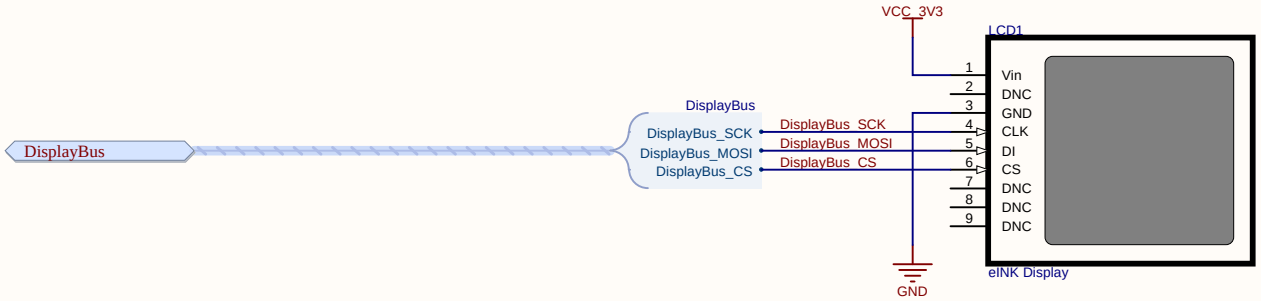
Create OV7690 schematic symbol and connect it up!

CameraBus

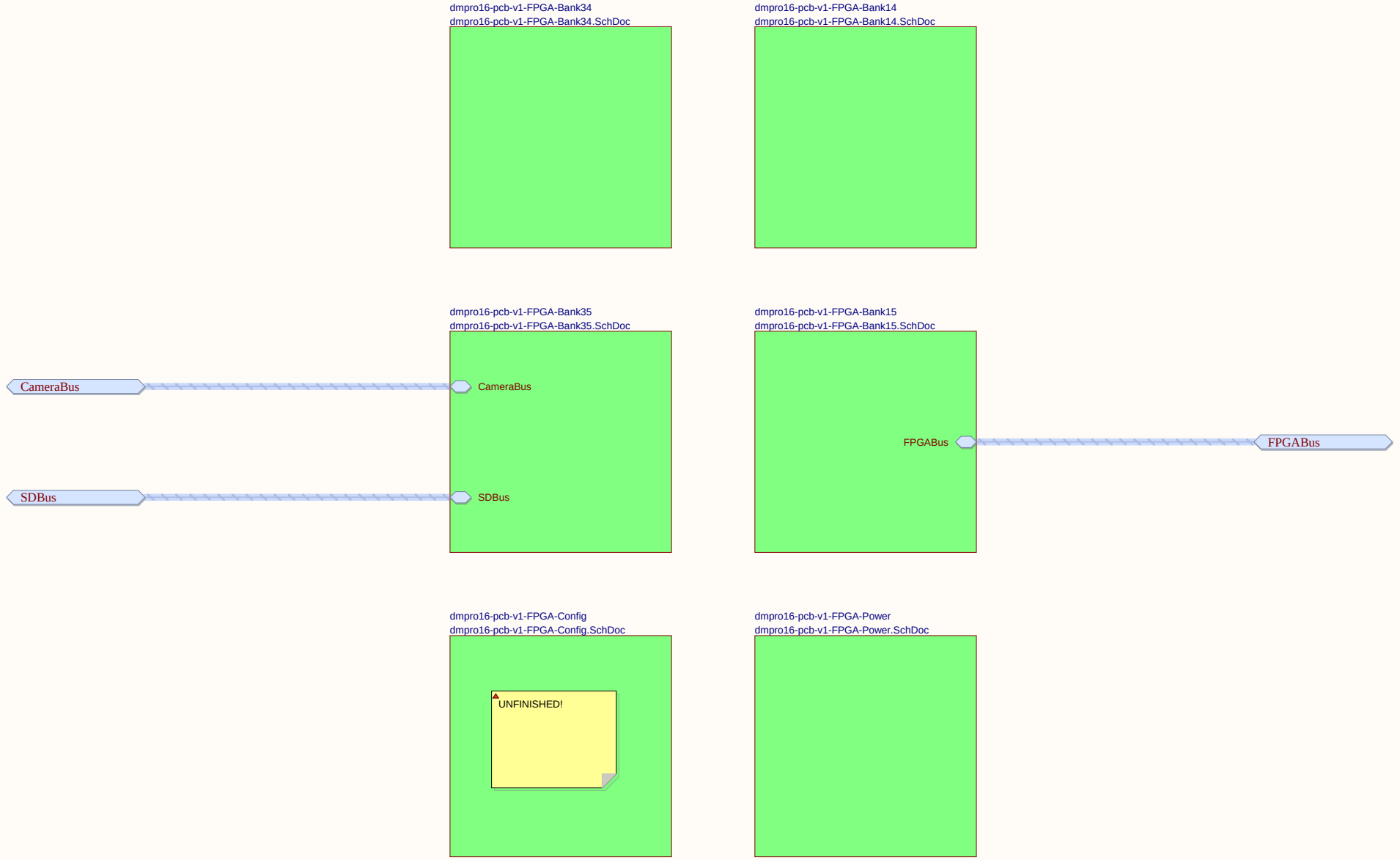
- CameraBus_PWDN
- CameraBus_SDA
- CameraBus_SCL
- CameraBus_DATA0
- CameraBus_DATA1
- CameraBus_HREF
- CameraBus_VSYNC
- CameraBus_DATA2
- CameraBus_PCLK
- CameraBus_XVCLK
- CameraBus_DATA5
- CameraBus_DATA3
- CameraBus_DATA7
- CameraBus_DATA6
- CameraBus_DATA4

CameraBus

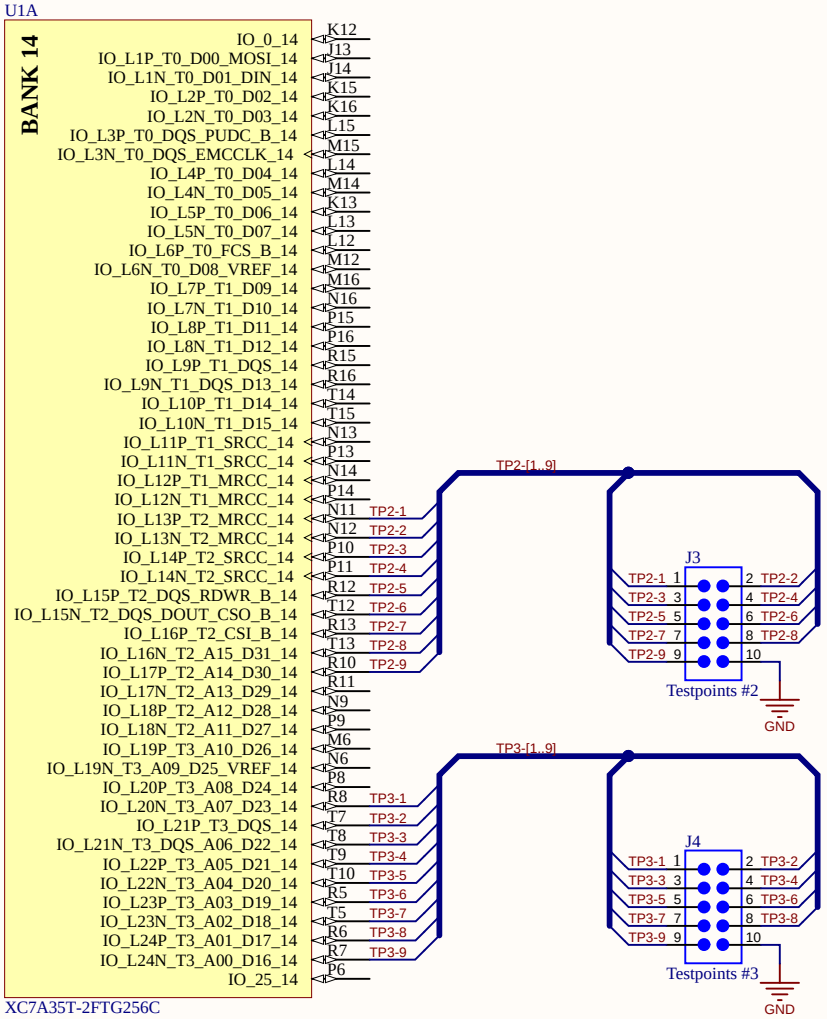
Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-CameraBoard.SchDoc		



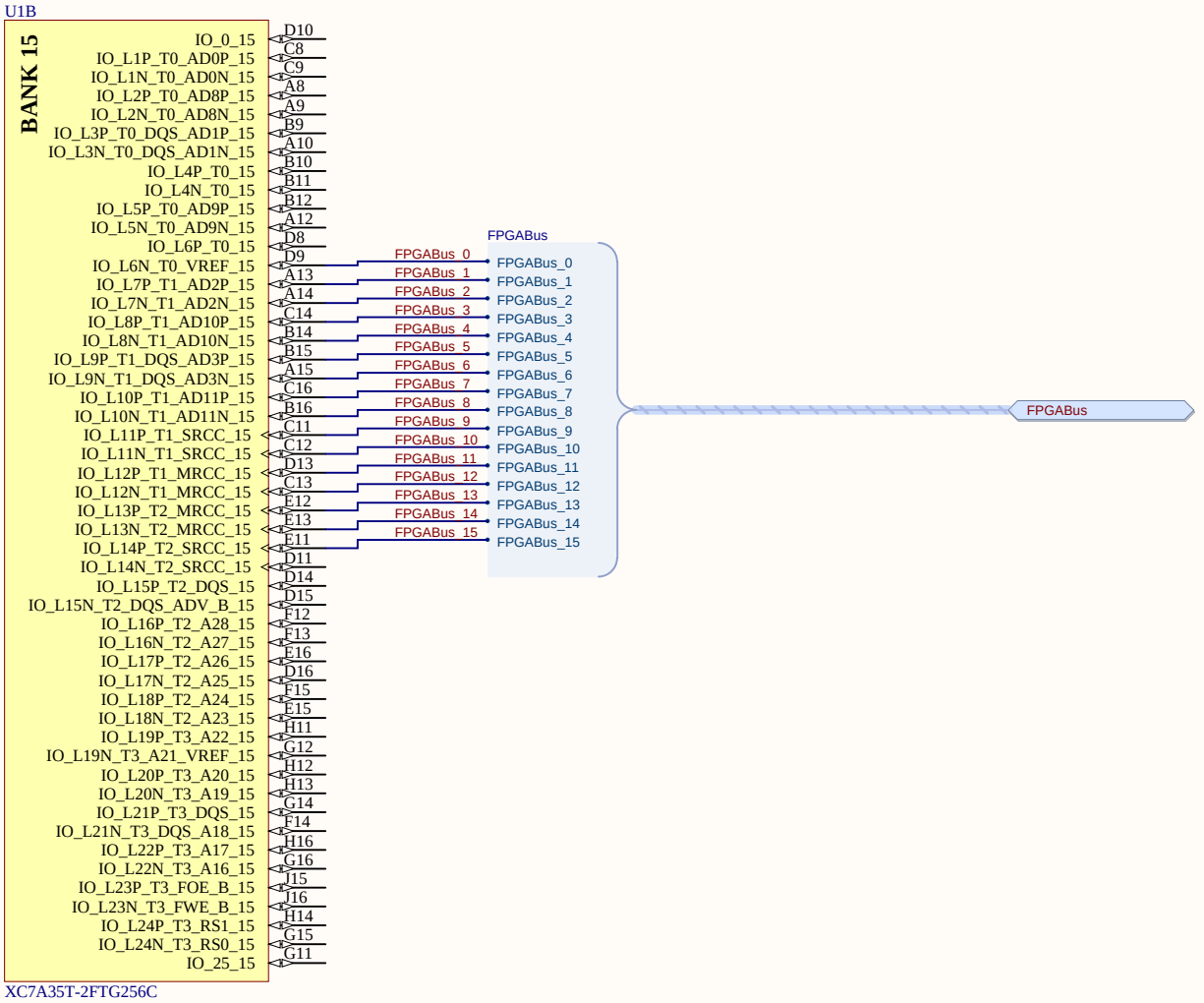
Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-DisplayBoard.SchDoc		



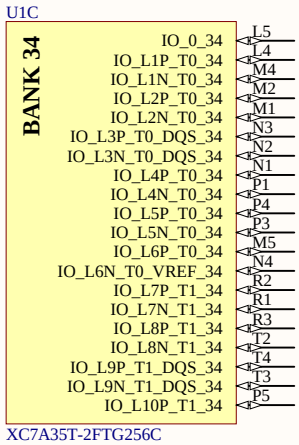
Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-FPGA.SchDoc		



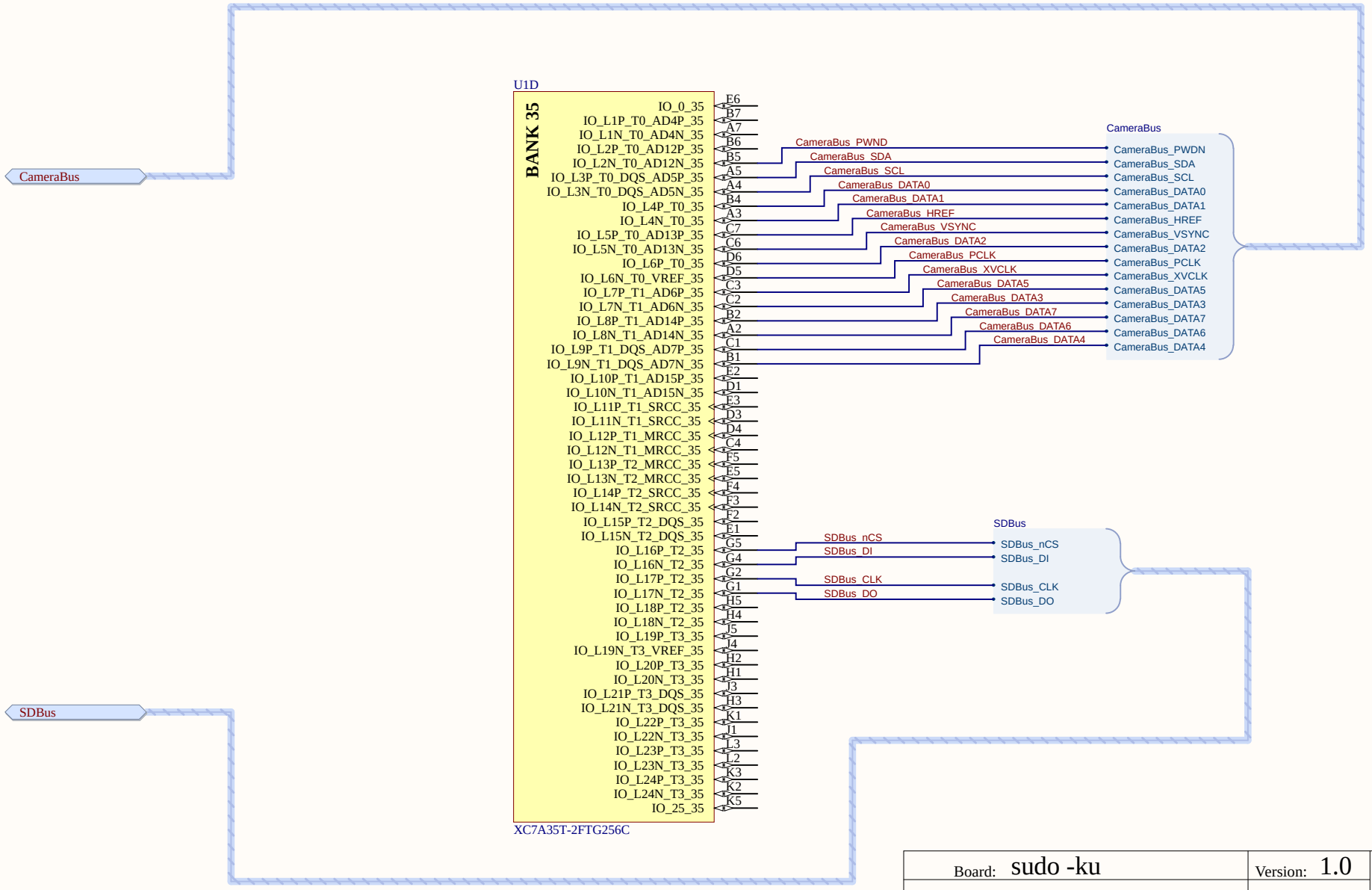
Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-FPGA-Bank14.SchDoc		



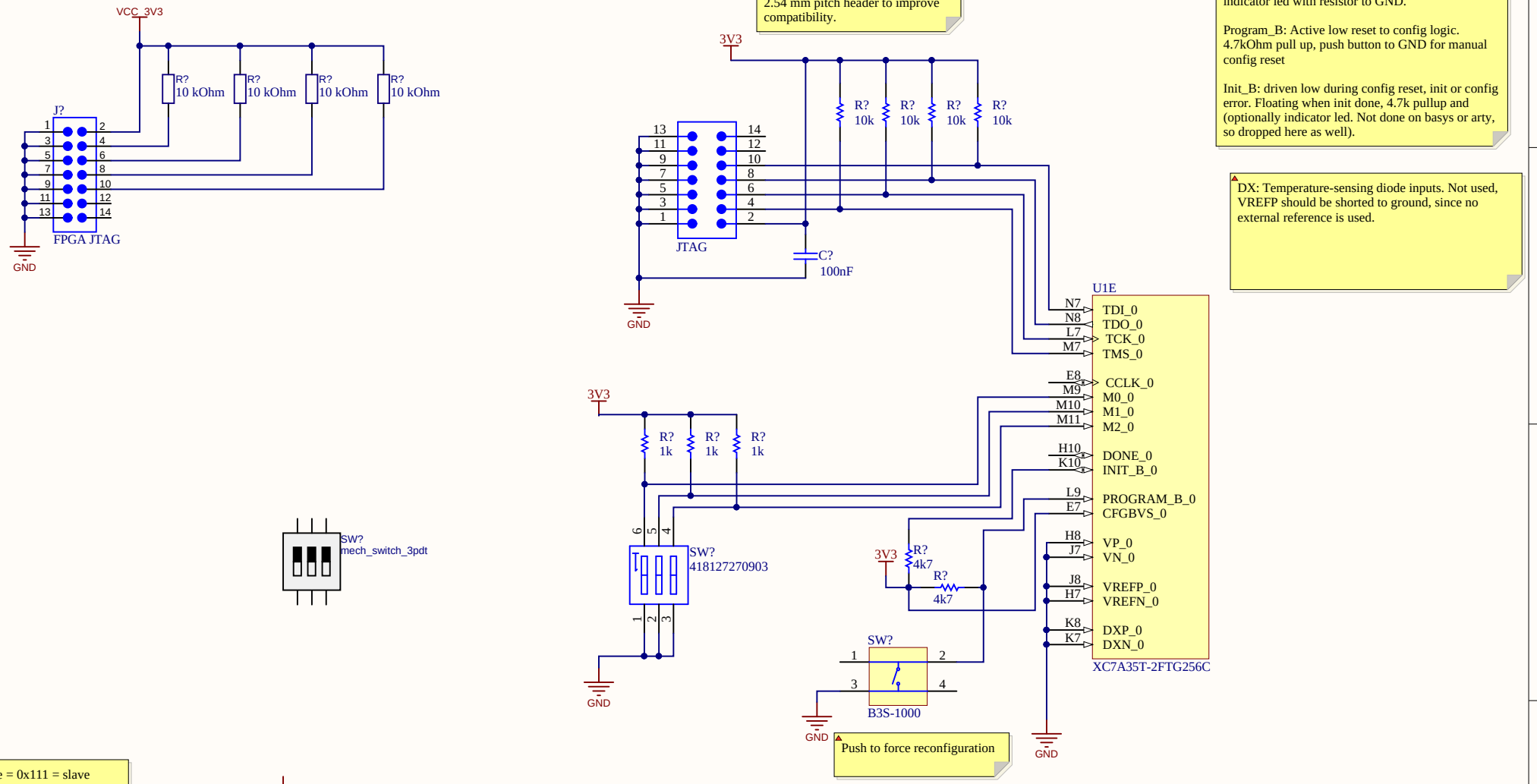
Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-FPGA-Bank15.SchDoc		

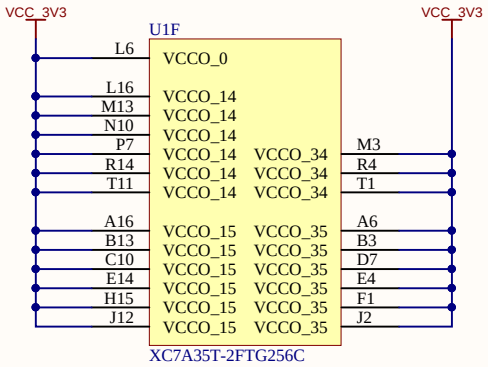


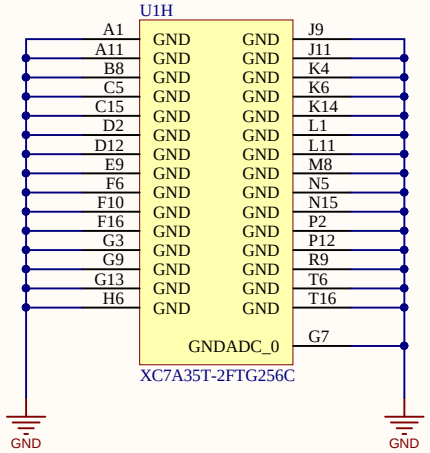
Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-FPGA-Bank34.SchDoc		

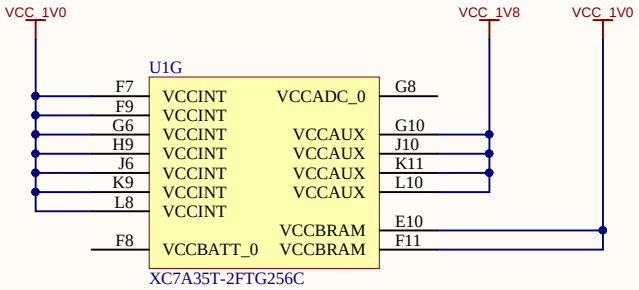


Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-FPGA-Bank35.SchDoc		

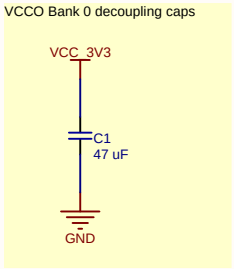

VCC_3V3
R?
10 kOhm
R?
10 kOhm
R?
10 kOhm
R?
10 kOhm
J?
1
2
3
4
5
6
7
8
9
10
11
12
13
14
FPGA JTAG
GND
Note: this is a 2mm pitch jtag connector recommended by xilinx, might need to change later. Might even be better to have standard 2.54 mm pitch header to improve compatibility.
3V3
R?
10k
R?
10k
R?
10k
R?
10k
13
14
11
12
9
10
7
8
5
6
3
4
1
2
JTAG
C?
100nF
GND
Done: High (open drain) when config done. indicator led with resistor to GND.
Program_B: Active low reset to config logic. 4.7kOhm pull up, push button to GND for manual config reset
Init_B: driven low during config reset, init or config error. Floating when init done, 4.7k pullup and (optionally indicator led. Not done on basys or arty, so dropped here as well).
DX: Temperature-sensing diode inputs. Not used, VREFP should be shorted to ground, since no external reference is used.
U1E
N7
N8
L7
M7
TDI_0
TDO_0
TCK_0
TMS_0
E8
M9
M10
M11
CCLK_0
M0_0
M1_0
M2_0
H10
K10
DONE_0
INIT_B_0
L9
E7
PROGRAM_B_0
CFGBVS_0
H8
J7
VP_0
VN_0
J8
H7
VREFP_0
VREFN_0
K8
K7
DXP_0
DXN_0
XC7A35T-2FTG256C
3V3
R?
1k
R?
1k
R?
1k
6
5
4
SW?
418127270903
1
2
3
GND
SW?
mech_switch_3pdt
3V3
R?
4k7
R?
4k7
SW?
1
2
3
4
B3S-1000
GND
Push to force reconfiguration
GND
SW?
SPST Push Button
Default value = 0x111 = slave serial (internal pull ups in FPGA)
M[2:0]=
0x111 : Slave serial
0x101 : JTAG only
0x001 : Master SPI x1, x2, x4
0x000 : Master Serial
Board: sudo -ku
Version: 1.0
Sheetname: SheetName
Sheet * of *
Subject: TDT4295 Computer Project
Group: Energy
Shematic file: dmpro16-pcb-v1-FPGA-Config.SchDoc

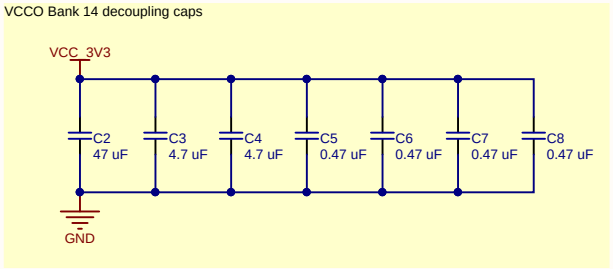


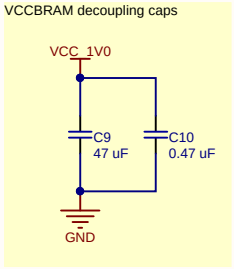


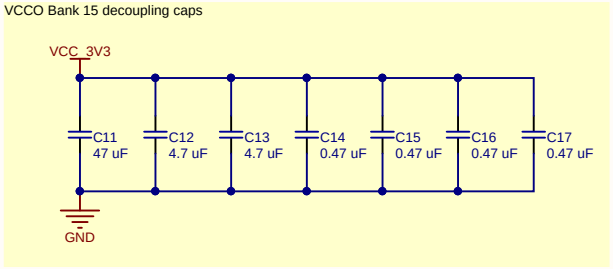


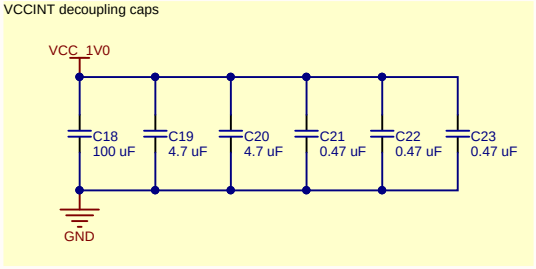
Do VCCADC and VCCBATT have to be connected to anything? If so, what can they be connected to?

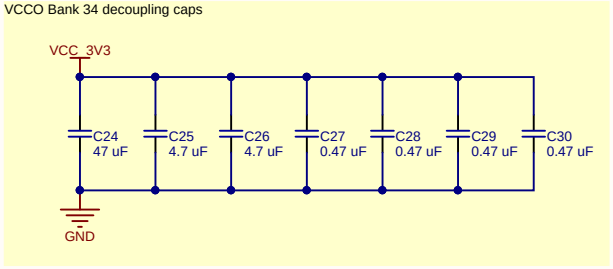


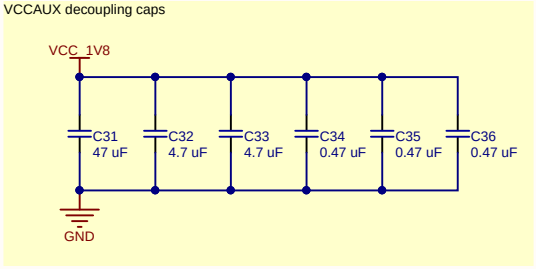


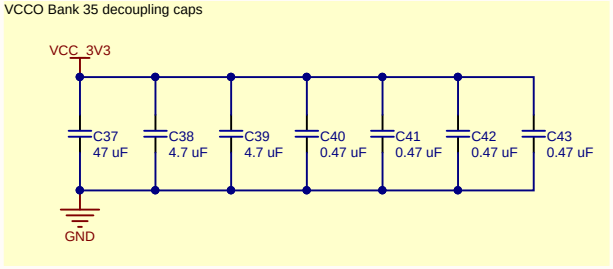




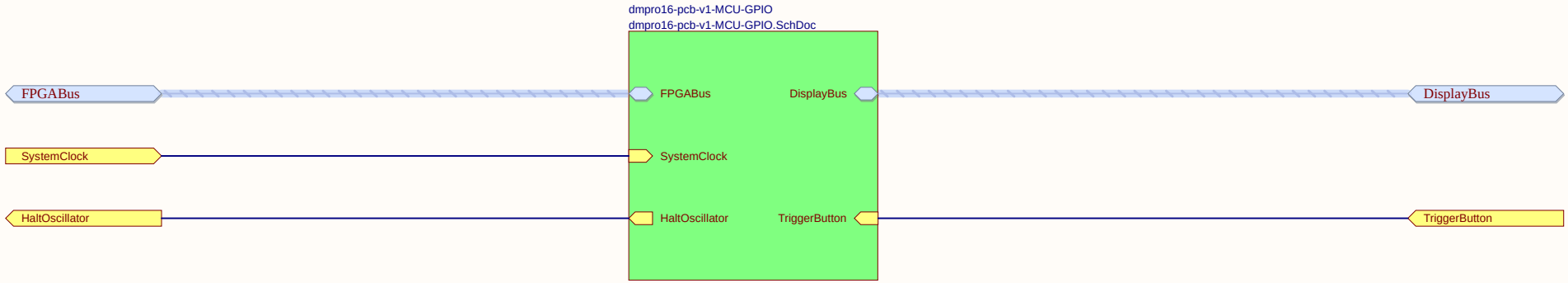






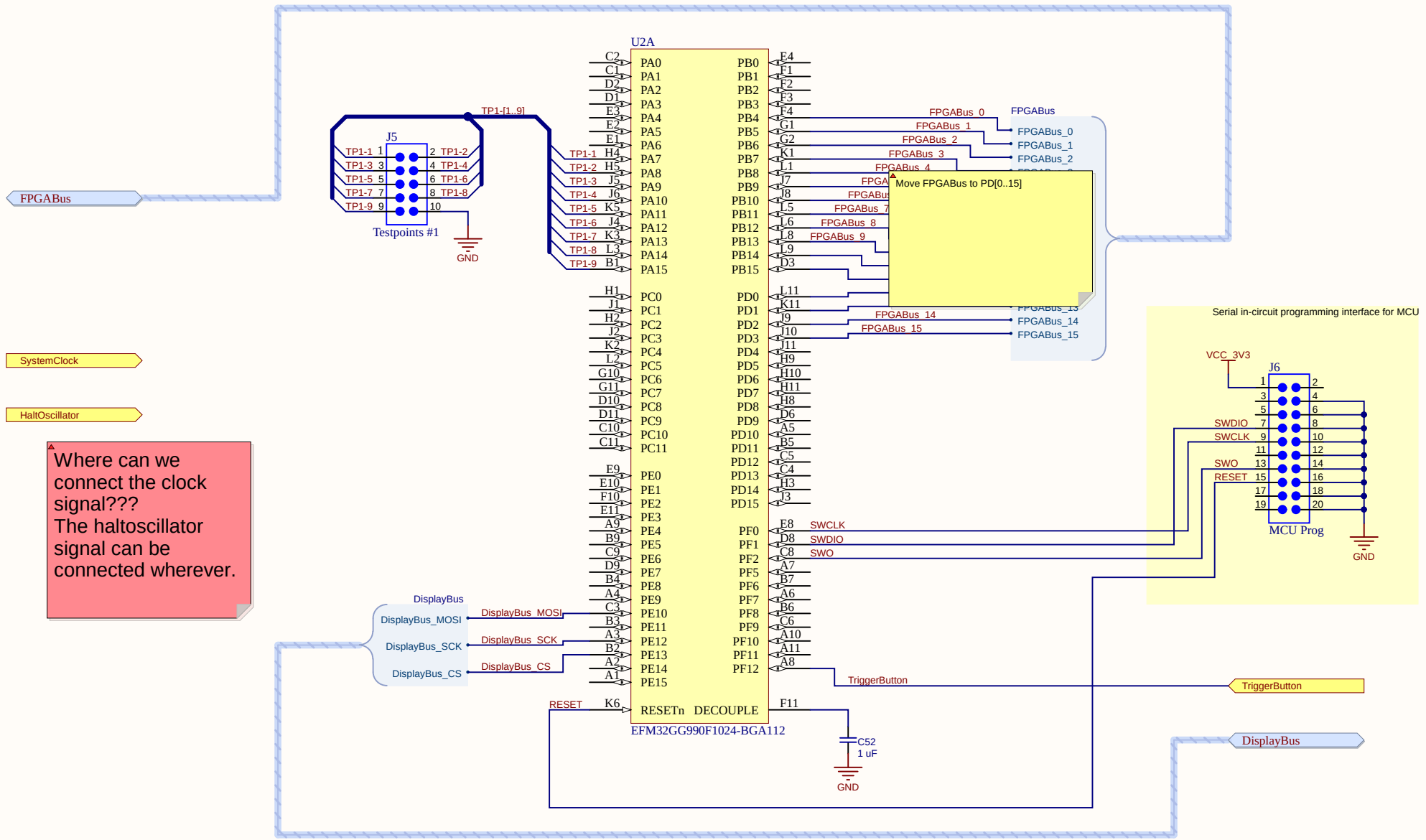


Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-FPGA-Power.SchDoc		

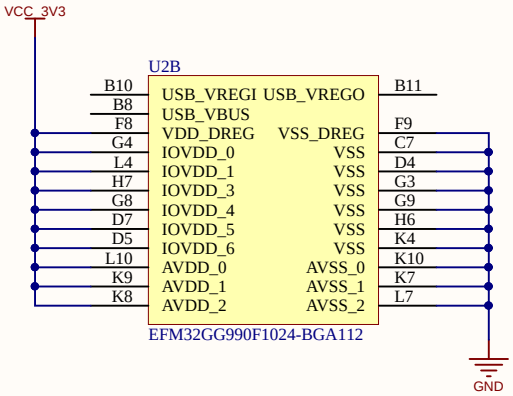


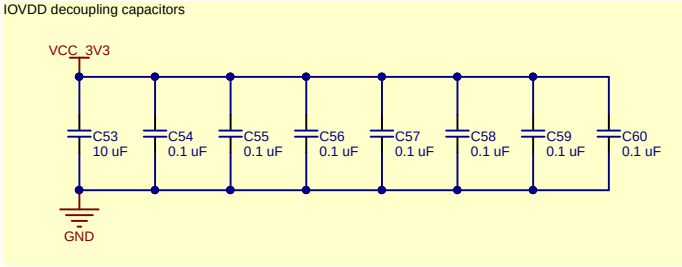
dmpro16-pcb-v1-MCU-Power
dmpro16-pcb-v1-MCU-Power.SchDoc

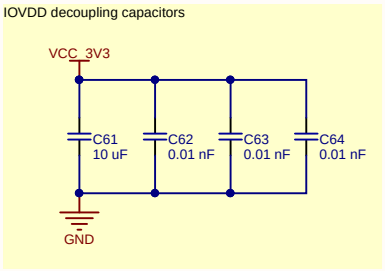
Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-MCU.SchDoc		

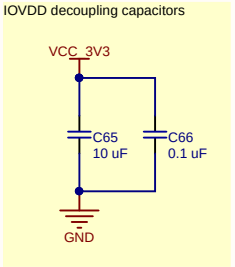


Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-MCU-GPIO.SchDoc		



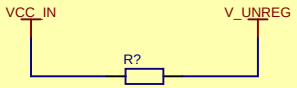




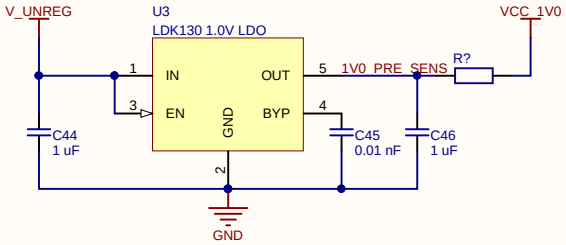


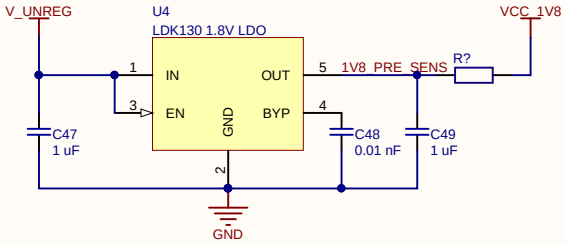
Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-MCU-Power.SchDoc		

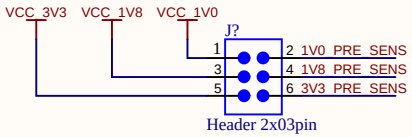
This resistor measures the current consumption through VCC_IN.
It's used in characterization of the circuit efficiency.

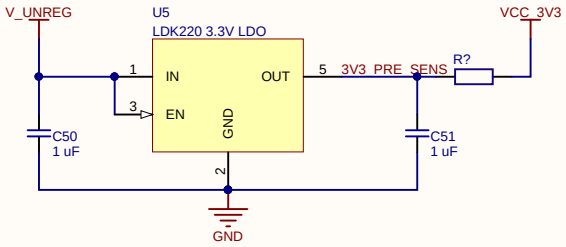


We assume 4 AAA cells provide battery power to the device. Ideally, one would use Li-ion batteries and switch mode power supplies

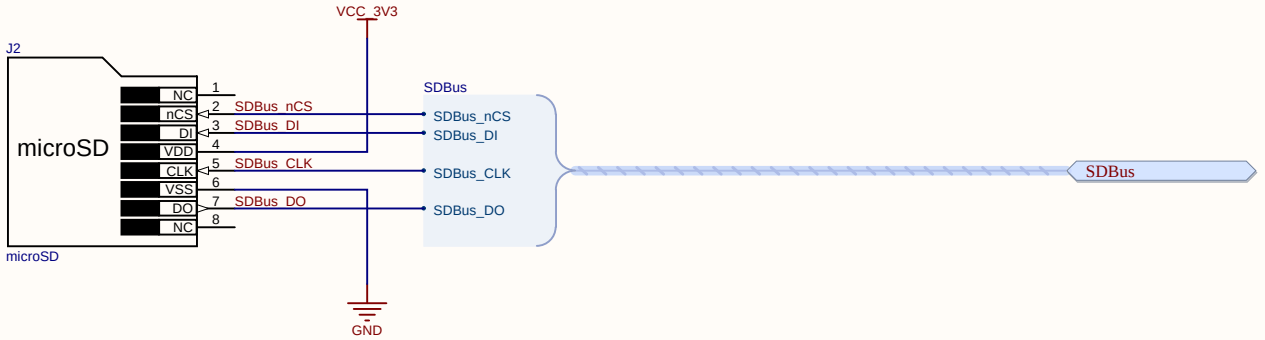




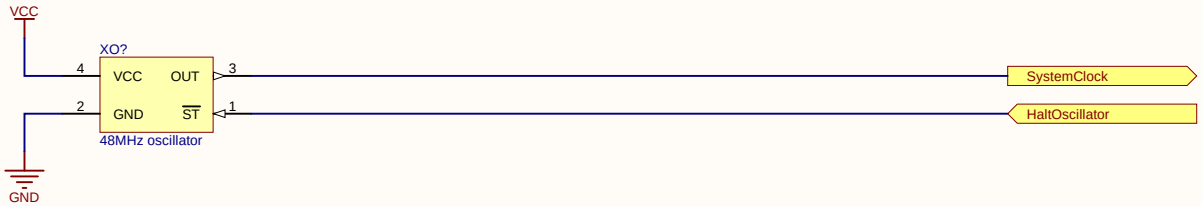




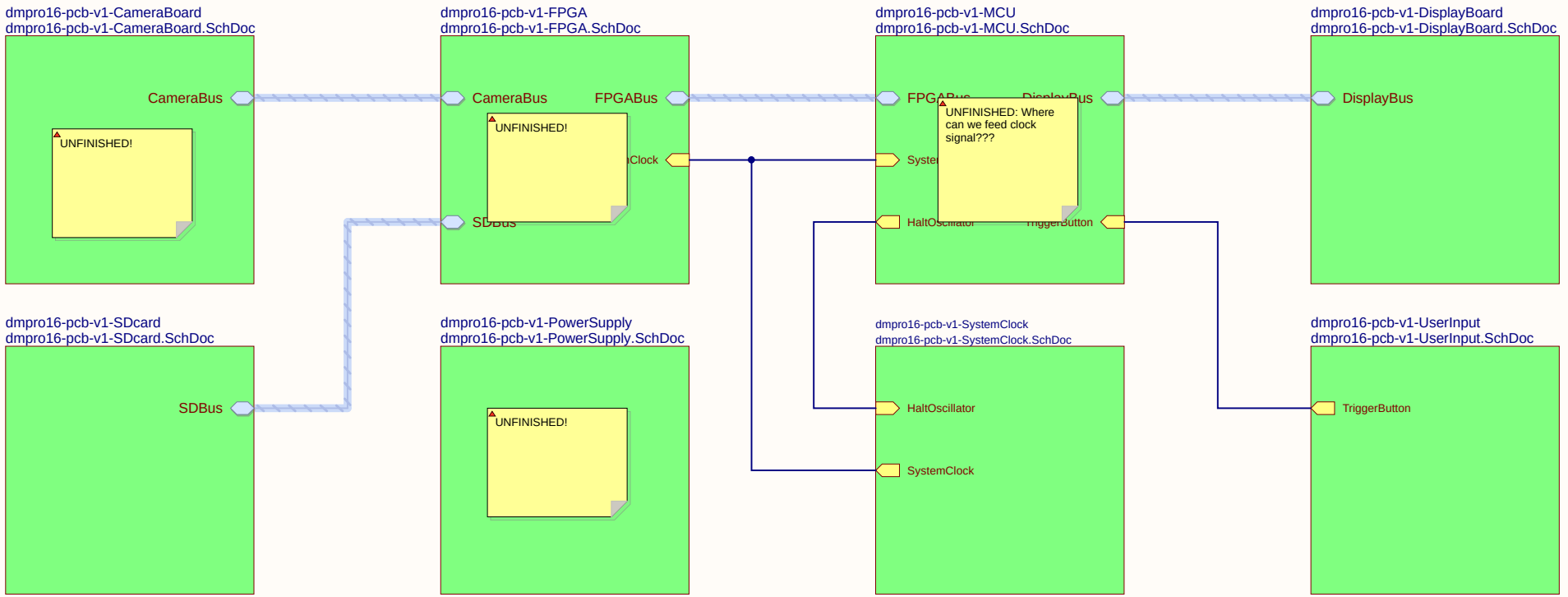
Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-PowerSupply.SchDoc		



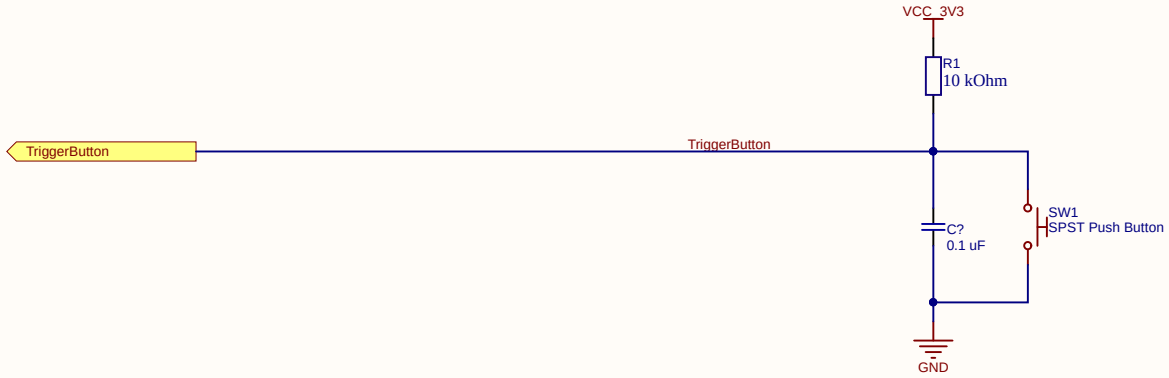
Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-SDcard.SchDoc		



Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-SystemClock.SchDoc		



Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-TopLevel.SchDoc		



Trigger Button: Triggers the MCU to wake up from sleep and start a new aqcuisition.

Board:	sudo -ku	Version:	1.0
Sheetname:	SheetName	Sheet * of *	
Subject:	TDT4295 Computer Project	Group:	Energy
Shematic file:	dmpro16-pcb-v1-UserInput.SchDoc		

Board: sudo -ku		Version: 1.0
Sheetname: SheetName		Sheet * of *
Subject: TDT4295 Computer Project		Group: Energy
Shematic file: schematic_A4_template.SchDot		