



CELLULAR SYSTEMS SOFTWARE TOOLS

CSST_SDP3430_v2.1 – Binary Release Notes

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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

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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_v2.1 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 2000 with Service Pack 1 or higher.
- Windows XP Professional with SP2 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 v0.9.8e” 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_v2.1	SDP3430-VG0.2.0	OMAP 3430 ES1.0 GP, T2 ES2.1
CSST_SDP3430_v2.1	SDP3430-VG0.2.1	OMAP 3430 ES1.0 GP, T2 ES2.1
CSST_SDP3430_v2.1	SDP3430-VG0.3.0	OMAP 3430 ES1.0 GP, T2 ES2.1
CSST_SDP3430_v2.1	SDP3430-VG0.3.1	OMAP 3430 ES1.0 GP, T2 ES2.1
CSST_SDP3430_v2.1	SDP3430-VG0.4.0	OMAP 3430 ES1.0 GP, T2 ES2.1
CSST_SDP3430_v2.1	SDP3430-VG0.5.0	OMAP 3430 ES1.0 GP, T2 ES2.1
CSST_SDP3430_v2.1	SDP3430-V0.10.0	OMAP 3430 ES2.0 GP, T2 ES3.1
CSST_SDP3430_v2.1	SDP3430-VG0.11.0	OMAP 3430 ES2.0 GP, T2 ES3.1
CSST_SDP3430_v2.1	SDP3430-VG0.12.0	OMAP 3430 ES2.0 GP, T2 ES3.1

Note: Please see section 4.2 for a list of platforms on which this release of CSST was tested.

Only sanity testing is performed on SDP3430 ES1.0 platforms.

2. Features

2.1. New features:

CSST_SDP3430_v2.1 supports following features in addition to the features supported in CSST_SDP3430_v2.0:

- DVI diagnostics test case.
- 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.
- Case insensitive string parameters for test cases.
- IRDA test works in FIR, MIR, and SIR modes on SDP3430 ES2.0 and ES1.0 platform.

2.1.1. CSST framework (Platform Independent features):

- Supports CSST FWK v1.13. Moved from CSST FWK 1.9 to 1.13. Section **Error! Reference source not found.** lists the changes from FWK 1.9 to 1.13.

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

2.2. Supported Features

CSST_SDP3430_v2.1 is backward compatible with the features supported by CSST_SDP3430_v2.0 on SDP3430 VG0.5.0 platform. Please refer to Section 6 for all the legacy features supported in CSST for SDP3430 platforms.

Additional Download Support:

- Support for image download to OMAP3430 ES1.0 & ES2.0 EMU/HS device over UART3 in peripheral boot mode and UART3/USB in monitor mode.

Download Support Summary:

Table 2 lists the set of download options available on various platforms by CSST_SDP3430_v2.1.

Table 2 Download Options supported by CSST_SDP3430_v2.1

No.	Feature	Available on	Example Boards
1	HS USB peripheral booting	Works with SDP3430 VG 0.5.0 and previous platforms with 1504 PHY	SDP3430-VG0.5.0
2	HS USB downloads with software 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 V0.10.0
3	UART3 Mode peripheral mode download	All platforms.	SDP3430 V0.10.0, SDP3430 V0.5.0

Additional Diagnostics Support:

Support for legacy peripherals continues with CSST_SDP3430_v2.1 for SDP 3430 ES2.0 based platform such as SDP3430 V0.10.0. The new peripherals to be supported include:

- DVI interface test case.

2.3. Postponed Features

None.

2.4. Future Planned Features

In addition to the existing support on CSST_SDP3430_v2.1, the following will be supported on SDP3430 in upcoming releases:

- USIM support on OMAP3430 ES2.0 EMU devices on SDP3430 VG 0.10.0 platform.
- MMC download and boot support.
- CSI2 serial camera support - OV3640 camera sensor.
- DSI serial LCD support - eDISCO DSI peripheral.

3. Issues

3.1. Defects Fixed in This Release:

3.1.1. Diagnostics module (platform dependent fixes):

Table 1 Platform dependent fixes in CSST_SDP3430_v2.1

Defect ID	Description
OMAPS00149062	DVI changes
OMAPS00151388	some times MMC1 fails on 3430Es2.0
OMAPS00134686	3430 ES2.0 development Support
OMAPS00141249	Drawing not displayed properly on the TS when calib test function is aborted without coordinates provided
OMAPS00140971	Re-visit the design for OMAP00128004 - The USB enumeration test case should be updated to automatically detect the enumeration successful.
OMAPS00128379	Timer test is not working for Timer no 12
OMAPS00148129	IrDA tx-Rx not functional at higher baudrates
OMAPS00147437	3430 ES2.0 MMC1 verify fails in 8-bit mode

3.1.2. CSST framework (platform independent fixes):

Table 2 Platform independent fixes in CSST_SDP3430_v2.1

Defect ID	Description
OMAPS00147350	Host GUI: Modify target does not display all flash information
OMAPS00147349	Host GUI: Add new target always shows only OMAP2
OMAPS00146163	Need to change GUI focus after writing new filename for download
OMAPS00143274	Mask and Poll Info are not generated properly in Initial SW Certificate
OMAPS00141861	3430 Multitasking mode Signing functionality
OMAPS00140910	Provide an option to change trace file size as it is in GUI
OMAPS00140572	Onenand driver code cleanup
OMAPS00140571	Optimising the Onenand driver code
OMAPS00140569	implementation of hardware copy back mechanism for bad block management in Onenand flash
OMAPS00139764	Software developers guide update for Jtag mode debugging
OMAPS00138593	'badblk' test function is required for Onenand diagnostic test case.
OMAPS00138074	When starting CSST, the dispatcher prints out an error/debug message
OMAPS00137270	Public ID capturing while generating RD certificate will fail to capture in following scenario in Non-interactive CLI
OMAPS00137267	Public ID capturing in RD certificate will fail to capture in following scenario in GUI
OMAPS00137235	CSST host code fread() fails with no indication of failure. Nothing downloaded to host.
OMAPS00137195	Erase and download operations will take more time if it is done with Non-Interactive CLI compared to GUI.
OMAPS00136123	Verify download option is required while downloading in Non-interactive CLI like for Skip erase implemented with option as -x

OMAPS00136122	'Skip erase' check box is need to disable when device is selected as NAND as Skip erase will not work for NAND
OMAPS00131580	Non-interactive CLI - Support for Return to CSST
OMAPS00131578	Non interactive CLI - Support of NAND ECC correction
OMAPS00131576	Non interactive CLI - Support of ignore bad block while erase
OMAPS00130636	Backup battery charge information
OMAPS00128006	WinCE downloads to OneNAND is failing
OMAPS00128004	Incorrect USB detection
OMAPS00119181	Crash can occur due to missing deregistering function in CTraceDbg module
OMAPS00113017	Memory leaks in dispatcher and diagnostics module
OMAPS00112969	Delay of 1000 ms in dispatcher II connect can be removed
OMAPS00105928	Trace log file gets updated when Trace is enabled and ultimately becomes very bulky.
OMAPS00102745	Remove all the memory leaks from XML parser
OMAPS00101624	icon in popup message 'successfully disconnected from target' different when target is disconnected from Monitor mode in GUI
OMAPS00097379	CSST GUI download write-tab should prevent invalid options from being selected.
OMAPS00081046	Change of BAUD rate does not work in Monitor mode

3.2. Open Defects

3.2.1. Diagnostics module (platform dependent):

Defect ID	Description
OMAPS00151937	Fixes for system testing for SDP3430 ES2.1 release
OMAPS00081046	Change of BAUD rate does not work in Monitor mode
OMAPS00154055	CSST T2 power control logic does not function consistently
OMAPS00154180	MMC driver needs to be synchronized with specification
OMAPS00154193	'Camera init failed" popup when Camera cature test done after doing LCD, hidmouse & TVout image tests
OMAPS00154183	Flickering will happen when DVI Grad test is run with following parameters 18 vga 0xffff 0x0.
OMAPS00154185	"Mismatch in targets" needs to popup when wrong target is tried to connect in Monitor as mentioned in Description

3.2.2. CSST framework (platform independent):

Defect ID	Description
OMAPS00154147	Host GUI/CLI: confusing dumping of data in debug window
OMAPS00154146	Host GUI: Diagnostics Abort issue
OMAPS00154144	CLI: Non return to CSST is not functional
OMAPS00153950	Edited fields will not save in 'Change' option in target information display.
OMAPS00153947	If image "csst_2430sdp_monitor.out" downloaded to RAM for EMU target with verify enabled on SDP2430 then download fails.
OMAPS00153942	Trace file sizes will differ between GUI and Non-Interactive CLI modes.
OMAPS00153857	Disconnect failed popup when tried to disconnect target in following condition in GUI.
OMAPS00153855	Address field needs to update accordingly when file is added then changed the device type in Verify tab in GUI
OMAPS00153847	Tabbing is not working properly in Multitasking mode in Sign module in SDP3430 platform.

OMAPS00151344	This DR is used for checking in System test bug fixes found in Framework 1.13 release
OMAPS00150329	If user gives 'help' as parameter then in test output will show test case details as it will appear in test function in diag
OMAPS00148760	Memory leaks in dl.dll has to be cleaned up (attached screen shot)
OMAPS00148754	Memory leaks in disp.dll has to be cleaned up.
OMAPS00148747	CXML parser memory leaks in signui and dl.dll
OMAPS00148742	Download will not work in Monitor mode for lower baudrates ex:9600,4800,2400,1200 where as daignostic tests will work.
OMAPS00148741	CSST should not allow user to change baudrate when diagnostic test case in progress needs to popup error message.
OMAPS00148739	'Please wait,Repository getting Load' should appear when click on Diagnostic module in left pane only not in below condition.
OMAPS00148061	Host should identify the range of baudrates it can support.
OMAPS00147967	CSST Submit:CSST Release 2.14.0
OMAPS00147636	ASSERTS when changing from DEBUG to DL window
OMAPS00147348	Host GUI: Download and verify tabs need to have ECC enabled by default for nand devices
OMAPS00147347	Monitor Mode limitation in downloading to different chip select
OMAPS00147342	Host GUI: Enable/Disable debug window merely resizes the debug window.
OMAPS00146443	Download completes successfully as displayed on the debug window of the GUI but in progress bar it will stops in middle
OMAPS00141241	Download will behave different in time and trace file size when trace is ON with following conditions in Non-Interactive CLI
OMAPS00140975	Putting duplicate entry, the original structure change of default.ccf when you run the NCLI
OMAPS00138595	'Check NAND for Bad blocks' option is also required in Verify operation of Non-Interactive CLI
OMAPS00137204	Error handling in Non-Interactive CLI
OMAPS00137198	Download will fail for NAND and Onenand if try to download .out file with verify check box enabled.
OMAPS00107456	cleanup of dl_busy.cpp (See attachment for bug list)
OMAPS00101618	If I go for more than operation (download or Erase) during Read in GUI, then sometimes read operation not success full.
OMAPS00089904	Displaying commands in CLI for download will differ from user manual
OMAPS00080222	Configurable UI

3.3. Open Change Requests

Not applicable

3.4. Rejected Defects

Not applicable.

3.5. Postponed Defects

Not applicable

3.6. 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 that particular camera and 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: Open
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: Open
Workaround: CSST USB Workaround download support (please see quick start guide referenced in section 5 for more details).
 5. Inconsistent results in status result seen while running t2bci status test.
Type of issue: unknown
Platforms: OMAP3430 ES2.0 SDP3430-V0.10.0
Status: Open.
Workaround: None
 6. T2 LEDA and T2 LEDB silkscreen on the board are swapped
Type of issue: Hardware issue, please refer to the SDP3430 errata
Platforms: ES1.0 SDP
Status: Closed.
Workaround: None
 7. Image upload over USB does not work on USB EHC PCs.
Type of issue: Hardware issue
Platforms: ES1.0 SDP
Status: Closed
Workaround: SDP modifications need for this to work.

4. Test Results

4.1. Host Software

CSST_SDP3430_v2.1 GUI has been tested on PC with following Windows Operating Systems.

Table 3 Supported Operating Systems

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

4.2. Tested OMAP3430 SDPs

CSST_SDP3430_v2.1 is tested on following platforms:

Table 4 Tested 3430 SDP configurations

No.	OMAP3430 SDP	Revisions
1	SDP3430 VG0.5.0 (OMAP3430 ES1.0 + T2 ES2.1)	Main Board 750-2046-002(E) Processor Board 750-2071-001(E) PISMO Board 750-2047-003(B) Enhanced UI Board 750-2059-001(C) Connectivity Board 750-2045-002(B) Camera Board 750-2048-001(B)
2	SDP3430-V0.10.0 (OMAP3430 ES2.0 + T2 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)

Only sanity test is executed on SDP3430 ES1.0 platform

4.3. Test Summary

Table 5 Diagnostics Test Results

S.No	Main Test case	Sub Test case	Functionality	Test results
1.	Audio			
		Record Playback	Records audio for given duration and playbacks	PASS
		Tone Play	Plays fixed tone	PASS
2.	Camera			
		Capture	Captures the Image and displays on LCD	PASS
		snap_shot	Captures the Image and displays on LCD.	PASS
		get_cam_reg	Prints the camera parameters currently operating on	PASS
		set_cam_reg	Selects the camera Parameters to do camera operations	PASS

		write_cam	Write to the current camera sensor's register	PASS
		read_cam	Reads from the current camera sensor's register	PASS
		Camdeinit	Deinitializes the camera	PASS
3.	Char			
		Display	Display the character on LCD	PASS
		Blink	Blinks the characters on LCD	PASS
		Stringdisplay	Displays the string on the LCD	PASS
4.	Clam			
		Position	Prints the position of the clam switch	PASS
5.	I2C			
		Read	Reads from the I2C device.	PASS
		Write	Writes to the I2C device	PASS
		Hsread	High Speed I2C read	PASS
		Hswrite	High Speed I2C write	PASS
6.	Keypad			
		Scan	Scans the keys of the keypad and displays the keys pressed	PASS
7.	LCD (Parallel)			
		Align	Fill display with alignment pattern	PASS
		Bit test	Tests each data bit	PASS
		Fill color	Fill the lcd display with the specified color	PASS
		Fill gradient	Draws color gradient between 2 colors	PASS
		18bit	Fill the LCD display with the specified color	PASS
		Fill	Fill the LCD display with the specified 16-bit color	PASS
		Power	Switches on/off the lcd power	PASS
		Backlight	Switches on/off the lcd backlight	PASS
8.	Mem			
		Read	Reads the memory contents	PASS
		Write	Writes into the memory	PASS
		Check	Performs memory check	PASS
9.	MMC			
		MMC Info	Displays MMC card Information	PASS
		MMC Verify	Writes and verifies the mmc card by reading back	PASS
		MMC All	Writes a known test pattern and reads back to verify	PASS
10.	NAND			
		Datalines	Performs Dataline test	PASS
		Nandrdid	Displays device information	PASS
		All	Performs erase, write and read operations on the entire flash,	PASS
		Erase	Erase the entire flash,	PASS
		Bad Block	check for bad blocks in the NAND flash	PASS
11.	L18 Strata NOR (ES1.0 SDP Only)			

		Data line	Performs data lines test	PASS
		Address line	Performs Address lines test	PASS
		Info	Display NOR device information	PASS
		Erase	Erases entire flash	PASS
		All	Test entire memory range specified, total 512 blocks.	PASS
12.	OneNAND			
		Info	Displays device information	PASS
		Bad blocks	Checks for bad blocks in the oneNAND flash	PASS
		Data line	Performs data lines test	PASS
		Erase	Erases the entire OneNAND flash	PASS
		All	Performs the erase, write and read operations on the entire OneNAND flash	PASS
13.	M18 Sibley NOR (ES2.0 SDP Only)			
		Data line	Performs data lines test	PASS
		Address line	Performs Address lines test	PASS
		Info	Display NOR device information	PASS
		Erase	Erases entire flash	PASS
		All	Test entire memory range specified, total 512 blocks.	PASS
14.	SDRAM			
		Dataline	Perform all the sdram dataline test	PASS
		Byte	Perform the sdram byte test	PASS
		Word	Perform the sdram word test	PASS
		16-Bit Addr	Perform the sdram 16 bit address test	PASS
		32-Bit Addr	Perform the sdram 32 bit address test	PASS
		All	Perform all the sdram tests :dataline,byte,word,16 bit address,32 bit address	PASS
		March14	Perform all the sdram march 14 tests	PASS
15.	SecureLED (ES2.0 SDP limited support)			
		ON	Switch on the secure LED	PASS
		OFF	Switch off the secure LED	PASS
16.	SPI_LCD			
		Draw Line	Draws a line on the LCD	PASS
		Draw rectangle	Draws a rectangle on the LCD	PASS
		Fill color	Fill the sub LCD display with the specified color	PASS
17.	SmartReflex			
		Smartreflex_write	performs smartreflex test	PASS
18.	Timer			
		Test	Performs timer test	PASS
19.	Triton 2 BCI			
		Status	Presents the current status of the T2 Battery Charger Interface	PASS

		Acchg	Enable/Disable the AC Charger	PASS
		Usbchg	Enable/Disable the USB Charger	PASS
		Bbchg	Enable/Disable the Backup Battery Charger	PASS
20.	Triton2 LED (ES1.0 SDP Only)			
		LEDA	Switches ON or OFF the T2LEDA	PASS
		LEDB	Switches ON or OFF the T2LEDB	PASS
21.	Triton2 power button			
		Button Press	Performs power button press test	PASS
22.	Triton2 power resource			
		t2vdac	Configure VDAC voltage	PASS
		t2vmmc1	Configure VMMC1 voltage	PASS
		t2vmmc2	Configure VMMC2 voltage	PASS
		t2vsim	Configure VSIM voltage	PASS
		t2vaux1	Configure VAUX1 voltage	PASS
		t2vaux2	Configure VAUX2 voltage	PASS
		t2vaux3	Configure VAUX3 voltage	PASS
		t2vaux4	Configure VAUX4 voltage	PASS
23.	Triton2RTC			
		Get time	Display the time	PASS
		Get date	Display the date	PASS
		Set time	Set the time	PASS
		Set date	Set the date	PASS
		Timer	Runs for the specified time(in sec)	PASS
24.	Triton2 vibrator			
		Vibra ON	Turn on vibrator led	PASS
		Vibra OFF	Turn off vibrator led	PASS
25.	Touch screen			
		Test	Draws pixel at touch point	PASS
		Calib	Performs calibration test	PASS
		Lines	Draws lines to better determine location of touch point	PASS
26.	TV out			
		Colorbar	Displays the colorbar on TV display	PASS
		Fillcolor	Fills the display with the specified color	PASS
		Image	Display the captured image on the TV Display	PASS
		Setmode	Set the TVout path (S-Video or Composite)	PASS
		Getmode	Display the TVout path selected	PASS
27.	UART			
		Read	Reads the User entered string from the terminal connected (115200 8-N-1) and prints on the UART(1/2)	PASS
		Write	Prints the User entered string on the UART(1/2) connected terminal(115200 8-N-1)	PASS
28.	USB			
		HS USB	Initializes the HS USB to verify the test	PASS

		HSET	Initialized the HS USB for USB.org's Electrical Test.	PASS
29.	LAN			
		Setmac	Sets the MAC address	PASS
		Getmac	Reads and displays the written MAC address	PASS
		Iloop	Sends and receives the packet through internal loop back	PASS
		Eloop	Sends and receives the packet through external loop back	PASS
30.	EEPROM			
		Read	Reads the given location	PASS
		Write	writes the given location	PASS
		Paramread	Reads the given board parameter	PASS
		Paramwrite	writes the given board parameter	PASS
		Rfile	Reads the given board's eeprom data	PASS
		Erase	Erases the given board parameter eeprom data	PASS
31.	GPIO Loopback (ES2.0 SDP only)			
		expansion_board	Does a loopback of expansion board using GPIO pins(requires production test modified board)	PASS
32.	HID Keyboard			
		Scan	Displays the key pressed	PASS
33.	HID Mouse			
		Scan	Displays the mouse coordinates	PASS
34.	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
		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
35.	IRDA			
		Deinit	Deinitialises IRDA	PASS
		Init	Intializes the uart3 for the IRDA mode.	PASS
		Read	Read the characters from the IRDA device	PASS
		Write	Writes the data to the irda device.	PASS
36.	DVI (ES2.0 SDP only)			
		Align	Display align pattern on DVI display device	PASS
		Bit	Display bit pattern on DVI display device	PASS
		Fillclr	Display specified color on DVI display device	PASS
		Grad	Display color gradient pattern on DVI display device	PASS

Table 6 Download Test Results

S. No.	Download functionality	Mode	Test Result
1.	Download to GP device	BOOT ROM (UART & USB workaround for ES2.0)	PASS
2.	SDRAM Download	BOOT ROM (UART & USB workaround for ES2.0)	PASS
3.	L18 Strata NOR Download (ES1.0)	BOOT ROM (UART & USB workaround for ES2.0)	PASS
4.	M18 Sibley NOR Download (ES2.0)	BOOT ROM (UART & USB workaround for ES2.0)	PASS
5.	NAND Download	BOOT ROM (UART & USB workaround for ES2.0)	PASS
6.	OneNAND Download	BOOT ROM (UART & USB workaround for ES2.0)	PASS
7.	Download to EMU device (Multitask e-Fuse chip)	BOOT ROM (UART & USB workaround for ES2.0)	PASS

Table 7 Signing/Image formatting Test Results

S. No.	Signing/Image formatting	Device	Test Result
1.	NAND formatting for memory boot	OMAP3430 ES1.0 GP OMAP3430 ES2.0 GP	PASS
2.	OneNAND formatting for memory boot	OMAP3430 ES1.0 GP OMAP3430 ES2.0 GP	PASS
3.	Multitask mode signing for Memory booting – NOR, NAND, & OneNAND.	OMAP3430 ES1.0 EMU (Multitask mode enabled chip) OMAP3430 ES2.0 EMU (Multitask mode enabled chip)	PASS
4.	Multitask mode signing for peripheral booting	OMAP3430 ES1.0 EMU (Multitask mode enabled chip) OMAP3430 ES2.0 EMU (Multitask mode enabled chip)	PASS

Legacy mode signing not supported for 3430 EMU/HS devices.

5. Release content

5.1. Host executables

Host executables (under `csst\` directory)

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

USB Driver (under `csst\usb_drv_windows` directory)

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

5.2. Target executables

CSST monitor (under `csst\targets` directory)

- `csst_3430_es1_sdp1_monitor.out` – This binary supports ARM at 381MHz(ES1.0) and DDR at 166Mhz. This binary can be downloaded to RAM. For RAM download, this is downloaded to 0x80000000. For NOR download, this is downloaded to 0x04000000 on SDP3430ES1.0, for NAND download(xloader-assisted boot), the address is 0x28020000.
- `csst_3430_es2_sdp2_monitor.out` – This binary supports ARM at 500Mhz(ES2.0) and DDR at 166Mhz. This binary can be downloaded to NAND or NOR. For NOR download, this is downloaded to 0x10000000 on SDP3430ES2.0, for NAND download(xloader-assisted boot), the address is 0x28020000.
- `csst_3430_es2_sdp2_monitor_emu.ift` – This binary supports ARM at 500Mhz(ES2.0) and DDR at 166Mhz. 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 ES2.0.

2nd downloader (under `csst\targets` directory)

- `dnld_startup_3430_es1_sdp1_gp.2nd` – 2nd file for OMAP3430 ES1.0 GP devices.
- `dnld_startup_3430_es1_sdp1_emu.2nd` – 2nd file for OMAP3430 ES1.0 EMU devices (multitask signing mode programmed devices only).
- `dnld_startup_3430_es2_sdp2_gp.2nd` – 2nd file for OMAP3430 ES2.0 GP devices.
- `dnld_startup_3430_es2_sdp2_emu.2nd` – 2nd file for OMAP3430 ES2.0 EMU devices (multitask signing mode programmed devices only).

Flash Drivers (under `csst\drivers` directory)

- `nor_intel_drv.out` – L18 NOR Flash Drivers for SDP 3430 ES1.0 boards.
- `nor_intel_sibley_drv.out` – M18 NOR Flash Drivers for SDP 3430 ES2.0 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 2430 boards.

NAND X-Loader (under `csst\targets\` directory)

- *nand_xloader_3430_es1_sdp1_gp.ift* (ES1) and *nand_xloader_3430_es2_sdp2_gp.ift* (ES2) – X-Loader for booting from NAND for GP devices. This file is downloaded to NAND @0x28000000 address and provides the pre-load feature of loading an s/w image of maximum size of 0x40000 at 0x28020000. Refer CSST Quick Start Guide for steps flashing X-Loader to NAND.
- *nand_xloader_3430_es1_sdp1_emu.ift* (ES1) and *nand_xloader_3430_es2_sdp2_emu.ift* (ES2) – Xloader for booting from NAND for EMU devices (multitask signing mode programmed devices only). This file is downloaded to NAND @0x28000000 address and provides the pre-load feature of loading an s/w image of maximum size of 0x40000 at 0x28020000. Refer CSST Quick Start Guide for steps flashing X-Loader to NAND.

Sample Images (under `csst\targets\sample_images` directory)

- *sample_image_es1_sdp1.raw*(ES1) and *sample_image_es2_sdp2.raw*(ES2) - Sample image that can be downloaded and executed from SDRAM and NOR flashes on GP devices. This image prints text continuously on UART1.
- *sample_image_es1_sdp1_NAND_gp.ift* (ES1) and *sample_image_es2_sdp2_NAND_gp.ift*(ES2)– Sample image that can be downloaded and executed from NAND flash on GP devices. This image prints text continuously on UART1
- *sample_image_es2_sdp2_NAND_emu.ift* (ES2) – 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
- *sample_image_es1_sdp1_ONENAND_gp.ift*(ES1) and *sample_image_es2_sdp2_ONENAND_gp.ift*(ES2) – Sample image that can be downloaded and executed from OneNAND flash on GP devices. This image prints text continuously on UART1.
- *sample_image_es2_sdp2_ONENAND_emu.ift*(ES2) – 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.
- *return_to_csst_3430.out* (ES1 and ES2)– 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.

5.3. IFT Keys and Certificates

Files and directories available under the `csst\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 devices.

Files available under the `csst\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_ES2.0* - PPA certificate for 3430-ES2.0 multitask mode signing.
- *pasubapp_343x_svc.bin* - PA supervisor binary image.
- *pasubapp_343x_usr.bin* - PA user binary image.

- *ppa343x_multitask_es1.0.bin* - PPA binary image for 3430-ES1.0 for multitask mode.
- *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.

5.4. Documents

The release consists of the following documents under **csst\docs** directory:

- *CSST_QuickStartGuide_SDP3430.doc* – Platform specific document that has information on Dip switches, memory locations to download images, diagnostics tests supported etc for both SDP3430 ES1.0 and SDP3430 ES2.0 platforms.
- *CSST_SDP3430_ReleaseNotes_v2_1.doc* – This Document.
- *CSST_UserManual.doc* – CSST User Manual covers the generic behavior of the CSST tool.

5.5. Gel Files

The release consists of the following files under the **csst\lccs_files** directory.

- *ES1.0SDP1\CortexA8_startup.gel* – SDP 3430 ES1.0 gel file. This gel file will load the following gel files:
 - ◆ *CSST_3430.gel*
 - ◆ *CortexA8_startup_common.gel*
 - ◆ *IVA22_startup.gel*
 - ◆ *Omap3430_Resets.gel*
 - ◆ *omap3430_arm9.gel*
 - ◆ *omap3430_c64plus.gel*
 - ◆ *omap3430_cortexA.gel*
 - ◆ *omap3430_cortexA_utils.gel*
 - ◆ *omap3430_cs_dap_pc.gel*
 - ◆ *prcm_clock_config.gel*
 - ◆ *reconfigure_firewalls.gel*
 - ◆ *releaseDSPReset.gel*
 - ◆ *samsung_muxed_flash_util.gel*
 - ◆ *sdram_config.gel*
- *ES2.0SDP2\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
- ◆ omap3430es2_icepick.gel (the import file may need to be configured with this gel for ES2.0)
- ◆ releaseDSPReset.gel
- ◆ samsung_muxed_flash_util.gel
- ◆ sdram_config.gel
- ES2.0SDP2*blackhawk_ccs3.3_3430sdp.ccs*(BlackHawk JTAG) and *PCI_560_sdp3430.ccs*(PCI XDS) – SDP 3430 ES2.0 CCS import files.
- ES1.0SDP1*blackhawk_ccs3.3_3430sdp.ccs*(BlackHawk JTAG) and *PCI_560_sdp3430.ccs*(PCI XDS) – SDP 3430 ES2.0 CCS import files.

6. Previous Release

6.1. CSST_SDP3430_v2.0 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:
 - 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.
 - 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