

# 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 3.10
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	omx_users_manual_vdcmn_en.pdf	User's Manual
	RTM0AC0000XVCMND20SL32C_ReleaseNote.txt	Release Note
	RTM0AC0000XVCMND20SL32E.pdf	Product Manual(This document)
-	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_vdcmn.so.2.0.0	Library for Linux
	libomxr_mc_vdcmn.so.2.0.0	Library for Linux
	libuvcs_dec.so.1.0.0	Library for Linux
	libvcp3_mcvd.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
+ osal	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].



**SALES OFFICES****Renesas Electronics Corporation**<http://www.renesas.com>Refer to "<http://www.renesas.com/>" for the latest and detailed information.

**Renesas Electronics America Inc.**  
2880 Scott Boulevard Santa Clara, CA 95050-2554, U.S.A.  
Tel: +1-408-588-6000, Fax: +1-408-588-6130

**Renesas Electronics Canada Limited**  
1101 Nicholson Road, Newmarket, Ontario L3Y 9C3, Canada  
Tel: +1-905-898-5441, Fax: +1-905-898-3220

**Renesas Electronics Europe Limited**  
Dukes Meadow, Millboard Road, Bourne End, Buckinghamshire, SL8 5FH, U.K  
Tel: +44-1628-651-700, Fax: +44-1628-651-804

**Renesas Electronics Europe GmbH**  
Arcadiastrasse 10, 40472 Düsseldorf, Germany  
Tel: +49-211-65030, Fax: +49-211-6503-1327

**Renesas Electronics (China) Co., Ltd.**  
7th Floor, Quantum Plaza, No.27 ZhiChunLu Haidian District, Beijing 100083, P.R.China  
Tel: +86-10-8235-1155, Fax: +86-10-8235-7679

**Renesas Electronics (Shanghai) Co., Ltd.**  
Unit 204, 205, AZIA Center, No.1233 Lujiazui Ring Rd., Pudong District, Shanghai 200120, China  
Tel: +86-21-5877-1818, Fax: +86-21-6887-7858 / -7898

**Renesas Electronics Hong Kong Limited**  
Unit 1601-1613, 16/F., Tower 2, Grand Century Place, 193 Prince Edward Road West, Mongkok, Kowloon, Hong Kong  
Tel: +852-2886-9318, Fax: +852 2886-9022/9044

**Renesas Electronics Taiwan Co., Ltd.**  
13F, No. 363, Fu Shing North Road, Taipei, Taiwan  
Tel: +886-2-8175-9600, Fax: +886 2-8175-9670

**Renesas Electronics Singapore Pte. Ltd.**  
80 Bendemeer Road, Unit #06-02 Hyflux Innovation Centre Singapore 339949  
Tel: +65-6213-0200, Fax: +65-6213-0300

**Renesas Electronics Malaysia Sdn.Bhd.**  
Unit 906, Block B, Menara Amcorp, Amcorp Trade Centre, No. 18, Jln Persiaran Barat, 46050 Petaling Jaya, Selangor Darul Ehsan, Malaysia  
Tel: +60-3-7955-9390, Fax: +60-3-7955-9510

**Renesas Electronics Korea Co., Ltd.**  
11F, Samik Lavied' or Bldg., 720-2 Yeoksam-Dong, Kangnam-Ku, Seoul 135-080, Korea  
Tel: +82-2-558-3737, Fax: +82-2-558-5141

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