HS-UART Sub Device Driver for Microsoft Windows* 8.1 and Windows* 10 Enterprise

Release Notes

January 2017

Revision 1.0
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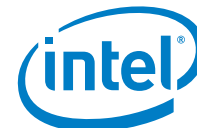
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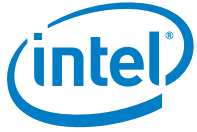Copyright © 2017, Intel Corporation. All rights reserved.

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Revision History

Date	Revision	Description
January 2017	1.0	Initial release.

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1.0 Introduction

1.1 Scope

This release notes document the HS-UART Sub Device Driver Binaries Package for the Microsoft* Windows* 8.1 and Windows* 10 64-bit operating system. This document provides installation instructions and general usage of the driver as well as release information and known issues.

This release is compatible with the following software and hardware, respectively:

Operating System:

- Microsoft Windows* 8.1 64-bit operating system

- Microsoft Windows* 10 Enterprise 64-bit operating system

Hardware Requirement:

- Intel® Atom™ Processor E3800 Product Family, and Intel® Celeron® Processor N2807/N2930/J1900, formerly known as the Bay Trail Platform

Note: Braswell and Apollo Lake Platforms are not validated in this release.

1.2 Terminology

Table 1. Terminology

| Term	Description
ACPI	Advanced Configuration and Power Interface
ASL	ACPI Source Language
HS	High Speed
IOCTL	I/O Control Request
KMDF	Kernel-Mode Driver Framework
SUT	System Under Test
UART	Universal asynchronous receiver/transmitter
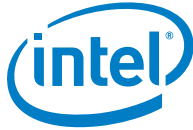
1.3 Overview

SerCx2 is an extension of the Kernel-Mode Driver Framework (KMDF) with added features to support serial controller drivers. A SerCx2-based serial controller driver is a KMDF driver that uses the methods and callbacks in the KMDF to perform generic driver operations, and also communicates with SerCx2 to perform operations specific to serial controller drivers.

SerCx2 provides interfaces for the test application/peripheral driver to run on top of the UART host controller driver. SerCx2 works with a serial controller driver to enable communication between a peripheral driver and a serially connected peripheral device. A user mode application can open this peripheral device by using its symbolic name or GUID, and send IOCTLs or requests to it. SerCx2 handles the interrupt call back and forward IOCTLs or requests to UART controller driver.

For more information about SerCx2, refer to: https://msdn.microsoft.com/en-us/library/windows/hardware/hh439599(v=vs.85).aspx.

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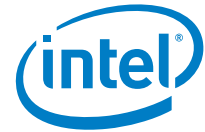
2.0   Release Summary

2.1   Release Details

HS-UART Sub Device Driver Installer Version: 123.1.3.0119

HS-UART Sub Device Driver Version: 123.1.1.1006

Released January 2017

2.2   Release Contents

The contents of this release include:

- Intel® Processor Win8.1 UART Sub Device Drivers 64-bit Installer
- Intel® Processor Win10 UART Sub Device Drivers 64-bit Installer
- Intel® Processor HS-UART Sub Device Driver Release Notes
- Intel Software License Agreement

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3.0   *User Guide*

3.1   Update the ACPI Table

This sub-device is virtual hardware. The BIOS must assign a unique ACPI Hardware ID for the sub-device and store it in its ACPI table. When configured with the same ACPI Hardware ID, the driver initializes the device.

Note: Braswell Cherry Hill CRB BIOS MR4 and higher support the UART sub-device.

Sample ASL code for "Device (URT1)":

```
Device (VUT0)
{
    Name (_HID, "INT3511")  // _HID: Hardware ID
    Method (_STA, 0, NotSerialized)  // _STA: Status
            {
                If ((BDID == CHRB))
                {
                    If (_OSI ("Android"))
                    {
                        Return (Zero)
                    }
                    Else
                    {
                        Return (0x0F)
                    }
                }
                Else
                {
                    Return (Zero)
                }
            }

    Method (_CRS, 0, NotSerialized)  // _CRS: Current
    Resource Settings
            {
                Name (BBUF, ResourceTemplate ()
                {
                    UartSerialBus (0x0001C200,
                    DataBitsEight, StopBitsOne,
                    0xFC, LittleEndian, ParityTypeNone,
                    FlowControlNone,
                    0x0020, 0x0020, "\\_SB.PCI0.URT1",
                    0x00, ResourceConsumer, ,
                    )
                })
        Return (BBUF) /* \_SB_.PCI0.URT1.VUT0._CRS.BBUF */
            }
}
```

Sample ASL code for "Device (URT2)":

```
Device (VUT1)
{
    Name (_HID, "INT3512")  // _HID: Hardware ID
    Method (_STA, 0, NotSerialized)  // _STA: Status
            {
                If ((BDID == CHRB))
                {
                    If (_OSI ("Android"))
                    {
                        Return (Zero)
                    }
                    Else
                    {
                        Return (0x0F)
                    }
                }
                Else
                {
                    Return (Zero)
                }
            }

    Method (_CRS, 0, NotSerialized)  // _CRS: Current
    Resource Settings
            {
                Name (BBUF, ResourceTemplate ()
                {
                    UartSerialBus (0x0001C200,
                    DataBitsEight, StopBitsOne,
                    0xFC, LittleEndian, ParityTypeNone,
                    FlowControlHardware,
                    0x0020, 0x0020, "\\_SB.PCI0.URT2",
                    0x00, ResourceConsumer, ,
                    )
                })
        Return (BBUF) /* \_SB_.PCI0.URT2.VUT1._CRS.BBUF */
            }
}
```
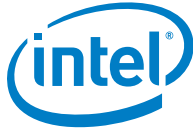
3.2 Driver Installation

Follow these steps to install the HS-UART Sub Device driver package:

Note: Installation of the HS-UART Host Controller driver is required; it is the prerequisite for this Sub-Device driver.

1. Execute the Intel Processor UART Sub Device Drivers installer file.
2. Click "Next", read the license agreement and if you accept it, click "Accept" to install.
3. Choose "Complete" setup type and click "Next".
4. Click "Install" followed by "Yes".
5. Wait until driver installs successfully, then reboot system.

Note: After the installation, the COM port is displayed under the HS-UART controller in the Device Manager (Click "View" and select "Devices by Connection") as shown in Figure 1.

Figure 1.   Device Manager View

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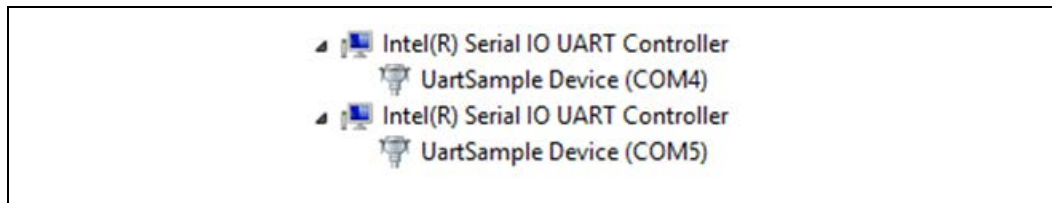
4.0   Errata, Closed Issues, and Known Issues

4.1   Known Issues

Issue #	Description	Impact	Recommendation
4995593	[BYT][Win8.164bit] UART does not work on latest BIOS 93.44	Unable to use the latest BIOS release.	Use BIOS v93.41.

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