Release Notes

Applies to Product Release: 01.02.04.05

Publication Date: 14 November, 2014

1. Overview

This document is the **Release notes** of the StarterWare package. StarterWare release provides no-OS platform support for TDA1Mxx, TDA2xx and TDA3xx. The StarterWare package contains Device Abstraction Layer libraries and peripheral/board level sample/demo examples that demonstrate the capabilities of the peripherals on TDA1Mxx, TDA2xx and TDA3xx.

TDA1Mxx device family is a derivative of TMS320DM8148 that supports Advanced Driver Assistance Systems (ADAS) applications. For more information about the TDA1Mxx device family, please contact your local TI sales representative. For more information about TMD320DM814x, please visit http://www.ti.com/product/tms320dm8148.

TDA2xx is a high-performance, automotive vision application device based on enhanced OMAP™ architecture integrated on a 28-nm technology. The architecture is designed for Advanced Driver Assistance applications, including Vision Analytics for Single/Dual Front Camera, LVDS/Ethernet Surround View, Night Vision, Blind Spot Detection, Sensor Fusion and LIDAR, among others, and best-in-class CPU performance, video, image, and graphics processing sufficient to support

– Streaming video up to full high definition (Full-HD) (1920×1080p, 60 fps)

– 2-dimensional (2D) and 3-dimensional (3D) graphics.

TDA3x is an ADAS application device based on enhanced OMAP™ architecture integrated on a 28-nm technology. TDA3x complements the TDA2x ADAS device family by using a common architecture, enabling scalability from entry to high performance for a broad range of applications. The device family is targeted at ADAS applications including Front Camera, Intelligent Rear Camera, Radar and Mirror Replacement.

2. Documentation

List of documents provided in the package

- StarterWare_Userguide.pdf
- StarterWare_API_Reference.chm
- SBL_Userguide.pdf
- StarterWare_DataSheet.pdf

StarterWare 01.02.04.05

Installation

To install TDA1Mxx, TDA2xx and TDA3xx StarterWare on your PC, run the StarterWare installer (starterware_setupwin32_01_02_04_05.exe). The installer allows you to choose the installation directory. The TDA1Mxx, TDA2xx and TDA3xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ starterware_01_02_04_05").

New In this Release

- Added support for identifying 12X12 SVB (Silicon Validation Board) in StarterWare.
- Added support for 12X12 SVB in tda3xx SBL.
- Added support for MICRON flash in QSPI Flash lib.
- Added Junction Temperature sensing example for TDA2xx and TDA3xx which helps read the thermal BGAP sensor values and also monitor thermal events on different voltage rails.
- Bug fixes
    1. OMAPS00293758 CRED folder cleaning up with respect to TRM aligned HW files.
    2. OMAPS00311706 Update the MPU and CORE domain voltages
    3. OMAPS00315515 [DCAN Example] DCAN Loopback example is not validated on M4 for Tda2xx
    4. OMAPS00315518 [DCAN] While running Dcan loopback example back to back , DCAN RAM Intialization fails
    5. OMAPS00315776 Wrong voltage value programmed when e-fuse reads 0
    6. OMAPS00315837 CLocks wrongly configured in tda2xx SBL
    7. OMAPS00314720 Sometimes RBL doesn't boot up SBL

Upgrade and Compatibility Information

Below are the interface changes in starterware:

- To use Micron flash QSPI_Initialize API should be called with parameter DEVICE_TYPE_MICRON_QSPI4 for QSPI-4 bit mode and

DEVICE_TYPE_MICRON_QSPI1 for QSPI-1 bit mode. There is no compatibility break if Spansion flash is used.

- TDA2xx SBL now forces MPU-1 off unconditionally.

Supported/ Validated Examples

StarterWare examples are supported for multiples cores and multiple platforms. In case of A8 core on TI814x multiple tool chains are supported. The following legend is applicable to a particular core on a particular platform and for a particular tool chain (Only in case of A8 and TI814x):

- Yes – Example is supported and tested successfully for this release
- NA – Example is not supported on the core for the particular platform
- NT – Example is supported but not tested for this release
- No – Example is supported but fails for this release

Example	Folder	TI814X			
		A8 CGT	A8 GCC	M3	C674x
ddr_test_app	examples\ddr_stress_test	Yes	Yes	NA	NA
edma_test_app	examples\edma_test	Yes	Yes	Yes	Yes
i2c_eeprom_app	examples\i2c\i2c_eeprom_app	Yes	Yes	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	Yes	Yes	NA
mailbox_app	examples\mailbox	Yes	Yes	Yes	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	Yes	Yes	Yes	NA
mcspi_app	examples\mcspi	Yes	Yes	Yes	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NT	NA
mcspiSlave_app	examples\mcspiMasterSlave\slave	NT	NT	NT	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	NA	Yes
nor_edma_read	examples\nor\nor_edma_read	Yes	Yes	NA	NA
sensor_config_app	examples\ov10630_sensor	NT	NT	NT	NA
timer_app	examples\timer	Yes	Yes	Yes	Yes
vipCapt	examples\vipCapt	NA	NA	NT	NA

Example	Folder	TDA2XX		
		A15	M4	C66x
DssApp	examples\DssApp	NA	Yes	NA
boot_app	examples\boot	Yes	NA	NA
ddr_test_app	examples\ddr_stress_test	Yes	NA	NA
edid_programmer	examples\i2c_diag_test\edid_programmer	Yes	NA	NA
edma_test_app	examples\edma_test	Yes	Yes	NA
eeprom_app	examples\i2c_diag_test\eeprom_i2c	Yes	NA	NA
gpio_exp_app	examples\i2c_diag_test\i2c_gpio_expander	Yes	NA	NA
gpio_input_interrupt_app	examples\gpio\gpio_input_interrupt	Yes	NA	NA
gpio_output_app	examples\gpio\gpio_output	Yes	NA	NA

i2c_eeprom_app	examples\i2c\i2c_eeprom_app	Yes	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	NA	NA
i2c_test_app	examples\i2c_diag_test\i2c_all	Yes	NA	NA
mailbox_app	examples\mailbox	Yes	Yes	Yes
mcaspBurstTransmit_app	examples\mcasp\mcasp_bursttransmit	NT	NT	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	NT	NT	NA
mcasp_sinetone_app	examples\mcasp\mcasp_sinetone	Yes	NA	Yes
mcspiMasterSlave_app	examples\mcspiMasterSlave\masterslave	Yes	Yes	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NA
mmcsd_fileIO_app	examples\sd_fileIO	Yes	NA	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	Yes
mmu_translation_fault_handle_app	examples\mmu\translation_fault_handle	Yes	NA	Yes
nor_edma_read	examples\nor\nor_edma_read	NA	NT	NA
nor_read_write	examples\nor\nor_read_write	NT	NA	NA
ocmc_app	examples\ocmc\ocmc_basic	Yes	Yes	NA
pcie_app_ep_write_loopback	examples\pcie\write_loopback\ep	NT	NA	NA
pcie_app_rc_write_loopback	examples\pcie\write_loopback\rc	NT	NA	NA
pmic_app	examples\i2c_diag_test\pmic_i2c	Yes	NA	NA
qspi_test_app	examples\qspi_test	Yes	Yes	NA
sensor_config_app	examples\ov10630_sensor	Yes	NA	NA
spinlock_test	examples\spinlock_test	Yes	Yes	Yes
temp_sensor_app	examples\i2c_diag_test\i2c_temp_sensor	Yes	NA	NA
timer_app	examples\timer	Yes	Yes	Yes
uart1_test_app	examples\uart\uart1	Yes	NA	NA
uart3_test_app	examples\uart\uart3	NT	NA	NA
uart_edma_test	examples\uart\uart_edma	Yes	Yes	NA
uart_intr_test	examples\uart\uart_intr	NA	Yes	NA
uart_test	examples\uart\uart_test	Yes	NA	NA
videoLoopback	examples\videoLoopback	NA	Yes	NA
vipCapt	examples\vipCapt	NA	Yes	NA
wdtimer_app	examples\wdtimer	Yes	NA	NA
pm_cpuidle_test_app	examples\pm\cpuidle	NT	NA	NA
dcan_app_loopback	Examples\dcan\dcanLoopback	Yes	Yes	NA

Example	Folder	TDA3XX	
		M4	C66x
DssApp	examples\DssApp	Yes	NA
boot_app	examples\boot	Yes	NA
ddr_test_app	examples\ddr_stress_test	Yes	NA
edma_test_app	examples\edma_test	Yes	NA
eeprom_app	examples\i2c_diag_test\eeprom_i2c	Yes	NA
gpio_input_interrupt_app	examples\gpio\gpio_input_interrupt	Yes	NA
gpio_output_app	examples\gpio\gpio_output	Yes	NA

i2c_eeprom_app	examples\i2c\i2c_eeprom_app	Yes	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	NA
mailbox_app	examples\mailbox	Yes	Yes
mcspiMasterSlave_app	examples\mcspiMasterSlave\masterslave	No	NA
mmcsd_fileIO_app	examples\sd_fileIO	Yes	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	Yes
mmu_translation_fault_handle_app	examples\mmu\translation_fault_handle	Yes	Yes
nor_edma_read	examples\nor\nor_edma_read	Yes	NA
nor_read_write	examples\nor\nor_read_write	Yes	NA
ocmc_app	examples\ocmc\ocmc_basic	Yes	Yes
pmic_app	examples\i2c_diag_test\pmic_i2c	Yes	NA
qspi_test_app	examples\qspi_test	Yes	NA
sensor_config_app	examples\ov10630_sensor	Yes	NA
spinlock_test	examples\spinlock_test	Yes	Yes
temp_sensor_app	examples\i2c_diag_test\i2c_temp_sensor	Yes	NA
timer_app	examples\timer	Yes	Yes
uart1_test_app	examples\uart\uart1	Yes	NA
uart2_test_app	examples\uart\uart2	Yes	NA
uart3_test_app	examples\uart\uart3	Yes	NA
uart_edma_test	examples\uart\uart_edma	Yes	NA
uart_intr_test	examples\uart\uart_intr	Yes	NA
edid_programmer	examples\i2c_diag_test\edid_programmer	Yes	NA
uart_test	examples\uart\uart_test	Yes	NA
videoLoopback	examples\videoLoopback	Yes	NA
vipCapt	examples\vipCapt	Yes	NA
dcan_app_loopback	examples\dcan\dcanLoopback	Yes	NA
rti_app	examples\rti	NT	NA

- **Release Content**

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP, McSPI, OCMC, QSPI, SBL,MMU, Timer, MMCSD, PCIe, DCAN, RTI, CRC and WDTimer
Libs	I2C, QSPI, FAT, NOR, VPS (VIP, DSS, VPE, ISS) and PM
Utils	Uart console
Examples	Examples for the supported hal peripheral drivers.
Bootloader	SBL bootloader for TDA2xx and TDA3xx platform. Validated QSPI and QSPI_SD bootmode on TDA3xx EVM.

- **Known Issues**

S. No.	CQ Id	Headline	Release Version
1	OMAPS00297890	McSPI master slave sample app not validated on ti814x	StarterWare_00_02_01_11
2	OMAPS00298489	[STW] Enable Semi-hosting in Cortex-A15 build system	StarterWare_00_02_02_12
3	OMAPS00298854	[SBL] - Bring MPU_CPU1 core out of reset	StarterWare_01_00_00_14
4	OMAPS00300001	Apps for various peripherals not validated on ti814x	StarterWare_01_00_01_15
5	OMAPS00303388	File Conversion to Windows Format On Installing STW package	StarterWare_01_00_02_16
6	OMAPS00307878	[I2C] "1.5 System I2C hang due to miss of Bus Clear support" Errata workaround needs to be implemented	Starterware_01_01_01_18
7	OMAPS00307879	[GP Timer] "1.8 Delay needed to read some GP timer registers after wakeup" Errata workaround needs to be implemented	Starterware_01_01_01_18
8	OMAPS00307880	[DSS] "1.10 LCDENABLE Not Functional" Errata workaround needs to be implemented	Starterware_01_01_01_18
9	OMAPS00308667	ABB is not tested by verifying the bias voltage at the bias capacitor	StarterWare_01_01_02_19
10	OMAPS00310939	Hang while doing IO recalibration in NOR bootmode	StarterWare_01_01_02_19
11	OMAPS00311967	[GEL] Change needed to DPLL_ABE configuration	StarterWare_01_01_03_20
12	OMAPS00312717	Random display controller failure observed on some TDA2x EVMS	StarterWare_01_01_03_20
13	OMAPS00312927	Temp sensor APP fails when we run the	StarterWare_01_02_01_02

		starterware tests back to back	
15	OMAPS00312928	videoLoopback App : FPS is observed as 58 instead of 60	StarterWare_01_02_01_02
16	OMAPS00312939	Sometimes Junk charectors are seen on the UART1 terminal of tda3xx	StarterWare_01_02_01_02
17	OMAPS00313546	MMCSD file IO app returns file create error on second run for tda3xx	StarterWare_01_02_01_02
18	OMAPS00314037	Starterware Video examples are not integrated properly wrt Board module	StarterWare_01_02_01_02
19	OMAPS00314097	[starterware] mcspi spi1tospi2 test fails for tda3xx	StarterWare_01_02_02_03
21	OMAPS00314648	Sometimes AppImage isn't booting with SBL on tda3xx	StarterWare_01_02_02_03
22	OMAPS00314660	[DSS]- Frame height should be used for Interlaced display	StarterWare_01_02_02_03
23	OMAPS00315251	IO Delay Programming Needs to be done based on design recommendation	StarterWare_01_02_03_04
24	OMAPS00315516	[DCAN DAL] While running Dcan loopback example, Dcan Receive message object is updated with incorrect fifoEOBFlag value	StarterWare_01_02_03_04
25	OMAPS00315892	NOR flash writer cannot access regions above 16 MB	StarterWare_01_02_04_05

- **Build Dependencies**

Tool chain	Version	Description
TMS470 CG	5.1.5	Compiler for Cortex A8
TMS470 CG	5.1.5	Compiler for Cortex M3 and Cortex M4
C6000 CG Tool	7.4.2	Compiler for C674x and C66x
CCS	5.5.0.00077	Code composer studio to load and run the application. Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc.
Linaro bare-metal GCC	Linaro GCC 4.7.2013q3	Compiler for Cortex A8 GCC
Linaro bare-metal GCC	Linaro GCC 4.7.2013q3	Compiler for Cortex A15

StarterWare 01.02.03.04

- **Installation**

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New In this Release

- Added Support for DCAN HAL Library.
  - DCAN Board to Board Is not yet tested, only loopback (Tx to Rx) in test mode is tested.

- Power Management (PM) HAL APIs have been added for the TDA3xx device. The PM HAL abstraction for the following:
  - Voltage Domain & PMIC configuration
  - Power Domain Configuration
  - Clock Domain Configuration
  - Reset Domain Configuration
  - Module Mode Configuration from PRCM and IP Sysconfig register configuration.
  - Static Dependency Configuration
  - Temperature BGAP Sensor Configuration.
  - PRCM Interrupt Configuration.
- Added Support for RTI and CRC HAL Library

- Bug fixes
  1. OMAPS00312591Setting Video position doesn't work in release mode
  2. OMAPS00313734[MMC HAL] Wrong value is written in SYSCONFIG register in HSMMCSDSystemConfig API.
  3. OMAPS00314146Power Optimized SBL Boot Fails when no valid app image is present

Upgrade and Compatibility Information

Below are the interface changes in starterware:

- Removed API SBLLibLoadAppImage() from interface file include/sbl_lib.h and moved to internal file bootloader/sbl/src/sbl_tda3xx_priv.h.

Supported/ Validated Examples

StarterWare examples are supported for multiples cores and multiple platforms. In case of A8 core on TI814x multiple tool chains are supported. The following legend is applicable to a particular core on a particular platform and for a particular tool chain (Only in case of A8 and TI814x):

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Example	Folder	TI814X			
		A8 CGT	A8 GCC	M3	C674x
ddr_test_app	examples\ddr_stress_test	NT	NT	NA	NA
edma_test_app	examples\edma_test	NT	NT	NT	NT
i2c_eeprom_app	examples\i2c\i2c_eeprom_app	NT	NT	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	NT	NT	NT	NA
mailbox_app	examples\mailbox	NT	NT	NT	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	NT	NT	NT	NA
mcspi_app	examples\mcspi	NT	NT	NT	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NT	NA
mcspiSlave_app	examples\mcspiMasterSlave\slave	NT	NT	NT	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	NA	NT
nor_edma_read	examples\nor\nor_edma_read	NT	NT	NA	NA
sensor_config_app	examples\ov10630_sensor	NT	NT	NT	NA
timer_app	examples\timer	NT	NT	NT	NT
vipCapt	examples\vipCapt	NA	NA	NT	NA

Example	Folder	TDA2XX		
		A15	M4	C66x
DssApp	examples\DssApp	NA	Yes	NA
boot_app	examples\boot	Yes	NA	NA
ddr_test_app	examples\ddr_stress_test	Yes	NA	NA
edid_programmer	examples\i2c_diag_test\edid_programmer	Yes	NA	NA
edma_test_app	examples\edma_test	Yes	Yes	NA
eeprom_app	examples\i2c_diag_test\eeprom_i2c	Yes	NA	NA

gpio_exp_app	examples\i2c_diag_test\i2c_gpio_expander	Yes	NA	NA
gpio_input_interrupt_app	examples\gpio\gpio_input_interrupt	Yes	NA	NA
gpio_output_app	examples\gpio\gpio_output	Yes	NA	NA
i2c_eeprom_app	examples\i2c\i2c_eeprom_app	Yes	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	NA	NA
i2c_test_app	examples\i2c_diag_test\i2c_all	Yes	NA	NA
mailbox_app	examples\mailbox	Yes	Yes	Yes
mcaspBurstTransmit_app	examples\mcasp\mcasp_bursttransmit	NT	NT	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	NT	NT	NA
mcasp_sinetone_app	examples\mcasp\mcasp_sinetone	Yes	NA	Yes
mcspiMasterSlave_app	examples\mcspiMasterSlave\masterslave	Yes	Yes	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NA
mmcsd_fileIO_app	examples\sd_fileIO	Yes	NA	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	Yes
mmu_translation_fault_handle_app	examples\mmu\translation_fault_handle	Yes	NA	Yes
nor_edma_read	examples\nor\nor_edma_read	NA	NT	NA
nor_read_write	examples\nor\nor_read_write	NT	NA	NA
ocmc_app	examples\ocmc\ocmc_basic	Yes	Yes	NA
pcie_app_ep_write_loopback	examples\pcie\write_loopback\ep	NT	NA	NA
pcie_app_rc_write_loopback	examples\pcie\write_loopback\rc	NT	NA	NA
pmic_app	examples\i2c_diag_test\pmic_i2c	Yes	NA	NA
qspi_test_app	examples\qspi_test	Yes	Yes	NA
sensor_config_app	examples\ov10630_sensor	Yes	NA	NA
spinlock_test	examples\spinlock_test	Yes	Yes	Yes
temp_sensor_app	examples\i2c_diag_test\i2c_temp_sensor	Yes	NA	NA
timer_app	examples\timer	Yes	Yes	Yes
uart1_test_app	examples\uart\uart1	Yes	NA	NA
uart3_test_app	examples\uart\uart3	Yes	NA	NA
uart_edma_test	examples\uart\uart_edma	Yes	Yes	NA
uart_intr_test	examples\uart\uart_intr	NA	Yes	NA
uart_test	examples\uart\uart_test	Yes	NA	NA
videoLoopback	examples\videoLoopback	NA	Yes	NA
vipCapt	examples\vipCapt	NA	Yes	NA
wdtimer_app	examples\wdtimer	Yes	NA	NA
pm_cpuidle_test_app	examples\pm\cpuidle	NT	NA	NA
DCAN	Examples\dcan\dcanLoopback	Yes	NT	NA

Example	Folder	TDA3XX	
		M4	C66x
DssApp	examples\DssApp	Yes	NA
boot_app	examples\boot	NR	NA
ddr_test_app	examples\ddr_stress_test	Yes	NA
edma_test_app	examples\edma_test	Yes	NA

eeprom_app	examples\i2c_diag_test\eeprom_i2c	Yes	NA
gpio_input_interrupt_app	examples\gpio\gpio_input_interrupt	Yes	NA
gpio_output_app	examples\gpio\gpio_output	Yes	NA
i2c_eeprom_app	examples\i2c\i2c_eeprom_app	Yes	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	NA
mailbox_app	examples\mailbox	Yes	Yes
mcspiMasterSlave_app	examples\mcspiMasterSlave\masterslave	No	NA
mmcsd_fileIO_app	examples\sd_fileIO	Yes	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	Yes
mmu_translation_fault_handle_app	examples\mmu\translation_fault_handle	Yes	Yes
nor_edma_read	examples\nor\nor_edma_read	Yes	NA
nor_read_write	examples\nor\nor_read_write	Yes	NA
ocmc_app	examples\ocmc\ocmc_basic	Yes	Yes
pmic_app	examples\i2c_diag_test\pmic_i2c	Yes	NA
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uart2_test_app	examples\uart\uart2	Yes	NA
uart3_test_app	examples\uart\uart3	Yes	NA
uart_edma_test	examples\uart\uart_edma	Yes	NA
uart_intr_test	examples\uart\uart_intr	Yes	NA
edid_programmer	examples\i2c_diag_test\edid_programmer	Yes	NA
uart_test	examples\uart\uart_test	Yes	NA
videoLoopback	examples\videoLoopback	Yes	NA
vipCapt	examples\vipCapt	Yes	NA
DCAN	examples\dcan\dcanLoopback	Yes	NA
RTI	examples\rti	NT	NA

- **Release Content**

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HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP, McSPI, OCMC, QSPI, SBL,MMU, Timer, MMCSD, PCIe, DCAN,RTI,CRC and WDTimer
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Utils	Uart console
Examples	Examples for the supported hal peripheral drivers.
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11	OMAPS00311706	Update the MPU and CORE domain voltages	StarterWare_01_01_03_20
12	OMAPS00311967	[GEL] Change needed to DPLL_ABE configuration	StarterWare_01_01_03_20
13	OMAPS00312029	Random Display controller assert observed if HDMI is not connected -fixed by a WA in	StarterWare_01_01_03_20

		STW to mask the HDMI power on status	
15	OMAPS00312717	Random display controller failure observed on some TDA2x EVMS	StarterWare_01_01_03_20
16	OMAPS00312927	Temp sensor APP fails when we run the starterware tests back to back	StarterWare_01_02_01_02
17	OMAPS00312928	videoLoopback App : FPS is observed as 58 instead of 60	StarterWare_01_02_01_02
18	OMAPS00312939	Sometimes Junk charectors are seen on the UART1 terminal of tda3xx	StarterWare_01_02_01_02
19	OMAPS00313546	MMCSD file IO app returns file create error on second run for tda3xx	StarterWare_01_02_01_02
21	OMAPS00314037	Starterware Video examples are not integrated properly wrt Board module	StarterWare_01_02_01_02
22	OMAPS00314097	mcspi spi1tospi2 test fails for tda3xx	StarterWare_01_02_02_03
23	OMAPS00314660	[DSS]- Frame height should be used for Interlaced display	StarterWare_01_02_02_03
24	OMAPS00314720	Sometimes RBL doesn't boot up SBL	StarterWare_01_02_02_03
25	OMAPS00315251	IO Delay Programming Needs to be done based on design recommendation	StarterWare_01_02_02_03
26	OMAPS00315516	[DCAN DAL] While running Dcan loopback example, Dcan Receive message object is updated with incorrect fifoEOBFlag value	StarterWare_01_02_03_04
27	OMAPS00315515	[DCAN Example] DCAN Loopback example is not validated on M4 for Tda2xx	StarterWare_01_02_03_04
28	OMAPS00315518	[DCAN] While running Dcan loopback example back to back , DCAN RAM Intialization fails	StarterWare_01_02_03_04

- **Build Dependencies**

Tool chain	Version	Description
TMS470 CG	5.1.5	Compiler for Cortex A8
TMS470 CG	5.1.5	Compiler for Cortex M3 and Cortex M4
C6000 CG Tool	7.4.2	Compiler for C674x and C66x
CCS	5.5.0.00077	Code composer studio to load and run the application. Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc.
Linaro bare-metal GCC	Linaro GCC 4.7.2013q3	Compiler for Cortex A8 GCC
Linaro bare-metal GCC	Linaro GCC 4.7.2013q3	Compiler for Cortex A15

StarterWare 01.02.02.03

- **Installation**

To install TDA1Mxx, TDA2xx and TDA3xx StarterWare on your PC, run the StarterWare installer (starterware_setupwin32_01_02_02_03.exe). The installer allows you to choose the installation directory. The TDA1Mxx, TDA2xx and TDA3xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ starterware_01_02_02_03"). This release has been validated only for TDA3xx platform.

New In this Release

- Power Management (PM) HAL APIs have been added for the TDA2xx device. The PM HAL abstraction for the following:
  - Voltage Domain & PMIC configuration
  - Power Domain Configuration
  - Clock Domain Configuration
  - Reset Domain Configuration
  - Module Mode Configuration from PRCM and IP sysconfig register configuration.
  - MPU LPRM Configuration.
  - Static Dependency Configuration
  - Temperature BGAP Sensor Configuration.
  - PRCM Interrupt Configuration.
- Power Management (PM) Library API has been added for the TDA2xx device that makes the MPU CPU to go to Idle state.
- A new example has been added for demonstrating the usage of PMLIBCpuIdle for the MPU which puts the MPU is retention and wakes it up in a loop 10 times.
- Added support for On-Chip SD-VENC Display for NTSC and PAL Formats (Applicable only for Tda3xx). Two new IOCTL added
  "IOCTL_VPSCORE_DCTRL_ENABLE_SDVENC" and
  "IOCTL_VPSCORE_DCTRL_SET_SDVENC_MODE"
- Added support in QSPI lib to run QSPI at 96 MHz in mode 0 and at 64 MHz in mode 3 for tda3xx platform.
- Added support for Imaging Sub-System (ISS) for Tda3xx.

- Bug fixes

OMAPS00308844	[VIP] - Manual Switch setting required for capture Example
OMAPS00312935	nor_read_write app exits first time after entering input
OMAPS00312936	QSPI test app does not work with mode 0 on tda3xx
OMAPS00312937	GPIO Input interrupt app is not working
OMAPS00312938	GPIO4 reset done bit is not set on tda3xx
OMAPS00313622	[STW QSPI] set divider value in qspi clk select
OMAPS00313925	QSPI flash is running at wrong frequency

Upgrade and Compatibility Information

Below are the interface changes in starterware:

- Used PMHAL APIs instead of prcm* API to enable modules/clocks/power domains in TDA2xx SBL. The following changes have been made to the TDA2xx SBL:
    - DPLL configuration structures have been updated for using pmhalPrcmDpllConfig_t and DPLLs are configured with PMHALCMDpllConfigure API.
    - Clock Domain modes are set using PMHALCMSetCdClockMode APIs.
    - Video PLL configurations have been left unchanged.
    - Modules have been enabled using PMHALModuleModeSet.
    - Resets for the different reset domains (including CPUs) have been asserted/deasserted using PMHALResetAssert/PMHALResetRelease.
    - The following lists of peripheral IPs have been put to power down or clock gated state statically in the TDA2xx SBL. For CPUs if no valid application image is found the corresponding power domain is turned off or clock domain clocks are gated as applicable.

Module Name	State of the module in SBL
PMHAL_PRCM_MOD_ATL	SBL has been changed to not enable the clock domain.
PMHAL_PRCM_MOD_DMA_SYSTEM	SBL has been changed to not enable the clock domain
PMHAL_PRCM_MOD_DSP1	Power Domain is put to off when no valid application image found.
PMHAL_PRCM_MOD_DSP2	Power Domain is put to off when no valid application image found

PMHAL_PRCM_MOD_EMIF2	SBL has been changed to disable EMIF2 module if the compile flag used is SINGLE_EMIF_256MB. NOTE: Default compile time option is dual EMIF mode.
PMHAL_PRCM_MOD_EVE1	Power Domain is put to off when no valid application image found
PMHAL_PRCM_MOD_EVE2	Power Domain is put to off when no valid application image found
PMHAL_PRCM_MOD_EVE3	Power Domain is put to off when no valid application image found
PMHAL_PRCM_MOD_EVE4	Power Domain is put to off when no valid application image found
PMHAL_PRCM_MOD_IPU1	Clock Domain clocks are gated, Power Domain is not put to off if no valid application image is found.
PMHAL_PRCM_MOD_IPU2	Clock Domain clocks are gated, Power Domain is not put to off if no valid application image is found.
PMHAL_PRCM_MOD_MMC2	SBL has been changed to not enable MMC2
PMHAL_PRCM_MOD_MMC3	SBL changed to not enable the module.
PMHAL_PRCM_MOD_MMC4	SBL changed to not enable the module.
PMHAL_PRCM_MOD_MPU	CPU1 is forced off and CPU0 is in WFI. PD_MPU is put to retention if no valid application image is found.
PMHAL_PRCM_MOD_RTCSS	SBL has been changed to not enable the clock domain.

- All software configurable static dependencies have been disabled except MPU to EMIF.
- A new compilation option is implemented for SBL compilation to ensure that the DSP1/2 , EVE1/2/3/4, IPU1/2 and MPU are not put to power down or clock down mode when no valid application image is present. It can be invoked using the following command:

  gmake –s sbl_all PLATFORM=tda2xx SBL_BUILD_MODE=dev

- ## Supported/ Validated Examples

  StarterWare examples are supported for multiples cores and multiple platforms. In case of A8 core on TI814x multiple tool chains are supported. The following legend is applicable to a particular core on a particular platform and for a particular tool chain (Only in case of A8 and TI814x):
  - Yes – Example is supported and tested successfully for this release
  - NA – Example is not supported on the core for the particular platform
  - NT – Example is supported but not tested for this release
  - No – Example is supported but fails for this release

Example	Folder	TI814X			
		A8 CGT	A8 GCC	M3	C674x
ddr_test_app	examples\ddr_stress_test	NT	NT	NA	NA
edma_test_app	examples\edma_test	NT	NT	NT	NT
i2c_eeprom_app	examples\i2c\i2c_eeprom_app	NT	NT	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	NT	NT	NT	NA
mailbox_app	examples\mailbox	NT	NT	NT	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	NT	NT	NT	NA
mcspi_app	examples\mcspi	NT	NT	NT	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NT	NA
mcspiSlave_app	examples\mcspiMasterSlave\slave	NT	NT	NT	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	NA	NT
nor_edma_read	examples\nor\nor_edma_read	NT	NT	NA	NA
sensor_config_app	examples\ov10630_sensor	NT	NT	NT	NA
timer_app	examples\timer	NT	NT	NT	NT
vipCapt	examples\vipCapt	NA	NA	NT	NA

Example	Folder	TDA2XX		
		A15	M4	C66x
DssApp	examples\DssApp	NA	Yes	NA
boot_app	examples\boot	Yes	NA	NA
ddr_test_app	examples\ddr_stress_test	Yes	NA	NA
edid_programmer	examples\i2c_diag_test\edid_programmer	Yes	NA	NA
edma_test_app	examples\edma_test	Yes	Yes	NA
eeprom_app	examples\i2c_diag_test\eeprom_i2c	Yes	NA	NA
gpio_exp_app	examples\i2c_diag_test\i2c_gpio_expander	NT	NA	NA
gpio_input_interrupt_app	examples\gpio\gpio_input_interrupt	Yes	NA	NA
gpio_output_app	examples\gpio\gpio_output	Yes	NA	NA
i2c_eeprom_app	examples\i2c\i2c_eeprom_app	Yes	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	NA	NA
i2c_test_app	examples\i2c_diag_test\i2c_all	Yes	NA	NA
mailbox_app	examples\mailbox	Yes	Yes	Yes
mcaspBurstTransmit_app	examples\mcasp\mcasp_bursttransmit	NT	NT	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	NT	NT	NA

mcasp_sinetone_app	examples\mcasp\mcasp_sinetone	NT	NA	NT
mcspiMasterSlave_app	examples\mcspiMasterSlave\masterslave	Yes	Yes	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NA
mmcsd_fileIO_app	examples\sd_fileIO	Yes	NA	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	Yes
mmu_translation_fault_handle_app	examples\mmu\translation_fault_handle	Yes	NA	Yes
nor_edma_read	examples\nor\nor_edma_read	NA	No	NA
nor_read_write	examples\nor\nor_read_write	No	NA	NA
ocmc_app	examples\ocmc\ocmc_basic	Yes	Yes	NA
pcie_app_ep_write_loopback	examples\pcie\write_loopback\ep	NT	NA	NA
pcie_app_rc_write_loopback	examples\pcie\write_loopback\rc	NT	NA	NA
pmic_app	examples\i2c_diag_test\pmic_i2c	Yes	NA	NA
qspi_test_app	examples\qspi_test	NT	NT	NA
sensor_config_app	examples\ov10630_sensor	Yes	NA	NA
spinlock_test	examples\spinlock_test	Yes	Yes	Yes
temp_sensor_app	examples\i2c_diag_test\i2c_temp_sensor	Yes	NA	NA
timer_app	examples\timer	Yes	Yes	Yes
uart1_test_app	examples\uart\uart1	Yes	NA	NA
uart3_test_app	examples\uart\uart3	Yes	NA	NA
uart_edma_test	examples\uart\uart_edma	Yes	Yes	NA
uart_intr_test	examples\uart\uart_intr	NA	Yes	NA
uart_test	examples\uart\uart_test	Yes	NA	NA
videoLoopback	examples\videoLoopback	NA	Yes	NA
vipCapt	examples\vipCapt	NA	NT	NA
wdtimer_app	examples\wdtimer	Yes	NA	NA
pm_cpuidle_test_app	examples\pm\cpuidle	NT	NA	NA

Example	Folder	TDA3XX	
		M4	C66x
DssApp	examples\DssApp	Yes	NA
boot_app	examples\boot	Yes	NA
ddr_test_app	examples\ddr_stress_test	Yes	NA
edma_test_app	examples\edma_test	Yes	NA
eeprom_app	examples\i2c_diag_test\eeprom_i2c	Yes	NA
gpio_input_interrupt_app	examples\gpio\gpio_input_interrupt	Yes	NA
gpio_output_app	examples\gpio\gpio_output	Yes	NA
i2c_eeprom_app	examples\i2c\i2c_eeprom_app	Yes	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	NA
mailbox_app	examples\mailbox	Yes	Yes
mcspiMasterSlave_app	examples\mcspiMasterSlave\masterslave	No	NA
mmcsd_fileIO_app	examples\sd_fileIO	Yes	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	Yes
mmu_translation_fault_ha	examples\mmu\translation_fault_handle	Yes	Yes

ndle_app			
nor_edma_read	examples\nor\nor_edma_read	Yes	NA
nor_read_write	examples\nor\nor_read_write	No	NA
ocmc_app	examples\ocmc\ocmc_basic	Yes	Yes
pmic_app	examples\i2c_diag_test\pmic_i2c	Yes	NA
qspi_test_app	examples\qspi_test	Yes	NA
sensor_config_app	examples\ov10630_sensor	Yes	NA
spinlock_test	examples\spinlock_test	Yes	Yes
temp_sensor_app	examples\i2c_diag_test\i2c_temp_sensor	No	NA
timer_app	examples\timer	Yes	Yes
uart1_test_app	examples\uart\uart1	Yes	NA
uart2_test_app	examples\uart\uart2	Yes	NA
uart3_test_app	examples\uart\uart3	Yes	NA
uart_edma_test	examples\uart\uart_edma	Yes	NA
uart_intr_test	examples\uart\uart_intr	Yes	NA
edid_programmer	examples\i2c_diag_test\edid_programmer	Yes	NA
uart_test	examples\uart\uart_test	Yes	NA
videoLoopback	examples\videoLoopback	Yes	NA
vipCapt	examples\vipCapt	Yes	NA

- **Release Content**

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP, McSPI, OCMC, QSPI, SBL,MMU, Timer, MMCSD, PCIe and WDTimer
Libs	I2C, QSPI, FAT, NOR and VPS (VIP, DSS)
Utils	Uart console
Examples	Examples for the supported hal peripheral drivers.
Bootloader	SBL bootloader for TDA2xx and TDA3xx platform. Validated QSPI bootmode on TDA3xx EVM.

- **Known Issues**

S. No.	CQ Id	Headline	Release Version
1	OMAPS00297890	McSPI master slave sample app not validated on ti814x	StarterWare_00_02_01_11
2	OMAPS00298489	[STW] Enable Semi-hosting in Cortex-A15 build system	StarterWare_00_02_02_12
3	OMAPS00298854	[SBL] - Bring MPU_CPU1 core out of reset	StarterWare_01_00_00_14

4	OMAPS00300001	Apps for various peripherals not validated on ti814x	StarterWare_01_00_01_15
5	OMAPS00303388	File Conversion to Windows Format On Installing STW package	StarterWare_01_00_02_16
6	OMAPS00307878	[I2C] "1.5 System I2C hang due to miss of Bus Clear support" Errata workaround needs to be implemented	Starterware_01_01_01_18
7	OMAPS00307879	[GP Timer] "1.8 Delay needed to read some GP timer registers after wakeup" Errata workaround needs to be implemented	Starterware_01_01_01_18
8	OMAPS00307880	[DSS] "1.10 LCDENABLE Not Functional" Errata workaround needs to be implemented	Starterware_01_01_01_18
9	OMAPS00308667	ABB is not tested by verifying the bias voltage at the bias capacitor	StarterWare_01_01_02_19
10	OMAPS00310939	Hang while doing IO recalibration in NOR bootmode	StarterWare_01_01_02_19
11	OMAPS00311706	Update the MPU and CORE domain voltages	StarterWare_01_01_03_20
12	OMAPS00311967	[GEL] Change needed to DPLL_ABE configuration	StarterWare_01_01_03_20
13	OMAPS00312029	Random Display controller assert observed if HDMI is not connected -fixed by a WA in STW to mask the HDMI power on status	StarterWare_01_01_03_20
14	OMAPS00312591	Settting Video postion doesnt work in release mode	StarterWare_01_01_03_20
15	OMAPS00312717	Random display controller failure observed on some TDA2x EVMS	StarterWare_01_01_03_20
16	OMAPS00312927	Temp sensor APP fails when we run the starterware tests back to back	StarterWare_01_02_01_02

17	OMAPS00312928	videoLoopback App : FPS is observed as 58 instead of 60	StarterWare_01_02_01_02
18	OMAPS00312939	Sometimes Junk charectors are seen on the UART1 terminal of tda3xx	StarterWare_01_02_01_02
19	OMAPS00313546	MMCSD file IO app returns file create error on second run for tda3xx	StarterWare_01_02_01_02
20	OMAPS00313734	[MMC HAL]Wrong value is written in SYSCONFIG register in HSMMCSDSystemConfig API	StarterWare_01_02_01_02
21	OMAPS00314037	Starterware Video examples are not integrated properly wrt Board module	StarterWare_01_02_01_02
22	OMAPS00314097	mcspi spi1tospi2 test fails for tda3xx	StarterWare_01_02_02_03
23	OMAPS00314146	Power Optimized SBL Boot Fails when no valid app image is present	StarterWare_01_02_02_03

Build Dependencies

Tool chain	Version	Description
TMS470 CG	5.1.5	Compiler for Cortex A8
TMS470 CG	5.1.5	Compiler for Cortex M3 and Cortex M4
C6000 CG Tool	7.4.2	Compiler for C674x and C66x
CCS	5.5.0.00077	Code composer studio to load and run the application. Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc.
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A8 GCC
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A15

StarterWare 01.02.01.02

- **Installation**

To install TDA1Mxx, TDA2xx and TDA3xx StarterWare on your PC, run the StarterWare installer (starterware_setupwin32_01_02_01_02.exe). The installer allows you to choose the installation directory. The TDA1Mxx, TDA2xx and TDA3xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ starterware_01_02_01_02"). This release has been validated only for TDA2xx and TDA3xx platform.

New In this Release

- Validated the following modules on TDA3xx EVM:
  - Secondary Bootloader (SBL) in QSPI-1 and QSPI-4 bootmode
  - HALs: I2C, Timer, UART, OCMC, GPIO, Mailbox, Spinlock, EDMA, GPMC, QSPI, McSPI, MMCSD and MMU
  - UART Console Utility
  - Libs: FAT, I2C, QSPI and VPS (VIP, DSS)

- Added Board library, Devices module library and application level utility.

- Added support for forcing the OPP for tda2xx SBL irrespective of silicon revision.

- Added UART2 test example for tda3xx platform, uart2_test_app.

- Added support to allocate/configure CBuf from a specific OCMC RAM.

- Added i2c_eeprom_app example which tests i2c @ 100 kbps, 400 kbps, FIFO enabled and FIFO disabled instead of different apps.
- Bug fixes
  1. OMAPS00311330: Incorrect macro used for GPMC base address for ti814x
  2. OMAPS00312733: [VIP] Bytes are swapped when capturing 16-bit RAW data
  3. OMAPS00311952: Require an option in makefile to force OPP Modes
  4. OMAPS00312220: AVS-0 configuration contains UART prints which is not yet initialized

- **Upgrade and Compatibility Information**

  Below are the interface changes in starterware:

- DDR memory section start address is changed from 0x80000000 to 0x80000400 for all Starterware applications as 1 KB space is used by SBL for system requirements.

- Added ocmc_inst_id as a parameter to APIs OCMC_CBUF_Heap_Init, OCMC_CBUF_Heap_Alloc, OCMC_CBUF_Heap_Free and OCMC_CBUF_Deinit in ocmc_ecc_l2.h
- Moved hw_counter_32k.h file from include\tda2xx\hw to include\hw as it is not platform specific hw file
- Moved hw_ipu_unicache_cfg.h file from include\hw to include\tda2xx\hw as it is platform specific hw file.
- Added new field standard in structure VpsHal_DssDispcLcdTimingParam in vpslib/hal/vpshal_dssDispcOvly.h
- Deprecated the older pad mux config APIs of type <MODULE>_pad_mux_config and defined new APIs of type Platform<Module>SetPinMux in platform.h. E.g. MCASP2_pad_mux_config is deprecated and PlatformMCASP2SetPinMux should be used.
- Removed the following starterware examples:
    - mailbox_m4_app and mailbox_qintr_app and tested the features of these examples as part of mailbox_app
    - ocmc_overflow_wrap , ocmc_underflow, ocmc_shortframe, ocmc_addrSequence and ocmc_overflow_mid & tested the features of these examples as part of ocmc_app
- Modified the below examples to use Board module:
    - boot_app, DSSApp, temp_sensor_app, mcspiMasterSlave_app, nor_edma_read, nor_read_write, ocmc_app, ov10630_sensor, sd_fileIO, uart_edma, uart_intr, uart_test, uart1_test_app, uart3_test_app, videoloopback
- Used PMHALModuleModeSet API instead of prcm_set_module_mode API to enable module in TDA2xx SBL

Supported/ Validated Examples

Starterware examples are supported for multiples cores and multiple platforms. In case of A8 core on TI814x multiple tool chains are supported. The following legend is applicable to a particular core on a particular platform and for a particular tool chain (Only in case of A8 and TI814x):

- Yes – Example is supported and tested successfully for this release
- NA – Example is not supported on the core for the particular platform

- NT – Example is supported but not tested for this release
- No – Example is supported but fails for this release

Example	Folder	TI814X			
		A8 CGT	A8 GCC	M3	C674x
ddr_test_app	examples\ddr_stress_test	NT	NT	NA	NA
edma_test_app	examples\edma_test	NT	NT	NT	NT
i2c_eeprom_app	examples\i2c\i2c_eeprom_app	NT	NT	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	NT	NT	NT	NA
mailbox_app	examples\mailbox	NT	NT	NT	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	NT	NT	NT	NA
mcspi_app	examples\mcspi	NT	NT	NT	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NT	NA
mcspiSlave_app	examples\mcspiMasterSlave\slave	NT	NT	NT	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	NA	NT
nor_edma_read	examples\nor\nor_edma_read	NT	NT	NA	NA
sensor_config_app	examples\ov10630_sensor	NT	NT	NT	NA
timer_app	examples\timer	NT	NT	NT	NT
vipCapt	examples\vipCapt	NA	NA	NT	NA

Example	Folder	TDA2XX		
		A15	M4	C66x
DssApp	examples\DssApp	NA	Yes	NA
boot_app	examples\boot	Yes	NA	NA
ddr_test_app	examples\ddr_stress_test	Yes	NA	NA
edid_programmer	examples\i2c_diag_test\edid_programmer	NT	NA	NA
edma_test_app	examples\edma_test	Yes	Yes	NA
eeprom_app	examples\i2c_diag_test\eeprom_i2c	Yes	NA	NA
gpio_exp_app	examples\i2c_diag_test\i2c_gpio_expander	Yes	NA	NA
gpio_input_interrupt_app	examples\gpio\gpio_input_interrupt	No	NA	NA
gpio_output_app	examples\gpio\gpio_output	NT	NA	NA
i2c_eeprom_app	examples\i2c\i2c_eeprom_app	Yes	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	NA	NA
i2c_test_app	examples\i2c_diag_test\i2c_all	Yes	NA	NA
mailbox_app	examples\mailbox	Yes	Yes	Yes
mcaspBurstTransmit_app	examples\mcasp\mcasp_bursttransmit	NT	NT	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	Yes	Yes	NA
mcasp_sinetone_app	examples\mcasp\mcasp_sinetone	NT	NA	NT
mcspiMasterSlave_app	examples\mcspiMasterSlave\masterslave	NT	NT	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NA
mmcsd_fileIO_app	examples\sd_fileIO	NT	NA	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	Yes
mmu_translation_fault_handle_app	examples\mmu\translation_fault_handle	Yes	NA	Yes
nor_edma_read	examples\nor\nor_edma_read	NA	No	NA

nor_read_write	examples\nor\nor_read_write	No	NA	NA
ocmc_app	examples\ocmc\ocmc_basic	No	No	NA
pcie_app_ep_write_loopback	examples\pcie\write_loopback\ep	NT	NA	NA
pcie_app_rc_write_loopback	examples\pcie\write_loopback\rc	NT	NA	NA
pmic_app	examples\i2c_diag_test\pmic_i2c	Yes	NA	NA
qspi_test_app	examples\qspi_test	NT	NT	NA
sensor_config_app	examples\ov10630_sensor	Yes	NA	NA
spinlock_test	examples\spinlock_test	Yes	Yes	Yes
temp_sensor_app	examples\i2c_diag_test\i2c_temp_sensor	Yes	NA	NA
timer_app	examples\timer	Yes	Yes	Yes
uart1_test_app	examples\uart\uart1	Yes	NA	NA
uart3_test_app	examples\uart\uart3	Yes	NA	NA
uart_edma_test	examples\uart\uart_edma	Yes	Yes	NA
uart_intr_test	examples\uart\uart_intr	NA	Yes	NA
uart_test	examples\uart\uart_test	Yes	NA	NA
videoLoopback	examples\videoLoopback	NA	Yes	NA
vipCapt	examples\vipCapt	NA	Yes	NA
wdtimer_app	examples\wdtimer	Yes	NA	NA

Example	Folder	TDA3XX	
		M4	C66x
DssApp	examples\DssApp	Yes	NA
boot_app	examples\boot	Yes	NA
ddr_test_app	examples\ddr_stress_test	Yes	NA
edma_test_app	examples\edma_test	Yes	NA
eeprom_app	examples\i2c_diag_test\eeprom_i2c	Yes	NA
gpio_input_interrupt_app	examples\gpio\gpio_input_interrupt	No	NA
gpio_output_app	examples\gpio\gpio_output	Yes	NA
i2c_eeprom_app	examples\i2c\i2c_eeprom_app	Yes	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	NA
mailbox_app	examples\mailbox	Yes	Yes
mcspiMasterSlave_app	examples\mcspiMasterSlave\masterslave	Yes	NA
mmcsd_fileIO_app	examples\sd_fileIO	Yes	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	Yes
mmu_translation_fault_handle_app	examples\mmu\translation_fault_handle	Yes	Yes
nor_edma_read	examples\nor\nor_edma_read	Yes	NA
nor_read_write	examples\nor\nor_read_write	No	NA
ocmc_app	examples\ocmc\ocmc_basic	Yes	Yes
pmic_app	examples\i2c_diag_test\pmic_i2c	Yes	NA
qspi_test_app	examples\qspi_test	No	NA
sensor_config_app	examples\ov10630_sensor	Yes	NA
spinlock_test	examples\spinlock_test	Yes	Yes
temp_sensor_app	examples\i2c_diag_test\i2c_temp_sensor	No	NA

timer_app	examples\timer	Yes	Yes
uart1_test_app	examples\uart\uart1	Yes	NA
uart2_test_app	examples\uart\uart2	Yes	NA
uart3_test_app	examples\uart\uart3	Yes	NA
uart_edma_test	examples\uart\uart_edma	Yes	NA
uart_intr_test	examples\uart\uart_intr	Yes	NA
edid_programmer	examples\i2c_diag_test\edid_programmer	Yes	NA
uart_test	examples\uart\uart_test	Yes	NA
videoLoopback	examples\videoLoopback	Yes	NA
vipCapt	examples\vipCapt	Yes	NA

- **Release Content**

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP, McSPI, OCMC, QSPI, SBL,MMU, Timer, MMCSD, PCIe and WDTimer
Libs	I2C, QSPI, FAT, NOR and VPS (VIP, DSS)
Utils	Uart console
Examples	Examples for the supported hal peripheral drivers.
Bootloader	SBL bootloader for TDA2xx and TDA3xx platform. Validated SD, NOR and QSPI bootmode on TDA2xx 1.1 EVM. Validated QSPI bootmode on TDA3xx EVM.

- **Known Issues**

S. No.	CQ Id	Headline	Release Version
1	OMAPS00297890	McSPI master slave sample app not validated on ti814x	StarterWare_00_02_01_11
2	OMAPS00298489	[STW] Enable Semi-hosting in Cortex-A15 build system	StarterWare_00_02_02_12
3	OMAPS00298854	[SBL] - Bring MPU_CPU1 core out of reset	StarterWare_01_00_00_14
4	OMAPS00300001	Apps for various peripherals not validated on ti814x	StarterWare_01_00_01_15
5	OMAPS00303388	File Conversion to Windows Format On Installing STW package	StarterWare_01_00_02_16

6	OMAPS00307878	[I2C] "1.5 System I2C hang due to miss of Bus Clear support" Errata workaround needs to be implemented	Starterware_01_01_01_18
7	OMAPS00307879	[GP Timer] "1.8 Delay needed to read some GP timer registers after wakeup" Errata workaround needs to be implemented	Starterware_01_01_01_18
8	OMAPS00307880	[DSS] "1.10 LCDENABLE Not Functional" Errata workaround needs to be implemented	Starterware_01_01_01_18
9	OMAPS00308667	ABB is not tested by verifying the bias voltage at the bias capacitor	StarterWare_01_01_02_19
10	OMAPS00308844	[VIP] - Manual Switch setting required for capture Example	Starterware_01_01_01_18
11	OMAPS00310939	Hang while doing IO recalibration in NOR bootmode	StarterWare_01_01_02_19
12	OMAPS00311706	Update the MPU and CORE domain voltages	StarterWare_01_01_03_20
13	OMAPS00311967	[GEL] Change needed to DPLL_ABE configuration	StarterWare_01_01_03_20
14	OMAPS00312029	Random Display controller assert observed if HDMI is not connected -fixed by a WA in STW to mask the HDMI power on status	StarterWare_01_01_03_20
15	OMAPS00312591	Settting Video postion doesnt work in release mode	StarterWare_01_01_03_20
16	OMAPS00312717	Random display controller failure observed on some TDA2x EVMS	StarterWare_01_01_03_20
17	OMAPS00312927	Temp sensor APP fails when we run the starterware tests back to back	StarterWare_01_02_01_02
18	OMAPS00312928	videoLoopback App : FPS is observed as 58 instead of 60	StarterWare_01_02_01_02

19	OMAPS00312935	nor_read_write app exits first time after entering input	StarterWare_01_02_01_02
20	OMAPS00312936	QSPI test app doesnot work with mode 0 on tda3xx	StarterWare_01_02_01_02
21	OMAPS00312937	GPIO Input interrupt app is not working	StarterWare_01_02_01_02
22	OMAPS00312938	GPIO4 reset done bit is not set on tda3xx	StarterWare_01_02_01_02
23	OMAPS00312939	Sometimes Junk charectors are seen on the UART1 terminal of tda3xx	StarterWare_01_02_01_02

- **Build Dependencies**

Tool chain	Version	Description
TMS470 CG	5.1.5	Compiler for Cortex A8
TMS470 CG	5.1.5	Compiler for Cortex M3 and Cortex M4
C6000 CG Tool	7.4.2	Compiler for C674x and C66x
CCS	5.5.0.00077	Code composer studio to load and run the application. Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc.
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A8 GCC
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A15

StarterWare 01.01.03.20

- **Installation**

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (starterware_setupwin32_01_01_03_20.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ starterware_01_01_03_20"). This release has been validated only for TDA2xx platform.

New In this Release

- Validated DSP clock for OPP High at 750 MHz with vision SDK.
- Added PMIC HAL in starterware.
- Validated PCIe in gen2 mode.
- Added PCIe performance calculation app.
- Bug fixes
  5. OMAPS00306752: PCIe Write Loopback example not validated in Gen2 mode
  6. OMAPS00307877: [DSS] "1.4 Wrong Access In 1D Burst For YUV4:2:0-NV12 Format" Errata workaround needs to be implemented
  7. OMAPS00308658: A15 GIC function “void IntSetTargetProcessor(uint32_t intrNum, uint32_t processorSelect)” overwrites previous set flags
  8. OMAPS00309120: [VPDMA HAL] VPSHAL_VPDMA_ISBUSY function need to be renamed to VPSHAL_VPDMA_ISREADY to match the implementation
  9. OMAPS00309341: SDK doesnot boot when SBL sets DSP frequency to 750 MHz
  10. OMAPS00310467: IRQ enable/disable fails for CxM3/4 if ISRs call enable/disable API and interrupt enable/disable API
  11. OMAPS00310940: Wrong boot address for DSP2 in case of no app image
  12. OMAPS00310942: Wrong Calculation while calculating entry point page for EVE MMU in SBL

- **Upgrade and Compatibility Information**

Below are the interface changes in starterware:

- Include platform.mk file before including env.mk file. env.mk file includes component.mk files from all packages, which depends on variable $SOC and $SOCFAMILY. These variables are defined in platform.mk file. This should be followed across the products.
- Added PlatformLockMMR API to lock MMR registers.
- Folowing APIs in platform are deprecated and alternate APIs are listed below.
    - HAL_CTRL_UnlockMMR is depricated and PlatformUnlockMMR should be used
    - UART_PAD_CONFIG is depricated and PlatformUARTSetPinMux should be used
    - Uartx_Pin_Mux functions are depricated and PlatformUARTxSetPinMux should be used. X in UARTx can be 1, 3, 4.
    - HAL_CTRL_ConfigurePadsQspi and cntrl_core_qspi_pad_config are depricated and PlatformQSPI1SetPinMux should be used
- PCIE PCS Delay count for both SS1 and SS2 use register field defined for SS2. Same is updated in PCIESS1CtrlConfig API.
- tda2xx dsp clock for OPP High configured at 750 MHz. It was clocked at 600 MHz in earlier release as SDK image was not coming up.
- In sbl multicore mailbox example (sbl_multicore_mbx and sbl_multicore_mbx_1) linker cmd files and files under src directory moved to tda2xx folder. Added example for tda3xx platform also.
- New defines in GPMC added: GPMC_DEVICESIZE_32BITS and GPMC_DEV_PAGELENGTH_THIRTYTWO, Supported only in tda3xx.
- Added new API VpsDssDispcAdvWbDmaConfig_init to initialize Wb Dma Config structure.
- In the soc_defines.h file defines containing platform names are renamed without the platform names. Ex:
    - CSL_TI814x_VPS_CHRUS_PER_CNT is renamed to CSL_VPS_CHRUS_PER_CNT

  - CSL_TDA3XX_VPS_VIP_PER_CNT is renamed to CSL_VPS_VIP_PER_CNT
  - CSL_TDA2XX_VPS_VIP_PER_CNT is renamed to CSL_VPS_VIP_PER_CNT
- hw_ctrl_pad_io.h file is platform specific and is removed from include/hw folder. Its present in include/<Platform>/hw
- New enum Fvid2_FrameStatus added in fvid2_datatypes.h
- In the enum Fvid2_VideoIfWidth added below new enum values - FVID2_VIFW_1LANES, FVID2_VIFW_2LANES, FVID2_VIFW_3LANES, FVID2_VIFW_4LANES
- In the enum Fvid2_VideoIfMode added below new enum values - FVID2_VIFM_SCH_CSI2, FVID2_VIFM_SCH_LVDS, FVID2_VIFM_SCH_CPI
- Added new field for status in Fvid2_Frame structure.
- Values of the below defines are modified.
  - VPSCORE_VIP_AUTO_EDGELIST_MAX_SIZE changed from 16 to 32
  - IEM_MAX_CLIENT_EVENTS changed from 10 to 15
  - GRAPH_MAX_NUM_PATHS changed from 10 to 20

Supported/ Validated Examples

Starterware examples are supported for multiples cores and multiple platforms. In case of A8 core on TI814x multiple tool chains are supported. The following legend is applicable to a particular core on a particular platform and for a particular tool chain (Only in case of A8 and TI814x):

- Yes – Example is supported and tested successfully for this release
- NA – Example is not supported on the core for the particular platform
- NT – Example is supported but not tested for this release
- No – Example is supported but fails for this release

Example	Folder	TDA2XX		
		A15	M4	C66x
DssApp	examples\DssApp	NA	Yes	NA
boot_app	examples\boot	Yes	NA	NA
ddr_test_app	examples\ddr_stress_test	Yes	NA	NA
edma_test_app	examples\edma_test	Yes	Yes	NA
eeprom_app	examples\i2c_diag_test\eeprom_i2c	Yes	NA	NA
gpio_exp_app	examples\i2c_diag_test\i2c_gpio_expander	Yes	NA	NA
gpio_input_interrupt_app	examples\gpio\gpio_input_interrupt	Yes	NA	NA
gpio_output	examples\gpio\gpio_output	Yes	NA	NA

i2c_100kbps_app	examples\i2c\100kbps	Yes	NA	NA
i2c_400kbps_app	examples\i2c\400kbps	Yes	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	NA	NA
i2c_fifo_app	examples\i2c\fifo	Yes	NA	NA
i2c_lld_led_blink_app	i2c\i2c_lld_led	Yes	Yes	NA
i2c_test_app	examples\i2c_diag_test\i2c_all	Yes	NA	NA
mailbox_app	examples\mailbox\mailbox_a15	Yes	Yes	Yes
mailbox_m4_app	examples\mailbox\mailbox_m4	Yes	Yes	Yes
mailbox_qintr_app	examples\mailbox\mailbox_qintr	Yes	Yes	Yes
mcaspBurstTransmit_app	examples\mcasp\mcasp_bursttransmit	Yes	Yes	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	Yes	Yes	NA
mcasp_sinetone_app	examples\mcasp\mcasp_sinetone	Yes	NA	Yes
mcspiMasterSlave_app	examples\mcspiMasterSlave\masterslave	Yes	Yes	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NA
mmcsd_fileIO_app	examples\sd_fileIO	Yes	NA	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	Yes
mmu_translation_fault_handle_app	examples\mmu\translation_fault_handle	Yes	NA	Yes
nor_edma_read	examples\nor\nor_edma_read	NA	NT	NA
nor_read_write	examples\nor\nor_read_write	NT	NA	NA
ocmc_addrSequence	examples\ocmc\ocmc_addr_sequence	NA	Yes	NA
ocmc_app	examples\ocmc\ocmc_basic	Yes	Yes	NA
ocmc_overflow_mid	examples\ocmc\ocmc_overflow_mid	NA	Yes	NA
ocmc_overflow_wrap	examples\ocmc\ocmc_overflow_wrap	NA	Yes	NA
ocmc_shortframe	examples\ocmc\ocmc_shortframe	NA	Yes	NA
ocmc_underflow	examples\ocmc\ocmc_underflow	NA	Yes	NA
pcie_app_ep_write_loopback	examples\pcie\write_loopback\ep	Yes	NA	NA
pcie_app_rc_write_loopback	examples\pcie\write_loopback\rc	Yes	NA	NA
pmic_app	examples\i2c_diag_test\pmic_i2c	Yes	NA	NA
qspi_test_app	examples\qspi_test	Yes	Yes	NA
sensor_config_app	examples\ov10630_sensor	Yes	NA	NA
spinlock_test	examples\spinlock_test	Yes	Yes	Yes
temp_sensor_app	examples\i2c_diag_test\i2c_temp_sensor	Yes	NA	NA
timer_app	examples\timer	Yes	Yes	Yes
uart1_test_app	examples\uart\uart1	Yes	NA	NA
uart3_test_app	examples\uart\uart3	Yes	NA	NA
uart_edma_test	examples\uart\uart_edma	Yes	Yes	NA
uart_intr_test	examples\uart\uart_intr	NA	Yes	NA
uart_test	examples\uart\uart_test	Yes	NA	NA
videoLoopback	examples\videoLoopback	NA	Yes	NA
vipCapt	examples\vipCapt	NA	Yes	NA
wdtimer_app	examples\wdtimer	Yes	NA	NA

Example	Folder	TI814X			
		A8 CGT	A8 GCC	M3	C674x
ddr_test_app	examples\ddr_stress_test	Yes	Yes	NA	NA
edma_test_app	examples\edma_test	Yes	Yes	Yes	Yes
i2c_100kbps_app	examples\i2c\100kbps	Yes	Yes	NA	NA
i2c_400kbps_app	examples\i2c\400kbps	Yes	Yes	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	Yes	Yes	NA
i2c_fifo_app	examples\i2c\fifo	Yes	Yes	NA	NA
mailbox_app	examples\mailbox\mailbox_a15	Yes	Yes	Yes	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	NT	NT	NT	NA
mcspi_app	examples\mcspi	Yes	Yes	Yes	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NT	NA
mcspiSlave_app	examples\mcspiMasterSlave\slave	NT	NT	NT	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	NA	Yes
nor_edma_read	examples\nor\nor_edma_read	Yes	Yes	NA	Yes
sensor_config_app	examples\ov10630_sensor	Yes	Yes	Yes	NA
timer_app	examples\timer	Yes	Yes	Yes	Yes
vipCapt	examples\vipCapt	NA	NA	NT	NA

- **Release Content**

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP, McSPI, OCMC, QSPI, SBL,MMU, Timer, MMCSD, PCIe and WDTimer
Libs	I2C, QSPI, FAT, NOR and VPS (VIP, DSS)
Utils	Uart console
Examples	Examples for the supported hal peripheral drivers.
Bootloader	SBL bootloader for TDA2xx platform. Validated SD, NOR and QSPI bootmode on TDA2xx 1.1 EVM.

- **Known Issues**

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7	OMAPS00307879	[GP Timer] "1.8 Delay needed to read some GP timer registers after wakeup" Errata workaround needs to be implemented	Starterware_01_01_01_18
8	OMAPS00307880	[DSS] "1.10 LCDENABLE Not Functional" Errata workaround needs to be implemented	Starterware_01_01_01_18
9	OMAPS00308667	ABB is not tested by verifying the bias voltage at the bias capacitor	StarterWare_01_01_02_19
10	OMAPS00308844	[VIP] - Manual Switch setting required for capture Example	Starterware_01_01_01_18
11	OMAPS00310939	Hang while doing IO recalibration in NOR bootmode	StarterWare_01_01_02_19

- **Build Dependencies**

Tool chain	Version	Description
TMS470 CG	5.0.7	Compiler for Cortex A8
TMS470 CG	5.0.7	Compiler for Cortex M3 and Cortex M4
C6000 CG Tool	7.4.2	Compiler for C674x and C66x
CCS	5.4.0.00091	Code composer studio to load and run the application. Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc.
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A8 GCC
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A15

StarterWare 01.01.02.19

- **Installation**

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (starterware_setupwin32_01_01_02_19.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ starterware_01_01_02_19"). This release has been validated only for TDA2xx platform.

New In this Release

- Added Multiple Operating Point (Multi OPP) support in SBL, ER OMAPS00305848 and ER OMAPS00307159.

- Added ABB support in SBL, ER OMAPS00300577.

- Added IO delay Recalibration sequence in SBL for NOR boot mode.

- Added support in NOR and QSPI flash writers to load the image to be flashed using the loadraw command using CCS scripting console.

- Added support for setting make variable MAKERULEDIR which can be used to override the makerules directory path. By default, MAKERULEDIR is set as <ROOTDIR>/build/makerules.

- Added support to set the ROOTDIR in the make file using abspath instead of setting on environmental variable.

- Added new non-blocking APIs in qspiflashlib which don't wait till flash becomes free (i.e. not busy).

- Bug fixes
  13. OMAPS00308083: FMEA Analysis: Remove while loop which has a potential for looping endlessly without a time out in STW and SBL
  14. OMAPS00306541: Add IO Recalibration to SBL in NOR boot
  15. OMAPS00307573: [Installer] Incorrect message in pop-up windows in languages other than English
  16. OMAPS00307589: [UART] Incorrect LCR register programmed in OPMODE resulting in wrong parity and stop bits

17. OMAPS00307674: IO delay recalibration should be done only for TDA2xx ES 1.1 device
18. OMAPS00307675: AVS0 voltage should not be programmed for CORE_VD for tda2xx ES1.0 device
19. OMAPS00307745: Using MLO generated from starterware 01.01.01.18 SBL off SD card doesn't boot
20. OMAPS00307746: QSPI flashing takes very long time
21. OMAPS00307939: Select sysclk1 for dpll_abe
22. OMAPS00308227: Use ID Code to Identify ES1.1 Silicon
23. OMAPS00308261: Implement A15 silicon errata Workaround: A memory read can stall indefinitely in the L2 cache
24. OMAPS00308345: HDMI TV doesn't recognize HDMI connection
25. OMAPS00308543: Starterware: McSPIFIFOTrigLvlSet API is resetting word count field
26. OMAPS00308603: [McSPI] master Slave example does not work

Upgrade and Compatibility Information

Below are the interface changes in starterware:

- Starterware hw files directory structure is changed as defined below:
    - Common hw files for different SOCs (TDA2xx & TI814x) are present in include/hw folder
    - TDA2xx specific hw files are moved to include/tda2xx/hw folder
    - TI814x specific hw files are moved to include/ti814x/hw folder
    - The order of including the HW and ARCH header files now is taken care by the starterware_hal module include path. Application should use this module include dependency instead of deciding the HW and ARCH header file path. Below is the order of preference

        $(starterware_PATH)/include/$(SOCFAMILY)/$(SOC)/hw

        $(starterware_PATH)/include/$(SOCFAMILY)/hw

        $(starterware_PATH)/include/hw

        $(starterware_PATH)/include/$(ARCH)/$(SOCFAMILY)

        $(starterware_PATH)/include/$(ARCH)

        $(starterware_PATH)/include/$(SOCFAMILY)

- Files under bootloader/sbl/src are renamed as given below
    - sbl_init.asm to sbl_tda2xx_init.asm
    - sbl_main.c to sbl_tda2xx_main.c

  - sbl_nor_init.asm to sbl_tda2xx_nor_init.asm
  - sbl_rprc_parse.c to sbl_tda2xx_rprc_parse.c
- Below are the new non-blocking APIs in qspiflashlib which don't wait till flash becomes free (i.e. not busy). If application is using these APIs, flash status should be checked before sending next command i.e. bit 0 of flash status should be 0 indicating flash is not busy. Ex: while ((QSPI_FlashStatus() & 0x01))

  APIs: QSPI_WriteSectorsNonBlocking()
  QSPI_WriteCfgModeNonBlocking()
  QSPI_QuadEnableNonBlocking()
  QSPI_FlashBlockEraseNonBlocking()
  QSPI_FlashFullEraseNonBlocking()
- Files in platform/tda2xx are moved to platform/ folder. The generic function definitions are put in platform.c file. Pad configuration related functions in platform_tda2xx.c file are moved to platform_tda2xx_pad_config.c file.
- Merged interrupt.c for armv7m architecture for different platforms. Now interrupt.c is present in system_config/armv7m folder and has been deleted from system_config/armv7m/<platform> folders.
- Files under system_config/c66x/tda2xx have been moved to system_config/c66x
- Files under system_config/c67x/ti814x have been moved to system_config/c67x
- New enum added for fvid2 polarity - Fvid2_FidPol
- New data formats are added in enum Fvid2_DataFormat

Supported/ Validated Examples

Starterware examples are supported for multiples cores and multiple platforms. In case of A8 core on TI814x multiple tool chains are supported. The following legend is applicable to a particular core on a particular platform and for a particular tool chain (Only in case of A8 and TI814x):

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- No – Example is supported but fails for this release

Example	Folder	TDA2XX		
		A15	M4	C66x
DssApp	examples\DssApp	NA	Yes	NA
boot_app	examples\boot	Yes	NA	NA
ddr_test_app	examples\ddr_stress_test	Yes	NA	NA
edma_test_app	examples\edma_test	Yes	Yes	NA
eeprom_app	examples\i2c_diag_test\eeprom_i2c	Yes	NA	NA
gpio_exp_app	examples\i2c_diag_test\i2c_gpio_expander	Yes	NA	NA
gpio_input_interrupt_app	examples\gpio\gpio_input_interrupt	Yes	NA	NA
gpio_output	examples\gpio\gpio_output	Yes	NA	NA
i2c_100kbps_app	examples\i2c\100kbps	Yes	NA	NA
i2c_400kbps_app	examples\i2c\400kbps	Yes	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	NA	NA
i2c_fifo_app	examples\i2c\fifo	Yes	NA	NA
i2c_lld_led_blink_app	i2c\i2c_lld_led	Yes	Yes	NA
i2c_test_app	examples\i2c_diag_test\i2c_all	Yes	NA	NA
mailbox_app	examples\mailbox\mailbox_a15	Yes	Yes	Yes
mailbox_m4_app	examples\mailbox\mailbox_m4	Yes	Yes	Yes
mailbox_qintr_app	examples\mailbox\mailbox_qintr	Yes	Yes	Yes
mcaspBurstTransmit_app	examples\mcasp\mcasp_bursttransmit	Yes	Yes	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	Yes	Yes	NA
mcasp_sinetone_app	examples\mcasp\mcasp_sinetone	Yes	NA	Yes
mcspiMasterSlave_app	examples\mcspiMasterSlave\masterslave	Yes	Yes	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NA
mmcsd_fileIO_app	examples\sd_fileIO	Yes	NA	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	Yes
mmu_translation_fault_handle_app	examples\mmu\translation_fault_handle	Yes	NA	Yes
nor_edma_read	examples\nor\nor_edma_read	NA	Yes	NA
nor_read_write	examples\nor\nor_read_write	Yes	NA	NA
ocmc_addrSequence	examples\ocmc\ocmc_addr_sequence	NA	Yes	NA
ocmc_app	examples\ocmc\ocmc_basic	Yes	Yes	NA
ocmc_overflow_mid	examples\ocmc\ocmc_overflow_mid	NA	Yes	NA
ocmc_overflow_wrap	examples\ocmc\ocmc_overflow_wrap	NA	Yes	NA
ocmc_shortframe	examples\ocmc\ocmc_shortframe	NA	Yes	NA
ocmc_underflow	examples\ocmc\ocmc_underflow	NA	Yes	NA
pcie_app_ep_write_loopback	examples\pcie\write_loopback\ep	Yes	NA	NA
pcie_app_rc_write_loopback	examples\pcie\write_loopback\rc	Yes	NA	NA
pmic_app	examples\i2c_diag_test\pmic_i2c	Yes	NA	NA
qspi_test_app	examples\qspi_test	Yes	Yes	NA
sensor_config_app	examples\ov10630_sensor	Yes	NA	NA
spinlock_test	examples\spinlock_test	Yes	Yes	Yes
temp_sensor_app	examples\i2c_diag_test\i2c_temp_sensor	Yes	NA	NA
timer_app	examples\timer	Yes	Yes	Yes

uart1_test_app	examples\uart\uart1	Yes	NA	NA
uart3_test_app	examples\uart\uart3	Yes	NA	NA
uart_edma_test	examples\uart\uart_edma	Yes	Yes	NA
uart_intr_test	examples\uart\uart_intr	NA	Yes	NA
uart_test	examples\uart\uart_test	Yes	NA	NA
videoLoopback	examples\videoLoopback	NA	Yes	NA
vipCapt	examples\vipCapt	NA	Yes	NA
wdtimer_app	examples\wdtimer	Yes	NA	NA

Example	Folder	TI814X			
		A8 CGT	A8 GCC	M3	C674x
ddr_test_app	examples\ddr_stress_test	NT	NT	NA	NA
edma_test_app	examples\edma_test	NT	NT	NT	NT
i2c_100kbps_app	examples\i2c\100kbps	NT	NT	NA	NA
i2c_400kbps_app	examples\i2c\400kbps	NT	NT	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	NT	NT	NT	NA
i2c_fifo_app	examples\i2c\fifo	NT	NT	NA	NA
mailbox_app	examples\mailbox\mailbox_a15	NT	NT	NT	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	NT	NT	NT	NA
mcspi_app	examples\mcspi	NT	NT	NT	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NT	NA
mcspiSlave_app	examples\mcspiMasterSlave\slave	NT	NT	NT	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	NA	NT
nor_edma_read	examples\nor\nor_edma_read	NT	NT	NA	NA
sensor_config_app	examples\ov10630_sensor	NT	NT	NT	NA
timer_app	examples\timer	NT	NT	NT	NT
vipCapt	examples\vipCapt	NA	NA	NT	NA

- **Release Content**

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP, McSPI, OCMC, QSPI, SBL,MMU, Timer, MMCSD, PCIe and WDTimer
Libs	I2C, QSPI, FAT, NOR and VPS (VIP, DSS)
Utils	Uart console
Examples	Examples for the supported hal peripheral drivers.
Bootloader	SBL bootloader for TDA2xx platform. Validated SD, NOR and QSPI bootmode on TDA2xx 1.1 EVM.

- **Known Issues**

S. No.	CQ Id	Headline	Release Version
1.	OMAPS00297890	McSPI master slave sample app not validated on ti814x	StarterWare_00_02_01_11
2.	OMAPS00298489	[STW] Enable Semi-hosting in Cortex-A15 build system	StarterWare_00_02_02_12
3.	OMAPS00298854	[SBL] - Bring MPU_CPU1 core out of reset	StarterWare_01_00_00_14
4.	OMAPS00300001	Apps for various peripherals not validated on ti814x	StarterWare_01_00_01_15
5	OMAPS00303388	File Conversion to Windows Format On Installing STW package	StarterWare_01_00_02_16
6	OMAPS00306752	PCIe Write Loopback example not validated in Gen2 mode	Starterware_01_01_01_18
7	OMAPS00307877	[DSS] "1.4 Wrong Access In 1D Burst For YUV4:2:0-NV12 Format" Errata workaround needs to be implemented	Starterware_01_01_01_18
8	OMAPS00307878	[I2C] "1.5 System I2C hang due to miss of Bus Clear support" Errata workaround needs to be implemented	Starterware_01_01_01_18
9	OMAPS00307879	[GP Timer] "1.8 Delay needed to read some GP timer registers after wakeup" Errata workaround needs to be implemented	Starterware_01_01_01_18
10	OMAPS00307880	[DSS] "1.10 LCDENABLE Not Functional" Errata workaround needs to be implemented	Starterware_01_01_01_18
11	OMAPS00308288	AVS-0 needs delay after configuring each voltage rail	Starterware_01_01_01_18
12	OMAPS00308289	Incorrect speed configuration in I2C HAL as per TRM	Starterware_01_01_01_18

13	OMAPS00308290	Incorrect Iclk value in i2clib	Starterware_01_01_01_18
14	OMAPS00308658	A15 GIC function “void IntSetTargetProcessor(uint32_t intrNum, uint32_t processorSelect)” overwrites previous set flags	Starterware_01_01_01_18
15	OMAPS00308667	ABB is not tested by verifying the bias voltage at the bias capacitor	StarterWare_01_01_02_19
16	OMAPS00308844	[VIP] - Manual Switch setting required for capture Example	Starterware_01_01_01_18

▪ Build Dependencies

Tool chain	Version	Description
TMS470 CG	5.0.7	Compiler for Cortex A8
TMS470 CG	5.0.7	Compiler for Cortex M3 and Cortex M4
C6000 CG Tool	7.4.2	Compiler for C674x and C66x
CCS	5.4.0.00091	Code composer studio to load and run the application. Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc.
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A8 GCC
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A15

StarterWare 01.01.01.18

- **Installation**

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (starterware_setupwin32_01_01_01_18.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ starterware_01_01_01_18").

New In this Release

- Added HAL driver for PCIe.
- Added IO delay Recalibration sequence in SBL for SD and QSPI boot mode.
- Added support to identify TDA2xx ES 1.1 device.
- Changed QSPI_SCLK from 48 MHz to 64 MHz for TDA2xx ES 1.1 device.
- Following libraries used by the Drivers package are MISRA C compliant. The report itself will be part of the BIOS Drivers package:
  - drivers
  - include
  - vpslib
  - i2clib
  - system_config
  - utils
- Aligned the SBL DPLL configuration with GELv7
- Added support to set and get I2C Input Functional Clock , ER OMAPS00301919
- Added support to disable Watchdog Timer in Flash tools, ER OMAPS00302130
- Added new IOCTLs to vpslib for VIP overflow issue:

1. IOCTL_VPS_CAPT_SET_VIP_PARAMS :
   This IOCTL can be used to set the VIP hardware specific parameters. This IOCTL should be called after creating any VIP capture driver instance and before queuing or starting the capture driver. Starting the capture driver without calling this IOCTL will result in error.

Once the capture is started this IOCTL can't be invoked and will result in error. Once the capture is stopped, application could call this IOCTL to reconfigure the VIP block with a different set of parameters.

2. IOCTL_VPS_CAPT_GET_VIP_PARAMS
   This IOCTL can be used to get the VIP hardware parameters. This IOCTL could be called at any time after creating VIP capture driver instance.

3. IOCTL_VPS_CAPT_REGISTER_OVF_INTR
   This IOCTL can be used to enable the overflow interrupt. User needs to pass overflow ISR which will be called when overflow occurs on VIP and the application handle corresponding to that VIP instance.

4. IOCTL_VPS_CAPT_UNREGISTER_OVF_INTR
   This IOCTL can be used to unregister from the overflow interrupt. This will unregister on the VIP instance of the handle passed.

5. IOCTL_VPS_CAPT_CHECK_OVERFLOW
   This IOCTL can be used to get the status of overflow registers. This can be used with interrupt mode as well as polling mode. It will check overflow status on the handle passed and return the value in the parameter passed.

6. IOCTL_VPS_CAPT_RESET_VIP_PORT
   This IOCTL can be used to stop the VIP port corresponding to the handle passed. It sets the s/w reset bit of the VIP. This can be called in ISR context. It is used to stop the continuous overflow and come out of ISR

- Bug fixes
  1. OMAPS00299534: SD FIle IO app fails on second run without board reset
  2. OMAPS00301293: The size of AppImage is more when binary is in release mode.
  3. OMAPS00302524: NOR and QSPI Flashing Errors
  4. OMAPS00300088: VIP Issue on VME: Port does not recover from continuous overflow
  5. OMAPS00302249: [Timer App] : Timer Enable Fails in strict optimization
  6. OMAPS00303143: EVE_SystemReset issue in SBL in starterware_01_00_02_16 package
  7. OMAPS00303184: [STW]QSPI Driver support only to access 16MB size
  8. OMAPS00303188: change SBL to match MPU frequency to OPP_NOM speed which is 750 MHz.
  9. OMAPS00303484: Compile issues of macro redefinition after changing u-> U
  10. OMAPS00303655: Make Necessary Changes in SBL to align with Gel files
  11. OMAPS00303705: DMAXBARConnect API xbarInst parameter needs to be aligned
  12. OMAPS00303747: Cred Macros are used by QSPI DAL
  13. OMAPS00304148: lld_i2c_close fails to check the i2c handle status
  14. OMAPS00304598: Wrong EMIF settings for emif mode DUAL_EMIF_2X512MB
  15. OMAPS00305504: VSS28 Hardware Bring-up
  16. OMAPS00305708: Wrong DPLL settings for dpll_abe in SBL

17. OMAPS00305710: Recalibrate IO Delay in SBL
18. OMAPS00305843: Voltage change should be done before frequency change in SBL
19. OMAPS00306088: [Makerules] Wrong linker command options used for CGTools
20. OMAPS00306361: [Starterware UserGuide] McASP Pin Configuration for EVM Test Case needs to be updated properly
21. OMAPS00306452: Wrong I2c Configuration in SBL for AVS class 0
22. OMAPS00306454: Wrong switch settings documented for SD bootmode in SBL

Upgrade and Compatibility Information

Below are the interface changes in starterware:

- Changed the QSPI flash command values to use 32 bit addressing. Applications need to change the number of address bytes sent if they are using these commands. The older 24 bit commands are available as new enum values under enum qspi_ReadCommand_e.

- Changed the **compiler** switches for TMS470 compiler in release mode:

Sr. No.	Platform - Core	Compiler	Old Switches	New Switches
1.	TI814x-a8	TMS 470	armcl -c -qq -pdsw225 --neon --endian=little -mv7A8 --abi=eabi -eo.oea8f -ea.sea8f -O3 -g	armcl -c -qq -pdsw225 --neon --endian=little -mv7A8 --abi=eabi -eo.oea8f -ea.sea8f -O3 -g
2.	TI814x-m3	TMS 470	armcl -c -qq -pdsw225 --endian=little -mv7M3 --abi=eabi -eo.oem3 -ea.sem3 --symdebug:dwarf --embed_inline_assembly -ms -oe -O3 -op0 -os --optimize_with_debug --inline_recursion_limit=20 -g -ms	armcl -c -qq -pdsw225 --endian=little -mv7M3 --abi=eabi -eo.oem3 -ea.sem3 --symdebug:dwarf --embed_inline_assembly -o4 -os --optimize_with_debug --inline_recursion_limit=20 -g -ms
3.	Tda2xx-m4	TMS 470	armcl -c -qq -pdsw225 --endian=little -mv7M4 --float_support=vfplib --abi=eabi -eo.oem4 -ea.sem4 --symdebug:dwarf --embed_inline_assembly -ms -oe -O3 -op0 -os --optimize_with_debug --inline_recursion_limit=20 -g -ms	armcl -c -qq -pdsw225 --endian=little -mv7M4 --float_support=vfplib --abi=eabi -eo.oem4 -ea.sem4 --symdebug:dwarf --embed_inline_assembly -o4 -os --optimize_with_debug --inline_recursion_limit=20 -g -ms

- Changed the **linker** switches for TMS470 compiler in release mode:

Sr. No.	Platform - Core	Compiler	Old Switches	New Switches
1.	TI814x-a8	TMS 470	armlnk -w -q -u _c_int00 --silicon_version=7A8 --strict_compatibility=on -c --dynamic -x --zero_init=on	armcl --silicon_version=7A8 --run_linker -w -q -u _c_int00 --strict_compatibility=on -c --dynamic -x --zero_init=on
2.	TI814x-m3	TMS 470	armlnk -w -q -u _c_int00 --silicon_version=7M3 -c --dynamic --opt='--endian=little -mv7M3 --abi=eabi -qq -pdsw225 -g -ms -oe --symdebug:dwarf -ms -op2 -O3 -os --optimize_with_debug --inline_recursion_limit=20 --diag_suppress=23000' --strict_compatibility=on -x --zero_init=off	armcl -o4 --abi=eabi --silicon_version=7M3 --run_linker -w -q -u _c_int00 -c --dynamic --strict_compatibility=on -x --zero_init=off
3.	Tda2xx-m4	TMS 470	armlnk -w -q -u _c_int00 --silicon_version=7M4 -c --dynamic --opt='--endian=little -mv7M4 --float_support=vfplib --abi=eabi -qq -pdsw225 -g -ms -oe --symdebug:dwarf -ms -op2 -O3 -os --optimize_with_debug --inline_recursion_limit=20 --diag_suppress=23000' --strict_compatibility=on -x --zero_init=off	armcl -o4 --abi=eabi --silicon_version=7M4 --run_linker -w -q -u _c_int00 -c --dynamic --strict_compatibility=on -x --zero_init=off

- Changed the **compiler** switches for TMS470 compiler in debug mode:

Sr. No.	Platform - Core	Compiler	Old Switches	New Switches
1.	TI814x-a8	TMS 470	armcl -c -qq -pdsw225 --neon --endian=little -mv7A8 --abi=eabi -eo.oea8f -ea.sea8f -g	armcl -c -qq -pdsw225 --neon --endian=little -mv7A8 --abi=eabi -eo.oea8f -ea.sea8f -g
2.	TI814x-m3	TMS 470	armcl -c -qq -pdsw225 --endian=little -mv7M3 --abi=eabi -eo.oem3 -ea.sem3 --symdebug:dwarf --embed_inline_assembly -g -ms	armcl -c -qq -pdsw225 --endian=little -mv7M3 --abi=eabi -eo.oem3 -ea.sem3 --symdebug:dwarf --embed_inline_assembly -g -ms
3.	Tda2xx-m4	TMS 470	armcl -c -qq -pdsw225 --endian=little -mv7M4 --float_support=vfplib --abi=eabi -eo.oem4 -ea.sem4 --symdebug:dwarf --embed_inline_assembly -g -ms	armcl -c -qq -pdsw225 --endian=little -mv7M4 --float_support=vfplib --abi=eabi -eo.oem4 -ea.sem4 --symdebug:dwarf --embed_inline_assembly -g -ms

- Changed the **linker** switches for TMS470 compiler in debug mode:

Sr. No.	Platform - Core	Compiler	Old Switches	New Switches
1.	TI814x-a8	TMS 470	armlnk -w -q -u _c_int00 --silicon_version=7A8 --strict_compatibility=on -c --dynamic -x --zero_init=on	armcl --silicon_version=7A8 --run_linker -w -q -u _c_int00 --strict_compatibility=on -c --dynamic -x --zero_init=on
2.	TI814x-m3	TMS 470	armlnk -w -q -u _c_int00 --silicon_version=7M3 -c --dynamic -x --zero_init=off	armcl --silicon_version=7M3 --run_linker -w -q -u _c_int00 -c --dynamic -x --zero_init=off
3.	Tda2xx-m4	TMS 470	armlnk -w -q -u _c_int00 --silicon_version=7M4 -c --dynamic -x --zero_init=off	armcl --silicon_version=7M4 --run_linker -w -q -u _c_int00 -c --dynamic -x --zero_init=off

Supported/ Validated Examples

Starterware examples are supported for multiples cores and multiple platforms. In case of A8 core on TI814x multiple tool chains are supported. The following legend is applicable to a particular core on a particular platform and for a particular tool chain (Only in case of A8 and TI814x):

- Yes – Example is supported and tested successfully for this release
- NA – Example is not supported on the core for the particular platform
- NT – Example is supported but not tested for this release
- No – Example is supported but fails for this release

Example	Folder	TI814X				TDA2XX		
		A8 CGT	A8 GCC	M3	C674x	A15	M4	C66x
DssApp	examples\DssApp	NA	NA	NA	NA	NA	Yes	NA
boot_app	examples\boot	NA	NA	NA	NA	Yes	NA	NA
ddr_test_app	examples\ddr_stress_test	Yes	Yes	NA	NA	Yes	NA	NA
edma_test_app	examples\edma_test	Yes	Yes	Yes	Yes	Yes	Yes	NA
eeprom_app	examples\i2c_diag_test\eeprom_i2c	NA	NA	NA	NA	Yes	NA	NA
gpio_exp_app	examples\i2c_diag_test\i2c_gpio_expander	NA	NA	NA	NA	Yes	NA	NA
gpio_input_interrupt_app	examples\gpio\gpio_input_interrupt	NA	NA	NA	NA	Yes	NA	NA
gpio_output	examples\gpio\gpio_output	NA	NA	NA	NA	Yes	NA	NA
i2c_100kbps_app	examples\i2c\100kbps	Yes	Yes	NA	NA	Yes	NA	NA
i2c_400kbps_app	examples\i2c\400kbps	Yes	Yes	NA	NA	Yes	NA	NA
i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	Yes	Yes	NA	Yes	NA	NA
i2c_fifo_app	examples\i2c\fifo	Yes	Yes	NA	NA	Yes	NA	NA
i2c_lld_led_blink_app	i2c\i2c_lld_led	NA	NA	NA	NA	Yes	Yes	NA

i2c_test_app	examples\i2c_diag_test\i2c_all	NA	NA	NA	NA	Yes	NA	NA
mailbox_app	examples\mailbox\mailbox_a15	Yes	Yes	Yes	NA	Yes	Yes	Yes
mailbox_m4_app	examples\mailbox\mailbox_m4	NA	NA	NA	NA	Yes	Yes	Yes
mailbox_qintr_app	examples\mailbox\mailbox_qintr	NA	NA	NA	NA	Yes	Yes	Yes
mcaspBurstTransmit_app	examples\mcasp\mcasp_bursttransmit	NA	NA	NA	NA	Yes	Yes	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	Yes	Yes	Yes	NA	Yes	Yes	NA
mcasp_sinetone_app	examples\mcasp\mcasp_sinetone	NA	NA	NA	NA	Yes	NA	Yes
mcspi_app	examples\mcspi	Yes	Yes	Yes	NA	NA	NA	NA
mcspiMasterSlave_app	examples\mcspiMasterSlave\masterslave	NA	NA	NA	NA	NT	NT	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NT	NA	NT	NT	NA
mcspiSlave_app	examples\mcspiMasterSlave\slave	NT	NT	NT	NA	NA	NA	NA
mmcsd_fileIO_app	examples\sd_fileIO	NA	NA	NA	NA	Yes	NA	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	NA	Yes	NA	NA	Yes
mmu_translation_fault_handle_app	examples\mmu\translation_fault_handle	NA	NA	NA	NA	Yes	NA	Yes
nor_edma_read	examples\nor\nor_edma_read	Yes	Yes	NA	NA	NA	Yes	NA
nor_read_write	examples\nor\nor_read_write	NA	NA	NA	NA	Yes	NA	NA
ocmc_addrSequence	examples\ocmc\ocmc_addr_sequence	NA	NA	NA	NA	NA	Yes	NA
ocmc_app	examples\ocmc\ocmc_basic	NA	NA	NA	NA	Yes	Yes	NA
ocmc_overflow_mid	examples\ocmc\ocmc_overflow_mid	NA	NA	NA	NA	NA	Yes	NA
ocmc_overflow_wrap	examples\ocmc\ocmc_overflow_wrap	NA	NA	NA	NA	NA	Yes	NA
ocmc_shortframe	examples\ocmc\ocmc_shortframe	NA	NA	NA	NA	NA	Yes	NA
ocmc_underflow	examples\ocmc\ocmc_underflow	NA	NA	NA	NA	NA	Yes	NA
pcie_app_ep_write_loopback	examples\pcie\write_loopback\ep	NA	NA	NA	NA	Yes	NA	NA
pcie_app_rc_write_loopback	examples\pcie\write_loopback\rc	NA	NA	NA	NA	Yes	NA	NA
pmic_app	examples\i2c_diag_test\pmic_i2c	NA	NA	NA	NA	Yes	NA	NA
qspi_test_app	examples\qspi_test	NA	NA	NA	NA	Yes	Yes	NA
sensor_config_app	examples\ov10630_sensor	Yes	Yes	Yes	NA	Yes	NA	NA
spinlock_test	examples\spinlock_test	NA	NA	NA	NA	Yes	Yes	Yes
temp_sensor_app	examples\i2c_diag_test\i2c_temp_sensor	NA	NA	NA	NA	Yes	NA	NA
timer_app	examples\timer	Yes	Yes	Yes	Yes	Yes	Yes	Yes
uart1_test_app	examples\uart\uart1	NA	NA	NA	NA	Yes	NA	NA
uart3_test_app	examples\uart\uart3	NA	NA	NA	NA	Yes	NA	NA
uart_edma_test	examples\uart\uart_edma	NA	NA	NA	NA	Yes	Yes	NA
uart_intr_test	examples\uart\uart_intr	NA	NA	NA	NA	NA	Yes	NA
uart_test	examples\uart\uart_test	NA	NA	NA	NA	Yes	NA	NA
videoLoopback	examples\videoLoopback	NA	NA	NA	NA	NA	Yes	NA
vipCapt	examples\vipCapt	NA	NA	Yes	NA	NA	Yes	NA
wdtimer_app	examples\wdtimer	NA	NA	NA	NA	Yes	NA	NA

- **Release Content**

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP, McSPI, OCMC, QSPI, SBL,MMU, Timer, MMCSD, PCIe and WDTimer
Libs	I2C, QSPI, FAT, NOR and VPS
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Examples	Examples for the supported hal peripheral drivers.
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3.	OMAPS00298854	[SBL] - Bring MPU_CPU1 core out of reset	StarterWare_01_00_00_14
4.	OMAPS00300001	Apps for various peripherals not validated on ti814x	StarterWare_01_00_01_15
5.	OMAPS00303388	File Conversion to Windows Format On Installing STW package	StarterWare_01_00_02_16
6.	OMAPS00306541	Add IO Recalibration to SBL in NOR boot	Starterware_01_01_01_18
7.	OMAPS00306752	PCIe Write Loopback example not validated in Gen2 mode.	Starterware_01_01_01_18

- **Build Dependencies**

Tool chain	Version	Description
TMS470 CG	5.0.7	Compiler for Cortex A8
TMS470 CG	5.0.7	Compiler for Cortex M3 and Cortex M4
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Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A8 GCC
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A15

StarterWare 01.00.02.16

- **Installation**

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (starterware_setupwin32_01_00_02_16.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ starterware_01_00_02_16").

New In this Release

- Added support to build starterware in release mode.
- Added GCC tool chain support for A8.
- Added support to refresh the Watchdog Timer in SBL.
- Added EDMA mode in fatlib to read data from receive data buffer.
- Optimized the SBL in SD boot mode.
- Changed QSPI_SCLK from 64 MHz to 48 MHz due to hardware limitation.

- Bug fixes
  23. OMAPS00298278[STW] : Huge heap size assigned for IPU examples
  24. OMAPS00298288[SBL] ROM bootloader reset WD TIMER2 in GP device. Second stage bootloader & application required to handle WD TIMER2
  25. OMAPS00298898sys clock detection in SBL incorrect
  26. OMAPS00298931[SBL] calling prcm_set_clkdomain_state_internal() for certain clock domains resulting timeout
  27. OMAPS00299428Wrong hw file used for MMCSD
  28. OMAPS00299775Wrong starterware_PKG_LIST_ALL in component.mk
  29. OMAPS00299863Starterware Build fails when done on linux machine
  30. OMAPS00299999Release Build is not supported in starterware
  31. OMAPS00300000Wrong optimization level while building starterware in debug profile
  32. OMAPS00300022[Documentation] Test Report for apps not present in Release Notes
  33. OMAPS00300090Wrong Build Paramter in top level makefile: SOC instead of PLATFORM
  34. OMAPS00300141[SBL & STW] .COMMON section is not initialized to zero by the start-up code

35. OMAPS00300170 gmake -s clean is not working for tda2xx
36. OMAPS00300676 [Docs] Wrong Uart Configuration specified in Userguide
37. OMAPS00300679 [Docs] Add steps to comment tool-chains in Starterware Userguide
38. OMAPS00300746 Clean makerules specified incorrectly in top level makefile
39. OMAPS00300748 Different build and clean makerule for starterware apps
40. OMAPS00300749 Random targets defined in makefile
41. OMAPS00300879 Remarks on compilation because Executable statements are present before variable declarations
42. OMAPS00300889 Clean build missing for i2c_lib on core c66x in top makefile
43. OMAPS00300896 Wrong Compiler Options for A15
44. OMAPS00300897 Warnings on checking for unused variables for A15
45. OMAPS00300898 Remark for missing return statement for mcasp sinetone app
46. OMAPS00300899 Wrong compiler and linker options for TMS470
47. OMAPS00300901 Wrong Compiler options for C6000 compiler
48. OMAPS00300914 Change default build profile from debug to release mode
49. OMAPS00301085 Nor EDMA Read App build failure on a8 gcc due to multiple re definition of symbols
50. OMAPS00301217 Wrong CFLAG in sbl_multicore_mbx makefile
51. OMAPS00301239 Linux Build error in Nor Profiler App
52. OMAPS00301284 Wrong Entry Point for SBL in NOR Boot Mode
53. OMAPS00301409 Wrong Entry Point for Starterware examples
54. OMAPS00301423 EDMA not working when SBL is used for booting in SD bootmode
55. OMAPS00301480 M4 interrupt controller not working correctly due to Uninitialized array
56. OMAPS00301557 M3 interrupt controller does not work with IRQ line no 48
57. OMAPS00301558 M3/M4 interrupt controller doesn't work properly in release mode if two interrupt lines are enabled
58. OMAPS00301559 Wrong Variable initialization in Uart Apps
59. OMAPS00301606 GPMC base address is hard coded in NOR apps
60. OMAPS00301613 Unused file in senor_config_app and videoLoopback

Upgrade and Compatibility Information

Below are the interface changes in starterware:

- Changed extensions for all A8/A15 binaries:
    - A15 binaries from .xea15 to .xa15fg
    - A8 binaries using TMS470 (cgt) from .xea8 to .xea8f
    - A8 binaries with GCC Compiler will have extension .xa8fg
- Changed extensions for all A8/A15 libraries:
    - A15 libraries from .aea15 to .aa15fg
    - A8 libraries using TMS470 (cgt) from .aea8 to .aea8f
    - A8 libraries with GCC Compiler will have extension .aa8fg

- All A8 specific System Config files for TI814x are moved from folder system_config\armv7a\ti814x* to system_config\armv7a\ti814x\<COMPILER>*, where <COMPILER> can be gcc or cgt. Older files supported CGT tool chain and thus are moved to system_config\armv7a\ti814x\<COMPILER>\cgt* folder.
- Due to addition of EDMA support in fatlib, any example that uses fatlib needs to initialize the EDMA i.e. call EDMASetRegion() and EDMA3Init() APIs with proper parameters.
- Changed the top level Makefile targets from profilerApps to profiler_apps, clean_libs to libs_clean and clean_examples to examples_clean.
- Added the targets sbl_mutlicore_app and profiler_apps to target 'all'.
- Added the targets sbl_all_clean, sbl_multicore_app_clean and profiler_apps_clean to target 'clean'.
- Added the new hw file for MMCSD driver hw_mmc.h and deleted the old file hw_hs_mmcsd.h. Ported the MMCSD driver to new TRM consistent hw file.
- Reduced the heap size in M4 linker command file lnk_m4.cmd from 0x08000000 to 0x20000.
- Changed the optimization level in debug profile for cores m3(vpss/video) , m4(vpss/video) and a8(host) from -O3 to -O0.
- Changed the compiler switches for TMS470, C6000 and Linaro compiler in debug mode:

Sr. No.	Platform - Core	Compiler	Old Switches	New Switches
1.	ti814x-a8	TMS 470	-c -qq -pdsw225 --neon --endian=$(ENDIAN) -mv7A8 --abi=$(CSWITCH_FORMAT) -eo.$(OBJEXT) -ea.$(ASMEXT) --symdebug:dwarf	-c -qq -pdsw225 --neon --endian=$(ENDIAN) -mv7A8 --abi=$(CSWITCH_FORMAT) -eo.$(OBJEXT) -ea.$(ASMEXT) -g
2.	ti814x-c674x	C6000	-mv6740 --abi=$(CSWITCH_FORMAT) -q -mi10 -mo -pden -pds=238 -pds=880 -pds1110 --program_level_compile -g --endian=$(ENDIAN) -eo.$(OBJEXT) -ea.$(ASMEXT)	-c -qq -pdsw225 --endian=$(ENDIAN) -mv6740 --abi=$(CSWITCH_FORMAT) -eo.$(OBJEXT) -ea.$(ASMEXT) -mi10 -mo -pdr -pden -pds=238 -pds=880 -pds1110 --program_level_compile -g
3.	tda2xx-c66x	C6000	-mv6600 --abi=$(CSWITCH_FORMAT) -q -mi10 -mo -pden -pds=238 -pds=880 -pds1110 --program_level_compile -g --endian=$(ENDIAN) -eo.$(OBJEXT) -ea.$(ASMEXT)	-c -qq -pdsw225 --endian=$(ENDIAN) -mv6600 --abi=$(CSWITCH_FORMAT) -eo.$(OBJEXT) -ea.$(ASMEXT) -mi10 -mo -pdr -pden -pds=238 -pds=880 -pds1110 --program_level_compile -g

4.	tda2xx-a15	Linaro GCC	-c -mcpu=cortex-a15 -g -mfpu=neon -mfloat-abi=hard -mabi=aapcs -mapcs-frame -ffunction-sections -fdata-sections	-Wunused -Wunknown-pragmas -ffunction-sections -fdata-sections -mcpu=cortex-a15 -mfpu=neon -mfloat-abi=hard -mabi=aapcs -mapcs-frame -g

- For A8 core and TMS470 tool chain, added optimization switch –O3 in release mode.
- Added CFLAGS "-ms -oe -O3 -op0 -os --optimize_with_debug --inline_recursion_limit=20" for M3/M4- TMS470 compiler in release mode.
- Added CFLAG "--optimize_with_debug" for C66x/C674x- C6000 compiler in release mode.
- Added linker options "-mfloat-abi=hard -nostartfiles -Wl,-static -Wl,--gc-sections" for A15- GCC tool chain.

Supported/ Validated Examples

Starterware examples are supported for multiples cores and multiple platforms. In case of A8 core on TI814x multiple tool chains are supported. The following legend is applicable to a particular core on a particular platform and for a particular tool chain (Only in case of A8 and TI814x):

- Yes – Example is supported and tested successfully for this release
- NA – Example is not supported on the core for the particular platform
- NT – Example is supported but not tested for this release
- No – Example is supported but fails for this release

Example	Folder	TI814X				TDA2XX		
		A8 CGT	A8 GCC	M3	C674x	A15	M4	C66x
DssApp	examples\DssApp	NA	NA	NA	NA	NA	Yes	NA
boot_app	examples\boot	NA	NA	NA	NA	Yes	NA	NA
ddr_test_app	examples\ddr_stress_test	Yes	Yes	NA	NA	Yes	NA	NA
edma_test_app	examples\edma_test	Yes	Yes	Yes	Yes	Yes	Yes	NA
eeprom_app	examples\i2c_diag_test\eeprom_i2c	NA	NA	NA	NA	Yes	NA	NA
gpio_exp_app	examples\i2c_diag_test\i2c_gpio_expander	NA	NA	NA	NA	Yes	NA	NA
gpio_input_interrupt_app	examples\gpio\gpio_input_interrupt	NA	NA	NA	NA	Yes	NA	NA
gpio_output	examples\gpio\gpio_output	NA	NA	NA	NA	Yes	NA	NA
i2c_100kbps_app	examples\i2c\100kbps	Yes	Yes	NA	NA	Yes	NA	NA
i2c_400kbps_app	examples\i2c\400kbps	Yes	Yes	NA	NA	Yes	NA	NA

i2c_driver_led_blink_app	examples\i2c\i2c_driver_led	Yes	Yes	Yes	NA	Yes	NA	NA
i2c_fifo_app	examples\i2c\fifo	Yes	Yes	NA	NA	Yes	NA	NA
i2c_lld_led_blink_app	i2c\i2c_lld_led	NA	NA	NA	NA	Yes	Yes	NA
i2c_test_app	examples\i2c_diag_test\i2c_all	NA	NA	NA	NA	Yes	NA	NA
mailbox_app	examples\mailbox\mailbox_a15	Yes	Yes	Yes	NA	Yes	Yes	Yes
mailbox_m4_app	examples\mailbox\mailbox_m4	NA	NA	NA	NA	Yes	Yes	Yes
mailbox_qintr_app	examples\mailbox\mailbox_qintr	NA	NA	NA	NA	Yes	Yes	Yes
mcaspBurstTransmit_app	examples\mcasp\mcasp_bursttransmit	NA	NA	NA	NA	Yes	Yes	NA
mcaspTransmit_app	examples\mcasp\mcasp_transmit	Yes	Yes	Yes	NA	Yes	Yes	NA
mcasp_sinetone_app	examples\mcasp\mcasp_sinetone	NA	NA	NA	NA	Yes	NA	Yes
mcspi_app	examples\mcspi	NT	NT	NT	NA	NA	NA	NA
mcspiMasterSlave_app	examples\mcspiMasterSlave\masterslave	NA	NA	NA	NA	NT	NT	NA
mcspiMaster_app	examples\mcspiMasterSlave\master	NT	NT	NT	NA	NT	NT	NA
mcspiSlave_app	examples\mcspiMasterSlave\slave	NT	NT	NT	NA	NA	NA	NA
mmcsd_fileIO_app	examples\sd_fileIO	NA	NA	NA	NA	Yes	NA	NA
mmu_tlb_twl_app	examples\mmu\tlb_twl	NA	NA	NA	Yes	NA	NA	Yes
mmu_translation_fault_handle_app	examples\mmu\translation_fault_handle	NA	NA	NA	NA	Yes	NA	Yes
nor_edma_read	examples\nor\nor_edma_read	Yes	Yes	NA	NA	NA	Yes	NA
nor_read_write	examples\nor\nor_read_write	NA	NA	NA	NA	Yes	NA	NA
ocmc_addrSequence	examples\ocmc\ocmc_addr_sequence	NA	NA	NA	NA	NA	Yes	NA
ocmc_app	examples\ocmc\ocmc_basic	NA	NA	NA	NA	Yes	Yes	NA
ocmc_overflow_mid	examples\ocmc\ocmc_overflow_mid	NA	NA	NA	NA	NA	Yes	NA
ocmc_overflow_wrap	examples\ocmc\ocmc_overflow_wrap	NA	NA	NA	NA	NA	Yes	NA
ocmc_shortframe	examples\ocmc\ocmc_shortframe	NA	NA	NA	NA	NA	Yes	NA
ocmc_underflow	examples\ocmc\ocmc_underflow	NA	NA	NA	NA	NA	Yes	NA
pmic_app	examples\i2c_diag_test\pmic_i2c	NA	NA	NA	NA	Yes	NA	NA
qspi_test_app	examples\qspi_test	NA	NA	NA	NA	Yes	Yes	NA
sensor_config_app	examples\ov10630_sensor	Yes	Yes	Yes	Yes	Yes	NA	NA
spinlock_test	examples\spinlock_test	NA	NA	NA	NA	Yes	Yes	Yes
temp_sensor_app	examples\i2c_diag_test\i2c_temp_sensor	NA	NA	NA	NA	Yes	NA	NA
timer_app	examples\timer	Yes	Yes	Yes	Yes	Yes	Yes	Yes
uart1_test_app	examples\uart\uart1	NA	NA	NA	NA	Yes	NA	NA
uart3_test_app	examples\uart\uart3	NA	NA	NA	NA	Yes	NA	NA
uart_edma_test	examples\uart\uart_edma	NA	NA	NA	NA	Yes	Yes	NA
uart_intr_test	examples\uart\uart_intr	NA	NA	NA	NA	NA	Yes	NA
uart_test	examples\uart\uart_test	NA	NA	NA	NA	Yes	NA	NA
videoLoopback	examples\videoLoopback	NA	NA	NA	NA	NA	Yes	NA
vipCapt	examples\vipCapt	NA	NA	Yes	NA	NA	Yes	NA
wdtimer_app	examples\wdtimer	NA	NA	NA	NA	Yes	NA	NA

- **Release Content**

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP, McSPI, OCMC, QSPI, SBL,MMU, Timer, MMCSD and WDTimer
Libs	I2C, QSPI, FAT, NOR and VPS
Utils	Uart console
Examples	Examples for the supported hal peripheral drivers.
Bootloader	SBL bootloader for TDA2xx platform. Validated SD, NOR and QSPI bootmode on TDA2xx EVM.

- **Known Issues**

S. No.	CQ Id	Headline	Release Version
1.	OMAPS00297890	mcspi master slave sample app not validated on ti814x	StarterWare_00_02_01_11
2.	OMAPS00298489	[STW] Enable Semi-hosting in Cortex-A15 build system	StarterWare_00_02_02_12
3.	OMAPS00298854	[SBL] - Bring MPU_CPU1 core out of reset	StarterWare_01_00_00_14
4.	OMAPS00299534	SD FIle IO app fails on second run without board reset	StarterWare_01_00_00_14
5.	OMAPS00300001	Apps for various peripherals not validated on ti814x	StarterWare_01_00_01_15
6.	OMAPS00300088	VIP Issue: Port does not recover from continuous overflow	StarterWare_00_01_00_09
7.	OMAPS00301293	The size of AppImage is more when binary is in release mode.	StarterWare_01_00_00_14

- **Build Dependencies**

Tool chain	Version	Description
TMS470 CG	5.0.4	Compiler for Cortex A8
TMS470 CG	5.0.4	Compiler for Cortex M3 and Cortex M4
C6000 CG Tool	7.4.2	Compiler for C674x and C66x
CCS	5.4.0.00091	Code composer studio to load and run the application. Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc.
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A8 GCC
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A15

StarterWare 01.00.01.15

- **Installation**

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (starterware_setupwin32_01_00_01_15.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ starterware_01_00_01_15").

New In this Release

- Updated GPIO expander, EEPROM and SD card file IO board diagnostic test application to support test on JAMR3 board.

- Bug fixes
  61. OMAPS00294246soc.h for TI814x is not complete.
  62. OMAPS00298591SD File IO App fails if the AppImage file is not present in the card
  63. OMAPS00298904[Capture] VIPCapture Output results in blank frames when inline scalar is enabled for 1:1 ratio
  64. OMAPS00299533MMC Instance one base address was hard coded in FAT lib

- **Upgrade and Compatibility Information**

  There are no interface changes for this release.

- **Release Content**

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP, McSPI, OCMC, QSPI, SBL,MMU, Timer, MMCSD and WDTimer
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- **Known Issues**

SR.No	CQ Id	Headline	Release Version
1.	OMAPS00293758	CRED folder cleaning up with respect to TRM aligned HW files.	StarterWare_00_01_00_02
2.	OMAPS00296324	VIP multi-instance memory issue	StarterWare_00_01_00_08
3.	OMAPS00297890	mcspi master slave sample app not validated on ti814x	StarterWare_00_02_01_11
4.	OMAPS00298278	[STW] : Huge heap size assigned for IPU examples	StarterWare_00_02_02_12
5.	OMAPS00298288	[SBL] ROM bootloader reset WD TIMER2 in GP device. Second stage bootloader & application required to handle WD TIMER2	StarterWare_00_02_02_12
6.	OMAPS00298489	[STW] Enable Semi-hosting in Cortex-A15 build system	StarterWare_00_02_02_12
7.	OMAPS00298854	[SBL] - Bring MPU_CPU1 core out of reset	StarterWare_01_00_00_14
8.	OMAPS00298898	sys clock detection in SBL incorrect	StarterWare_01_00_00_14
9	OMAPS00298931	[SBL] calling prcm_set_clkdomain_state_internal() for certain clock domains resulting timeout	StarterWare_00_02_02_12
10	OMAPS00299428	Wrong hw file used for MMCSD	StarterWare_01_00_00_14
11	OMAPS00299531	the DDR SW levelling values are differing from GEL files from TI.	StarterWare_01_00_00_14
12	OMAPS00299534	SD FIle IO app fails on second run without board reset	StarterWare_01_00_00_14

- **Build Dependencies**

Tool chain	Version	Description
TMS470 CG	5.0.4	Compiler for Cortex A8
TMS470 CG	5.0.4	Compiler for Cortex M3 and Cortex M4
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CCS	5.4.0.00091	Code composer studio to load and run the application. Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A15

StarterWare 01.00.00.14

- **Installation**

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (starterware_setupwin32_01_00_00_14.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ starterware_01_00_00_14").

New In this Release

- Validated example apps with SBL.
- Added the HAL driver for WDTimer (WatchDog Timer)
- Added NOR flash library.
- Added Burst Mode Support Application for tda2xx-evm. This demonstrates below features:
  - Burst Mode Support on A15, M4 using EDMA Manual Trigger Mode.
  - Demonstrate Burst Transfer in Single Burst and no intermediate transfers
  - Synchronization using Interrupt and Polled Mechanism between EDMA Transfers and Buffers
  - HW Ping Pong Buffer Mechanism.
  - Data Packets to be sent at different user configurable Delays,
  - Update User Configurable Buffer Params
- Added a new VIP IOCTL “VPSCORE_VIP_IOCTL_GET_CURCAPTFRM_INFO” to get the buffer pointer of the current frame being captured.
- Added nested interrupt support for DSP
- Optimized and enhanced SBL on TDA2xx-EVM
  - Multi-level trace support is added to control the trace message both at build level & API level.
  - Boot-up performance improvement in NOR boot mode: Tested with AV BIOS SDK application, boot-up time improved from 2612ms to 252ms
  - Boot-up performance improvement in SD boot mode: Tested with AV BIOS SDK application, boot-up time improved from 6050.3ms to 2117.72ms

  - Implemented ProfileApps to measure the data through-put of GPMC NOR FLASH, QSPI Serial FLASH & SD card.
  - In SBL added support for multiple EMIF configuration
    - DUAL_EMIF_2X512MB
    - DUAL_EMIF_1GB_512MB
    - SINGLE_EMIF_256MB

- Verified the vipCapt on TDA1Mxx-EVM.

- Added following examples on TDA2xx-EVM:
  - MCASP Burst Transfer app
  - MCASP sinetone app
  - Video loopback app
  - NOR read write app

- Bug fixes

65. OMAPS00292783SBL - PRCM modules prcm_timer12 & prcm_wd_timer1 are not switching to module enabled state.
66. OMAPS00293522 [Build] Drivers should be build without --gcc option
67. OMAPS00295913 DR_TRMINC00101: Wrong polarity documented for Pad conf pull enable and slew control bits.
68. OMAPS00296399 Unable to view source code on loading binary on A15
69. OMAPS00296757 [SBL] On PORz very first boot fails on DDR3 configuration. This occur on certain samples only.
70. OMAPS00296779 [STW] NOR Flash writer crashes if download image size is large
71. OMAPS00297216 Sensor App and edma app nor working on dsp for ti814x
72. OMAPS00297218 mcasp and mcspi apps not validated on ti814x
73. OMAPS00297219 vipCapt not validated on ti814x
74. OMAPS00297256 Board diag binaries are not working with SBL on removing gel files from CCS.
75. OMAPS00297271[STW] Not accepted to implement board diagnostic requirement in the NOR Flash writer tool
76. OMAPS00297576 Wrong version number for linaro in release notes and userguide
77. OMAPS00297584 Remove -gcc option from build options
78. OMAPS00297825 [VIPCapture] VIPCapture doesn't result in error when scalar is enabled for VIP0 portA and PortB
79. OMAPS00297997 gmake -s clean gives errors
80. OMAPS00297998 Instruction return pointer(IRP) not handled in DSP Interrupt controller ISR code
81. OMAPS00298006 Nested interrupt not handled in DSP interrupt controller ISR
82. OMAPS00298014 Clean command for tda2xx not working properly
83. OMAPS00298054 Wrong compiler option for c66x
84. OMAPS00298152 Add missing TI file header & remove dead codes in SBL

85. OMAPS00298330 [stw]edma_test: doesnot run second time on dsp
86. OMAPS00298348 [stw] edma examples fail if bCnt and cCnt values passed are not 1
87. OMAPS00298403 Warnings while building vpslib for PACKAGE_SELECT vps-vpe-only for tda2xx
88. OMAPS00298404 vpslib build is failing for PACKAGE_SELECT vps-dss-only for tda2xx
89. OMAPS00298507 McASP Transmit Application Fails
90. OMAPS00298277 McASP Application FIFO Control Setting Bug
91. OMAPS00298650 [CPLUS PLUS BUILD] CPLUS PLUS BUILD is not validated for the release.

Upgrade and Compatibility Information

Below are the interface changes in starterware:

- Removed the –gcc compiler option for building drivers for all cores.
- Renamed the nor_app to nor_edma_read and moved it from folder examples/nor_app to examples/nor/nor_edma_read.
- Modified vps_init() as common driver init API for capture and DSS modules instead of individual driver init API i.e., vps_init() for capture and vps_Dssinit () for DSS Modules. vps_init() is defined in newly added file "vps_initDrv.c". This file is to be included while calling vps related APIs.
- nor read write test was added as part of nor flash writer, this is made as a separate example under examples/nor/nor_read_write.
- Removed uartlib dependent files from Bootloader folder which was used in Zebu platform.
- Renamed the file sbl_tda2xx_SR0.c to sbl_tda2xx_sr0.c.
- Changed the folder name from PrebuildBinaries to prebuild_binaries.
- Added a new folder videoloopback under the folder prebuild_binaries\application_images.
- Updated McASP Macro MCASP_TX_FS_WIDTH_WORD in mcasp.h

- **Release Content**

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Libs	I2C, QSPI, FAT, NOR and VPS
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Examples	Examples for the supported hal peripheral drivers.
Bootloader	SBL bootloader for TDA2xx platform. Validated SD, NOR and QSPI bootmode on TDA2xx EVM.

- **Known Issues**

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4.	OMAPS00297890	mcspi master slave sample app not validated on ti814x	StarterWare_00_02_01_11
5.	OMAPS00297894	VideoLoopback Application: Queue-Dequeue from multiple buffer is not supported.	StarterWare_00_02_02_12
6.	OMAPS00298278	[STW] : Huge heap size assigned for IPU examples	StarterWare_00_02_02_12
7.	OMAPS00298288	[SBL] ROM bootloader reset WD TIMER2 in GP device. Second stage bootloader & application required to handle WD TIMER2	StarterWare_00_02_02_12
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9	OMAPS00298591	SD File IO App fails if the AppImage file is not present in the card	StarterWare_00_02_02_12

- **Build Dependencies**

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CCS	5.4.0.00091	Code composer studio to load and run the application. Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc
Linaro bare-metal GCC	Linaro GCC 4.7.2012q4	Compiler for Cortex A15

StarterWare 00.02.02.12

- **Installation**

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (TDA1Mxx_TDA2xx_StarterWare_00_02_02_12_setup.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ TDA1Mxx_TDA2xx_StarterWare").

New In this Release

- Verified the GPIO interrupt test on TDA2xx-evm for following signal change: High level, Rising edge and falling edge.

- Verified the following modules on TDA1Mxx-EVM
  - Mailbox app
  - Edma test app
  - Timer app
  - Nor app
  - Sensor config app
  - DDR stress app
  - MMU test app
  - I2C in 100 kbps, 400 kbps and fifo mode.

- Bug fixes
  92. OMAPS00296768 DDR test App not validated for M4
  93. OMAPS00296986 Mailbox app not validated on ti814x
  94. OMAPS00297037 Sensor config app does not work in interrupt mode on ti814x DSP core
  95. OMAPS00297038 Sensor config app not validated on centaurus for Starterware _00_02_01_11 release

- **Upgrade and Compatibility Information**

  Below are the interface changes in starterware:

- Change in macros used for display instances:

Sr. No.	**Old** Macro	**New** Macro
1.	VPS_DISP_INST_DSS_VID1	VPSDRV_DISP_INST_DSS_VID1
2.	VPS _DISP_INST_DSS_VID2	VPSDRV_DISP_INST_DSS_VID2
3.	VPS _DISP_INST_DSS_VID3	VPSDRV_DISP_INST_DSS_VID3
4.	VPS_DISP_INST_DSS_GFX1	VPSDRV_DISP_INST_DSS_GFX1

- Structure name is changed from Vps_DispDssParams to VpsDrv_DispDssParams.
- Modified signature of VpsDrv_dssSetParams API from Int32 VpsDrv_dssSetParams(VpsDrv_DispInstObj *pObj, const Vps_DispDssParams *pathCfg) to Int32 VpsDrv_dssSetParams(VpsDrv_DispInstObj *pObj, const VpsDrv_DispDssParams *pathCfg) to accommodate the change in structure name.

Release Content

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP. McSPI, OCMC, QSPI, SBL,MMU, Timer and MMCSD
Libs	I2C, QSPI, FAT and VPS
Utils	Uart console
Examples	Examples for the supported hal peripheral drivers.
Bootloader	SBL bootloader for TDA2xx platform. Validated SD, NOR and QSPI bootmode on TDA2xx EVM.

Known Issues

SR.No	CQ Id	Headline	Release Version
1	OMAPS00292783	SBL - PRCM modules prcm_timer12 & prcm_wd_timer1 are not switching to module enabled state.	StarterWare_00_01_00_05
2	OMAPS00293522	[Build] Drivers should be build without --gcc option	StarterWare_00_01_00_05
3	OMAPS00294246	soc.h for TI814x is not complete.	StarterWare_00_01_00_08
4	OMAPS00295913	DR_TRMINC00101: Wrong polarity documented for Pad conf pull enable and slew control bits.	StarterWare_00_01_00_09
5	OMAPS00296312	Starterware I2C LLD fails in 32 byte FIFO mode. Works fine for 8 and 15 byte FIFO mode	StarterWare_00_01_00_09
6	OMAPS00296324	VIP multi-instance memory issue	StarterWare_00_01_00_08
7	OMAPS00296399	Unable to view source code on loading binary on A15	StarterWare_00_02_00_10

8	OMAPS00296665	SD Card File IO APP not validated for ti814x platform	StarterWare_00_02_00_10
9	OMAPS00296757	[SBL] On PORz very first boot fails on DDR3 configuration. This occur on certain samples only.	StarterWare_00_02_00_10
10	OMAPS00296779	[STW] NOR Flash writer crashes if download image size is large	StarterWare_00_02_00_10
11	OMAPS00297216	Sensor App and edma app nor working on dsp for ti814x	StarterWare_00_02_01_11
12	OMAPS00297218	mcasp and mcspi apps not validated on ti814x	StarterWare_00_02_01_11
13	OMAPS00297219	vipCapt not validated on ti814x	StarterWare_00_02_01_11
14	OMAPS00297256	Board diag binaries are not working with SBL on removing gel files from CCS.	StarterWare_00_02_00_10
15	OMAPS00297271	[STW] Not accepted to implement board diagnostic requirement in the NOR Flash writer tool	StarterWare_00_02_01_11

- **Build Dependencies**

Tool chain	Version	Description
TMS470 CG	5.0.4	Compiler for Cortex A8
TMS470 CG	5.0.4	Compiler for Cortex M3 and Cortex M4
C6000 CG Tool	7.4.2	Compiler for C674x and C66x
CCS	5.4.0.00091	Code composer studio to load and run the application. Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc
Linaro bare-metal GCC	Linaro GCC 4.6.2012q4	Compiler for Cortex A15

StarterWare 00.02.01.11

- **Installation**

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (TDA1Mxx_TDA2xx_StarterWare_00_02_01_11_setup.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ TDA1Mxx_TDA2xx_StarterWare").

New In this Release

- Optimized and enhanced I2C lib on TDA2xx-EVM
  - Optimized I2C lib
  - – Replaced delays with status checks. I2c operations in interrupt mode are affected due to this change.
  - – Added delay between write and read operations to EEPROM app to account for data processing time.
  - Added FIFO support in I2C LIB
  - Changing I2C clock on demand

  For more details refer to I2Clib sections of TDA1Mxx_TDA2xx_StarterWare_UserGuide

- Optimized and enhanced SBL on TDA2xx-EVM
  - – Regression feature added in the SBL. It adds support to validate the binaries in regression mode. Validated the SBL regression testing with DV & SiVal test cases.
  - – To measure the boot-up time, CPU cycle read hooks are added in the SBL main flow. SBL boot-up cycles are captured in the userguide.
  - – Improved the QSPI boot-up time from 3% to 65%
    - – Configure QSPI SCLK at 64MHz
    - – Use EDMA to copy the sections from serial flash to device memory

- Added the HAL driver for Timer (General Purpose Timer)

- Verified the following modules on TDA2xx-EVM
  - NOR flash test app
  - SD card File IO app
  - Tested I2Clib configured in 400 kbps(Polled, Interrupt and DMA mode)
  - UART in interrupt and dma mode
  - UART test app for different line characteristics configurations.
  - Mailbox for queue not full interrupt
  - IRQ XBAR for all possible instances for cores A15, M4 and C66x.
  - GPIO read configured in interrupt mode
  - OCMC configured in Block and FULL ECC mode
  - EDMA test case extended(Tested QDMA)

- MMU test case to handle translation fault.
- QSPI tested with different clock configuration and with fast read, dual and quad read.

- Bug fixes
  96. OMAPS00292462 Memory Datasheet needed
  97. OMAPS00292802 starterware - non secure mode interrupt handling
  98. OMAPS00293633 [edma3_lld] Crossbar configuration is done wrong for tda2xx/Vayu platform
  99. OMAPS00293634 OCMC issue on VIRTIO platform
  100. OMAPS00293688 eDMA_LLD_02.11.06.01 build steps and missing tools update in Rules.mk
  101. OMAPS00293757 McSPI , DSP interrupt controller, I2C EDMA not validated on virtio tda2xx
  102. OMAPS00293761 TDAM1xx: GPIOModuleReset function is getting hung
  103. OMAPS00294094 DSP goes for reset after servicing interrupt
  104. OMAPS00294414 [SBL] SBL fails to check for SD card status. If SD card is not inserted & SBL runs from CCS it hang on file mount
  105. OMAPS00294755 lld_i2c_transfer return success with wrong slave address
  106. OMAPS00294869 OCMC Examples need hard reset
  107. OMAPS00294871 McSPI and McASP are not verified on tda2xx-evm
  108. OMAPS00295911 Determining the core by reading from a core id or device id register (if possible), instead of compile time definitions.
  109. OMAPS00295990 Qspi flash writer with erase only required region fails for last block
  110. OMAPS00296071 Boot test for nor flash not validated for release 00.02.00.10
  111. OMAPS00296072 nor flash test app not validated for release 00.02.00.10
  112. OMAPS00296073 SD card test not validated for release 00.02.00.10
  113. OMAPS00296160 UART & MMC Lib - Multi instance support
  114. OMAPS00296241 SBL fails to configure rgmii port-0 pad.
  115. OMAPS00296244 M4 interrupt controller does not work with IRQ line no 48
  116. OMAPS00296258 ARM interrupt controller is not working for IRQ line no. 139 and above
  117. OMAPS00296261 ARM interrupt controller is working for Interrupt line 5 and 126
  118. OMAPS00296321 Starterware I2C clock issue
  119. OMAPS00296376 Changing I2C clock frequency on denmand
  120. OMAPS00296384 Need Support in I2C LLD to pass timeout parameter 0
  121. OMAPS00296722 [STW] - QSPI Flash library EDMA read sector API support to copy only 0xFFFF bytes. If length exceeds QSPI EDAM read fails
  122. OMAPS00296724 [STW] starterware edma library deinit() api is not bring-up edma system to clear state

Upgrade and Compatibility Information

Below are the interface changes in starterware:

- Modified signature of QSPI_ReadCfgMode API in file <starterware_rootdir>/ qspilib\qspi_flash/qspi_flash.c from uint32_t QSPI_ReadCfgMode(uint32_t srcOffsetAddr) to void QSPI_ReadCfgMode(uint32_t dstAddr, uint32_t srcOffsetAddr, uint32_t length) in order to read multiple bytes of data and make the read generic.
- Removed assignment of regionId in EDMA3Init() function. Now EDMAsetRegion() API should be called before calling the EDMA3Init() on using edma hal from <starterware_rootdir>/drivers/edma.c.
- Added new API void QSPI_WriteCfgMode(uint32_t dstOffsetAddr, uint32_t srcAddr, uint32_t length) to qspi flash lib for QSPI write in configuration port mode in file <starterware_rootdir>/qspilib/qspi_flash/qspi_flash.h.
- Moved function declarations of APIs related to prcm, pin mux, etc. from examples' source files to platform.h. This file should be included while calling platform related APIs.
- Added API LLD_hsi2cErrorCode_t lld_i2c_SetFifoThreshold(LLD_Hsi2cInstId_t instanceId, uint8_t rxThreshold, uint8_t txThreshold); to set the FIFO threshold in file <starterware_rootdir>/include/i2clib/lld_hsi2c.h. This API should be called after calling lld_i2c_init () API and before calling lld_i2c_open ().
- Added API LLD_hsi2cErrorCode_t lld_i2c_clockConfig(LLD_Hsi2cInstId_t instanceId, uint32_t functionalClock, lld_i2c_busspeed busFrequency) to change i2c clock on demand in file <starterware_rootdir>/include/i2clib/lld_hsi2c.h. This API should be called after calling lld_i2c_open() API and before calling lld_i2c_transfer().
- In order to run edma examples like edma_test_app, uart_edma_test, etc. from M4 with SBL, AMMU configuration needs to be done. To do this, call the gel function IPU_AMMU_FOR_EDMA from M4. This function is present in <starterware_rootdir>/tools/gel/VayuIPC.gel.

Release Content

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HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP. McSPI, OCMC, QSPI, SBL,MMU, Timer and MMCSD
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Utils	Uart console
Examples	Examples for the supported hal peripheral drivers.
Bootloader	SBL bootloader for TDA2xx platform. Validated SD, NOR and QSPI bootmode on TDA2xx EVM.

- **Known Issues**

SR.No	CQ Id	Headline	Release Version
1	OMAPS00292783	SBL - PRCM modules prcm_timer12 & prcm_wd_timer1 are not switching to module enabled state.	StarterWare_00_01_00_05
2	OMAPS00293522	[Build] Drivers should be build without --gcc option	StarterWare_00_01_00_05
3	OMAPS00294246	soc.h for TI814x is not complete.	StarterWare_00_01_00_08
4	OMAPS00295913	DR_TRMINC00101: Wrong polarity documented for Pad conf pull enable and slew control bits.	StarterWare_00_01_00_09
5	OMAPS00296312	Starterware I2C LLD fails in 32 byte FIFO mode. Works fine for 8 and 15 byte FIFO mode	StarterWare_00_01_00_09
6	OMAPS00296324	VIP multi-instance memory issue	StarterWare_00_01_00_08
7	OMAPS00296399	Unable to view source code on loading binary on A15	StarterWare_00_02_00_10
8	OMAPS00296665	SD Card File IO APP not validated for ti814x platform	StarterWare_00_02_00_10
9	OMAPS00296757	[SBL] On PORz very first boot fails on DDR3 configuration. This occur on certain samples only.	StarterWare_00_02_00_10
10	OMAPS00296768	DDR test App not validated for M4	StarterWare_00_02_00_10
11	OMAPS00296779	[STW] NOR Flash writer crashes if download image size is large	StarterWare_00_02_00_10

- **Build Dependencies**

Tool chain	Version	Description
TMS470 CG	5.0.4	Compiler for Cortex A8
TMS470 CG	5.0.4	Compiler for Cortex M3 and Cortex M4
C6000 CG Tool	7.4.2	Compiler for C674x and C66x
CCS	5.4.0.00091	Code composer studio to load and run the application. Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc
Linaro bare-metal GCC	Linaro GCC 4.6.2012q4	Compiler for Cortex A15

StarterWare 00.02.00.10

- **Installation**

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (TDA1Mxx_TDA2xx_StarterWare_00_02_00_10_setup.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ TDA1Mxx_TDA2xx_StarterWare").

New In this Release

- Verified the following modules on TDA2xx-EVM
  - DDR3
  - PMIC
  - GPIO Expander
  - QSPI Flash
  - EEPROM
  - UART
  - Temperature Sensor
  - SD Card
  - NOR Flash
  - LCD
  - Boot Test

- **Release Content**

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP. McSPI, OCMC, QSPI, SBL,MMU
Libs	I2C, QSIP and VIP
Utils	Uart console
Examples	Examples for the supported hal peripheral drivers.
bootloader	SBL bootloader for TDA2xx platform. Validated SD bootmode on Zebu(V1.2.5)

- **Known Issues**

SR.No	CQ Id	Headline	Release Version
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2	OMAPS00292785	SBL - IVA (ICONT1 & ICONT2) & MPU_CPU_1 core bring-up is not supported	StarterWare_00_01_00_05
3	OMAPS00292802	starterware - non secure mode interrupt handling	StarterWare_00_01_00_05
4	OMAPS00293688	eDMA_LLD_02.11.06.01 build steps and missing tools update in Rules.mk	StarterWare_00_01_00_05
5	OMAPS00294414	[SBL] SBL fails to check for SD card status. If SD card is not inserted & SBL runs from CCS it hang on file mount	StarterWare_00_01_00_05
6	OMAPS00293522	[Build] Drivers should be build without --gcc option	StarterWare_00_01_00_04
7	OMAPS00293633	[edma3_lld] Crossbar configuration is done wrong for tda2xx/Vayu platform	StarterWare_00_01_00_05
8	OMAPS00293634	OCMC issue on VIRTIO platform	StarterWare_00_01_00_02
9	OMAPS00293757	McSPI , DSP interrupt controller, I2C EDMA not validated on virtio tda2xx	StarterWare_00_01_00_08
10	OMAPS00293761	TDAM1xx: GPIOModuleReset function is getting hung	StarterWare_00_01_00_08
11	OMAPS00294094	DSP goes for reset after servicing interrupt	StarterWare_01_00_00_xx
12	OMAPS00294246	soc.h for TI814x is not complete.	StarterWare_00_01_00_08

13	OMAPS00294755	lld_i2c_transfer return success with wrong slave address	StarterWare_00_01_00_08
14	OMAPS00294869	OCMC Examples need hard reset	StarterWare_00_01_00_08
15	OMAPS00294871	McSPI and McASP are not verified on TDA2xx-EVM	StarterWare_00_01_00_08
16	OMAPS00296071	Boot test for nor flash not validated for release 00.02.00.10	StarterWare_00_01_00_09
17	OMAPS00296072	nor flash test app not validated for release 00.02.00.10	StarterWare_00_01_00_09
18	OMAPS00296073	SD card test not validated for release 00.02.00.10	StarterWare_00_01_00_09

StarterWare 00.01.00.09

- **Installation**

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (TDA1Mxx_TDA2xx_StarterWare_00_01_00_09_setup.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ TDA1Mxx_TDA2xx_StarterWare").

- **New In this Release**
  - Verified the following modules on TDA2xx-EVM
    - Edma
    - Mailbox
    - Mailbox_m4_app
    - Mmu_app
    - Ocmc_app
    - Spinlock
    - I2C
    - UART
    - SBL
    - OCMC
    - NOR APP
    - GPIO
    - QSPI
    - Sensor config
    - Nor Flash writer
    - QSPI flash writer
  - C66X Build Support added
  - SBL :
    - Validated SBL on TDA2xx PG1.0
    - Added NOR boot
    - Validated QSPI, NOR & SD boot mode on TDA2xx PG1.0
  - Following modules were verified on TDA2xx-EVM during bringup activities, but could not verify on the final release package due to modified EVM unavailability.
    - NOR app ,GPIO ,Hsi2c_app ,Nor_flash_writer ,Qspi_test_app ,Qspi_flash_writer ,Sensor_config_app,
  - Following driver modules are not verified on tda2xx EVM
    - mmcsd-file-IO
    - vipCapt
    - McSPI
    - McASP
  - BugFixes
    - OMAPS00293972MMU - MMU application hangs in MMUSoftReset() API while running on Centaurus
    - OMAPS00293976McSPI - McSPI flash application has build errors
    - OMAPS00294415[SBL] SBL fails to boot-up SysBIOS application on IPU core

- OMAPS00294746[SBL] Slave cores boot fails with SysBIOS & SMP based applications.
- OMAPS00292781SBL - Functional clock are not switching to non-gated state for coreaon, dss, gmac, rtc & prcm_cd_vpe PRCM clock-domain.
- OMAPS00292784SBL - Video1, Video2 & HDMI PLL programming is not implemented.
- OMAPS00293235I2C0 Probe Fails
- OMAPS00293238Audio Codec Configuration Fails via I2C
- OMAPS00294061wrong gcc compile option
- OMAPS00294163Missing Obj files while building starterware_vpslib
- OMAPS00294308McASP FrameSyncCfg API Inconsistency
- OMAPS00294351[I2C] I2C should be set in free running mode to work in Tda2xx EVM
- OMAPS00294738[SBL] MMCSD card driver init issue fail to detect the card
- OMAPS00294741[SBL] Issue with QSPI PAD config. Modified the QSPI Pad configuration based on EVM PadConf Mapping.xlsx
- OMAPS00294742[SBL] ABE & USB_CONF dpll are not getting locked
- OMAPS00294744[SBL] Section mapped into OCMC region is not copied into the destination location
- OMAPS00294748[SBL] NOR boot mode fails. Data section is not getting initialized
- OMAPS00294749[SBL] Nor flash writer fails in nor boot modes. Missing the GPMC timing parameter & pad config
- OMAPS00294758qspi test app write fails
- OMAPS00294760port GPIO testapp to vayu
- OMAPS00294761ocmc test fails when run second time
- OMAPS00294762nor app port to vayu; GPMC timing, Pinmux
- OMAPS00294771NameSpace clash in McASP Driver.

Release Content

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Libs	I2C, QSIP and VIP
Utils	Uart console
Examples	Examples for the supported hal peripheral drivers.
bootloader	SBL bootloader for TDA2xx platform. Validated SD bootmode on Zebu(V1.2.5)

Known Issues

SR.No	CQ Id	Headline	Release Version
1	OMAPS00292783	SBL - PRCM modules prcm_timer12 & prcm_wd_timer1 are not switching to module enabled state.	StarterWare_00_01_00_05
2	OMAPS00292785	SBL - IVA (ICONT1 & ICONT2) & MPU_CPU_1 core bring-up is not supported	StarterWare_00_01_00_05
3	OMAPS00292802	starterware - non secure mode interrupt handling	StarterWare_00_01_00_05
4	OMAPS00293688	eDMA_LLD_02.11.06.01 build steps and missing tools update in Rules.mk	StarterWare_00_01_00_05
5	OMAPS00294414	[SBL] SBL fails to check for SD card status. If SD card is not inserted & SBL runs from CCS it hang on file mount	StarterWare_00_01_00_05
6	OMAPS00293522	[Build] Drivers should be build without --gcc option	StarterWare_00_01_00_04
7	OMAPS00293633	[edma3_lld] Crossbar configuration is done wrong for tda2xx/Vayu platform	StarterWare_00_01_00_05
8	OMAPS00293634	OCMC issue on VIRTIO platform	StarterWare_00_01_00_02
9	OMAPS00293757	McSPI , DSP interrupt controller, I2C EDMA not validated on virtio tda2xx	StarterWare_00_01_00_08
10	OMAPS00293761	TDAM1xx: GPIOModuleReset function is getting hung	StarterWare_00_01_00_08
11	OMAPS00294094	DSP goes for reset after servicing interrupt	StarterWare_01_00_00_xx
12	OMAPS00294246	soc.h for TI814x is not complete.	StarterWare_00_01_00_08
13	OMAPS00294755	lld_i2c_transfer return success with wrong slave address	StarterWare_00_01_00_08

14	OMAPS00294869	OCMC Examples need hard reset	StarterWare_00_01_00_08
15	OMAPS00294871	McSPI and McASP are not verified on TDA2xx-EVM	StarterWare_00_01_00_08

- **Build Dependencies**

Tool chain	Version	Description
TMS470 CG	5.0.2	Compiler Cortex A8
TMS470 CG	5.0.2	Compiler Cortex M3
C6000 CG Tool	7.4.1	Compiler C674x
CCS	5.2	Code composer studio to load and run the application
Linaro bare-metal GCC	4.7.3	Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc

StarterWare 00.01.00.08

1. Installation

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (TDA1Mxx_TDA2xx_StarterWare_00_01_00_08_setup.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ TDA1Mxx_TDA2xx_StarterWare").

2. New In this Release

- SBL :
  - QSPI and NOR bootmodes are added.
  - AVS CLASS-0 is added
    - Note that these feature can be verified only on evm and hence not verified on pre-silicon.
- QSPI write validated on Virtio tda2xx
- EDMA : Validated on M4 and Cortex A15 using virtio tda2xx and Zebu.
- ARM15 Interrupt controller: Multiple Interrupt validated on Virtio tda2xx and Zebu
- OCMC validated on Zebu with extended testing.
- MMU validated on Zebu
- UART console validated on Zebu.
- BugFixes
  - OMAPS00292784 : SBL : Video1, Video2 & HDMI PLL programming is not implemented.

3. Release Content

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP. McSPI, OCMC, QSPI, SBL,MMU
Libs	I2C, QSIP and VIP
Utils	Uart console
Examples	Examples for the supported hal peripheral drivers.
bootloader	SBL bootloader for TDA2xx platform. Validated SD bootmode on Zebu(V1.2.5)

4. Known Issues

SR.No	CQ Id	State	Headline	Release Version
1	OMAPS00292781	Open	SBL - Functional clock are not switching to non-gated state for coreaon, dss, gmac, rtc & prcm_cd_vpe PRCM clock-domain. Need to test this behavior on silicon.	00.01.00.07

2	OMAPS00292783	Open	SBL- PRCM modules prcm_timer12 & prcm_wd_timer1 are not switching to module enabled state.	00.01.00.07
3	OMAPS00292785	Open	SBL - IVA (ICONT1 & ICONT2) & MPU_CPU_1 core bring-up is not supported.	00.01.00.07
4	OMAPS00292802	Open	Cortex A15 interrupt library is not supporting non-secure interrupt	00.01.00.07
5	OMAPS00293757	Open	McSPI : Not validated on virtio tda2xx DSP interrupt controller: Multiple Interrupt not validated on Virtio tda2xx I2C EDMA: DMA mode not validated on virtio tda2xx	00.01.00.05
6	OMAPS00293758	Open	Under include folder there is a folder called cred, where the previous version of IP related information are present, TI is in the process of replacing the whole CRED files with a TRM aligned HW files.	00.01.00.02
7	OMAPS00293761	Open	On TDA1Mxx GPIOModuleReset function is getting hung. Function waits for reset done bit to set. In the test app the module reset is commented	00.01.00.02

5. Build Dependencies

Tool chain	Version	Description
TMS470 CG	5.0.2	Compiler Cortex A8
TMS470 CG	5.0.2	Compiler Cortex M3
C6000 CG Tool	7.4.1	Compiler C674x
CCS	5.2	Code composer studio to load and run the application
Linaro bare-metal GCC	4.7.3	Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc

StarterWare 00.01.00.07

6. Installation

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (TDA1Mxx_TDA2xx_StarterWare_00_01_00_07_setup.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ TDA1Mxx_TDA2xx_StarterWare").

7. New In this Release

- Scalar support is added in video display library [vpslib]
- Bugfixes:
  - Defect:OMAPS00293235 : I2C0 Probe Fails

8. Release Content

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP. McSPI, OCMC, QSPI, SBL
Libs	I2C and VIP
Utils	Sensor config, Uart console
Examples	Examples for the supported hal peripheral drivers.
bootloader	SBL bootloader for TDA2xx platform. Validated SD bootmode on Zebu(V1.2.5)

9. Known Issues

SR.No	CQ Id	State	Headline	Release Version
1	OMAPS00292781	Open	SBL - Functional clock are not switching to non-gated state for coreaon, dss, gmac, rtc & prcm_cd_vpe PRCM clock-domain.	00.01.00.07
2	OMAPS00292783	Open	SBL- PRCM modules prcm_timer12 & prcm_wd_timer1 are not switching to module enabled state.	00.01.00.07
3	OMAPS00292784	Open	SBL - Video1, Video2 & HDMI PLL programming is not implemented.	00.01.00.07
4	OMAPS00292785	Open	SBL - IVA (ICONT1 & ICONT2) & MPU_CPU_1 core bring-up is not supported.	00.01.00.07
5	OMAPS00292802	Open	Cortex A15 interrupt library is not supporting non-secure interrupt	00.01.00.07
6	--	Open	QSPI: Only read is validated on Virtio tda2xx McSPI : Not validated on virtio tda2xx ARM15: Interrupt controller: Multiple Interrupt not validated on Virtio tda2xx	00.01.00.05

			DSP interrupt controller: Multiple Interrupt not validated on Virtio tda2xx I2C EDMA: DMA mode not validated on virtio tda2xx EDMA : Validated only on M4 using virtio tda2xx, not validated on A15.	
7	--	Open	Under include folder there is a folder called cred, where the previous version of IP related information are present, TI is in the process of replacing the whole CRED files with a TRM aligned HW files.	00.01.00.02
8	--	Open	On TDA1Mxx GPIOModuleReset function is getting hung. Function waits for reset done bit to set. In the test app the module reset is commented	00.01.00.02

10.Build Dependencies

Tool chain	Version	Description
TMS470 CG	5.0.2	Compiler Cortex A8
TMS470 CG	5.0.2	Compiler Cortex M3
C6000 CG Tool	7.4.1	Compiler C674x
CCS	5.2	Code composer studio to load and run the application
Linaro bare-metal GCC	4.7.3	Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc

StarterWare 00.01.00.06

1. Installation

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (TDA1Mxx_TDA2xx_StarterWare_00_01_00_06_setup.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ TDA1Mxx_TDA2xx_StarterWare").

2. New In this Release

- Secondary Bootloader(SBL) for TDA2xx platform, validated on Zebu(V1.2.5)
- SBL support only TDA2xx platform in this release.
- SBL SD bootmode validated on Zebu. QSPI & NOR bootmode implemented & not validated.
- Bugfixes:
  - Fixed OCMC virtual buffer end address and OCMC circular buffer size issue.
  - Updated Cortex-A15 interrupt controller to handle multiple interrupts.

3. Release Content

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP. McSPI, OCMC, QSPI, SBL
Libs	I2C and VIP
Utils	Sensor config, Uart console
Examples	Examples for the supported hal peripheral drivers.
bootloader	SBL bootloader for TDA2xx platform. Validated SD bootmode on Zebu(V1.2.5)

4. Known Issues

SR.No	CQ Id	State	Headline	Release Version
1	OMAPS00292781	Open	SBL - Functional clock are not switching to non-gated state for coreaon, dss, gmac, rtc & prcm_cd_vpe PRCM clock-domain.	00.01.00.07
2	OMAPS00292783	Open	SBL- PRCM modules prcm_timer12 & prcm_wd_timer1 are not switching to module enabled state.	00.01.00.07
3	OMAPS00292784	Open	SBL - Video1, Video2 & HDMI PLL programming is not implemented.	00.01.00.07
4	OMAPS00292785	Open	SBL - IVA (ICONT1 & ICONT2) & MPU_CPU_1 core bring-up is not supported.	00.01.00.07
5	OMAPS00292802	Open	Cortex A15 interrupt library is not supporting non-secure interrupt	00.01.00.07

6	--	Open	QSPI: Only read is validated on Virtio tda2xx McSPI : Not validated on virtio tda2xx ARM15: Interrupt controller: Multiple Interrupt not validated on Virtio tda2xx DSP interrupt controller: Multiple Interrupt not validated on Virtio tda2xx I2C EDMA: DMA mode not validated on virtio tda2xx EDMA : Validated only on M4 using virtio tda2xx, not validated on A15.	00.01.00.05
7	--	Open	Under include folder there is a folder called cred, where the previous version of IP related information are present, TI is in the process of replacing the whole CRED files with a TRM aligned HW files.	00.01.00.02
8	--	Open	On TDA1Mxx GPIOModuleReset function is getting hung. Function waits for reset done bit to set. In the test app the module reset is commented	00.01.00.02

5. Build Dependencies

Tool chain	Version	Description
TMS470 CG	5.0.2	Compiler Cortex A8
TMS470 CG	5.0.2	Compiler Cortex M3
C6000 CG Tool	7.4.1	Compiler C674x
CCS	5.2	Code composer studio to load and run the application
Linaro bare-metal GCC	4.7.3	Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc

StarterWare 00.01.00.05

1. Installation

To install TDA1Mxx & TDA2xx StarterWare on your PC run the StarterWare installer (TDA1Mxx_TDA2xx_StarterWare_00_01_00_05_setup.exe). The installer allows you to choose the installation directory. The TDA1Mxx & TDA2xx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ TDA1Mxx_TDA2xx_StarterWare").

2. New In this Release

- Following modules tested on TDA2xx Virtio simulator
  EDMA, MMU, I2C, Spinlock, GPIO, Mailbox, Mailbox_m4, UART,

3. Release Content

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP. McSPI, OCMC, QSPI
Libs	I2C and VIP
Utils	Sensor config, Uart console
Examples	Examples for the supported hal peripheral drivers.

4. Known Issues

Id	State	Headline	Release Version
1.	Open	QSPI: Only read is validated on Virtio tda2xx McSPI : Not validated on virtio tda2xx ARM15: Interrupt controller: Multiple Interrupt not validated on Virtio tda2xx DSP interrupt controller: Multiple Interrupt not validated on Virtio tda2xx I2C EDMA: DMA mode not validated on virtio tda2xx EDMA : Validated only on M4 using virtio tda2xx, not validated on A15.	00.01.00.05
1	Open	Under include folder there is a folder called cred, where the previous version of IP related information are present, TI is in the process of replacing the whole CRED files with a TRM aligned HW files.	00.01.00.02
2	Open	On TDA1Mxx GPIOModuleReset function is getting hung. Function waits for reset done bit to set. In the test app the module reset is commented	00.01.00.02

5. Build Dependencies

Tool chain	Version	Description
TMS470 CG	5.0.2	Compiler Cortex A8
TMS470 CG	5.0.2	Compiler Cortex M3
C6000 CG Tool	7.4.1	Compiler C674x
CCS	5.2	Code composer studio to load and run the application
Linaro bare-metal GCC	4.7.3	Build system on windows uses tools from Cygwin like gmake, rm, mkdir etc

StarterWare 00.01.00.04

1. Installation

To install TDA1Mxx StarterWare on your PC run the TDA1Mxx StarterWare installer (TDA1Mxx_StarterWare_00_01_00_04_setup.exe). The installer allows you to choose the installation directory. The TDA1Mxx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ TDA1Mxx_StarterWare").

2. New In this Release

- vipCapt example is modified to remove EVM dependency.
- Directory structures changes for vpslib :
  - Added source code VPE and DSS, StarterWare drivers are yet not supported for these modules.
  - Created new library for starterware_common for trace and memory allocation functions.
- I2C: Bug fix in Interrupt clear APIs.
- Build flow updates:
  - User needs to set correct tools path in build/makerules/env.mk
  - Typo fixed in makefiles.[EXERNAL is made to EXTERNAL]
  - UTILS_INSTALL_DIR should point to ccs/utils/cygwin. [XDC is removed for build dependency and ccs cygwin is used]

3. Release Content

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, GPMC, McASP. McSPI, EDMA
Libs	I2C and VIP
Utils	Sensor config, Uart console
Examples	Examples for the supported hal peripheral drivers.

4. Known Issues

Id	State	Headline	Release Version
1	Open	Under include folder there is a folder called cred, where the previous version of IP related information are present, TI is in the process of replacing the whole CRED files with a TRM aligned HW files.	00.01.00.02
2	Open	On TDA1Mxx GPIOModuleReset function is getting hung. Function waits for reset done bit to set. In the test app the module reset is commented	00.01.00.02

5. Build Dependencies

Tool chain	Version	Description
TMS470 CG	5.0.2	Compiler Cortex A8
TMS470 CG	5.0.2	Compiler Cortex M3
C6000 CG Tool	7.3.8	Compiler C674x
CCS	5.2	Code composer studio to load and run the application

StarterWare 00.01.00.03

1. Installation

To install TDA1Mxx StarterWare on your PC run the TDA1Mxx StarterWare installer (TDA1Mxx_StarterWare_00_01_00_03_setup.exe). The installer allows you to choose the installation directory. The TDA1Mxx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ TDA1Mxx_StarterWare").

2. New In this Release

- McSPI , McASP , EDMA chain and link examples are added.
- NOR Flash writer : gel file dependency for GPMC configuration is removed.
- Build dependency on XDC is removed. Ccsv5/utils/cygwin build command will be used.
- Build tool chain upgraded to TMS4705.0.2

3. Release Content

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, VIP, GPMC, McASP. McSPI, EDMA
Libs	I2C and VIP
Utils	Sensor config, Uart console
Examples	Examples for the supported hal peripheral drivers.

4. Known Issues

Id	State	Headline	Release Version
1	Open	Under include folder there is a folder called cred, where the previous version of IP related information are present, TI is in the process of replacing the whole CRED files with a TRM aligned HW files.	00.01.00.02
2	Open	On TDA1Mxx GPIOModuleReset function is getting hung. Function waits for reset done bit to set. In the test app the module reset is commented	00.01.00.02

5. Build Dependencies

Tool chain	Version	Description

TMS470 CG	5.0.2	Compiler Cortex A8
TMS470 CG	5.0.2	Compiler Cortex M3
C6000 CG Tool	7.3.8	Compiler C674x
CCS	5.2	Code composer studio to load and run the application

StarterWare 00.01.00.02

1. Overview

This document is the Release Notes for **Release 00.01.00.02** of the StarterWare. StarterWare 00.01.00.02 provides no-OS platform support for TDA1Mxx. The StarterWare package contains Device Abstraction Layer libraries and peripheral/board level sample/demo examples that demonstrate the capabilities of the peripherals on TDA1Mxx.

TDA1Mxx device family is a derivative of TMS320DM8148 that supports Advanced Driver Assistance Systems (ADAS) applications. For more information about the TDA1Mxx device family, please contact your local TI sales representative.For more information about TMD320DM814x, please visit http://www.ti.com/product/tms320dm8148.

2. Documentation

List of documents provided in the package

- TDA1Mxx_StarterWare_Userguide.pdf
- TDA1Mxx_StarterWare_API_Reference.chm

3. Installation

To install TDA1Mxx StarterWare on your PC run the TDA1Mxx StarterWare installer (TDA1Mxx_StarterWare_00_01_00_00_setup.exe). The installer allows you to choose the installation directory. The TDA1Mxx StarterWare includes several sub-components and all the components will be installed in the same location (e.g., "C:/ti/ TDA1Mxx_StarterWare").

4. Features

Category	Peripherals
HAL	UART, I2C, GPIO, Mailbox, Spinlock, EDMA, VIP, GPMC
Libs	I2C and VIP
Utils	Sensor config, Uart console
Examples	Examples for the supported hal peripheral drivers.

5. Known Issues

Id	State	Headline	Release Version
1	Open	Under include folder there is a folder called cred, where the previous version of IP related information are present, TI is in the process of replacing the whole CRED files with a TRM aligned HW files.	00.01.00.02
2	Open	On TDA1Mxx GPIOModuleReset function is getting hung. Function waits for reset done bit to set. In the test app the module reset is commented	00.01.00.02