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PBA-C-17

phyBOARD-Pollux i.MX 8M Plus

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Project: phyBOARD-Pollux i.MX 8M Plus		Department : F&E Author: H. Schwaer	
16.04.2026	PCB-No.: 1552.3	Revision : 002	Sheet 1 of 21

Overview

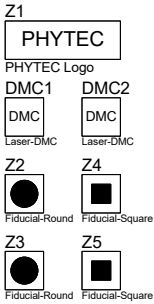
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5	Main Power Supplies
6	Power sequencing and Reset
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13	RS-232 / RS-485 Transceiver and Connector
14	CAN FD Transceiver and Connector
15	phyCAM-M Connector (MIPI CSI-2)
16	HDMI Connector / MIPI DSI Connector
17	A/V Connector (LVDS0) / Display Connector (LVDS1)
18	Mini PCIe Connector
19	Expansion Connector
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21	Miscellaneous

Default I2C2 Addresses	
STUSB4500 (U22)	0x28
TUSB8042A (U3)	0x44
phyCAM-M CSI2 Connector (X12)	-
Mini PCIe Connector (X10)	-
Expansion Connector (X6)	-
PCA9633 (U21)	0x62
M24C02-RMC6TG (U16)	0x51

Default I2C3 Addresses	
phyCAM-M CSI1 Connector (X11)	-

Default I2C4 Addresses	
A/V Connector (X15)	-
Display Connector (X24)	-
MIPI DSI Connector (X21)	-

Notes:
Operating input power supply voltage: +12 V to +24 V DC
Operating temperature range: -40 °C to +85 °C unless otherwise noted.
Parts with property 'nm' are not mounted on PCB.

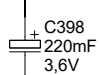


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SOM Connector

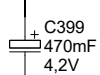
BOM Macro: M-PBA-17-VBATDEF
Default: Mounted

Default temperature range
TA: -20°C to +85°C

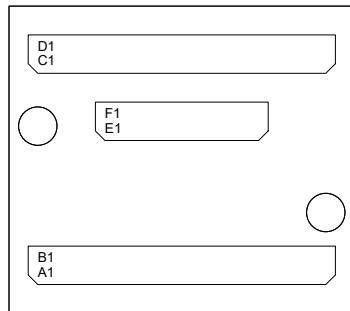


BOM Macro: M-PBA-17-VBATEXT
Default: NOT Mounted

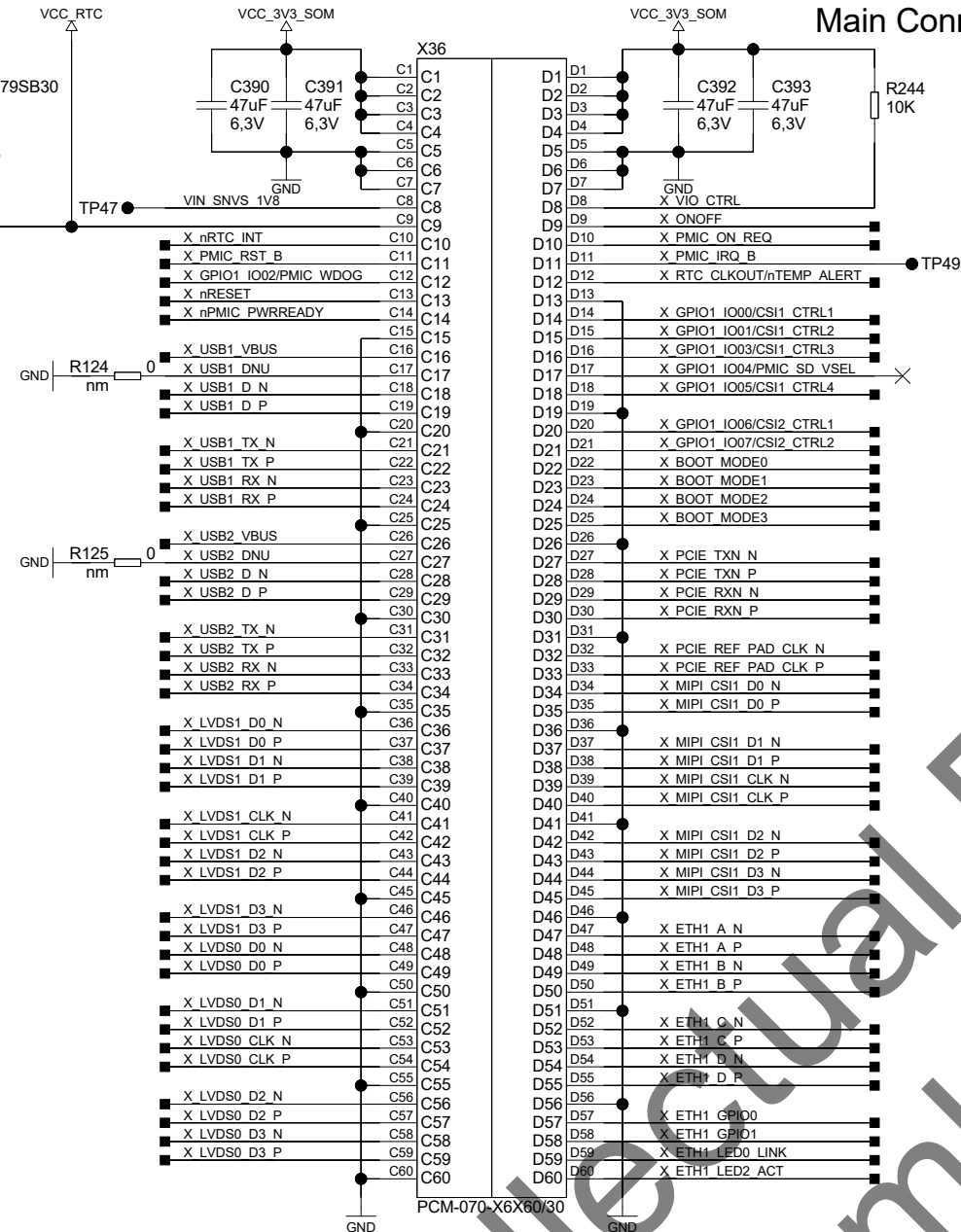
Extended temperature range
TA: -40°C to +85°C



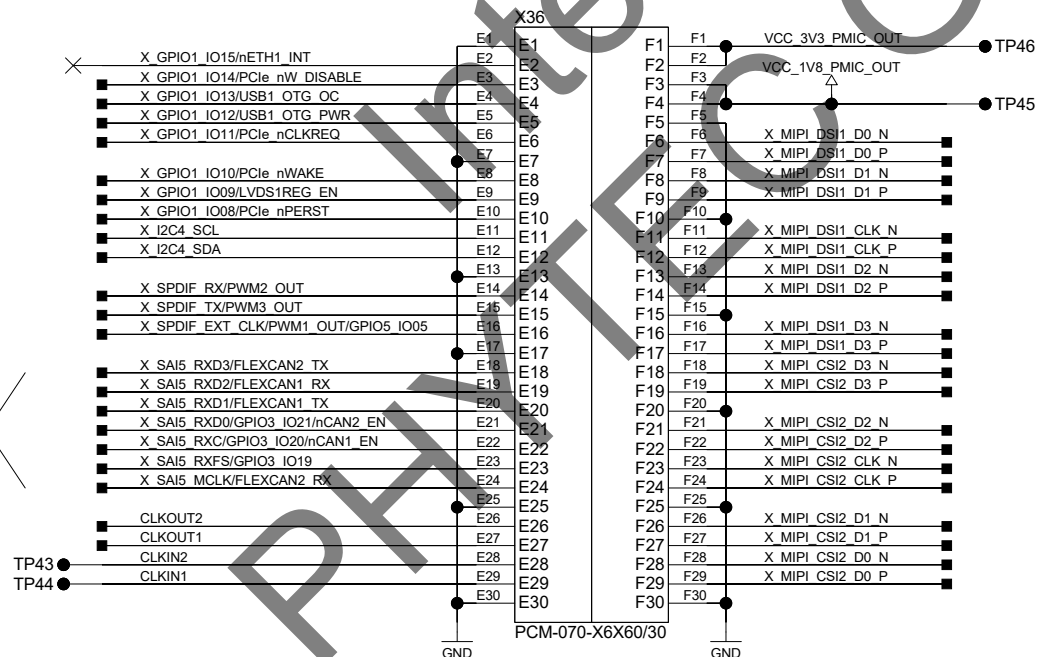
PCM-070 Connector Schematic



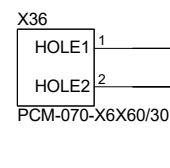
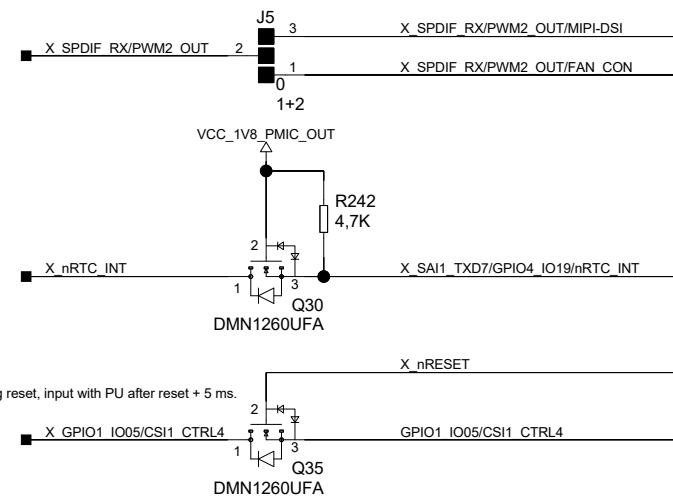
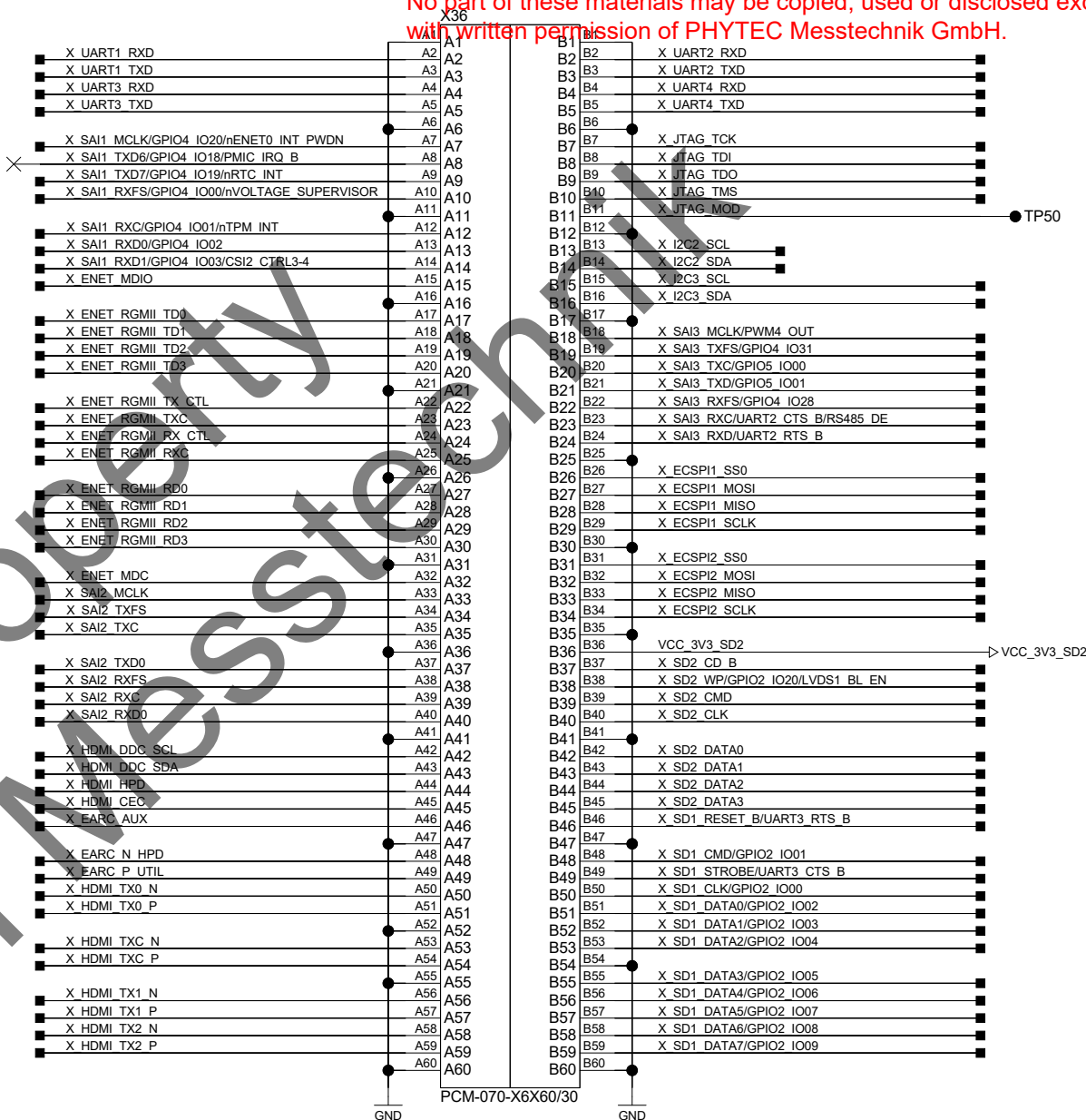
Main Connectors



Extension Connector



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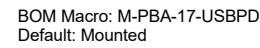
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BOM Macro: M-PBA-17-PWRCON
Default: Mounted

Default: Mounted



Default: Mounted

Default: Mounted



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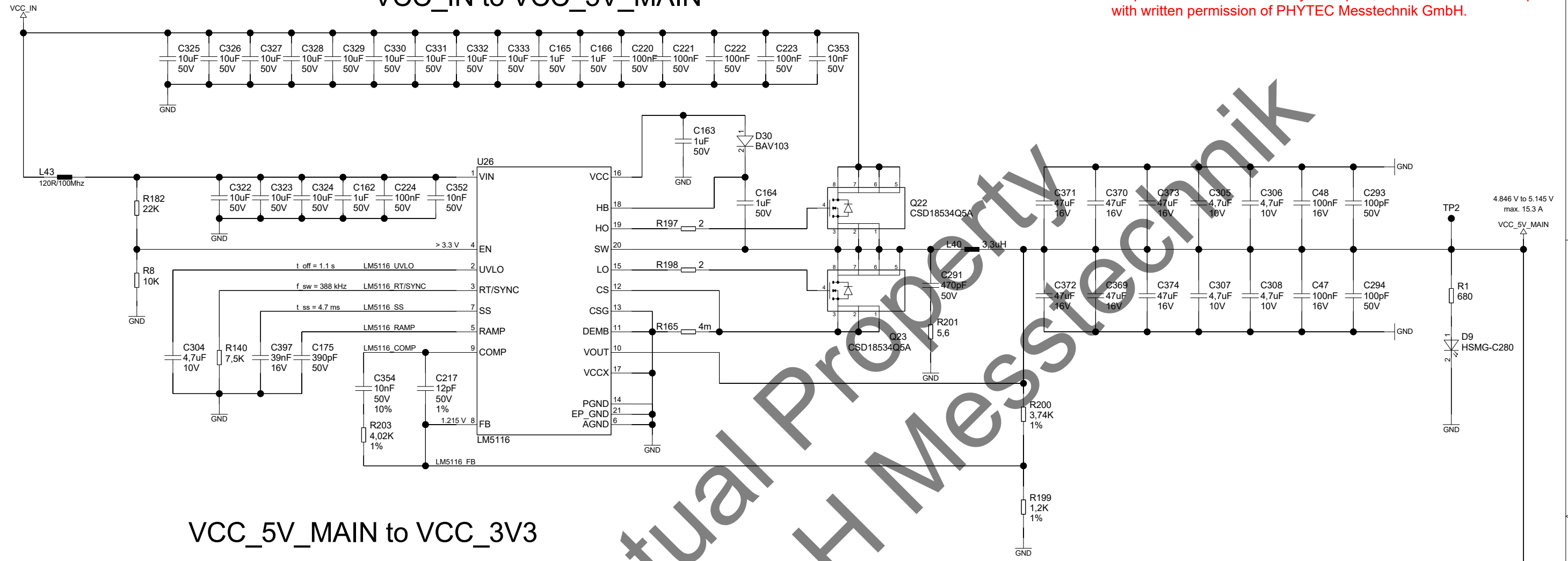
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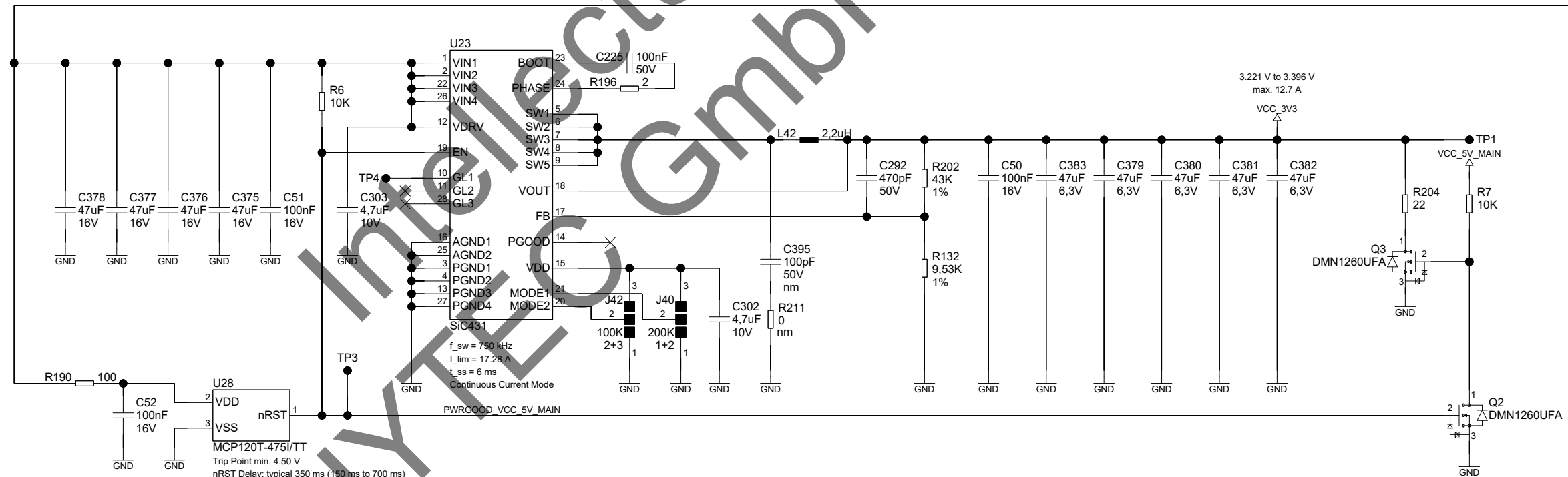
6

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VCC_IN to VCC_5V_MAIN



VCC_5V_MAIN to VCC_3V3



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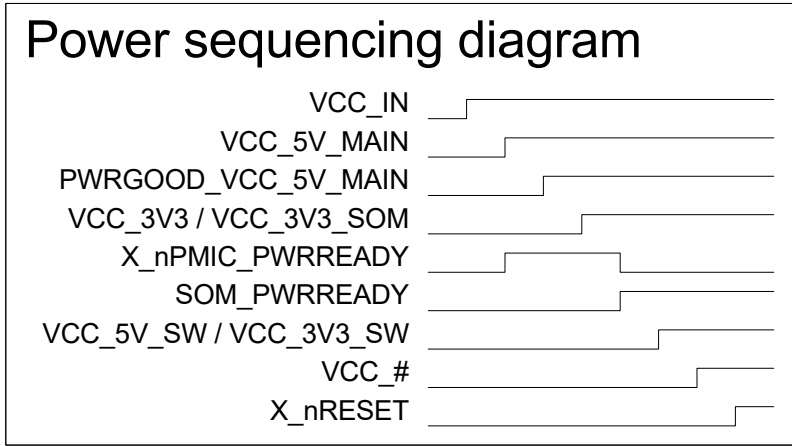
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Author: H. Schwaer

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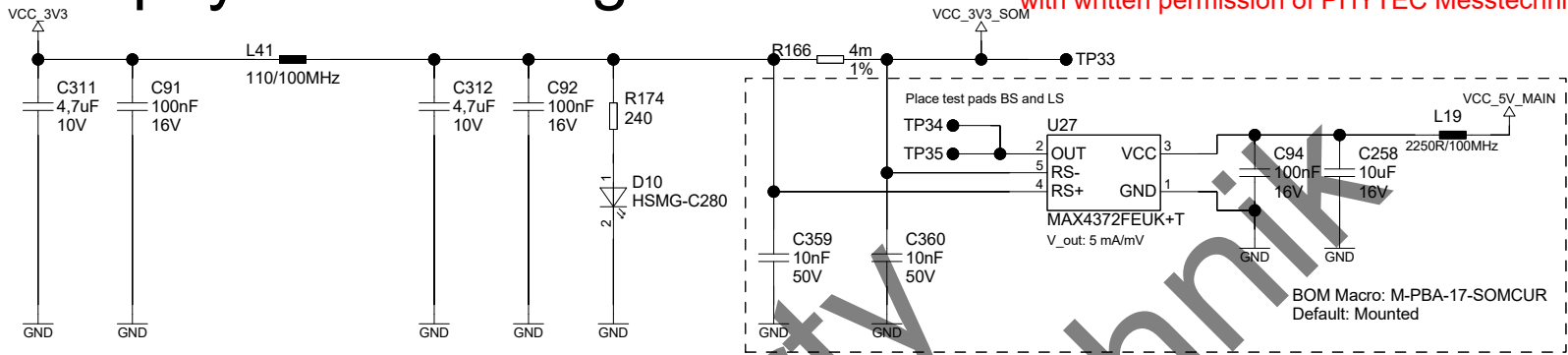
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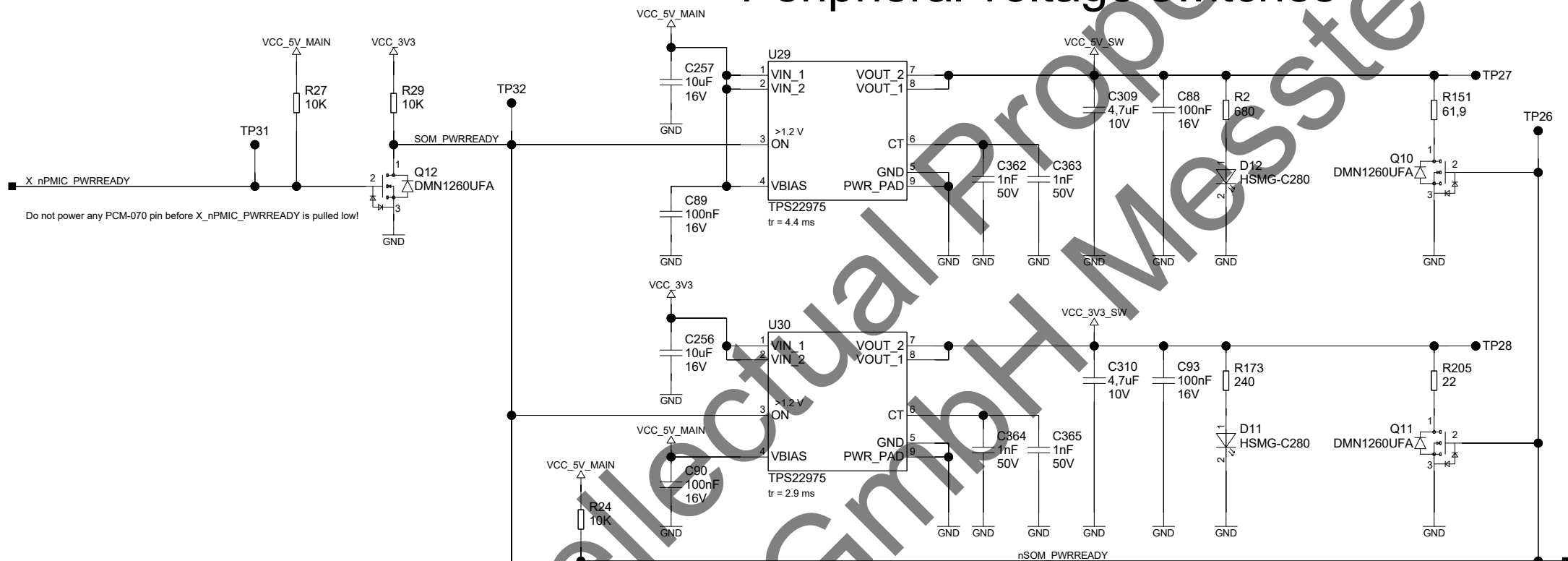
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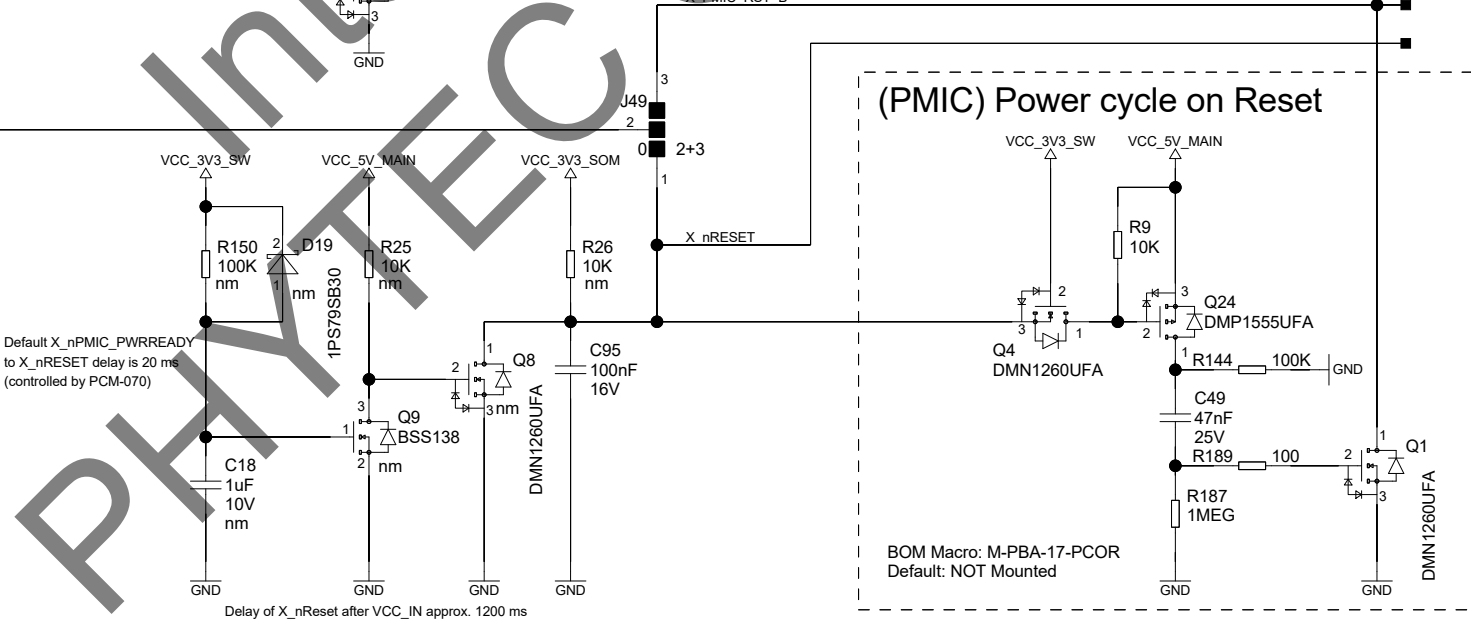
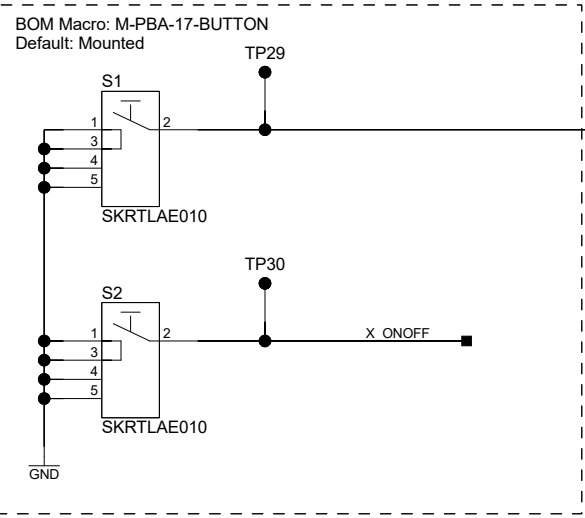
phyCORE voltage



Peripheral voltage switches



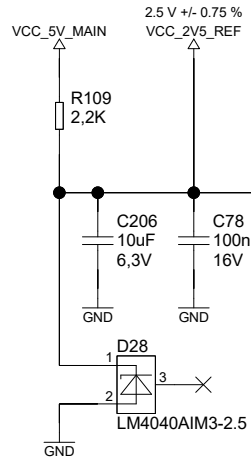
Buttons



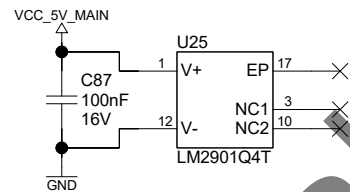
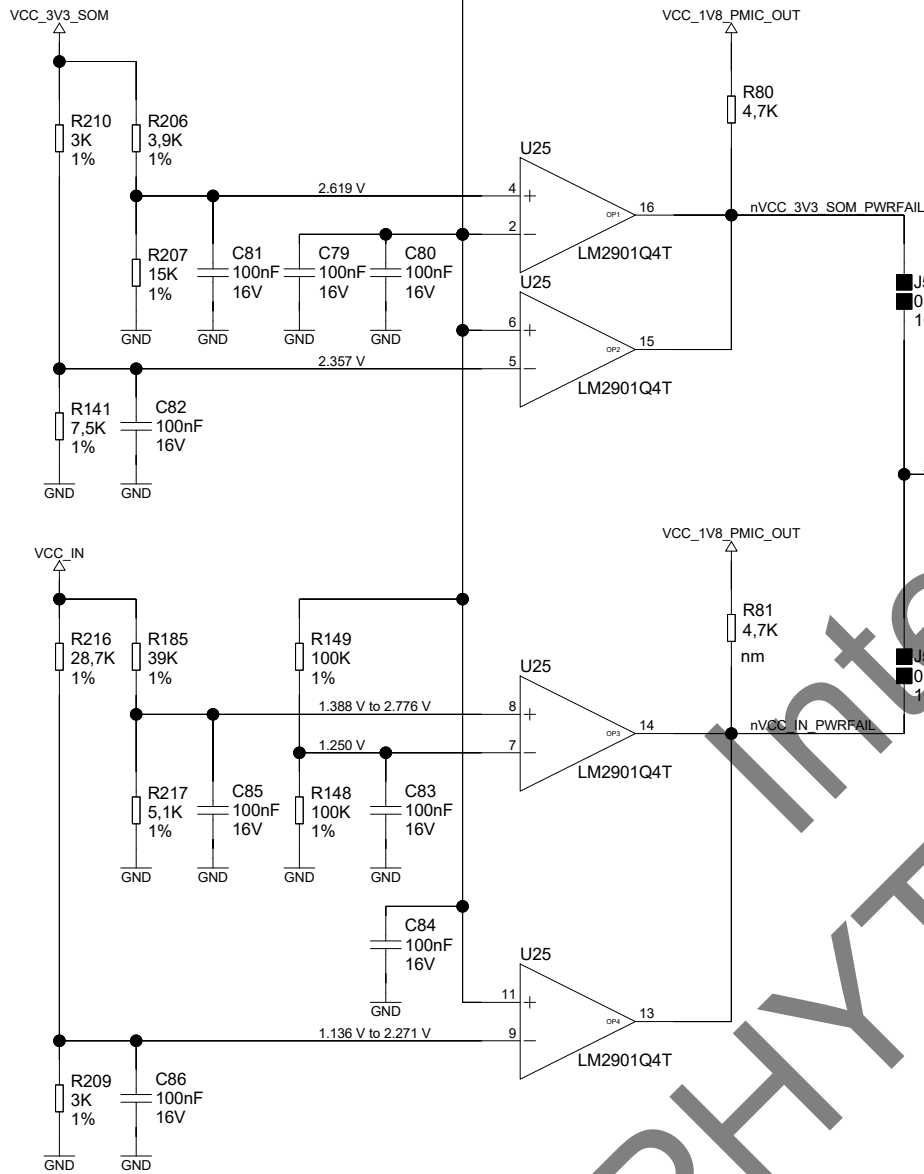
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Voltage supervisory circuit

BOM Macro: M-PBA-17-VSVC
Default: Mounted

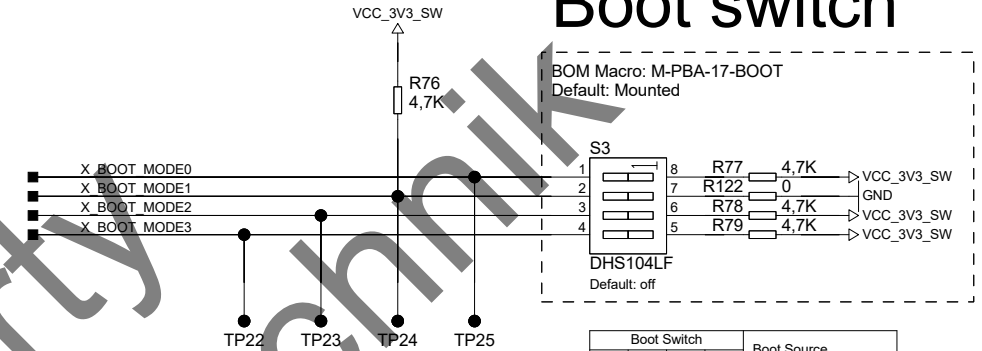


Voltage supervisor thresholds				
		min.	typ.	max.
VCC_3V3_SOM	Under voltage	3.106 V	3.150 V	3.195 V
	Over voltage	3.538 V	3.500 V	3.445 V
VCC_IN	Under voltage	10.43 V	10.81 V	11.20 V
	Over voltage	27.11 V	26.42 V	25.74 V



Boot switch

BOM Macro: M-PBA-17-BOOT
Default: Mounted



Boot Switch				Boot Source
1	2	3	4	
off	off	off	off	eMMC
on	off	off	off	SD Card
off	off	on	off	SPI NOR
on	on	off	off	USB Serial Download
off	on	off	off	Internal Fuses
on	off	on	on	Test Mode

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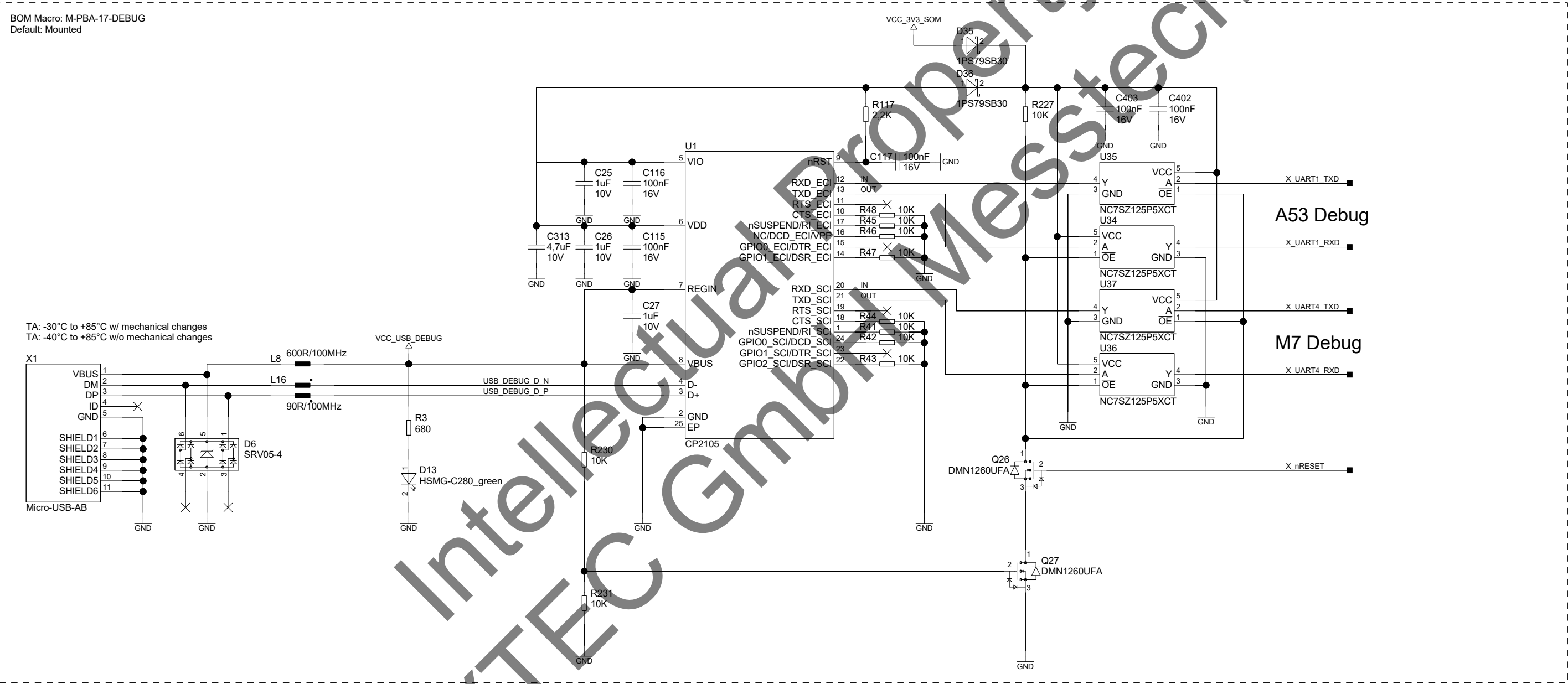
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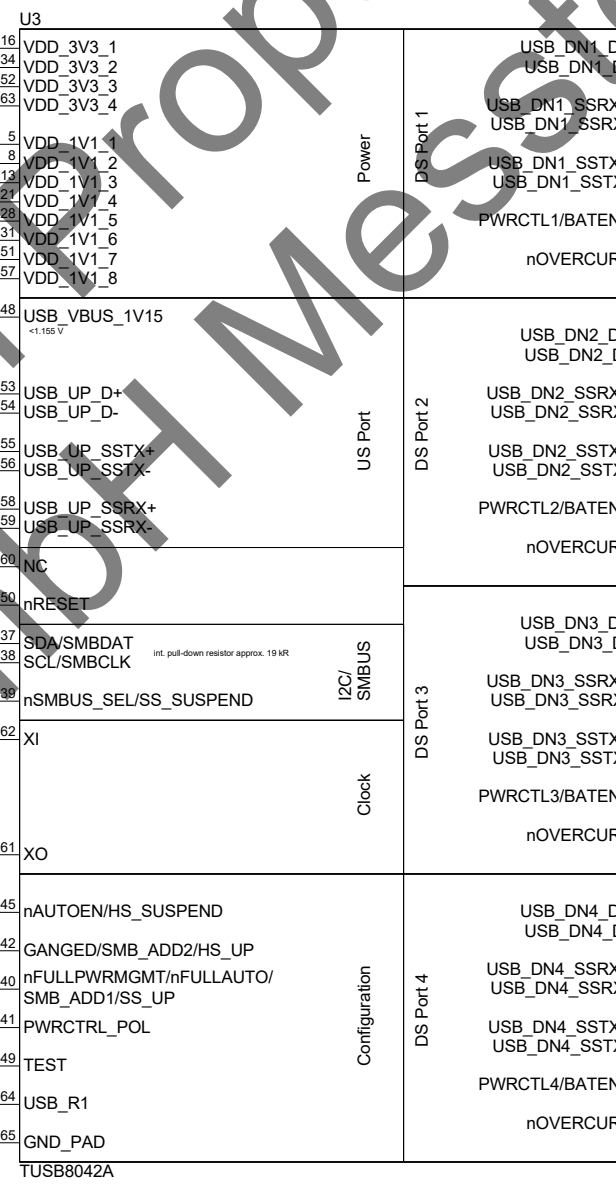
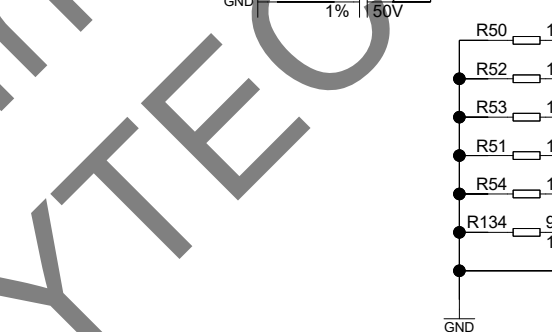
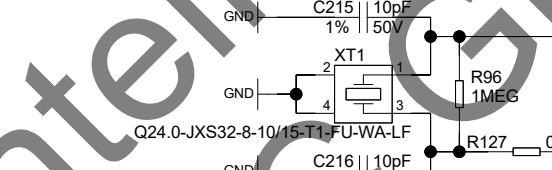
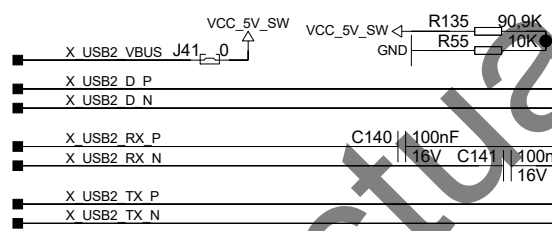
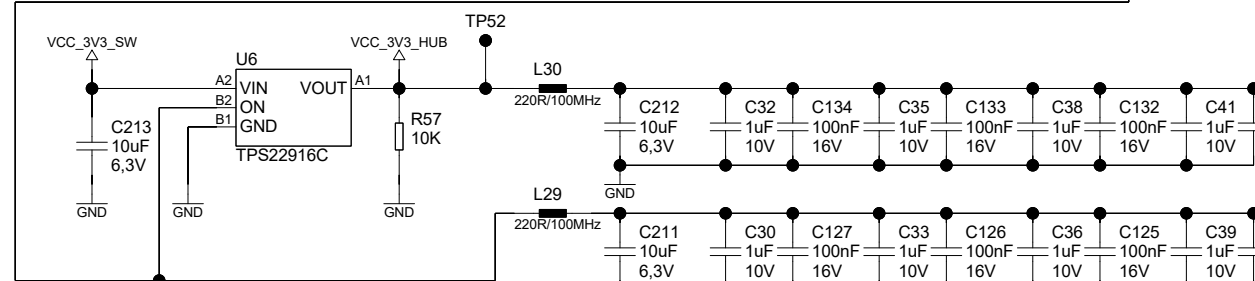
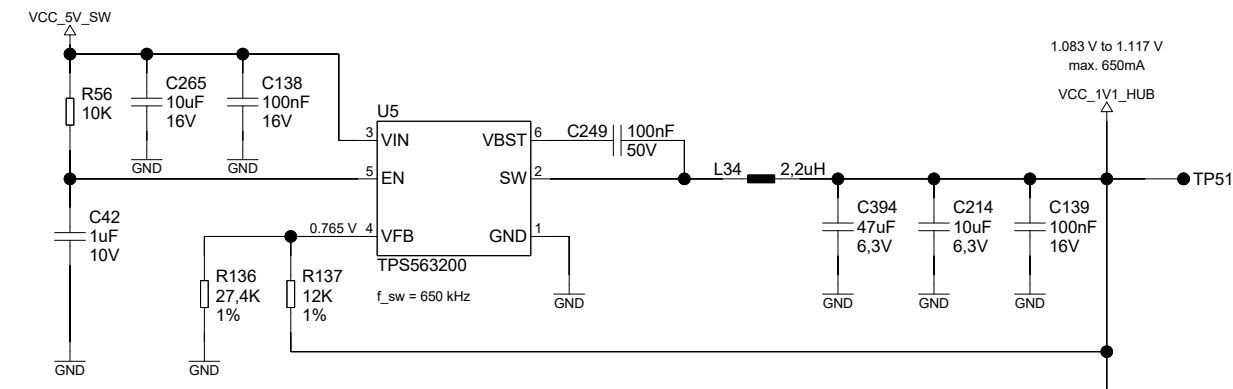
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USB Debug



USB Hub

BOM Macro: M-PBA-17-USBHUB
Default: Mounted



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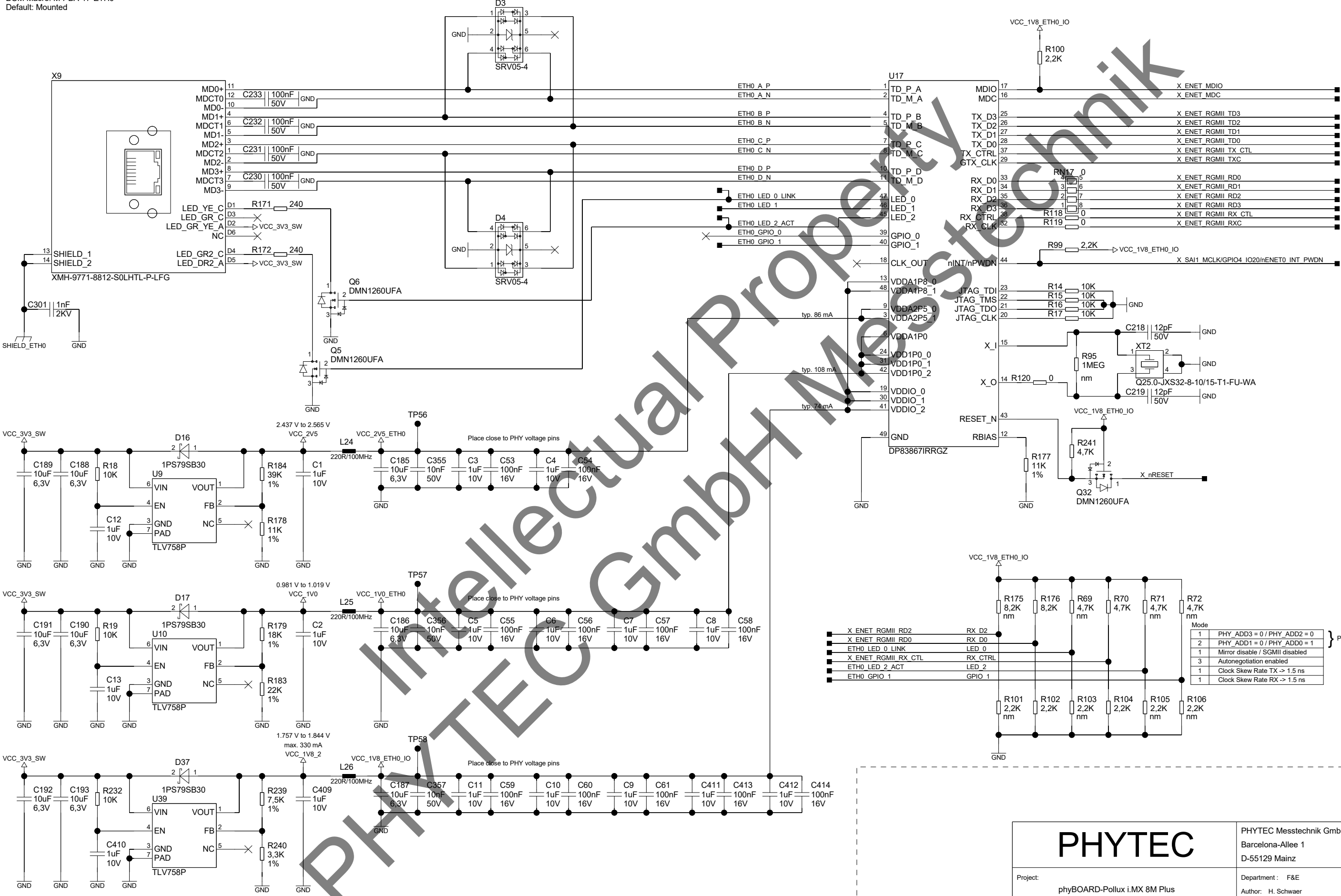
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Ethernet0

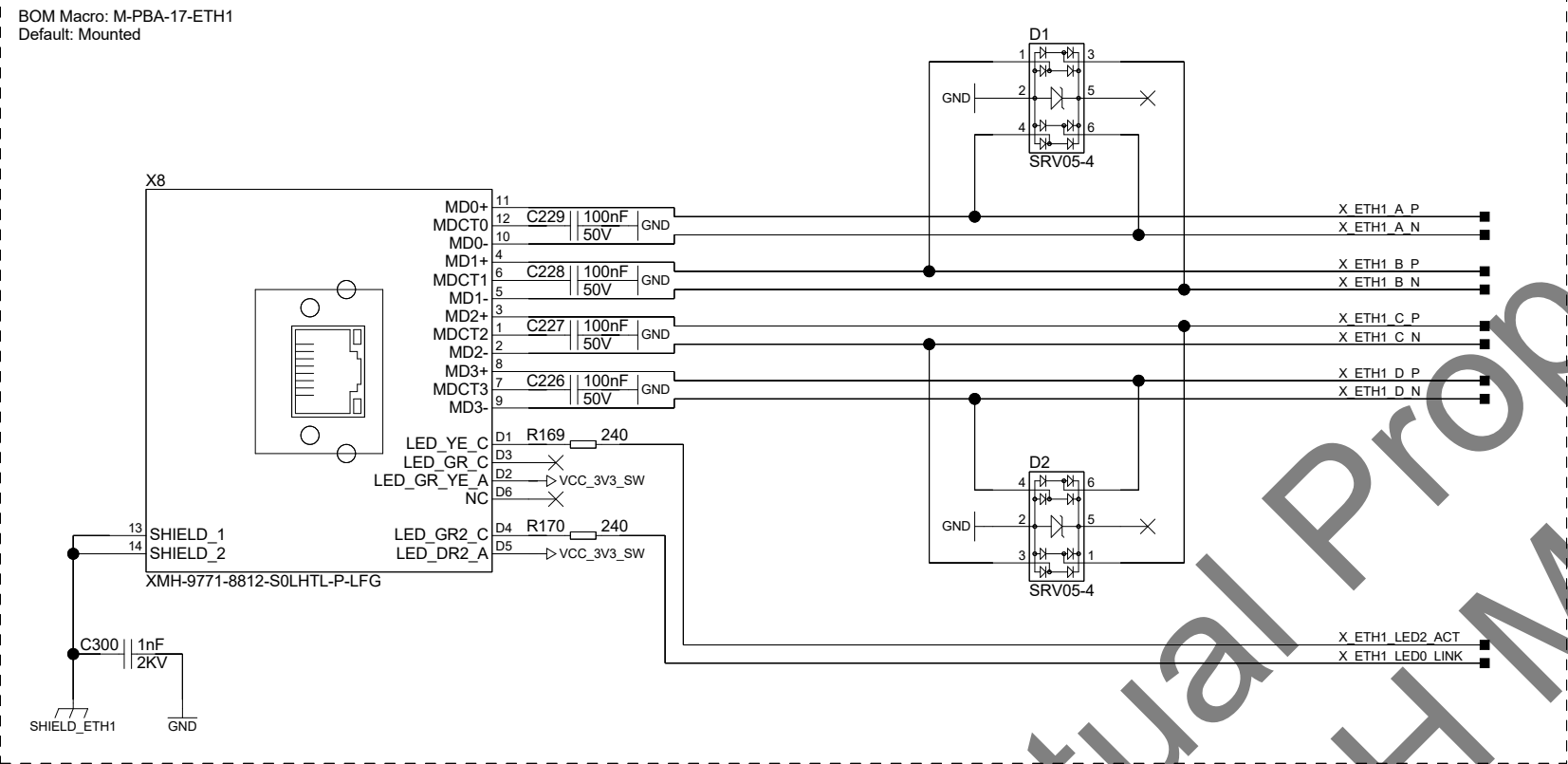
BOM Macro: M-PBA-17-ETH0
Default: Mounted



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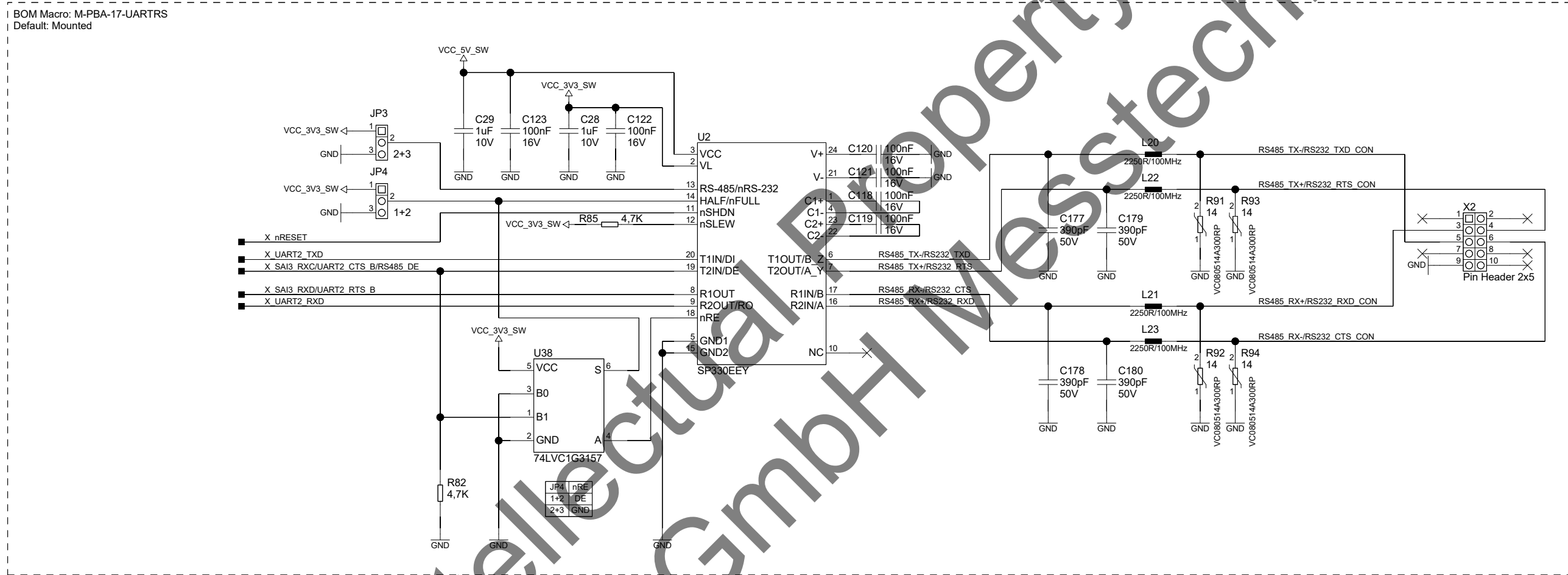
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Ethernet1



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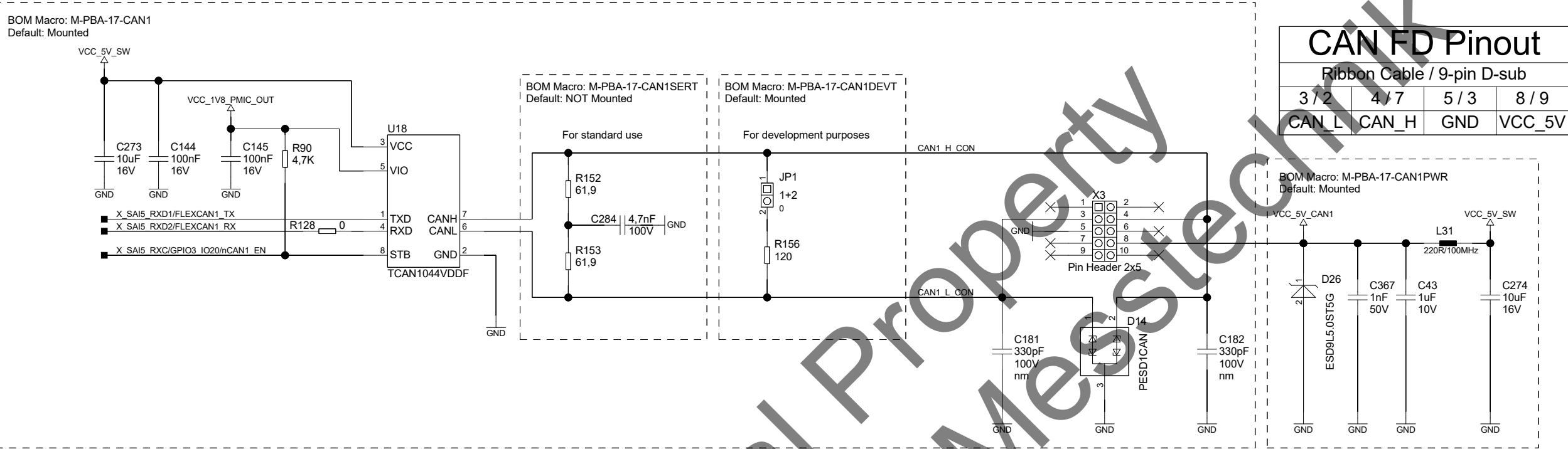
RS-232 / RS-485



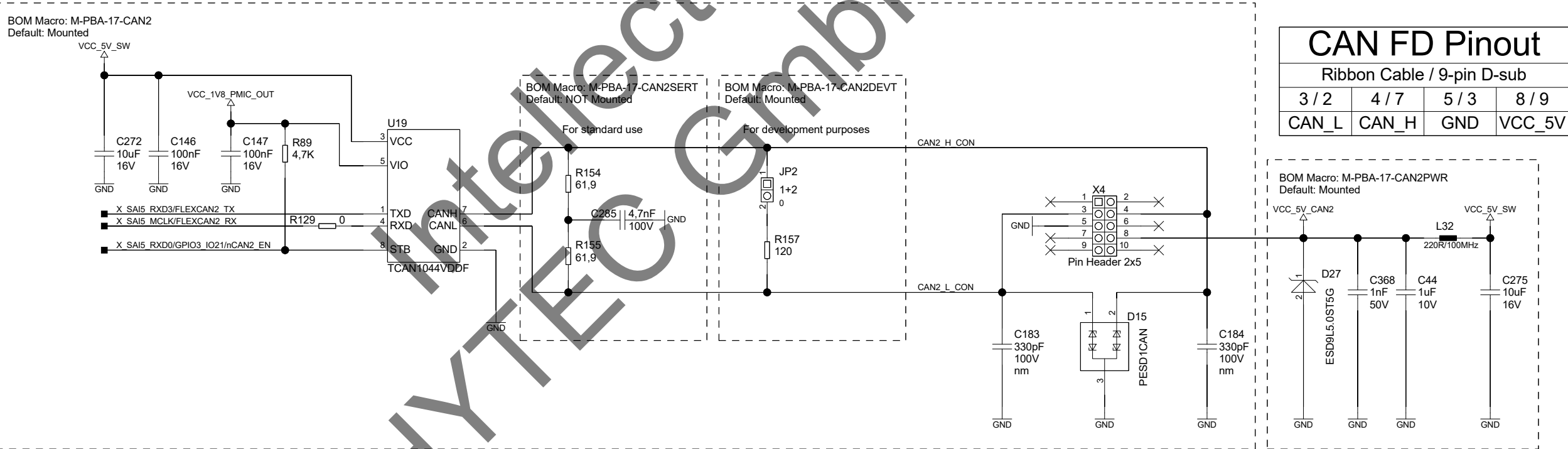
RS-232 / RS-485 Pinout							
Configuration		Ribbon cable / 9-pin D-sub					Mode
JP3	JP4	3 / 2	5 / 3	9 / 5	4 / 7	6 / 8	
2+3	X	RXD	TXD	GND	RTS	CTS	RS-232 (DTE)
1+2	2+3	RX+	TX-	GND	TX+	RX-	RS-485 Full Duplex
1+2	1+2	DNC	D-	GND	D+	DNC	RS-485 Half Duplex

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CAN FD1



CAN FD2



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A

B

C

D

A

B

C

D

1

2

3

4

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6

BOM Macro: M-PBA-17-CSI1
Default: Mounted

VCC_SELECT	VCC_CSI
0	5 V
1	3.3 V

CSI1 / CAM1
phyCAM-M

BOM Macro: M-PBA-17-CSI2
Default: Mounted

VCC_SELECT	VCC_CSI
0	5 V
1	3.3 V

CSI2 / CAM2
phyCAM-M

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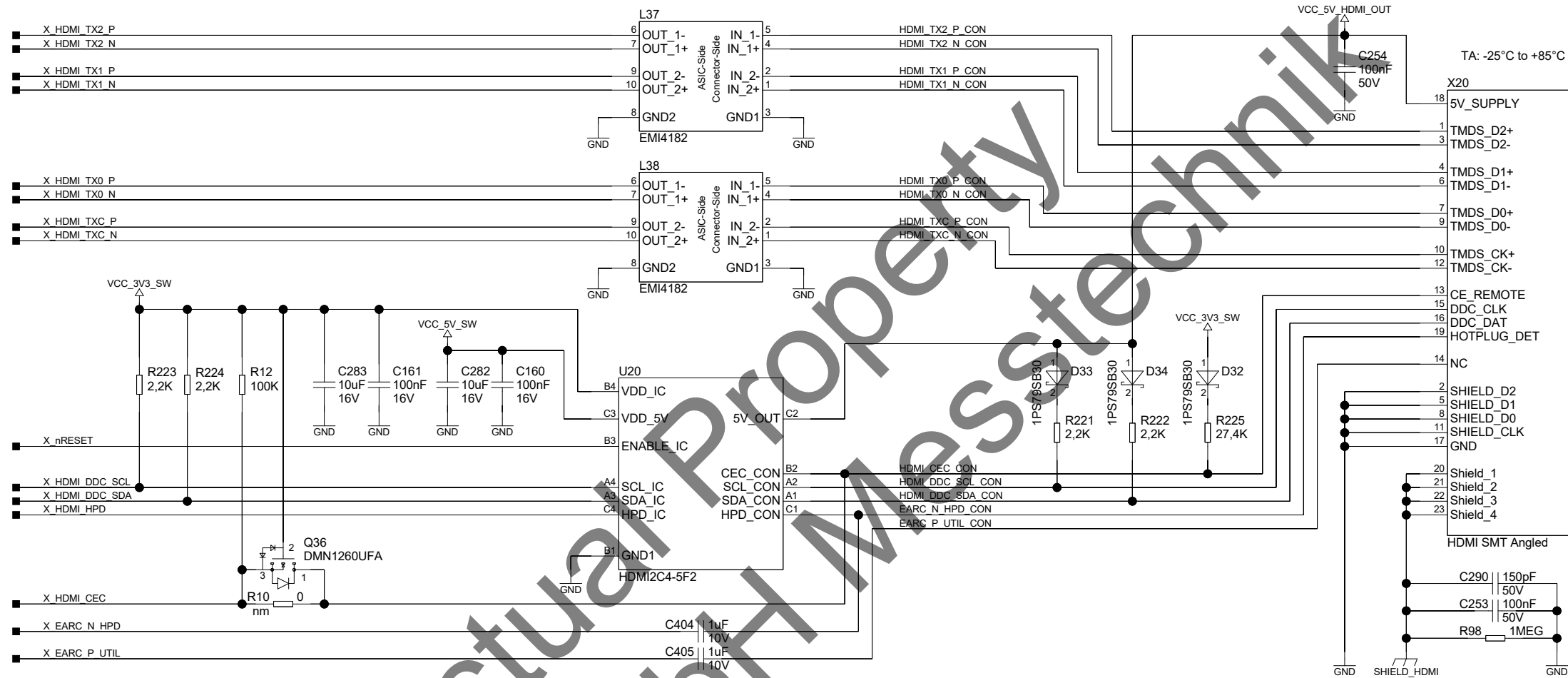
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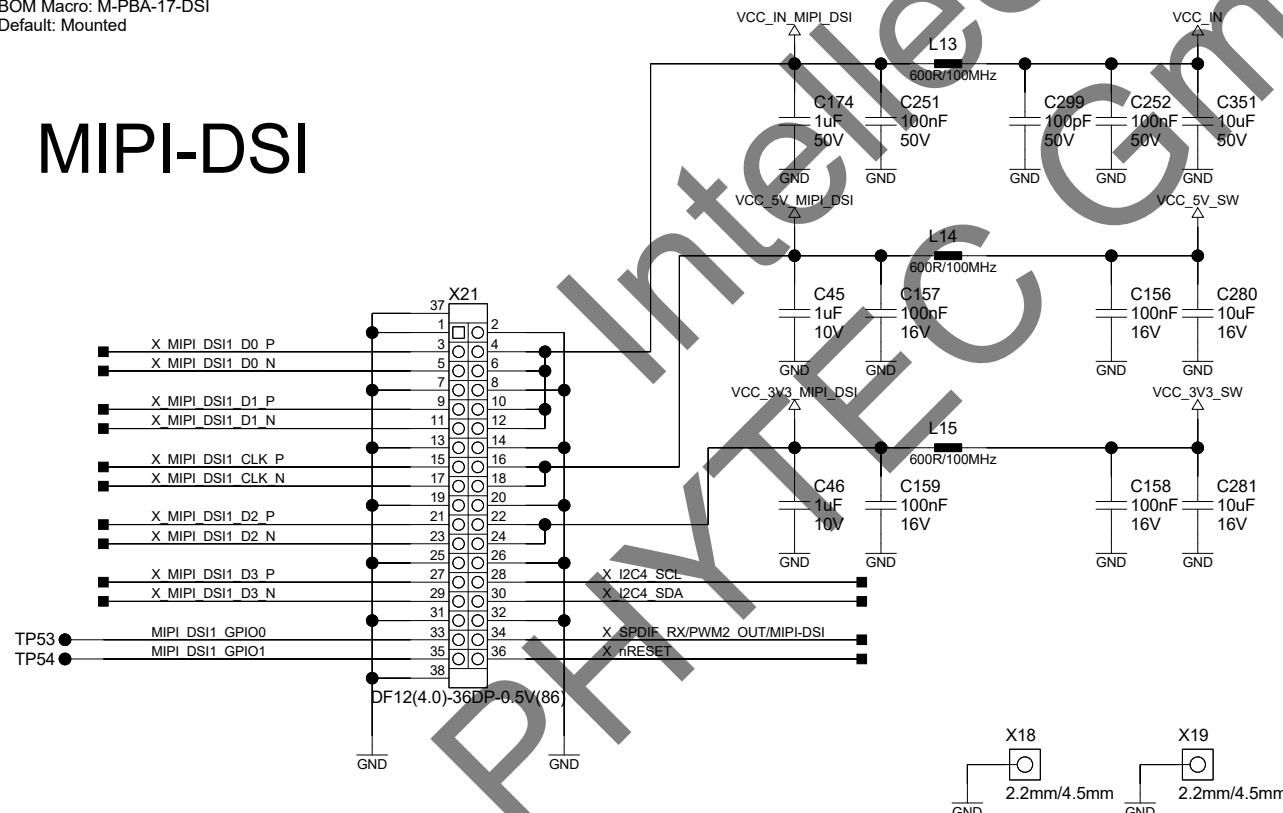
HDMI

BOM Macro: M-PBA-17-HDMI
Default: Mounted



MIPI-DSI

BOM Macro: M-PBA-17-DSI
Default: Mounted



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LVDS0

BOM Macro: M-PBA-17-AVCON
Default: Mounted

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LVDS1

BOM Macro: M-PBA-17-LVDS1
Default: Mounted

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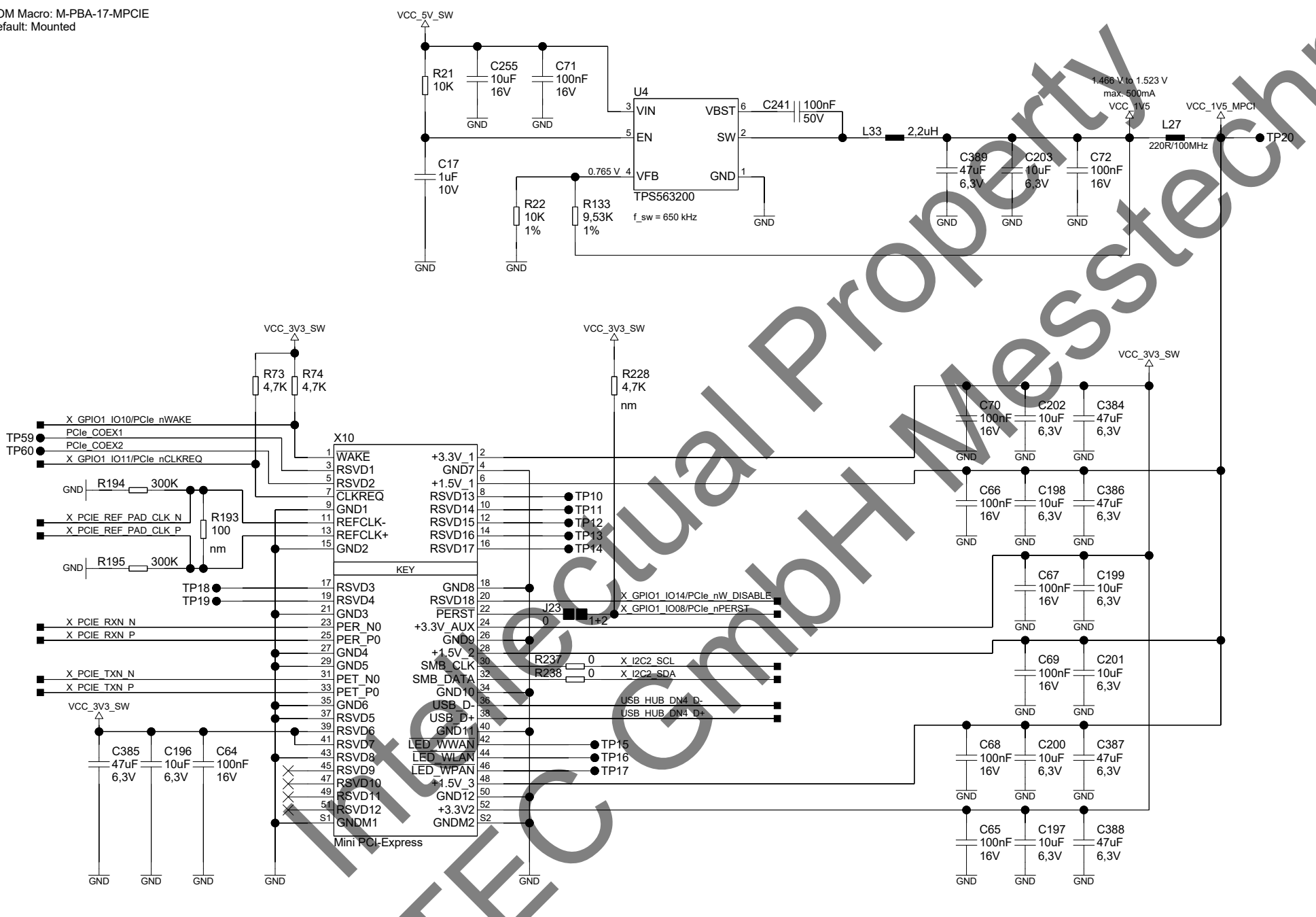
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Mini PCIe

BOM Macro: M-PBA-17-MPCIe
Default: Mounted

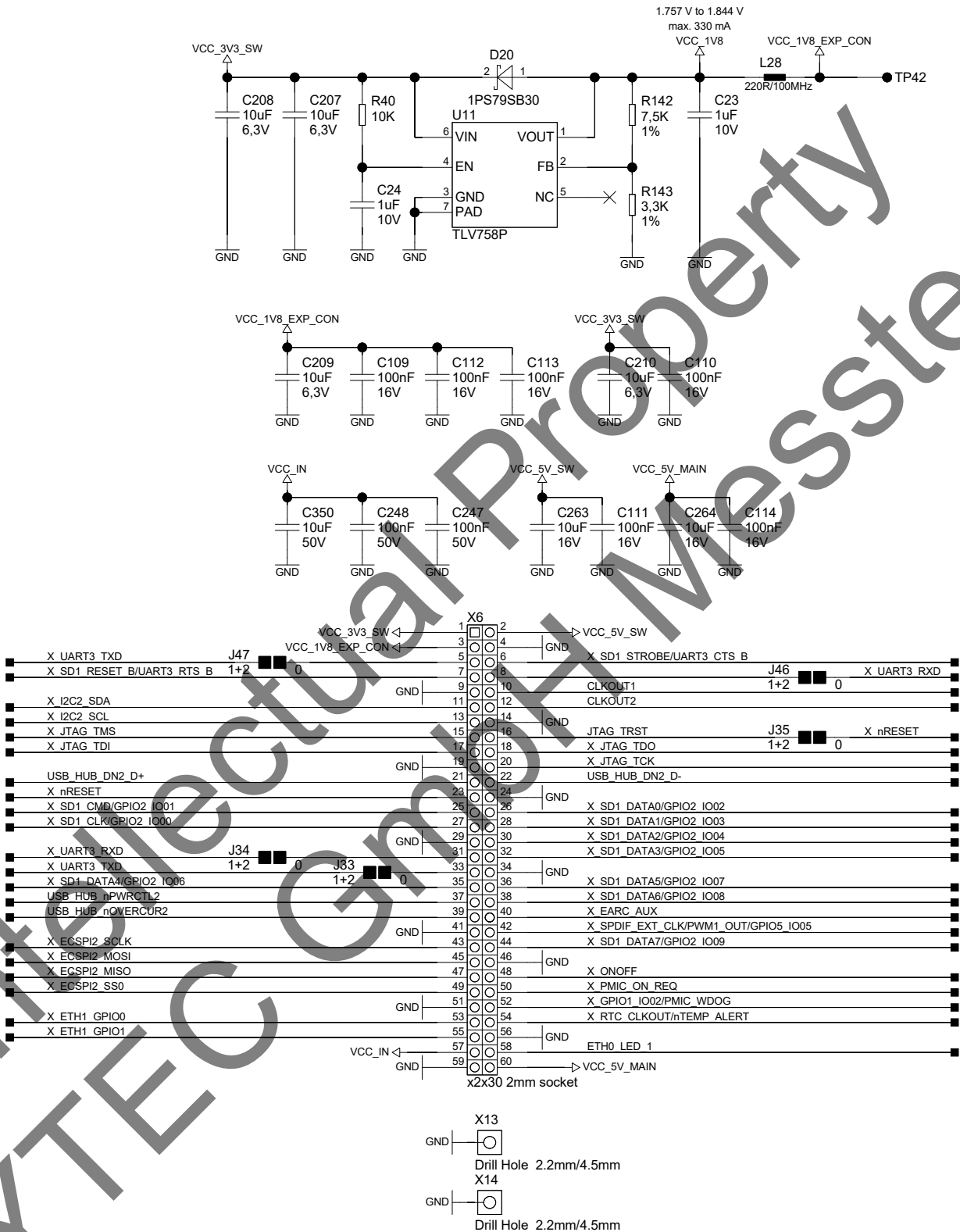


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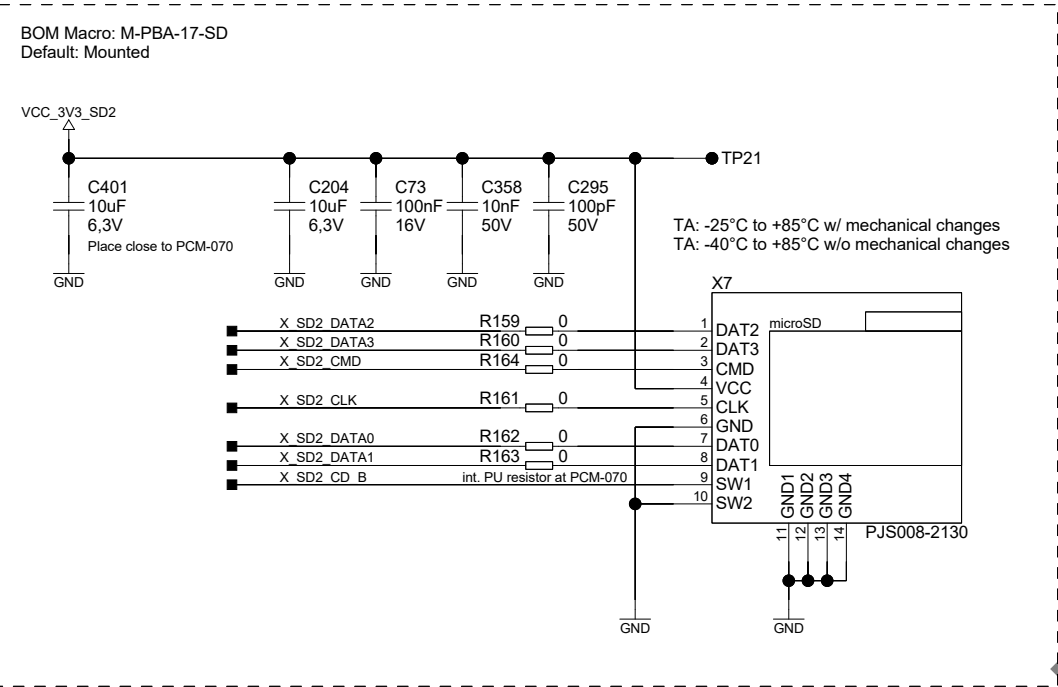
Expansion Connector

BOM Macro: M-PBA-17-EXPCON
Default: Mounted

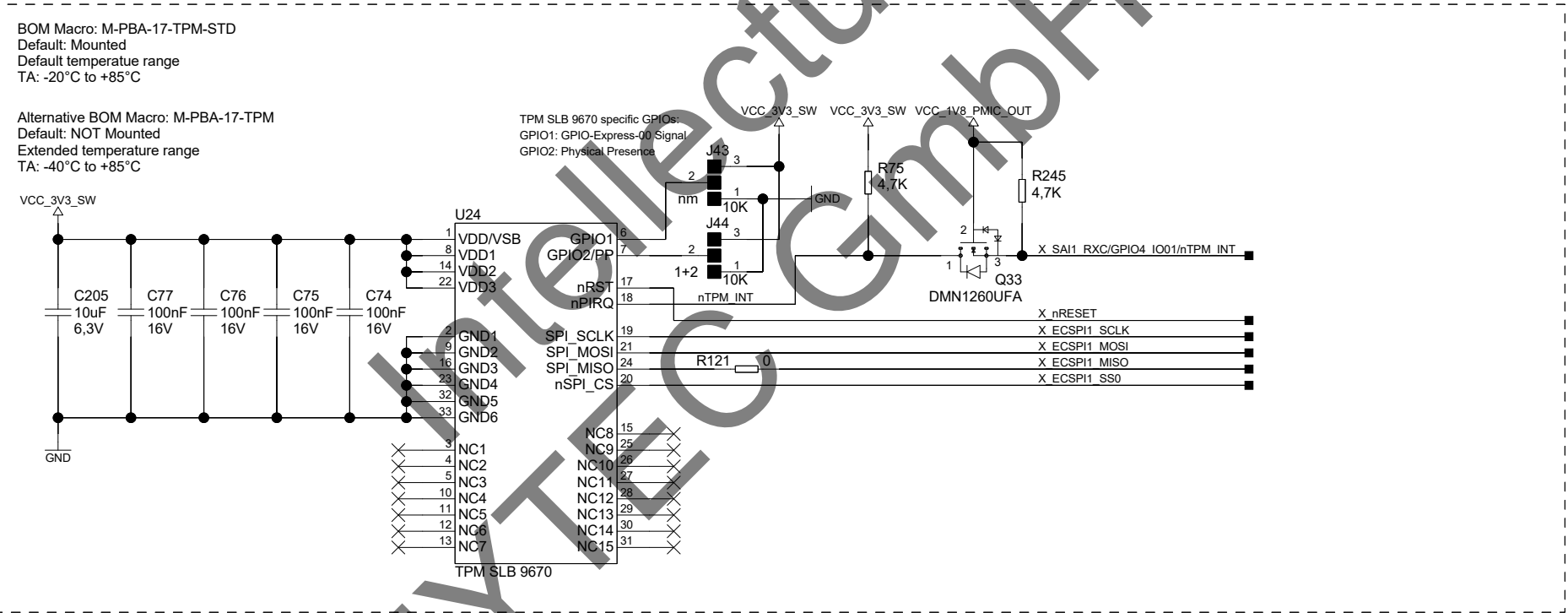


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Micro SD-Card

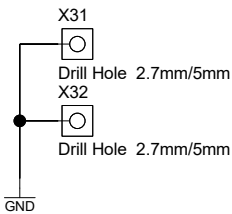


Trusted Platform Module

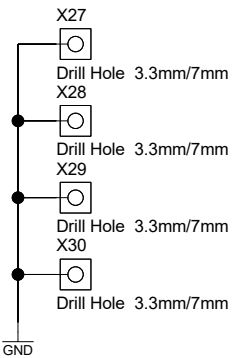


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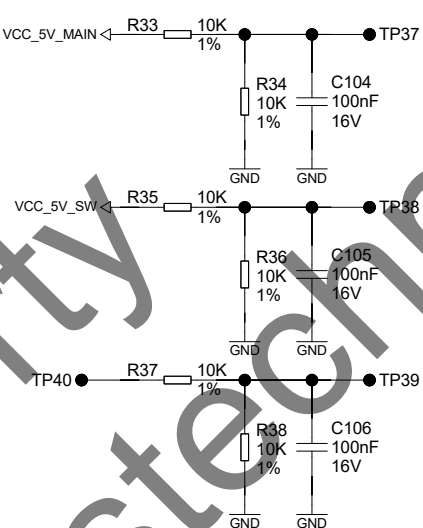
Additional mounting holes



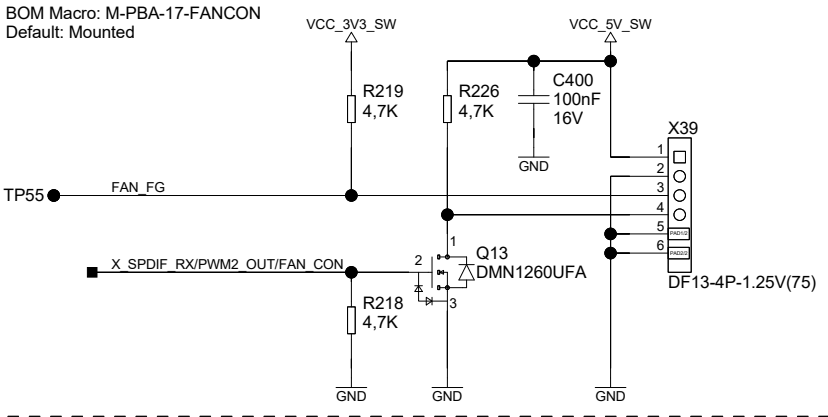
PCB fixing holes



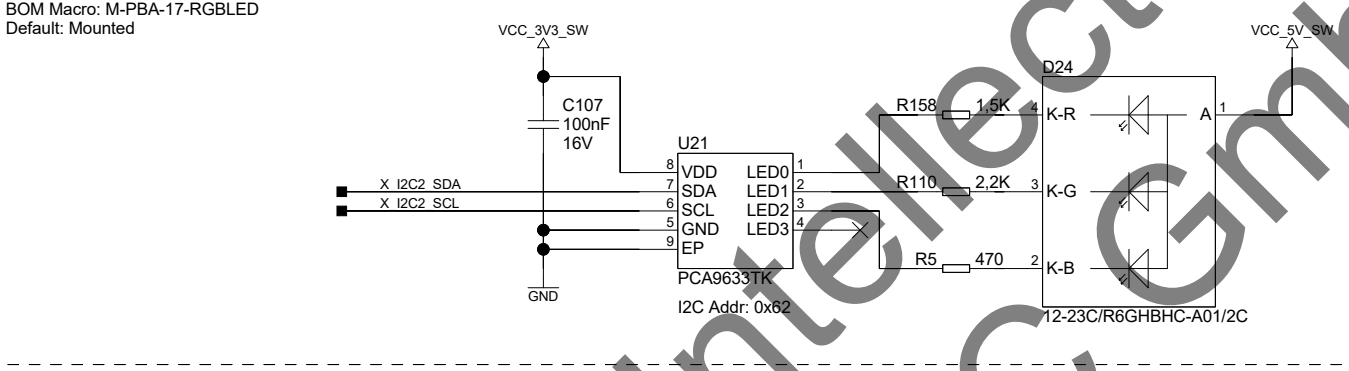
Verification test pads



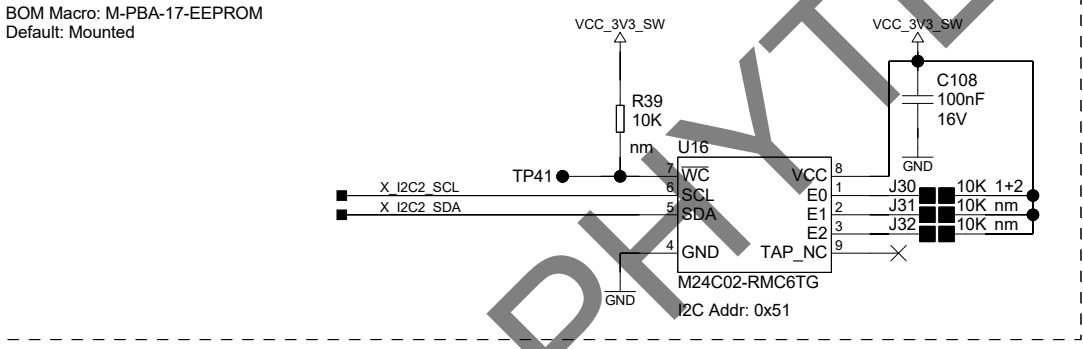
Fan Connector



RGB LED



EEPROM



I2C PU resistors

