

Regarding the usage of our schematics and alike documentation for Trenz module TE0714.

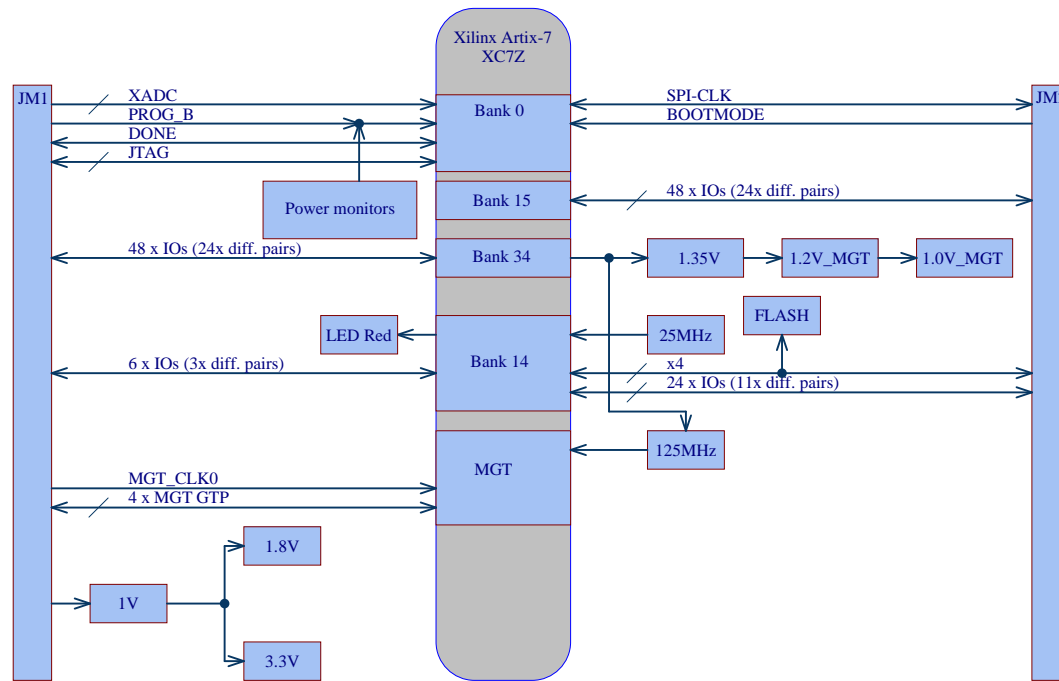
Project is protected under copyright and we strongly and strictly prohibit the reverse engineering or recreation, even if the design is just adapted or modified. TE0714 is protected under such right and in case of plagiarism we will have to do anything necessary in order to protect our assets.

Schematics and other handouts serve for informational purposes only!

Drawn by	ED
Checked by	VT
Assembly variant	[No Variations]
Created by	
Modified by	
Modified at	



Title: Legal Notices Modules		
A4	Number: TE0714 [No Variations]	Rev. 04
Date: 07.12.2022	Copyright: Trenz Electronic GmbH	Page 1 of 10
Filename: Legal Notices Modules.SchDoc		



PCB Revision

Revision	PCB REVID 3	PCB REVID 2	PCB REVID 1	PCB REVID 0
REV03	N/A	N/A	N/A	GND
REV04	GND	VCCIO15	GND	GND

VCCIO_0 Power Function

*JM2 pin 54 function	R21	R22	R24	R25	R27
3.3V Power OUTPUT	+	-	+	-	+
1.8V Power OUTPUT	-	+	-	+	+
2.5V/3.3V Power Input	-	-	+	-	+
1.8V Power Input	-	-	-	+	+
Not connected	X	X	X	X	-

Legend: + = Assembled; - = Not assembled; X = Do not care;

Bootmode

BOOTMODE	Bootmode
0	SLAVE_SELECTMAP
1 / Floating	MASTER_SPI

U_Legal Notices Modules

U_TE0714

U_Power_Diagram

U_Revision Changes



Title: Overview		
A4	Number: TE0714 [No Variations]	Rev. 04
Date: 20.12.2022	Copyright: Trenz Electronic GmbH	Page 2 of 10
Filename: Overview.SchDoc		

Special notes:

-
-

Top of Board

Serial
Serial
Serialnumber 6,3 x 6.3mm
LOGO2

CE Logo on Top Overlay

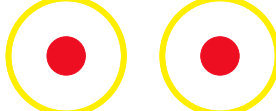
CE-TOPOVERLAY
LOGO3

UKCA Logo on Top Overlay

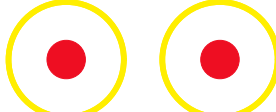
UKCA-TOPOVERLAY
LOGO4

TE Address Overlay

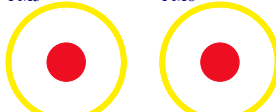
ADDRESS
PM1 PM2



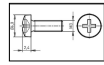
FIDU-DOT - mini
PM3 PM4



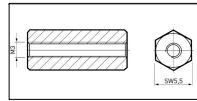
FIDU-DOT - mini
PM5 PM6



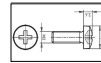
FIDU-DOT - mini FIDU-DOT - mini



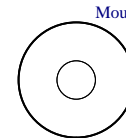
Screw M3x4



Standoff M3x8 II



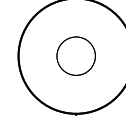
Screw M3x6



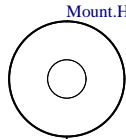
Mount.Hole 3.2mm



GND Mount.Hole 3.2mm

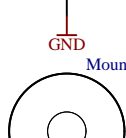


GND



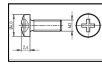
Mount.Hole 3.2mm

GND

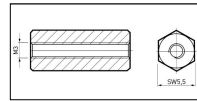


Mount.Hole 3.2mm

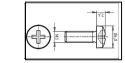
GND



Screw M3x4



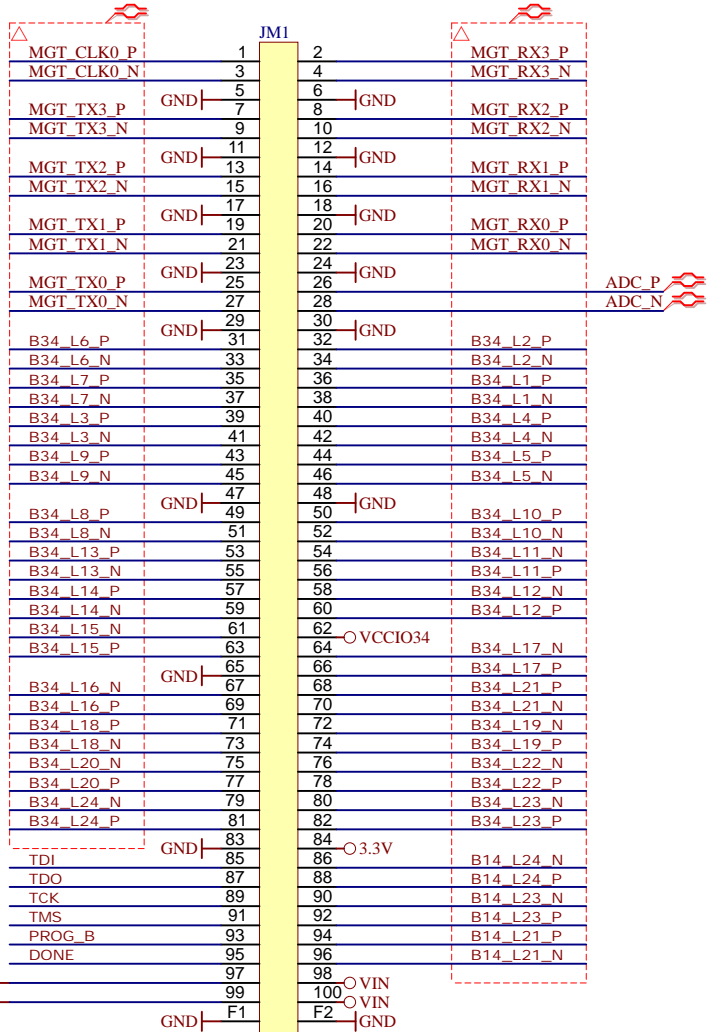
Standoff M3x8 II



Screw M3x6



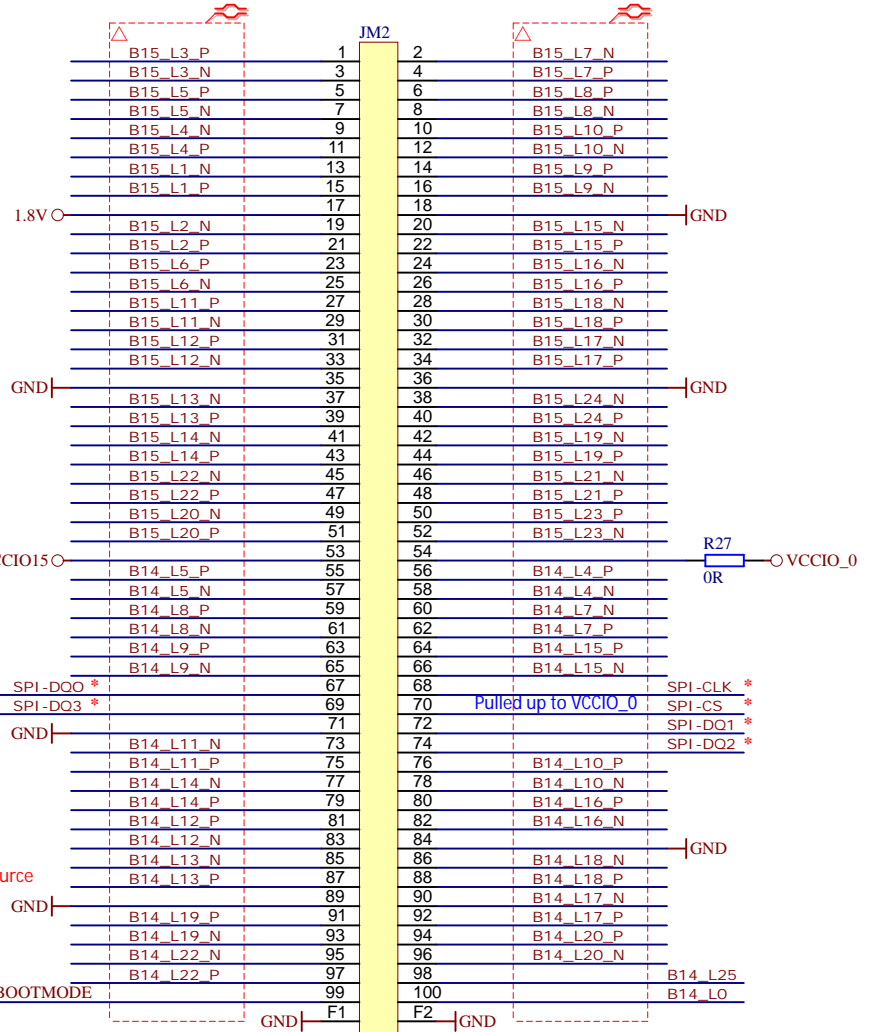
Title: TE0714		
A4	Number: TE0714 [No Variations]	Rev. 04
Date: 20.12.2022	Copyright: Trenz Electronic GmbH	Page 3 of 10
Filename: TE0714.SchDoc		



LSHM-150-04.0-L-DV-A-S-K-TR

Pulled up to VCCIO_0
Pulled up to VCCIO_0

* B2B IOs SPI-xx are shared with FLASH and can not be used as normal IOs.



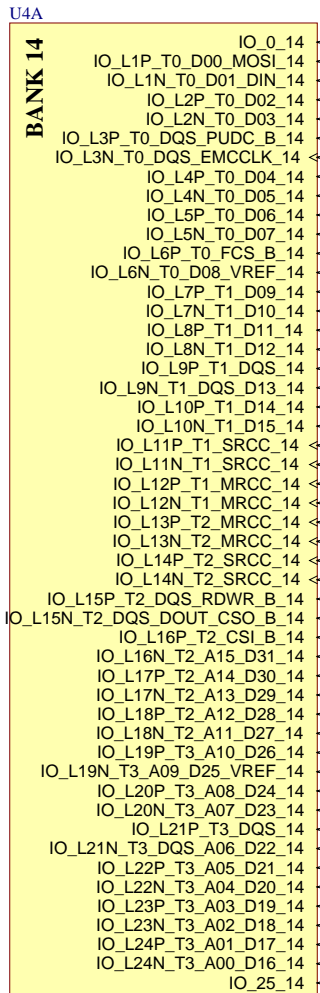
LSHM-150-04.0-L-DV-A-S-K-TR

25MHz clock source

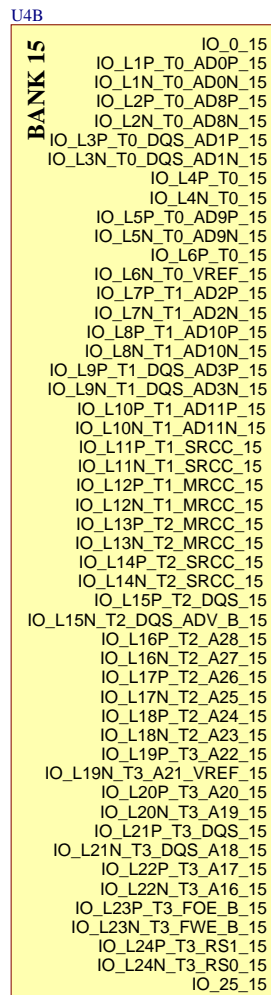
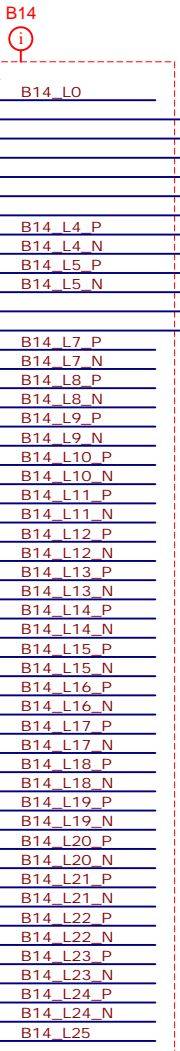
Pulled up to VCCIO_0



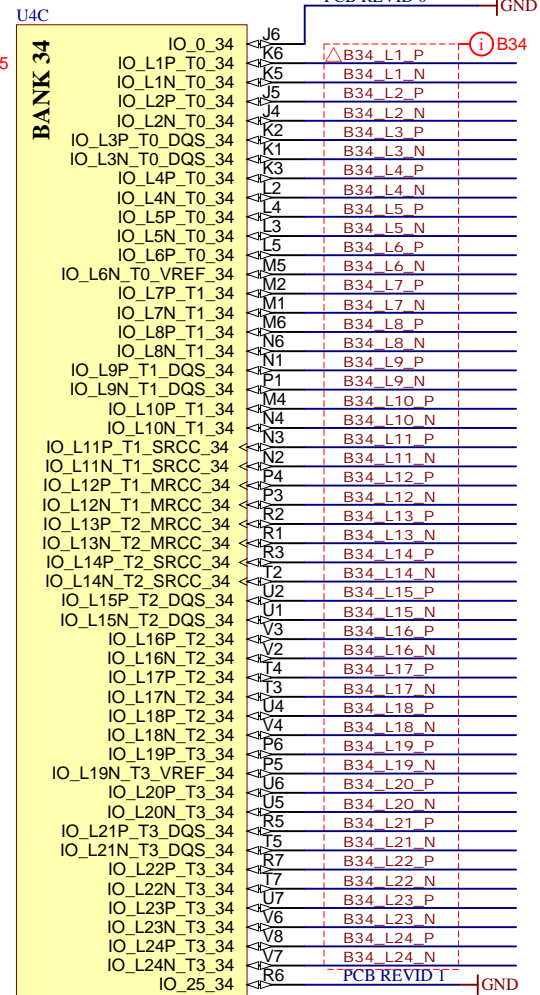
Title: B2B_Connector		
A4	Number: TE0714 [No Variations]	Rev. 04
Date: 20.12.2022	Copyright: Trenz Electronic GmbH	Page 4 of 10
Filename: B2B_Connector.SchDoc		



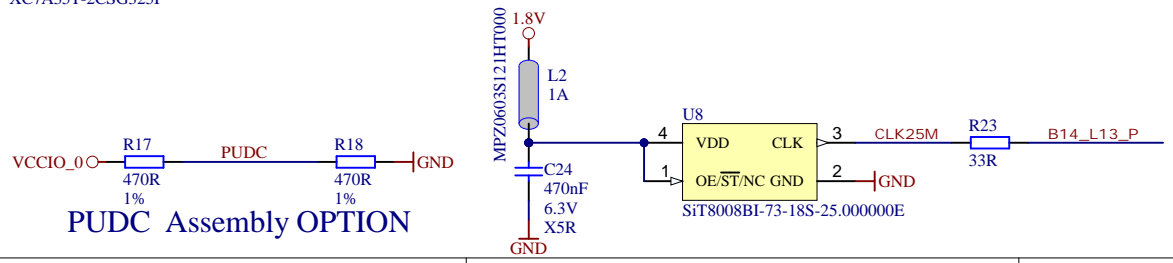
XC7A35T-2CSG325I



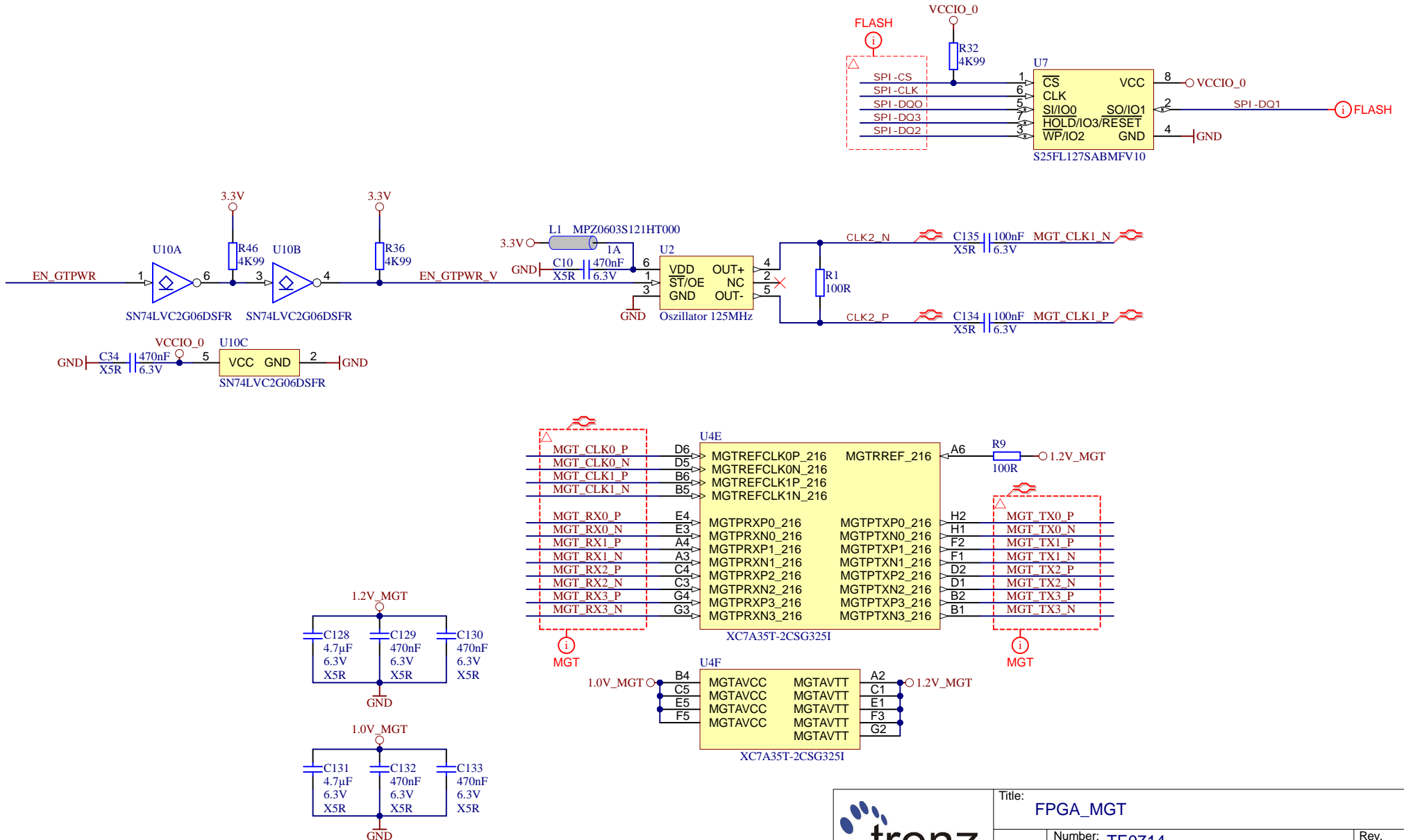
XC7A35T-2CSG325I




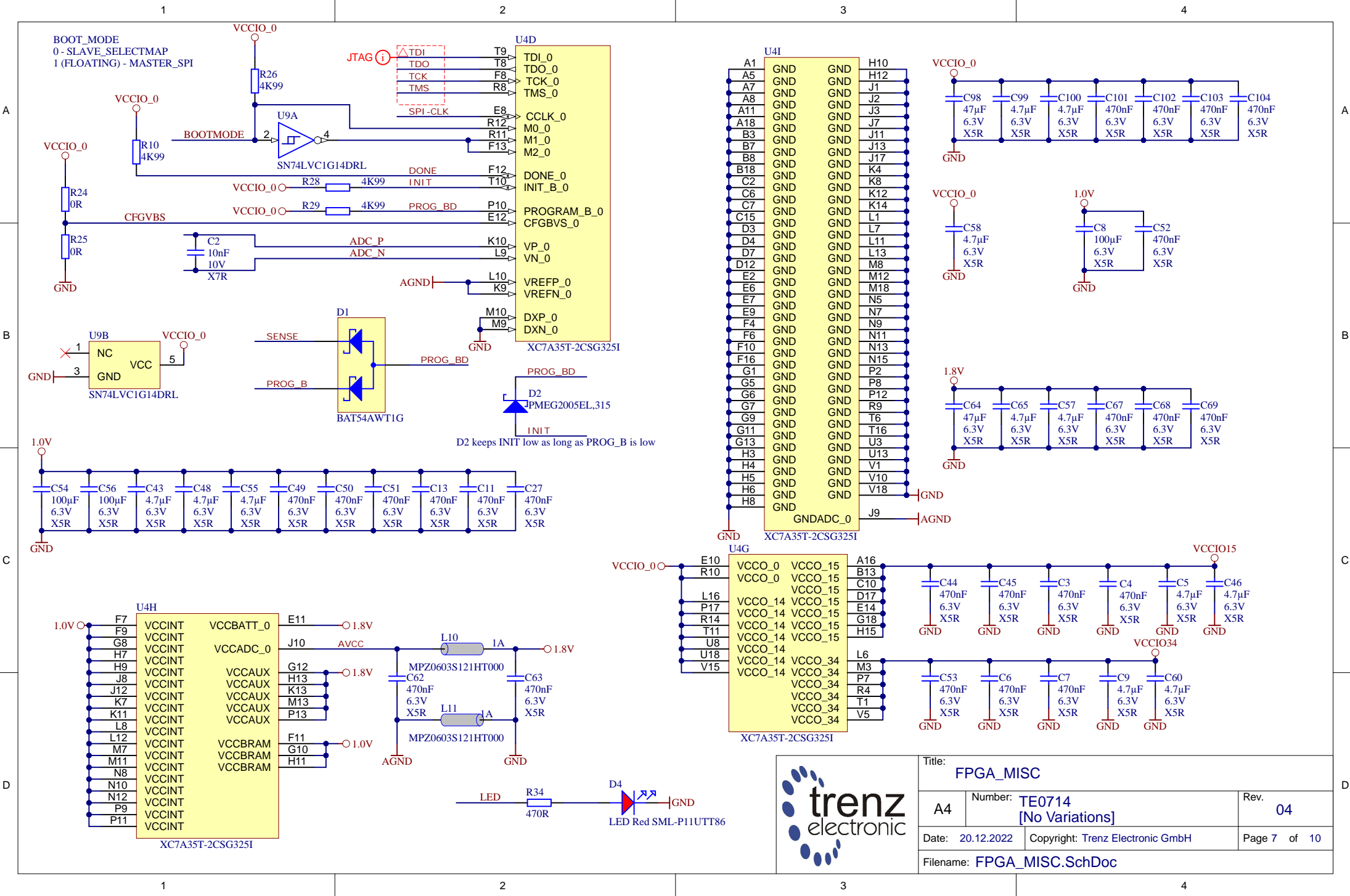
XC7A35T-2CSG325I



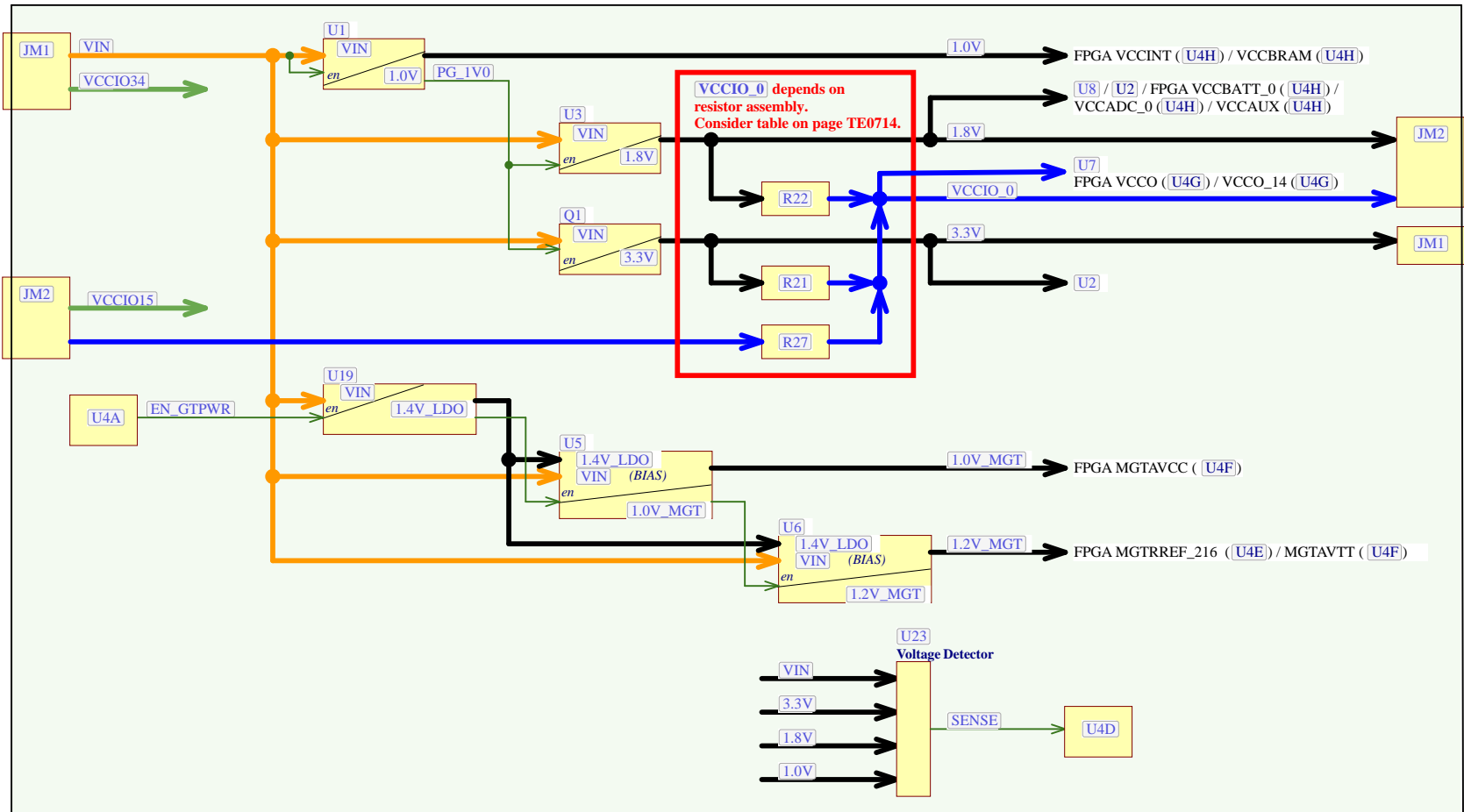
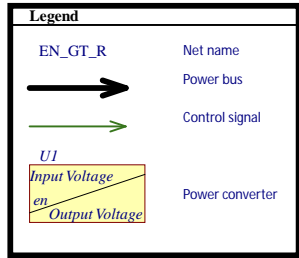
Title: FPGA_IO		
A4	Number: TE0714 [No Variations]	Rev. 04
Date: 20.12.2022	Copyright: Trenz Electronic GmbH	Page 5 of 10
Filename: FPGA_IO.SchDoc		



			Title: FPGA_MGT	
			A4	Number: TE0714 [No Variations]
Date: 20.12.2022		Copyright: Trenz Electronic GmbH		Page 6 of 10
Filename: FPGA_MGT.SchDoc				



Title: FPGA_MISC		
A4	Number: TE0714 [No Variations]	Rev. 04
Date: 20.12.2022	Copyright: Trenz Electronic GmbH	Page 7 of 10
Filename: FPGA_MISC.SchDoc		

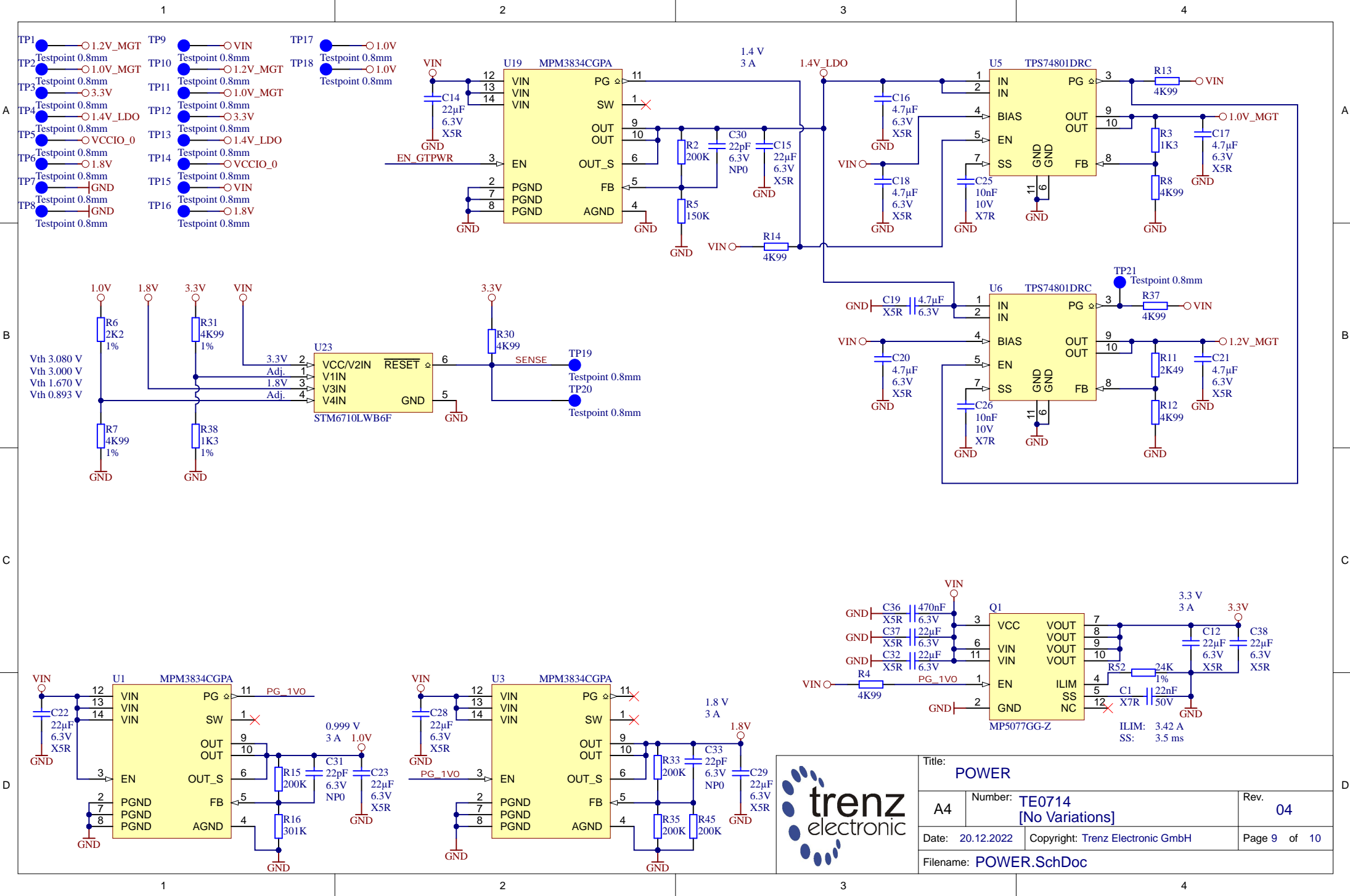


Recommended Operating Conditions

Power Rail	Direction	Range in V	Tolerance	Description	Note
VIN	IN	3.3	+/- 3 %	Micromodule Power	Mandatory
VCCIO_0	IN/OUT	1.8 - 3.3	+/- 3 %	HR IO Bank 0 and Bank 14	Mandatory. Depends on assembly option.
VCCIO15	IN	1.2 - 3.3	+/- 3 %	HR IO Bank 15	-
VCCIO34	IN	1.2 - 3.3	+/- 3 %	HR IO Bank 34	-
1.8V	OUT	1.8	+/- 3 %	For Carrier card Periphery	-
3.3V	OUT	3.3	+/- 3 %	For Carrier card Periphery	-




Title: Power_Diagram		
A4	Number: TE0714 [No Variations]	Rev. 04
Date: 07.12.2022	Copyright: Trenz Electronic GmbH	Page 8 of 10
Filename: Power_Diagram.SchDoc		



Title: POWER		
A4	Number: TE0714 [No Variations]	Rev. 04
Date: 20.12.2022	Copyright: Trenz Electronic GmbH	Page 9 of 10
Filename: POWER.SchDoc		

REVISION HISTORY

REV	Description	
-02	<ul style="list-style-type: none"> 1) Added 0 ohm strap option to supply VCCIO0 on B2B connector 2) Added PCB Revision sense support. PCB Revision readout possible from HDL Design 3) Updated FPGA pin PROG_B connection. TPS3805H33 push-pull output RESET_N not affected on baseboard circuit, connected to PROG_B. 4) C8, C54, C56 updated to 100uF for variant 50-2I 5) Added testpoints 	
-02A 12.2018	1) New FLASH memory U7 S25FL127SABMFV10	
-03	<ul style="list-style-type: none"> 1) Changed obsolete component U3 (LXDC2HL18A-052 -> EP5357HUI) 2) DXP/DXN connected to GND (recommendation UG475, p31) 3) Added serial number to silk 4) Changed obsolete component Q1 (TPS27082LDDCR ->TPS27081ADDCR) 5) Full update LIB 6) Optimized testpoints placement <p>2022-04-08: 7) VY: traceability pad S/N replaced by Resistor 0R</p>	
-04	<ul style="list-style-type: none"> 1) Removed serial number S/N and use FPGA U4 pin R6 for PCB REV identification. 2) Changed inductors from BKP0603HS121-T to MPZ0603S121HT000 for L1, L2, L10, and L11. 3) Changed DCDCs from TPS82085SIL to MPM3834CGPA-Z for U1 and U19. 4) Changed DCDC from EP5357HUI to MPM3834CGPA for U3. 5) Changed TPS27081ADDCR to MP5077GG-Z for Q1. 6) Added voltage translator for signal "EN_GTPWR" (U10, C34, R36, R46). 7) Added diode D2. 8) Changed voltage monitor TPS3805H33DCCR to STM6710LWB6F for U23 and added resistor R38. 9) Added UKCA and RoHS logo. 10) Added system overview, power diagram, and legal notices. 11) Added testpoints TP10...16 on top layer. 12) Added testpoints for 1.0V (TP17 and TP18) and for SENSE net (TP19 and TP20). 13) Changed power sequence for U5 and U6. 14) Changed voltage rail 1.35V_LDO to 1.4V_LDO and increased voltage accordingly. 15) Inserted PCB revision connections: <ul style="list-style-type: none"> - PCB REVID0 at FPGA U4 pin J6. - PCB REVID1 at FPGA U4 pin R6. - PCB REVID2 at FPGA U4 pin D10. - PCB REVID3 at FPGA U4 pin H14. 16) Updated decoupling capacitors (added C43...46, C53, C60). 17) Added pull-up resistor R37 and testpoint TP21 for DCDC U6 PG pin. 18) Updated components from library. 	ED

		Title: Revision Changes	
		A4	Number: TE0714 [No Variations]
Date: 20.12.2022		Copyright: Trenz Electronic GmbH	
Page 10 of 10		Filename: Revision Changes.SchDoc	