

Adapters

“Pictus” Nexus Emulation Board 144TQ - 100TQ

Ordering code	IA144TQ100TQ-P
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Target CPU package: T_QFP100

Original MPC5604P microcontroller in the QFP100 package has no Nexus port at all which may be a significant drawback during the development and test process.

For this purpose, the “Pictus” Nexus Emulation Adapter is based on the MPC5604P microcontroller in the QFP144 package, which also exposes 4-bit Nexus port. The Emulation Adapter exhibits the same behaviour to the target as the original 100-pin microcontroller and additionally provides the Nexus port, which allows advanced functionalities like trace, profiler and code coverage.

Contact iSYSTEM sales representative for more details on available Nexus tools.

Jumper configuration

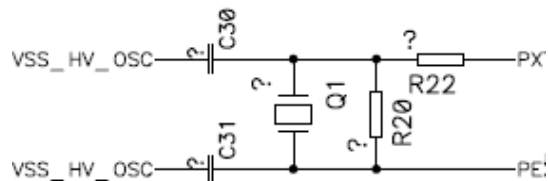
J1 and J2: clock source configuration

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.

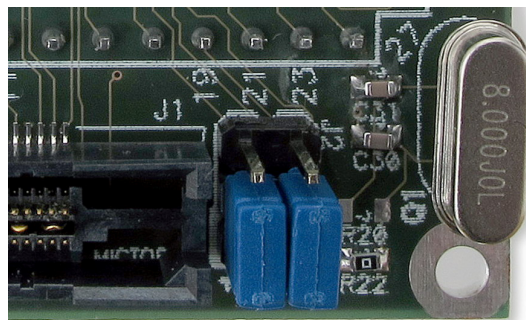
Note that the emulation adapter may not operate when crystal circuit is used in the target. Typical design guideline is that a crystal should be as close as possible to the microcontroller. However, it may happen that the target crystal may not oscillate with the emulation adapter since clock lines (XTAL, 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 and jumpers J1 and J2.



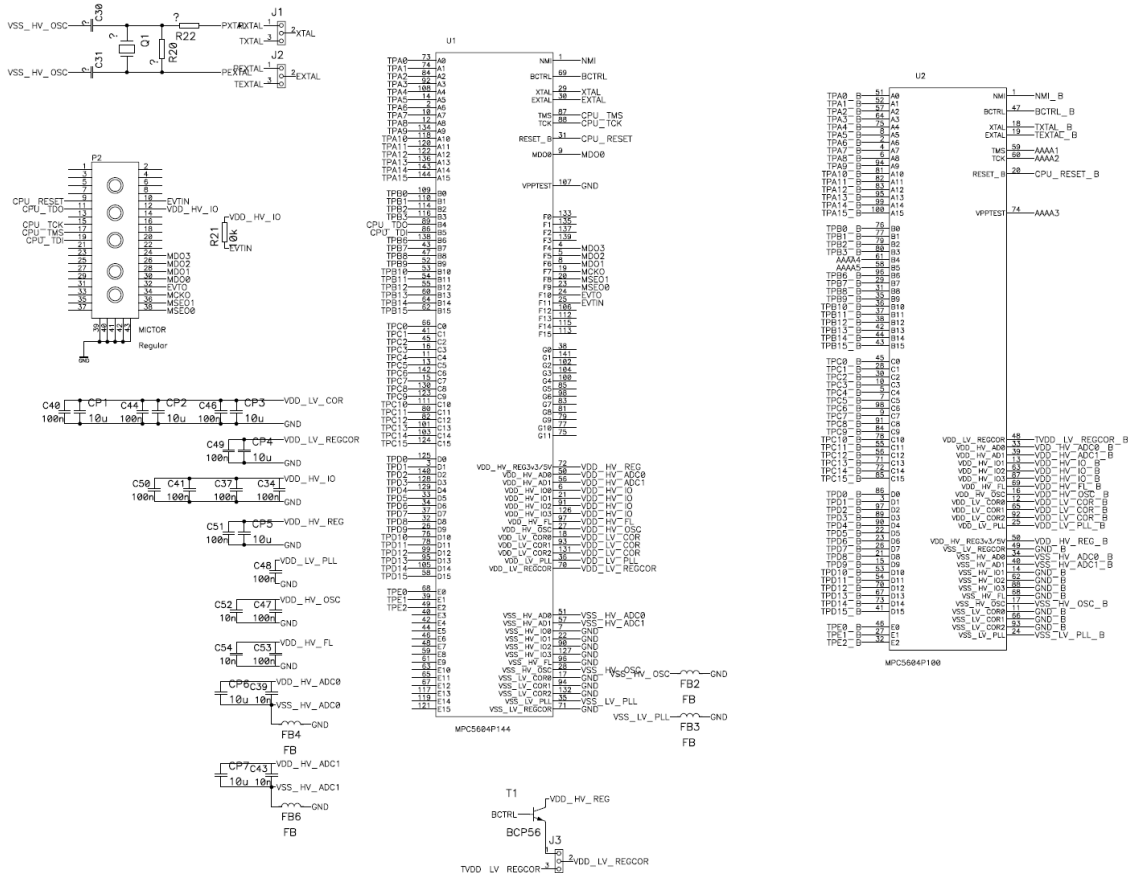
Per default, 22pF capacitors are populated for C31 and C30, 0 ohm resistor for R22 and 8MHz crystal for Q1. R20 must not be populated. Note that these values are valid for 8MHz crystal only. If different crystal is used, appropriate capacitors and resistor must be soldered (replace original ones).

J3: V_{DD_LV_REGCOR} configuration

Jumper J3 selects connection of the V_{DD_LV_REGCOR} signal. See schematic for more details. By default J3 is set to position 2-3, connecting the V_{DD_LV_REGCOR} signal from the target directly to the V_{DD_LV_REGCOR} of the QFP144 device on the emulation adapter.

Position 1-2 should be used only if V_{DD_LV_REGCOR} signal is not connected in the target. In such case, core voltage is supplied by means of the emulation adapter.

Schematic



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