Release Notes
WinCE BSP for the TI OMAP35x EVM
Release 6.14.01.01

TABLE 1. REVISION HISTORY

Revision	Date	By	Description
1.0	Sep 15, 2009	Kevin Hasley	Initial release
1.1	Sep 17, 2009	Kevin Hasley	Update with EVM details
1.2	Oct 14, 2009	Kevin Hasley	Added EVM2 details
1.3	Oct 15, 2009	Kevin Hasley	Added information about EVM2 batch file
1.4	Oct 21, 2009	Kevin Hasley	Updated release notes in build section
1.5	Oct 22, 2009	Kevin Hasley	Change in BSP information
1.6	Dec 14, 2009	Kevin Hasley	Preparing for 6.12.04 release
1.7	Jan 15, 2010	Joseph Lee	Updated for the 6.13.00 release
1.8	April 23, 2010	Joseph Lee	Updated for the 6.14.00 release
1.9	Jul 14, 2010	Joseph Lee	Updated for the 6.14.01.01 release

Contents

1. Introduction

This package contains the following items:

- Windows CE 6.0 R3 BSP for the OMAP35x EVM.
- DVSDK Components 1.00.00.05a binaries
- PowerVR 3D Graphics DDK 1.3.1 and SDK-2.3.1 for OMAP35xx ES2.x silicon and ES3.x silicon.
- Prebuilt images (only included in the demo package)
- Documents

Note: This is the last release where TMDXEVM3503 (EVM1 Rev D and earlier) is tested and supported. Subsequent releases will be tested only on TMDSEVM3530 (EVM2 Rev G).

2. Release Highlights

2.1. Software Updates (BSP 6.14.01.01)

This release fixes some important bugs since BSP 6.14.00 release and has gone through targeted testing. Details of the bug fixes can be found in the Resolved Issues section. For detailed list of changes and release history, see <6.14.01.01\BSP\ TI_EVM_3530\readme.txt>.

2.2. Software Updates (BSP 6.14.00)

Below is a list of new updates to the 6.14.00 BSP. For full list of features, see the spreadsheet at <6.14.00\Documentation\Bsquare WinCE BSP for OMAP35x EVM Feature List.pdf>. For detailed list of changes and release history, see <6.14.00\BSP\ TI_EVM_3530\readme.txt>.

- **BSP General**

  - *Build Environment*

    o The default configuration of the BSP (ti_evm_3530.bat) is now set up for the TMDSEVM3530 (EVM2). Note that the default configuration for previous BSP releases was for TMDXEVM3503 (EVM1).

- EVM2 only: VRFB (Virtual Rotated Frame Buffer) support is now enabled by default in all images and platform configuration .bat files. The VRFB feature helps support dynamic rotation. Note that the software based video decoders supplied with Windows CE will not operate correctly with VRFB enabled. Also Video Capture sample application will not display preview correctly with VRFB enabled. If any software based video decoders are needed or Video Capture app with preview is needed, edit the ti_evm_3530.bat file to set BSP_NOVRFB=1.Note that EVM1 boards that use ES2.x silicon cannot use the VRFB due to a silicon issue.
- The SYSGEN_DSHOW_GENERICSTREAMER variable is now set in all of the sample OS designs. Note that this variable does not have a Platform Builder catalog entry associated with it and must be either manually added to the .pbxml file or set in the ti_evm_3530.bat file (both have been done for the TI_EVM_3530 BSP).
- Cleaned up errors when building with WINCESHIP set.
- Added environment variable BSP_TVOUT_ENABLE to ti_evm_3530.bat to enable TV-OUT/S-VIDEO output (disabled by default).

- *Bootloader*

  - Added bootloader menu entry to enable/disable retail messages (UART3).
  - Fixed problem with NAND and ONENAND XLDR being too large.

- *OAL*

  - Changed tick timer interval for work around problem with CETK scheduler test failure.
  - Fixed problem that caused incorrect RTC time after suspend/resume (EVM2 only).
  - Changed RTC initialization to avoid losing time unless PMIC chip is reset or has its power turned off. Time now correct after OMAP_RST button is used to reset the EVM.
  - Fixed problem with OAL RTC code that caused CETK timer drift test failure.
  - Changed pin mux operation order to ensure block functional clock is enabled prior to switching the pins ownership from GPIO to the block.
  - Added kernel IOCTL functions to return CPU family and CPU revision.
  - Added I2C bus lock/unlock functions to CEDDK API. These functions are needed only when atomic multiple transaction bus access is required.
  - Configured SYS_BOOT6 pin as GPIO output to drive PROC_ACT LED as NLED.

- *USB*

    o Fixed problem with VAUX2 voltage (used by EHCI transceiver) which was being set to 2.8V instead of 1.8V.
    o Added work around to MUSBOTG driver for problem with VBUS error handling.
    o Fixed thread priority issue that caused problems with USBFN RNDIS class driver.
    o Changed USB RNDIS KITL driver to use OAL PRCM to manage clocks.
    o Fixed syntax errors in tsp659xx MUSB OTG transceiver support. Note that this feature is untested and unsupported.
    o Fixed problem with OTG driver that caused OTG port to stop working after the first time a cable is plugged in.
    o Fixed error in OTG link recovery that used GPIO_186 for ULPI D5 instead of GPIO_189.

- *Graphics*

    o Removed one NEON BLT that caused CE6R3 CETK GDI AlphaBlend and GradientFill test failures.

- *Ethernet*

    o Changed SMSC ethernet driver to include source code.

- *Camera*

    o Changed camera_mdc driver to remove STILL Pin function. Modified sample video capture application to work with this change.
    o If the VRFB is enabled, the video capture driver (camera_mdc) and the sample video capture application will malfunction.

- *Secure Digital*

    o Fixed problem with SDHC driver that caused some SDIO cards to fail.
    o Changed SDBOOT to support for 4 bit wide SD memory cards.
    o Changed custom SDMEMORY card driver to automatically detect need for multi block read workaround.
    o Added custom SDBUS driver that supports high speed SD cards. Modified SDHC driver to support high speed cards.

- *Power Management*

- o Improved power management subsystem by updating to the latest code base. Changed the default suspend state to OSWR (CORE+OTHER = OSWR, MPU = CSWR). Note that OSWR = Off State With Retention and CSWR = Clock Stopped With Retention.

- **Platform Builder Plug-in**
  - o Removed all unsupported catalog items, use ti_evm_3530.bat to configure the BSP.

- **DVSDK (binaries)**
  - o Updated DVSDK (Digital Video SDK) dshow component to version 1.10.00.05. Added AAC parser filter, AAC decoder wrapper filter, MP4/3GP demux filter, and MP3 decoder wrapper filter (for MP3 running on the DSP).
  - o For ease of DVSDK source integration, moved DVSDK .bib and .reg file entries from platform.bib and platform.reg to separate include files.

- **3D Graphics**
  - o Rebuilt PowerVR Graphics DDK binary components for the BSP 6.14 release
  - o Suspend/Resume for SGX core fixed

2.3.   Power Management Support

Support for Power Management using Suspend mode is added in this release. Power Management is only tested and supported on ES3.x silicon on TMDSEVM3530 (EVM2) platform. Further details on Power Management can be found in "App Note - Power Management with OMAP EVM35xx Platform running Windows CE 6.pdf" under Documentation folder.

2.3.1 Suspend Mode
Improvements were made in suspend/resume behavior and also in reducing power consumption during system suspend. Detailed list of changes can be found in < 6.14.01.01\BSP\ TI_EVM_3530\readme.txt>.

Please note that Wakeup from Suspend is only triggered by PWR_ON key in this release.

2.3.2 DVFS (Dynamic Voltage Frequency Scaling)
A preview of the DVFS (Dynamic Voltage and Frequency Scaling) subsystem is now available for evaluation (disabled by default). Enabling this subsystem (unset BSP_NODVFS, BSP_NOCPUPOLICY, and BSP_NOINTRLAT in ti_evm_3530.bat) will

cause the DVFS subsystem to vary the core, CPU and DSP subsystem voltages and operating frequencies based on system activity.

2.3.3 Smart Reflex Policy

A preview of the SmartReflex functionality is now available for evaluation (disabled by default). This subsystem uses information written into write once memory in the OMAP35xx chip during factory testing. This information describes fine tuning that is automatically done to the OPPs (Operating Points) for further power savings. This driver requires the DVFS driver. Unset BSP_NOSMARTREFLEXPOLICY variable in the ti_evm_3530.bat file to enable this feature.

3. Test Results

For the WinCE BSP QA process, Bsquare uses an internal developed test suite called Device Validation TestSuite as well as CETK. DVT comes from years of experience from Bsquare testing WinCE environments. It is a use case, system and driver-level testing and performance tool that helps identify BSP functionality and performance gaps. DVT is also used to test TI's 3D graphics and DVSDK frameworks.

Bsquare also tests the WinCE BSP using Microsoft's CETK. The Microsoft tests run are documented at http://msdn.microsoft.com/en-us/library/aa934353.aspx. There are over 130 functional, performance and stress tests that are ran on each release of the BSP.

Testing and BSP Certification for the 6.14.00 release was done on the TMDSEVM3530 from Mistral. The following is the EVM configuration used during Bsquare's QA process.

- TMDSEVM3530 board revision G
  - Processor module revision C (ES3.1)
  - Power module revision D

A complete set of test results are available once the WinCE BSP has past General Availability. If you need the complete WinCE BSP QA/Testing results before this date, please email sales@bsquare.com.

3.1.   Known Issues

Hardware

Please ensure that your TMDSEVM3530 (EVM2) has the latest changes referred to in the errata list. http://www.mistralsolutions.com/support/productsupport-errata_35xEVM_new.php

1. EVM1 boards that use ES2.x silicon cannot use the VRFB for GFX due to a silicon issue. No fix is expected.
2. SDOCM00071013: Some devices (EVM1: Ethernet, DVI, MMC LEDs, ETM interface, MUSB OTG; EVM2: Ethernet, DVI, MMC LEDs, ETM interface, JTAG, MUSB OTG, video decoder, camera) are not powered when the battery power or charger power inputs are used.

3. The EVM DB9 UART1/2 and UART3 serial port hardware design only support RXD and TXD, there are no modem handshake/status signals available on the ports. The EVM2 has support for RTS/CTS handshake for UART3 only.

4. There are limitations to the OMAP3 display controller's abilities. Example configurations that may cause the display subsystem to malfunction include:
   - Use of flat frame buffer display rotation.
   - Use of VRFB display rotation with large resolution displays.
   - Use of video scaling with large resolution displays.

5. OHCI and EHCI controllers cannot be used at the same time due to silicon issues.

6. SDOCM00071014: Due to design error on TMDXEVM3503 (EVM1) the RTC in the TWL4030 cannot be used. RTC is emulated using CPU counter and is reset when CPU is reset. RTC is working on TMDSEVM3530 (EVM2).

7. SDOCM00071035: When using the USB EHCI controller with the EVM1 + TI Multimedia Daughter Card or EVM2, plugging a low/full speed device into the USB port on the daughter card will cause the port to become non-functional until a reboot. To work around this issue, use a hub between the USB port and the low/full speed device. This behavior is by design (OMAP3xxx chip), no fix is expected.

Software

1. Latest issues list can be tracked in the TI bug database
   https://cqweb.ext.ti.com/cqweb/main?command=GenerateMainFrame&service=CQ&schema=SDO-Web&contextid=SDOWP&queryID=34371711&username=readonly&password=readonly

   Note: If prompted for login/password, please close the browser and click on the link again.

2. If you have any questions related to any of the issues below that start with ID "BSQR#", contact Bsquare support or sales@bsquare.com.

- **SDOCM00072206**   EHCI - suspend/resume - intermittently, resume takes effect after 30 seconds

- **SDOCM00071801**   Potential bug / typo in prcm_device.h (DSS1/DSS2 clk related)

- **SDOCM00071446**   AUTO_OFF_ENABLED and AUTO_RET_ENABLED are both set in OFF mode contrary to OMAP hw reference manual

- **SDOCM00071444** In OFF mode, VDD1/VDD2 don't drop to 0 (expected to work on EVM2)

- **SDOCM00071050** Resizing a video with DVI 1280x720 does not display well. This is due to the limitations with the OMAP3 display controller's abilities.

- **SDOCM00071049** The MDC/EVM2 camera (video capture) driver requires a large amount of free program memory (~30 MB) when used with the video capture demo program. Use the control panel, system icon, memory tab to adjust the memory allocation. After running a video capture demo program, a large memory leak was observed. It is not known if this is due to a problem with the demo program or with the camera driver.

- **SDOCM00071043** The do.exe command line utility may not able to perform some types of CE shell commands due to running with user privileges, use the Platform Builder Target->Target Control shell with a KITL link to execute commands that do not work using do.exe. Do.exe is an undocumented feature.

- **SDOCM00071002** CETK Waveform Audio Driver Test - Playback Mixing/Capture Mixing Failed

- **SDOCM00069745** When USB hub is connected to OTG port, suspend/resume causes fatal exception most of the time. *Update: BSP 6.14.01 fixes this issue to some extent but there are still some infrequent failures.*

- **SDOCM00069731** Power Management: With DVFS and SmartReflex Enabled, board automatically resumes after a suspend (suspend is momentary)

- **SDOCM00069671** VBus Error seen occasionally causing OTG port not to function

- **SDOCM00069573** With tvout and DVI enabled, starting media playback results in DVI screen blanking out for a second.

- **SDOCM00069459** When tvout is enabled, GFX demos on DVI/LCD slow down significantly

- **SDOCM00069457** Delay in detecting certain devices on the USB OTG port

- **SDOCM00069266** SD Card Performance - H.264 4 Mbps .MP4 file performance from SD card is very poor

- **SDOCM00069263**   During dynamic screen rotation, screen flicker is observed while the screen is being rotated

- **SDOCM00069257**   VRFB, rotation at 90 or 270 leads to performance issues with DVFS, Smartreflex enabled

- **SDOCM00069252**   If doing Suspend while Media playback is active, DSP does not go into suspend and this results in higher power consumption

- **SDOCM00069240**   Enabling WaitforVsync in Display driver causes performance degradation

- **SDOCM00068945**   Tvout (S-Video/Composite output) stops functioning after a suspend/resume cycle

- **SDOCM00068793**   CETK - Serial Port Communication speed/stress tests fail

- **BSQR#1042**   The Virtual Rotated Frame Buffer (VRFB) module is not compatible with the some of the video codecs provided by Microsoft. Screen rotation should only be used when VRFB is enabled. No fix is expected.

- **BSQR#1214**   USB OTG port has a few known issues. Please ensure that your TMDSEVM3530 (EVM2) has the latest changes referred to in the errata list. http://www.mistralsolutions.com/support/productsupport-errata_35xEVM_new.php. Significant improvement is seen with the EVM fixes for these issues.

  - It is sensitive to the type/length of USB cable used. The cause of this issue is not known. Recommended cable is GoldX USB 5 in 1 (GXQU-06) available from www.amazon.com.

  - If a device is connected to the OTG port during boot it will sometimes fail to enumerate. Remove and re-insert the cable connected to the OTG port to work around this issue.

  - The USB OTG port is unstable with hot swap and certain USB1.1 and USB2.0 hubs don't work reliably. Standardized USB2.0 hubs do work

  Note: See also <Documentation\App Note - USB Connectivity on TI OMAP3 EVM Platform running Windows CE 6.pdf> for further details.

3.2.   Resolved Issues

Below are list of issues resolved in this release and in prior releases.

3.2.1. Issues resolved in BSP 6.14.01

- **SDOCM00071784**   CETK: Clientside.exe application fails on resume when suspended to OFF mode

- **SDOCM00071540**   Readme.txt under SampleApplications\VideoCapture directory is not correct

- **SDOCM00069773**   Suspend/Resume: EHCI port stops workings after a few suspend/resume cycles

- **SDOCM00069664**   CETK - Ethernet tests - NDIS performance and Winsock Performance have failures

- **SDOCM00069258**   USB OTG High speed mode is not supported

- **SDOCM00069039**   Power Management - RTC Alarm cannot be set up as wakeup source

- **BSQR#1253**   Audio recording not working for AUX_R. Fixed problem in wave driver configuration that caused audio recording to be mono only.

- **BSQR#1251**   When advanced power management is enabled and configured to allow suspend to OFF mode, the system will crash during resume.

- **BSQR#1222**   Suspend/resume clock management for the HSUSB host EHCI driver is not working. When this driver is included in the system, the suspend current will be significantly higher.

- **BSQR#1223**   Device can fail to resume after suspend/resume for several times when USB storage is in OTG port.

- **BSQR#1191**   Ethernet driver can fail under stress. This is only seen during CETK stress tests and not in normal use.

3.2.2. Issues resolved in BSP 6.14.00

- **SDOCM00069090**   Media player artifacts seen on DVI-out when the wmp window is moved around

- **SDOCM00068849**   TPS Version number needs to be corrected

- **SDOCM00069260**   Dynamic screen rotation causes garbage on screen when the initial rotation Angle (specified in platform.reg) is 90 or 270

- **SDOCM00069354**   Issues when using suspend/resume with GFX

- **SDOCM00069239**   Garbage/black frames seen during video playback when switching between Ddraw and GDI mode under heavy CPU load

- **SDOCM00069261**   Exception/Crash seen when video is playing using windows media player and screen is dynamically rotated using rotate command

- **BSQR#1243**   USB OTG port will change from Full to High speed mode after second USB insertion.

- **BSQR#1239**   Fixed a timing issue with the Ethernet driver causing CETK NDIS Performance Test Failed

- **BSQR#1237**   Memory leak during CESTRESS singly with short duration.

- **BSQR#1235**   Kernel Scheduler Test Fails in TestScheduler

- **BSQR#1234**   Can't establish ActiveSync connection at second USB cable insertion

- **BSQR#1232**   SmartReflex not working

- **BSQR#1230**   Data Abort during video playback when DVFS is enabled

- **BSQR#1229**   Video In is not working in 6.13 release

- **BSQR#1227**   VDD1 and VDD2 current is not lowered when device is suspended

- **BSQR#1224**   SD Performance – Testing do not yield the expected performance at 4MB/s Write, 7-9MB/s Read

- **BSQR#1217**   CETK [Display] Graphics Device Interface Test- 222,231 failed

- **BSQR#1216**   CETK Video Capture Filter Test 1104 – 1106 Failed

- **BSQR#1195**   [Mircosoft323629]XP host is not recognizing TI_EVM_3530 as RNDISFN

- **BSQR#1185** CETK Compare All Three Timers Drift Test with Busy Sleep Failed in EVM2

- **BSQR#1173** CEStress: Singly with short duration test failed

- **BSQR#1137** TV-out quality is not good. *Note: The quality is still poor on TMDXEVM3503 (Rev D and earlier) due to an EVM design issue and is fixed in TMDSEVM3530 (Rev G).*

- **BSQR#1136** S-VIDEO output is not clear. *Note: The quality is still poor on TMDXEVM3503 (Rev D and earlier) due to an EVM design issue and is fixed in TMDSEVM3530 (Rev G).*

- **BSQR#1134** PB Catalog: Selecting / deselecting components on the Catalog does not work

3.2.3. Issues resolved in BSP 6.13.00

- *BSQR#1175* | Power Management modes have not been tested. *Power Management using Suspend mode is tested on TMDSEVM3530 (EVM2) in this release.*

- *BSQR#1071* When UART driver TX DMA is enabled (registry TxDmaRequest entry) the UART stops sending after a line break is received. It is not known if the cause is due to a hardware or software issue. The UART TX DMA is disabled by default. *A partial work around has been implemented and verified.*

- *BSQR#1042* Display rotation should only be used with the Virtual Rotated Frame Buffer (VRFB). Rotation using the flat frame buffer is possible, but the OMAP3530 memory/bus bandwidth is not sufficient to allow display scanning without causing display to flicker and/or lock up. *VRFB mode is recommendation for rotation.*

- **TIFAE#7** VRFB rotation with video not supported. *This issue is fixed for Video Codecs (MPEG4, MPEG2, H.264) from TI.*

- *BSQR#1202* Corrupted icon with some application (e.g., IE) when PowerVR is enabled. *This issue is fixed with updated PowerVR libraries. (A workaround was implemented in BSP 6.12.04 by enabling XP skin. That is no longer needed).*

3.2.4. Issues resolved in BSP 6.12.04

- ***BSQR#1179*** When playing videos and playback window is moved to be partially off screen, the video playback may show artifacts. *This issue was resolved in an earlier release but was not documented.*

- ***BSQR#1183*** EHCI port is not working when DVI mode is enabled. *The issue is resolved.*

- ***TIBSQR#0044*** The EVM Flash utility does not work for the latest TMDSEVM3530 (EVM2). *This is now fixed with new version of the EVMFlash Tool for EVM2 that is available under the Tools directory.*

- ***BSQR#1216*** Video In driver for the Multimedia Daughter Card is not working efficiently on ES2.1 version of the OMAP35x EVM1. *Resolution for this issue is to upgrade to ES3.x OMAP35x silicon version.*

- ***TI#46*** Poor multimedia performance has been observed on TMDXEVM3503 platforms using OMAP3530 ES2.1 silicon under certain conditions (such as loading from SD cards). This is seen with high bit rate (>2Mbps) H.264 video files. *Resolution for this issue is to upgrade to ES3.x OMAP35x silicon version.*

4. Release Content

4.1.　Software

The complete listing of device driver software for baseport, 3D graphics DDK, DVSDK and BSP SOURCE can be found in their respective software manifests in the folder <06.14.01.01\Documentation>.

4.1.1.　Windows CE BSP

The Windows CE BSP files are located in two zip files under the folder **BSP** in the release package:

- TI_EVM_3530_*x.yy.zz*.zip
- OMAP35XX_TPS659XX_TI_V1_*x.yy.zz*.

x.yy.zz is the version number of the release. For instructions in how to setup the BSP in the Microsoft Windows CE development environment please refer to the BSP User Guide available under the Documentation folder.

4.1.2.　Sample Windows CE 6 OS Design Solutions

OS Design Solutions are used to store project specific configurations in the Microsoft Platform Builder Development Environment for Windows CE projects. Three sample OS Design Solutions are provided in this release package targeting the following platforms:

Name	Platform
EVM_3503	TMDXEVM3503 (EVM1)
EVM_3503_MDC	TMDXEVM3503 with Multimedia Daughter Card (EVM1+MDC)
EVM_3530	TMDSEVM3530 (EVM2)

4.1.3. Sample Build Scripts

Three sample build scripts with default build settings for the supported platforms are included in the release:

- evm1_ti_evm_3530.bat for TMDXEVM3503 (EVM1)
- evm1_mdc_ti_evm_3530.bat for TMDXEVM3503 + TI Multimedia Daughter Card (EVM1+MDC)
- evm2_ ti_evm_3530.bat for TMDSEVM3530 (EVM2)

Rename the appropriate script to ti_evm_3530.bat for building the configuration chosen. Refer to BSP User Guide available under the Documentation folder for build instructions.

4.1.4. PowerVR 3D Graphics Library

The PowerVR 3D Graphics libraries supporting application development under the OpenGL Standard can be found in the folder under PowerVR. There are 2 binary packages depending on the Silicon version in use. The binary package and demos for the 3D Graphics are

- PowerVR-DDK-1.3.1_SDK-2.3.1_OMAP3ES3.x_6.14.00.02.zip for ES3.x silicon (for TMDSEVM3530 platform or EVM2)

- PowerVR-DDK-1.3.1_SDK-2.3.1_OMAP3ES2.x_6.14.00.02.zip for ES2.x silicon (for TMDXEVM3503 platform or EVM1)

Please note that the PowerVR packages in BSP 6.14.01 release are identical to the ones in BSP 6.14.00 release.

4.1.5. DVSDK

The DVSDK binaries (for TI's accelerated Multimedia subsystem) are included in the BSP source package under the folder TI_EVM_3530\FILES.

Access to the DVSDK source package can be obtained from Texas Instruments here
http://software-dl.ti.com/dsps/dsps_public_sw/sdo_sb/targetcontent/dvsdk/WinCE/latest/index_FDS.html

BSP 6.14.01.01 is compatible with DVSDK 1.00.00.05a source package.

4.1.6. Sample Drivers

The BSP contains several drivers that are provided only as examples. These drivers have not been tested on the EVM and are not supported:

- TI_EVM_3530\SRC\DRIVERS\USBHCD
- TI_EVM_3530\SRC\DRIVERS\MUSB\USBOTG_TPS659XX
- TI_EVM_3530\SRC\DRIVERS\CAMERA
- TI_EVM_3530\SRC\DRIVERS\HEADSET
- TI_EVM_3530\SRC\DRIVERS\BATTERY
- PLATFORM\COMMON\SRC\SOC\OMAP35XX_TPS659XX_TI_V1\omap\TPS659XX\BCI
- PLATFORM\COMMON\SRC\SOC\OMAP35XX_TPS659XX_TI_V1\omap\TPS659XX\MADC
- PLATFORM\COMMON\SRC\SOC\OMAP35XX_TPS659XX_TI_V1\omap35xx\HDQ

4.1.7. Prebuilt Windows CE Images

Prebuilt images for three different platforms / configurations are included in the Demo package:

I. TMDXEVM3503
    a. OneNAND boot, LCD output (only for TMDXEVM3503 with Samsung ONENAND)
    b. Micron NAND Boot, LCD output
    c. SD boot, Micron NAND support, LCD output
    d. SD boot, Micron NAND support, DVI 720p output

II. TMDXEVM3503+MDC (Multimedia Daughter Card)
    a. Micron NAND boot, LCD output
    b. SD boot, Micron NAND support, LCD output
    c. SD boot, Micron NAND support, DVI 720p output

III. TMDSEVM3530
    a. Micron NAND boot, LCD output
    b. SD boot, Micron NAND support, LCD output
    c. SD boot, LCD output, No NAND support *(this build is recommended for platforms that don't have a WinCE bootloader already in the flash)*
    d. SD boot, Micron NAND support, DVI 720p output

Note: The prebuilt images are no longer part of the "BSP Source" package.

4.1.8. Windows CE SDK for the OMAP 35xx EVM Platforms

Windows CE SDKs for the sample OS Design Solutions are included in this release package. These SDKs are required for developing applications using Microsoft Visual Studio Development environment that will run on one of the EVM platforms supported by the BSP.

4.1.9. Tools

Several utilities are distributed in the release package.

I.   EVMFlash Tool

This utility is used for programming a ROM image into the EVM's non volatile memory. Variants are available for the different EVM configurations.

II.   SDCard Boot Utility

This utility is used for building a SD card that can be used as a bootable storage with the EVM platform.

Refer to the BSP User Guide available under Documentation folder for the details on how to use these tools.

4.1.10.   Documentation

The following documents are contained in the folder Documentation in the root of the release.

Document	Author	Description
App Note - Power Management with OMAP EVM35xx Platform running Windows CE 6.pdf	Bsquare	Application note that describes Power Management on a EVM platform running Windows CE OS Release 6
App Note - USB Connectivity on TI OMAP3 EVM Platform running Windows CE 6.pdf	Bsquare	Application note that describes issues with the USB OTG functionality and the recommend work-around
App Note - Enable Media Codec Framework on TI OMAP3 EVM Platform	Bsquare	Application note that explains how to enable and build the media codec

running Windows CE 6.pdf		engine framework (aka DVSDK) from TI
App Note - Enabling DVI Output on the TI EVM Platform running Windows CE 6.pdf	Bsquare	Application note that explains how to configure the WinCE image to output to the DVI port on the EVM
App Note - Enable 3D Graphics Framework on TI OMAP3 EVM Platform running Windows CE 6.pdf	Bsquare	Application note to enable and build the 3D graphics framework (aka 3D Graphics DDK) from TI
Bsquare WinCE BSP for OMAP35x EVM Feature List.pdf	Bsquare	The complete list of features in the WinCE BSP.
EVM3530 BSP User Guide.pdf	Bsquare	The WinCE BSP user's guide to help guide you through building and running WinCE on the OMAP35x EVM
WinCE BSP Directory Structure Changes.pdf	Microsoft	Microsoft's description of the WinCE Directory Structure. This is just an FYI document for users as this configuration has already been done on the WinCE BSP source tree.
BSQUARE WinCE BSP for OMAP35x EVM Data Sheet.pdf	Bsquare	Bsquare's WinCE BSP data sheet describing this WinCE product. For more information, email sales@bsquare.com.
BSQUARE WinCE BSP SDIO Hx White Paper for OMAP35x EVM.pdf	Bsquare	Bsquare's white paper on SDIO Hx that improved the SD interface in the WinCE BSP on OMAP35x EVM.
OMAP3 WinCE DVSDK Software Manifest (1.00.00.05a).pdf	Texas Instruments	Lists the DVSDK components contained in the BSP and the location of the files.
OMAP3 WinCE BSP Software Manifest (6.14.01.01).pdf	Bsquare	Lists the WinCE driver/software contained in the BSP and the location of the files.
evm3530_usb_limitation.pdf	Texas Instruments	Describes the USB limitations on the Mistral EVM

5. Glossary

BSP	refers to the base WinCE kernel drivers
DVSDK	refers to the TI's Digital Video Software Development Kit
3D Graphics SDK	refers to the TI 3D Graphics Software Development Kit
EVM1	refers to the TMDXEVM3503 platform (Rev D)
EVM2	refers to the TMDSEVM3530 platform (Rev G)
MDC	refers to the TI Multimedia Daughter Card used with TMDXEVM3503 platform

6. Support

   a. For technical support,

      1. Please post to the TI e2e WinCE community forum
http://e2e.ti.com/support/embedded/f/353.aspx

      Forum reported issues that are reproducible on the EVM will be entered into TI bug database and can be tracked here
https://cqweb.ext.ti.com/cqweb/main?command=GenerateMainFrame&service=CQ&schema=SDO-Web&contextid=SDOWP&queryID=34371711&username=readonly&password=readonly

      Note: If prompted for login/password, please close the browser and click on the link again.

      2. Go to bSquare website at http://www.bsquare.com/omap3. To get immediate access to the support site, send an email to omap3support@bsquare.com with the subject line "OMAP3 KB ACCESS".

   b. For helpful developer hints, try the collaborative Wiki site at
http://processors.wiki.ti.com/index.php/Category:WinCE

http://processors.wiki.ti.com/index.php/Category:OMAP35x (Please note that this site has information for both Linux and WinCE)

c. Users new to Windows Embedded CE6 can obtain evaluation versions of the required software from Microsoft at the following URL http://msdn.microsoft.com/en-us/embedded/aa731407.aspx.