TI81xx-HDVPSS-01.00.01.27 ReleaseNotes

HDVPSS Version 01.00.01.27

Release Notes
May 26th, 2011

Document License

Introduction

This release notes provides important information that will assist you in using the HDVPSS software package. This document provides the product information and know issues that are specific to the HDVPSS software package.

What is Supported

Common

- Supports HDVPSS drivers for TI814x/TI816x EVMs
- Supports FVID2 interfaces for all the supported drivers
- Package includes HDVPSS DSP/BIOS driver sources, sample applications that demonstrate use of HDVPSS DSP/BIOS drivers, sample applications executables

Display Drivers

- Supports Display Controller driver
- Supports Bypass Path Display driver
- Supports Secondary Path SD Display driver
- Supports Graphics Display driver

Capture Drivers

- Supports VIP capture driver

Memory to Memory Drivers

- Supports Scalar driver through Secondary Path 0-SC5
- Supports Scalar driver through Bypass Path 0/1-SC5
- Supports SC3/4 Scalar driver through Secondary Path 0/1-SC3/4- VIP0/1
- Supports Noise filter driver
- Supports DEI driver

Driver Maturity

Driver Maturity

Driver	TI816x	TI814x
VIP 0/1 Capture	EA	EA
Display Controller	EA	EA
Bypass Path 0/1 Display	Beta	EA
Secondary Path 1 SD Display	EA	EA
GRPX Path 0/1/2 Display	Beta	EA
NSF M2M	Beta	EA
DEIH-WB0 M2M	Beta	NA
DEIH-VIP0 SC3 M2M	Beta	NA
DEIH-WB0-VIP0 SC3 M2M	Beta	NA
DEI-WB1 M2M	Beta	NA
DEI-VIP1 SC4 M2M	Beta	NA
DEI-WB1-VIP1 SC4 M2M	Beta	NA
DEI-WB0 M2M	NA	EA
DEI-WB0-VIP0 SC3 M2M	NA	EA
Secondary Path 0 - SC5 M2M	Beta	EA
Bypass Path 0/1 - SC5 M2M	EA	EA
Secondary Path 0/1 - VIP SC3/4 M2M	EA	EA
Proxy Server	Beta	EA

Supported/Validated Examples

Supported/Validated Examples

Examples	TI816x	TI814x
VIP Capture	YES	YES
Chains	YES	YES (All the options of chains are not supported)
Mosaic Display	YES	YES
SD Display	YES	YES
Tri Display	YES	YES
GRPX Display	YES	YES
Multi-Region GRPX Display	YES	YES
M2M NSF	YES	YES
M2M DEI	YES	YES
M2M DEI Mode 1	YES	NA

M2M SC Multi Channel	YES	YES

- Examples could be found at $HDVPSS_Install_Dir\packages\ti\psp\examples\common\vps\
- Platform specific examples could be found at $HDVPSS_Install_Dir\packages\ti\psp\examples\ti814x OR ti816x

What is Not Supported

Common

- Runtime parameters are not supported for all m2m drivers(except NF) while operating in Subframe mode.

TI816x

- None

TI814x

- Chains sample applications - Option 5, 6, 7 and 8 of chains sample application in VC Daughter card is not supported
- Chains sample applications - Options "a" through "f" is not supported

TI814x ES 1

- Stenciling feature of GRPX Display Driver is not supported
- TNF, SNF, TNF+SNF bypass mode of Noise filter is not supported

Fixed in this Release

Common

- SDOCM00074097: [SDVENC]:sdvenc stops the output on dvo2
- SDOCM00080394: [DCTRL]IOCTL IOCTL_VPS_DCTRL_GET_VENC_OUTPUT does not work for SD VENC
- SDOCM00079389: [DC]:Two paths are getting enabled in the MUX
- SDOCM00079215: [DC]: While stopping, DC disables VCOMP input in the RT Config one frame in advance.
- SDOCM00078912: [DCTRL] reshuffle GRPX3 display order in the HDMI compositor does not work
- SDOCM00079978: [Display]: Display shifts horizontally by 8 pixel when Mossaic display is active in the chains
- SDOCM00077945: [Display] 2nd and 3rd VSYNC interrupts happens back to back within 1ms
- SDOCM00081021: [SDVENC] CSC default matrix for NTSC is wrong and the one for PAL is missing
- SDOCM00080060: {HDVPSS] GRPX shows some flicker in 1080i60 mode
- SDOCM00076987: [Capture]:Capture does not report correct frame size for RGB output stream
- SDOCM00079360: [Capture] Capture dequeue does not return all buffer to application
- SDOCM00079685: [capture] When output from VIP is 422SP tiler, M3 issues an exception
- SDOCM00080800: [VIP Capture]: Updates and checks magic number in frame buffer resulting in hard fault when Tiler buffers are used
- SDOCM00079035: [SC]: EV_THR and DELTA_EV_THR are wrongly configured in the scalar hal
- SDOCM00079833: [M2M DEI] Should issue warning/error in case scan format and FID don't match
- SDOCM00081360: [TILER]:- DMM_PAT_VIEW_MAP__0 was not programmed correctly

TI816x

- SDOCM00075189: [Display]: DAC output Image are getting left shifted by few pixels when constraining is enabled in CIG
- SDOCM00079890: [CPROC] :- ccam_yofst value should be set to 0 in FCC00 register to solve chroma/brighness shift problem
- SDOCM00079573: [CPROC]-Chroma shift dude to wrong value of ccam_br_adj variable
- SDOCM00081028: [EDE] CTI enable was not set properly and 2D peaking not enabled

TI814x

- SDOCM00079219: [SD Display TI814x] SD Sample application - no output seen
- SDOCM00078598: [Capture - TI814X] VC Alpha 1 - TVP7002 - Capture is intermittent
- SDOCM00077437: [Capture] TI814x Lot of descriptors errors seen
- SDOCM00078715: [SC HAL] SC1 in TI814x is considered to be of type SC_H
- SDOCM00079140: [DEI - TI814X] Calling FVID2_stop and FVID2_delete for second time causes an assert
- SDOCM00075904: [DEI] Centaurus Chains application - Chain with cpature -> nsf -. dei -> scalar-> display dose not work

TI814x ES 2.1

- SDOCM00077946: [M2M NSF]SNF only and SNF and TNF both bypass modes not working
- SDOCM00077344: Stenciling feature is not supported in GRPX display driver

New in this Release

Common

- Proxyserver with Notify in kernel
- VIP Capture: `IOCTL_VPS_CAPT_FLUSH` IOCTL added to support dequeue all buffers queued to capture driver after stop operation
- Display Controller: `IOCTL_VPS_DCTRL_SET_VENC_BRIGHTNESS` IOCTL added to support brightness control through VENC CSC.

TI816x

- Bug fixes

TI814x

- Validated all drivers on ES 2.1 silicon
- BP0/BP1 display paths supports YUYV422, YVYU422, UYVY422, VYUY422 input data formats
- Bypass Path 0/1 - SC5 and Secondary Path 0/1 - VIP SC3/4 M2M drivers
- Bug Fixes

Known Issues / Limitations

Common

- Few seconds delay is needed between board power cycle. When power cycle is done very fast, board doesn't get reset properly and hence I2C devices don't respond
- NTSC capture through VIP will result in 243 lines per field instead of 240 lines. There is no mechanism to crop this in the VIP. Hence application has to allocate a bigger buffer and ignore the extra lines
- Chains: Hardware mosiac link is asserting after few seconds. Because of this, options with hardware mosaic link is not supported (options 6 and 7 as in VS app).
- Chip level pin mux configuration is done through proxy server binaries assuming VS and VC daughter cards. For other custom boards, pin mux configuration should be overwritten from A8.
- Linux installer is not supported
- SDOCM00079969: [Display]: Mosaic Display hangs on swtiching layout when display is running with other mem2mem drivers - Hardware Issue
- SDOCM00079970: [Display]: Display flickering/jumping is observed when mosaic is enabled on display - Hardware Issue
- SDOCM00079976: [Display]: Bottom windows in the mosaic display shift momentarily - Hardware Issue
- SDOCM00079983: [Display]: Hang in mosaic display is observed when display does not fill whole screen - Hardware Issue
- SDOCM00079997: [Capture]: Frame is not getting written in memory - Hardware Issue
- SDOCM00080430: [Capture] Chroma-only tearing for 420 Capture - Hardware Issue
- SDOCM00075717: {Capture] Descriptor is getting missed when writing it to memory - Hardware Issue
- SDOCM00081358: [422->444 converter]: VIP locks up when using YUV422 to YUV444 converter in front of the CSC - Hardware Issue
- SDOCM00081359: [444->422 converter]: VIP locks up when using YUV444 to YUV422 converter behind CSC - Hardware Issue
- SDOCM00081369: [Capture]: VPDMA is not writing write back descriptors when frames are stored in tiled memory - Hardware Issue
- SDOCM00074833: [User Guide] Table of contents missing in HDVPSS user guide
- SDOCM00077713: [Chains] Repeated start/stop with GRPX enable hangs display driver during display start
- SDOCM00078387: [Display]: Mode 1080I is not working on some of the TVs on HDMI output
- SDOCM00080161: Display FVID2_start for HDDAC and then HDMI later leads to HDMI output visible but HDDAC output not visible on TV
- SDOCM00080392: [Capture Vip] Driver create failed with 422SP data format with scaling enabled
- SDOCM00080591: [Chains] Chains sometimes hangs at IOCTL_VPS_VIDEO_DECODER_GET_VIDEO_STATUS ioctl
- SDOCM00080964: [Display] Mosaic layout with one window in last row ending on frame boundary asserts and hangs
- SDOCM00081104: [SDVENC] NTSC output level is 10% less than it should be
- SDOCM00080391: [Capture Vip] Capture driver should not allow upscaling of input image
- SDOCM00081265: [DCTRL] Enable multiple VENC Simultaneously causing problem

TI816x

- SDOCM00074110: [Capture]: ioctl IOCTL_VPS_CAPT_GET_CH_STATUS does not return size of the frame correctly.
- SDOCM00075035: [HDVPSS]codes lost in VpsDlm_startStopClients
- SDOCM00076986: [Chains]: Chains option-9 with the DVO2 output is not working
- SDOCM00077445: [Chains] Multi-CH System use-case hangs in long duration test when display is set as 1080p60
- SDOCM00077446: Multi-CH System use-case hangs in long duration test when dual display is option is used
- SDOCM00078660: [DC]: Component output is shifted for tied venc
- SDOCM00081365: [SD Display] Smaller frame video with YUV422I and YUV422SP data formats results in display hang

TI814x

- SDOCM00081363: [Capture]: Scalar in VIP can cause VIP overflow under high DDR bandwidth on Centaurus PG2.1 - Hardware Issue
- SDOCM00081361: [Capture]: Wrong line width reported for discrete sync capture mode
- SDOCM00078550: [Capture - TI814X] TVP7002 - 24 Bit capture doesn't work as expected

TI814x ES 1

- SDOCM00077344: Stenciling feature is not supported in GRPX display driver - Hardware Limitation
- SDOCM00078546: HDMI PLL doesn't get locked on some of Centaurus boards
- SDOCM00077946: [M2M NSF]SNF only and SNF and TNF both bypass modes not working -- HW bug, will be fixed in next version of silicon

Installation and Usage

Installation and Usage of the HDVPSS package could be found at HDVPSS User Guide

Upgrade and Compatibility Information

Following are the interfaces changes in the HDVPSS drivers compared to the previous release.

- File "$HDVPSS_Install_Dir\packages\ti\psp\vps\fvid2.h" renamed function `FVID2_getStandardInfo` to `FVID2_getModeInfo`
- File "$HDVPSS_Install_Dir\packages\ti\psp\vps\vps_cfgDei.h" added `fldRepeat` flag in structure `Vps_DeiRtConfig` to support field repeat feature at runtime.
- File "$HDVPSS_Install_Dir\packages\ti\psp\vps\vps_m2mDei.h" `VPS_M2M_DEI_MAX_CH_PER_INST` is increased from 16 to 32 to support bypass and non-bypass mode for the same source in 16-channel VS use case.
- File "$HDVPSS_Install_Dir\packages\ti\psp\platforms\vps_platform.h", one more parameter `vipInstId` added to function `Vps_platformSelectVideoDecoder`

Dependencies

This release requires following tools/packages to be installed.

- Code Composer Studio Version: 4.2.0.09000 or 5.0.3.00013
- XDC Tools Version: 3.20.08.88
- BIOS Version: 6.31.04.27
- CG Tool (TMS470) Version: 4.6.4
- IPC: 1.22.05.27

Devices Supported

- TI816x EVM
- TI814x EVM

Application boards supported

- TI816x VS application board
- TI816x VC application board
- TI814x VS application board
- TI814x VC application board

Validation Information

- This release is validated on TI814x/TI816x EVMs for the above mentioned components.

Technical Support and Product Updates

For further information or to report any problems, contact http://e2e.ti.com or http://community.ti.com or http://support.ti.com.

Article Sources and Contributors

TI81xx-HDVPSS-01.00.01.27 ReleaseNotes *Source*: http://ap-fpdsp-swapps.dal.design.ti.com/index.php?oldid=103449 *Contributors*: A0131716, HardikShah, SivarajR, SujithShivalingappa