

Intel® Atom™ Processor E3800

HS-UART Driver Release Notes

1. Driver Information

This is the main HS-UART driver (32bit and 64bit) for the Bay Trail-I platform for Win7 and WES7

- Driver name
 iaiouart.sys
 “Intel(R) Atom(TM) Processor UART Host Controller” in device manager list
- Version
 1.1.5.1020
- Release Data
 12/27/2013
- List of files in the driver package
 - Driver binaries
 iaiouart.inf
 iaiouart.sys
 WdfCoinstaller01011
 iaiouart.cat
 - Driver documents
 BYT-I_Win7_IODriver_Programmer_Guide.docx
 ISG_BYT-I_HSUART_Driver_Release_Note.docx

2. System Requirement

- Supported Platform
 Baytrail-I Fab3 Rev3 (SKU: B3)
 Bakersport Fab B (SKU: B3)
 Windows 7 Ultimate 64 bit SP1 (7601)
 Windows 7 Ultimate 32 bit SP1 (7601)
 Windows Embedded Standard 64 bit SP1 (7601)
 Windows Embedded Standard 32 bit SP1 (7601)
- Development Environment
 Windows 7 64 bit SP1 (7601)
 Microsoft Visual Studio Professional 2012 Version 11.0.50727.1 RTMREL
 MSBuild 4.0.30319.17929
 Windows Driver Kit 8.0.0
- Dependency
 N/A
- Constraint
 N/A

3. Enabled Features

- Hardware features
 - Support baud rates: 300 – 921600, up to 3686400 by default as specified in the “**Bay Trail-I SoC External Design Specification**” document, *Section 27.2.3 Baud Rate Generator*. For setting baud rates of 1M, 2M, 3M, and 4M, see BKM section below.
 - Support data size of 5,6,7, and 8-bit
 - Support none, odd and even parity
 - Support 1, 1.5, and 2 stop bits
 - Support "Hardware" and "No" flow control and software flow control
- Software features
 - Supports [Serial Device Control Requests \(IOCTLs\)](#) defined by MSFT for serial controllers in Windows. See Limitations below for the IOCTLs that will be enabled in Gold release.

4. Disabled features

- Following IOCTLs are not supported in 1.1.5.1020 driver:
 - IOCTL_SERIAL_SET_WAIT_MASK
 - IOCTL_SERIAL_GET_WAIT_MASK
 - IOCTL_SERIAL_WAIT_ON_MASK
 - IOCTL_SERIAL_XOFF_COUNTER
 - IOCTL_SERIAL_LSRMST_INSERT
 - IOCTL_SERIAL_SET_BREAK_ON
 - IOCTL_SERIAL_SET_BREAK_OFF

5. Known Issues

- HSD [[4634842](#)] Intermittent first byte lost when perform I2C read on B3-M and B3-D for HS-UART.
- HSD [[4634766](#)] H/W repeatedly set UART2 MSR register Bit 0 to 1 and trigger unexpected interrupt repeatedly.
- HSD [[4634724](#)] On Baytrail-I, Win7 uart driver has no support to IOCTL_SERIAL_SET_WAIT_MASK IOCTL_SERIAL_WAIT_ON_MASK
- HSD [[4634839](#)] on Bayley Bay board the CTS line of UART2 doesn't work occasionally when does duplex transfer in high speed on Win7

6. Fixed Issues or New Features

- N/A

7. Limitations

- When 1.5 stop bits is used, the data size can only be supported up to 5 bits.
- Software flow control does not support DMA transfer
- Software flow control baud rate must not more than 115200. Recommended to use hardware flow control for data transfer for high baud rate.

8. BKM

- Setting up HS-UART baud rates
 - By default the driver supports baud rates as listed in *27.2.3 Baud Rate Generator* in the “**Bay Trail-I SoC External Design Specification**” documentation. For other baud rates, we need

change the register setting. Please refer to the BKM's in the Win7 IO driver **“User Guide for Win7_WES7 BSP Baytrail-I_v1.0.0” document.**

9. Installation Guide

- Execute Intel Atom E3800 Win7 IO Drivers 64Bit.msi to install 64bit driver
- Execute Intel Atom E3800 Win7 IO Drivers 32Bit.msi to install 32bit driver
- Uninstall the driver from Control Panel\All Control Panel Items\Programs and Features or Uninstall the driver by click MSI installer again.