BSP for Microsoft* Windows* 8 (Win8, WES8) 32-bit & 64-bit OS for

Intel® Atom™ Processor E3800 Product Family,

Intel® Celeron® Processor N2807 &

Intel® Celeron® Processor J1900

Maintenance Release 1

Release Notes

October 2015

Version 001 for Software Maintenance Release 1

Contents

Tables

Revision History

Revision Number	Description	Revision Date
001	Software Maintenance Release 1.	October 2015

1.0 Introduction

1.1 Scope of document

This Maintenance Release 1 document presents the Microsoft* Windows* 8 (Win8, WES8) 32-bit & 64-bit operating system requirements, installation instructions, issues and limitations for the Intel® Atom™ Processor E3800 Product Family, Intel® Celeron® Processor N2XXX, and Intel® Celeron® Processor J1XXX.

Additional information can be found in the related software developer's manual.

1.2 System Requirements

The following operating systems are supported:

- Windows 8 Operating System (32- and 64-bit versions)

- Windows Embedded 8 Standard Operating System (32- and 64-bit versions)

1.3 Acronyms and Terminology

Table 1. Acronyms and Terminology

Term	Description
ACPI	Advanced Configuration and Power Interface
BKC	Best Known Configuration
CRB	Customer Reference Board
DMA	Direct Memory Access
GPIO	General Purpose Input/Output
HCK	Microsoft Windows Hardware Certification Kit
HSIC	High-Speed Inter-Chip
HS-UART	High Speed Universal Asynchronous Receiver/Transmitter
IBL	Intel Business Link
IOTG	Internet of Things Group (an Intel business group)
ISP	Image Signal Processor
I²C*	Inter-Integrated Circuit*
KSC	Keyboard and System Controller

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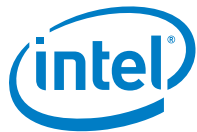October 2015   Release Notes
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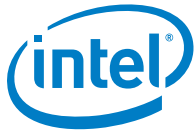
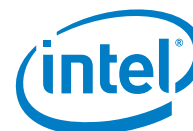|	
LPSS	Low Power Sub-System
MR1	Maintenance Release 1
MSDN*	Microsoft Developer Network
SCC	South Cluster Configuration
SoC	System on Chip
SPI	Serial Peripheral Interface
UEFI	Unified Extensible Firmware Interface
VIP	Validation Internet Portal
WES8	Windows Embedded 8 Standard
Win8	Windows 8 Enterprise

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2.0   Release Summary

2.1   Release Contents

Table 2 lists the contents of the release package.

Table 2. Contents of Release Package

Release Package Contents	Version
333232-001US_Intel_Atom_E3800_Win8_IO_Drivers_Release_Notes_MR1. pdf (this document)	Maintenance Release 1
333231-001US_Intel_Atom_E3800_Win8_IO_Drivers_Programming_Guide_MR1. pdf	Maintenance Release 1
Intel Atom E3800 Win8 IO Drivers 32Bit.msi	Maintenance Release 1
Intel Atom E3800 Win8 IO Drivers 64Bit.msi	Maintenance Release 1

Both the 32-bit and 64-bit installer packages contain the drivers shown in Table 3.

Table 3. Drivers in 32-bit and 64-bit Installer Packages

Software driver installed on target system	Version	Release Date
GPIO Controller • iaiogpio.sys • iaiogpioe.inf • iaiogpioe.sys	603.9600.1948.30590	11/22/2013
SPI Controller • iaiospi.sys • iaiospie.inf • iaiospie.sys	603.9600.1948.28229	10/31/2013
I²C* Controller • iaioi2c.sys • iaioi2ce.inf • iaioi2ce.sys	603.9600.1948.29470	11/13/2013
HS-UART Host Controller • iaLPSS_UART.sys	1.1.5.1006	8/28/2014

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2.2 External Dependencies

An Intel slave device test driver is used for the HS-UART controller. Customers can use their own slave device drivers for other interfaces.

3.0 New In This Release

3.1 Changes to Existing Features

The HS-UART driver is now supported on Intel® Atom™ E3800 Product Family D0 stepping silicon.

3.2 New Features

None

3.3 Unsupported Features

- GPIO driver
    - Multiplexing
    - Pin query

- HS-UART
    - Software Flow Control

- Legacy graphic card is not supported in Win8 64-bit and WES8 64-bit operating systems in 64-bit IOTG BIOS

- SD OS Boot is not supported in Win8 (32- and 64-bit) and WES8 (32- and 64-bit) operating systems

- DMA feature is not supported in Win8 64-bit and WES8 64-bit operating systems

3.4 Discontinued Features

None

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4.0 Fixed Issues, Errata, and Known Issues

4.1 Fixed Issues

Table 4. Fixed Issues

Issue #	Description of Issue	Implication (Impact)	Resolution
4994622	IO Driver not supported on D0 Silicon **Symptom**: Yellow bang at HS-UART drivers in Device Manager after installation **Affected OS**:Win8 / WES8	All IO Feature	Fixed in MR1 Release
4634827	Safely remove icon did not appear on taskbar notification area when a USB pen drive is attached **Symptom**: Safely Remove Hardware and Eject Media is not available **Affected OS**: Win8, WES8	USB	Fixed in IOTG BIOS v92_21
4634881	Can't find UART test device ACPI\BCM4752 or ACPI\BCM2E1A using 72.11 BIOS after "unhide Unsupported LPSS Device" **Symptom**: Test device ACPI\BCM2E1A and ACPI\BCM4752 is not showing in Device Manager. User can't test UART by using PuTTY or any test tools **Affected OS**: Win8, WES8	LPSS Device	Fixed in IOTG BIOS v80_21
4634927	Disable the ISP camera device (VIDEO\INT0F38) in BIOS for Win8 to remove the yellow bang in Windows* device manager. **Symptom**: ISP camera device showing yellow bang in device manager. **Affected OS**: Win8, WES8	ISP Camera	Not supported. Disable the ISP camera from BIOS setting in IOTG v80_21

4.2 Errata and Known Issues

Table 5. Errata and Known Issues

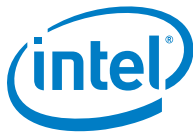| Issue #	Description of Issue	Implication (Impact)	Resolution
4634818	System re-enumeration and disconnect on HSIC device	File transfer fail on HSIC device when any plug/unplug on USB2.0 bottom port	Errata: Silicon Bug. Do not plug/unplug on USB2.0 bottom port during file transfer on HSIC device.

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Issue #	Description of Issue	Implication (Impact)	Resolution
4634569	Kingston* DataTraveler* Elite 3.0 Not Working on USB2	Failed to detect USB thumb drive	Errata: Test Tools compatible. Avoid using Kingston DataTraveler Elite 3.0 on USB2 (lower-right USB2.0 port) on Bayley Bay and Bakersport platform
4634845	System unable to wake up from S3 when CPU core = 1	System failed to wake up after S3 when change CPU core to 1	Errata: Silicon logic limitation. Do not set CPU core =1
4634792	One bit is occasionally wrong in SPI	1 bit out of 1000 bits is corrupted on Bayley Bay platform.	Errata: Platform issue. Use Bakersport or Bayley bay Fab 3 light green boards.
4634826	Keyboard or mouse is unable to wake the system from sleep and hibernate	System failed to wake up with mouse or keyboard attached to the top USB2.0 port on Bayley Bay and Bakersport.	Errata: Hardware limitation. Wake the system with the power switch.
4634816	Bayley Bay system shutdown after BIOS stage when booting up with SD card plug in.	System failed to boot up if SD card is connected	Errata: Platform Issue. Suggested to use Bakersport.

4.3 Non-Intel Issues

Table 6. Non-Intel Issues

Issue #	Description of Issue	Implication (Impact)	Resolution
4634526	Recorded sound is low and not clear	Voices recording sound is low and not clear	User can adjust the Microphone Boost Setting in Windows to increase the recording volume.
4634926	Win8 HS-UART with DMA gets unexpected failed test cases when running Microsoft* Windows* HCK Test Suite	Microsoft Windows HCK Test Suite test cases fails	No resolution from Intel as DMA driver is from Microsoft Inbox driver.

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5.0 *How to Install This Release*

5.1 Recommended OS Update

The following operating system update is recommended to be installed:

- Microsoft* Update KB2756872 for Win8 and WES8 operating systems is required to enable DMA features in the 32-bit operating system and to remove yellow bangs in Windows* Device Manager.

http://www.microsoft.com/en-us/download/details.aspx?id=34879
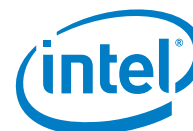
5.2 Recommended BIOS Configuration

Table 7. Recommended BIOS Configuration

BIOS Selection	Configuration
OS Selection	Device Manager -> System Setup > Boot > OS Selection > Windows8.X
Secure Boot	To disable UEFI Secure Boot Device Manager -> System Setup > Boot > UEFI Security Boot > Select "Disable"
LPSS & SCC Configuration	To Enable ACPI Mode: Device Manager > System Setup > South Cluster Configuration > LPSS & SCC Configuration > LPSS & SCC Devices Mode > Select "ACPI Mode" To enable SD card for Windows: Device Manager > System Setup > South Cluster Configuration > LPSS & SCC Configuration > SCC SD Card for Windows > Select "Enable"
Intel® High Definition Audio (Intel® HD Audio) Configuration	To enable Intel HD Audio: Device Manager > System Setup > South Cluster Configuration > Audio Controller > Select "Enable"

5.2.1 Driver Installation

Intel recommends that the following steps be run as administrator:
1. Execute Intel Atom E3800 Win8 IO Drivers 32bit.msi (or 64bit)
2. Check the "I accept the terms in the license agreement" and click "Next".
3. Choose the directory for the installation and click "Next".
4. Choose the "Complete" option for the installation of all drivers and click "Next". Alternatively, choose "Custom" to choose specific IO drivers to be installed.

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5. Click "Install" and wait for the installation to complete.

6. Click "Finish" to exit the installer.

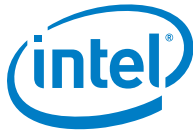7. Reboot the system for changes to take effect.

5.2.2   Driver Update

1. Open "Device Manager"
2. Identify existing drivers in your system with the following strings for the driver that you want to update, namely:

- "System Devices\ GPIO Controller"
- "System Devices\ I2C Controller"
- "System Devices\ SPI Controller"
- "System Devices\ HS-UART Controller"

3. Choose "Update Driver Software" – "Browse my computer for driver software" – "Let me pick from a list of device drivers" – "Have Disk" then go to the specific IO driver folder to install the driver.

Note: If possible, check the time stamp of the driver in the target to ensure that the right binaries are used.

5.2.3   Driver Uninstallation

Uninstall the IO driver from Control Panel\All Control Panel Items\Programs and Features.

6.0 Best Known Configuration

6.1 BKC

Table 8. BKC

Hardware Category	Description	Rev/Type/Source
CRB	Bayley Bay Bakersport	FAB3 REV03 FABB
SoC	Intel® Atom™ Processor E3800 Family Intel® Celeron® Processor N2XXX Intel® Celeron® Processor J1XXX	Up to D0 –I Up to C0 – D Up to C0 - M
Display	VGA	
Memory	Bayley Bay: 4 GB DDR3 (2x2GB) Bakersport: 2 GB DDR3 (1x2GB with ECC)	
CRB BIOS	Win8 32-bit and WES8 32-bit operating systems: BYTICRB_IA32_R_SPI_0093_41_Sec_Enabled Win8 32-bit and WES8 64-bit operating systems: BYTICRB_X64_R_SPI_0093_41_Sec_Enabled	Intel (IBL#: 559868)
KSC	v03.14	Intel (IBL#: 559868)
Operating System	Windows* 8 Enterprise Build 9200 Windows* Embedded 8 Standard Build 9200	MSDN*
Intel® Graphics Driver	15.33.39.64.4276 (64 bit) 15.33.39.4276 (32 bit)	VIP Kit#: 109495 VIP Kit#: 109494
Intel® Serial IO GPIO Driver	603.9600.1948.30590	Intel
Intel® Serial IO I2C Driver	603.9600.1948.29470	
Intel® Serial IO SPI Driver	603.9600.1948.28229	
Intel® Serial IO UART Driver	1.1.5.1006	
Intel® Chipset Driver Software	10.1.1.7	VIP Kit#: 107514
Intel® Trusted Execution Engine (Intel® TXE) FEATure FW and tools for Intel® Atom™ Processor E3800 Product Family	1.1.4.1145v3	VIP Kit#: 110908
Intel® TXE FEATure FW and tools for Intel® Celeron® Processor N2920 and Intel® Celeron® Processor J1900	1.1.4.1145	VIP Kit#: 107987

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Intel® Sideband Fabric Device (Intel® MBI) Driver	1.70.305.16316	VIP Kit#: 58443

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