

fpga_ddr



File: [fpga_ddr.kicad_sch](#)

fpga_adc



File: [fpga_adc.kicad_sch](#)

fpga_power



File: [fpga_power.kicad_sch](#)

fpga_ft601



File: [fpga_ft601.kicad_sch](#)

fpga_misc

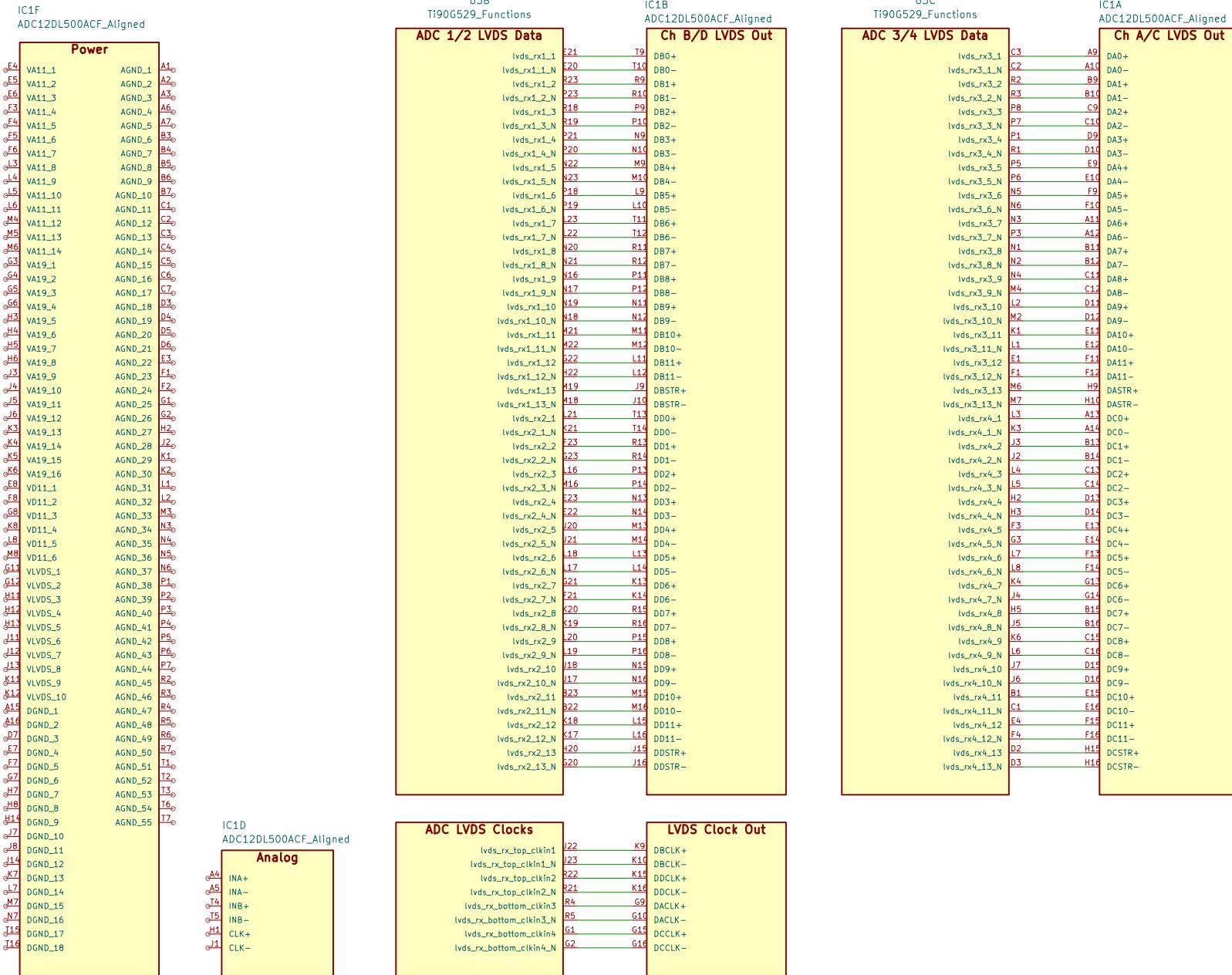


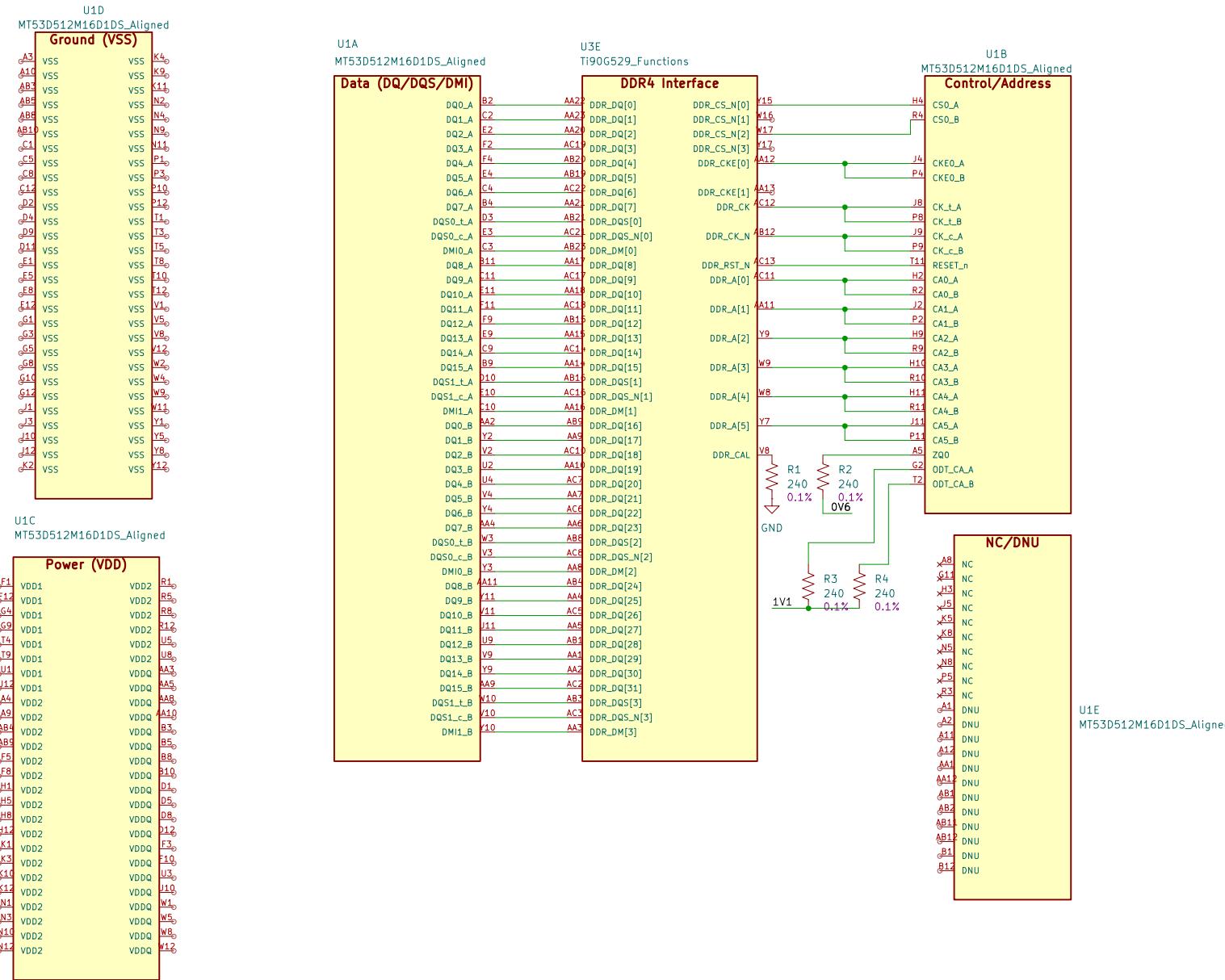
File: [fpga_misc.kicad_sch](#)

fpga_config



File: [fpga_config.kicad_sch](#)





U3H
Ti90G529_Functions

VCC Power		
j11	VCC	VCCI03C D7 ₀
j13	VCC	VCCI04A D4 ₀
j15	VCC	VCCI04A F6 ₀
j9	VCC	VCCI04A G4 ₀
j10	VCC	VCCI04B K7 ₀
j14	VCC	VCCI04B M5 ₀
j11	VCC	VCCI04B M8 ₀
j13	VCC	VCCI04C N7 ₀
j13	VCC	VCCI04C P2 ₀
j15	VCC	VCCI04C P4 ₀
j9	VCC	VDDPLL_MCB_TOP_PHY J1 ₀
M10	VCC	VDDQX_PHY J10 ₀
M12	VCC	VDDQX_PHY J13 ₀
M11	VCC	VDDQX_PHY J15 ₀
N11	VCC	VDDQX_PHY U9 ₀
N11	VCC	VDDQX_PHY J11 ₀
N11	VCC	VDDQX_PHY J12 ₀
N9	VCC	VDDQX_PHY J14 ₀
J16	VCC	VDDQX_PHY V9 ₀
J18	VCC	VDDQZ_CLK_PHY J12 ₀
U14	VCC	VDDQ_PHY B10 ₀
U8	VCC	VDDQ_PHY B14 ₀
J16	VCCAUX	VDDQ_PHY B18 ₀
K8	VCCAUX	VDDQ_PHY A6 ₀
B14	VCCAUX	VDDQ_PHY J16 ₀
R8	VCCAUX	VDDQ_PHY V18 ₀
R7	VCCA_BL	VDDQ_PHY W7 ₀
J8	VCCA_BR	VDDQ_PHY Y1 ₀
G17	VCCA_TL	VDDQ_PHY J11 ₀
H14	VCCA_TR	VDDQ_PHY J13 ₀
J11	VCCI02A	VDDQ_PHY J18 ₀
P22	VCCI02A	VDDQ_PHY Z2 ₀
S20	VCCI02A	VDDQ_PHY Z3 ₀
H23	VCCI02B	VDDQ_PHY Y3 ₀
G22	VCCI02B	VDDQ_PHY Y5 ₀
M17	VCCI02B	VDD_PHY J11 ₀
E18	VCCI02C	VDD_PHY J12 ₀
H11	VCCI02C	VDD_PHY J16 ₀
K11	VCCI02C	VDD_PHY J15 ₀
J14	VCCI033_BL	VDD_PHY P9 ₀
V2	VCCI033_BL	VDD_PHY R10 ₀
F8	VCCI033_BR	VDD_PHY R11 ₀
J15	VCCI033_TL	VDD_PHY R13 ₀
J22	VCCI033_TL	VDD_PHY R14 ₀
J16	VCCI033_TR	VDD_PHY J10 ₀
G17	VCCI03A	VDD_PHY J11 ₀
D16	VCCI03A	VDD_PHY J13 ₀
G13	VCCI03B	VDD_PHY J14 ₀
F14	VCCI03B	VDD_PHY J15 ₀
G10	VCCI03B	VDD_PHY T9 ₀
G8	VCCI03B	VQPS U7 ₀
E8	VCCI03C	

U3I
Ti90G529_Functions

GND		
A3	GND	GND J12 ₀
A19	GND	GND J14 ₀
A23	GND	GND M1 ₀
A19	GND	GND J11 ₀
A51	GND	GND J13 ₀
A53	GND	GND J15 ₀
A51	GND	GND J20 ₀
A52	GND	GND J23 ₀
A52	GND	GND M3 ₀
A53	GND	GND M9 ₀
A57	GND	GND J10 ₀
AC1	GND	GND J12 ₀
AC13	GND	GND J14 ₀
AC20	GND	GND N8 ₀
AC23	GND	GND J10 ₀
AC1	GND	GND J13 ₀
AC3	GND	GND J16 ₀
B11	GND	GND S12 ₀
B14	GND	GND S15 ₀
B21	GND	GND R9 ₀
B3	GND	GND J1 ₀
B6	GND	GND J12 ₀
D1	GND	GND J21 ₀
D10	GND	GND J23 ₀
D19	GND	GND J17 ₀
D22	GND	GND J11 ₀
F2	GND	GND J14 ₀
F20	GND	GND J10 ₀
F22	GND	GND J13 ₀
H1	GND	GND J15 ₀
H23	GND	GND J17 ₀
H4	GND	GND V7 ₀
H7	GND	GND J10 ₀
J10	GND	GND J12 ₀
J12	GND	GND J14 ₀
J14	GND	GND J16 ₀
J19	GND	GND J18 ₀
K11	GND	GND Y2 ₀
K11	GND	GND J20 ₀
K15	GND	GND J22 ₀
K2	GND	GND Y4 ₀
K5	GND	GND Y6 ₀
K9	GND	GND Y8 ₀
J10	GND	

U3F
T90G529_Functions

Misc I/O		
C13	boardin[0]	LED[0] U1
E11	boardin[1]	LED[1] V1
H14	boardin[2]	LED[2] V3
O14	boardin[3]	LED[3] V3
A7	boardin[4]	adc_clkout J17
B13	boardin[5]	auxout D19
B20	boardin[6]	boardout[0] J11
H9	boardin[7]	boardout[1] J11
J16	ddr_pulin	boardout[2] J12
C6	ext_ckin	boardout[3] J12
F5	exttrigin	boardout[4] J12
C17	lockinfo[0]	boardout[5] J12
C18	lockinfo[1]	boardout[6] A14
A20	lockinfo[2]	boardout[7] G13
O16	lockinfo[3]	debugout[0] C8
S2	lvdsin_clk	debugout[10] H10
F3	lvdsin_clk_N	debugout[11] A11
G6	lvdsin_spare	debugout[1] D8
H6	lvdsin_spare_N	debugout[2] A9
B2	lvdsin_trig	debugout[3] B9
A2	lvdsin_trig_N	debugout[4] D9
D5	lvdsin_trig_b	debugout[5] C6
E5	lvdsin_trig_b_N	debugout[6] A6
W4	main_pulin	debugout[7] E7
A15	overrange[0]	debugout[8] F10
O14	overrange[1]	debugout[9] B10
B16	overrange[2]	fan_out W2
A18	overrange[3]	lvdsout_clk F19
		lvdsout_clk_N F19
		lvdsout_spare H10
		lvdsout_spare_N J18
		lvdsout_trig C21
		lvdsout_trig_N C22
		lvdsout_trig_b D21
		lvdsout_trig_b_N D20
		neo_led V4
		spi_clk V18
		spi_miso J20
		spi_mosi J19
		spics[0] V19
		spics[1] J18
		spics[2] J20
		spics[3] V23
		spics[4] V21
		spics[5] V22
		spics[6] J21
		spics[7] V20

IC1E
ADC12DL500ACF_Aligned

Control/SPI	
B1	CALSTAT
B2	CALTRIG
L2	SYNCE
J1	TMSTP+
J1	TMSTP-
M1	SYSREF+
N1	SYSREF-
P1	PD
P8	SDI
N8	SDO
L8	SCLK
R8	SCS
D2	BG
J2	TDIODE+
J2	TDIODE-
B8	ORAO
A8	ORA1
D8	ORBO
C8	ORB1

U2A
FT601Q_Aligned

U3A
Ti90G529_Functions

FT601Q FIFO Interface		FT601 Interface
DATA_0	40	ftdI_data[0]
DATA_1	41	ftdI_data[1]
DATA_2	42	ftdI_data[2]
DATA_3	43	ftdI_data[3]
DATA_4	44	ftdI_data[4]
DATA_5	45	ftdI_data[5]
DATA_6	46	ftdI_data[6]
DATA_7	47	ftdI_data[7]
DATA_8	50	ftdI_data[8]
DATA_9	51	ftdI_data[9]
DATA_10	52	ftdI_data[10]
DATA_11	53	ftdI_data[11]
DATA_12	54	ftdI_data[12]
DATA_13	55	ftdI_data[13]
DATA_14	56	ftdI_data[14]
DATA_15	57	ftdI_data[15]
DATA_16	60	ftdI_data[16]
DATA_17	61	ftdI_data[17]
DATA_18	62	ftdI_data[18]
DATA_19	63	ftdI_data[19]
DATA_20	64	ftdI_data[20]
DATA_21	65	ftdI_data[21]
DATA_22	66	ftdI_data[22]
DATA_23	67	ftdI_data[23]
DATA_24	69	ftdI_data[24]
DATA_25	70	ftdI_data[25]
DATA_26	71	ftdI_data[26]
DATA_27	72	ftdI_data[27]
DATA_28	73	ftdI_data[28]
DATA_29	74	ftdI_data[29]
DATA_30	75	ftdI_data[30]
DATA_31	76	ftdI_data[31]
BE_0	4	D17
BE_1	5	ftdI_be[0]
BE_2	6	C19
BE_3	7	ftdI_be[1]
CLK	58	C20
OE	13	H15
RD	12	E16
WR	11	G16
RXF	9	ftdI_be[2]
TXE	8	G15
RESET	15	E15
SIWU	10	ftdI_txe_n
WAKEUP	16	G9
GPIO0	17	ftdI_resetn
GPIO1	18	G8
		ftdI_siwu
		F7
		ftdI_gpio0
		H8
		ftdI_gpio1
		G7

Power	
37	VBUS
20	VCC33
24	VCC33
38	VCC33
28	VDDA
14	VCC10
49	VCC10
59	VCC10
68	VCC10
3	VD10
30	VD10
33	VD10
48	VD10
59	VD10
2	AVDD
1	GND
19	GND
26	GND
29	GND
36	GND
77	GND
78	GND

U2C
FT601Q_Aligned

USB	
25	DM
23	DP
34	RIDN
35	RIDP
31	TODN
32	TOPP
21	XI
22	XO
27	RREF

U2B
FT601Q_Aligned

CONFIG/JTAG	
⑥	CDONE
⑦	CRESET_N
⑧	REF_RESET_2A
⑨	REF_RESET_2B
⑩	REF_RESET_2C
⑪	REF_RESET_3A
⑫	REF_RESET_3B
⑬	REF_RESET_3C
⑭	REF_RESET_4A
⑮	REF_RESET_4B
⑯	REF_RESET_4C
⑰	TCK
⑱	TDI
⑲	TDO
⑳	TMS

U3G
T190G529_Functions

Unassigned GPIO	
④	GPIOB_N_32_CD129
⑤	GPIOB_N_33_CD130
⑥	GPIOB_N_34
⑦	GPIOB_P_32_CD128
⑧	GPIOB_P_33_CD131
⑨	GPIO_L_00_PLLIN1
⑩	GPIO_L_01
⑪	GPIO_L_02
⑫	GPIO_L_03_CLK24
⑬	GPIO_L_04_CLK25
⑭	GPIO_L_05_CLK26
⑮	GPIO_L_06_CLK27
⑯	GPIO_L_21
⑰	GPIO_L_36_PLLIN1
⑱	GPIO_L_40
⑲	GPIO_L_41
⑳	GPIO_L_42
㉑	GPIO_L_43
㉒	GPIO_L_44
㉓	GPIO_T_N_23
㉔	GPIO_T_N_33
㉕	GPIO_T_N_34
㉖	GPIO_T_P_23_PLLIN0
㉗	GPIO_T_P_33

U3J
T190G529_Functions