

PCN-20220725 TE0820-04 to TE0820-05 Hardware Revision Change

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Company	Trenz Electronic GmbH
PCN Number	PCN-20220725
Title	TE0820-04 to TE0820-05 Hardware Revision Change
Subject	Hardware Revision Change
Issue Date	2022-08-04

Products Affected

This change affects all Trenz Electronic TE0820 SoMs of Revision 04: TE0820-04*.

Affected Product	Replacement
TE0820-04-2AE21MA	TE0820-05-2AE21MA
TE0820-04-2AE21MAZ	TE0820-05-2AE21MAZ
TE0820-04-2AI21MA	TE0820-05-2AI21MA
TE0820-04-2AI21MAZ	TE0820-05-2AI21MAZ
TE0820-04-2AI21MC	TE0820-05-2AI21MC
TE0820-04-2AI21MCZ	TE0820-05-2AI21MCZ
TE0820-04-2BE21MA	TE0820-05-2BE21MA
TE0820-04-2BE21MAJ	TE0820-05-2BE21MAJ
TE0820-04-2BE21MAZ	TE0820-05-2BE21MAZ
TE0820-04-2BE21ML	TE0820-05-2BE21ML
TE0820-04-2BE21MLZ	TE0820-05-2BE21MLZ
TE0820-04-2BI21MA	TE0820-05-2BI21MA
TE0820-04-2BI21MAZ	TE0820-05-2BI21MAZ
TE0820-04-2BI21ML	TE0820-05-2BI21ML
TE0820-04-2BI21MLZ	TE0820-05-2BI21MLZ
TE0820-04-3AE21MA	TE0820-05-3AE21MA
TE0820-04-3AE21MAZ	TE0820-05-3AE21MAZ
TE0820-04-3BE21MA	TE0820-05-3BE21MA
TE0820-04-3BE21MAZ	TE0820-05-3BE21MAZ

TE0820-04-3BE21ML	TE0820-05-3BE21ML
TE0820-04-3BE21MLZ	TE0820-05-3BE21MLZ
TE0820-04-3BI21ML	TE0820-05-3BI21ML
TE0820-04-3BI21MLZ	TE0820-05-3BI21MLZ
TE0820-04-4AE21MA	TE0820-05-4AE21MA
TE0820-04-4AE21MAZ	TE0820-05-4AE21MAZ
TE0820-04-4AI21MC	TE0820-05-4AI21MC
TE0820-04-4AI21MCZ	TE0820-05-4AI21MCZ
TE0820-04-4AI21MI	TE0820-05-4AI21MI
TE0820-04-4BI21PL	TE0820-05-4BI21PL
TE0820-04-4BI21PLZ	TE0820-05-4BI21PLZ
TE0820-04-4DE21MA	TE0820-05-4DE21MA
TE0820-04-4DE21MAZ	TE0820-05-4DE21MAZ
TE0820-04-4DI21MA	TE0820-05-4DI21MA
TE0820-04-4DI21MAZ	TE0820-05-4DI21MAZ
TE0820-04-5DI21MA	TE0820-05-5DI21MA
TE0820-04-5DI21MAZ	TE0820-05-5DI21MAZ
TE0820-04-5DR21MA	TE0820-05-5DR21MA
TE0820-04-5DR21MAZ	TE0820-05-5DR21MAZ
TE0820-04-S002C1	TE0820-05-S002C1

Changes

#1 Changed EN6363QI to MPM3860GQW-Z for U5.

Type: Schematic Change

Reason: EOL of Component

Impact: None. Minor changes in electrical characteristics.

#2 Changed TPS27082LDDCR to MP5077GG-Z for U28.

Type: Schematic Change

Reason: BOM Optimization

Impact: None. Minor changes in electrical characteristics.

#3 Changed BKP0603HS121-T to MPZ0603S121HT000 for L1, ... L5, L7, L9, ... L12.

Type: Schematic Change

Reason: EOL of Component

Impact: None. Minor changes in electrical characteristics.

#4 Improved decoupling capacitor structure.

Type: Schematic Change

Reason: Updated decoupling capacitor structure according to Xilinx recommendations.

Impact: None.

#5 Insert DDR4 testing option (R116, TP9).

Type: Schematic Change

Reason: Allow extended automatic DDR4 testing.

Impact: None.

#6 Changed AO7800 to BSD840NH6327XTSA1 for T1.

Type: Schematic Change

Reason: BOM Optimization

Impact: None. Minor changes in electrical characteristics.

#7 Added voltage detector BD39040MUF-CE2 (U30) and connected signal "PG_ALL" to CPLD (U21.5) and to testpoint TP12.

Type: Schematic Change

Reason: Power management improvement.

Impact: None. All power supplies are monitored.

#8 Changed SiT8008AI-73-XXS-52.000000E to SiT8008BI-73-XXS-52.000000E for U14.

Type: Schematic Change

Reason: Improve power management.

Impact: None.

#9 Changed reset, enable and power-up structure with resistor R95, added transistor T2, and added resistor R128.

Type: Schematic Change

Reason: Improve module reset, enable, and power-up.

Impact: Module reset, enable, and power-up handling is modified. That means that "EN1" signal from B2B connector enables DCDC U5 **and** can be monitored by CPLD U21 pin 27 (assembly option) (backward compatible mode with assembled resistor R95 and signal "EN1" as enable input), or that signal "EN1" only enables DCDC U5 and CPLD U21 pin 27 is connected to signal "POR_B" via voltage translator T2 (normal mode). Normal mode is standard. Therefore, please, verify that the module meets your requirements.

#10 Added voltage level translator U29 and resistor R129 as assembly option to connect signal "PHY_LED1" to SoC.

Type: Schematic Change

Reason: Connect both PHY signals to SoC.

Impact: None. Signal optional available at SoC (assembly option).

#11 Added resistors R130 and R131 to add pull-up/-down option for SoC "POR_OVERRIDE" signal.

Type: Schematic Change

Reason: Improvement to allow "POR_OVERRIDE" state change.

Impact: None. Assembly option with power override possible.

#12 Added diode D5 to protect manual reset input signal.

Type: Schematic Change

Reason: Improvement to protect reset input signal.

Impact: None.

#13 Updated components from library.

Type: Schematic Change

Reason: Use latest component data.

Impact: None.

#14 Change voltage divider R64 and R58.

Type: Schematic Change

Reason: Change reset voltage threshold from 0.74 V to 0.775 V.

Impact: None. Improve brown-out detection.

#15 Added resistor R132 as assembly option.

Type: Schematic Change

Reason: Added assembly option for DCI.

Impact: None.

#16 Change R92 to not assembled.

Type: BOM Change

Reason: R92 is not needed.

Impact: None. Not needed for x16 DDR4.

#17 Added power diagram page.

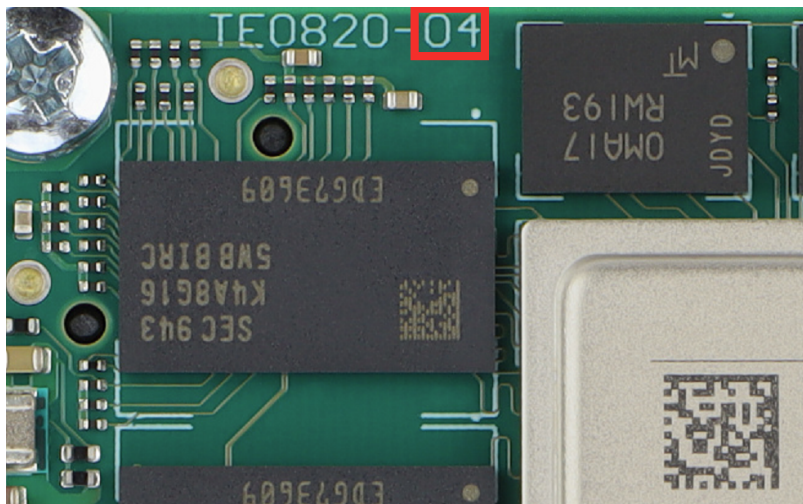
Type: Documentation Update

Reason: Power documentation improvement.

Impact: None.

Method of Identification

The revision number is printed on the top side of the PCB.



Production Shipment Schedule

This change takes place with immediate effect. If the new revision is not suitable for your application and still the former revision of the board is needed, please contact us.

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-20220725)
- phone
 - national calls: 05741 3200-0
 - international calls: 0049 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.

This PCN follows JEDEC Standard J-STD-046.