



Hasan AlAref • Revision 1.0 • 2025

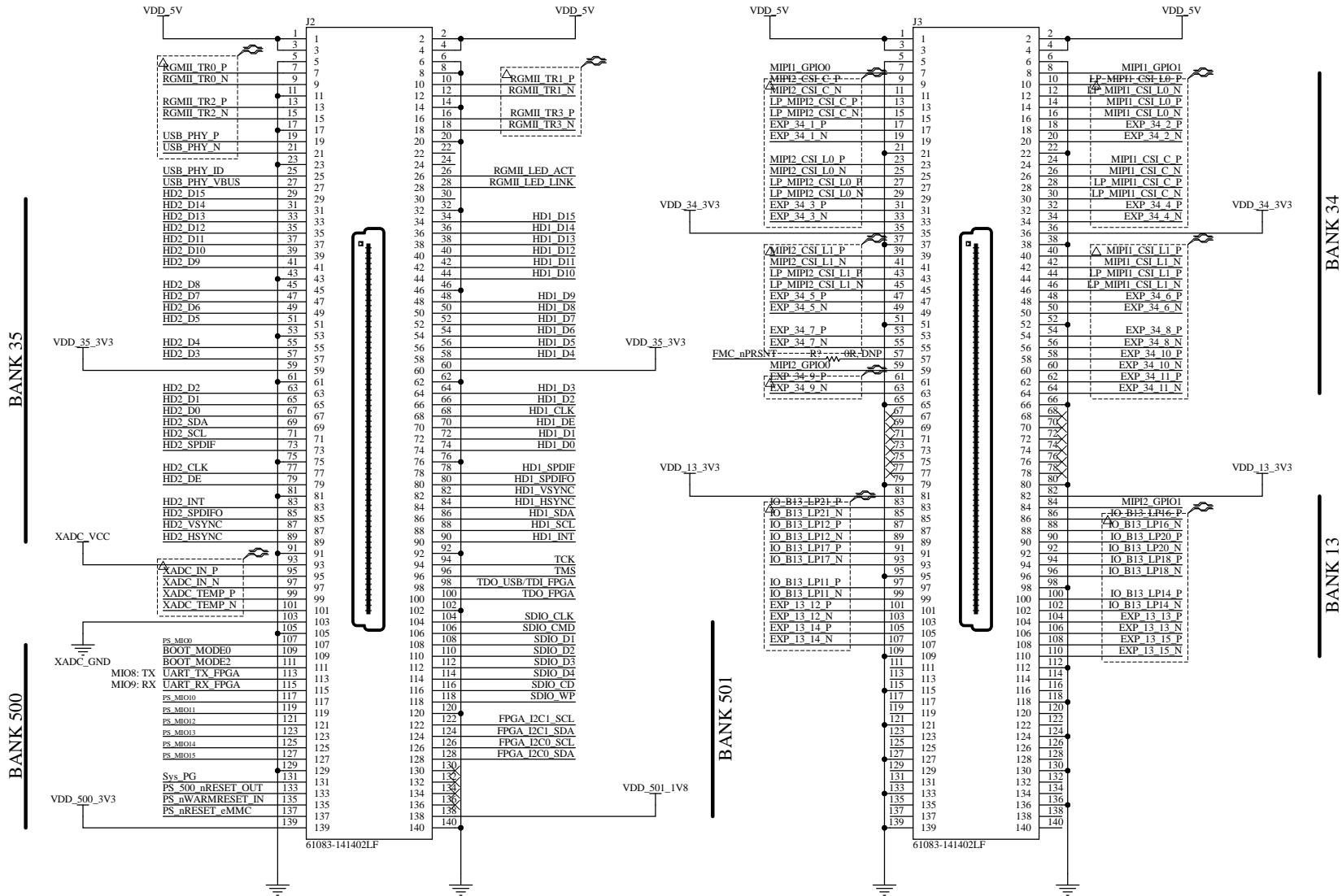
Page 1: Cover
Page 2: BTB Connector
Page 3: Power
Page 4: SD & Boot
Page 5: FTDI
Page 6: MIPI

Page 7: HDMI1
Page 8: HDMI2
Page 9: USB Hub
Page 10: Ethernet
Page 11: Expansion

SoM: MYC-C7Z020-V2
Package: XC7Z020-CLG400-2
Documentation

Mezzanine Board-to-Board Connectors between FPGA SOM and FPGA Development Board

CHECK:
MIP1 PLACEMENT, MIGHT BE BETTER TO PUT BOTH ON ONE SIDE
ALL DIFF PAIRS' POLARITIES
ALL CONNECTIONS WITH PACKAGE FILE

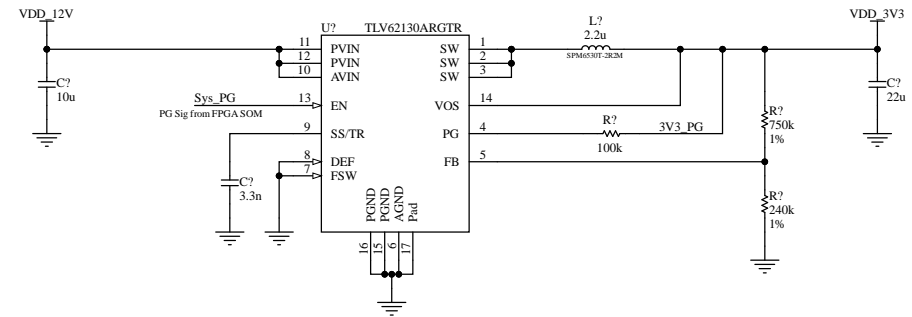


Title			ALTAIR
Size	Number	Revision	
A3		1.0	
Date:	5/12/2025	Sheet of	
File:	G:\Other computers\BTB Mezzanine.Sch	Drawn By:	Hasan AlAref

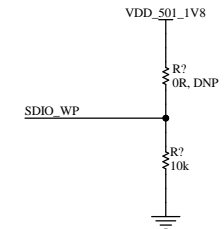
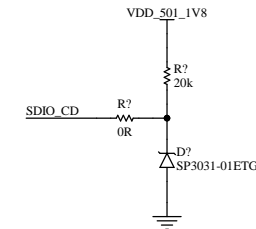
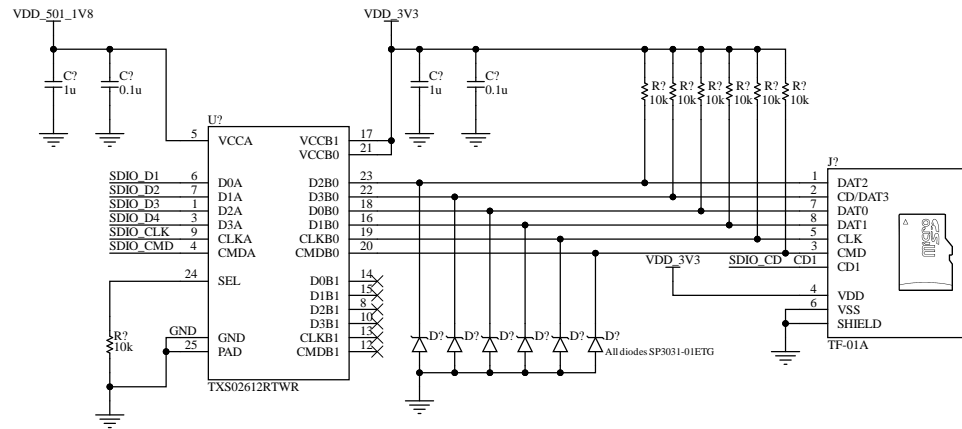
B



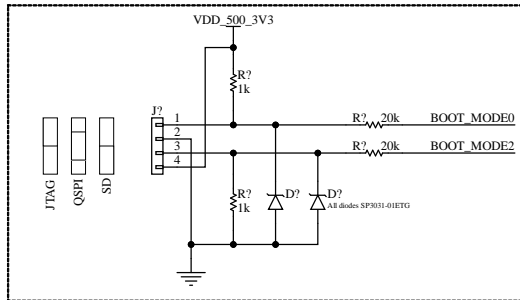
D



SD CARD

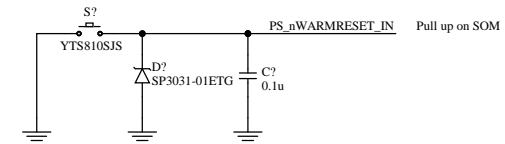
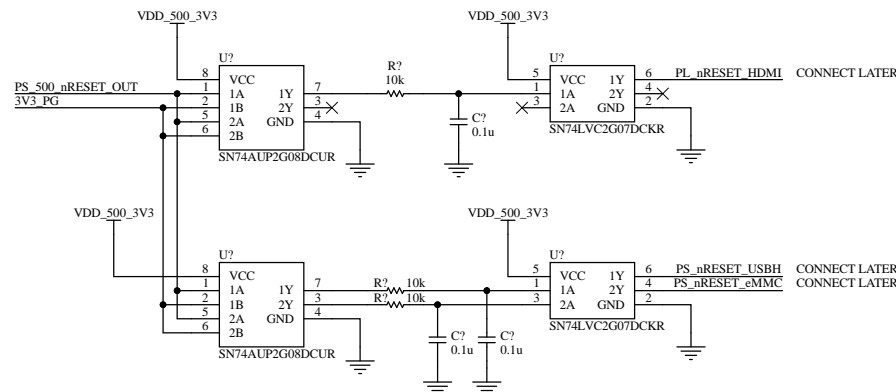


BOOT SEL

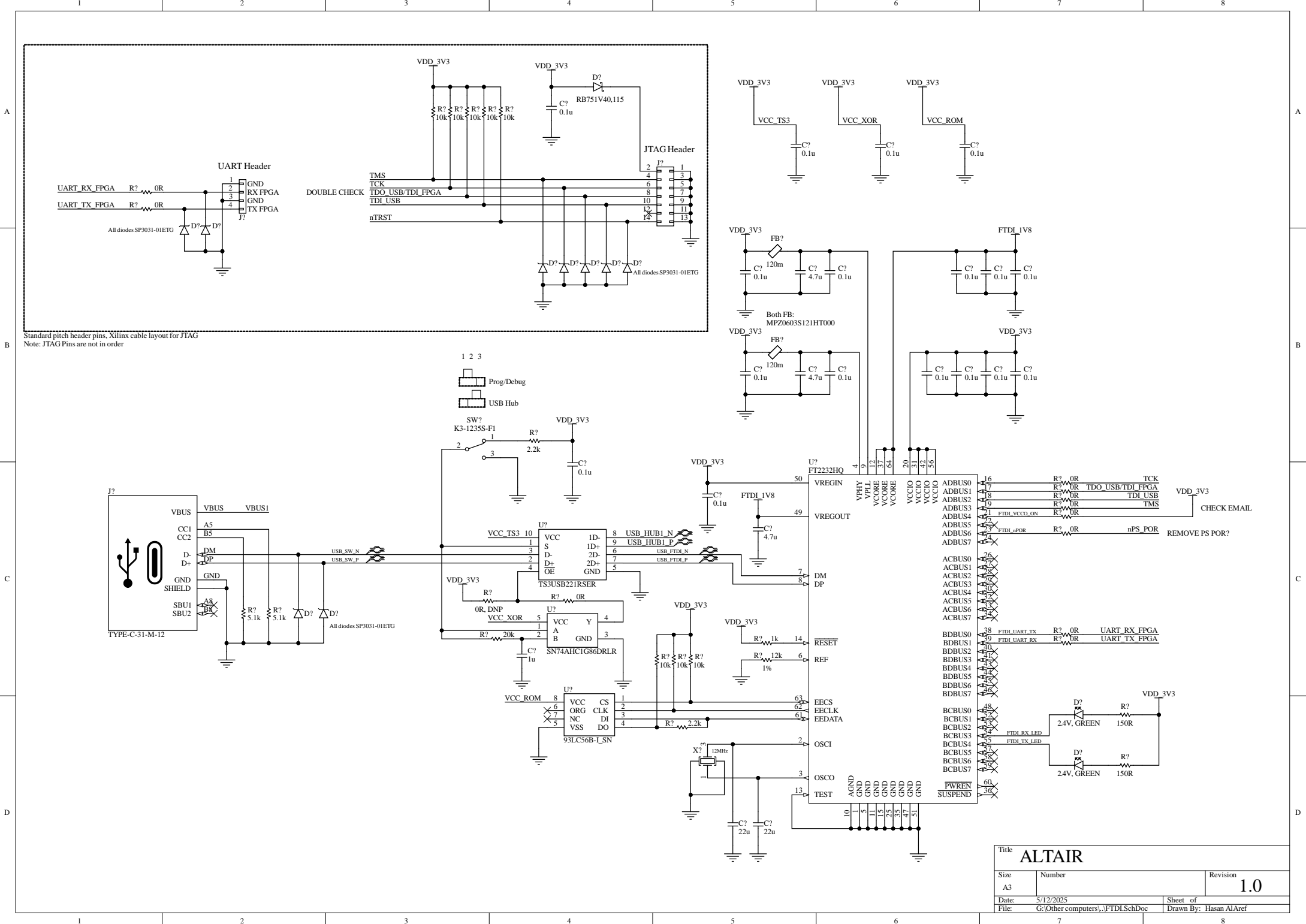


Boot selection via standard pitch header pins connected to BOOT_SEL in PS bank 501.
See Table 6-4: Boot Mode MIO Strapping Pins in in UG585.

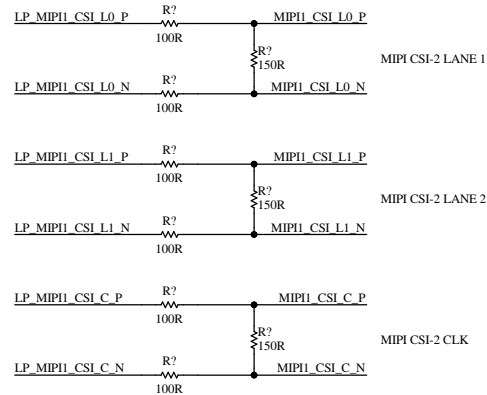
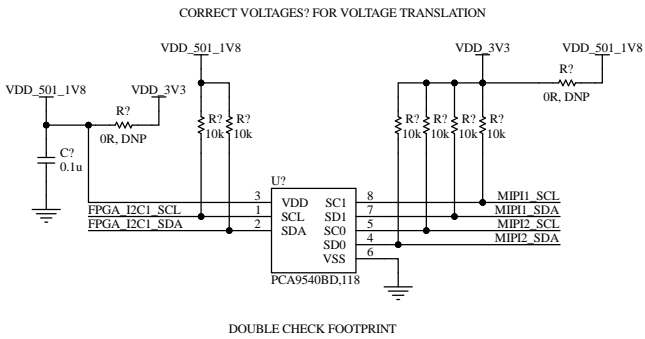
RESET



Title ALTAIR			
Size A3	Number	Revision 1.0	
Date: 5/12/2025	Sheet of		
File: G:\Other computers\...SD & Boot.SchDoc	Drawn By: Hasan AlAref		

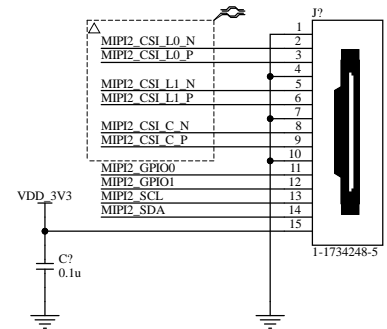
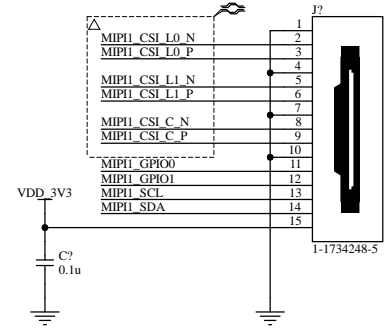
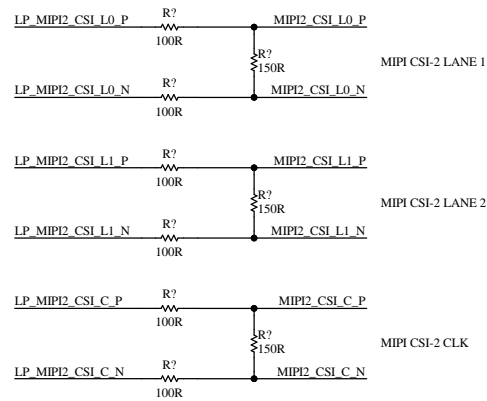


Title		
ALTAIR		
Size	Number	Revision
A3		1.0
Date:	5/12/2025	Sheet of
File:	G:\Other computers\...\FTDLSchDoc	Drawn By: Hasan AlAref



ALL RESISTORS 1%

Place all 150R resistors and 100R shunt resistors next to BTB Connectors



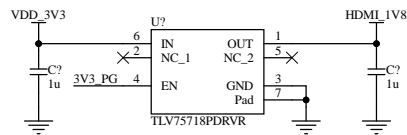
Title			ALTAIR
Size	Number	Revision	
A3		1.0	
Date:	5/12/2025	Sheet of	
File:	G:\Other computers\...\MIPI.SchDoc	Drawn By:	Hasan AlAref

HDMI1

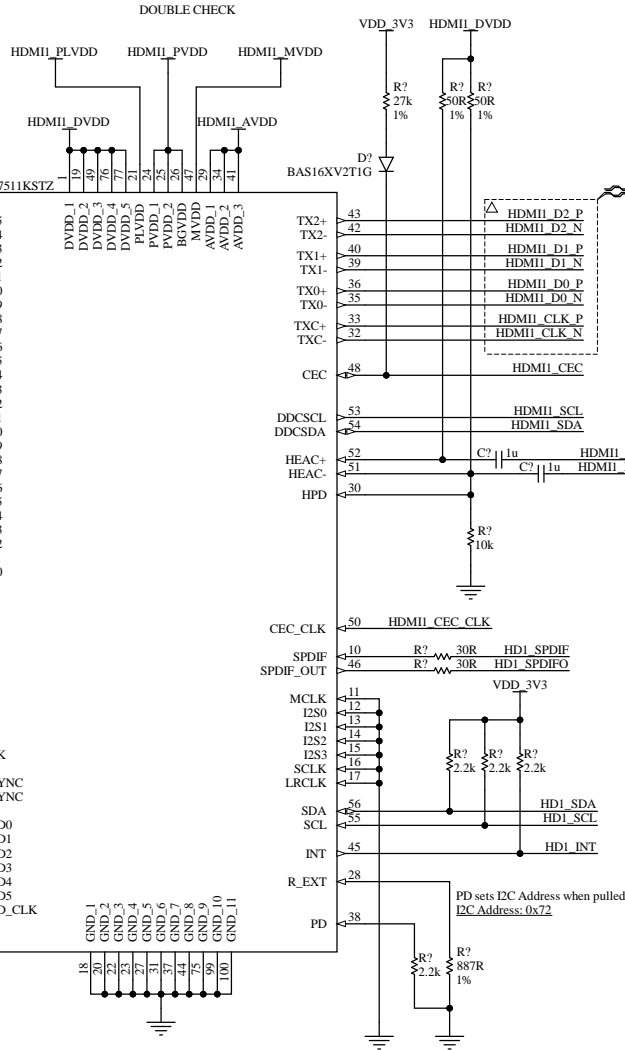
ADD TERMINATION RESISTORS? CHECK XILINX DATASHEET

HD1_* Nets connect directly to the FPGA
All 30R Resistors are 1%

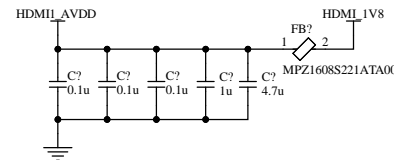
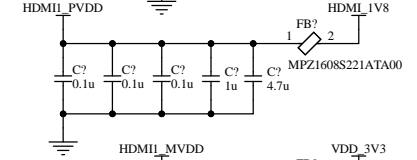
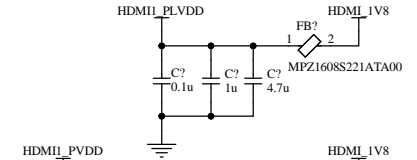
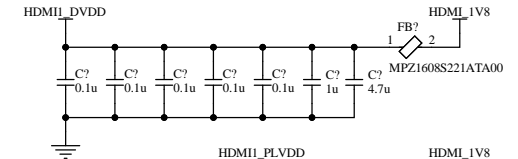
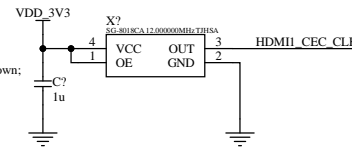
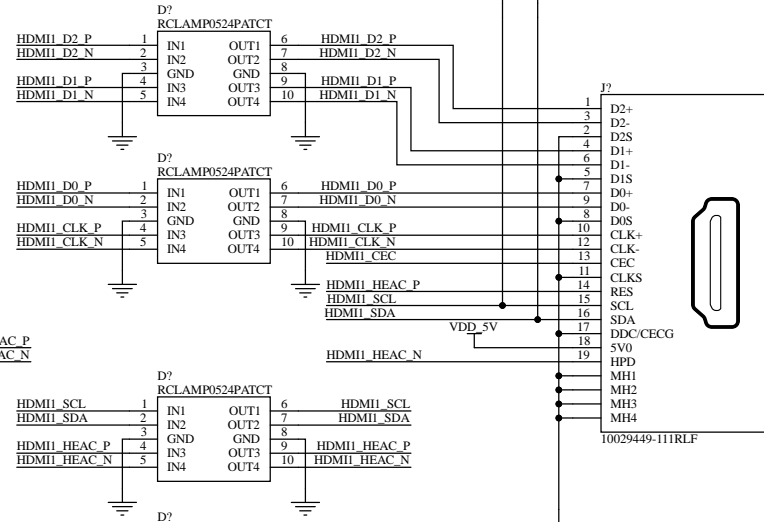
1.8V LDO for both HDMI ICs



DOUBLE CHECK



Below are ESD Diodes. I/O pins are physically shorted with traces on the PCB.
Output pins are connected to nothing inside the ESD Package.



Title			ALTAIR
Size	Number	Revision	
A3		1.0	
Date:	5/12/2025	Sheet of	
File:	G:\Other computers\...\HDMI1.SchDoc	Drawn By:	Hasan AlAref

HDMI2

A

B

C

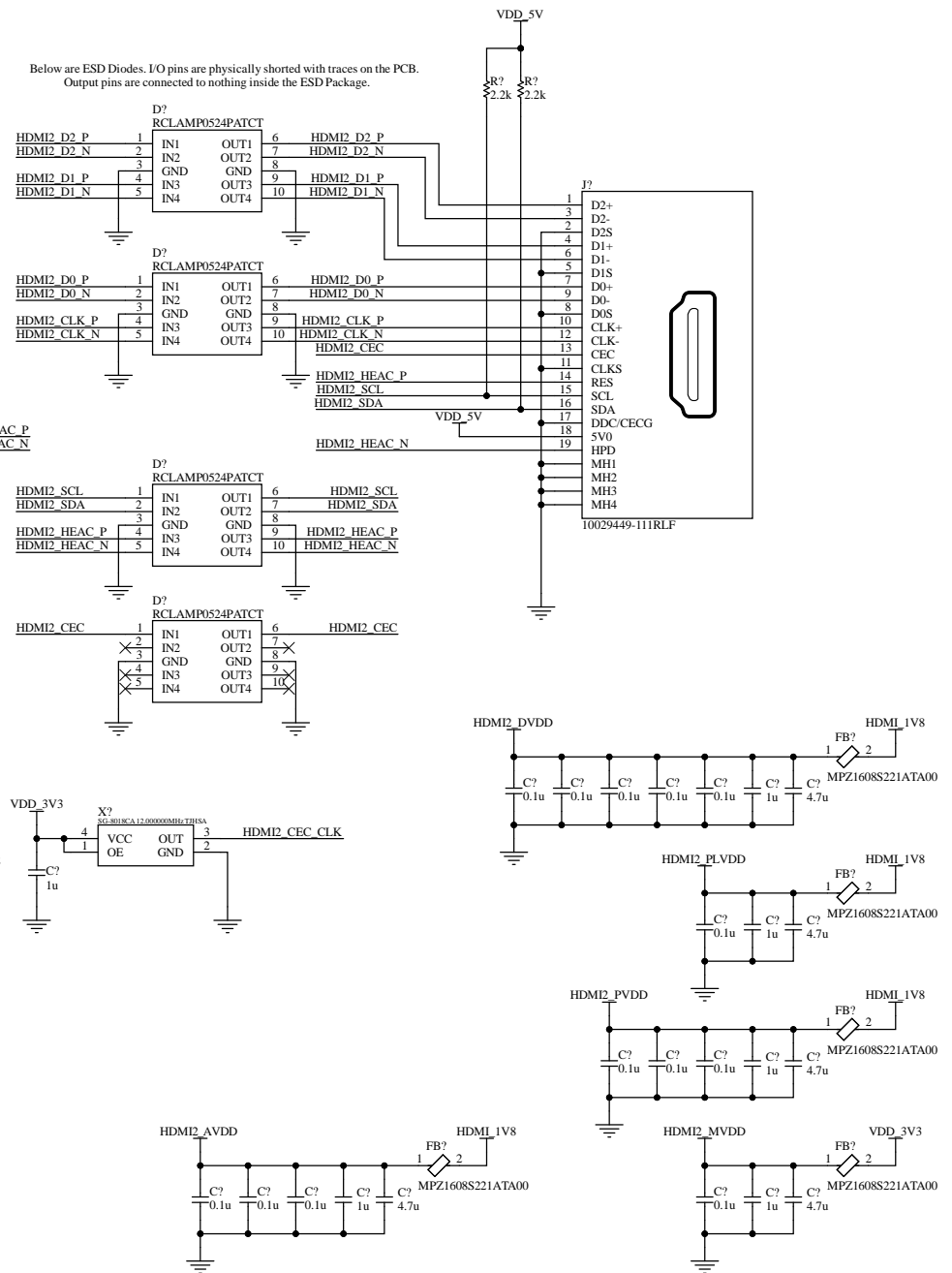
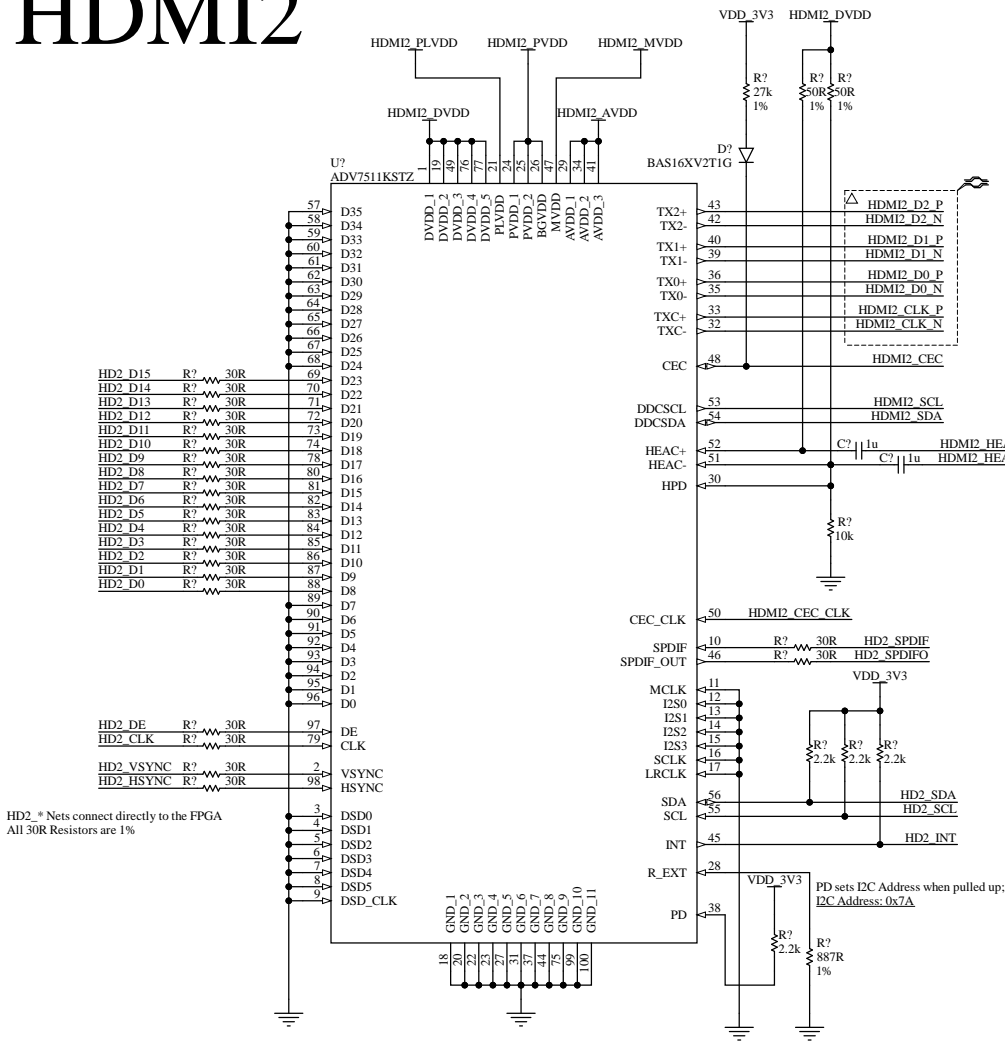
D

A

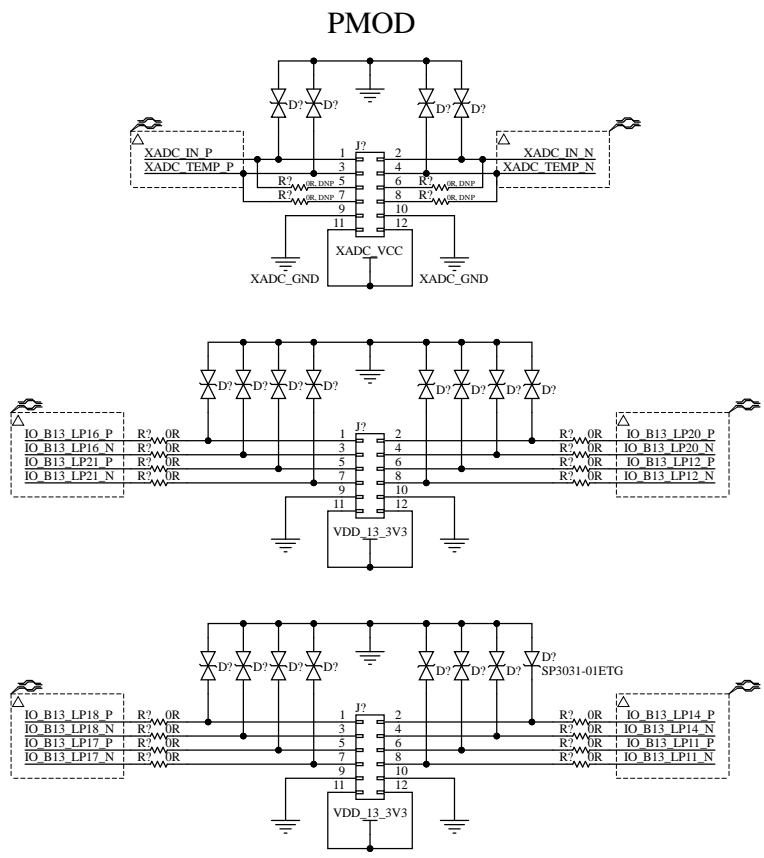
B

C

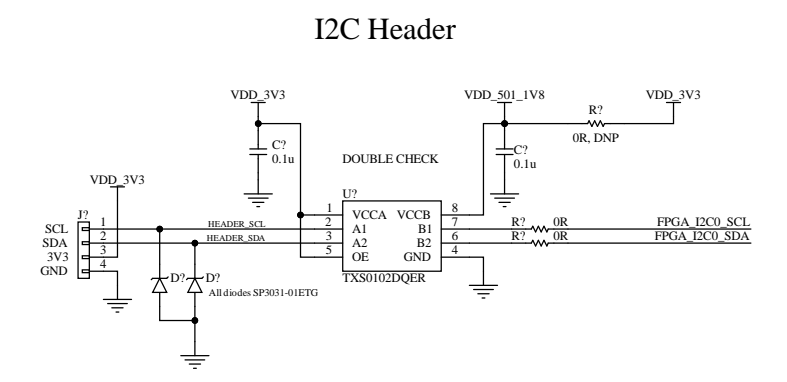
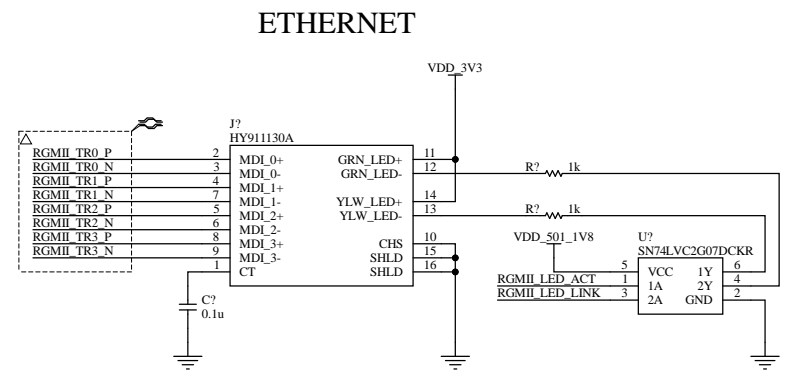
D



Title			ALTAIR
Size	Number	Revision	
A3		1.0	
Date:	5/12/2025	Sheet of	
File:	G:\Other computers\...\HDMI2.SchDoc	Drawn By:	Hasan AlAref



PMOD via standard pitch header pins connected to Bank 13.
All ESD Diodes SP3022-01ETG.



A

B

C

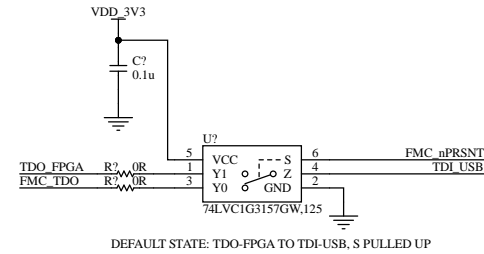
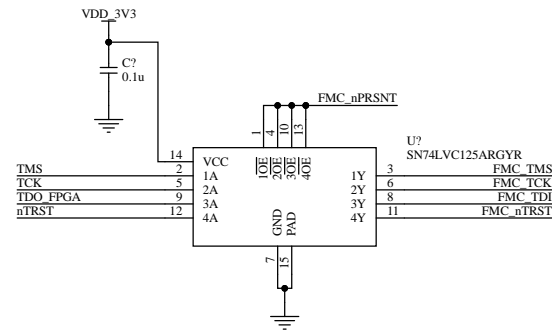
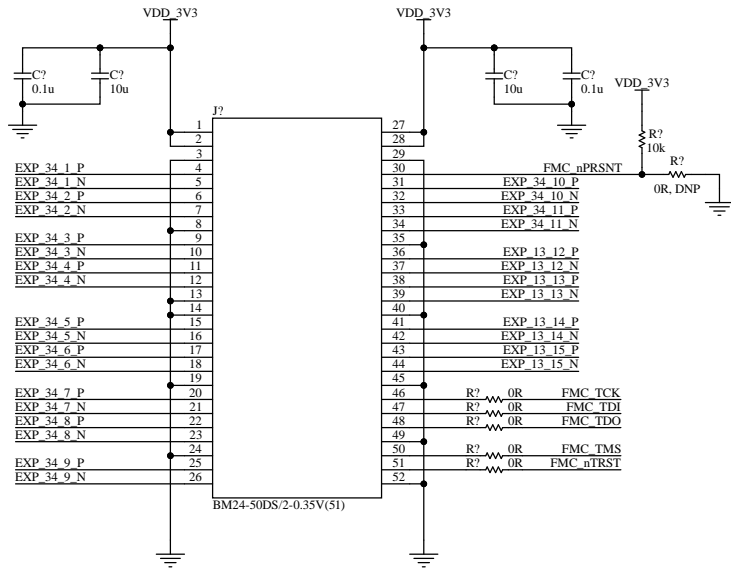
D

A

B

C

D



Title			ALTAIR
Size	Number	Revision	
A3		1.0	
Date:	5/12/2025	Sheet of	
File:	G:\Other computers\...\Expansion.SchDoc	Drawn By:	Hasan AlAref