PCN-20210127 TE0720 CPLD Firmware Revision Upgrade from REV05 to REV06

Download PDF version of this document.

Company	Trenz Electronic GmbH
PCN Number	PCN-20210127
Title	TE0720 CPLD Firmware Revision Upgrade from REV05 to REV06
Subject	CPLD Firmware Revision Upgrade from REV05 to REV06
Issue Date	2021-02-16

Products Affected

This change affects Trenz Electronic boards TE0720 of Revision 03: TE0720-03-*. See also Method of identification section below.

Changes

#1 Added generic options for PUDC and Boot Mode

Type: Enhancement
Reason: Provide easy option to select pullup/down for CPLD IO pins connected to Zynq Boot Mode and PUDC pins.
Impact: None. Default CPLD source code is still PUDC low (Zynq pullups activated) and Boot Mode QSPI/SD.

#2 Set pin associated with MIO7 to Pullnone

Type: Enhancement
Reason: Hardware pulldown on module installed for Zynq Bank0 voltage selection (3.3V). Further pulling unnecessary.
Impact: None**.**

#3 Adding internal 3.3V enable signal en_3v3_int

Type: Enhancement
Reason: Drive signals only high after core voltage is up.
Impact: None, improved power sequencing.

#4 Set JTAG C_* signals high impedance until 3.3V is enabled

Type: Enhancement
Reason: JTAG pins connected to Zynq are high impedance as long as the core voltage is not available.
Impact: None, improved power sequencing.

#5 Boot mode pins set to GND or high impedance until en_3v3_int is high

Type: Enhancement
Reason: Boot Mode pins connected to Zynq should be high impedance as long as the core voltage is not available.
Impact: None, improved power sequencing.

#6 MIO14,15 high impedance until en_3v3_int is high

Type: Enhancement
Reason: UART pins connected to Zynq are high impedance as long as the core voltage is not available.
Impact: None, improved power sequencing.

#7 Improved JTAG time constraints

Type: Enhancement
Reason: Signal propagation constraints for JTAG were not implemented.
Impact: None, improved JTAG reliability at high speeds.

#8 JTAG drive strength adjustment

Type: Enhancement
Reason: Driver constraints adjusted for better signal integrity especially for high traffic.
Impact: None, improved JTAG connection.

#9 Bugfix I2C to GPIO module (I2C_to_GPIO.v)

Type: Bugfix
Reason: Communication with GPIO subsystem via I2C was not possible.
Impact: Reading and writing data from/to CPLD internal registers via I2C bus works correctly.

#10 Changed Firmware Identifier to REV06

Type: Update
Reason: Show correct firmware revision with Trenz FSBL.
Impact: None. Actual firmware revision is shown with Trenz FSBL.

More information about System Controller can be found here: TE0720 System Controller. The new firmware is compatible with PCB revisions REV02 and REV03 of TE0720. Actual REV06 CPLD programming file of the Firmware is available in the Downolad area. The REV05 programming files are moved to the archive, available on the same Download area page.

Method of Identification

All TE0720-03 SoMs noted in the column replacement are delivered with REV06 CPLD firmware.

Precursor	Replacement
CPLD Firmware REV05	**CPLD Firmware REV06**
TE0720-03-14S-1C	TE0720-03-31C33FA
TE0720-03-1CFA	TE0720-03-61C33FA
TE0720-03-1QF	TE0720-03-61Q33FA
TE0720-03-1QFA	TE0720-03-61Q33FA

TE0720-03-1QC11	TE0720-03-61Q33FAE
TE0720-03-1QC12	TE0720-03-61Q33FAF
TE0720-03-1QFL	TE0720-03-61Q33FL
TE0720-03-2IF	TE0720-03-62I33FA
TE0720-03-2IFA	TE0720-03-62I33FA
TE0720-03-2IFC1	TE0720-03-62I33FAN
TE0720-03-2IFC3	TE0720-03-62I33FL
TE0720-03-62I12GA	TE0720-03-62I33GA
TE0720-03-L1IF	TE0720-03-64I63FA
TE0720-03-62I320M	TE0720-03-62I330M
TE0720-03-1CR	TE0720-03-61C530A
TE0720-03-1QFD	TE0720-03-61Q43FA
TE0720-03-61Q42GA	TE0720-03-61Q43GA
TE0720-03-1CFA-S	TE0720-03-61C33FAS

Production Shipment Schedule

TE0720-03-61C33FA variant will be available from mid of May in parallel to the precursor. From end of Juli 2021, after old stock is gone, all variants above are replaced by the corresponding variants.

Contact Information

If you have any questions related to this PCN, please contact Trenz Electronics Technical Support at

- forum.trenz-electronic.de
- wiki.trenz-electronic.de
- support%trenz-electronic.de (subject = PCN-20210127)
- phone
    - national calls: 05741 3200-0
    - international calls: +49 5741 3200-0

Disclaimer

Any projected dates in this PCN are based on the most current product information at the time this PCN is being issued, but they may change due to unforeseen circumstances. For the latest schedule and any other information, please contact your local Trenz Electronic sales office, technical support or local distributor.