

ConnectCore MP1 Dev Board

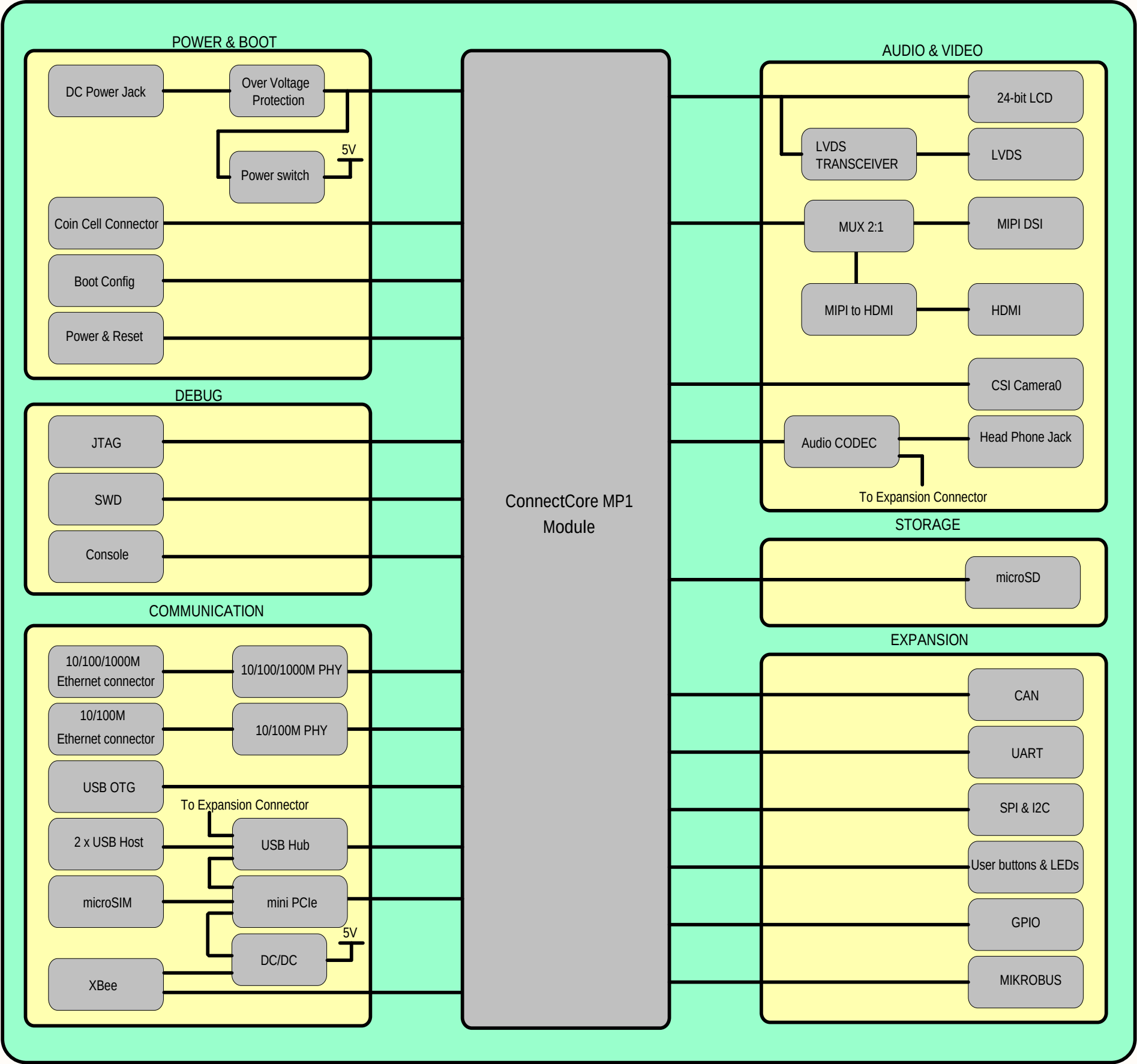
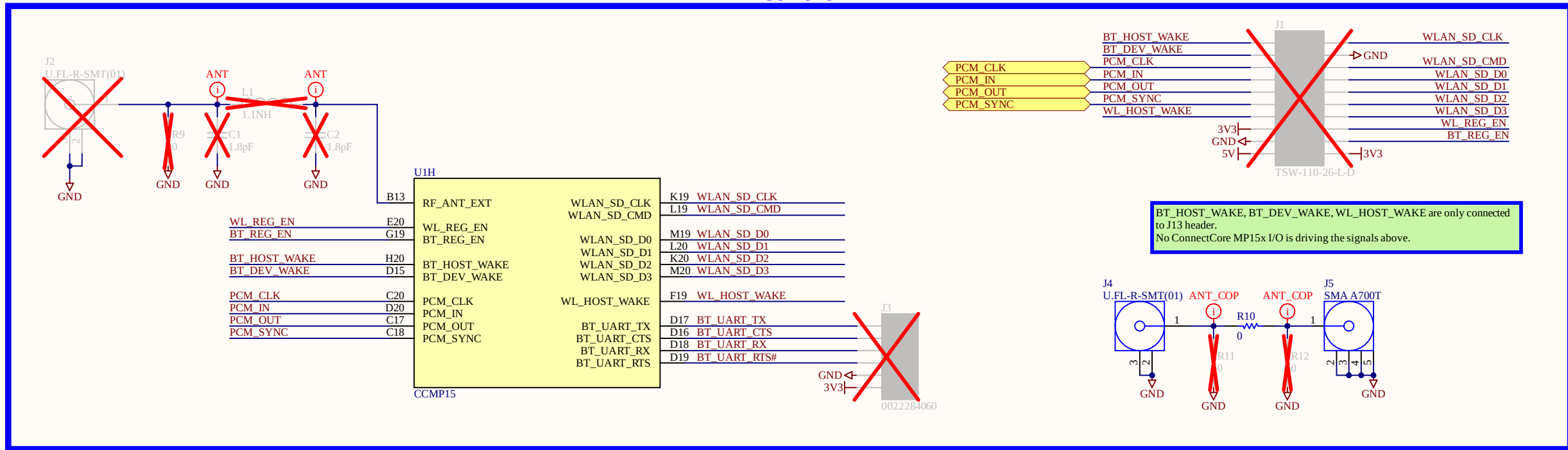


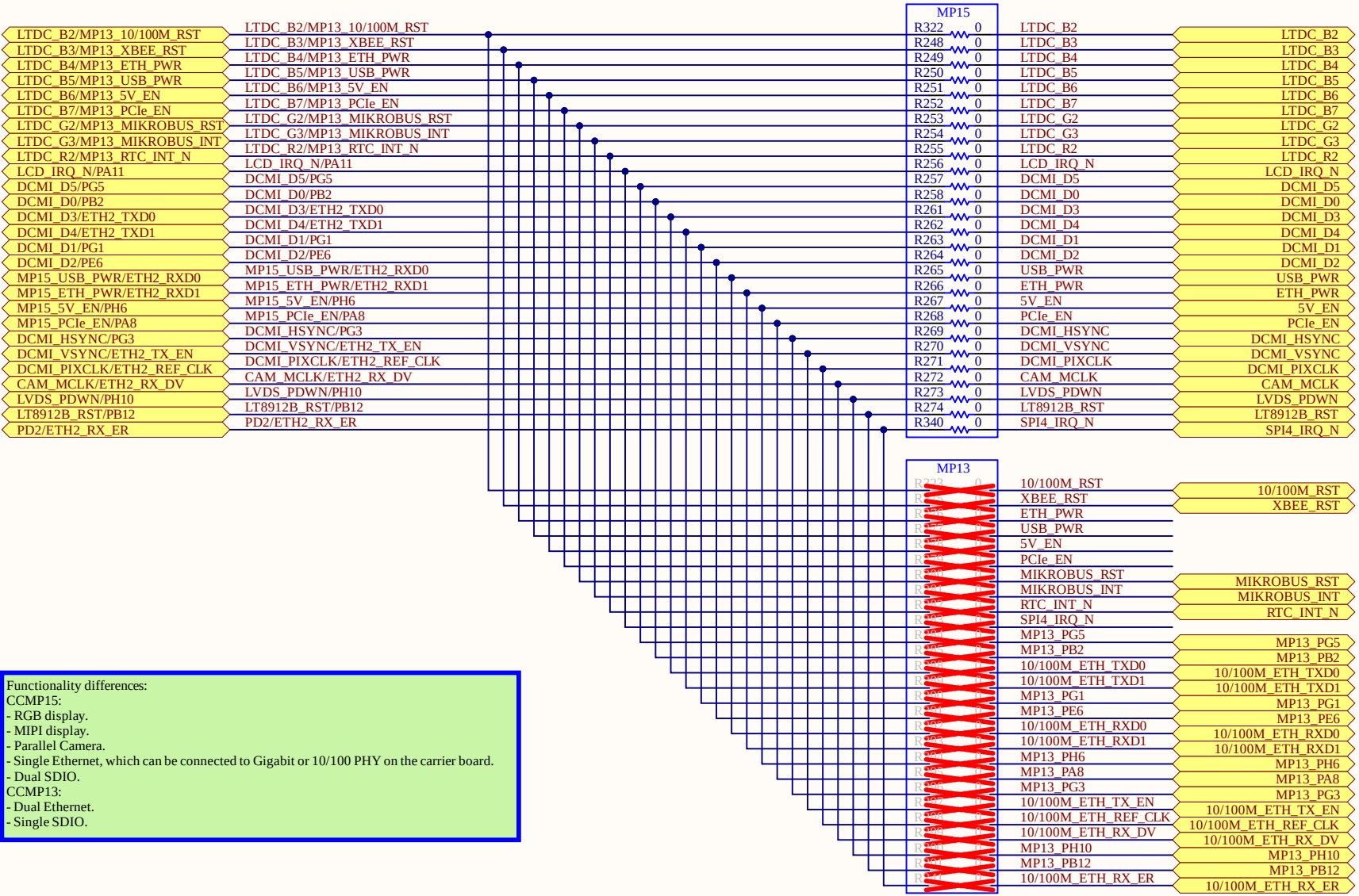
Table of Content

Page	Name
Page 1	Block Diagram
Page 2	CCMP1 Module
Page 3	CCMP13-CCMP15 selection
Page 4	Power, reset
Page 5	MicroSD, RTC, mini PCIe, microSIM
Page 6	JTAG, SWD, Console, UART
Page 7	10/100/1000M Ethernet
Page 8	10/100M Ethernet
Page 9	USB OTG, USB HUB, USB Host
Page 10	MIPI display
Page 11	HDMI
Page 12	LVDS, Parallel Display, Camera
Page 13	Audio
Page 14	CAN, I2C, XBee, MIKROBUS
Page 15	Bootstrap
Page 16	Expansion Connectors, User LEDs
Page 17	GPIO Table, System Power Rails
Page 18	History, Mechanical

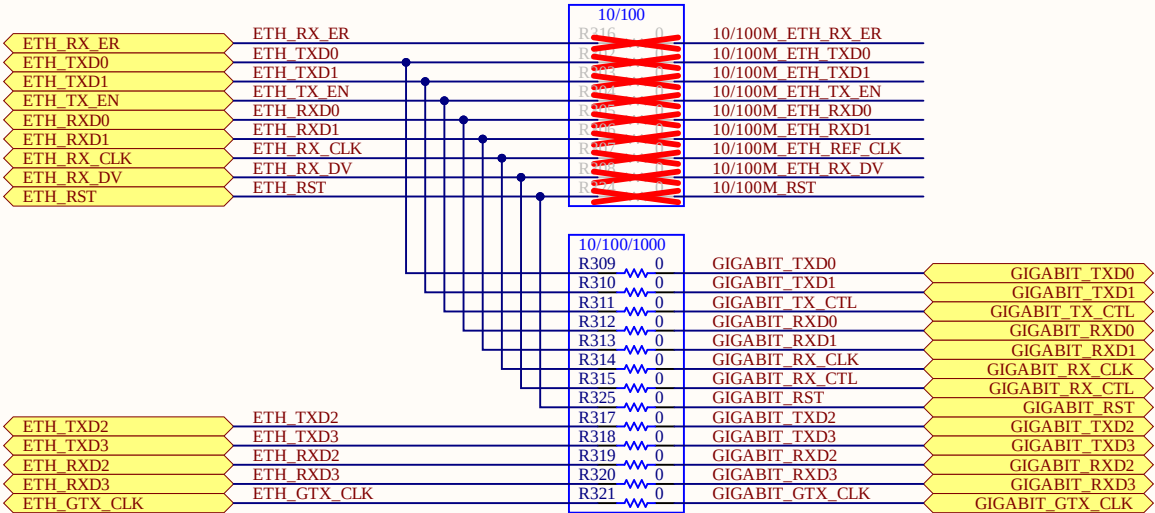
RF control



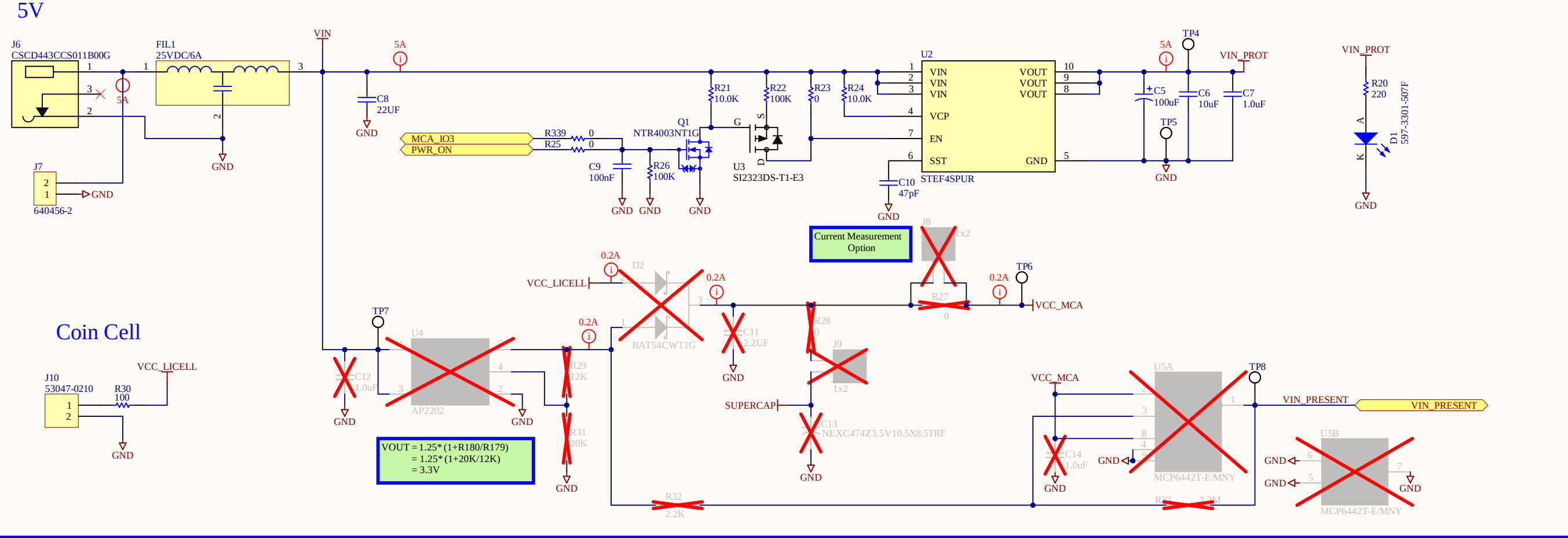
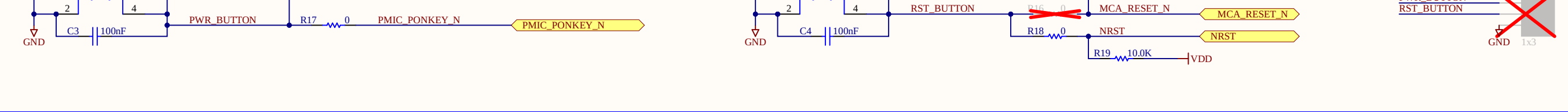
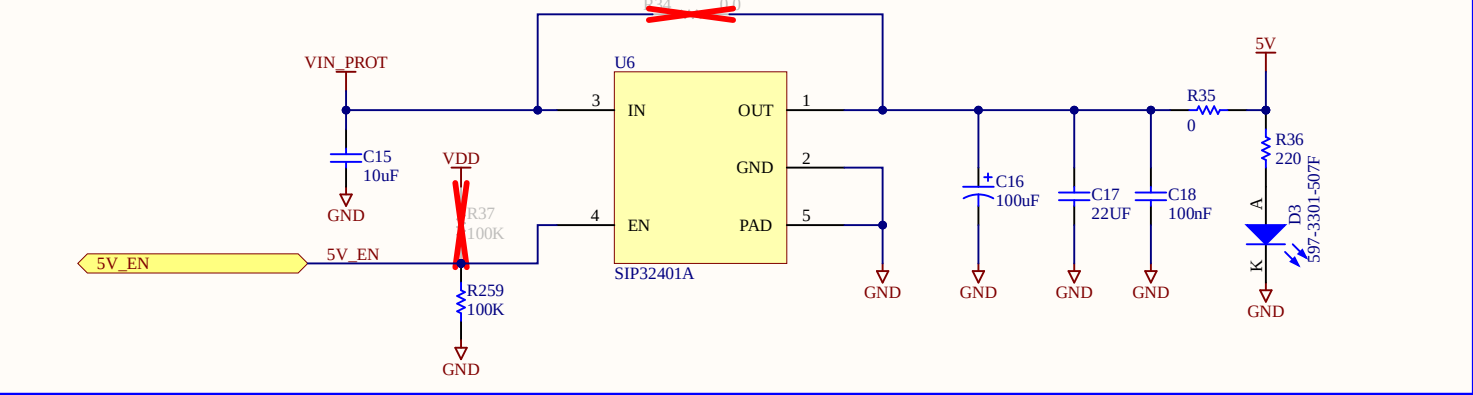
CCMP13-CCMP15 selection



Ethernet selection

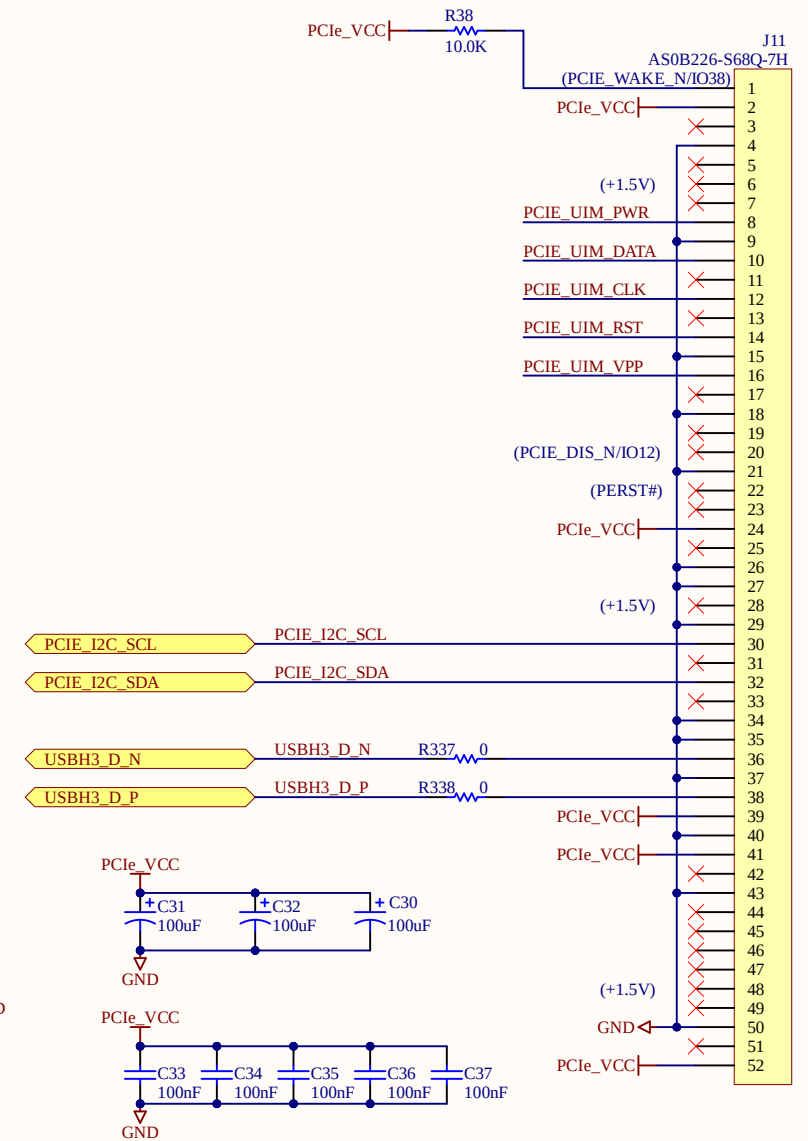
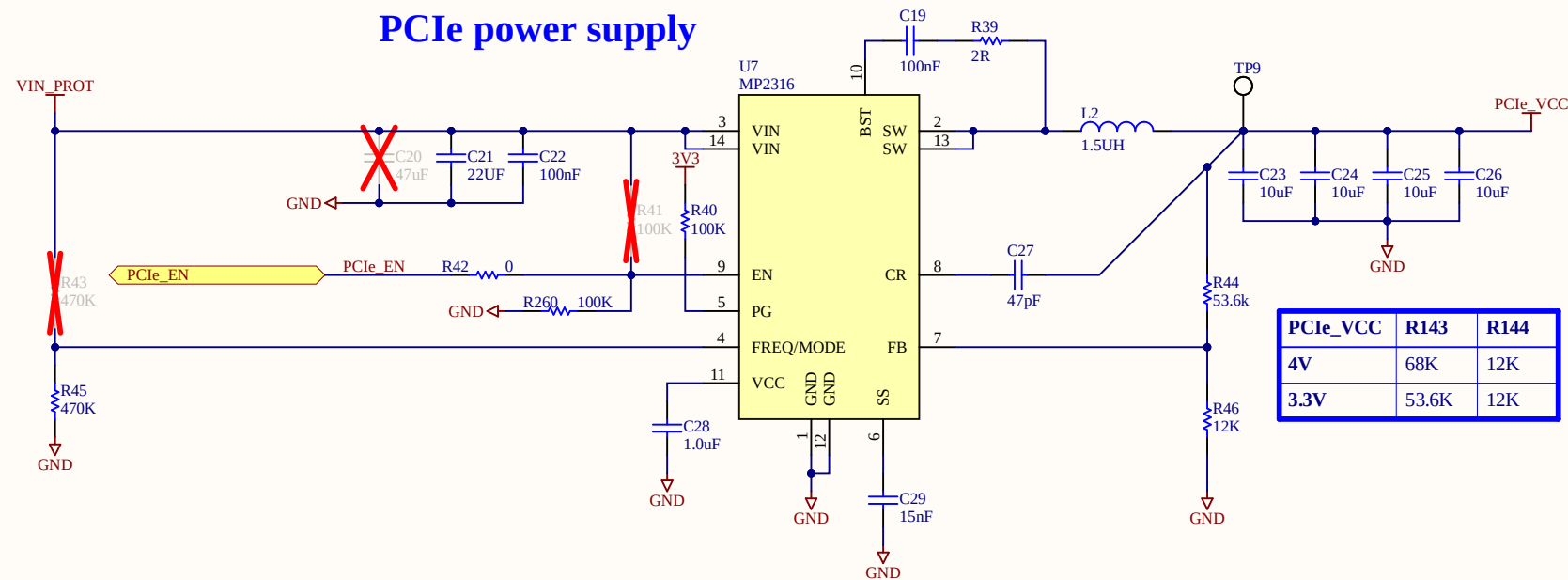


1	2	3	4	5	6	7	8
---	---	---	---	---	---	---	---

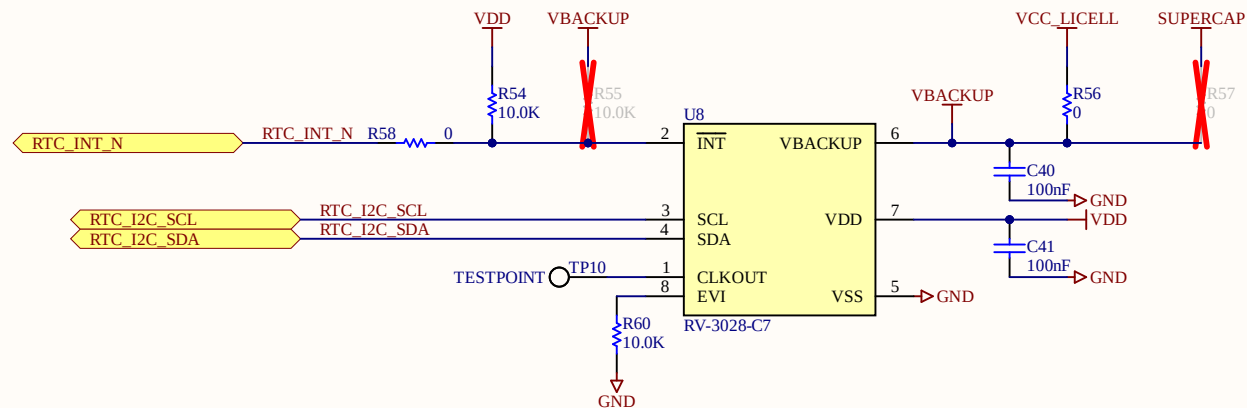
[illegible]

DIGI™

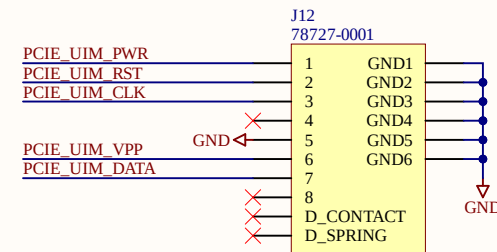
miniPCIe



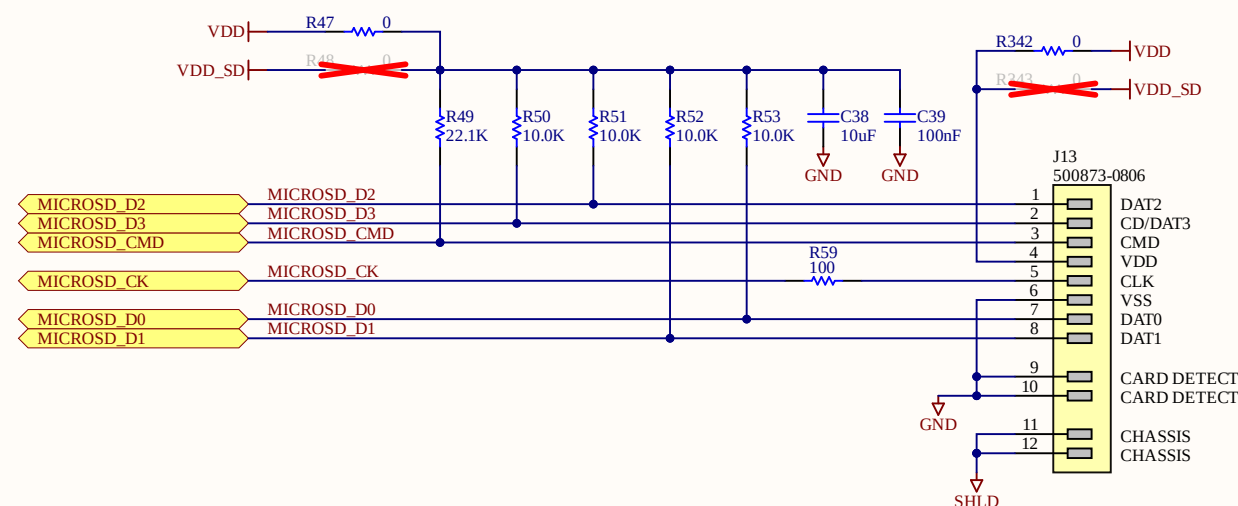
RTC



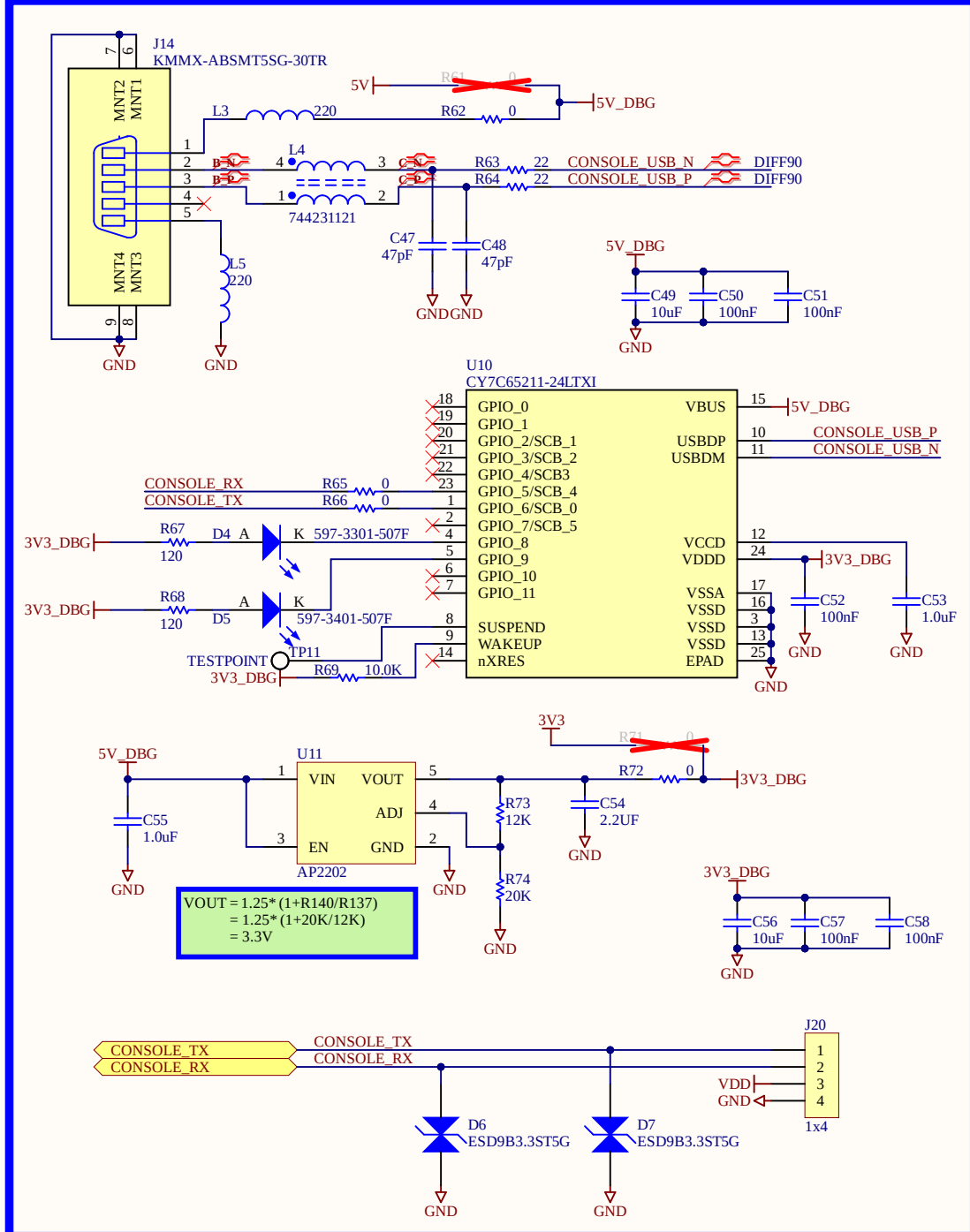
micro SIM



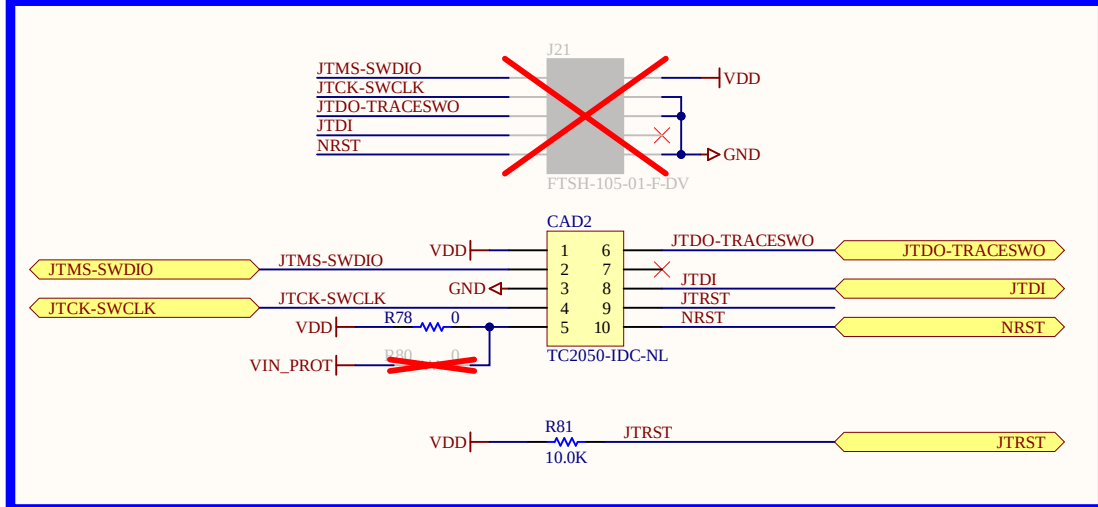
microSD



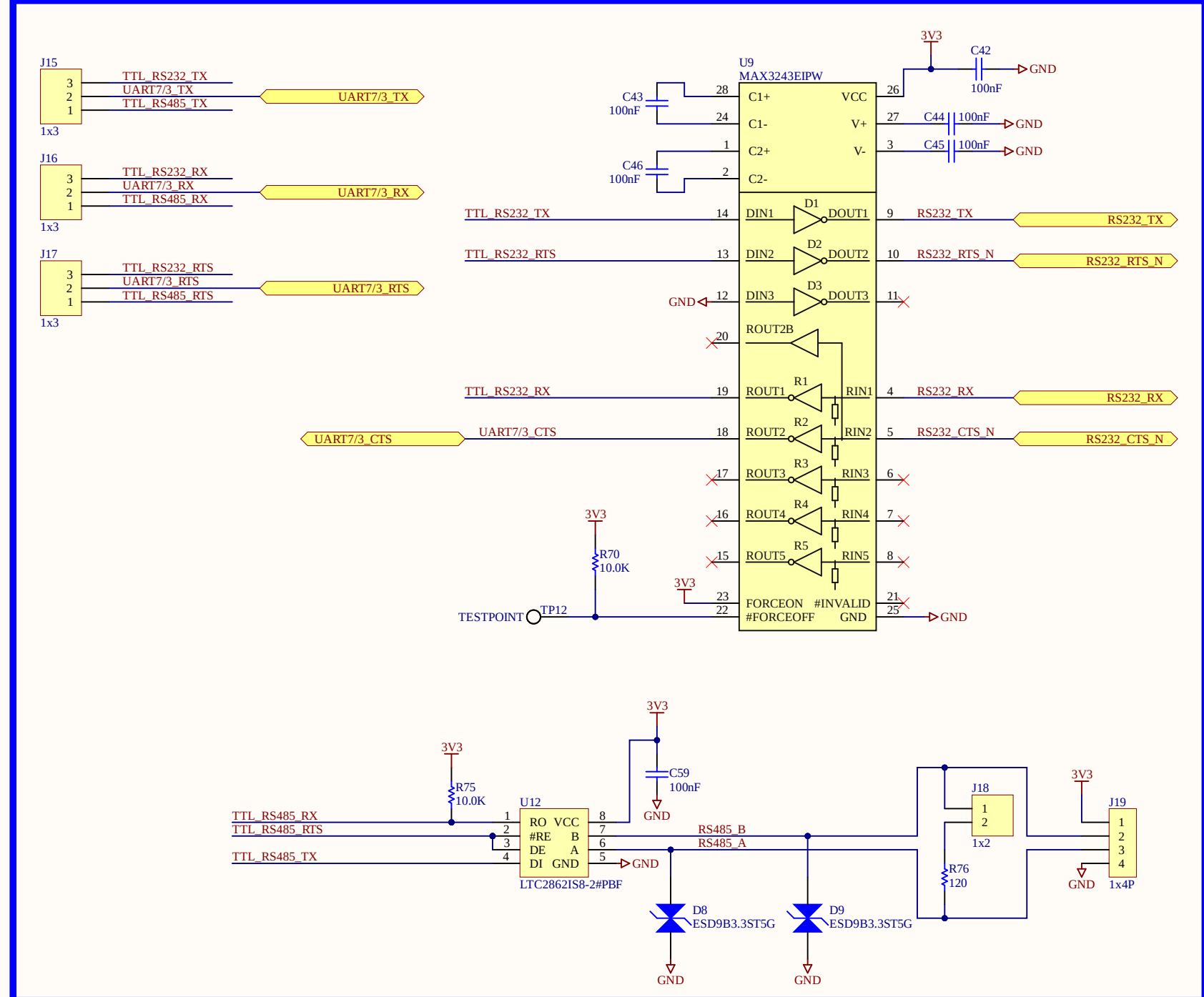
Console port



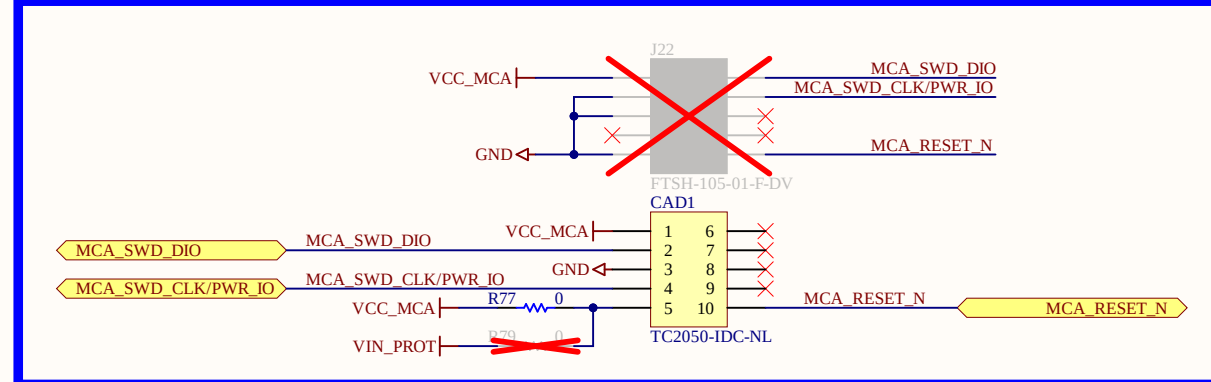
CPU JTAG



UART 7 - RS232 / RS485

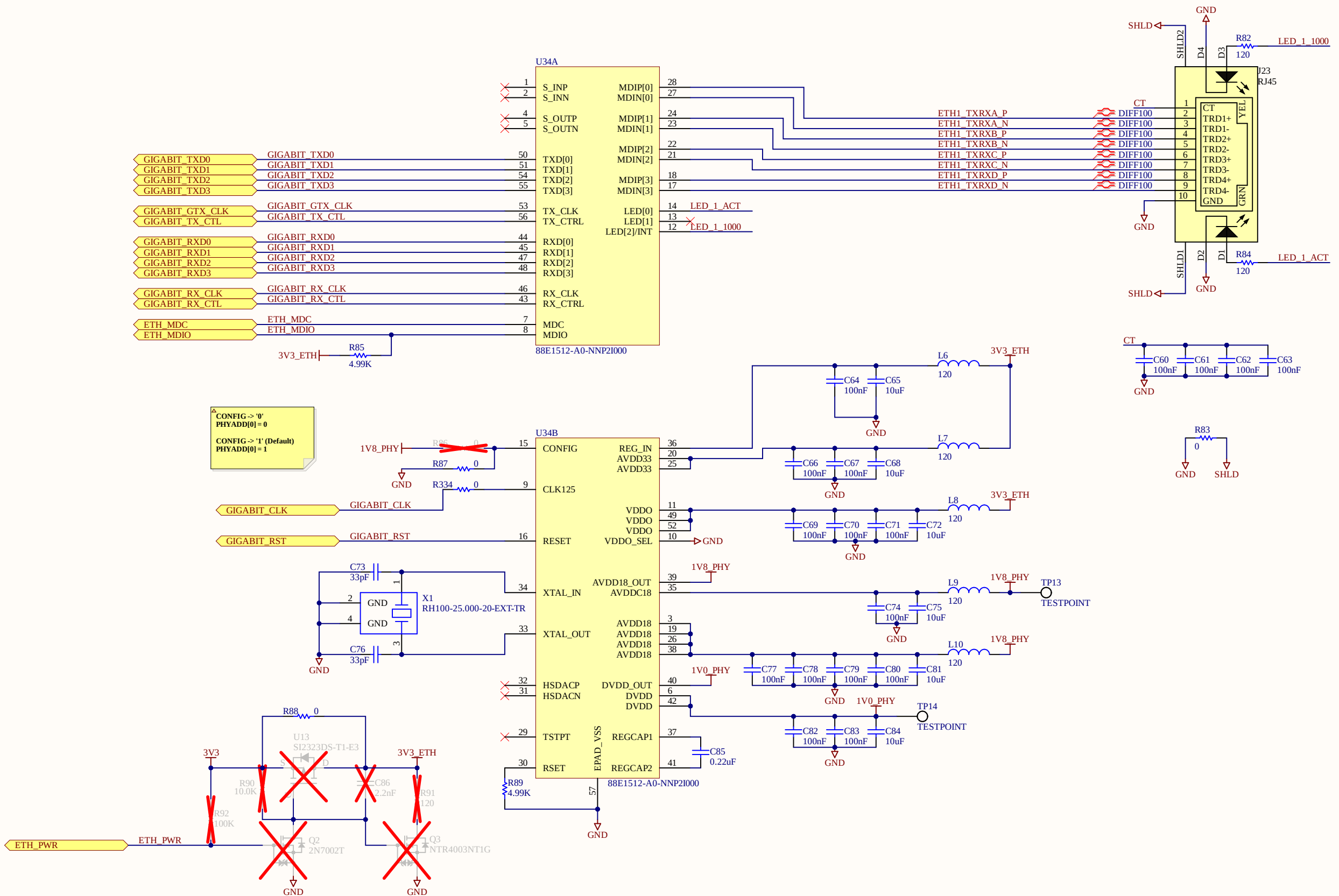


MCA SWD

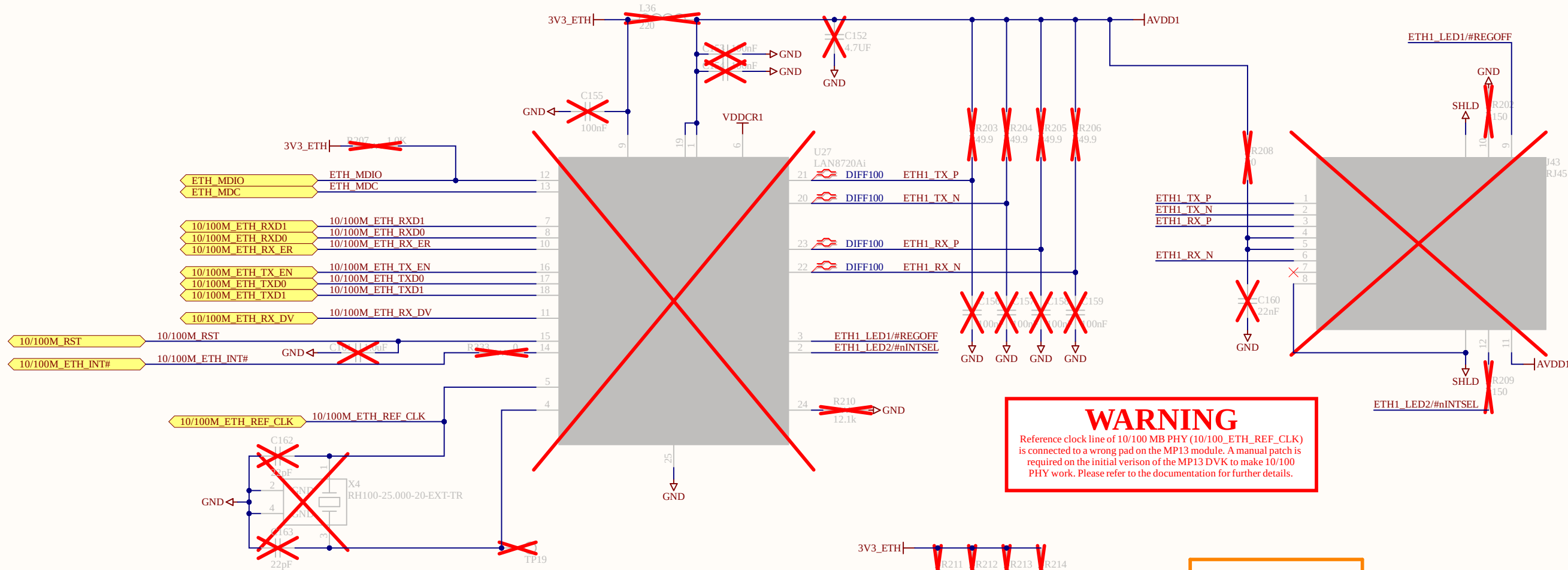


Accessing JTAG or SWD is possible through two options:
 1 - Dedicated header (JTAG = J43 / SWD = J11)
 2 - Dedicated Tag Connect footprint (JTAG = CAD1 / SWD = CAD2)

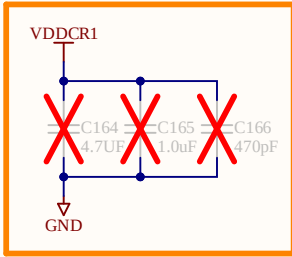
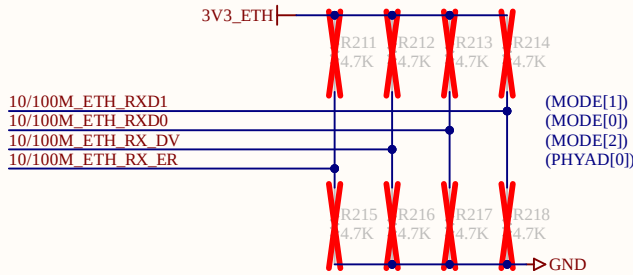
10/100/1000M Ethernet



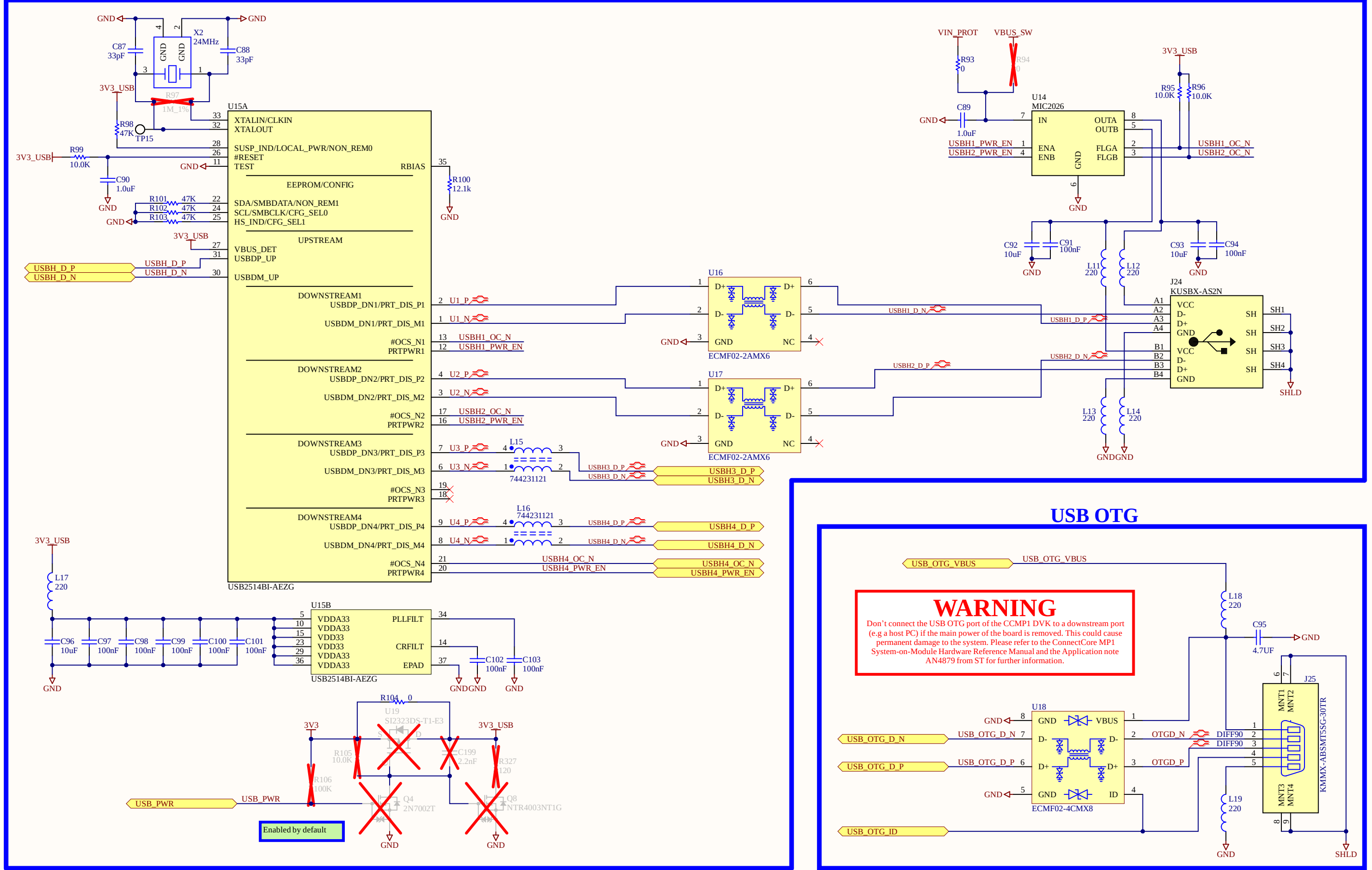
10/100M Ethernet



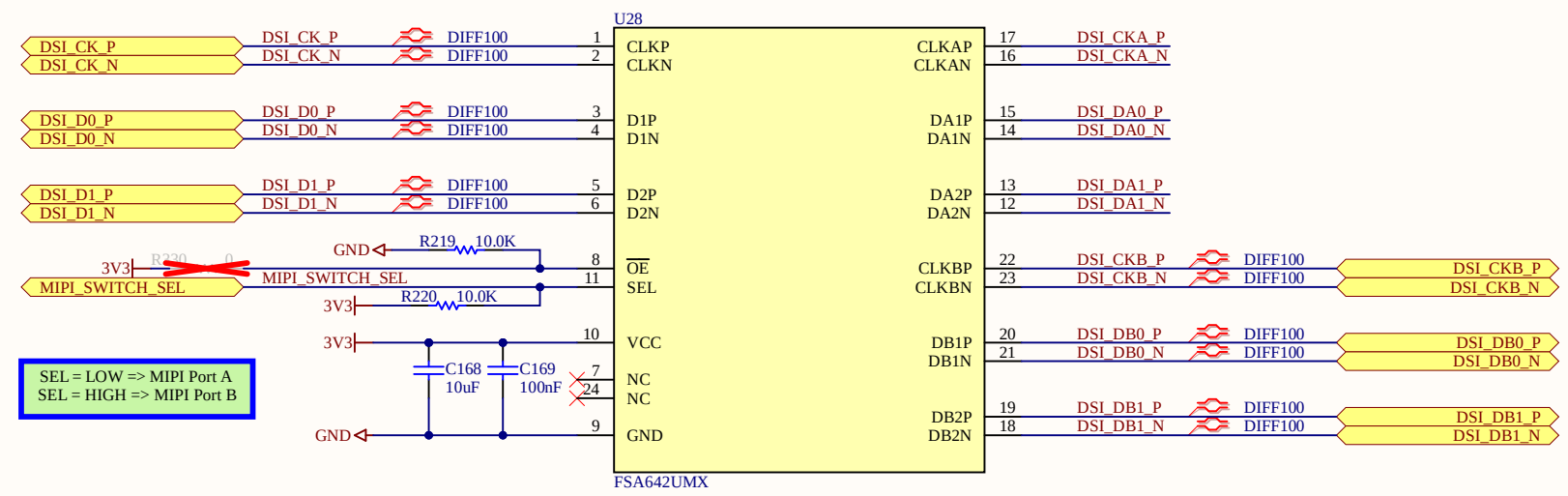
MODE[2:0]	MODE DEFINITIONS
000	10Base-T Half Duplex. Auto-negotiation disabled
001	10Base-T Full Duplex. Auto-negotiation disabled
010	100Base-TX Half Duplex. Auto-negotiation disabled.
011	100Base-TX Full Duplex. Auto-negotiation disabled.
100	100Base-TX Half Duplex is advertised. Autonegotiation enabled.
101	Repeater mode. Auto-negotiation enabled
110	Power Down mode.
111	All capable. Auto-negotiation enabled.



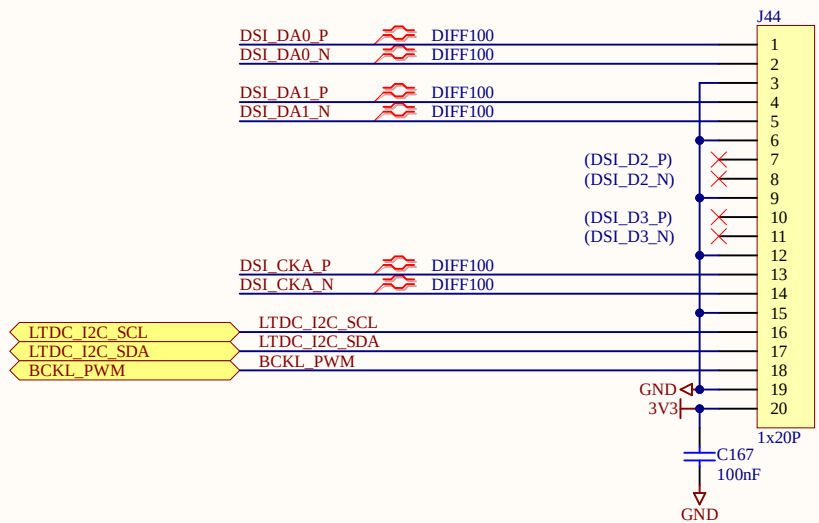
USB HOST



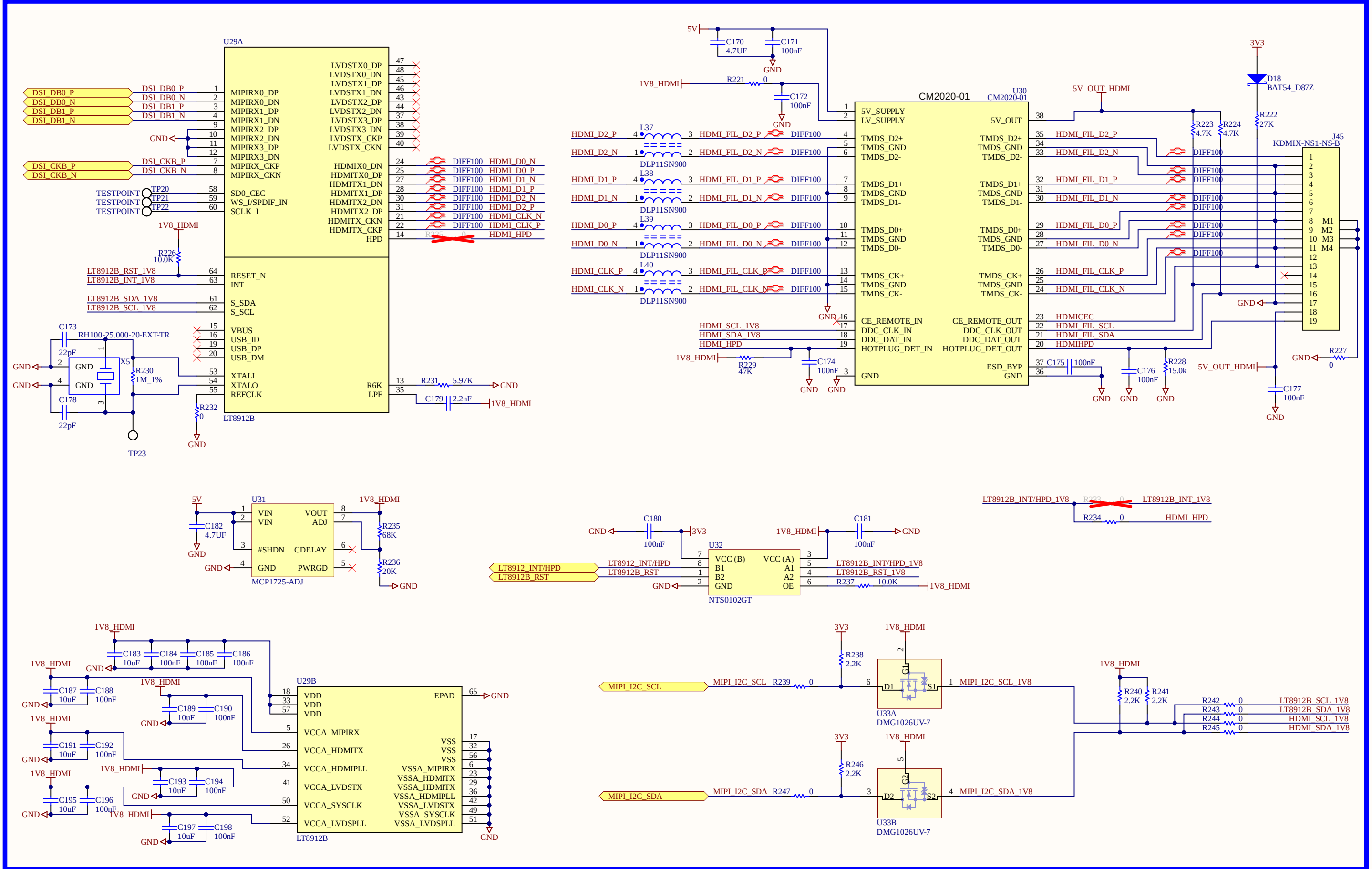
MIPI switch and display



MIPI Port A => External MIPI Display
MIPI Port B => HDMI

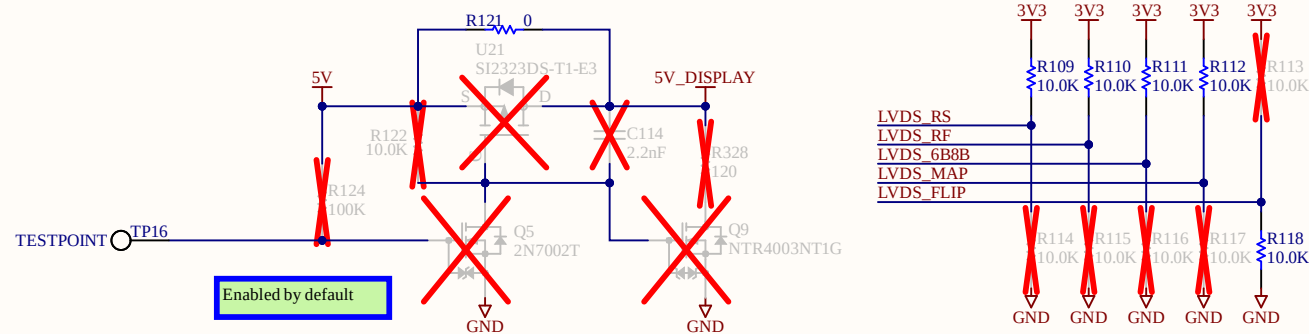
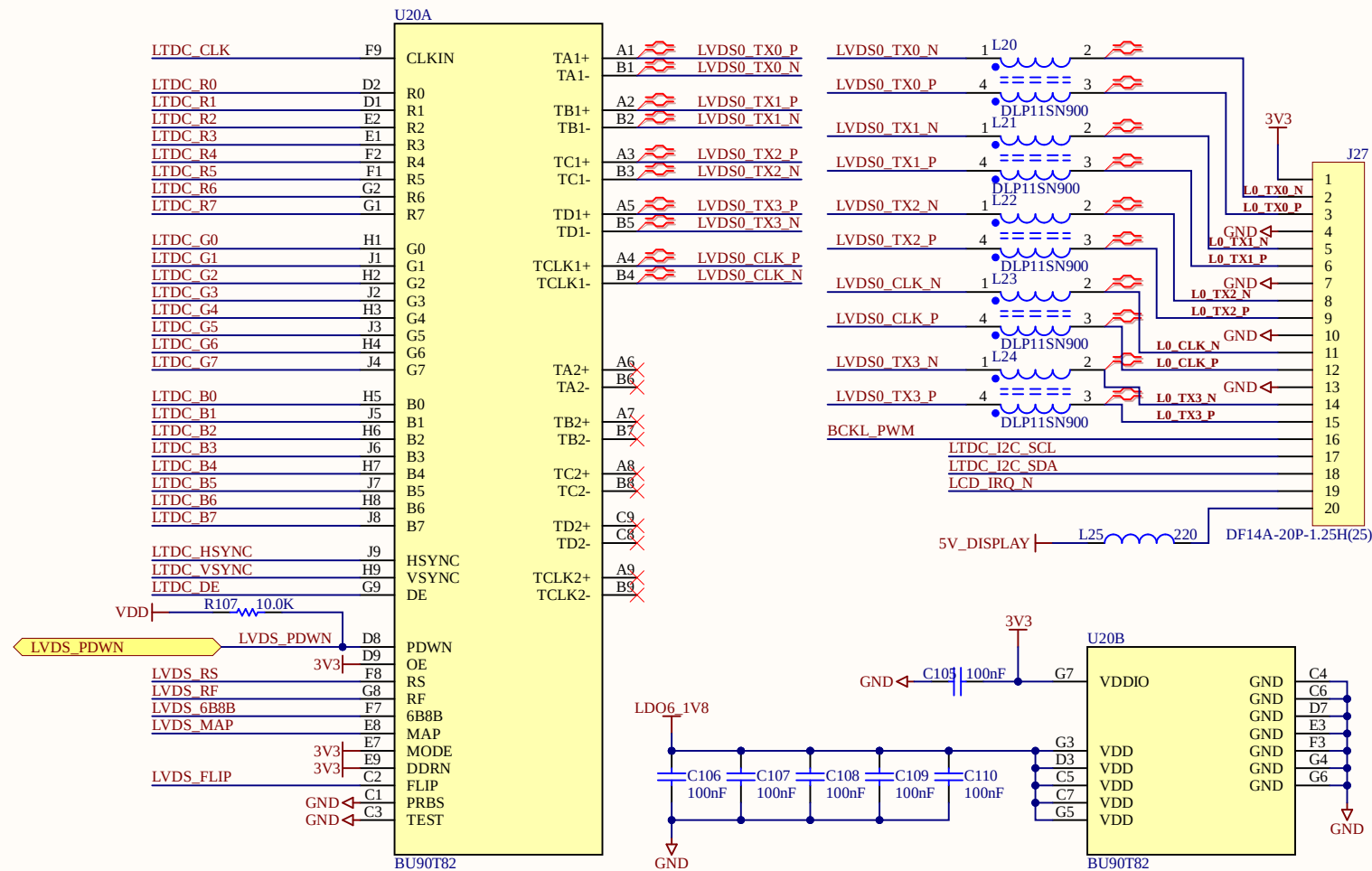


HDMI display



Title: MIPI Display, HDMI		
Designer: Sébastien MEYER	Sheet: 11 of 18	
Variant: 55002167-01	Rev: 4P	
Description: ConnectCore MP1 Development board - CCMP15		

LVDS



LVDS_RS: LVDS Swing Mode Select:
H: 350mV
L: 200mV

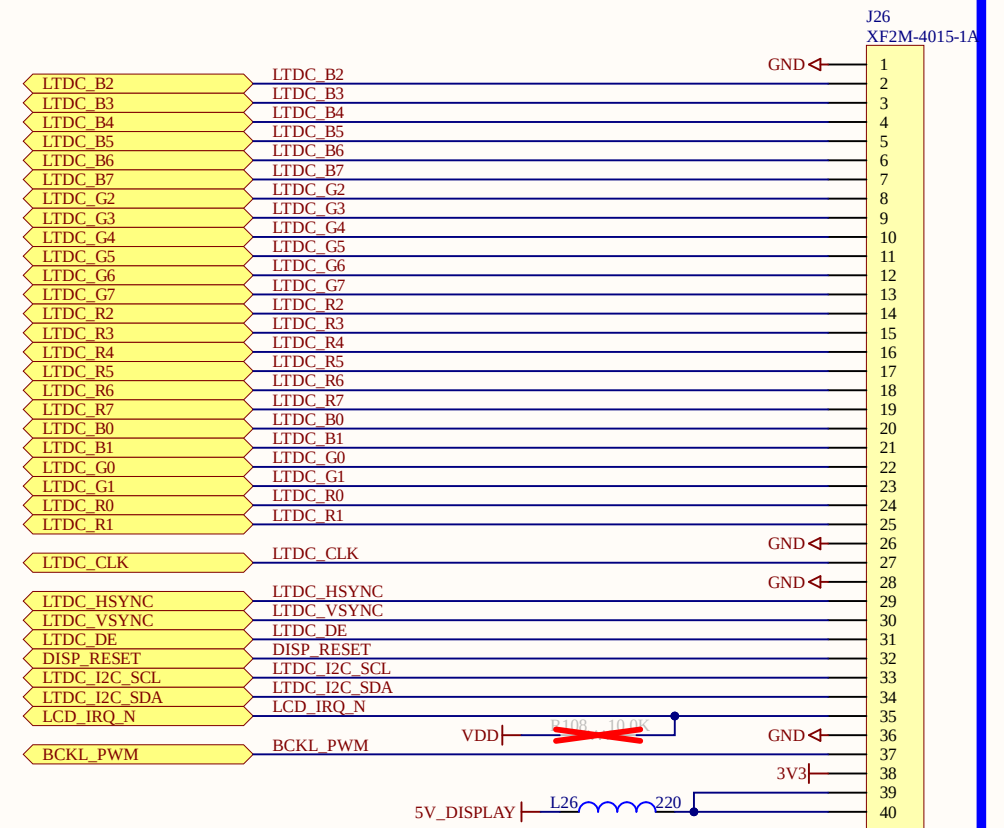
LVDS_RF: Input CLK Triggering Edge Select:
H: Rising Edge
L: Falling Edge

LVDS_6B8B: 6bit/8bit Mode Select:
H: 6bit mode (TD1+/-, TD2+/- outputs are Hi-Z)
L: 8bit mode

LVDS_MAP: LVDS Output Data Mapping Select:
H: JEIDA
L: VESA

LVDS_FLIP: LVDS Output Pin Reverse Select:
H: Reverse
L: Normal

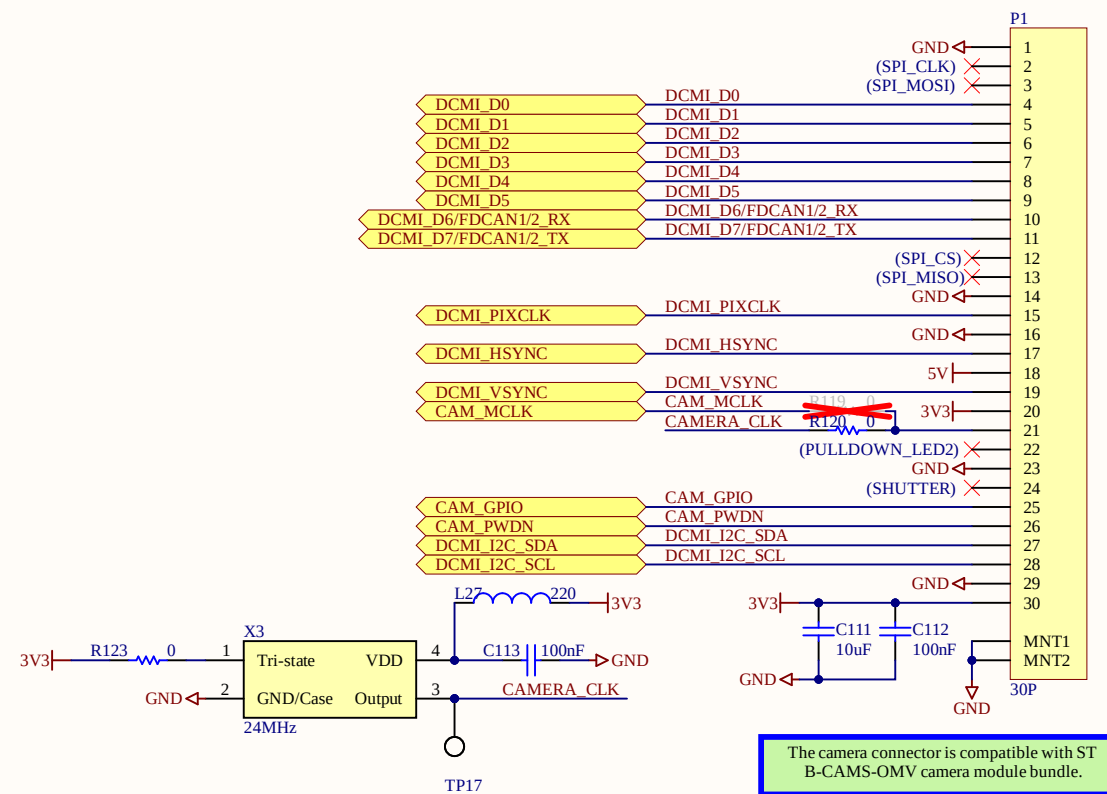
Parallel Display



If higher currents are required on boards connected to J21, an external supply must be used to power them.

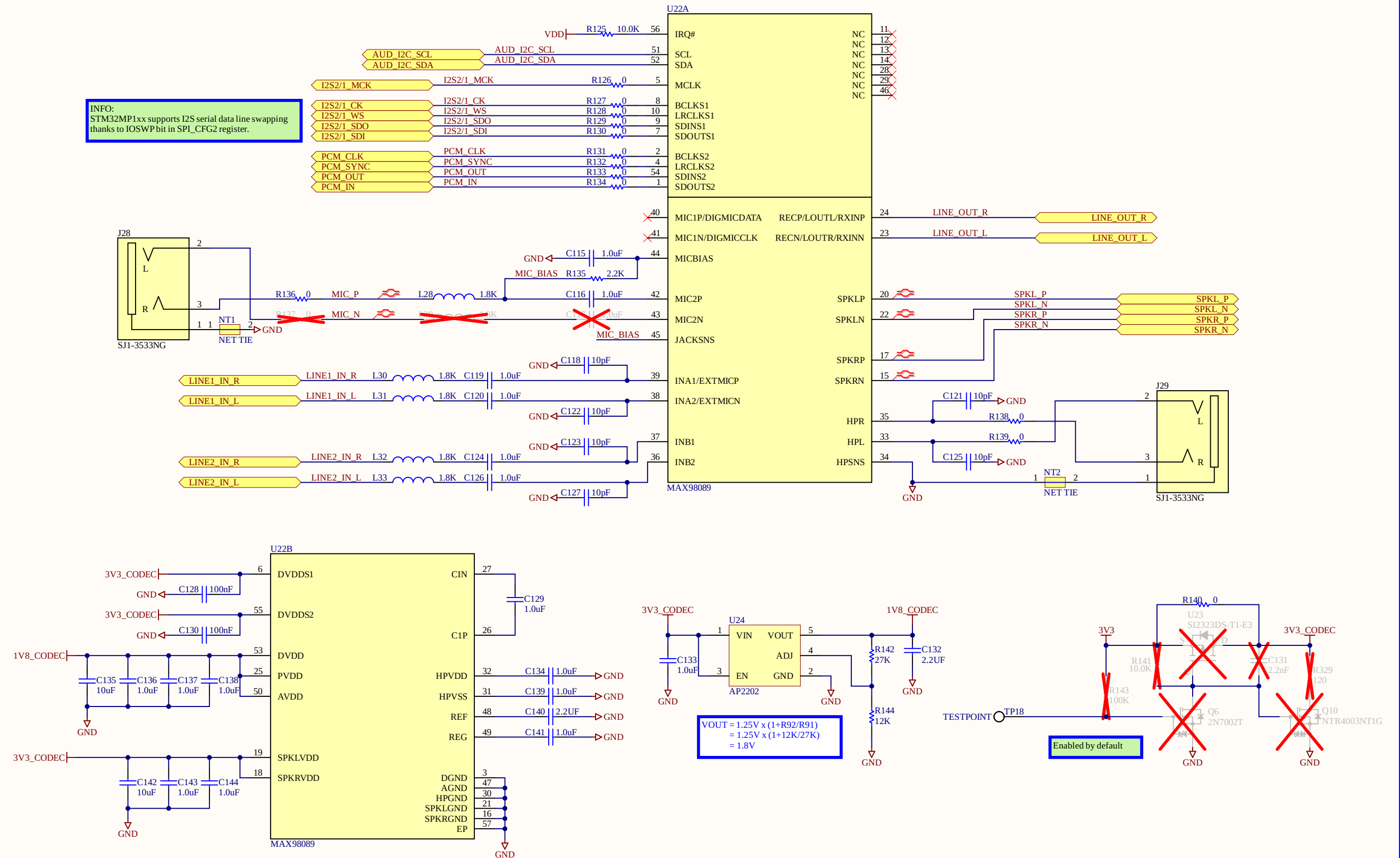
3V3 maximum current allowed on J21: 0.5A
5V maximum current allowed on J21: 1A

Parallel Camera

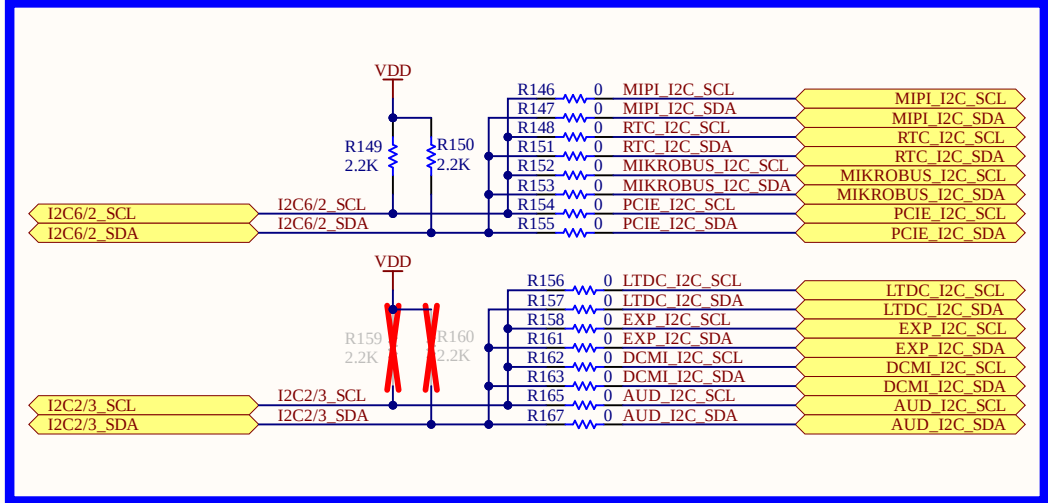


The camera connector is compatible with ST B-CAMS-OMV camera module bundle.

AUDIO



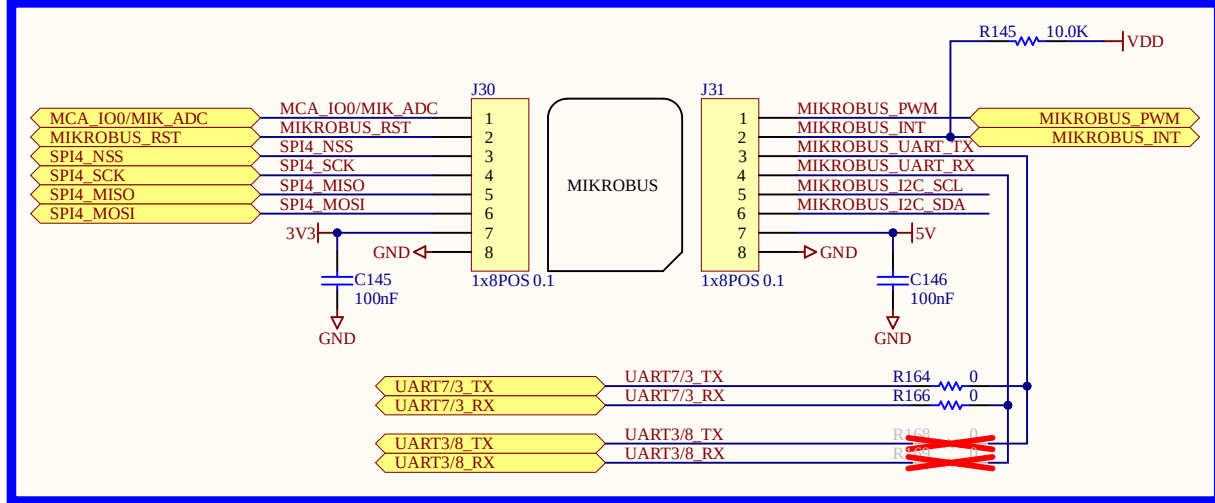
I2C



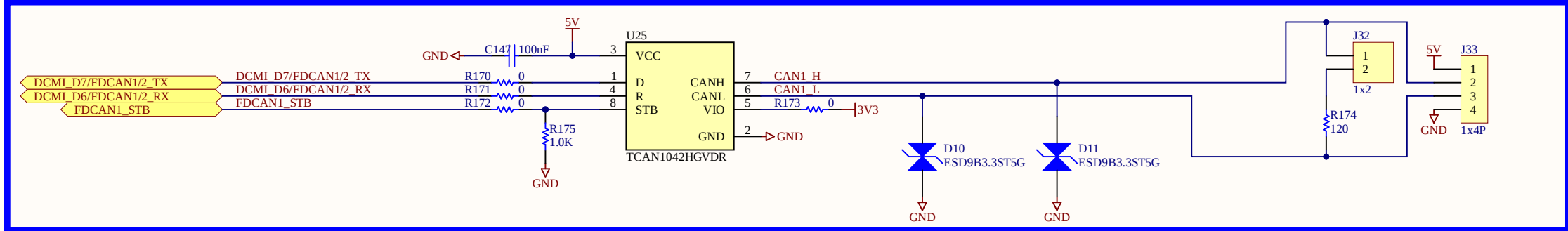
I2C address

Peripheral	7-bit address (hex)
PCIe Port	-
LVDS0 Touch	-
LCD Touch	-
Expansion Port	-
Camera	-
Audio CODEC	0x10

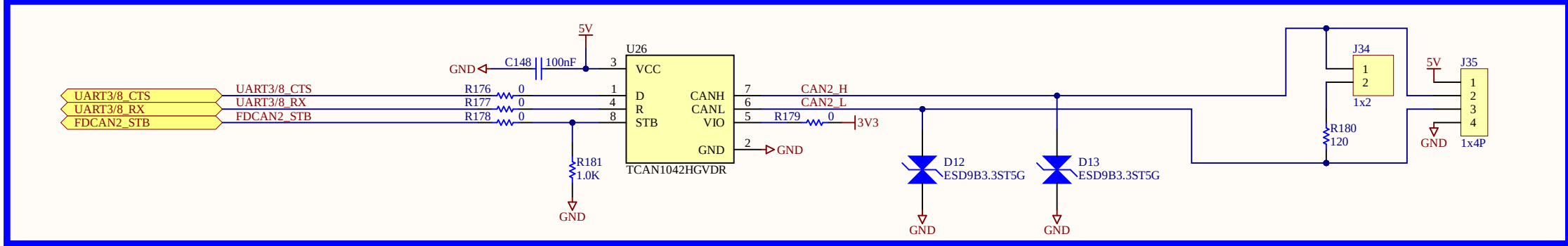
MIKROBUS SOCKET



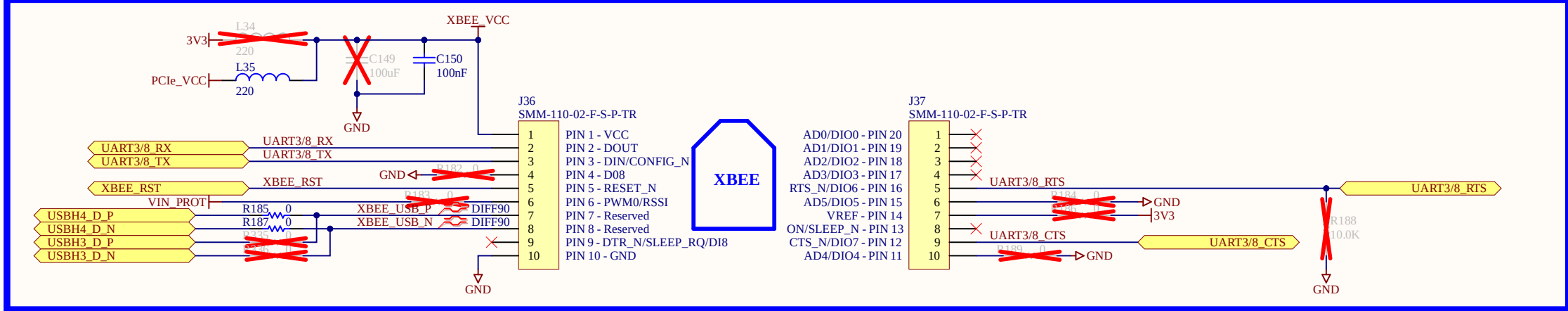
CAN1



CAN2



XBee



Title: CAN, I2C, XBee, MIKROBUS

Designer: Sébastien MEYER Sheet: 14 of 18

Variant: 55002167-01

Rev: 4P

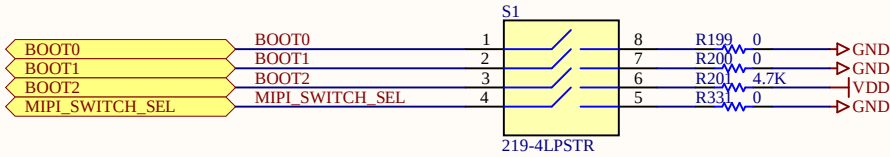
Description: ConnectCore MP1 Development board - CCMP15



Boot Mode

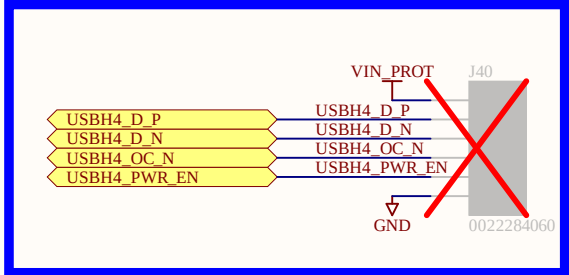
BOOT2	BOOT1	BOOT0	Initial boot mode	Comments
0	0	0	UART and USB Port 1 (HS)	
0	0	1	Serial NOR Flash	
0	1	0	eMMC	
0	1	1	NAND Flash	Default
1	0	0	Reserved (NoBoot)	
1	0	1	SD card	
1	1	0	UART and USB Port 2 (OTG)	
1	1	1	Serial NAND Flash	

Note: BOOTx pins are 5V tolerant I/O with programmable pull-down

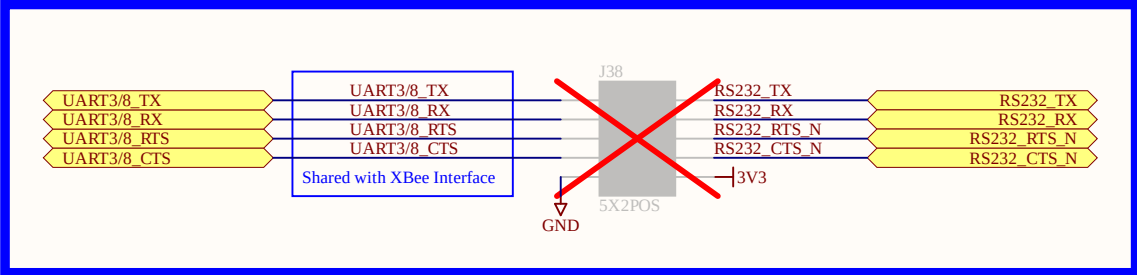


S1.1	S1.2	S1.3	S1.4	Description
OFF	OFF	OFF	-	Boot from NAND
OFF	OFF	ON	-	Serial NAND flash
OFF	ON	OFF	-	Serial NOR flash
OFF	ON	ON	-	MicroSD card
ON	OFF	OFF	-	eMMC
ON	OFF	ON	-	UART and USB Port 2 (OTG)
ON	ON	OFF	-	UART and USB Port 1 (HS)
ON	ON	ON	-	Reserved (NoBoot)

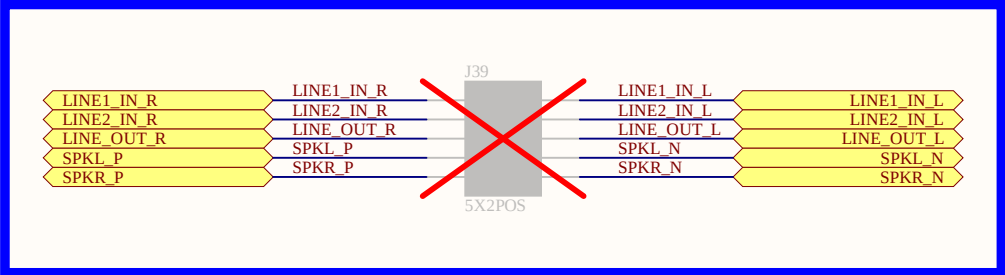
USB



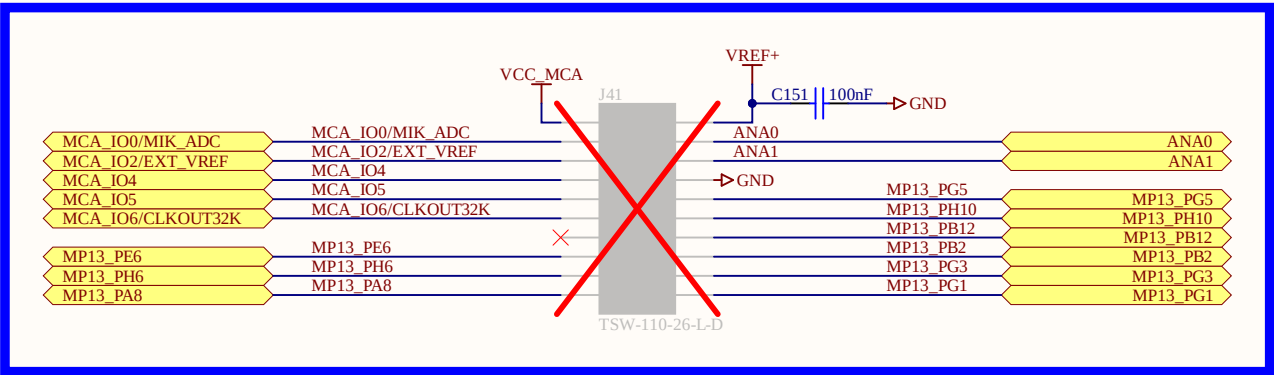
UART



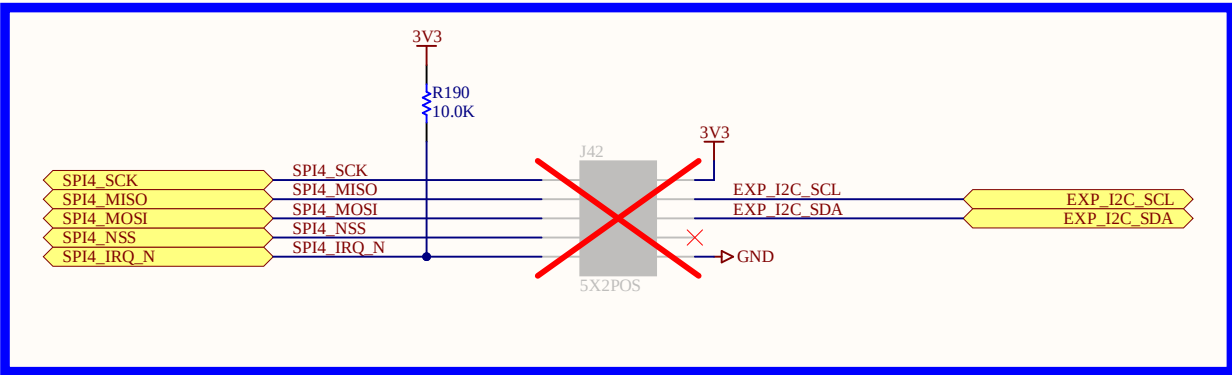
AUDIO



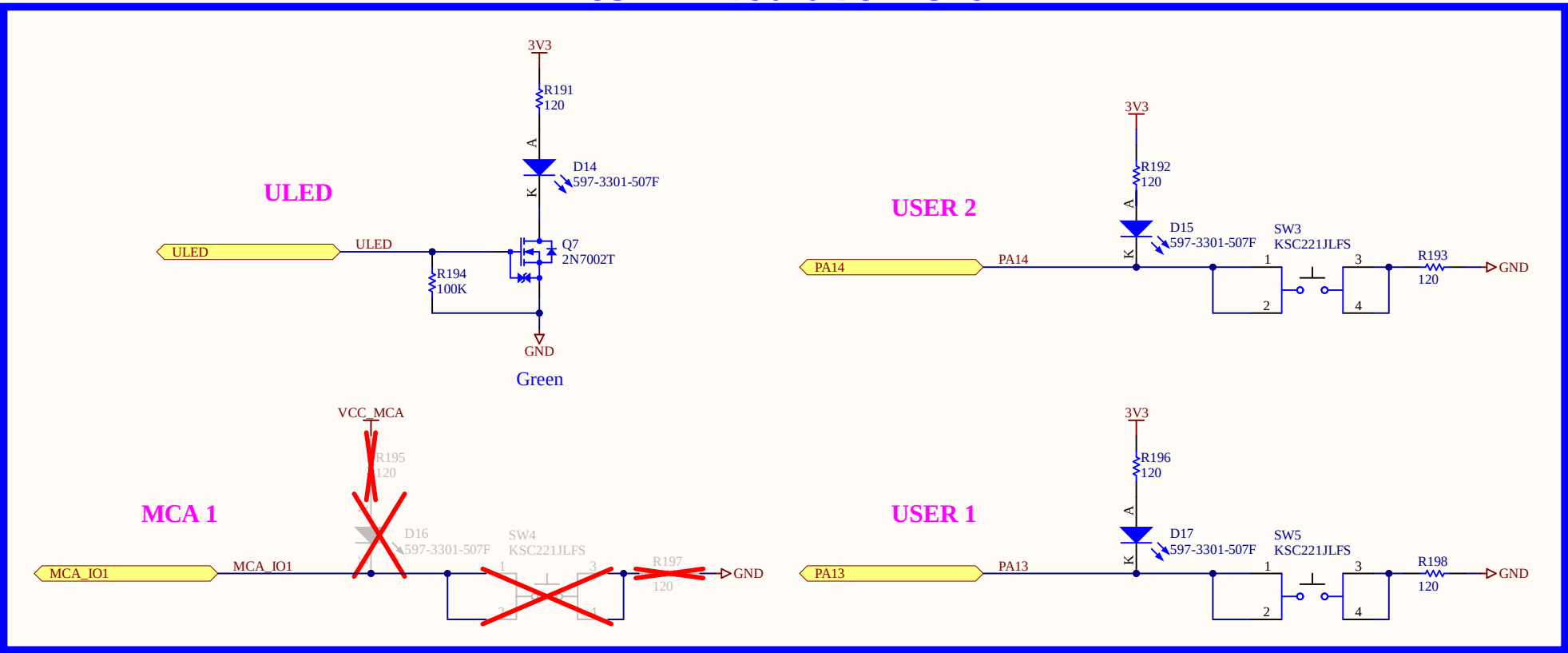
GPIO



SPI & I2C



USER LEDs and BUTTONs



<

1	2	3	4	5	6	7	8								
A	Format: DD/MM/YYYY 17/06/2022 - CCMP1 Development Board * Revision: 01 - Initial version 14/09/2022 - CCMP1 Development Board * Revision: 02 - PCB spin: 3001744x-01 rev A => 3001744x-02 rev A 11/10/2022 - CCMP1 Development Board * Revision: 03 - Populate R23. - Remove R183. - Remove Ethernet and USB switches. - Remove MCA LED and button. 16/11/2022 - CCMP1 Development Board * 55002167-01 rev 1P: - Populate R56. - Remove R57, R237, U32, C180, C181. - Fix Mikrobuss socket naming. - Fix I2C address table. * 55002167-02 rev 04: - Remove X4 06/02/2023 - CCMP1 Development Board * 55002167-02 rev 1P : NPRO-006303 - Initial version of ConnectCore MP13x variant. 15/06/2023 - CCMP1 Development Board * 55002167-01 rev 2P : ECO-012617 - Move from 3001744x-02 revA PCB to 3001744x-03 revA PCB. - Fix bottom and Mikroee serigraphy on the PCB. - Fixing HDMI hotplug and touch interrupt line conflict. We have now a dedicated I/O for HDMI hotplug and a seperate one for LCD_IRQ_N. 21/08/2023 - CCMP1 Development Board * 55002167-01 rev 3P : ECO-012667 - ConnectCore MP15x SoM moving from 30016952-03 revA to 30016952-04 revA PCB. No changes on the DVK. 10/10/2023 - CCMP1 Development Board * 55002167-01 rev 4P, 55002167-02 rev 2P: ECO-012796 - ConnectCore MP1 U-Boot partition layout update. Move revision without hardware changes.							A							
	B								B						
C								C							
D	LBL1 LABEL 28000351_LABEL TXT1 LABEL TEXT 95023125 P2 Mechanical Socket LPF245-1270-21AB55A + MGS245-SB01-21A9512							D							
1	2	3	4	5	6	7	8								
						<table><tr><td colspan="2">Title: History</td></tr><tr><td>Designer: Sébastien MEYER</td><td>Sheet: 18 of 18</td></tr><tr><td>Variant: 55002167-01</td><td>Rev: 4P</td></tr><tr><td colspan="2">Description: ConnectCore MP1 Development board - CCMP15</td></tr></table>	Title: History		Designer: Sébastien MEYER	Sheet: 18 of 18	Variant: 55002167-01	Rev: 4P	Description: ConnectCore MP1 Development board - CCMP15		DIGI
Title: History															
Designer: Sébastien MEYER	Sheet: 18 of 18														
Variant: 55002167-01	Rev: 4P														
Description: ConnectCore MP1 Development board - CCMP15															