SPBTestTool 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-eNUC support

1. Introduction

This guide show how install and use SPBTestTool Windows 10 drivers for a generic I2C device.

SPBTestTool 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)
- ETX-A61 (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-eNUC (BIOS version 1.04 or later)

2. Bios setting

Bay Trail boards:

Your generic I2C device 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#2 Support as **Enabled**
5. Set Advanced\LPSS&SCC Configuration\LPSS I2C #1 Support as **Enabled**

6. Into I2C Device Configuration submenu, choose your custom device ***DI2C1001/2/3/4***
7. Set **Device Type** as **7 bits**
8. Set **Address** as you need
9. Set **Speed** as **Standard Mode** or **Fast Mode**
10. Press **F10** to save end exit

Q7-B03:

Your generic I2C device 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\I2C #0 (D22:F0)**
    2. **Chipset\South Cluster Configuration\LPSS Configuration\I2C #2 (D22:F2) – Q7 I2C**
    3. **Chipset\South Cluster Configuration\LPSS Configuration\SPI #0 (D25:F0)**
3. Move to **Advanced\ACPI Devices Configuration\I2C Device Configuration** BIOS menu
4. Into I2C Device Configuration submenu, choose your custom device ***DI2Cx00x***
5. Set **Device Type** as **7 bits**
6. Set **Address** as you need
7. Set **Speed** as **Standard Mode** or **Fast Mode**
8. Into SPI Device Configuration submenu, choose your custom device ***DSPI000x***
9. Set **Chip Select Line** as you need
10. Set **Enable** as **Enabled**
11. Set **Speed** as you need
12. Press **F4** to save end exit

SBC-B68-eNUC:

Your generic I2C device 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\I2C #0 (D22:F0)**
    2. **Chipset\South Cluster Configuration\LPSS Configuration\I2C #4 (D23:F0)**
    3. **Chipset\South Cluster Configuration\LPSS Configuration\I2C #5 (D23:F1)**
3. Move to **Advanced\ACPI Devices Configuration\I2C Device Configuration** BIOS menu
4. Into I2C Device Configuration submenu, choose your custom device ***DI2Cx00x***

5. Set **Device Type** as **7 bits**
6. Set **Address** as you need
7. Set **Speed** as **Standard Mode** or **Fast Mode**
8. Press **F4** to save end exit

3. Linux installation

Working with Linux OS, is possible to mange I2C and SPI devices using guide and tool content in ***Using_I2C_and_SPI_bus_in_Linux_APL.zip*** package.

4. Window 10 installation

SPBTestTool W10 driver 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\DI2Cx00x** or **ACPI\DSPI0001** (depending on you BIOS settings) in Device Manager
3. Press mouse right-buttot on **SPBTestTool.inf** and select **install**
4. On Device Manger, will be added a " **SPB Test Tool Peripheral Driver**" device under Sample section.
5. Open a command shell with Administrator privilege.
6. From driver folder type the following command: **SPBTestTool.exe**
7. Type the command **open** to open the device
8. Type the command **write {x1 x2 … xN}** to write **N** bytes to the peripheral
9. Type the command **read xx** to read xx byte from the peripheral
10. Type the command **writeread {x1 x2 … xN} yy** to write **N** bytes and read **yy** bytes from the peripheral
11. Type the command **close** to close the device
12. Type the command **help** to show tool help

You can use **SPBTestTool** source code present on **\SourceCode** folder as sample code to realize your I2C/SPI device driver or to integrate executable functions on your software.

SPBTestTool application requires Visual Studio redistributable libraries.