



Regarding the usage of our schematics and alike documentation for Trenz module TE0720.

Project is protected under copyright and we strongly and strictly prohibit the reverse engineering or recreation, even if the design is just adapted or modified. TE0720 is protected under such right and in case of plagiarism we will have to do anything necessary in order to protect our assets.

Schematics and other handouts serve for informational purposes only!

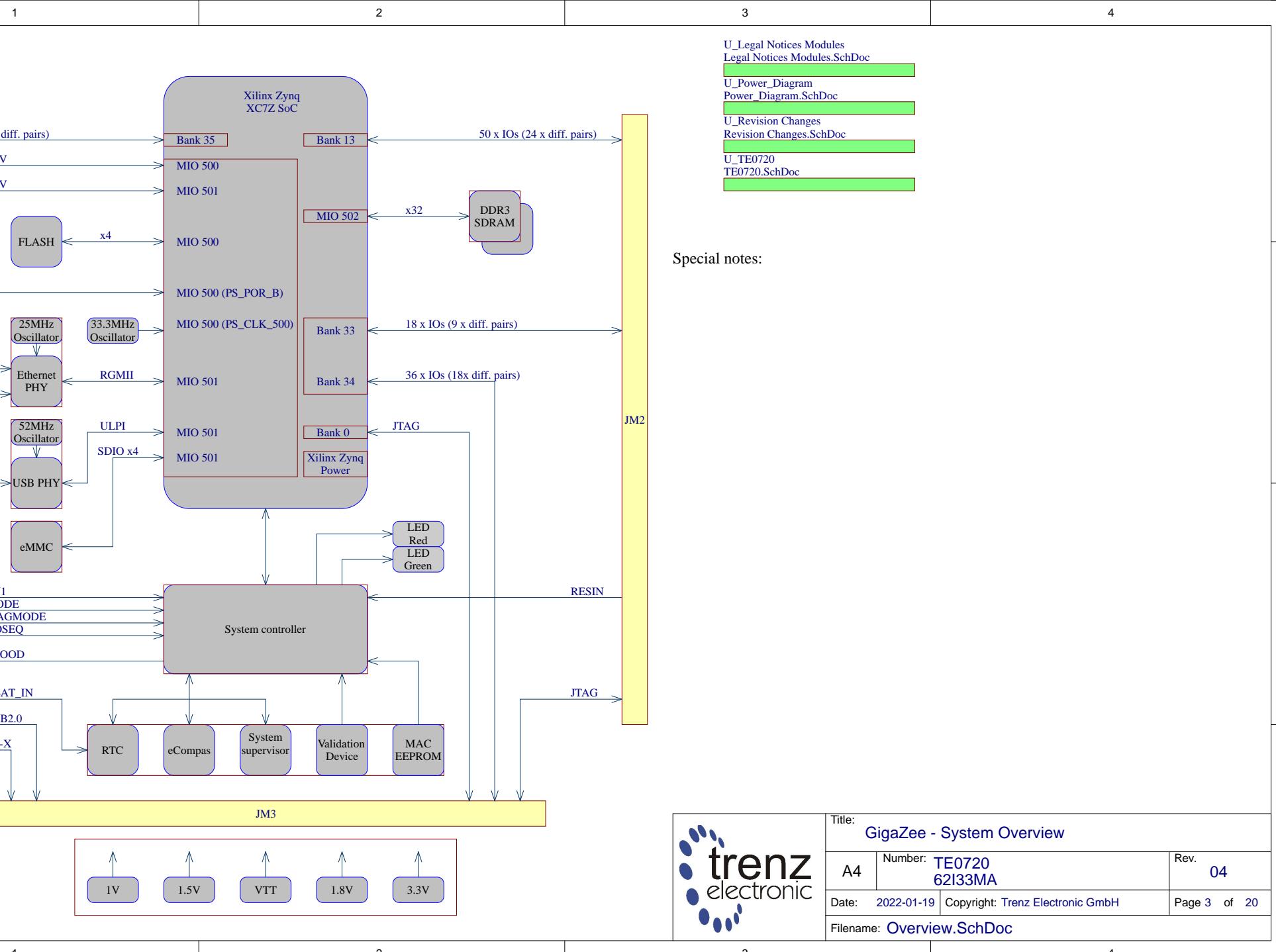


Title: GigaZee		Rev. 04
A4	Number: TE0720 62I33MA	
Date: 2022-01-19	Copyright: Trenz Electronic GmbH / TT	Page 1 of 20
Filename: Legal Notices Modules.SchDoc		

REV	Description	
-01	Initial revision	
-02		
-03		
-04	<p>1. Revised power supply circuit, replaced next components: - EN6347QI (U1) by MPM3840GQV-Z, - EP53F8QI (U2, U3) by MPM3834CGPA, - TPS27082LDDCR (Q1) by MP5077GG-Z.</p> <p>2. Added power supervisor BD39040MUF (U27). Next signal connected to system controller: - PG_All (U27 - U19.C12) with pull-up resistor R67; - WDEN (U27.13 - U19.C6) with pull-down resistor R80; - WDIN (U27.14 - U19.N8); - WDOUT (U27.16 - U19.M3).</p> <p>3. Signal MIO8 (U5.E5) connected to system controller (U19.N7)</p> <p>4. Added pull-down resistors R64 (net ON_1V0) and R65 (net ON_1V8)</p> <p>5. Revised voltage supervisor U26 circuit: U26.6 (VDD) connected to 3.3VIN, Added protection diode D3 to U26.3 (#MR input)</p> <p>6. Replaced BKP0603HS (L1, L2, L3, L4, L5, L7, L8) by MPZ0603S121HT000</p> <p>7. Auxiliary information has been added on Samtec B2B connectors page</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: PCB: Added option to install Heatsink SuperGrip (c)</p> <p>11. Added capacitors C7, C8 (100uF, 1V)</p> <p>12. Changed voltage divider resistors (R21, R61) to set the threshold for U26.</p>	VY
-04A	1. Added note regarding VCCIO34, page B2B-Connectors	VY



Title: GigaZee - Revision History		
A4	Number: TE0720 62I33MA	Rev. 04
Date: 2022-01-19	Copyright: Trenz Electronic GmbH	Page 2 of 20
Drawn by: VY	Filename: Revision Changes.SchDoc	

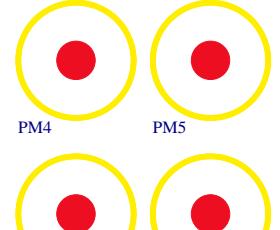
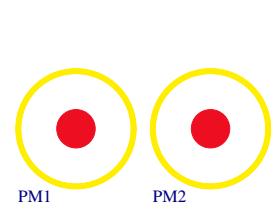
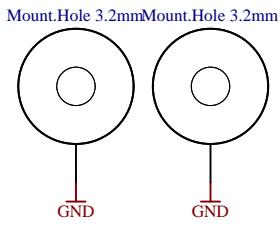
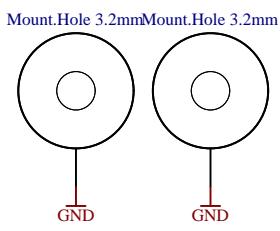


1

2

3

4



1V	TP1	Testpoint 0.8mm
VIN	TP2	Testpoint 0.8mm
1.5V	TP3	Testpoint 0.8mm
1.8V	TP4	Testpoint 0.8mm
VTT	TP5	Testpoint 0.8mm
VTTREF	TP6	Testpoint 0.8mm
3.3VIN	TP7	Testpoint 0.8mm
3.3V	TP8	Testpoint 0.8mm
VCCIO13	TP9	Testpoint 0.8mm
VCCIO33	TP10	Testpoint 0.8mm
VCCIO34	TP11	Testpoint 0.8mm
VCCIO35	TP12	Testpoint 0.8mm
AVCC	TP13	Testpoint 0.8mm
AVREF	TP14	Testpoint 0.8mm
AGND	TP15	Testpoint 0.8mm
GND	TP16	Testpoint 0.8mm
GND	TP17	Testpoint 0.8mm
GND	TP18	Testpoint 0.8mm
GND	TP19	Testpoint 0.8mm
GND	TP20	Testpoint 0.8mm

Serial
Serial
Serialnumber 6,3 x 6.3mm

Assembly variant	62I33MA
Created by	MR
Modified by	MR
Modified at	2021-07-06
SVN Revision	13140



Title: GigaZee - TE0720

A4 Number: TE0720
62I33MA

Rev.
04

Date: 2022-01-19 Copyright: 2013 Trenz Electronic GmbH Page 4 of 20

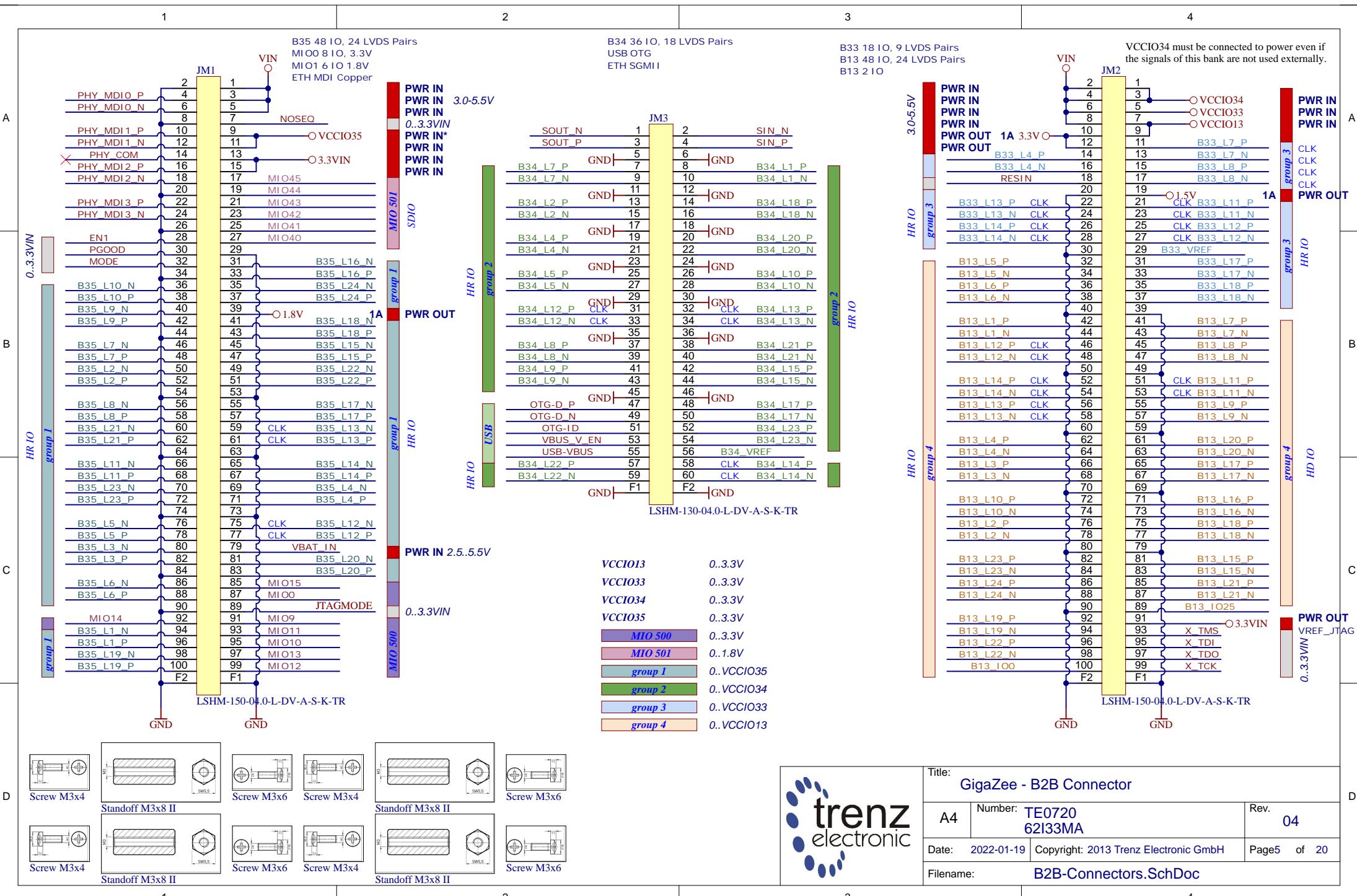
Drawn by: VY Filename: TE0720.SchDoc

1

2

3

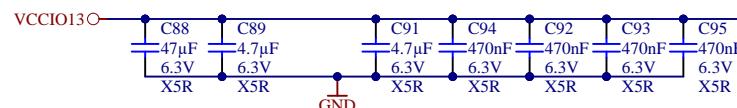
4



Title: GigaZee - B2B Connector
Number: TEE0700

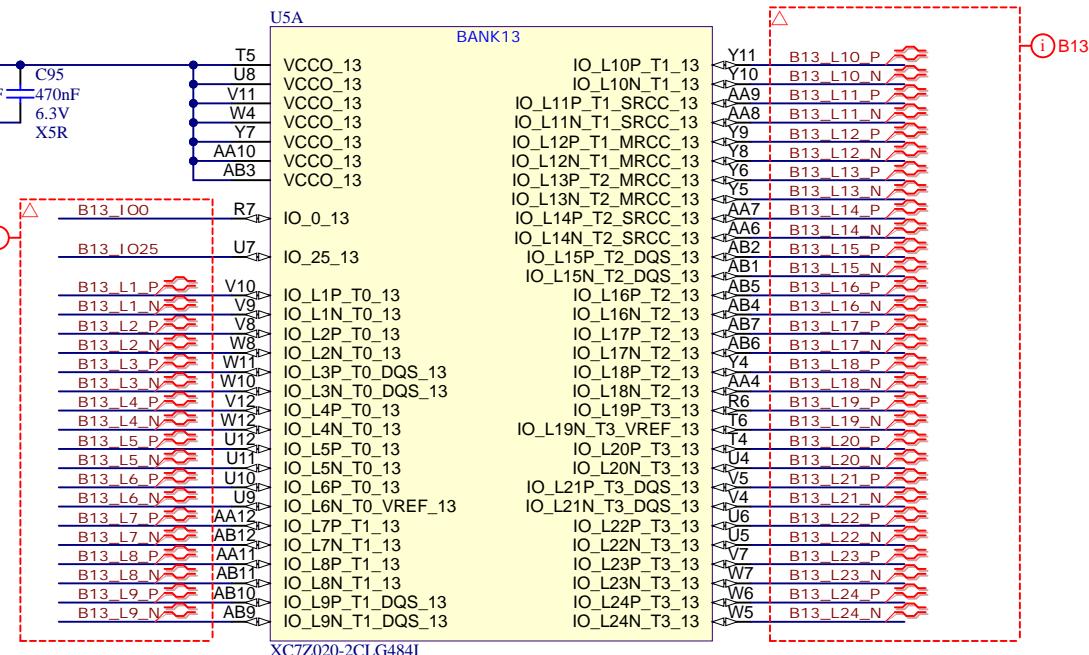
A4	Number: TE0720 62133MA	Rev. 04
Date: 2022-01-19	Copyright: 2013 Trenz Electronic GmbH	Page 5 of 20
Filename: B2B-Connectors.SchDoc		

A



B

B13 (i)



C

D



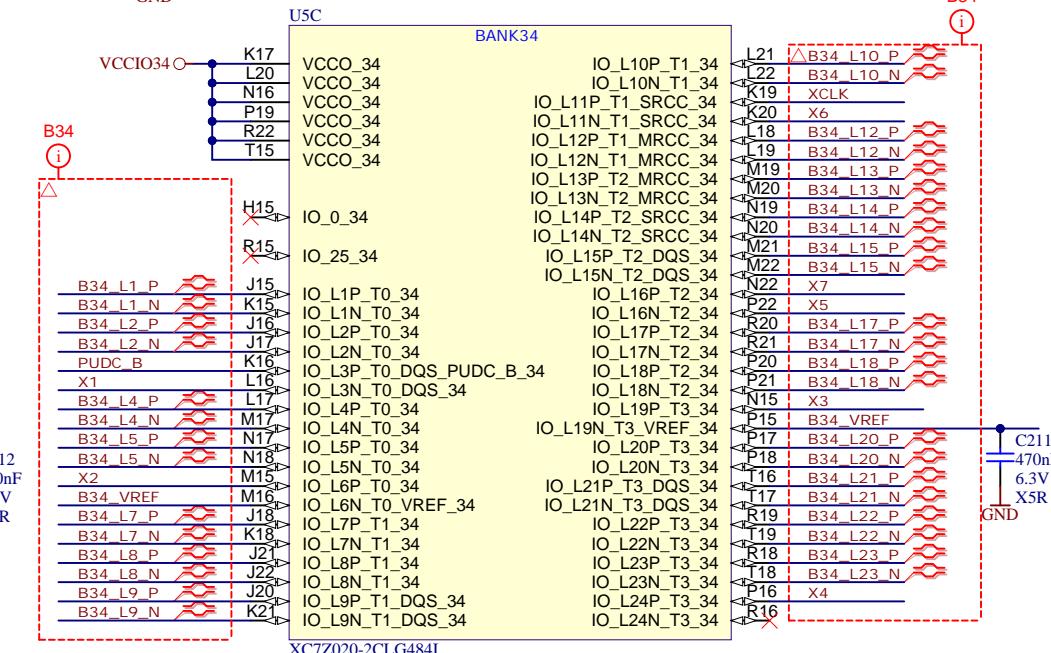
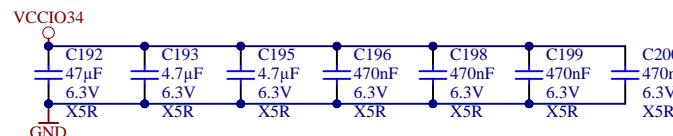
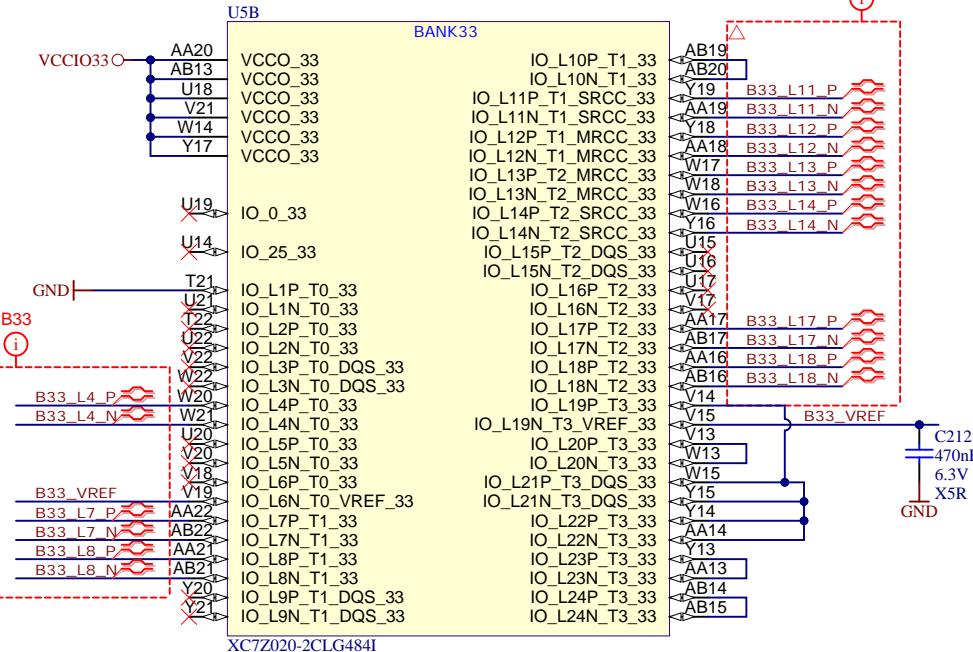
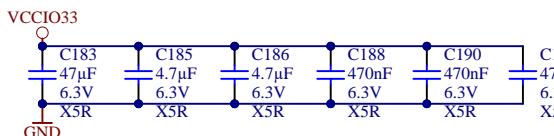
Title:
GigaZee - B13

A4 | Number: TE0720
62I33MA

Rev.
04

Date: 2022-01-19 Copyright: 2013 Trenz Electronic GmbH Page 6 of 20

Filename: B13.SchDoc



Title: GigaZee - B33 - B34

A4 Number: TE0720
62133MA

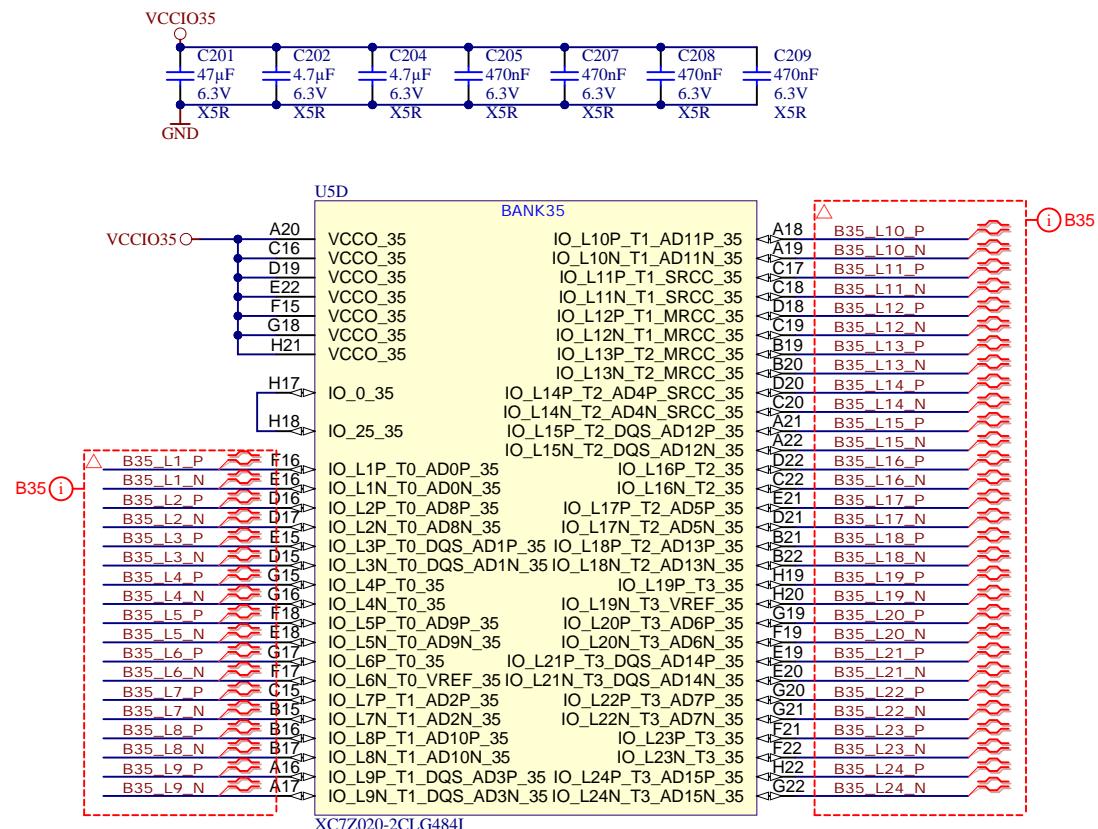
Rev. 04

Date: 2022-01-19 Copyright: 2013 Trenz Electronic GmbH Page 7 of 20

Filename: B33-B34.SchDoc

A

A



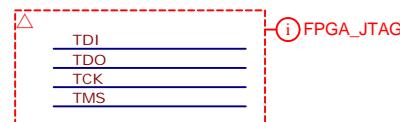
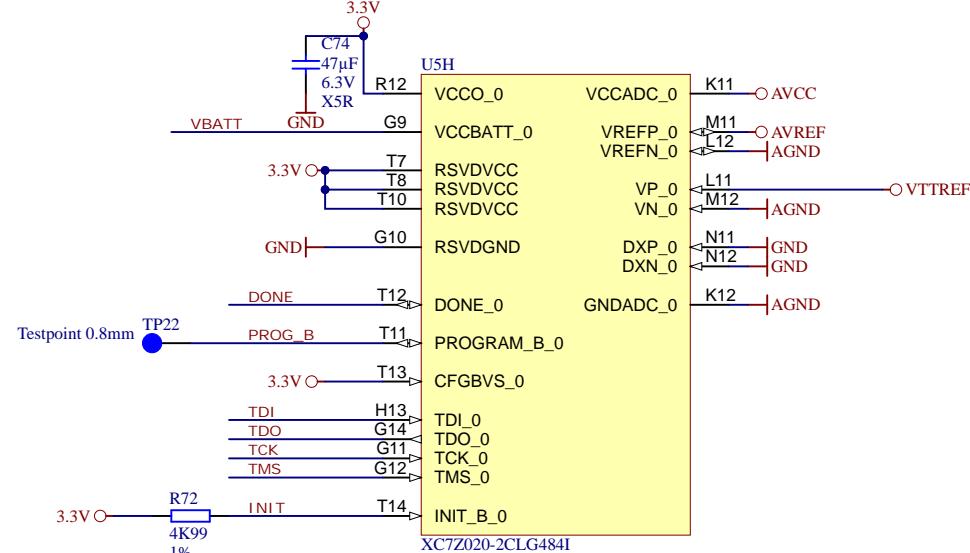
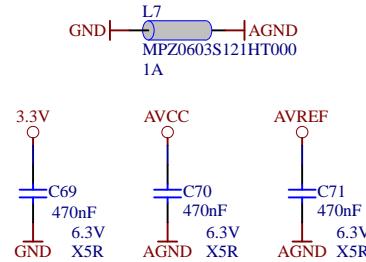
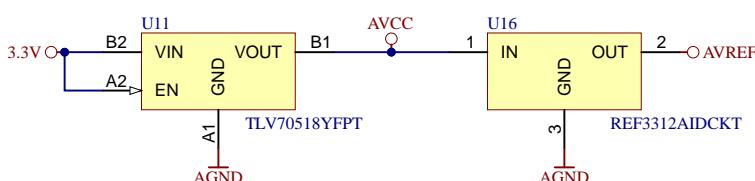
Title: GigaZee - B35	
A4	Number: TE0720 62I33MA
Date: 2022-01-19	Copyright: 2013 Trenz Electronic GmbH
Page 8 of 20	
Filename: B35.SchDoc	

1

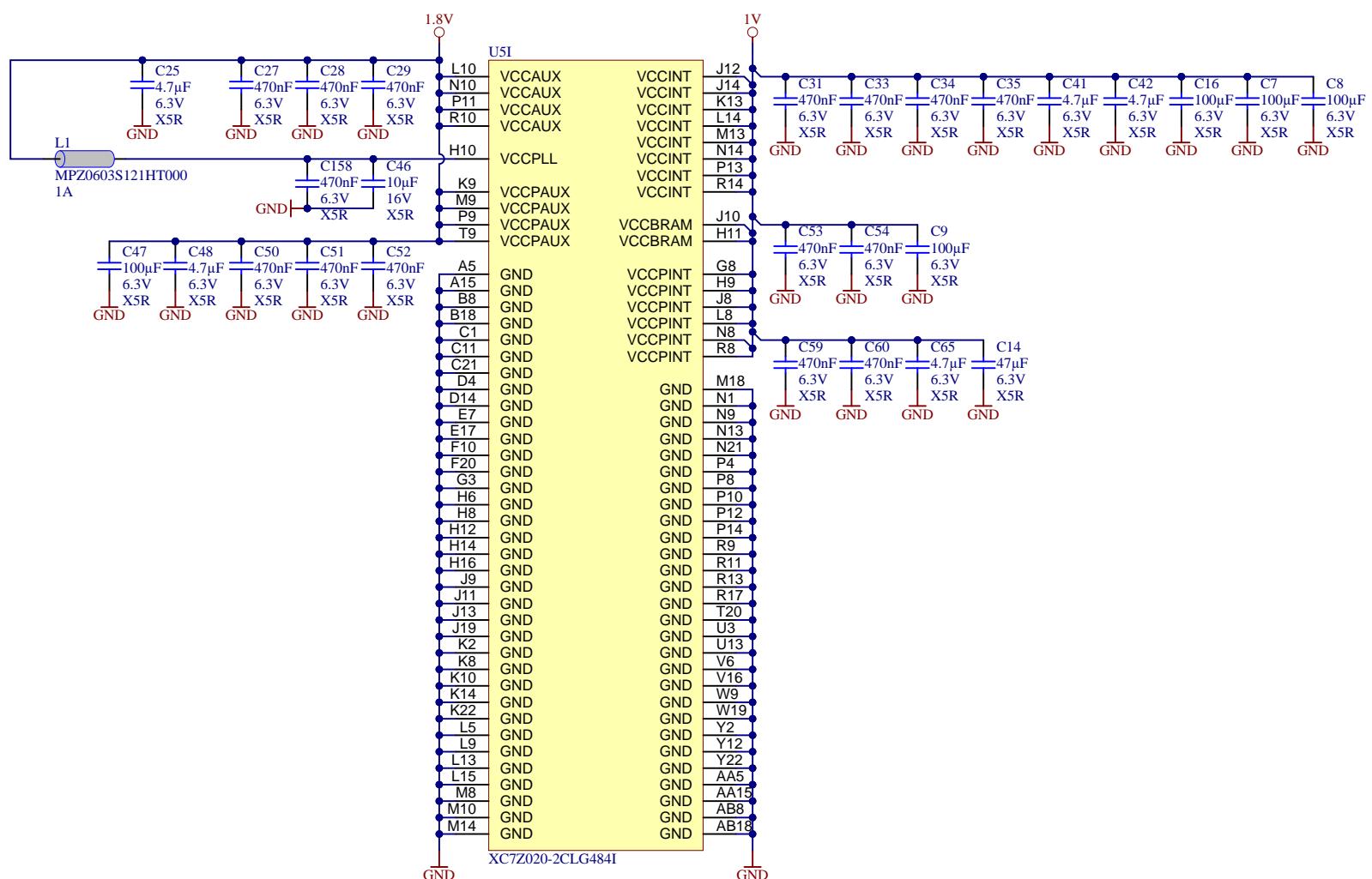
2

3

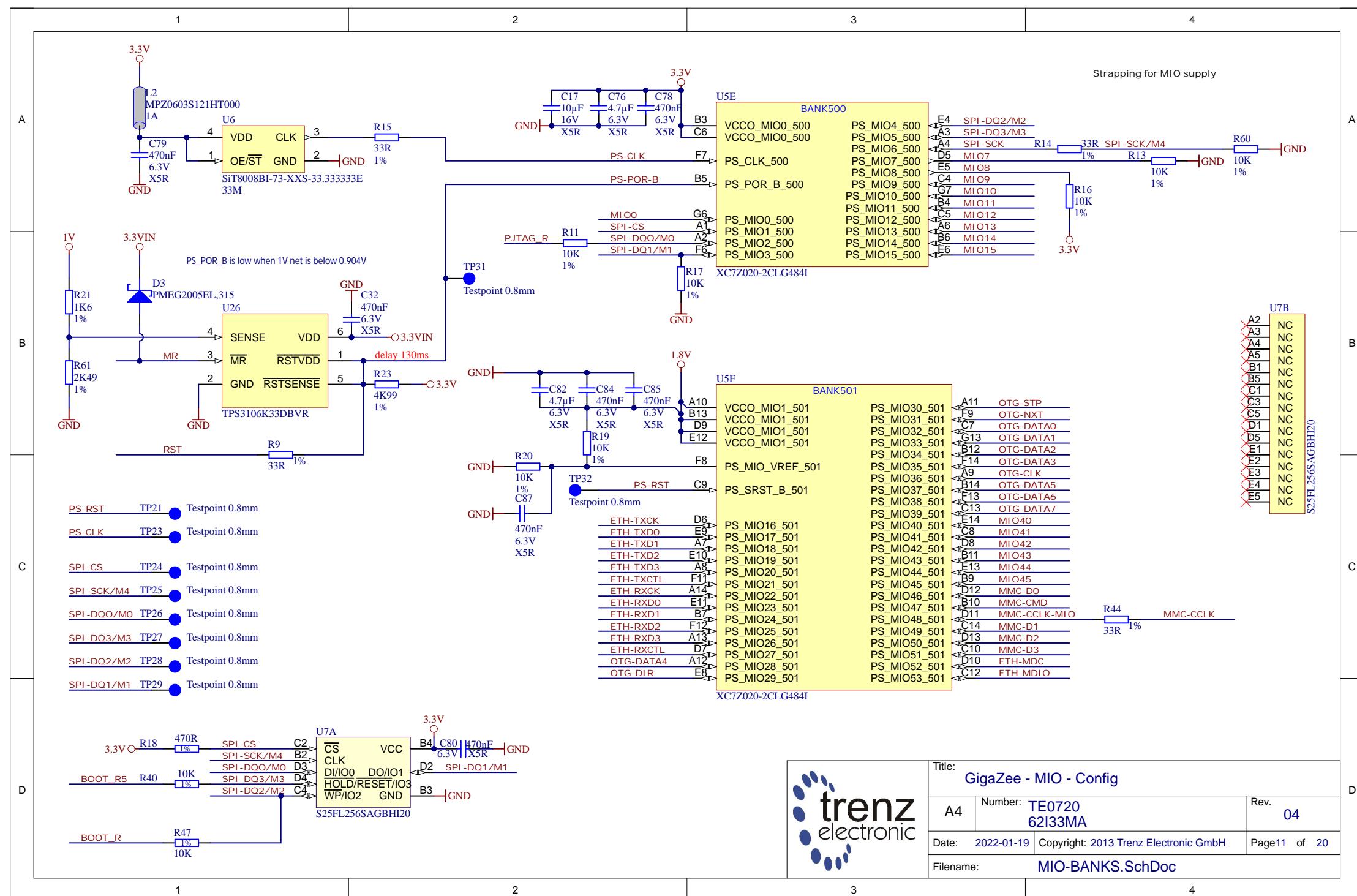
4

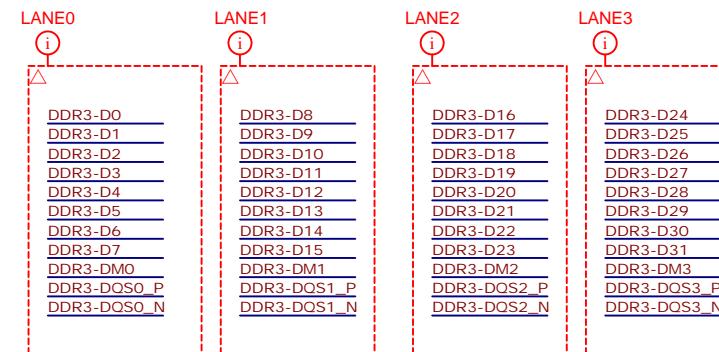
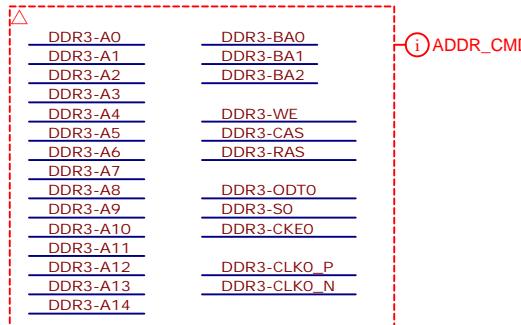
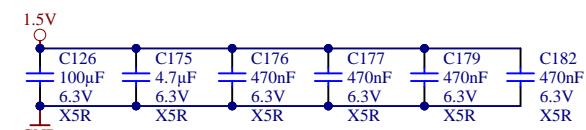
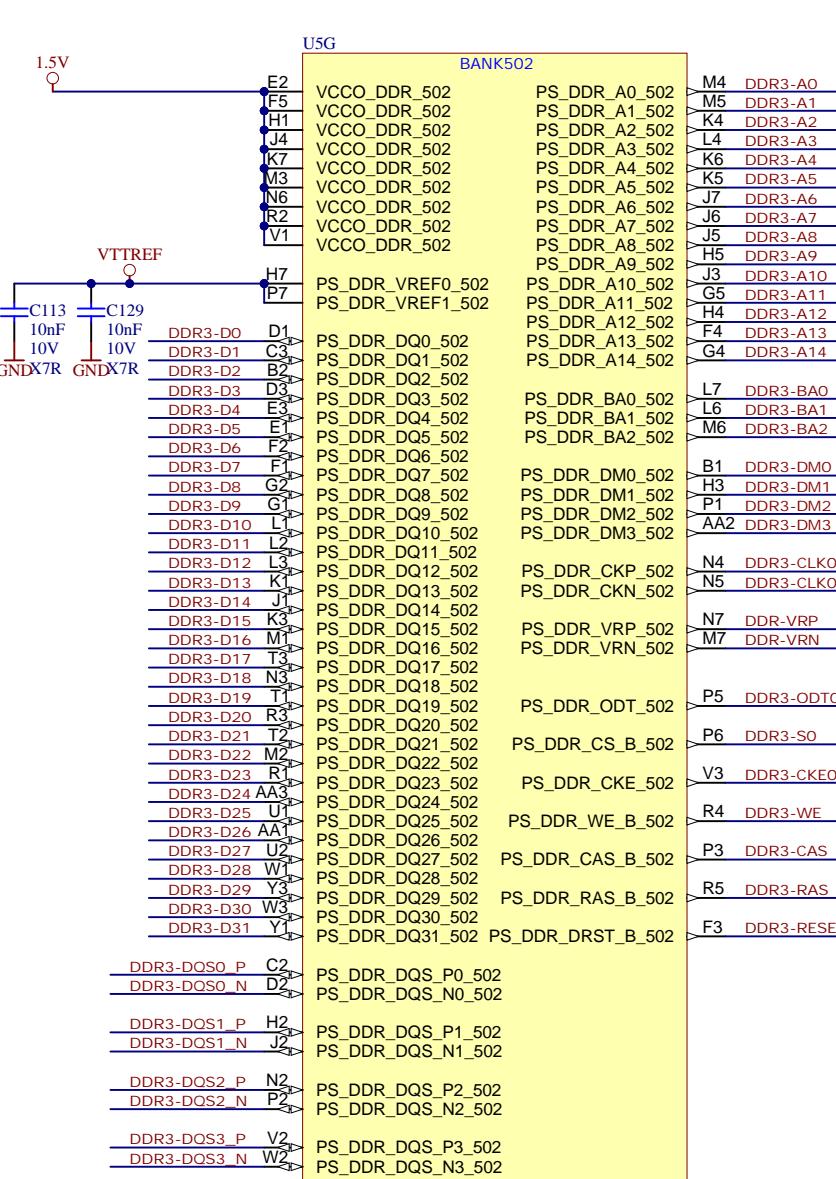


Title: GigaZee - B0	
A4	Number: TE0720 62I33MA
Date: 2022-01-19	Copyright: 2013 Trenz Electronic GmbH
Filename: FPGA-MISC.SchDoc	Rev. 04



Title: GigaZee - FPGA Power		
A4	Number: TE0720 62I33MA	Rev. 04
Date: 2022-01-19	Copyright: 2013 Trenz Electronic GmbH	Page 10 of 20
Filename: FPGA-PWR.SchDoc		





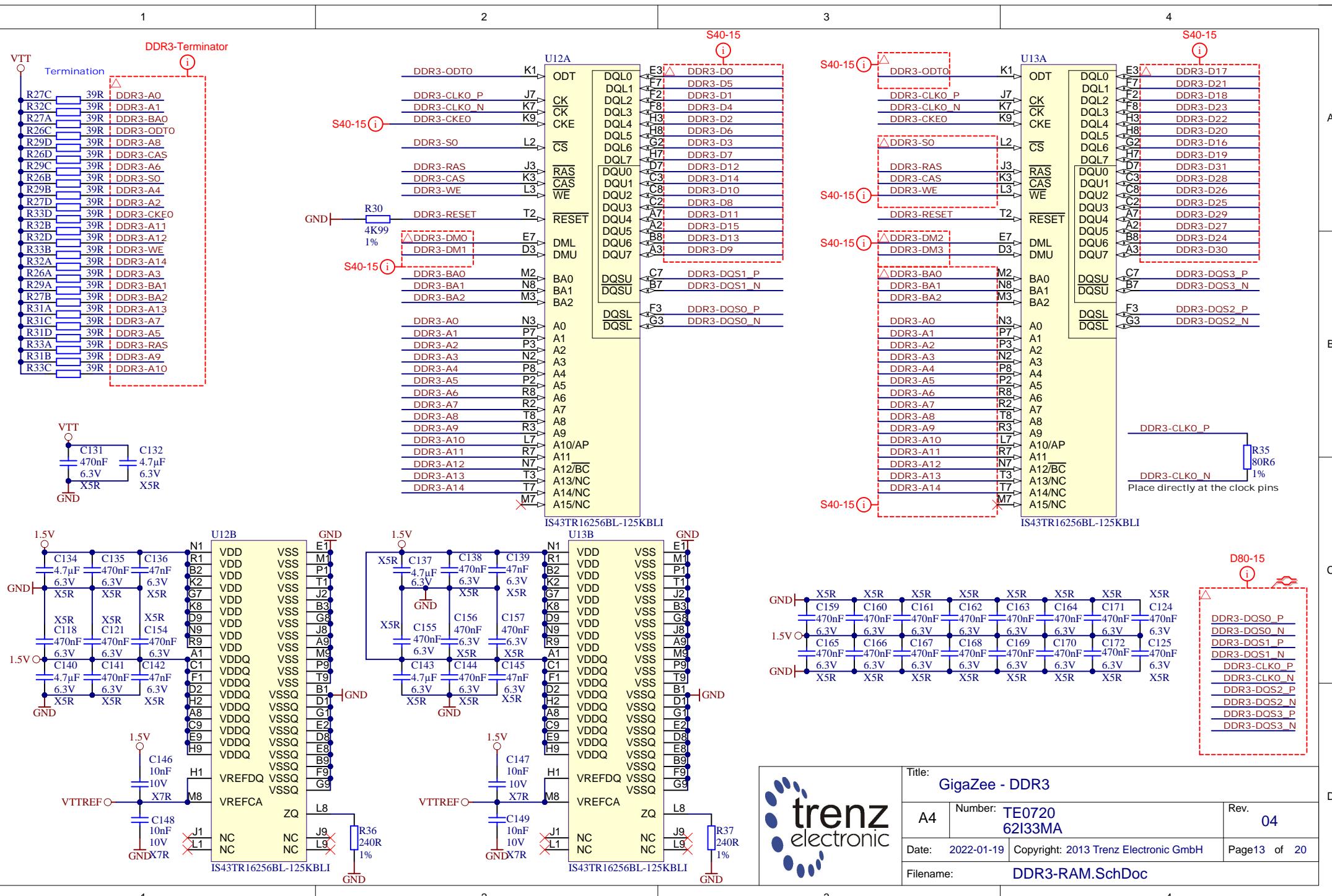
Title: GigaZee - B502

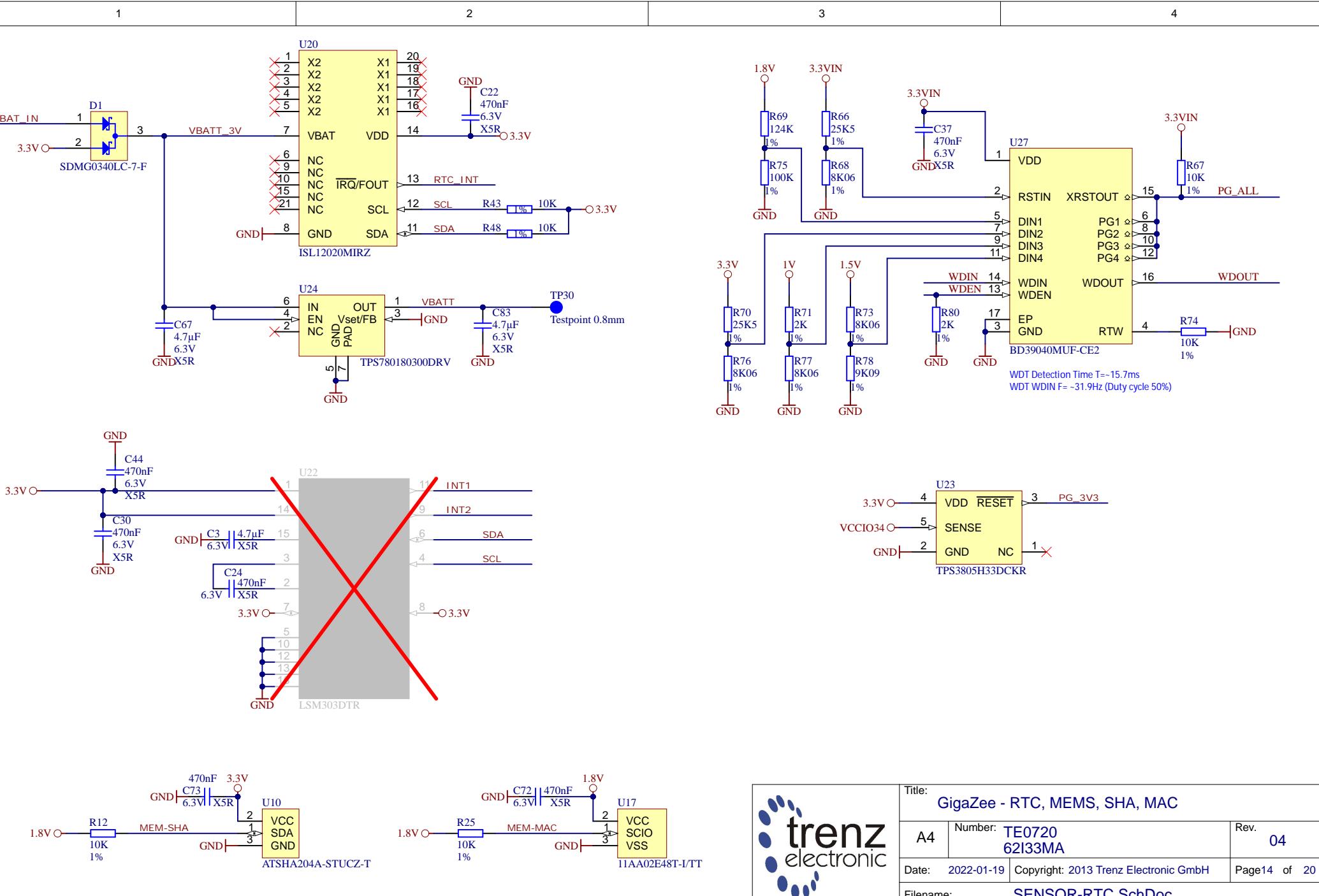
A4 | Number: TE0720
62133MA

Rev. 04

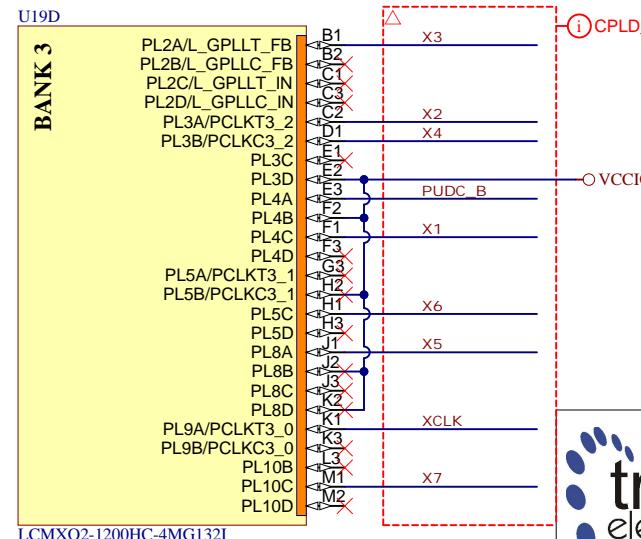
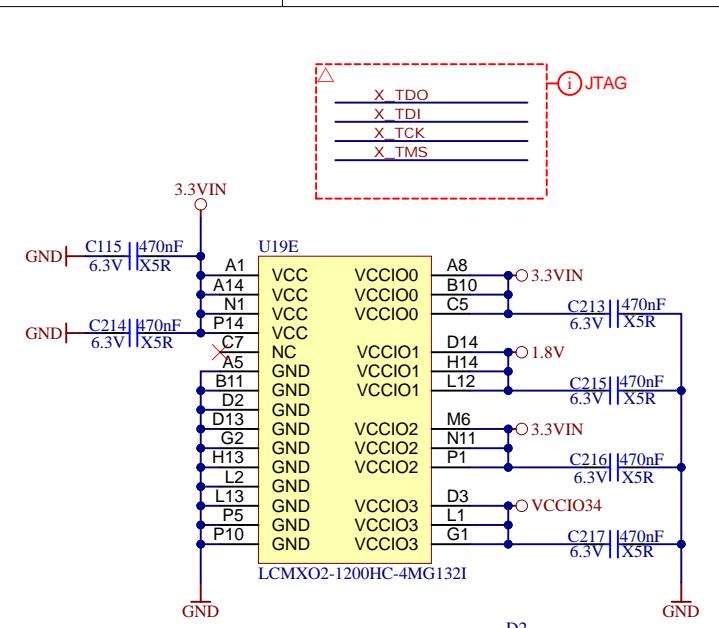
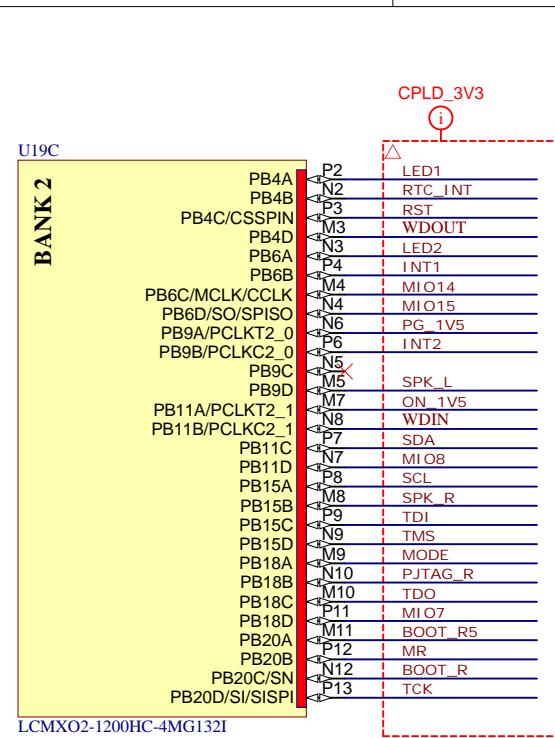
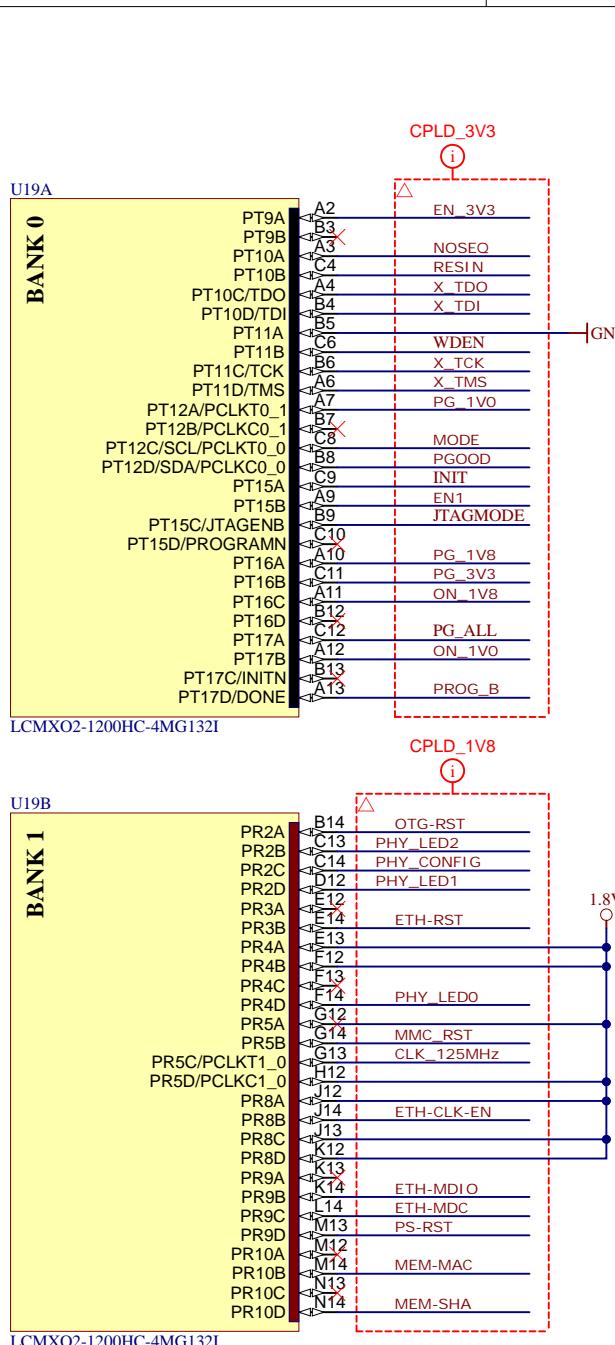
Date: 2022-01-19 | Copyright: 2013 Trenz Electronic GmbH | Page 12 of 20

Filename: PS-DDR.SchDoc





Title: GigaZee - RTC, MEMS, SHA, MAC		
A4	Number: TE0720 62I33MA	Rev. 04
Date: 2022-01-19	Copyright: 2013 Trenz Electronic GmbH	Page 14 of 20
Filename:	SENSOR-RTC_SchDoc	



Title: GigaZee - System Controller

A4 Number: TE0720
62I33MA

Rev. 04

Date: 2022-01-19 Copyright: 2013 Trenz Electronic GmbH Page 15 of 20

Filename: SystemController.SchDoc

A

A

B

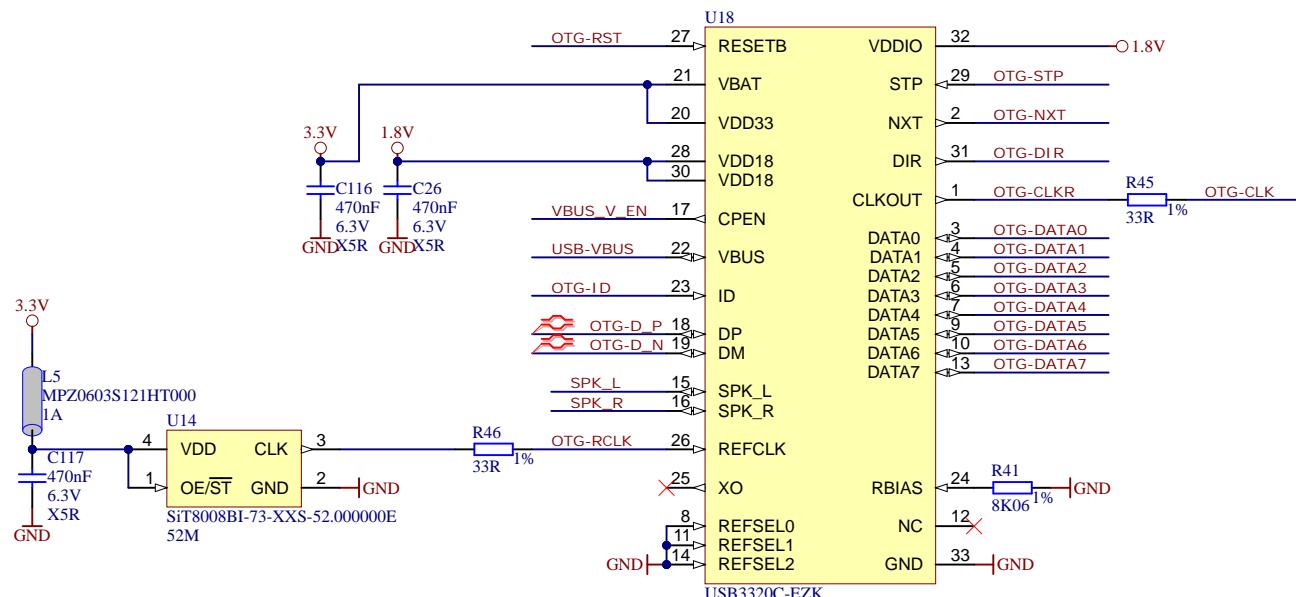
B

C

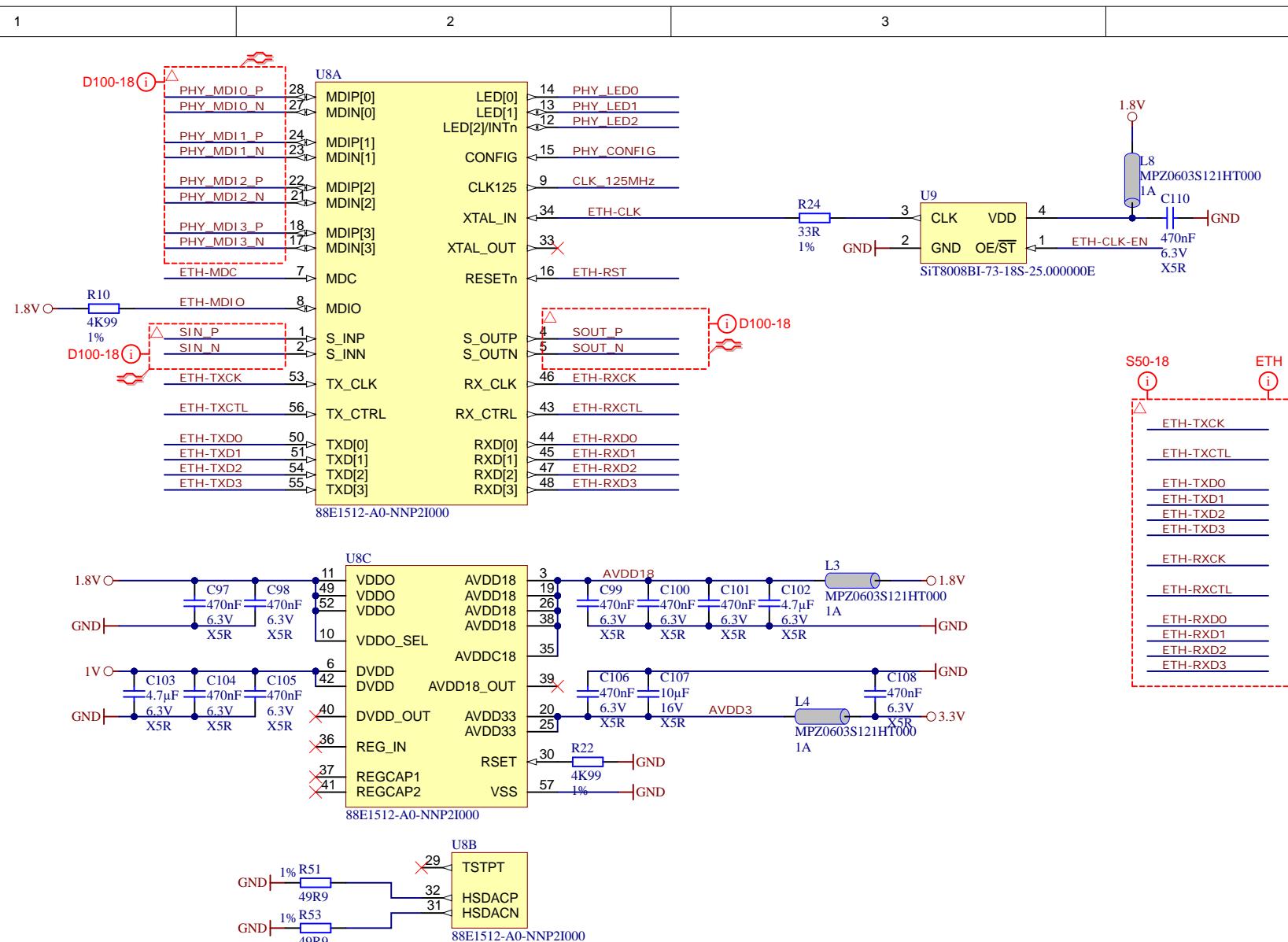
C

D

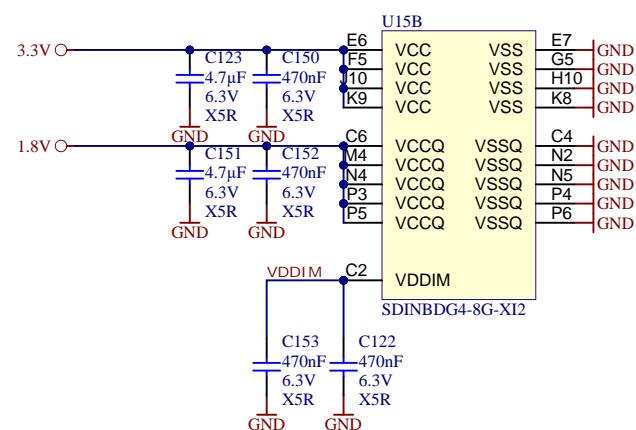
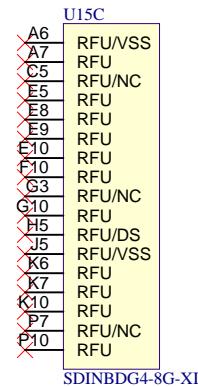
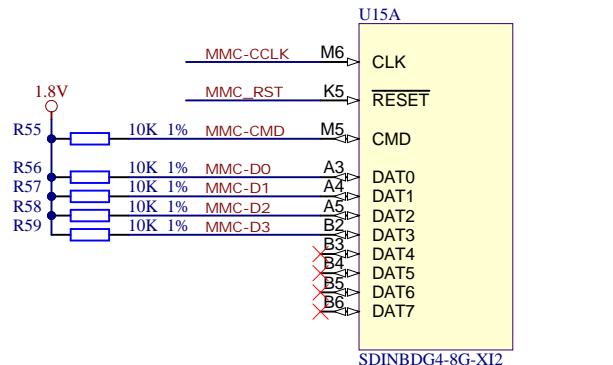
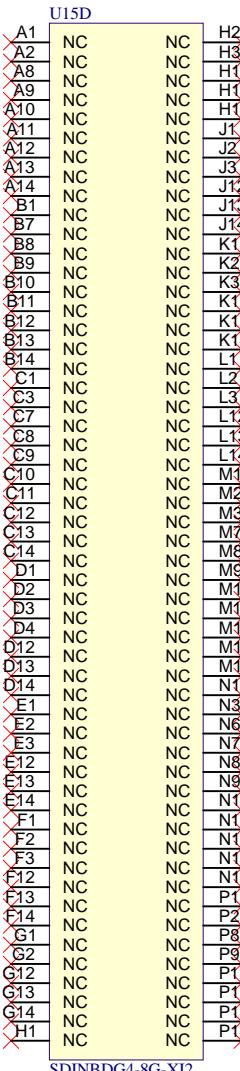
D



Title: GigaZee - USB		
A4	Number: TE0720 62I33MA	Rev. 04
Date: 2022-01-19	Copyright: 2013 Trenz Electronic GmbH	Page 16 of 20
Filename: USB-PHY.SchDoc		



Title: GigaZee - Ethernet		
A4	Number: TE0720 62133MA	Rev. 04
Date: 2022-01-19	Copyright: 2013 Trenz Electronic GmbH	Page 17 of 20
Filename:	ETH-PHY.SchDoc	



Title: GigaZee - eNAND

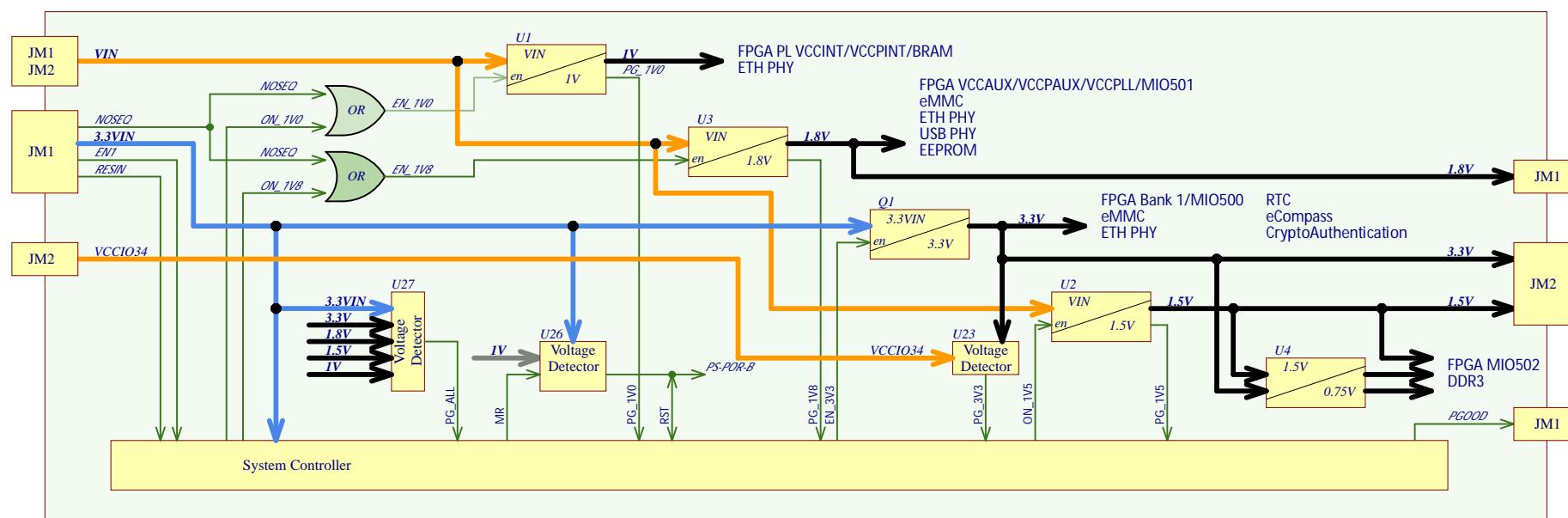
A4 | Number: TE0720
62I33MA

Rev. 04

Date: 2022-01-19 Copyright: 2013 Trenz Electronic GmbH Page 18 of 20

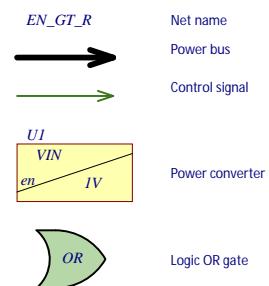
Filename: eMMC.SchDoc

Power-on sequencing:

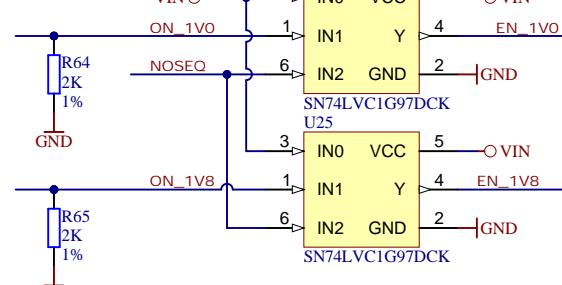
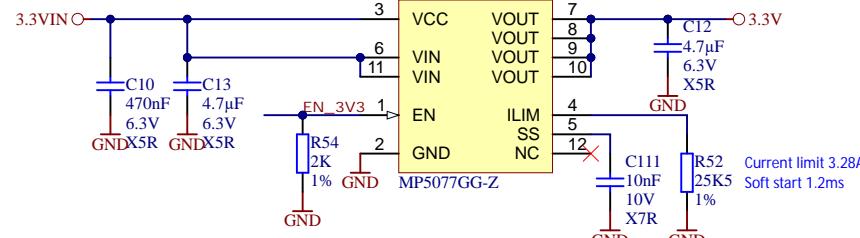
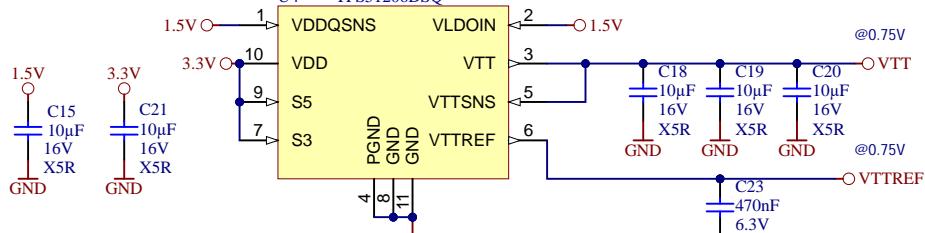
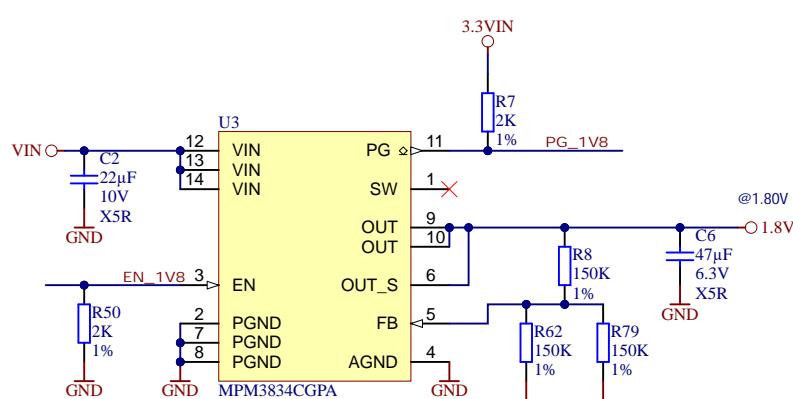
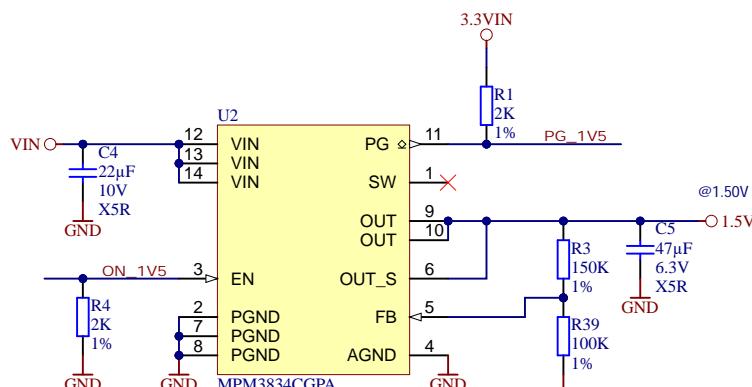
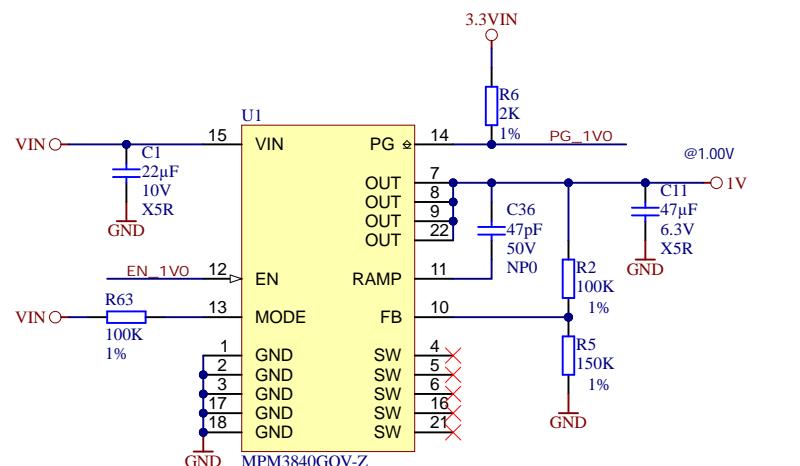


Recommended Operating Conditions

Power Rail	Direction	Range	Tolerance	Description	Note
VIN	IN	3.3 - 5V	+/-5%	Micromodule Power	Mandatory
3.3VIN	IN	3.3V	+/-5%	Micromodule Power	Mandatory
VCCIO13	IN	1.2 - 3.3V	+/-5%	HR IO Bank13	Mandatory
VCCIO33	IN	1.2 - 3.3V	+/-5%	HR IO Bank33	-
VCCIO34	IN	1.2 - 3.3V	+/-5%	HR IO Bank34	Mandatory
VCCIO35	IN	1.2 - 3.3V	+/-5%	HR IO Bank35	-
VBAT_IN	IN	2.5 - 5V	+/-5%	RTC	-
1.8V	OUT	1.8V	+/-5%	For Carrier card Periphery	-
3.3V	OUT	3.3V	+/-5%	For Carrier card Periphery	-
DDR_PWR	OUT	1.5V	+/-5%	For Carrier card Periphery	-
VREF_JTAG	OUT	3.3V	+/-5%	For Carrier card Periphery	Connected to 3.3VIN



Title: GigaZee - Power Diagram		
A4	Number: TE0720 62133MA	Rev. 04
Date: 28.10.2022	Copyright: Trenz Electronic GmbH / TT	Page 19 of 20
Filename: Power_Diagram.SchDoc		



Title: Snowman Power

A4 Number: TE0720
62I33MA

Date: 2022-01-19 Copyright: 2013 Trenz Electronic GmbH Page 20 of

Filename: Power.SchDoc