Adapters

MPC5607B Nexus Emulation Adapter 208BGA – 176TQ

Ordering code	IA208BGA176TQ-5607B

Target CPU package: QFP176

Supported microcontrollers:
- Freescale MPC5605B, MPC5605BK, MPC5606B, MPC5605BK, MPC5607B
- ST equivalent devices (SPC560B60, SPC560B64)

Original microcontroller in the QFP176 package has no Nexus port at all which may be a significant drawback during the development and test process.

"Bolero" Nexus Emulation Adapter is based on the MPC5607B microcontroller in the BGA208 package (emulation device), which also exposes 4-bit Nexus port. The Emulation Adapter exhibits the same behaviour to the target as the original 176-pin microcontroller and additionally provides the Nexus port, which allows advanced functionalities like trace, profiler and code coverage.

A 176-pin solder part, which must be ordered separately under the IA176TQ-SOLDER ordering code, is soldered to the target (PCB) instead of populating the original microcontroller in a 176-pin QFP package. Then the Emulation Adapter, which acts as the original microcontroller and additionally provides debug Nexus port, is connected on top.

Contact iSYSTEM sales representative for more details on available Nexus tools.
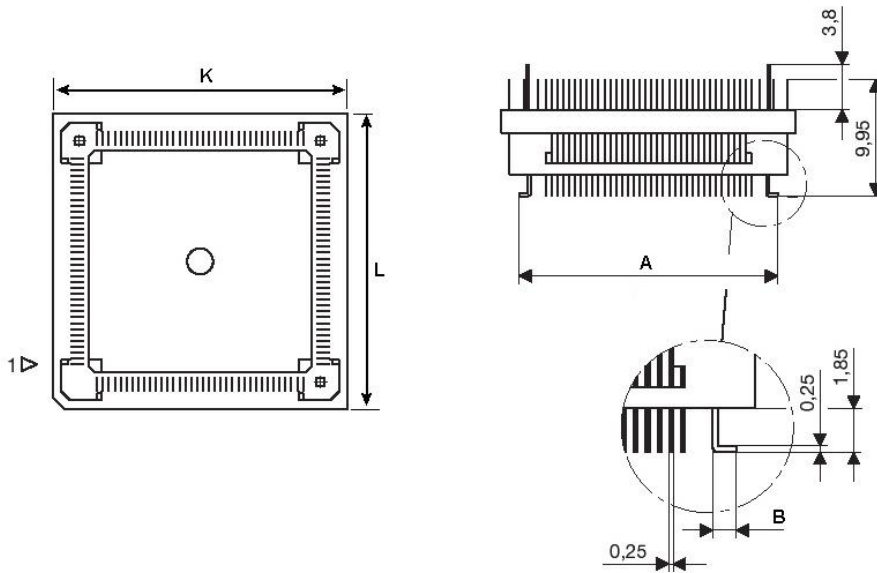
- **IA176TQ-SOLDER**
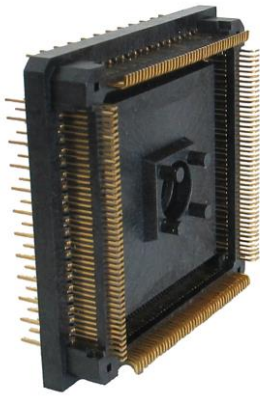
Solder part, which is being soldered to the target.
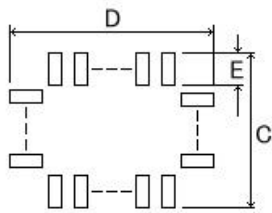
(Unit: mm)						
A	B	C	D	E	K	L
26.0	1.125	27.0	27.0	1.9	29.05	29.05

Recommended (by TET) PCB footprint size

IA176TQ-SOLDER dimensions

Jumper configuration

J1 and J2: clock source configuration

Jumpers J1 and J2 select clock source for the emulation device. Per default, both jumpers are set to position 1-2, which yields clock source being used from the emulation adapter.

For the first time after receiving the emulation adapter, it is recommended that it's tested with this setting. Once it's confirmed that is operational, target clock use (J1 & J2 position 2-3) can be tested.

Note that the emulation adapter may not operate when crystal circuit is used in the target. Typical design guideline is that a crystal should be as close as possible to the microcontroller. However, it may happen that the target crystal may not oscillate with the emulation adapter since clock lines (XTAL, EXTAL) between the target and the emulation device on the emulation adapter are prolonged. There should be no problem with the oscillator being used in the target.

If an oscillator in the target is not an option and the target crystal doesn't oscillate in conjunction with the emulation adapter, clock from the emulation adapter must be used (J1 & J2 position 1-2). In this case, a crystal circuit must be assembled on the emulation adapter.
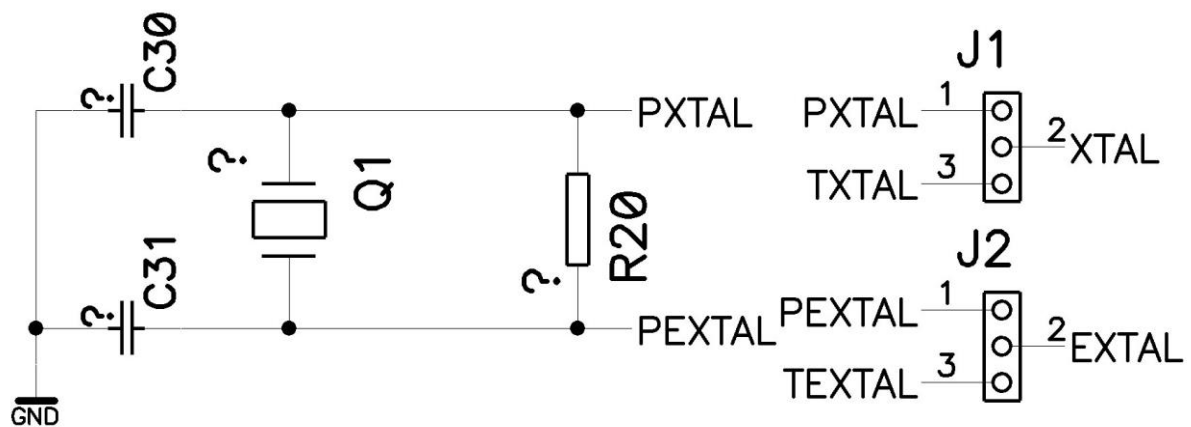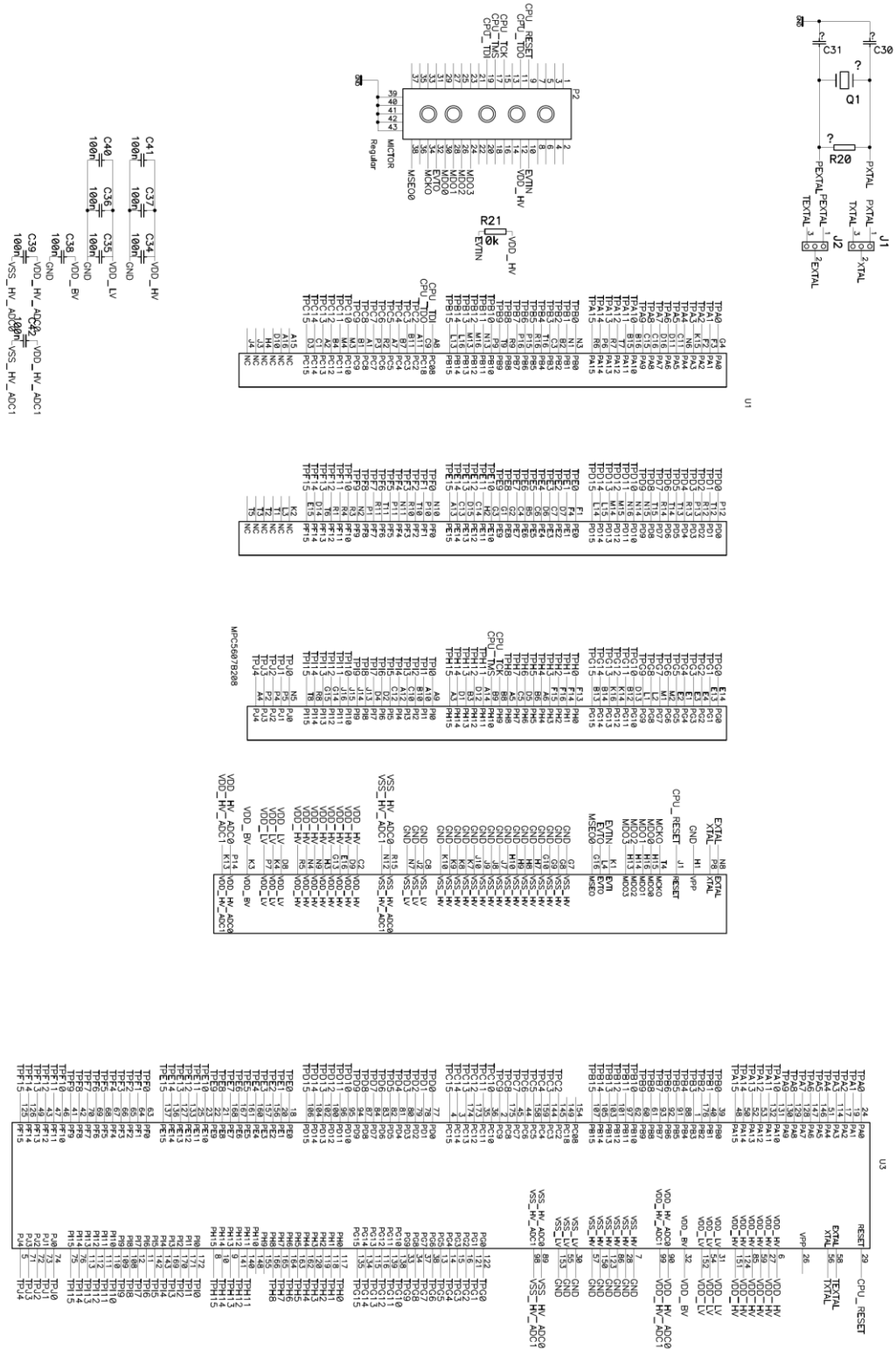

Crystal circuit

Crystal circuit is located in the corner of the emulation adapter, next to the Nexus (Mictor) connector.
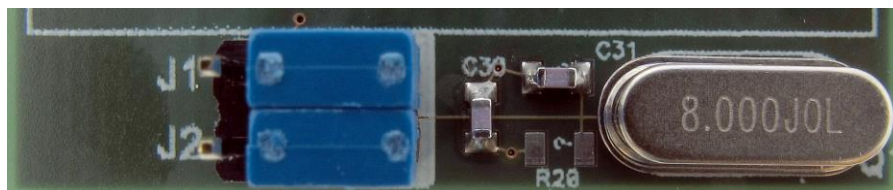
Per default 8.2pF capacitors are populated for C30 and C31 and 8MHz crystal for Q1. R20 must not be populated. Note that these values are valid for 8MHz crystal only. If different crystal is used, appropriate capacitors and resistor must be soldered (replace the original ones).

Schematic