

ConnectCore MP1 Dev Board

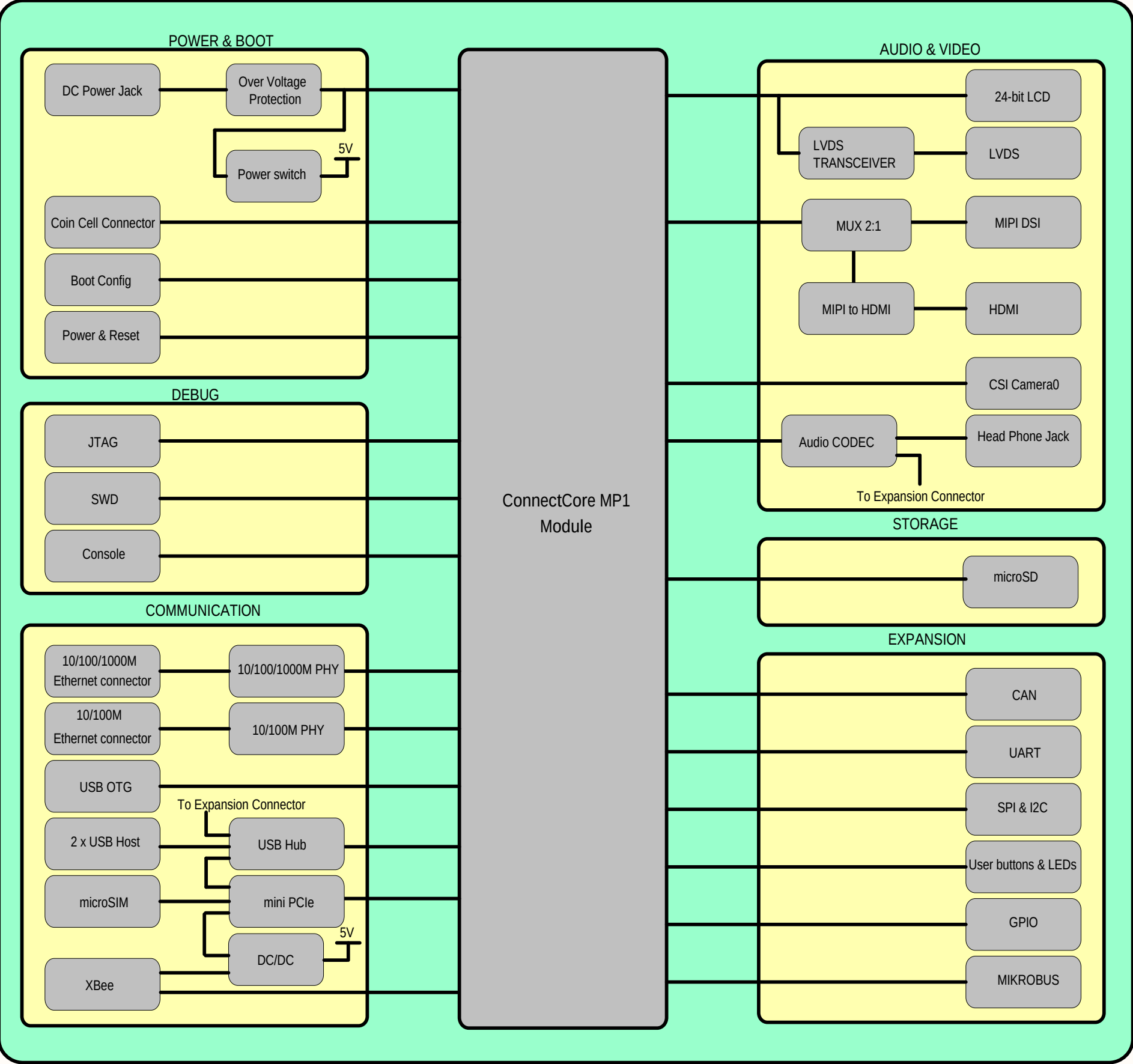
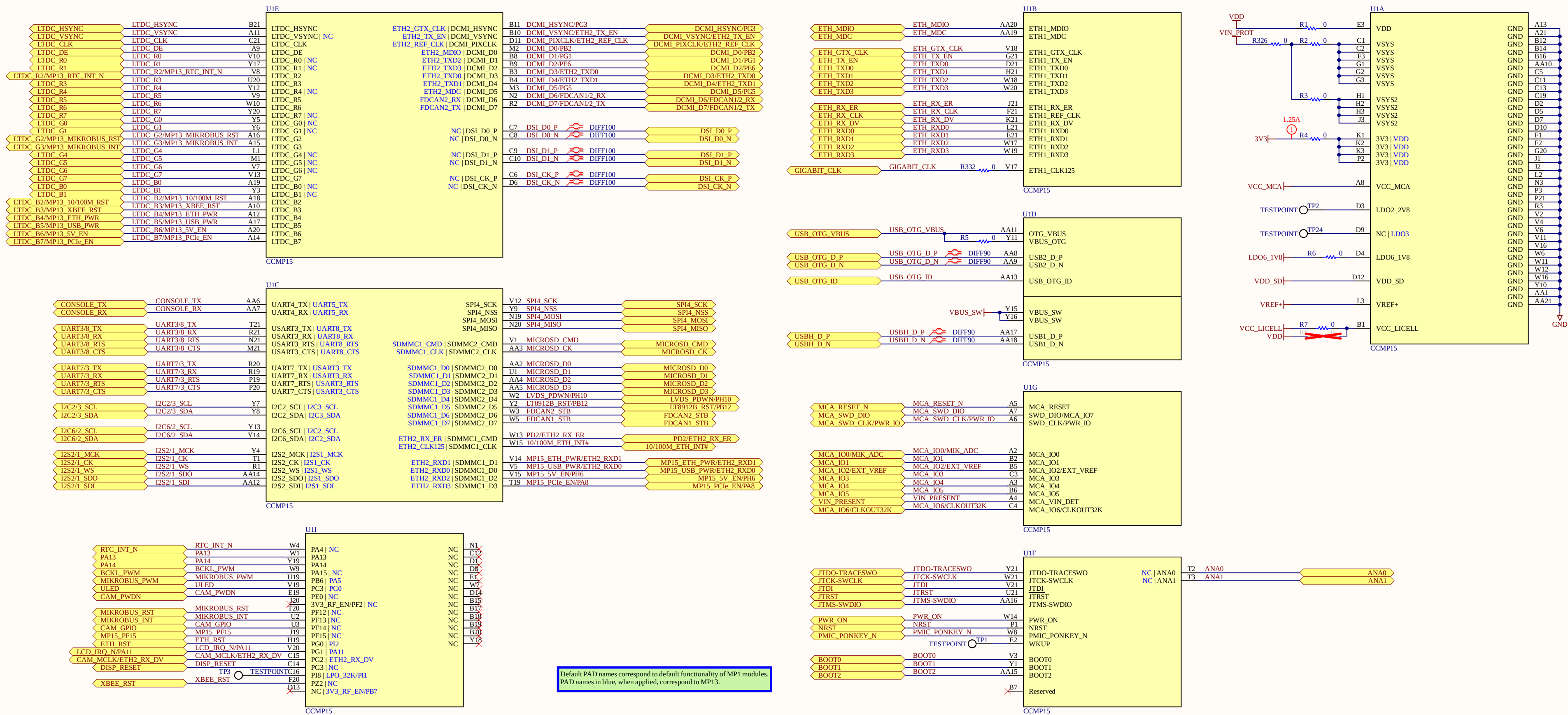


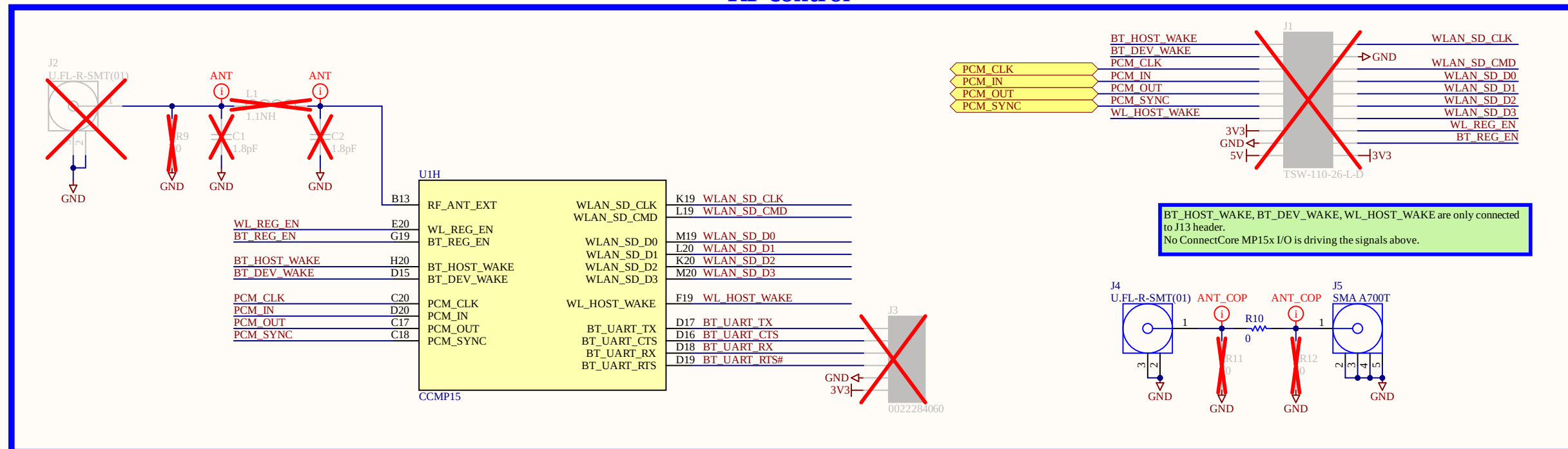
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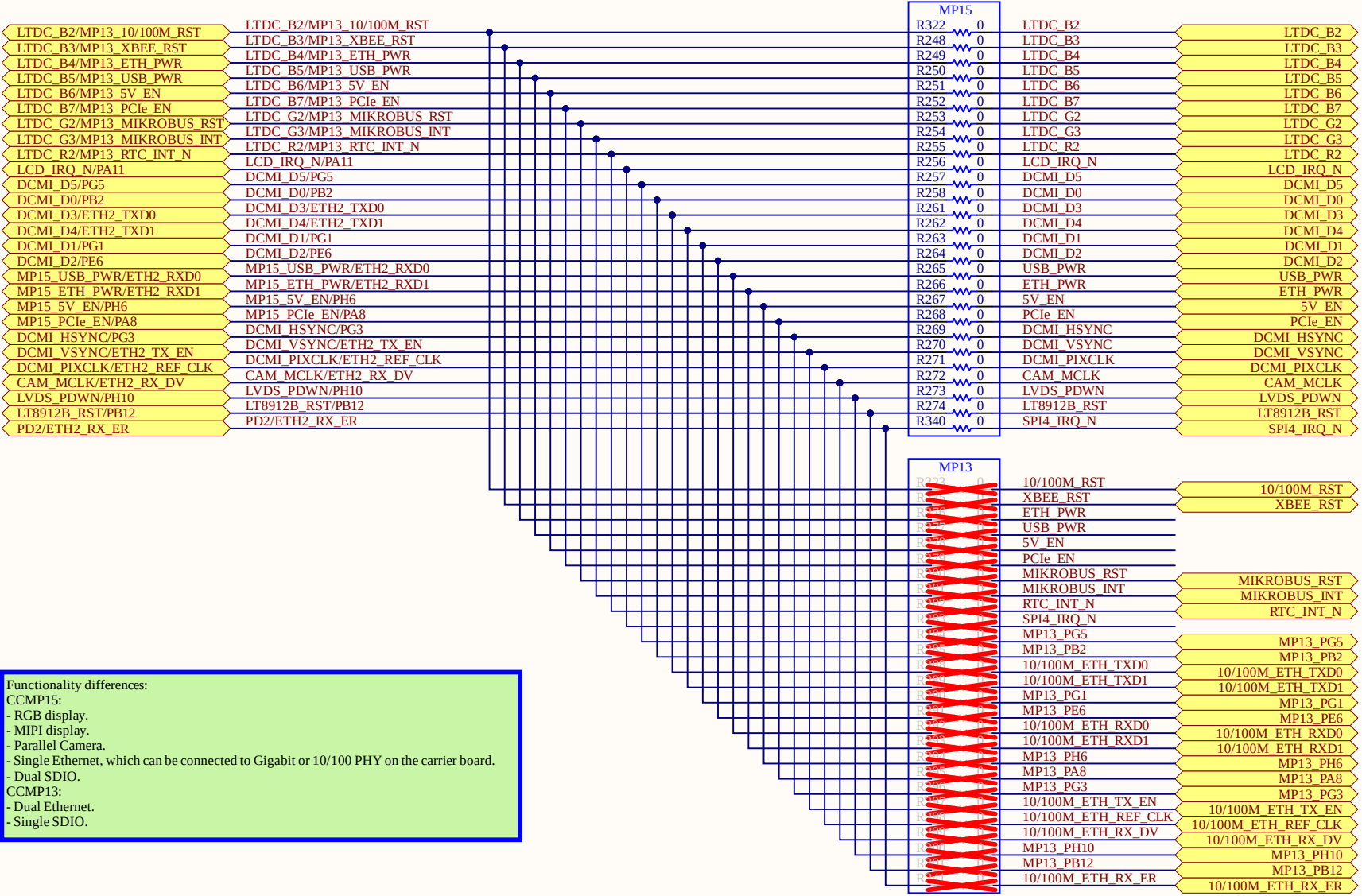
ConnectCore MP1 Module



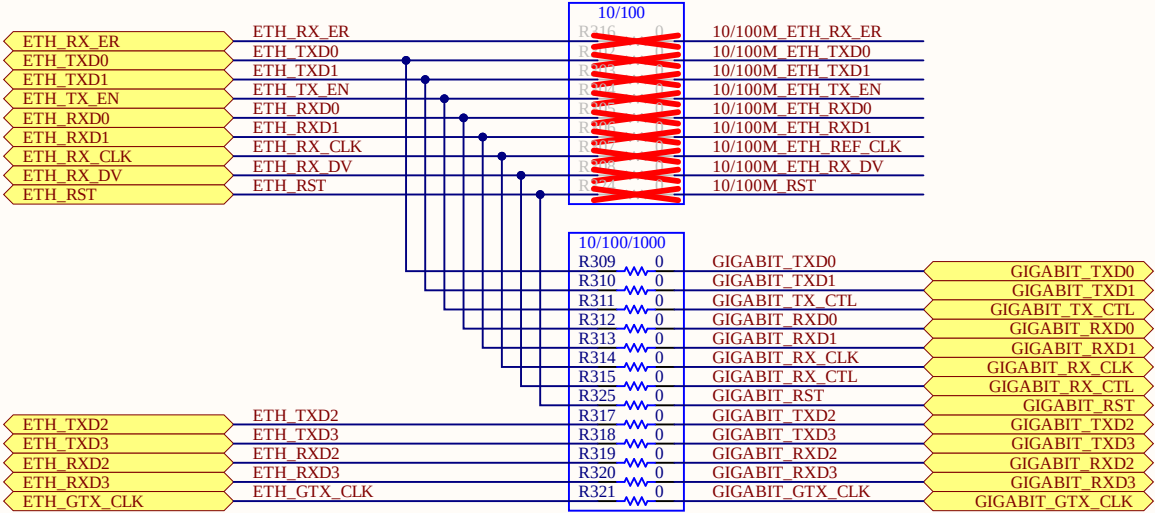
RF control



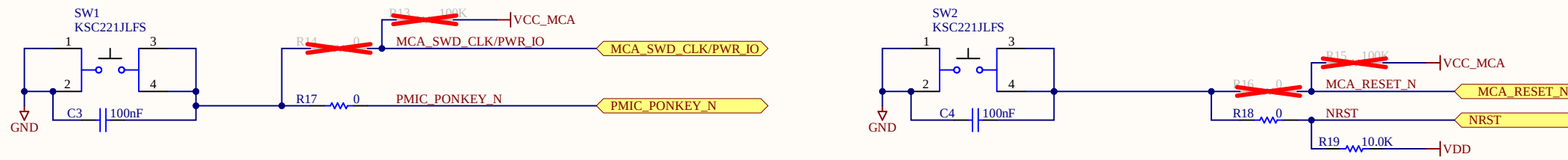
CCMP13-CCMP15 selection



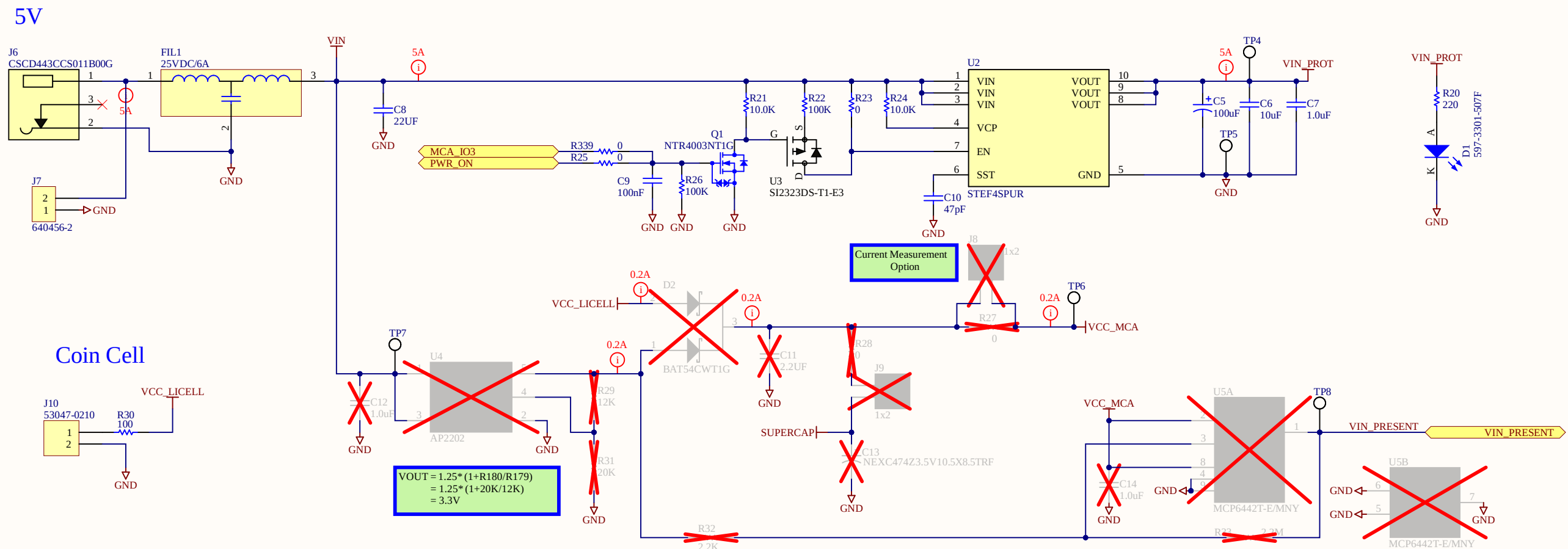
Ethernet selection



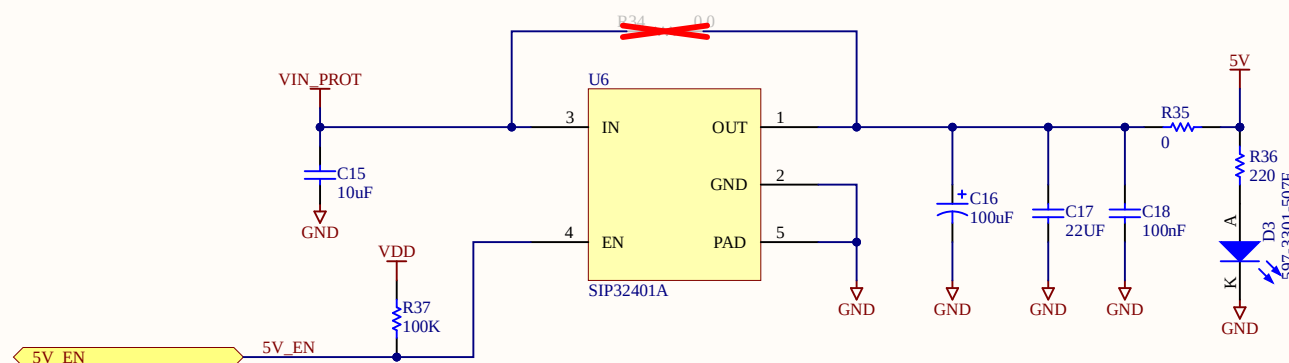
Power and Reset



Supply Inputs



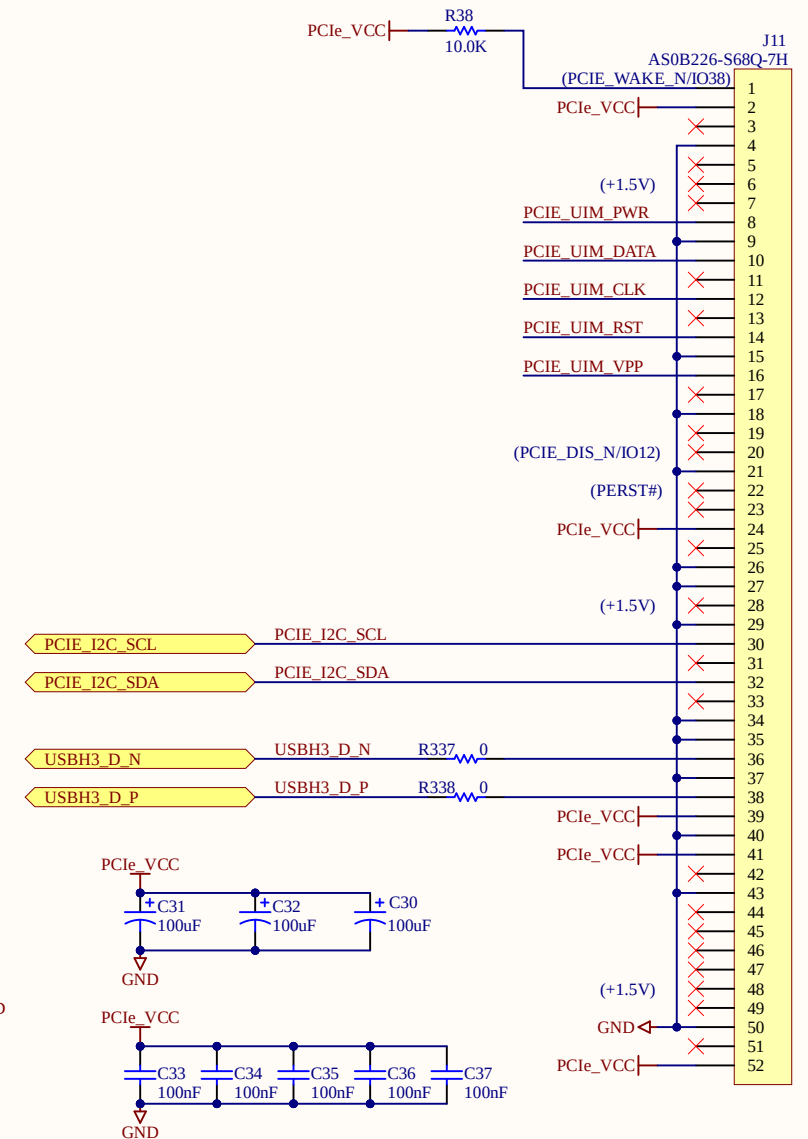
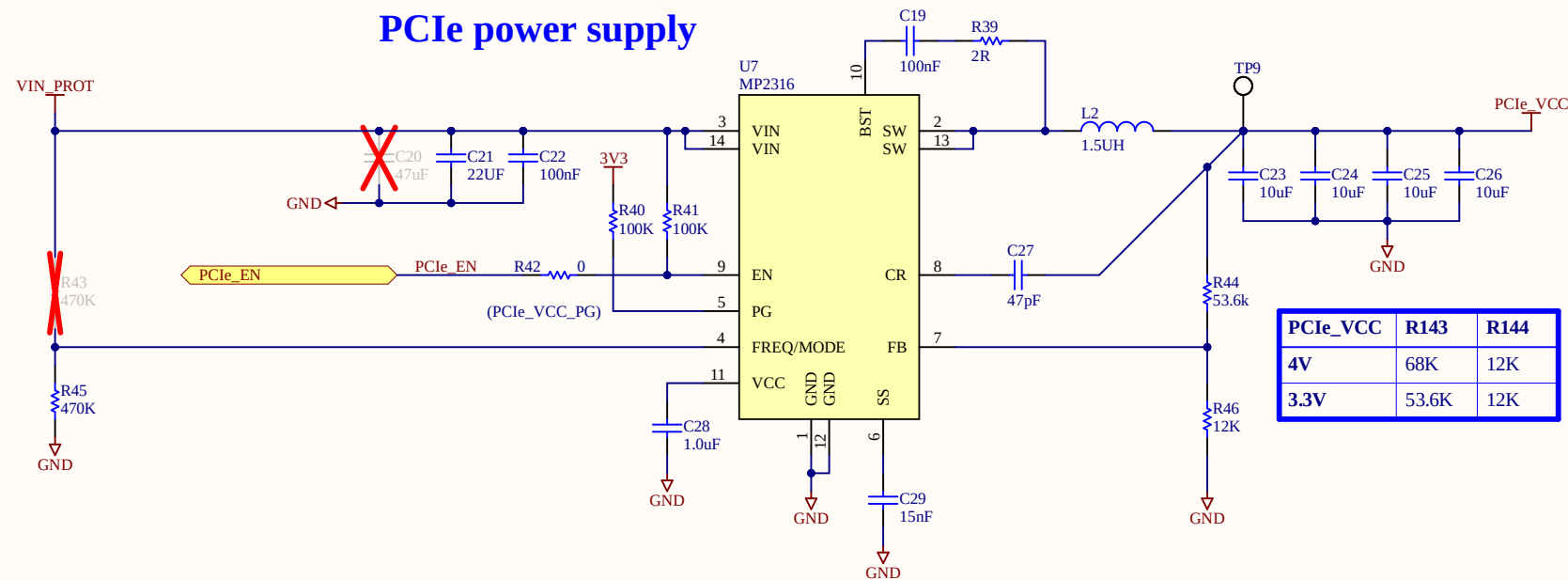
5V Load switch



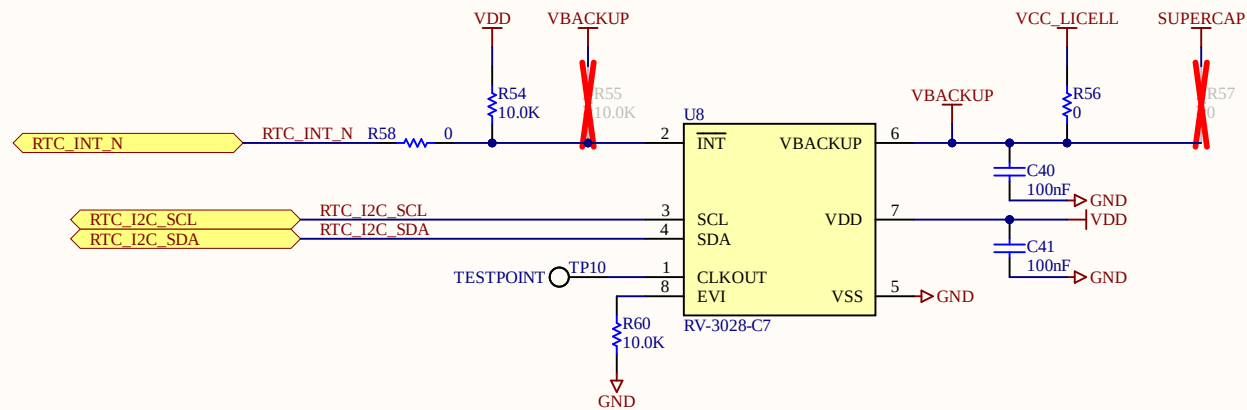
Title: Power, Reset		
Designer: Sébastien MEYER	Sheet: 4 of 18	
Variant: 55002167-01	Rev: 1P	
Description: ConnectCore MP1 Development board - CCMP15		



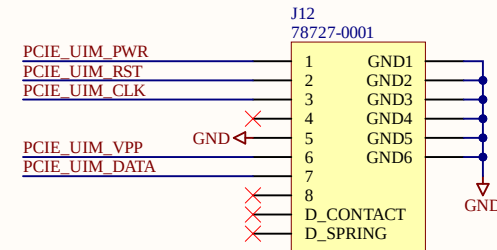
miniPCIe



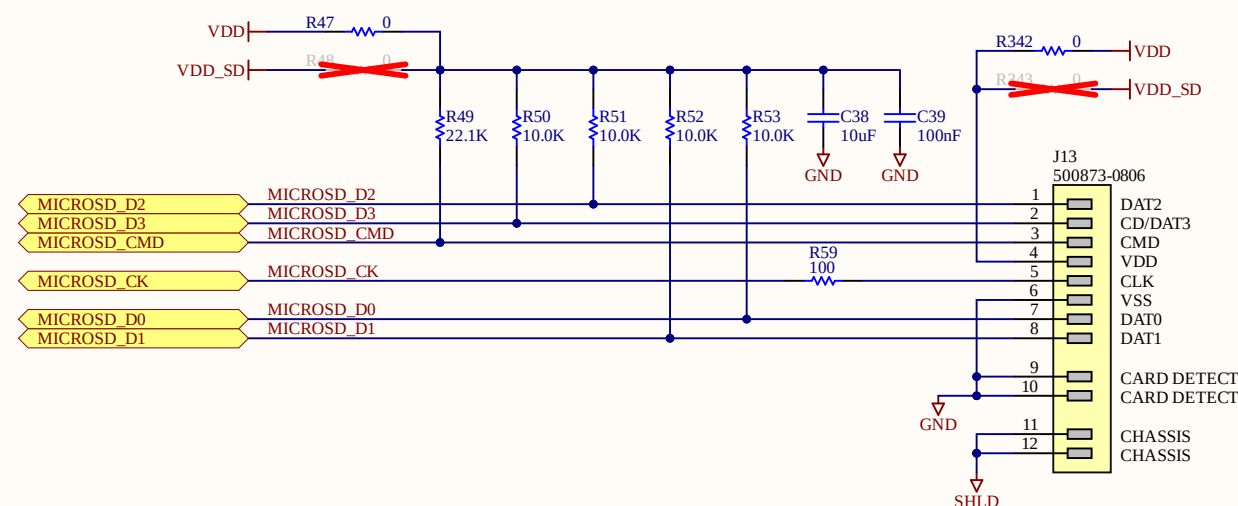
RTC



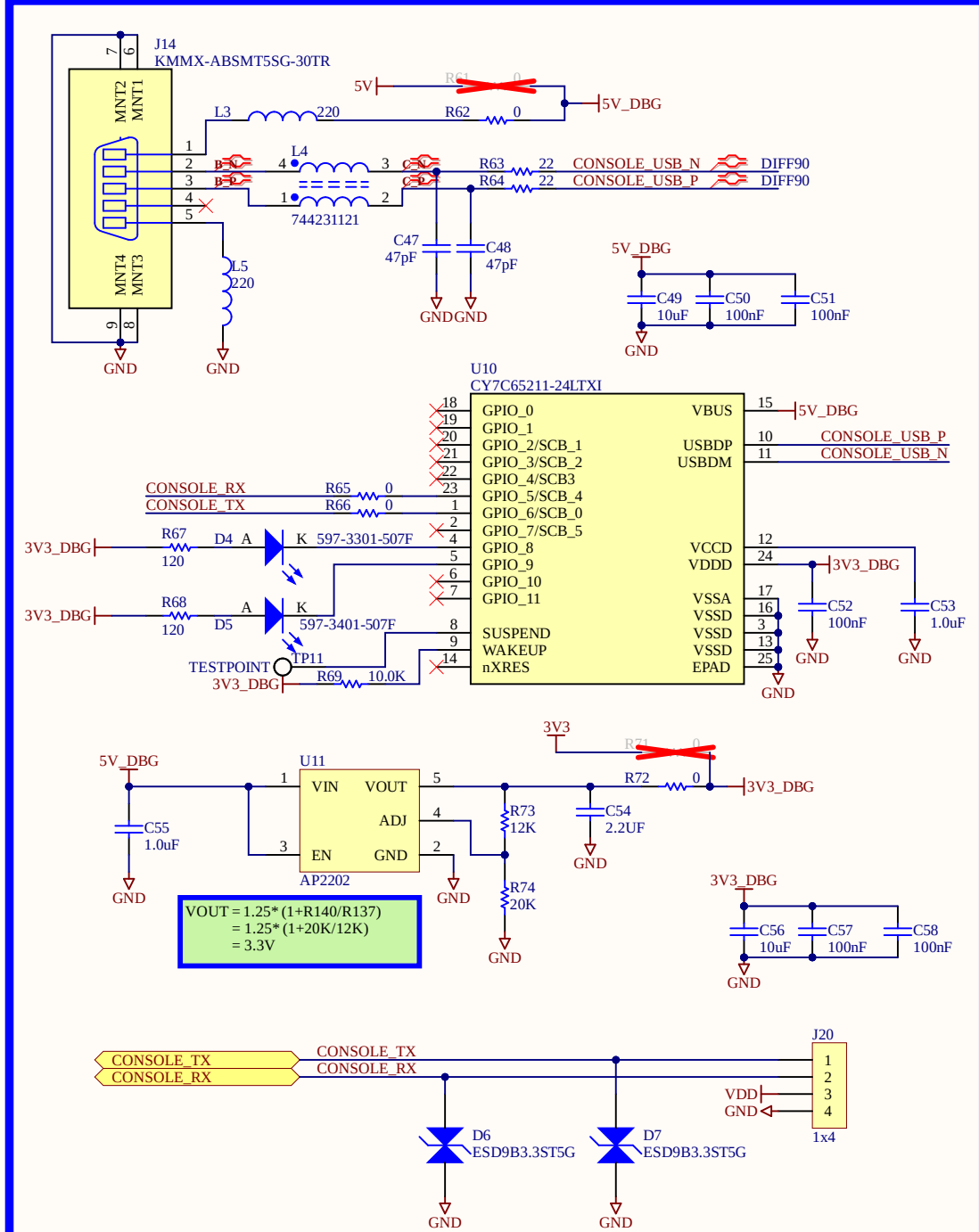
micro SIM



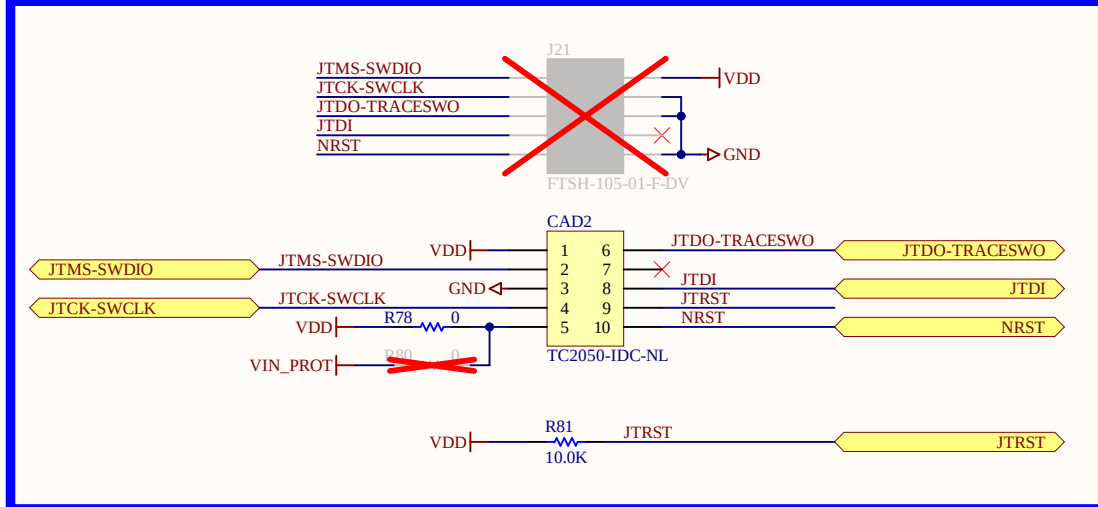
microSD



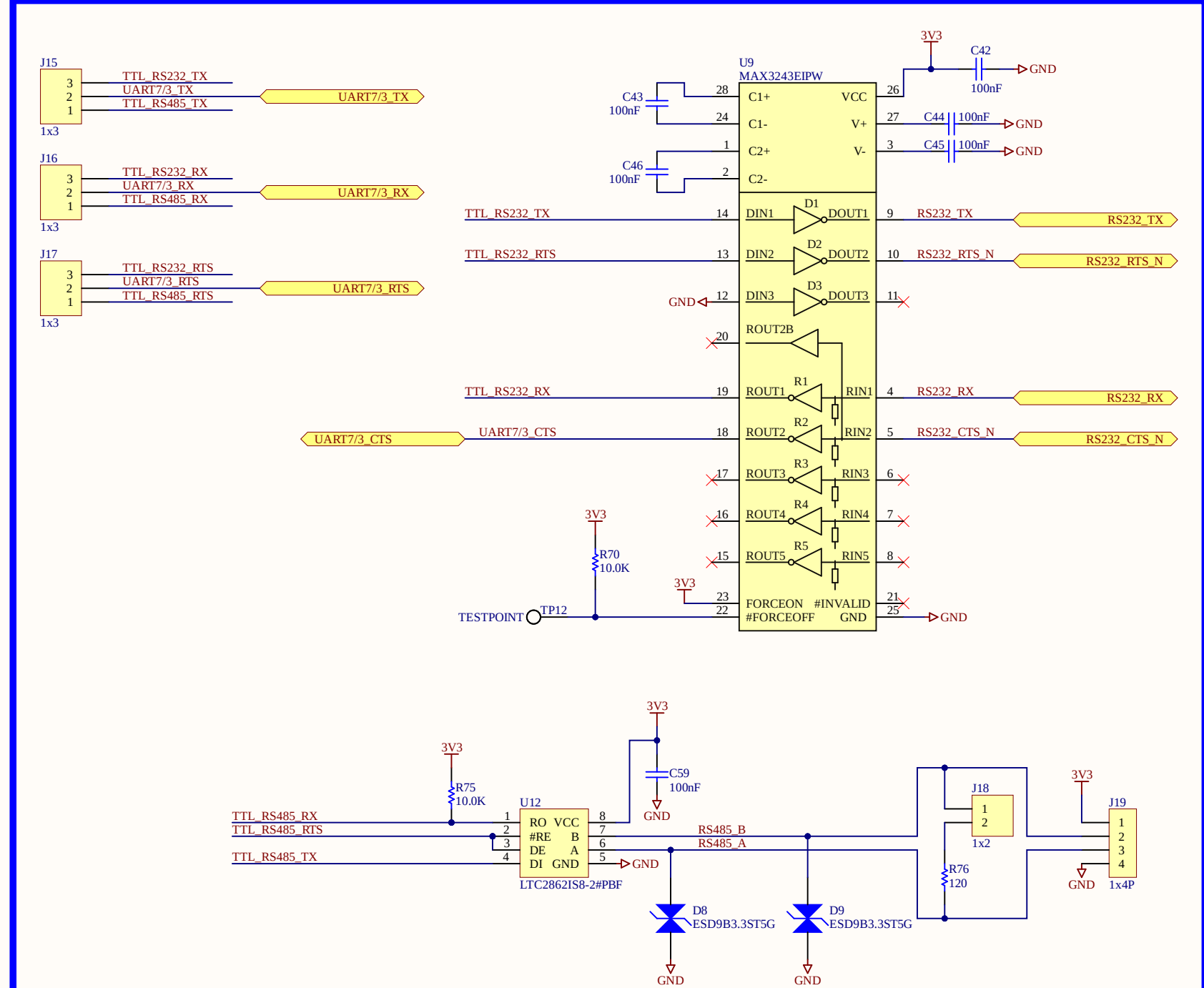
Console port



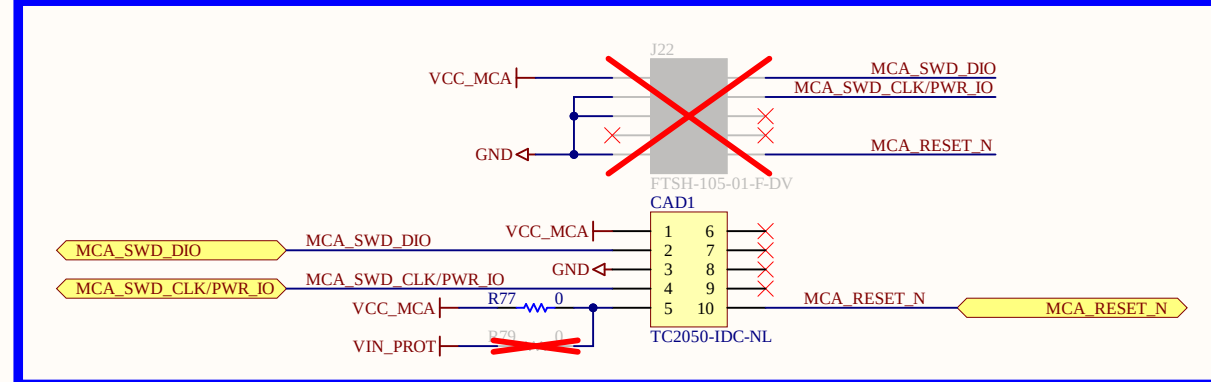
CPU JTAG



UART 7 - RS232 / RS485

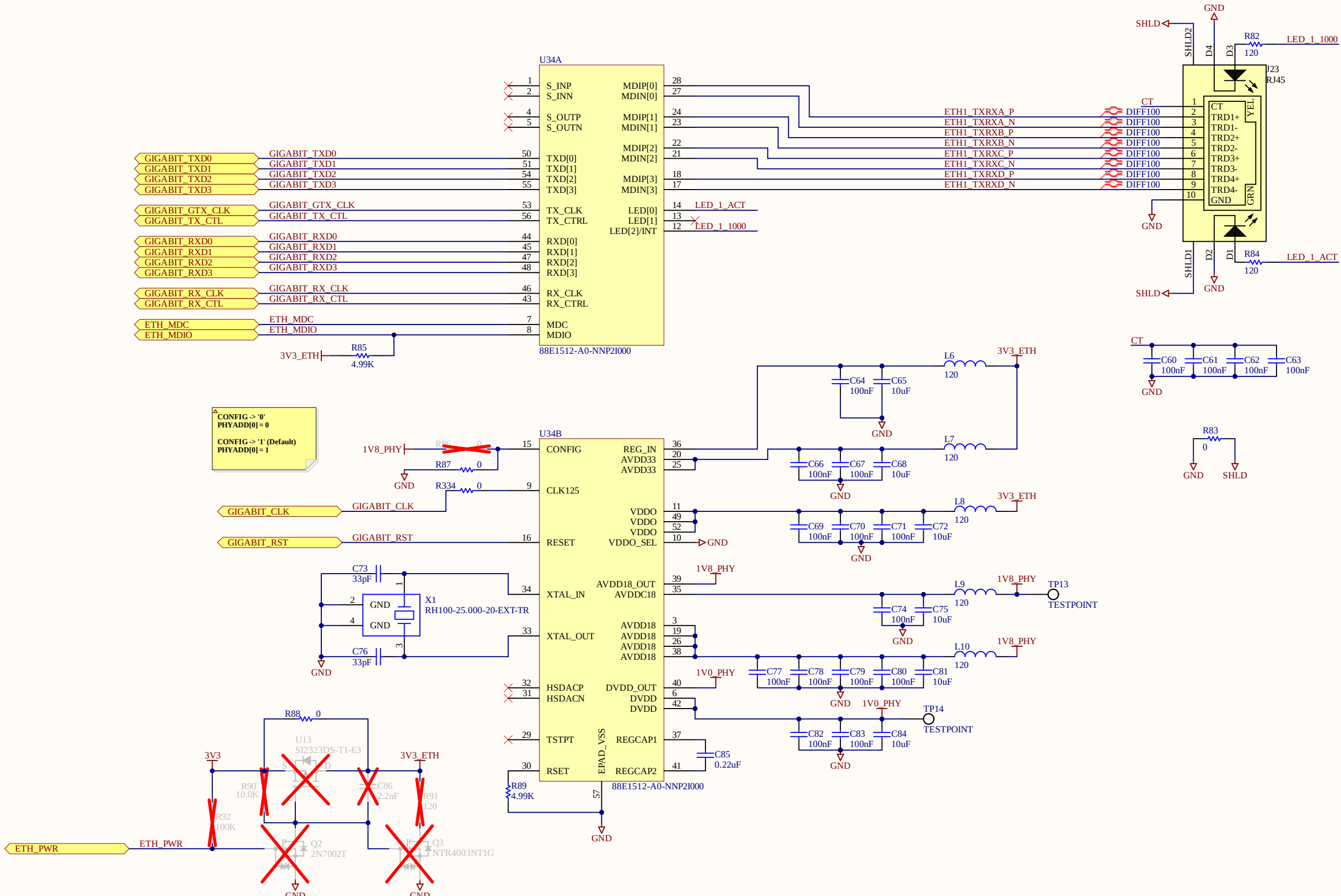


MCA SWD

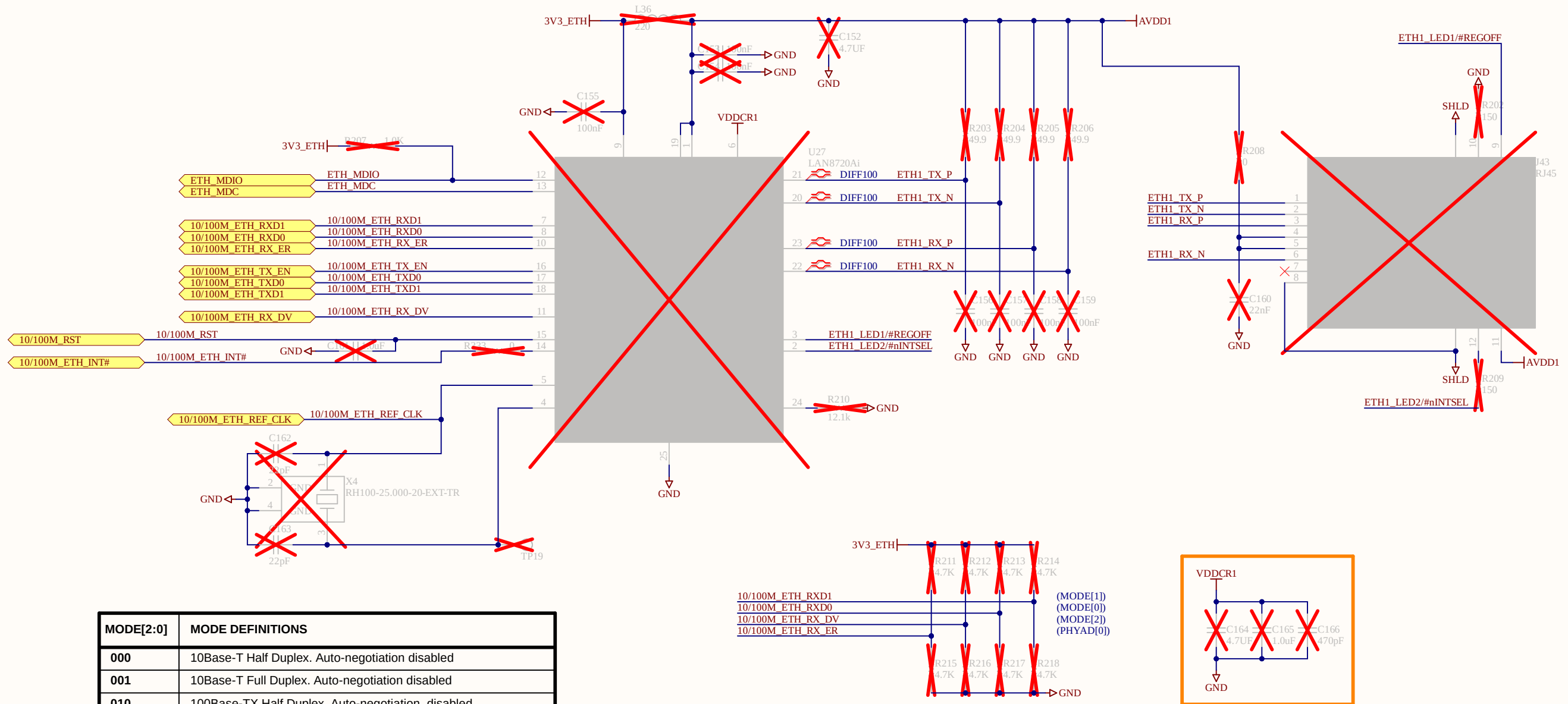


Accessing JTAG or SWD is possible through two options:
 1 - Dedicated header (JTAG = J43 / SWD = J11)
 2 - Dedicated Tag Connect footprint (JTAG = CAD1 / SWD = CAD2)

10/100/1000M Ethernet

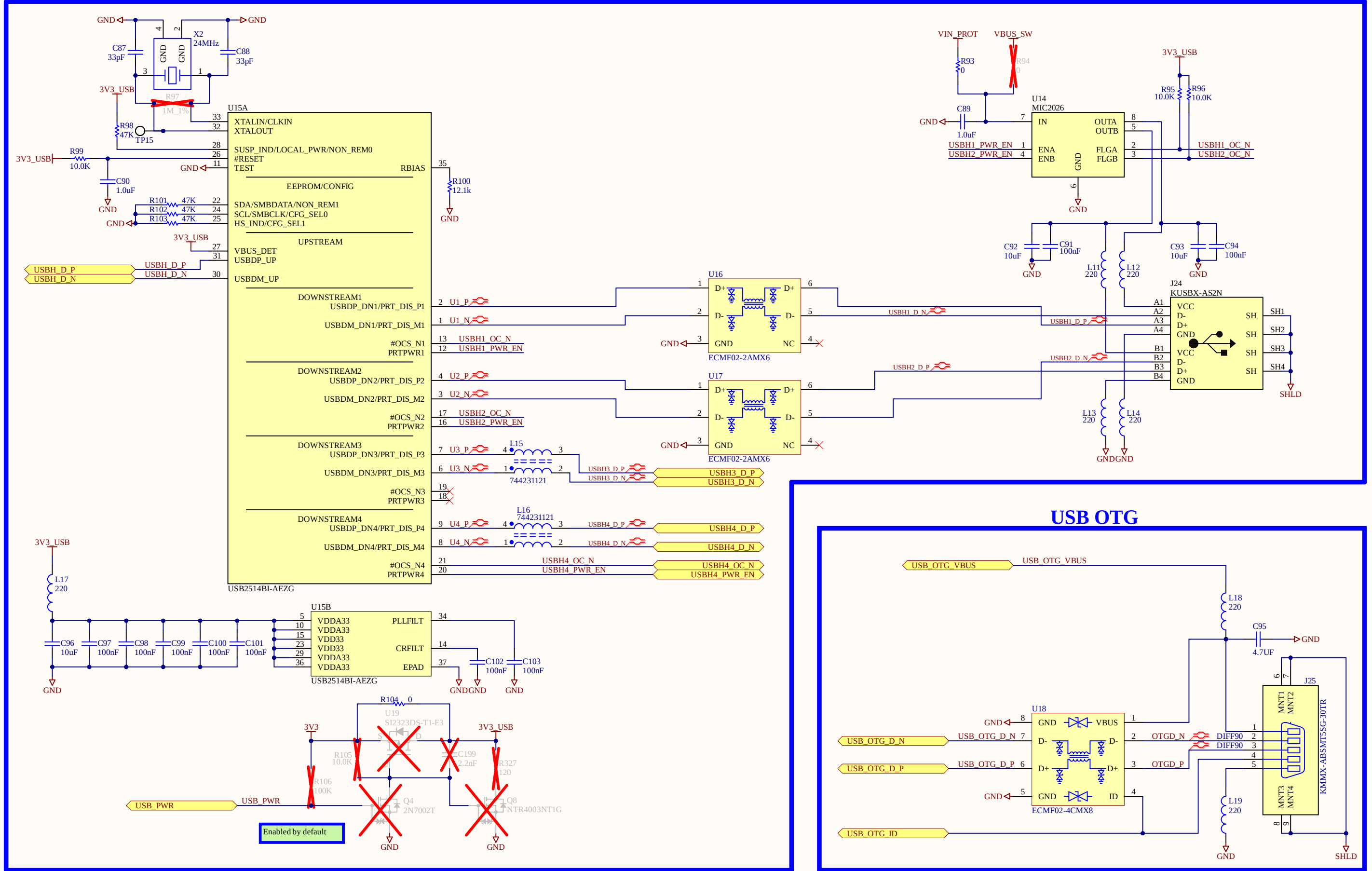


10/100M Ethernet

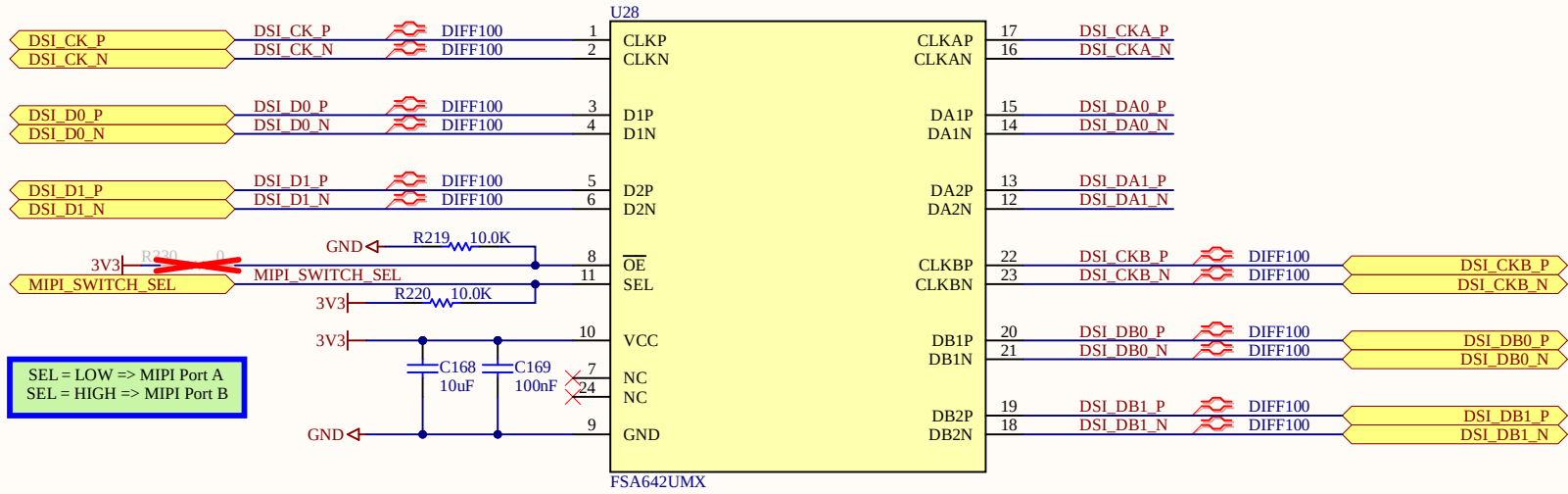


MODE[2:0]	MODE DEFINITIONS
000	10Base-T Half Duplex. Auto-negotiation disabled
001	10Base-T Full Duplex. Auto-negotiation disabled
010	100Base-TX Half Duplex. Auto-negotiation disabled.
011	100Base-TX Full Duplex. Auto-negotiation disabled.
100	100Base-TX Half Duplex is advertised. Autonegotiation enabled.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

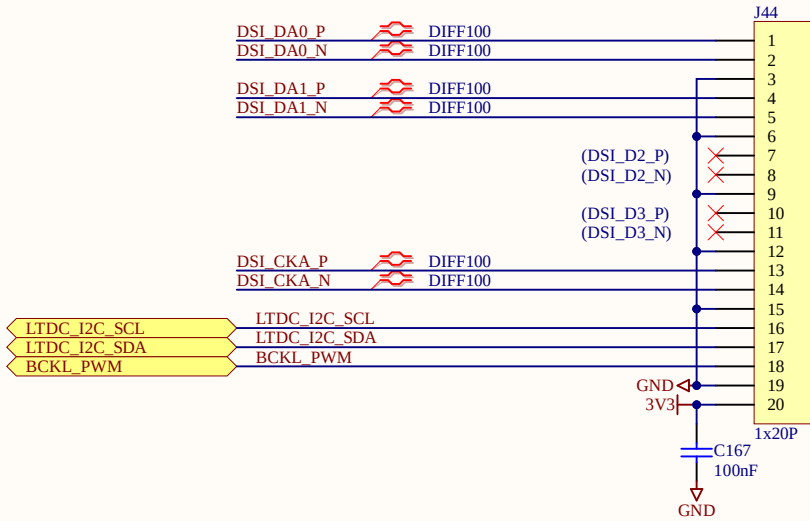
USB HOST



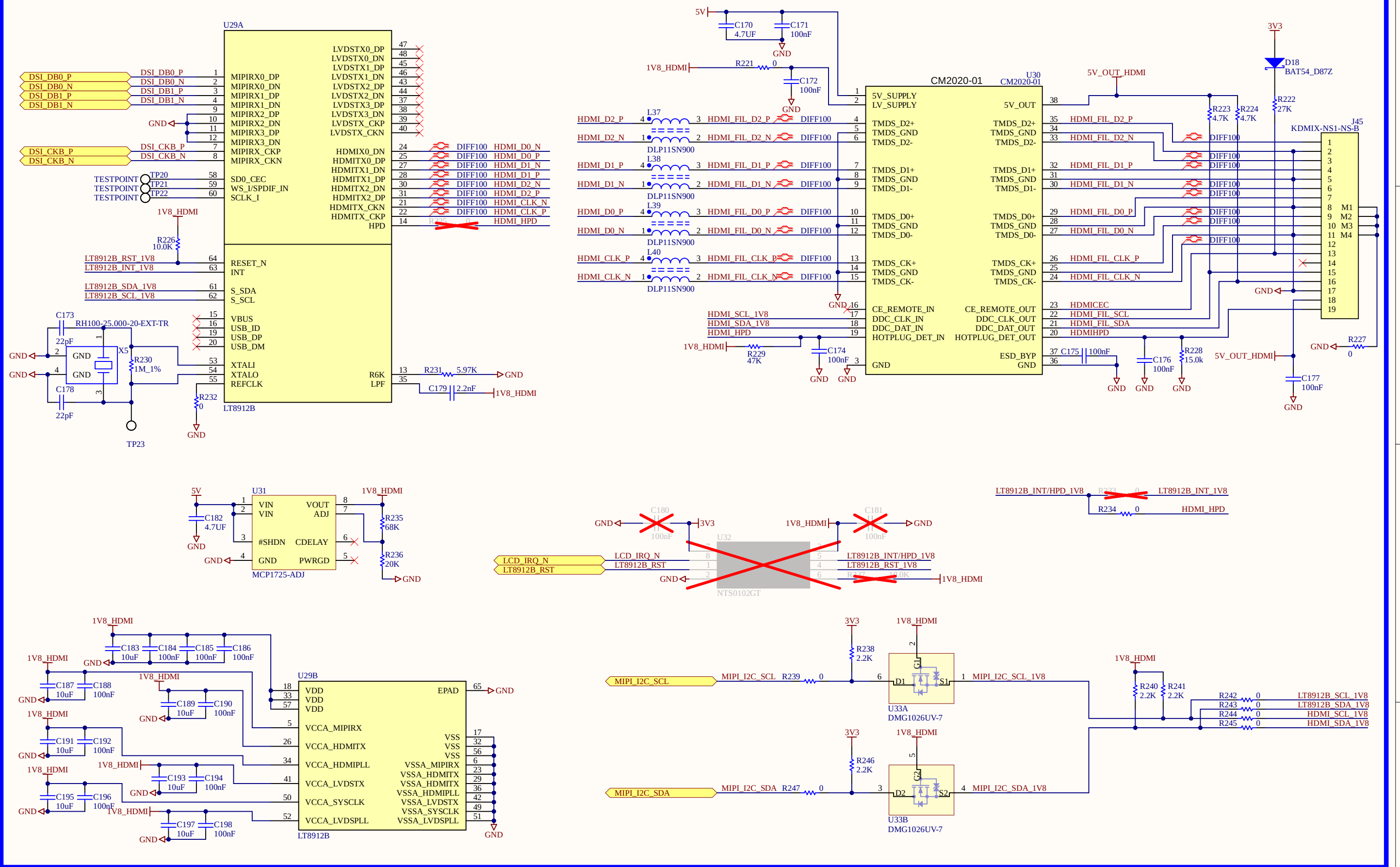
MIPI switch and display



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

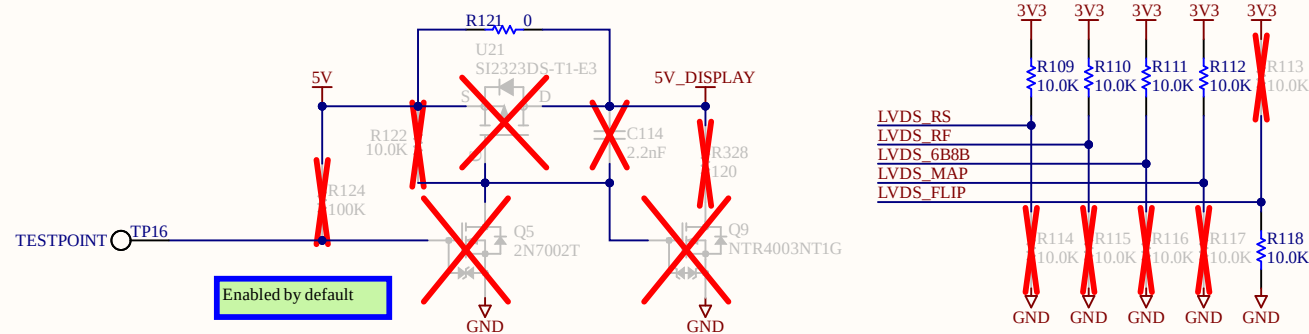
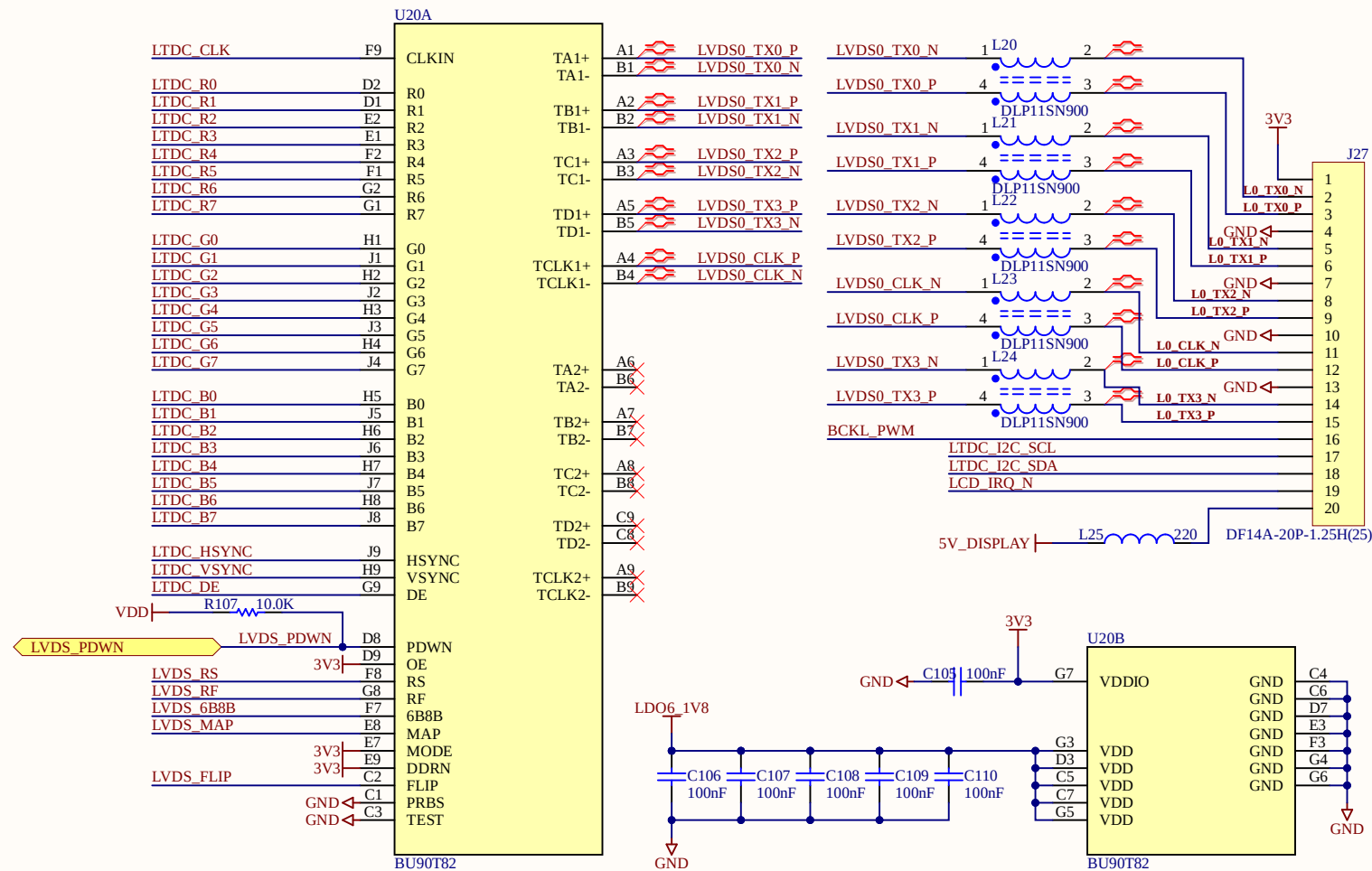


HDMI display



Title: MIPI Display, HDMI		
Designer: Sébastien MEYER	Sheet: 11 of 18	
Variant: 55002167-01	Rev: 1P	
Description: ConnectCore MP1 Development board - CCMP15		

LVDS



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

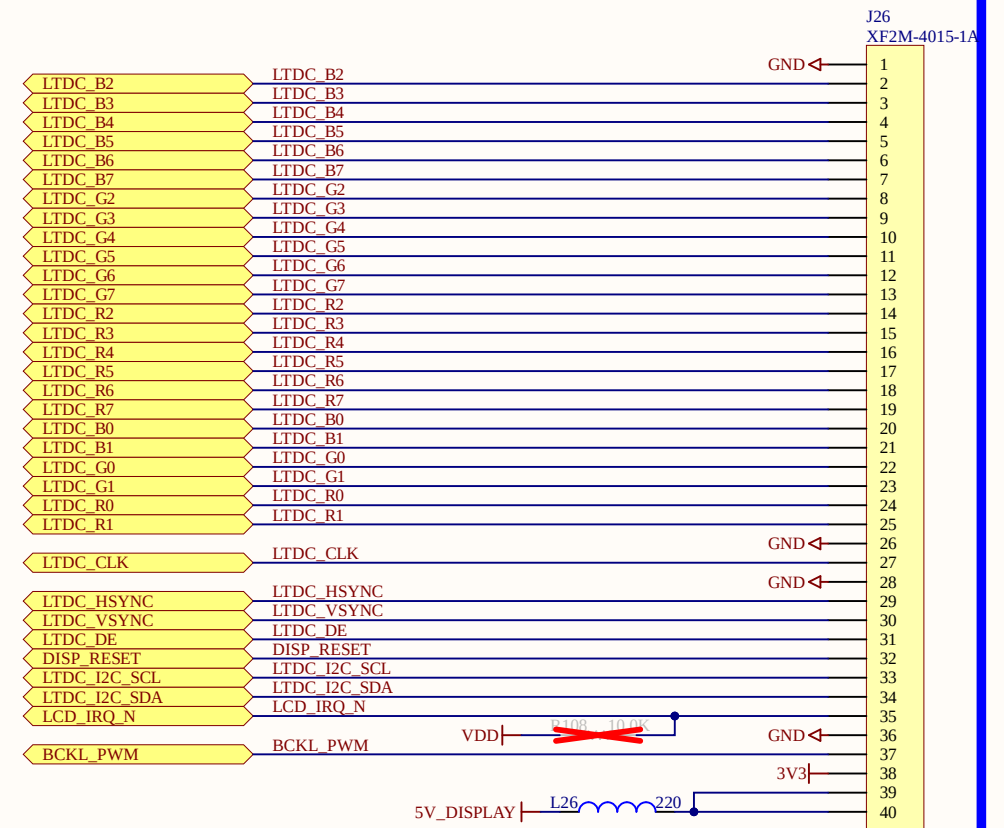
LVDS_RF: Input CLK Triggering Edge Select:
H: Rising Edge
L: Falling Edge

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

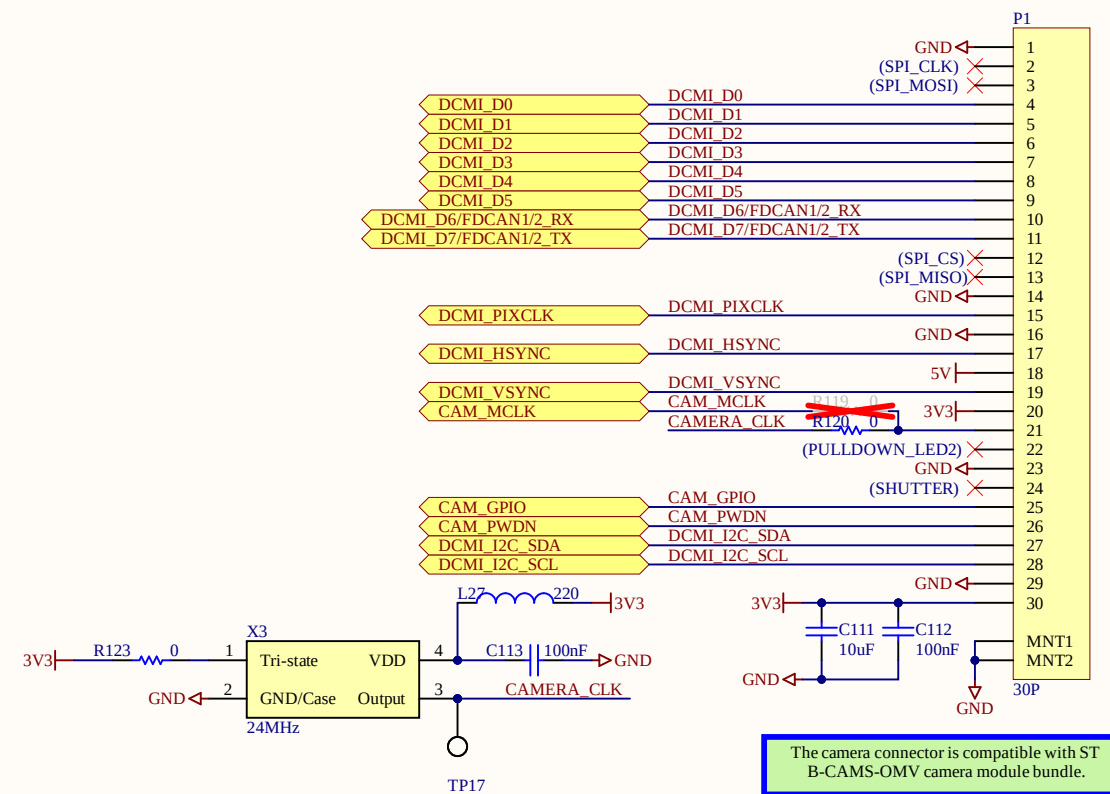
Parallel Display



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

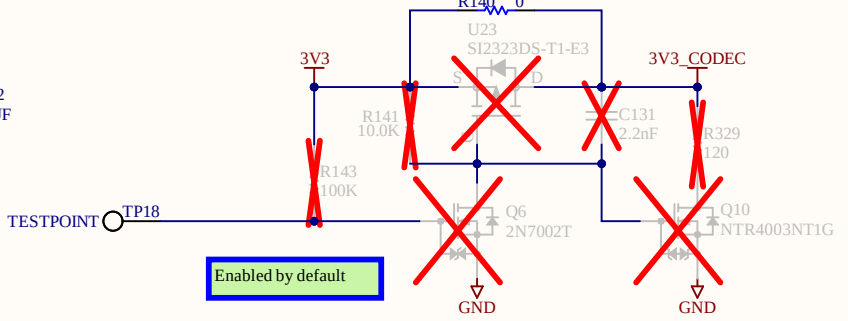
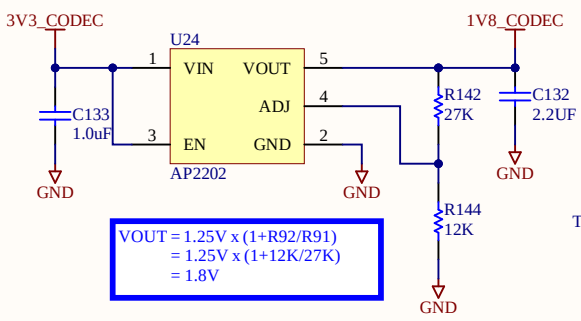
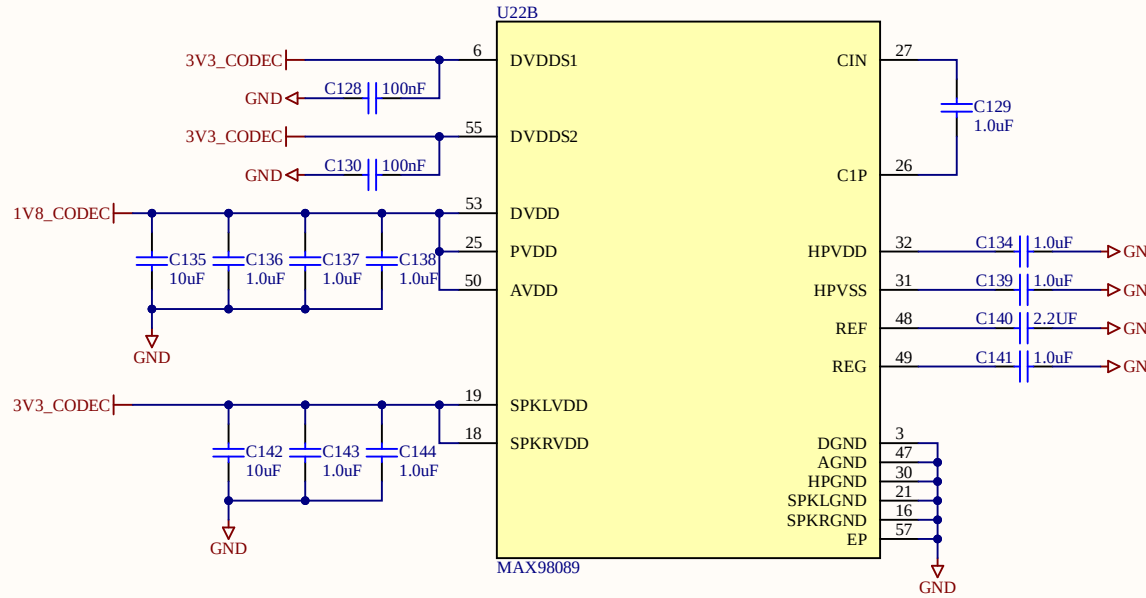
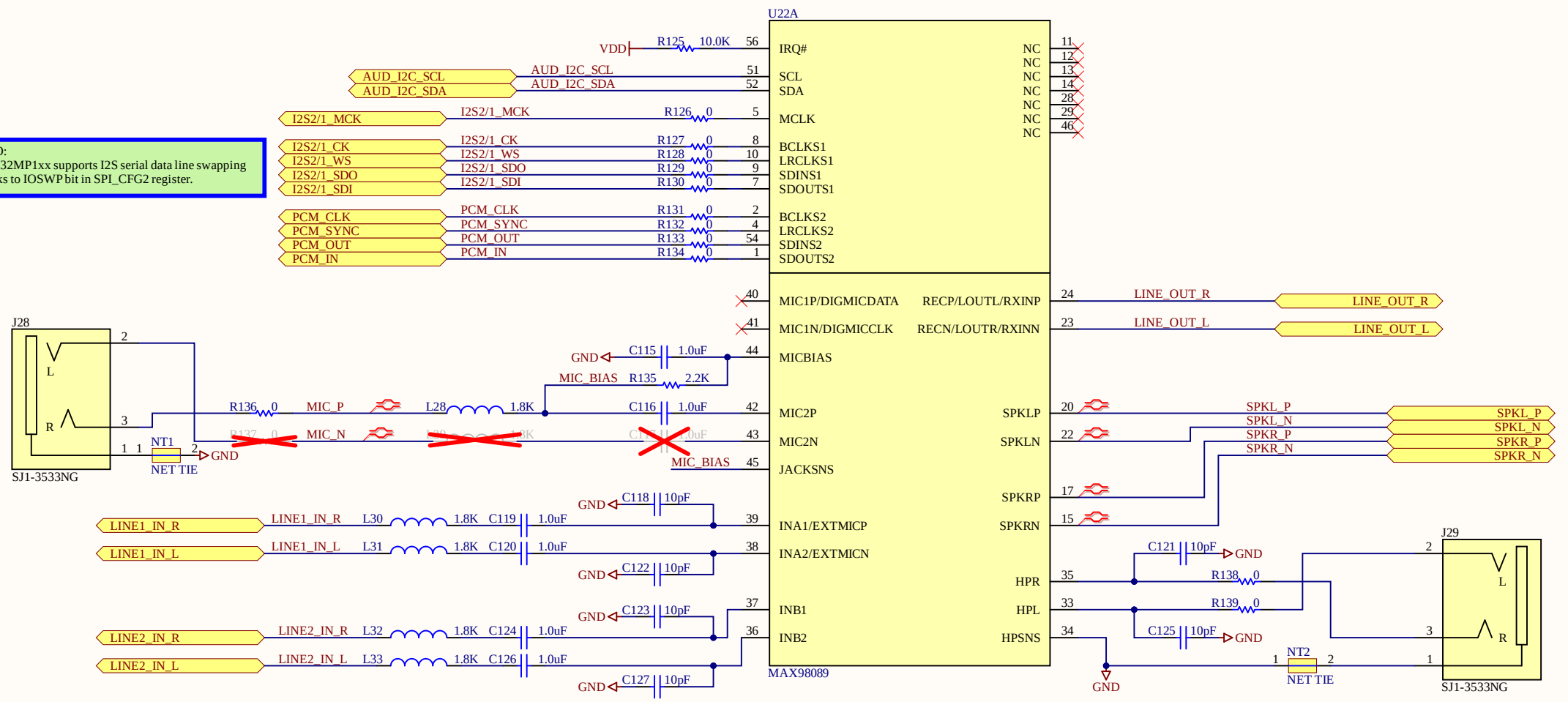
Parallel Camera



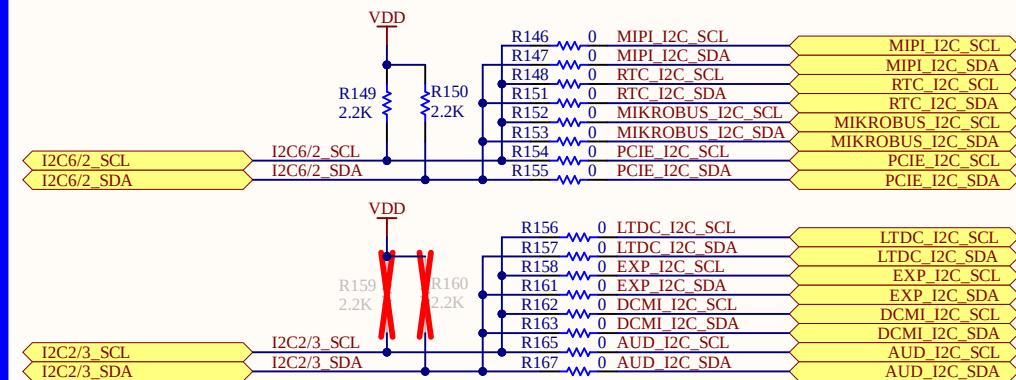
The camera connector is compatible with ST B-CAMS-OMV camera module bundle.

AUDIO

INFO:
STM32MP1xx supports I2S serial data line swapping
thanks to IOSWP bit in SPI_CFG2 register.



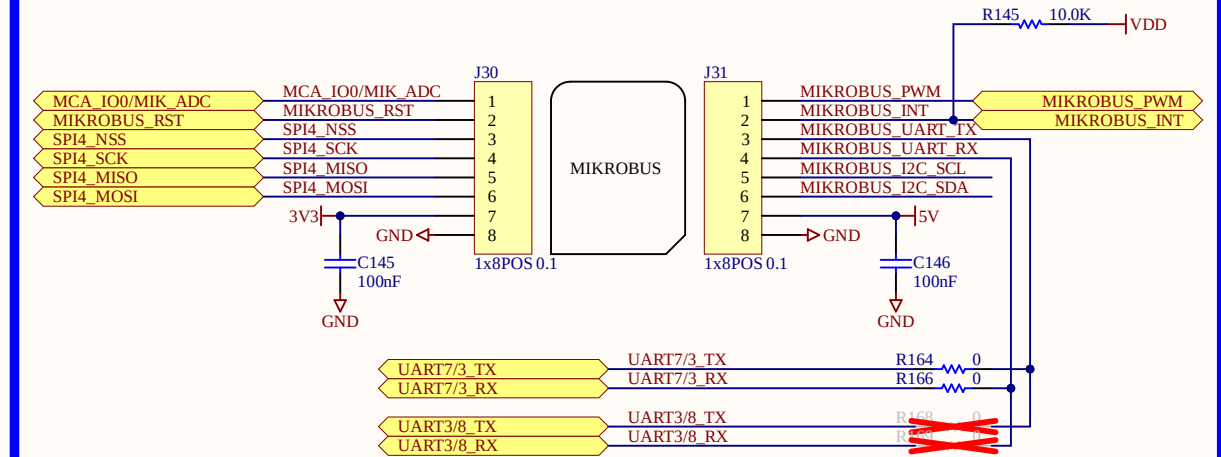
I2C



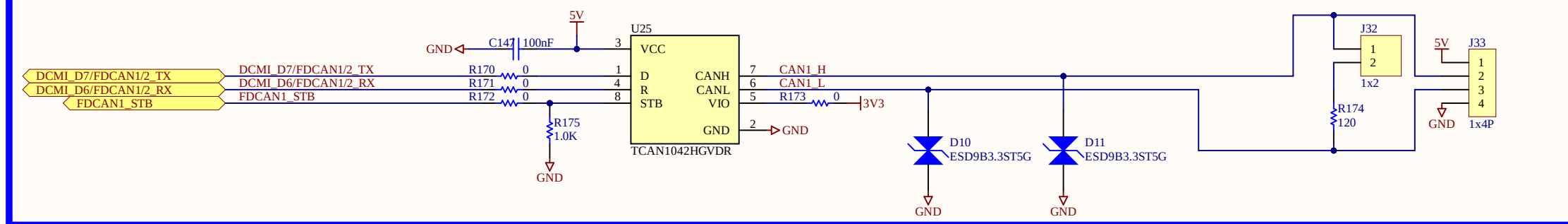
I2C address

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

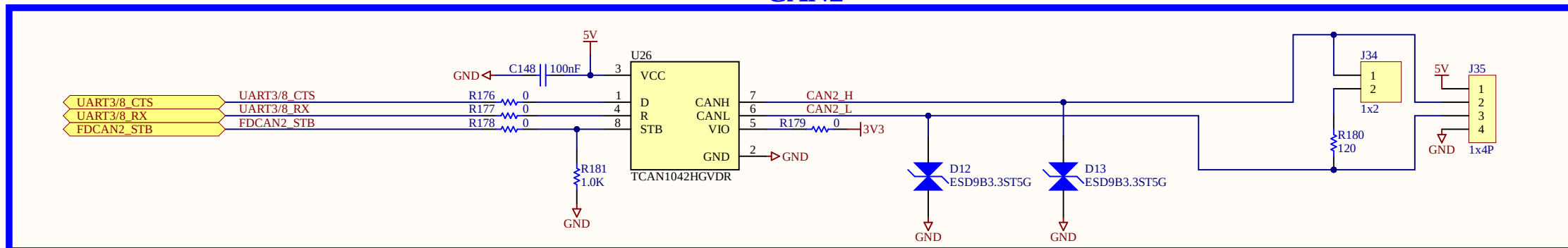
MIKROBUS SOCKET



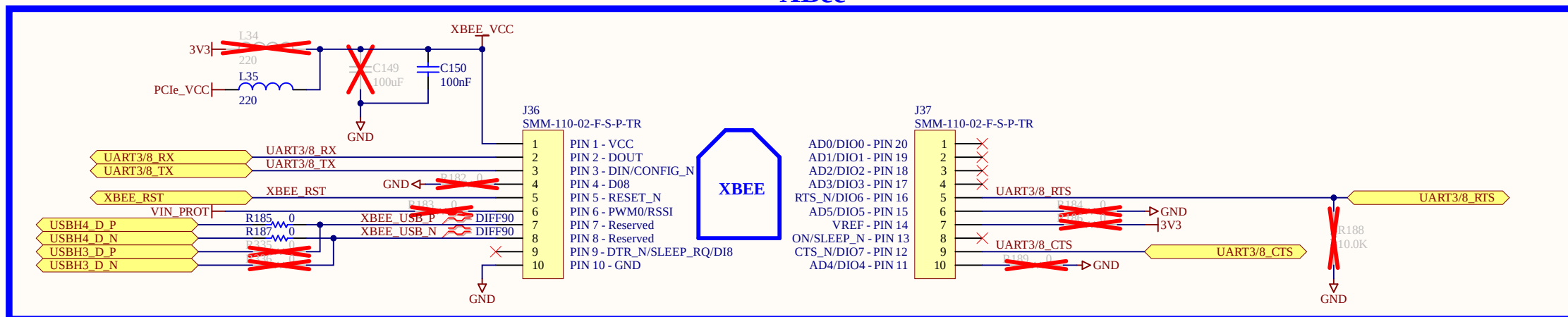
CAN1



CAN2



XBee



Title: CAN, I2C, XBee, MIKROBUS

Designer: Sébastien MEYER Sheet: 14 of 18

Variant: 55002167-01

Rev: 1P

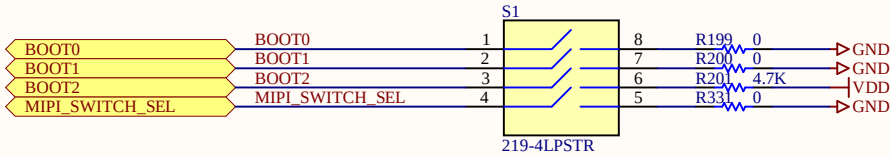
Description: ConnectCore MP1 Development board - CCMP15



Boot Mode

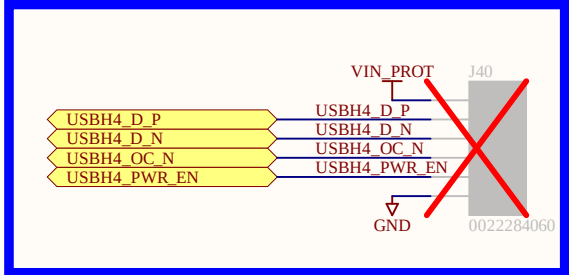
BOOT2	BOOT1	BOOT0	Initial boot mode	Comments
0	0	0	UART and USB Port 1 (HS)	
0	0	1	Serial NOR Flash	
0	1	0	eMMC	
0	1	1	NAND Flash	Default
1	0	0	Reserved (NoBoot)	
1	0	1	SD card	
1	1	0	UART and USB Port 2 (OTG)	
1	1	1	Serial NAND Flash	

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

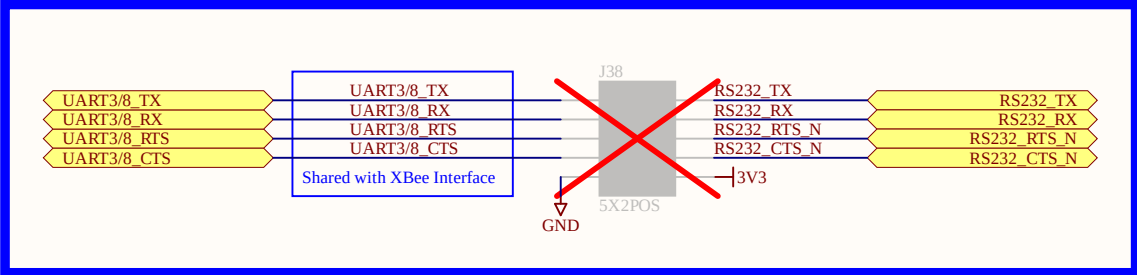


S1.1	S1.2	S1.3	S1.4	Description
OFF	OFF	OFF	-	Boot from NAND
OFF	OFF	ON	-	Serial NAND flash
OFF	ON	OFF	-	Serial NOR flash
OFF	ON	ON	-	MicroSD card
ON	OFF	OFF	-	eMMC
ON	OFF	ON	-	UART and USB Port 2 (OTG)
ON	ON	OFF	-	UART and USB Port 1 (HS)
ON	ON	ON	-	Reserved (NoBoot)

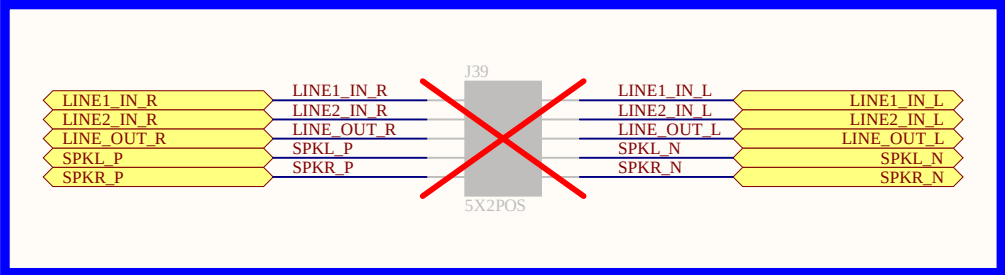
USB



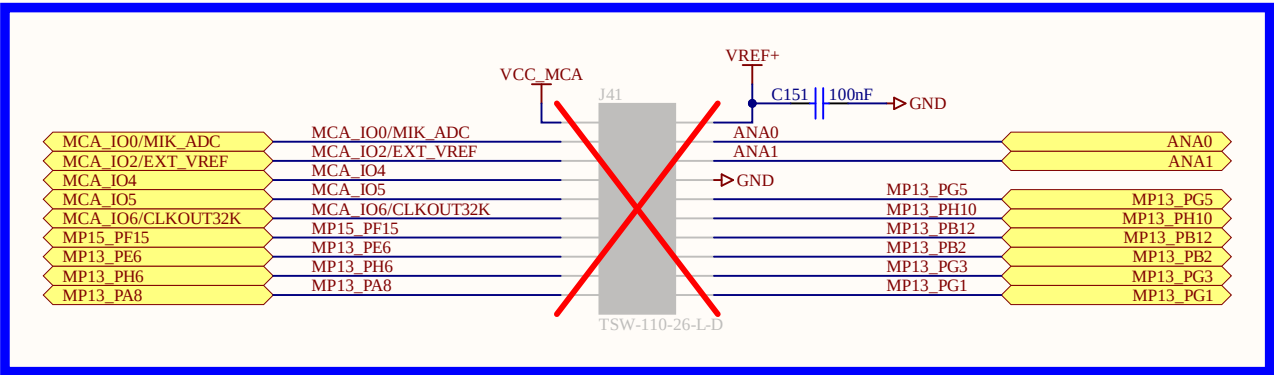
UART



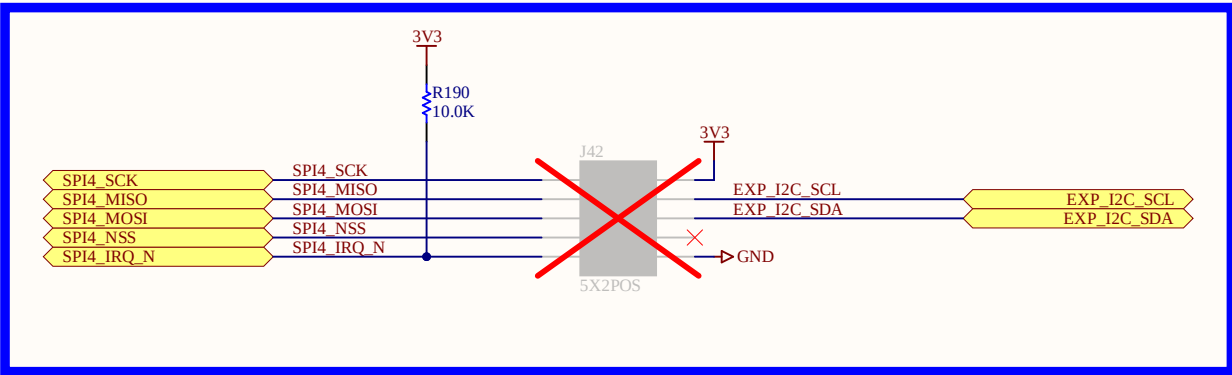
AUDIO



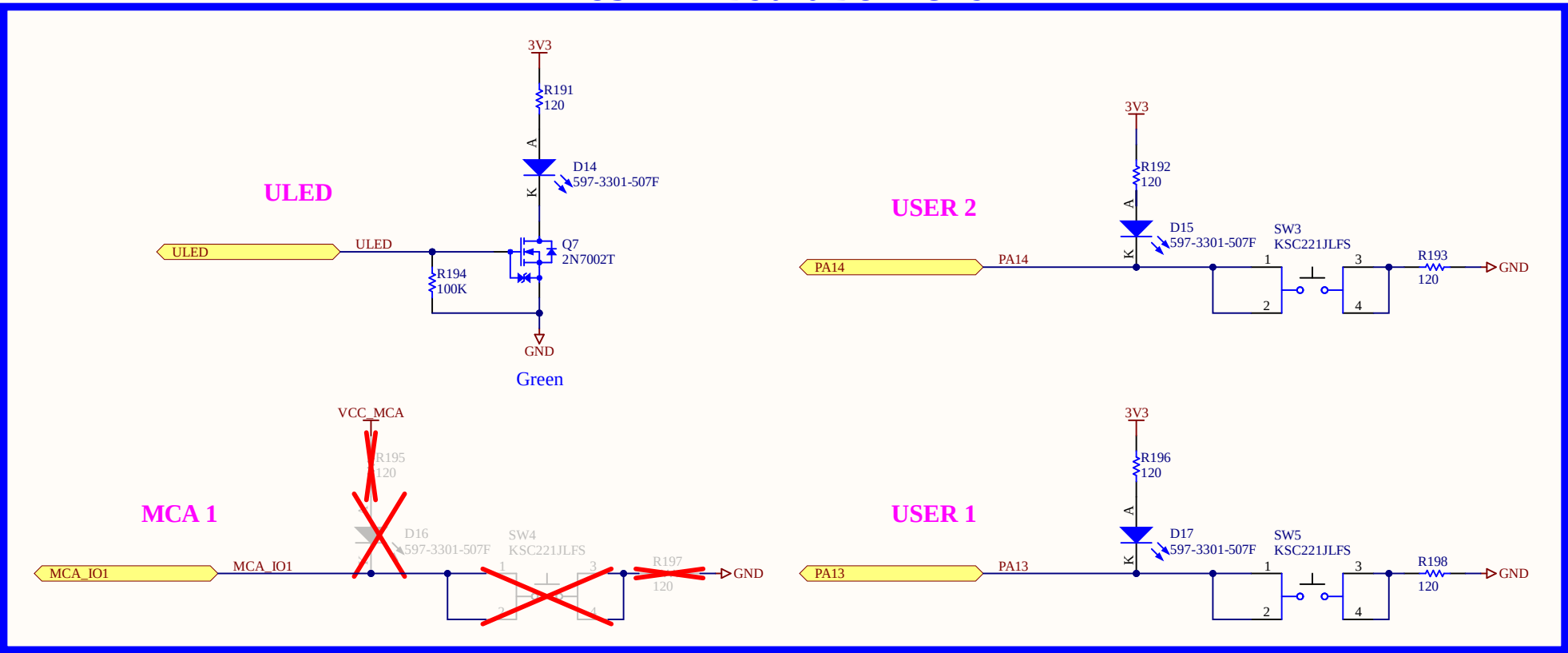
GPIO



SPI & I2C



USER LEDs and BUTTONs



System Power Rails

Voltage (V)	Supply Name	Block	Generated by	Output current (mA)	Notes
5.0	VIN	Overvoltage Prot	External DC supply	-	
		MCA LDO			
	VIN_PROT	CCMP1	Overvoltage Prot	-	
		5V load switch			
		USB Host VBUS			
	5V	HDMI	Load switch (U6)	2400	
		LVDS0			
		Parallel Display			
		CAN1, CAN2			
3.3	3V3	RS232	PMIC SW2	2000	Used also inside the SOM
		RS485			
		Gigabit Ethernet			
		10/100 Ethernet			
		USB Hub			
		LVDS			
		Parallel Display			
		Parallel Camera			
		AUDIO			
	PCIe_VCC	PCIe minicard	VIN_PROT	3000	
		XBee			
	VCC_MCA	MCA	AP2202	150	
3.0	VCC_LICELL	RTC	External Coin Cell	-	
1.8	LDO6_1V8	LVDS	PMIC LDO6	150	
	1V8_CODEC	AUDIO	AP2202	150	
	1V8_HDMI	HDMI	MCP1725	500	

GPIO Table

Signal Name	CCMP15 GPIO	CCMP13 GPIO	MCA GPIO
5V_EN	PC10	PF9	
PCIe_EN	PC11	PB6	
RTC_INT_N	PA4	PG7	
GIGABIT_RST	PG0	PI2	
ETH_PWR	PC9	PH3	
10/100M_RST	PG0	PH7	
10/100M_ETH_INT#	PC12	PH2	
USB_PWR	PC8	PF10	
LCD_IRQ_N	PG1		
LT8912B_RST	PA9		
LVDS_PDWN	PA8		
DISP_RESET	PG3		
CAM_GPIO	PF14		
CAM_PWDN	PE0		
MIKROE_INT	PF13	PF3	
MIKROE_RST	PF12	PH13	
FDCAN1_STB	PC7	PC7	
FDCAN2_STB	PE5	PC6	
XBEE_RST	PZ2	PG15	
ULED	PC3	PG0	
MCA_IO1			MCA_IO1
PA13	PA13	PA13	
PA14	PA14	PA14	

