

UltraZed-EG PCIe Carrier Card

Avnet Engineering Services
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- 09 - PL - PMODs

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UltraZed-EG PCIe Carrier Card

Revision: 1

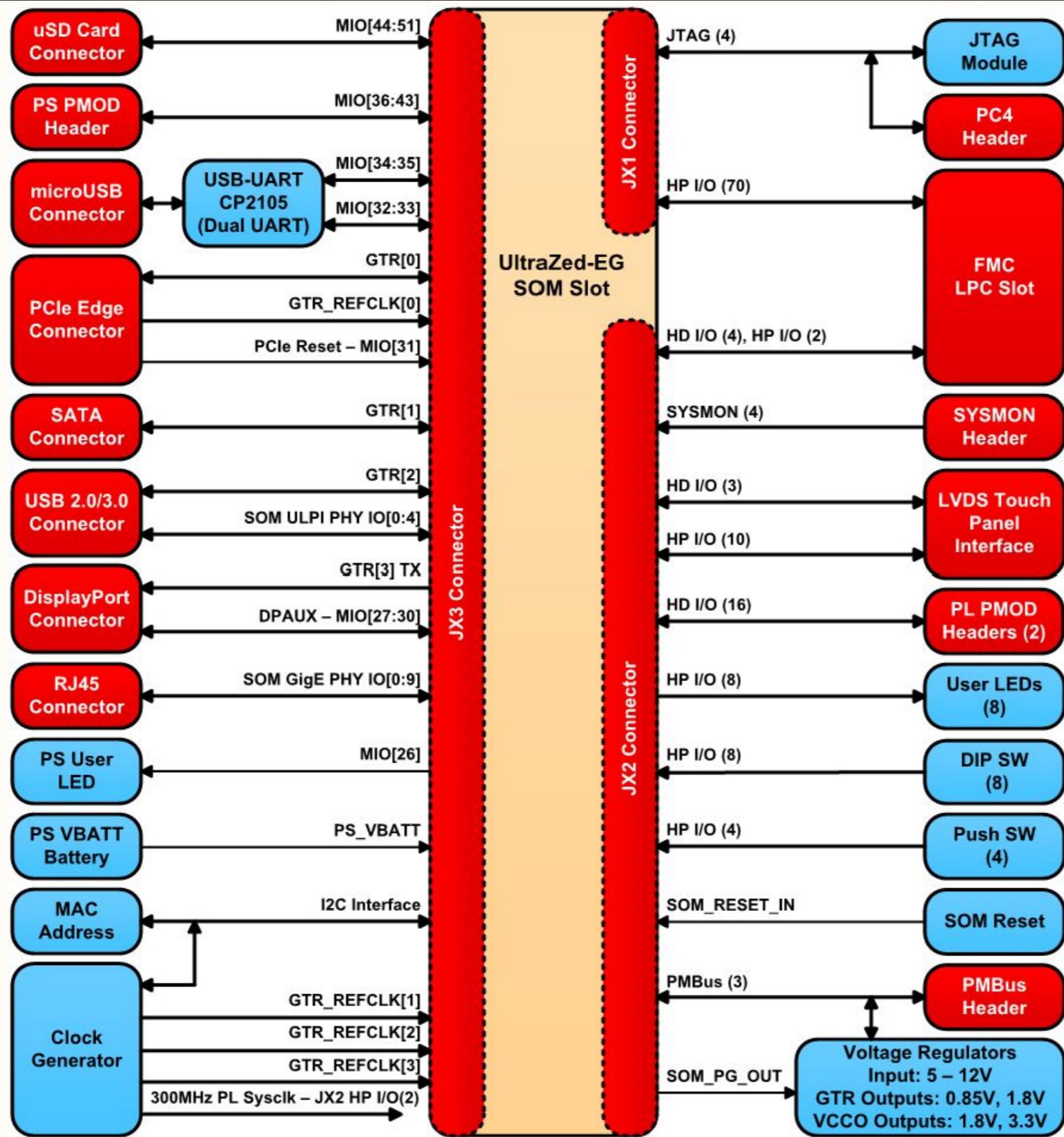
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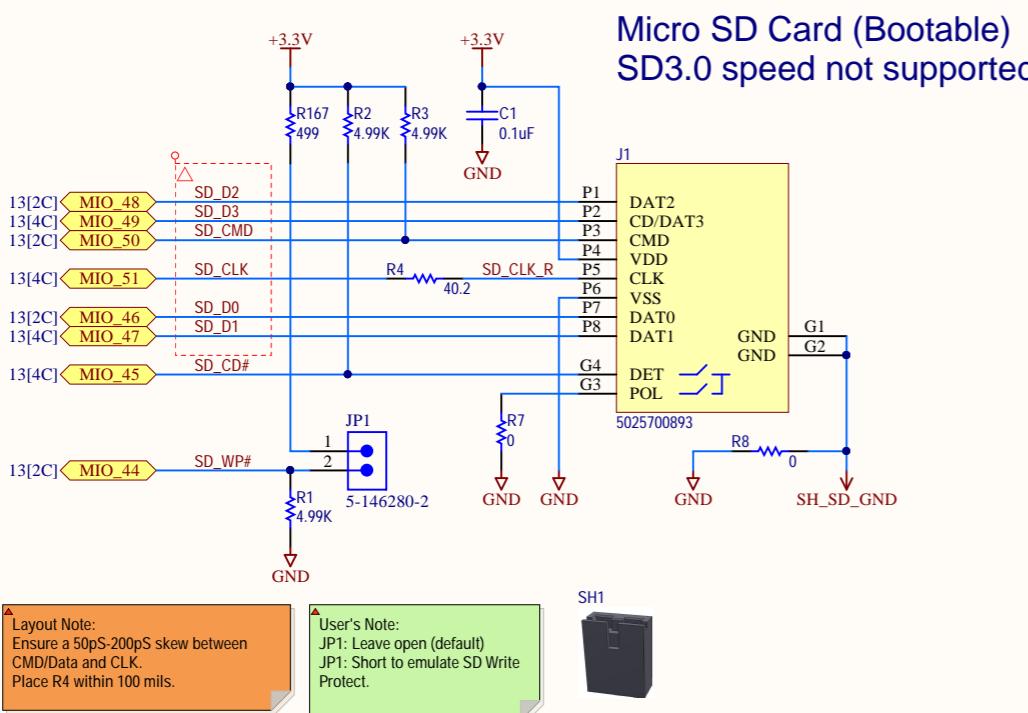
D

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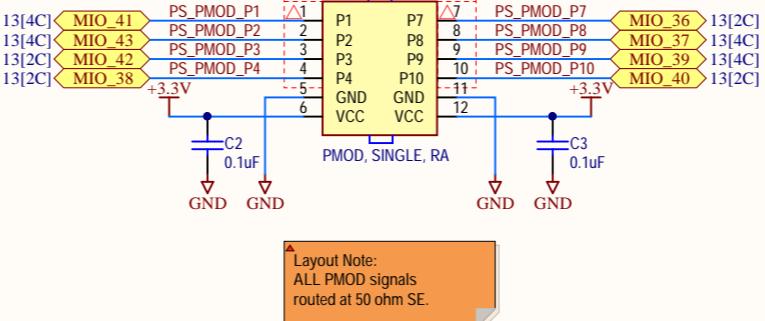
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Project Name:	UltraZed-EG PCIe Carrier Card	PCB Rev:	BOM: 01
Doc Num:	SCH-US2CAR	Date:	12/21/2016
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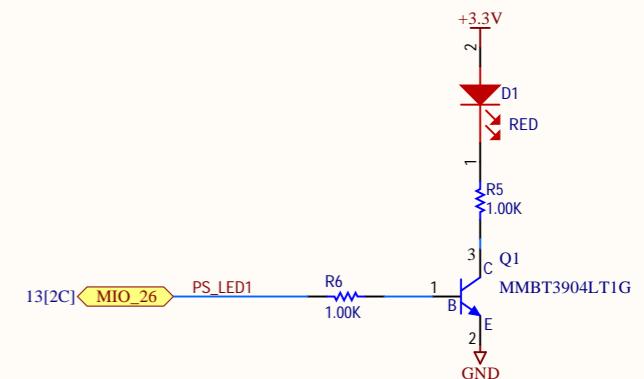
PS Bank501 MIO Interface: MicroSD, PMOD, LED & Dual-UART



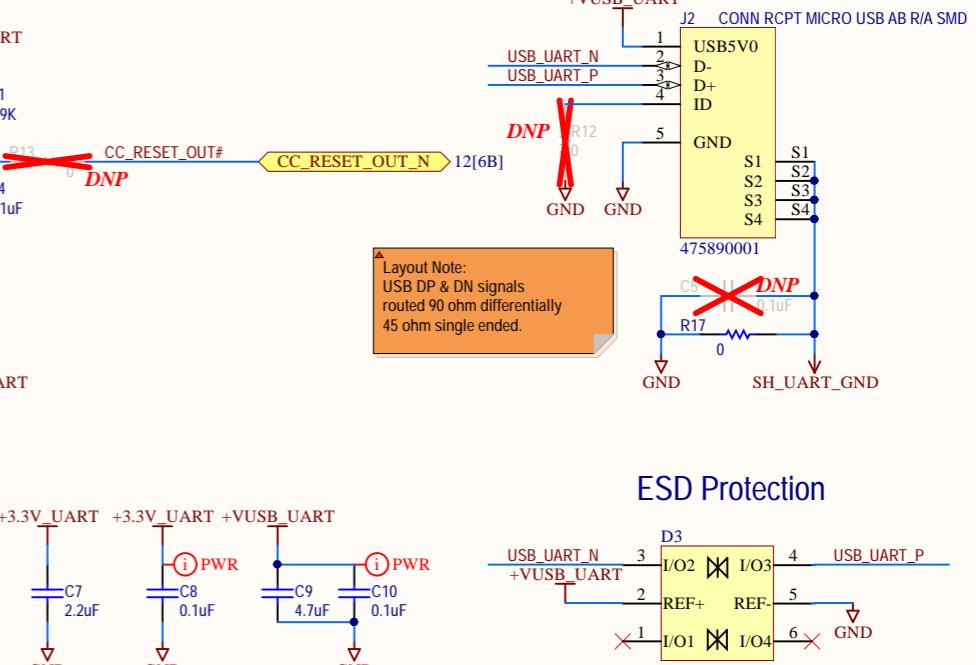
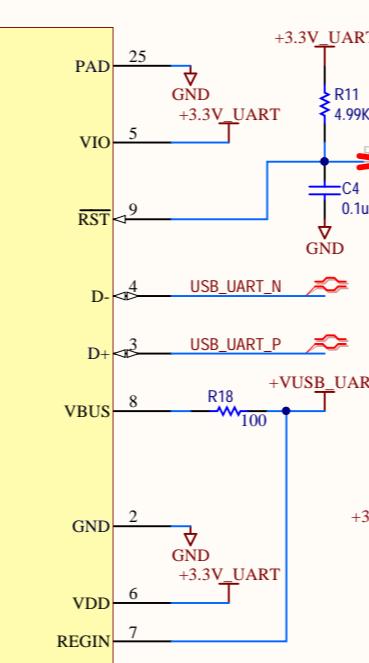
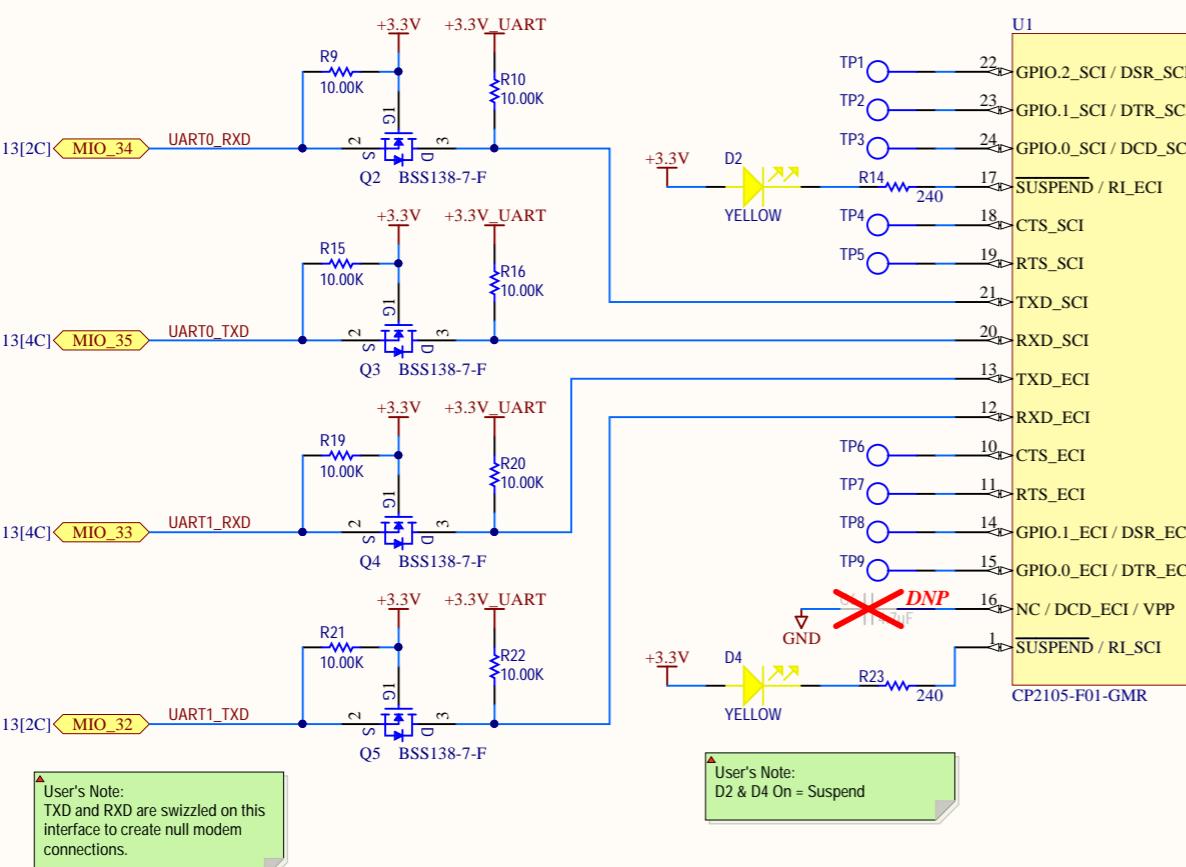
PS PMOD Interface



PS User LED



Dual USB UART

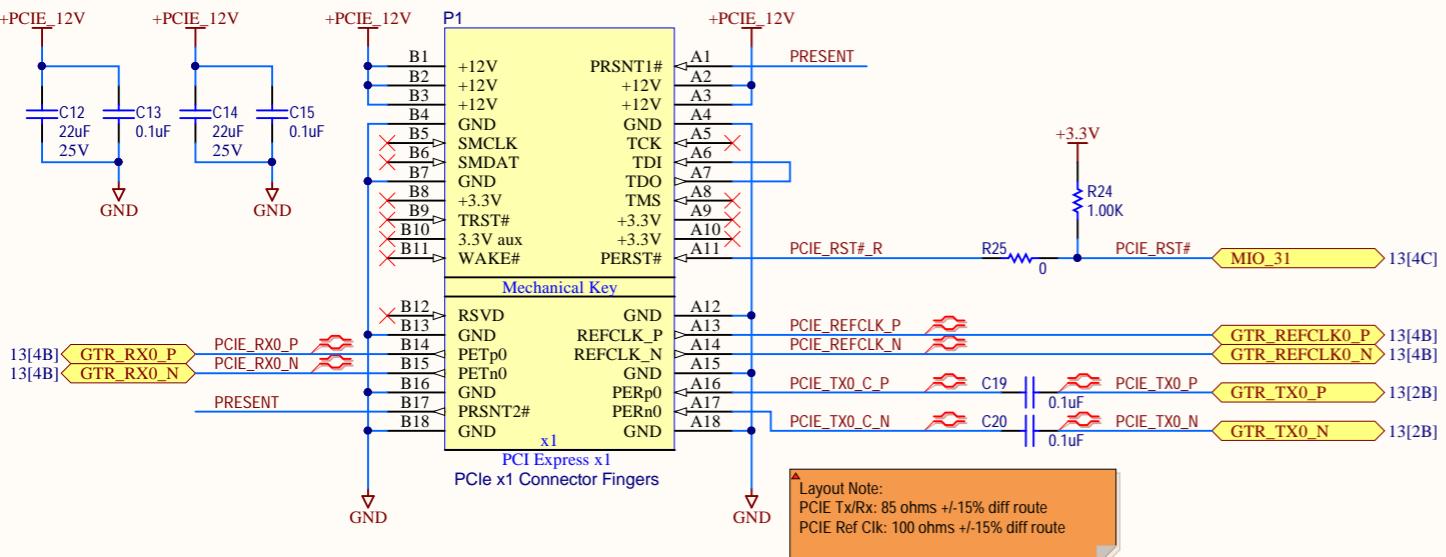


ESD Protection

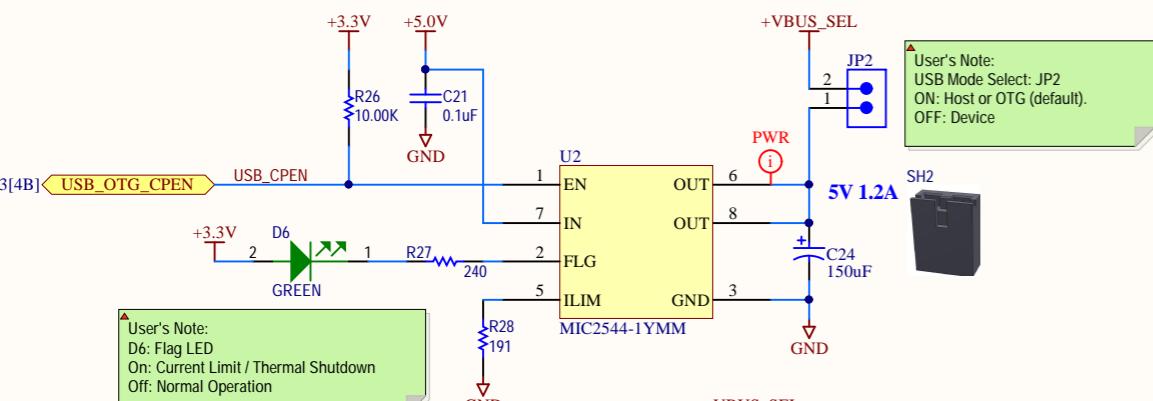
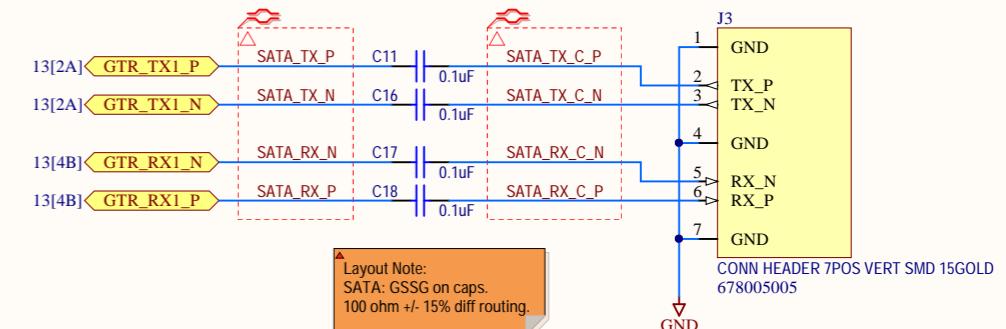
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Doc Num:	SCH-US2CAR	BOM:	01
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Date:	12/21/2016	Time:	3:37:32 PM
Sheet:	B	Size:	3 of 16

PS GTR Interface #1: PCIe, SATA, USB

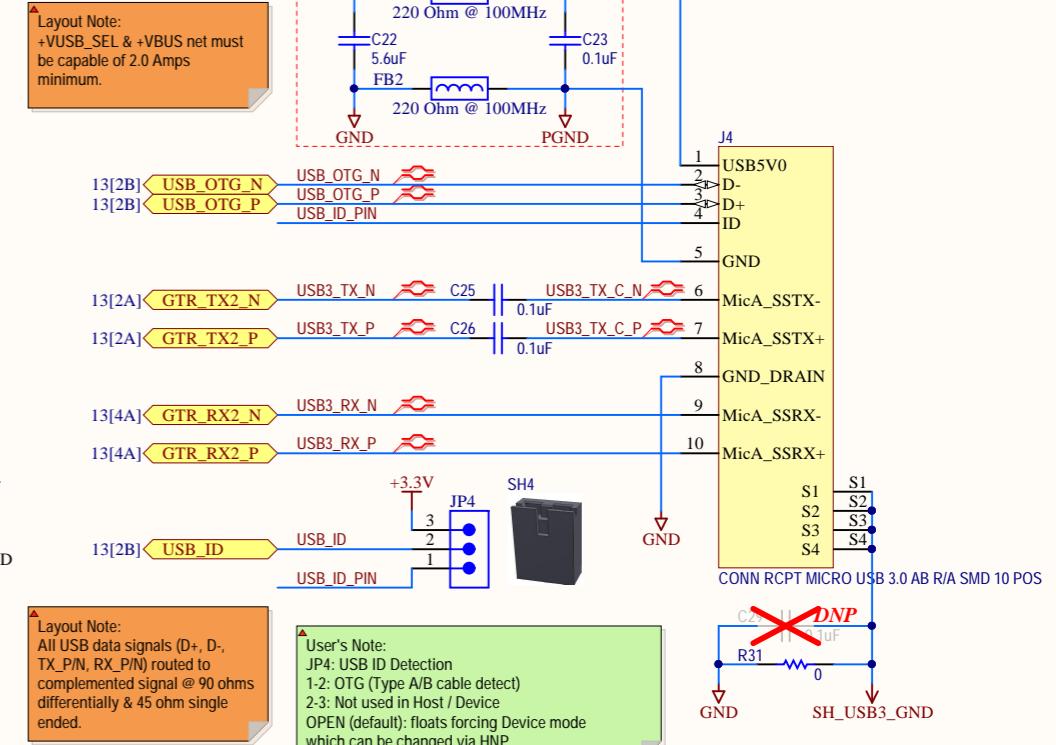
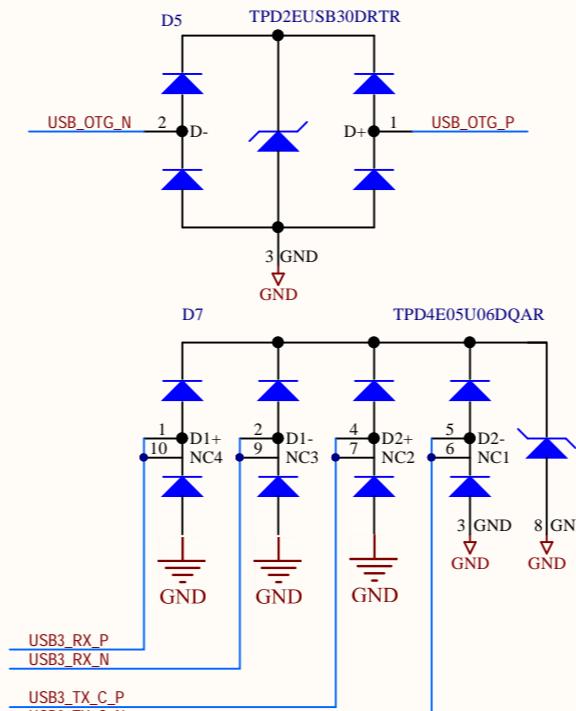
PCIe Gen2 Endpoint



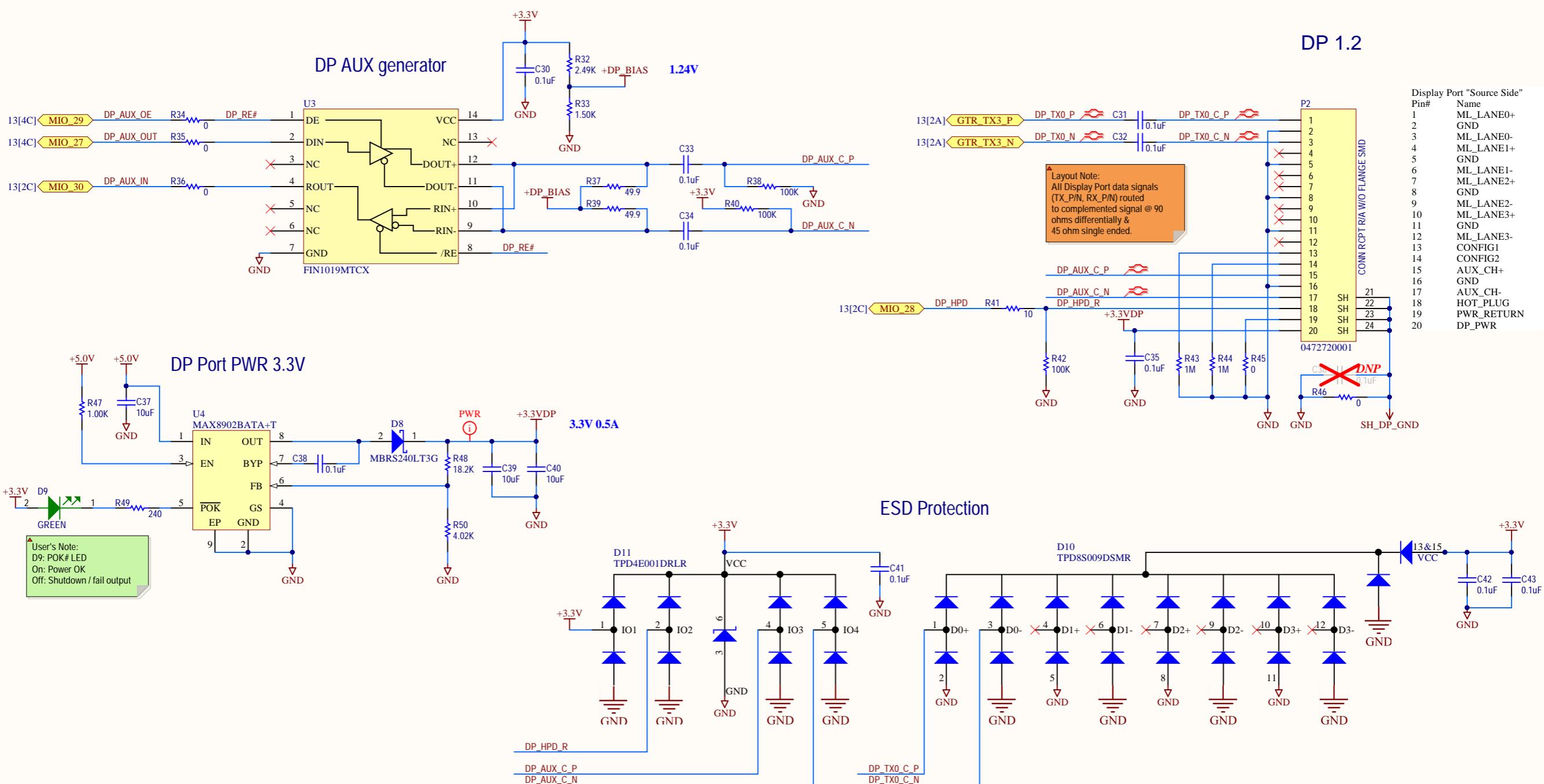
SATA Gen3 Host



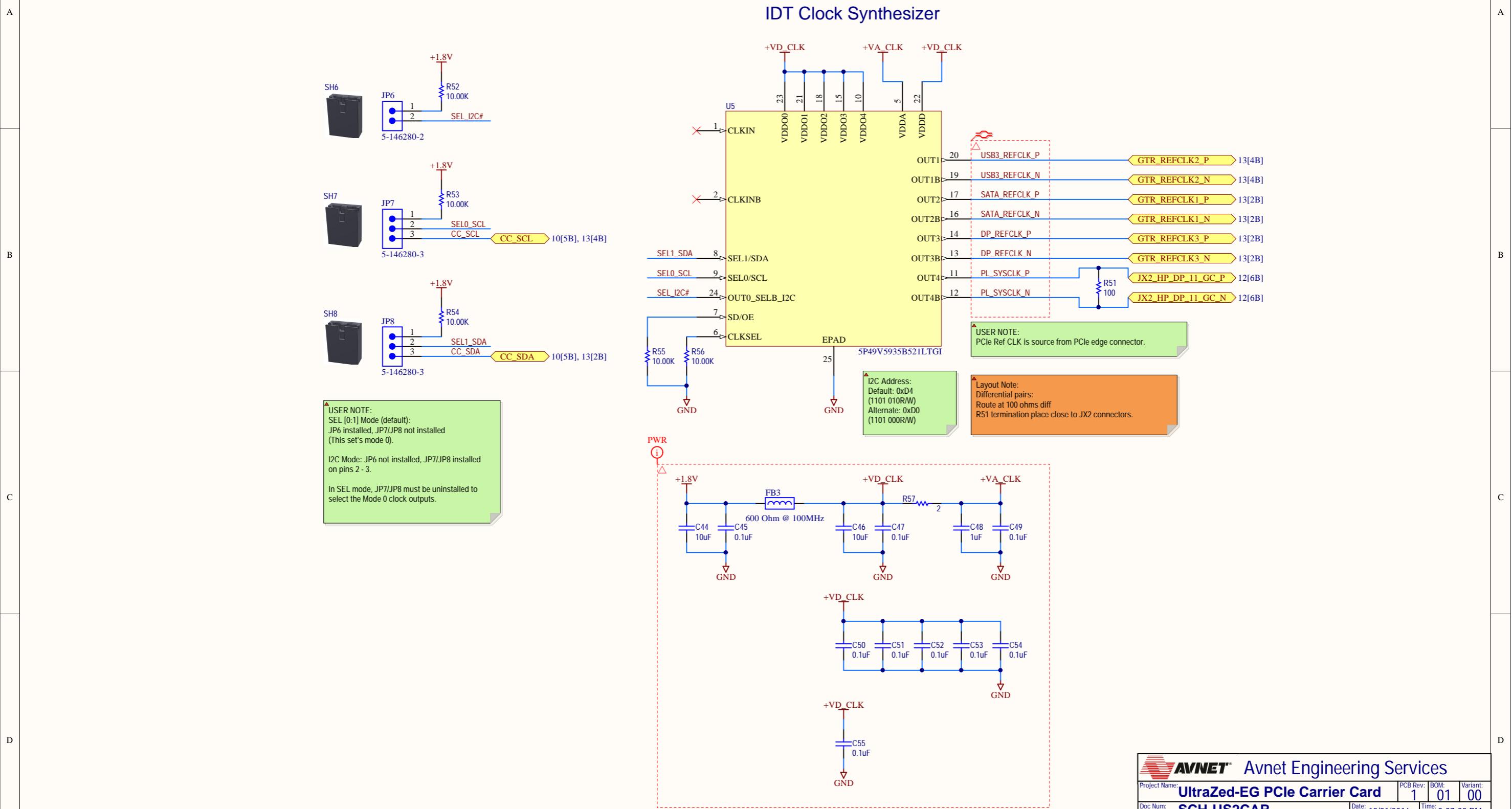
ESD Protection



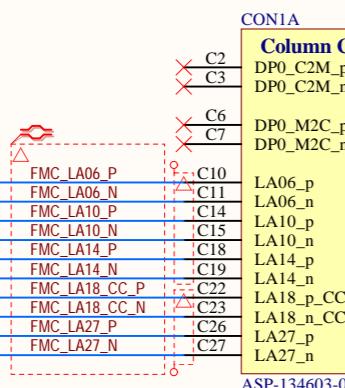
PS GTR Interface #2: DP



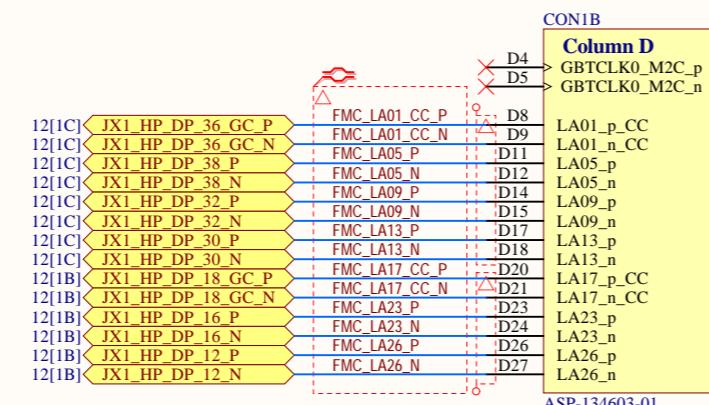
PS GTR & PL Ref Clock



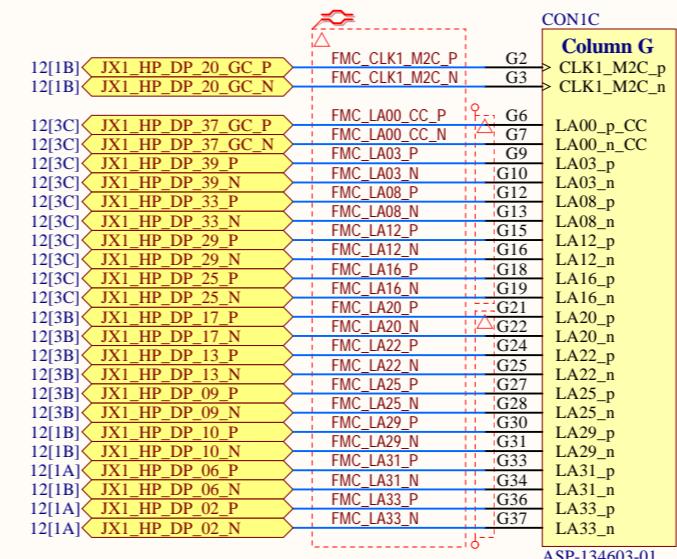
FMC LPC (PL Bank64 & Bank65)



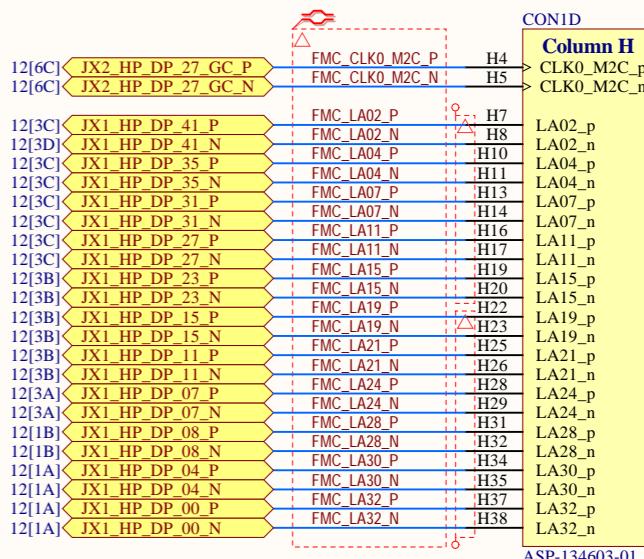
Layout Note:
FMC Differential Pairs
100 ohm +/- 15% diff routing.



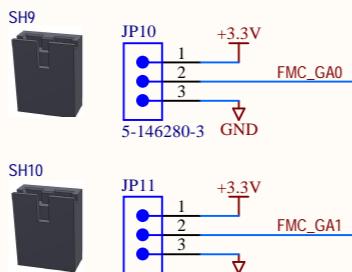
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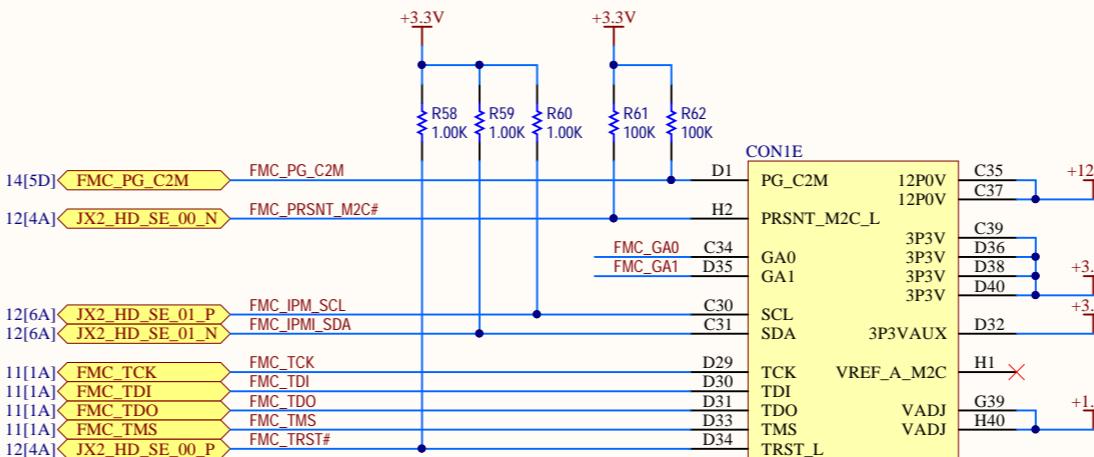
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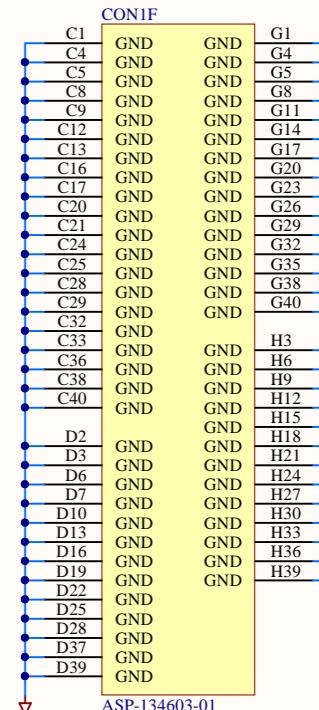
ASP-134603-01



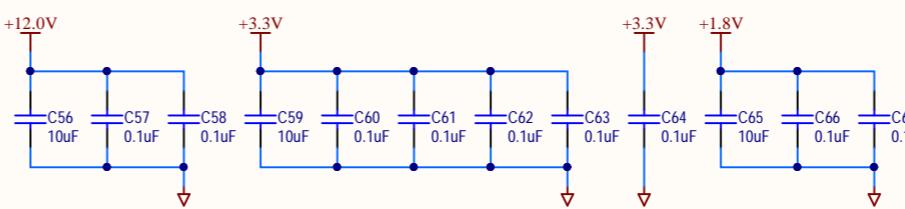
User's Note:
JP10 & JP11: FMC IPMI I2C Address Select.
Default: JP10 & JP11 pins 1-2.



ASP-134603-01



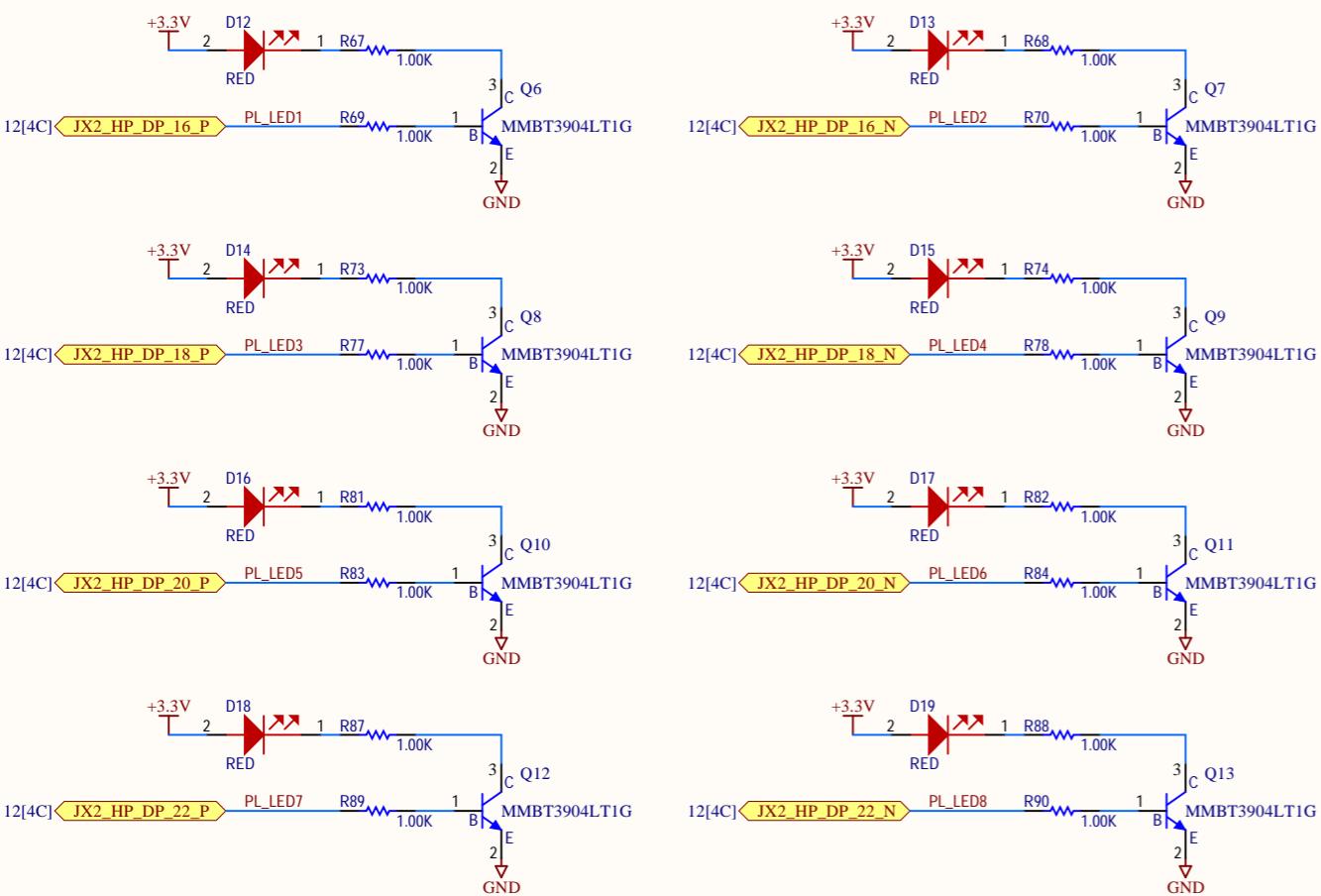
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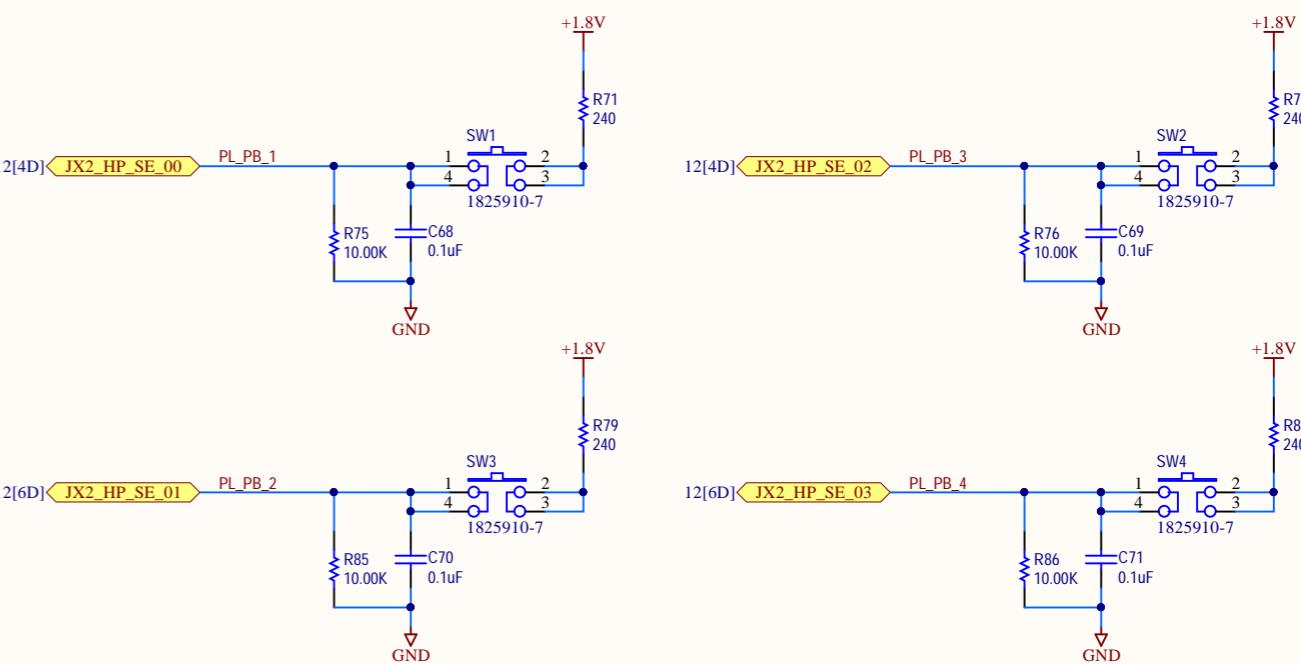
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Doc Num:	SCH-US2CAR	Date: 12/21/2016 Time: 3:37:33 PM
Sheet Title:	07 - PL - FMC LPC.SchDoc	Size: B Sheet: 7 of 16

PL Bank66 (HP) I/O Peripherals: User LEDs / Slide Switches / Push Buttons & Touch Panel

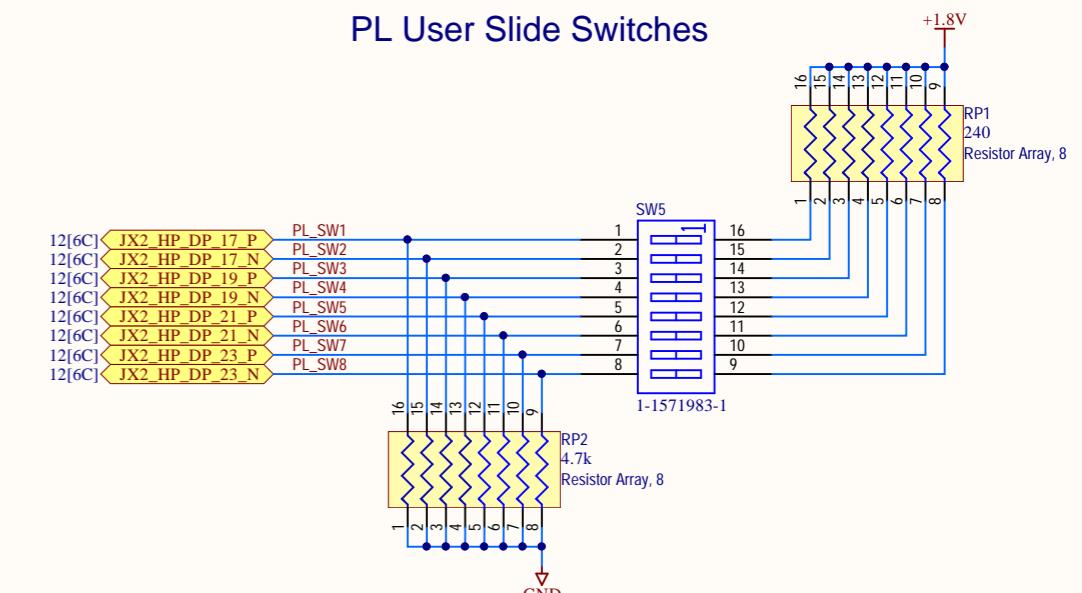
PL User LEDs



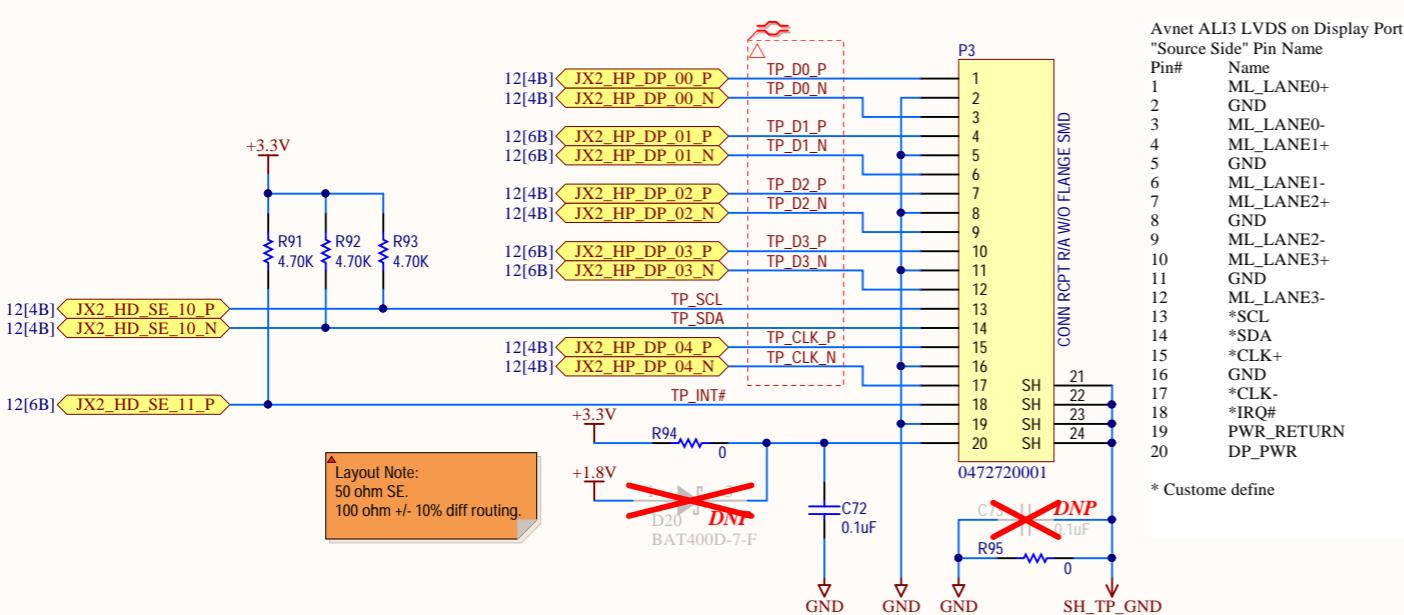
PL User Push Buttons



PL User Slide Switches



LVDS Touch Panel



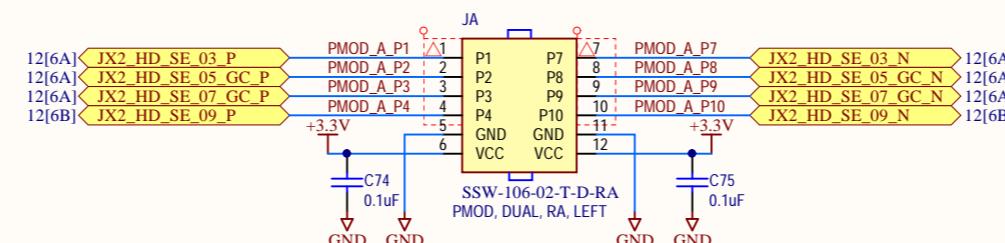
Avnet ALI3 LVDS on Display Port "Source Side" Pin Name	
Pin#	Name
1	ML_LANE0+
2	GND
3	ML_LANE0-
4	ML_LANE1+
5	GND
6	ML_LANE1-
7	ML_LANE2+
8	GND
9	ML_LANE2-
10	ML_LANE3+
11	GND
12	ML_LANE3-
13	*SCL
14	*SDA
15	*CLK+
16	GND
17	*CLK-
18	*IRQ#
19	PWR_RETURN
20	DP_PWR

* Custom define

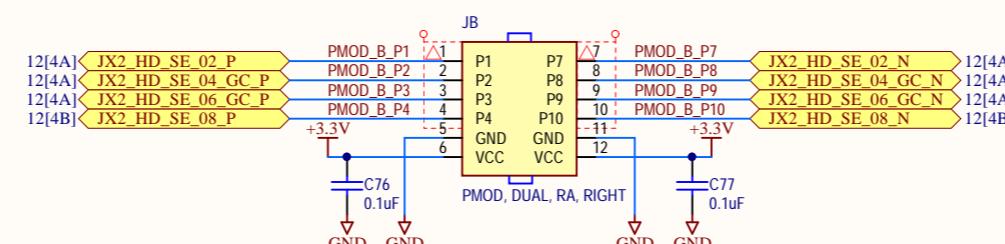
PL Bank26 (HD) I/O Peripherals: Dual PMOD

PL Dual PMOD

PMOD JA



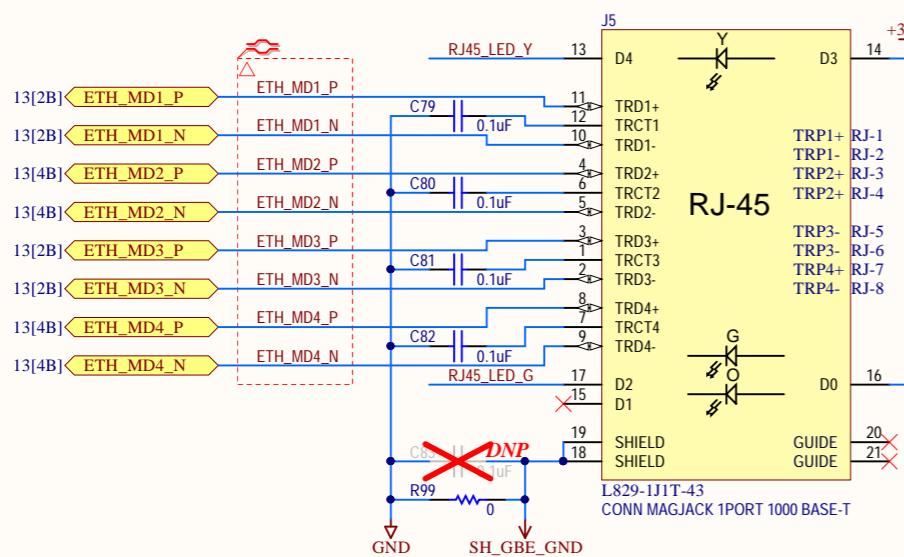
PMOD JB



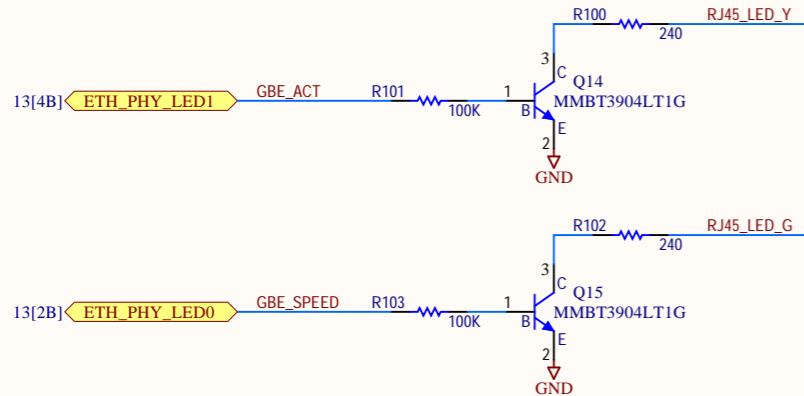
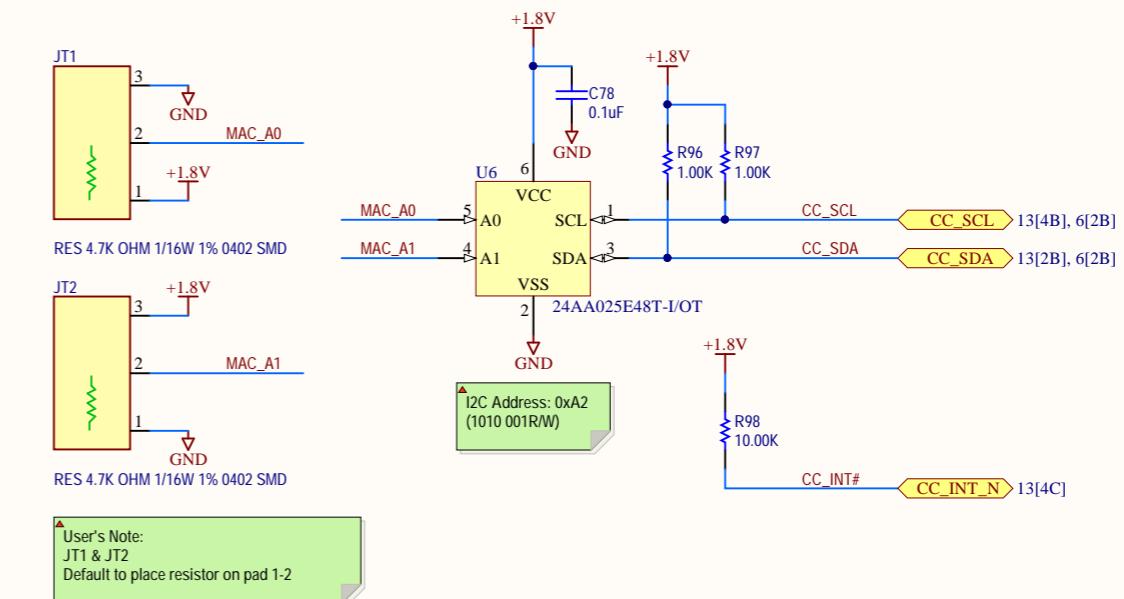
Layout Note:
ALL PMOD signals
routed at 50 ohm SE.

SOM GbE & MAC ID

SOM GbE



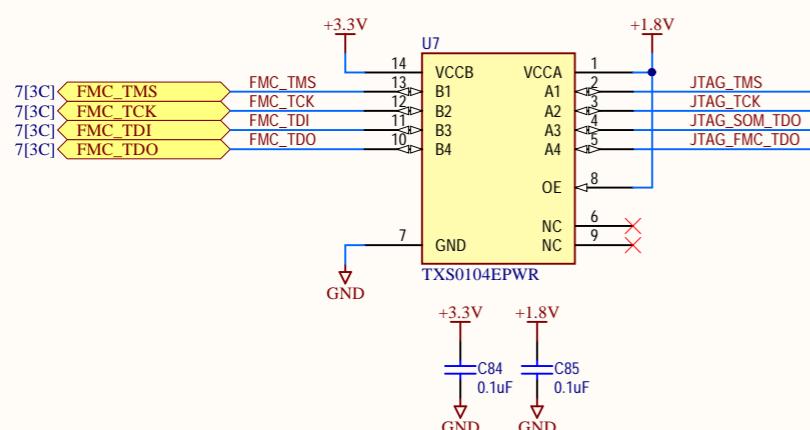
MAC ID - EEPROM



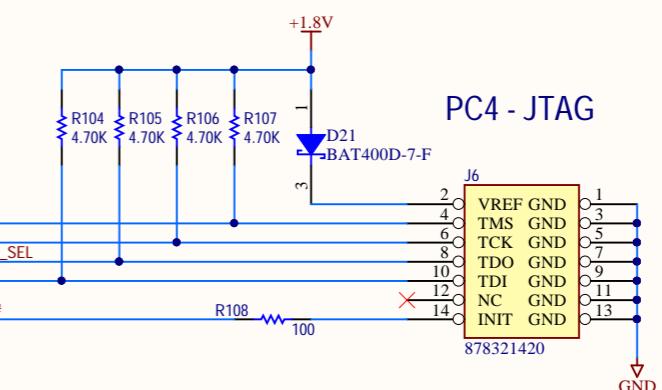
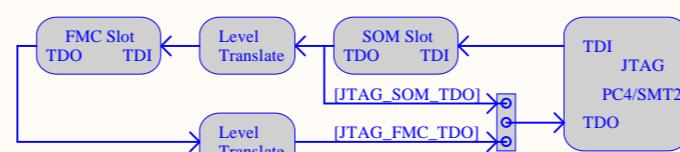
SOM Control & Analog In

JTAG Chain

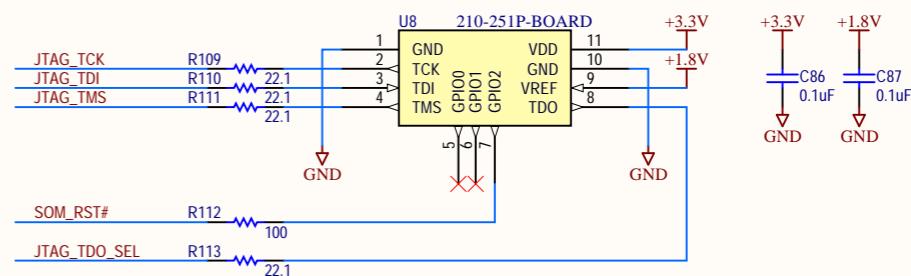
FMC JTAG Level Translate



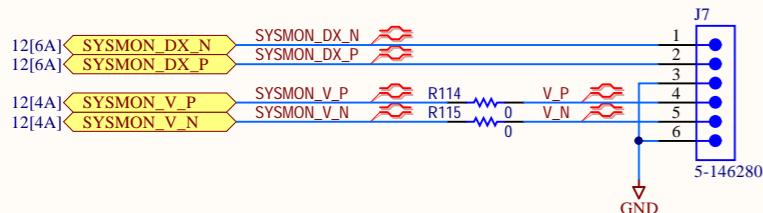
User's Note:
JP12: JTAG chain selection
1-2: JTAG pass through SOM & FMC
2-3: JTAG pass through SOM Only



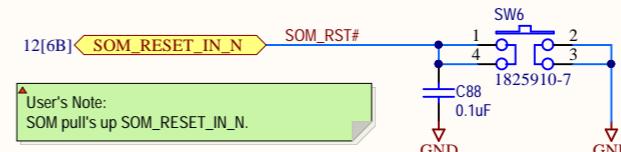
SMT2 USB-JTAG



SYSMON Header

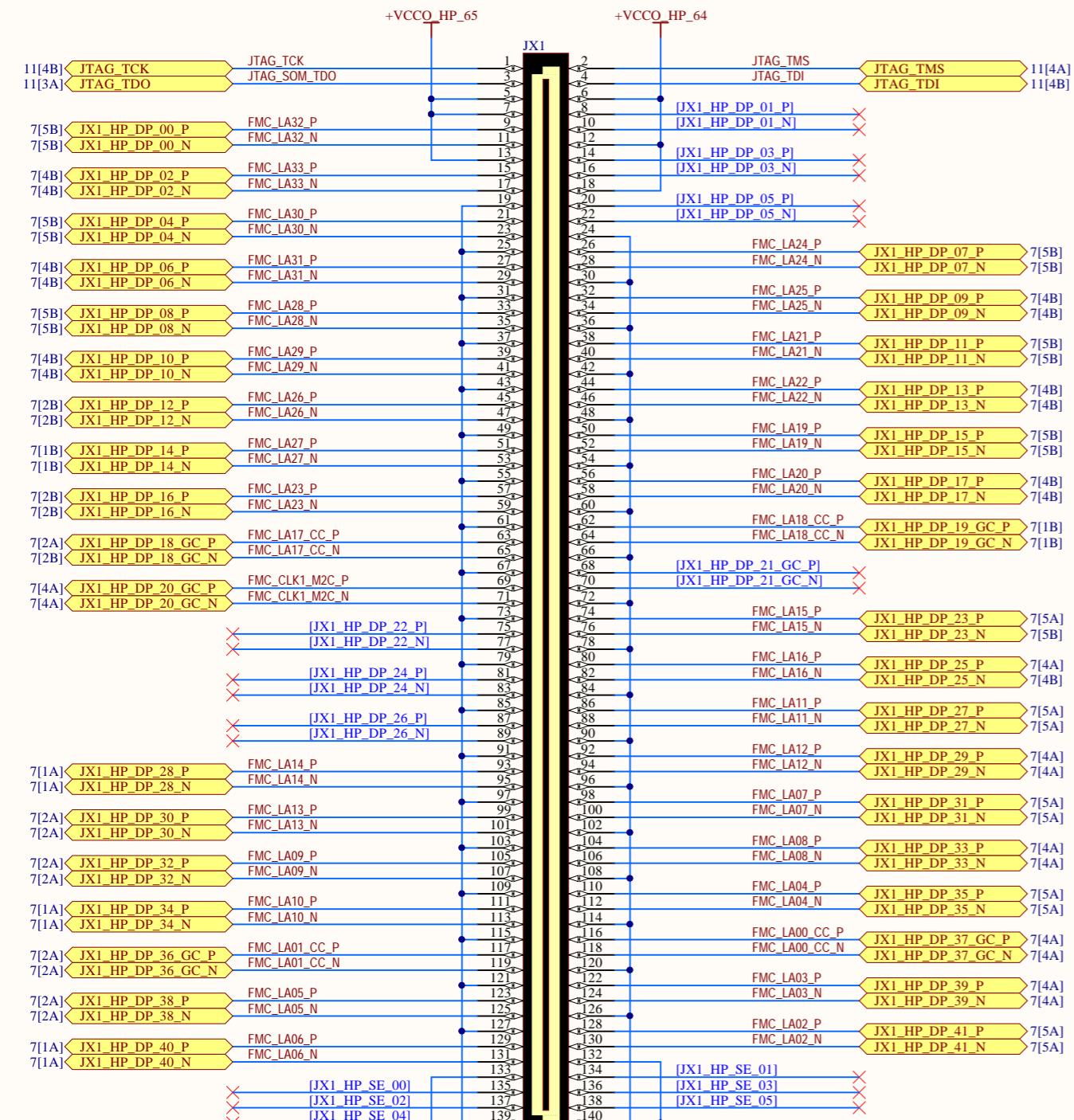


SOM Reset#



SOM JX1 & JX2

A

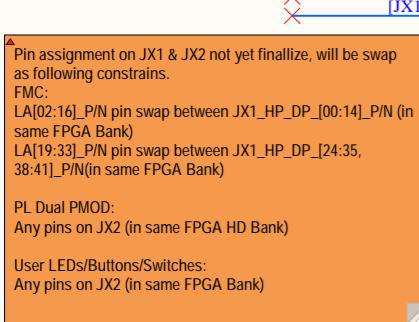


▲ Pin assignment on JX1 & JX2 not yet finalized, will be swapped as following constraints.

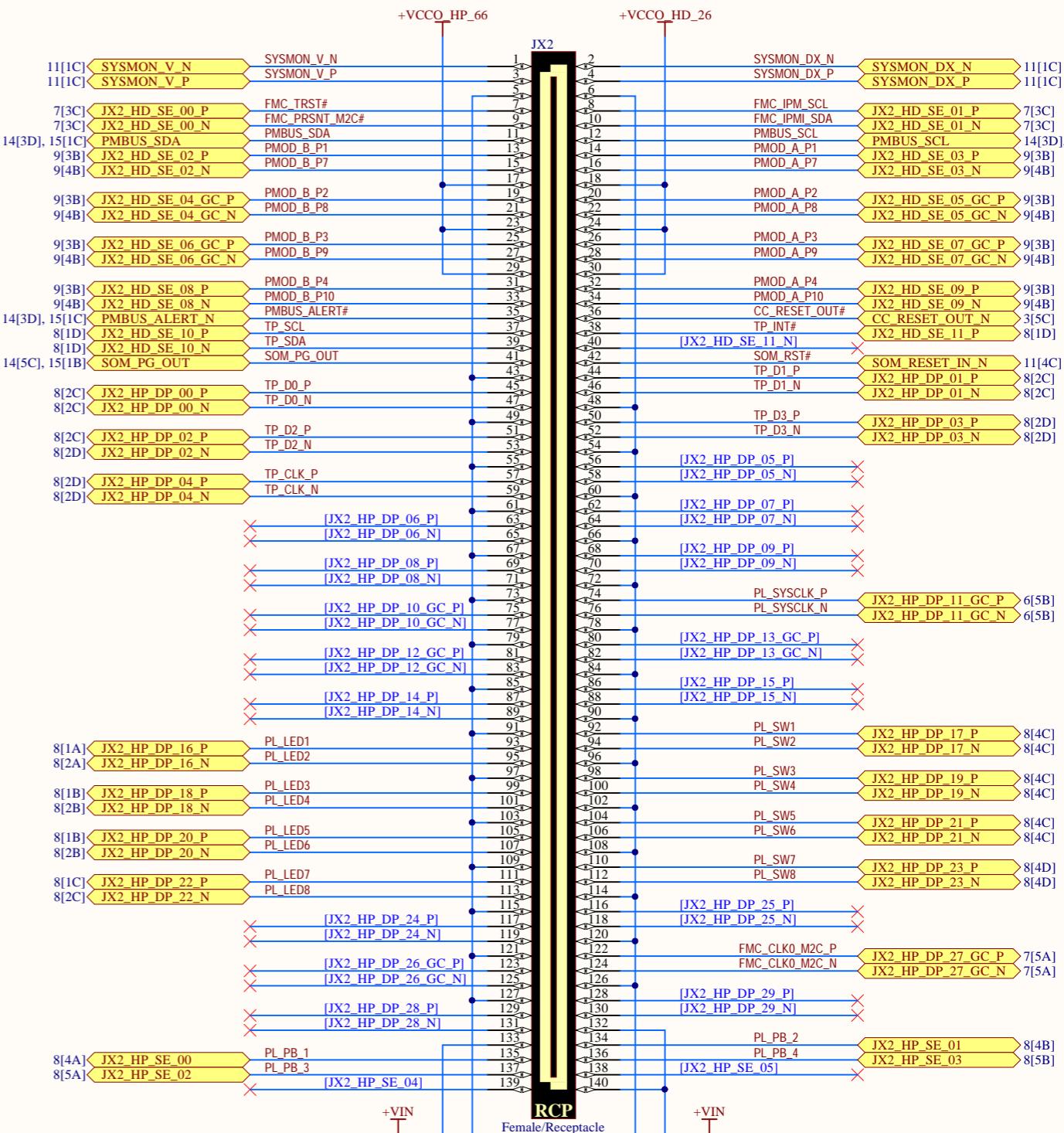
FMC:
LA[02:16]_P/N pin swap between JX1_HP_DP_[00:14]_P/N (in same FPGA Bank)
LA[19:33]_P/N pin swap between JX1_HP_DP_[24:35], [38:41]_P/N (in same FPGA Bank)

PL Dual PMOD:
Any pins on JX2 (in same FPGA HD Bank)

User LEDs/Buttons/Switches:
Any pins on JX2 (in same FPGA Bank)



B

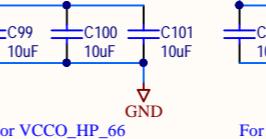
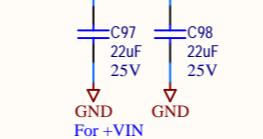


PL Dual PMOD:
Any pins on JX2 (in same FPGA HD Bank)

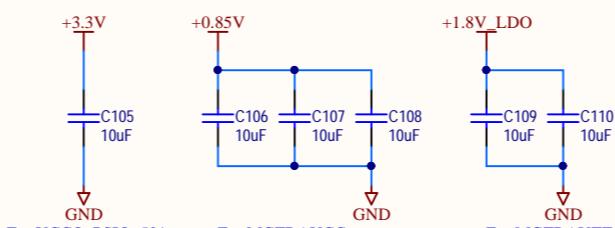
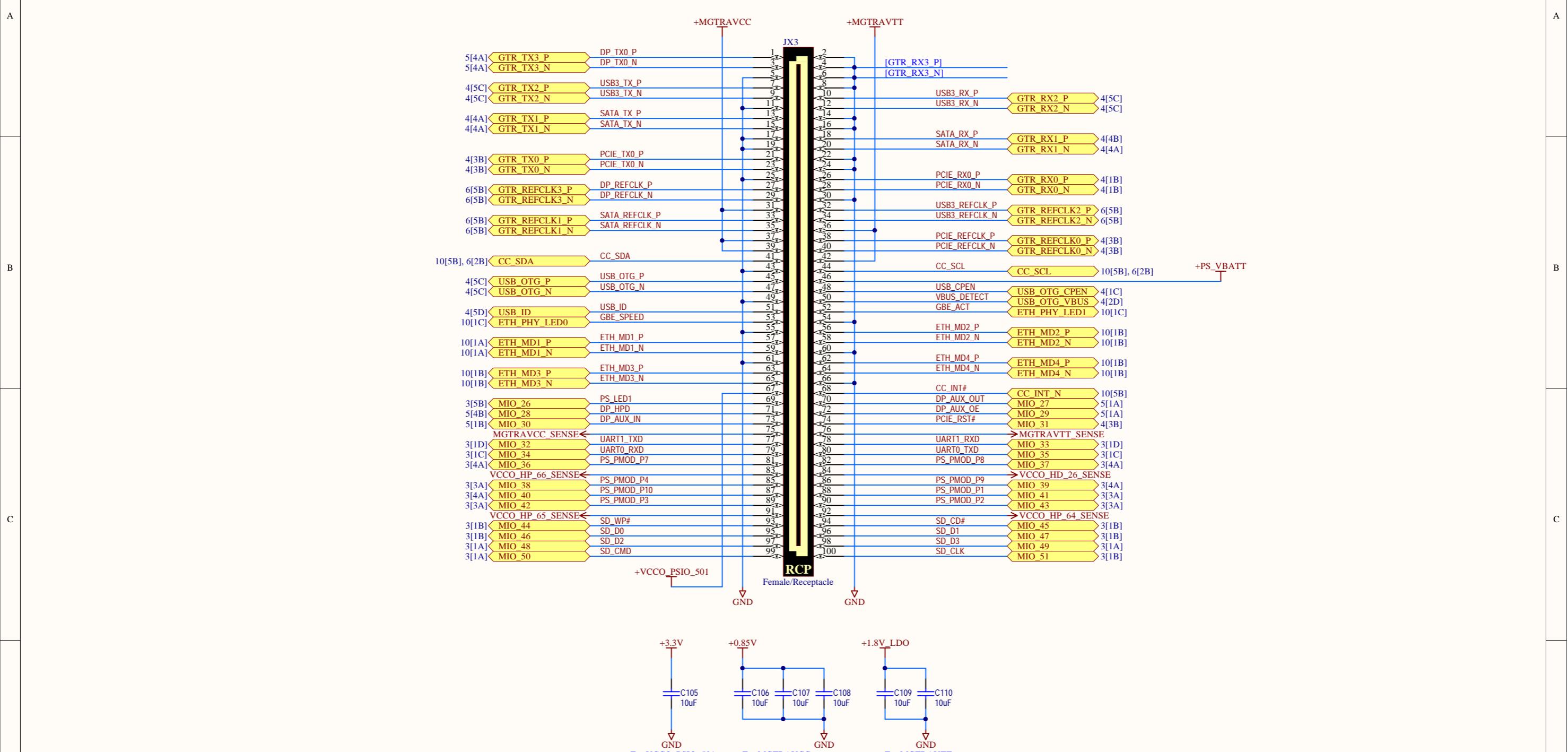
User LEDs/Buttons/Switches:
Any pins on JX2 (in same FPGA Bank)

Avnet Engineering Services			
Project Name:	UltraZed-EG PCIe Carrier Card	PCB Rev:	1 01 Variant: 00
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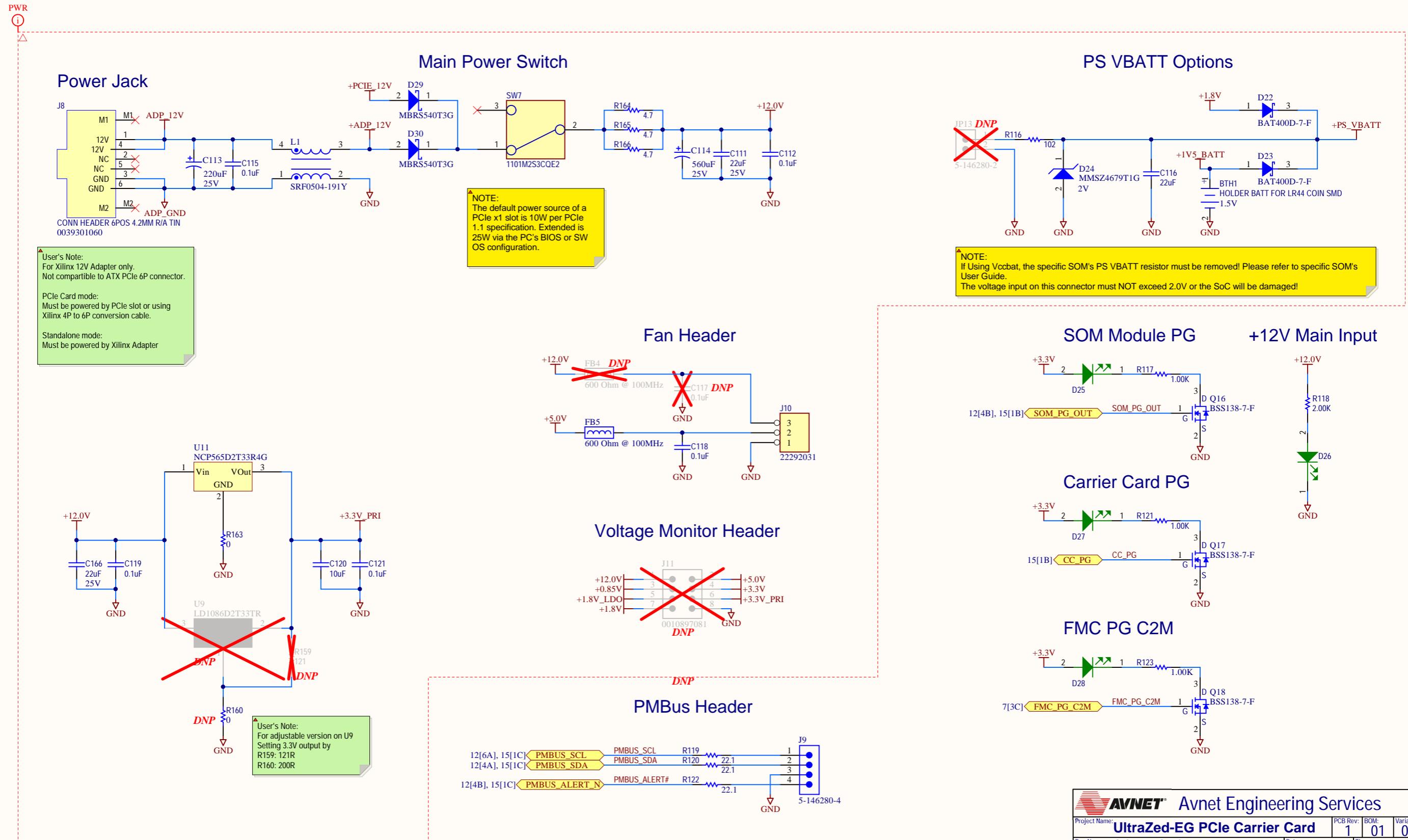
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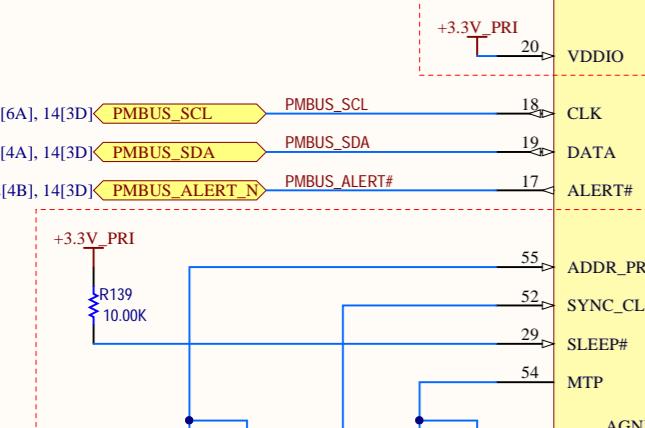
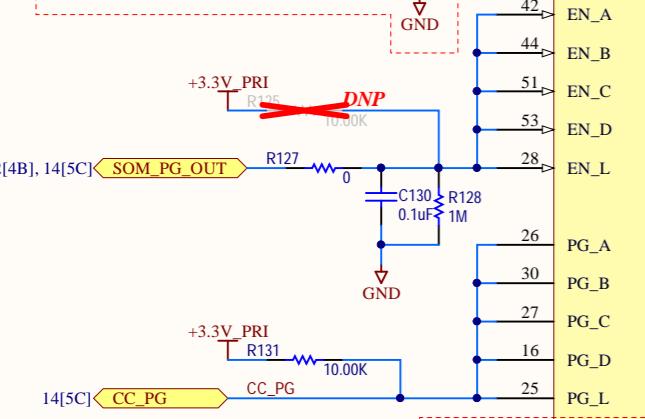
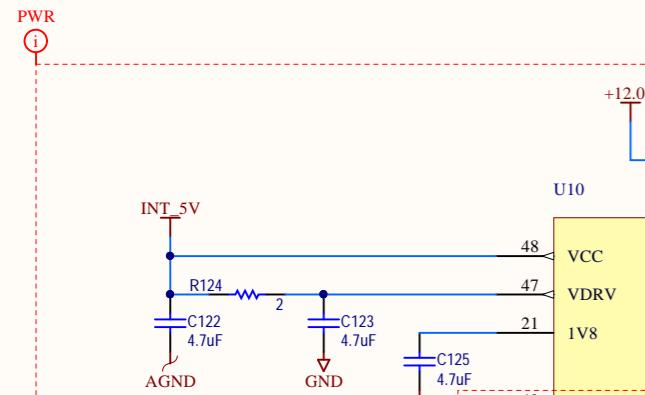
SOM JX3



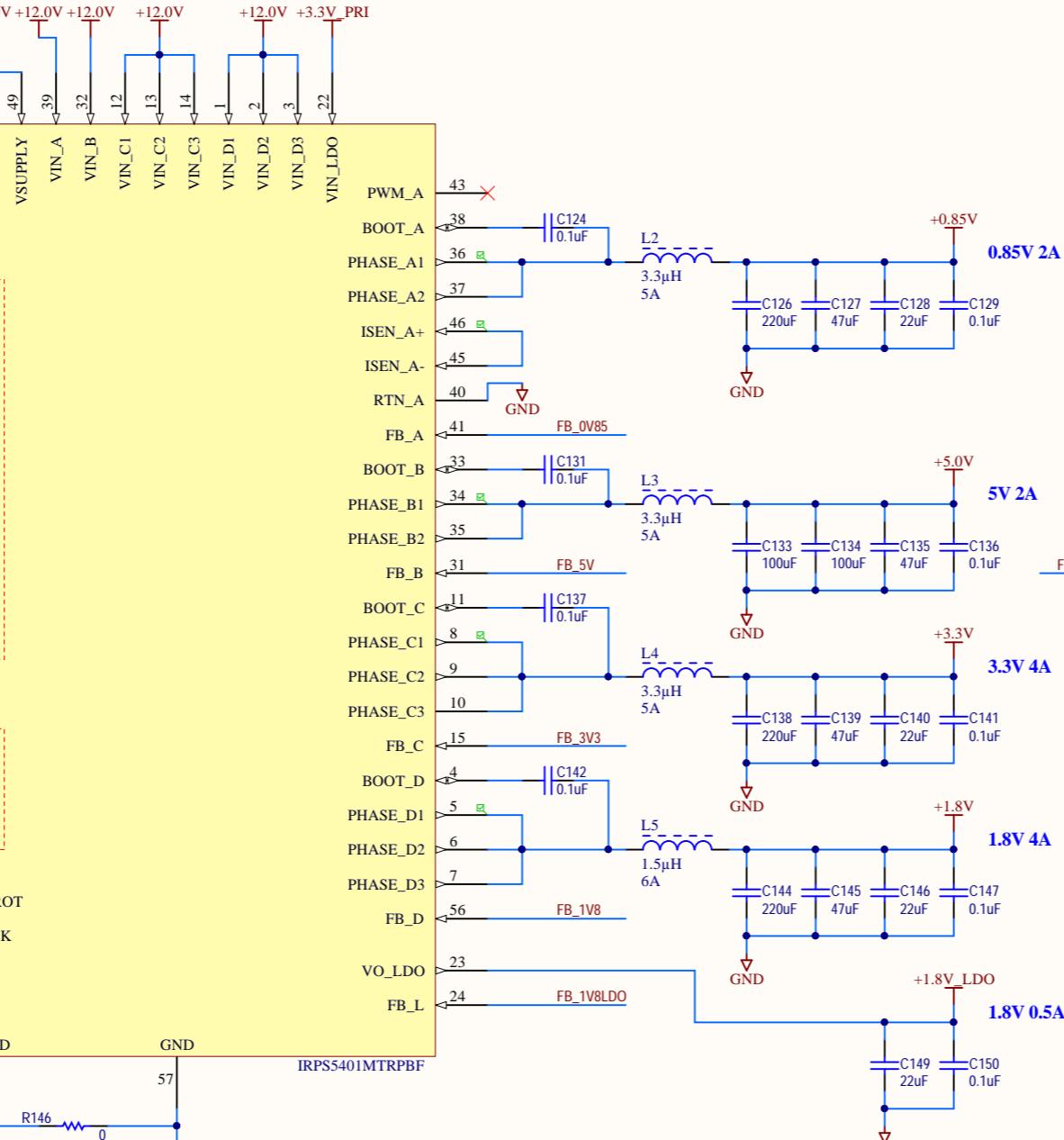
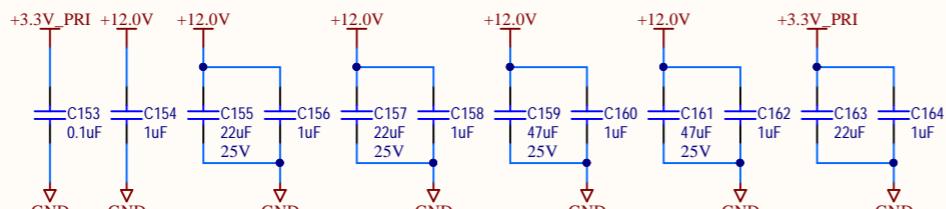
Power Source & Monitoring



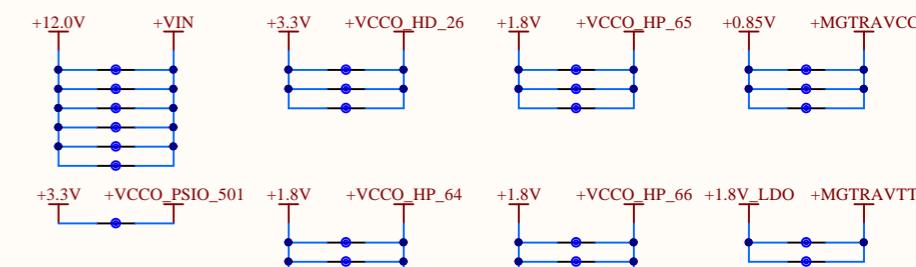
Power Management IC



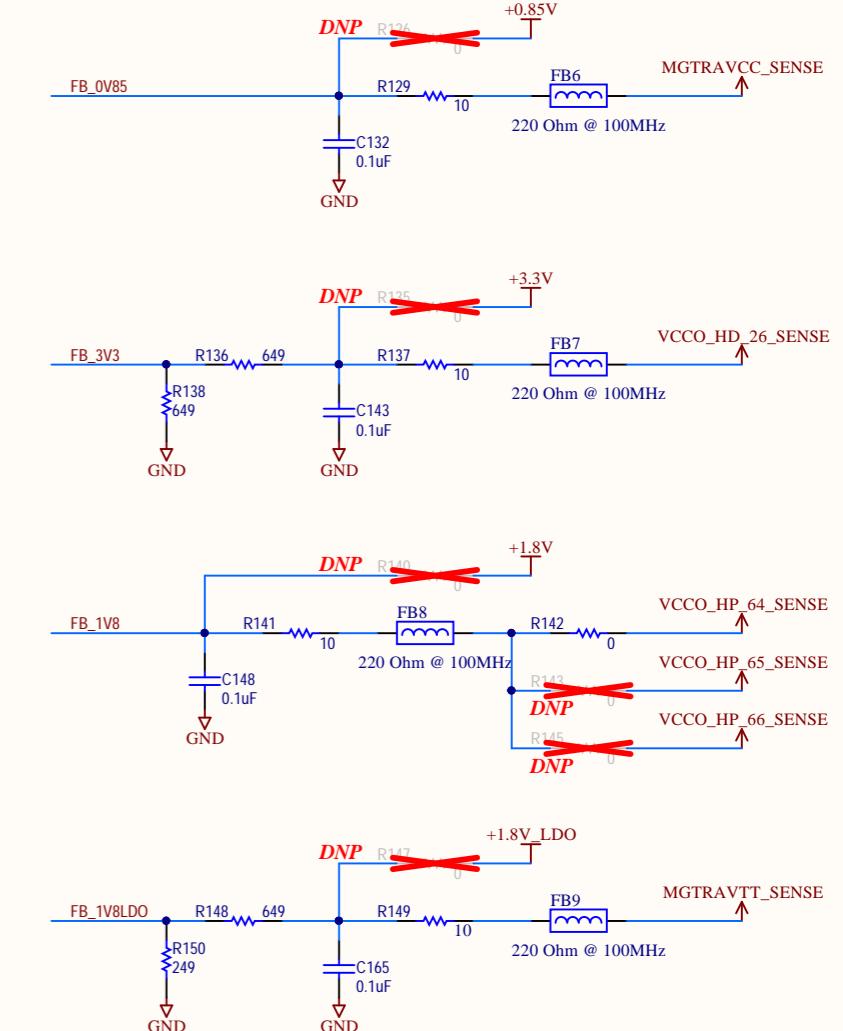
User's Note:
 - I2C Address Offset +2
 (Set by R132 = 1.78K)
 - MTP Bank# set by R134
 - Switching Frequency: 1MHz



SOM Power Distribute



DC-DC Feedback Selection



Avnet Engineering Services

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Assembly: Mechanics:

Label1
BD-XXXX-XXXXX-G
Label, Product



Label2
BD-XXXX-XXXXX-G
Label, Product

XXX-XXX-PCB-X

PCB PN (In Copper)

ESD1



ESD Bag

Label_ESD1

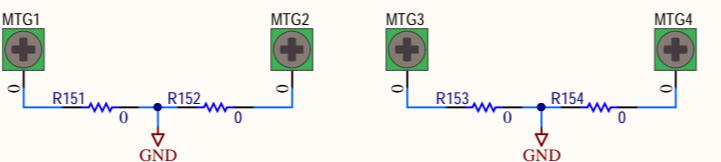


Label, ESD

Mechanicals:

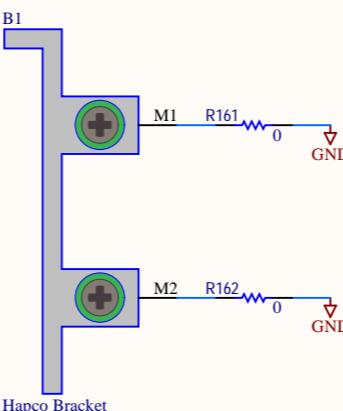
FM1 FM2 FM3 FM4

FM5 FM6 FM7 FM8

SOM Mounting Holes

Edge Stand-off Mounting Holes

Adhesive Bumper

BMPR1	BUMPER CYLIN 0.375" DIA BLK	BMPR2	BUMPER CYLIN 0.375" DIA BLK
BMPR3	BUMPER CYLIN 0.375" DIA BLK	BMPR4	BUMPER CYLIN 0.375" DIA BLK
BMPR5	BUMPER CYLIN 0.375" DIA BLK	BMPR6	BUMPER CYLIN 0.375" DIA BLK
BMPR7	BUMPER CYLIN 0.375" DIA BLK	BMPR8	BUMPER CYLIN 0.375" DIA BLK

PCIe Card Bracket

GND Test Pins


Avnet Engineering Services		
Project Name:	UltraZed-EG PCIe Carrier Card	PCB Rev: 1 BOM: 01 Variant: 00
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