



Intel[®] Atom[™] Processor E3800 Product Family/Intel[®] Celeron[®] Processor N2807/N2930/J1900 HS-UART Driver

Release Notes

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1 *Driver Information*

This is the main HS-UART driver (32 and 64-bit) for the Intel® Atom™ Processor E3800 Product Family (formerly known as Bay Trail-I)/Intel® Celeron® Processor N2807/N2930/J1900 (formerly known as Bay Trail-M/D) platform for Microsoft Windows* 7, WES7 and Microsoft Windows* Embedded POSReady 7.

- Driver name:
`iaiouart.sys`
Intel® Atom™/Celeron®/Pentium® Processor UART Host Controller in the device manager list
- Version:
v1.1.5.1021
- Release Date:
March 10, 2014
- List of files included in the driver package:
 - Driver binaries:
`iaiouart.inf`
`iaiouart.sys`
`iaiouart.cat`
 - Driver documents:
`BYT-I_Win7_IODriver_Programmer_Guide.docx`
`ISG_BYT-I_UART_Driver_Release_Note.docx`



2 System Requirement

- Supported Platforms:
 - Bay Trail-I, Fab3, Revision 3 (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)
 - Windows* Embedded POSReady 7 64-bit
 - Windows* Embedded POSReady 7 32-bit
- Development Environment
 - Windows* 7 64-bit SP1 (7601)
 - Microsoft* Visual Studio Professional 2012, v11.0.50727.1 RTMREL
 - MSBuild, v4.0.30319.17929
 - Windows* Driver Kit, v8.0.0
- Dependency
 - Not applicable
- Constraint
 - Not applicable



3 Enabled Features

3.1 Hardware Feature

Supports baud rates 300 – 921600, up to 3686400 by default as specified in the *Bay Trail-I SoC External Design Specification* (Document: 510858), Section 27.2.3 Baud Rate Generator.

Note: For setting baud rates of 1M, 2M, 3M, and 4M, see BKM section below.

- Supports data size of 5,6,7, and 8-bits
- Supports none, odd and even parity
- Supports 1, 1.5, and 2 stop bits
- Supports **Hardware** and **No** flow-control and software flow-control

3.2 Software Features

Supports Serial Device Control Requests or IOCTLs defined by Microsoft* for Serial Controllers in Microsoft Windows*.

Note: See limitations below for the Serial Device Control Requests that will be enabled in the Gold release.



4 Disabled Features

Following Input/Output Controls (IOCTLs) are not supported in v1.1.5.1020 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*

- Intermittent first byte lost when performing I²C read on B-M and B3-d for HS-UART.
- Hardware repeatedly set UART2 MSR register Bit 0 to 1 and trigger unexpected interrupt repeatedly.
- On Bay Trail-I, Win7* UART driver has no support to IOCTL_SERIAL_SET_WAIT_MASK IOCTL_SERIAL_WAIT_ON_MASK
- 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*

Not applicable



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. Recommend using the hardware flow control for data transfer for high baud rate.



8 Best Known Methods

8.1 Setting up HS-UART Baud Rates

By default the driver supports baud rates as listed in *Bay Trail-I SoC External Design Specification* (Document: 510858), Section 27.2.3 Baud Rate Generator.

To create and change the register settings for other baud rates, refer BKMs in *BSP for Microsoft Windows* 7 (WIN7, WES7 & POSReady 7) 32 & 64 bit for Intel® Atom™ Processor E3800 Product Family/ Intel® Celeron® Processor N2807/N2930/J1900 User Guide_Rev 3*, Section 9.5, How to Set the Baud Rates of HS-UART.



9 *Installation Guide*

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

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