



Regarding the usage of our schematics and alike documentation for Trenz module TE0741.

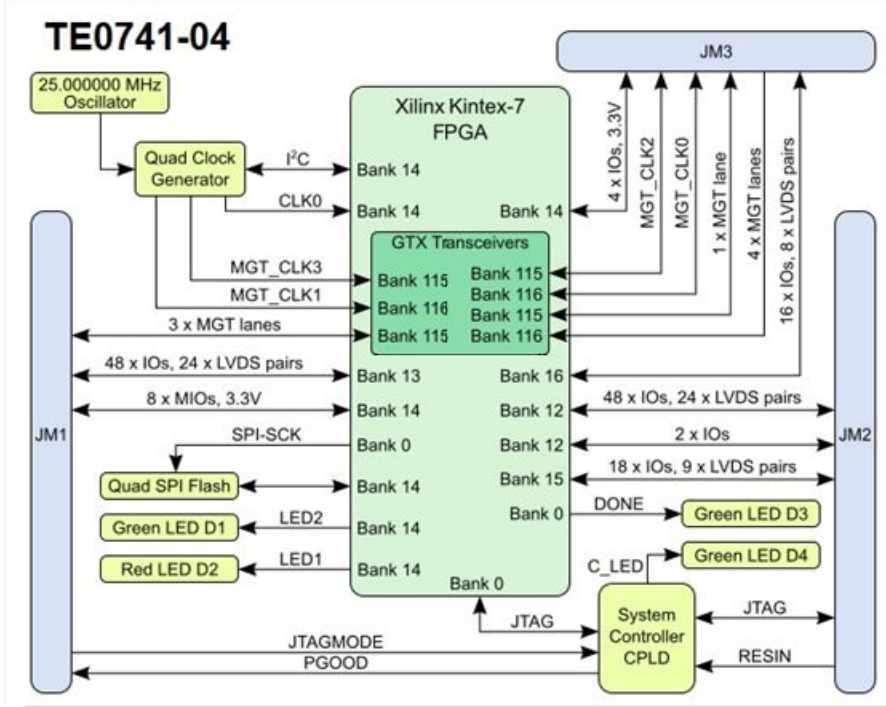
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Schematics and other handouts serve for informational purposes only!

	Title: TE0741 - Legal Notices Modules		
	A4	Number: TE0741 B3E-1-AF	Rev. 04
	Date: 2022-04-12	Copyright: Trenz Electronic GmbH	Page 1 of 20
	Filename: Legal Notices Modules.SchDoc		

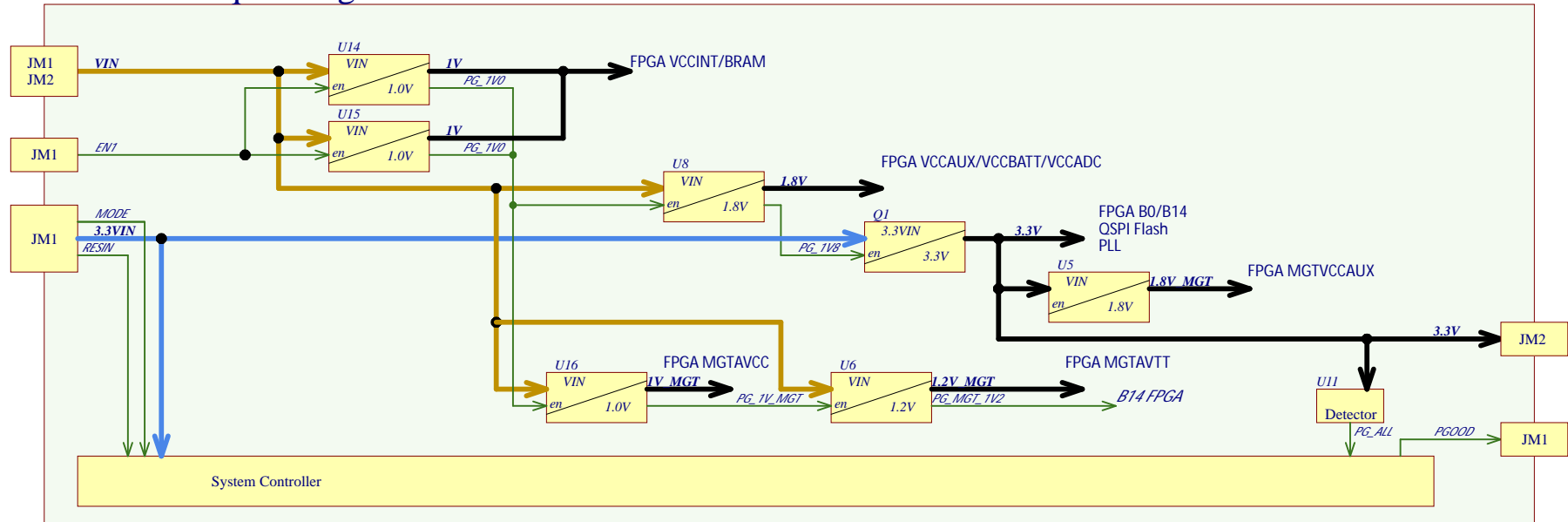
REV	Description	
-01	Initial revision	
-02		
-03	1) fixed connection DCDC for parallel operations 2) update Razorbeam Connectors, full update lib 3) added serial number (traceability pad) 4) changed ferrite beads L1..L4 size 0402 on BKP0603HS121-T 5) added thermal vias to mounting holes	VT
-04	1) replaced all DCDC (reason: not recommended use Enpirion DCDC) 2) remove Traceability Pad (reason: EOL) 3) added additional resistor for VBAT (reason: possibility using external VBAT from Carrier Board) 4) full upd LIB components 5) optimization PCB routing	VT

		Title: TE0741 - Changes list	
		A4	Number: TE0741 B3E-1-AF
Date: 2021-10-21		Copyright: Trenz Electronic GmbH	
Page2 of 20		Filename: Revision_Changes.SchDoc	



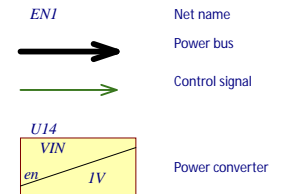
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A4	Number: TE0741 B3E-1-AF	Rev. 04
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Filename: Overview.SchDoc		

Power-on sequencing:



Supported Voltage Ranges:

Power Rail	Direction	Range	Tolerance	Description	Note
VIN	IN	3.3 - 5V	+/-5%	Micromodule Power	-
3.3VIN	IN	3.3V	+/-5%	Micromodule Power	-
VCCIO12	IN	1.2 - 3.3V	+/-3%	HR IO Bank12	-
VCCIO13	IN	1.2 - 3.3V	+/-3%	HR IO Bank13	-
VCCIO15	IN	1.2 - 1.8V	+/-3%	HP IO Bank15	-
VCCIO16	IN	1.2 - 3.3V	+/-3%	HR IO Bank16	-
VBAT_IN	IN	1.0 - 1.8V	+/-3%	Battery Voltage	-
3.3V	OUT	3.3V	+/-3%	Power for Carrier	-



	Title: TE0741 - Power Diagram	
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Filename: Power_Diagram.SchDoc		

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U_B12
B12.SchDoc

U_B13
B13.SchDoc

U_B14
B14.SchDoc

U_B15
B15.SchDoc

U_B16
B16.SchDoc

U_B34
B34.SchDoc

U_FPGA-MGT
FPGA-MGT.SchDoc

U_FPGA-CFG
FPGA-CFG.SchDoc

U_FPGA-MISC
FPGA-MISC.SchDoc

U_FPGA-PWR
FPGA-PWR.SchDoc

U_PWR1
PWR1.SchDoc

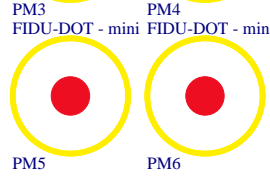
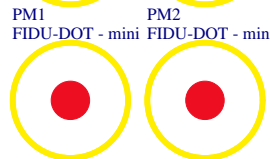
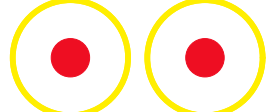
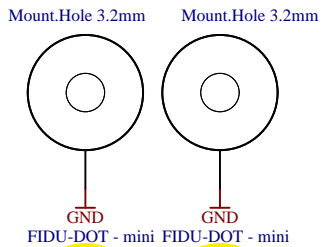
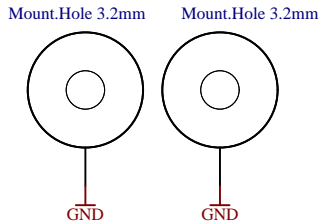
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PWR2.SchDoc

U_Clock
Clock.SchDoc

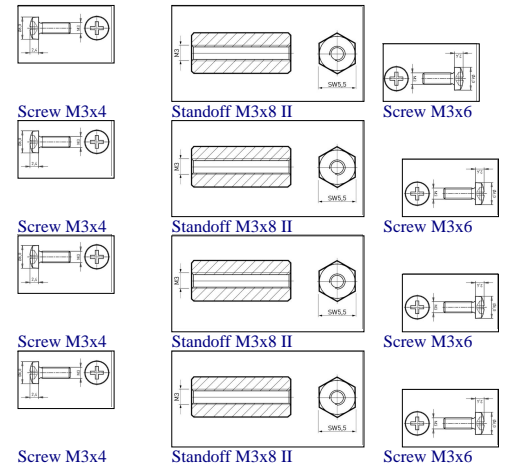
U_B2B-Connectors
B2B-Connectors.SchDoc

U_B33
B33.SchDoc

Serial
Serialnumber 6,3 x 6.3mm



Top of Board



Assembly variant	B3E-1-AF
Created by	VY
Modified by	VY
Modified at	2022-04-11
SVN Revision	13277



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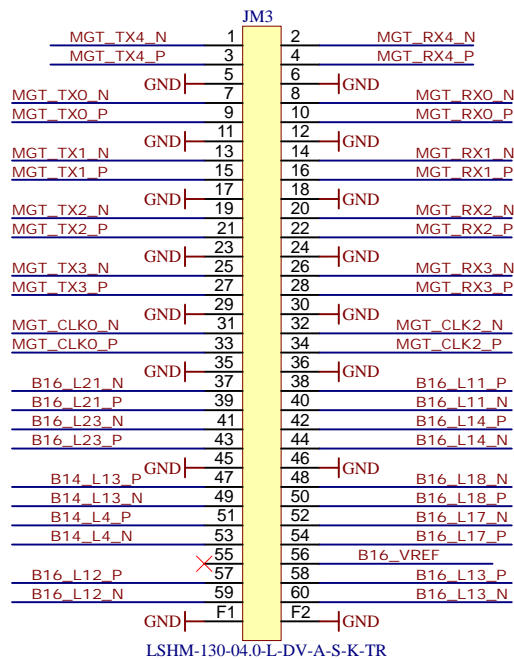
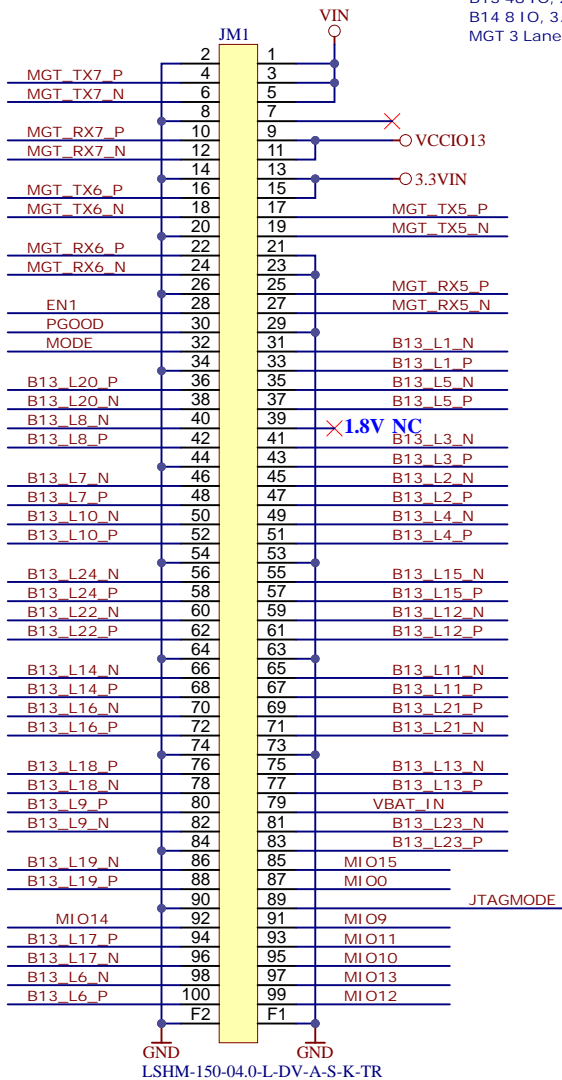
3

4

B13 48 IO, 24 LVDS Pairs
 B14 8 IO, 3.3V
 MGT 3 Lanes

B16 16 IO, 8 LVDS Pairs
 MGT 4 + 1 Lanes
 B14 4 IO, 3.3V

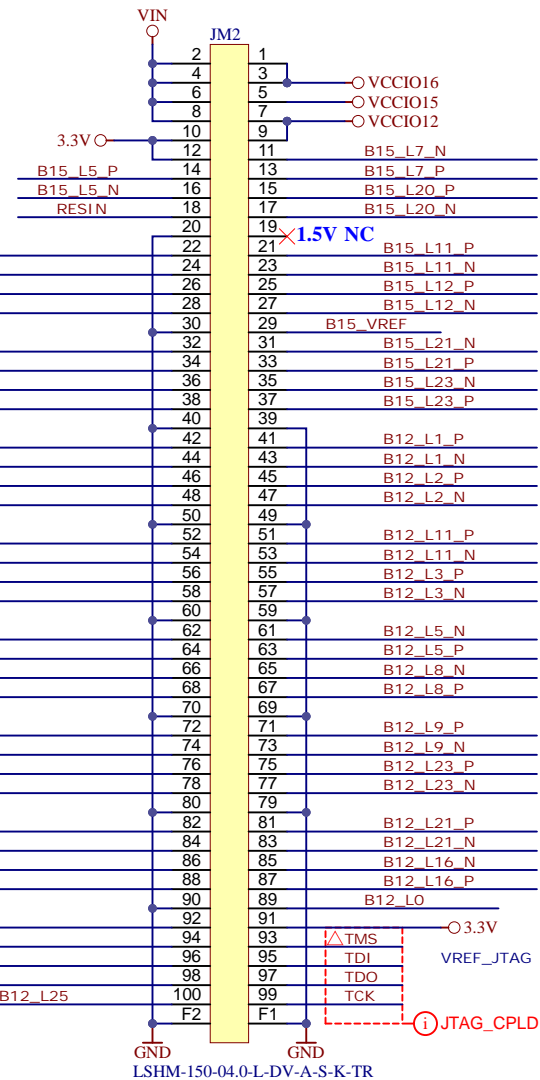
B15 18 IO, 9 LVDS Pairs
 B12 48 IO, 24 LVDS Pairs
 B12 2 IO



TE0720 Compatibility

MIO0 8 pins -> 8 IO B14
 USB D+,D-, vbusen,otg_id -> 4 IO B14
 SGMII -> MGT
 MIO1(SDCARD) -> MGT
 ETH MDI -> MGT
 B34 -> B16, MGT
 B35 -> B13
 B13 -> B12
 B33 -> B15

Clock Capable I/O
 All pins named
 Bxx_11_X
 Bxx_12_X
 Bxx_13_X
 Bxx_14_X
 Are Clock Capable I/O's

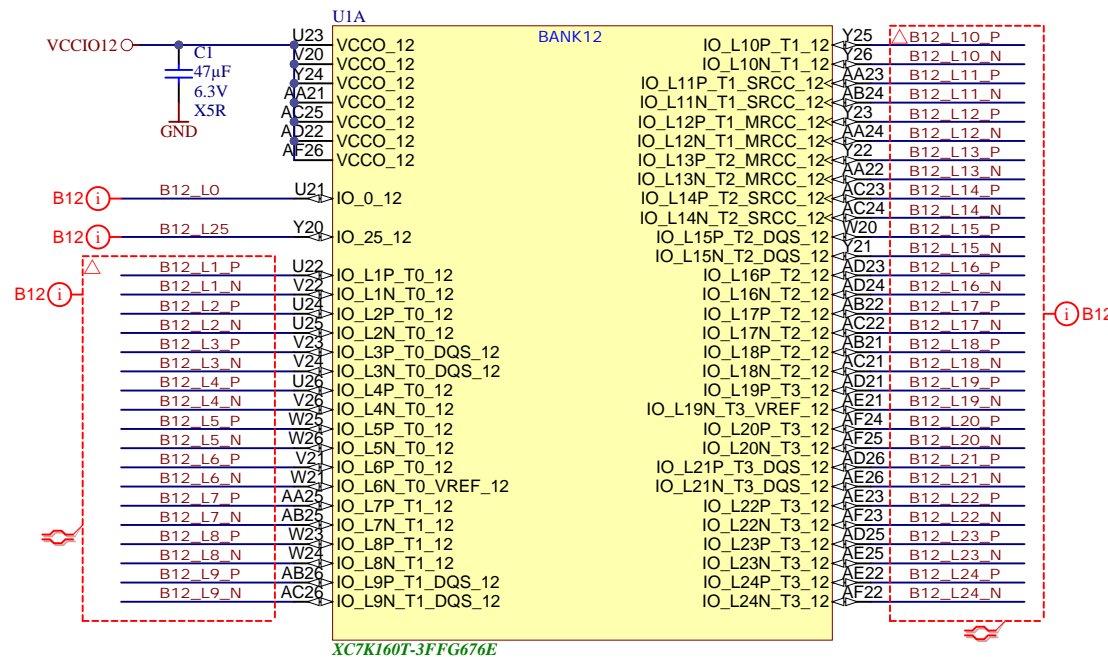


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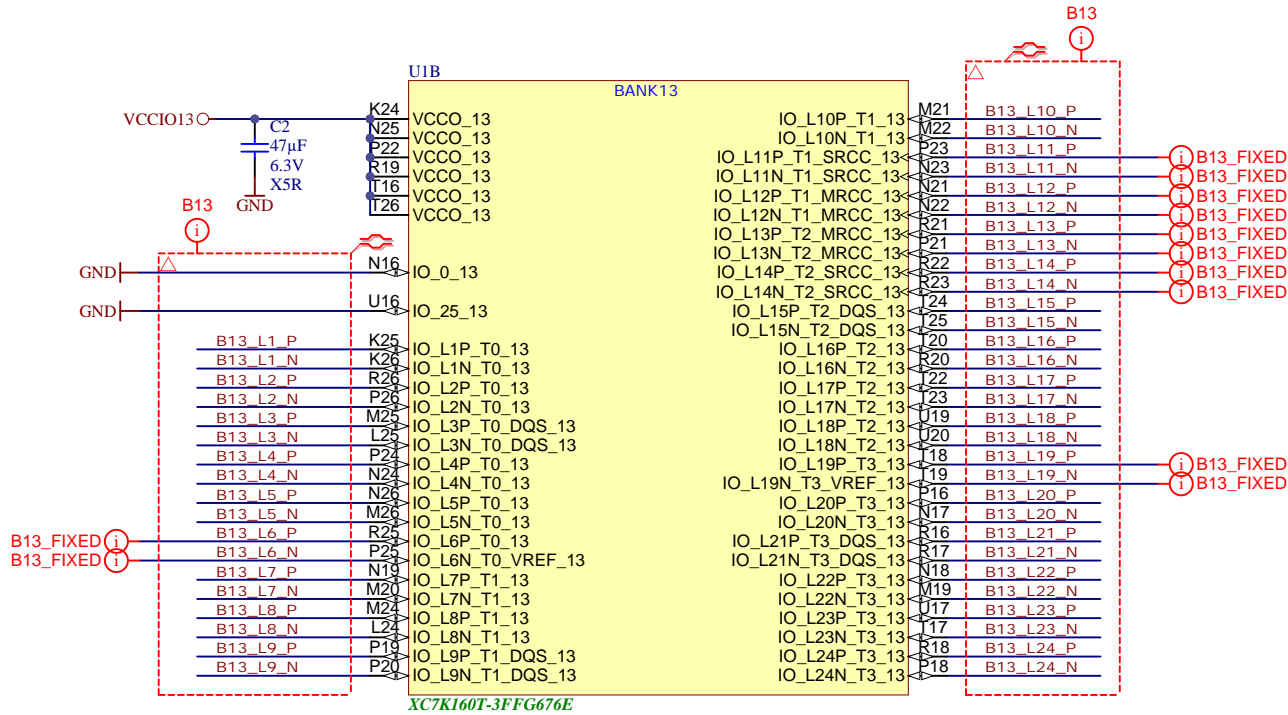
B12_FIXED ⓘ ▲

B12_L11_P
B12_L11_N
B12_L12_P
B12_L12_N
B12_L13_P
B12_L13_N
B12_L14_P
B12_L14_N
B12_L19_P
B12_L19_N
B12_L6_P
B12_L6_N

K70T version does not have this bank!



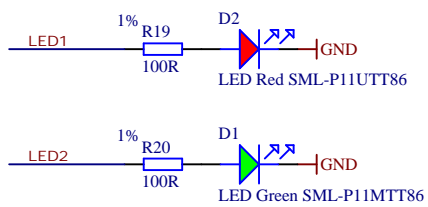
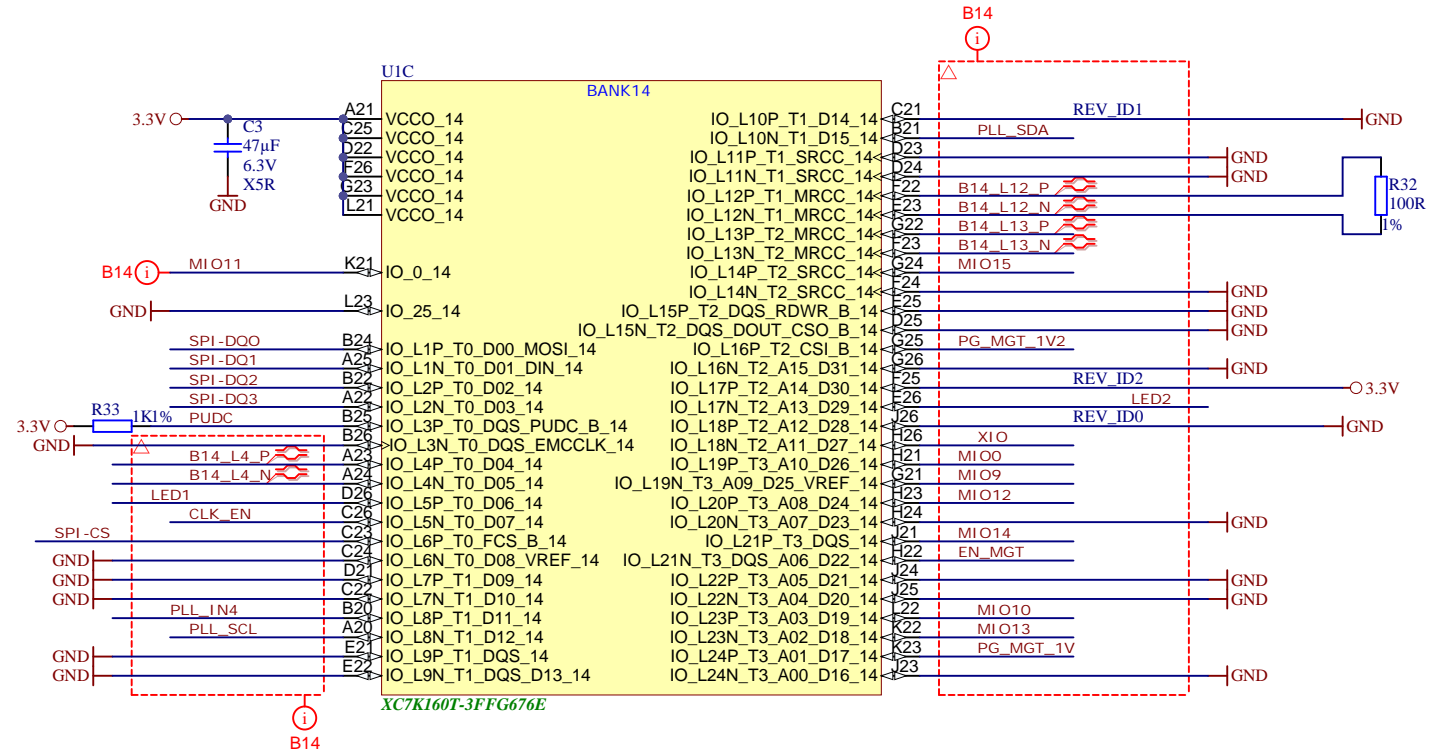
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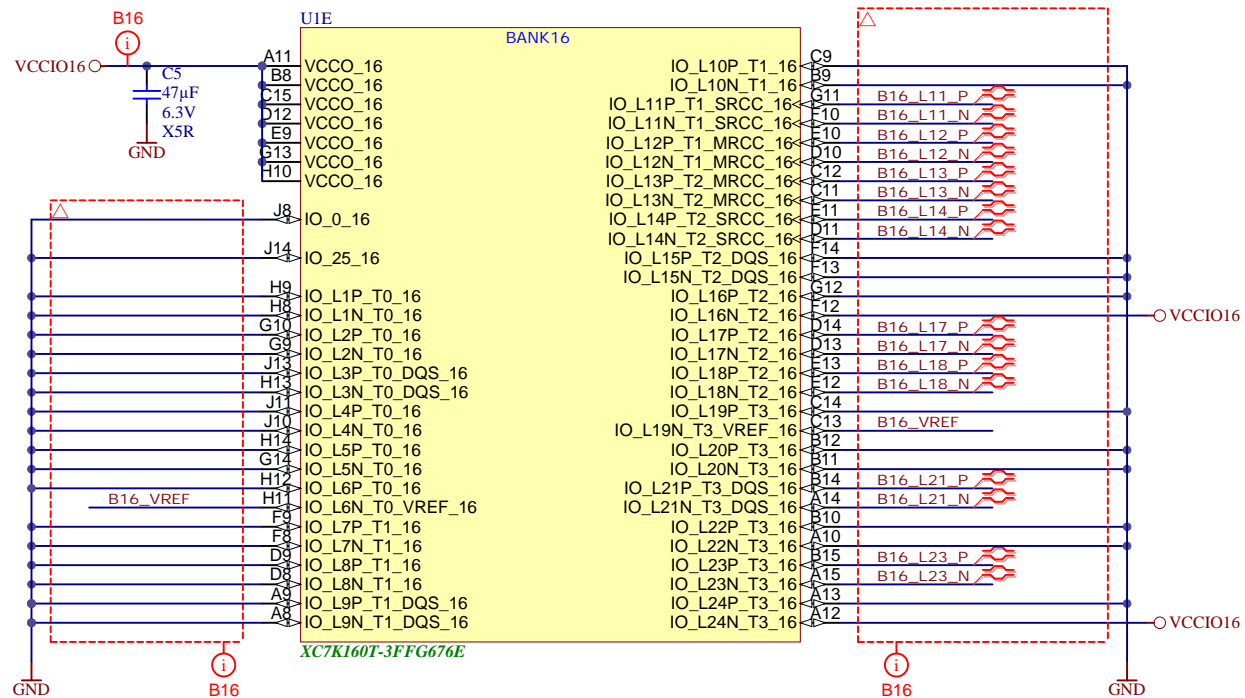
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A4	Number: TE0741 B3E-1-AF	Rev. 04
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Revision PCB Board:

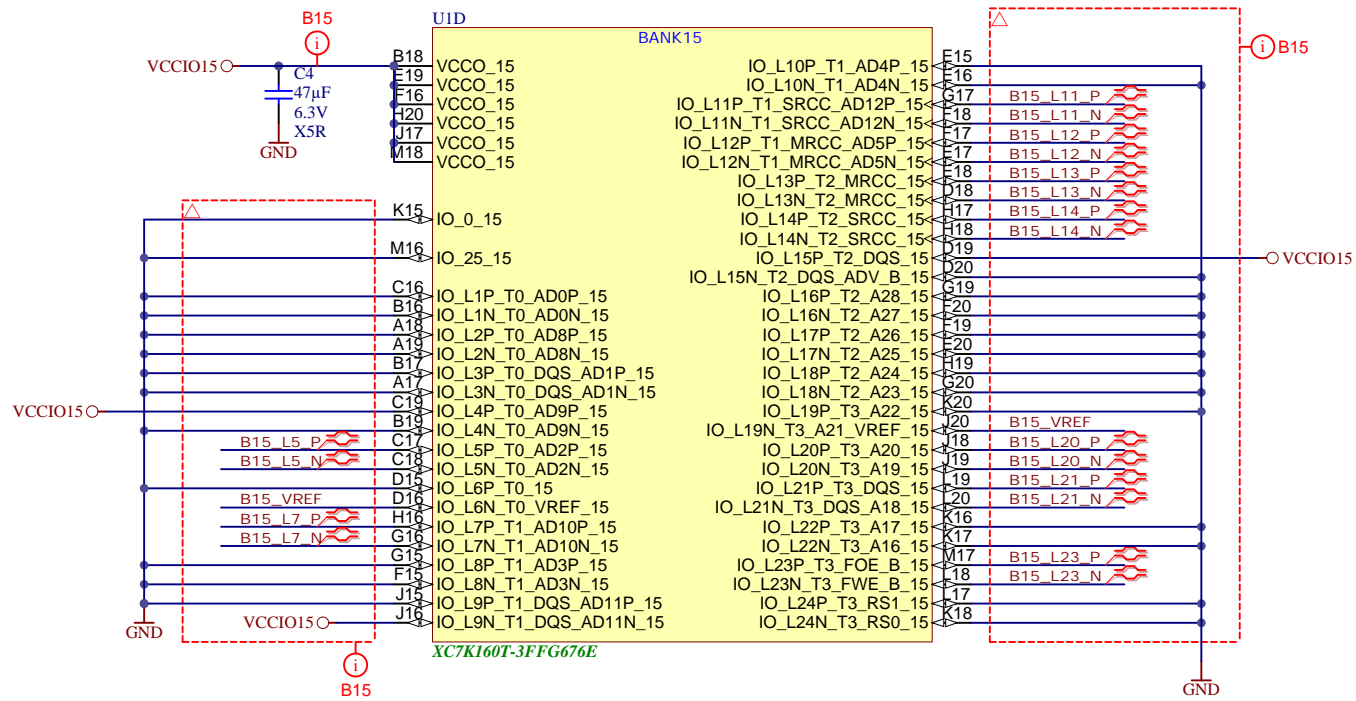
	"0"	"1"	"2"	"3"	"4"
REV_ID0	0	1	0	1	0
REV_ID1	0	0	1	1	0
REV_ID2	0	0	0	0	1



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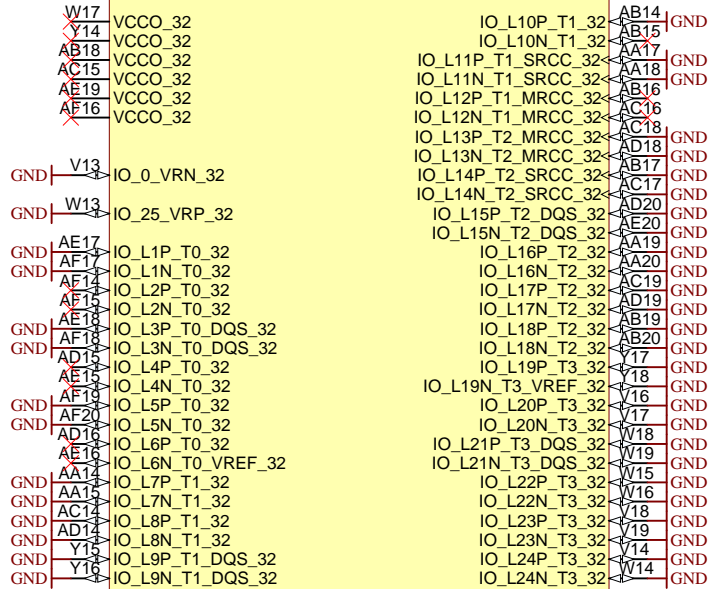
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	Date: 2021-10-21	Copyright: Trenz Electronic GmbH	Page 10 of 20
	Filename: B16.SchDoc		



Title: TE0741		
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UIF

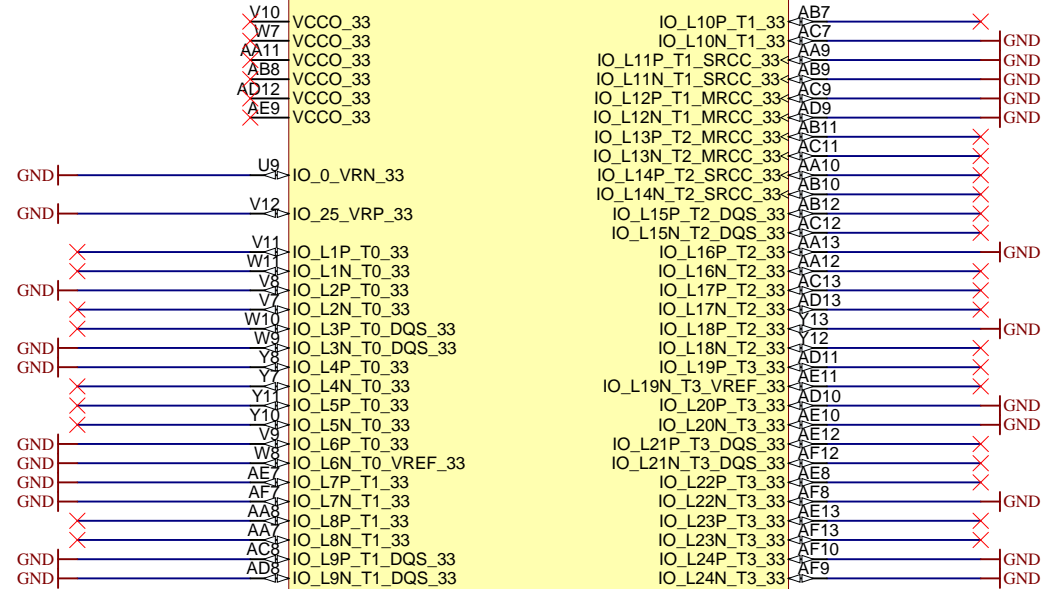
BANK32



XC7K160T-3FFG676E

UIG

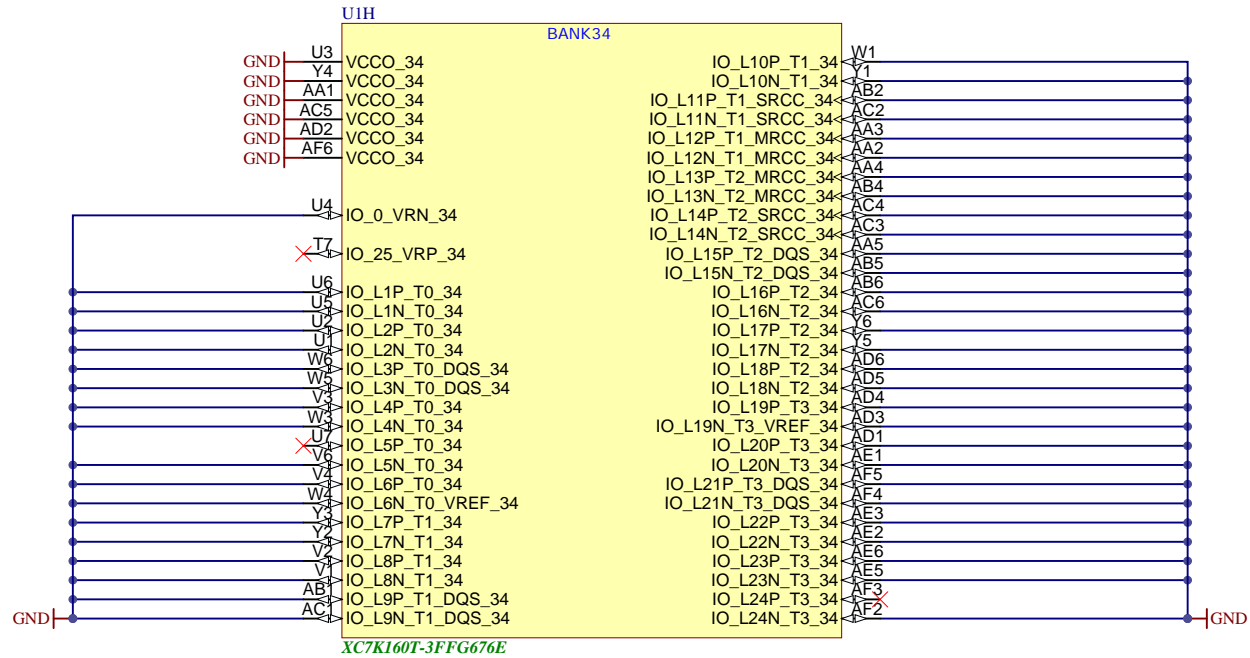
BANK33




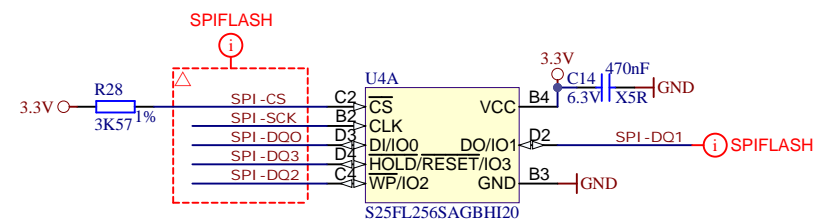
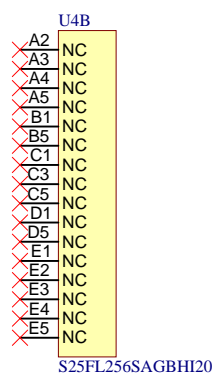
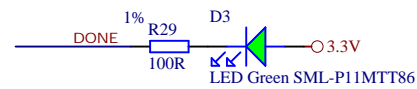
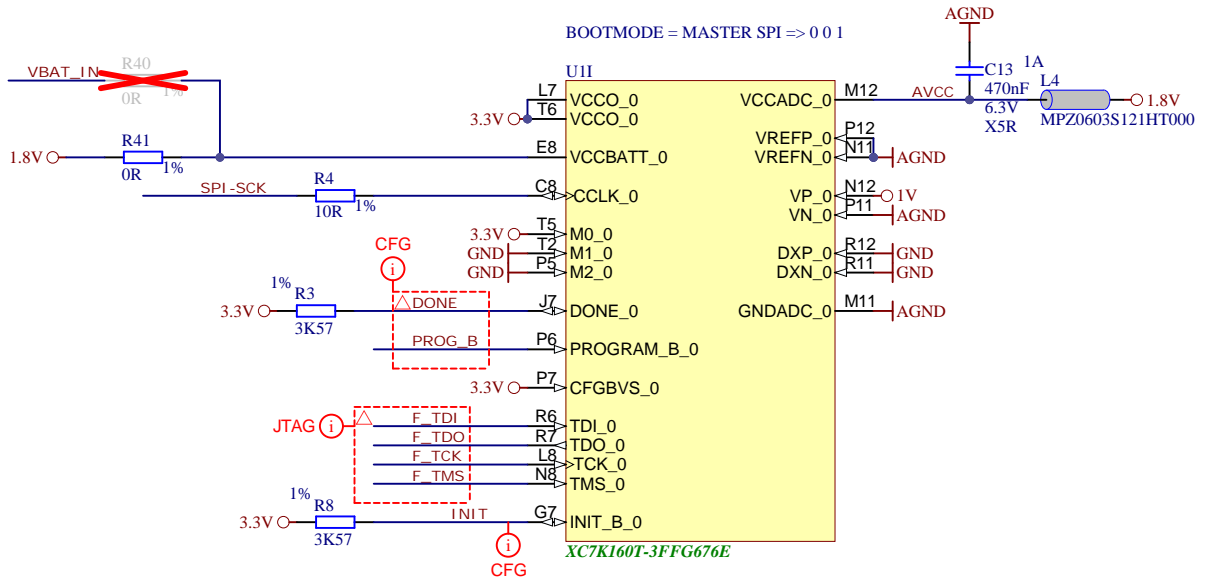
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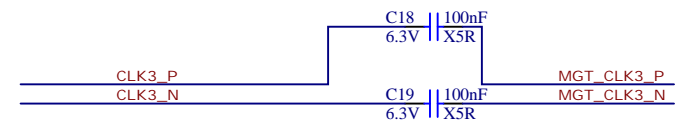
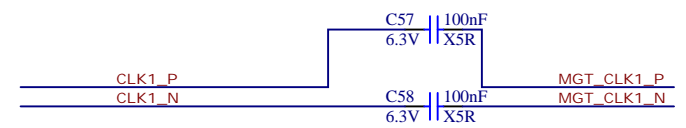
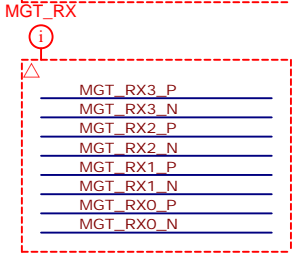
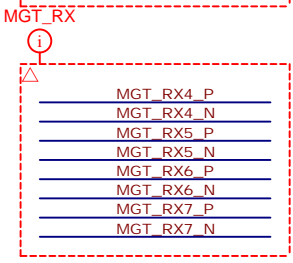
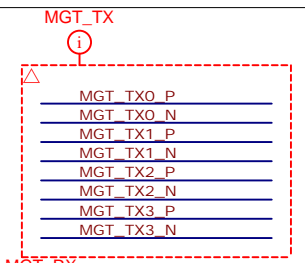
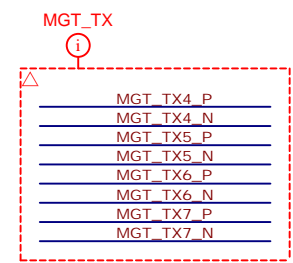
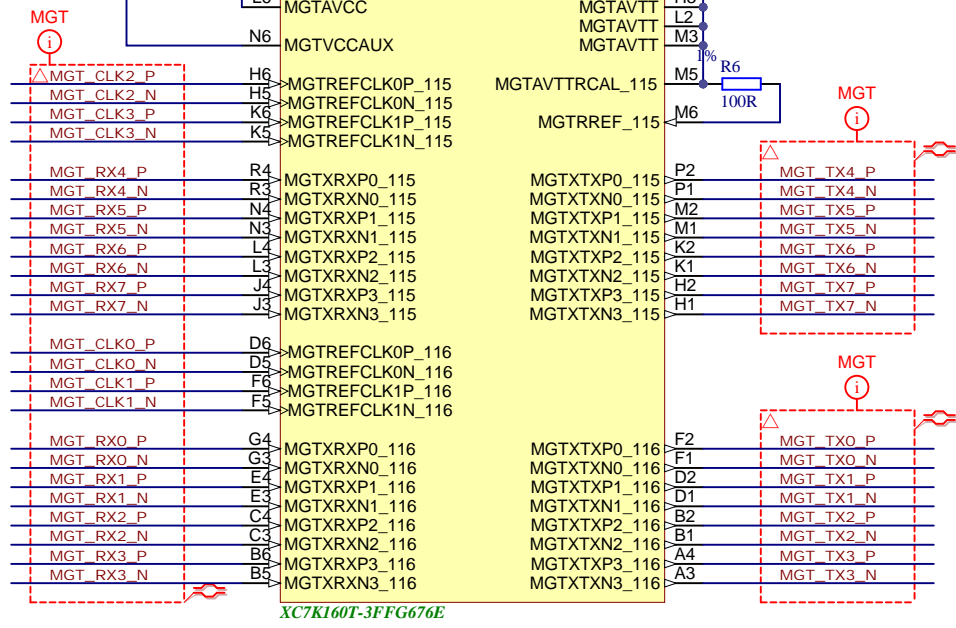
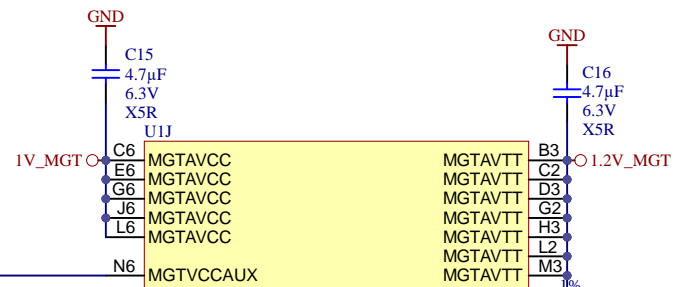
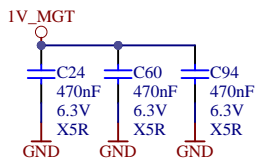
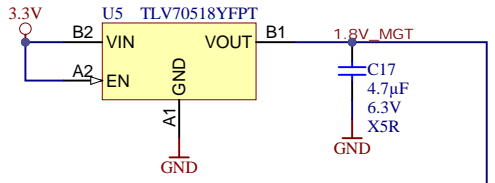
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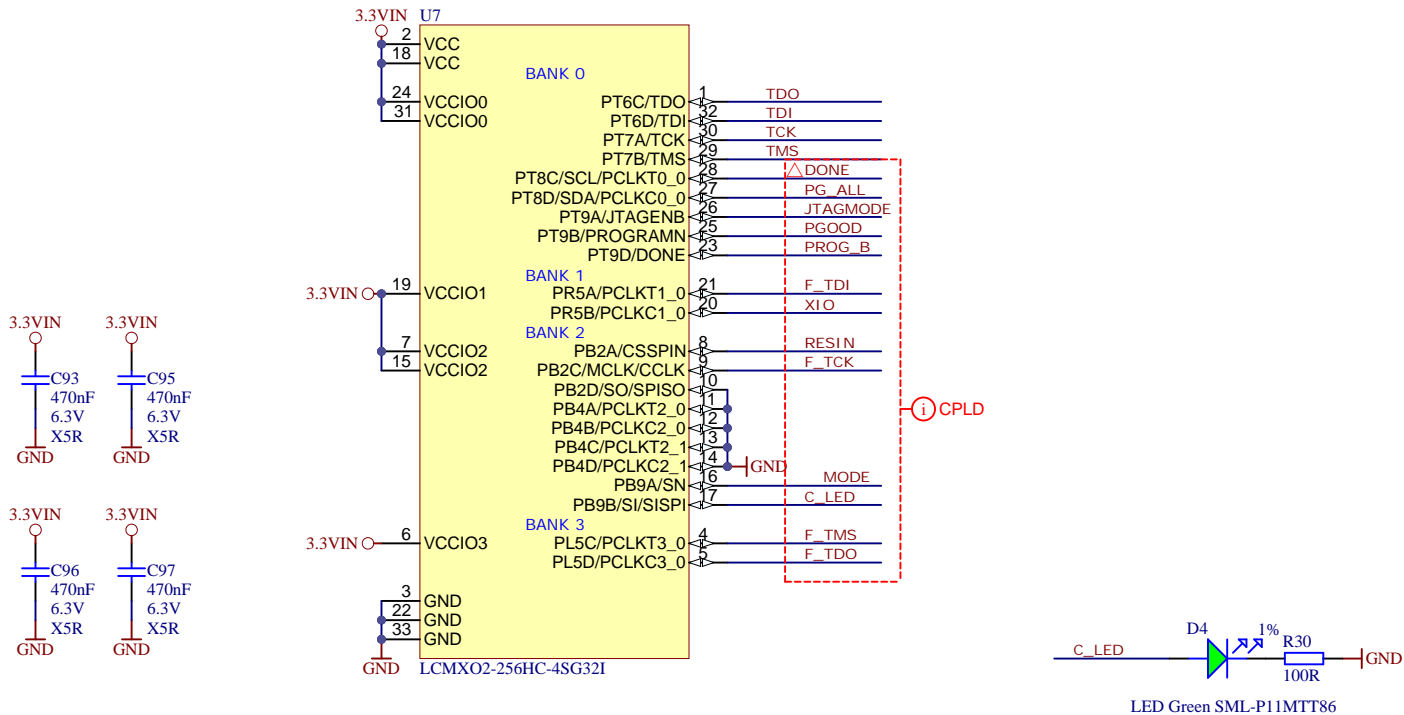
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Title: TE0741		
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Filename: FPGA-CFG.SchDoc		



Title: TE0741		
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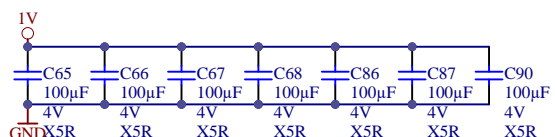
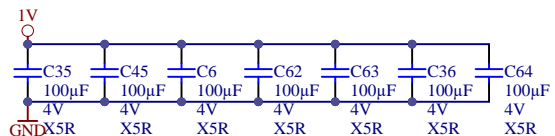
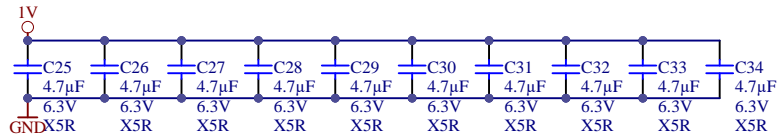
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A

A



B

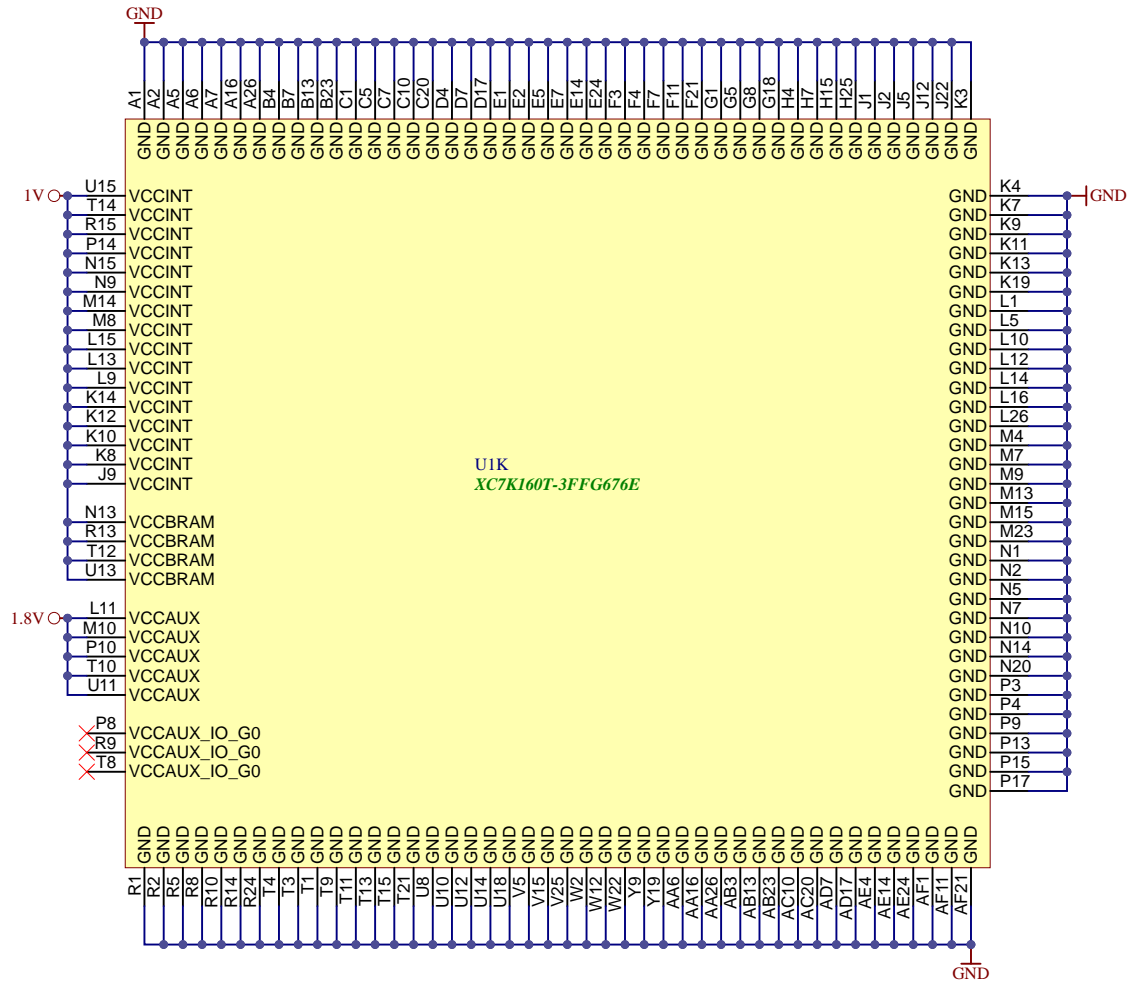
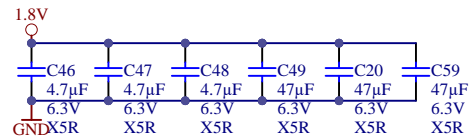
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C

C

D

D



Title: TE0741		
A4	Number: TE0741 B3E-1-AF	Rev. 04
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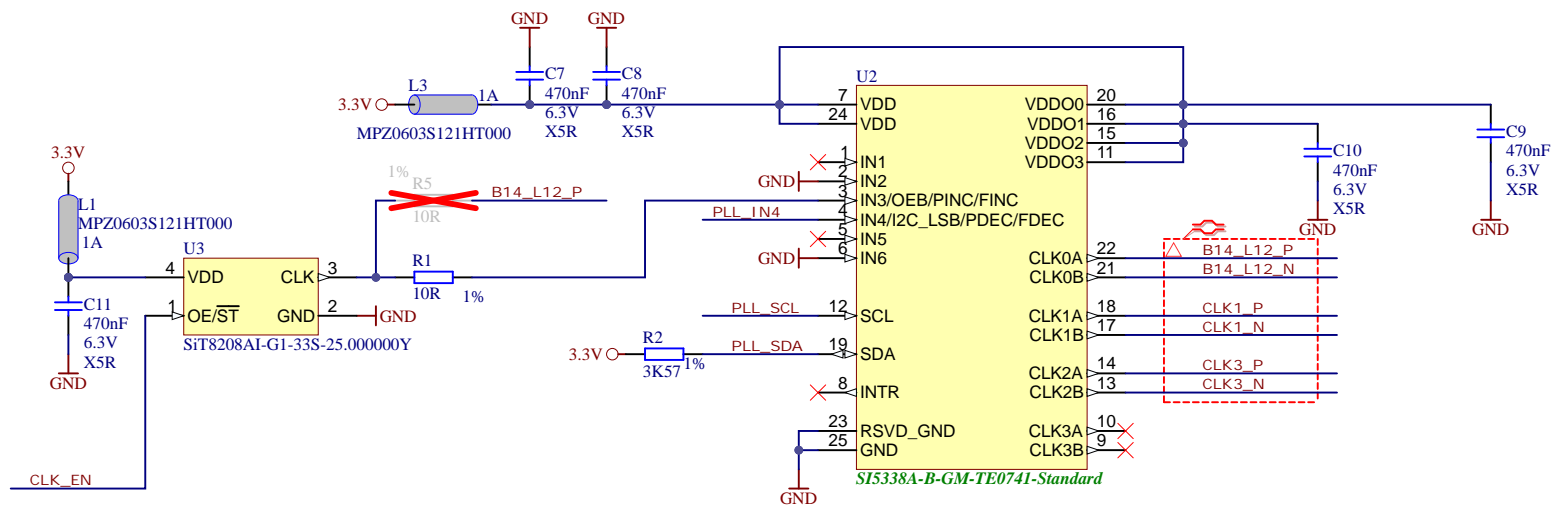
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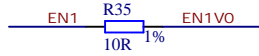
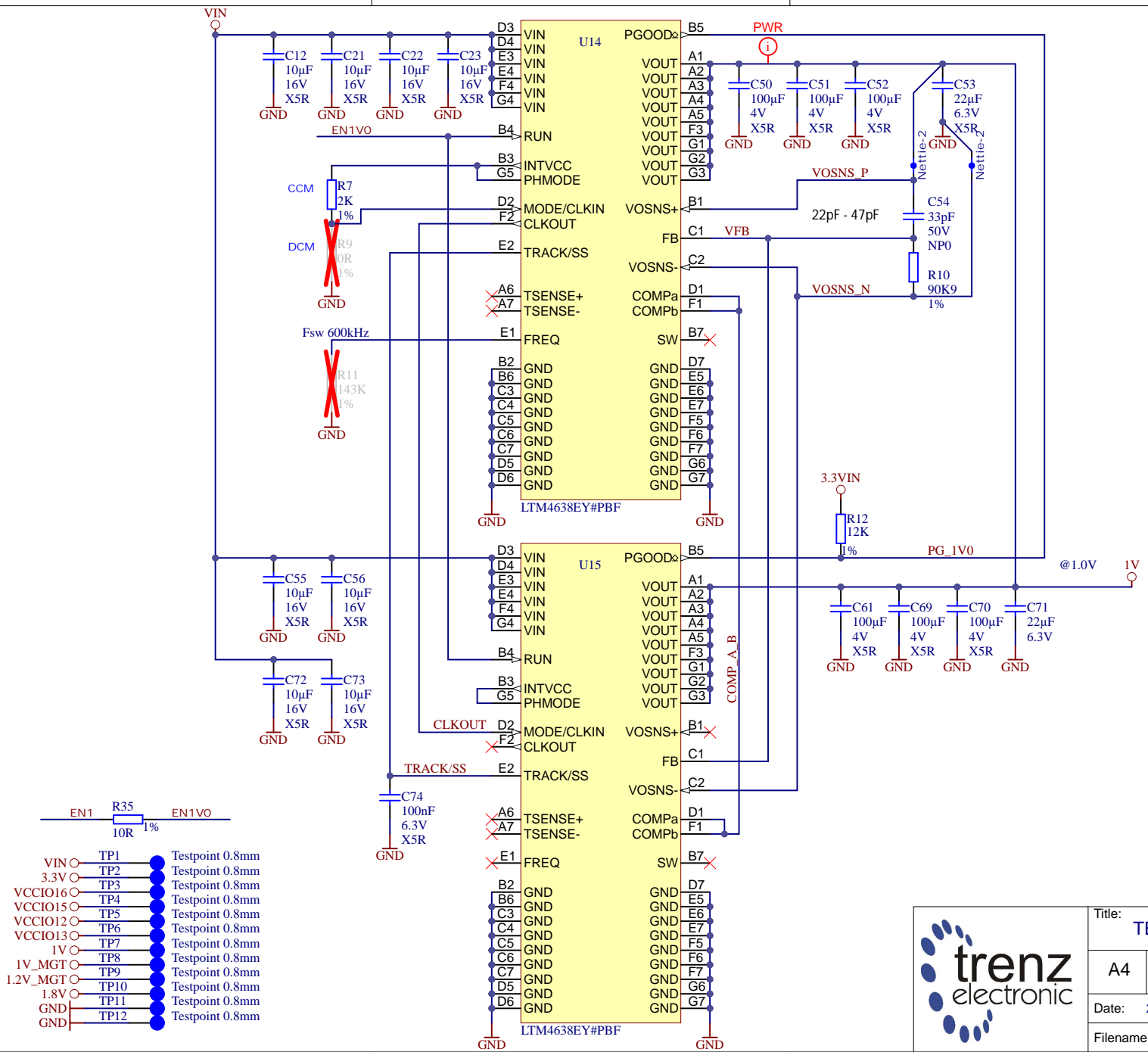
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Filename: Clock.SchDoc		Page 18 of 20	

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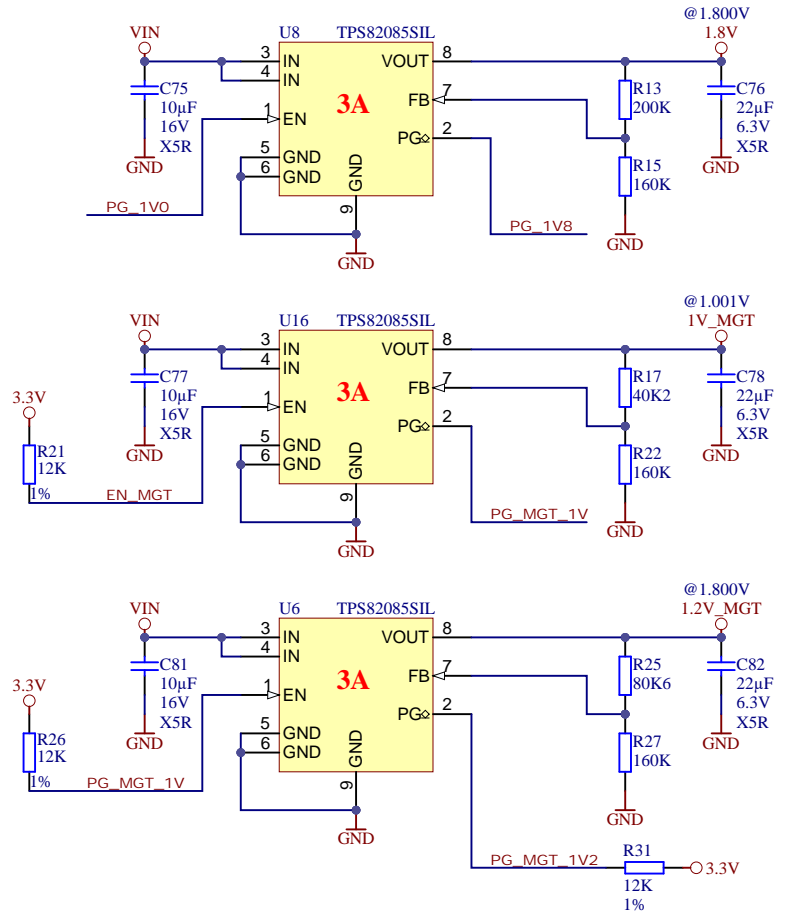
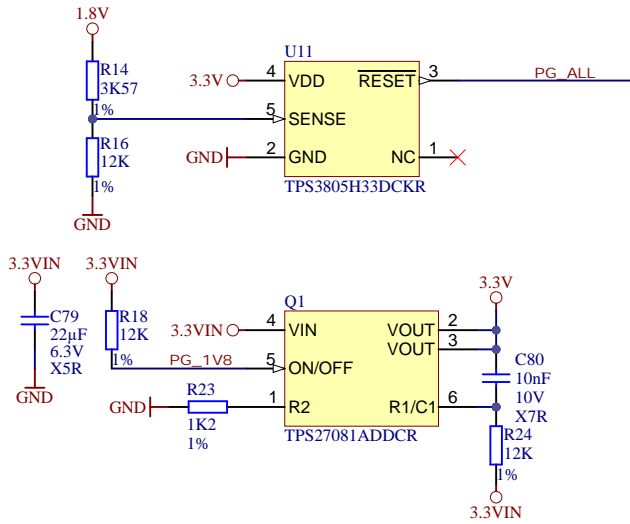
4



- VIN ○ TP1 ● Testpoint 0.8mm
- 3.3V ○ TP2 ● Testpoint 0.8mm
- VCCIO16 ○ TP3 ● Testpoint 0.8mm
- VCCIO15 ○ TP4 ● Testpoint 0.8mm
- VCCIO12 ○ TP5 ● Testpoint 0.8mm
- VCCIO13 ○ TP6 ● Testpoint 0.8mm
- 1V ○ TP7 ● Testpoint 0.8mm
- 1V_MGT ○ TP8 ● Testpoint 0.8mm
- 1.2V_MGT ○ TP9 ● Testpoint 0.8mm
- 1.8V ○ TP10 ● Testpoint 0.8mm
- GND ○ TP11 ● Testpoint 0.8mm
- GND ○ TP12 ● Testpoint 0.8mm



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	Title: TE0741	
	A4	Number: TE0741 B3E-1-AF
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