

BIOS MCSDK 2.0

Release Notes

Applies to Product Release: 02.00.00.11
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BIOS MCSDK 2.00.00.11

1 Overview

This document is the Release Notes for **Release 2.0.0** of the Multicore Software Development Kit (MCSDK) for the BIOS operating system. This BIOS MCSDK software release gives developers the ability to evaluate the hardware and software capabilities of the evaluation platform and provide core software to rapidly develop a multi-core application.

2 Licensing

The tables below describe the primary license for the packages that make up the BIOS MCSDK. As shown in the *Releases* section below, some of these packages are delivered with the Code Composer Studio installer and some are delivered with the BIOS MCSDK installer.

IMPORTANT: There may be portions of these packages under other licenses and you should refer to the individual package Software Manifest (after installation) for complete and specific licensing.

Target Content

This is software that runs on the device. For the location, replace *<ver>* with the version that is part of the component name (e.g., 2.0.0.11, etc.).

Package	Primary License	Manifest Location
MCSDK	BSD	[as_installed]/mcsdk_<ver>/bios_mcsdk_swmanifest_<ver>/pdf
PDK 6678	BSD	[as_installed]/pdk_c6678_<ver>/pdk-c6678_swmanifest.pdf
PDK 6670	BSD	[as_installed]/pdk_c6670_<ver>/pdk-c6670_swmanifest.pdf
BIOS 6.0	BSD	[as_installed]/bios_<ver>/sysbios_<ver>_manifest.html
IPC	BSD	[as_installed]/ipc_<ver>/ipc_<ver>_manifest.html

NDK	BSD	[as_installed]/ndk_<ver>/NDK_<ver>_Manifest.html
MATHLIB	BSD	[as_installed]/,athlib_c66x_<ver>/docs/MATHLIB_Software_Manifest.html
DSPLIB	BSD	[as_installed]/dsplib_c66x_<ver>/docs/DSPLIB_Software_Manifest.html
IMAGELIB	BSD	[as_installed]/imglib_c66x_<ver>/docs/IMGLIB_Software_Manifest.html
EDMA3	BSD	[as_installed]/edma3_ild_<ver>/software-manifest.pdf
MCSA Framework	BSD	[as_installed]/ccsv5/uia_<ver>/uia_<ver>_manifest.html

Host Tools

These are development tools that run primarily on the development host. For the location, replace <ver> with the version that is part of the component name (e.g., 2.0.0.11, etc.).

Package	Primary License	Manifest
MCSDK (flash and eeprom tools)	BSD	[as_installed]/mcsdk_<ver>/bios_mcsdk_swmanifest_<ver>/pdf
CG XML	BSD	[as_installed]/cg_xml/cg_xml_<ver>_Manifest.pdf
XDC	EPL 1.0	[as_installed]/xdctools_<ver>/docs/xdctools.htm (see License section)
Code Composer Studio 5	Click Wrap	N/A

3 Documentation

- **EVM Quick Start Guide:** Provides information on hardware setup and running the demonstration application that is loaded on flash. This document is provided as part of the EVM kit.
- [BIOS MCSDK Getting Started Guide:](#) Provides information on installing the software from the two software packages (MCSDK, CCS), connect to the target EVM using JTAG, load pre-compiled libraries to the EVM, and run the application.
- [BIOS MCSDK Users Guide:](#) Provides detailed information regarding software elements and infrastructure to allow developers to start creating applications.
- [Image Processing Demonstration Guide:](#) Provides information on the image processing demo including software design, performance results, development concerns.

4 Device Support

The device and platform supported with the 2.0.0 release include:

- **C6678:** This release supports the Texas Instruments [TMS320C6678](#) high performance DSP. The EVM supported by the software is [TMDXEVM6678L](#).
- **C6670:** This release supports the Texas Instruments [TMS320C6670](#) high performance DSP. The EVM supported by the software is [TMDXEVM6670L](#).
- **C6618:** This release supports the Texas Instruments [TMS320TCI6618](#) high performance DSP. The EVM supported by the software is TMDXEVM6618LXE.

5 Technical Support and Product Updates

For technical discussions and issues, please visit

- **C66x Multicore forum:** http://e2e.ti.com/support/dsp/c6000_multi-core_dsps/f/639.aspx
- **BIOS Embedded Software forum:** <http://e2e.ti.com/support/embedded/f/355.aspx>
- **Embedded Processors wiki:** http://processors.wiki.ti.com/index.php/Main_Page

For product updates, please visit

- **Multicore Software Development Kits:** <http://focus.ti.com/docs/toolsw/folders/print/bioslinuxmcsdk.html>

The EVM comes with disks containing the MCSDK software and CCS. You can start with these or go to the MCSDK software download site listed above to check for the latest updates and version. The BIOS-MCSDK release download will also have pointers to applicable CCS and compiler release versions as well. Please review the release notes and software manifest before downloading and/or installing the software.

6 IS NOT

- Support for BIOS5 or older releases
- Support for CCS 4.x or older releases
- DSP image format other than ELF (e.g., COFF)
- Security Accelerator LLD is not included in this package, but has been tested against SA LLD 1.0.1.4

7 Installation

See the online *BIOS MCSDK Getting Started Guide* ([link](#)) for installation information.

8 Known Issues

The list of issues can be found online using this [link](#).

9 Releases

9.1 Build 2.0.0.11

This is the production release of BIOS MCSDK 2.0.

Component	Version	Installer
NDK	2.20.04.26	MCSDK
IPC	1.22.05.27	MCSDK
EDMA3 LLD	2.11.02.04	MCSDK
SYS/BIOS	6.31.04.27	CCS
DSPLIB	3.0.0.8	MCSDK
MATHLIB	3.0.0.0	MCSDK
IMGLIB	3.0.1.0	MCSDK
MCSDK Tools		
BIN2CCS	1.0.0.0	MCSDK
IBL	1.0.0.6	MCSDK
EEPROM Writer	1.0.0.3	MCSDK
NAND Writer	1.0.0.3	MCSDK
NOR Writer	1.0.0.2	MCSDK
MCSA	1.0	MCSDK
POST	1.0.0.3	MCSDK
PDK-C6678	1.0.0.11	MCSDK
Platform Library	2.0.0.7	MCSDK
NIMU Transport	1.0.0.4	MCSDK
CSL	1.0.0.12	MCSDK
PA LLD	1.1.0.10	MCSDK
CPPI LLD	1.0.0.16	MCSDK
QMSS LLD	1.0.0.17	MCSDK
PCIe LLD	1.0.0.2	MCSDK
SRIO LLD	1.0.0.14	MCSDK
TSIP LLD	1.0.0.4	MCSDK
HYPLINK LLD	1.0.0.4	MCSDK
PDK-C6670	1.0.0.11	MCSDK
Platform Library	2.0.0.7	MCSDK
NIMU Transport	1.0.0.3	MCSDK
CSL	1.0.0.6	MCSDK

Revision A:

PA LLD	1.1.0.10	MCSDK
CPPI LLD	1.0.0.16	MCSDK
QMSS LLD	1.0.0.17	MCSDK
PCIe LLD	1.0.0.2	MCSDK
SRIO LLD	1.0.0.14	MCSDK
BCP LLD	1.0.0.7	MCSDK
FFTC LLD	1.0.0.14	MCSDK
TCP3D LLD	1.0.0.13	MCSDK
TCP3E LLD	1.0.0.10	MCSDK
Demos		
HUA Demo	2.0.0.3	MCSDK
Image Processing Demo	1.0.0.2	MCSDK
Other Tools		
CodeGen	7.2.1	CCS
CCS	5.0.3.00028	download
C6670/C6678 Simulator	1.0.1	CCS
C6618 Simulator	0.4.0	CCS
XDCTools	3.20.08.88	CCS
CG_XML	2.30	MCSDK
minGW	mingw-get-inst-20110316	download

New features:

- PCIe Boot example added
- PCIe LLD added for C6670
- Image Processing Demo support for C6670
- IPC over SRIO & QMSS transports
- SRIO boot example

Externally Tracked Issues Fixed:

id	Severity	State	Headline	Found In Product	Found In Release Version	Affected Targets
SDOCM00079225	Major	Planned	Simulator target does not work for NDK	BIOS-MCSDK	02.00.00	C6678
SDOCM00079505	Major	Planned	EDMA3 LLD: Can not build EDMA3 LLD examples	BIOS-MCSDK	02.00.00	C6678
SDOCM00079607	Major	Planned	HUA: EMAC switch statistics sometimes show inconsistent values	BIOS-MCSDK	02.00.00	C6678
SDOCM00081144	Major	Planned	Image processing demo with MCSA integrated crashes after few runs	BIOS-MCSDK	02.00.00	C6678

SDOCM00081396	Major	Planned	Platform Library: platform_lib and platform_lib_test projects do not build for both 6670/6678	BIOS- MCSDK	02.00.00	N/A
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Other Issues Fixed:

- CSL PDK (C6670): PCIE project fails to compile due to undefined symbol CSL_BootCfgGetPCIEPLLlock
- PDK (C6618 simulator): BCP example project for Big Endian and simulator hangs at second test
- PDK (C6670): BCP test and example projects for Big Endian fail all tests.
- C6670 EVM BE: TCP3E_dbIMgzTestProject Big Endian fails on EVM
- C6670 EVM BE: TCP3E_exampleProject Big Endian fails on EVM
- There is no Readme for shmlpcBenchmark_c6678 – PDK
- Platform Library simulator target does not work for NDK
- getLibs() added for Platform Library and NIMU should be adopted by all MCSDK components
- Fixed issue preventing building EDMA3 LLD examples
- HUA: Occasionally Flash Page has nothing after the How It Works text
- makefile support for MCSDK components
- HUA Demo: Running the Transmit UDP benchmark multiple times crashes the system
- IBL need to support I2C boot from multiple device/images based on the dip switch setting
- NAND ecc bytes computation needs to be changed for BIOS MCSDK to align with Linux
- Provide makefiles for EEPROM/NAND/NOR writers
- ibl\src\makeibl_c661xi2crom.map.pre defines clocks/plls incorrectly
- IBL PLL workaround is too slow for PCIe
- TCP3d/TCP3e LLD source files does not build using the external to PDK ED-MA3LLD driver provided by TI-India
- NIMU Rx pDataBuffers are not cached aligned
- Image processing demo: The edge slices are not cache aligned
- PDK (C66x): hypInk_read_ECCErrors_reg() doesn't work. It accesses the wrong HW register.

9.2 Build 2.0.0.9

This is a Beta-2 release.

Component	Version	Installer
PDK-C6678	1.0.0.9	MCSDK
PDK-C6670	1.0.0.9	MCSDK
Platform Library (C6678)	2.0.0.6	MCSDK

Platform Library (C6670)	2.0.0.2	MCSDK
NDK	2.20.03.24	MCSDK
IPC	1.22.05.27	MCSDK
EDMA3 LLD	2.11.1.2	MCSDK
SYS/BIOS	6.31.04.27	CCS
DSPLIB	3.0.0.7	MCSDK
IMGLIB	3.0.1.0	MCSDK
MCSDK Tools		
BIN2CCS	1.0.0.0	MCSDK
IBL	1.0.0.4	MCSDK
MAD	1.0.0.0	MCSDK
EEPROM Writer	1.0.0.1	MCSDK
NAND Writer	1.0.0.1	MCSDK
NOR Writer	1.0.0.0	MCSDK
MCSA	1.0	MCSDK
POST	1.0.0.2	MCSDK
Demos		
HUA Demo	2.0.0.2	MCSDK
Image Processing Demo	1.0.0.0	MCSDK
Other Tools		
CodeGen	7.2.0	CCS
CCS	5.0.2.00006	download
C66x Functional Simulator	1.0.0	CCS
XDCTools	3.20.08.88	CCS
CG_XML	2.2	download
Python	2.7.1	download

New features

- PCIe LLD added for C6678
- BCP, TCP3d, TCP3e and FFTC LLDs added for C6670
- Multicore System Analyzer (MCSA) support

Issues fixed in this Release:

id	Severity	State	Headline	Found In Product	Found In Release Version	Affected Targets
SDOCM00079595	Minor	Planned	HUA: Going back to the Main Flash Page after a NOR Read or Write shows the NAND selection	BIOS-MCSDK	02.00.00	C6678
SDOCM00079834	Minor	Planned	Import of LLD example projects gives warning and build fails unless a macros.ini is imported manu-	BIOS-MCSDK	02.00.00	C6678

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Other bug fixes:

- Going back to the Main Flash Page after a NOR Read or Write Shows the NAND selection
- HUA project name should be changed from "hpdspua" to "hua" to align w/ collateral
- Import of LLD example projects gives warning and build fails unless a macros.ini is imported manually
- Installer sometimes has an error at the end of the installation stage
- Browsing the MCSDK help content (UG and GSG) always crashes my Eclipse..
- On the information page the User switch 1/2 display "OFF" even though 1 is ON in static mode.
- Can not write HUA to NAND flash
- Text in browser after test is run appears chopped.
- RBL EMAC boot example and any necessary tools
- Eclipse plugin did not work after the new installer update
- DOC: Host boot utilities documentation in UG
- IBL build instruction/documentation confusion
- POST: Can not build Release build configuration for POST
- Platform Library: Need C6670-sim target support
- HUA : eeprom read causes application to crash on NY
- Boot example projects for 6670 are missing
- When written to NOR as bootable image on HUA failed to boot.
- HUA does not print debug messages on UART
- DOC: Need C6670 HW setup guide wiki page
- POST: Add ability to indicate SA-enabled device
- Nand writer on C6678 not working reliably...
- Many MCSDK examples don't work out of box
- Image processing demo should print messages in UART console

- HUA : Internal RAM test checks for valid core between $1 \leq \text{core_id} < 6$ instead of $1 \leq \text{core_id} < 8$.

9.3 Build 2.0.0.8

This is an update to Beta-1.

Component	Version	Installer
PDK-C6678	1.0.0.8	MCSDK
PDK-C6670	1.0.0.8	MCSDK
Platform Library (C6678)	2.0.0.5	MCSDK
Platform Library (C6670)	2.0.0.1	MCSDK
NDK	2.20.03.24	MCSDK
IPC	1.22.03.23	CCS
EDMA3 LLD	2.11.1.2	MCSDK
SYS/BIOS	6.31.04.27	CCS
DSPLIB	3.0.0.5	MCSDK
IMGLIB	3.0.0.5	MCSDK
MCSDK Tools		
BIN2CCS	1.0.0.0	MCSDK
IBL	1.0.0.2	MCSDK
MAD	1.0.0.0	MCSDK
EEPROM Writer	1.0.0.0	MCSDK
NAND Writer	1.0.0.0	MCSDK
NOR Writer	1.0.0.0	MCSDK
POST	1.0.0.2	MCSDK
Demos		
HUA Demo	2.0.0.1	MCSDK
Image Processing Demo	1.0.0.0	MCSDK
Other Tools		
CodeGen	7.2.0	CCS
CCS	5.0.2.00006	download
C66x Functional Simulator	1.0.0	CCS
XDCTools	3.20.08.88	CCS
CG_XML	2.2	download
Python	2.7.1	download

New features

- C6670 EVM support added

Issues fixed in this Release

id	Severity	State	Headline	Found In Product	Found In Release Version	Affected Targets
SDOCM00079340	Major	Planned	On system reset, sometimes Ethernet packets are not received	BIOS-MCSDK	02.00.00	C6678
SDOCM00079839	Minor	Planned	Installer sometimes has an error at the end of the installation stage	BIOS-MCSDK	02.00.00	C6678
SDOCM00079937	Minor	Planned	DOC: BIOS MCSDK release notes link in Eclipse is broken	BIOS-MCSDK	02.00.00	C6678
SDOCM00080174	Critical	Planned	Automatic software update via Eclipse does not work after updating installer to beta1a	BIOS-MCSDK	02.00.00	C6678

Other bug fixes:

- In Eclipse help the release note link for MCSDK is broken
- POST does not display FPGA version
- PLATFORM LIB: platform_lib_lite needs some documentation on intent/purpose
- PDK LLD UserGuide: Document the LLD user guide information in wiki Userguide

9.4 Build 2.0.0.6

This is the Beta-1 release of BIOS MCSDK 2.0.

Component	Version	Installer
PDK-C6678	1.0.0.6	MCSDK
PDK-C6670	1.0.0.6	MCSDK
Platform Library (C6678)	2.0.0.5	MCSDK
NDK	2.20.03.24	MCSDK
IPC	1.22.03.23	CCS
EDMA3 LLD	2.11.1.2	MCSDK
SYS/BIOS	6.31.04.27	CCS
DSPLIB	3.0.0.5	MCSDK
IMGLIB	3.0.0.5	MCSDK
MCSDK Tools		
BIN2CCS	1.0.0.0	MCSDK
IBL	1.0.0.1	MCSDK
MAD	1.0.0.0	MCSDK
EEPROM Writer	1.0.0.0	MCSDK

NAND Writer	1.0.0.0	MCSDK
NOR Writer	1.0.0.0	MCSDK
POST	1.0.0.0	MCSDK
Demos		
HUA Demo	2.0.0.1	MCSDK
Image Processing Demo	1.0.0.0	MCSDK
Other Tools		
CodeGen	7.2.0	CCS
		download
CCS	5.0.2.00006	d
C66x Functional Simulator	1.0.0	CCS
XDCTools	3.20.08.88	CCS
		download
CG_XML	2.2	d
		download
Python	2.7.1	d

New features

- Initial Multicore SDK for KeyStone devices
- C6678 EVM support
- C6678/C6670 simulator support

Issues fixed in this Release

- None (this is the first release)