

SDI

File: sdi.kicad_sch

FPGA

File: fpga.kicad_sch

FPGA Power

File: FPGA_Power.kicad_sch

Power Supply

File: supply.kicad_sch

DDR3

File: ddr3.kicad_sch

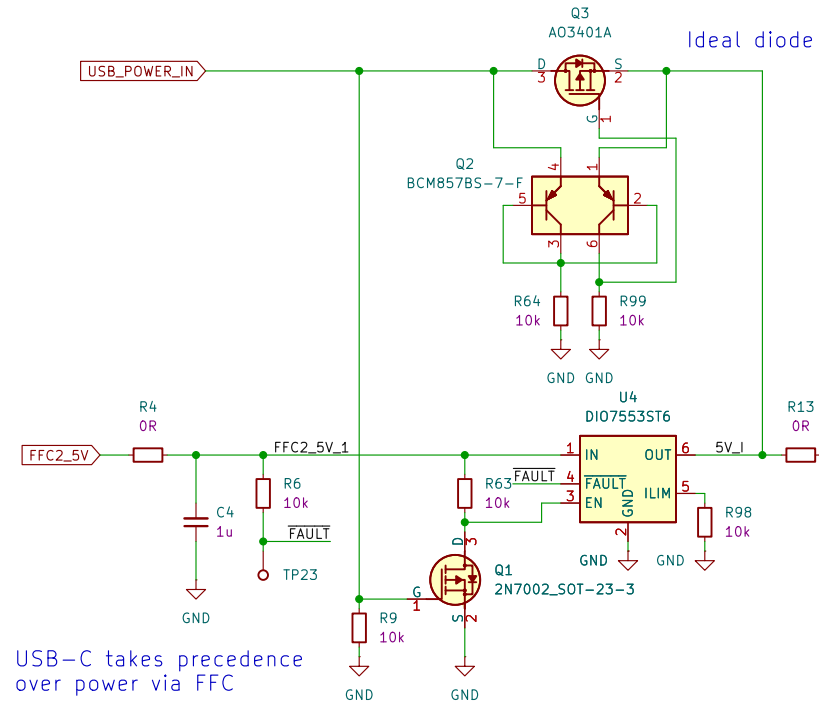
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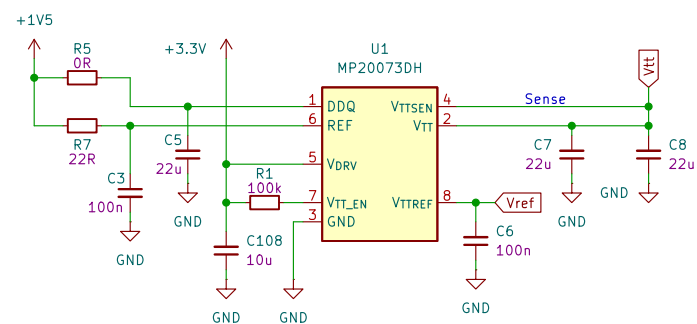


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Sheet: / File: sdi-mipi-video-converter.kicad_sch		
Title: SDI-MIPI Video Converter		
Size: A3	Date: 2023-10-12	Rev: 1.1.4
KiCad E.D.A. eeschema 6.0.11+dfsg-1-bpo11+1		Id: 1/7

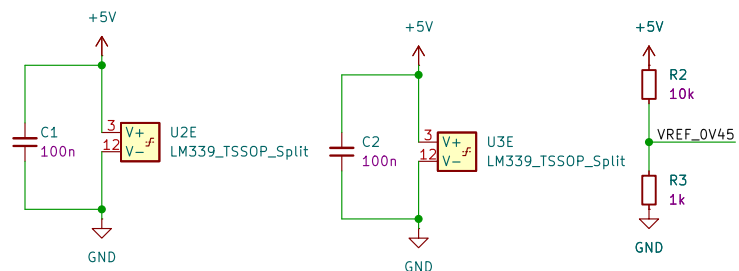
SUPPLY SELECTION



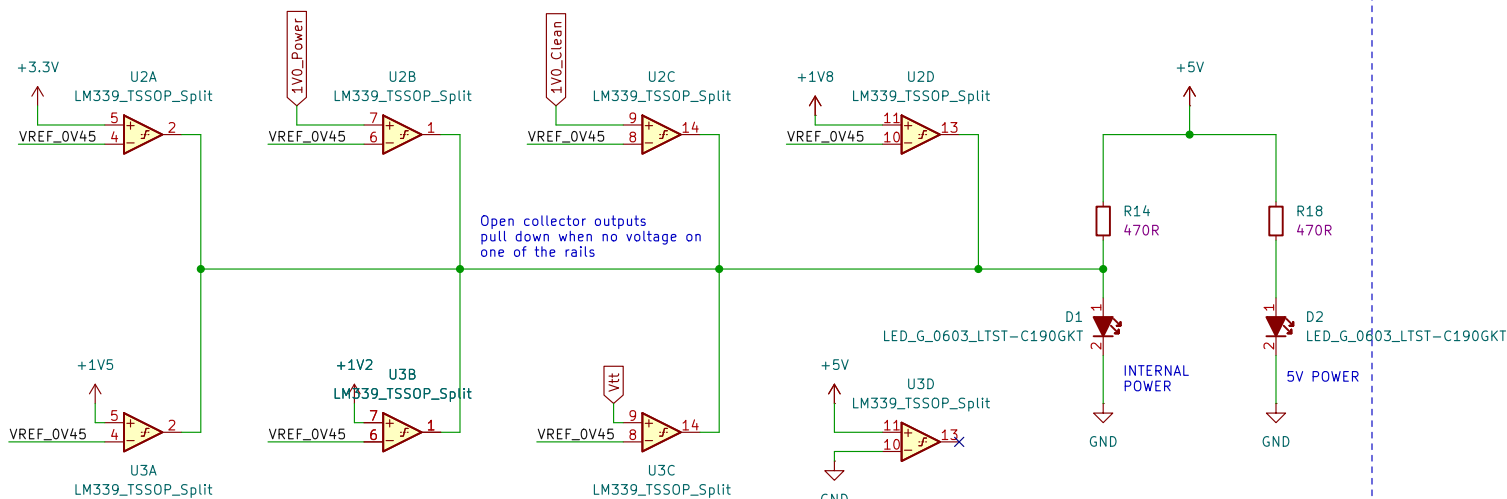
DDR MEMORY TERMINATION SUPPLY



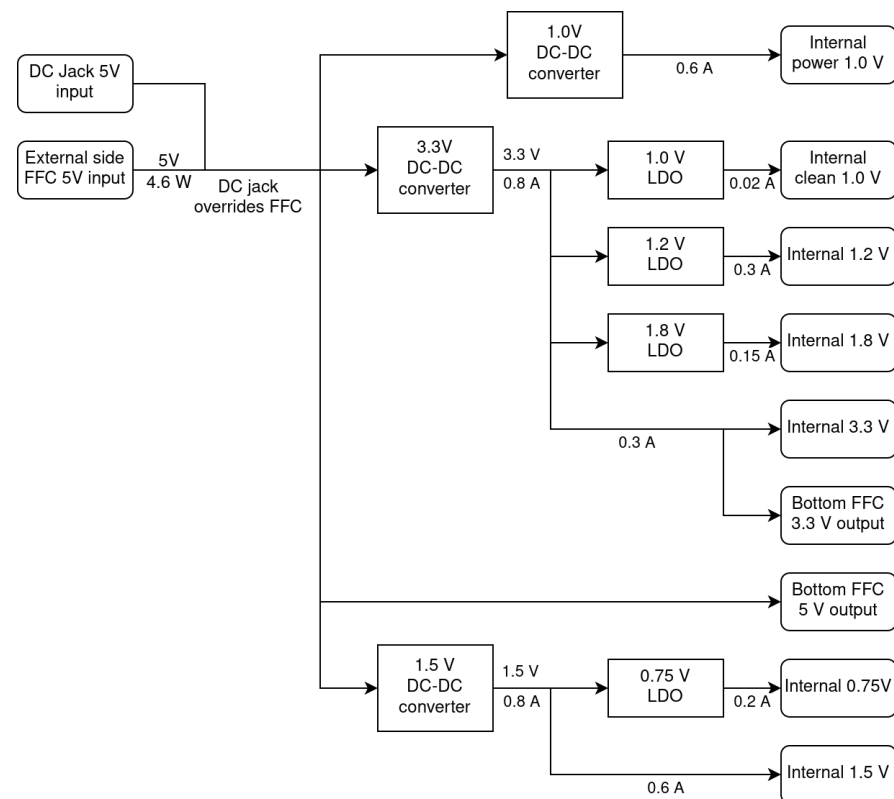
POWER INDICATORS



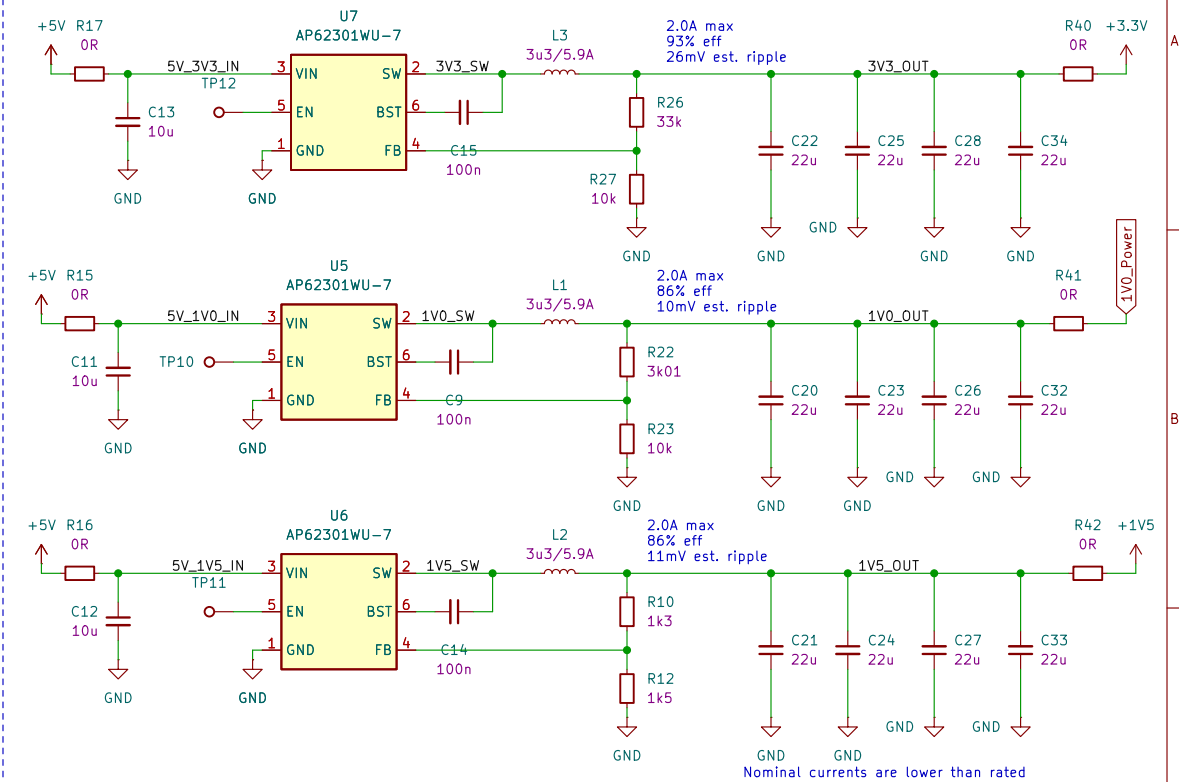
POWER INDICATORS



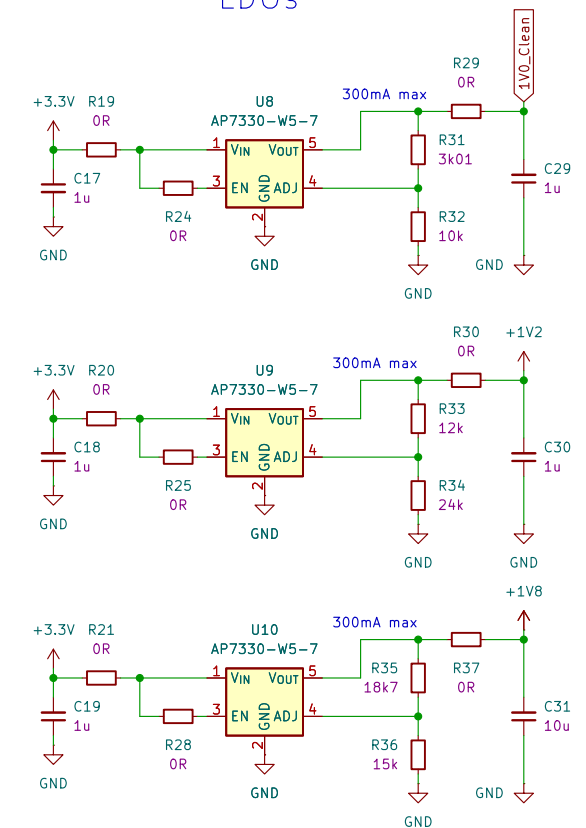
PS BLOCK DIAGRAM



CONVERTERS



LDOs



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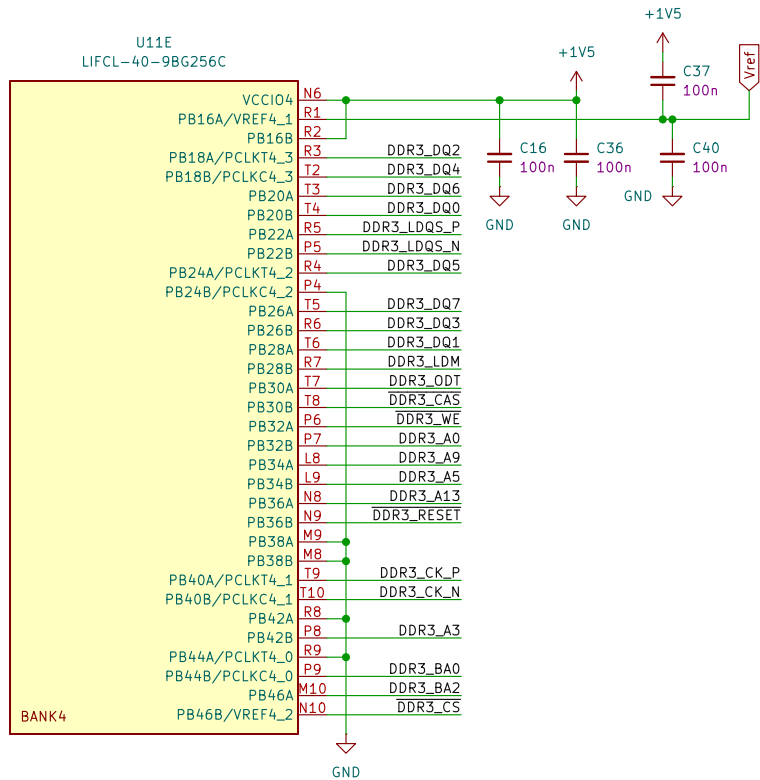
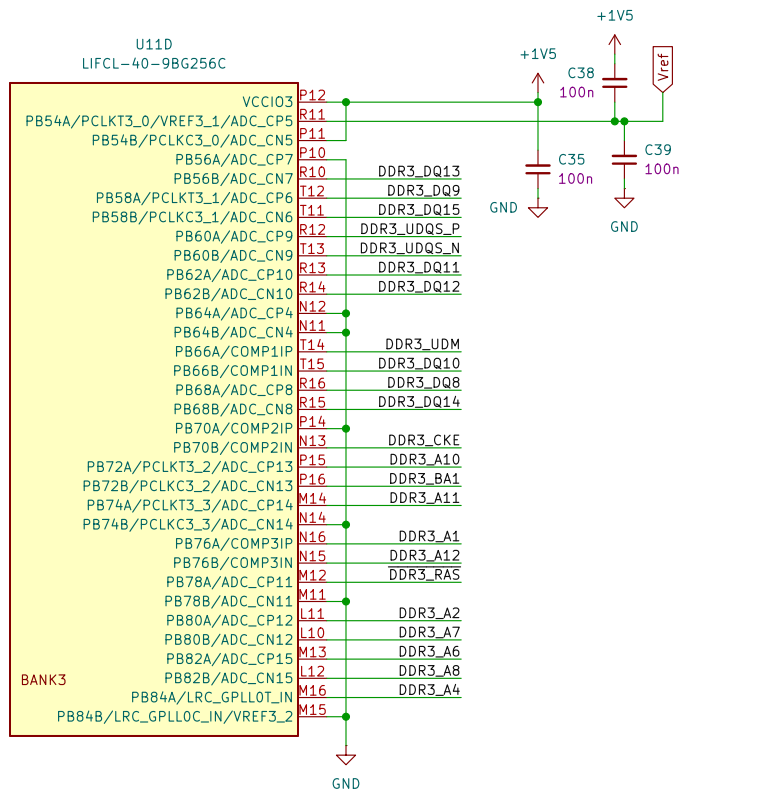
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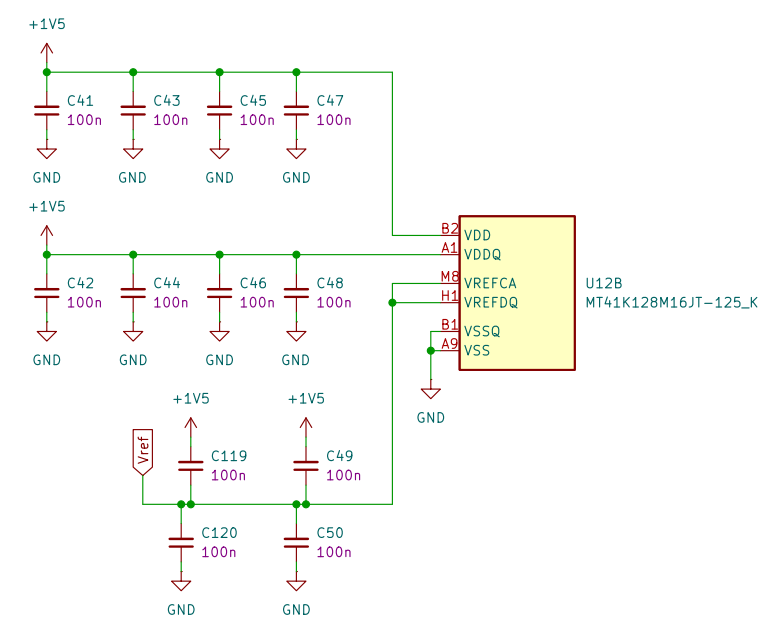
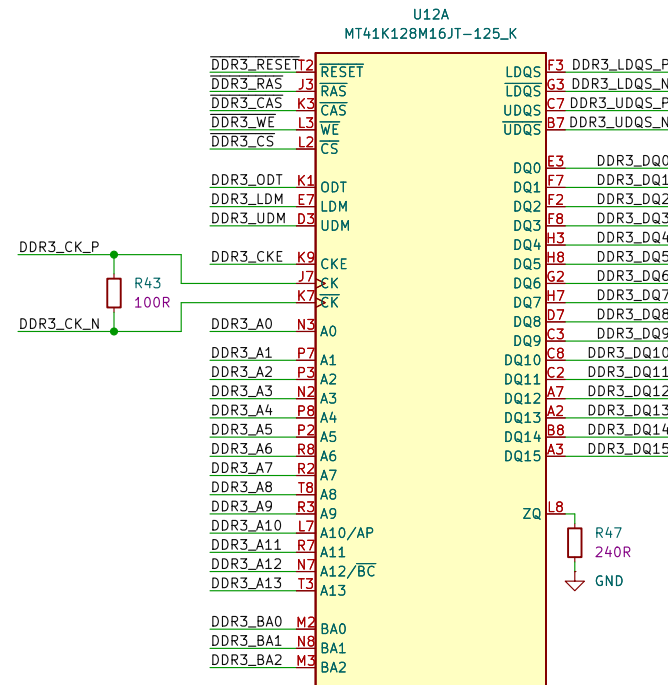
Size: A3	Date: 2023-10-12
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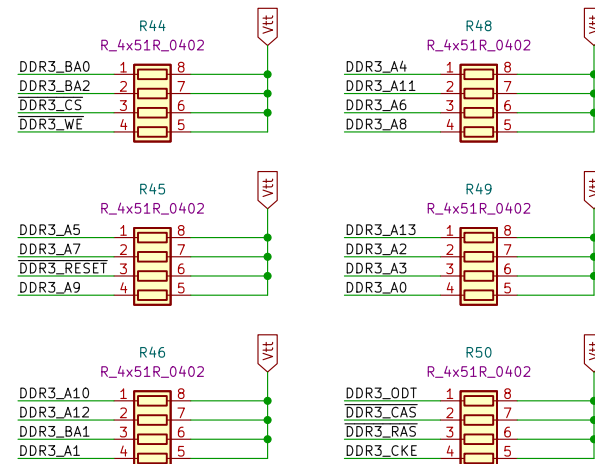
FPGA



RAM



TERMINATION



Signal terminations can be rearranged for easier routing



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KiCad E.D.A. eeschema 6.0.11+dfsg-1-bpo11+1

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The schematic diagram illustrates a cable driver circuit. It features three FPGA banks (U11G, U11H, U11C) and a cable driver (U16 GS2988). The FPGA banks are connected to the cable driver via various pins and signals. The cable driver is connected to a BNC connector (J3) via a series of resistors and capacitors. The circuit is powered by +3.3V and GND.

U11G LIFCL-40-9BG256C

Pin	Signal
VCCIO6	H6 SDIN_TDI
PL24A	H5 SDI_D10
PL24B	H4 SDI_D8
PL26A	H3 TIM_861
PL26B	H1 SDI_D7
PL27A	H2 SDI_D11
PL27B	J6 SDI_D12
PL30A/PCLKT6_0	J5 SDI_D15
PL30B	J1 SDI_D4
PL32A/PCLKT6_1	J2 SDI_D5
PL32B	K1 SDI_D2
PL34A/PCLKT6_2	K2 SDI_D3
PL34B	K4 SDI_D19
PL36A	K3 SDI_D9
PL36B	K6 SDI_D18
PL38A	K5 SDI_D13
PL38B	L1 SDI_D0
PL40A	L2 SDI_D1
PL40B	M1 SDI_STAT4
PL42A	M2 SDI_STAT2
PL42B	L4 SDI_D16
PL46A	L5 SDI_PCLK
PL46B	M3 SDI_STAT1
PL47A	L3 SDI_D6
PL47B	N2 SDI_STAT0
PL49A	N1 SDI_STAT3
PL49B	

U11H LIFCL-40-9BG256C

Pin	Signal
VCCIO7	F5 RESET_TRST
PL3A/ULC_GPLL0T_IN	D4 SDI_D14
PL3B/ULC_GPLL0C_IN	D5 SW_EN
PL4A	D6 SDI_D17
PL4B	F4 CS_TMS
PL6A	F5 SCLK_TCK
PL6B	F6 STANDBY
PL17A/PCLKT7_2	G6 SDO_EN/DIS
PL17B	F4 SDO_OUT_TDO
PL19A/PCLKT7_1	G4 SDO_DISABLE
PL19B	G3 SDI_STAT5
PL20A/PCLKT7_0	

U11C LIFCL-40-9BG256C

Pin	Signal
VCCIO2	J13
PR26A	H16 GPIO0
PR27A	H15 GPIO2
PR27B	H14 GPIO1
PR30A/PCLKT2_0	H11 DVB_ASI
PR30B	H10 DIP1
PR32A/PCLKT2_1	H13 IOPROC_EN/DIS
PR32B	H12 FCC2_SCL2
PR34A/PCLKT2_2	J16 SMPTE_BYPASS
PR34B	J15
PR36A	J11 TXD
PR36B	J12 RXD
PR38A	K11 JTAG/HOST
PR38B	K12 RC_BYP

U16 GS2988

Pin	Signal
Vcc	9
DDI+	1
DDI-	2
DISABLE	6
SD/HD	10
EQ_EN	16
VEE	3
EP	17
OSP	14
RSET	4
SDO+	12
SDO-	11

Components and Connections:

- Power:** +3.3V and GND connections for all components.
- Capacitors:** C65 (100n), C58 (100n), C77 (4u7), C76 (10n), C78 (4u7).
- Resistors:** R38 (OR), R57 (750R), R62 (75R), R60 (75R), R59 (75R), R61 (75R).
- Inductor:** L5 (6n2).
- Connectors:** J4, J6, J1, J2, K1, K2, K4, K3, K6, K5, L1, L2, M1, M2, L4, L5, M3, L3, N2, N1, J13, H16, H15, H14, H11, H10, H13, H12, J16, J15, J11, J12, K11, K12, J9, J12, J11, J10, J9, J8, J7, J6, J5, J4, J3.

Cable driver

SDI Receiver

Antmicro
open source hardware

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KiCad E.D.A. eeschema 6.0.11+dfsg-1-bpo11+1 Id: 5/7



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Title: SDI-MIPI Video Converter

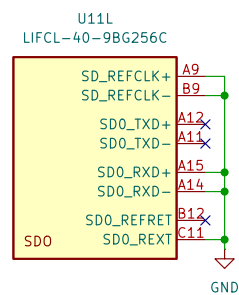
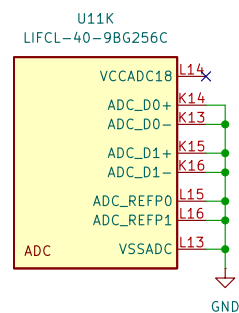
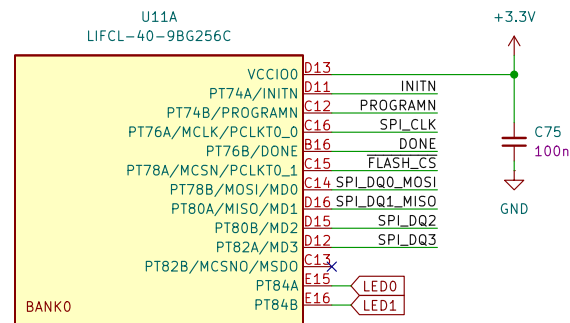
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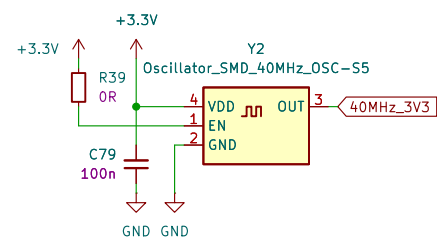
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FPGA

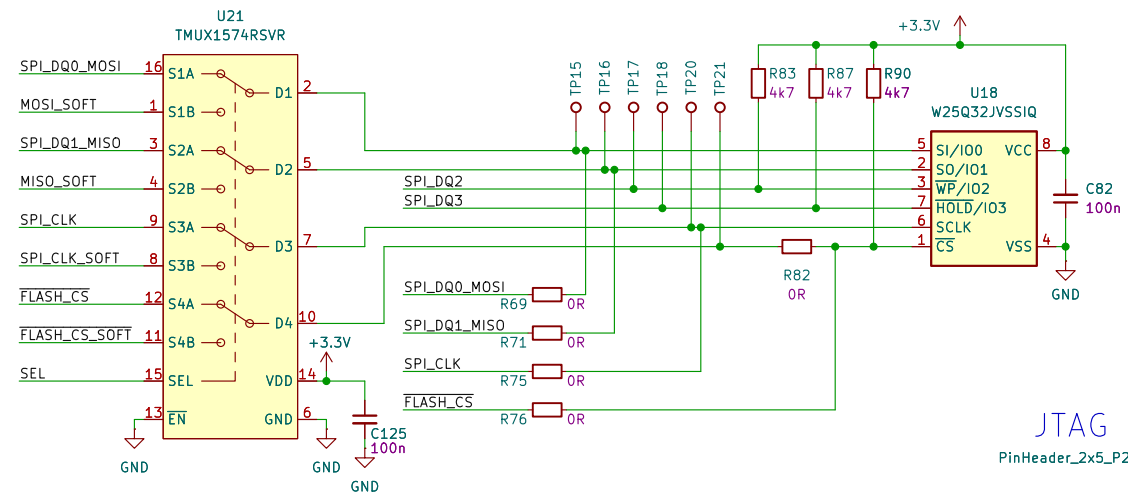


OSCILLATOR OPTIONAL, NORMALLY DNP



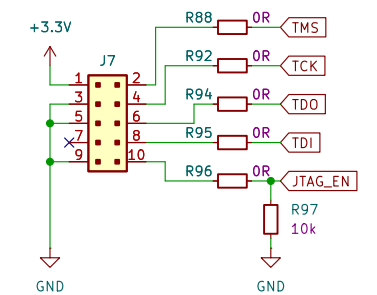
FPGA CONFIGURATION

CONFIGURATION FLASH

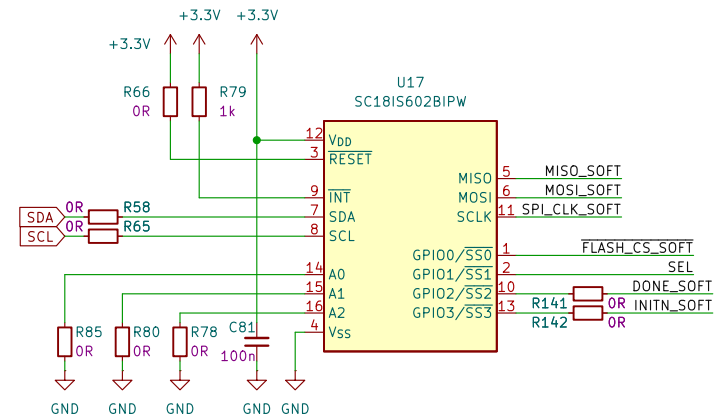


JTAG CONNECTOR

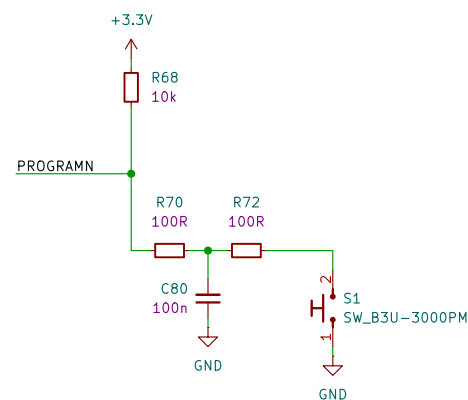
PinHeader_2x5_P2mm_Drill0.71mm_Shrouded



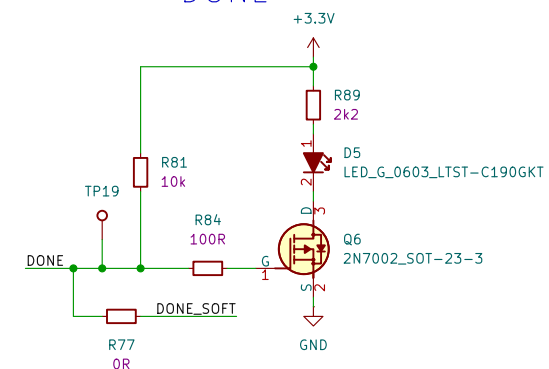
I2C TO SPI BRIDGE



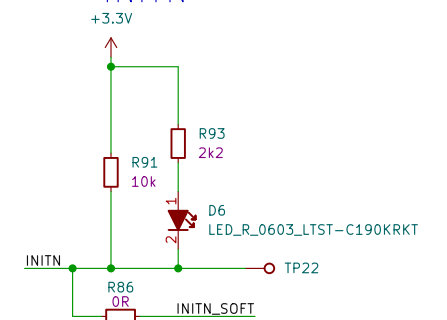
PROGRAMN



DONE



INITN



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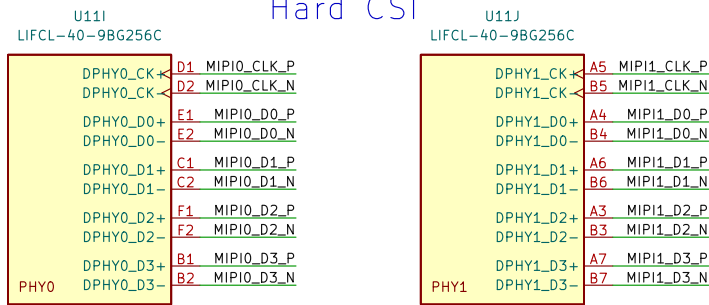
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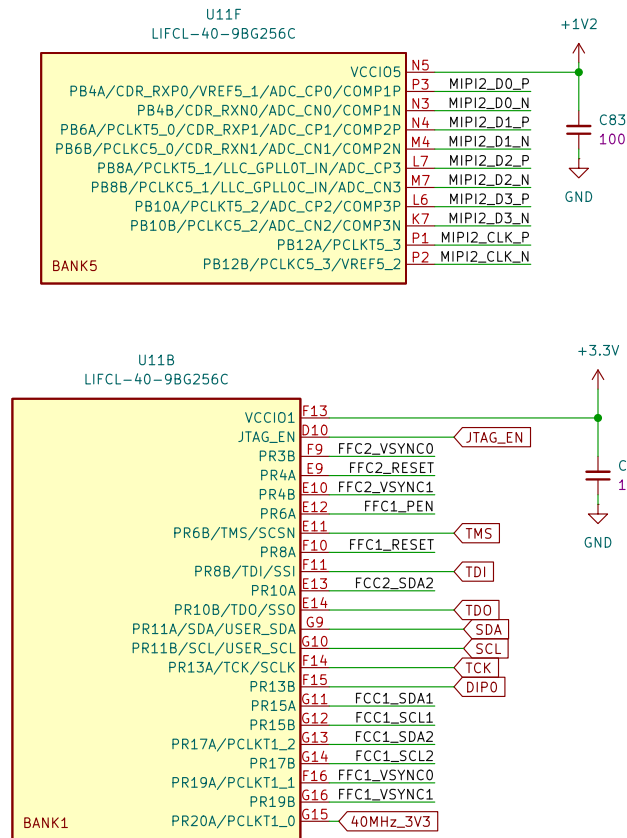
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FPGA

Hard CSI

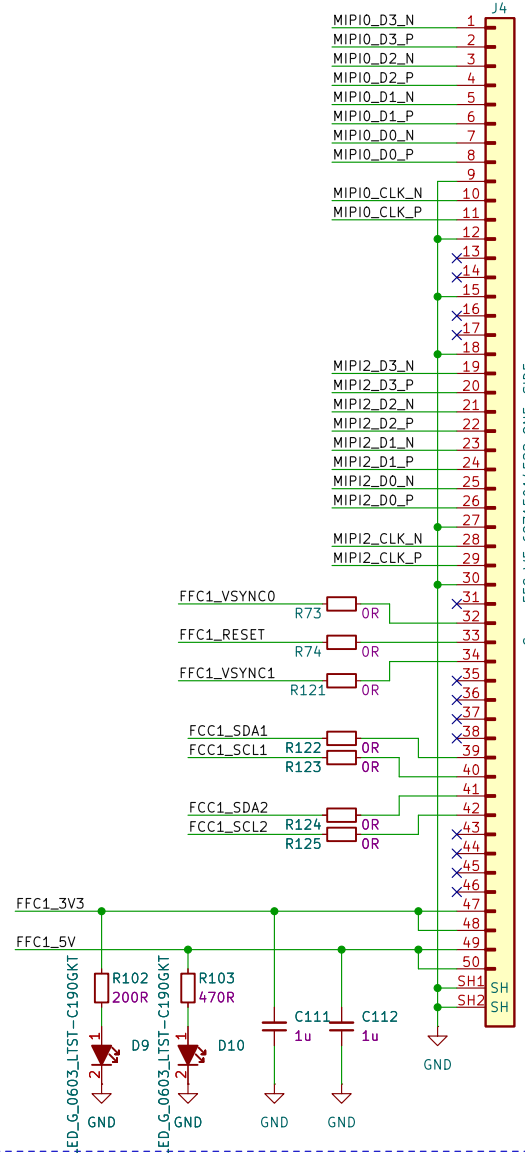


Soft CSI

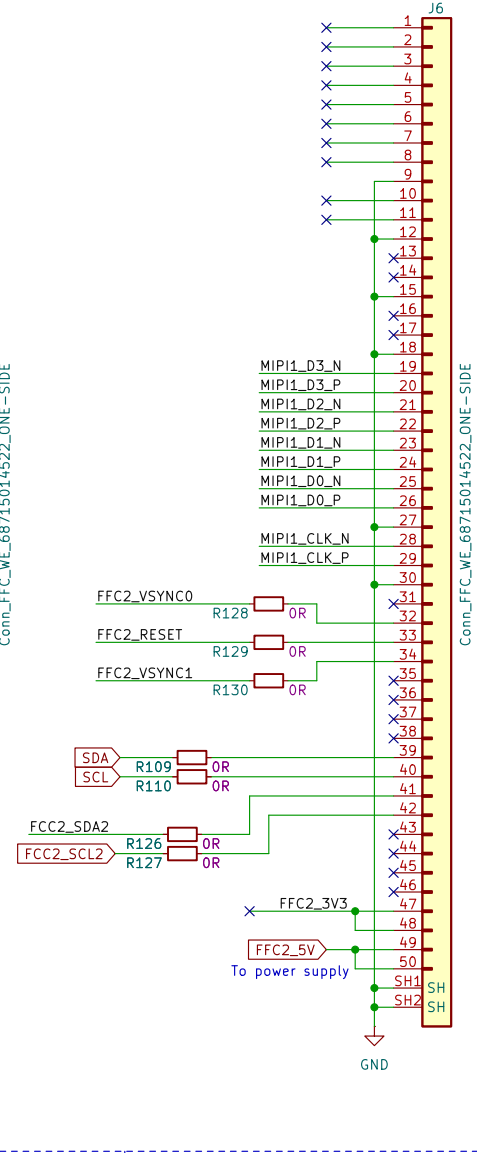


CSI Connectors

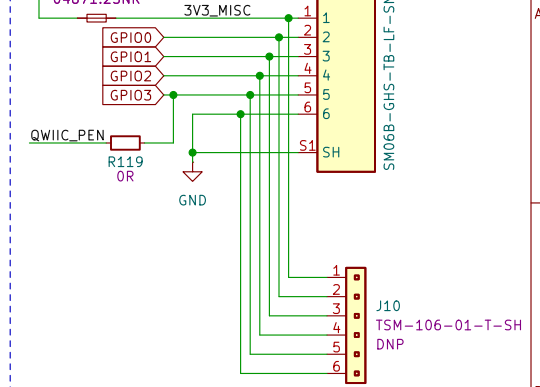
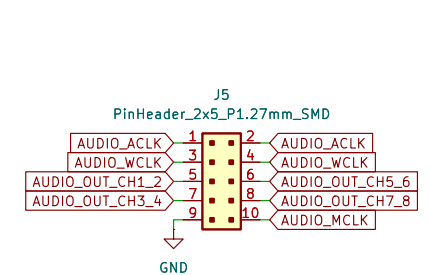
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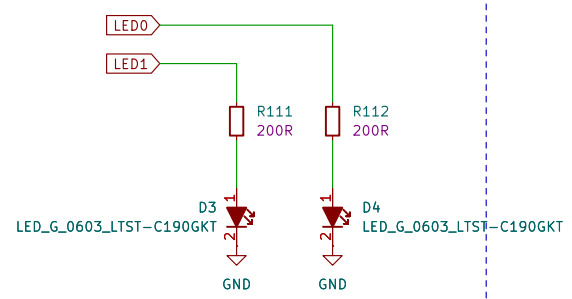
FFC2 POWER SINK



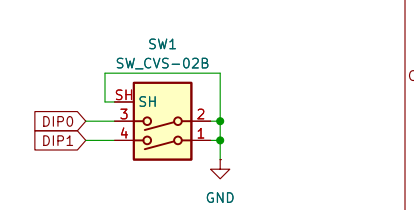
I2S CONNECTOR GPIO CONNECTOR



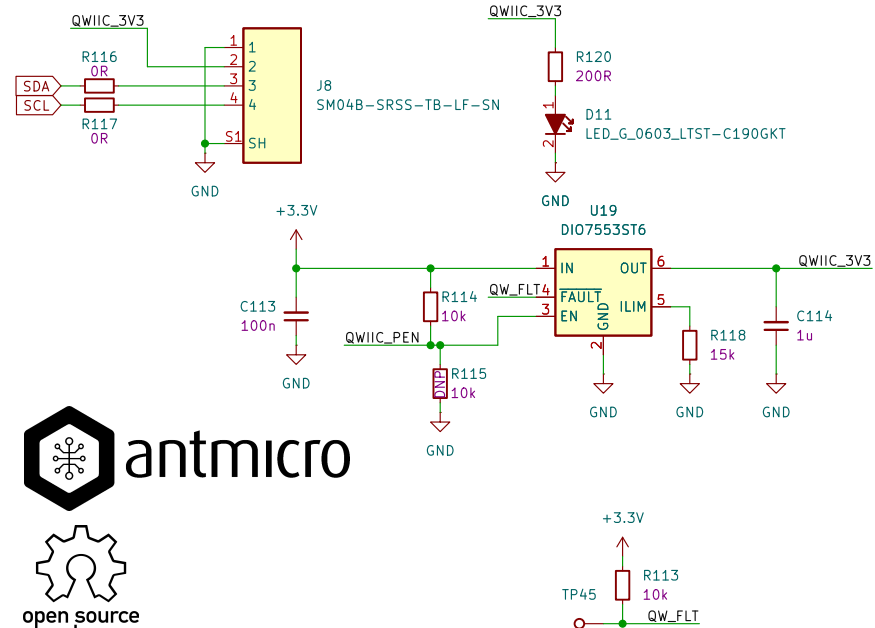
USER LEDs



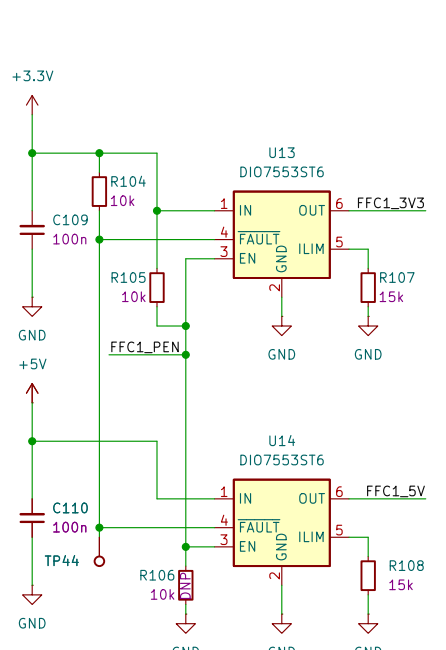
USER SWITCH



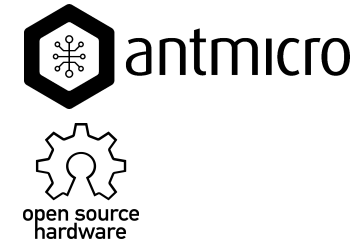
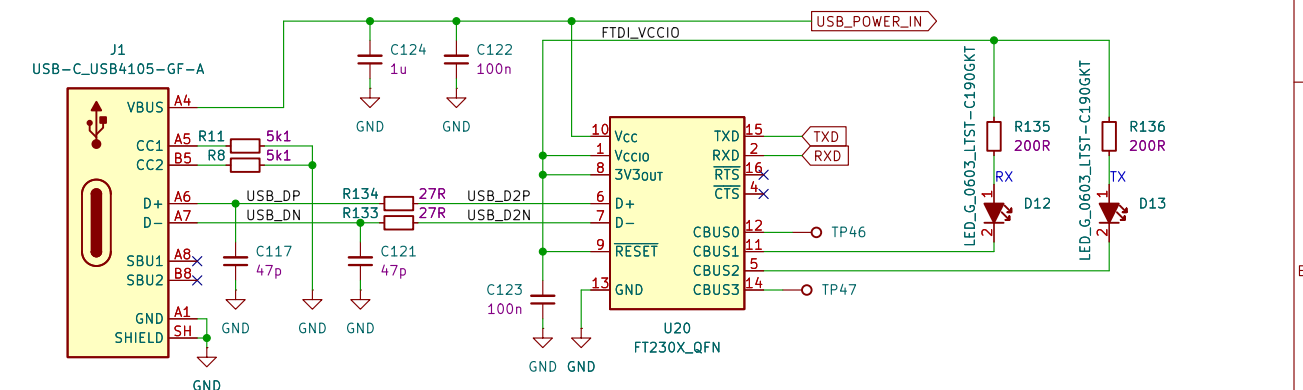
QWIIC CONNECTOR

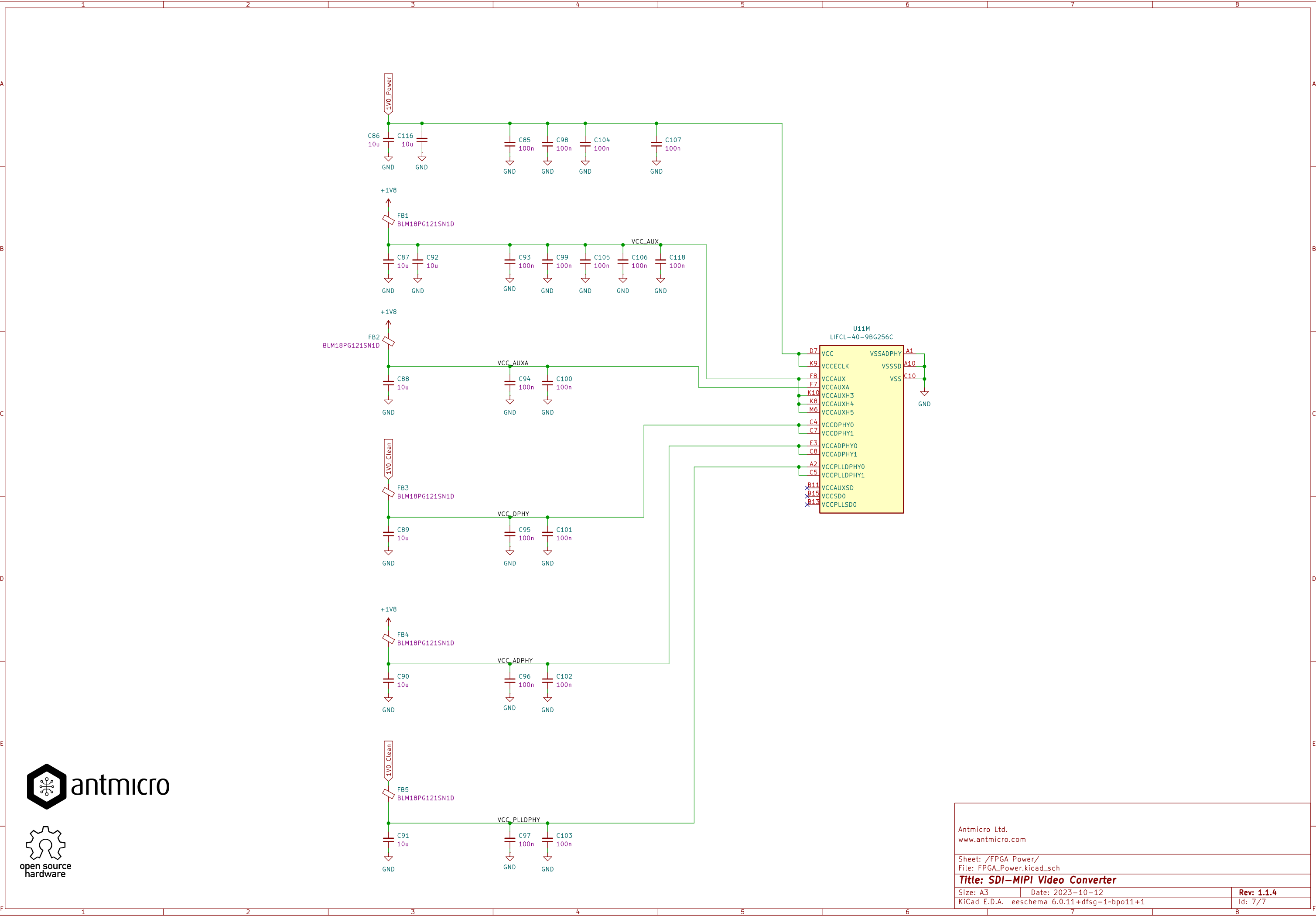


FFC1 POWER SWITCH



USB-C CONNECTOR





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