


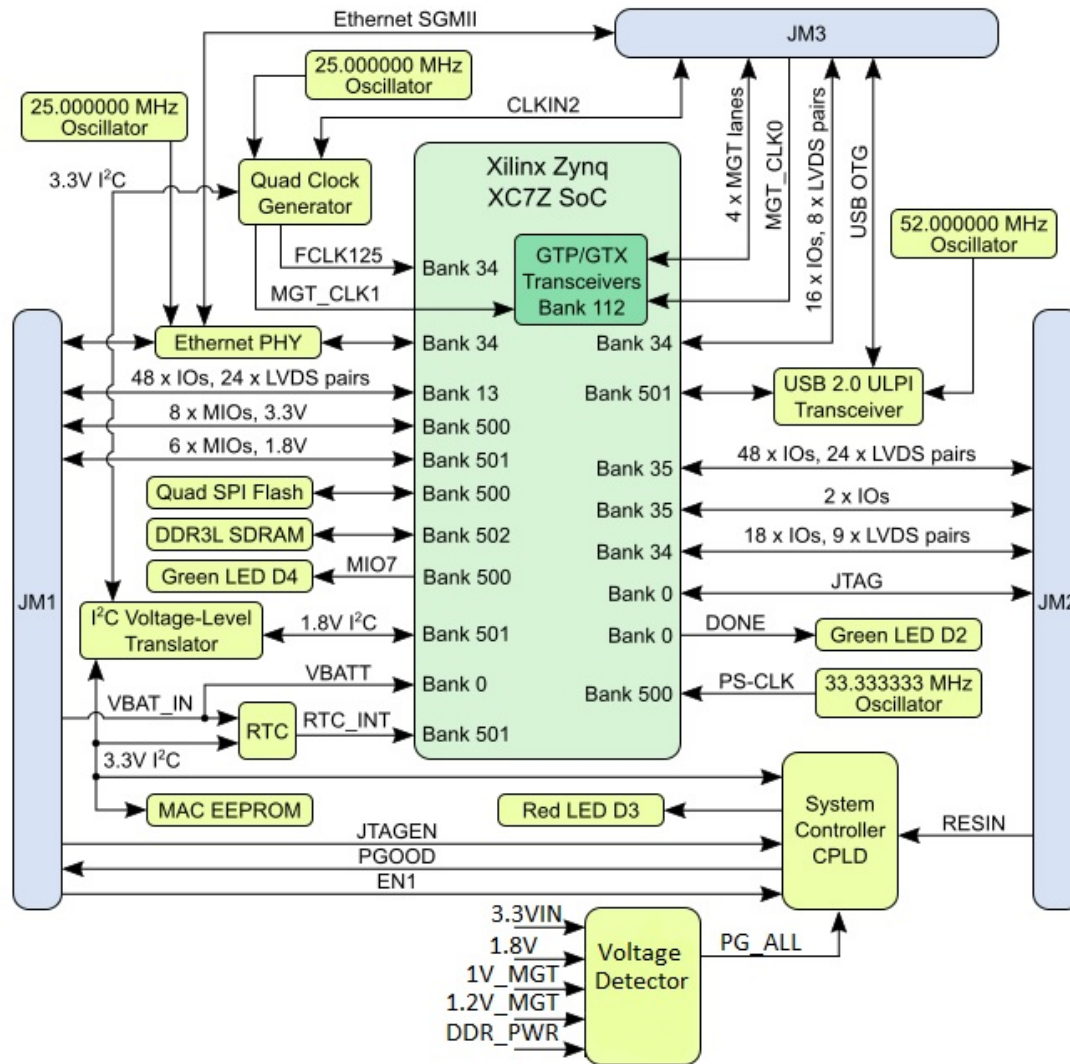
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Schematics and other handouts serve for informational purposes only!


	Title: <b>TE0715 - Legal Notices Modules</b>		
	A4	Number: <b>TE0715 51133-A</b>	Rev. <b>05</b>
	Date: <b>04.05.2022</b>	Copyright: <b>Trenz Electronic GmbH</b>	Page <b>1</b> of <b>20</b>
	Filename: <b>Legal Notices Modules.SchDoc</b>		

# TE0715-05

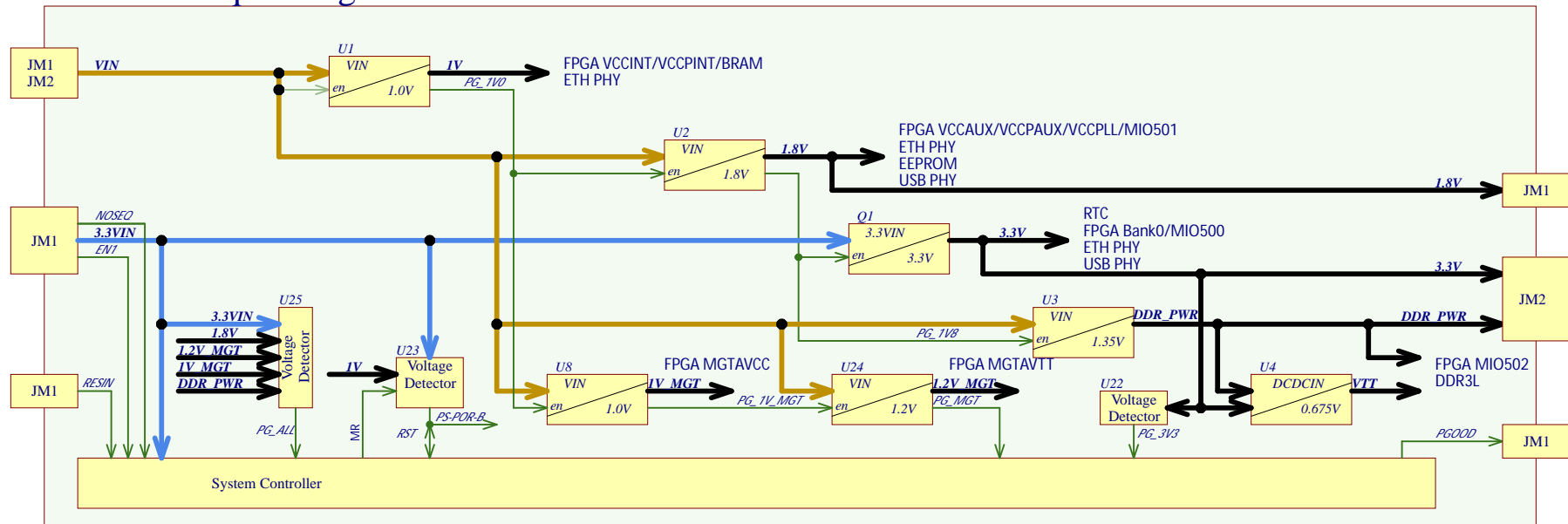


Title: TE0715 - System Overview		
A4	Number: TE0715 51133-A	Rev. 05
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REV	Description	
-01	Initial revision	
-02		
-03		
-04		
-05	<p>1. Revised power supply circuit: replaced obsolete parts U1, U2, U3,U8,U24, Q1</p> <p>2. Added power supervisor BD39040MUF (U25). Signal PG_DDR_PWR renamed to PG_All (U25) and connected to system controller (U26.27)</p> <p>3. Signal MIO8 (U5.E18) connected to system controller (U26.8)</p> <p>4. Power supervisor U23 connected to 3.3VIN power rail (was 3.3V). Added protection diode D5 to U23.3 (#MR input)</p> <p>5. Revised quantity of decoupling capacitors regarding Xilinx Spec (UG933, v1.13.1)</p> <p>6. Remove GND connection from "RSVDGND" (U5.G12, Xilinx Spec UG865 v1.9)</p> <p>7. Auxiliary information has been added on Overview, Power_diagram, Legal_Notices pages</p> <p>8. PCB: Revised layout of power supplies</p> <p>9. PCB: Revised layout of Samtec B2B signals. The length of the tracks has been changed. Pinout of Samtec B2B connectors not affected</p> <p>10. SCH &amp; PCB: Full LIB update</p>	VT

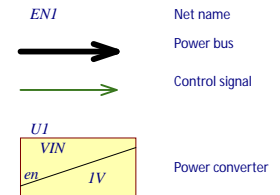
	Title: <b>TE0715 - Revision History</b>		
	A4	Number: <b>TE0715 51133-A</b>	Rev. <b>05</b>
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## Power-on sequencing:



## 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	-
VCCIO13	IN	1.2 - 3.3V	+/-3%	HR IO Bank13	-
VCCIO34	IN	1.2 - 3.3V	+/-3%	HR IO Bank34	for XC7Z012/XC7Z015
VCCIO34	IN	1.2 - 1.8V	+/-3%	HP IO Bank34	for XC7Z030
VCCIO35	IN	1.2 - 3.3V	+/-3%	HR IO Bank35	for XC7Z012/XC7Z015
VCCIO35	IN	1.2 - 1.8V	+/-3%	HP IO Bank35	for XC7Z030
VBAT_IN	IN	3.0V	+/-3%	RTC	-
1.8V	OUT	1.8V	+/-3%	Power for Carrier	-
3.3V	OUT	3.3V	+/-3%	Power for Carrier	-
DDR_PWR	OUT	1.35V	+/-3%	Power for Carrier	-



	Title: TE0715 - Power Diagram	
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2

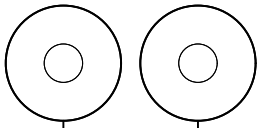
3

4

- FPGA-MISC
- FPGA-MISC.SchDoc
- B13
- B13.SchDoc
- B34
- B34.SchDoc
- B35
- B35.SchDoc
- MIO-BANKS
- MIO-BANKS.SchDoc
- MGT
- MGT.SchDoc
- DDR-BANK
- DDR-BANK.SchDoc
- FPGA-POWER
- FPGA-POWER.SchDoc
- DDR3-RAM
- DDR3-RAM.SchDoc
- B2B\_Connector
- B2B\_Connector.SchDoc
- Clock
- Clock.SchDoc
- ETH-PHY
- ETH-PHY.SchDoc
- USB-PHY
- USB-PHY.SchDoc
- POWER
- POWER.SchDoc
- POWER\_2
- POWER\_2.SchDoc

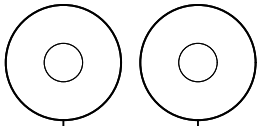
Special notes:

Mount.Hole 3.2mm Mount.Hole 3.2mm



GND GND

Mount.Hole 3.2mm Mount.Hole 3.2mm

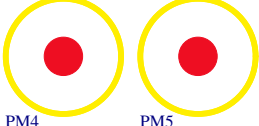


GND GND

FIDU-DOT - mini FIDU-DOT - mini



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



PM4 PM5  
FIDU-DOT - mini FIDU-DOT - mini



PM6 PM3

Serial  
Serial  
Serialnumber 6,3 x 6.3mm

Assembly variant: 51133-A  
 Created by: VT  
 Modified by: MR  
 Modified at: 2024-04-30



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1

2

3

4

A

A

B

B

C

C

D

D

B13 48 IO, 24 LVDS Pairs  
 MIO0 8 IO, 3.3V  
 MIO1 6 IO 1.8V  
 ETH MDI Copper

NOTE: B34 and B35 are HP Banks in 7030 Assembly with max 1.8V I/O Voltage

B34 16 IO, 8 LVDS Pairs  
 USB OTG ETH SGMII  
 PLL CLK IN  
 GT CLK IN  
 GTP/GTX 4 Lanes

B34 18 IO, 9 LVDS Pairs  
 B35 48 IO, 24 LVDS Pairs  
 B35 2 IO

A

B

C

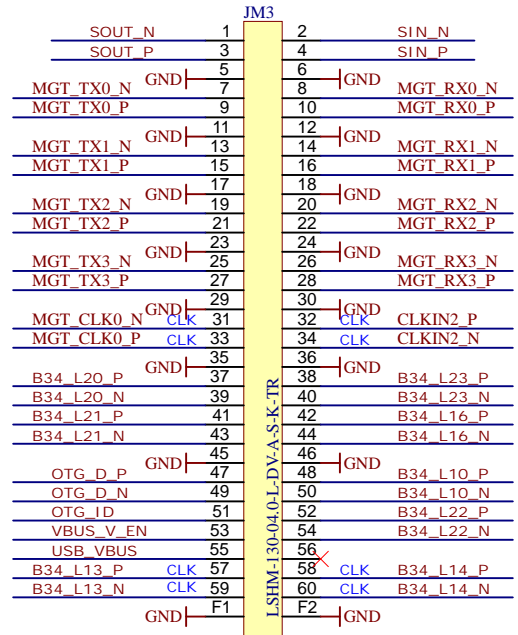
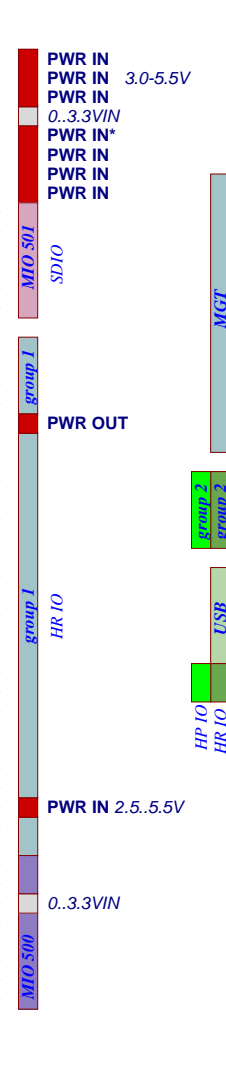
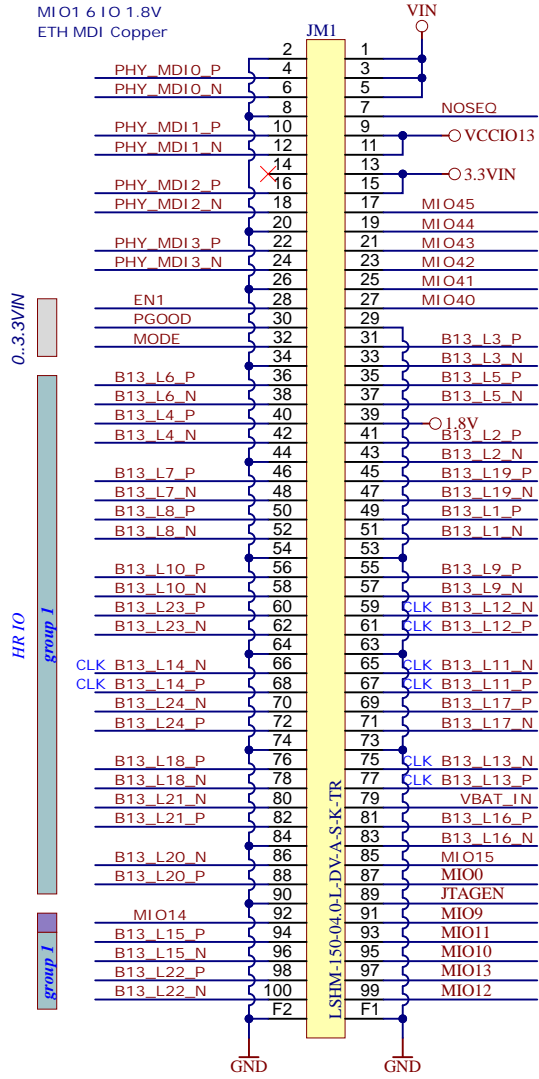
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A

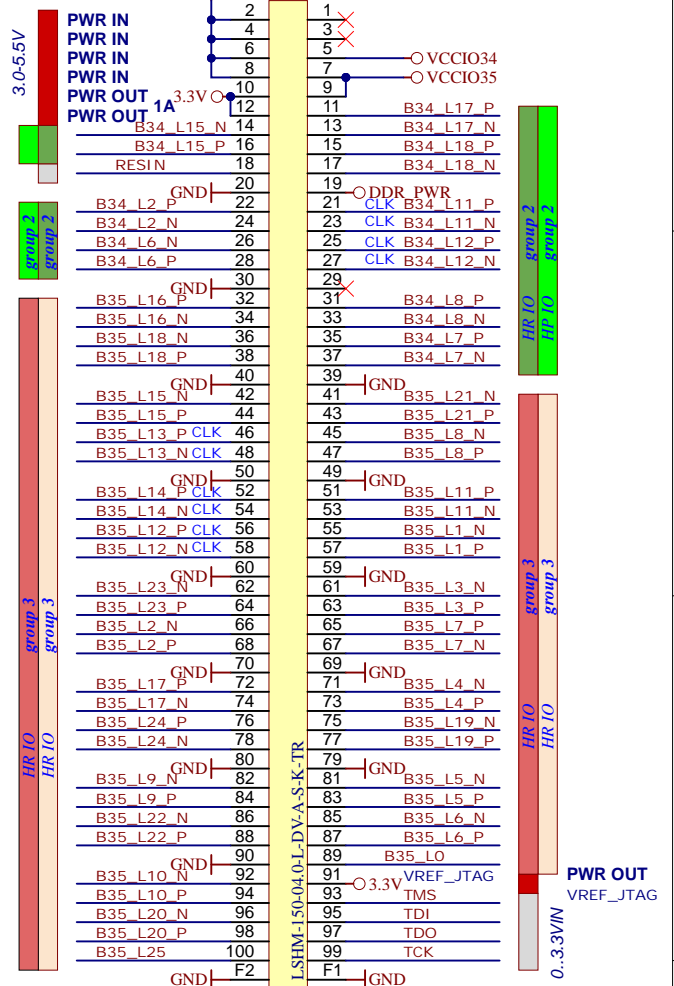
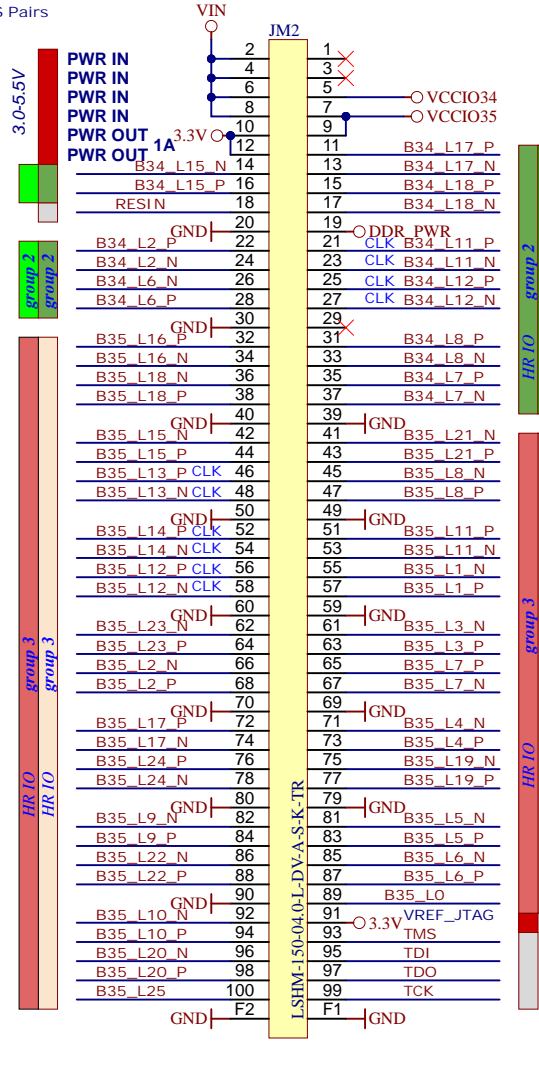
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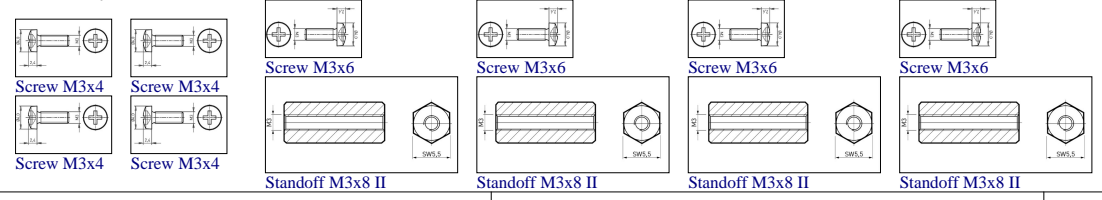
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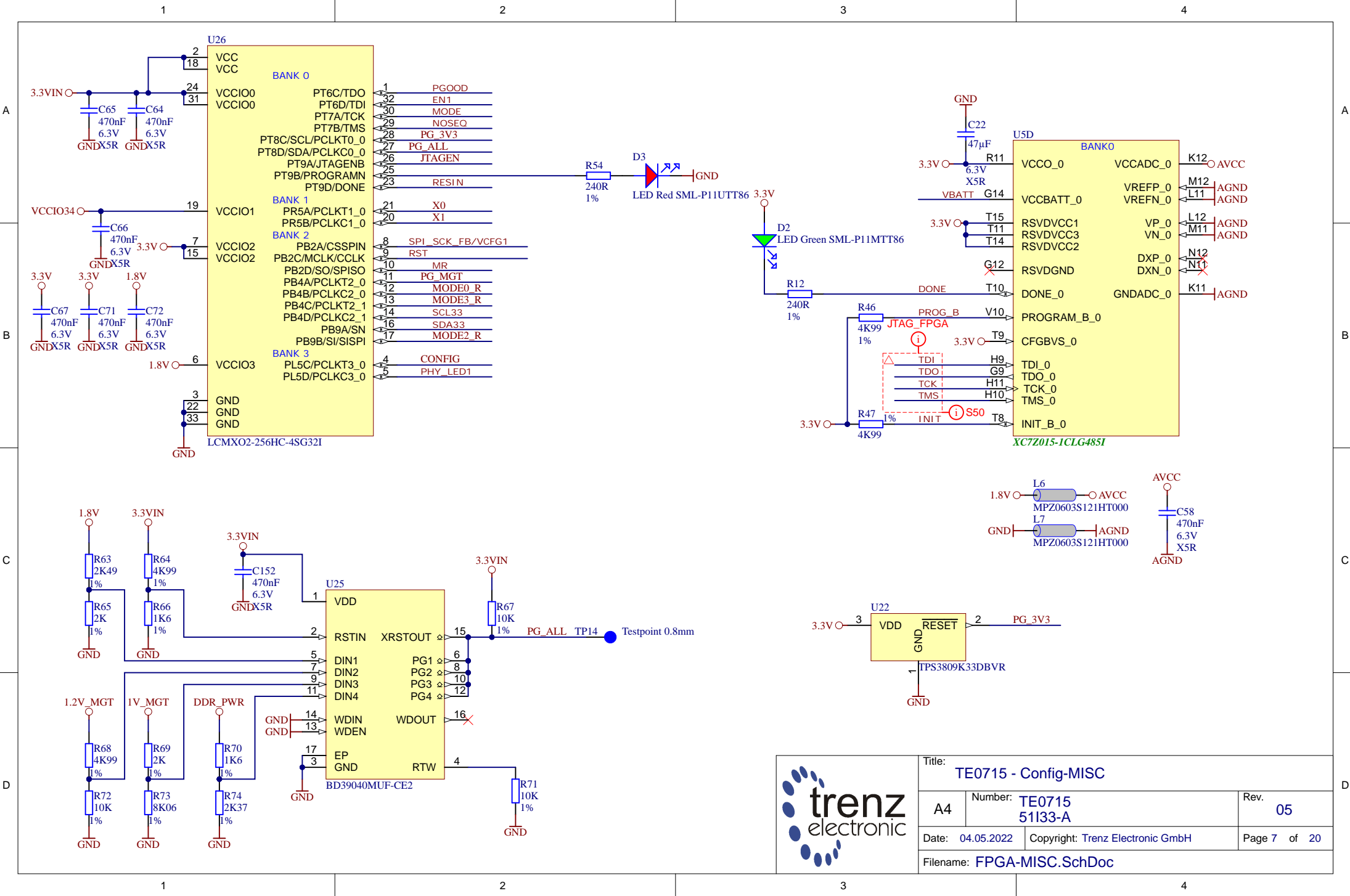
- Z7015/Z7030: VCCIO13 0..3.3V group 1 0..VCCIO13 (3.3V)
- Z7015: VCCIO34 0..3.3V group 2 0..VCCIO34 (3.3V)
- Z7030: VCCIO34 0..1.8V group 2 0..VCCIO34 (1.8V)
- Z7015: VCCIO35 0..3.3V group 3 0..VCCIO35 (3.3V)
- Z7030: VCCIO35 0..1.8V group 3 0..VCCIO35 (1.8V)
- MIO 500 0..3.3V
- MIO 501 0..1.8V



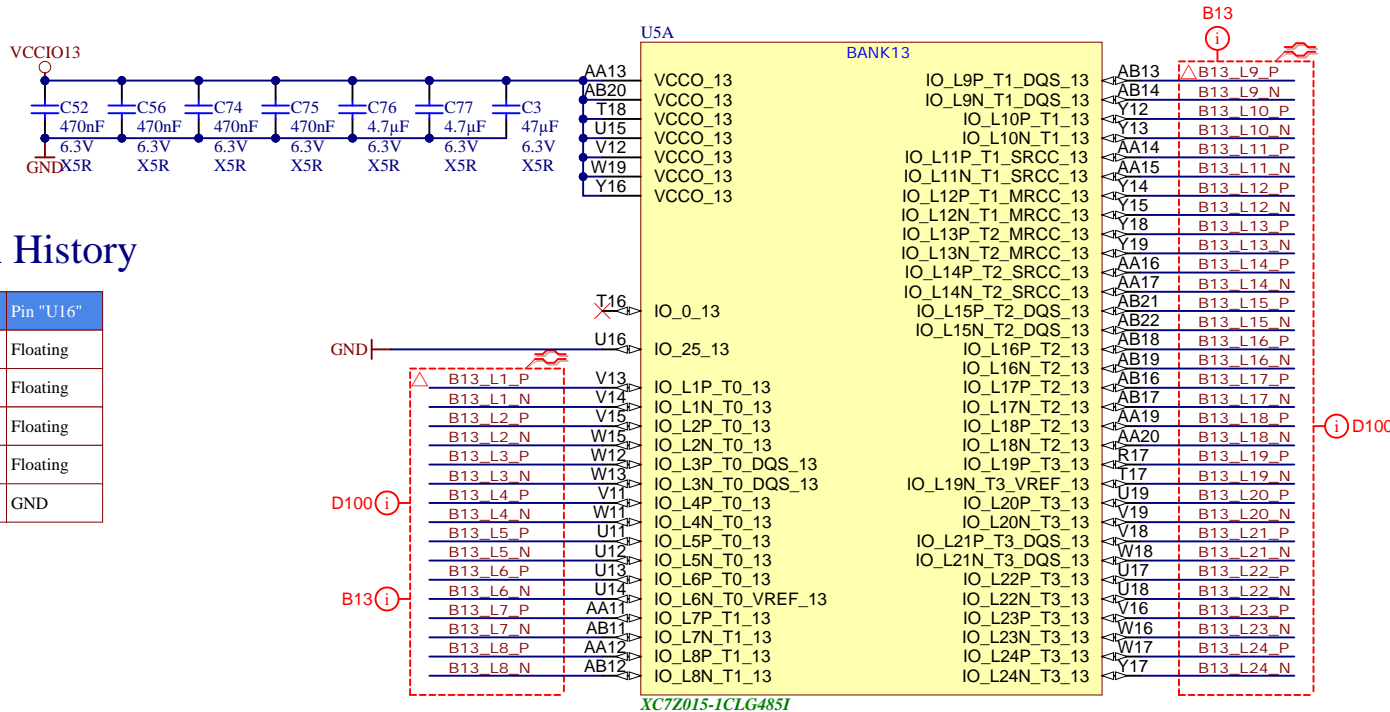
Top of Board



Title: TE0715 - B2B_Connectors		
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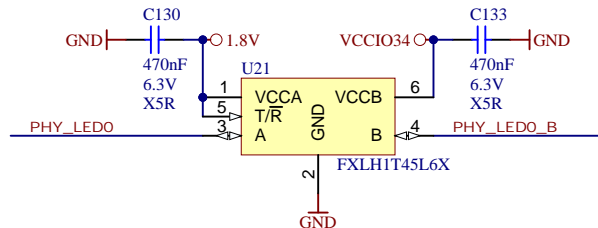
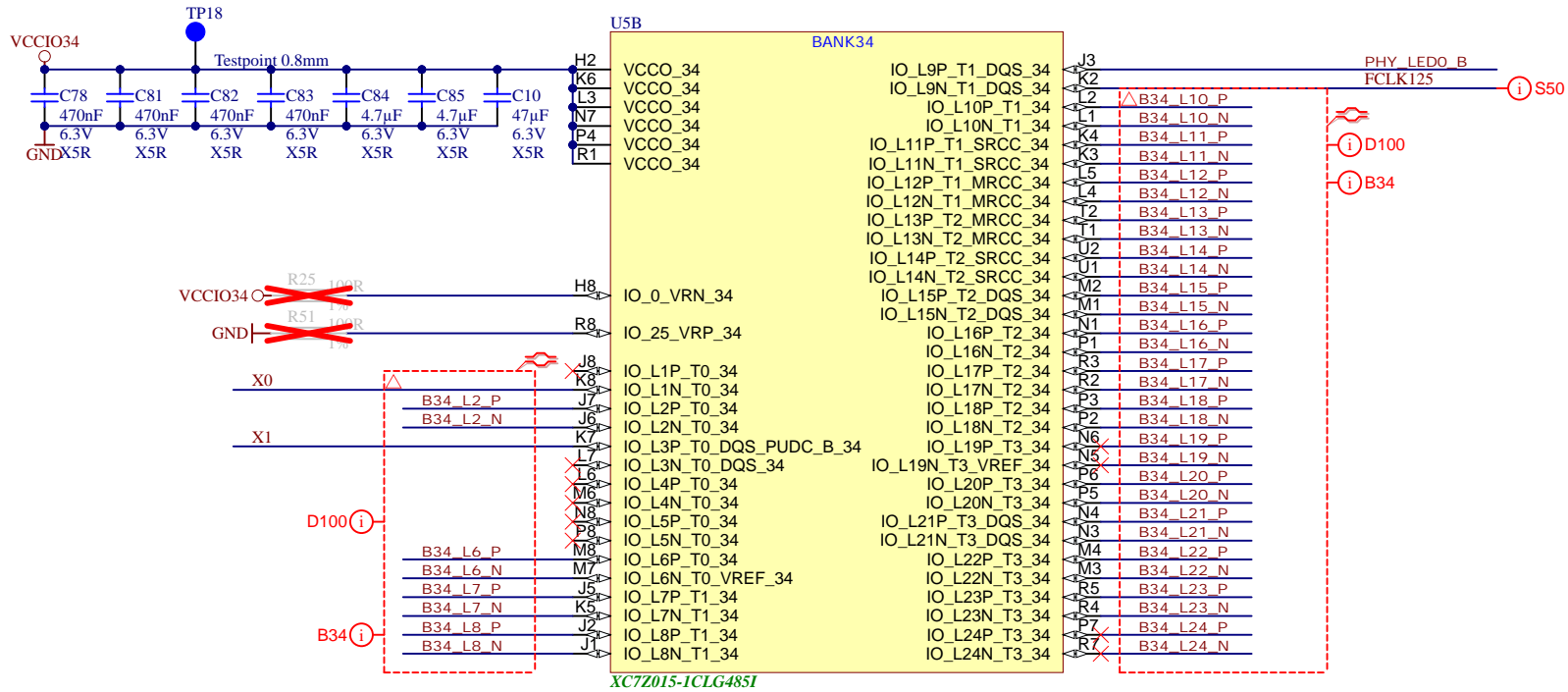
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A4	Number: <b>TE0715 51133-A</b>	Rev. <b>05</b>
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Filename: <b>FPGA-MISC.SchDoc</b>		



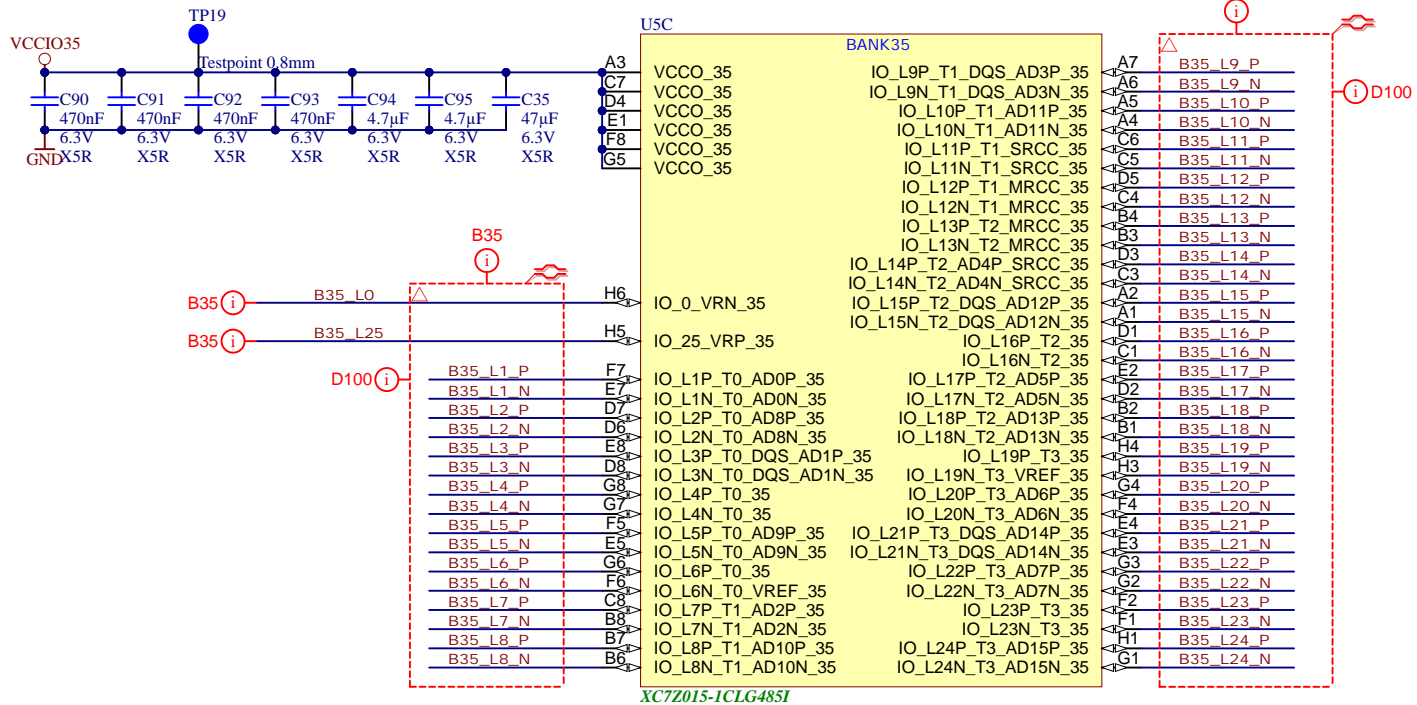
### HW Revision History

Revision	Pin "T16"	Pin "U16"
REV01	Floating	Floating
REV02	Floating	Floating
REV03	Floating	Floating
REV04	GND	Floating
REV05	Floating	GND

	Title: <b>TE0715 - FPGA_B12</b>		
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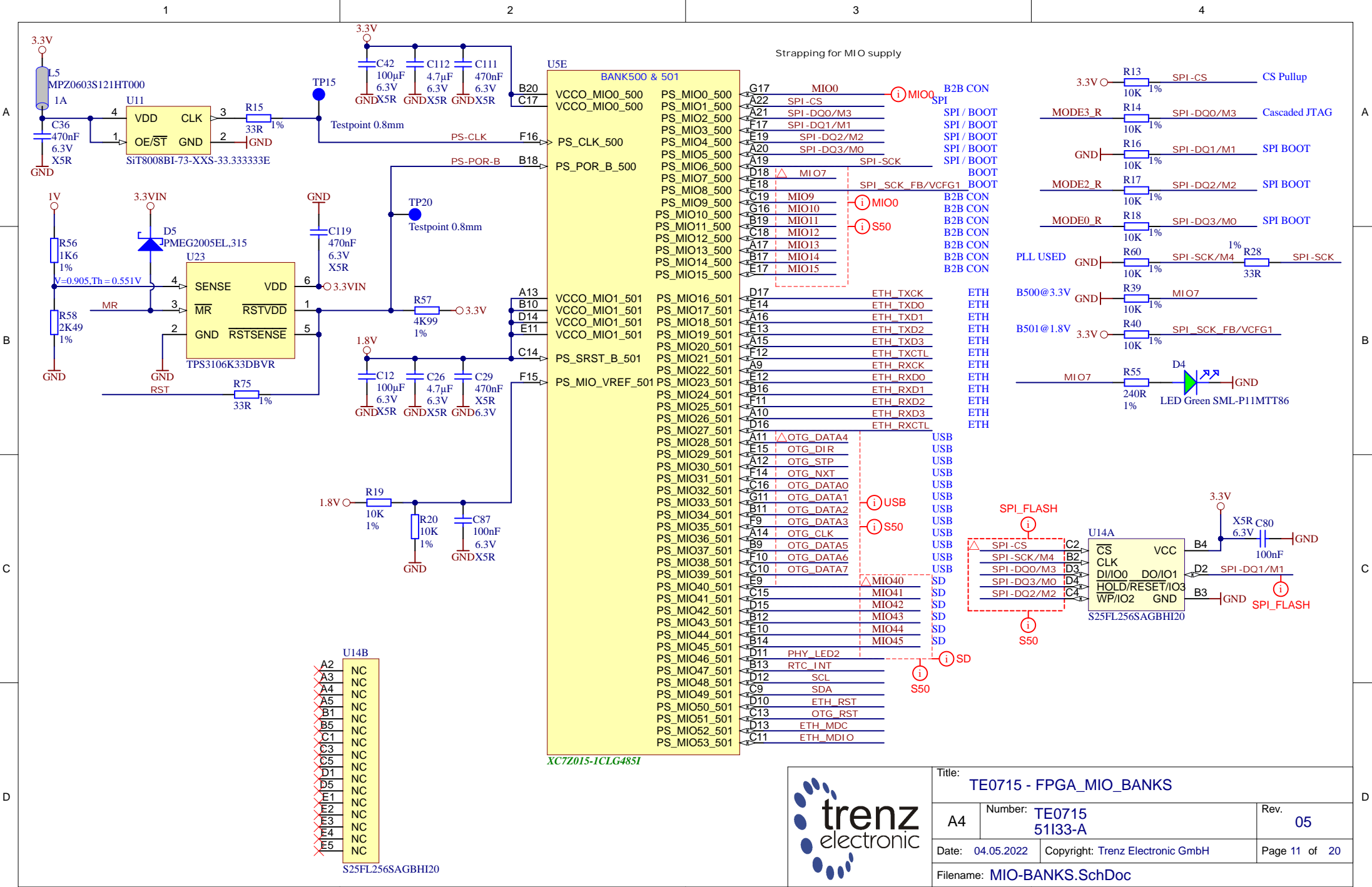


Title: TE0715 - FPGA_B34		
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Title: TE0715 - FPGA_B35		
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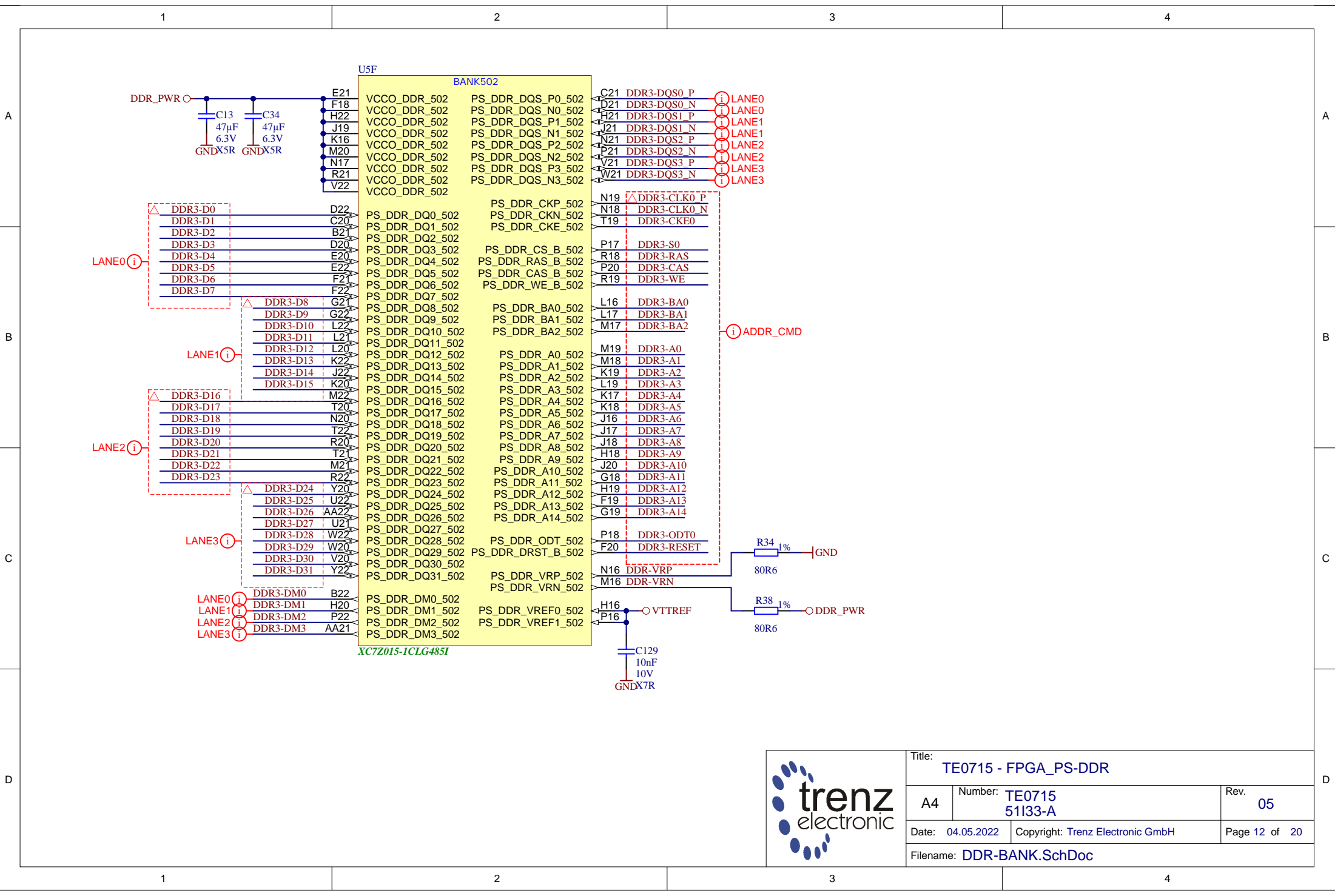




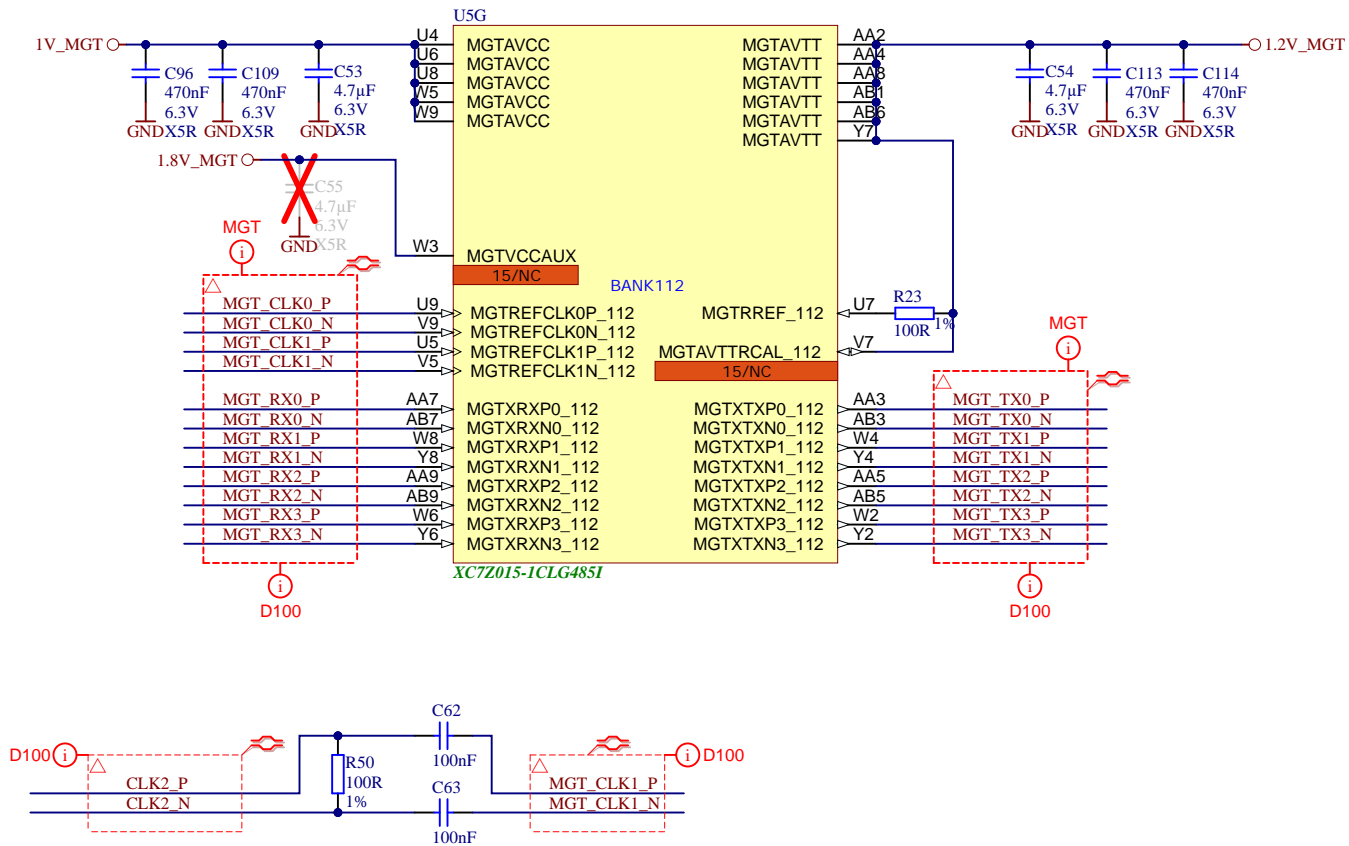
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Title: **TE0715 - FPGA\_MIO\_BANKS**

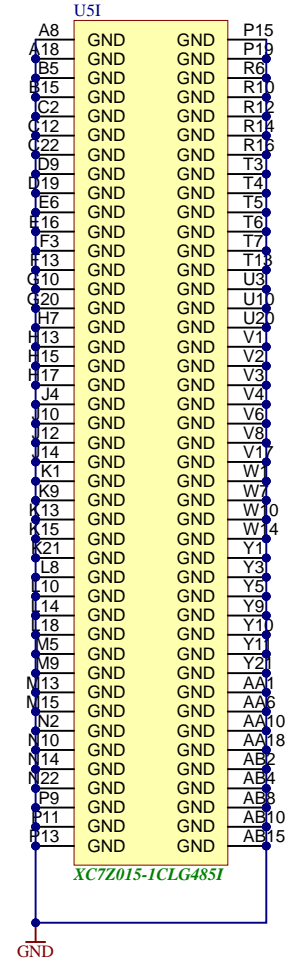
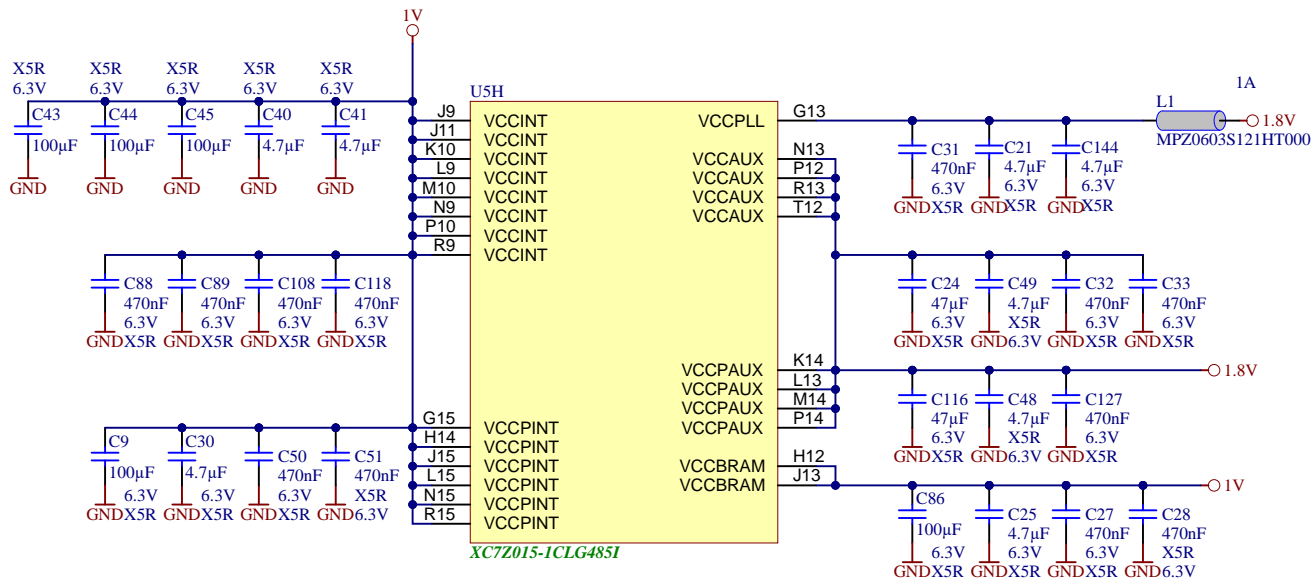
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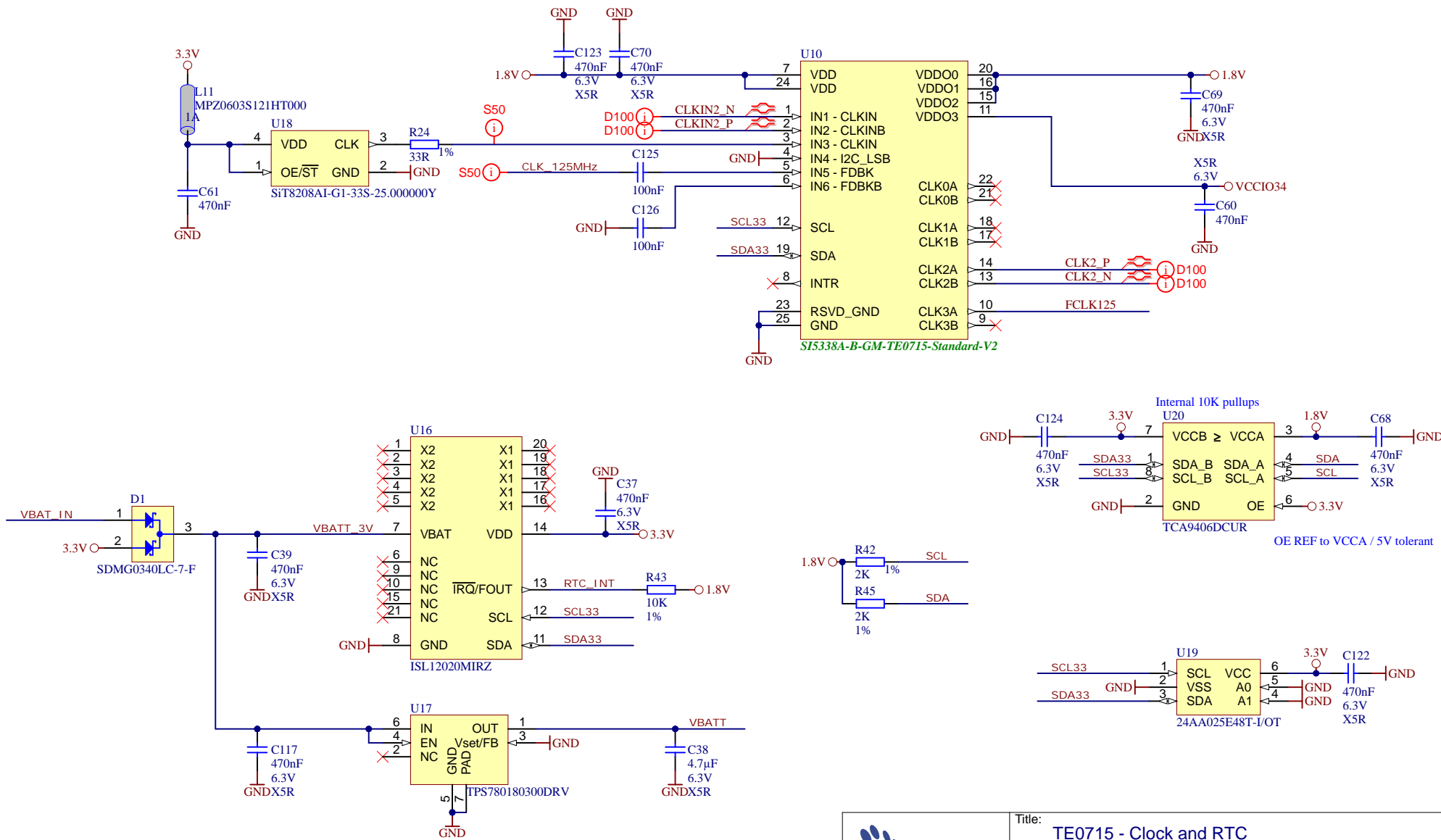
Title: TE0715 - FPGA_PS-DDR		
A4	Number: TE0715 51133-A	Rev. 05
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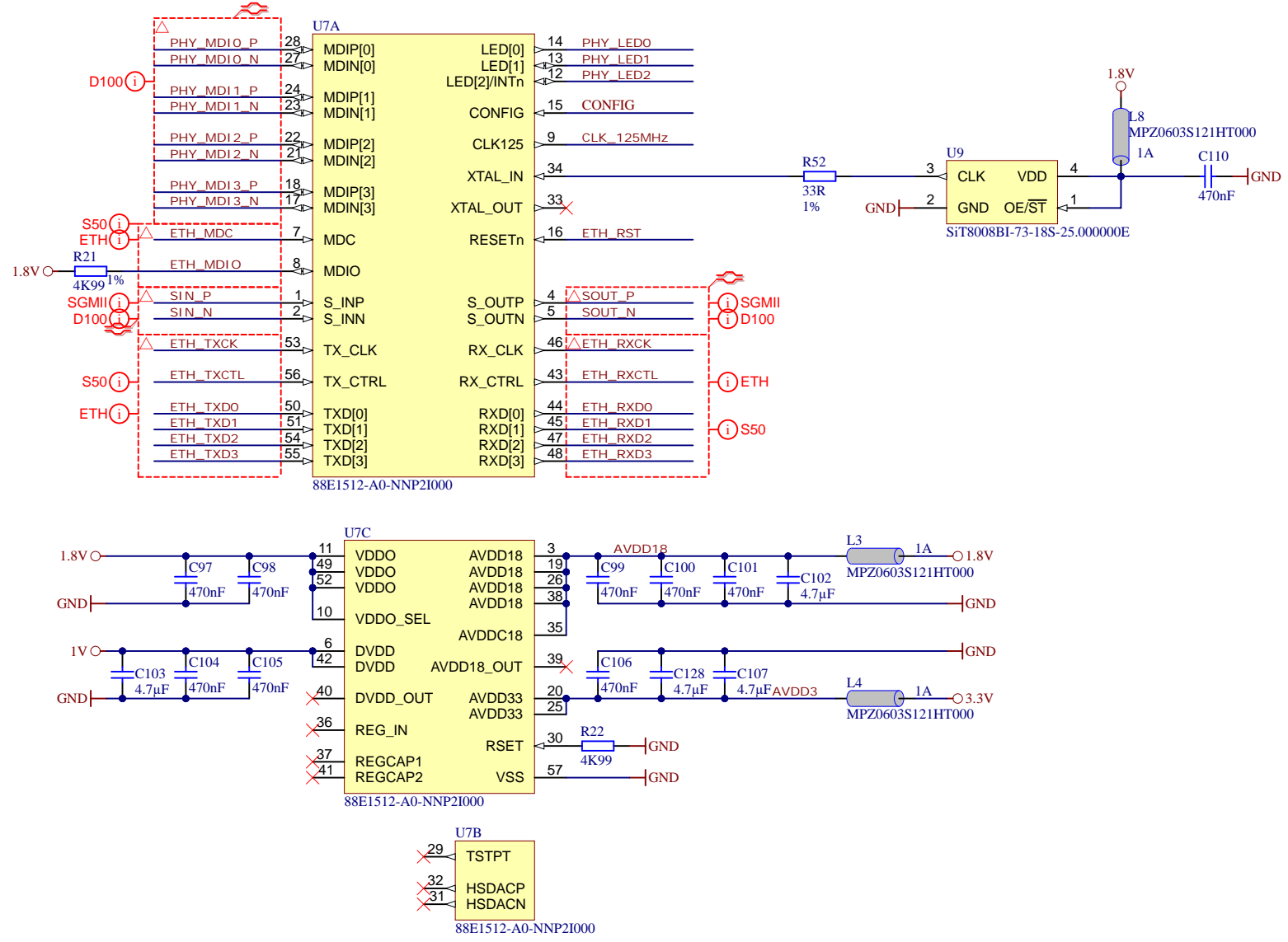
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Filename: MGT.SchDoc		




		Title: TE0715 - FPGA_Power	
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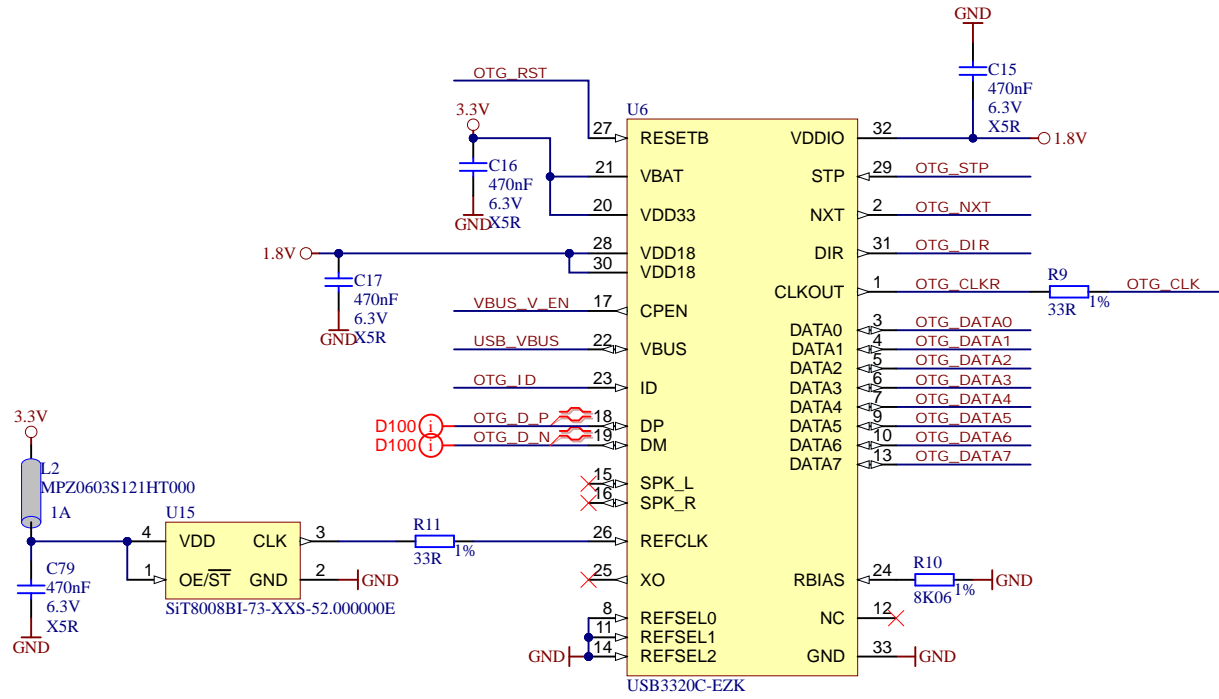


Title: <b>TE0715 - Clock and RTC</b>		
A4	Number: <b>TE0715 51133-A</b>	Rev. <b>05</b>
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		Title: <b>TE0715 - ETH_PHY</b>	
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	Title: <b>TE0715 - USB_PHY</b>	
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A

A

B

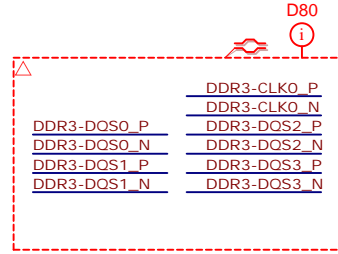
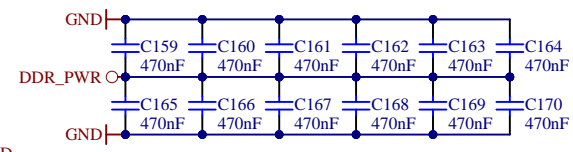
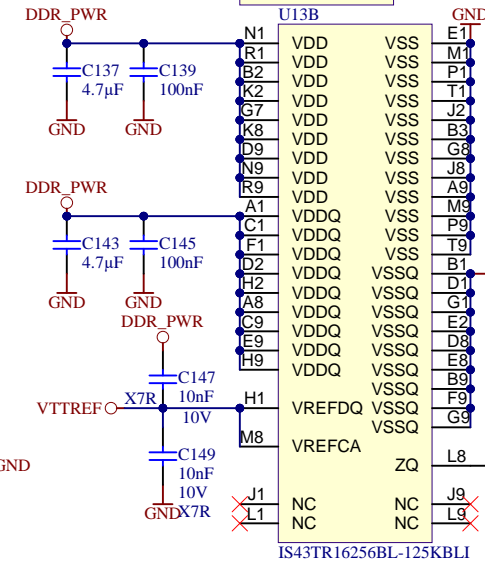
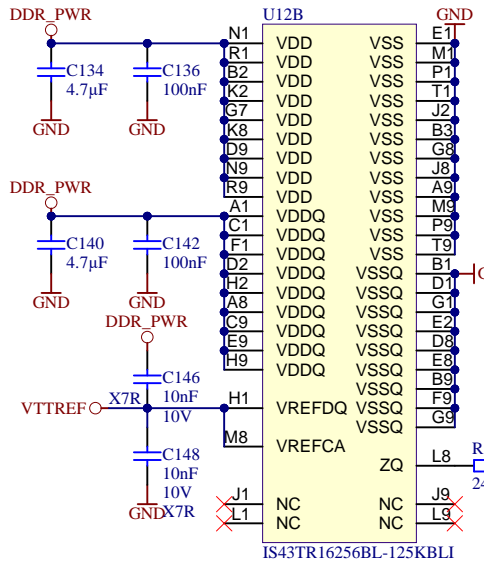
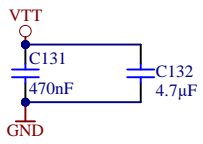
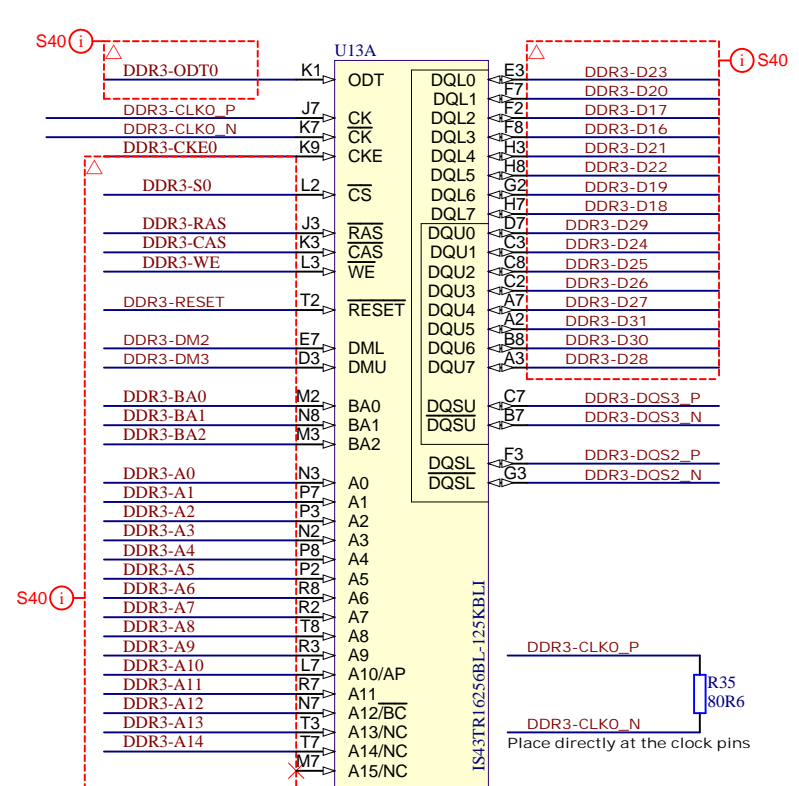
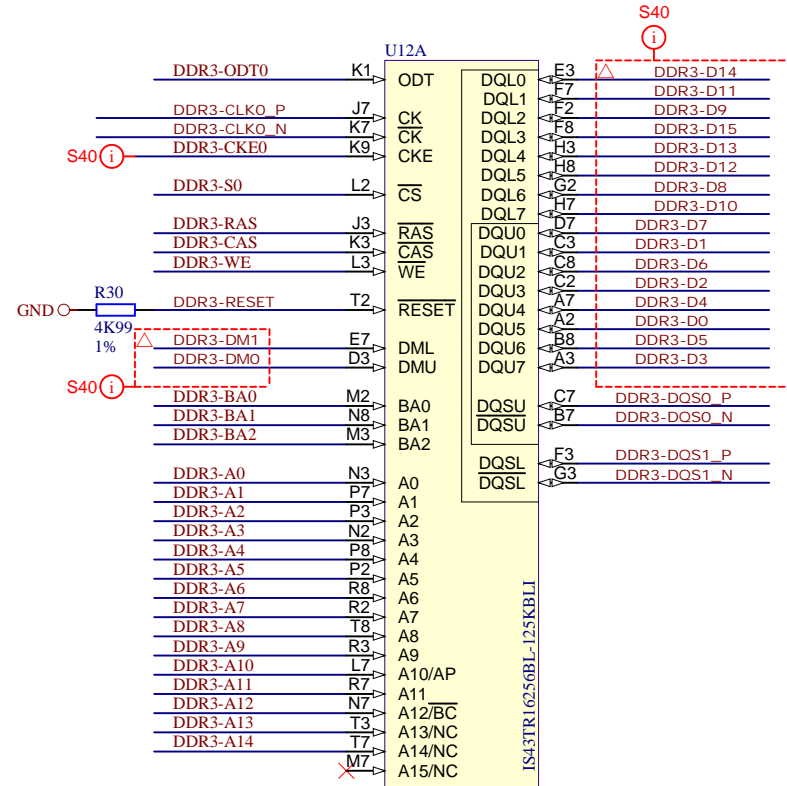
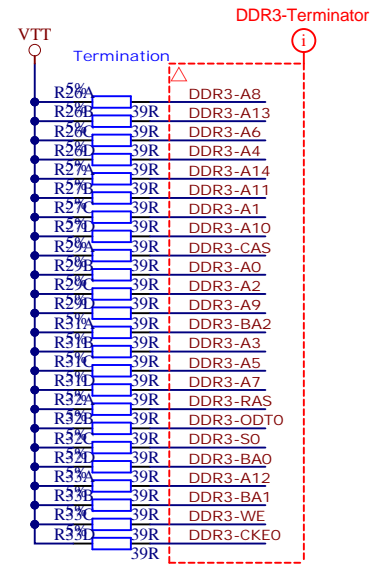
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C

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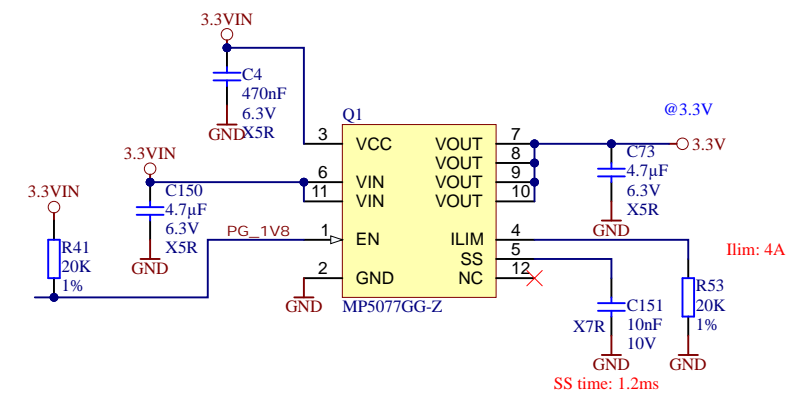
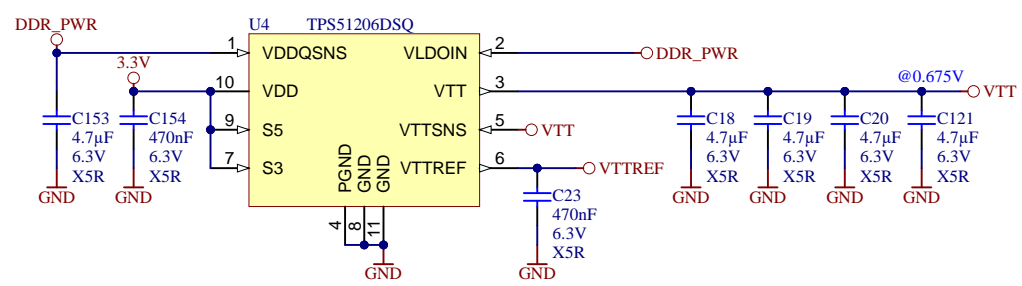
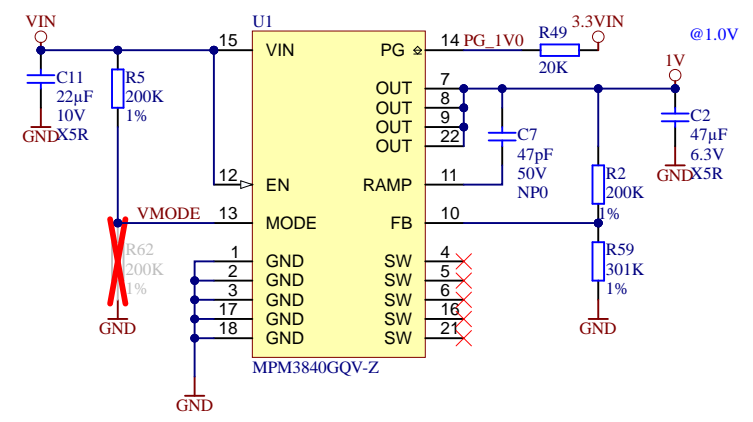
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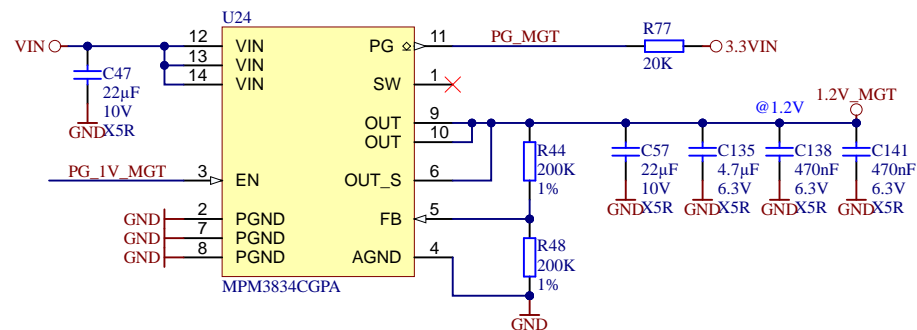
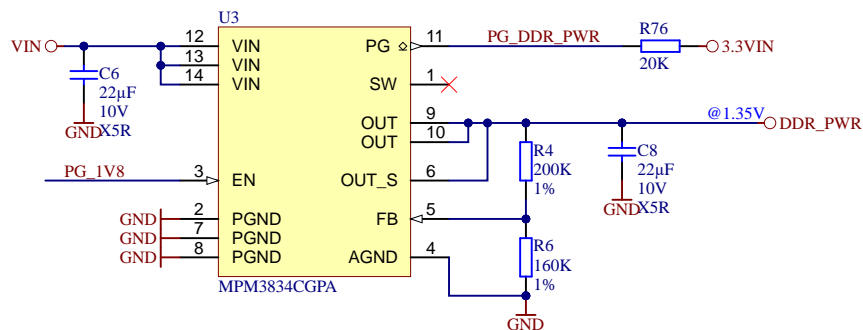
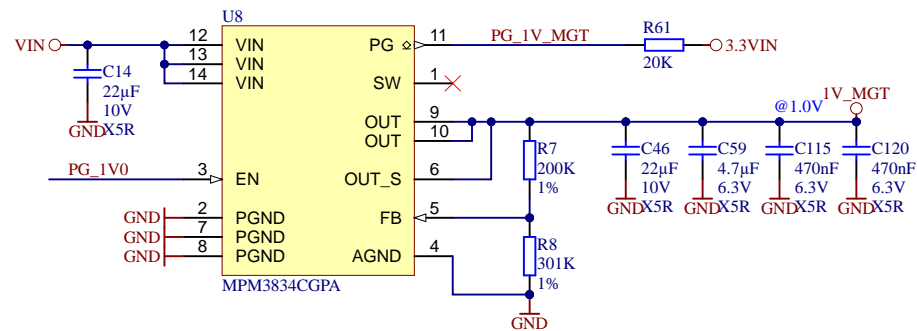
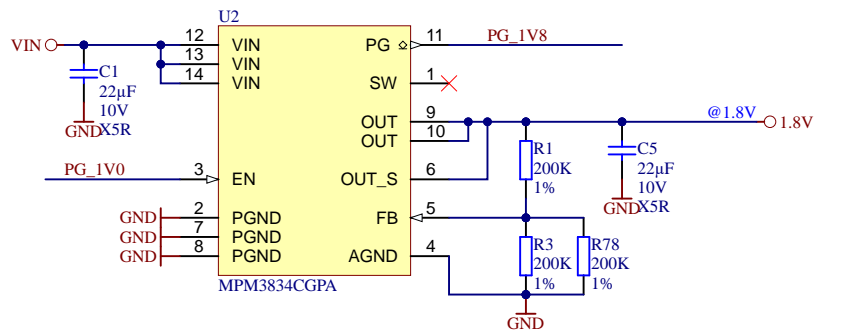



Title: TE0715 - DDR3_RAM		
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- VIN ○ TP1 ● Testpoint 0.8mm
- DDR\_PWR ○ TP2 ● Testpoint 0.8mm
- 1.8V ○ TP3 ● Testpoint 0.8mm
- 3.3V ○ TP4 ● Testpoint 0.8mm
- VTT ○ TP5 ● Testpoint 0.8mm
- VTTREF ○ TP6 ● Testpoint 0.8mm
- 3.3VIN ○ TP7 ● Testpoint 0.8mm
- 1.2V\_MGT ○ TP8 ● Testpoint 0.8mm
- 1V ○ TP9 ● Testpoint 0.8mm
- GND | TP10 ● Testpoint 0.8mm
- GND | TP11 ● Testpoint 0.8mm
- GND | TP12 ● Testpoint 0.8mm



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Filename: POWER_2.SchDoc			