple display support
- 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)
 - Dual-decode demo on single display (Wayland) through Gstreamer
 - Dual-decode demo on two displays (Wayland) through Gstreamer
 - Video capture and encode demo through Gstreamer
 - Video capture and display pass through demo through Gstreamer

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 v7.03.00.03:

- DRA75x EVM RevH support
- DRA72x CSI2 camera support
- System resource visualization tool
- Data cache enabled in MLO to improve performance/reduce boot time.

Installation and Usage

The *Software Developer's Guide* (http://processors.wiki.ti.com/index.php/DRA7xx_GLSDK_Software_Developers_Guide) contains information on how to start developing software on the DRA7xx and is located in the *docs/* folder in the GLSDK along with other documentation.

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/DRA7xx_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

This is the refresh release of GLSDK on 3.14 kernel and 2014.07 u-boot

Known Issues and Limitations

This section contains the snapshot of Known Issues and Limitations at the time of making the release.

Known Issues

Key	Module	Summary	Work Around	Impact
GLSDK-2775	DRM / DSS	DSS supports only conformant range for YUV	Use SGX for performing YUV-RGB color conversion before displaying to screen.	Color values between 0-16 and 240-255 will be considered as 0 and 255 respectively. The grayscale for this range will not be differentiated.
GLSDK-1379	DRM / DSS	K3.14: libdrm errors (warning) seen during viddec3test single decode dual display	None	No known impact. Warnings can be ignored.
GLSDK-1493	DRM / DSS	DRA7xx: At times the hdmi driver in omapdss, results I2C master Error	Switch to another display	Observed with only specific HDMI monitors. Some HDMI monitors will not enumerate all modes.
GLSDK-1296	DRM / DSS	J6/J6Eco: K3.x: HDMI/OMAPDSS: Some HDMI monitors are not detected by DRA7xx EVM h/w	Switch to another display	Observed with only specific HDMI monitors
GLSDK-1369	DRM / DSS	J6/J6Eco: K3.x: HDMI/OMAPDSS: modetest not listing all the modes for some hdmi monitors.	Switch to another display	Observed with only specific HDMI monitors
GLSDK-2786	DRM / DSS	J6Eco: FPDLink is not working	None	FPDLink is functional on J6 but not working on J6Eco
GLSDK-1387	Ethernet	DRA7xx : ethernet : 10Mbps mode does not work	None	HW limitation on EVM
GLSDK-1364	Ethernet	DRA7xx(J6/J6Eco) : ethernet : reliability issues/link failure with gigabit mode of operation(on some boards)	Connect to 100 Mbps port	Observed only on specific boards
GLSDK-1325	Graphics	SGX: SGX Kernel module crash when Weston is killed while client applications are running	Close all Weston clients before closing Weston	This is not the typical scenario.
GLSDK-2753	Graphics	Coverity defect fix RESOURCE_LEAK in MMU_Initialize in SGX KM	Fix available. Will be provided as Post Release update	Coverity static source code analysis will fail. This issue has been analyzed and found to be of low probability occurrence.
GLSDK-1307	I2C	J6/J6Eco: I2C: EEPROM read/write test failed during intergration check.	None	Issue cannot be reproduced with the 7.04 release- verified on Rev.G board
GLSDK-1771	Kernel / Uboot	DRA7X: Kernel: Kernel Soft reboot fails few times when tested for 100 times.	None	None - on the EVM SW reset is converted to PoRz , issue not reproducible with standalone script testing
GLSDK-1383	Kernel / Uboot	DRA7X: Kernel: stress: boot failure seen 5 out of 1000 times, while performing kernel boot stress testing(external power on reset).	None	Not reproducible anymore on TI EVM. Multiple runs with standalone reboot test scripts, issue cannot be reproduced
GLSDK-2380	Kernel / Uboot	Warnings/error messages observed while booting the J6 and J6Eco EVM with GLSDK GA kernel image	None	Most warning message seem to indicate probe deferral and in some cases cleanup is required in hwmod and dt entries - none of these affect the functionality but need to be fixed regardless
GLSDK-1318	Multimedia	J6/J6Eco gststreamer1.2:usability playbin skip a lot of frames of certain streams in waylandsink	set throttle-time = 1 as sink parameter ie, ... ! waylandsink throttle-time=1	The output for certain streams will be jerky
GLSDK-2715	Multimedia	j6 and j6-eco: ipumm-fw does not recover after crash (CMA allocation failure)	NA	Board will have to be rebooted
GLSDK-	Multimedia	j6 and j6-eco: dual instance	NA	Reboot will be required for further playback

2765		viddec3test in loop results playback failure after receiving few SIGINT		
GLSDK-2626	Multimedia	j6-eco: ipumm-fw crashes during multimedia tests	NA	This is hard to reproduce. The crash will lead to ipumm recovery. Board reboot is required only if there is a crash and ipumm recovery failed, which is highly unlikely.
GLSDK-1727	SATA	DRA7X: SATA: 3.0 Gbps SATA devices get enumerates in 1.5Gbps when connected through Port multiplier	None	SATA Gen2 devices will operate at lower Gen1 speeds, issue not seen when the SATA device is directly connected to the SATA port(instead of port multiplier)
GLSDK-1725	Thermal	Thermal: MPU: Thermal_zone_0 (MPU) is disabled by default in kernel	Use the FS script /etc/rc5.d/S98-thermal-zone-init, already fixed in upstream.	mode for Thermal_zone_0 , which is thermal zone for MPU, is by default disabled by the driver in of_thermal_build_zone() of of-thermal.c. This affects only MPU because only MPU thermal details are passed via DT file. MPU thermal status will not be monitored unless the mode is changed.
GLSDK-2628	Toolchain	malloc freeze issue with eglibc 2.15	Toolchain needs to be upgraded	System crash
GLSDK-2478	UART	UART: DMA: data inconsistency observed with serial check utility on uart3 and glitches observed in BT playback	None	One may hear glitches in Audio playback over Bluetooth.
GLSDK-1389	USB	USB: DWC3: warning occurs when the usb camera is removed while capturing the usb video	None	None - warning can be ignored
GLSDK-1769	VIP / VPE	DRA7xx: VPE: File2File checksum changes across multiple runs	There is no workaround for this issue yet	No visual artifacts, but checksum on initial frame differs as couple of bytes are incorrect
GLSDK-2304	VIP / VPE	OV1063x configuration breaks if kernel is compiled with CONFIG_DEBUG_GPIO=n	Enable the CONFIG_DEBUG_GPIO	Little extra time in the bootup sequence because of GPIO debug
GLSDK-2607	VIP / VPE	DRA7xx: building Ov1603x as a module causes a green tint in captured image	Use the camera driver as builtin. Also, a delay of 1s can stop this issue from occurring	As this is only related to starting the capture within one second of insertine module. The impact is on the early video use cases.
GLSDK-2684	VIP / VPE	VIP: VPDMA capture stall in start-stop streaming with capturevpdisplay application	No workaround	Capture hangs after 3-4 hrs of continuous start/stop sequence
GLSDK-2738	VIP / VPE	Kernel crash during continous VIP start/stop stress test	This happens mostly with two cores executing the IRQ context and stop streaming context. So workaround is to disable SMP	It is a rare race condition so regular use case not impacted. However, the kernel crash is critical
GLSDK-2385	WiLink	K3.14: Wilink: Performance degradation observed with wl18xx when running udp iperf tests	None	Lower performance observed

Limitations

- Audio - Primary sound card only supports 44.1kHz. Other sample rates require SRC before passing to ALSA pcm device
- VIP - Driver does not support in-line CSC and scaling
- Display - HDMI is not supported with Rev-D and earlier versions of DRA75x EVM
- DRA7x: Power/Thermal - DVFS supports only MPU frequency and voltage changes
- J6Eco: Power/Thermal - On a few samples dynamic detection MPU OPPs doesn't work due to wrong efuse values. Only OPP_NOM is enabled in such cases
- WiLink - Wilink and bluetooth are not functional on J6Eco
- System - NAND/NOR FS support is not available
- EVM - JAMR3 sound card cannot be used from Linux simultaneously with Software Defined Radio running on DSP
- J6Eco: Boot - ROM - If an empty SD card is inserted in SD boot mode system hangs with some cards
- J6: MMC/SD: UHS mode is not enabled on DRA75x PG 1.1 (enabled run time on PG 2.0)

Issues closed since GLSDK v7.03.00.03

Key	Module	Summary
GLSDK-2710	Build	ARM option mismatch between prebuilt image and GLSDK kernel build instructions

GLSDK-2673	Graphics	Flicker screen when running navigation caused due to mid-scene glClear
GLSDK-2741	Graphics	SIGSEGV seen in Graphics driver when reclaim of unused memory (in Untwiddle32bpp)
GLSDK-2751	Graphics	Coverity USE_AFTER_FREE fix in rpmsg
GLSDK-2752	Graphics	Coverity defect fix RESOURCE_LEAK in SGX KM
GLSDK-2772	Graphics	Segfault in SGX DDK UM in glDrawElements, after retrieving wrong value from HashTable
GLSDK-2773	Graphics	Crash seen when SGX KM tries to kmalloc during Low Memory scenario
GLSDK-2779	Graphics	WaylandSink does not display full range YUV video
GLSDK-2394	Multimedia	Ducatijpegdec crashes or outputs green screen for unsupported yuv444 formats
GLSDK-2506	Multimedia	IPU2 will close automatically when player paused beyond 15 seconds
GLSDK-2627	Multimedia	Ipumm-fw does not recover after crash (multi-instance decode)
GLSDK-2655	Multimedia	IPU crash with non-standard jpeg streams leading to SL2 memory corruption
GLSDK-2682	Multimedia	IPUMM crash when doing 3 parallel decodes (two H264 and one MPEG4), and one H264 has to complete before the other
GLSDK-2718	Multimedia	Ipumm-fw crashes when running multi-instance decoder and encoder (2 decoders and 1 encoder)
GLSDK-2729	Multimedia	MPEG2 decoder sets an error IMPEG2VDEC_ERR_TRICK_MODE for closed GOPs resulting in frame drop
GLSDK-2598	Kernel / Uboot	Thermal: trigger kernel_poweroff/emergency_restart when orderly_poweroff fails
GLSDK-2594	Kernel / Uboot	USB: DWC3: Zero Length Packet is not handled in dwc3 device controller driver
GLSDK-2685	Kernel / Uboot	USB: DWC3: No resource condition occurs during NCM+ACM composite gadget scenario
GLSDK-2704	Kernel / Uboot	MMC: IO delay support for different speed modes is missing
GLSDK-1767	Kernel / Uboot	DRA75x: MMC/EMMC: Multi threaded read/write test fails as one or more threads return non zero value

Post Release Updates

There are some defect fixes/patches which did not make it to the 7.04.00.03 release. As and when the patches for defect fixes are available, they will be documented in [DRA7xx GLSDK 7.04.00.03 Post-release Updates](#) page. Please register for changes to post-release-update page to be notified when a defect fix is available.

Versioning

This is maintenance release based on kernel version 3.14 (GLSDK 7.04.00.03) for DRA75x PG 1.0/2.0 and DRA72x PG 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>.

Please contact your FAE or CPM for any support requests on GLSDK

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 7.04.00.03.

Keystone=		C2000=For	DaVinci=For	MSP430=For	OMAP35x=For	OMAPL1=For	MAVRK=For	For technical su
1. switchcategory:MultiCore=	▪ For technical support on MultiCore devices,	technical support on the C2000 please	technical support on DaVincoplease post your	technical support on MSP430 please post	technical support on OMAP please post your	technical support on OMAP please post your	technical support on MAVRK please post	please post your questions at http://e2e.ti.com . Please post on

9/29/2020 DRA7xx GLSDK 7.04.00.03 Release Notes - Texas Instruments Wiki									
<ul style="list-style-type: none"> For technical support on MultiCore devices, please post your questions in the C6000 MultiCore Forum For questions related to the BIOS MultiCore SDK (MCSDK), please use the BIOS Forum 	<ul style="list-style-type: none"> For questions related to the BIOS MultiCore SDK (MCSDK), please use the BIOS Forum 	<p>please post your questions in the C6000 MultiCore Forum</p>	<p>post your questions on The C2000 Forum. Please post only comments about the article DRA7xx GLSDK 7.04.00.03 Release Notes here.</p>	<p>questions on The DaVinci Forum. Please post only comments about the article DRA7xx GLSDK 7.04.00.03 Release Notes here.</p>	<p>your questions on The MSP430 Forum. Please post only comments about the article DRA7xx GLSDK 7.04.00.03 Release Notes here.</p>	<p>questions on The OMAP Forum. Please post only comments about the article DRA7xx GLSDK 7.04.00.03 Release Notes here.</p>	<p>questions on The OMAP Forum. Please post only comments about the article DRA7xx GLSDK 7.04.00.03 Release Notes here.</p>	<p>your questions on The MAVRK Toolbox Forum. Please post only comments about the article DRA7xx GLSDK 7.04.00.03 Release Notes here.</p>	<p>comments about article DRA7xx GLSDK 7.04.00.03 Release Notes here.}}</p>
Please post only comments related to the article DRA7xx GLSDK 7.04.00.03 Release Notes here.									

Links



- | | | | |
|---|---|---|---|
| Amplifiers & Linear Audio | DLP & MEMS High-Reliability Interface | Processors | Switches & Multiplexers |
| Broadband RF/IF & Digital Radio | Logic | <ul style="list-style-type: none"> ARM Processors Digital Signal Processors (DSP) Microcontrollers (MCU) OMAP Applications Processors | Temperature Sensors & Control ICs |
| Clocks & Timers | Power Management | | Wireless Connectivity |
| Data Converters | | | |

Retrieved from "https://processors.wiki.ti.com/index.php?title=DRA7xx_GLSDK_7.04.00.03_Release_Notes&oldid=214093"

This page was last edited on 30 March 2016, at 06:32.
Content is available under [Creative Commons Attribution-ShareAlike](#) unless otherwise noted.