TI81xx-HDVPSS-01.00.01.35 ReleaseNotes

HDVPSS Version 01.00.01.35

Release Notes
December 12th, 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

Common

- M2M SC Driver: Supports different input data formats for the channels on the same handle.
  - Now application could create channels with different data formats like YUV422I, YUV420SP or YUV422SP on the same handle. And application could also queue channels with different data formats in a single request (process frame call).
- M2M DEI and SC Drivers: Supports dynamic input data format change for the channels using runtime parameters.
- **Interface changes:**
  - `dataFormat` parameter has been added to structure `Vps_FrameParams` to support runtime change in input data format.
    - Application should set this parameter to a valid value in case it changes the input frame params at runtime. If no change in needed while changing other frame parameters, it should initialize this parameter to the value provided at create time.

TI816x

- Defect Fixes

TI814x

- Defect Fixes

Installation and Usage

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

Upgrade and Compatibility Information

If migrating from a older release, kindly refer to release notes present at `$HDVPSS_Install_Dir\docs\relnotes_archive\HDVPSS_ReleaseNotes_01_00_01_xx.pdf` for other upgrade information done in those releases.

- **Runtime Frame Parameter** - `dataFormat` parameter has been added to structure `Vps_FrameParams` to support runtime change in input data format.
  - Application should set this parameter to a valid value in case it changes the input frame params at runtime. If no change in needed while changing other frame parameters, it should initialize this parameter to the value provided at create time.

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: 3.22.04.46
- BIOS Version: 6.32.05.54
- CG Tool (TMS470) Version: 4.9.2
- IPC: 1.23.05.40

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
- TI816x Catalog 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-VIP0 SC3 M2M	NA	Beta 1.0
DEI-WB0-VIP0 SC3 M2M	NA	Beta 1.0
SC2-WB1 M2M	NA	Alpha 1.0
SC4-VIP1 M2M	NA	Alpha 1.0
SC2-SC4-WB1-VIP1 M2M	NA	Alpha 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 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

Common

- SDOCM00086988 - [Scaler] Providing user coefficient pointer results in assertion in capture driver
- SDOCM00086370 - [Capture] User-provided scCoeffConfig is not taken into account in createArgs or IOCTL_VPS_CAPT_SET_SC_PARAMS ioctl

TI816x

- None

TI816x ES2.0

- None

TI814x

- None

Known Issues / Limitations

Common

- **INFORMATION** Please refer TI816x ES1.1, TI816x ES2.0 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
- **INFORMATION** For few versions(F,G,H) of TI816x base board we observed that vip clock polarity should be set to falling edge from application, else we see video not getting detected.Yet to root cause this issue.

  :vipPortCfg.pixClkEdgePol = VPS_VIP_PIX_CLK_EDGE_POL_FALLING;
- 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
- 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)
- SDOCM00086237 [display] VENC timings are not as per the CEA standards
- SDOCM00082574 [Capture] FID Repetition seen in sample application, provided in the release
- SDOCM00074833 [User Guide] Table of contents missing in HDVPSS user guide
- SDOCM00084444 [m2mSc] Sub-frame scaling output file shows blank first sub-frame when Lazy Loading is enabled
- SDOCM00084823 Fps found is wrong for 480P display mode while running Mosaic Display Sample APP
- SDOCM00084655 [capture] VIP_Parser or inline SC should trim VBLK area in case of discrete sync with active video from TVP7002
- SDOCM00084843 [Capture] Seeing 24ms in periodic mode call back = false
- SDOCM00086751 [Capture]: Resource Allocation fails for RGB input and YUV420+RGB output
- SDOCM00086715 [Vipcapture]Framerate drops when HDMI is connected/disconnected
- SDOCM00086714 [TVP7002]Overflow happens when resolution is changed without stopping capture driver.
- SDOCM00086795 [CSCHal]:CSC HAL asserts for custom coefficients
- SDOCM00086506 [documentation]FVID2_allocBuffer is explained in userGuide but in code its missing

TI816x (ES1.1 and ES2.0)

- 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
- SDOCM00086092 [Capture TVP5158] VIP detection test case failed for non muxed embedded sync mode for VIP1 Port A/B and ALL instance.
- 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
- SDOCM00084836 [Capture] When inline CSC is used, descriptor reports all fields as even for interlaced input

- SDOCM00084168 [caputreApp]Memory leak while alloc and freeing of frames

TI816x ES 2.0

- SDOCM00084807 [Chains] Lot of FID repeat seen in VS chains for most of the channels in long run
- SDOCM00082781 [Display] SEC1 display on SD VENC hangs for smaller frame size. This is also observed for TI814x ES2.1
- SDOCM00085418 [VESA Display] Hoizontal shift is observed in VESA display through HDDAC (using internal syncs) in TI816x PG2.0

TI814x

- 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.
- SDOCM00084050 [CAPTURE]: Centaurus DSS Line Mux mode with 1/2 D1 resolution from TVP5158 is resulting in device hang
- SDOCM00086742 [Capture] VIP Overflows when creating the capture driver in 8 bit discerete sync mode. Can re-cover by applying VIP reset
- SDOCM00082582 [Display] When XDS560 V2 USB emulator is used no output seen on ON-CHIP HDMI & OFF_CHIP HDMI
- SDOCM00082403 [GRPX] Observed flickers in Resource conflict test case for graphics - when mutiple planes GRPX is routed to single display
- SDOCM00082571 [M2M DEI] First frame is shifted down when looking at the TI814x sample application output
- SDOCM00086719 [PLL]Jittter is observed on PLL outputs on Centaurus.

TI814x ES 1.0

- 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.

Article Sources and Contributors

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