

# VAYU-BSP-01.00.01.02 ReleaseNotes

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## BSP Version 01.00.01.02

### Release Notes

27th November, 2012

## Important Note

This release is for TDA2SEDx (Vayu) and TI814x platforms.

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## Introduction

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

## New in this Release

- This is the first release for FVID2 Display (DSS) driver.
- Capture (VIP) driver validated on TDA2SEDx Virtio Simulator
- Bug fixes

## Installation and Usage

Installation and Usage of the BSP package could be found at BSP\_UserGuide

## Upgrade and Compatibility Information

- **Memory Map**
  - 256 MB or 512MB second partition memory is mapped to 0xA0000000 instead of 0xC0000000 for TI814x platforms and accordingly the gel file configuration is changed. Hence the TI814x GEL file present at BSP\_Insall\_Dir\docs\ti814x\TI814x\_ES\_2x\_evm\_A8\_ddr3.gel should be used.
- **VIP Capture**
  - None
- **DSS Display**
  - This is the first release for Display (DSS) driver, core and HAL for TDA2SEDx. This package has been verified/validated on TDA2SEDx Virtio Simulator.
- **FVID2**
  - Macro FVID2\_MAX\_FVID\_FRAME\_PTR replaced with FVID2\_MAX\_FRAME\_PTR

## Dependencies

This release requires following tools/packages to be installed.

- Code Composer Studio Version: 5.1.0.09000
- XDC Tools Version: 3.24.02.30
- BIOS Version: 6.34.03.19
- CG Tool (TMS470) Version: 5.0.1

## Devices Supported

- TDA2SEDx Virtio Simulator [Phase 5]
- TDA2SEDx VIP Simulator [0.2.5.0]
- TI814x EVM [PG 2.1]

## Application Boards Supported

- TI814x VS application board
- TI814x VC application board
- TI814x Vision application board
- TI814x Catalog application board

## What is Supported

### Common

- Supports for TDA2SEDx SIM/VIRTIO and TI814x EVMs
- Supports FVID2 interfaces for all the supported drivers
- Package includes BSP driver sources, sample applications that demonstrate use of drivers and sample applications executables
- BIOS SMP mode is enabled and tested
- Benelli M4 Core 0 for TDA2SEDx and Ducati M3 Core 1 for TI814x
- Virtual to physical address translation for VPDMA descriptor memory is supported

### Capture Drivers

- Supports VIP capture driver (4 instance on TI814x and 12 instance on TDA2SEDx)
- Support for TVP5158, TVP7002 and MT9v022 devices for TI814x daughter cards

### Display Drivers

- Supports DSS display driver with Video1 pipeline going to DPI1 (Only for TDA2SEDx)
- Supports basic display controller driver to set the display paths and VENC resolution

Current Resolution is set to NTSC 720 \* 480 from the application.  
As the virtio dumb-panel resolution is by default 240 \* 320, it can be changed as follows:

1. Browse to `VPVayu::SDP::Vayu::DumbPanel`
2. Right-click Show Parameters and you will find `LCD_Height` and `LCD_Width` parameters
3. Set appropriately for the desired resolution

- Frame change is very fast because DSS interrupts are too fast in comparison to M4 speed on virtio, thus resulting in task starvation. So Display Controller refresh rate needs to be changed to higher value. Steps as follows:

1. Browse to `VPVayu::SDP::Vayu::Displaycontroller`
2. change the Refresh rate to 200000 instead of current 20000

- Gel file `TDA2SEdx_xbar_config` is required to get the interrupts for DSS, It can be found in `$BSP_Install_Dir\docs\tda2sedx\`

## Features

### VIP Capture Driver Features

Feature	Supported	Tested
12 instances (3 VIP x 2 Slice x 2 Port)	YES	YES (4 on TI814x EVM, 12 on TDA2SEdx SIM)
8/16-bit Embedded Sync	YES	YES
8/16/24-bit Discrete Sync	YES	YES (only 16-bit VSYNC/HSYNC mode)
YUV422I, YUV420SP, RGB888 output formats	YES	YES
YUV422SP, YUV444 output formats	NO	NO
Sub-frame based capture	YES	YES (only on TI814x)
Sub-frame based OTF use case	YES	NO
Bypass mode	YES	NO
Inline SC	YES	YES
Inline CSC	YES	YES
Configurable VPDMA Line Limit Feature	YES	YES
Buffer Capture Modes - drop frame, last frame repeat, circular frame repeat	YES	YES
Frame Drop IOCTL	YES	YES
Instance and channel status	YES	YES
Re-packer	YES	YES (only on TDA2SEdx Zebu)

### DSS Display Driver Features

Feature	Supported	Tested
1 instances (Video1 to DPI1)	YES	YES
16-bit Embedded Sync	YES	YES
8/16/24-bit Discrete Sync	NO	NO
YUV422I (YUYV) input formats	YES	YES
YUV420SP, RGB888, YUV444, YUV422I (UYVY) input formats	NO	NO
Bypass mode	NO	NO
Inline SC	NO	NO
Inline CSC	YES	YES
Blending	NO	NO

## Driver Maturity

### Driver Maturity

Driver	TDA2SEDx	TI814x
VIP Capture	Pre-Alpha 1.0	Pre-Alpha 1.0
DSS Display	Pre-Alpha 1.0	NA

## Supported/Validated Examples

### Supported/Validated Examples

Examples	TDA2SEDx-VIRTIO	TDA2SEDx-SIM	TI814x-EVM
VIP Capture	YES (Only last two options)	YES (Only last two options)	NO
VIP Sub-frame	NO	NO	NO
DSS Display	YES	NA	NA

- Examples could be found at `$BSP_Install_Dir\packages\ti\bsp\examples\common\vps\`

## What is Not Supported

### Common

- Checking for most of the input parameters for out of range and invalid values is not done
- Scaler lazy loading and user coefficient loading are not supported in VIP capture driver
- VIP Reset IOCTL is not supported in VIP capture driver. The driver internally resets the VIP during driver create. In case of TI814x, the whole VIP is reset and hence any capture operation on other port during create of a port will be affected.
- Detailed TI81xx to TDA2SEDx driver migration guide is not provided. Instead an overview of the migration guide PPT is provided in the docs folder.
- Mux-mode VIP capture is not supported
- Multiple stream outputs from same video source is not supported

### TDA2SEDx

- None

### TI814x

- None

## Fixed in this Release

### Fixed in this Release

ID	Headline	Module	Remarks
OMAPS00285029	[Capture] Null frames are dequeued after capture stop	Capture Driver	NA

### Known Issues / Limitations

#### Known Issues

ID	Headline	Module	Workaround
OMAPS00285667	[Capture] R and B are swapped in memory for RGB888 output from VIP with YUV Input	Capture Driver	None
OMAPS00285668	[Capture] When VIP in-line scaling is performed, overflow is observed for every frame	Capture Driver	None
OMAPS00285669	[Capture] YUV422SP and YUV444 output from VIP is not working	Capture Driver	None
OMAPS00285670	[Capture] Back-to-back running of test cases involving different paths within VIP results in no capture	Capture Driver	Application can reset CPU and reload application for running a different VIP configuration test

#### VIP Capture Driver

- 8/16/24-bit RAW output - No support in EVM
- RGB888 input to VIP - No support in EVM/Simulator
- Various discrete sync modes except HSYNC/VSYNC mode - No support in EVM

#### DSS Driver

- Different pitch support is currently not supported. Hence the video size, LCD size and pitch have to be the same.

#### Validation Information

- This release is validated on TDA2SEDx VIRTIO/SIM and TI814x ES2.1 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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