

OMX Media Component

Product Manual:

OMX Media Component Decoder Common Library
for Linux

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1. Overview

1.1. Overview of This Document

This document is the Product Manual of OMX Media Component Decoder Common Library for Linux. For the functional specifications of the library, see related documents [1].

1.2. Related Documents

Table 1-1 lists the related documents.

Table 1-1 List of Related Documents

No.	Document Name	Description
[1]	OMX Media Component User's Manual Decoder Common Part	The user's manual that describes functional specifications of this library.
[2]	OMX Integration Guide for Linux	OMX Integration Guide documents describe how to integrate the OMX to the system.

2. Product Specification

2.1. Basic Specification

Table 2-1 shows the basic specification of this library.

Table 2-1 Basic Specification

Item	Description
Product Number	RTM0AC0000XVCMND20SL32C
Product Name	OMX Media Component Decoder Common Library for Linux
Software categories	Multimedia codec processing
Function	Provide OpenMAX IL 1.1.2 Core / Component API
Target CPU	ARMv7 Architecture
Target LSI	R-Car H2 / M2 / E2 Series
Language	C Language
Endian	Little endian
Supported OS	Linux 3.4 (For evaluation purpose only)
Tool chain	GCC 4.7.4 (cortexa15hf-vfp-neon-poky-linux-gnueabi) built by R-CarH2/M2 Yocto recipe package
Library Format	Dynamic Link Library
CPU load	See each OMX Media Component Product Manual.
Number of thread	See each OMX Media Component Product Manual.
Thread priority	Thread priority shall be determined in User Defined Functions part.
System Call	This library does not call system call functions directly. All OS-dependent processing shall be implemented in User Defined Functions part.

2.2. Memory Requirement

Table 2-2 shows the memory requirement of this library. The sizes in Table 2-2 do not include the memory consumption in User Defined Functions.

Table 2-2 Memory Requirement

Item	Description
Object Size	640 [Kbyte]
Stack Size	See each OMX Media Component Product Manual.
Heap Memory Size	See each OMX Media Component Product Manual.
Shared Memory Size	See each OMX Media Component Product Manual.

2.3. Reserved Words

Table 2-3 lists reserved words of this library.

Table 2-3 Reserved Words

Reserved Words	Description
OMX	The prefix word for the names of defines, functions and Macros that is defined in OpenMAX IL Specification.
OMXR	The prefix word for the names of defines and Macros in this library.
Omxr	The prefix word for the names of functions and variables in this library.

3. List of Files

Table 3-1 shows the file list of this library.

Table 3-1 File List

Directory			File name	Description
RTM0AC0000XVCMND20SL32C				
+	Document	en	RTM0AC0000XVCMND20SL32E.pdf	Product Manual(This document)
			omx_users_manual_vdcmn_en.pdf	User's Manual
			RTM0AC0000XVCMND20SL32C_ReleaseNote.txt	Release Note
	-		Software.tar.gz	See Table 3-2

Table 3-2 Files included in Software.tar.gz

Directory				File name	Description		
Software				-			
+	OMXR			-			
	+	config		omxr_config_vdcmn.txt	Configuration file		
		include		OMXR_Extension_vdcmn.h	Renesas OMX Extension header		
			OMXR_Extension_video.h	Renesas OMX Extension header			
	lib		-				
	+	linux		-			
		+	linaro_4_7_3	libomxr_mc_vcmn.so.2.0.0	Library for Linux		
	libomxr_mc_vdcmn.so.2.0.0			Library for Linux			
	libvcp3_mcvd.so.1.0.0			Library for Linux			
	libuvcs_dec.so.1.0.0			Library for Linux			
	UDF_Linux				-		
	+	modules			-		
		+	omxr_converter		Makefile.am	Makefile for UDF sample source code	
			+	include		cnv_plugin_cmh.h	UDF sample source code
						cnv_public.h	UDF sample source code
						cnv_type.h	UDF sample source code
						cnv_osdep.c	UDF sample source code
					cnv_osdep.h	UDF sample source code	
					Makefile.am	Makefile for UDF sample source code	
			plugin		Makefile.am	Makefile for UDF sample source code	
			+	cmn	cnvp_cmh.c	UDF sample source code	
					cnvp_cmh.h	UDF sample source code	
				fdp	cnvp_fdp_core.c	UDF sample source code	
					cnvp_fdp_core.h	UDF sample source code	
			cnvp_fdp_interface.c		UDF sample source code		
			cnvp_fdp_interface.h		UDF sample source code		
					Makefile.am	Makefile for UDF sample source code	
			videoconverter		cnv_config.c	UDF sample source code	
					cnv_config.h	UDF sample source code	
			cnv_interface.c	UDF sample source code			
			cnv_private.h	UDF sample source code			
			Makefile.am	Makefile for UDF sample source code			
omxr_uvcs_udf			Makefile.am	Makefile for UDF sample source code			
			omxr_uvcs_udf.c	UDF sample source code			
			omxr_uvcs_udf.h	UDF sample source code			
			omxr_uvcs_udf_osal.h	UDF sample source code			
			omxr_uvcs_udf_osal_linux.c	UDF sample source code			
			uvcs_ioctl.h	UDF sample source code			

4. Dependent Products

Table 4-1 lists the dependent products of this library.

Table 4-1 Dependent Products

Product Number	Product Name
RTM0AC0000XCMCTL20SL32C	OMX Media Component Common Library for Linux
RTM0AC0000UVCSCMN1SL32C	UVCS Adapted for Linux Common Engine Library

5. User Defined Functions (UDF)

This library requires User Defined Functions (UDF) to operate the function. UDF contains OS and hardware abstraction for the OMX libraries. A user of this library needs to implement UDF part to adapt the library to user's platform. UDF for this library shall have the following functions:

- Interfacing between this library and UVCS Adapted for Linux Common Engine Library (kernel module)
- Video conversion for the video decode post processing. The video conversion includes addressing conversion from tiled format to linear format, color space conversion and deinterlacing.

This abstraction enables a user to customize the system dependent implementation to fulfill the requirements of each system, such as the method for video post processing.

UDF sample source code is available in the deliverable of this library. The UDF sample source code is out of warranty. The UDF sample source code has been confirmed by using Renesas R-Car H2/M2 Linux Board Support Package and R-Car H2/M2 Series MMP Reference Library for Linux.

For the details of implementation and integration of UDF, see related document [2].

6. Installation

See related document [2].

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Publication Date: Rev. 0.01 Mar. 27, 2014

Published by: Renesas Electronics Corporation

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