Texas Instruments

Windows Embedded CE 6.0 BSP for the OMAP-L13x/AM17x/AM18x

Version 1.00.00

Release Notes

MPC Data Limited

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1. Introduction

This document contains the Release Notes for the Windows Embedded CE 6.0 BSP for the Texas Instruments OMAP-L138, AM18x, OMAP-L137 and AM17X processors. This is the version 1.00.00 release of the BSP.

2. Distribution Contents

The BSP release installation file, **OMAPL13x_AM1x_BSP_WINCE_ARM9_Release_v1.00.00.exe**, contains the following files:

- Doc\ AM1x_OMAPL13x_WinCE_6.0_BSP_Release_Notes.pdf
  – These release notes

- Doc\ AM1x_OMAPL13x_Board_Support_Package_WinCE_Software_License_Agreement.pdf
  – Software License Agreement for the BSP

- Doc\ AM1x_OMAPL13x_WinCE_6.0_BSP_Software_Manifest.pdf

  – List of components used in the BSP

- Doc\ AM1x_OMAPL13x_WinCE_6.0_BSP_User_Guide.pdf
  – User Guide containing BSP feature descriptions and technical information

- Doc\ AM18x_OMAPL138_WinCE_6.0_BSP_Quick_Start_Guide.doc.pdf
  – Quick Start Guide containing installation and build instructions for OMAP-L138 AM18x

- Doc\ AM17x_OMAPL137_WinCE_6.0_BSP_Quick_Start_Guide.pdf
  – Quick Start Guide containing installation and build instructions for OMAP-L137 AM17x

- Platform* , OSDesigns* - BSP and OS Design source files for OMAP-L13x, AM17x and AM18x

- Demo TI_DEFAULT* - pre-built binaries for OMAP-L13x, AM17x and AM18x

- TEST* - Test Plans and Test Results.

3. Requirements

Hardware required:

- For OMAP-L137 or AM1707 EVM, a suitable OMAP-L137 or AM1707 EVM, available from Spectrum Digital Inc. (http://www.spectrumdigital.com/):

    o OMAP-L137/TMS320C6747 Floating Point Starter Kit

    o AM1707 EVM

- For OMAP-L138 or AM1808, a suitable OMAP-L138 or AM1808 Zoom development kit, available from Logic PD (http://www.logicpd.com/):

    o Zoom OMAP-L138/AM1808 EVM Development Kit

    o Zoom OMAP-L138/AM1808 eXperimenter Kit

- Development PC.

See the corresponding Quick Start Guide for full details of hardware and software required.

4. Installation Instructions

The BSP release installation file will install the source code and release documents to directory C:\TI\BSP_WINCE_ARM9_01.00.00.01\ by default.

The Quick Start Guides contain full details of how to install, build and run the BSP for the respective processor..

5. Feature Summary

The User Guide contains full details of the functionality supported by the BSP. A summary of the features supported in this BSP release is as follows:

- Bootloaders:

    o OMAP-L138 UBL with 300MHz ARM and DSP configuration

    o AM1808 UBL with 456MHz ARM configuration

    o OMAP-L137 UBL with 300MHz ARM and DSP configuration

    o AM1707 UBL with 300MHz ARM configuration

    o AM1707 UBL with 456MHz ARM configuration (requires rev H EVM)

- o Boot from SPI Serial Flash

- o Boot from NAND Flash

- o Boot from NOR Flash (**OMAP-L138/AM1808 only**)

- o Ethernet download of CE image

- o Load of CE image from NAND Flash

- o Load of CE image from SD card

- o Load of CE image from NOR Flash (**OMAP-L138/AM1808 only**)

- o Persistent storage of EBOOT configuration in flash

- o Splash screen support

- CE 6.0 OAL supporting:

  - o KITL over Ethernet

  - o VMINI Ethernet support

  - o Kernel debugger

  - o Performance Profiler

  - o Real Time Clock

  - o Watchdog Timer

- Drivers and libraries:

  - o EDMA driver

  - o I2C driver

  - o SPI driver

  - o LIDD support library

  - o Character LCD driver

  - o Raster LCD driver

  - o EMAC NDIS Ethernet driver

  - o McASP support library

  - o UART Serial driver

  - o USB 1.1 OHCI driver

  - o USB 2.0 Host driver

  - o USB 2.0 Function driver

- o USB 2.0 OTG driver

- o NAND flash driver

- o AIC3106 Audio driver

- o SD/MMC card driver

- o PWM driver

- o Notification LED driver

- o Power Management Suspend/Resume support

- o For **OMAP-L138/AM1808 only:**

  - • UPP driver

  - • VPIF driver

  - • McBSP driver

  - • TPS65070 Touch Screen driver

- o For **OMAP-L137/AM1707 only:**

  - • TSC2004 Touch Screen driver

6. Testing Summary

The BSP has been tested using a combination of Microsoft CETK, functional test procedures and custom test utilities. The test procedure is designed to validate all of the BSP functionality detailed in the User Guide.

The BSP has been through the full system test and validation process. Details of known issues can be found in section 7 below.

The BSP has been tested with the following software and hardware revisions:

- • Zoom OMAP-L138 SOM revision 4

- • Zoom AM1808 SOM revisions A and 2

- • Zoom OMAP-L138 EVM base board revision 4

- • Zoom OMAP-L138 EVM UI board revisions 6 and 7

- • Logic PD 4.3" WQVGA Display Kit revisions B and C

- • OMAP-L137 EVM revision E

- • DA830 User Interface Board revision C

- • AM1707 EVM revision H

- AM1707/OMAP-L137 User Interface Board revision B

- Windows CE 6.0 R3 with monthly updates to April 2010

7. Known Issues

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=34371716&username=readonly&password=readonly

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

- Known issues for both **OMAP-L138/AM1808** and **OMAP-L137/AM1707** in this release:

    o SDOCM00070756 – USB OTG Function - CETK irregular endpoint packet size test failures

    o SDOCM00070924 – Transcend MMC 2G card could not be detected

    o SDOCM00070932 – USB OHCI - CETK irregular endpoint packet size test failures

- Known issues for **OMAP-L138/AM1808 only:**

    o SDOCM00070925 – McBSP - Throughput rates higher than expected

    o SDOCM00070934 – SDHC - CRC errors seen with MMCmobile card at 52MHz (bus currently limited to 26MHz)

    o SDOCM00070935 – EBOOTNOR - Does not boot with SD card in slot

    o SDOCM00071083 – UPP test app - number of sample points too low

- Known issues for **OMAP-L137/AM1707 only:**

    o None

8. Resolved Issues

Issues for both **OMAP-L138/AM1808** and **OMAP-L137/AM1707** resolved in this release:

- SDOCM00070765 – OS Design - Change default SOC type to AM1x

- SDOCM00070512 – pmget asserts when multiple power state flag bits are set

- SDOCM00070509 – EBOOT sometimes fails to read CE image from SDHC card

- SDOCM00070757 – USB OTG Function - ActiveSync connection not re-established after suspend / resume

- SDOCM00070759 – NAND - DMA support in FMD is not working

- SDOCM00070760 – NAND - DMA support in bootloader is not working

- SDOCM00070761 – USB OTG Host - Failures seen after CE 6.0 March updates applied

- SDOCM00071318 – EBOOT DSP boot menu option not working

9. Support

For technical support,

1. Please post to the 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=34371716&username=readonly&password=readonly

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

2. Support for this BSP release is available via the MPC Data Support Portal:

    http://support.mpcdata.com/ti/

    Register for support via the website and follow the instructions for raising a support request.