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	Title:		
	A4	Number: TE0712 82C36-A	Rev. 03
	Date: *	Copyright: Trenz Electronic GmbH / TT	Page 1 of 20
	Filename: Legal Notices Modules.SchDoc		

REV	Description	
-01	Initial revision	
-02		
-03	<p>1. Added Legal notices, project overview and revision changes. Updated page count and page order.</p> <p>2. Added a [D3] diode between the [INIT] and [PROG_B] signals to keep the FPGA in the reset state while [PROG_B] is low during the initial power-up.</p> <p>3. Resistors [R2] , [R68] replaced by 2K2 (were 4K87) to improve I2C stability at higher baud rates.</p> <p>4. Change obsolete ferrite beads BKP0603HS121-T to MPZ0603S121HT000.</p> <p>5. Revised power supply circuit. Change obsolete components: - EN63A0QI - MP8869SGL-Z ([U14]); - EP53F8QI - MPM3834CGPA ([U6] , [U16]).</p> <p>6. Change [Q1] power switch TPS27082LDDCR to MP5077GG-Z.</p> <p>7. Added power monitors [U10] , [U11] STM6710LWB6F. System controller pin U3.25 connected to net [PG_ALL] instead of [3.3V] .</p> <p>8. [U14] I2C interface connected to bus [PLL_SDA] / [PLL_SCL] [U1B] . Added table with device addresses on the I2C bus. A new device will be detected during a bus scan</p> <p>9. Change capacitors in net "VIN" from 47 uF 6.3 V to 22 uF 10 V for [C70] , [C80] , [C126] , [C127] , [C132] , [C176] , [C177] .</p>	VY

		Title: Revision History	
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Drawn by: VY		Page 2 of 20	
		Filename: Revision Changes.SchDoc	

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A

A

B

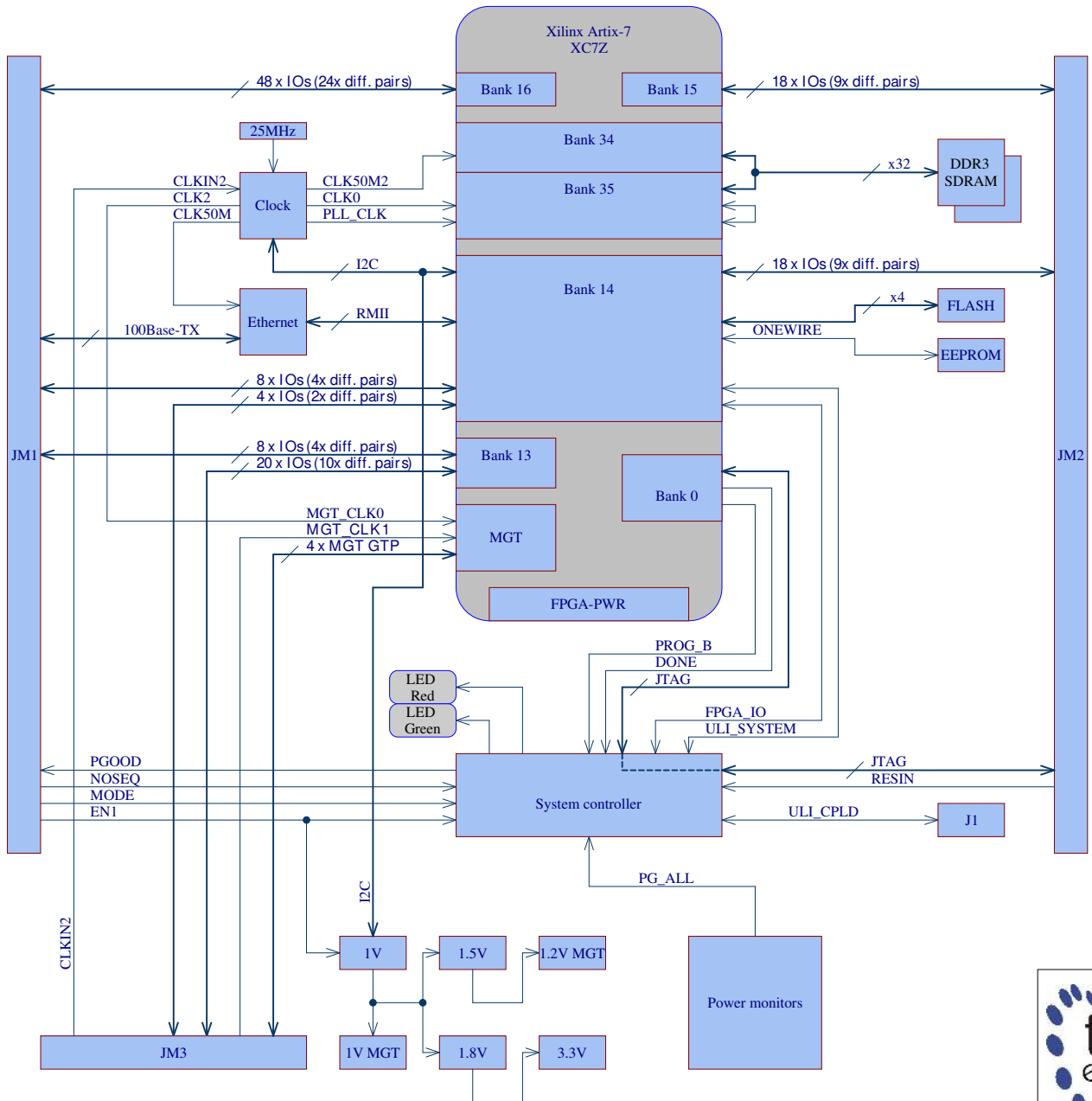
B

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U_Revision Changes

U_TE0712

U_Power_Diagram

Special notes:

- .
- .



Title: System Overview		
A4	Number: TE0712 82C36-A	Rev. 03
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Filename: Overview.SchDoc		

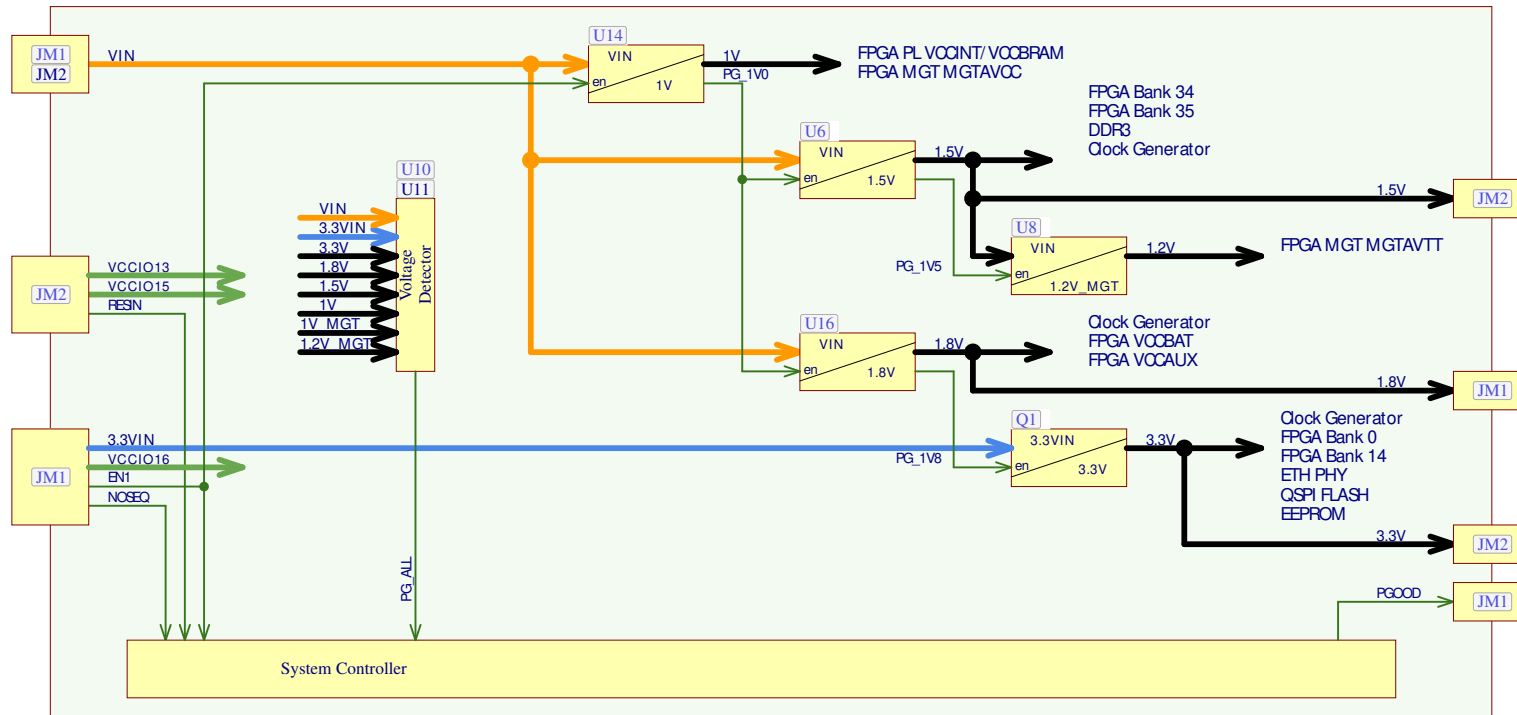
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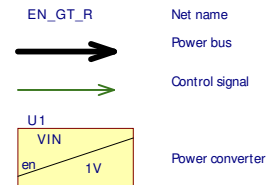
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Power-on sequencing:



Recommended Operating Conditions

Power Rail	Direction	Range	Tolerance	Description	Note
VIN	IN	3.3 - 5V	+/-5%	Micromodule Power	Mandatory
3.3VIN	IN	3.3V	+/-3%	Micromodule Power	Mandatory
VCCIO13	IN	1.2 - 3.3V	+/-3%	HR IO Bank13	-
VCCIO14	IN	3.3V	+/-3%	HR IO Bank14	Fixed
VCCIO15	IN	1.2 - 3.3V	+/-3%	HR IO Bank15	-
VCCIO16	IN	1.2 - 3.3V	+/-3%	HR IO Bank16	-
1.5V	OUT	1.5V	+/-3%	For Carrier card Periphery	-
1.8V	OUT	1.8V	+/-3%	For Carrier card Periphery	-
3.3V	OUT	3.3V	+/-3%	For Carrier card Periphery	-
VREF_JTAG	OUT	3.3V	+/-3%	For Carrier card Periphery	Connected to 3.3V



Title: GigaZee - Power Diagram		
A4	Number: TE0712 82C36-A	Rev. 04
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Filename: Power_Diagram.SchDoc		

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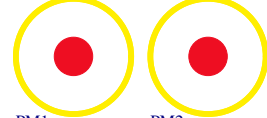
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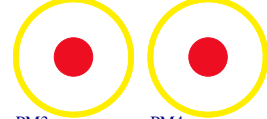
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- .
- .

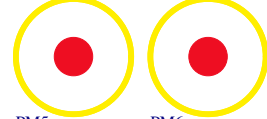
FIDU-DOT - mini FIDU-DOT - mini



PM1 FIDU-DOT - mini PM2 FIDU-DOT - mini

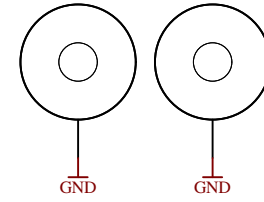


PM3 FIDU-DOT - mini PM4 FIDU-DOT - mini

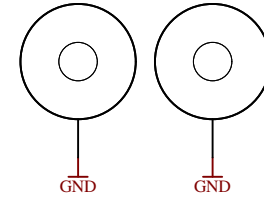


PM5 PM6

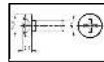
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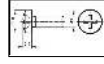
Mount.Hole 3.2mm Mount.Hole 3.2mm



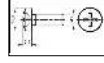
Top of Board



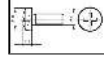
Screw M3x4



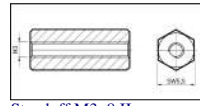
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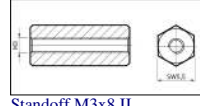
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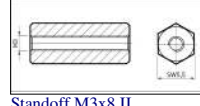
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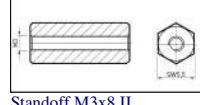
Standoff M3x8 II



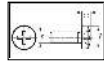
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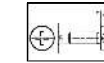
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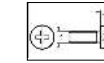
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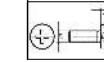
Screw M3x6



Screw M3x6



Screw M3x6



Screw M3x6

Serial
Serial
Serialnumber 6,3 x 6.3mm

Serial1
TE Address Overlay
LOGO ADDRESS

Assembly variant	82C36-A
Created by	MR
Modified by	MR
Modified at	2021-02-16
SVN Revision	14002



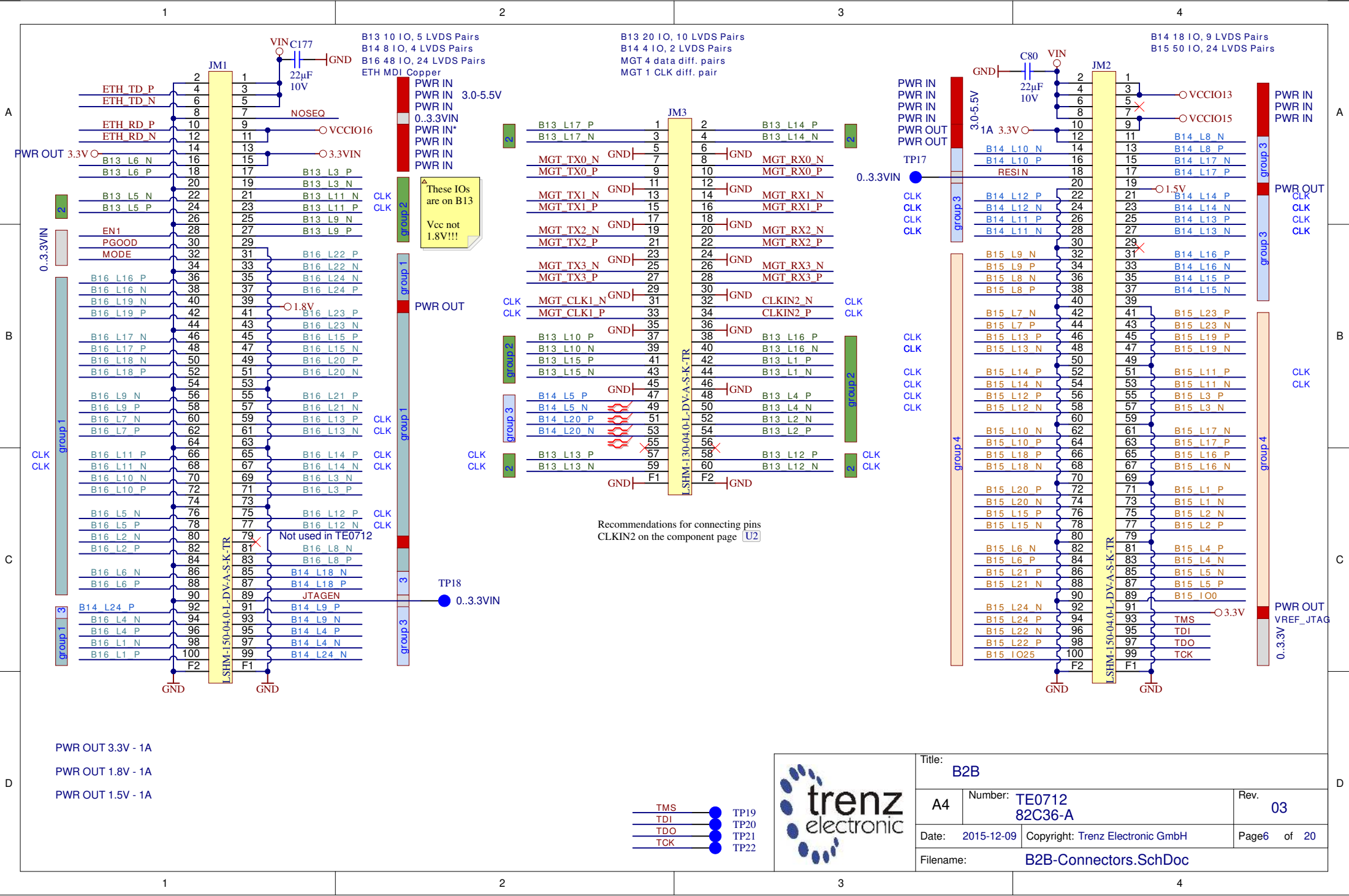
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A4	Number: TE0712 82C36-A	Rev. 03
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Filename: TE0712.SchDoc		

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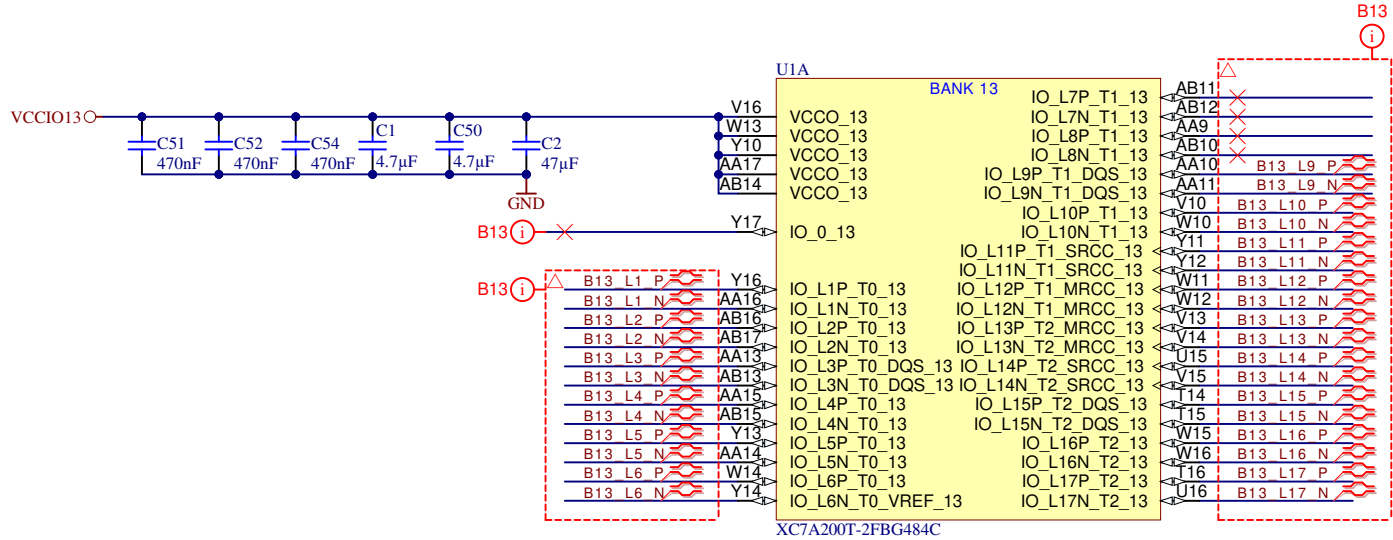
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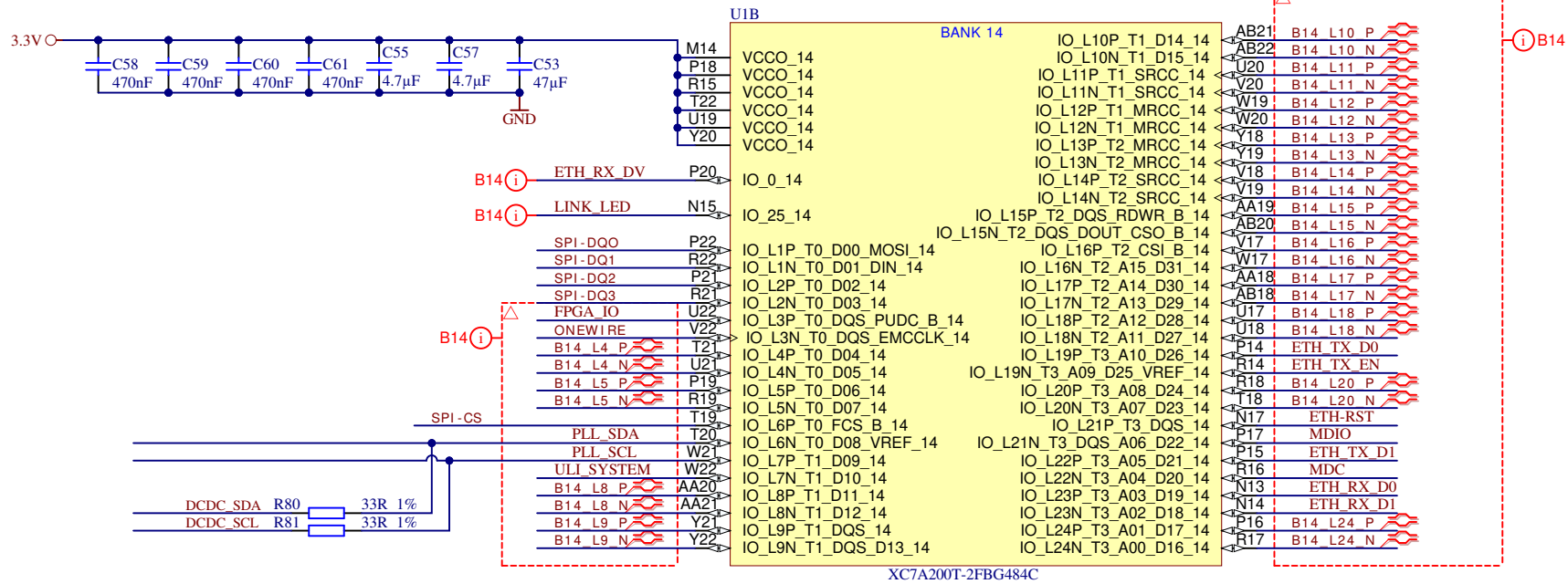
PWR OUT 3.3V - 1A
PWR OUT 1.8V - 1A
PWR OUT 1.5V - 1A



Title: B2B		
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Filename: B2B-Connectors.SchDoc		



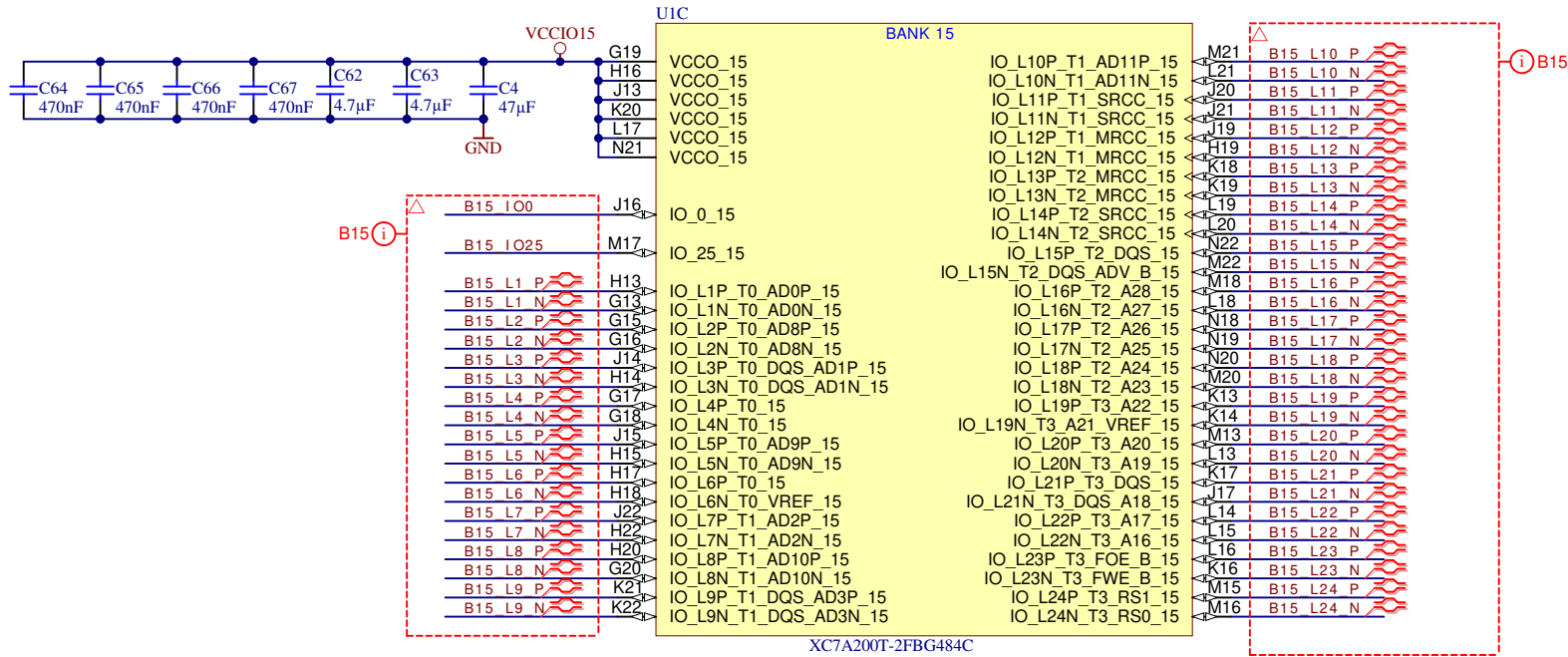
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A4	Number: TE0712 82C36-A	Rev. 03
Date: 2015-12-09	Copyright: Trenz Electronic GmbH	Page 7 of 20
Filename: B13.SchDoc		



I2C bus addresses		
U1B	FPGA B14	h**
U2	Clock generator	h70
U14	DCDC VCCINT	h61



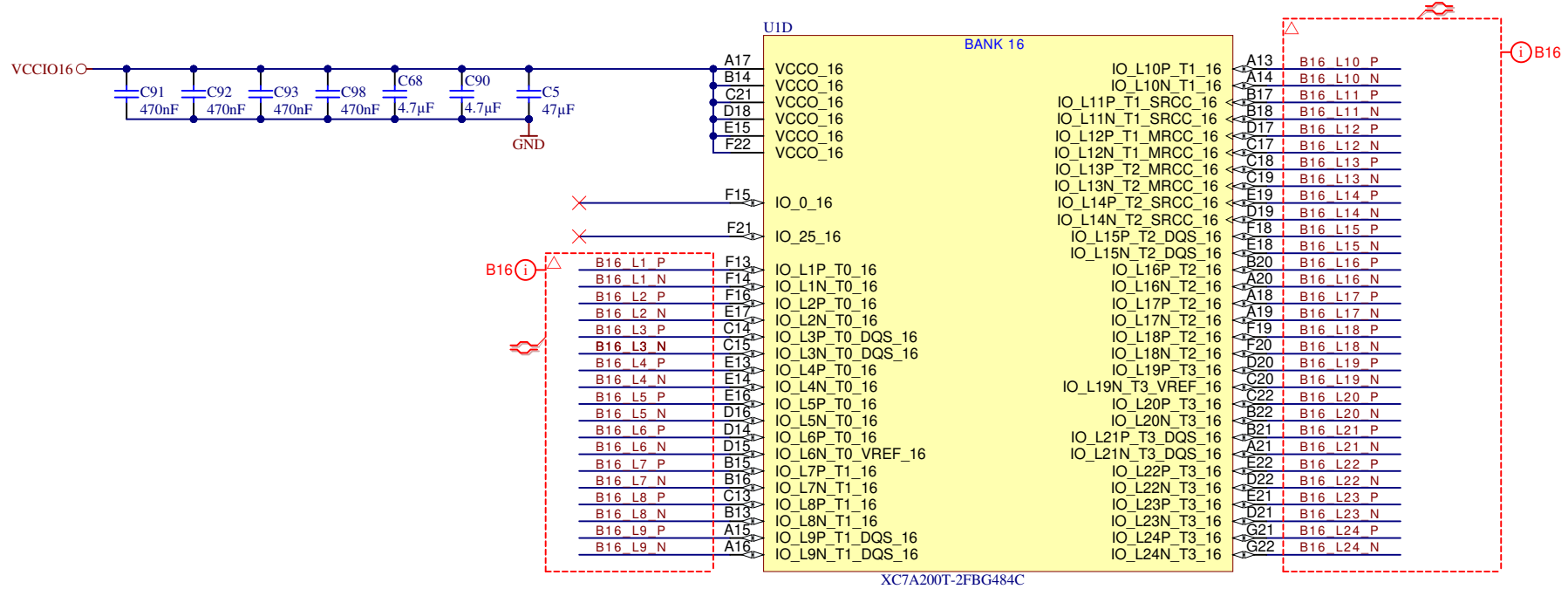
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Date: 2015-12-09	Copyright: Trenz Electronic GmbH	Page 8 of 20
Filename: B14.SchDoc		



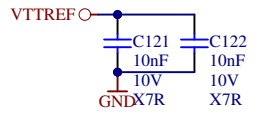
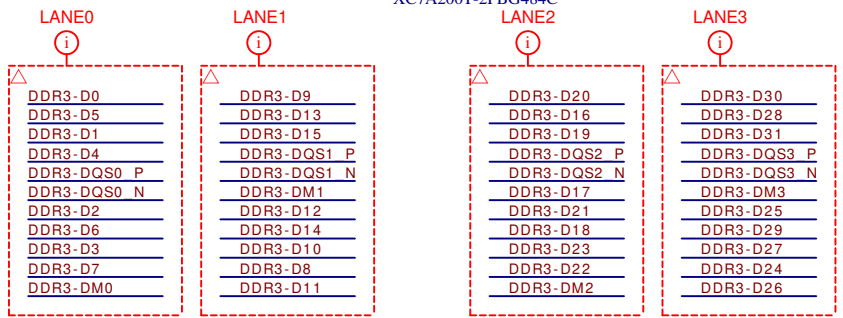
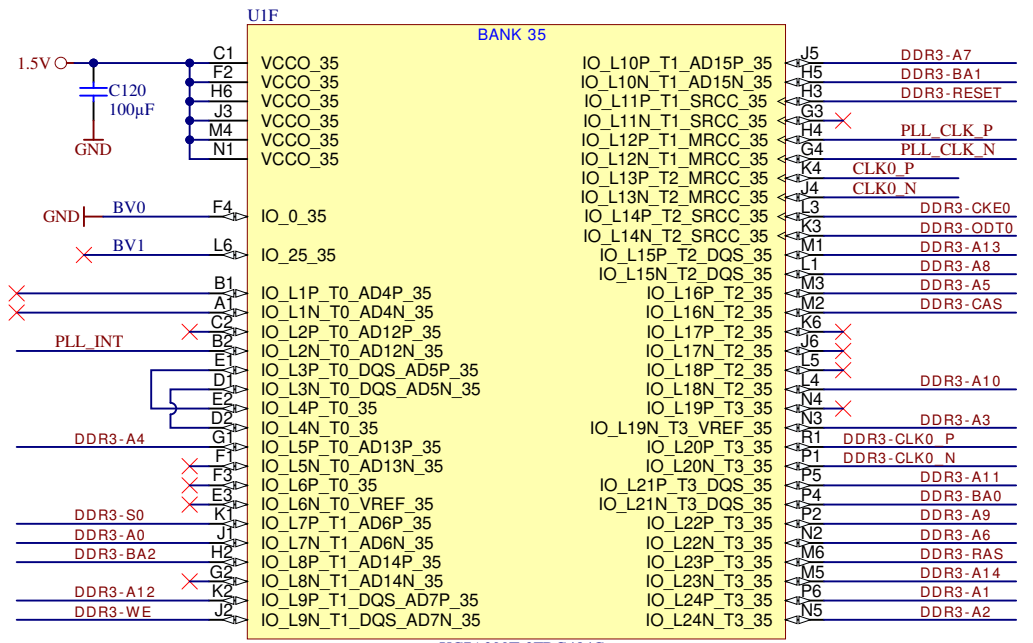
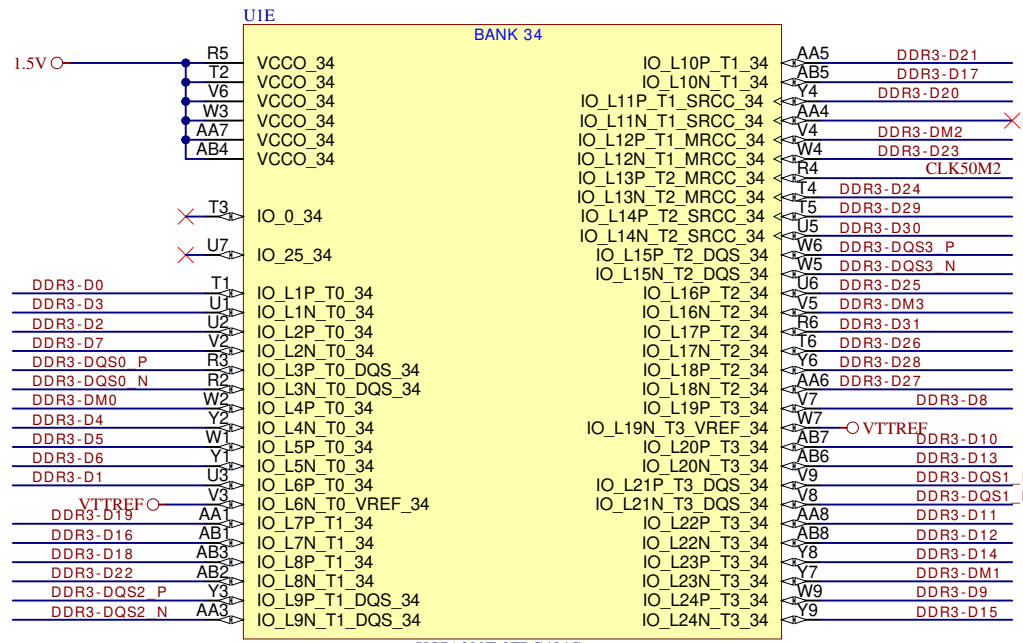
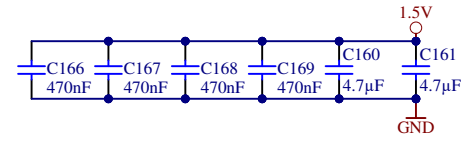
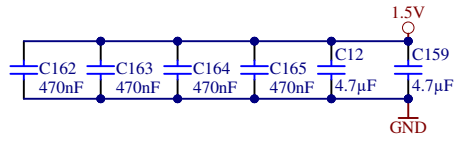
XC7A200T-2FBG484C



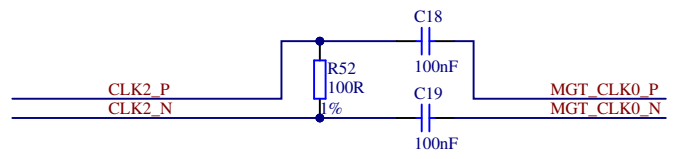
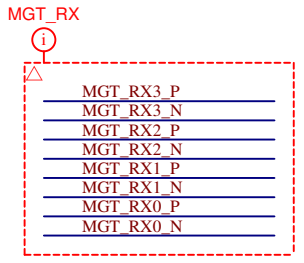
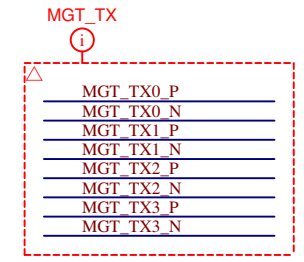
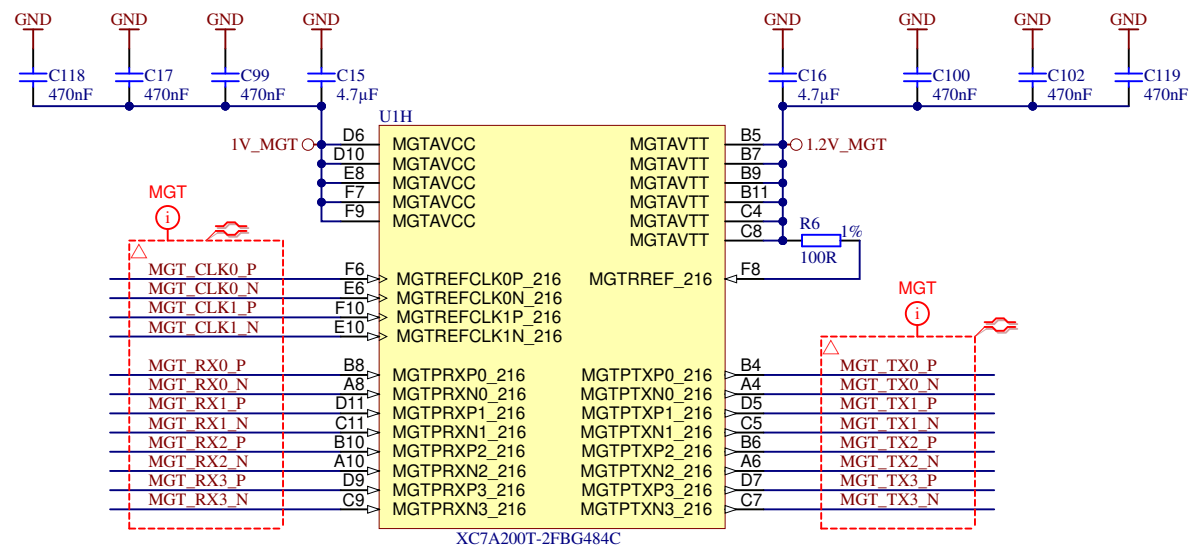
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	Title: B16	
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Title: B34		
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Filename: B34.SchDoc		

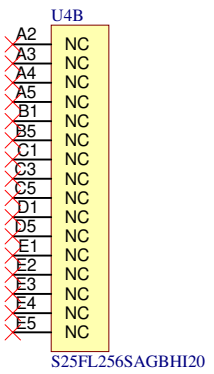
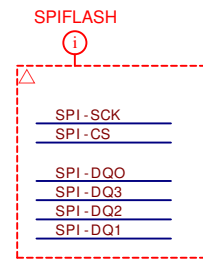
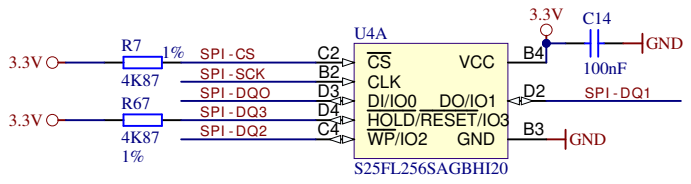
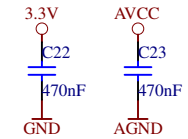
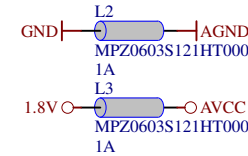
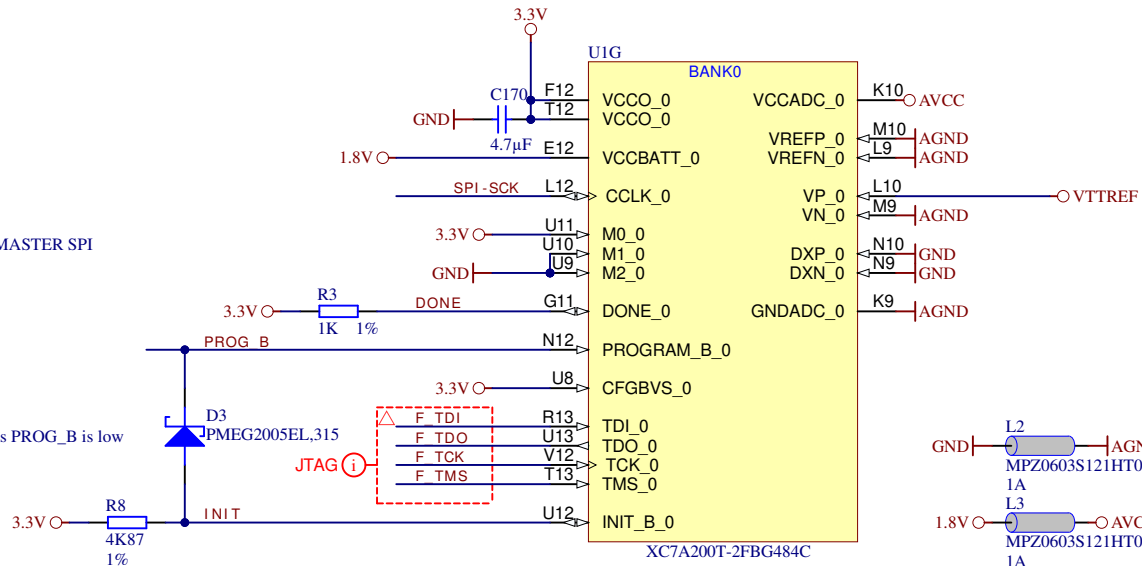


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Filename: FPGA-MGT.SchDoc		

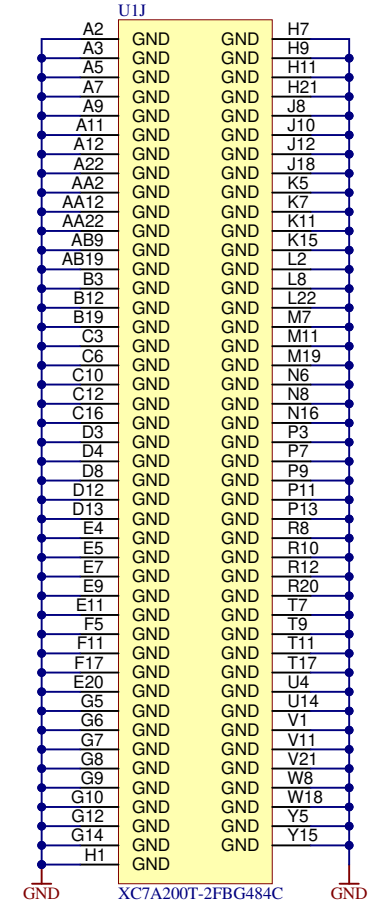
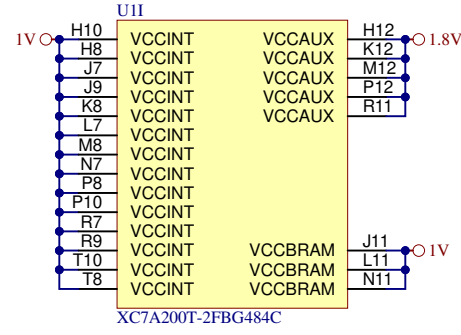
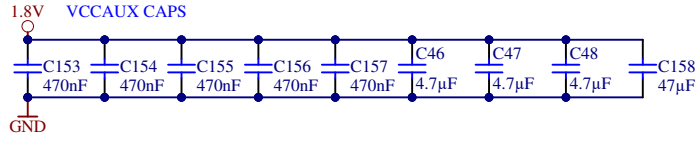
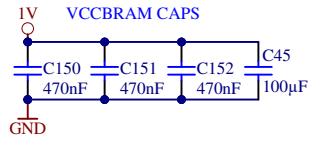
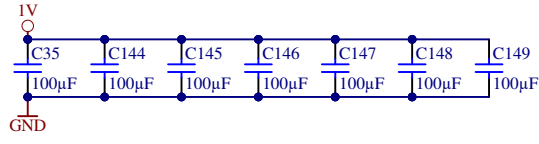
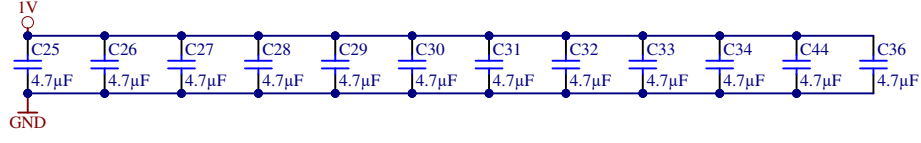
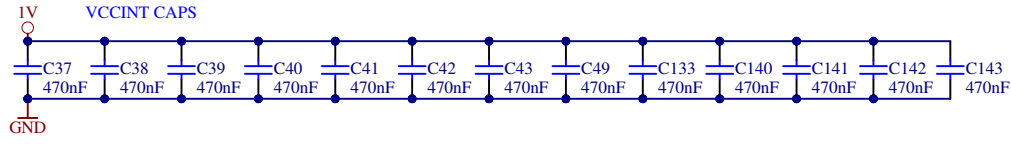


BOOTMODE = MASTER SPI

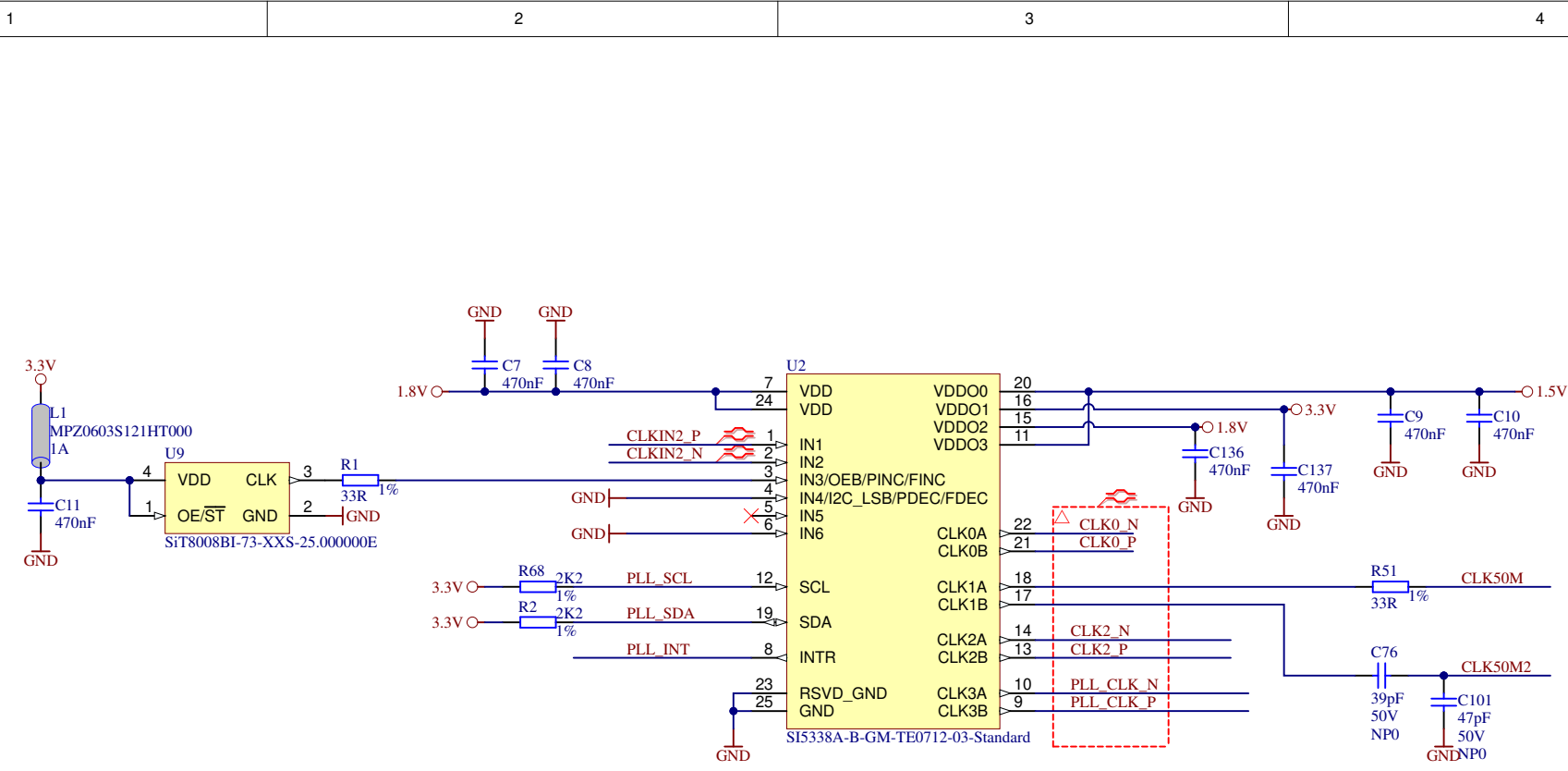
D3 keeps INIT low as long as PROG_B is low



	Title: CFG		
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Title: PWR		
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Datasheet S5338:

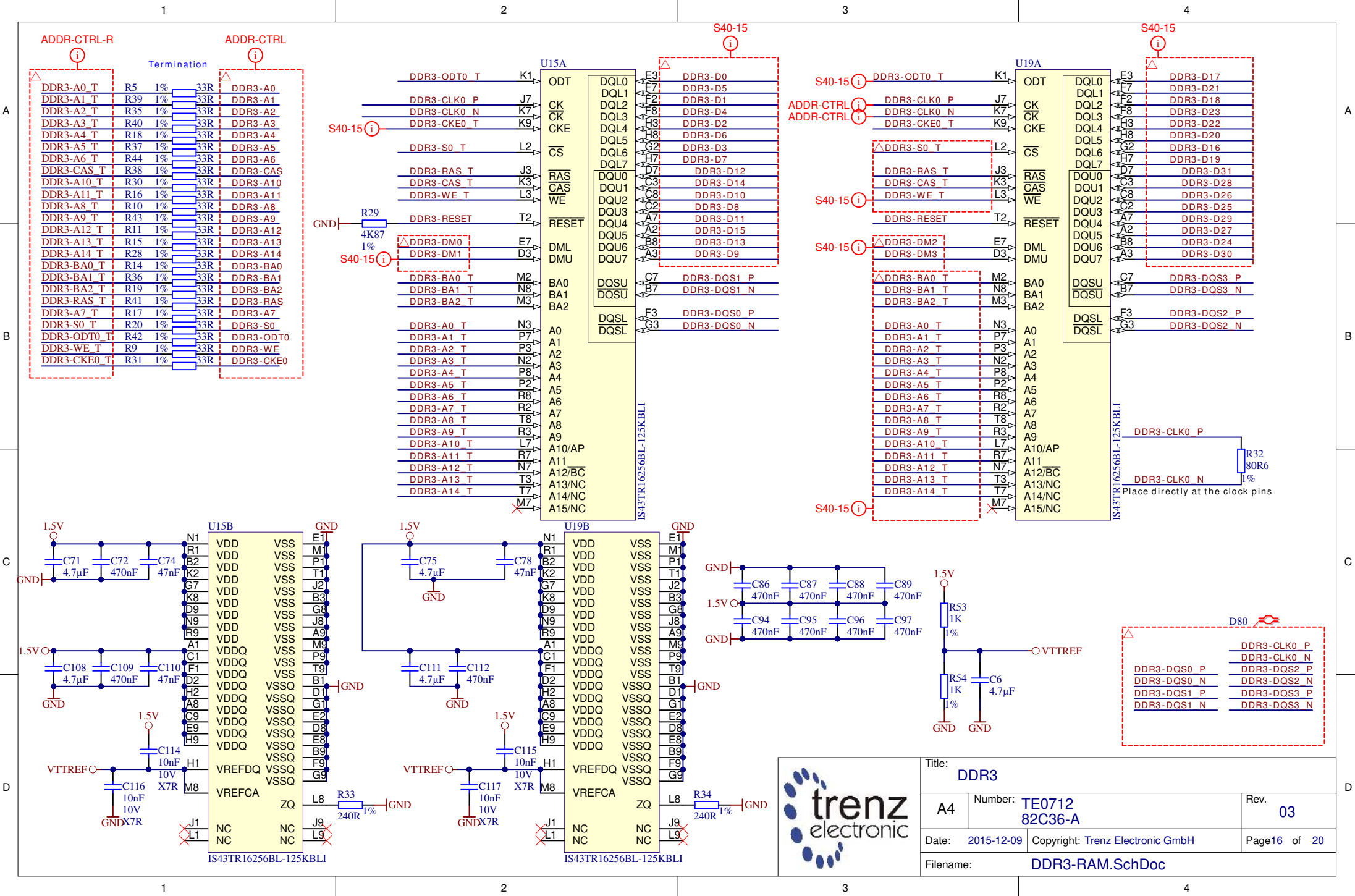
IN1/IN2

These pins are used as the main differential clock input or as the XTAL input. See "3.2. Input Stage" on page 19, Figure 3 and Figure 4, for connection details. Clock inputs to these pins must be ac-coupled. Keep the traces from pins 1,2 to the crystal as short as possible and keep other signals and radiating sources away from the crystal.

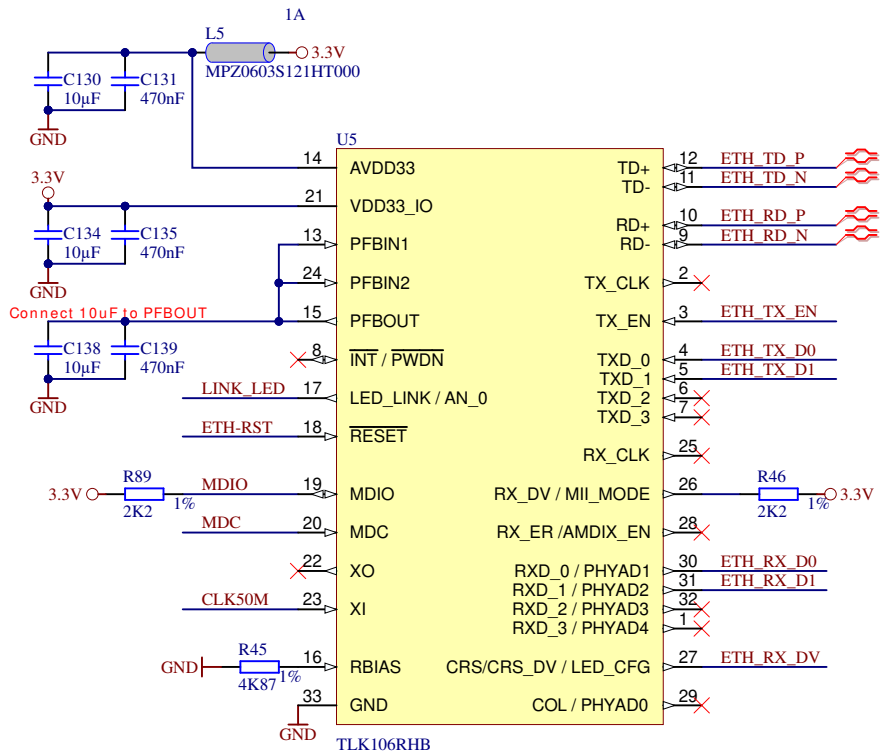
When not in use, leave IN1 unconnected and IN2 connected to GND.



Title: Clock		
A4	Number: TE0712 82C36-A	Rev. 03
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Filename: Clock.SchDoc		

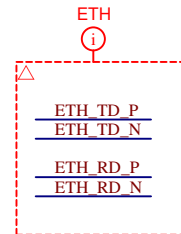
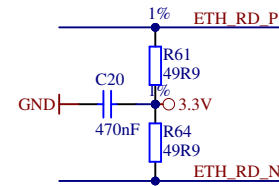
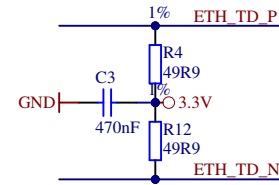



Title: DDR3		
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TLK106RHB

TLK106 is pin compatible with DP83822



		Title: ETH	
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Filename: ETHERNET.SchDoc		Page 17 of 20	

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A

A

B

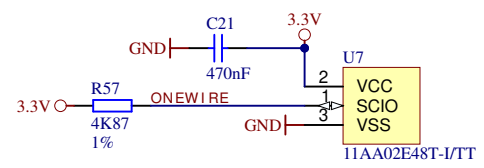
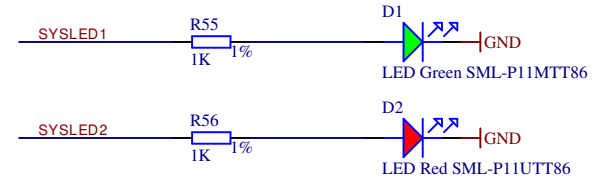
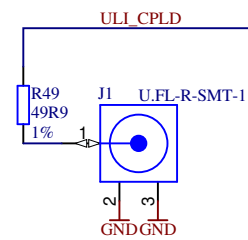
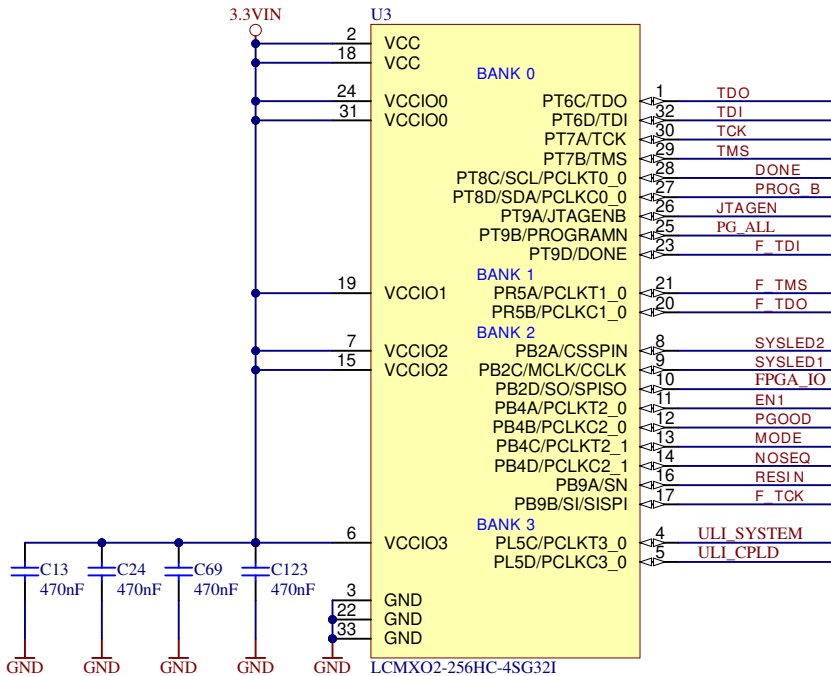
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D



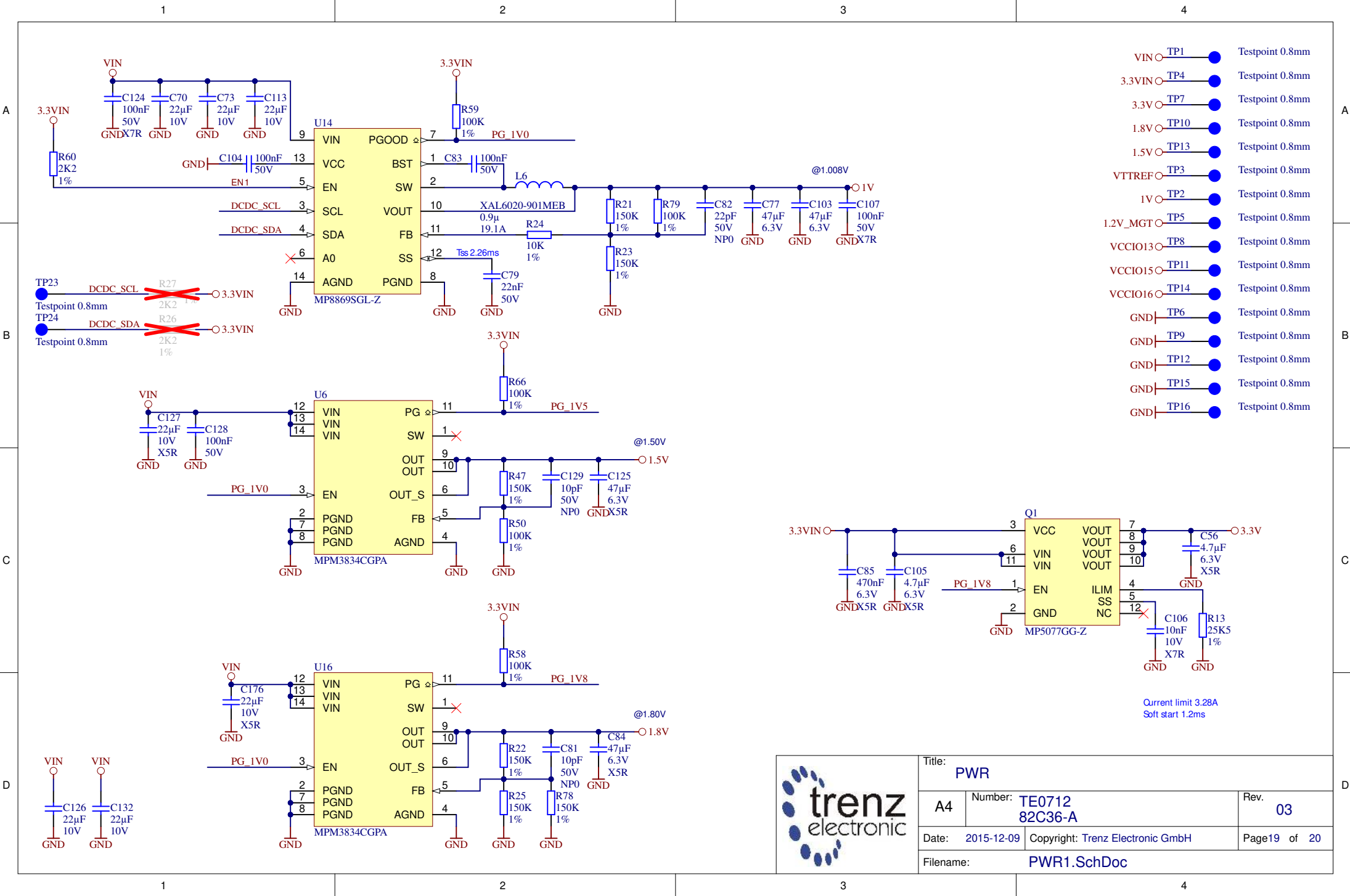
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- VIN ○ TP1 ● Testpoint 0.8mm
- 3.3VIN ○ TP4 ● Testpoint 0.8mm
- 3.3V ○ TP7 ● Testpoint 0.8mm
- 1.8V ○ TP10 ● Testpoint 0.8mm
- 1.5V ○ TP13 ● Testpoint 0.8mm
- VTTREF ○ TP3 ● Testpoint 0.8mm
- 1V ○ TP2 ● Testpoint 0.8mm
- 1.2V_MGT ○ TP5 ● Testpoint 0.8mm
- VCCIO13 ○ TP8 ● Testpoint 0.8mm
- VCCIO15 ○ TP11 ● Testpoint 0.8mm
- VCCIO16 ○ TP14 ● Testpoint 0.8mm
- GND ○ TP6 ● Testpoint 0.8mm
- GND ○ TP9 ● Testpoint 0.8mm
- GND ○ TP12 ● Testpoint 0.8mm
- GND ○ TP15 ● Testpoint 0.8mm
- GND ○ TP16 ● Testpoint 0.8mm

			Title: PWR	
			A4	Number: TE0712 82C36-A
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Filename: PWR1.SchDoc				

Current limit 3.28A
Soft start 1.2ms

1

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3

4

A

A

B

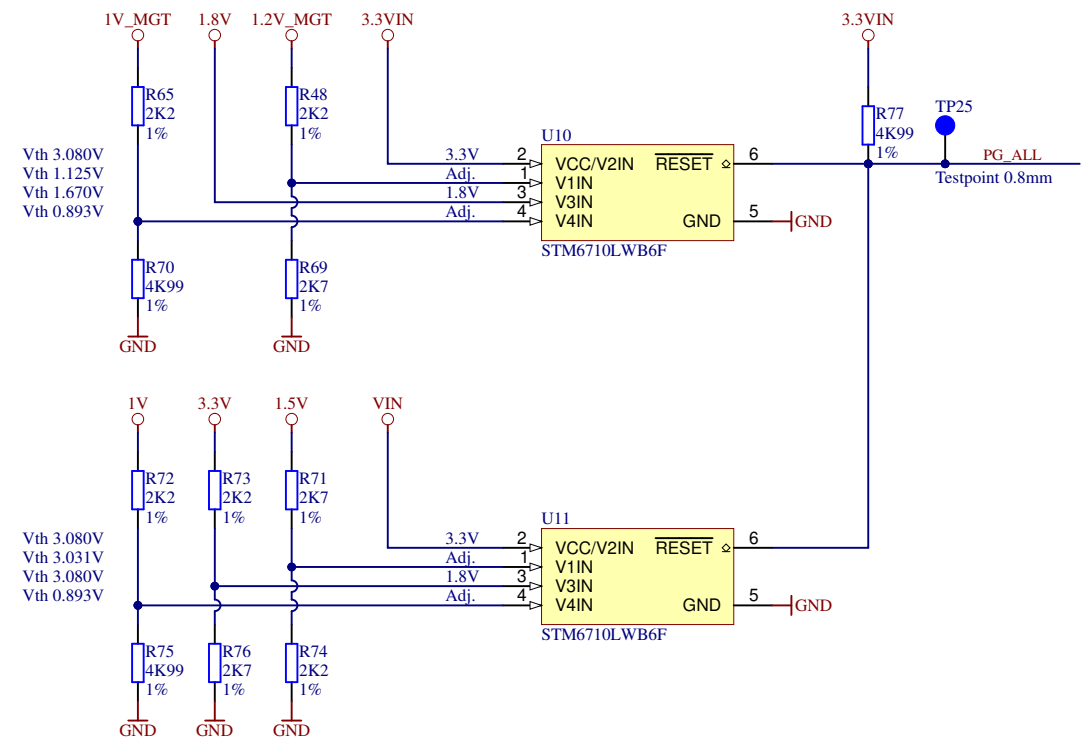
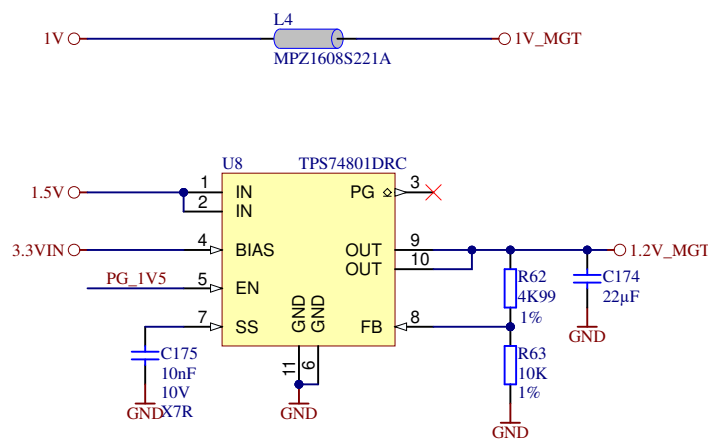
B

C

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