

EDMA3 Resource Manager

Release version 01.10.00.XX

Release Notes

July 13, 2009

The product release notes in this document are for EDMA3 Resource Manager, which is a part of the EDMA3 Low Level Driver package. The Resource Manager is a TI mandated library for all EDMA3 peripheral users to acquire and configure EDMA3 hardware resources (DMA/QDMA channels, PaRAM Sets, TCCs etc.) and DMA Interrupt Service Routines. The Resource Manager is made generic across SoCs and across Operating Systems.

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1 In This Release

This is the 01.10.00.XX release of EDMA3 Resource Manager and contains libraries, sample initialization libraries (excluding DRx40x and DM360 platforms) and support documents.

This release contains sample OS adaptation layer for BIOS 5, which could be used by BIOS 5 based applications

❖ **New features in the components of release**

- 1) ECN# TIDSP00012004 (Migration to new BSD license) has been implemented.

❖ **Instructions to build the EDMA3 package in non-RTSC environment:**

- 1) The term REF_PATH used in this document refers to <local path where the EDMA3 LLD current version is installed>.
- 2) Open CCS and build the EDMA3 libraries for debug and release for Resource Manager and Resource Manager Sample Initialization Libraries from "<<REF_PATH>>\packages\ti\sdo\edma3\rm\".

❖ **Instructions to build the EDMA3 package in RTSC environment:**

- 1) The term REF_PATH used in this document refers to <local path where the EDMA3 LLD current version is installed>.
- 2) Install XDC version 3.10.02 from the XDC website.
- 3) Set PATH environment variable to XDC installation folder. For e.g., if you have installed XDC in C:\ in folder "xdc_3_10_02", append "C:\xdc_3_10_02;" to the PATH environment variable.
- 4) Modify the "
<<REF_PATH>>\packages\ti\sdo\edma3\common\edma3_xdcpaths_common.dat" file .
 - o Set the "edma3RootDir" variable to the <<REF_PATH>> folder.
USE /FORWARD/ SLASHES FOR ALL DIRECTORIES IN THIS VARIABLE.
- 5) If you are going to build applications using the pre-built EDMA3 libraries, skip following steps and build the sample applications. Otherwise follow the below mentioned steps.
- 6) Open a command prompt window.
- 7) On the command prompt, go to <<REF_PATH>>\docs\Others\.
- 8) Run "xdc_edma3_build.bat" script from the command prompt. It will throw some warnings, just ignore them.
- 9) Open CCS and build the EDMA3 libraries for debug and release for Resource Manager and Resource Manager Sample Initialization Libraries from "<<REF_PATH>>\packages\ti\sdo\edma3\rm\".

10) Build all the libraries first. **YOU SHOULD NOT BUILD ANY APPLICATION AT THIS STAGE.**

Precautions 1: Your PATH environment variable should point to the XDC installation folder first without pointing to any other XDC tool chain path. So you should put your XDC installation directory before any other folder in the PATH variable.

Note 1: Steps in which user runs batch files are required only once per view per PC. Please note that these steps create intermediate files, which will be used by the RTSC tool chain during the build process.

Note 2: Sometimes the XDC tool chain throws an error like: "Access is denied" only if you are building from Clearcase. Just try to clean build again.

Note 3: For any kind of build related problem, try to do a clean build.

2 System Requirements

This release requires the following products (apart from the PSP package):

- ❖ CCS 3.3.80.11
- ❖ Any of the supported platforms: DM644x, DM646x, DM643x, DM648, C6424, C6452, C6455, OMAP2430, OMAP25xx, OMAP3430, OMAP35xx, DRx40x, DM360, C6474, TCI6488, DA830, C6747, OMAPL137, DRA44x, DRX45x, C6748 and OMAPL138 EVMs.
- ❖ DSP-BIOS 5.33.05 or higher
- ❖ CG Tools 6.1.5
- ❖ XDC tool 3.10.02
- ❖ eBinder IDE – 1.7
- ❖ PrKernel version 4
- ❖ BSPs (if required)

3 Installation and Usage

1) Install the required components as per instructions provided along with the package.

2) EDMA3 Resource Manager source files are available in "edma3_ild_<CURRENT_VERSION>\packages\ti\sdo\edma3\rm\" folder.

3) Build the EDMA3 Resource Manager Project files in the build directory (edma3_ild_<CURRENT_VERSION>\packages\ti\sdo\edma3\rm\build\) to build the debug/release library, for the required platform.

4) Sample libraries and sample project files are provided with the EDMA3 Resource Manager and are in "edma3_ild_<CURRENT_VERSION>\packages\ti\sdo\edma3\rm\sample\build\" folder, in the platform specific folders.

4 Un-installation

Un-install the package as per instructions provided with the package.

5 Fixed In This Release

Following IRs have been fixed as a part of this release:

None.

6 Known Issues

1.	EDMA3 hardware doesn't works properly in FIFO mode with all the controllers.
Release Note <p>Very few peripherals support EDMA3 FIFO mode. EMIF controller doesn't support the same. So EDMA3 CANNOT be used in FIFO mode for doing a mem-2-mem data transfers, EDMA3 being configured in the FIFO mode.</p> <p>Applications trying to use EDMA3 in FIFO mode should first check their respective peripheral-controller document for this mode support.</p>	
Workaround None	

7 Revision history

Date	Author	Comments	Version
	Anuj Aggarwal	Modified it for EDMA3 package and added multiple instances capability.	0.2.0
Nov 14, 2006	Anuj Aggarwal	a) Modified it for more run time configuration. b) Made EDMA3 package OS independent.	0.2.1
Jan 16, 2007	Anuj Aggarwal	Critical section handling code modification. Uses semaphore and interrupts disabling mechanism for resource sharing.	0.2.2
Mar 6, 2007	Anuj Aggarwal	a) Renamed EDMA3_DVR to EDMA3_DRV. b) IPR bit clearing in RM ISR issue fixed. c) Sample application made generic.	0.3.0
Mar 23, 2007	Anuj Aggarwal	a) DMA/QDMA channel event missed issue fixed.	0.3.1
Apr 23, 2007	Anuj Aggarwal	a) New APIs to support POLL mode provided. b) APIs to get/set CC Register provided.	0.3.2
May 9, 2007	Anuj Aggarwal	a) MR# DPSP00007800 (Result of resource allocation is overwritten by the semaphore release result in EDMA3 Resource Manager) Fixed. b) MR# DPSP00007803 (Exit from EDMA3_RM_allocContiguousResource () in case of error is incorrect) Fixed.	1.0.0
May 14, 2007	Anuj Aggarwal	a) MR# DPSP00007858 (Issue in EDMA3 DRV causes false missed events) Fixed.	1.0.1
June 18, 2007	Anuj Aggarwal	Made the EDMA3 Resource Manager RTSC compliant.	1.0.0.02

July 13, 2007	Anuj Aggarwal	Changed the directory structure as per RTSC standard.	1.0.0.03
September 14, 2007	Anuj Aggarwal	a) Moved the platform specific configuration to the Resource Manager. b) Added new APIs to allocate and free logical channels etc.	1.01.00.01
September 28, 2007	Anuj Aggarwal	a) Added support for DM6467. b) Fixed MRs (see Fixed in this release above).	1.02.00.01
October 21, 2007	Anuj Aggarwal	a) C6452 support has been added in this release. Now C6452 applications can also be built in the RTSC environment. b) All the CCS PJT files now come under two flavors: one for the RTSC environment and the other for the non-RTSC environment. c) IOCTL interface has been added in the Resource Manager. d) Fixed MRs (see Fixed in this release above).	1.03.00.01
January 28, 2008	Anuj Aggarwal	a) Implemented ECNs DPSP00009671, DPSP00009778 and DPSP00009814 (see New in this release above).	1.04.00.01
March 20, 2008	Anuj Aggarwal	a) MRs DPSP00010187 and DPSP00010482 are fixed. b) Implemented ECNs DPSP00009778, DPSP00010463 and DPSP00010478 (see New in this release above). See release notes for more information.	1.05.00.01
November 4, 2008	Anuj Aggarwal	a) Added support for new platforms. b) IR SDOCM00049778 is fixed. See release notes for more information.	01.06.00.01
May 15, 2009	Anuj Aggarwal	a) Add support for new platforms: C6748, OMAPL138, DRA44x and DRX45x.	01.07.00.01
July 9, 2009	Anuj Aggarwal	Migration to BSD license	01.10.00.XX

8 Appendix: Changes from last release

Changes from 1.07 Release to 01.10 Releases:

- i. Implemented ECNs (see New in this release above).

Changes from 1.06 Release to 01.07 Releases:

- i. Implemented ECNs (see New in this release above).

Changes from 1.05 Release to 01.06 Releases:

- i. Implemented ECNs (see New in this release above).
- ii. Fixed IRs (see Fixed in this release above).

Changes from 1.04 Release to 1.05 Releases:

- i. Implemented ECNs DPSP00009778, DPSP00010463 and DPSP00010478 (see New in this release above).
- ii. Fixed MRs (see Fixed in this release above).

Changes from 1.03.00.01 Release to 1.04 Releases:

- i. Implemented ECNs DPSP00009671, DPSP00009778 and DPSP00009814 (see New in this release above).

Changes from 1.02.00.01 Release to 1.03.00.01 Releases:

- i. C6452 support has been added in this release. Now C6452 applications can also be built in the RTSC environment.
- ii. All the CCS PJT files now come under two flavors: one for the RTSC environment and the other for the non-RTSC environment.
- iii. IOCTL interface has been added in the Resource Manager.
- iv. Fixed MRs (see Fixed in this release above).

Changes from 1.01.00.01 Release to 1.02.00.01 Releases:

- i. Added support for DM6467.
- ii. Fixed MRs (see Fixed in this release above).

Changes from 1.00.00.03 Release to 1.01.00.01 Releases:

- i. Moved the platform specific configuration to the Resource Manager.
- ii. Added new APIs to allocate and free logical channels etc.

Changes from 1.0.0.2 Release to 1.00.00.03 Releases:

- i. Changed the directory structure as per RTSC standard.

Changes from 1.0.0.1 Release to 1.0.0.02 Releases:

- i. Made the EDMA3 Resource Manager RTSC compliant.

Changes from 1.0.0 Release to 1.0.1 Releases:

- i. MR# DPSP00007858 (Issue in EDMA3 DRV causes false missed events) Fixed.

Changes from 0.3.2 Release to 1.0.0 Releases:

- i. MR# DPSP00007800 (Result of resource allocation is over-written by the semaphore release result in EDMA3 Resource Manager) Fixed.
- ii. MR# DPSP00007803 (Exit from EDMA3_RM_allocContiguousResource () in case of error is incorrect) Fixed.

Changes from 3.1 Release to 3.2 Releases:

- i. Poll mode support provided for the users who don't want to use the interrupt mechanism to receive the callback. New APIs are provided to check the transfer status, while working in Poll mode.
- ii. New APIs to read/modify the Channel Controller registers are provided.

Changes from 3.0 Release to 3.1 Release:

- i. Event miss could occur on the DMA/QDMA Channel because of lack of mapping between the channel and TCC code. It is fixed after modifying the Resource Manager interface.

Changes from 2.2 Release to 3.0 Release:

- i. Renamed EDMA3_DVR to EDMA3_DRV in all locations (header files, source files, project files etc). Also, renamed the directory edma3\src\edma3_dvr to edma3\src\edma3_drv.
- ii. IPR bit clearing in the EDMA3 resource manager ISR issue fixed. Now the IPR bit related to other resources NOT allocated by the resource manager would not be cleared.
- iii. EDMA3 resource manager sample application is broken into multiple files for better understanding and easy porting across different SoCs and OSes.
- iv. Common exhaustive Register Layer is now used for EDMA3 Channel and Transfer Controller, to make porting easier.