

EMUL166-PC/XP161CS/JI/JC Daughtercards: Installation

Version 2.0 April 18, 2001

Two Chip Emulation

The E2 bondout chip does not contain the I²C Bus, ASC1 or the J1850 (SDLM) Port which are both XBUS peripherals. The daughtercard will provide these as well as the CAN port(s).

To solve this Infineon uses a two chip emulation system. A production chip containing the XBUS peripheral to be emulated is placed in a special Emulation mode. This disables the CPU and the XBUS peripherals are then available to the bondout controller through the emulation XBUS address and data lines. The input and output pins of the peripheral are routed from this chip to the target system via the regular adapter pins.

A daughtercard with the XBUS chip is mounted on a small circuit board and plugged into J45 on the emulator main board. Three wires are connected from the daughtercard to P4.5, P4.6 and P4.7.

Figure 1 shows this configuration:

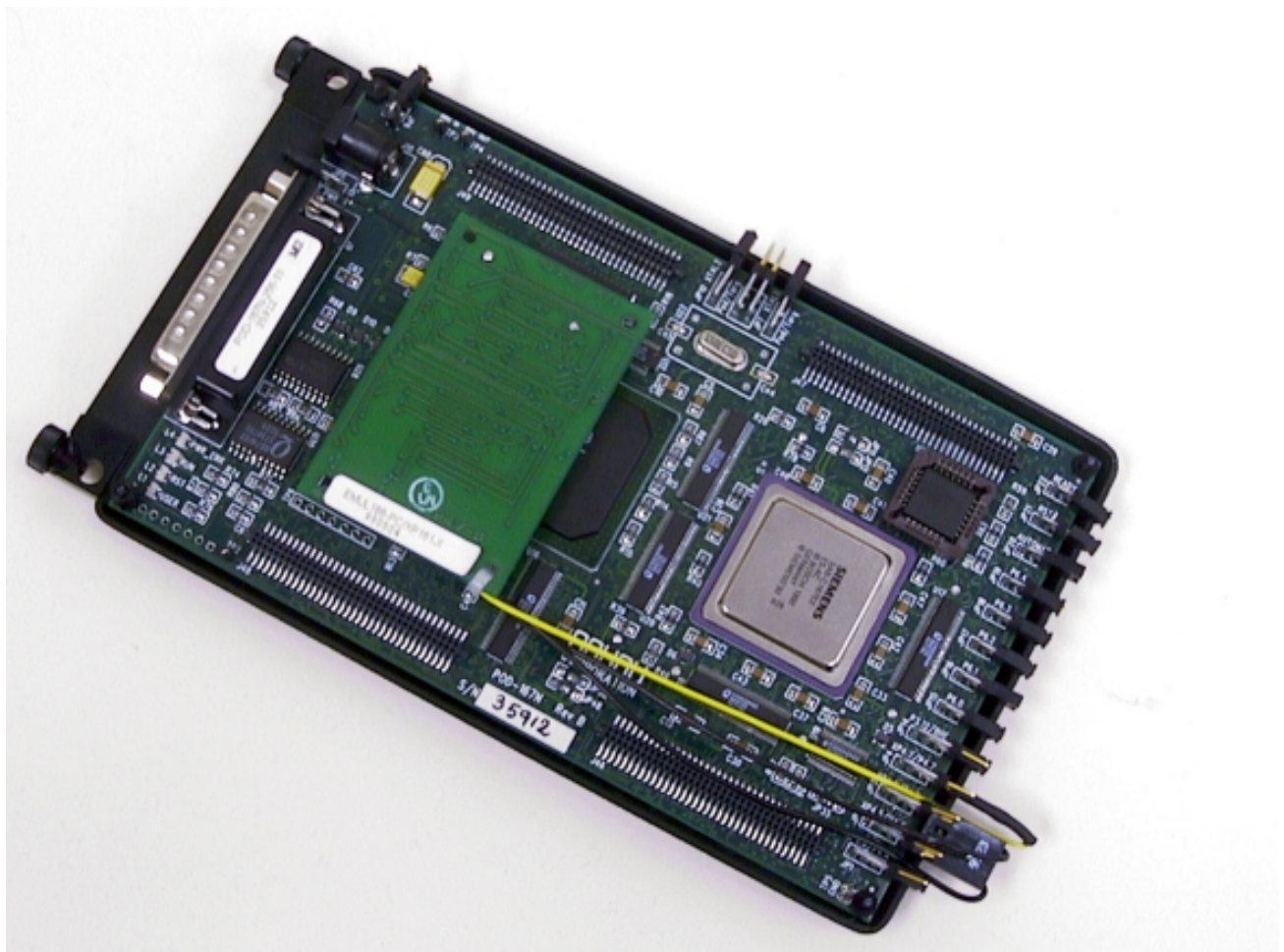


Figure 1

Installation:

The Nohau EMUL166 comes as two boards. One board is the trace board and the other is the emulator board. The trace is optional. The daughtercard mounts on the emulator as shown in Figure 1.

- 1) Carefully take the two emulator boards apart if you have the trace card. If you have only the emulator board you will need to remove the top plastic cover. Please take care in separating the boards so that you do not damage the emulator connectors.
- 2) Plug the daughtercard into J45 as shown in Figure 1.
- 3) Remove the jumpers on JP2, JP3 and JP4.
- 4) Connect the two connectors to the center pins of JP2, JP3 and JP4 as follows: the single wire connects to JP4 and the double plug connects to JP2 and JP3. The lettering on the plug faces up as in Figure 1.
- 5) You must run the software configuration program and select C161CI, C161JI or C161JC as needed.

Technical Description:

JP46 on the emulator is used to deliver XBUS peripherals contained in the daughtercard installed in the emulator. Some XBUS peripherals will be connected through JP2, JP3 and JP4. These represent ports P4.5, P4.6 and P4.7. These XBUS peripherals are not provided by the E2 bondout chip in most cases.

We elected to not provide switches or logic to switch these XBUS peripheral pins for speed reasons. We prefer that you have access to the bondout pins directly when applicable for the most accurate emulation possible.

The procedure is to route the XBUS peripherals from the daughtercard chip through JP46 to your target board. The translation can be done on an adapter or directly on the target board.

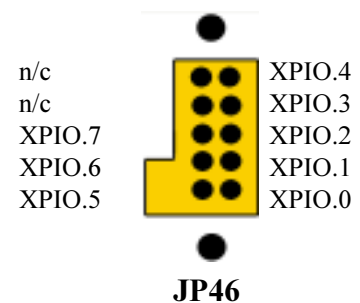
Routing:

I²C

Name	Port	XPIO pin (on JP46 on emulator)
SDA0	9.0	0
SCL0	9.1	1
SDA1	9.2	2
SCL1	9.3	3
SDA2	9.4	4

CAN (C161CS)

Name	Port	XPIO pin	Port 4 Jumpers
CAN2_TxD	4.7		JP4
CAN1_TxD	4.6		JP3
CAN1_RxD	4.5		JP2
CAN2_RxD	4.4	7	



J1850 (C161JC and JI) (C161JC CAN is same as C161CS CAN1)

Name	Port	XPIO pin	Port 4 Jumpers
SDL_TxD	4.7		JP4
SDL_RxD	4.4		JP1

ASC1 Serial Port

Name	Port	XPIO pin
TxD1	3.0	5
RxD1	3.1	6

Example Signal P9.0:

For instance, P9.0 is the I²C Bus Data line 0 on the CS chip. The E2 bondout does not have a I²C port, therefore this must be provided by a CS slave chip mounted on a daughtercard which is placed in Emulation Mode. This means the emulator has access to the I²C peripheral through the slave's XBUS.

The idea is to substitute P9.0 from the bondout with P9.0 from the CS chip on the daughtercard. P9.0 from the daughtercard can be directed to the target in two ways:

A) No translation adapter between emulator and target board:

P9.0 will be present on pin 1 of JP46. This signal will be routed directly to that spot on your target where you want it such as to another chip. P9.0 on J7 will be not connected on your target.

B) A translation adapter is used between the emulator and target:

The translation adapter will disconnect P9.0 coming from the emulator on J7 of the adapter from the rest of the adapter that eventually connects to the target board. It will route P9.0 from JP46 to P9.0 on J7 of the adapter board. P9.0 will then travel down to the target through the adapter in the normal fashion. The idea is to substitute P9.0 from the bondout with P9.0 from the CS chip on the daughtercard.

Please send errors and corrections to rboys@nohau.com
