

Release Notes

C6748 BIOSPSP 03.00.01.00

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1 Introduction



This PSP Package serves as fundamental software platform for development, deployment and execution of application software on C6748 based platform. PSP abstracts the functionality provided by the C6748.

This PSP package is intended for the DSP that runs SYS/BIOS™ (user guide that comes along with this release, details the system requirements)

1.1 Release Category

This PSP release versioned 03.00.01.00 is GA release for EVM 6748. To know the details of this release refer [Drivers/Components for this release](#) section in this document.

1.2 Text Conventions

	<p>This bullet indicates important information. Please read such text carefully.</p>
	<p>This bullet indicates additional information.</p>

2 Out-of-Box Contents

biospsp_03_00_xx_xx_Setup.exe contains following:

1.	<ul style="list-style-type: none"> - Source code for driver and other necessary abstractions. - Reference Project files (SYS/BIOS™), CCS5 build files - The above mentioned items are located inside the <installation dir>\biospsp_03_00_xx_xx\ directory - Please refer the user guide for introduction about the folder structure - Please note that the CCS setup files and GEL files are <u>NOT</u> provided with this release and this would be available with latest CCSv5 releases or from EVM manufacturer.
2.	Release Notes (this document) provides an overview of this release.
3.	User Guide that provides information on package usage and each driver's usage.
4.	Datasheet that provides resource usage and performance information of the each driver.

3 Dependencies


- CCS 5.1.0.09000 or higher
- C6748 EVM
- SYS/BIOS 6.33.01.25
- Code Generation Tools 7.3.1
- EDMA3 product version 02.11.02.04
- XDC 3.23.00.32

4 Drivers/Components for this release

This section lists the drivers / components that are delivered as part of this release.

- SYS/BIOS 6.33.01.25 Drivers
 - Serial (UART, I2C and SPI)
 - Audio (McBSP, McASP, AUDIO interface and CODEC)
 - Storage (Block media, MMCSd, NAND)
 - PSC (that helps to turn the clock on/off for the modules)
 - GPIO (for operations on GPIO pins)
 - Video – VPIF
 - LCDC raster
 - rCSL header files and examples for rCSL usage
- Sample applications that demonstrate the use of above drivers

Please note that, at this point of time the drivers do not have any abstraction for the OS APIs and they use the OS (SYS/BIOS 6.33.01.25) inside the drivers.

 All the drivers are tested only in ELF format. Even though the package contains the coff libraries for the entire driver modules, those modules are not tested using the coff sample applications.

4.1 Other changes

None

5 Known Issues

5.1 McBSP

- **SDOCM00086545** - The McBSP data reception fails in FIFO disable mode.

Workaround – None.

5.2 LCDC driver

- **SDOCM00087983** - LCDC Raster BPTB hangs when running 8Bpp test cases in debug mode

Workaround – This can be avoided by not enabling the palette load interrupt.

5.3 NAND driver

- **SDOCM00088835**- The blockmedia driver needs to have separate library for raw mode and File system mode

Workaround – The library available in the release can be used for both raw mode as well as file system mode.

- **SDOCM00088834**- The NAND FATFS is not validated.

Workaround – None.

- **SDOCM00088868** - NAND BPTB blockmedia test suite (RAW mode) fails in debug profile on the LCDK board.

Workaround - None

6 Limitations

6.1 I2C (SYS/BIOS) Device Driver

- Loopback is not supported
- In case of time bound IO requests, on timeout the driver is not able to perform any operations on the peripheral. (This peripheral limitation is documented in the technical reference manual of I2C under ICMDR register)

6.2 SPI (SYS/BIOS™) Device Driver

- The driver does not support "0" byte data transfer.
- BIT errors are seen when SPI output frequency is greater than 30 MHz.

6.3 UART (SYS/BIOS™) Device Driver

- Character timeout can be detected only when
 - the RX FIFO threshold level is NOT equal to 1
 - the number of characters sent by the transmitter is not a multiple of the RX FIFO threshold
 - In FIFO mode and cannot be used in non-FIFO mode
 - In interrupt mode of operation
 - Please refer to the section 2.5.3.1 of UART Peripheral User's Guide SPRUFM6A

6.4 McASP (SYS/BIOS™) Device Driver

- Mcasp Driver does not support switching from DIT mode to TDM mode dynamically.

6.5 VPIF

- Even though the implementation for raw mode, raw slice mode and the VBI slice mode is supported in the driver, it is not been validated.
- S-video capture and the display is not been validated.

6.6 EVM 6748 Limitation

- Only McBSP instance "1" can be used since the clock from MII interferes with the McBSP clock

7 EVM Validation Status

Driver Module	Device Instance	Validated on LCDK	Validated on C6748 EVM
I2C	0	Yes	Yes
UART	2	Yes	Yes
SPI	1	No	Yes
GPIO	0	Yes	Yes
McASP	0	Yes	Yes
McBSP	1	No	Yes
SD	0	Yes	Yes
NAND	0	Yes	Yes
LCDCRASTER	0	No	Yes
VPIF	0	No	Yes

Note:

The BIOSPSP Sample applications will not work on the LCDK board if BIOS Power module is enabled/added.

Refer sections 5 and 6 for more information.

8 Fixed in this release

8.1 PSP

- **SDOCM00087230** - The EDMA callback function has to be made non re entrant.
- **SDOCM00087235**- Display full product name including version number in Windows installed programs.

8.2 SPI

- **SDOCM00086535** - SPI in DMA mode at 1MHz in release profile does not work in test bench application.

8.3 UART (SYS/BIOS™) Device Driver

- Loopback is not supported in DMA mode of operation.
- UART Baud rates greater than 115200 are not supported and tested. This is due to high error percentage observed for baud rates greater than 115200. Please refer UART datasheet sprufm6, section 2.1 (Table 1) for more details. Also, refer the BIOSPSP User guide section 2.3.3 regarding support for baud rate greater than 115200.

8.4 McBSP (SYS/BIOS™) Device Driver

- **SDOCM00087494** - The details of sample rate generator configuration are not available in the PSP document.
- **SDOCM00087496** - The invalid SR590 in the test report
- **SDOCM00087492** - The driver needs to be tested in loopback mode
- **SDOCM00087178** - Higher CPU load while performing the BPTB on McBSP
- EDMA event miss occurs when BPTB read-write test cases are executed for some sample rate. This is because the time available to disable the EDMA in the callback after a transfer completion (when paramset becomes NULL) may vary. Thus when this time is less (owing to higher sampling rate or system loading etc.) EDMA miss events might occur because EDMA channel is not disabled before another event is generated to the EDMA peripheral by McBSP. This scenario is dependent on the Frame sync frequency, no of channels configured and the slot width.

8.5 Blkmedia/Mmcsd/Nand

- Only the raw mode testing has been conducted on these modules.

9 Special notes

- Please refer the user guide for installation, build instructions and tool version information.
- The resource allocation is the responsibility of application (system integrator)

10 Technical Support

To submit questions about issues with this BIOSPSP drivers release please go to the external forums at <http://e2e.ti.com/>.