



CELLULAR SYSTEMS SOFTWARE TOOLS

CSST_SDP3430_v2.4 – Binary Release Notes

Document Revision: 2.4

Issue Date: 31 Jul 2008

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Revision History

REV	DATE	AUTHOR	NOTES
1.0	Nov 9 th 2006	Sireesha Vemparala	Information on the first CSST release content for SDP3430v0.1 boards
1.1	Nov 9 th 2006	Vishnu, Nishanth	Corrected typos, formatting etc
1.2	Nov 27 th 2006	Santhosh Paturu	Updated for CSST 3430 release 1.1
1.3	Dec 20 th 2006	Jis Joy	Updated for CSST 3430 release 1.2
1.4	Jan 30 th 2007	Santhosh Paturu	Updated for CSST 3430 release 1.3
1.5	Mar 27 th 2007	Santhosh Paturu	Updated for CSST 3430 release 1.4
1.6	Apr 27 th 2007	Santhosh Paturu	Updated for CSST 3430 release 1.5
1.7	Jun 1 st 2007	Santhosh Paturu	Updated for CSST 3430 release 1.6
2.0	Sept 21 st 2007	Nishanth Menon	Updated for CSST 3430 release 2.0
2.1	Nov 21 st 2007	Jis Joy	Updated for CSST 3430 release 2.1
2.2	Jan 31 st 2008	Jis Joy	Updated for CSST 3430 release 2.2
2.3	Apr 01 st 2008	Ganesh Karanth	Updated for CSST 3430 release 2.3
2.4	Jul 31 st 2008	Raghavendra Yelisetty	Updated for CSST 3430 release 2.4

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1. Introduction

Please read this Release Note carefully prior to installation and use of the software.

This document accompanies OMAP™ Software CSST_SDP3430_v2.4 to support SDP3430 boards. The document specifies:

1. The Host and target environments which should be used with the release
2. New features and features the release supports
3. Planned future features
4. Postponed features
5. Defects which have been fixed since the last release
6. Known defects, limitations and outstanding change requests associated with the release
7. Test results for the release
8. The configuration items included in the release

NOTE: Please contact your Texas Instruments (TI) technical representative for additional information and instructions for obtaining the latest release of CSST.

Following are the pre-requisites for installing and using the CSST:

1.1. Host Requirements

The PC host hardware development requirements are:

PC minimum requirements

- 233 MHz or higher Pentium – compatible CPU.
- 40MB of free hard disk space.
- SVGA (800 X 600) display.
- 256 MB RAM
- JTAG Emulator (optional)
 - XDS560 PCI card Or Blackhawk XDS560 Emulator.

Operating Systems

- Windows XP Professional with SP2 or higher.
- Windows 2000 with Service Pack 1 or higher.

Encryption Library:

CSST signing feature requires the following encryption routines: SHA1 and RSA. These are not included in this release. For testing purposes, TI has used encryption libraries from the Open SSL project (<http://www.openssl.org/>).

Open SSL version "OpenSSL v0.9.8g" is used to test this release of CSST signing feature. Open SSL library package can be obtained from the URL:

<http://www.slproweb.com/products/Win32OpenSSL.html>.

Once Open SSL is installed, Open SSL DLLs will be available under "WINNT\System32". User need not copy it to CSST directory. If the mentioned version of Open SSL is not present in the website, use the recommended latest version given in the site.

1.2. Target Requirements

This CSST release works on the following platforms:

Table 1 Supported Platforms

CSST Revision	HW Revision	Silicon Revisions Supported
CSST_SDP3430_v2.4	SDP3430-V0.10.0	OMAP 3430 ES2.0 GP, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VG0.11.0	OMAP 3430 ES2.0 GP, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VE0.11.0	OMAP 3430 ES2.0 EMU, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VG0.11.5	OMAP 3430 ES2.0 GP, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VG0.12.0	OMAP 3430 ES2.0 GP, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VE.12.0	OMAP 3430 ES2.0 EMU, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VG0.12.5	OMAP 3430 ES2.0 GP, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VG0.13.0	OMAP 3430 ES2.0 GP, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VE0.13.0	OMAP 3430 ES2.0 EMU, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VG0.13.1	OMAP 3430 ES2.0 GP, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VE0.13.1	OMAP 3430 ES2.0 EMU, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VG0.14.0	OMAP 3430 ES2.0 GP, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VE0.14.0	OMAP 3430 ES2.0 EMU, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VG0.14.1	OMAP 3430 ES2.0 GP, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VE0.14.1	OMAP 3430 ES2.0 EMU, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VG1.0.0	OMAP 3430 ES2.0 GP, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VE1.0.0	OMAP 3430 ES2.0 EMU, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VG2.0.0	OMAP 3430 ES2.1 GP, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VE2.0.0	OMAP 3430 ES2.1 EMU, TWL4030 ES3.1
CSST_SDP3430_v2.4	SDP3430-VG4.0.0	OMAP 3430 ES2.1 GP, TWL5030 ES1.0
CSST_SDP3430_v2.4	SDP3430-VE4.0.0	OMAP 3430 ES2.1 EMU, TWL5030 ES1.0
CSST_SDP3430_v2.4	SDP3430-VE4.0.0	OMAP 3430 ES2.1 EMU (Legacy), TWL5030 ES1.0
CSST_SDP3430_v2.4	SDP3430-VG5.0.0	OMAP 3430 ES3.0 GP, TWL5030 ES1.0
CSST_SDP3430_v2.4	SDP3430-VE5.0.0	OMAP 3430 ES3.0 EMU, TWL5030 ES1.0
CSST_SDP3430_v2.4	SDP3430-VG0.20.0	OMAP 3430 ES3.0 GP, TWL5030 ES1.0 (Chameleon)

Note: Please see section 5.2 for a list of platforms on which this release of CSST was tested.

2. Features

2.1. New features:

CSST_SDP3430_v2.4 supports following features in addition to the features supported in CSST_SDP3430_v2.3:

- SDP340 V0.20.0 (Chameleon) support introduced. This includes legacy devices carried over from SDP3430. In addition, support for TWL5030 Audio PCM, AIC3254 Audio, TSC2008 Touch Screen, DSI display, MoviNAND eMMC, 4Gb NAND, 2Gb SDRAM, PWM backlight control for primary and secondary display, Ambient light sensor and limited support for 5 MP Omnivision Camera and HDMI have been introduced
- Configuration Header support for multitasking signing.
- Signing for 3430 Legacy devices.
- Speed up registers modified for 3430 Multitasking ISW certificates.
- CSST now compiles on CCS 3.3 platinum version and Service release 9. Compiler updated to TMS470 codegen tool version 4.4.8.

IMPORTANT NOTE: OMAP3430 ES1.0 based SDP platforms are no longer supported.

2.1.1. CSST framework (Platform Independent features):

- Supports CSST FWK v1.16. Moved from CSST FWK 1.15 to 1.16. Section 3.1.2 lists the changes from FWK 1.15 to 1.16.

Note: In case of upgrading from CSST_SDP3430_v1.6 or older versions of CSST SDP3430 releases, users need to reinstall the USB Host driver (available under <installed_directory>\usb_drv_windows directory).

2.2. Supported Features

CSST_SDP3430_v2.4 is backward compatible with the features supported by CSST_SDP3430_v2.3 on SDP3430 VG2.0.0 platform. Please refer to Section 7 for all the legacy features supported in CSST for SDP3430 platforms.

Download Support Summary:

Table 2 lists the set of download options available on various platforms by CSST_SDP3430_v2.4.

Table 2 Download Options supported by CSST_SDP3430_v2.4

No.	Feature	Available on	Example Boards
1	HS USB peripheral mode downloads	Works with SDP3430 VG 2.0 and above platforms	SDP3430-VG 2.0.0
2	HS USB downloads with workaround	Works with platforms such as SDP3430 V0.10.0 with issues of power-on-reset, ONLY works with platforms using OMAP 3430 ES2.0 with Triton2 ES3.1 USB PHY	SDP3430-VG 0.10.0
3	UART3 peripheral mode download	All platforms.	SDP3430-VE 4.0.0

2.3. Postponed Features

- Video and Audio support for HDMI – TV (High-Definition Multimedia Interface - Television)
- Video streaming and snapshot support for 5 MegaPixel Camera OV5630.

2.4. Future Planned Features

- Support for QVGA RFBI Secondary LCD.

3. Issues

3.1. Defects Fixed in This Release:

3.1.1. Diagnostics module (platform dependent fixes):

Table 3 Platform dependent fixes in CSST_SDP3430_v2.4

Defect ID	Description
OMAPS00166339	CSST3430: Cleanup code for ES1.0
OMAPS00165848	CSST look and feel - In ISW certificate Poll info the Poll type column is unused
OMAPS00164312	CSST 3430 .2nd does not work, if it is compiled with the latest CCS (CCS 3.3 - SR8, CGT: 4.4.6)
OMAPS00159940	Support for the Configuration Header (CH) within this signed image
OMAPS00168540	SDP3430 ES2.1 EMU LEGACY device support
OMAPS00155707	Support for the Configuration Header (CH) within this signed image
OMAPS00168025	CSST3430:MMC Failures seen during regression testing
OMAPS00154456	Mouse Pointer Jumps to Empty Location
OMAPS00161351	T2bci test is not working properly (Not showing proper values of battery temp & status of battery)
OMAPS00161278	CSST Monitor does not connect in USB mode
OMAPS00142508	To check in the files modified for sibley nor flash on SDP3430ES2.0
OMAPS00168025	CSST3430:MMC Failures seen during regression testing
OMAPS00143998	CSST test case support for eDISCO device on SDP3430 ES2.0

3.1.2. CSST framework (platform independent fixes):

Table 4 Platform independent fixes in CSST_SDP3430_v2.4

Defect ID	Description
OMAPS00154144	CLI: Non return to CSST is not functional
OMAPS00163027	Is 'Close' button is required in all certificate generation tabs (PK, PPA, R&D, ISW,KI, PA Certificate tabs) in Sign tab ?

OMAPS00147342	Host GUI: Enable/Disable debug window merely resizes the debug window.
OMAPS00154185	Mismatch in targets needs to pop up when wrong target is tried to connect in Monitor as mentioned in Description
OMAPS00158897	CSST Icon will not show in below condition in 'switch between window dialog' (dialog window opens when Pressed ALT+TAB Key)
OMAPS00154456	Mouse Pointer Jumps to Empty Location
OMAPS00162980	CSST GUI should not allow user to do other operation on parent window unless child window exists in below condition
OMAPS00168323	CSST GUI should not give options in Boot_Rom mode for " Destination" to change as " Host" in Debug & Trace window
OMAPS00168320	Test functions for MMC test case will display as junk characters after doing Mem test in following condition.
OMAPS00168207	The Debug and Trace module in the GUI is not updating properly as values chosen by the user & needs to have proper alignment.
OMAPS00168196	Certificates ISC, PKC and PPA are taking internally for GP target even though these certificates are disabled in Sign UI
OMAPS00165796	UART ports needs to display in Ascending order in Non-Interactive CLI
OMAPS00160037	Targets prints are missing in debug window when destination is kept as 'Host'
OMAPS00165797	Needs to popup error message when interface between target and PC is disturbed (USB cable removed) in Monitor Mode in GUI
OMAPS00153857	"Disconnect failed" pops up when tried to disconnect target in following condition in GUI.
OMAPS00158894	Tabbing is not working properly in "edit" window in Target name & Family option
OMAPS00158887	Tabbing is not working properly in download tab in GUI when device selected was NAND in advanced options window
OMAPS00166116	Sign will not work properly if clicked "Restore default address" in advanced tab & tried to sign for Peripheral in Multitask
OMAPS00158893	Tabbing is not working in following condition in download tab.
OMAPS00137204	Error handling in Non-Interactive CLI
OMAPS00165235	GUI : Host Debug file went out of bounds
OMAPS00168540	SDP3430 ES2.1 EMU LEGACY device support
OMAPS00165799	Valid COM port needs to display as default in below condition.
OMAPS00149316	Command Line Interface of the CSST does not perform the signing properly when R&D Certificate is included w/ R&D SW/PA key
OMAPS00161448	Certificate offsets needs to load according when device type changed between GP & EMU in Advanced in Multitask Sign mode
OMAPS00137198	Download will fail for NAND and Onenand if try to download .out file with verify check box enabled.
OMAPS00158213	Popup message is needed rather than displaying INVALID parameter in the diagnostic module when wrong parameters entered.
OMAPS00165794	CSST Submit labels for : FWK_v1.15
OMAPS00164590	Uart_drv.c needs to be re-implemented with an alternate approach (please see internal attachment for mail conversation)
OMAPS00163370	CSST Submit:CSST Release 2.16.0
OMAPS00159957	CSST look and feel - The signed and unsigned button are confusing and misleading, at times both the button are on
OMAPS00169864	Erase for RAM will work in Non-interactive CLI when start address & length is given in BOOT_ROM mode

3.2. Open Defects

3.2.1. Diagnostics module (platform dependent):

Table 5 Platform dependent open Defects in CSST_SDP3430_v2.4

Defect ID	Description
OMAPS00081046	Change of BAUD rate does not work in Monitor mode
OMAPS00134422	CSST NOR Memory Test Improvement
OMAPS00175334	CSST-3430 2.4 release defects
OMAPS00174004	CSST v2.2 MultiTask Certificates Problems
OMAPS00166804	CSST Release and User Guide documentation presentation improvement
OMAPS00163985	download csst monitor over USB to RAM and connect will not work
OMAPS00152823	Die ID / ASIC ID information available from CSST on SDP versions
OMAPS00162809	GFCl implementation for 2420, 2430 and 3430 platforms
OMAPS00167807	CSST Framework and platforms' target code should use compiler flags for warning and optimization
OMAPS00171520	LCD testing on 3430 platforms
OMAPS00181035	CSST: Audio Headset is not detected all the time on chameleon.
OMAPS00181037	QVGA RFBI display is non functional on Chameleon board.
OMAPS00181040	CSST HDMI feature is not functional on chameleon.
OMAPS00181041	CSST: 5MP video streaming is not functional on Chameleon board.
OMAPS00181043	CSST: DSI Display on Chameleon board running out after executing the Touch screen test case multiple times.
OMAPS00181042	While downloading to NAND flash on Chameleon board, NCLI is displaying a warning message on the console.
OMAPS00181129	Chameleon: LCD backlight non functional when camera test case is run
OMAPS00181176	Chameleon: image test case failure
OMAPS00181181	Chameleon: blank screen on primary LCD(DSI)

3.2.2. CSST framework (platform independent):

Table 6 Platform independent open defects in CSST_SDP3430_v2.4

Defect ID	Description
OMAPS00148061	Host should identify the range of baudrates it can support.
OMAPS00146443	Download completes successfully as displayed on the debug window of the GUI but in

	progress bar it will stops in middle
OMAPS00146466	CSST should support downloading images to MMC/SD
OMAPS00148747	CXML parser memory leaks in signui and dl.dll
OMAPS00148754	Memory leaks in disp.dll has to be cleaned up.
OMAPS00089873	Sometimes during download, write operation will be fast than Erase operation
OMAPS00101618	If I go for more than operation (download or Erase) during Read in GUI, then sometimes read operation not success full.
OMAPS00120617	NAND driver update to inteprete bad blocks as per specs
OMAPS00122969	Read from NAND is not working after erase operation (please see notes for more info)
OMAPS00130644	Update of CSST to allow user to specify the model-ID value and bit-mask value to be built into the public key certificate
OMAPS00136864	Execute after download doesn't work in USB Mode
OMAPS00140975	Putting duplicate entry, the original structure change of default.ccf when you run the NCLI
OMAPS00141241	Download will behave different in time and trace file size when trace is ON with following conditions in Non-Interactive CLI
OMAPS00148144	USB driver in CSST as well as OST tools for OMAP2 platforms do not agree with the protocol expected by the ROM code
OMAPS00148742	Download will not work in Monitor mode for lower baudrates ex:9600,4800,2400,1200 where as diagnostic tests will work.
OMAPS00148760	Memory leaks in dl.dll has to be cleaned up (attached screen shot)
OMAPS00151940	CSST 2420 does not generate the speedup mask properly
OMAPS00152799	Moving PPA location in CSST GUI cause a crash in the generated image (CSST: 2nd Signing Failure)
OMAPS00153942	Trace file sizes will differ between GUI and Non-Interactive CLI modes.
OMAPS00154147	Host GUI/CLI: confusing dumping of data in debug window
OMAPS00156789	CSST Host Stop responding in below condition & also unable download in GUI
OMAPS00158658	Connection to target button color should indicate "connection to target", not "monitor mode"
OMAPS00161331	CSST multitask speedup options need update
OMAPS00161333	CSST NCLI does not support multitask signing
OMAPS00167455	Tabbing is not working properly in below condition in debug & trace window
OMAPS00166119	CSST GUI should not allow to read in below condition
OMAPS00158655	Die ID / ASIC ID information available from CSST on SDP versions
OMAPS00147636	ASSERTS when changing from DEBUG to DL window
OMAPS00174654	Abort is not working properly with read in the following condition
OMAPS00174648	Signing window will dissappear when ESC key pressed
OMAPS00174373	Tabbing is needed to go from child tab i.e: Gen certificate tab to parent tab in Sign window
OMAPS00174371	If PKC,ISC & PPA certificates are mandatory for sign, is it necessary to keep check boxes for these certificates while sign ?
OMAPS00164460	Check boxes selection & deselection does not get reflected once dicked OK and reopened again in Generate Cert tab in Sign UI
OMAPS00164341	Debug & trace functionality support is not available for Erase,Read & Verify functions in Non-interactive CLI.

OMAPS00162983	Configurable UI for CSST GUI
OMAPS00156358	CSST 2.1 does not report the root public key hash correctly
OMAPS00155722	Connection to target button colour should indicate "conection to target", not "monitor mlode"

3.3. Open Change Requests

Not applicable

3.4. Rejected Defects

Not applicable.

3.5. Postponed Defects

Not applicable

4. Known Limitations

1. Downloading through USB does not work with docking station.
Type of issue: Dell docking station.
Platforms: All
Status: Closed.
Workaround: Remove the laptop from docking station and try downloading.
2. Camera image displayed on LCD and TV are not good. Also, there are some artifacts when image captured has color differences.
Type of issue: configuration issue (OMAPS00134370)
Platforms: All
Status: Closed
Workaround: Since complex ISP algorithm not available for particular camera, this is out of scope for CSST connectivity diagnostics.
3. To get ASIC ID over UART3, power cable may need to be re-plugged to the SDP3430-V0.10.0.
Type of issue: Possible hardware issue
Platforms: OMAP3430 ES2.0 SDP3430-V0.10.0
Status: Closed
Workaround: None
4. USB Peripheral Booting not functional on SDP3430 V 0.10.0 platform.
Type of issue: Possible hardware issue
Platforms: OMAP3430 ES2.0 SDP3430-V0.10.0
Status: Closed
Workaround: CSST USB Workaround download support (please see quick start guide referenced in section 6 for more details). The work around is on OMAP3430 platforms which does not have S15 (power reset switch) .
5. Num-lock key on PS/2 keyboard is not recognized by CSST Diagnostics.
Type of issue: Known limitation of Diagnostics test support.
Platforms: All SDP3430 and Chameleon platforms.
Status: Closed
Workaround: None. No requirements exist

5. Test Results

5.1. Host Software

CSST_SDP3430_v2.4 GUI has been tested on PC with following Windows Operating Systems.

Table 7 Supported Operating Systems

No.	Windows Version	Language
1	WINDOWS XP, SP2	ENGLISH
2	WINDOWS 2000	ENGLISH

5.2. Tested OMAP3430 SDPs

CSST_SDP3430_v2.4 is tested on following platforms:

Table 8 Tested 3430 SDP configurations

No.	OMAP3430 SDP	Revisions	
1	SDP3430-V0.10.0 (OMAP3430 ES2.0 + TWL4030 ES3.1)	Main Board	750-2077-001(B)
		Processor Board	750-2078-001(B)
		Display Board	750-2081-101(B)
		Camera Board	750-2079-002(A)
2	SDP3430-VG2.0.0 (OMAP3430 ES2.1 + TWL4030 ES3.1)	Main Board	750-2094-001(E)
		Processor Board	750-2095-011(B)
		Display Board	750-2081-101(B)
		Camera Board	750-2085-002(A)
3	SDP3430-VG0.20.0 (Chameleon) (OMAP3430 ES3.0 + TWL5030 ES1.0)	Main Board	750-2094-002(A)
		Processor Board	750-2108-001(A)
		Display Board	750-2109-001(A)
		Camera Board	750-2110-001(A)

5.3. Test Summary

Table 9 Diagnostics Test Results

S.No	Main Test case	Sub Test case	Functionality	Test results	
				SDP3430	Chameleon
1.	Audio_primary				
		Record Playback	Records audio for given duration and playbacks	PASS	PASS
		Tone Play	Plays fixed tone	PASS	PASS
2.	Audio_secondary				
		Testtone	Audio test on secondary codec: AIC3254	N/A	PASS
3.	Camera				

		Capture	Captures the Image and displays on LCD	PASS	PASS
		snap_shot	Captures the Image and displays on LCD.	PASS	N/I
		get_cam_reg	Prints the camera parameters currently operating on	PASS	PASS
		set_cam_reg	Selects the camera Parameters to do camera operations	PASS	PASS
		write_cam	Write to the current camera sensor's register	PASS	PASS
		read_cam	Reads from the current camera sensor's register	PASS	PASS
		Camdeinit	Deintializes the camera	PASS	PASS
		Power_dn	Power down the sensor	N/A	PASS
4.	Char				
		Display	Display the character on LCD	PASS	PASS
		Blink	Blinks the characters on LCD	PASS	PASS
		Stringdisplay	Displays the string on the LCD	PASS	PASS
5.	Clam				
		Position	Prints the position of the clam switch	PASS	PASS
6.	I2C				
		Read	Reads from the I2C device.	PASS	PASS
		Write	Writes to the I2C device	PASS	PASS
		Hsread	High Speed I2C read	PASS	PASS
		Hswrite	High Speed I2C write	PASS	PASS
7.	Keypad				
		Scan	Scans the keys of the keypad and displays the keys pressed	PASS	PASS
8.	LCD (Parallel)			(Parallel)	(RFBI)
		Align	Fill display with alignment pattern	PASS	N/I
		Bit test	Tests each data bit	PASS	N/I
		Fill color	Fill the lcd display with the specified color	PASS	N/I
		Fill gradient	Draws color gradient between 2 colors	PASS	N/I
		18bit	Fill the LCD display with the specified color	PASS	N/I
		Power	Switches on/off the lcd power	PASS	N/A
		Backlight	Switches on/off the lcd backlight	PASS	PASS
		Image	Display a standard image on screen	N/I	N/I
9.	LCD (DSI)				
		Align	Fill display with alignment pattern	N/A	PASS
		Bit test	Tests each data bit	N/A	PASS
		Fill color	Fill the lcd display with the specified color	N/A	PASS
		Fill gradient	Draws color gradient between 2 colors	N/A	PASS
		Backlight	Switches on/off the lcd backlight	N/A	PASS
		Image	Display a standard image on screen	N/A	FAIL
10.	DVI				
		Align	Display align pattern on DVI display device	PASS	N/A

		Bit	Display bit pattern on DVI display device	PASS	N/A
		Fillclr	Display specified color on DVI display device	PASS	N/A
		Grad	Display color gradient pattern on DVI display device	PASS	N/A
11.	HDMI				
		Align	Display align pattern on DVI display device	N/A	N/I
		Bit	Display bit pattern on DVI display device	N/A	N/I
		Fillclr	Display specified color on DVI display device	N/A	N/I
		Tonetest	Play a Audio tone	N/A	N/I
		Image	Display a standard image on screen	N/A	N/I
		EDID	Detect a HDMI-TV connected and read the EDID from the display	N/A	PASS
12.	Light Sensor				
		test_light_int	Detects change in light intensity	N/A	PASS
13.	SPI_LCD				
		Draw Line	Draws a line on the LCD	PASS	N/A
		Draw rectangle	Draws a rectangle on the LCD	PASS	N/A
		Fill color	Fill the sub LCD display with the specified color	PASS	N/A
14.	Mem				
		Read	Reads the memory contents	PASS	PASS
		Write	Writes into the memory	PASS	PASS
		Check	Performs memory check	PASS	PASS
15.	MMC				
		MMC Info	Displays MMC card Information	PASS	PASS
		MMC Verify	Writes and verifies the mmc card by reading back	PASS	PASS
		MMC All	Writes a known test pattern and reads back to verify	PASS	PASS
16.	NAND				
		Datalines	Performs Dataline test	PASS	PASS
		Nandrdid	Displays device information	PASS	PASS
		All	Performs erase, write and read operations on the entire flash,	PASS	PASS
		Erase	Erase the entire flash,	PASS	PASS
		Bad Block	check for bad blocks in the NAND flash	PASS	PASS
17.	OneNAND				
		Info	Displays device information	PASS	PASS
		Bad blocks	Checks for bad blocks in the oneNAND flash	PASS	PASS
		Data line	Performs data lines test	PASS	PASS
		Erase	Erases the entire OneNAND flash	PASS	PASS
		All	Performs the erase, write and read operations on the entire OneNAND flash	PASS	PASS
18.	M18 Sibley NOR				
		Data line	Performs data lines test	PASS	PASS

		Address line	Performs Address lines test	PASS	PASS
		Info	Display NOR device information	PASS	PASS
		Erase	Erases entire flash	PASS	PASS
		All	Test entire memory range specified, total 512 blocks.	PASS	PASS
19.	SDRAM				
		Dataline	Perform all the sdram dataline test	PASS	PASS
		Byte	Perform the sdram byte test	PASS	PASS
		Word	Perform the sdram word test	PASS	PASS
		16-Bit Addr	Perform the sdram 16 bit address test	PASS	PASS
		32-Bit Addr	Perform the sdram 32 bit address test	PASS	PASS
		All	Perform all the sdram tests :dataline,byte,word,16 bit address,32 bit address	PASS	PASS
		March14	Perform all the sdram march 14 tests	PASS	PASS
20.	SecureLED (SDP limited support)				
		ON	Switch on the secure LED	PASS	N/A
		OFF	Switch off the secure LED	PASS	N/A
21.	SmartReflex				
		Smartreflex_write	performs smartreflex test	PASS	PASS
22.	Timer				
		Test	Performs timer test	PASS	PASS
23.	Triton 2 BCI				
		Status	Presents the current status of the T2 Battery Charger Interface	PASS	PASS
		Acchg	Enable/Disable the AC Charger	PASS	PASS
		Usbchg	Enable/Disable the USB Charger	PASS	PASS
		Bbchg	Enable/Disable the Backup Battery Charger	PASS	PASS
		BCT	Battery Charging Test	PASS	PASS
24.	Triton2 power button				
		Button Press	Performs power button press test	PASS	PASS
25.	Triton2 power resource				
		t2vdac	Configure VDAC voltage	PASS	PASS
		t2vmmc1	Configure VMMC1 voltage	PASS	PASS
		t2vmmc2	Configure VMMC2 voltage	PASS	PASS
		t2vsim	Configure VSIM voltage	PASS	PASS
		t2vaux1	Configure VAUX1 voltage	PASS	PASS
		t2vaux2	Configure VAUX2 voltage	PASS	PASS
		t2vaux3	Configure VAUX3 voltage	PASS	PASS
		t2vaux4	Configure VAUX4 voltage	PASS	PASS
26.	Triton2RTC				
		Get time	Display the time	PASS	PASS
		Get date	Display the date	PASS	PASS

		Set time	Set the time	PASS	PASS
		Set date	Set the date	PASS	PASS
		Timer	Runs for the specified time(in sec)	PASS	PASS
27.	Triton2 vibrator				
		Vibra ON	Turn on vibrator led	PASS	PASS
		Vibra OFF	Turn off vibrator led	PASS	PASS
28.	Touch screen			(TSC2046)	(TSC2008 – primary and secondary)
		Test	Draws pixel at touch point	PASS	PASS
		Calib	Performs calibration test	PASS	PASS
		Lines	Draws lines to better determine location of touch point	PASS	PASS
29.	TV out				
		Colorbar	Displays the colorbar on TV display	PASS	PASS
		Fillcolor	Fills the display with the specified color	PASS	PASS
		Image	Display the captured image on the TV Display	PASS	PASS
		Setmode	Set the TVout path (S-Video or Composite)	PASS	PASS
		Getmode	Display the TVout path selected	PASS	PASS
30.	UART				
		Read	Reads the User entered string from the terminal connected (115200 8-N-1) and prints on the UART(1/2)	PASS	PASS
		Write	Prints the User entered string on the UART(1/2) connected terminal(115200 8-N-1)	PASS	PASS
31.	USB				
		HS USB	Initializes the HS USB to verify the test	PASS	PASS
		HSET	Initialized the HS USB for USB.org's Electrical Test.	PASS	PASS
32.	LAN				
		Setmac	Sets the MAC address	PASS	PASS
		Getmac	Reads and displays the written MAC address	PASS	PASS
		Iloop	Sends and receives the packet through internal loop back	PASS	PASS
		Eloop	Sends and receives the packet through external loop back	PASS	PASS
33.	EEPROM				
		Read	Reads the given location	PASS	PASS
		Write	writes the given location	PASS	PASS
		Paramread	Reads the given board parameter	PASS	PASS
		Paramwrite	writes the given board parameter	PASS	PASS
		Rfile	Reads the given board's eeprom data	PASS	PASS
		Erase	Erases the given board parameter eeprom data	PASS	PASS
34.	GPIO Loopback				

		expansion_board	Does a loopback of expansion board using GPIO pins(requires production test modified board)	PASS	PASS
35.	HID Keyboard				
		Scan	Displays the key pressed	PASS	PASS
36.	HID Mouse				
		Scan	Displays the mouse coordinates	PASS	PASS
37.	QUART				
		Write	Writes the given data with given baud rate to the given quart and displays on the teraterm connected to the particular quart	PASS	PASS
		Read	reads the data with given baud rate from the given quart and displays on the HOST form teraterm connected to the particular quart	PASS	PASS
		Loopback	Write the given string parameter to the port 1 and verify at loop2, similarly on port 3 and 4.	PASS	PASS
38.	IRDA				
		Deinit	Deinitialises IRDA	PASS	PASS
		Init	Intializes the uart3 for the IRDA mode.	PASS	PASS
		Read	Read the characters from the IRDA device	PASS	PASS
		Write	Writes the data to the irda device.	PASS	PASS
39.	SIM (EMU/HS SDP only)				
		Phonebook	Does the detection of SIM, initiate ATR, PPS negotiation, and verify the SIM phonebook access	PASS	N/A

Table 10 Download Test Results

S. No.	Download functionality	Mode	Test Result	
			SDP3430	Chameleon
1.	Download to GP device	BOOT ROM (UART & USB)	PASS	PASS
2.	SDRAM Download	BOOT ROM (UART & USB)	PASS	PASS
3.	M18 Sibley NOR Download	BOOT ROM (UART & USB)	PASS	PASS
4.	NAND Download	BOOT ROM (UART & USB)	PASS	PASS
5.	OneNAND Download	BOOT ROM (UART & USB)	PASS	PASS
6.	Download to EMU device (Multitask e-Fuse chip)	BOOT ROM (UART & USB)	PASS	N/A
7.	Download to HS device (Multitask e-Fuse chip)	BOOT ROM (UART & USB)	PASS	N/A

Table 11 Signing/Image formatting Test Results

S. No.	Download functionality	Mode	Test Result	
			SDP3430	Chameleon
1.	NAND formatting for memory boot	OMAP3430 ES2.0 GP	PASS	PASS
2.	OneNAND formatting for memory boot	OMAP3430 ES2.0 GP	PASS	PASS
3.	MMC image formatting for memory booting	OMAP3430 ES2.0 GP	PASS	PASS
4.	Multitask mode signing for Memory booting – NOR, NAND, OneNAND, & MMC.	OMAP3430 ES2.0 EMU (Multitask mode enabled chip)	PASS	N/A
5.	Multitask mode signing for peripheral booting	OMAP3430 ES2.0 EMU (Multitask mode enabled chip)	PASS	N/A

6. Release content

6.1. Host executables

Host executables (under <installed_directory>\ directory)

- *csst.exe* - The CSST GUI executable file.
- *csstcli.exe* - The CSST CLI executable file

USB Driver (under <installed_directory>\usb_drv_windows directory)

- *csstusb.sys* - Windows USB driver sys file for 3430.
- *csstusb.inf* – INF file for the Windows USB driver.

6.2. Target executables

CSST monitor

Under <installed_directory>\Targets\Diagnostics\3430SDP :

- *csst_3430sdp_monitor.out*– This binary supports ARM at 500Mhz and DDR at 166Mhz (please refer to Appendix A: for more details). This binary can be downloaded to DDR. For DDR download, this is downloaded to **0x80000000** on SDP3430.
- *csst_3430sdp_monitor.raw* – This binary supports ARM at 500Mhz and DDR at 166Mhz (please refer to Appendix A: for more details). This binary can be downloaded to NOR or NAND on GP devices. For NOR download, this is downloaded to **0x10000000** on SDP3430 and for NAND download (x-loader assisted boot), the address is **0x28020000**.
- *csst_3430sdp_monitor.emu.nor.ift* – This binary supports ARM at 500Mhz and DDR at 166 Mhz (please refer to Appendix A: for more details). This binary can be downloaded to NOR for booting from EMU/HS devices (multitask signing mode programmed devices only). For NOR download, this is downloaded to **0x10000000** on SDP3430.
- *csst_3430sdp_monitor.emu.legacy.nor.ift* – This binary supports ARM at 500Mhz and DDR at 166 Mhz (please refer to Appendix A: for more details). This binary can be downloaded to NOR for booting from EMU/HS devices (legacy signing mode programmed devices only). For NOR download, this is downloaded to **0x10000000** on SDP3430.

Under <installed_directory>\Targets\Diagnostics\3430CSDP :

- *csst_3430sdp_chmn_monitor.out* – This binary supports ARM at 500Mhz and DDR at 166Mhz (please refer to Appendix A: for more details). This binary can be downloaded to DDR. For DDR download, this is downloaded to **0x80000000** on SDP3430. **This is for chameleon platform.**
- *csst_3430sdp_chmn_monitor.raw* – This binary supports ARM at 500Mhz and DDR at 166Mhz (please refer to Appendix A: for more details). This binary can be downloaded to NOR or NAND on GP devices. For NOR download, this is downloaded to **0x10000000** on SDP3430 and for NAND download (x-loader assisted boot), the address is **0x28020000**. **This is for chameleon platform.**

2nd downloader (under <installed_directory>\Targets\2nd-Downloaders directory)

- *dnld_startup_3430sdp_gp.2nd*– 2nd file for SDP3430 platform.
- *dnld_startup_3430sdp_emu.2nd*– 2nd file for SDP3430 platform (multitask signing mode programmed devices only). Files “dnld-startup-3430sdp-emu.out” and “dnld-startup-3430sdp-emu.raw” in the same directory are the corresponding “.out” and “.raw”.

- `dnld_startup_3430sdp_emu_legacy.2nd`– 2nd file for SDP3430 platform (Legacy mode programmed devices only). Files “`dnld_startup_3430sdp_emu_legacy.out`” and “`dnld_startup_3430sdp_emu_legacy.raw`” in the same directory are the corresponding “.out” and “.raw”.
- `dnld_startup_3430sdp_chmn_gp.2nd`– 2nd file for **chameleon platform**.

Flash Drivers (under `<installed_directory>\Targets\Flash-Drivers` directory)

- `nor_intel_sibley_drv.out`–M18 NOR Flash Drivers for 3430 boards.
- `nand_k9f1g08r0a_mt29f1gxxaba_8.out`– 8-bit NAND Flash Drivers for 3430 boards.
- `ram_drv.out`– RAM memory driver for 3430 boards.
- `onenand_samsung_drv.out`– OneNand Flash Drivers for 3430 boards.

NAND X-Loader

Under `<installed_directory>\Targets\Diagnostics\3430SDP` :

- `GP\nand_xloader_3430sdp_gp.ift` – X-Loader for booting from NAND for GP devices. *This file is downloaded to NAND at **0x28000000** address and provides pre-load feature for loading image of max size **0x40000** at **0x28020000**. Refer CSST Quick Start Guide for NAND X-Loader flashing.* “`nand_xloader_3430sdp_gp.out`” and “`nand_xloader_3430sdp_gp.raw`” are the corresponding “.out” and “.raw” files.
- `HS_EMU\nand_xloader_3430sdp_emu.ift`– Xloader for booting from NAND for EMU devices (multitask signing mode programmed devices only). *This file is downloaded to NAND at **0x28000000** address and provides pre-load feature for loading image of max size **0x40000** at **0x28020000**. Refer CSST Quick Start Guide for NAND X-Loader flashing.* “`nand_xloader_3430sdp_emu.out`” and “`nand_xloader_3430sdp_emu.raw`” are the corresponding HS_EMU “.out”and “.raw” files.
- `Legacy\nand_xloader_3430sdp_emu.legacy.ift`– Xloader for booting from NAND for EMU devices (Legacy signing mode programmed devices only). *This file is downloaded to NAND at **0x28000000** address and provides pre-load feature for loading image of max size **0x40000** at **0x28020000**. Refer CSST Quick Start Guide for NAND X-Loader flashing.* “`nand_xloader_3430sdp_emu.legacy.out`” and “`nand_xloader_3430sdp_emu.legacy.raw`” are the corresponding HS_EMU legacy “.out”and “.raw” files.

Under `<installed_directory>\Targets\Diagnostics\3430CSDP` :

- `GP\nand_xloader_3430sdp_chmn_gp.ift`– X-Loader for booting from NAND for GP devices. *This file is downloaded to NAND at **0x28000000** address and provides pre-load feature for loading image of max size **0x40000** at **0x28020000**. Refer CSST Quick Start Guide for NAND X-Loader flashing.* “`nand_xloader_3430sdp_chmn_gp.out`” and “`nand_xloader_3430sdp_chmn_gp.raw`” are the corresponding “.out” and “.raw” files. **This is for chameleon platform**

Sample Images (directory)

Under `<installed_directory>\Targets\Sample-Images\3430SDP (for both Chameleon and SDP3430)` :

- `GP\sample_image_sdp3430.raw`- Sample image that can be downloaded and executed from SDRAM and NOR flashes on GP devices. This image prints text continuously on UART1.
- `Legacy\sample_image_sdp3430.legacy.nor.ift`– Sample image that can be downloaded and executed from NOR flash on EMU/HS devices (Legacy signing mode programmed devices only). This image prints text continuously on UART1.
- `GP\sample_image_sdp3430_gp.nand.ift` – Sample image that can be downloaded and executed from NAND flash on GP devices. This image prints text continuously on UART1.

- *HS_EMU\sample_image_sdp3430.emu.nand.ift* – Sample image that can be downloaded and executed from NAND flash on EMU/HS devices (multitask signing mode programmed devices only). This image prints text continuously on UART1.
- *Legacy\sample_image_sdp3430.legacy.nand.ift*– Sample image that can be downloaded and executed from NAND flash on EMU/HS devices (Legacy signing mode programmed devices only). This image prints text continuously on UART1.
- *GP\MLO* – Sample image that can be downloaded and executed from MMC/SD on GP devices. This image prints text continuously on UART1.
- *HS_EMU\MLO* – Sample image that can be downloaded and executed from MMC/SD on EMU devices. This image prints text continuously on UART1.
- *Legacy\MLO* – Sample image that can be downloaded and executed from MMC/SD on EMU Legacy devices. This image prints text continuously on UART1.
- *GP\sample_image_sdp3430.gp.onenand.ift* – Sample image that can be downloaded and executed from OneNAND flash on GP devices. This image prints text continuously on UART1.
- *HS_EMU\sample_image_sdp3430.emu.onenand.ift*– Sample image that can be downloaded and executed from OneNAND flash on EMU/HS devices (multitask signing mode programmed devices only). This image prints text continuously on UART1.
- *Legacy\sample_image_sdp3430.legacy.onenand.ift*– Sample image that can be downloaded and executed from OneNAND flash on EMU/HS devices (Legacy signing mode programmed devices only). This image prints text continuously on UART1.
- *return_to_csst_3430.out* - Sample image to test the “Return to CSST after execution of function” feature. This image starts a count down flashing on the 2line character LCD of the 3430 SDP. To test this feature, select the image, enable the “Execute after Download” option and “Return to CSST after execution of function” option and download the image to SDRAM. The image executes and “Programming succeeded” window will pop up after a short while.
- *CHImages\GP\sample_image_sdp3430.gp.nand.with_ch.ift*- Sample image with configuration headers enabled that can be downloaded and executed from NAND flash on GP devices (multitasking signing mode programmed devices only). This image prints text continuously on UART1.
- *CHImages\GP\sample_image_sdp3430.gp.onenand.with_ch.ift*- Sample image with configuration headers enabled that can be downloaded and executed from OneNAND flash on GP devices (multitasking signing mode programmed devices only). This image prints text continuously on UART1.
- *CHImages\GP\MLO*- Sample image with configuration headers enabled that can be downloaded and executed from MMC/SD on GP devices (multitasking signing mode programmed devices only). This image prints text continuously on UART1.
- *CHImages\HS_EMU\sample_image_sdp3430.emu.nand.with_ch.ift*- Sample image with configuration headers enabled that can be downloaded and executed from NAND flash on EMU/HS device (multitasking signing mode programmed devices only). This image prints text continuously on UART1. The corresponding sample_image_sdp3430.emu.with_ch.raw
- *CHImages\HS_EMU\MLO*- Sample image with configuration headers enabled that can be downloaded and executed from MMC/SD on EMU/HS device (multitasking signing mode programmed devices only). This image prints text continuously on UART1.

USB download Image (under <installed_directory>\Targets\Sample-Images\3430SDP directory)

- *csst_3430sdp_usb_download.out* – This binary supports ARM at 500Mhz and DDR at 166Mhz(please see Appendix A: for more details). This binary should be downloaded to DDR. For DDR download, this is downloaded address is **0x80000000**. Once this binary is downloaded to DDR, it is used for downloading images to SDP3430 platforms flashes over USB interface where the Boot ROM USB Peripheral boot mode is not functional.

6.3. IFT Keys and Certificates

Files and directories available under the **<installed_directory>\security\IFT** directory:

- *security\IFT\keys* - This directory has all the .pem files (RSA keys) required by the CSST signing module for OMAP EMU/HS and EMU/Legacy devices.

Files available under the **<installed_directory>\security\IFT\Certificates** directory:

- *multidsw_certificate* - ISW certificate for 3430 multitask mode signing.
- *mutitaskingkeys* - PK certificate for 3430 multitask mode signing.
- *multirdmaster* - R&D master certificate for 3430 multitask mode signing.
- *multirdslave* - R&D slave certificate for 3430 multitask mode signing.
- *PPA343x_multitask_ES1.0* - PPA certificate for 3430-ES1.0 multitask mode signing.
- *ppa343x_multitask_es1.0.bin* - PPA binary image for 3430-ES1.0 for multitask mode.
- *PPA343x_multitask_ES2.0* - PPA certificate for 3430-ES2.0 multitask mode signing.
- *PPA34xx_legacy_ES2.1.bin* - PPA certificate for 3430-ES2.1 legacy mode signing.
- *pasubapp_343x_svc.bin* - PA supervisor binary image.
- *pasubapp_343x_usr.bin* - PA user binary image.
- *ppa343x_multitask_es2.0.bin* - PPA binary image for 3430-ES2.0 for multitask mode.
- *DSw_Certificate* - Initial SW certificate for 3430 legacy mode and 24xx platforms.
- *RD* - R&D certificate for 3430 legacy mode and 24xx platforms.
- *Keys* - PK certificate for 3430 legacy mode and 24xx platforms.
- *subapp0, subapp1, subapp2 and subapp3* - PA sub-application binary image files for 3430 legacy mode and 24xx platforms.

6.4. Documents

The release consists of the following documents under **<installed_directory>\docs directory**:

- *CSST_QuickStartGuide_SDP3430.pdf* – Platform specific document that has information on Dip switches, memory locations to download images, diagnostics tests supported etc for SDP3430 platforms.
- *CSST_SDP3430_ReleaseNotes_v2_4.pdf* – This Document.
- *CSST_UserManual.pdf* – CSST User Manual covers the generic behavior of the CSST tool.

6.5. Gel Files

The release consists of the following files under the **<installed_directory>\ccs_files\OMAP3430 directory**.

- *omap3430es2_icepick.gel* – ICEPICK configuration gel file (the CCS Setup needs to be configured with this gel for SDP3430 and Chameleon)
- *ES2_cortexA8_startup.gel* – SDP 3430 ES2.0 gel file. This gel file will load the following gel files:
 - ◆ *CSST_3430ES2.gel*
 - ◆ *ES2_cortexA8_startup_common.gel*
 - ◆ *ES2_prcm_clock_config.gel*
 - ◆ *ES2_reconfigure_firewalls.gel*
 - ◆ *Omap3430_Resets.gel*
 - ◆ *omap3430_cortexA.gel*
 - ◆ *omap3430_cortexA_utils.gel*
 - ◆ *releaseDSPReset.gel*
 - ◆ *samsung_muxed_flash_util.gel*
 - ◆ *sdram_config.gel*
- *blackhawk_ccs3.3_3430sdp.ccs* (BlackHawk JTAG) and *PCI_560_sdp3430.ccs* (PCI XDS) – SDP 3430 CCS import files.

7. Previous Release

7.1. CSST_SDP3430_v2.3 supported features

- Common DIP switch support for UART/USB download to NOR/NAND/OneNAND.
- Support of OMAP3430 ES2.1 based SDP platforms.
- Support of TWL5030 ES1.0 based SDP3430 VG/VE 4.0.0 platforms.
- Download over USB in Boot ROM mode on OMAP3430 ES2.1 based SDP platform.
- NAND skip erase functionality (refer ER - OMAP500166813 for more details).
- MMC driver improvement to support MMC specification 4.2
- CSI2 driver improvement to get better quality image
- CSST now configures the system into a defined state before executing a downloaded binary. Please refer Appendix A: for more details.

7.2. CSST_SDP3430_v2.2 supported features

- Support OMAP 3430 ES2.0 and SDP 3430 V 0.10.0 platforms.
- Supports SDP3430 ES2.0 and ES1.0.
- Single CSST package for both OMAP3430 ES1.0 and ES2.0 based SDP platform.
- More robust test cases incorporated.
 - Revamped diagnostics supporting robust testing for on-board non-volatile memory 2Gb Onenand, 8 bit 1Gb Micron Nand and 1Gb M18 NOR.
 - EEPROM support has been enhanced.
 - Sample boot images, “return to CSST” images and xloader have been revamped to make them more effective.
 - Interrupt mode support for LAN loopback tests.
- Diagnostics support for:
 - IRDA test works in FIR, MIR, and SIR modes on SDP3430 ES2.0 and ES1.0 platform.
 - Debug FPGA Peripherals: LAN, EEPROM, HID Mouse, HID Key Board, Quart
 - Memories – NOR, NAND, OneNAND, DDR, MMC, 2Gb OneNand, 8-Bit 1Gb Micron Nand and 1Gb M18 NOR.
 - Display Sub System – Camera, Primary LCD, Secondary LCD, Touchscreen, TV out (composite mode), Sharp LCD VGA/QVGA
 - Triton2 – T2 voltages, Audio, RTC, keypad, Smart Reflex, T2 power on/off
 - Serial communication – I2C1, I2C2, I2C4, UART1, UART3, HS USB (1504)
 - GP Timers, Clamshell, Secure LED
 - IRDA test case.
 - S-Video interface support in TVOut test.
 - UART2 test case.
 - Improved camera captured image on LCD and TV.
 - Full size camera image on TV.
 - Dynamic detection of digital clock to OMAP3430.
 - I2C test case supports I2C3 interface on SDP3430.
 - Camera snapshot test case with flash support.
 - Micron MT9P012 Based SDP3430-CAM-V1.0 CPP (Camera Parallel Port) Camera Kit.
 - Support for Triton ES 3.1 Companion Chip.
 - Support for “Production Test Expansion Board” for it’s GPIO Loopback features.
 - Exhaustive HS-USB Electrical tests now integrated for thorough electrical integrity of the USB pathways.

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- USB enumeration test is automatically detected by target itself to make test pass-fail criteria.
 - Triton 2 Battery Charge Interface test support.
 - ES2 specific features such as earphone, timer 12 is no longer available.
 - UART flashing and download in Boot ROM mode to NOR, NAND, and RAM
 - 1504 HS USB flashing and downloading in Boot Rom mode to NOR, NAND, and RAM
 - Supports NAND image formatting for GP devices
 - OneNAND download support.
 - CSST monitor supports booting from NAND flash.
 - HS-USB downloads over T2 3.1
 - Download support for SDP3430 EMU and HS devices which has multitask mode programmed e-Fuse.
 - Multitask mode of signing support for OMAP3430 EMU and HS devices. Multitask mode validated on OMAP3430 EMU devices.
 - Diagnostics support for:
 - DVI interface.
 - IRDA test works in FIR, MIR, and SIR modes on SDP3430 platform.
 - Case insensitive string parameters for test cases.
 - ES2 specific features such as earphone, timer 12 is no longer available. MMC image signing support.
 - OV3640 Camera Sensor support. Both CSI2 and Parallel interface.
 - USIM test case.
 - QUART loopback test case.
 - Download support to Multitask mode 3430 EMU and HS devices.
 - Multitask signing mode validated on OMAP3430 EMU and HS devices.

Appendix A: OMAP configuration details for download and executing images

CSST supports a feature which allows an image to be downloaded and executed from SDRAM. CSST configures OMAP for download operation, which is CSST specific, but may not be desired by the execution image (Ex: HLOS). However, prior to executing the downloaded images, CSST configures the system in the following predefined state. This section describes the same.

1. OMAP OPP configuration:

System Clock (MHz)		26		
Processor OPP				
OPP	VDD1 (V)	MPU-Freq Actual (MHz)	DSP-Freq Actual (MHz)	
3	1.20	500.00	360.00	
Core OPP				
OPP	VDD2 (V)	L3-Freq Actual (MHz)		
3	1.15	166.00		
DPLL4-Freq Actual (MHz)				
864.00				
Func_96M=96MHz	TV=54MHz	DSS=96MHz	CAM=216MHz	EMUper=288MHz

2. OMAP Clock Configuration

Domain Name	Enabled Functional Clock	Enabled Interface Clock
Core	None	SDRC
Wakeup	WD Timer 2	WD Timer 2
Peripheral	None	None
Display	None	None
Camera	None	None

3. ARM Cortex Configuration

- MMU Disabled
- Data Cache Disabled
- Instruction Cache disabled
- Low Interrupt Vector
- PIC disabled configuration
- Neon disabled
- Execution in supervisory mode

4. Important OMAP Peripheral Configurations:

- GPMC is configured for the following:
 - ◆ CS0 - NOR
 - ◆ CS1- NAND
 - ◆ CS2 - ONENAND
 - ◆ CS3 - FPGA

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