Application Note

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Note

Applicable Products	congatec ETX Modules - ETX evaluation carrier board EEV-EX01
Application Note Subject	Items that must be considered when using the congatec ETX modules together with the evaluation carrier board EEV-EX01
Document Name	AN4_EEV-EX01.odt
Usage Designation	External

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Revision 1.1

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Revision History

Revision	Date (dd.mm.yy)	Author	Changes
1.0	08.08.05	HCH	Initial release
1.1	13.10.06	HCH	Removed EVEGA. Added all congatec ETX modules

Preface

This Application Note provides information about the restraints on congatec ETX CPU modules, when used in the ETX evaluation carrier board EEV-EX01 from Evalue Technology Inc., and how they can be eliminated.

Note that following the instructions provided within this Application Note may affect the Evalue Technology Inc. warranty.

Disclaimer

The information contained within this Application Note, including but not limited to any product specification, is subject to change without notice.

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Intended Audience

This Application Note is intended for technically qualified personnel. It is not intended for general audiences.

Symbols

The following symbols are used in this Application note:

Caution

Cautions warn the user about how to prevent damage to hardware or loss of data.

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Contents

1 General

congatec decided not to develop it's own ETX evaluation carrier board and instead use a third party product for evaluation purposes. After conducting detailed tests on different ETX evaluation carrier boards that are currently available on the market, the congatec development department decided to approve and release the EEV-EX01 carrier board manufactured by Evalue Technology Inc. This evaluation carrier board offers a full compliment of interfaces and functionality that are required for the evaluation process of our ETX modules. However, there are some additional improvements and changes that must be performed to the carrier board in order to use all the functions provided by congatec ETX modules. This Application note is intended to describe these improvements and changes.

2 Hardware Reset

ETX modules have two possibilities to be reset by external hardware. First possibility is by using the PWGIN signal (ETX connector X4, pin 4) or by using the RSMRST# signal (ETX connector X4, pin 11) to reset the chipset's power management logic feature.

The Reset button (BT2) and the Reset connector (J10) on EEV-EX01 evaluation carrier board are connected to RSMRST# signal. What this means is that when pushing the Reset button or pulling low the Reset signal on connector J10, some congatec ETX CPU modules will not perform a reset depending on the configuration of the chipset's power management logic feature.

If it is necessary to perform a hardware reset of the module, the EEV-EX01 carrier board needs to be modified according to the description below so that all congatec ETX CPU modules will perform a hardware reset.
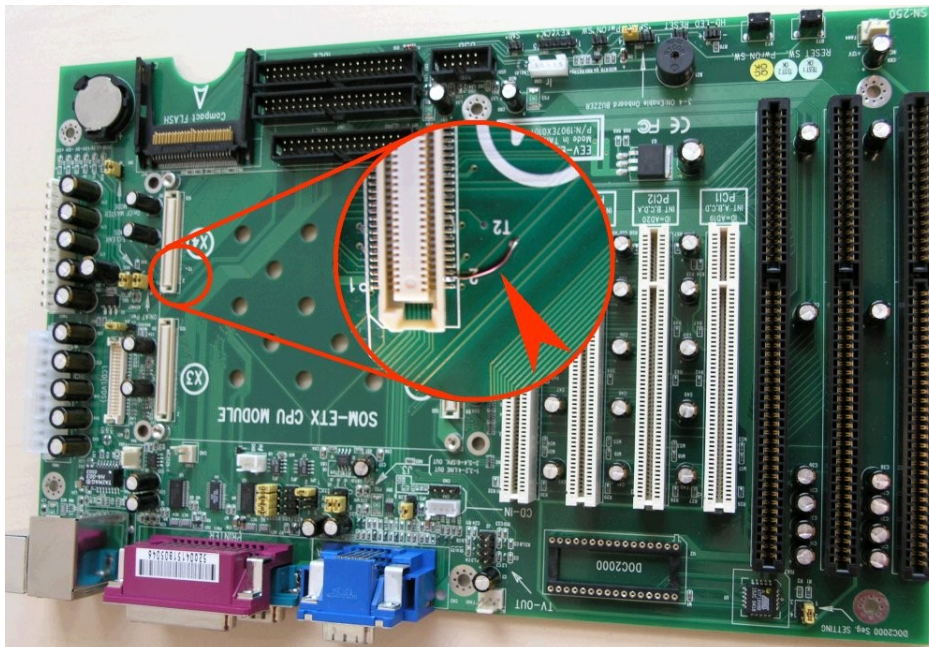
2.1 How to generate a hardware Reset

Disconnect Reset button (BT2) and Reset connector (J10) from signal RSMRST# and reconnect it to PWGIN as shown in the pictures on the following page.

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Steps to perform:

1. Cut RSMRST# signal line as shown in the picture below:
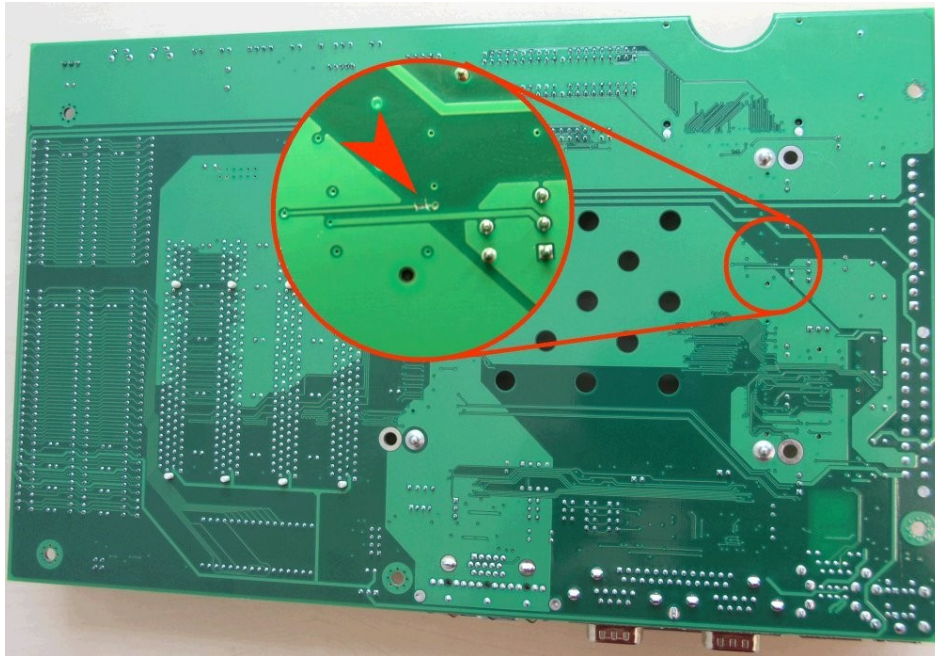
2. Solder a wire between Pin 4 of ETX Connector X4 and the VIA as shown in the picture below:

⚠ **Caution**

If the modification is done improperly it may cause damage to the evaluation carrier board and/or the congatec ETX CPU module.

3 Connection Guide for USB Port 2 and 3

The signal lines of the USB port 2 and port 3 on the EEV-EX01 carrier board are routed to a 5x2 pin header (2,54mm pitch) named USB1 (see picture below).
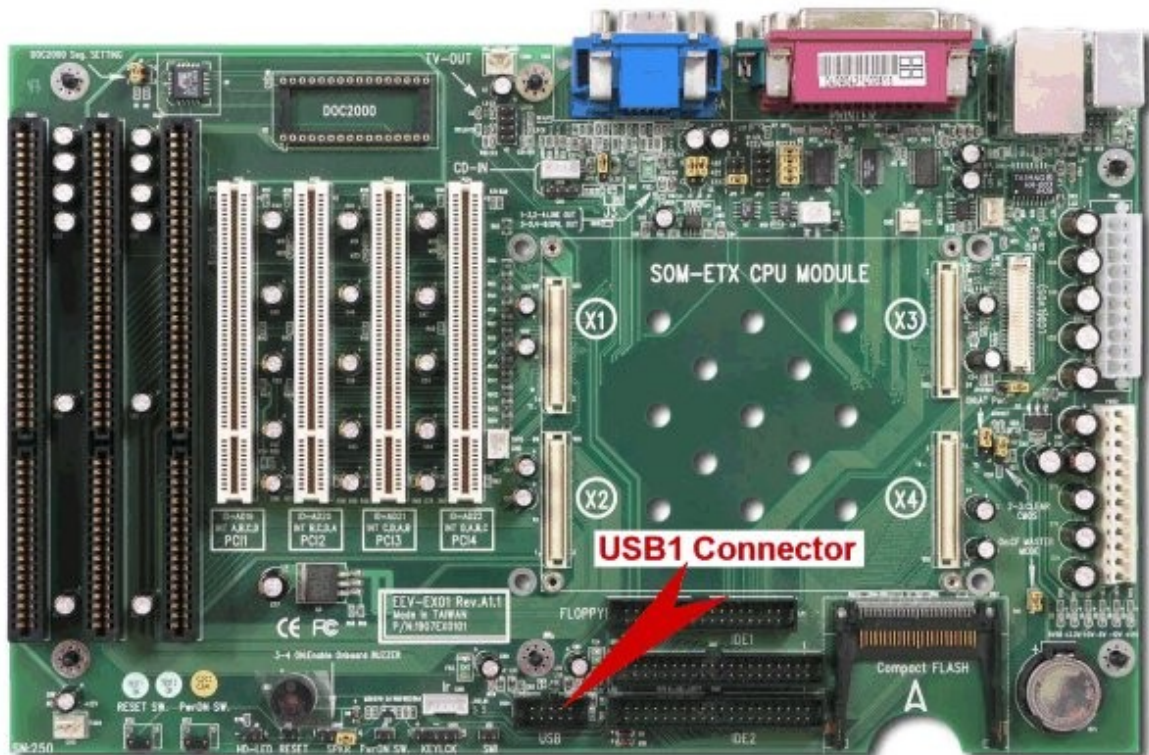
3.1 Pinout connector 'USB1'

Pin	Signal	Description	Pin	Signal	Description
1	USB_P3	Filtered and protected power supply (+5V) for USB port 3 (1A Fuse)	2	GND	Ground
3	USB2#	Universal Serial Bus Port 2, positive data signal	4	USB_G3	Filtered ground signal for USB port 3
5	USB2	Universal Serial Bus Port 2, negative data signal	6	USB3	Universal Serial Bus Port 3, positive data signal
7	USB_G2	Filtered ground signal for USB port 2	8	USB3#	Universal Serial Bus Port 3, negative data signal
9	GND	Ground	10	USB_P2	Filtered and protected power supply (+5V) for USB port 2 (1A Fuse)

3.2   Pinout USB Connector Type A (female)

(front view)
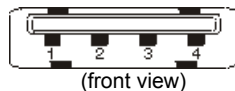
Pin	Signal	Description	Pin	Signal	Description
1	+5V	Power supply for USB port	2	USB#	Universal Serial Bus, negative data signal
3	USB	Universal Serial Bus, positive data signal	4	GND	USB ground signal