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Page 23:	M.2 (NGFF) Key B Connector (USB Host and PCIe Interfaces)
Page 24:	MIPI-DSI to LVDS Adapter (reference schematic - not included)

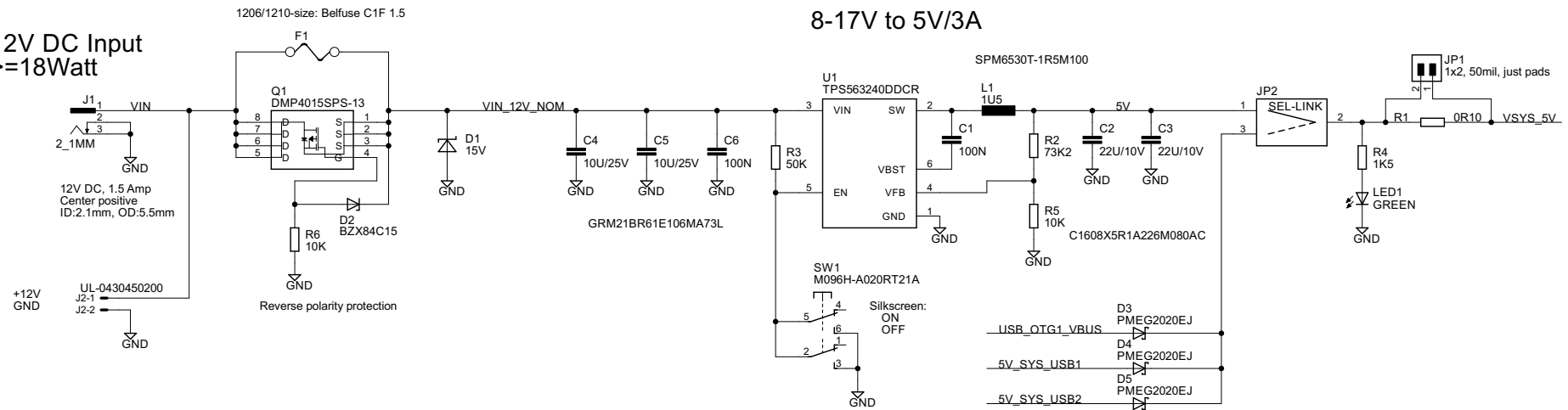
UL = UnLoaded = normally not mounted component.

Default jumper settings are indicated in the schematic.
However, always check jumper positions on actual boards
since there is no guarantee that all jumpers are in default place.

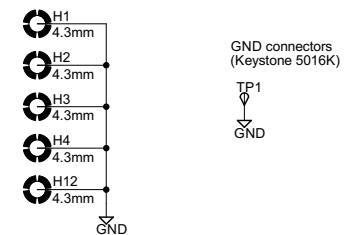
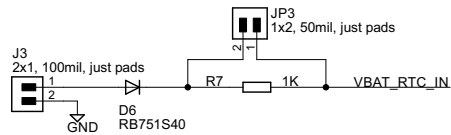
Rev A	
First release	
	
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TITLE: uCOM Carrier board rev A	
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Powering

12V DC Input
 $\geq 18\text{Watt}$



VBAT input



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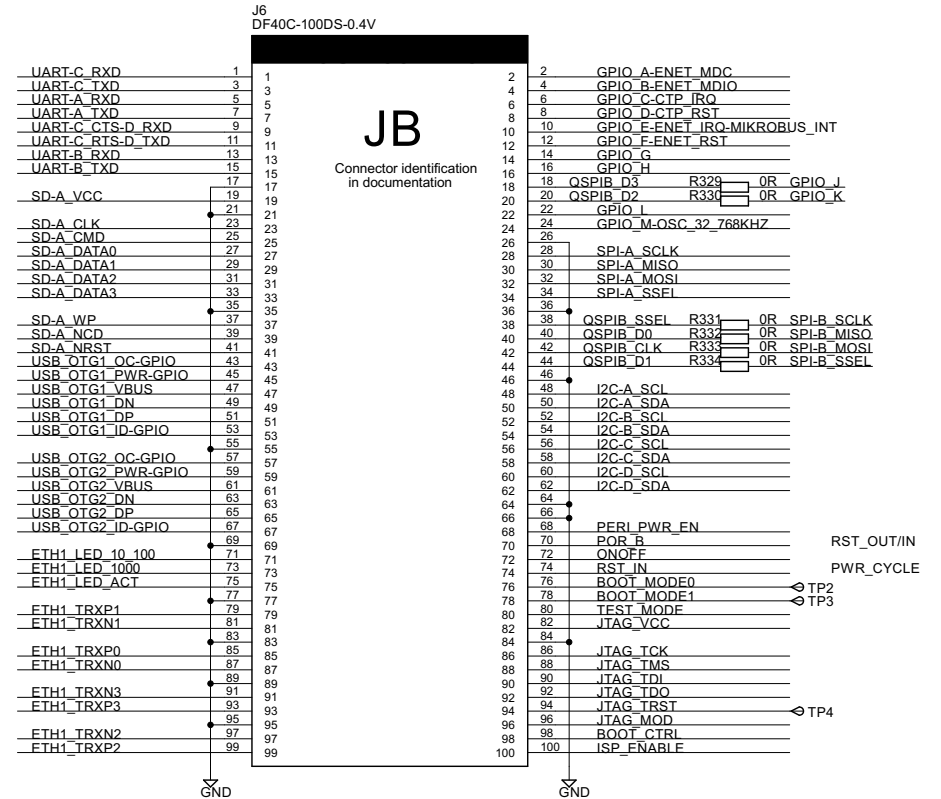
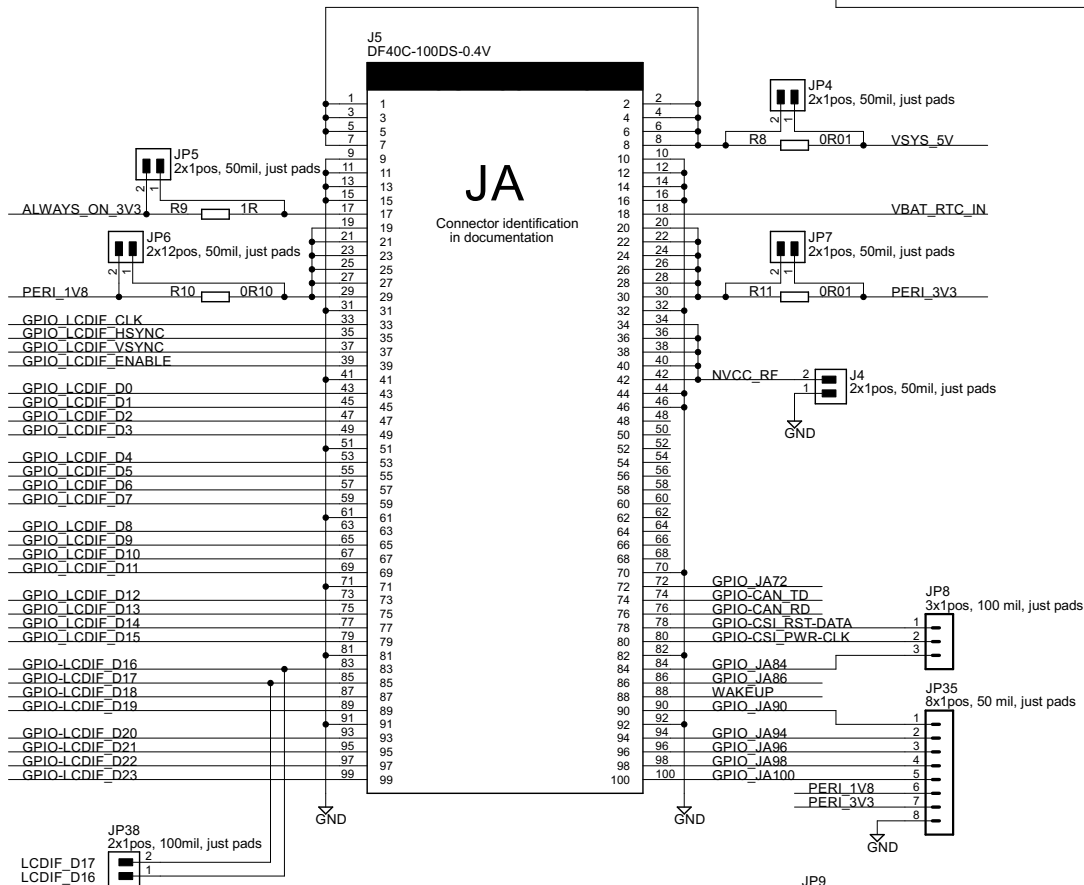
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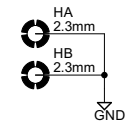
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uCOM Connectors



Mounting Holes "A" and "B"



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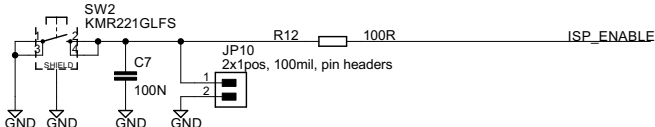
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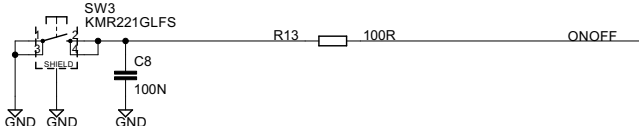
Sheet: 3/24

Push-buttons and Boot control

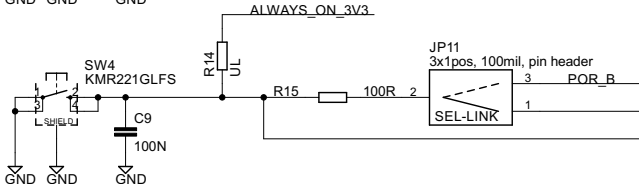
ISP Enable Key and jumper



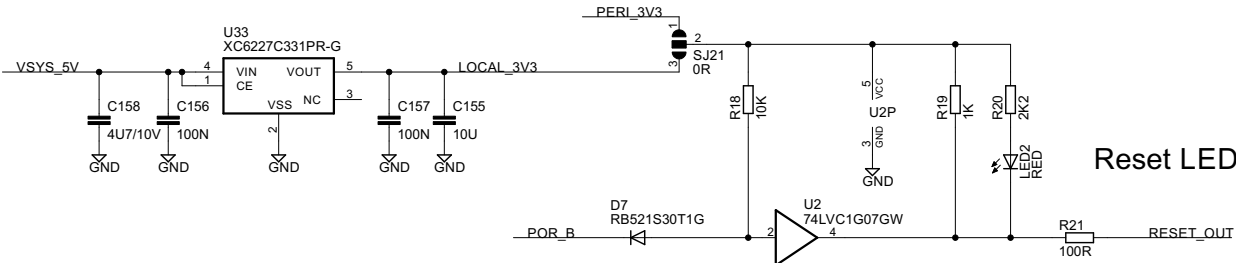
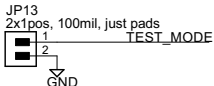
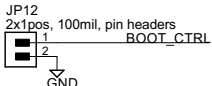
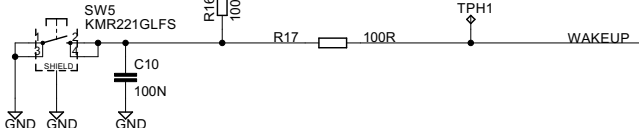
ON/OFF Key



Reset Key

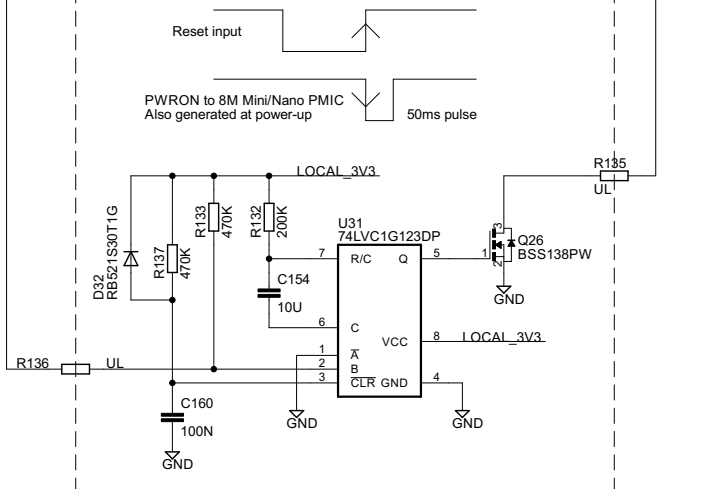
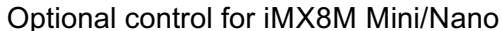


Wakeup Switch



Can be 1.8 or 3.3V logic level

Reset LED



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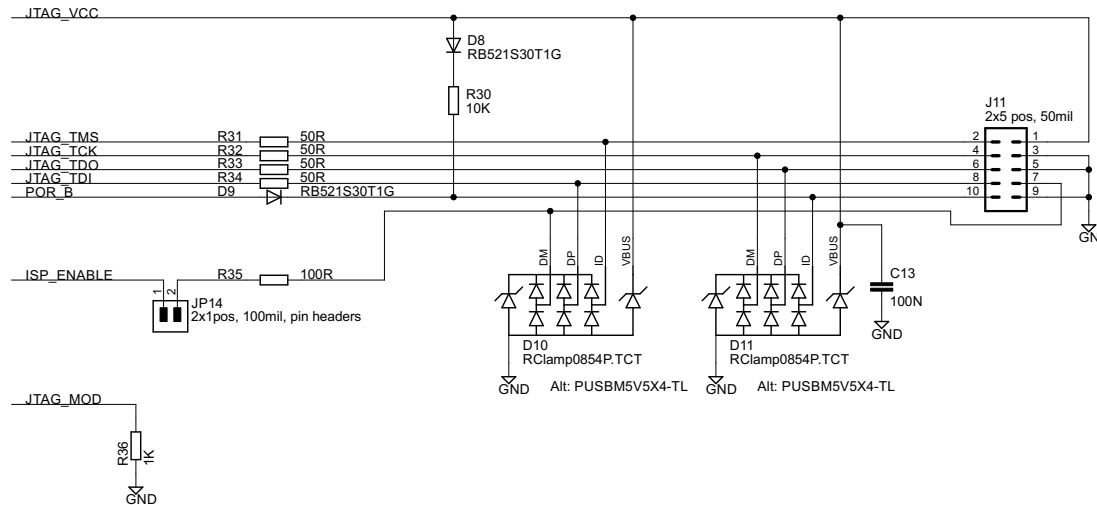
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JTAG Debug Interface and Optional QSPI



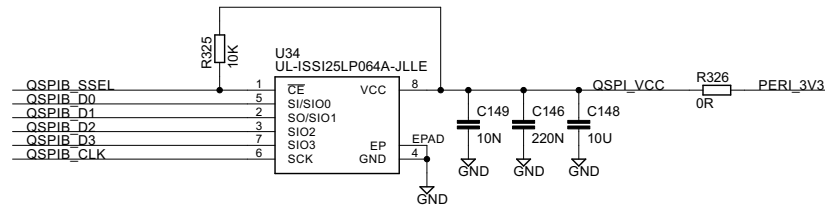
ARM 10-pin interface Serial Wire Mode 10 pos (50 mil pitch) connector

2-SWDIO	1-VCC
4-SWCLK	3-GND
6-SWO	5-GND
8-N/U	7-Optional ISP_ENABLE
10-RESET	9-GND

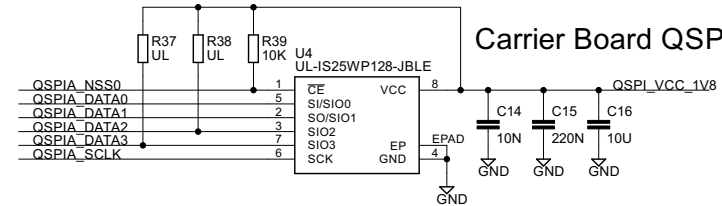
ARM 10-pin interface JTAG Mode

2-TMS	1-VCC
4-TCLK	3-GND
6-TDO	5-GND
8-TDI	7-(RTCK)
10-RESET	9-GND

Pads for carrier board QSPI (for iMX RT1064 uCOM)



Pads for carrier board QSPI (for iMX8M Mini/Nano uCOM)



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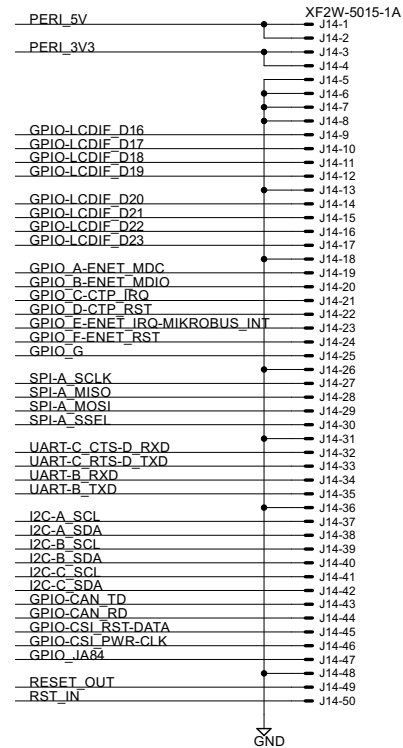
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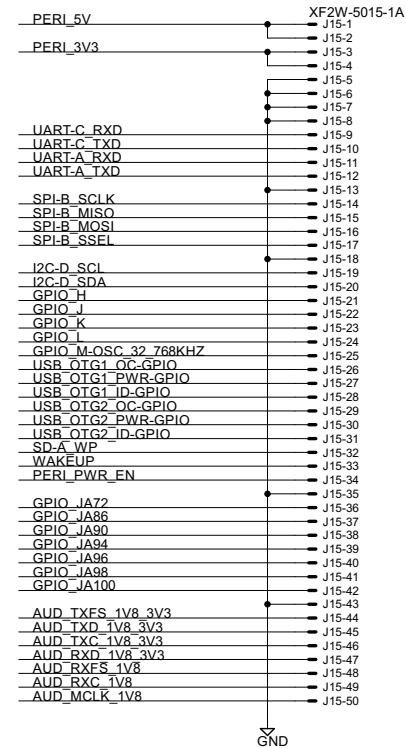
Expansion Connectors

Dual 50-pos FPC Connectors (0.50mm pitch)

Connector "A"
(in silkscreen on PCB)



Connector "B"
(in silkscreen on PCB)



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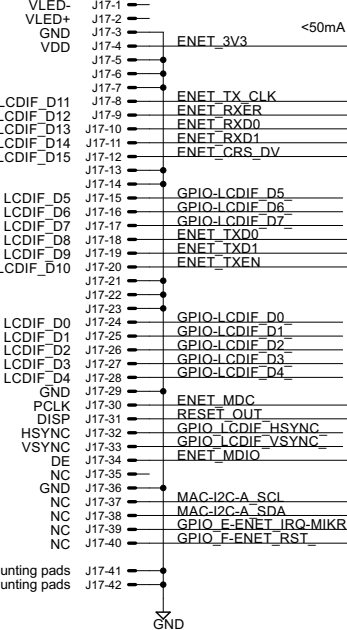
Sheet: 8/24

100/10Mbps Ethernet-PHY Adapter for RT1064 uCOM

Separate adapter board

Connector "D"
(in silkscreen on PCB)
(for RT1064)

0.5mm pitch, top and bottom contacts
XF2W-4015-1A or 68714014022



RJ45 Connector with
integrated magnetics

U6
KSZ8081RNB

MDIO
MDC
RXD0/DUPLEX
RXD1/PHYAD2
PHYAD1
PHYAD0
CRS_DV/CONFIG2
RXER/ISO
REF_CLK/B-CAST_OFF

TXD0
TXD1
NC
TXEN
NC

CONFIG0
CONFIG1

INTRP
RST#

XI
XO

GND
EP

EXP

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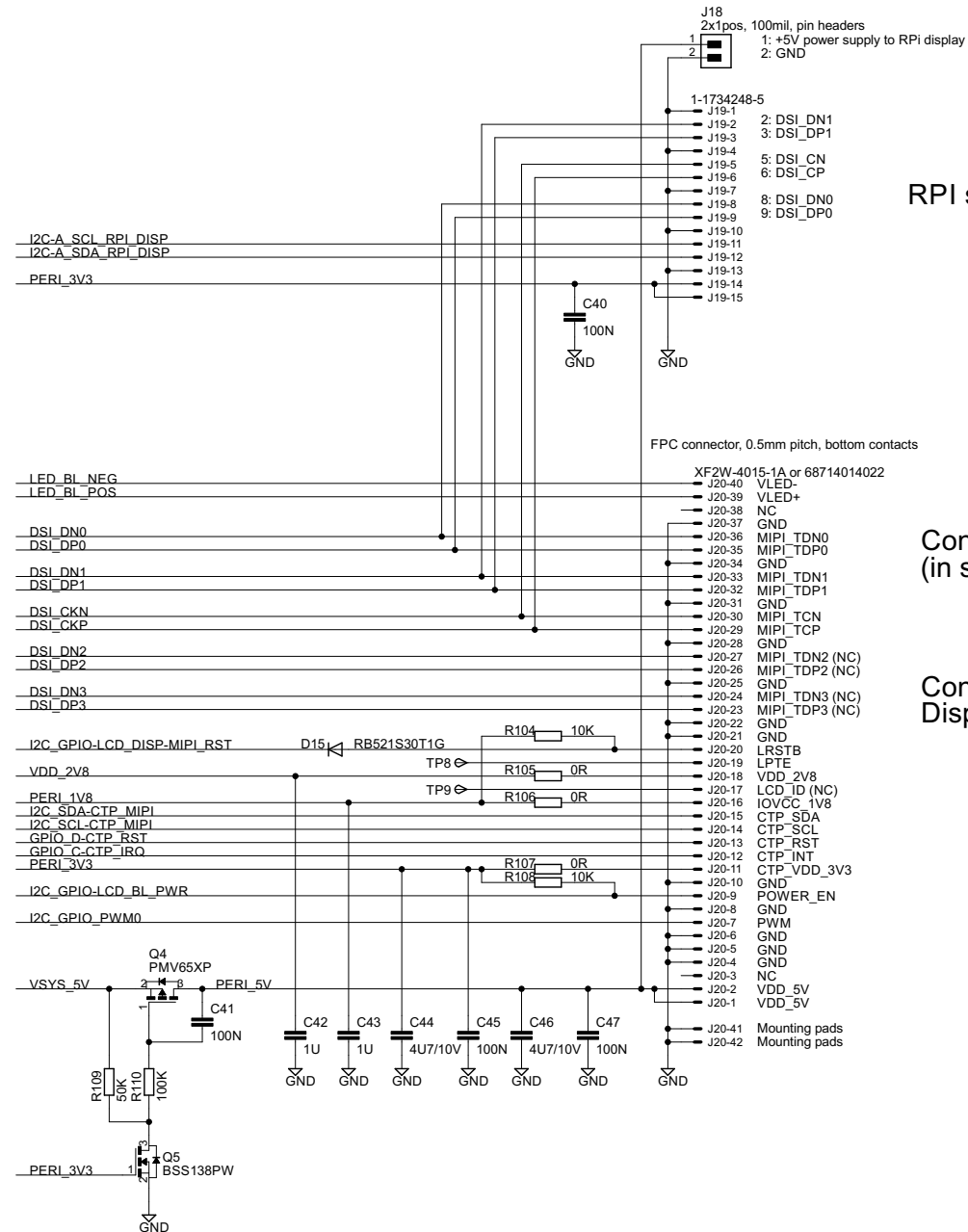
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MIPI-DSI Display Interfaces



RPI serial display (MIPI)

Connector "C"
(in silkscreen on PCB)

Connects to NXP RK055HDMI4M
Display: RK055AHD091-CTG(720P)



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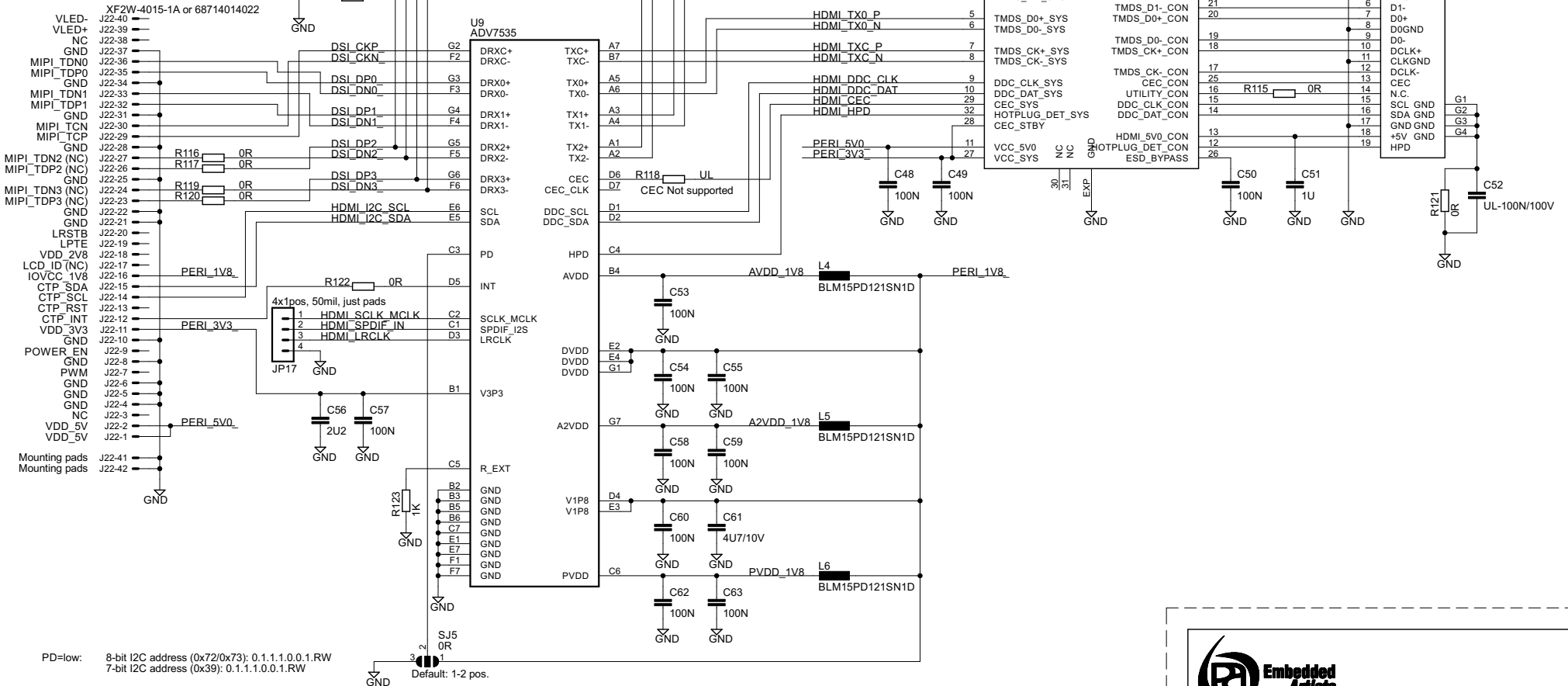
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MIPI-DSI to HDMI Adapter

Separate adapter board

Connector "C"
(in silkscreen on PCB)

FPC connector, 0.5mm pitch, bottom contacts



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TITLE: uCOM Carrier board rev A

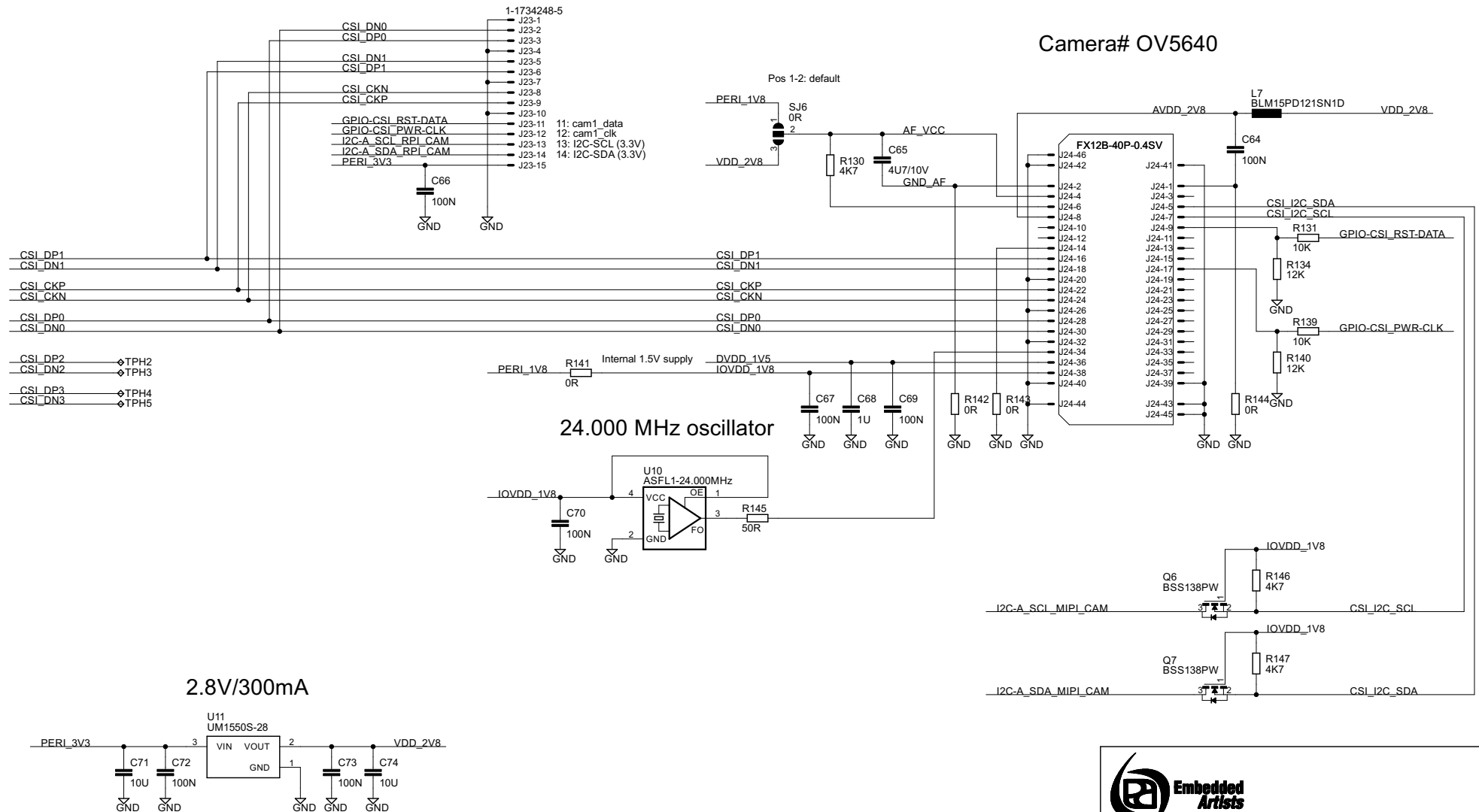
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Camera Interface

RPI serial camera (MIPI)



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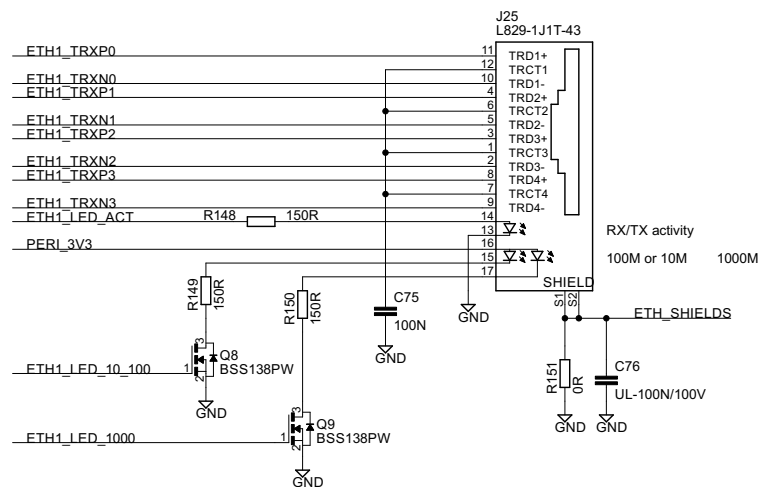
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Ethernet Interface for on-board PHY

Ethernet Interface



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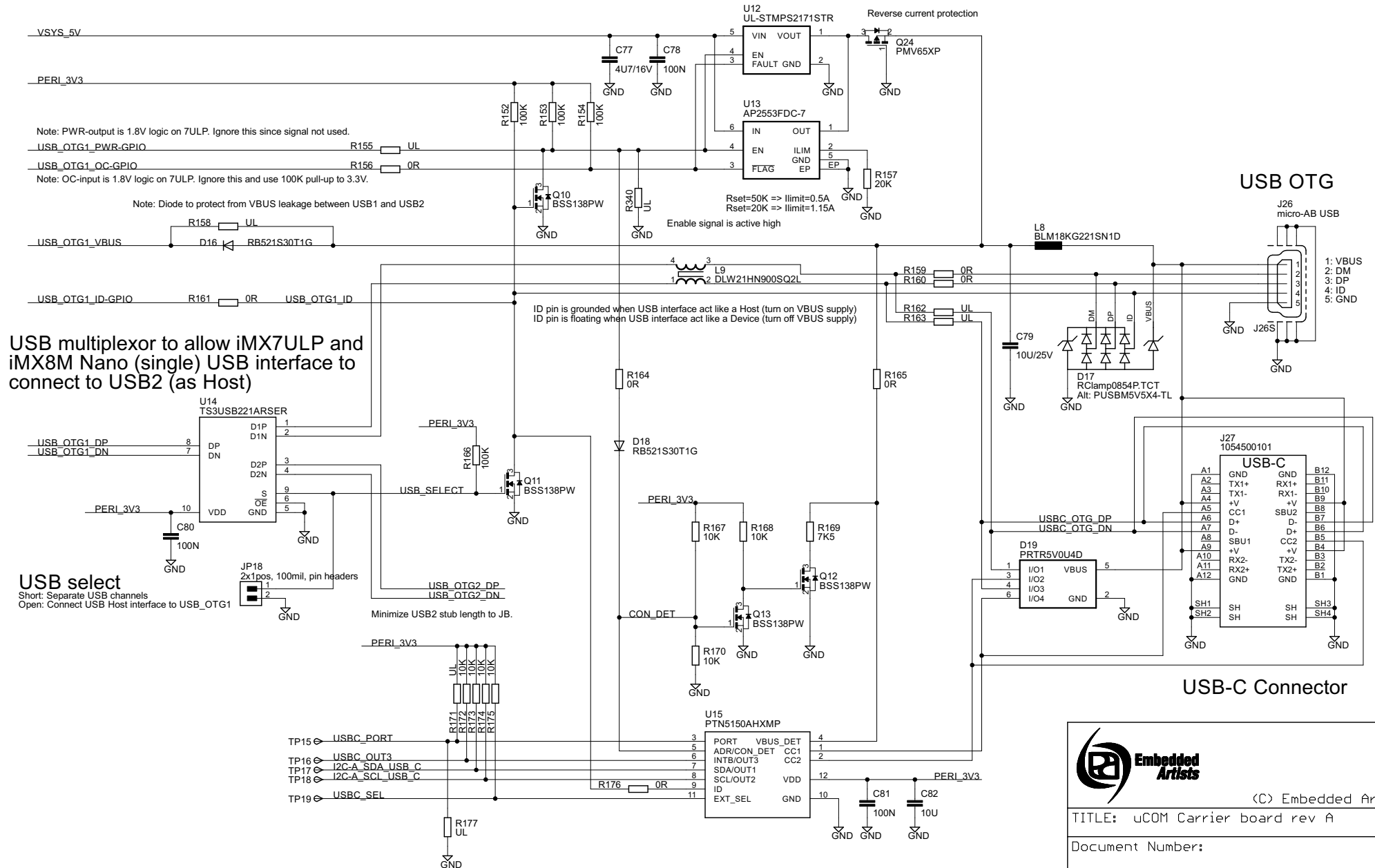
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USB OTG and USB C Interface



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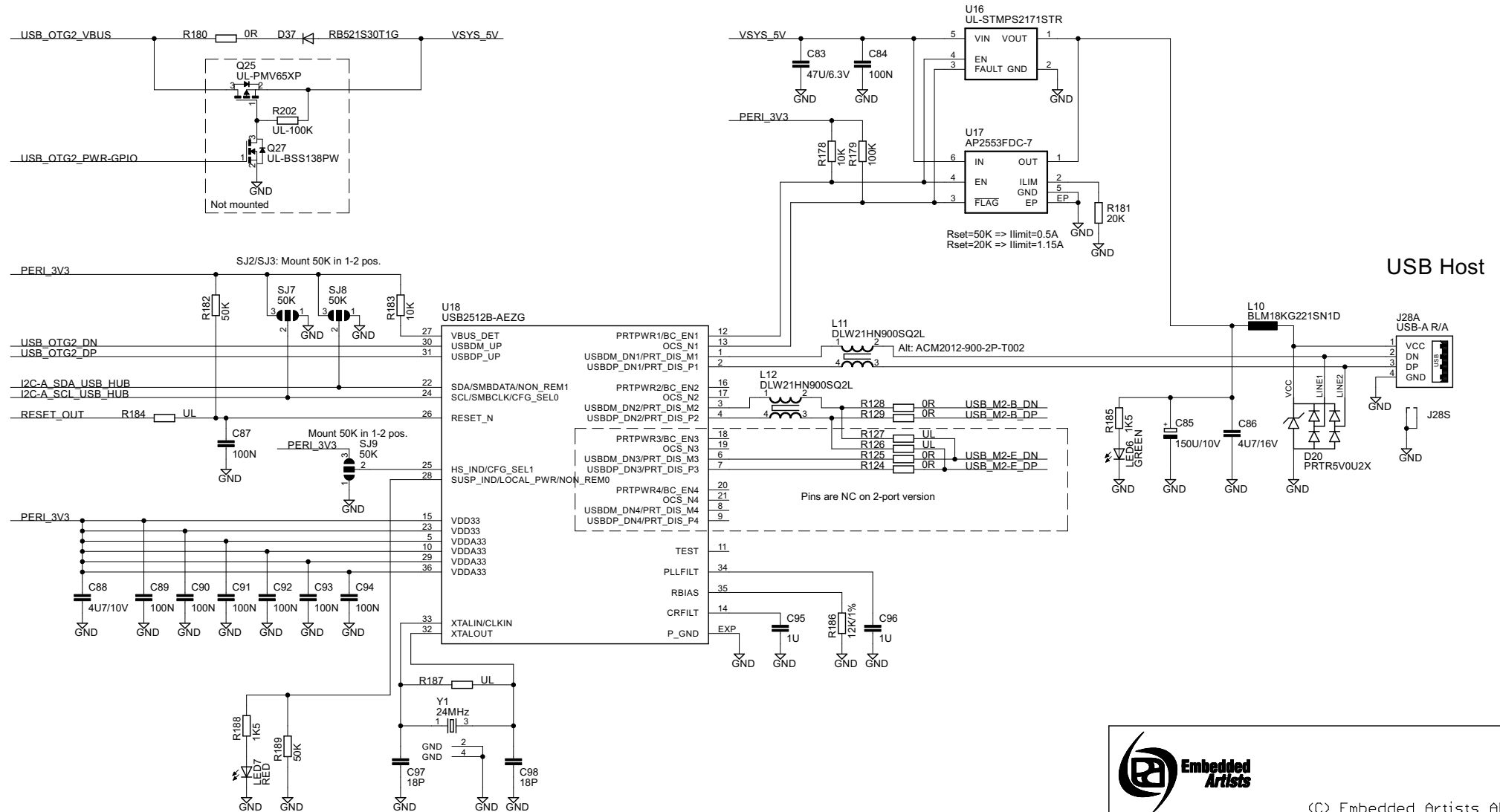
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USB Host Interface and Hub



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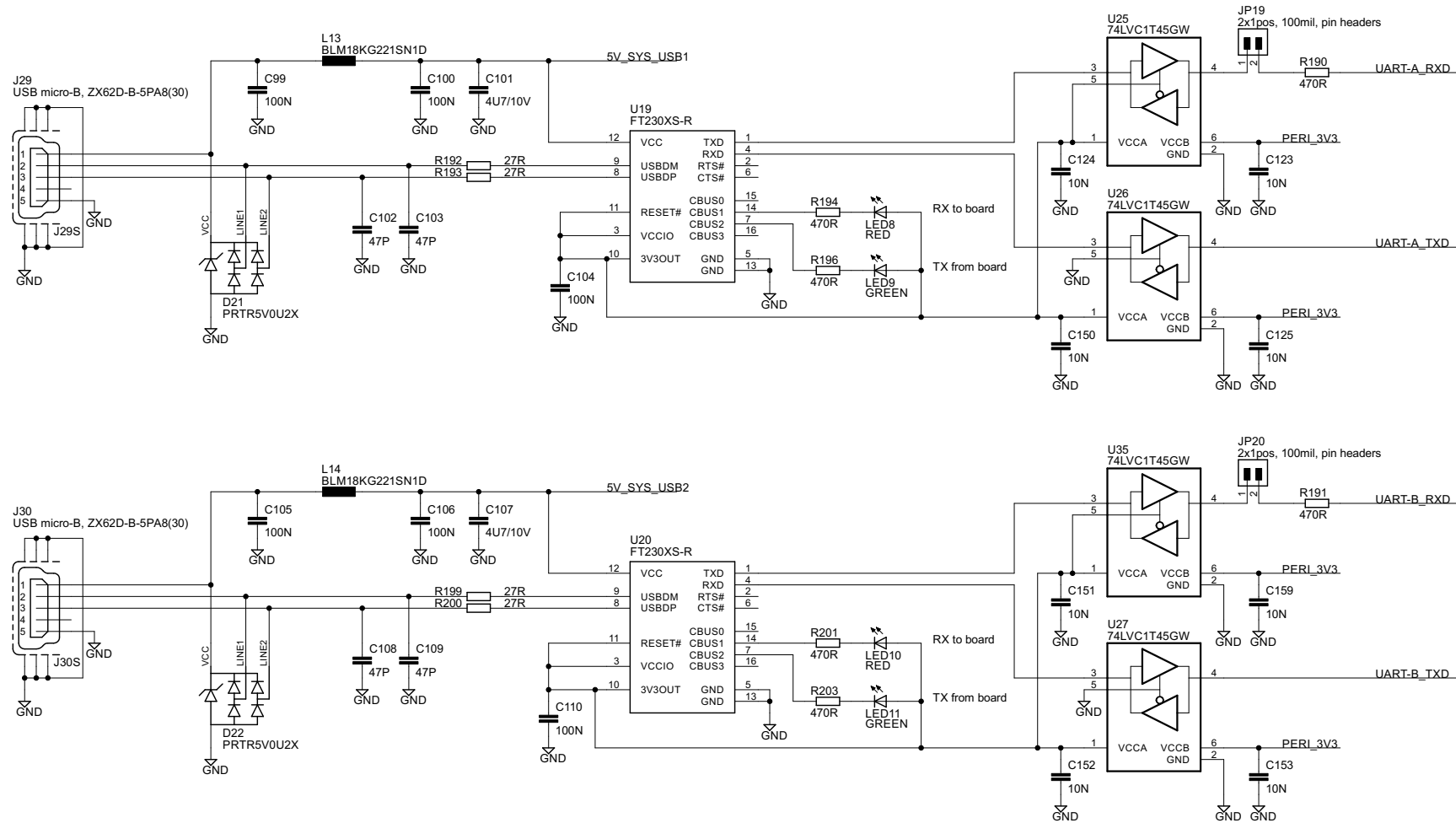
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UART-to-USB bridge interfaces



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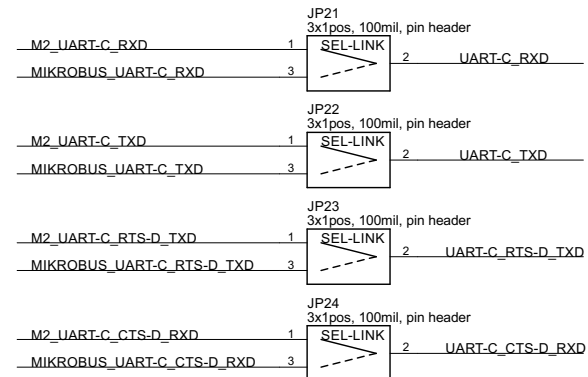
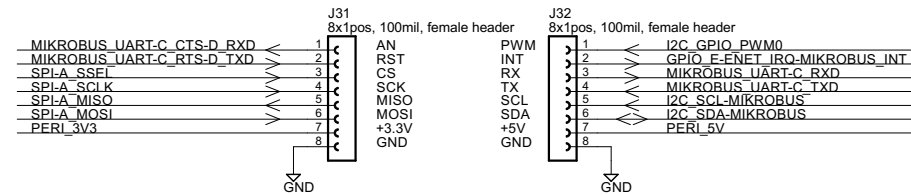
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Mikrobus/Click Module Interface

Mikrobus/Click Module Interface



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TITLE: uCOM Carrier board rev A

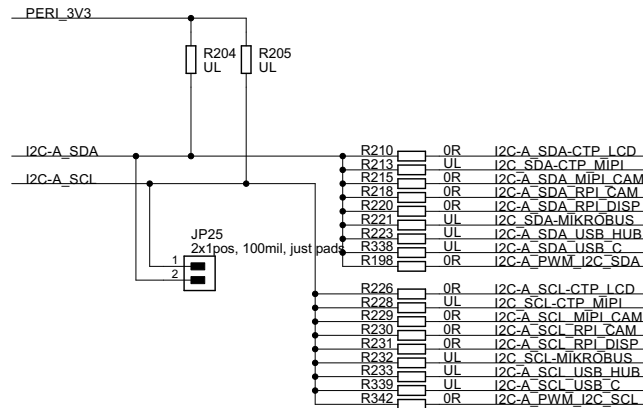
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I2C Connections

I2C-A



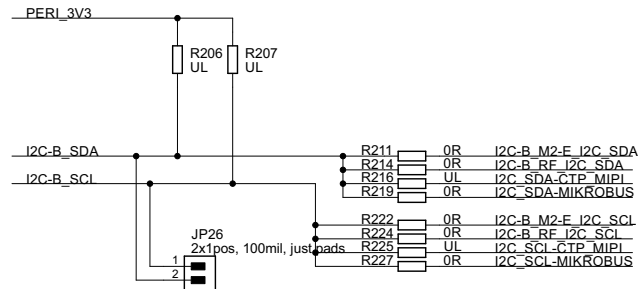
64kbit E2PROM on uCOM: 24LC64
8-bit I2C address (0xAA/0xAB): 1.0.1.0.1.0.1.RW
7-bit I2C address (0x55): 1.0.1.0.1.0.1

GPIO expander: PCA6416A
8-bit I2C address (0x42/0x43): 0.1.0.0.0.0.ADDR.RW
7-bit I2C address (0x21): 0.1.0.0.0.0.ADDR

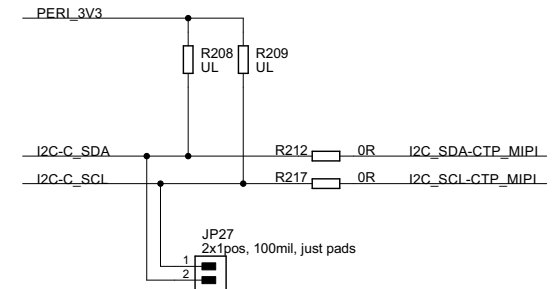
Optional 1Kbit I2C-E2PROM with EU1-48: 24AA025E48T
8-bit I2C address (0xA6/0xA7): 1.0.1.0.0.1.1.RW
7-bit I2C address (0x53): 1.0.1.0.0.1.1

GPIO expander: PCA9530
8-bit I2C address (0xC2/0xC3): 1.1.0.0.0.0.ADDR.RW
7-bit I2C address (0x61): 1.1.0.0.0.0.ADDR

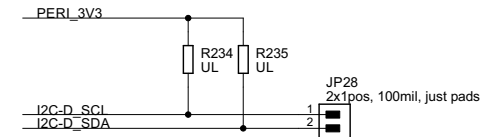
I2C-B



I2C-C



I2C-D



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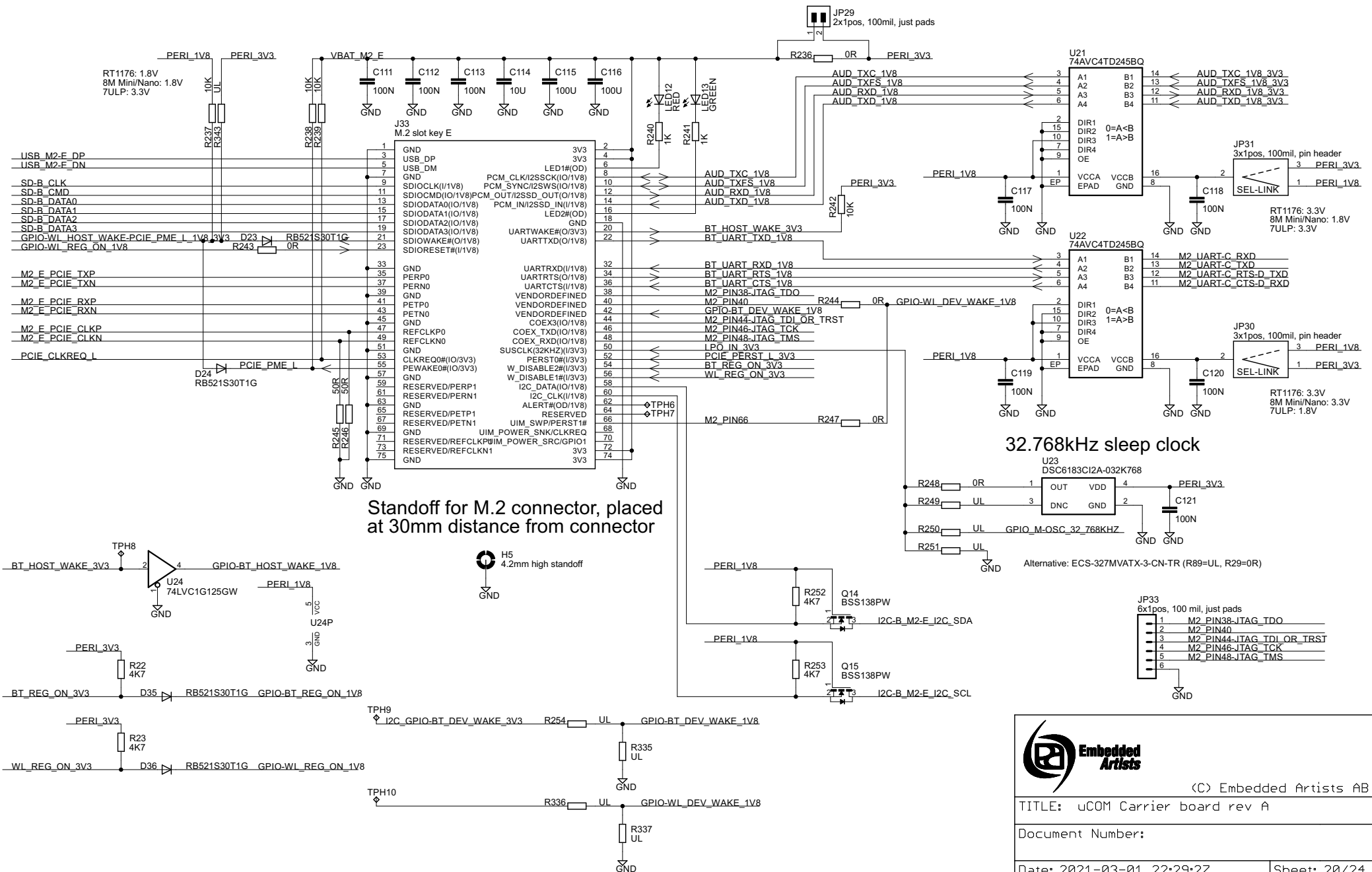
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M.2 (NGFF) Key E Connector



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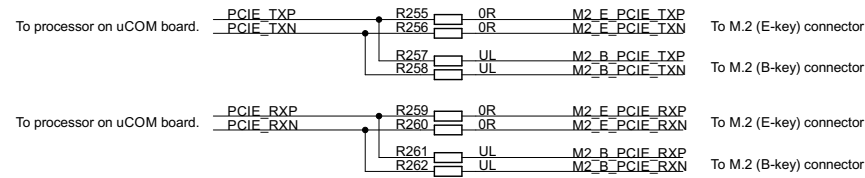
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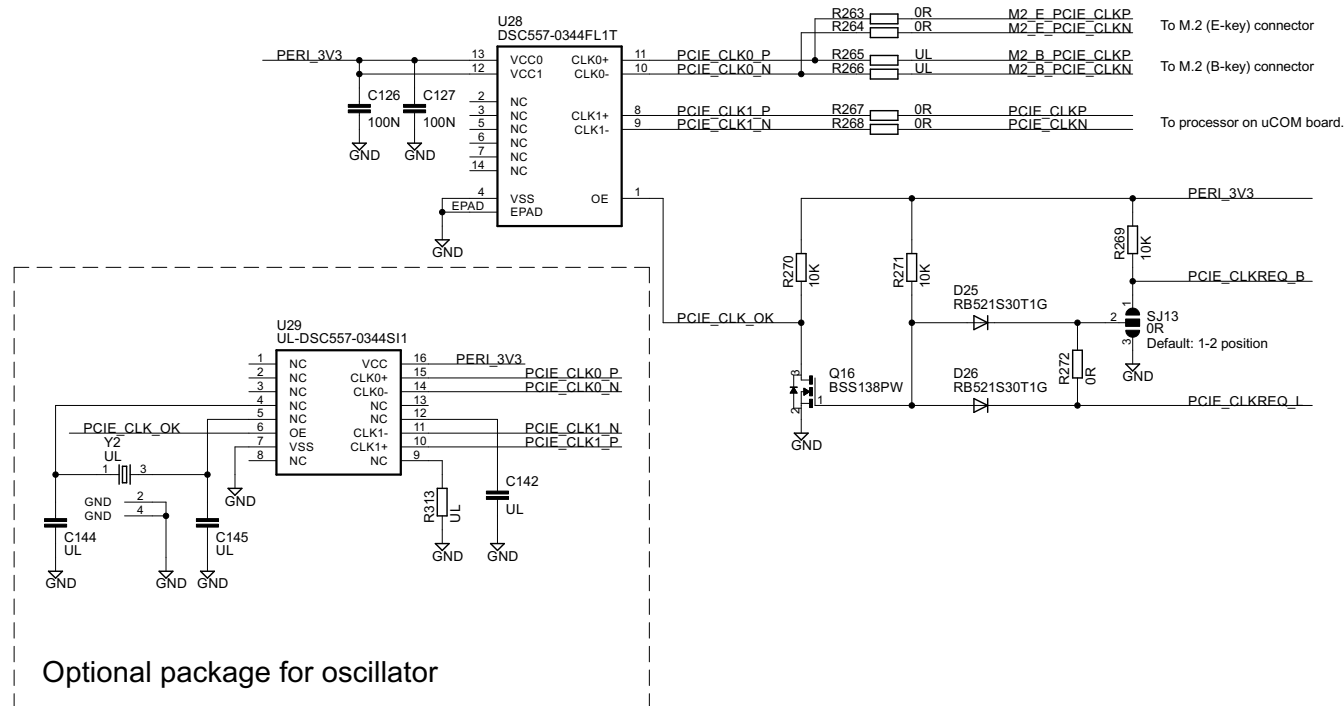
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PCIe Signal Routing



100MHz clock generator



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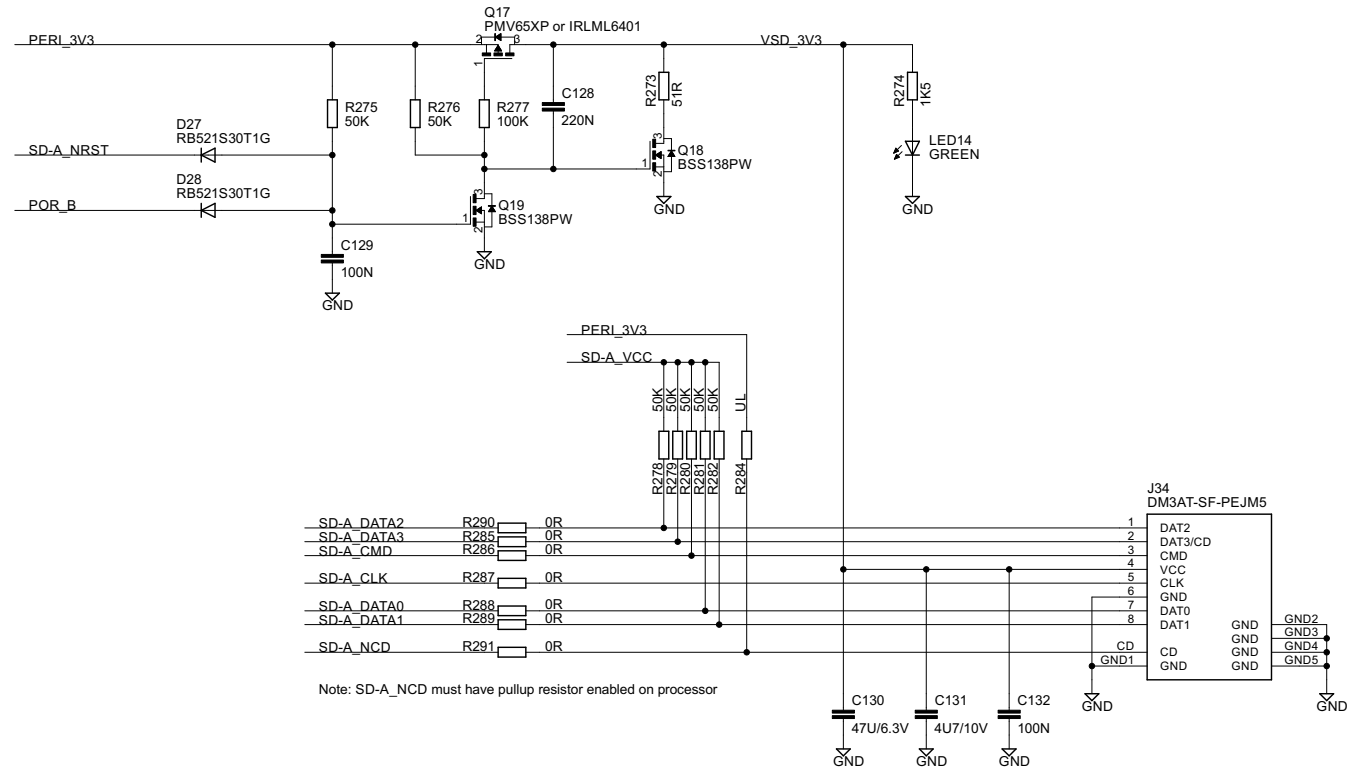
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uSD card interface

Power Switch for SD3.0



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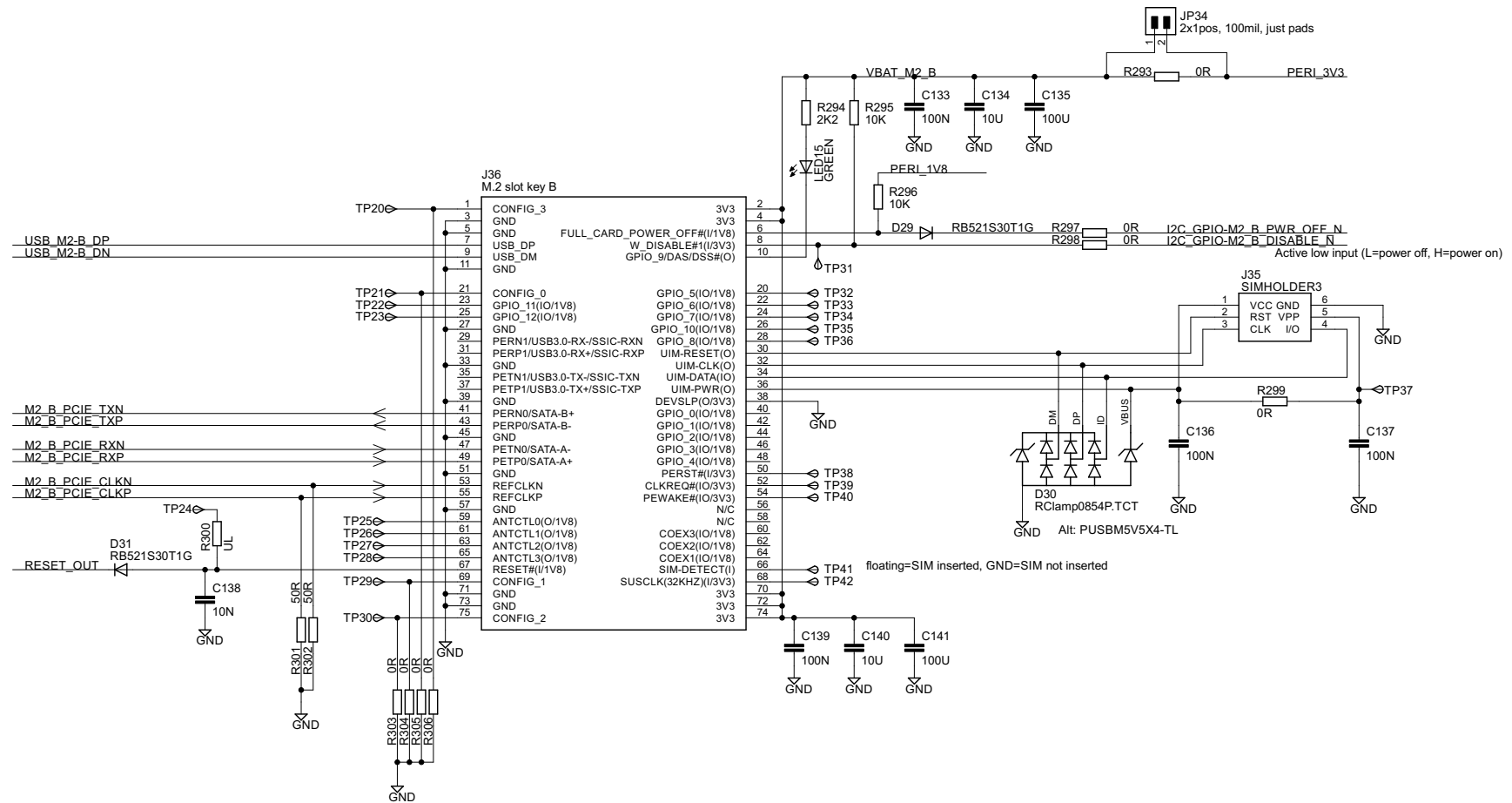
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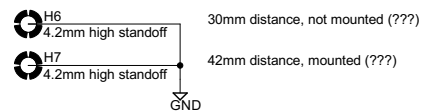
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M.2 (NGFF) Key B Connector (USB Host and PCIe Interfaces)



Standoffs for M.2 connector, placed at 30mm and 42mm distance from connector



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