TI81xx-HDVPSS-01.00.01.28 ReleaseNotes

HDVPSS Version 01.00.01.28

Release Notes
July 27th, 2011

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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.

New in this Release

If migrating from 01.00.01.26 release, kindly refer to 01.00.01.27 release notes present at `$HDVPSS_Install_Dir\docs\relnotes_archive\HDVPSS_ReleaseNotes_01_00_01_27.pdf` for any new features added in that release.

Common

- The HDVPSS platform initializes the PINMUXES required to enable capture / display. Added ability to enable / disable this feature to enable easy support for custom boards.

TI816x

- Bug fixes
- CPROC - Added interface to configure CIECAM and ICIECAM co-efficients in display controller.

TI814x

- Bug Fixes

TI814x ES 2.1

- Supports "Basic" Mode of Discrete Sync capture. This mode is enabled by default. If you were using discrete mode of capture, please ensure to configure the video source to not generate DE during vBlank period.

1. In Release versioned .28 on Silicon versioned 2.0 or later, the VIP is configured not to expect DE during vBlank period
2. In Release versioned .27 on Silicon versioned 2.0 or later, the VIP is configured expect DE during vBlank period

- Support for Catalog Daughter card. Supports capture via TVP7002 in embedded and discrete mode. Other external encoders / decoders are not supported

Installation and Usage

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

Upgrade and Compatibility Information

If migrating from 01.00.01.26 release, kindly refer to 01.00.01.27 release notes present at `$HDVPSS_Install_Dir\docs\relnotes_archive\HDVPSS_ReleaseNotes_01_00_01_27.pdf` for other upgrade information done in that release.

- **Installer** - HDVPSS installer has gone few changes for ease of use. Following are the changes done to the HDVPSS installer.
  - Linux installer is supported for HDVPSS in addition to the Windows installer.
  - Standard HDVPSS installer, for both Linux and Windows, doesn't include the binaries. This is done to avoid huge package size. Binaries can be built after installing the standard HDVPSS installer.
  - One more installer is provided for installing the binaries on top of the standard HDVPSS installer. This installer is not mandatory to install.
  - Standard installer is named in same way as previous HDVPSS installer REL_HDVPSS_01_00_XX_YY.exe for windows installer and REL_HDVPSS_01_00_XX_YY.bin for Linux installer.Installer for binaries is named as REL_HDVPSS_bin_01_00_01_28.exe for Windows installer and REL_HDVPSS_bin_01_00_01_28.bin for Linux installer.
- **Scalar** - Added configuration to enable **Peaking Filter** and **Edge Detection in High Quality Scalar** - Both were enabled (set to TRUE) in previous releases. `"HDVPSS_Install_Dir\packages\ti\psp\vps\vps_cfgSc.h` structure `Vps_ScConfig` is updated to include members `enablePeaking & enableEdgeDetect`
- **Display Controller** Updated File `"$HDVPSS_Install_Dir\packages\ti\psp\vps\vps_displayCtrl.h"`
  - Vps_DcOutputInfo - Data type of member `dataFormat` has been changed to UInt32
  - Vps_DcCreateConfig - Added an member to configure CPROC - Applicable for TI816x only
- **Graphics** - Option to enable periodic callback has been added. `Vps_GrpxCreateParams` updated to include member `periodicCallbackEnable` Updated File `"$HDVPSS_Install_Dir\packages\ti\psp\vps\vps_graphics.h"`
- **Noise Filter** - Option added to perform run time changes. Added structure `Vps_M2mNsfRtParams` in File `"$HDVPSS_Install_Dir\packages\ti\psp\vps\vps_m2mNsf.h"`

  All existing applications needs to assign NULL to perFrameCfg for all the input frames(If they are not using RtParams).
- **FVID2** - Renamed data format enum `FVID2_DF_BGRA16_4441` to `FVID2_DF_BGRA16_4444`
- **Platforms** - Demuxing of input/output pins is now configurable. Application can configure HDVPSS software to demux multiplexed input/output pins or bypass demuxing of input/output pins. Changed File "$HDVPSS_Install_Dir\packages\ti\psp\platforms\vps_platform.h"

Updated the function `Int32 Vps_platformInit (void)` to `Int32 Vps_platformInit(Vps_PlatformInitParams *platformInitPrms)`

- **TVP5158** - `tdmChannelNum` added to `Vps_Tvp5158AudioModeParams` structure in `"$HDVPSS_Install_Dir\packages\ti\psp\devices\vps_tvp5158.h` file.

TI816x

- File "`$HDVPSS_Install_Dir\packages\ti\psp\vps\vps_cfgCproc.h` updated structure `Vps_CprocConfig` to include `ciecamMode`. By default it would set to `VPS_CPROC_CIECAM_MODE_BT601`

Dependencies

This release requires following tools/packages to be installed.

- Code Composer Studio Version: 4.2.0.09000 or 5.0.3.00028
- XDC Tools Version: 3.22.01.21
- BIOS Version: 6.32.01.38
- CG Tool (TMS470) Version: 4.9.0
- IPC: 1.23.01.26

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
- TI814x Catalog application board

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	Beta 1.0	Beta 1.0
Display Controller	Beta 1.0	Beta 1.0
Bypass Path 0/1 Display	Beta 1.0	Beta 1.0
Secondary Path 1 SD Display	Beta 1.0	Beta 1.0
GRPX Path 0/1/2 Display	Beta 1.0	Beta 1.0
NSF M2M	Beta 1.0	Beta 1.0
DEIH-WB0 M2M	Beta 1.0	NA
DEIH-VIP0 SC3 M2M	Beta 1.0	NA
DEIH-WB0-VIP0 SC3 M2M	Beta 1.0	NA
DEI-WB1 M2M	Beta 1.0	NA
DEI-VIP1 SC4 M2M	Beta 1.0	NA
DEI-WB1-VIP1 SC4 M2M	Beta 1.0	NA
DEI-WB0 M2M	NA	Beta 1.0
DEI-WB0-VIP0 SC3 M2M	NA	Beta 1.0
Secondary Path 0 - SC5 M2M	Beta 1.0	Beta 1.0
Bypass Path 0/1 - SC5 M2M	Beta 1.0	Beta 1.0

Secondary Path 0/1 - VIP SC3/4 M2M	Beta 1.0	Beta 1.0
Proxy Server	Beta 1.0	Beta 1.0

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
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.
- Hardware Mosaic feature is not supported because of flicker observed in display when the system is loaded.

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 on VC Daughter card
- All Chains sample applications - tiler is not supported for both VC & VS Daughter card
- Stenciling feature of GRPX Display Driver is not supported

TI814x ES 1

- TNF, SNF, TNF+SNF bypass mode of Noise filter is not supported
- Catalog board is not validated with ES 1.0 version silicon

Fixed in this Release

If migrating from 01.00.01.26 release, kindly refer to 01.00.01.27 release notes present at `$HDVPSS_Install_Dir\docs\relnotes_archive\HDVPSS_ReleaseNotes_01_00_01_27.pdf` for other bugs fixed in that release.

Common

- SDOCM00077713 [Chains] Repeated start/stop with GRPX enable hangs display driver during display start
- SDOCM00081466 [Chains] captureLink commands to change brightness and contrast are swapped
- SDOCM00081420 [Chains] Tiler is not supported because of large heap memory map
- SDOCM00082423 [Chanis] - Tiler should not be supported for options involving scalar link
- SDOCM00080391 [Capture Vip] Capture driver should not allow upscaling of input image
- SDOCM00080392 [Capture Vip] Driver create failed with 422SP data format with scaling enabled
- SDOCM00081415 [VIP Capture] Driver reads/writes to application buffer to collect frame drop statistics
- SDOCM00081462 [Capture]:pid is checked againts wrong value after second list post.
- SDOCM00074440 [Capture] Driver create fails if both stream's format is same and they don't use any VIP modules
- SDOCM00081413 [M2M SC] Performance numbers for option 14 seems to be low
- SDOCM00082351 [Scalar] Peaking enable/disable and EdgeDetect enable/disable now exposed as standard scalar configuratino instead of Advanced scalar configuration.
- SDOCM00082104 [M2mScMultiChan example] 422SP input format is not handled correctly
- SDOCM00082187 [DCtrl] - Vencs are configured even if there is error in vencinfo
- SDOCM00081977 [Display] Driver asserts when number of rows is more than supported rows
- SDOCM00082316 [Display] Resource Conflict Test - Opening the driver 2nd time corrupts the instance object for 1st handle
- SDOCM00081614 [GRPX]Graphics display is not ignoring channel number for queued frames
- SDOCM00081644 [GRPX]missing periodic callback for the GRPX display
- SDOCM00081712 [GRPX] GRPX did not report error back when it detected wrong pitch/data format under frame buffer mode
- SDOCM00082264 [GPRX]GRPX driver failed to open if VENC was set to 1366x768@60 format
- SDOCM00081976 [SDVENC]: DTV timings for PAL are incorrect causing horizontal wrap in the output
- SDOCM00082208 [HDVENC]: There are errors in EAV code in embedded sync output
- SDOCM00082254 [SDVENC] Default coefficients of Chroma Low Pass Filter are wrong.
- SDOCM00081835 [HDVENC HAL] Default coefficients for SDTV YCbCr to RGB conversion are incorrect
- SDOCM00081657 [FVID2] Error handling issues in fvid2_drvMgr code
- SDOCM00082061 resouce conflict between VPS_M2M_INST_MAIN_DEI_SC3_VIP0 and VPS_M2M_INST_SEC0_SC3_VIP0
- SDOCM00082189 [System]Loading of the APPs through syslink loader fails
- SDOCM00081782 [Platform] Access to I2C for different device on EVM is not generic
- SDOCM00081422 [Proxy] Remove Pinmux settings from proxy binary
- SDOCM00081807 [User Guide] Rectify user guide mentioning 16bit discrete mode is supported
- SDOCM00079956 [Doc-HDVPSS] Update of DSS diagram in user guide with correct name for respective driver and overall DSS block diagram

- SDOCM00079957 [HDVPSS-Doc] Add code organization/directory structure in user guide
- SDOCM00082449 (Enhancement) HDVPSS - Release package needs to be easily installed on a linux PC

TI816x

- SDOCM00077445 [Chains] Multi-CH System use-case hangs in long duration test when display is set as 1080p60
- SDOCM00077446 [Chains] Multi-CH System use-case hangs in long duration test when dual display is option is used
- SDOCM00082063 [Chains]: Display is stalling/hanging for VC option-5 (24bit discrete sync capture -> display on DVO2)
- SDOCM00081418 [Chains] Running option 6 & 7 on VS daughter card results in assert after few seconds
- SDOCM00082010 [Chains] VC Option 5 asserts when display resolution is 720P60
- SDOCM00080563 [capture] power cycle is needed for detecting NTSC/PAL
- SDOCM00081527 [DEI_H Scalar]DEI_H scalar hangs for smaller frame size of 20X414
- SDOCM00078660 [DC]: Component output is shifted for tied venc.
- SDOCM00081738 [DCTRL]: Hang in display while stopping if display is connected to tied VENCs via VCOMP MUX
- SDOCM00080562 [display] power cycle is needed for tied VENC setting
- SDOCM00079894 [CPROC]- Interface required to program CIECAM settings of CPROC
- SDOCM00078092 [SII9135] Sii9135 capture on Netra VC EVM via VIP0 does not work

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- SDOCM00081734 [Chains]Clock src is not selected proper for on-chip HDMI
- SDOCM00082548 [Chains]VS option 5 asserts becasue of less heap memory
- SDOCM00081701 VIP overflow bit set when capture is closed and not cleared with VIP reset code at Init
- SDOCM00081904 DM814x Capture: Sample app fails to capture frames for some TVP capture configurations
- SDOCM00081905 DM814x Capture: List Manager Assert for discrete sync capture from TVP7002
- SDOCM00082582 [Display] ON-CHIP HDMI & OFF-CHIP HDMI - No output seen on TV when XDS560V2 emulator is used
- SDOCM00082224 [GRPX] Resource conflict negative test case failing for graphics
- SDOCM00082332 TI814x ES 2.1 PLL - Should not assume DSS PLL is in BYPASS mode [soft reset is missing]
- SDOCM00078653 [Build] Generated files are also packaged for TI814x triDisplay application
- SDOCM00081694 [Platform] TI814x ES 2.1 - PG 2.1 samples are being reported as PG1.0
- SDOCM00081695 [GEL] TI814x L1 Cache is enabled - Should be disabled
- SDOCM00078638 [EXAMPLE] VPS_DC_CLKSRC_VENCD should not be used as clock source for DVO2 venc in TI814X

Known Issues / Limitations

Common

- **INFORMATION** Please refer TI816x ES1.1 or TI814x ES2.1 silicon errata for non-software limitations.
- **INFORMATION** 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.
- **INFORMATION** 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
- **INFORMATION** 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
- SDOCM00082578 [Chains] Applications option 7 & 8 - The statistics reported by application indicates good number of frames are dropped by capture for 1080P input. This is due to scalar application limitation. Scalar can process 1 1920X1080 P input real time, in this application we are trying to scale ~ 3 1080P60.
- SDOCM00080591 [Chains] Chains sometimes hangs at IOCTL_VPS_VIDEO_DECODER_GET_VIDEO_STATUS ioctl
- SDOCM00082577 [Chains] Display displays at 30 FPS instead of 60 FPS, for options 1, 2, 3 & 7
- SDOCM00082578 [Chains] Option 2 & 3 Capture reports field drops
- SDOCM00082421 In drivers involving scalars, the scalar coefficient should be loaded before submitting any request to the driver. If not this will result in list lock-up.
- SDOCM00081214 [M2M DEI] Different input data formats for each channel is not supported in a handle
- SDOCM00081265 [DCTRL] Enable multiple VENC Simultaneously causing problem
- SDOCM00082779 [Display] One frame delay needed between VENC configuration and SIL9022 encoder start
- SDOCM00078387 [Display]: Mode 1080I is not working on some of the TVs on HDMI output
- SDOCM00082575 [Display] DVO1/DVO2/HD DAC ~2 pixels on the left border of the screen is blanked out (cropped)
- SDOCM00082574 [Capture] FID Repetition seen in sample application, provided in the release
- SDOCM00074833 [User Guide] Table of contents missing in HDVPSS user guide

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- SDOCM00080950 [chain] SD display fps is only ~10 fps in chain #8
- SDOCM00074110 [Capture]: ioctl IOCTL_VPS_CAPT_GET_CH_STATUS does not return size of the frame correctly.
- SDOCM00075324 [capture] When TVP5158 is set to CIF, Vps_captPrintAdvancedStatistics() shows 0 fps for even field and 30 fps for odd field
- SDOCM00080161 Display FVID2_start for HDDAC and then HDMI later leads to HDMI output visible but HDDAC output not visible on TV
- SDOCM00075035 [HDVPSS]codes lost in VpsDlm_startStopClients
- SDOCM00081104 [SDVENC] NTSC output level is 10% less than it should be
- SDOCM00082413 [EDE Quality] EDE register settings needs to be fine tuned for sharper image
- SDOCM00075501 [TVP7002]: Brightness from tvp7002 seems to be very low

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- SDOCM00077359 [capture] When TVP5158 is set to mux 4ch CIF mode, VIP overflows during the first field
- SDOCM00081363 [Capture]: Scalar in VIP can cause VIP overflow under high DDR bandwidth on Centaurus PG2.1
- SDOCM00078550 [Capture - TI814X] TVP7002 - 24 Bit Discrete Sync capture doesn't work as expected. Reports wrong width, shaking video. This is a board limitation.
- SDOCM00082403 [GRPX] Observed flickers in Resource conflict test case for graphics - when mutiple planes GRPX is routed to single display
- SDOCM00082548 [Chains] VS Option 5 is not functional. Asserts with out of memory exception.
- SDOCM00082582 [Display] When XDS560 V2 USB emulator is used no output seen on ON-CHIP HDMI & OFF_CHIP HDMI

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, Fixed in ES2.1 silicon

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.

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