HS UART sub device driver – User Guide

Revision History

Revision	Date	Author	Changes
1_0	28th September 2017	MM	First release
1_1	15th January 2018	MM	Add Q7-B03 support
1_2	2nd October 2018	MM	Add SBC-B68 support
1_3	29th April 2020	MM	Add new notes

1. Introduction

This guide show how install and use Windows 10 HS UART Sub Device Driver.

HS UART Sub Device Driver has been tested on the following SECO boards:

- Q7-974 (BIOS version 1.16 or later)
- Q7-A36 (BIOS version 1.16 or later)
- uQ7-A76-J (BIOS version 1.16 or later)
- COMe-A41-CT6 (BIOS version 1.16 or later)
- SBC-A44-pITX (BIOS version 1.16 or later)
- Q7-B03 (BIOS version 1.03 or later)
- SBC-B68 (BIOS version 1.04 or later)

2. Bios setting

Bay Trail boards:

HS UART port must be enable in BIOS settings following thees steps:

1. Press **Esc** to enter in BIOS setup
2. Press **SCU** menu
3. Set Advanced\LPSS&SCC Configuration\LPSS&SCC Devices Mode as **ACPI Mode**
4. Set Advanced\LPSS&SCC Configuration\LPSS DMA#1 Support as **Enabled**

5. Set Advanced\LPSS&SCC Configuration\LPSS HSUART#1 Support as **Enabled**
6. Set Advanced\LPSS&SCC Configuration\LPSS HSUART#2 Support as **Enabled**
7. Set Advanced\LPSS&SCC Configuration\LPSS DMA#2 Support as **Enabled**
8. **Press F10 to save end exit**

Q7-B03:

HS UART port must be enable in BIOS settings following thees steps:

1. Press **Esc** to enter in BIOS setup
2. Verify that the following items are set on **ACPI Mode** or **PCI Mode**:
    1. **Chipset\South Cluster Configuration\LPSS Configuration\HSUART #0 (D24:F0)**
    2. **Chipset\South Cluster Configuration\LPSS Configuration\HSUART #2 (D24:F2) – Q7 UART**
3. **Press F4 to save end exit**

SBC-B68:

HS UART port must be enable in BIOS settings following thees steps:

1. Press **Esc** to enter in BIOS setup
2. Verify that the following items are set on **ACPI Mode** or **PCI Mode**:
    1. **Chipset\South Cluster Configuration\LPSS Configuration\HSUART #1 (D24:F0)**
    2. **Chipset\South Cluster Configuration\LPSS Configuration\HSUART #3 (D24:F2)**
3. **Press F4 to save end exit**

3. Linux installation

Working with Linux OS, is possible to mange HSUART devices directly (as ttySx) using a Linux distribution with kernel 3.19 or later.

4. Window 10 installation

HS UART sub device driver for W10 can be installed and use following these steps:

1. Install the latest Serial_IO controller driver for your board, downloadable from SECO web site.
2. Verify the presence of **Unknow Device** with Device ID as **ACPI\VCOM000x** or **ACPI\INT351x**
3. Press mouse right-buttot on **UartSample.inf** and select **install**

4. On Device Manger, will be added one or more "**UartSample Device**" devices under Port (COM & LPT) section.

5. Known issues and notes

HS UART sub device driver for W10 is a sample application made by INTEL in order to facilitate to use HSUART devices.

Indeed, Microsoft has recently introduced Sercx2 Framework for accessing to HSUART device:

https://msdn.microsoft.com/en-us/library/windows/hardware/hh439602(v=vs.85).aspx

With this Framework disappears "COM port" concept and is introduced the use of specific device driver for each serial device.

HS UART sub device driver creates a virtual COM port that can be used as legacy COM port.

Virtual COMs are not fully compatible with legacy COM have some known limitations:

- **Realterm** and any terminal that use registry key:

  HKEY_LOCAL_MACHINE\HARDWARE\DEVICEMAP\SERIALCOMM

  for serial port enumeration doesn't find Virtual COM
- **Teraterm** terminal can transmit but doesn't receive bytes

INTEL suggest to use **ExtraPutty** terminal (http://www.extraputty.com/) opening the port with ***"Flow Control"*** set as ***"None (DTR/RTS disable)"***.