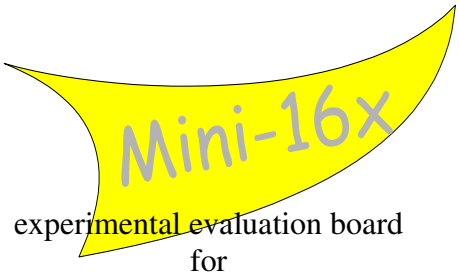

experimental evaluation board
for
Infineon Microcontrollers
XC161JC
XC164CS
C161CS/JC/JI

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draft

Configuration

- for XC161CJ-16FF (with dual power supply) - P-TQFP144 Package
- for XC164CS-16FF (with dual power supply) - P-TQFP100 Package
- for C161CS/JC/JI-32RF (-16FF/-32FF- for evaluation only) - P-TQFP128 Package

Key Features

- 144-pin Yamaichi socket for XC161CJ (144-pin) or C161CS/JC/JI (128-pin) or 100-pin socket for XC164CS and buffer caps at all power supply pins
- Female connector strips for **all CPU signals**
- SMD crystals for CPU and real time clock (5 MHz and 32 kHz)
- 2 USART V24 drivers (MAX232) and Sub-D9 female connector for ASC0 onboard and cable for ASC1
- 2 CAN transceivers and Sub-D9 male connector for CAN-A onboard, cable for CAN-B
- SDLM (J1850) interface optional
- Voltage regulator (5 V or 3.3 V selectable and 2.5V for XC16x)
- JTAG connector for XC16x: 16-pin fast mode
- JTAG interface for 25-pin parallel interface optional
- multilayer board 3.2 inch x 4.2 inch (81 x 107 mm)
- To keep the board small, low-cost and universal only a few LEDs are implemented for function control. But because all controller pins are easily available and labeled. Small experiments can be set up pretty quickly. Extension boards can supply additional memory, a wrap area, switches or LEDs. Little ApNotes of demo set-ups are to follow, maybe also the Hands-On trainings (HOTs) if required. Software will be available on CD or via the Internet.

Mini-16x provides

- The XC161CJ, XC164CS or C161CS/JC/JI (on-chip program memory, on-chip RAM, bootstrap loader and low stand-by current in Sleep Mode) combined with the well-known performance of the C16x-family (up to 25MHz cpu clock, timers, CAPCOM, serial Interfaces incl. CAN, 103 I/O Pins (XC164CS: 79), ADC w/ 12 channels (XC164CS: 14 channels).
  http://www.infineon.com/cgi/ecrm.dll/ecrm/scripts/prod_cat.jsp?oid=-8137
- On-board power supply provides 5V or 3.3V output
- Via RS232 the board can communicate with a PC - e.g. with Minimon as the monitor, see Infineon Application Note AP1664xx:
  http://www.infineon.com/cgi/ecrm.dll/ecrm/scripts/prod_cat.jsp?oid=-8137
- MAX232 for both RS232 interfaces
  (remote control for reset and boot mode prepared)
- CAN drivers for CAN-A and CAN-B available, J1850 interface prepared
- All connectors have a 2.54mm / 1/10 inch grid

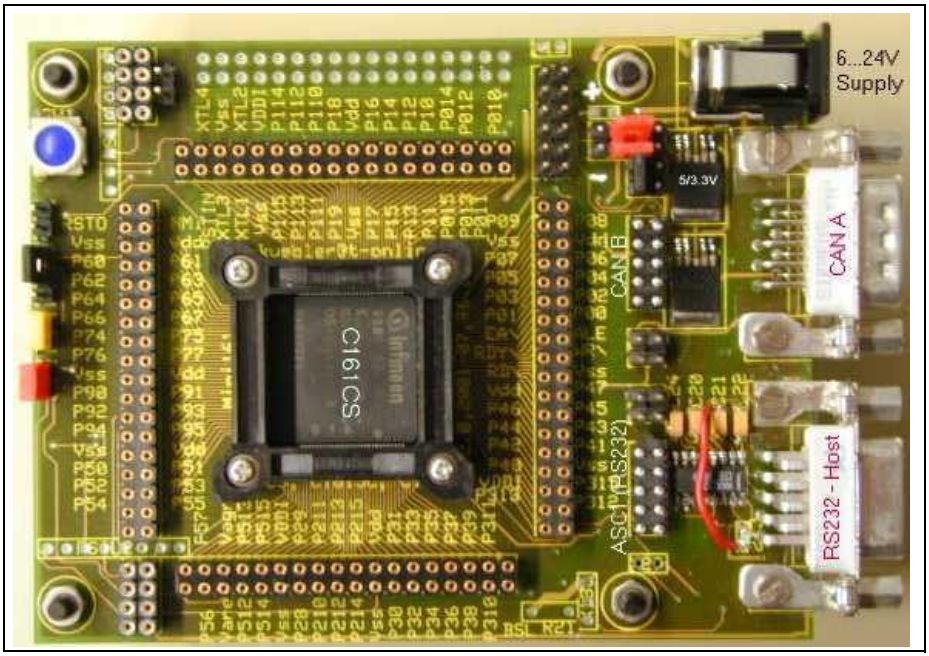
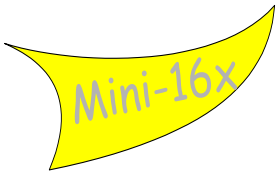


Figure 1 Top View "Lab Version 144" with 144/128-pin socket



Target Users

- Application engineers
- for demos: e.g. Power Management (battery or GoldCap power supply)
- for small tests (download programs via MiniMon)
- Sales and Marketing for demonstration (with battery, software in on-chip RAM)
- Key customers (as free give-aways)
- Students (cheaper as the starter kits)
- Training ("Hot", etc.)

Planned board options

- empty printed circuit board (unpopulated)
- populated only with C161CS and oscillator
- fully populated (connectors, LEDs, Sub-D for RS232 and CAN)
- lab version (fully populated and socket for the controller)

Planned extension boards

- Memory card w/ external Flash and RAM, maybe EEPROM (connected to SSC) and I2C peripherals
- board with wrap area for additional circuitry (2.54mm / 1/10 inch)
- I/O-board w/ switches and LEDs, maybe intelligent display(s)

Ordering and price

Please send an email to KM.kuebler@t-online.de to get the price list for all available versions of the board.

Configuration Overview

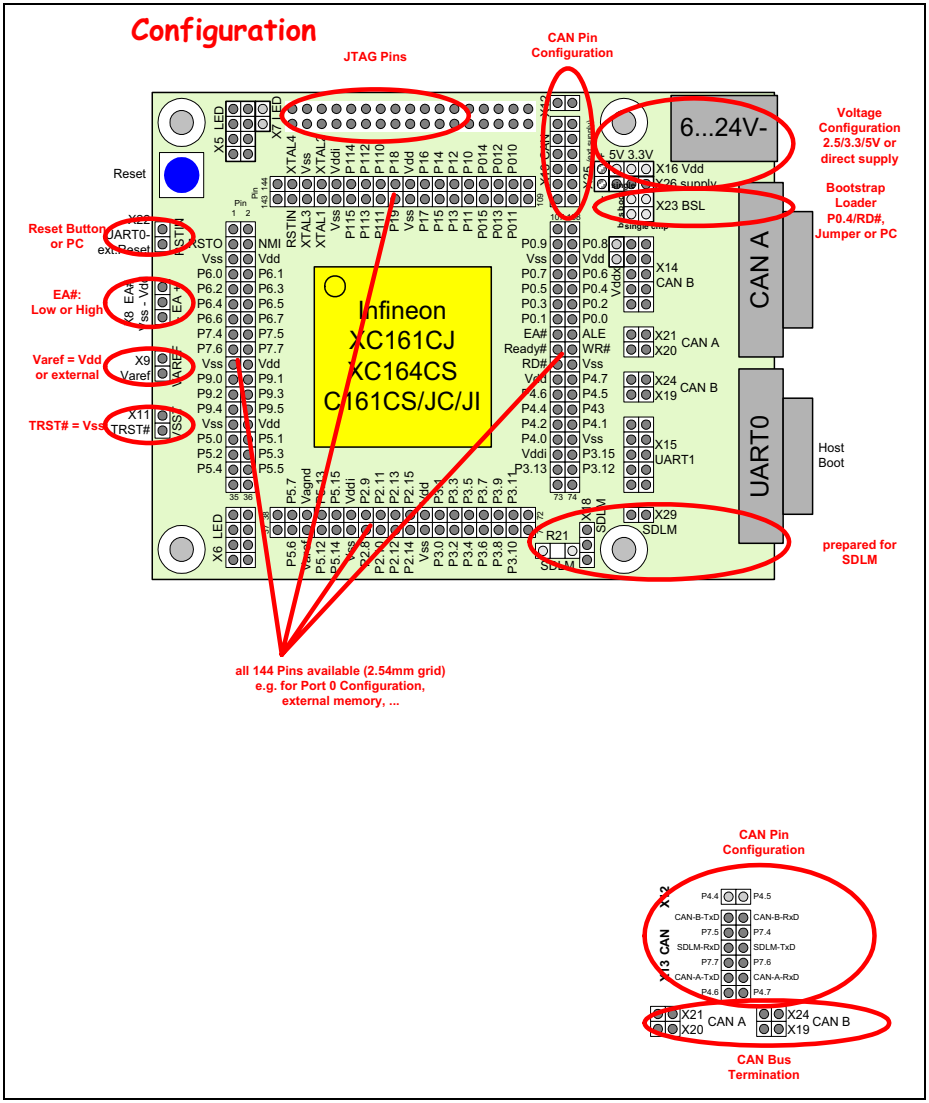
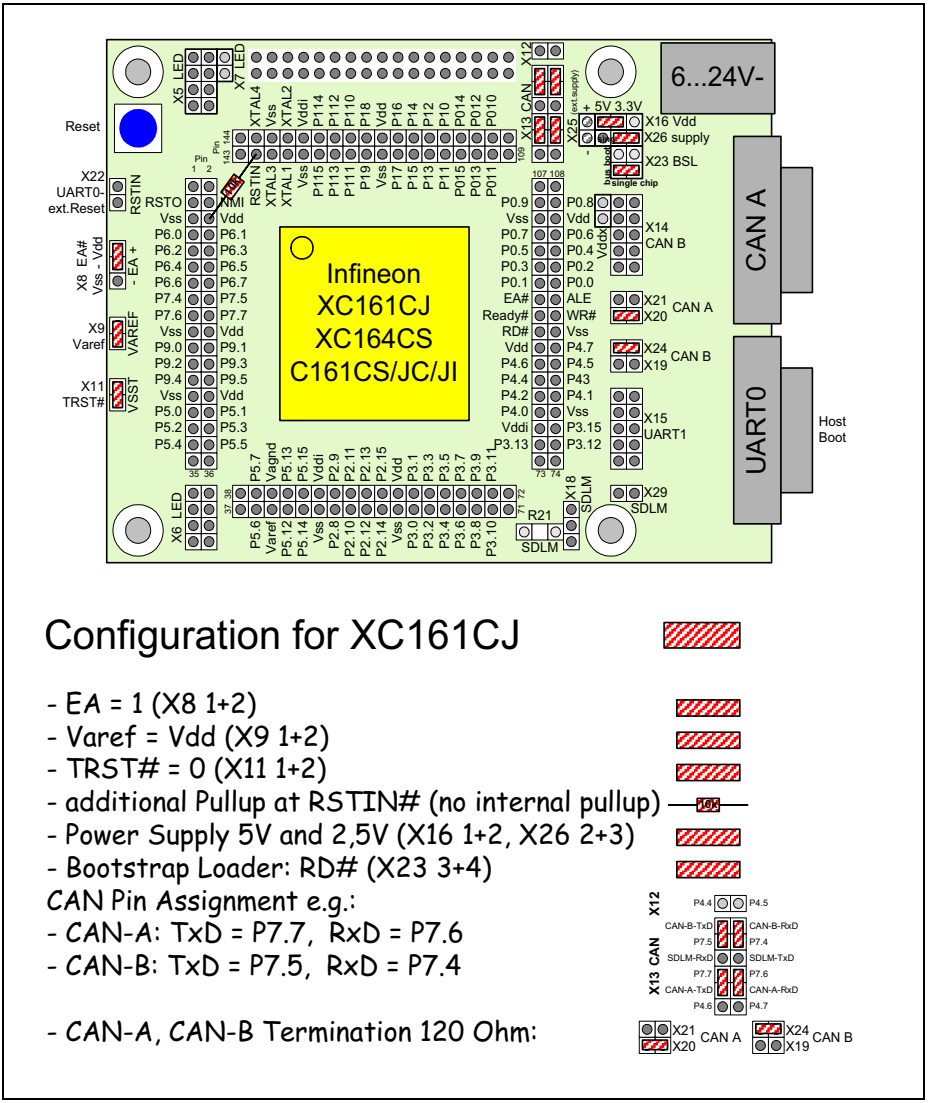


Figure 2 Configuration

Configuration for XC161CJ



Configuration for XC161CJ

- EA = 1 (X8 1+2)
- Varef = Vdd (X9 1+2)
- TRST# = 0 (X11 1+2)
- additional Pullup at RSTIN# (no internal pullup)
- Power Supply 5V and 2,5V (X16 1+2, X26 2+3)
- Bootstrap Loader: RD# (X23 3+4)

CAN Pin Assignment e.g.:

- CAN-A: TxD = P7.7, RxD = P7.6
- CAN-B: TxD = P7.5, RxD = P7.4

- CAN-A, CAN-B Termination 120 Ohm:

Figure 3 Mini-16x with XC161CJ

Configuration for C161CS

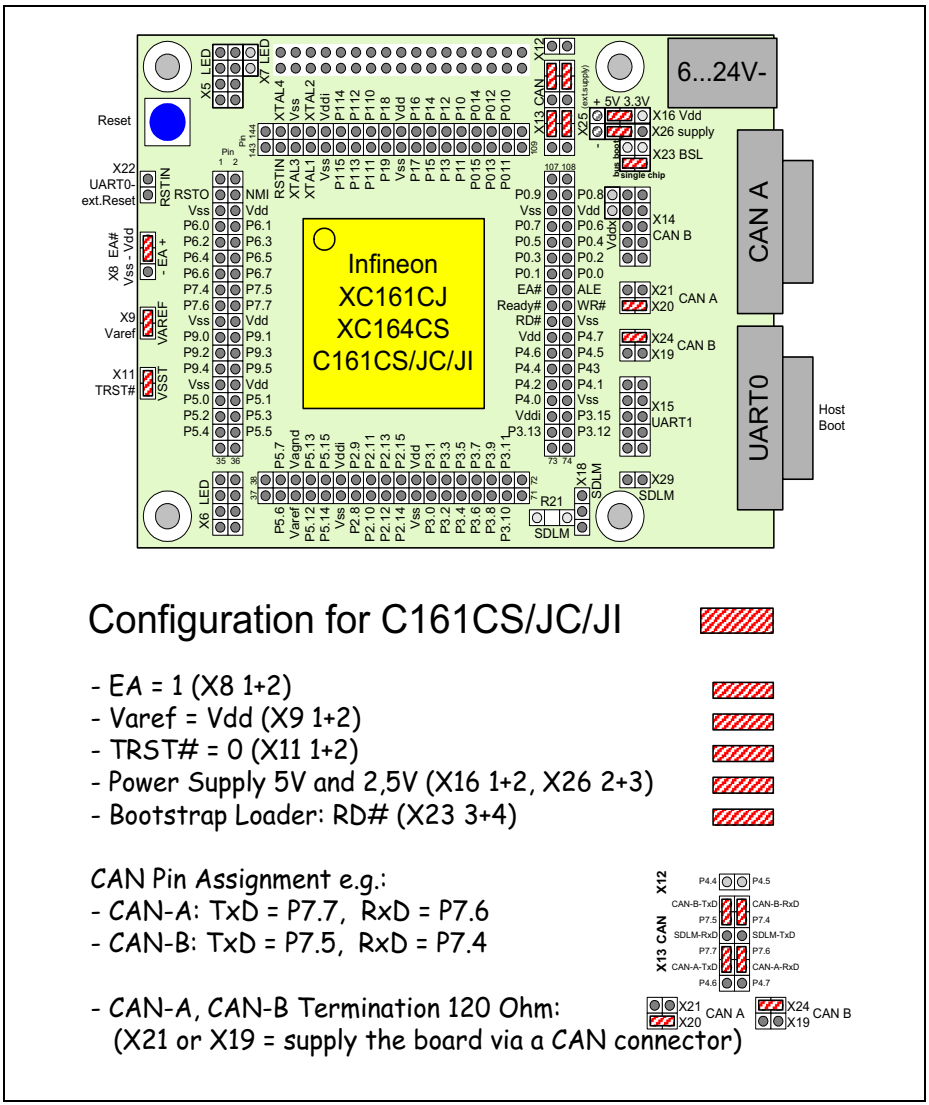


Figure 4 Mini-16x with C161CS/JC/JI

LEDs, Power Supply and Boot Configuration

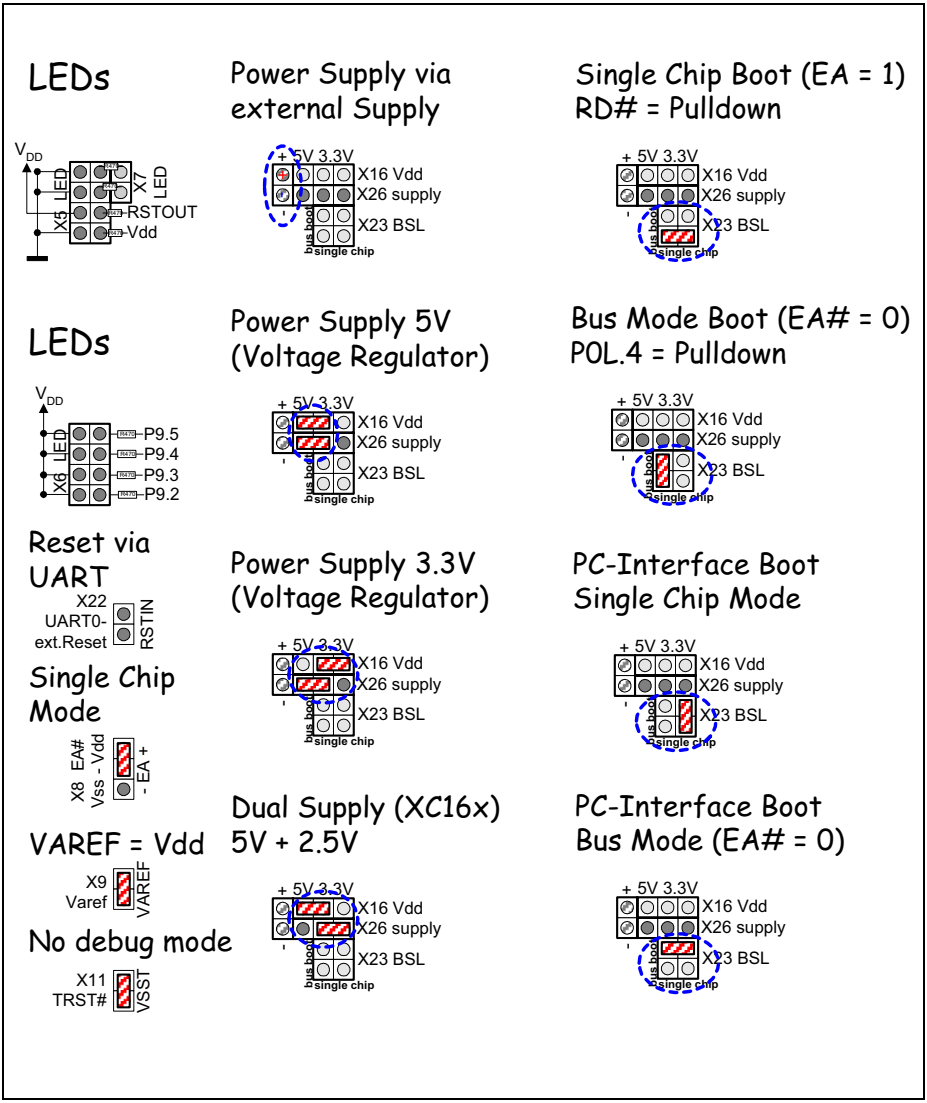


Figure 5 Mini-16x LEDs, Jumper settings