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A

A

PCM-939

phyCORE-STM32MP15x Carrier Board

B

B

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C

C

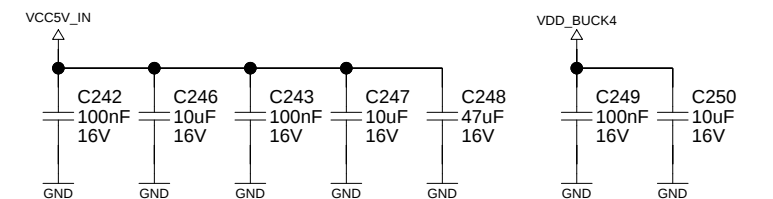
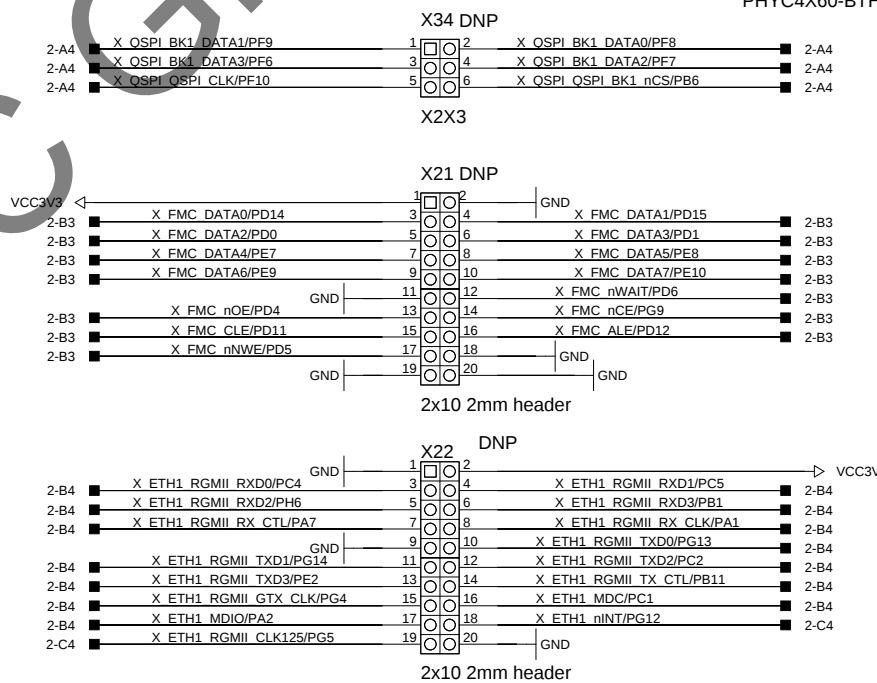
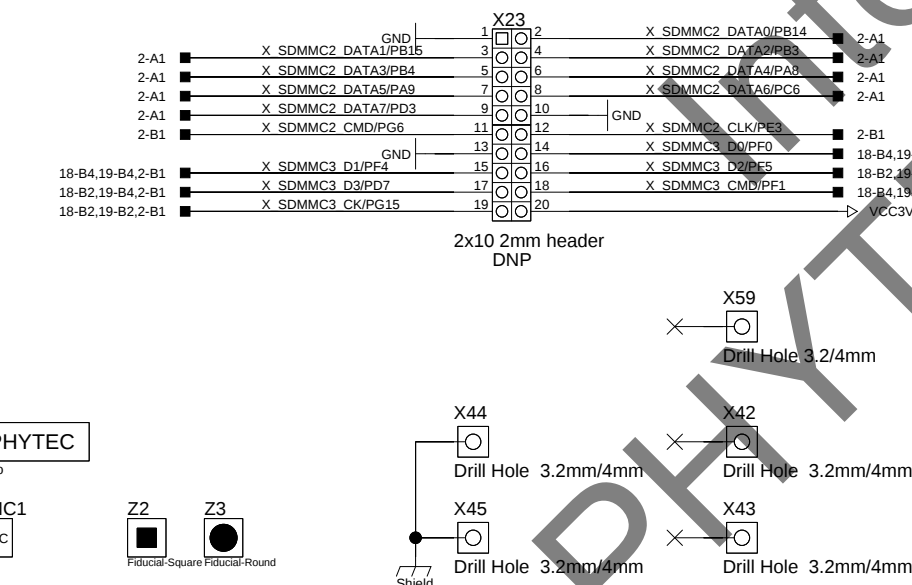
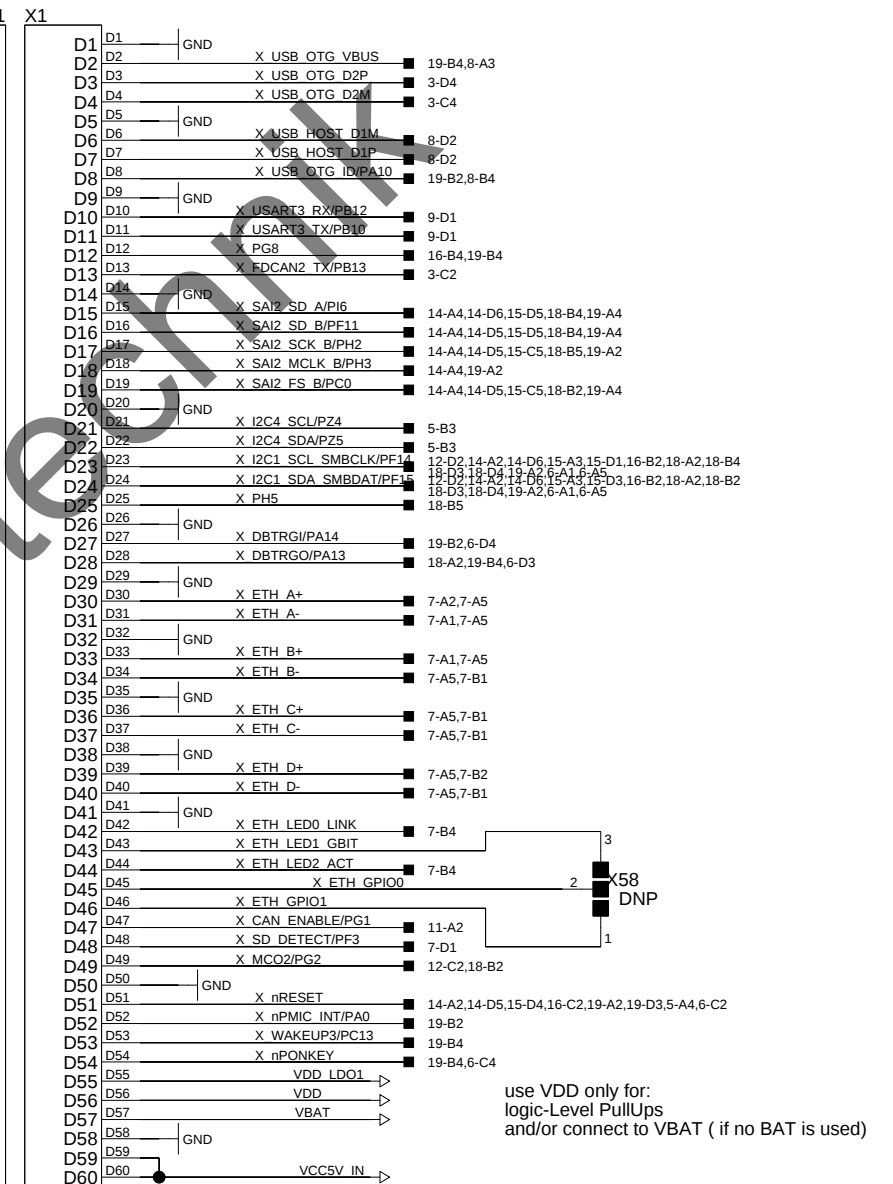
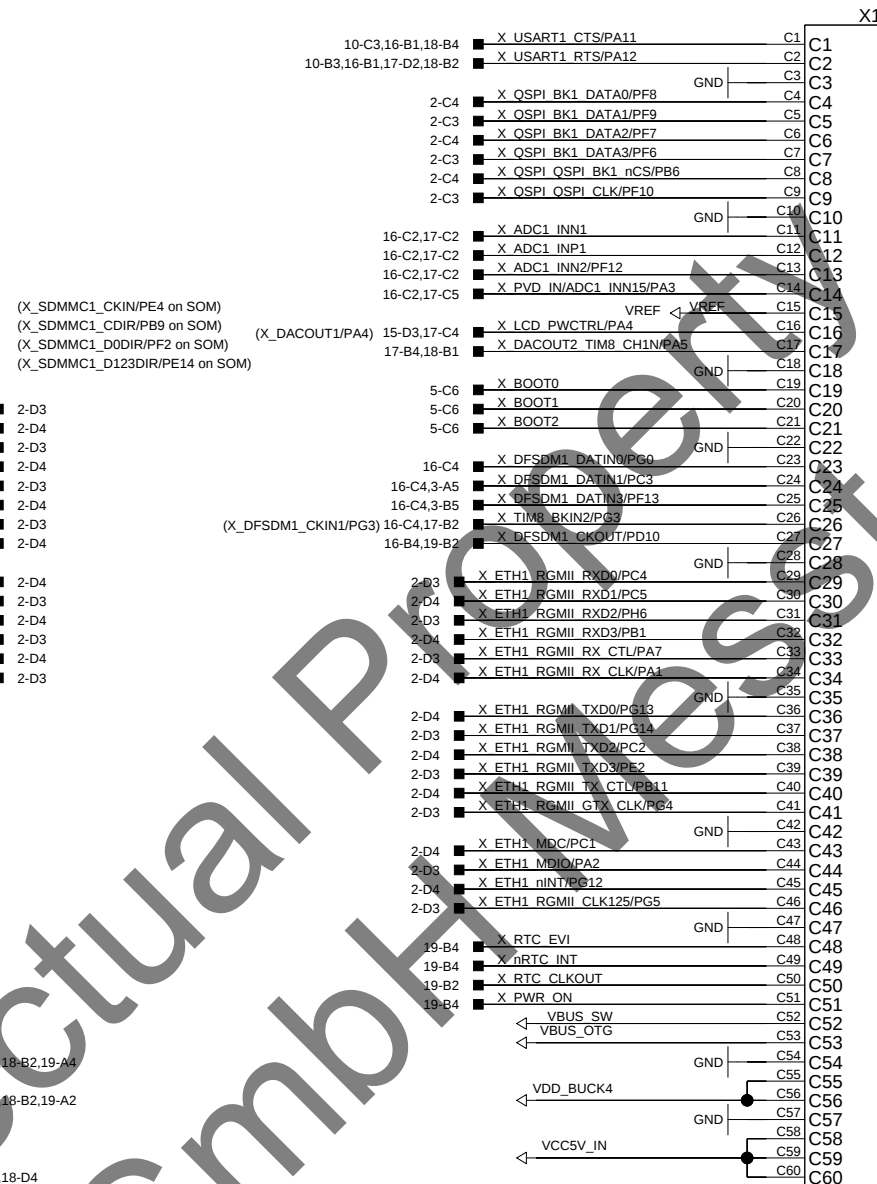
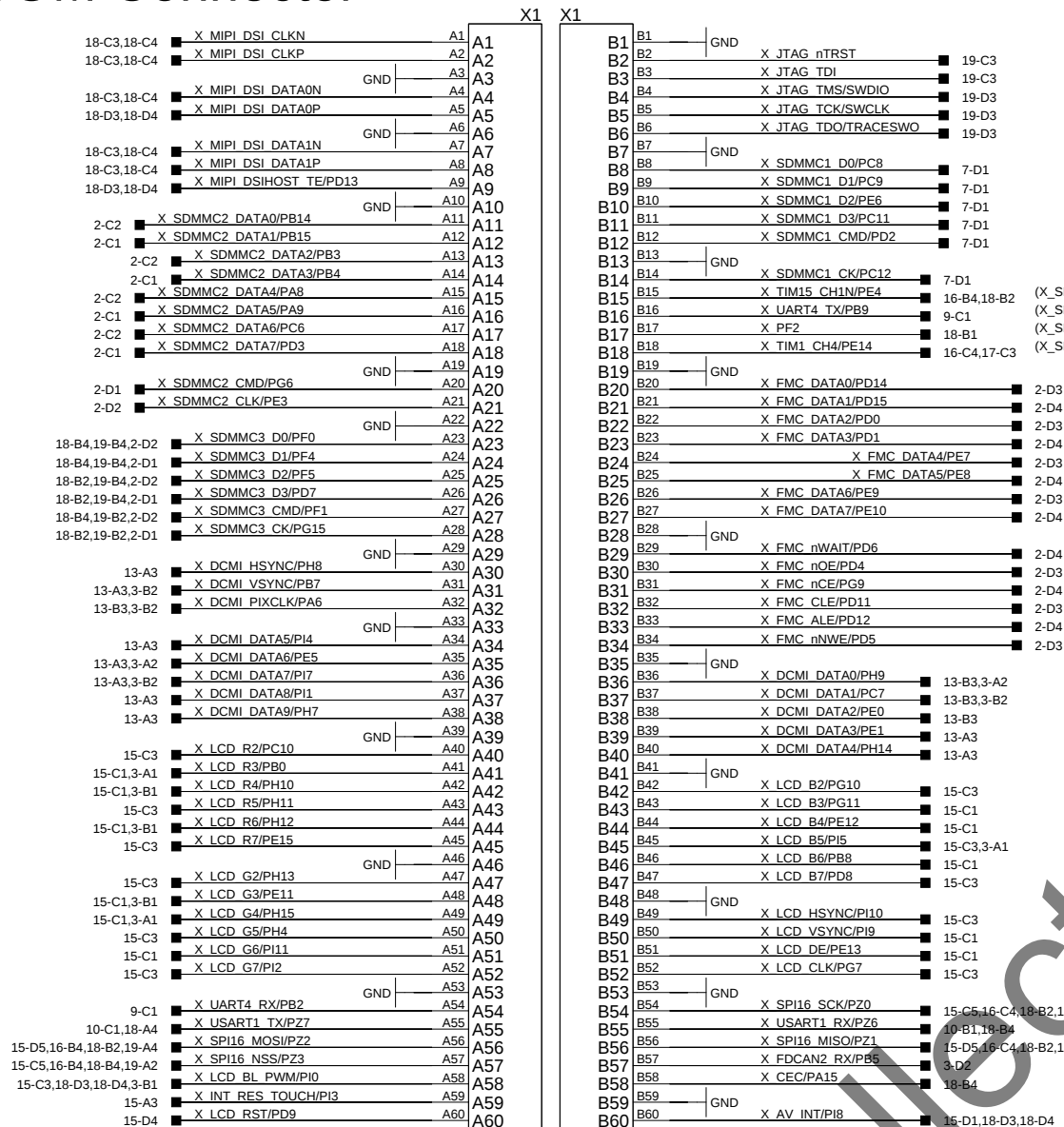
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D

D

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Project: PCM-939 phyCORE-STM32MP15x Carrier Board		Department : F&E Author: C. Parant	
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SOM Connector



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D-55129 Mainz

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Author: C. Parant

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A

B

C

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A

B

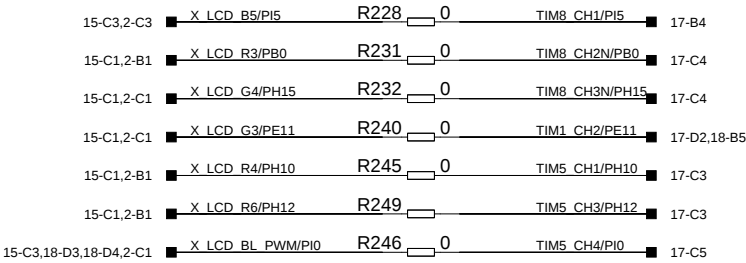
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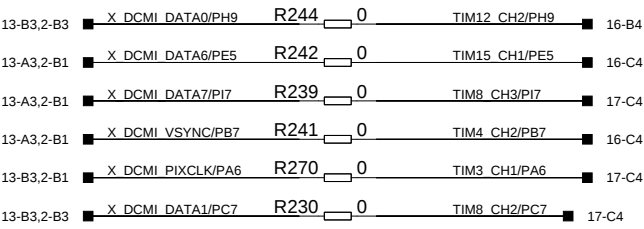
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Additional TIMERS

MUX with LCD signals :



MUX with DCMI signals :

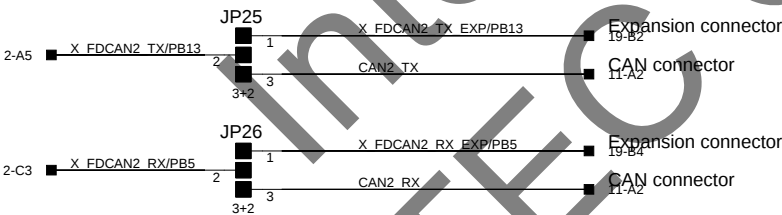


Additional ADCs



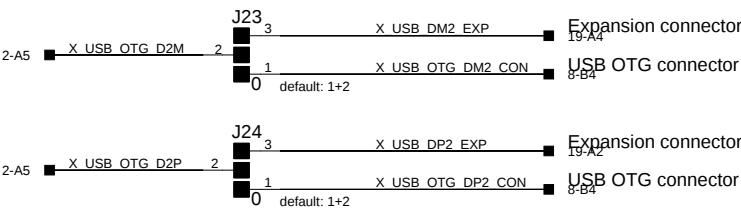
Signals destination Selectors

FDCAN2



Note :
FDCAN2 to CAN transceiver : JP25+JP26=3+2
FDCAN2 on Expansion connector X33: JP25+JP26=1+2

USB OTG



Note :
USB_OTG on USB-OTG connector X12: J23+J24=1+2
USB_OTG on Expansion connector X33: J23+J24=2+3

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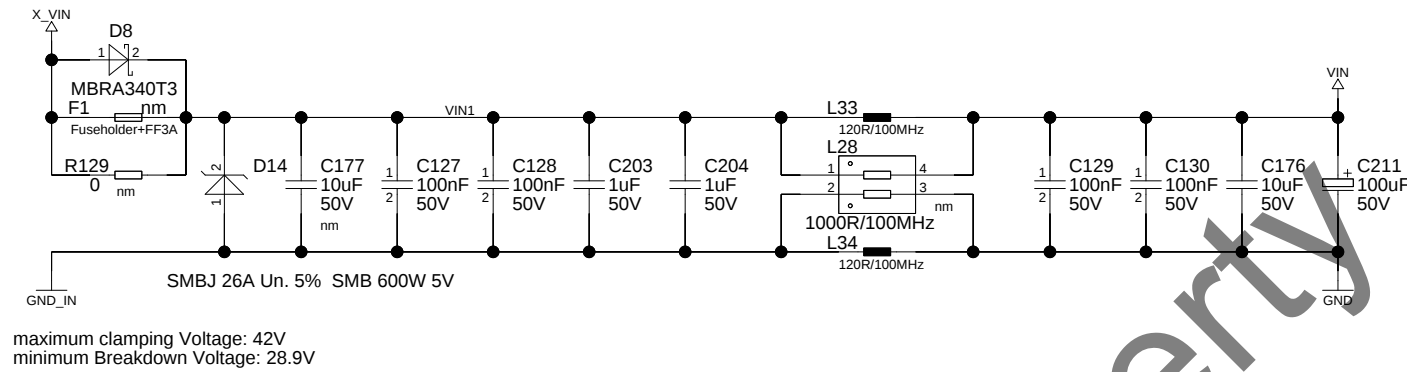
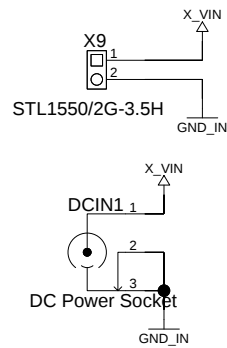
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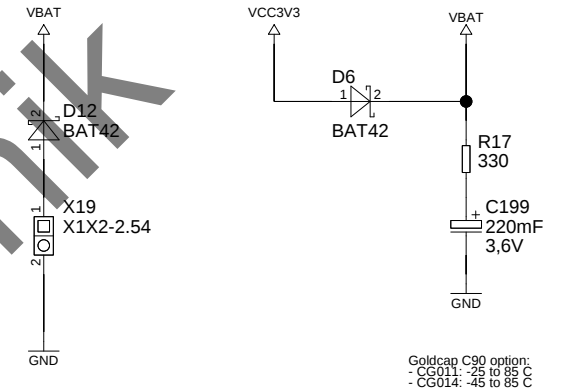
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Power Input (9V - 28V)



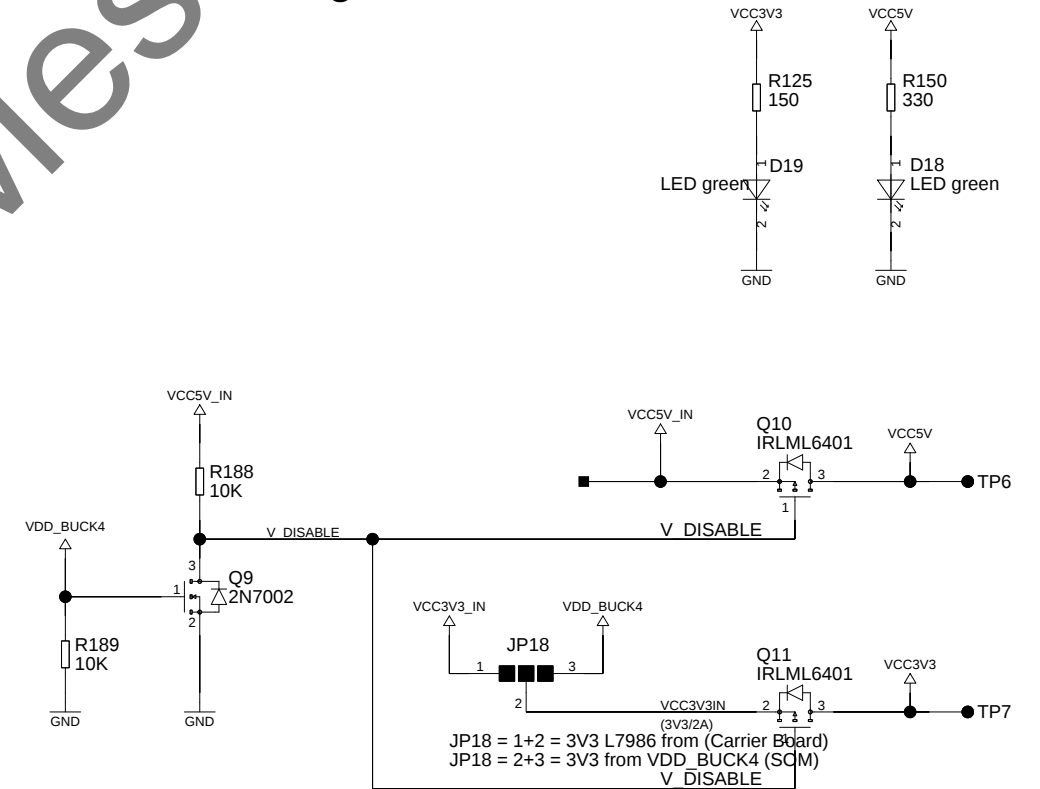
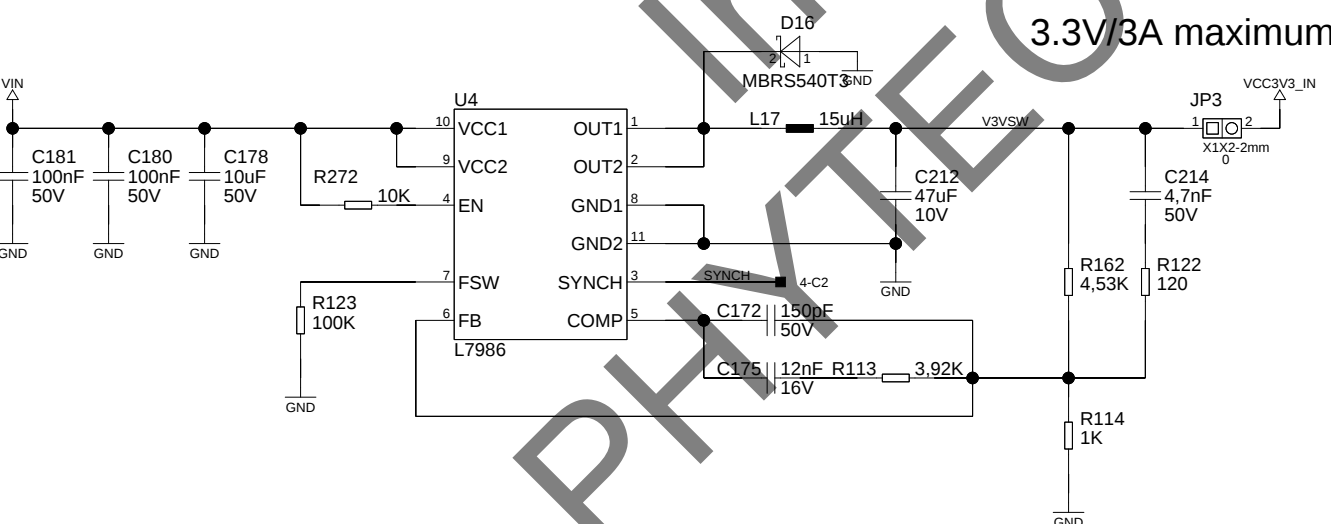
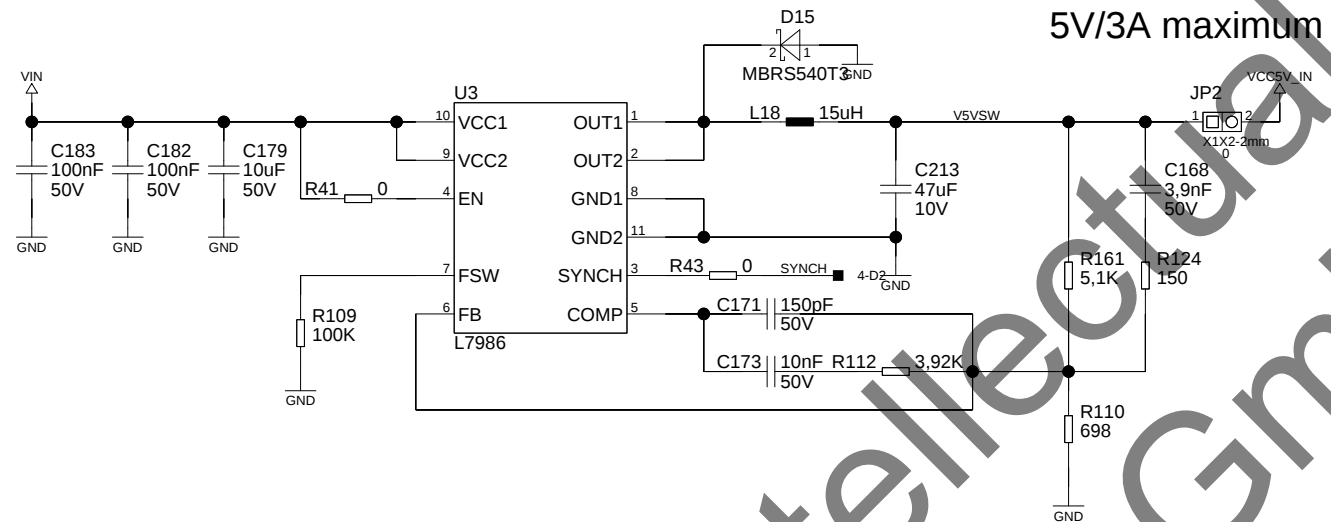
Backup Goldcap



5V/3V3 Regulator 3A

Operating Voltage: 12-24V +/- 10%

Enable board voltages



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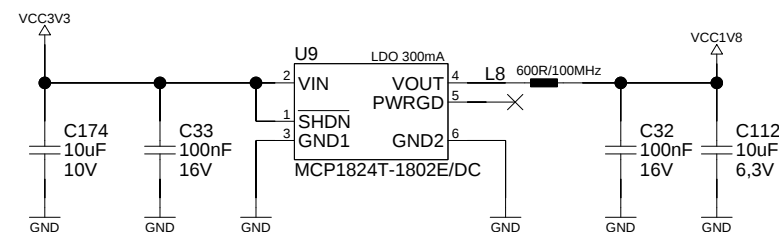
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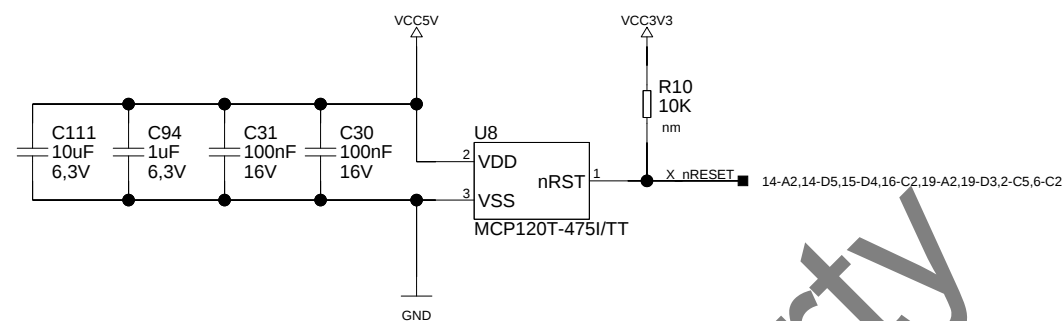
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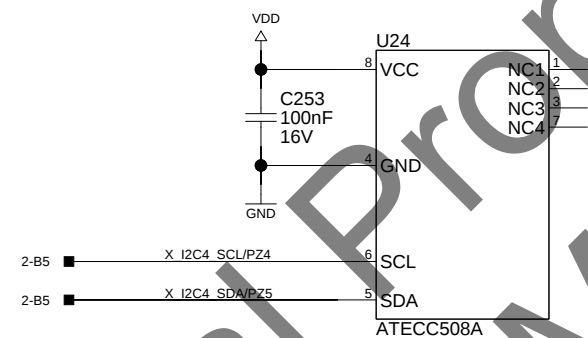
1.8V Power Supply



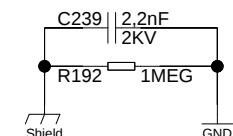
Voltage Supervisor



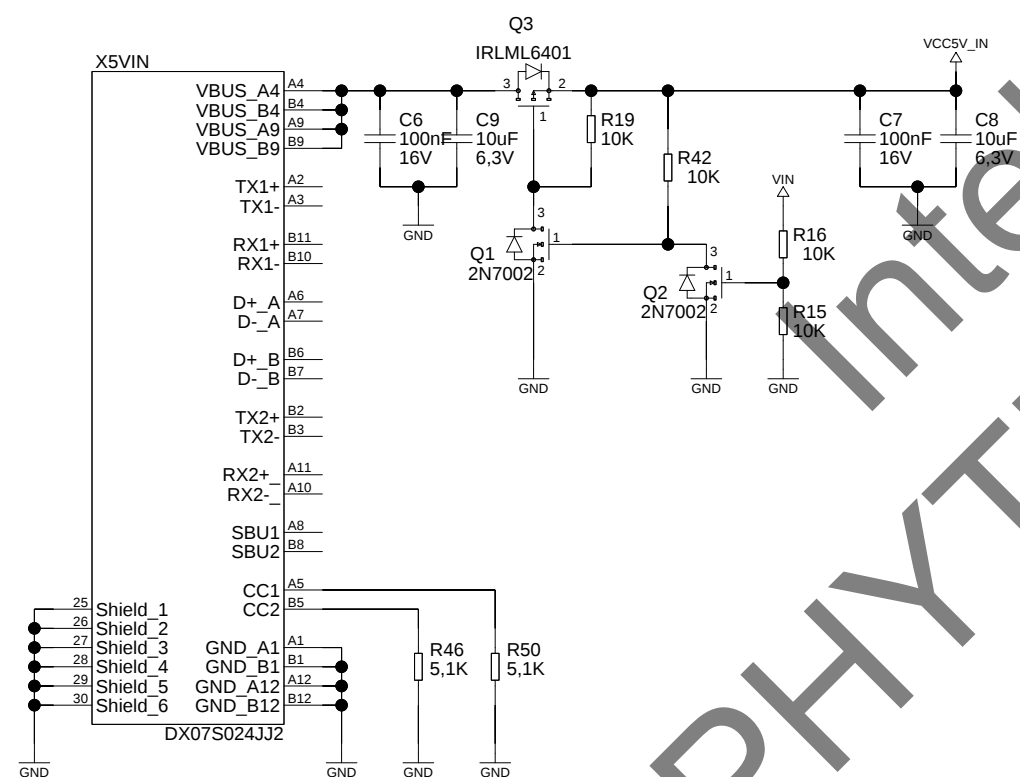
CryptoAuthentication Device



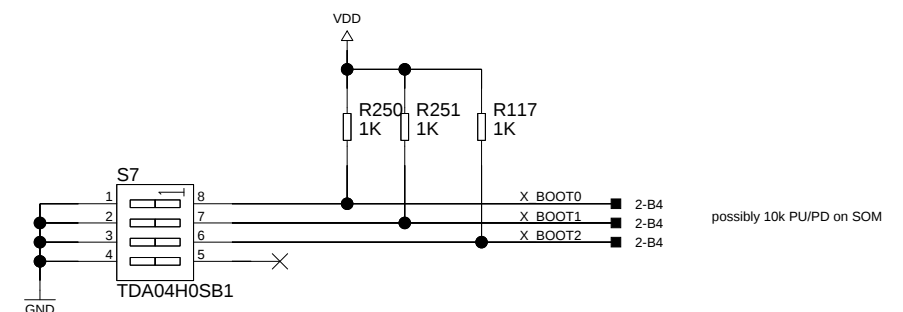
Shield Coupler



USB-C 5V Supply



Boot selection



Boot Mode	BOOT0	BOOT1	BOOT2
Reserved	0	0	1
NOR	1	0	0
SD-Card	1	0	1
eMMC	0	1	0
NAND	1	1	0
UART/USB	0	1	1
	0	0	0

"0" is signal to GND
"1" is signal with pullup to VDD

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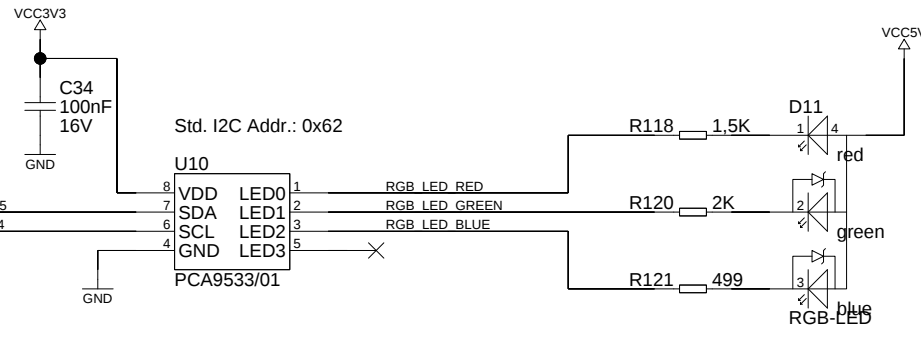
Revision : 003

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Multicolor LED

A

12-D2,14-A2,14-D6,15-A3,15-D3,16-B2,18-A2,18-B2
18-D3,18-D4,19-A2,2-B5,6-A5
12-D2,14-A2,14-D6,15-A3,15-D1,16-B2,18-A2,18-B2
18-D3,18-D4,19-A2,2-B5,6-A5

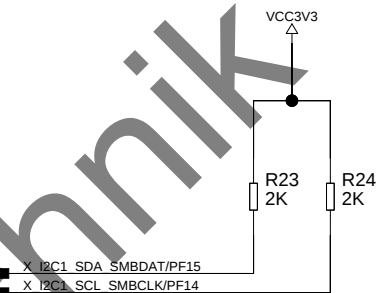


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I2C1 pull-up

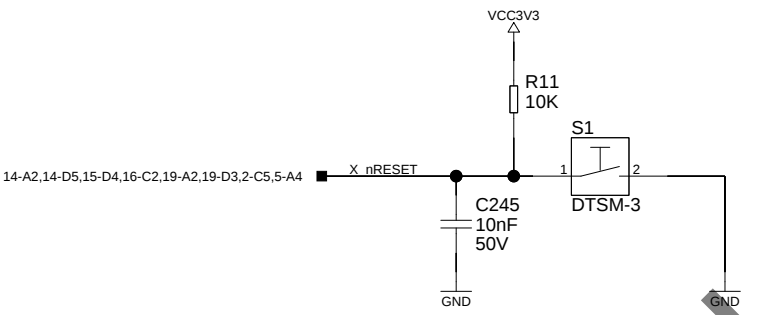
A

12-D2,14-A2,14-D6,15-A3,15-D3,16-B2,18-A2,18-B2
18-D3,18-D4,19-A2,2-B5,6-A5
12-D2,14-A2,14-D6,15-A3,15-D1,16-B2,18-A2,18-B2
18-D3,18-D4,19-A2,2-B5,6-A5

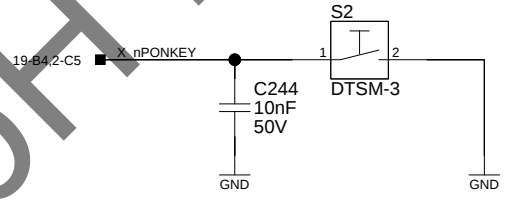


B

System Reset Button



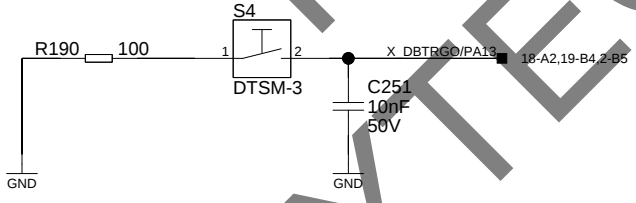
System Wake Up Button



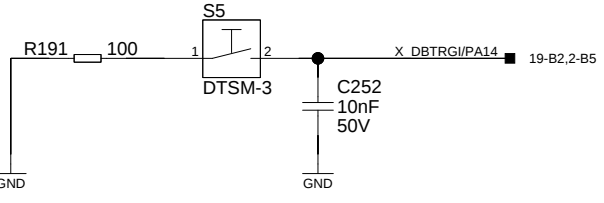
C

User Buttons

Label as: "S4"



Label as: "S5"



D

D

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1

2

3

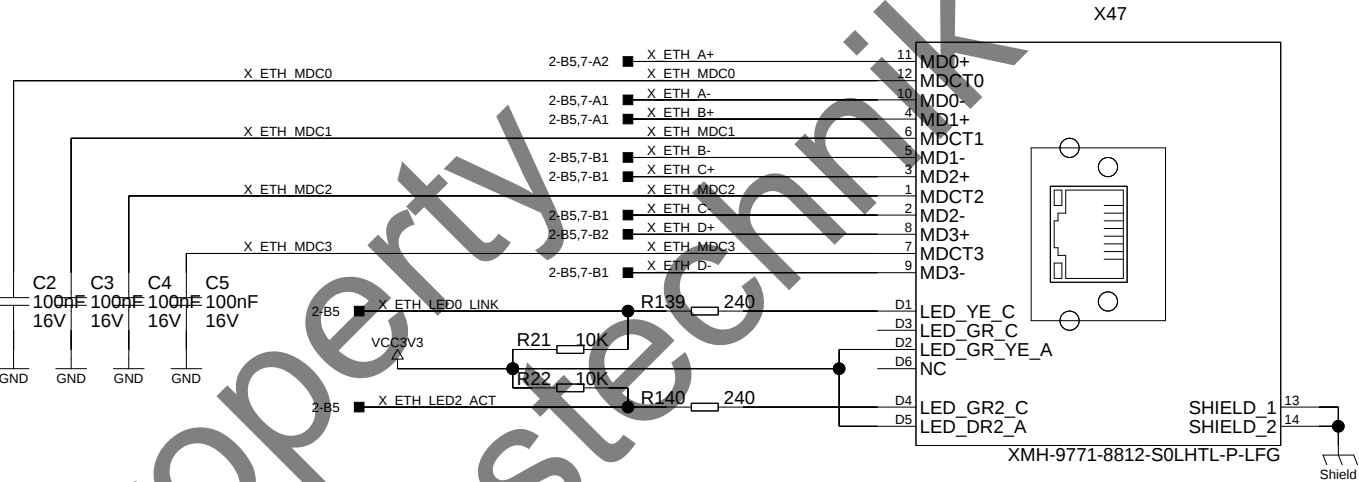
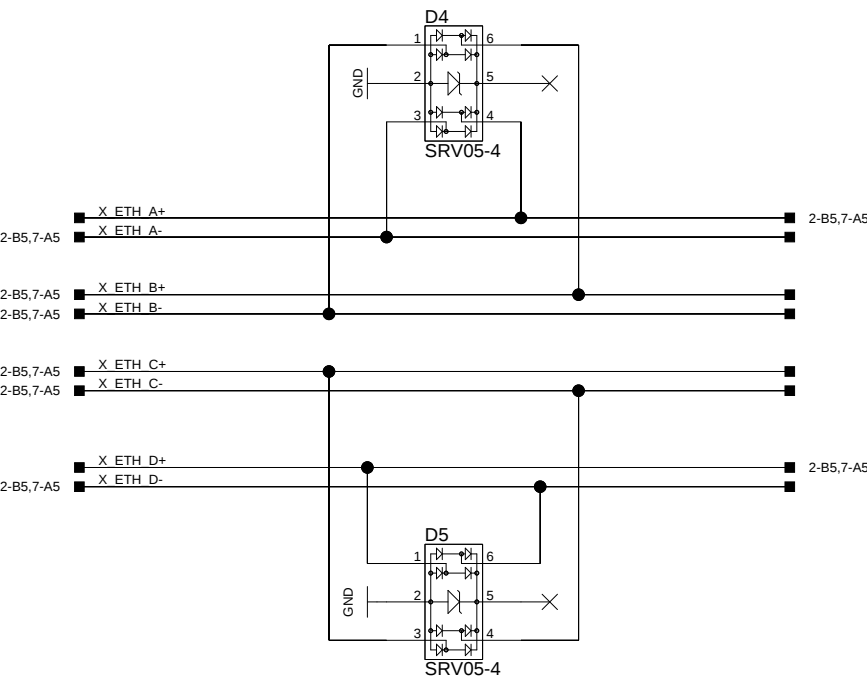
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5

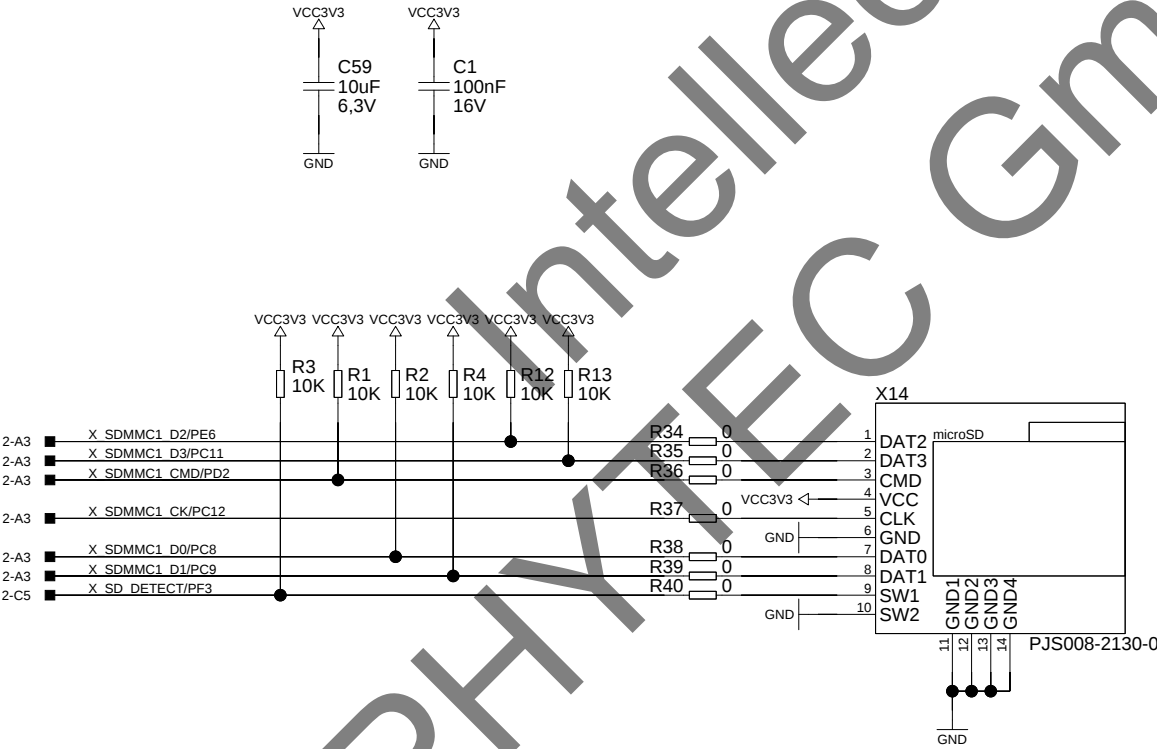
6

Gigabit Ethernet

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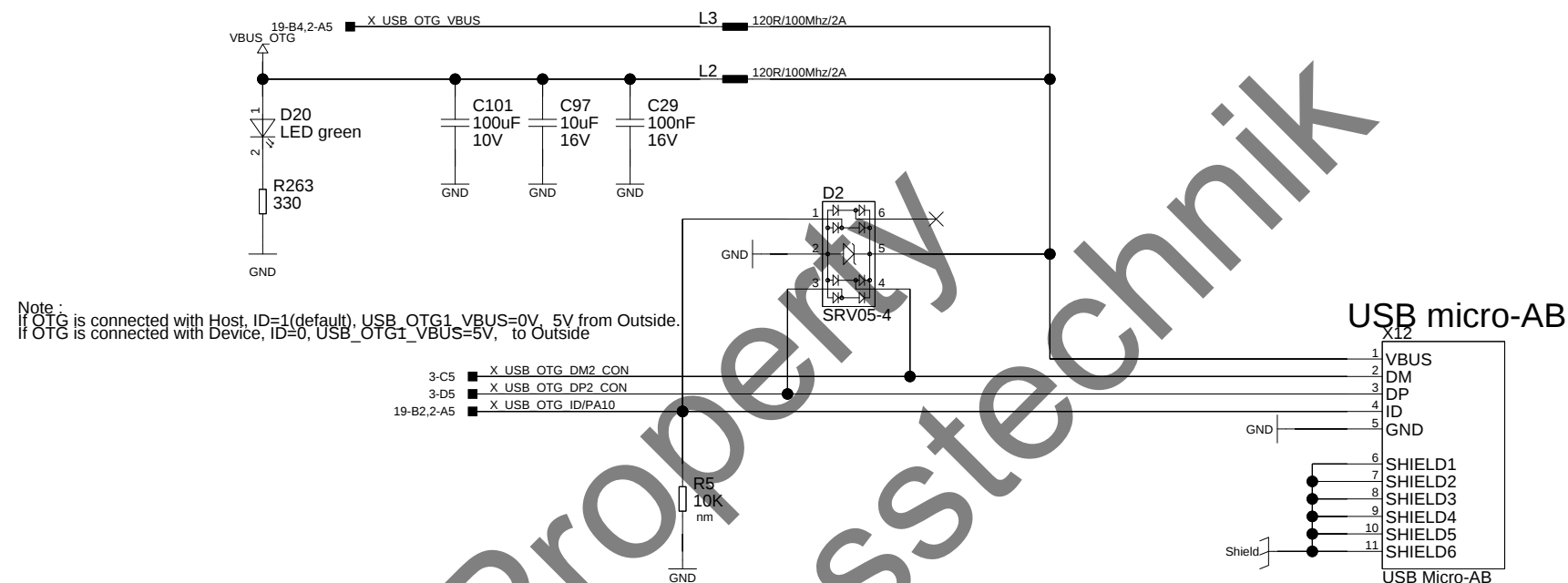
uSD card



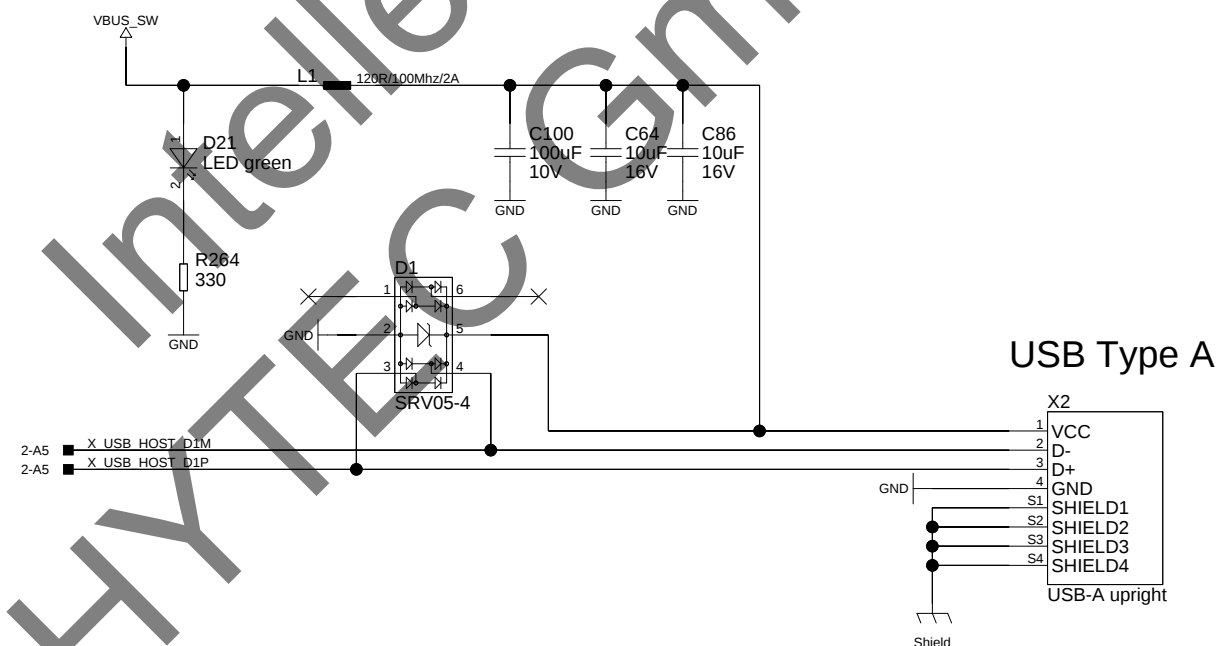
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USB OTG

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USB HOST



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Debug FTDI

Label: Debug-USB

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UARTs Multiplexer

Label D7:
FTDI Enabled

VCC_FTDI_3V3

Vmin: 3.141V
Vtyp: 3.313V
Vmax: 3.488V
Incl.Vfb change: -40 to +125deg junction temp
Incl. resistor 1%

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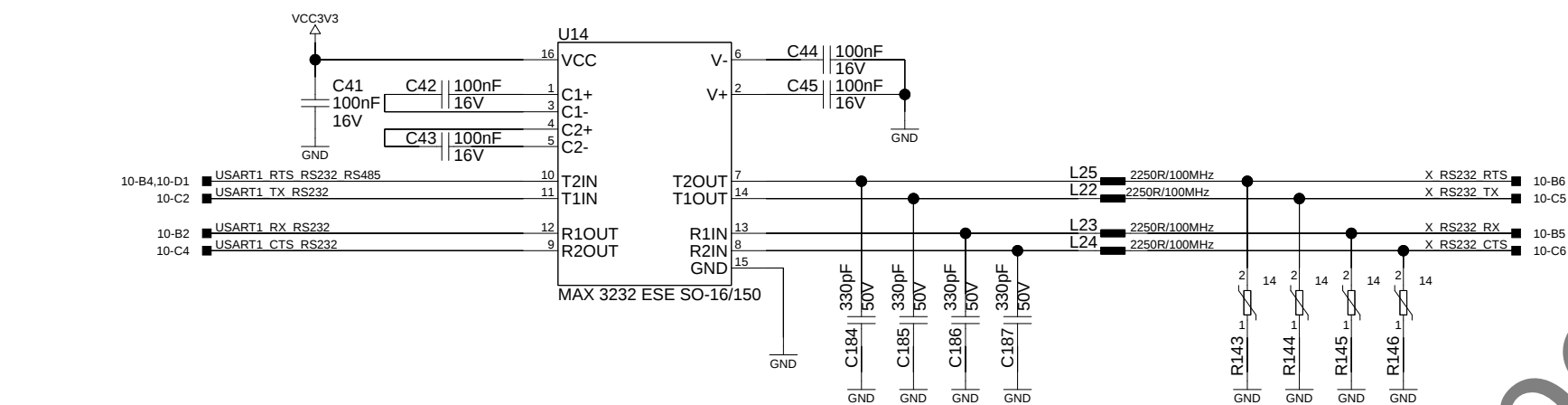
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Note : UARTs are only connected to FTDI when the micro-usb-cable is plugged in X13. If not plugged, UARTs are connected to Expansion connector X33

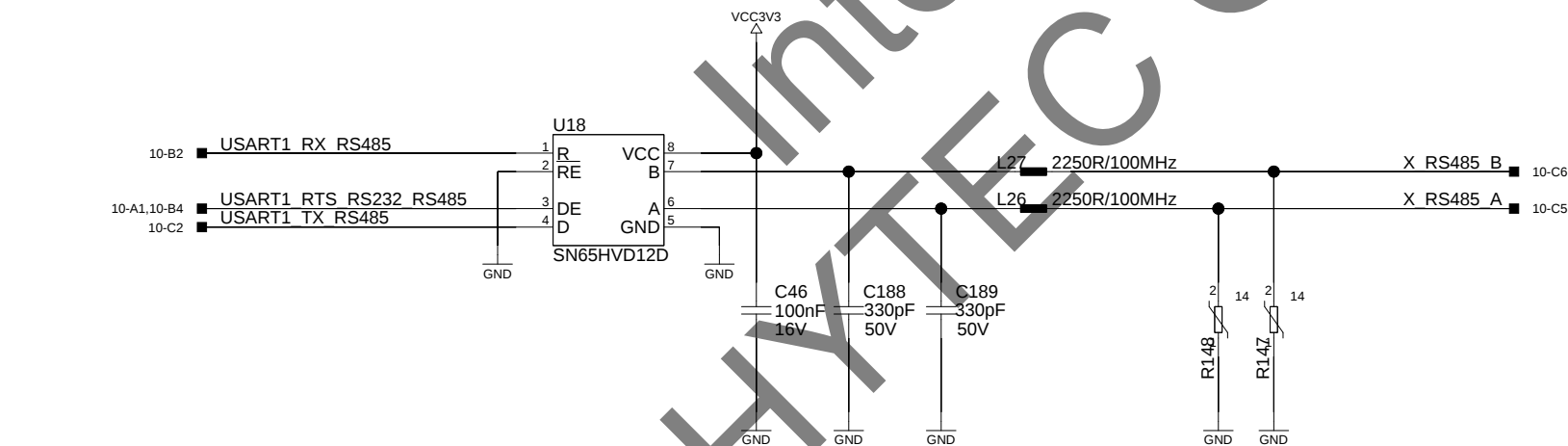
RS232



RS232/RS485 selection

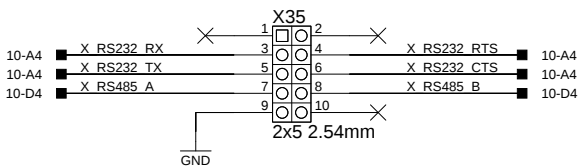


RS485



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RS232/RS485 Connector



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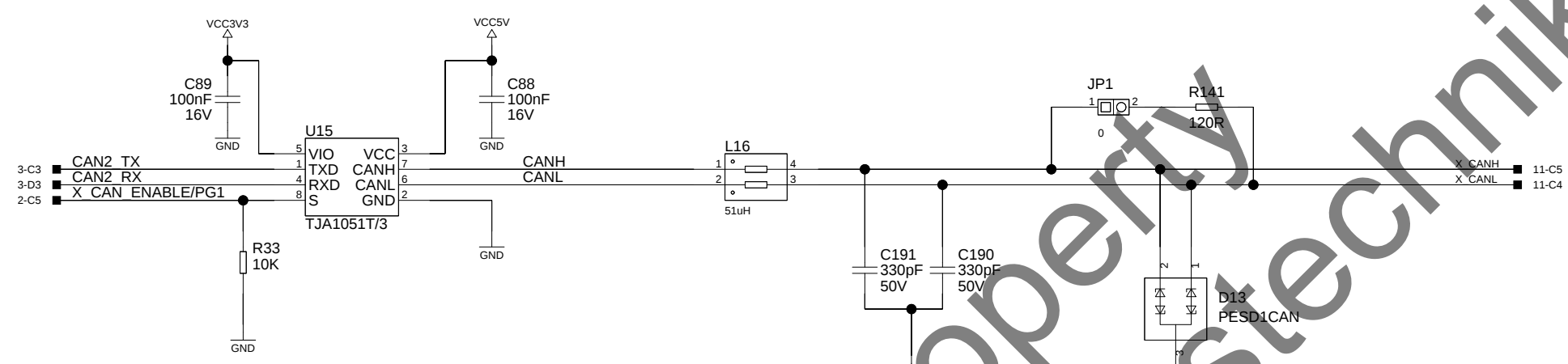
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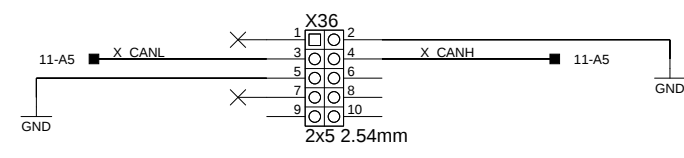
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CAN-FD



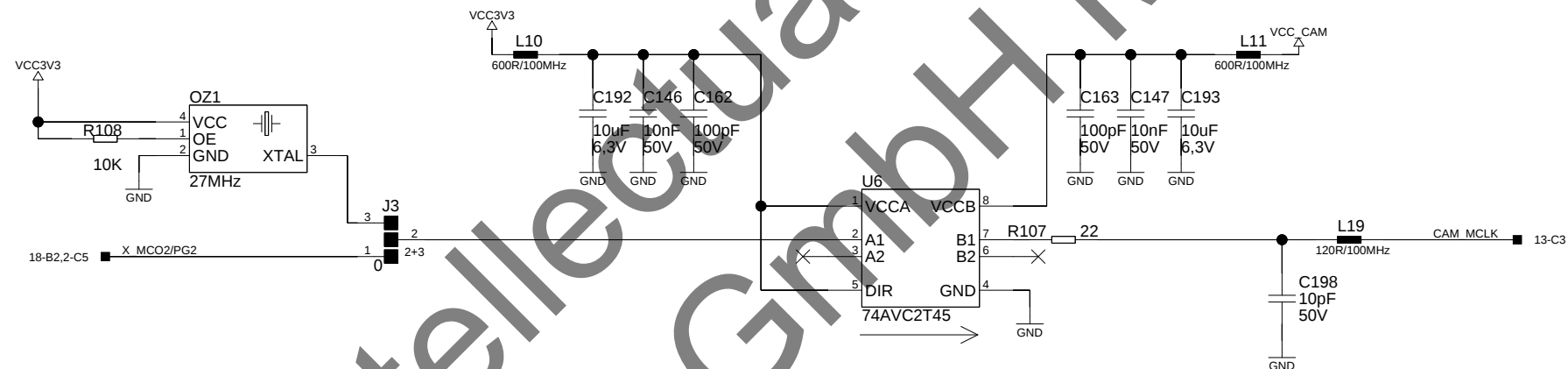
CAN Pin Header



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Level Shifter for CAM data

A

B

C

D

A

B

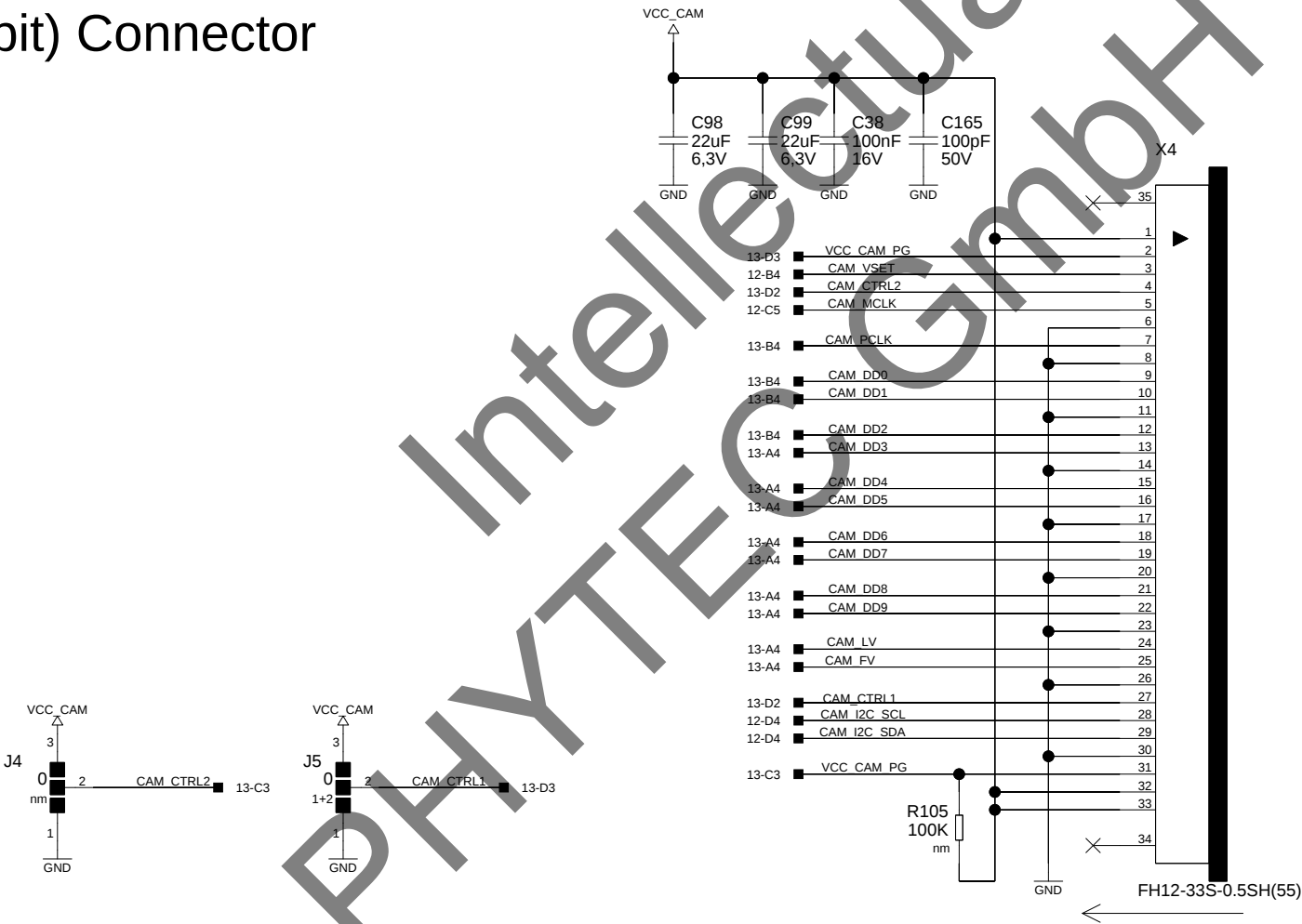
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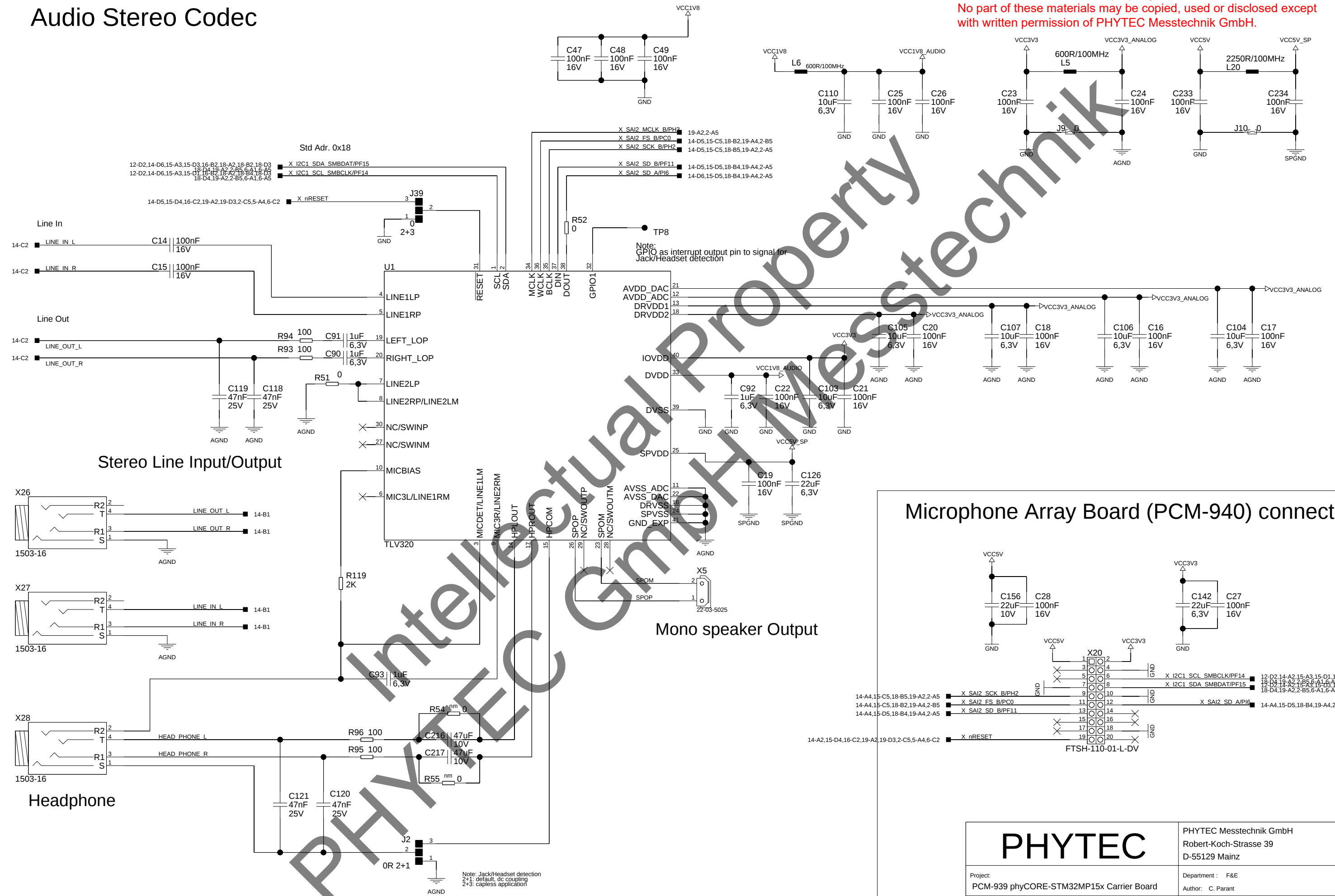
Note :
Add Jumper JP29 when using phyCAM-P
(remove jumper JP29 phyCAM-P if not used)

phyCAM-P (10 bit) Connector

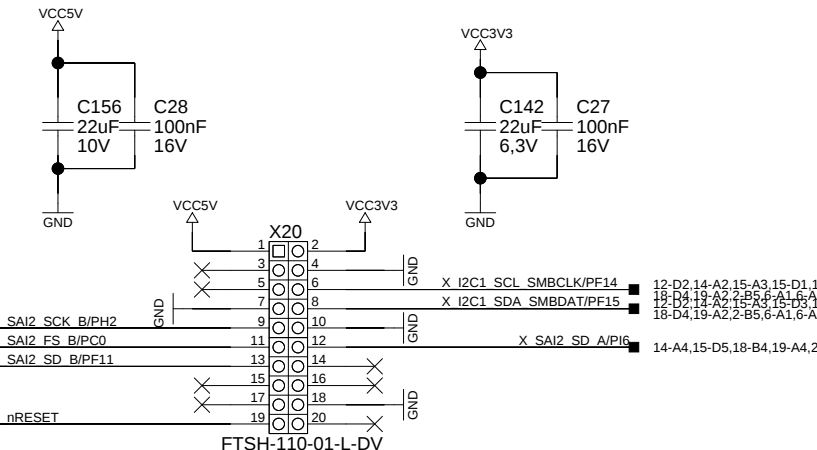


Audio Stereo Codec

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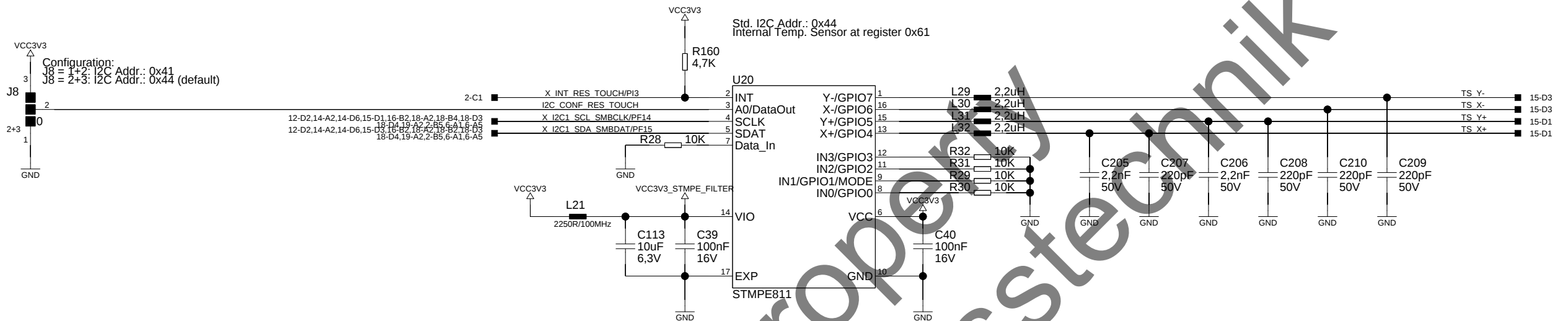
Microphone Array Board (PCM-940) connector



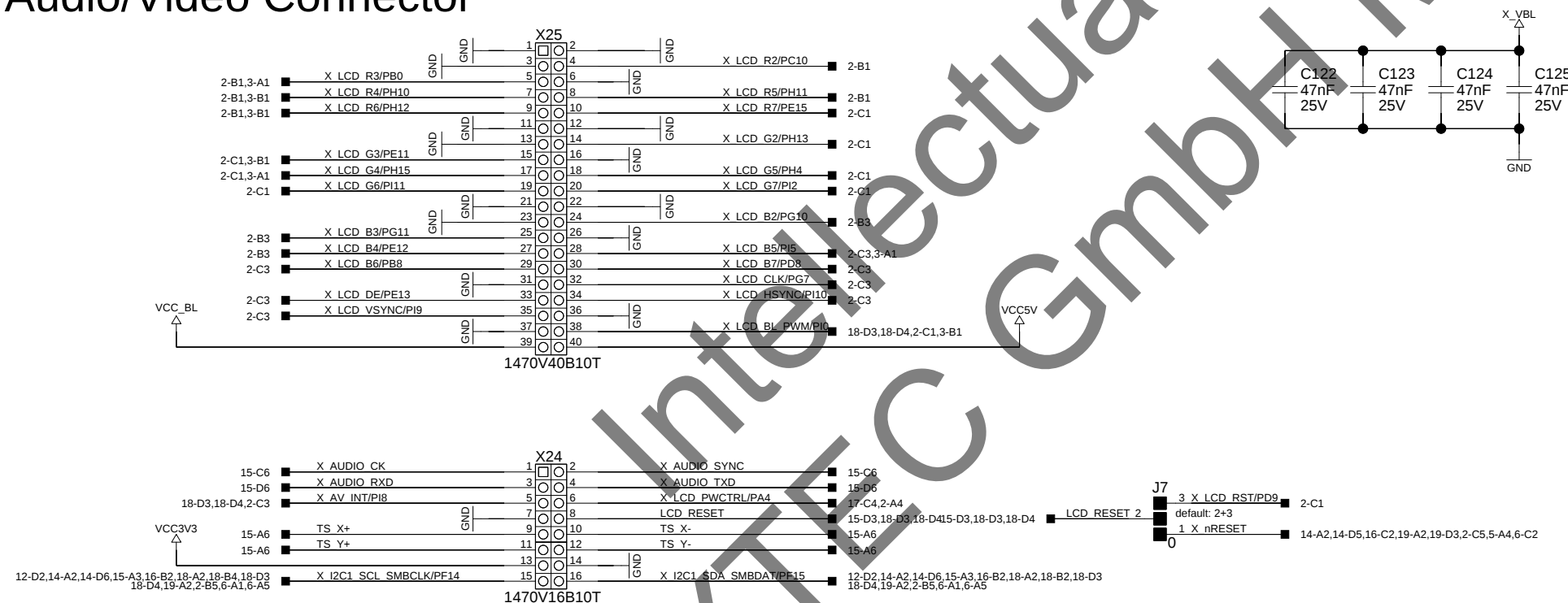
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Resistive Touch Controller

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Audio/Video Connector

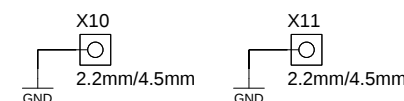
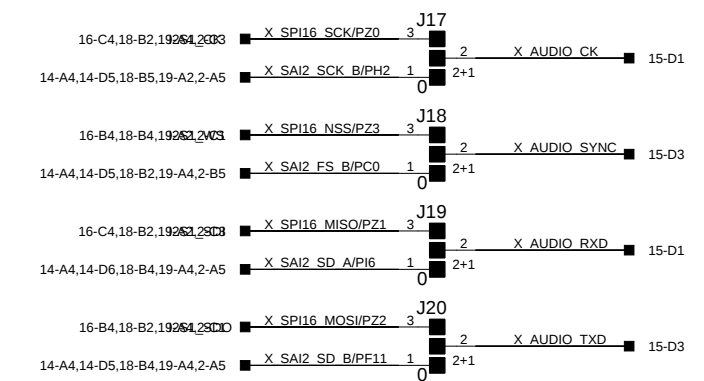


Backlight selector

opt. ext. BCKL power



Audio interface selector



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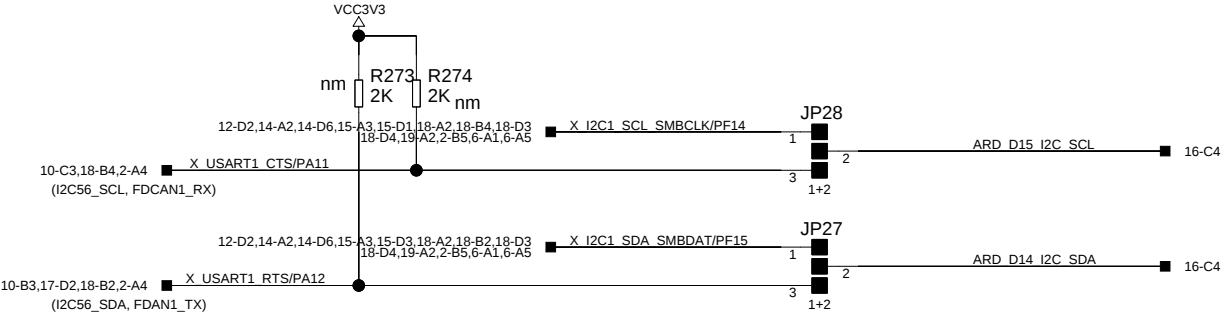
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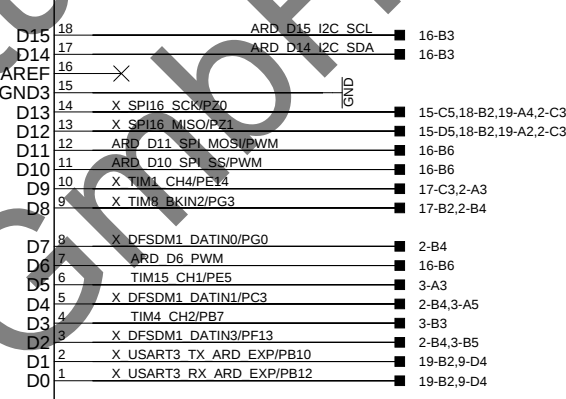
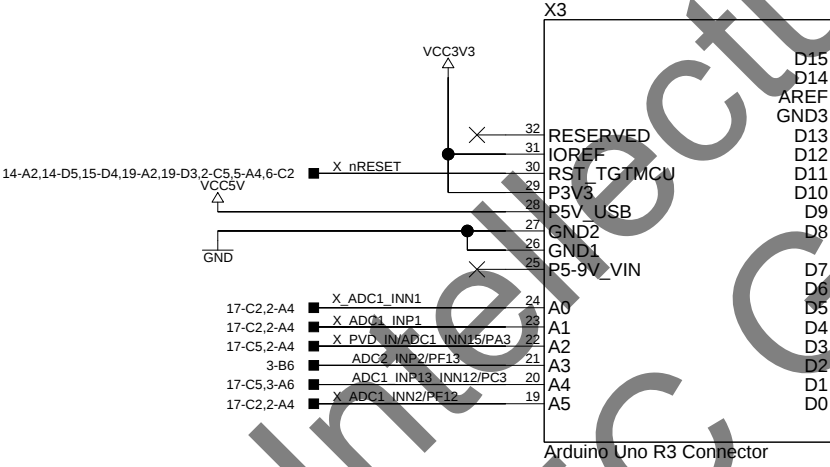
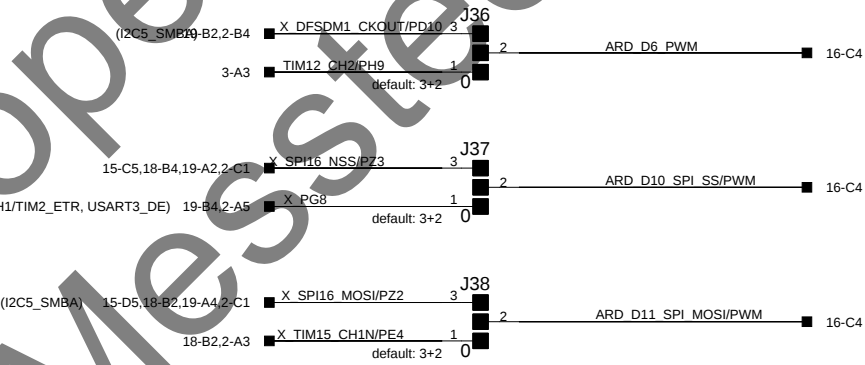
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ARDUINO UNO R3 connector

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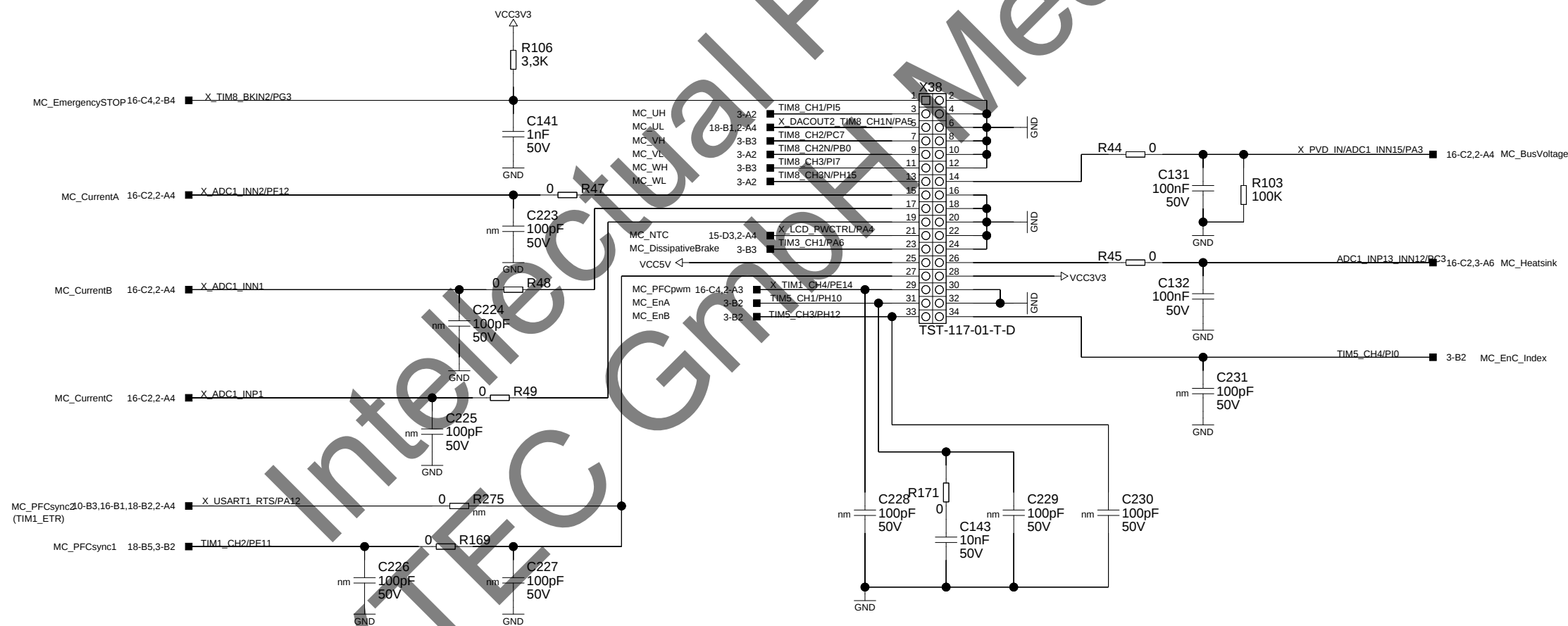
Note :
I2C1 on Arduino connector: JP27+JP28=1+2
I2C5/6 or FDCAN1 on Arduino connector: JP27+JP28=3+2



ARD_D13_SPI_SCK
ARD_D12_SPI_MISO
ARD_D11_SPI_MOSI/PWM (or I2C5_SMBA)
ARD_D10_SPI_SS/PWM (or USART3_DE)
ARD_D9_PWM
ARD_D8_GPIO
ARD_D7_GPIO
ARD_D6_PWM (or I2C5_SMBA)
ARD_D5_PWM
ARD_D4_GPIO
ARD_D3_PWM
ARD_D2_GPIO
ARD_D1_TX
ARD_D0_RX

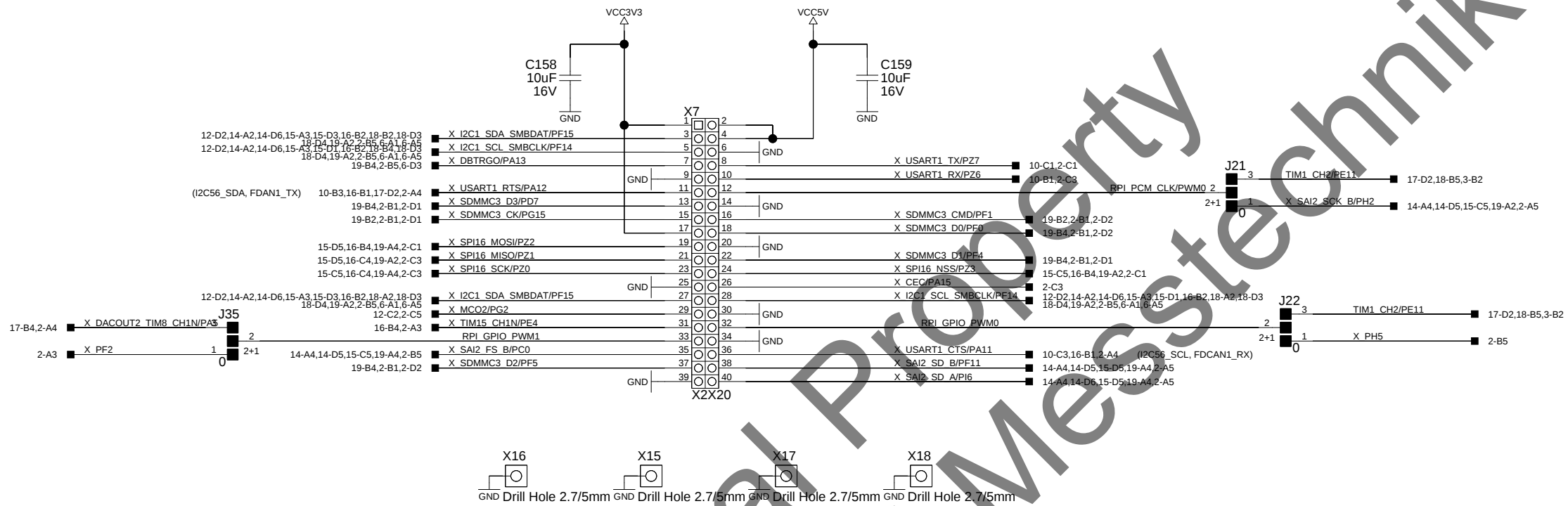
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Motor Control Connector

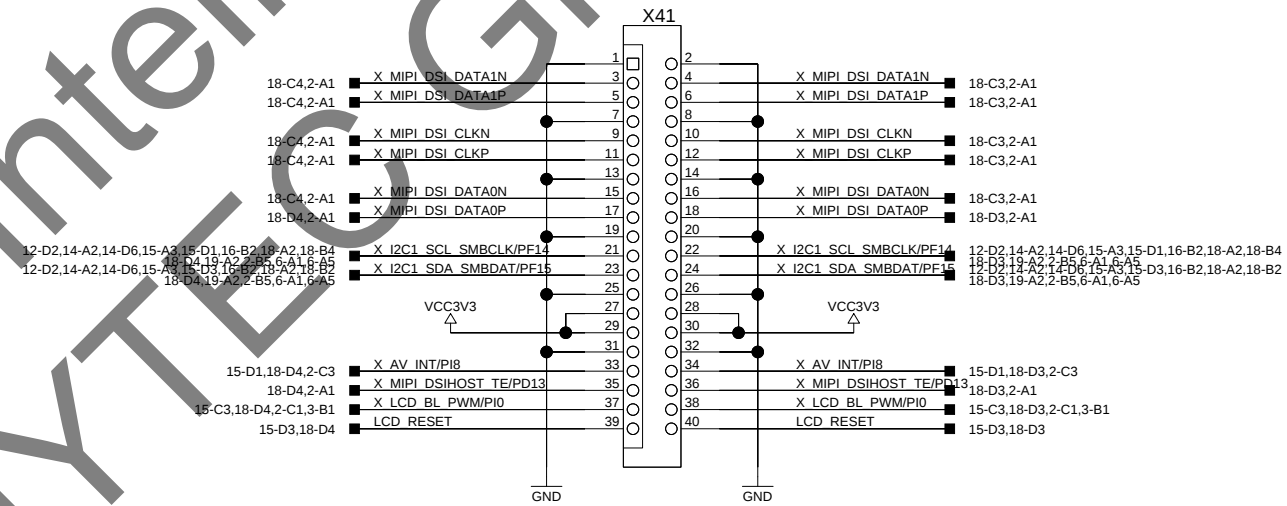


Raspberry Pi HAT connector

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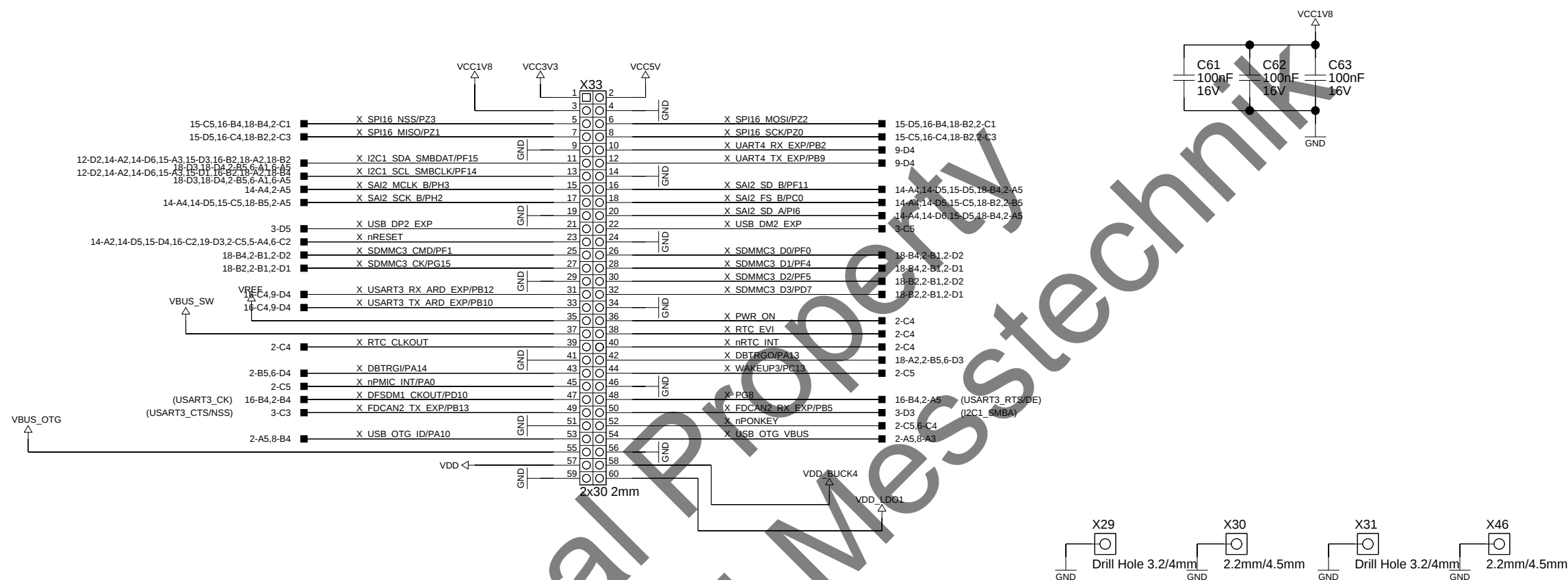
MIPI DSI Display



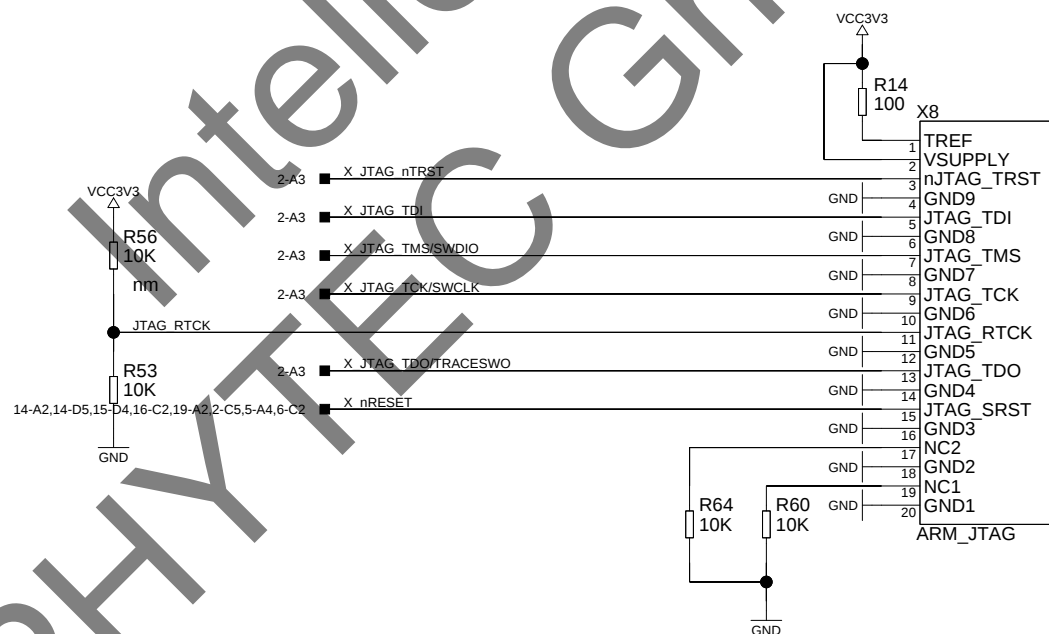
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Expansion Connector

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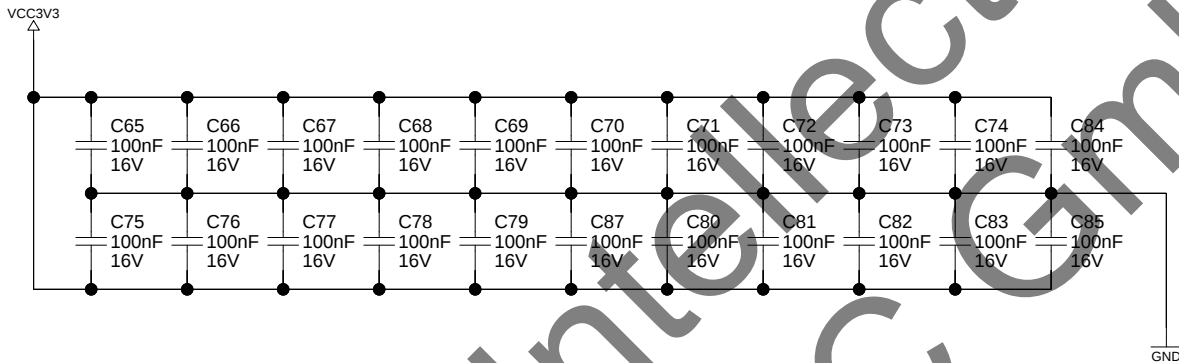
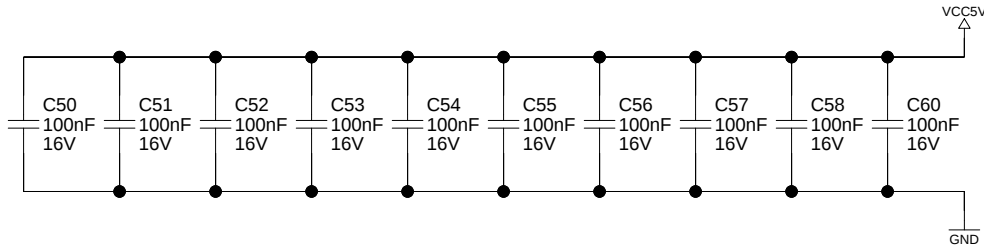
JTAG



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EMC Blocking

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