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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. Schwär	
29.10.2020	PCB-No.: 1552.0	Revision : 008	Sheet 1 of 21

Overview

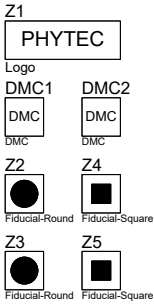
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Default I2C2 Addresses	
STUSB4500	0x28
TUSB8042A	0x44
phyCAM-M CSI2 Connector	-
Mini PCIe Connector	-
Expantion Connector	-
PCA9533D/01	0x62
M24C02-RMC6TG	0x51

Default I2C3 Addresses	
phyCAM-M CSI1 Connector	-

Default I2C4 Addresses	
A/V Connector	-
Display Connector	-
MIPI DSI Connector	-

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.

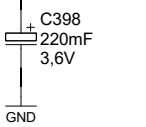


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SOM Connector

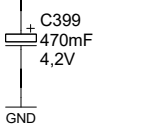
BOM Macro: M-PBA-17-VBATDEF
Default: Mounted

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



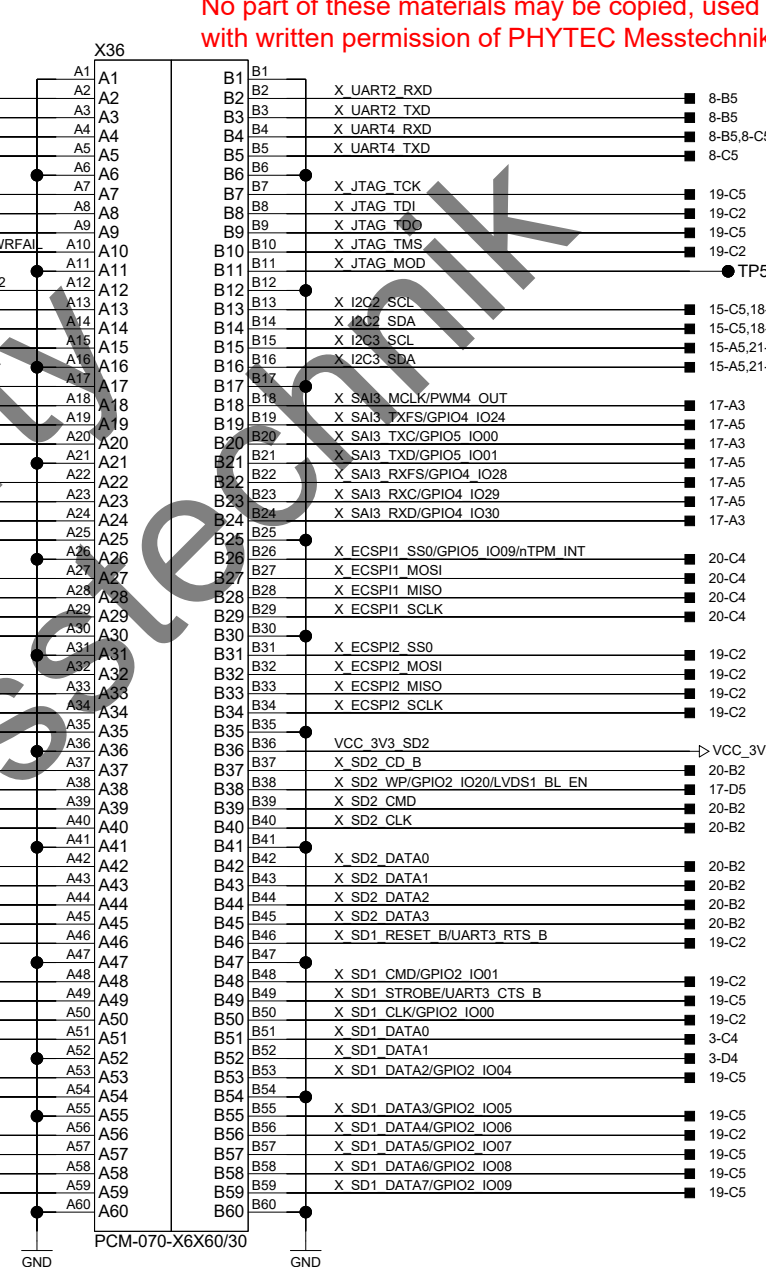
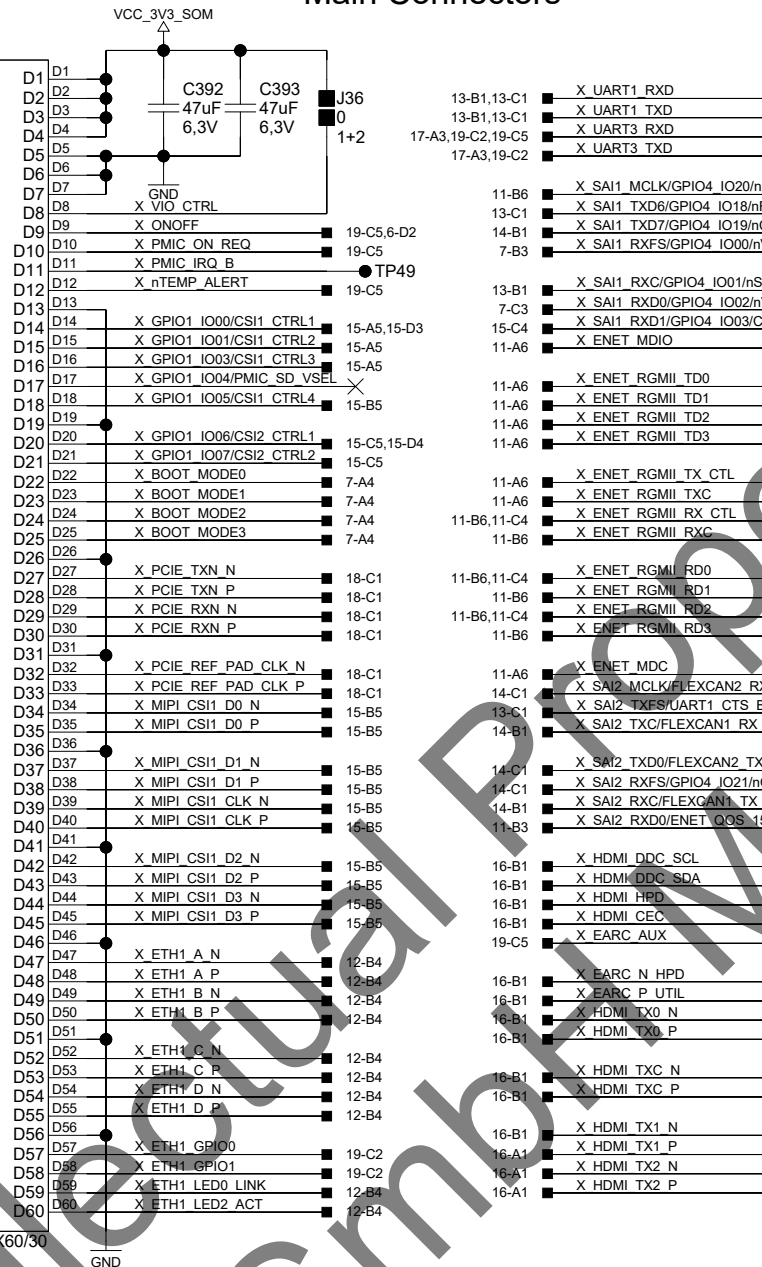
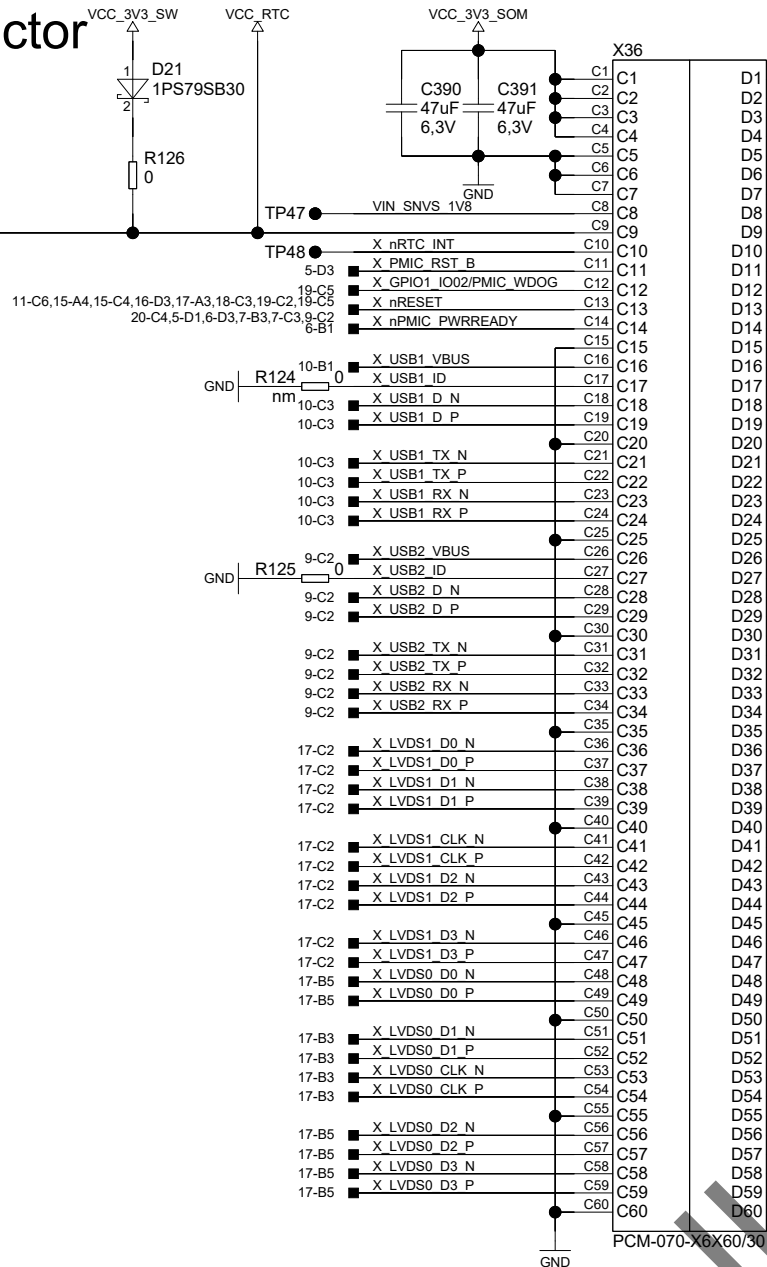
BOM Macro: M-PBA-17-VBATEXT
Default: NOT Mounted

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

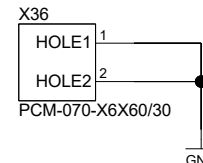
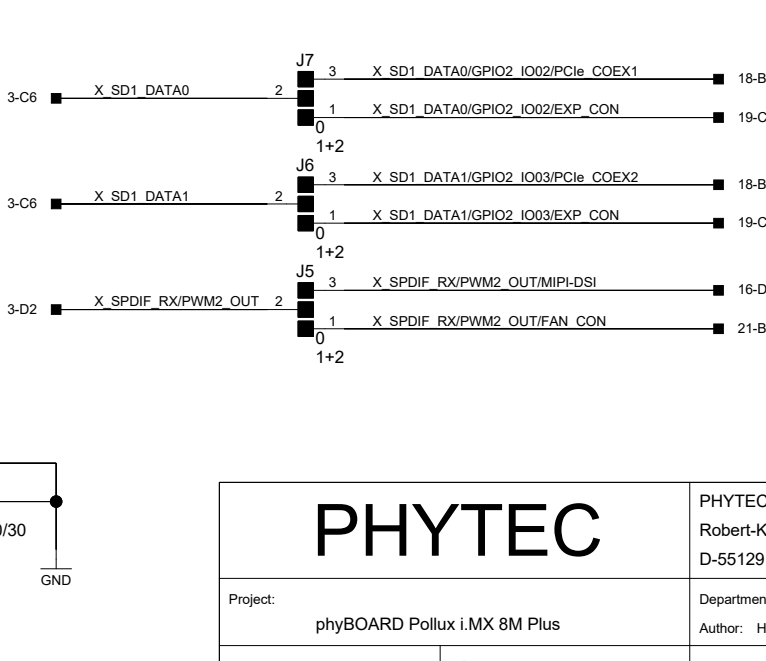
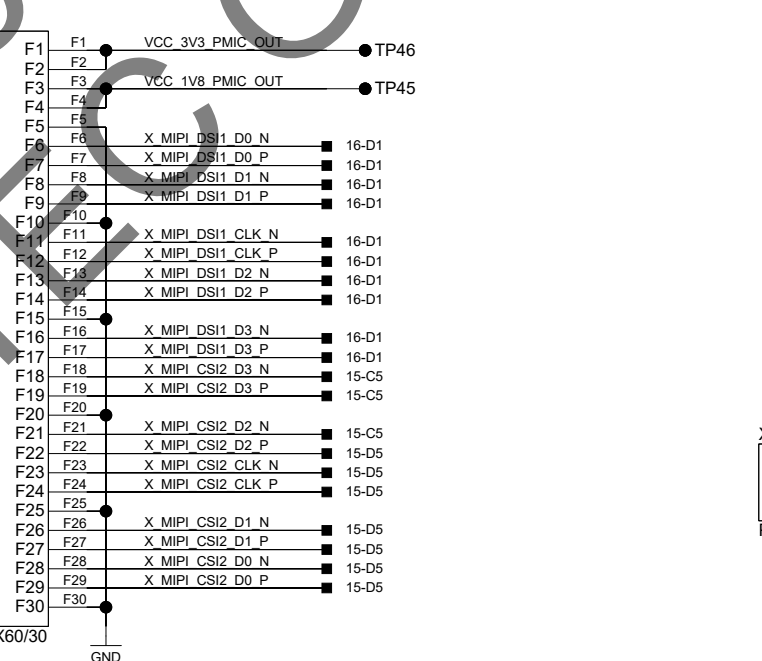
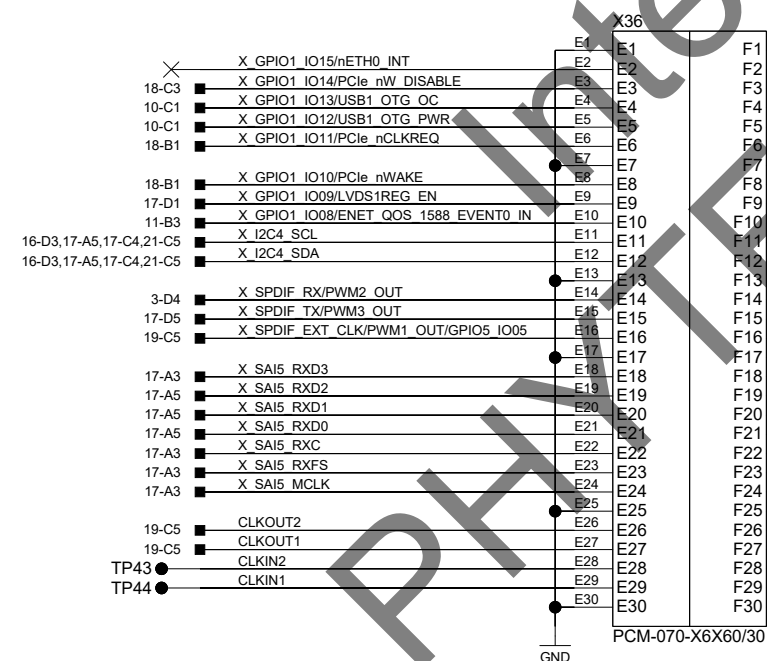


Main Connectors

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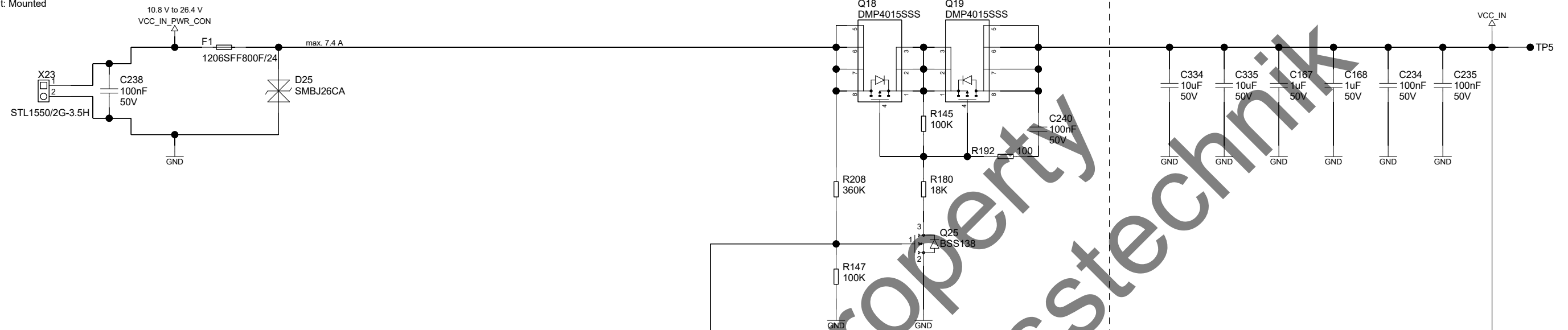
Extension Connector



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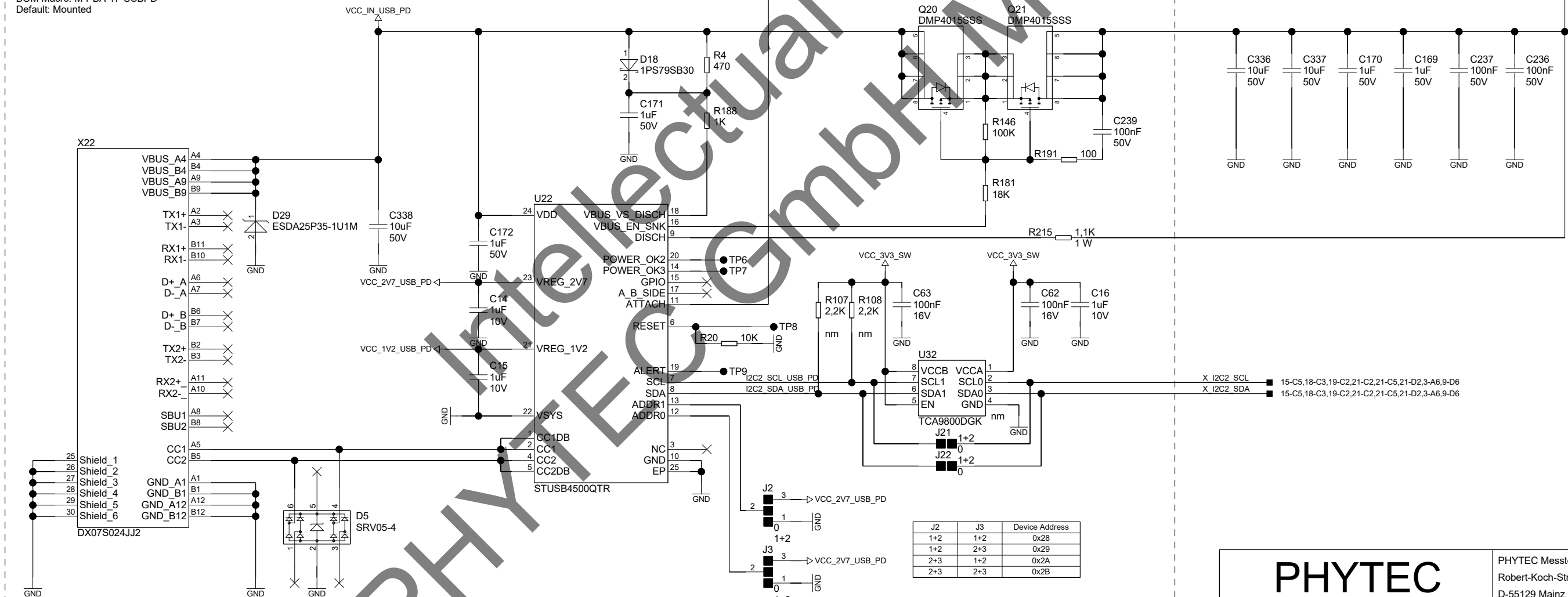
VCC_IN via Power Connector

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



VCC_IN via USB-PD

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



J2	J3	Device Address
1+2	1+2	0x28
1+2	2+3	0x29
2+3	1+2	0x2A
2+3	2+3	0x2B

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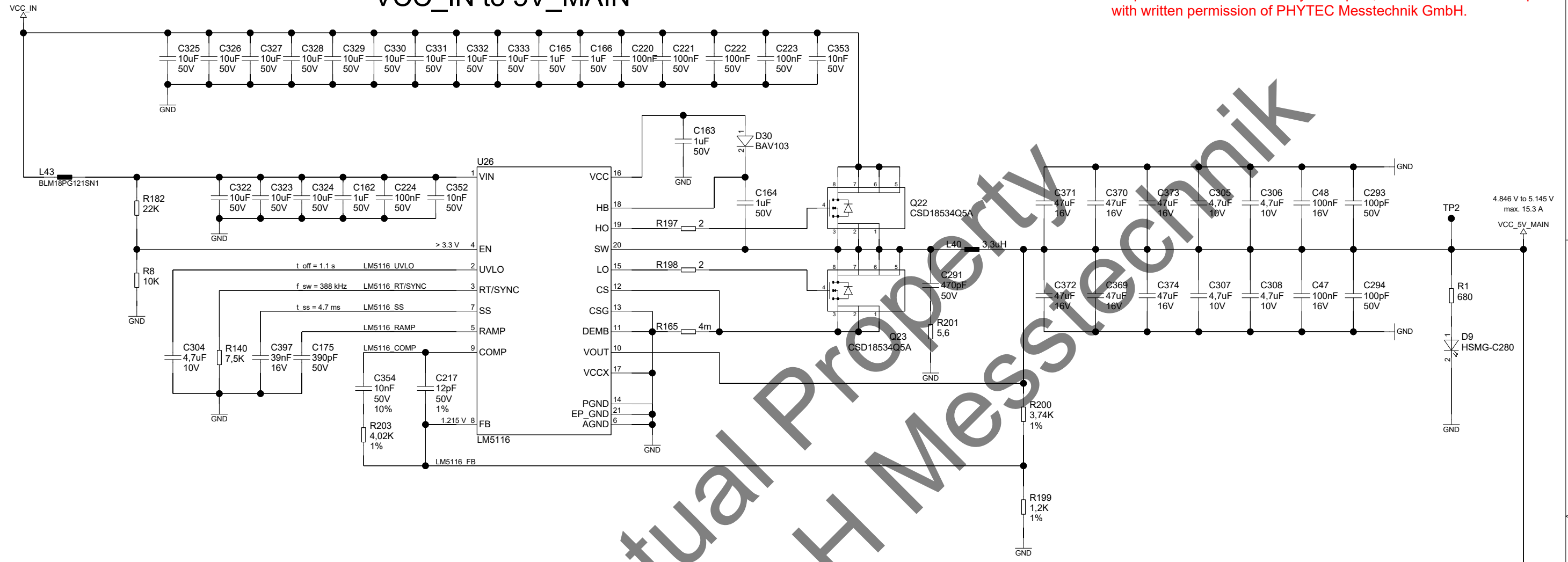
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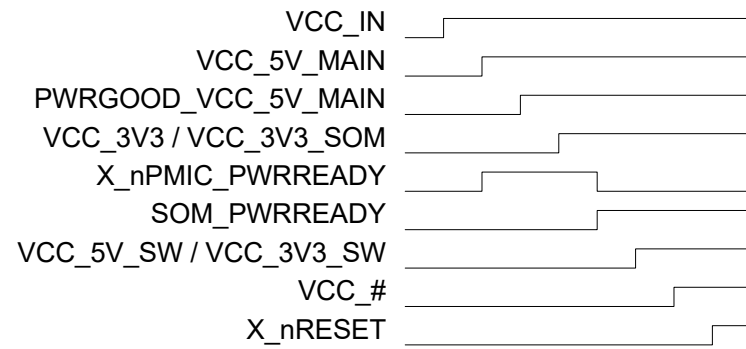
6

VCC_IN to 5V_MAIN

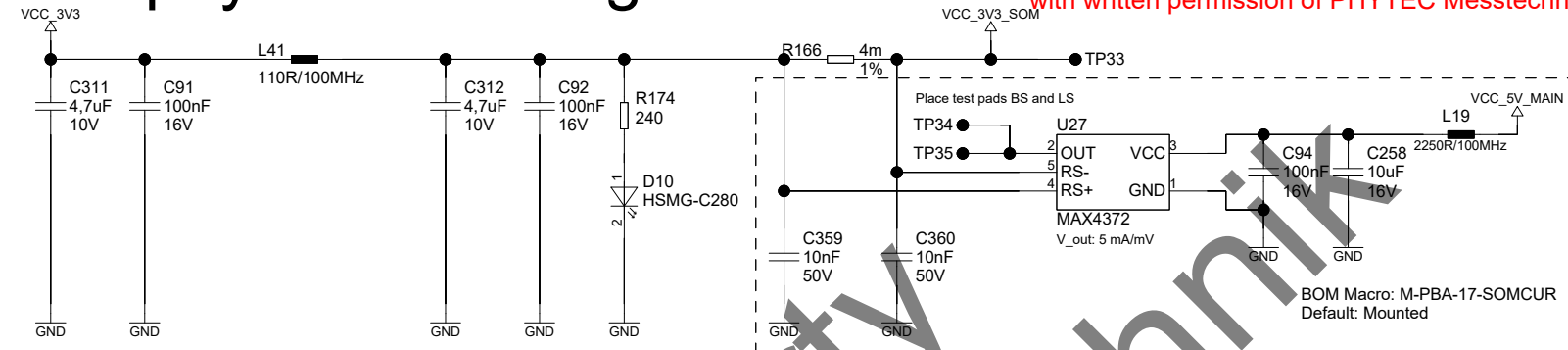
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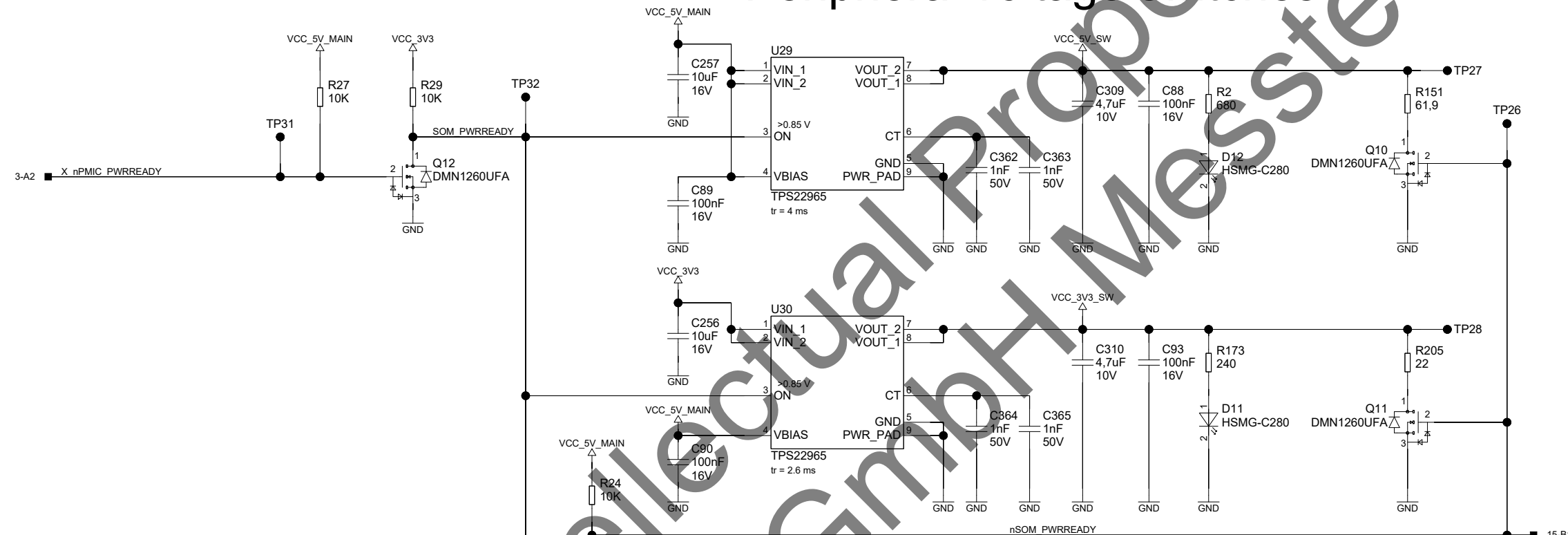
Power sequencing diagram



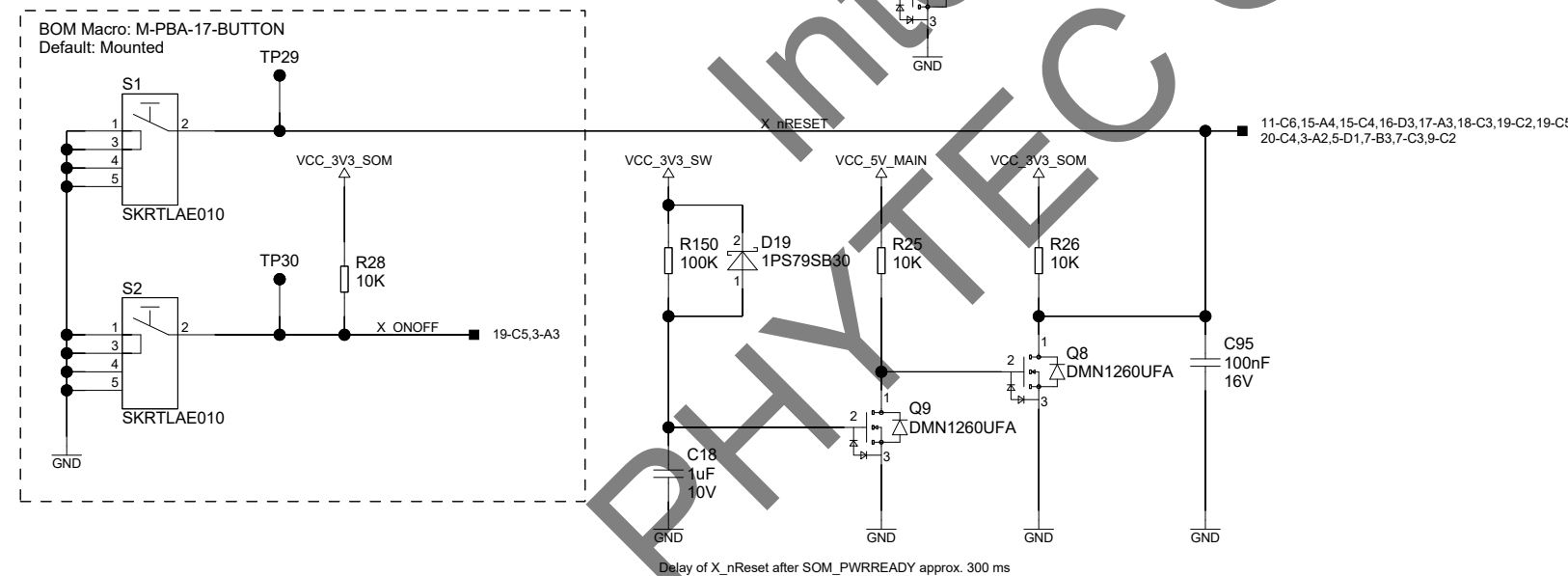
phyCORE voltage



Peripheral voltage switches



Buttons



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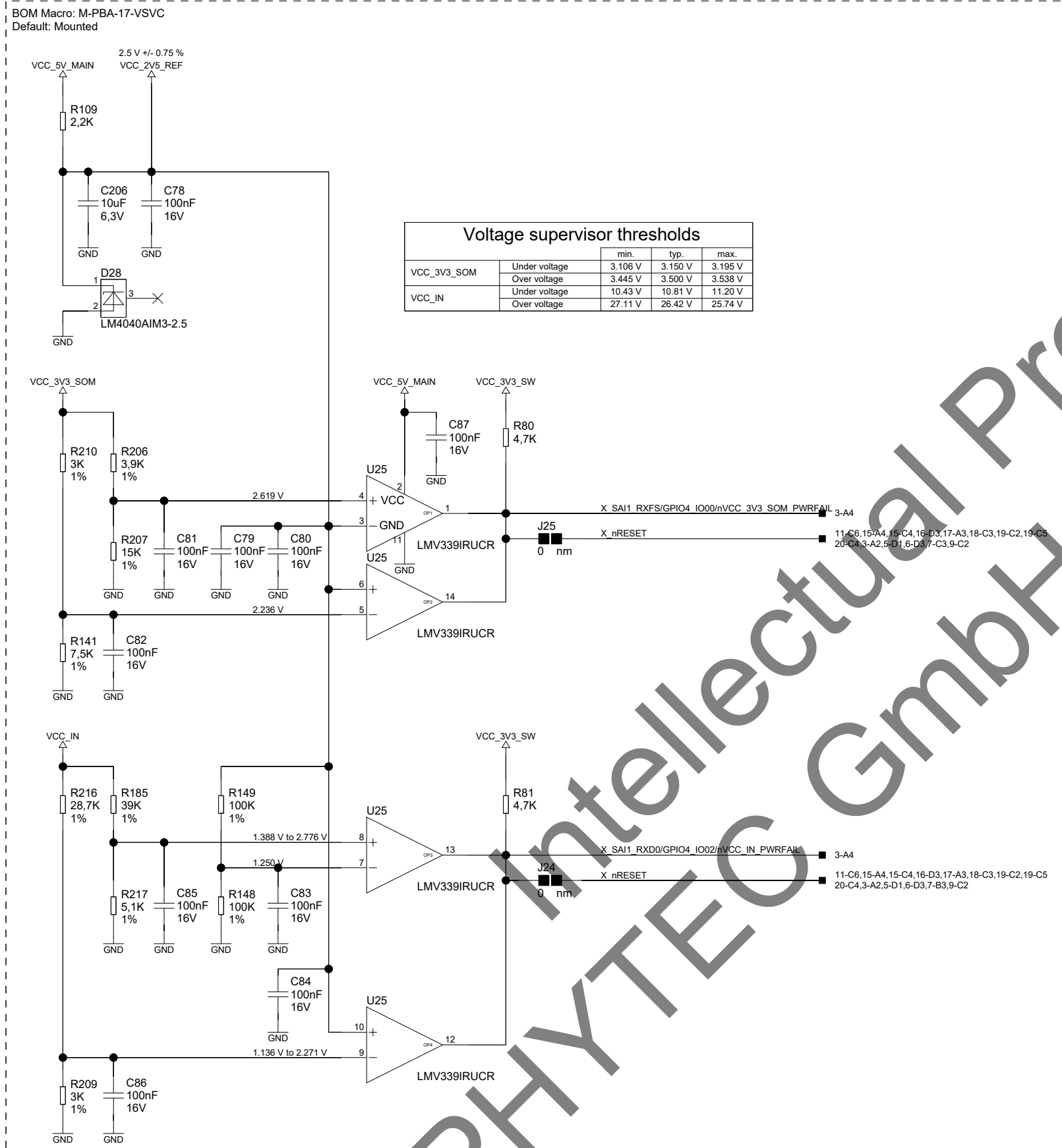
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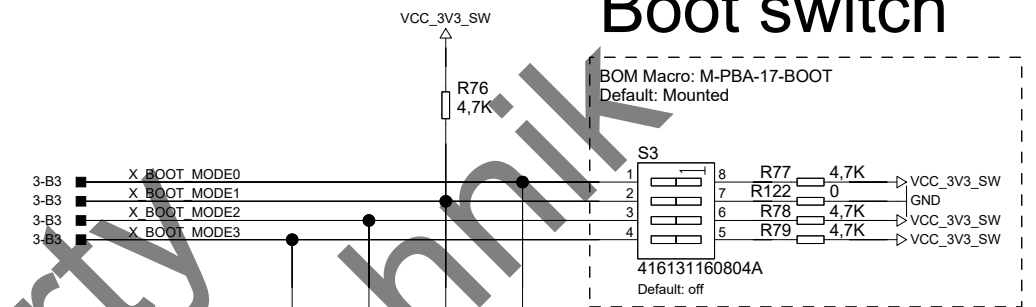
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Voltage supervisory circuit



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Boot switch



BOOT_MODE				Boot Source
0	1	2	3	
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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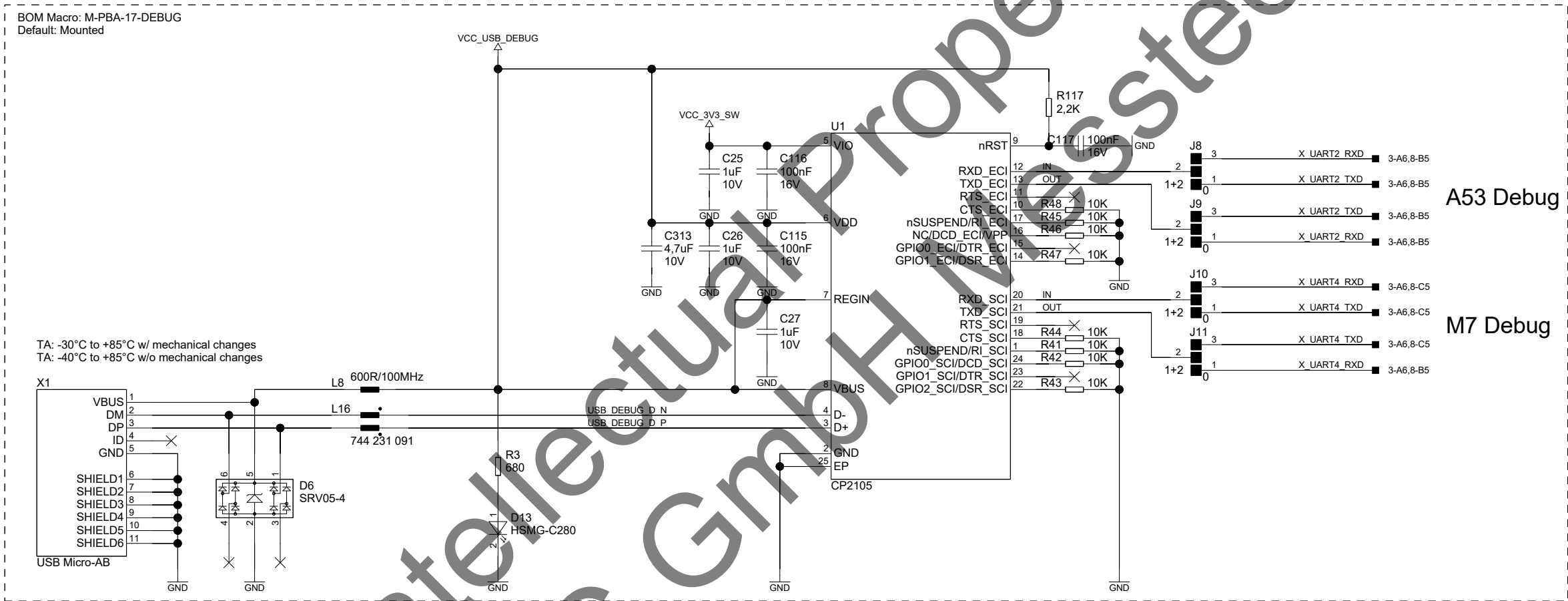
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USB Debug



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



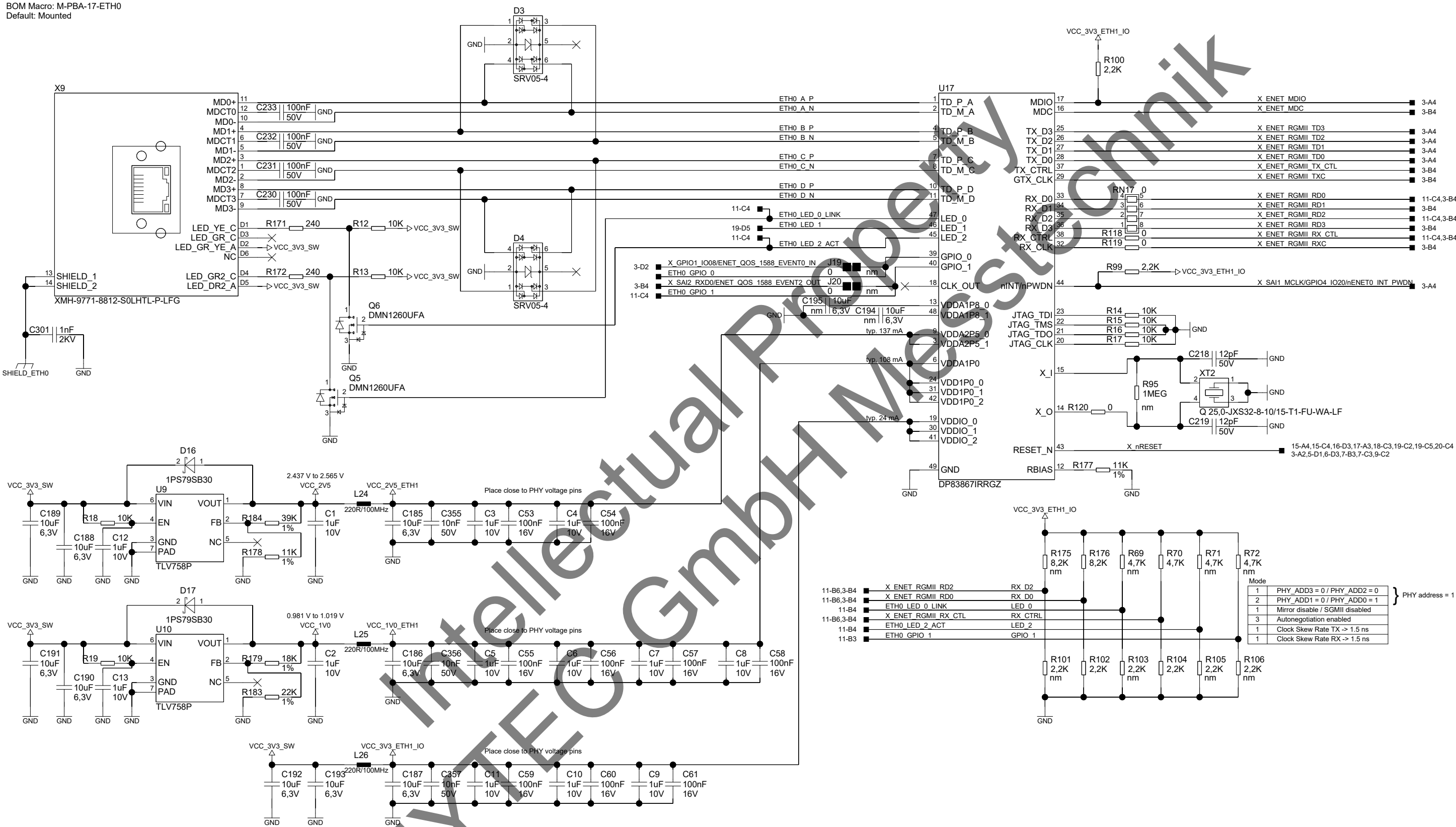
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Ethernet0

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



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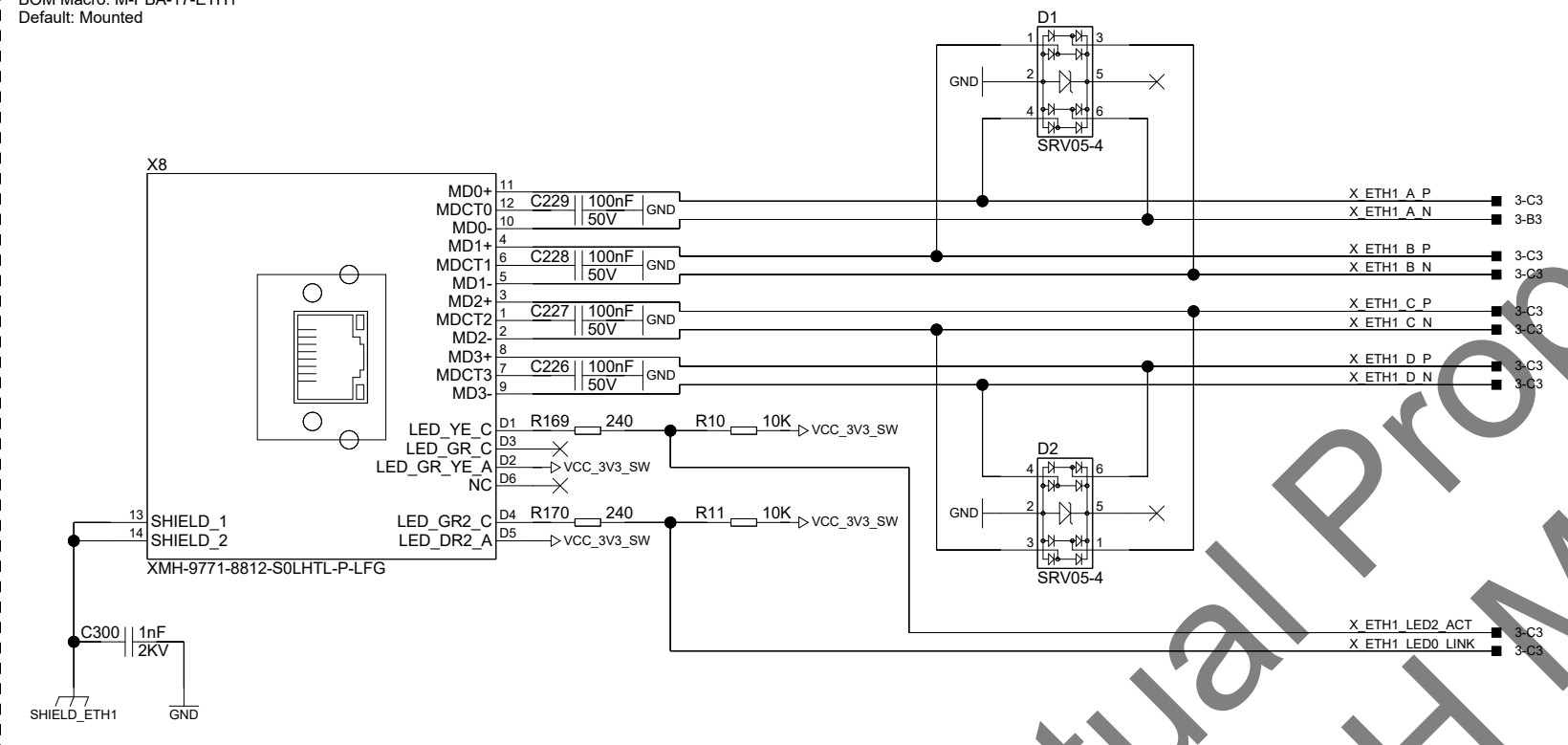
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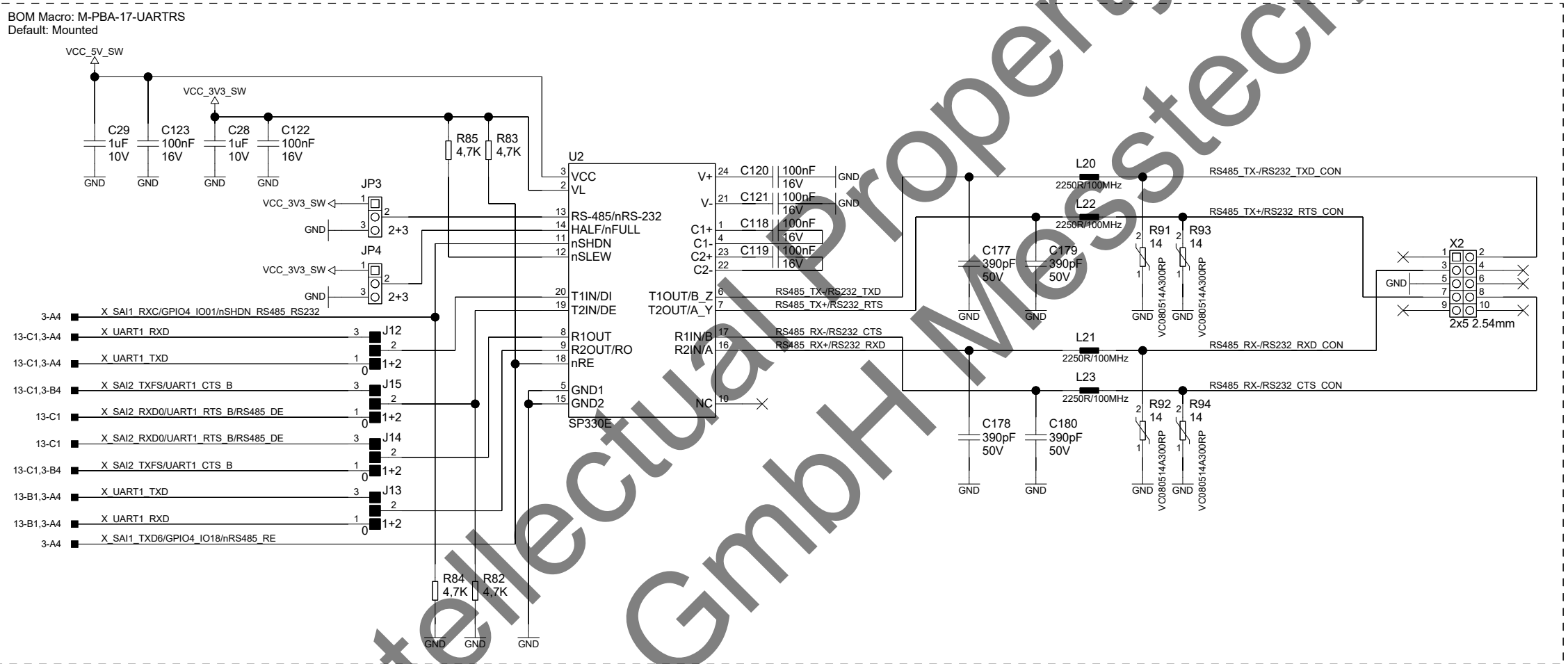
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Ethernet1

BOM Macro: M-PBA-17-ETH1
Default: Mounted



RS-232 / RS-485



RS-232 / RS-485 Pinout

Configuration		Connector Pin X2					Mode
JP3	JP4	2	3	5	7	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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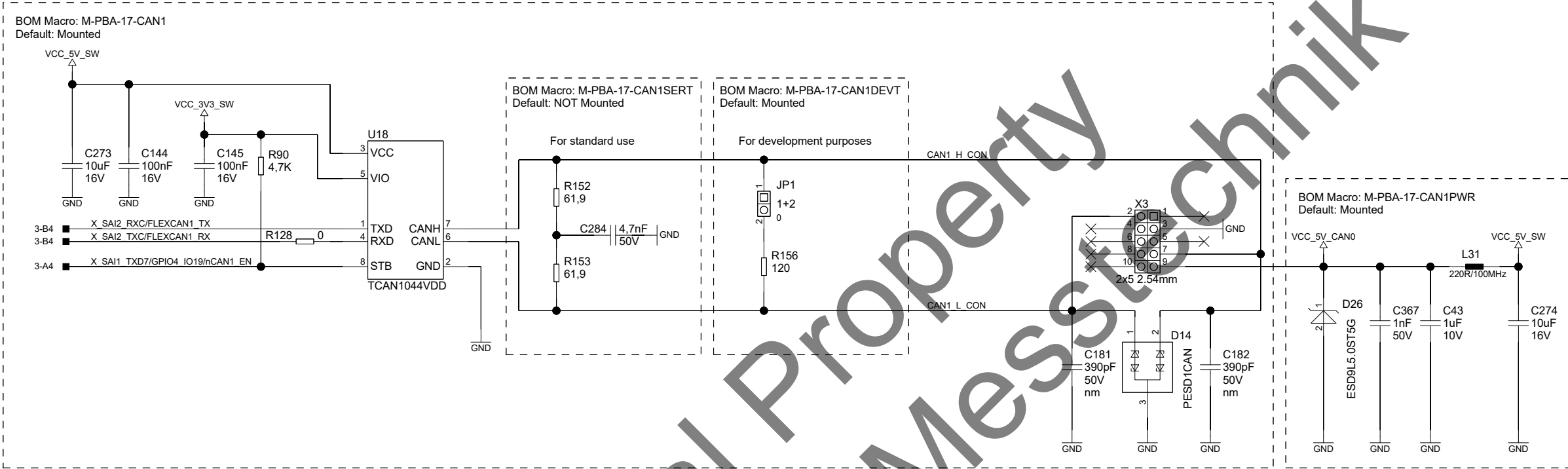
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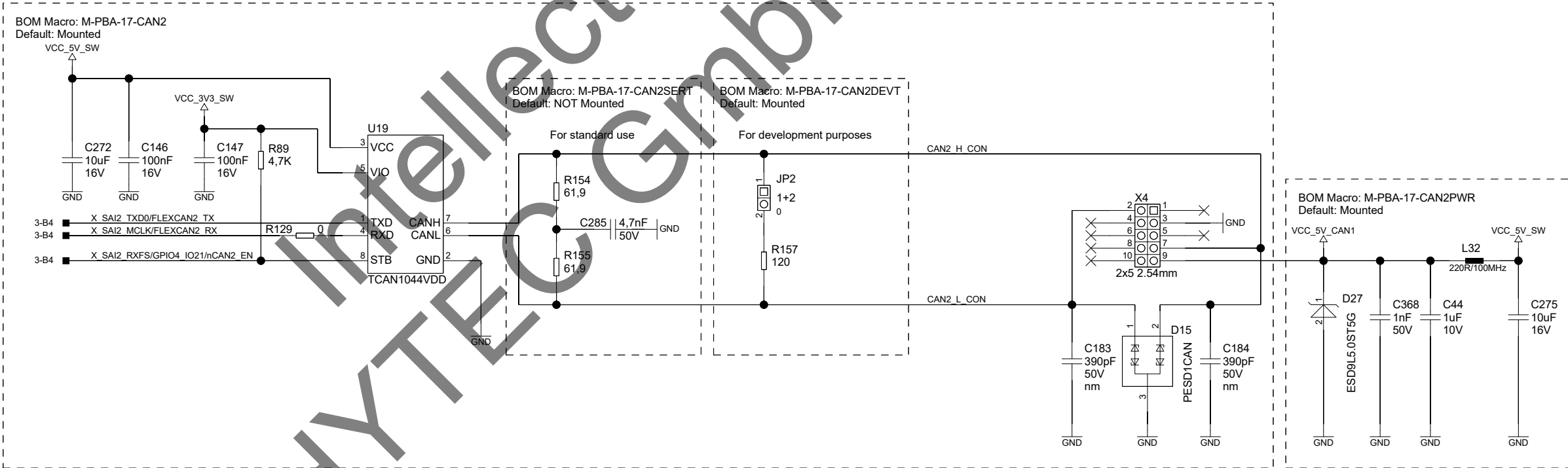
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CAN-FD1



CAN-FD2



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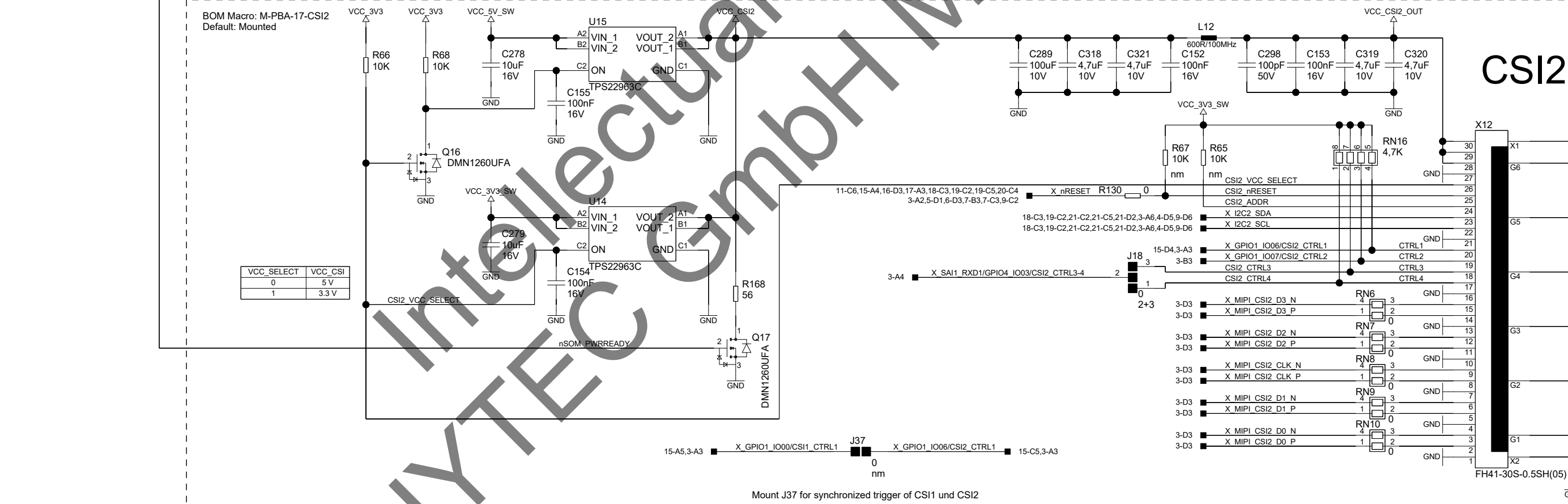
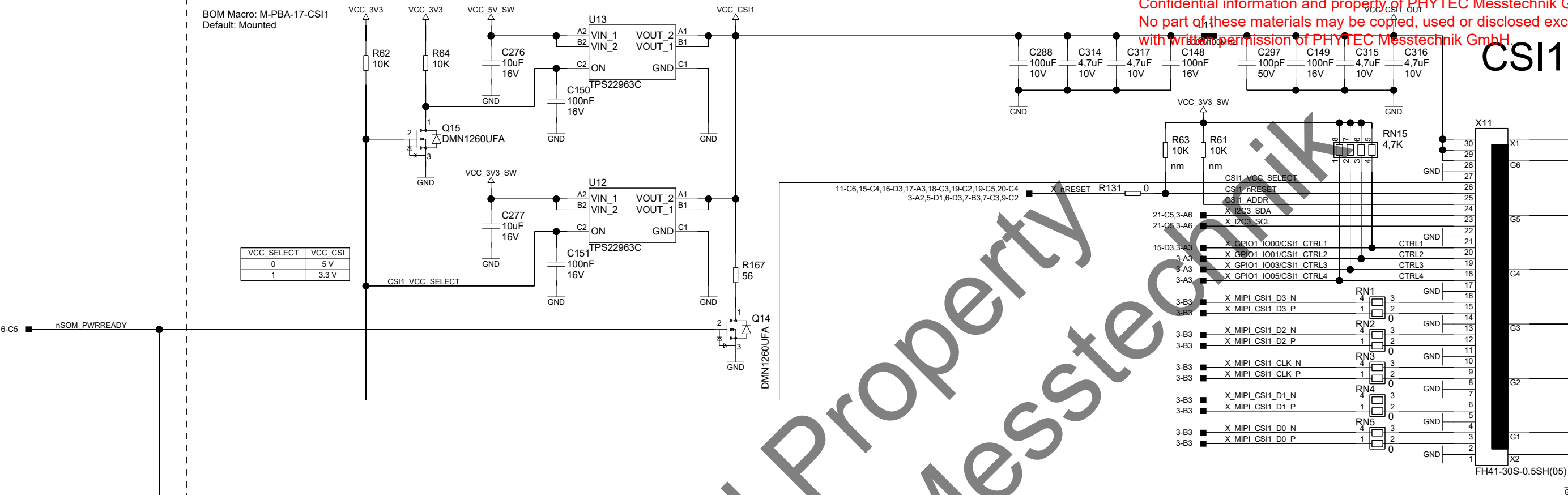
D

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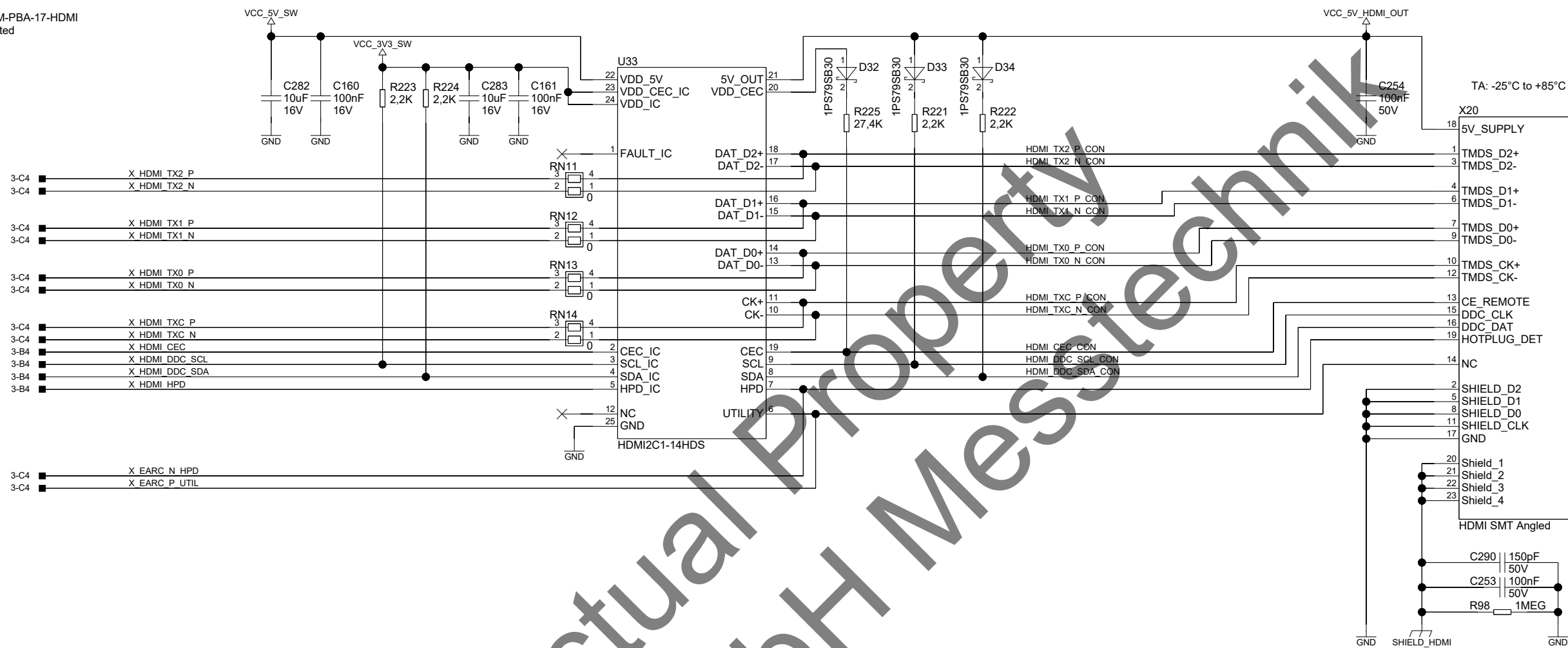
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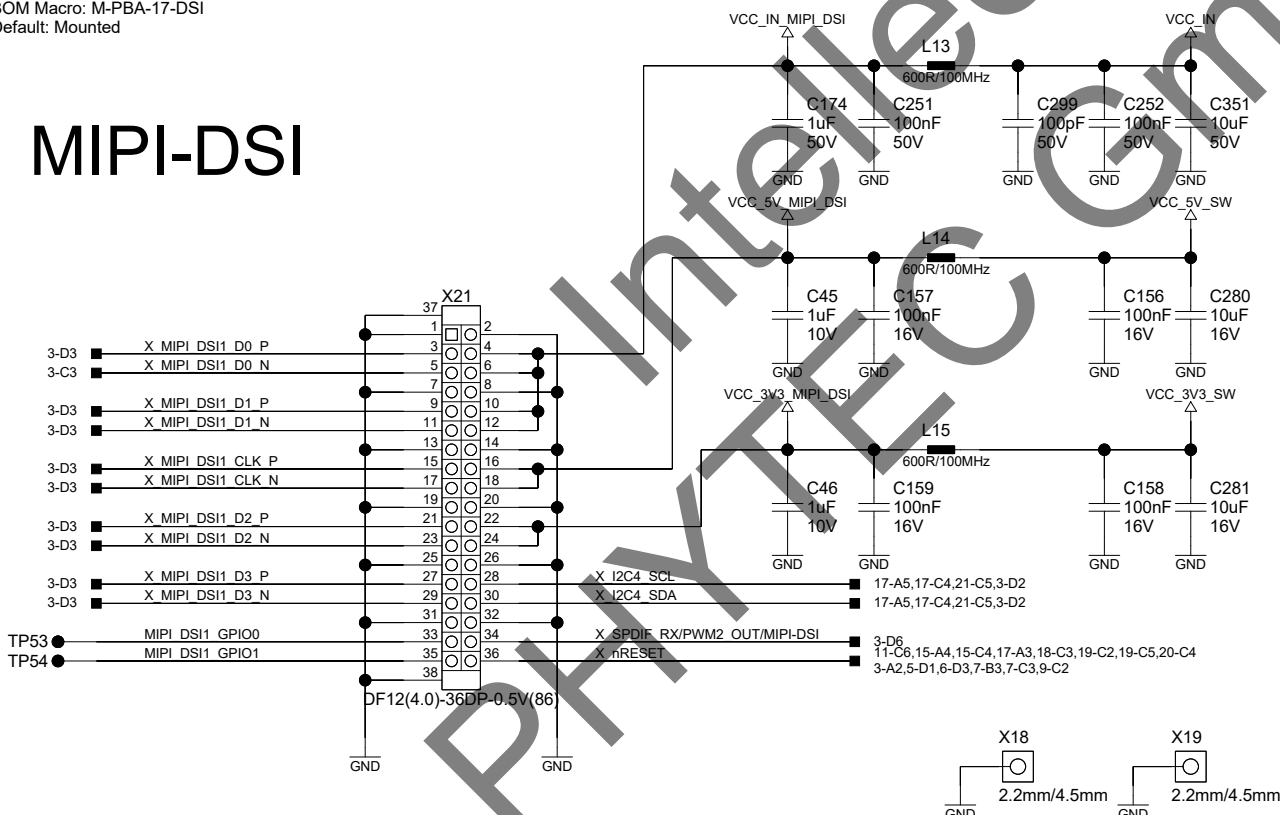
HDMI

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



MIPI-DSI

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



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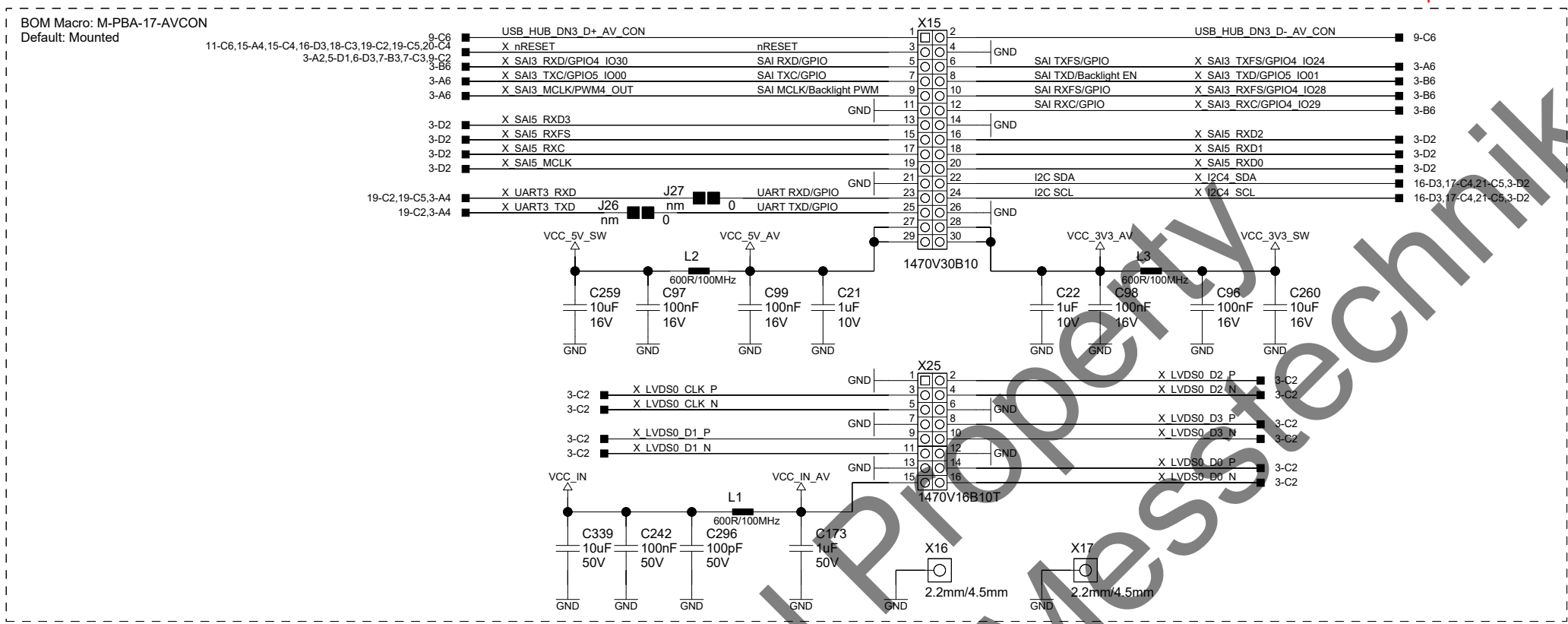
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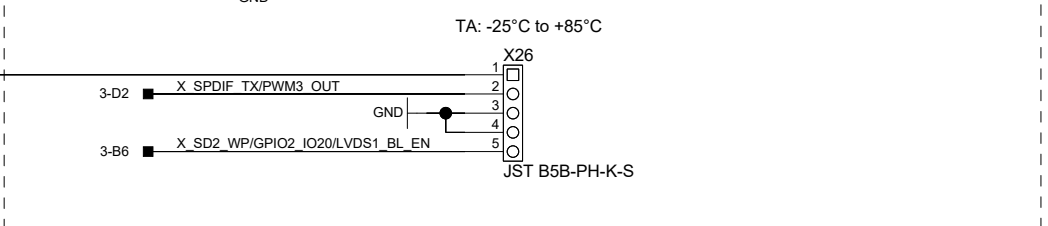
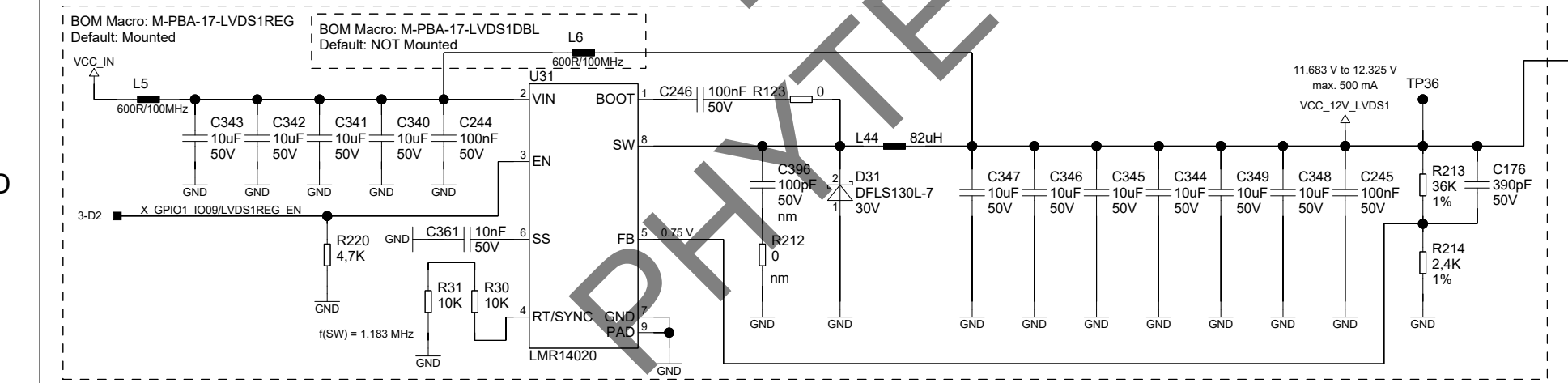
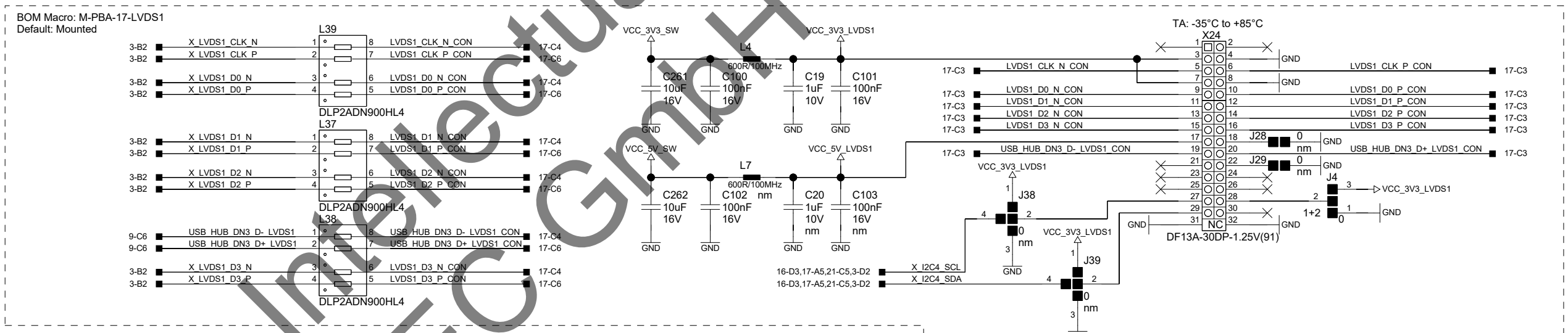
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LVDS0

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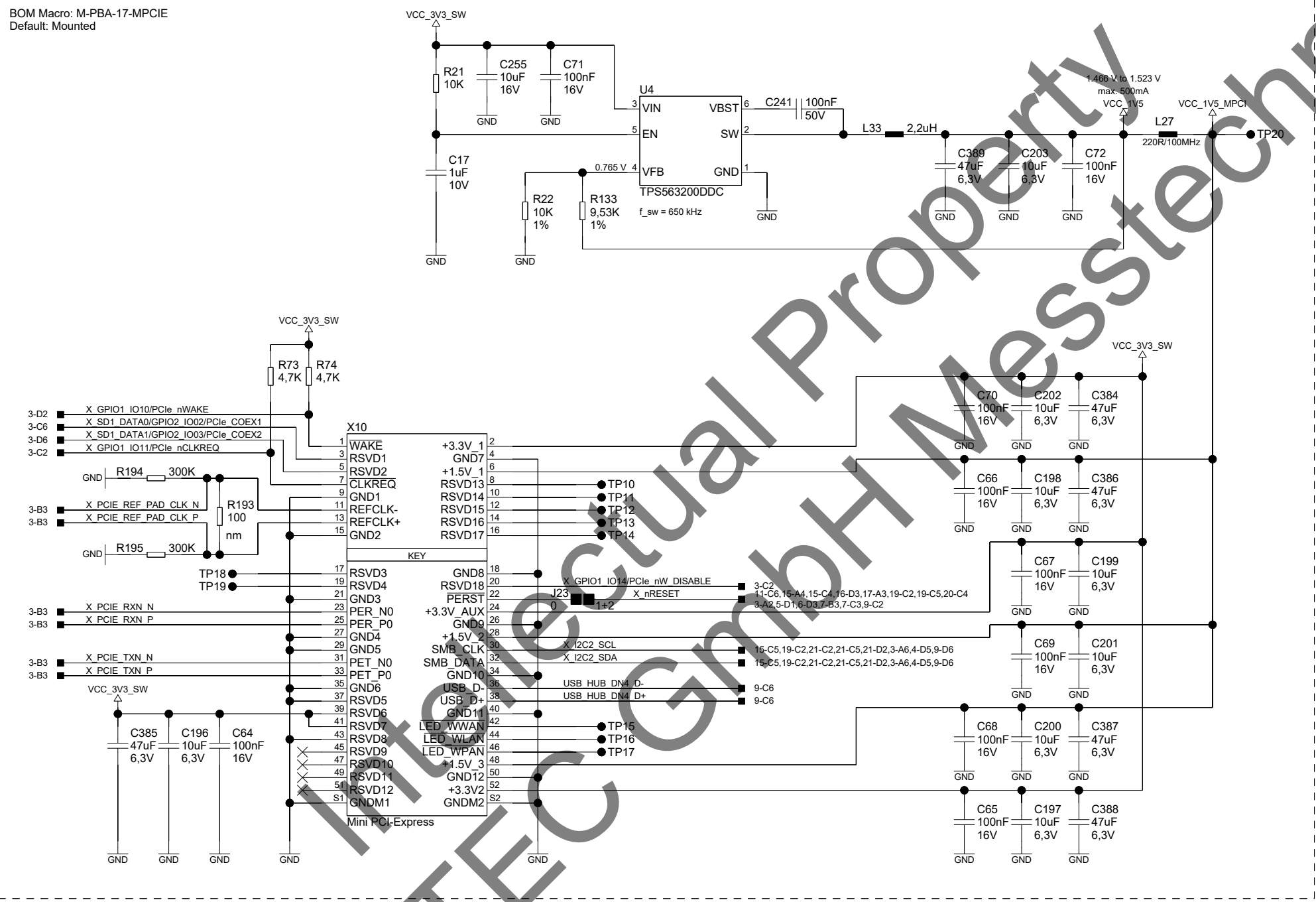
LVDS1



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Mini PCIe

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

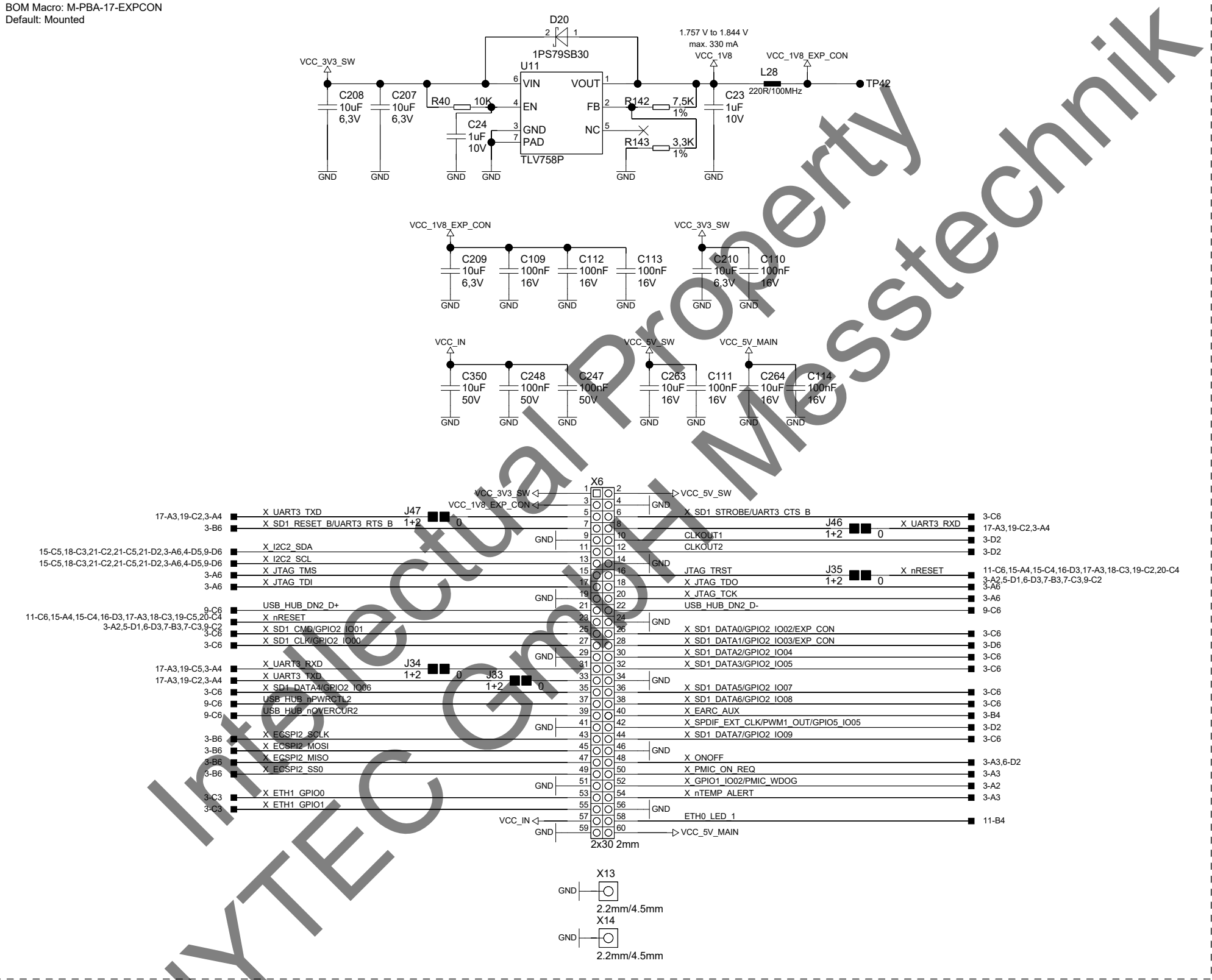


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Expansion Connector

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



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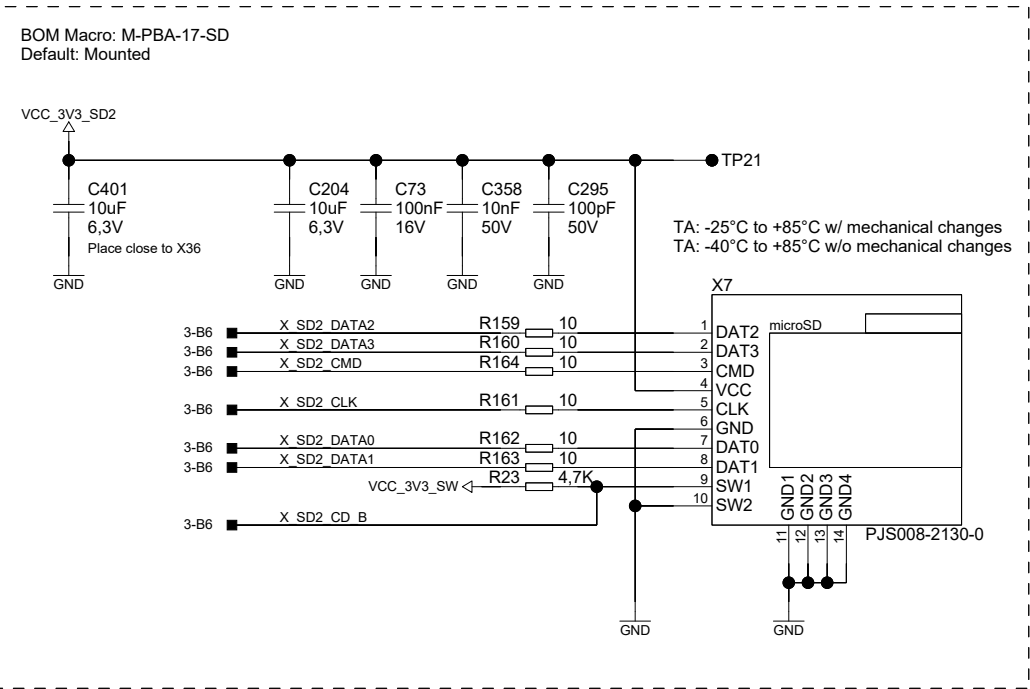
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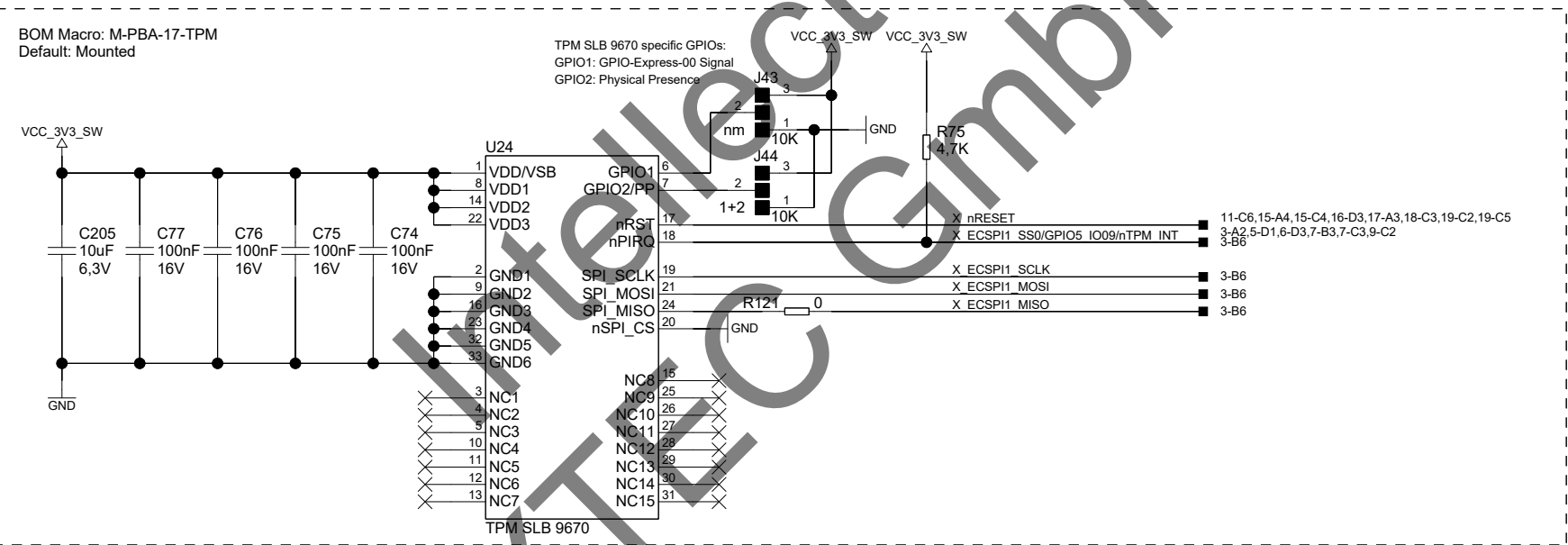
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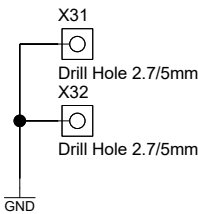
Micro SD-Card



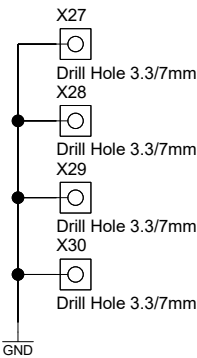
Trusted Platform Module



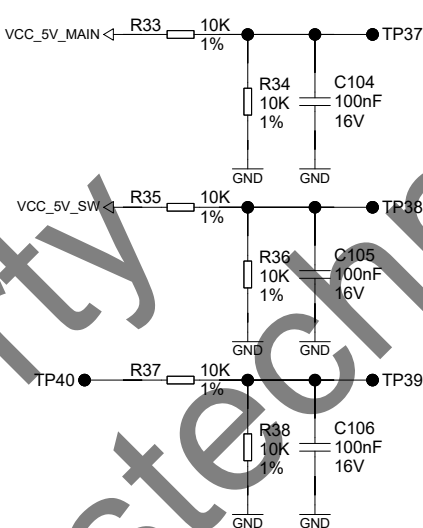
Heat sink mounting holes



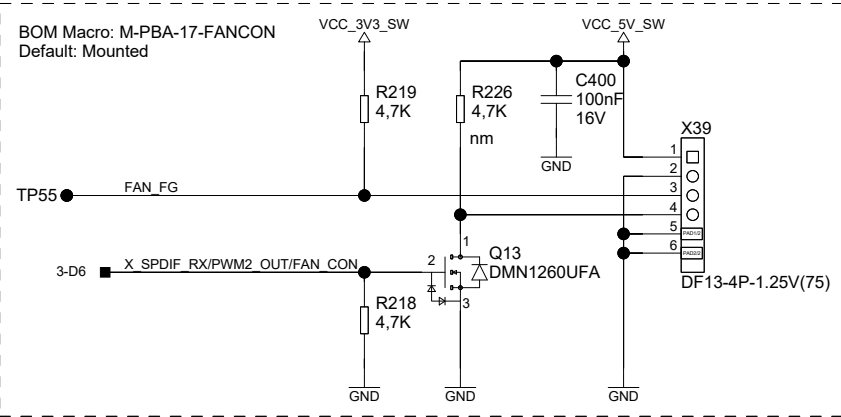
PCB fixing holes



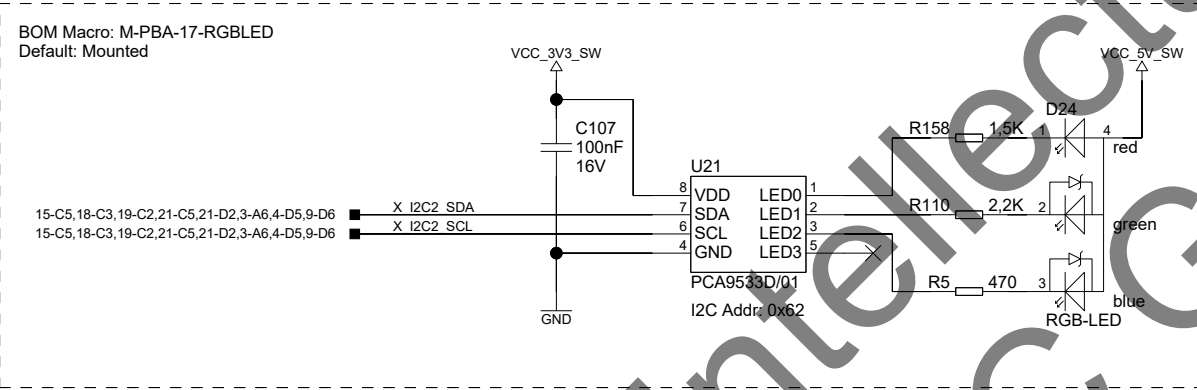
Verification test pads



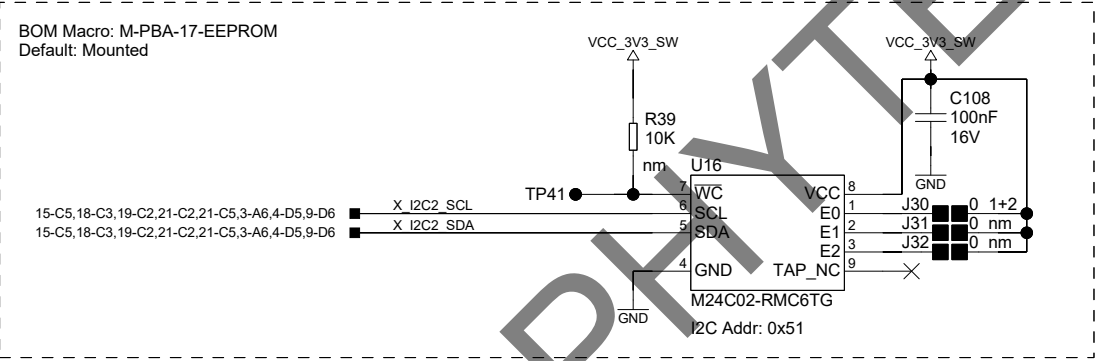
Fan Connector



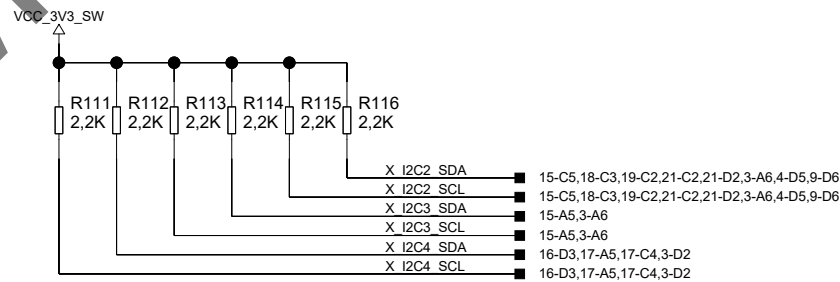
RGB LED



EEPROM



I2C PU resistors



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