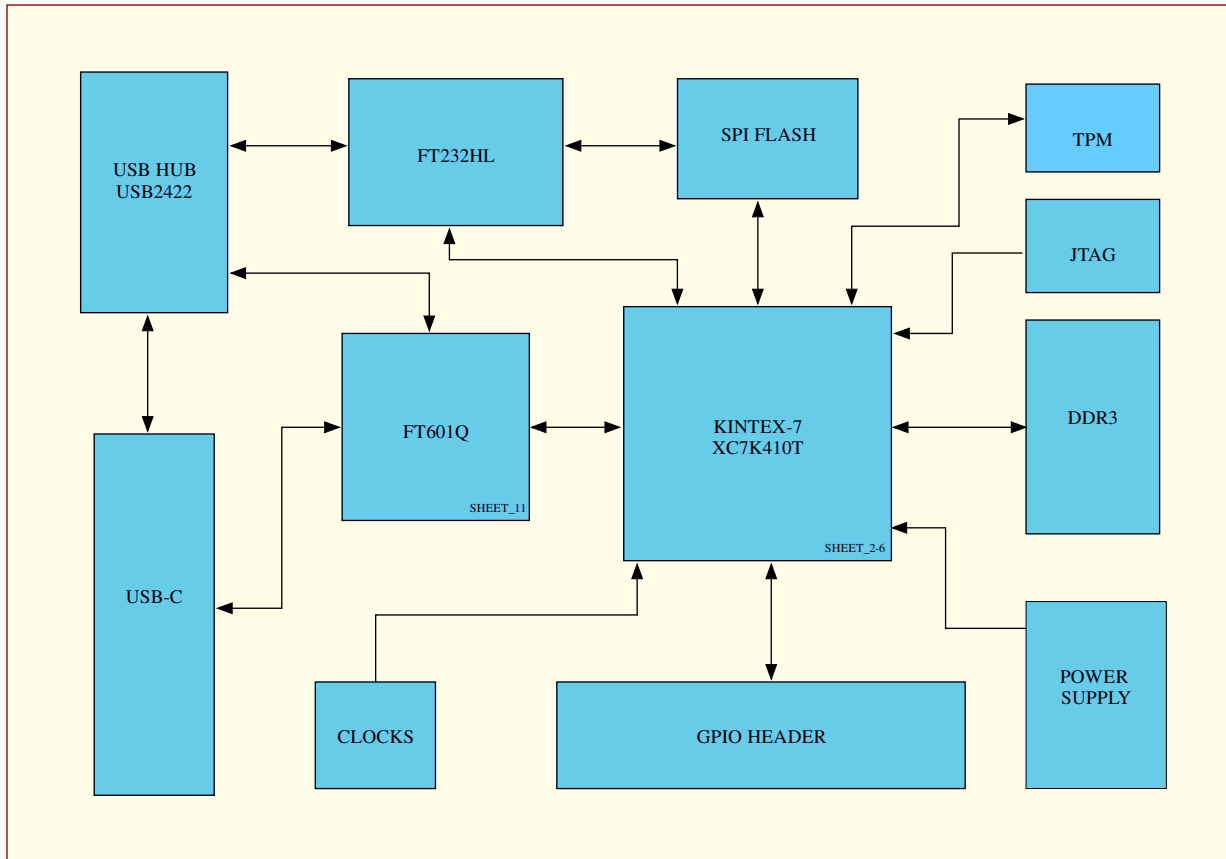
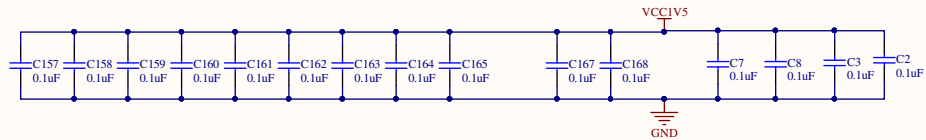
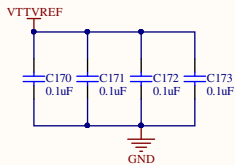
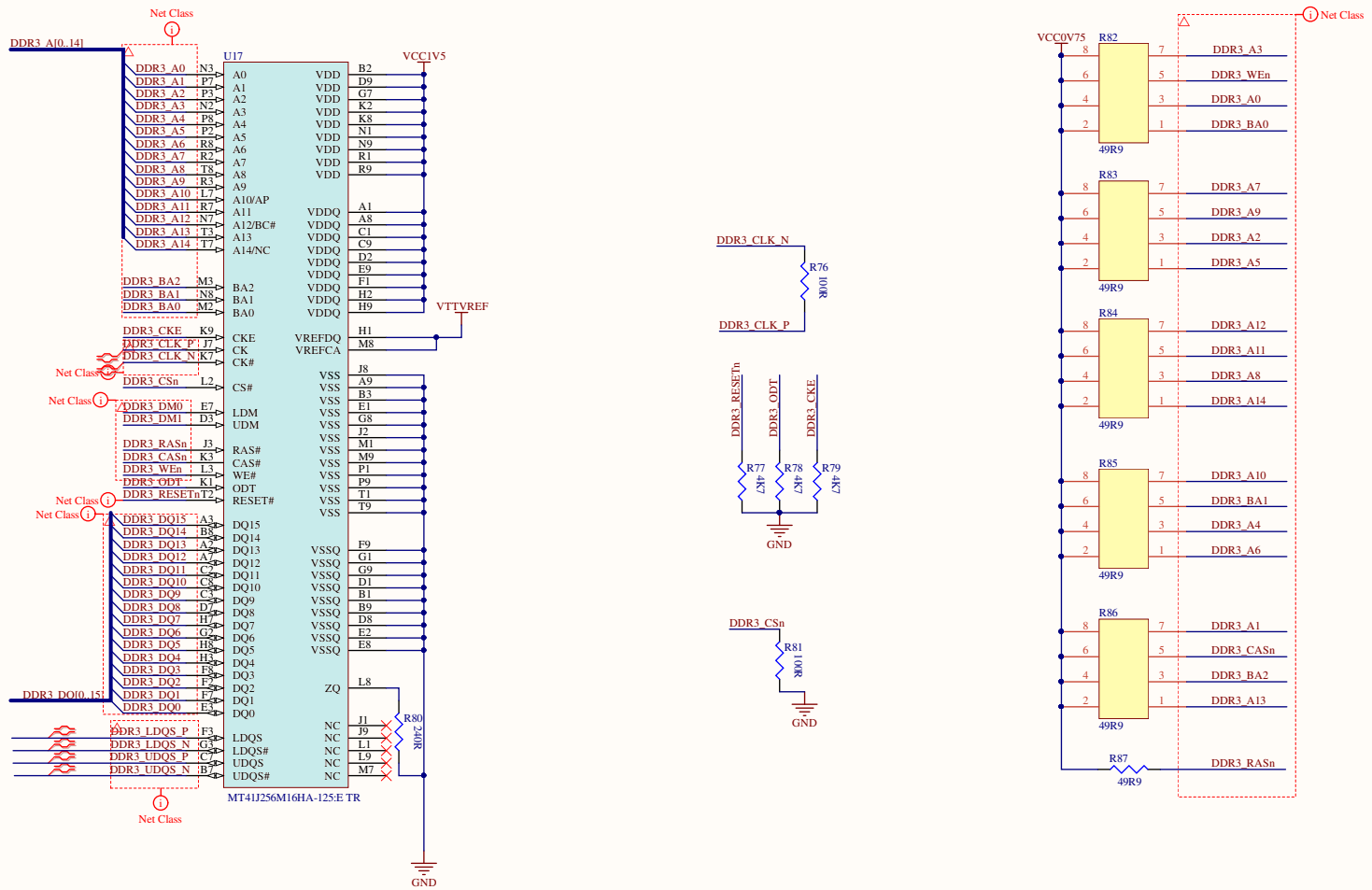



CALLISTO-K7

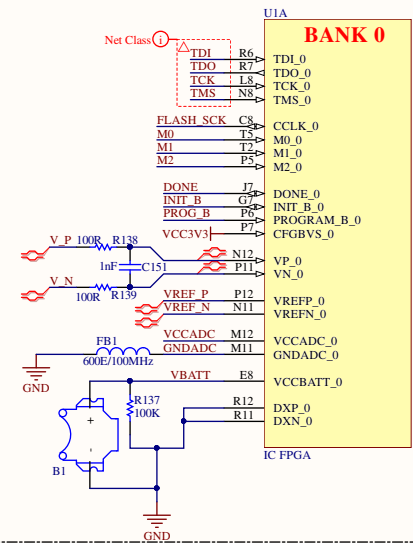


DDR3

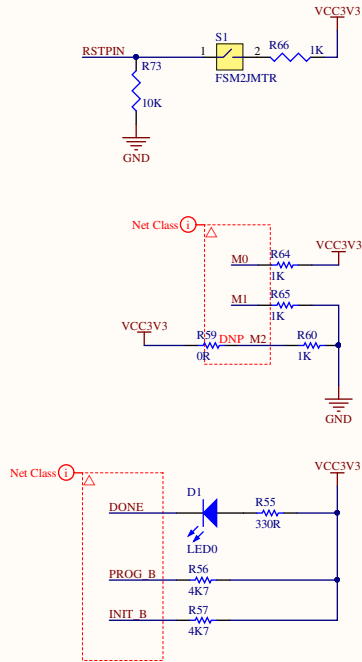


Title: DDR3	Revision: V1.0	 Numato Systems Pvt Ltd
Size: A3	Project: CallistoK7.PjgPcb	
Date: 6/22/2018	Time: 6:21:29 PM Sheet 2 of 11	
File: Sheet2.SchDoc		

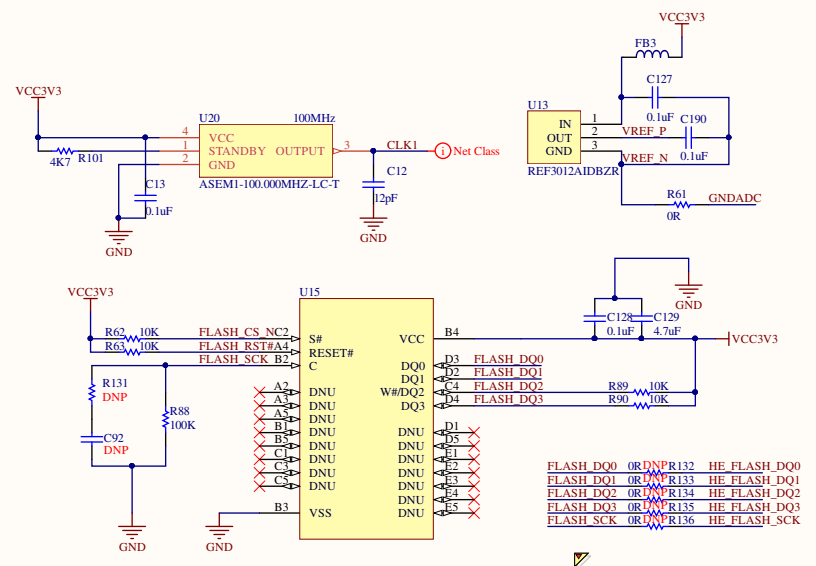
FPGA Bank0



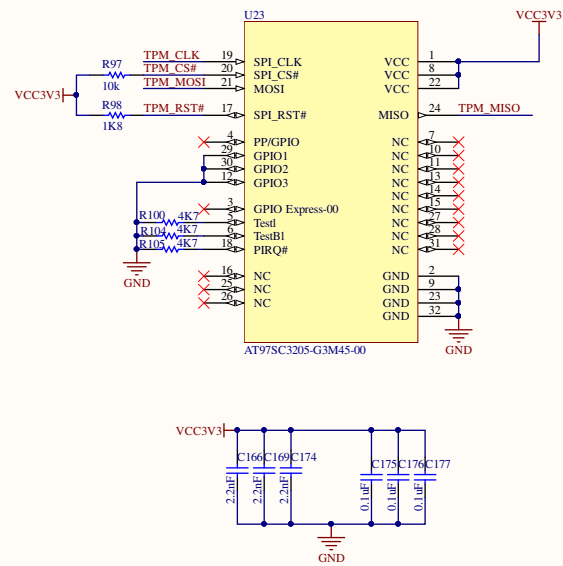
FPGA Configuration



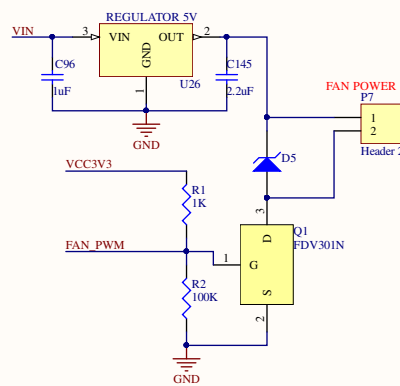
Clock, ADC Reference and Flash



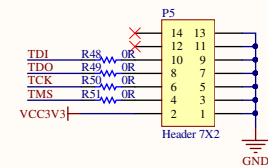
TPM



FAN Power



JTAG

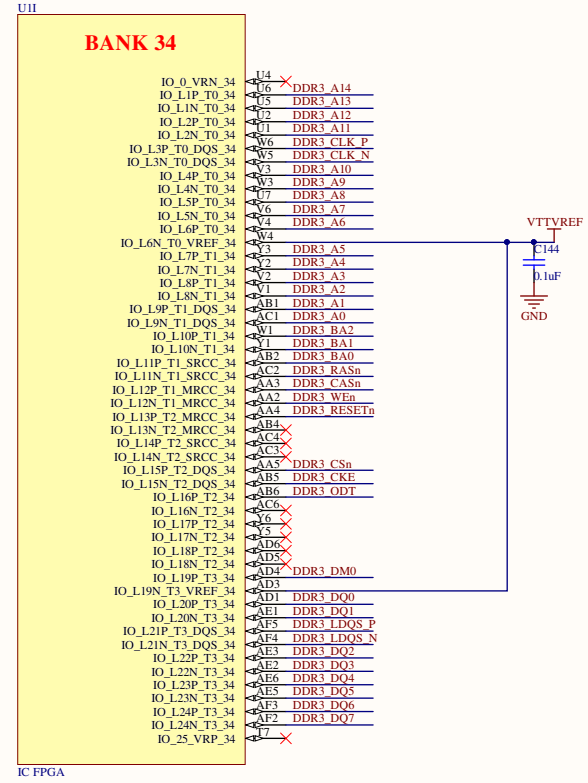
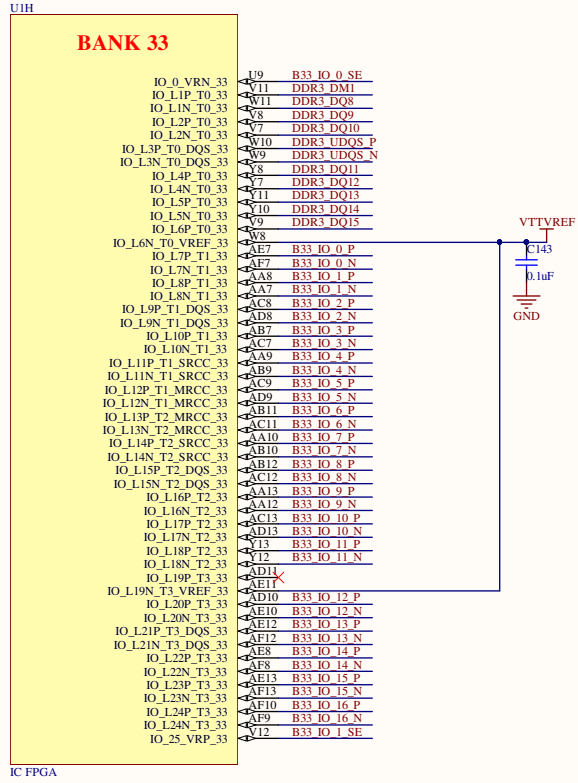


FPGA Configuration

Title: FPGA Configuration	Revision: V1.0	Numato Systems Pvt Ltd
Size: A3	Project: CallistoK7.PjPeb	
Date: 6/22/2018	Time: 6:21:30 PM	
File: Sheet3.SchDoc	Sheet 3 of 11	



FPGA Banks 33&34



FPGA Banks 12,13&14

UIB

BANK 12

IO_0_12	U21	B12	IO_0_SE
IO_L1P_T0_12	U22	B12	IO_0_P
IO_L1N_T0_12	V22	B12	IO_0_N
IO_L2P_T0_12	U24	B12	IO_1_P
IO_L2N_T0_12	V25	B12	IO_1_N
IO_L3P_T0_DQS_12	V23	B12	IO_2_P
IO_L3N_T0_DQS_12	V24	B12	IO_2_N
IO_L4P_T0_12	U26	B12	IO_3_P
IO_L4N_T0_12	V26	B12	IO_3_N
IO_L5P_T0_12	W25	B12	IO_4_P
IO_L5N_T0_12	W26	B12	IO_4_N
IO_L6P_T0_12	V21	B12	IO_5_P
IO_L6N_T0_VREF_12	W21	B12	IO_5_N
IO_L7P_T1_12	AA25	B12	IO_6_P
IO_L7N_T1_12	AB25	B12	IO_6_N
IO_L8P_T1_12	W23	B12	IO_7_P
IO_L8N_T1_12	W24	B12	IO_7_N
IO_L9P_T1_DQS_12	AB26	B12	IO_8_P
IO_L9N_T1_DQS_12	AC26	B12	IO_8_N
IO_L10P_T1_12	V25	B12	IO_9_P
IO_L10N_T1_12	V26	B12	IO_9_N
IO_L11P_T1_SRCC_12	AA23	B12	IO_10_P
IO_L11N_T1_SRCC_12	AB24	B12	IO_10_N
IO_L12P_T1_MRCC_12	V23	B12	IO_11_P
IO_L12N_T1_MRCC_12	AA24	B12	IO_11_N
IO_L13P_T2_MRCC_12	V22	B12	IO_12_P
IO_L13N_T2_MRCC_12	AA22	B12	IO_12_N
IO_L14P_T2_SRCC_12	AC23	B12	IO_13_P
IO_L14N_T2_SRCC_12	AC24	B12	IO_13_N
IO_L15P_T2_DQS_12	W20	B12	IO_14_P
IO_L15N_T2_DQS_12	V21	B12	IO_14_N
IO_L16P_T2_12	AD23	B12	IO_15_P
IO_L16N_T2_12	AD24	B12	IO_15_N
IO_L17P_T2_12	AB22	B12	IO_16_P
IO_L17N_T2_12	AC22	B12	IO_16_N
IO_L18P_T2_12	AB21	B12	IO_17_P
IO_L18N_T2_12	AC21	B12	IO_17_N
IO_L19P_T3_12	AD21	B12	IO_18_P
IO_L19N_T3_VREF_12	AE21	B12	IO_18_N
IO_L20P_T3_12	AF24	B12	IO_19_P
IO_L20N_T3_12	AF25	B12	IO_19_N
IO_L21P_T3_DQS_12	AD26	B12	IO_20_P
IO_L21N_T3_DQS_12	AE26	B12	IO_20_N
IO_L22P_T3_12	AE23	B12	IO_21_P
IO_L22N_T3_12	AF23	B12	IO_21_N
IO_L23P_T3_12	AD25	B12	IO_22_P
IO_L23N_T3_12	AF25	B12	IO_22_N
IO_L24P_T3_12	AE22	B12	IO_23_P
IO_L24N_T3_12	AF22	B12	IO_23_N
IO_25_12	V20	B12	IO_1_SE

IC FPGA

UIC

BANK 13

IO_0_13	N16	FAN_PWM
IO_L1P_T0_13	K25	FT_D5
IO_L1N_T0_13	K26	FT_D6
IO_L2P_T0_13	K26	FT_D5
IO_L2N_T0_13	K26	FT_D22
IO_L3P_T0_DQS_13	M25	FT_D10
IO_L3N_T0_DQS_13	L25	FT_D8
IO_L4P_T0_13	N24	FT_D24
IO_L4N_T0_13	N24	FT_D13
IO_L5P_T0_13	K26	FT_D14
IO_L5N_T0_13	M26	FT_D11
IO_L6P_T0_13	K25	FT_D26
IO_L6N_T0_VREF_13	P25	FT_D23
IO_L7P_T1_13	N19	FT_D4
IO_L7N_T1_13	M20	FT_D3
IO_L8P_T1_13	M24	FT_D9
IO_L8N_T1_13	P19	FT_BE1
IO_L9P_T1_DQS_13	P20	TPM_RST#
IO_L9N_T1_DQS_13	M21	TPM_MISO
IO_L10P_T1_13	M22	TPM_MOSI
IO_L11P_T1_SRCC_13	N23	TPM_CLK
IO_L11N_T1_SRCC_13	N21	FT_CLK
IO_L12P_T1_MRCC_13	N22	FT_D12
IO_L12N_T1_MRCC_13	K21	FT_WR
IO_L13P_T2_MRCC_13	P21	FT_RD
IO_L13N_T2_MRCC_13	K22	FT_D30
IO_L14P_T2_SRCC_13	K23	FT_D27
IO_L14N_T2_SRCC_13	T24	FT_D29
IO_L15P_T2_DQS_13	T25	FT_D28
IO_L15N_T2_DQS_13	L20	FT_OE
IO_L16P_T2_13	R20	FT_RXE
IO_L16N_T2_13	T22	FT_D31
IO_L17P_T2_13	T23	FT_WK
IO_L17N_T2_13	T19	FT_TXE
IO_L18P_T2_13	T20	FT_RST
IO_L18N_T2_13	T18	FT_BE2
IO_L19P_T3_13	T19	FT_BE3
IO_L19N_T3_VREF_13	P16	FT_D15
IO_L20P_T3_13	N17	FT_D0
IO_L20N_T3_13	K16	FT_D16
IO_L21P_T3_DQS_13	P17	FT_D18
IO_L21N_T3_DQS_13	N18	FT_D1
IO_L22P_T3_13	M19	FT_D2
IO_L22N_T3_13	T17	FT_D20
IO_L23P_T3_13	T17	FT_D19
IO_L23N_T3_13	T18	FT_D21
IO_L24P_T3_13	P18	FT_BE0
IO_L24N_T3_13	U16	FT_D17
IO_25_13		

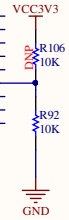
IC FPGA

UID

BANK 14

IO_0_14	K21	RSTPIN
IO_L1P_T0_D00_MOSI_14	B24	FLASH_D00
IO_L1N_T0_D01_DIN_14	A25	FLASH_D01
IO_L2P_T0_D02_14	B22	FLASH_D02
IO_L2N_T0_D03_14	A22	FLASH_D03
IO_L3P_T0_DQS_PUDC_B_14	B26	FLASH_RST#
IO_L3N_T0_DQS_EMCLK_14	A23	B14 IO 0 P
IO_L4P_T0_D04_14	C26	B14 IO 1 N
IO_L4N_T0_D05_14	A24	B14 IO 0 N
IO_L5P_T0_D06_14	D26	B14 IO 1 P
IO_L5N_T0_D07_14	C28	FLASH_CS_N
IO_L6P_T0_FCS_B_14	C24	
IO_L6N_T0_D08_VREF_14	D21	B14 IO 2 P
IO_L7P_T1_D09_14	C22	B14 IO 2 N
IO_L7N_T1_D10_14	B20	B14 IO 3 N
IO_L8P_T1_D11_14	B21	B14 IO 4 P
IO_L8N_T1_D12_14	C21	B14 IO 4 N
IO_L9P_T1_DQS_14	B22	B14 IO 5 P
IO_L9N_T1_DQS_D13_14	C21	B14 IO 5 N
IO_L10P_T1_D14_14	B21	B14 IO 6 P
IO_L10N_T1_D15_14	C23	B14 IO 6 N
IO_L11P_T1_SRCC_14	D22	CLK1
IO_L11N_T1_SRCC_14	B23	
IO_L12P_T1_MRCC_14	G22	B14 IO 7 P
IO_L12N_T1_MRCC_14	G23	B14 IO 7 N
IO_L13P_T2_MRCC_14	G24	B14 IO 8 P
IO_L13N_T2_MRCC_14	G24	B14 IO 8 N
IO_L14P_T2_SRCC_14	G25	B14 IO 9 P
IO_L14N_T2_SRCC_14	G25	B14 IO 9 N
IO_L15P_T2_DQS_DOUT_CS0_B_14	G26	B14 IO 10 P
IO_L15N_T2_DQS_CS1_B_14	G26	B14 IO 10 N
IO_L16N_T2_A15_D51_14	F25	B14 IO 11 P
IO_L17P_T2_A14_D30_14	F26	B14 IO 11 N
IO_L17N_T2_A13_D29_14	F26	B14 IO 12 P
IO_L18P_T2_A12_D28_14	F26	B14 IO 12 N
IO_L18N_T2_A11_D27_14	H21	B14 IO 13 P
IO_L19P_T3_A10_D26_14	H21	B14 IO 13 N
IO_L19N_T3_A09_D25_VREF_14	H23	B14 IO 14 P
IO_L20P_T3_A08_D24_14	H24	B14 IO 14 N
IO_L20N_T3_A07_D23_14	H21	B14 IO 15 P
IO_L21P_T3_DQS_14	H22	B14 IO 15 N
IO_L21N_T3_DQS_A06_D22_14	H24	B14 IO 16 P
IO_L22P_T3_A05_D21_14	H25	B14 IO 16 N
IO_L22N_T3_A04_D20_14	H22	B14 IO 17 P
IO_L23P_T3_A03_D19_14	K22	B14 IO 17 N
IO_L23N_T3_A02_D18_14	K23	B14 IO 18 P
IO_L24P_T3_A01_D17_14	K23	B14 IO 18 N
IO_L24N_T3_A00_D16_14	L23	
IO_25_14		

IC FPGA



FPGA Banks 15,16&32

UIE

BANK 15

IO_0_15	K15	B15 IO 0 SE
IO_L1P_T0_AD0P_15	K16	ADC IO 0 P
IO_L1N_T0_AD0N_15	K16	ADC IO 0 N
IO_L2P_T0_AD8P_15	K18	ADC IO 1 P
IO_L2N_T0_AD8N_15	K19	ADC IO 1 N
IO_L3P_T0_DQ5_AD1P_15	K17	ADC IO 2 P
IO_L3N_T0_DQ5_AD1N_15	K17	ADC IO 2 N
IO_L4P_T0_AD9P_15	K19	ADC IO 3 P
IO_L4N_T0_AD9N_15	K19	ADC IO 3 N
IO_L5P_T0_AD2P_15	K18	ADC IO 4 P
IO_L5N_T0_AD2N_15	K18	ADC IO 4 N
IO_L6P_T0_15	K15	B15 IO 5 P
IO_L6N_T0_VREF_15	K16	B15 IO 5 N
IO_L7P_T1_AD10P_15	K16	ADC IO 6 P
IO_L7N_T1_AD10N_15	K16	ADC IO 6 N
IO_L8P_T1_AD3P_15	K15	ADC IO 7 P
IO_L8N_T1_AD3N_15	K15	ADC IO 7 N
IO_L9P_T1_DQ5_AD11P_15	K15	ADC IO 8 P
IO_L9N_T1_DQ5_AD11N_15	K16	ADC IO 8 N
IO_L10P_T1_AD4P_15	K15	B15 IO 9 P
IO_L10N_T1_AD4N_15	K16	B15 IO 9 N
IO_L11P_T1_SRCC_AD12P_15	K17	B15 IO 10 P
IO_L11N_T1_SRCC_AD12N_15	K17	B15 IO 10 N
IO_L12P_T1_MRCC_ADSP_15	K17	B15 IO 11 P
IO_L12N_T1_MRCC_ADSP_15	K17	B15 IO 11 N
IO_L13P_T2_MRCC_15	K18	B15 IO 12 P
IO_L13N_T2_MRCC_15	K18	B15 IO 12 N
IO_L14P_T2_SRCC_15	K17	B15 IO 13 P
IO_L14N_T2_SRCC_15	K18	B15 IO 13 N
IO_L15P_T2_DQ5_15	K19	B15 IO 14 P
IO_L15N_T2_DQ5_ADV_B_15	K20	B15 IO 14 N
IO_L16P_T2_A28_15	K19	B15 IO 15 P
IO_L16N_T2_A27_15	K20	B15 IO 15 N
IO_L17P_T2_A26_15	K19	B15 IO 16 P
IO_L17N_T2_A25_15	K19	B15 IO 16 N
IO_L18P_T2_A24_15	K20	B15 IO 17 P
IO_L18N_T2_A23_15	K20	B15 IO 17 N
IO_L19P_T3_A22_15	K20	B15 IO 18 P
IO_L19N_T3_A21_VREF_15	K20	B15 IO 18 N
IO_L20P_T3_A20_15	K18	B15 IO 19 P
IO_L20N_T3_A19_15	K19	B15 IO 19 N
IO_L21P_T3_DQ5_15	K19	B15 IO 20 P
IO_L21N_T3_DQ5_A18_15	K20	B15 IO 20 N
IO_L22P_T3_A17_15	K16	B15 IO 21 P
IO_L22N_T3_A16_15	K17	B15 IO 21 N
IO_L23P_T3_FOE_B_15	K17	B15 IO 22 P
IO_L23N_T3_FWE_B_15	K18	B15 IO 22 N
IO_L24P_T3_RS1_15	K17	B15 IO 23 P
IO_L24N_T3_RS0_15	K18	B15 IO 23 N
IO_25_15	K16	B15 IO 1 SE

IC FPGA

UIF

BANK 16

IO_0_16	K18	B16 IO 0 SE
IO_L1P_T0_16	K19	B16 IO 0 P
IO_L1N_T0_16	K18	B16 IO 0 N
IO_L2P_T0_16	K10	B16 IO 1 P
IO_L2N_T0_16	K09	B16 IO 1 N
IO_L3P_T0_DQ5_16	K13	B16 IO 2 P
IO_L3N_T0_DQ5_16	K13	B16 IO 2 N
IO_L4P_T0_16	K11	B16 IO 3 P
IO_L4N_T0_16	K10	B16 IO 3 N
IO_L5P_T0_16	K14	B16 IO 4 P
IO_L5N_T0_16	K14	B16 IO 4 N
IO_L6P_T0_16	K12	B16 IO 5 P
IO_L6N_T0_VREF_16	K11	B16 IO 5 N
IO_L7P_T1_16	K8	B16 IO 6 N
IO_L7N_T1_16	K9	B16 IO 6 P
IO_L8P_T1_16	K9	B16 IO 7 P
IO_L8N_T1_16	K8	B16 IO 7 N
IO_L9P_T1_DQ5_16	K9	B16 IO 8 P
IO_L9N_T1_DQ5_16	K9	B16 IO 8 N
IO_L10P_T1_16	K9	B16 IO 9 P
IO_L10N_T1_16	K9	B16 IO 9 N
IO_L11P_T1_SRCC_16	K11	B16 IO 10 P
IO_L11N_T1_SRCC_16	K10	B16 IO 10 N
IO_L12P_T1_MRCC_16	K10	B16 IO 11 P
IO_L12N_T1_MRCC_16	K10	B16 IO 11 N
IO_L13P_T2_MRCC_16	K12	B16 IO 12 P
IO_L13N_T2_MRCC_16	K11	B16 IO 12 N
IO_L14P_T2_SRCC_16	K11	B16 IO 13 P
IO_L14N_T2_SRCC_16	K11	B16 IO 13 N
IO_L15P_T2_DQ5_16	K14	B16 IO 14 P
IO_L15N_T2_DQ5_16	K13	B16 IO 14 N
IO_L16P_T2_16	K12	B16 IO 15 P
IO_L16N_T2_16	K12	B16 IO 15 N
IO_L17P_T2_16	K14	B16 IO 16 P
IO_L17N_T2_16	K13	B16 IO 16 N
IO_L18P_T2_16	K13	B16 IO 17 P
IO_L18N_T2_16	K12	B16 IO 17 N
IO_L19P_T3_16	K14	B16 IO 18 P
IO_L19N_T3_VREF_16	K12	B16 IO 18 N
IO_L20P_T3_16	K11	B16 IO 19 N
IO_L20N_T3_16	K11	B16 IO 19 P
IO_L21P_T3_DQ5_16	K14	B16 IO 20 P
IO_L21N_T3_DQ5_16	K14	B16 IO 20 N
IO_L22P_T3_16	K10	B16 IO 21 P
IO_L22N_T3_16	K10	B16 IO 21 N
IO_L23P_T3_16	K15	B16 IO 22 P
IO_L23N_T3_16	K15	B16 IO 22 N
IO_L24P_T3_16	K13	B16 IO 23 P
IO_L24N_T3_16	K12	B16 IO 23 N
IO_25_16	K14	B16 IO 1 SE

IC FPGA

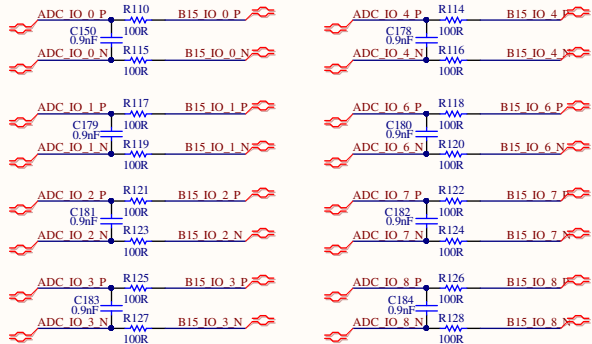
UIG

BANK 32

IO_0_VRN_32	V13	B32 IO 0 SE
IO_L1P_T0_32	AE17	B32 IO 0 P
IO_L1N_T0_32	AF17	B32 IO 0 N
IO_L2P_T0_32	AF14	B32 IO 1 P
IO_L2N_T0_32	AF15	B32 IO 1 N
IO_L3P_T0_DQ5_32	AE18	B32 IO 2 P
IO_L3N_T0_DQ5_32	AF18	B32 IO 2 N
IO_L4P_T0_32	AD15	B32 IO 3 P
IO_L4N_T0_32	AE15	B32 IO 3 N
IO_L5P_T0_32	AF19	B32 IO 4 P
IO_L5N_T0_32	AF20	B32 IO 4 N
IO_L6P_T0_32	AD16	B32 IO 5 P
IO_L6N_T0_VREF_32	AE16	B32 IO 5 N
IO_L7P_T1_32	AA14	B32 IO 6 P
IO_L7N_T1_32	AA15	B32 IO 6 N
IO_L8P_T1_32	AD14	B32 IO 7 N
IO_L8N_T1_32	V15	B32 IO 8 P
IO_L9P_T1_DQ5_32	V16	B32 IO 8 N
IO_L9N_T1_DQ5_32	AB14	B32 IO 9 P
IO_L10P_T1_32	AB15	B32 IO 9 N
IO_L10N_T1_32	AA17	B32 IO 10 P
IO_L11P_T1_SRCC_32	AA18	B32 IO 10 N
IO_L11N_T1_SRCC_32	AB16	B32 IO 11 P
IO_L12P_T1_MRCC_32	AC16	B32 IO 11 N
IO_L12N_T1_MRCC_32	AC18	B32 IO 12 P
IO_L13P_T2_MRCC_32	AD18	B32 IO 12 N
IO_L13N_T2_MRCC_32	AB17	B32 IO 13 P
IO_L14P_T2_SRCC_32	AC17	B32 IO 13 N
IO_L14N_T2_SRCC_32	AD20	B32 IO 14 P
IO_L15P_T2_DQ5_32	AE20	B32 IO 14 N
IO_L16P_T2_32	AA19	B32 IO 15 P
IO_L16N_T2_32	AA20	B32 IO 15 N
IO_L17P_T2_32	AC19	B32 IO 16 P
IO_L17N_T2_32	AD19	B32 IO 16 N
IO_L18P_T2_32	AB19	B32 IO 17 P
IO_L18N_T2_32	AB20	B32 IO 17 N
IO_L19P_T3_32	V17	B32 IO 18 P
IO_L19N_T3_VREF_32	V18	B32 IO 18 N
IO_L20P_T3_32	V16	B32 IO 19 P
IO_L20N_T3_32	V17	B32 IO 19 N
IO_L21P_T3_DQ5_32	W18	B32 IO 20 P
IO_L21N_T3_DQ5_32	W19	B32 IO 20 N
IO_L22P_T3_32	W15	B32 IO 21 P
IO_L22N_T3_32	W16	B32 IO 21 N
IO_L23P_T3_32	V18	B32 IO 22 P
IO_L23N_T3_32	V19	B32 IO 22 N
IO_L24P_T3_32	V14	B32 IO 23 P
IO_L24N_T3_32	W14	B32 IO 23 N
IO_25_VRP_32	W13	B32 IO 1 SE

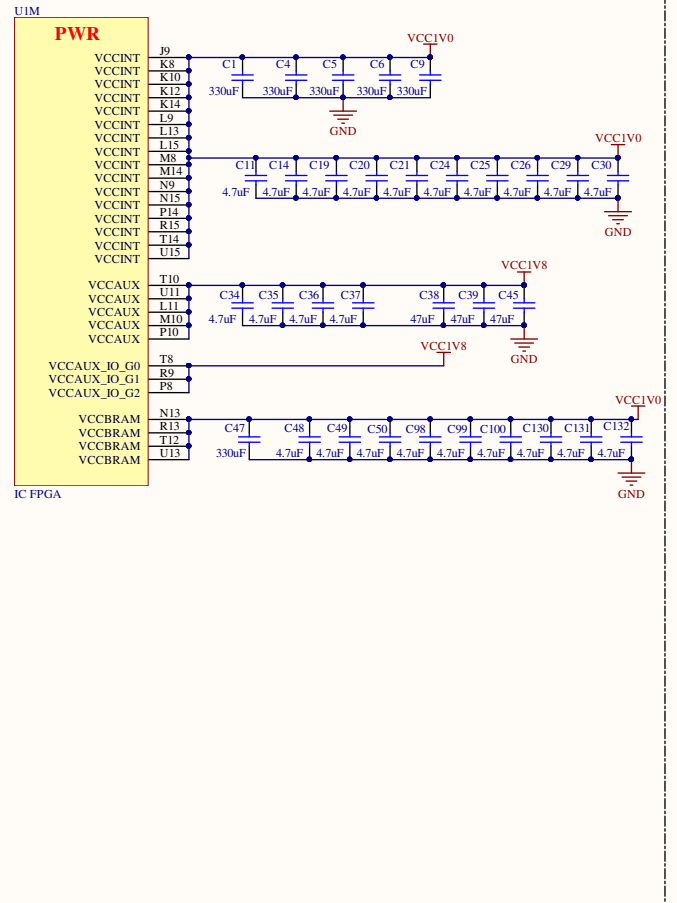
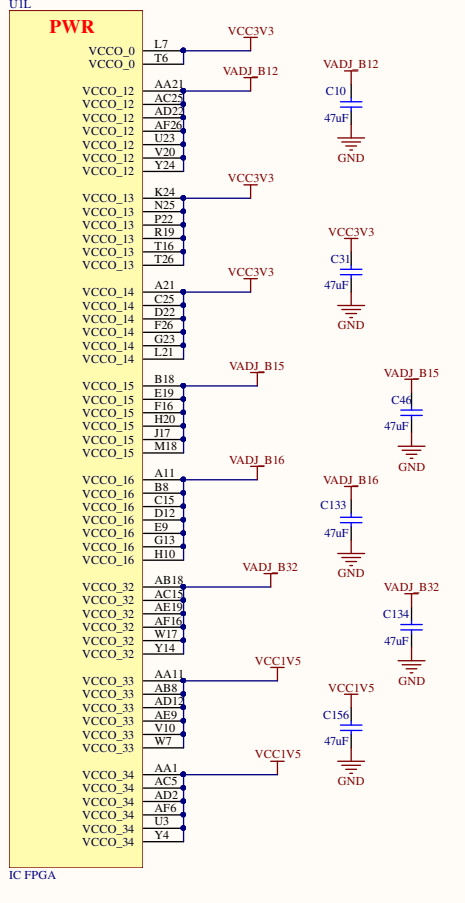
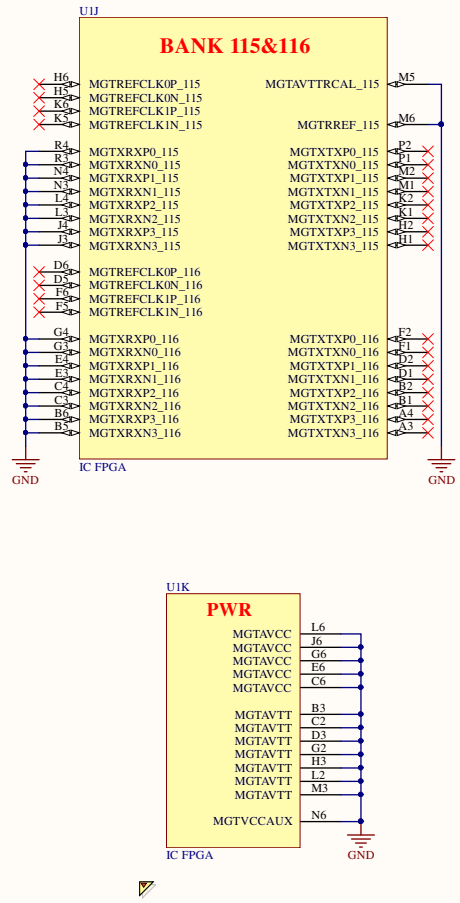
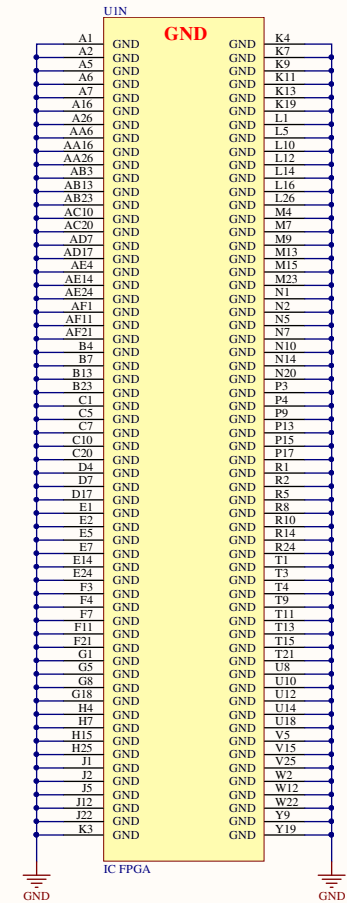
IC FPGA

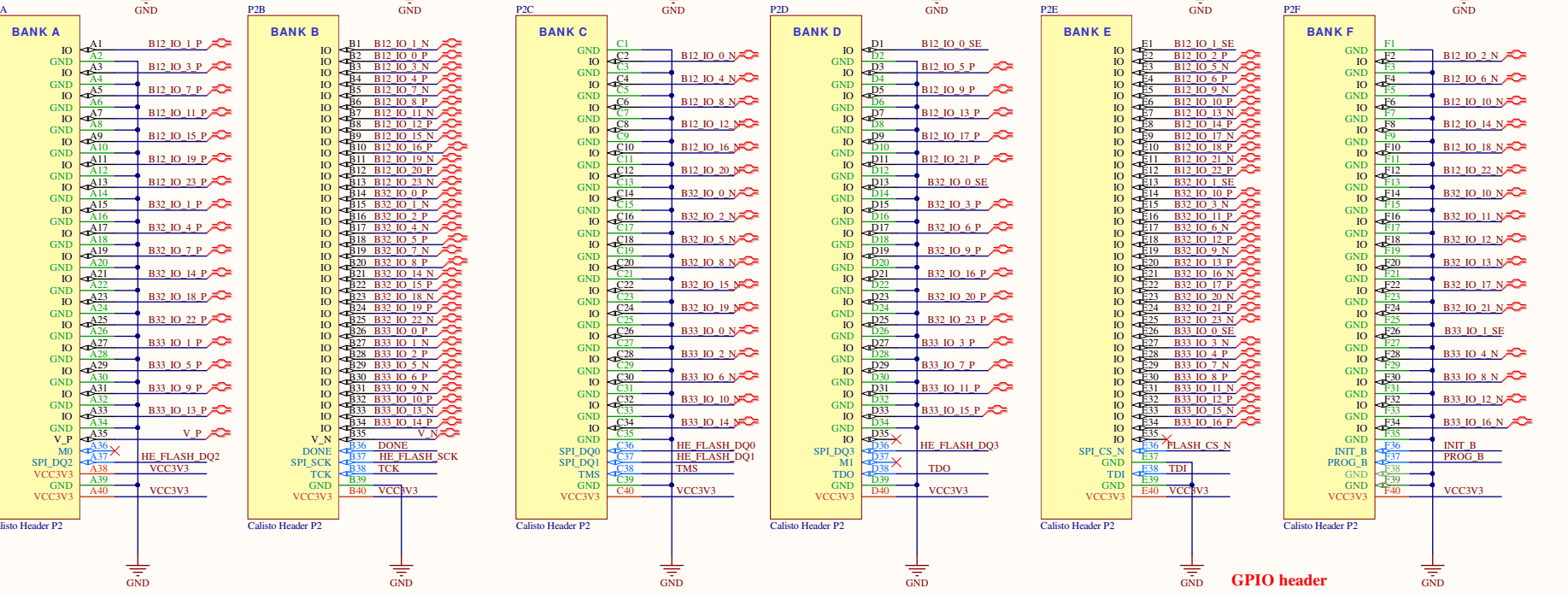
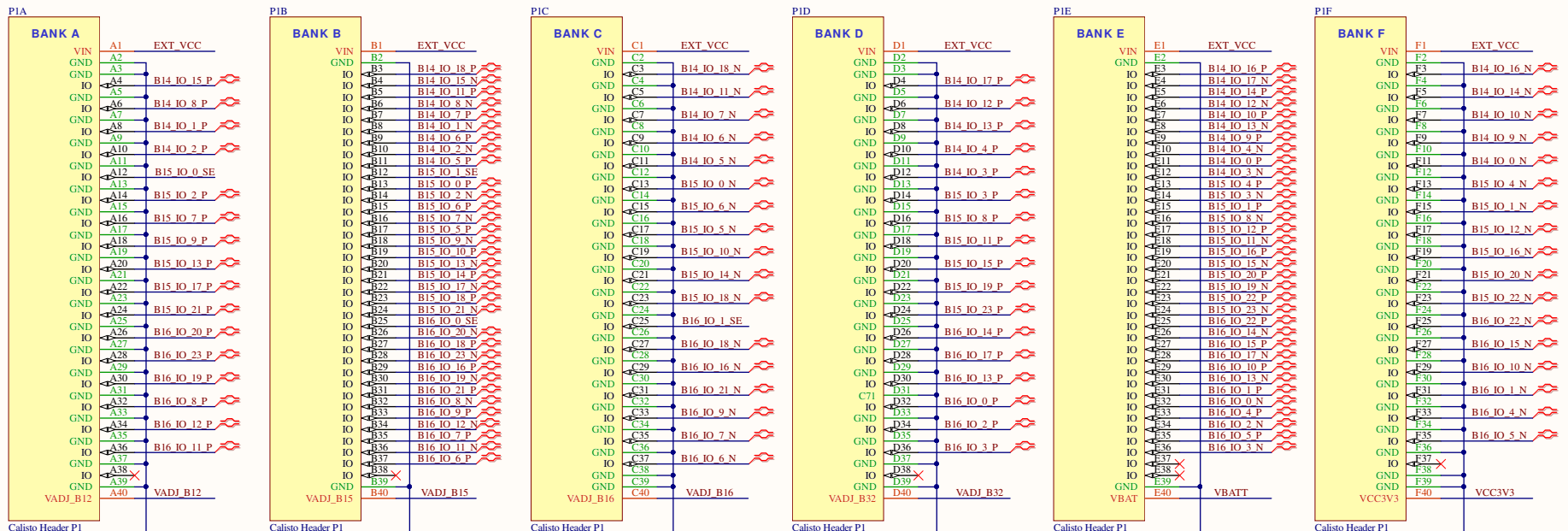
ADC filter



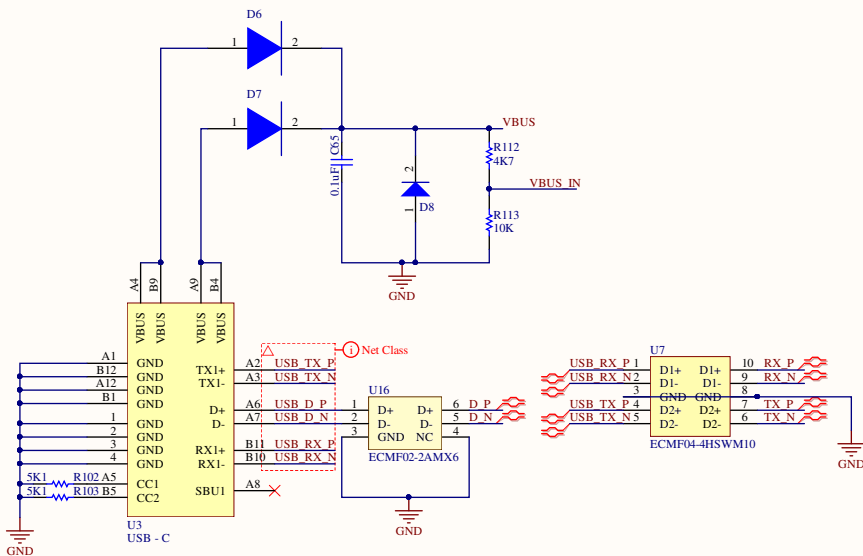
FPGA GND

FPGA GTX & Power



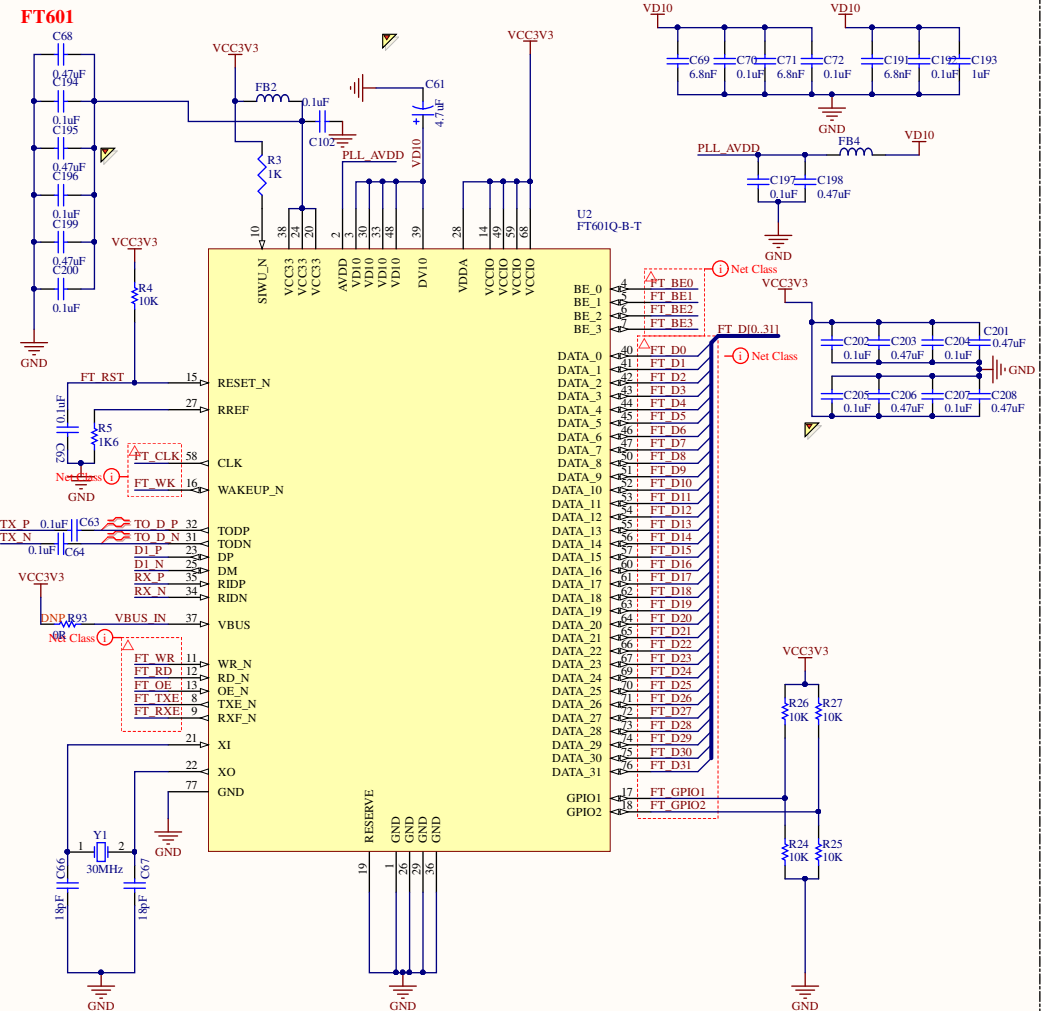


USB-C

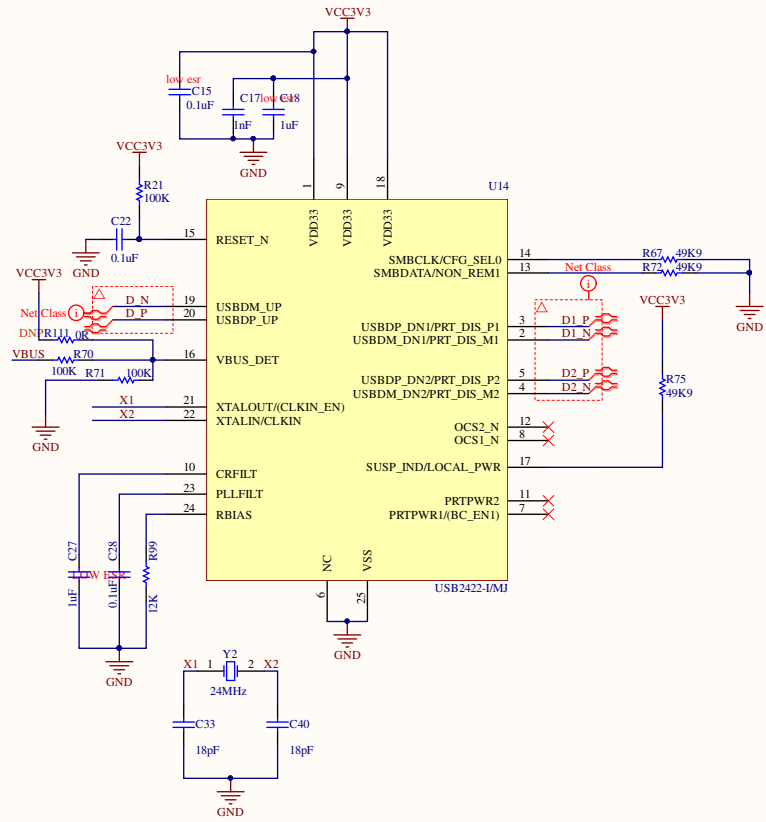


- MH4
- MH3 NTPH
- MH2 NTPH
- MH1 NTPH
- NTPH

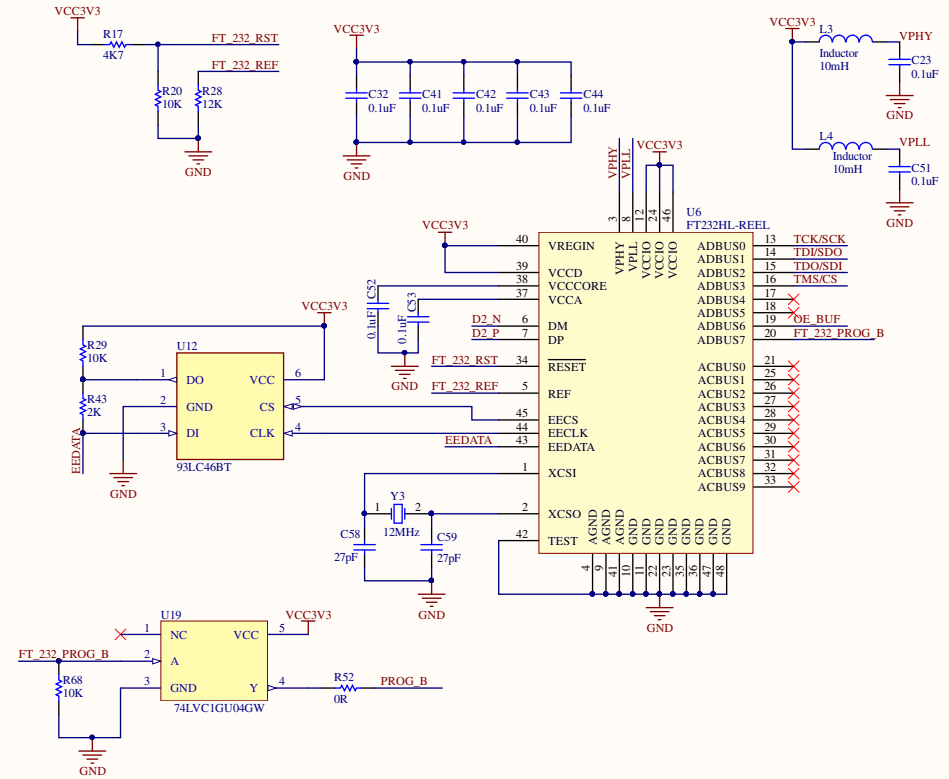
FT601



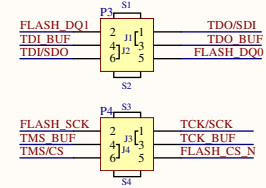
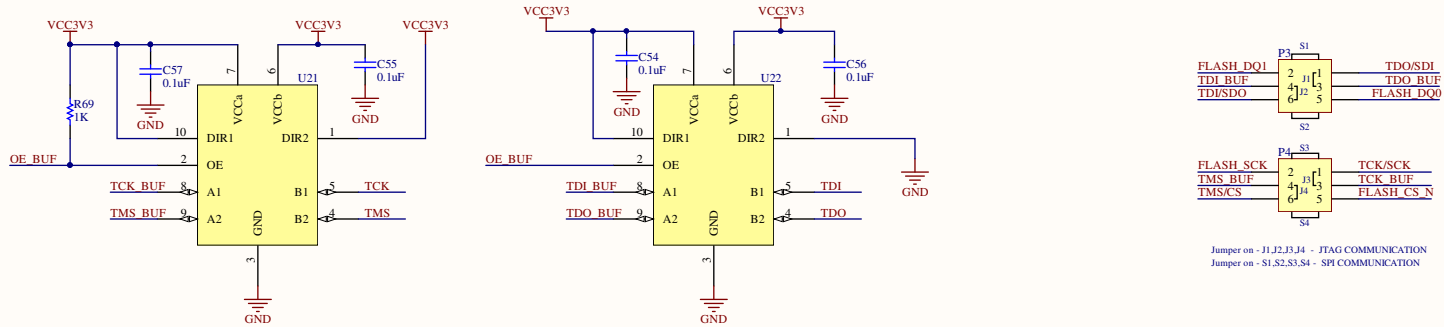
USB2422



FT232



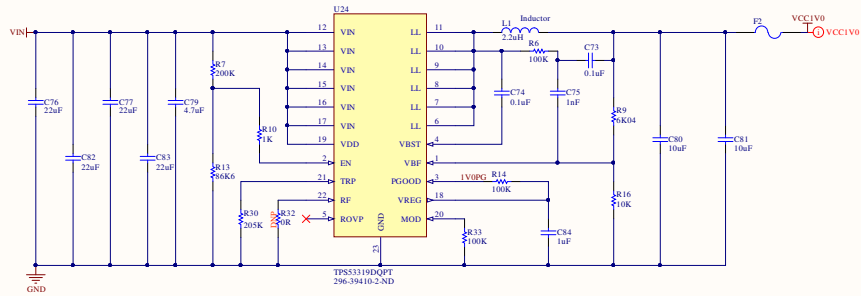
Buffer



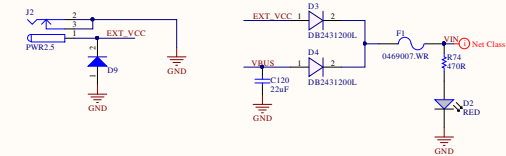
Jumper on -J1,J2,J3,J4 - JTAG COMMUNICATION
Jumper on -S1,S2,S3,S4 - SPI COMMUNICATION



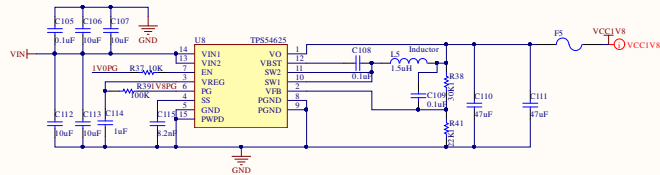
12V0 to 1V0



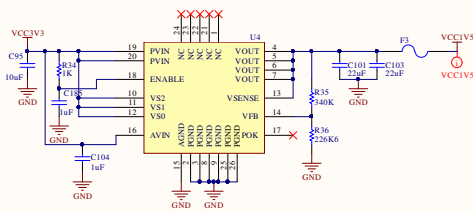
Power Input



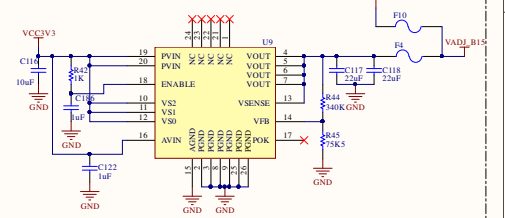
12V0 to 1V8



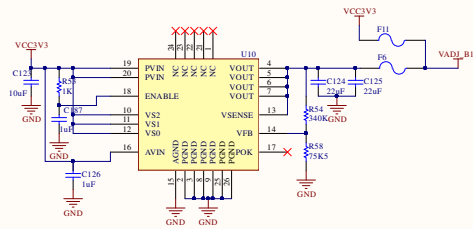
3V3 to 1V5



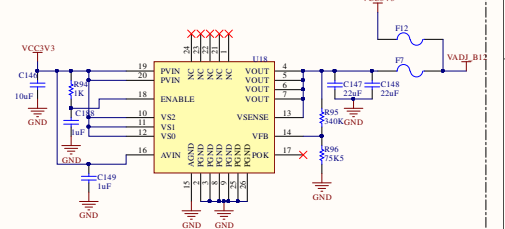
3V3 to VADJ



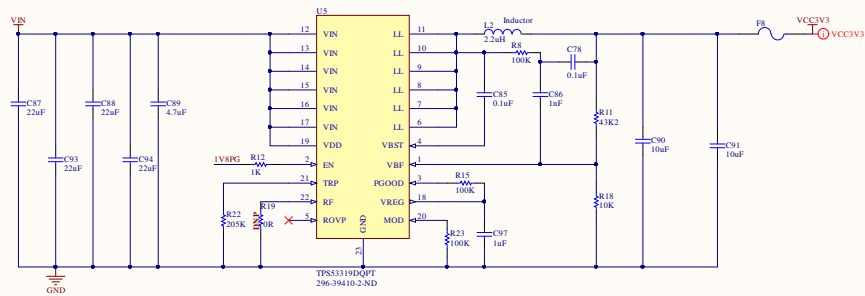
3V3 to VADJ



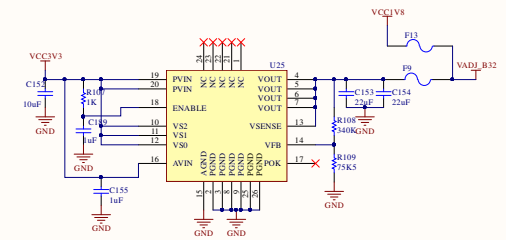
3V3 to VADJ



12V0 to 3V3



3V3 to VADJ



DDR Reference

