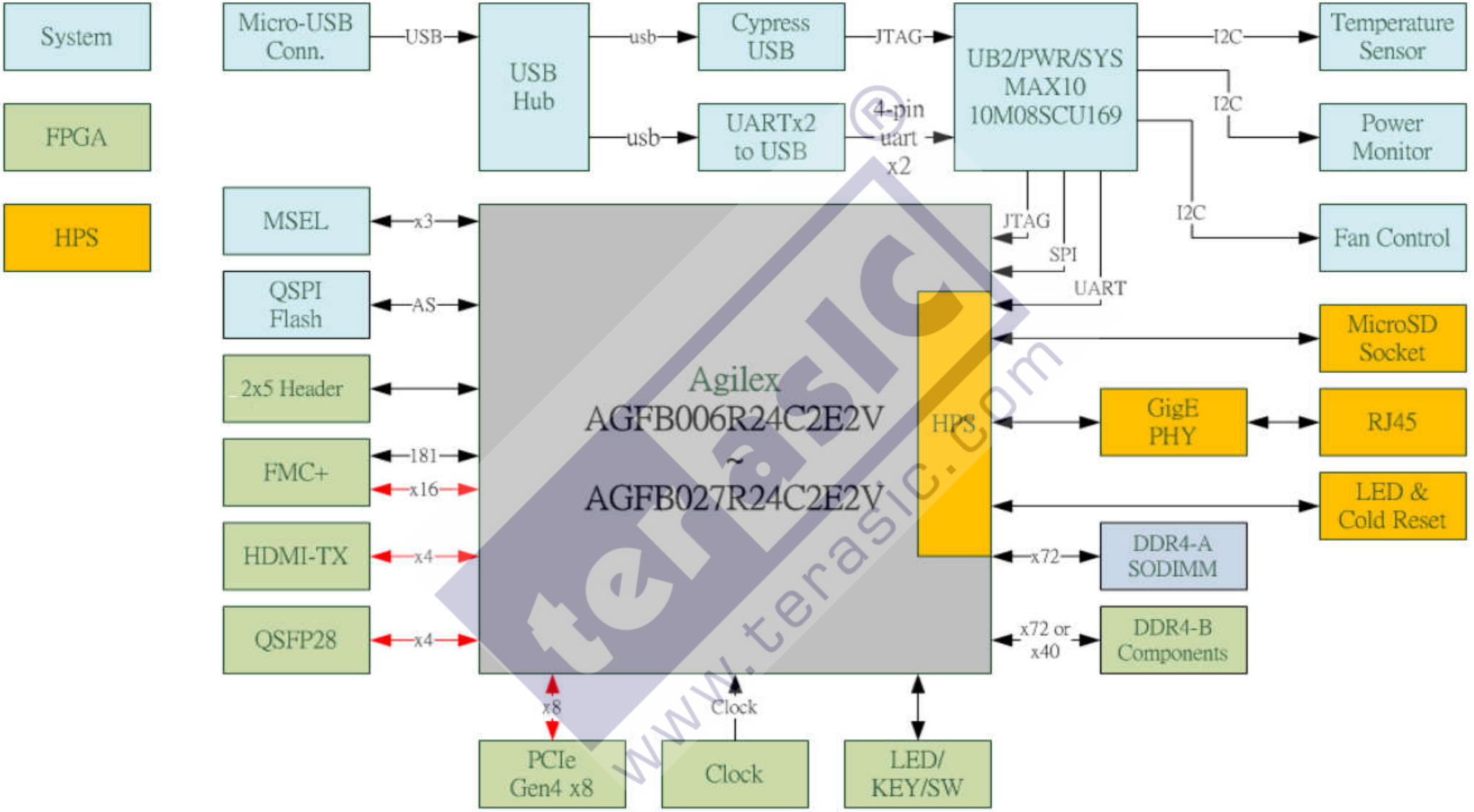
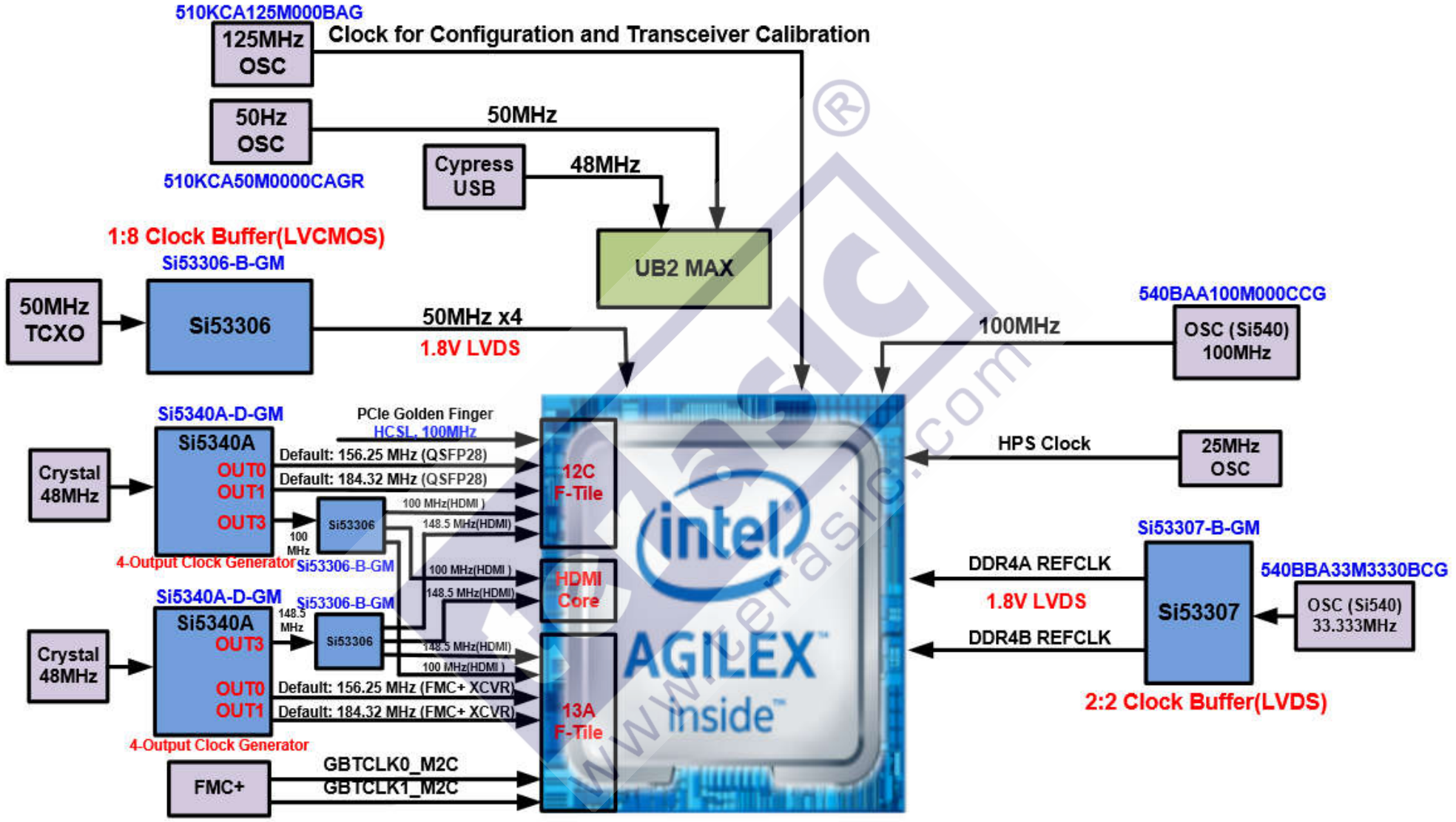
Block Diagram



Title	A7SK	
Size B	Document Number Block Diagram	Rev A
Date: Tuesday, March 21, 2023	Sheet 2 of 52	

Clock Tree



Title	A7SK	
Size B	Document Number Clock Tree	Rev A
Date: Tuesday, March 21, 2023	Sheet 3 of 52	

DDR4 SO-DIMM B

DDR4B_CK 11,31,32
DDR4B_CK_n 11,31,32
DDR4B_BA[1..0] 11,31,32
DDR4B_BG[1..0] 11,31,32
DDR4B_ODT 11,31,32
DDR4B_CS_n 11,31,32
DDR4B_DQ[71..0] 11,31,32
DDR4B_DQS[8..0] 11,31,32
DDR4B_DQS_n[8..0] 11,31,32
DDR4B_A[16..0] 11,31,32
DDR4B_DBI_n[8..0] 11,31,32
DDR4B_CKE 11,31,32
DDR4B_RESET_n 11,31,32
DDR4B_PAR 11,31,32
DDR4B_ACT_n 11,31,32
DDR4B_ALERT_n 11,31,32

RAS_n is a multiplexed function with A16
CAS_n is a multiplexed function with A15
WE_n is a multiplexed function with A14

CLK_50_B2E_p 6
CLK_50_B2E_n 6

U35E

IO Bank 2E VCCIO = 1.2v

DDR4B_DQ51	DA55	IO_2E/DIFF_RX_2E1N/95/DQ24	
DDR4B_DQ53	CY54	IO_2E/DIFF_RX_2E1P/94/DQ24	
DDR4B_DQ55	DC55	IO_2E/DIFF_TX_2E1N/93/DQ24	
DDR4B_DQ49	DD54	IO_2E/DIFF_TX_2E1P/92/DQ24	
	DA53	IO_2E/DIFF_RX_2E2N/91/DQ24	
DDR4B_DBI_n6	CY52	IO_2E/DIFF_RX_2E2P/90/DQ24	
DDR4B_DQS_n6	DC53	IO_2E/DIFF_TX_2E2N/89/DQSN24/CQN24	
DDR4B_DQS6	DD52	IO_2E/DIFF_TX_2E2P/88/DQS24/CQ24	
DDR4B_DQ50	DA51	IO_2E/DIFF_RX_2E3N/87/DQ24	
DDR4B_DQ54	CY50	IO_2E/DIFF_RX_2E3P/86/DQ24	
DDR4B_DQ48	DC51	IO_2E/DIFF_TX_2E3N/85/DQ24	
DDR4B_DQ52	DD50	IO_2E/DIFF_TX_2E3P/84/DQ24	
DDR4B_DQ63	DE53	IO_2E/DIFF_RX_2E4N/83/DQ25	
DDR4B_DQ61	DF52	IO_2E/DIFF_RX_2E4P/82/DQ25	
DDR4B_DQ59	DG51	IO_2E/DIFF_TX_2E4N/81/DQ25	
DDR4B_DQ57	DH50	IO_2E/DIFF_TX_2E4P/80/DQ25	
	DE49	IO_2E/DIFF_RX_2E5N/79/DQ25	
DDR4B_DBI_n7	DF48	IO_2E/DIFF_RX_2E5P/78/DQ25	
DDR4B_DQS_n7	DJ49	IO_2E/PLL_2E_T_CLKOUT1N/DIFF_TX_2E5N/77/DQSN25/CQN25	
DDR4B_DQS7	DH48	IO_2E/PLL_2E_T_CLKOUT1P,PLL_2E_T_CLKOUT1,PLL_2E_T_FB1/DIFF_TX_2E5P/76/DQS25/CQ25	
DDR4B_DQ56	DE47	IO_2E/DIFF_RX_2E6N/75/DQ25	
DDR4B_DQ60	DF46	IO_2E/RZQ_T_2E/DIFF_RX_2E6P/74/DQ25	
DDR4B_DQ62	DJ47	IO_2E/CLK_T_2E_1N/DIFF_TX_2E6N/73/DQ25	
DDR4B_DQ58	DH46	IO_2E/CLK_T_2E_1P/DIFF_TX_2E6P/72/DQ25	
DDR4B_DQ45	DA49	IO_2E/CLK_T_2E_0N/DIFF_RX_2E7N/71/DQ26	IO_2E/CLK_B_2E_0N/DIFF_RX_2E19N/23/DQ30 CN53 CLK_50_B2E_n
DDR4B_DQ47	CY48	IO_2E/CLK_T_2E_0P/DIFF_RX_2E7P/70/DQ26	IO_2E/CLK_B_2E_0P/DIFF_RX_2E19P/22/DQ30 CM52 CLK_50_B2E_p
DDR4B_DQ43	DC49	IO_2E/DIFF_TX_2E7N/69/DQ26	IO_2E/DIFF_TX_2E19N/21/DQ30 CR53
DDR4B_DQ41	DD48	IO_2E/DIFF_TX_2E7P/68/DQ26	IO_2E/DIFF_TX_2E19P/20/DQ30 CT52
	DA47	IO_2E/PLL_2E_T_CLKOUT0N/DIFF_RX_2E8N/67/DQ26	IO_2E/PLL_2E_B_CLKOUT0N/DIFF_RX_2E20N/19/DQ30 CL51
DDR4B_DBI_n5	CY46	IO_2E/PLL_2E_T_CLKOUT0P,PLL_2E_T_CLKOUT0,PLL_2E_T_FB0/DIFF_RX_2E8P/66/DQ26	IO_2E/PLL_2E_B_CLKOUT0P,PLL_2E_B_CLKOUT0,PLL_2E_B_FB0/DIFF_RX_2E20P/18/DQ30 CK50
DDR4B_DQS_n5	DC47	IO_2E/DIFF_TX_2E8N/65/DQSN26/CQN26	IO_2E/DIFF_TX_2E20N/17/DQSN30/CQN30 CN51
DDR4B_DQS5	DD46	IO_2E/DIFF_TX_2E8P/64/DQS26/CQ26	IO_2E/DIFF_TX_2E20P/16/DQS30/CQ30 CP50
DDR4B_DQ42	DA45	IO_2E/DIFF_RX_2E9N/63/DQ26	IO_2E/DIFF_RX_2E21N/15/DQ30 CL49
DDR4B_DQ44	CY44	IO_2E/DIFF_RX_2E9P/62/DQ26	IO_2E/DIFF_RX_2E21P/14/DQ30 CK48
DDR4B_DQ40	DC45	IO_2E/DIFF_TX_2E9N/61/DQ26	IO_2E/DIFF_TX_2E21N/13/DQ30 CN49
DDR4B_DQ46	DD44	IO_2E/DIFF_TX_2E9P/60/DQ26	IO_2E/DIFF_TX_2E21P/12/DQ30 CP48
DDR4B_DQ69	DE45	IO_2E/DIFF_RX_2E10N/59/DQ27	IO_2E/DIFF_RX_2E22N/11/DQ31 CW55
DDR4B_DQ67	DF44	IO_2E/DIFF_RX_2E10P/58/DQ27	IO_2E/DIFF_RX_2E22P/10/DQ31 CV54
DDR4B_DQ65	DJ45	IO_2E/DIFF_TX_2E10N/57/DQ27	IO_2E/DIFF_TX_2E22N/9/DQ31 CW53
DDR4B_DQ71	DH44	IO_2E/DIFF_TX_2E10P/56/DQ27	IO_2E/DIFF_TX_2E22P/8/DQ31 CV52
	DE43	IO_2E/DIFF_RX_2E11N/55/DQ27	IO_2E/DIFF_RX_2E23N/7/DQ31 CR51
DDR4B_DBI_n8	DF42	IO_2E/DIFF_RX_2E11P/54/DQ27	IO_2E/DIFF_RX_2E23P/6/DQ31 CT50
DDR4B_DQS_n8	DJ43	IO_2E/DIFF_TX_2E11N/53/DQSN27/CQN27	IO_2E/DIFF_TX_2E23N/5/DQSN31/CQN31 CW51
DDR4B_DQS8	DH42	IO_2E/DIFF_TX_2E11P/52/DQS27/CQ27	IO_2E/DIFF_TX_2E23P/4/DQS31/CQ31 CV50
DDR4B_DQ66	DE41	IO_2E/DIFF_RX_2E12N/51/DQ27	IO_2E/DIFF_RX_2E24N/3/DQ31 CR49
DDR4B_DQ68	DF40	IO_2E/DIFF_RX_2E12P/50/DQ27	IO_2E/DIFF_RX_2E24P/2/DQ31 CT48
DDR4B_DQ64	DJ41	IO_2E/DIFF_TX_2E12N/49/DQ27	IO_2E/DIFF_TX_2E24N/1/DQ31 CW49
DDR4B_DQ70	DH40	IO_2E/DIFF_TX_2E12P/48/DQ27	IO_2E/DIFF_TX_2E24P/DQ31 CV48

TOP BOT

AGFB027R24C2E2VR2

Title: A7SK

Size	Document Number	Rev
B	FPGA Bank 2E	A

Date: Wednesday, May 10, 2023 Sheet 10 of 52

DDR4 SO-DIMM B

DDR4B_CK 31,32
DDR4B_CK_n 31,32
DDR4B_BA[1..0] 31,32
DDR4B_BG[1..0] 31,32
DDR4B_ODT 31,32
DDR4B_CS_n 31,32
DDR4B_DQ[71..0] 10,31,32
DDR4B_DQS[8..0] 10,31,32
DDR4B_DQS_n[8..0] 10,31,32
DDR4B_A[16..0] 31,32
DDR4B_DBI_n[8..0] 10,31,32
DDR4B_CKE 31,32
DDR4B_RESET_n 31,32
DDR4B_PAR 31,32
DDR4B_ACT_n 31,32
DDR4B_ALERT_n 31,32
DDR4B_REFCLK_p 6
DDR4B_REFCLK_n 6

RAS_n is a multiplexed function with A16
CAS_n is a multiplexed function with A15
WE_n is a multiplexed function with A14

R511 DNI 100
R510 240
DDR4B_REFCLK_n DC37
DDR4B_REFCLK_p DD36

U35D

IO Bank 2F

DDR4B_DQ0	DE29	IO_2F/DIFF_RX_2F1N/95/DQ16	
DDR4B_DQ6	DF28	IO_2F/DIFF_RX_2F1P/94/DQ16	
DDR4B_DQ2	DJ29	IO_2F/DIFF_TX_2F1N/93/DQ16	
DDR4B_DQ4	DH28	IO_2F/DIFF_TX_2F1P/92/DQ16	
	DE31	IO_2F/DIFF_RX_2F2N/91/DQ16	
DDR4B_DBI_n0	DF30	IO_2F/DIFF_RX_2F2P/90/DQ16	
DDR4B_DQS_n0	DJ31	IO_2F/DIFF_TX_2F2N/89/DQSN16/CQN16	
DDR4B_DQS0	DH30	IO_2F/DIFF_TX_2F2P/88/DQS16/CQ16	
DDR4B_DQ7	DE33	IO_2F/DIFF_RX_2F3N/87/DQ16	
DDR4B_DQ3	DF32	IO_2F/DIFF_RX_2F3P/86/DQ16	
DDR4B_DQ5	DJ33	IO_2F/DIFF_TX_2F3N/85/DQ16	
DDR4B_DQ1	DH32	IO_2F/DIFF_TX_2F3P/84/DQ16	
DDR4B_BG0	DA33	IO_2F/DIFF_RX_2F4N/83/DQ17	
DDR4B_BA1	CY32	IO_2F/DIFF_RX_2F4P/82/DQ17	
DDR4B_BA0	DC33	IO_2F/DIFF_TX_2F4N/81/DQ17	
DDR4B_ALERT_n	DD32	IO_2F/DIFF_TX_2F4P/80/DQ17	
DDR4B_A16	DA35	IO_2F/DIFF_RX_2F5N/79/DQ17	
DDR4B_A15	CY34	IO_2F/DIFF_RX_2F5P/78/DQ17	
DDR4B_A14	DC35	IO_2F/PLL_2F_T_CLKOUT1N/DIFF_TX_2F5N/77/DQSN17/CQN17	
DDR4B_A13	DD34	IO_2F/PLL_2F_T_CLKOUT1P,PLL_2F_T_CLKOUT1,PLL_2F_T_FB1/DIFF_TX_2F5P/76/DQS17/CQ17	
DDR4B_A12	DA37	IO_2F/DIFF_RX_2F6N/75/DQ17	
DDR4B_RZQ	CY36	IO_2F/RZQ_T_2F/DIFF_RX_2F6P/74/DQ17	
		IO_2F/CLK_T_2F_1N/DIFF_TX_2F6N/73/DQ17	
		IO_2F/CLK_T_2F_1P/DIFF_TX_2F6P/72/DQ17	
DDR4B_A11	DE35	IO_2F/CLK_T_2F_0N/DIFF_RX_2F7N/71/DQ18	
DDR4B_A10	DF34	IO_2F/CLK_T_2F_0P/DIFF_RX_2F7P/70/DQ18	
DDR4B_A9	DJ35	IO_2F/DIFF_TX_2F7N/69/DQ18	
DDR4B_A8	DH34	IO_2F/DIFF_TX_2F7P/68/DQ18	
DDR4B_A7	DE37	IO_2F/PLL_2F_T_CLKOUT0N/DIFF_RX_2F8N/67/DQ18	
DDR4B_A6	DF36	IO_2F/PLL_2F_T_CLKOUT0P,PLL_2F_T_CLKOUT0,PLL_2F_T_FB0/DIFF_RX_2F8P/66/DQ18	
DDR4B_A5	DJ37	IO_2F/DIFF_TX_2F8N/65/DQSN18/CQN18	
DDR4B_A4	DH36	IO_2F/DIFF_TX_2F8P/64/DQS18/CQ18	
DDR4B_A3	DE39	IO_2F/DIFF_RX_2F9N/63/DQ18	
DDR4B_A2	DF38	IO_2F/DIFF_RX_2F9P/62/DQ18	
DDR4B_A1	DJ39	IO_2F/DIFF_TX_2F9N/61/DQ18	
DDR4B_A0	DH38	IO_2F/DIFF_TX_2F9P/60/DQ18	
DDR4B_PAR	DA39	IO_2F/DIFF_RX_2F10N/59/DQ19	
	CY38	IO_2F/DIFF_RX_2F10P/58/DQ19	
DDR4B_CK_n	DC39	IO_2F/DIFF_TX_2F10N/57/DQ19	
DDR4B_CK	DD38	IO_2F/DIFF_TX_2F10P/56/DQ19	
	DA41	IO_2F/DIFF_RX_2F11N/55/DQ19	
DDR4B_CKE	CY40	IO_2F/DIFF_RX_2F11P/54/DQ19	
	DC41	IO_2F/DIFF_TX_2F11N/53/DQSN19/CQN19	
DDR4B_ODT	DD40	IO_2F/DIFF_TX_2F11P/52/DQS19/CQ19	
DDR4B_ACT_n	DA43	IO_2F/DIFF_RX_2F12N/51/DQ19	
DDR4B_CS_n	CY42	IO_2F/DIFF_RX_2F12P/50/DQ19	
DDR4B_RESET_n	DC43	IO_2F/DIFF_TX_2F12N/49/DQ19	
DDR4B_BG1	DD42	IO_2F/DIFF_TX_2F12P/48/DQ19	

TOP

IO_2F/DIFF_RX_2F13N/47/DQ20	CR37	DDR4B_DQ12	
IO_2F/DIFF_RX_2F13P/46/DQ20	CT36	DDR4B_DQ10	
IO_2F/DIFF_TX_2F13N/45/DQ20	CW37	DDR4B_DQ14	
IO_2F/DIFF_TX_2F13P/44/DQ20	CV36	DDR4B_DQ8	
IO_2F/DIFF_RX_2F14N/43/DQ20	CR39		
IO_2F/DIFF_RX_2F14P/42/DQ20	CT38	DDR4B_DBI_n1	
IO_2F/DIFF_TX_2F14N/41/DQSN20/CQN20	CW39	DDR4B_DQS_n1	
IO_2F/DIFF_TX_2F14P/40/DQS20/CQ20	CV38	DDR4B_DQS1	
IO_2F/DIFF_RX_2F15N/39/DQ20	CR41	DDR4B_DQ15	
IO_2F/DIFF_RX_2F15P/38/DQ20	CT40	DDR4B_DQ9	
IO_2F/DIFF_TX_2F15N/37/DQ20	CW41	DDR4B_DQ13	
IO_2F/DIFF_TX_2F15P/36/DQ20	CV40	DDR4B_DQ11	
IO_2F/DIFF_RX_2F16N/35/DQ21	CL37	DDR4B_DQ34	
IO_2F/DIFF_RX_2F16P/34/DQ21	CK36	DDR4B_DQ38	
IO_2F/DIFF_TX_2F16N/33/DQ21	CN37	DDR4B_DQ32	
IO_2F/DIFF_TX_2F16P/32/DQ21	CP36	DDR4B_DQ36	
IO_2F/DIFF_RX_2F17N/31/DQ21	CL39		
IO_2F/DIFF_RX_2F17P/30/DQ21	CK38	DDR4B_DBI_n4	
IO_2F/PLL_2F_B_CLKOUT1N/DIFF_TX_2F17N/29/DQSN21/CQN21	CN39	DDR4B_DQS_n4	
IO_2F/PLL_2F_B_CLKOUT1P,PLL_2F_B_CLKOUT1,PLL_2F_B_FB1/DIFF_TX_2F17P/28/DQS21/CQ21	CP38	DDR4B_DQS4	
IO_2F/DIFF_RX_2F18N/27/DQ21	CL41	DDR4B_DQ35	
IO_2F/RZQ_B_2F/DIFF_RX_2F18P/26/DQ21	CK40	DDR4B_DQ37	
IO_2F/CLK_B_2F_1N/DIFF_TX_2F18N/25/DQ21	CN41	DDR4B_DQ39	
IO_2F/CLK_B_2F_1P/DIFF_TX_2F18P/24/DQ21	CP40	DDR4B_DQ33	
IO_2F/CLK_B_2F_0N/DIFF_RX_2F19N/23/DQ22	CR43	DDR4B_DQ23	
IO_2F/CLK_B_2F_0P/DIFF_RX_2F19P/22/DQ22	CT42	DDR4B_DQ20	
IO_2F/DIFF_TX_2F19N/21/DQ22	CW43	DDR4B_DQ18	
IO_2F/DIFF_TX_2F19P/20/DQ22	CV42	DDR4B_DQ16	
IO_2F/PLL_2F_B_CLKOUT0N/DIFF_RX_2F20N/19/DQ22	CR45		
IO_2F/PLL_2F_B_CLKOUT0P,PLL_2F_B_CLKOUT0,PLL_2F_B_FB0/DIFF_RX_2F20P/18/DQ22	CT44	DDR4B_DBI_n2	
IO_2F/DIFF_TX_2F20N/17/DQSN22/CQN22	CW45	DDR4B_DQS_n2	
IO_2F/DIFF_TX_2F20P/16/DQS22/CQ22	CV44	DDR4B_DQS2	
IO_2F/DIFF_RX_2F21N/15/DQ22	CR47	DDR4B_DQ21	
IO_2F/DIFF_RX_2F21P/14/DQ22	CT46	DDR4B_DQ22	
IO_2F/DIFF_TX_2F21N/13/DQ22	CW47	DDR4B_DQ19	
IO_2F/DIFF_TX_2F21P/12/DQ22	CV46	DDR4B_DQ17	
IO_2F/DIFF_RX_2F22N/11/DQ23	CL43	DDR4B_DQ30	
IO_2F/DIFF_RX_2F22P/10/DQ23	CK42	DDR4B_DQ31	
IO_2F/DIFF_TX_2F22N/9/DQ23	CN43	DDR4B_DQ24	
IO_2F/DIFF_TX_2F22P/8/DQ23	CP42	DDR4B_DQ28	
IO_2F/DIFF_RX_2F23N/7/DQ23	CL45		
IO_2F/DIFF_RX_2F23P/6/DQ23	CK44	DDR4B_DBI_n3	
IO_2F/DIFF_TX_2F23N/5/DQSN23/CQN23	CN45	DDR4B_DQS_n3	
IO_2F/DIFF_TX_2F23P/4/DQS23/CQ23	CP44	DDR4B_DQS3	
IO_2F/DIFF_RX_2F24N/3/DQ23	CL47	DDR4B_DQ27	
IO_2F/DIFF_RX_2F24P/2/DQ23	CK46	DDR4B_DQ29	
IO_2F/DIFF_TX_2F24N/1/DQ23	CN47	DDR4B_DQ25	
IO_2F/DIFF_TX_2F24P/DQ23	CP46	DDR4B_DQ26	

BOT

AGFB027R24C2E2VR2

Title: A7SK

Size	Document Number	Rev
B	FPGA Bank 2F	A

Date: Wednesday, May 10, 2023 Sheet 11 of 52

FMCP_CLK_M2C_p[1..0] 13,34
FMCP_CLK_M2C_n[1..0] 13,34

FMCP_HA_p[23..0] 33
FMCP_HA_n[23..0] 33

FMCP_HB_p[21..0] 33
FMCP_HB_n[21..0] 33

U35C

IO Bank 2C VCCIO = VCCIO_FMCP_HAB (1.2 or 1.5V)

FMCP_HA_n7	DE17	IO_2C/DIFF_RX_2C1N/95/DQ8	
FMCP_HA_p7	DF16	IO_2C/DIFF_RX_2C1P/94/DQ8	
FMCP_HA_n4	DJ17	IO_2C/DIFF_TX_2C1N/93/DQ8	
FMCP_HA_p4	DH16	IO_2C/DIFF_TX_2C1P/92/DQ8	
FMCP_HA_n9	DE19	IO_2C/DIFF_RX_2C2N/91/DQ8	
FMCP_HA_p9	DF18	IO_2C/DIFF_RX_2C2P/90/DQ8	
FMCP_HA_n8	DJ19	IO_2C/DIFF_TX_2C2N/89/DQSN8/CQN8	
FMCP_HA_p8	DH18	IO_2C/DIFF_TX_2C2P/88/DQS8/CQ8	
FMCP_HA_n13	DE21	IO_2C/DIFF_RX_2C3N/87/DQ8	
FMCP_HA_p13	DF20	IO_2C/DIFF_RX_2C3P/86/DQ8	
FMCP_HA_n6	DJ21	IO_2C/DIFF_TX_2C3N/85/DQ8	
FMCP_HA_p6	DH20	IO_2C/DIFF_TX_2C3P/84/DQ8	
FMCP_HA_n5	DA21	IO_2C/DIFF_RX_2C4N/83/DQ9	
FMCP_HA_p5	CY20	IO_2C/DIFF_RX_2C4P/82/DQ9	
FMCP_HA_n2	DC21	IO_2C/DIFF_TX_2C4N/81/DQ9	
FMCP_HA_p2	DD20	IO_2C/DIFF_TX_2C4P/80/DQ9	
FMCP_HA_n3	DA23	IO_2C/DIFF_RX_2C5N/79/DQ9	
FMCP_HA_p3	CY22	IO_2C/DIFF_RX_2C5P/78/DQ9	
FMCP_HA_n0	DC23	IO_2C/PLL_2C_T_CLKOUT1N/DIFF_TX_2C5N/77/DQSN9/CQN9	
FMCP_HA_p0	DD22	IO_2C/PLL_2C_T_CLKOUT1P,PLL_2C_T_CLKOUT1,PLL_2C_T_FB1/DIFF_TX_2C5P/76/DQS9/CQ9	
FMCP_HA_n22	DA25	IO_2C/DIFF_RX_2C6N/75/DQ9	
FMCP_HA_p22	CY24	IO_2C/RZQ_T_2C/DIFF_RX_2C6P/74/DQ9	
FMCP_HA_n17	DC25	IO_2C/CLK_T_2C_1N/DIFF_TX_2C6N/73/DQ9	
FMCP_HA_p17	DD24	IO_2C/CLK_T_2C_1P/DIFF_TX_2C6P/72/DQ9	
FMCP_HA_n1	DE23	IO_2C/CLK_T_2C_0N/DIFF_RX_2C7N/71/DQ10	
FMCP_HA_p1	DF22	IO_2C/CLK_T_2C_0P/DIFF_RX_2C7P/70/DQ10	
FMCP_HA_n10	DJ23	IO_2C/DIFF_TX_2C7N/69/DQ10	
FMCP_HA_p10	DH22	IO_2C/DIFF_TX_2C7P/68/DQ10	
FMCP_HA_n16	DE25	IO_2C/PLL_2C_T_CLKOUT0N/DIFF_RX_2C8N/67/DQ10	
FMCP_HA_p16	DF24	IO_2C/PLL_2C_T_CLKOUT0P,PLL_2C_T_CLKOUT0,PLL_2C_T_FB0/DIFF_RX_2C8P/66/DQ10	
FMCP_HA_n12	DJ25	IO_2C/DIFF_TX_2C8N/65/DQSN10/CQN10	
FMCP_HA_p12	DH24	IO_2C/DIFF_TX_2C8P/64/DQS10/CQ10	
FMCP_HA_n14	DE27	IO_2C/DIFF_RX_2C9N/63/DQ10	
FMCP_HA_p14	DF26	IO_2C/DIFF_RX_2C9P/62/DQ10	
FMCP_HA_n15	DJ27	IO_2C/DIFF_TX_2C9N/61/DQ10	
FMCP_HA_p15	DH26	IO_2C/DIFF_TX_2C9P/60/DQ10	
FMCP_HA_n11	DA27	IO_2C/DIFF_RX_2C10N/59/DQ11	
FMCP_HA_p11	CY26	IO_2C/DIFF_RX_2C10P/58/DQ11	
FMCP_HA_n19	DC27	IO_2C/DIFF_TX_2C10N/57/DQ11	
FMCP_HA_p19	DD26	IO_2C/DIFF_TX_2C10P/56/DQ11	
FMCP_HA_n20	DA29	IO_2C/DIFF_RX_2C11N/55/DQ11	
FMCP_HA_p20	CY28	IO_2C/DIFF_RX_2C11P/54/DQ11	
FMCP_HA_n21	DC29	IO_2C/DIFF_TX_2C11N/53/DQSN11/CQN11	
FMCP_HA_p21	DD28	IO_2C/DIFF_TX_2C11P/52/DQS11/CQ11	
FMCP_HA_n18	DA31	IO_2C/DIFF_RX_2C12N/51/DQ11	
FMCP_HA_p18	CY30	IO_2C/DIFF_RX_2C12P/50/DQ11	
FMCP_HA_n23	DC31	IO_2C/DIFF_TX_2C12N/49/DQ11	
FMCP_HA_p23	DD30	IO_2C/DIFF_TX_2C12P/48/DQ11	

TOP BOT

		IO_2C/DIFF_RX_2C13N/47/DQ12	CL25 FMCP_HB_n15
		IO_2C/DIFF_RX_2C13P/46/DQ12	CK24 FMCP_HB_p15
		IO_2C/DIFF_TX_2C13N/45/DQ12	CN25 FMCP_HB_n4
		IO_2C/DIFF_TX_2C13P/44/DQ12	CP24 FMCP_HB_p4
		IO_2C/DIFF_RX_2C14N/43/DQ12	CL27 FMCP_HB_n11
		IO_2C/DIFF_RX_2C14P/42/DQ12	CK26 FMCP_HB_p11
		IO_2C/DIFF_TX_2C14N/41/DQSN12/CQN12	CN27 FMCP_HB_n2
		IO_2C/DIFF_TX_2C14P/40/DQS12/CQ12	CP26 FMCP_HB_p2
		IO_2C/DIFF_RX_2C15N/39/DQ12	CL29 FMCP_HB_n3
		IO_2C/DIFF_RX_2C15P/38/DQ12	CK28 FMCP_HB_p3
		IO_2C/DIFF_TX_2C15N/37/DQ12	CN29 FMCP_HB_n6
		IO_2C/DIFF_TX_2C15P/36/DQ12	CP28 FMCP_HB_p6
		IO_2C/DIFF_RX_2C16N/35/DQ13	CR25 FMCP_HB_n7
		IO_2C/DIFF_RX_2C16P/34/DQ13	CT24 FMCP_HB_p7
		IO_2C/DIFF_TX_2C16N/33/DQ13	CW25 FMCP_HB_n8
		IO_2C/DIFF_TX_2C16P/32/DQ13	CV24 FMCP_HB_p8
		IO_2C/DIFF_RX_2C17N/31/DQ13	CR27
		IO_2C/DIFF_RX_2C17P/30/DQ13	CT26
		IO_2C/PLL_2C_B_CLKOUT1N/DIFF_TX_2C17N/29/DQSN13/CQN13	CW27 FMCP_HB_n0
		IO_2C/PLL_2C_B_CLKOUT1P,PLL_2C_B_CLKOUT1,PLL_2C_B_FB1/DIFF_TX_2C17P/28/DQS13/CQ13	CV26 FMCP_HB_p0
		IO_2C/DIFF_RX_2C18N/27/DQ13	CR29 FMCP_HB_n5
		IO_2C/RZQ_B_2C/DIFF_RX_2C18P/26/DQ13	CT28 FMCP_HB_p5
		IO_2C/CLK_B_2C_1N/DIFF_TX_2C18N/25/DQ13	CW29 FMCP_CLK_M2C_n1
		IO_2C/CLK_B_2C_1P/DIFF_TX_2C18P/24/DQ13	CV28 FMCP_CLK_M2C_p1
		IO_2C/CLK_B_2C_0N/DIFF_RX_2C19N/23/DQ14	CR31 FMCP_HB_n1
		IO_2C/CLK_B_2C_0P/DIFF_RX_2C19P/22/DQ14	CT30 FMCP_HB_p1
		IO_2C/DIFF_TX_2C19N/21/DQ14	CW31 FMCP_HB_n10
		IO_2C/DIFF_TX_2C19P/20/DQ14	CV30 FMCP_HB_p10
		IO_2C/PLL_2C_B_CLKOUT0N/DIFF_RX_2C20N/19/DQ14	CR33 FMCP_HB_n13
		IO_2C/PLL_2C_B_CLKOUT0P,PLL_2C_B_CLKOUT0,PLL_2C_B_FB0/DIFF_RX_2C20P/18/DQ14	CT32 FMCP_HB_p13
		IO_2C/DIFF_TX_2C20N/17/DQSN14/CQN14	CW33 FMCP_HB_n14
		IO_2C/DIFF_TX_2C20P/16/DQS14/CQ14	CV32 FMCP_HB_p14
		IO_2C/DIFF_RX_2C21N/15/DQ14	CR35 FMCP_HB_n21
		IO_2C/DIFF_RX_2C21P/14/DQ14	CT34 FMCP_HB_p21
		IO_2C/DIFF_TX_2C21N/13/DQ14	CW35 FMCP_HB_n17
		IO_2C/DIFF_TX_2C21P/12/DQ14	CV34 FMCP_HB_p17
		IO_2C/DIFF_RX_2C22N/11/DQ15	CL31 FMCP_HB_n9
		IO_2C/DIFF_RX_2C22P/10/DQ15	CK30 FMCP_HB_p9
		IO_2C/DIFF_TX_2C22N/9/DQ15	CN31 FMCP_HB_n12
		IO_2C/DIFF_TX_2C22P/8/DQ15	CP30 FMCP_HB_p12
		IO_2C/DIFF_RX_2C23N/7/DQ15	CL33 FMCP_HB_n19
		IO_2C/DIFF_RX_2C23P/6/DQ15	CK32 FMCP_HB_p19
		IO_2C/DIFF_TX_2C23N/5/DQSN15/CQN15	CN33 FMCP_HB_n16
		IO_2C/DIFF_TX_2C23P/4/DQS15/CQ15	CP32 FMCP_HB_p16
		IO_2C/DIFF_RX_2C24N/3/DQ15	CL35 FMCP_HB_n18
		IO_2C/DIFF_RX_2C24P/2/DQ15	CK34 FMCP_HB_p18
		IO_2C/DIFF_TX_2C24N/1/DQ15	CN35 FMCP_HB_n20
		IO_2C/DIFF_TX_2C24P/DQ15	CP34 FMCP_HB_p20

AGFB027R24C2E2VR2

Title	A7SK	
Size B	Document Number FPGA Bank 2C	Rev A
Date: Wednesday, May 10, 2023	Sheet 12 of 52	

U35B

IO Bank 2D VCCIO = 1.2V

FMCP_LA_n16	DE3	IO_2D/DIFF_RX_2D1N/95/DQ0	
FMCP_LA_p16	DF2	IO_2D/DIFF_RX_2D1P/94/DQ0	
FMCP_LA_n11	DE5	IO_2D/DIFF_TX_2D1N/93/DQ0	
FMCP_LA_p11	DF4	IO_2D/DIFF_TX_2D1P/92/DQ0	
FMCP_LA_n6	DE7	IO_2D/DIFF_RX_2D2N/91/DQ0	
FMCP_LA_p6	DF6	IO_2D/DIFF_RX_2D2P/90/DQ0	
FMCP_LA_n5	DJ7	IO_2D/DIFF_TX_2D2N/89/DQSN0/CQN0	
FMCP_LA_p5	DH6	IO_2D/DIFF_TX_2D2P/88/DQS0/CQ0	
FMCP_LA_n8	DE9	IO_2D/DIFF_RX_2D3N/87/DQ0	
FMCP_LA_p8	DF8	IO_2D/DIFF_RX_2D3P/86/DQ0	
FMCP_LA_n9	DJ9	IO_2D/DIFF_TX_2D3N/85/DQ0	
FMCP_LA_p9	DH8	IO_2D/DIFF_TX_2D3P/84/DQ0	
BUTTON0	DA9		
BUTTON1	CY8	IO_2D/DIFF_RX_2D4N/83/DQ1	
LED1	DC9	IO_2D/DIFF_RX_2D4P/82/DQ1	
LED0	DD8	IO_2D/DIFF_TX_2D4N/81/DQ1	
FMCP_SCL	DA11	IO_2D/DIFF_TX_2D4P/80/DQ1	
	CY10	IO_2D/DIFF_RX_2D5N/79/DQ1	
FMCP_LA_n1	DC11	IO_2D/DIFF_RX_2D5P/78/DQ1	
FMCP_LA_p1	DD10	IO_2D/PLL_2D_T_CLKOUT1N/DIFF_TX_2D5N/77/DQSN1/CQN1	
FMCP_LA_n3	DA13	IO_2D/PLL_2D_T_CLKOUT1P,PLL_2D_T_CLKOUT1,PLL_2D_T_FB1/DIFF_TX_2D5P/76/DQS1/CQ1	
FMCP_LA_p3	CY12	IO_2D/DIFF_RX_2D6N/75/DQ1	
CLK_50_B2D_n	DC13	IO_2D/RZQ_T_2D/DIFF_RX_2D6P/74/DQ1	
CLK_50_B2D_p	DD12	IO_2D/CLK_T_2D_1N/DIFF_TX_2D6N/73/DQ1	
		IO_2D/CLK_T_2D_1P/DIFF_TX_2D6P/72/DQ1	
FMCP_LA_n0	DE11		
FMCP_LA_p0	DF10	IO_2D/CLK_T_2D_0N/DIFF_RX_2D7N/71/DQ2	
FMCP_LA_n13	DJ11	IO_2D/CLK_T_2D_0P/DIFF_RX_2D7P/70/DQ2	
FMCP_LA_p13	DH10	IO_2D/DIFF_TX_2D7N/69/DQ2	
FMCP_LA_n10	DE13	IO_2D/DIFF_TX_2D7P/68/DQ2	
FMCP_LA_p10	DF12	IO_2D/PLL_2D_T_CLKOUT0N/DIFF_RX_2D8N/67/DQ2	
FMCP_LA_n15	DJ13	IO_2D/PLL_2D_T_CLKOUT0P,PLL_2D_T_CLKOUT0,PLL_2D_T_FB0/DIFF_RX_2D8P/66/DQ2	
FMCP_LA_p15	DH12	IO_2D/DIFF_TX_2D8N/65/DQSN2/CQN2	
FMCP_LA_n14	DE15	IO_2D/DIFF_TX_2D8P/64/DQS2/CQ2	
FMCP_LA_p14	DF14	IO_2D/DIFF_RX_2D9N/63/DQ2	
FMCP_LA_n7	DJ15	IO_2D/DIFF_RX_2D9P/62/DQ2	
FMCP_LA_p7	DH14	IO_2D/DIFF_TX_2D9N/61/DQ2	
		IO_2D/DIFF_TX_2D9P/60/DQ2	
FMCP_SYNC_M2C_n	DA15		
FMCP_SYNC_M2C_p	CY14	IO_2D/DIFF_RX_2D10N/59/DQ3	
FMCP_LA_n4	DC15	IO_2D/DIFF_RX_2D10P/58/DQ3	
FMCP_LA_p4	DD14	IO_2D/DIFF_TX_2D10N/57/DQ3	
FMCP_GA0	DA17	IO_2D/DIFF_TX_2D10P/56/DQ3	
FMCP_GA1	CY16	IO_2D/DIFF_RX_2D11N/55/DQ3	
SW1	DC17	IO_2D/DIFF_RX_2D11P/54/DQ3	
SW0	DD16	IO_2D/DIFF_TX_2D11N/53/DQSN3/CQN3	
FMCP_LA_n12	DA19	IO_2D/DIFF_TX_2D11P/52/DQS3/CQ3	
FMCP_LA_p12	CY18	IO_2D/DIFF_RX_2D12N/51/DQ3	
FMCP_LA_n2	DC19	IO_2D/DIFF_RX_2D12P/50/DQ3	
FMCP_LA_p2	DD18	IO_2D/DIFF_TX_2D12N/49/DQ3	
		IO_2D/DIFF_TX_2D12P/48/DQ3	

TOP

		IO_2D/DIFF_RX_2D13N/47/DQ4	CL13 FMCP_LA_n22
		IO_2D/DIFF_RX_2D13P/46/DQ4	CK12 FMCP_LA_p22
		IO_2D/DIFF_TX_2D13N/45/DQ4	CN13 FMCP_RES1
		IO_2D/DIFF_TX_2D13P/44/DQ4	CP12 FMCP_SDA
		IO_2D/DIFF_RX_2D14N/43/DQ4	CL15 FMCP_REFCLK_C2M_n
		IO_2D/DIFF_RX_2D14P/42/DQ4	CK14 FMCP_REFCLK_C2M_p
		IO_2D/DIFF_TX_2D14N/41/DQSN4/CQN4	CN15 FMCP_CLK3_BIDIR_n
		IO_2D/DIFF_TX_2D14P/40/DQS4/CQ4	CP14 FMCP_CLK3_BIDIR_p
		IO_2D/DIFF_RX_2D15N/39/DQ4	CL17 FMCP_LA_n31
		IO_2D/DIFF_RX_2D15P/38/DQ4	CK16 FMCP_LA_p31
		IO_2D/DIFF_TX_2D15N/37/DQ4	CN17 FMCP_LA_n23
		IO_2D/DIFF_TX_2D15P/36/DQ4	CP16 FMCP_LA_p23
		IO_2D/DIFF_RX_2D16N/35/DQ5	CR13 FMCP_LA_n20
		IO_2D/DIFF_RX_2D16P/34/DQ5	CT12 FMCP_LA_p20
		IO_2D/DIFF_TX_2D16N/33/DQ5	CW13 FMCP_LA_n19
		IO_2D/DIFF_TX_2D16P/32/DQ5	CV12 FMCP_LA_p19
		IO_2D/DIFF_RX_2D17N/31/DQ5	CR15 FMCP_LA_n18
		IO_2D/DIFF_RX_2D17P/30/DQ5	CT14 FMCP_LA_p18
		IO_2D/PLL_2D_B_CLKOUT1N/DIFF_TX_2D17N/29/DQSN5/CQN5	CW15 FMCP_CLK2_BIDIR_n
		IO_2D/PLL_2D_B_CLKOUT1P,PLL_2D_B_CLKOUT1,PLL_2D_B_FB1/DIFF_TX_2D17P/28/DQS5/CQ5	CV14 FMCP_CLK2_BIDIR_p
		IO_2D/DIFF_RX_2D18N/27/DQ5	CR17 FMCP_LA_n27
		IO_2D/RZQ_B_2D/DIFF_RX_2D18P/26/DQ5	CT16 FMCP_LA_p27
		IO_2D/CLK_B_2D_1N/DIFF_TX_2D18N/25/DQ5	CW17 FMCP_LA_n17
		IO_2D/CLK_B_2D_1P/DIFF_TX_2D18P/24/DQ5	CV16 FMCP_LA_p17
			CL19 FMCP_CLK_M2C_n0
		IO_2D/CLK_B_2D_0N/DIFF_RX_2D19N/23/DQ6	CK18 FMCP_CLK_M2C_p0
		IO_2D/CLK_B_2D_0P/DIFF_RX_2D19P/22/DQ6	CN19 FMCP_LA_n24
		IO_2D/DIFF_TX_2D19N/21/DQ6	CP18 FMCP_LA_p24
		IO_2D/DIFF_TX_2D19P/20/DQ6	CL21 FMCP_LA_n32
		IO_2D/PLL_2D_B_CLKOUT0N/DIFF_RX_2D20N/19/DQ6	CK20 FMCP_LA_p32
		IO_2D/PLL_2D_B_CLKOUT0P,PLL_2D_B_CLKOUT0,PLL_2D_B_FB0/DIFF_RX_2D20P/18/DQ6	CN21 FMCP_LA_n30
		IO_2D/DIFF_TX_2D20N/17/DQSN6/CQN6	CP20 FMCP_LA_p30
		IO_2D/DIFF_TX_2D20P/16/DQS6/CQ6	CL23 FMCP_REFCLK_M2C_n
		IO_2D/DIFF_RX_2D21N/15/DQ6	CK22 FMCP_REFCLK_M2C_p
		IO_2D/DIFF_RX_2D21P/14/DQ6	CN23 FMCP_SYNC_C2M_n
		IO_2D/DIFF_TX_2D21N/13/DQ6	CP22 FMCP_SYNC_C2M_p
		IO_2D/DIFF_TX_2D21P/12/DQ6	
			CR19 FMCP_LA_n25
		IO_2D/DIFF_RX_2D22N/11/DQ7	CT18 FMCP_LA_p25
		IO_2D/DIFF_RX_2D22P/10/DQ7	CW19 FMCP_LA_n26
		IO_2D/DIFF_TX_2D22N/9/DQ7	CV18 FMCP_LA_p26
		IO_2D/DIFF_TX_2D22P/8/DQ7	CR21 FMCP_LA_n29
		IO_2D/DIFF_RX_2D23N/7/DQ7	CT20 FMCP_LA_p29
		IO_2D/DIFF_RX_2D23P/6/DQ7	CW21 FMCP_LA_n21
		IO_2D/DIFF_TX_2D23N/5/DQSN7/CQN7	CV20 FMCP_LA_p21
		IO_2D/DIFF_TX_2D23P/4/DQS7/CQ7	CR23 FMCP_LA_n33
		IO_2D/DIFF_RX_2D24N/3/DQ7	CT22 FMCP_LA_p33
		IO_2D/DIFF_RX_2D24P/2/DQ7	CW23 FMCP_LA_n28
		IO_2D/DIFF_TX_2D24N/1/DQ7	CV22 FMCP_LA_p28
		IO_2D/DIFF_TX_2D24P/DQ7	

BOT

AGFB027R24C2E2VR2

43 BUTTON[1..0]

43 LED[1..0]

43 SW[1..0]

CLK_50_B2D_p 6
CLK_50_B2D_n 6

34 FMCP_CLK3_BIDIR_p
34 FMCP_CLK3_BIDIR_n
34 FMCP_CLK2_BIDIR_p
34 FMCP_CLK2_BIDIR_n

34 FMCP_SYNC_C2M_p
34 FMCP_SYNC_C2M_n
34 FMCP_SYNC_M2C_p
34 FMCP_SYNC_M2C_n

FMCP_CLK_M2C_p[1..0] 12,34
FMCP_CLK_M2C_n[1..0] 12,34

FMCP_REFCLK_C2M_p 34
FMCP_REFCLK_C2M_n 34

FMCP_REFCLK_M2C_p 34
FMCP_REFCLK_M2C_n 34

FMCP_LA_p[33..0] 33
FMCP_LA_n[33..0] 33

FMCP_HA_p[23..0] 12,33
FMCP_HA_n[23..0] 12,33

FMCP_HB_p[21..0] 12,33
FMCP_HB_n[21..0] 12,33

FMCP_SDA 34
FMCP_SCL 34
FMCP_GA[1..0] 34

FMCP_RES1 34

Title: A7SK

Size	Document Number	Rev
B	FPGA Bank 2D	A

Date: Wednesday, May 10, 2023 Sheet 13 of 52

DDR4 SO-DIMM A

DDR4A_CK 30
DDR4A_CK_n 30
DDR4A_BA[1..0] 30
DDR4A_BG[1..0] 30
DDR4A_ODT 30
DDR4A_CS_n 30
DDR4A_DQ[71..0] 15,30
DDR4A_DQS[8..0] 15,30
DDR4A_DQS_n[8..0] 15,30
DDR4A_A[16..0] 30
DDR4A_DBI_n[8..0] 15,30
DDR4A_CKE 30
DDR4A_RESET_n 30
DDR4A_PAR 30
DDR4A_ACT_n 30
DDR4A_ALERT_n 30

RAS_n is a multiplexed function with A16
CAS_n is a multiplexed function with A15
WE_n is a multiplexed function with A14

DDR4A_REFCLK_p 6
DDR4A_REFCLK_n 6

U35F

IO Bank 3D VCCIO = 1.2V

DDR4A_DQ4	P2	IO_3D/DIFF_RX_3D1N/95/DQ48
DDR4A_DQ5	R1	IO_3D/DIFF_RX_3D1P/94/DQ48
DDR4A_DQ1	M2	IO_3D/DIFF_TX_3D1N/93/DQ48
DDR4A_DQ0	L1	IO_3D/DIFF_TX_3D1P/92/DQ48
	P4	IO_3D/DIFF_RX_3D2N/91/DQ48
DDR4A_DBI_n0	R3	IO_3D/DIFF_RX_3D2P/90/DQ48
DDR4A_DQS_n0	M4	IO_3D/DIFF_TX_3D2N/89/DQSN48/CQN48
DDR4A_DQS0	L3	IO_3D/DIFF_TX_3D2P/88/DQS48/CQ48
DDR4A_DQ6	P6	IO_3D/DIFF_RX_3D3N/87/DQ48
DDR4A_DQ7	R5	IO_3D/DIFF_RX_3D3P/86/DQ48
DDR4A_DQ2	M6	IO_3D/DIFF_TX_3D3N/85/DQ48
DDR4A_DQ3	L5	IO_3D/DIFF_TX_3D3P/84/DQ48
DDR4A_DQ9	K2	IO_3D/DIFF_RX_3D4N/83/DQ49
DDR4A_DQ11	J1	IO_3D/DIFF_RX_3D4P/82/DQ49
DDR4A_DQ10	F2	IO_3D/DIFF_TX_3D4N/81/DQ49
DDR4A_DQ15	G1	IO_3D/DIFF_TX_3D4P/80/DQ49
	K4	IO_3D/DIFF_RX_3D5N/79/DQ49
DDR4A_DBI_n1	J3	IO_3D/DIFF_RX_3D5P/78/DQ49
DDR4A_DQS_n1	F4	IO_3D/PLL_3D_T_CLKOUT1N/DIFF_TX_3D5N/77/DQSN49/CQN49
DDR4A_DQS1	G3	IO_3D/PLL_3D_T_CLKOUT1P,PLL_3D_T_CLKOUT1,PLL_3D_T_FB1/DIFF_TX_3D5P/76/DQS49/CQ49
DDR4A_DQ12	K6	IO_3D/DIFF_RX_3D6N/75/DQ49
DDR4A_DQ8	J5	IO_3D/RZQ_T_3D/DIFF_RX_3D6P/74/DQ49
DDR4A_DQ14	F6	IO_3D/CLK_T_3D_1N/DIFF_TX_3D6N/73/DQ49
DDR4A_DQ13	G5	IO_3D/CLK_T_3D_1P/DIFF_TX_3D6P/72/DQ49
DDR4A_DQ23	D6	IO_3D/CLK_T_3D_0N/DIFF_RX_3D7N/71/DQ50
DDR4A_DQ21	E5	IO_3D/CLK_T_3D_0P/DIFF_RX_3D7P/70/DQ50
DDR4A_DQ16	B6	IO_3D/DIFF_TX_3D7N/69/DQ50
DDR4A_DQ17	C5	IO_3D/DIFF_TX_3D7P/68/DQ50
	D8	IO_3D/PLL_3D_T_CLKOUT0N/DIFF_RX_3D8N/67/DQ50
DDR4A_DBI_n2	E7	IO_3D/PLL_3D_T_CLKOUT0P,PLL_3D_T_CLKOUT0,PLL_3D_T_FB0/DIFF_RX_3D8P/66/DQ50
DDR4A_DQS_n2	B8	IO_3D/DIFF_TX_3D8N/65/DQSN50/CQN50
DDR4A_DQS2	A7	IO_3D/DIFF_TX_3D8P/64/DQS50/CQ50
DDR4A_DQ18	D10	IO_3D/DIFF_RX_3D9N/63/DQ50
DDR4A_DQ20	E9	IO_3D/DIFF_RX_3D9P/62/DQ50
DDR4A_DQ22	B10	IO_3D/DIFF_TX_3D9N/61/DQ50
DDR4A_DQ19	A9	IO_3D/DIFF_TX_3D9P/60/DQ50
DDR4A_DQ27	K8	IO_3D/DIFF_RX_3D10N/59/DQ51
DDR4A_DQ28	J7	IO_3D/DIFF_RX_3D10P/58/DQ51
DDR4A_DQ25	F8	IO_3D/DIFF_TX_3D10N/57/DQ51
DDR4A_DQ29	G7	IO_3D/DIFF_TX_3D10P/56/DQ51
	K10	IO_3D/DIFF_RX_3D11N/55/DQ51
DDR4A_DBI_n3	J9	IO_3D/DIFF_RX_3D11P/54/DQ51
DDR4A_DQS_n3	F10	IO_3D/DIFF_TX_3D11N/53/DQSN51/CQN51
DDR4A_DQS3	G9	IO_3D/DIFF_TX_3D11P/52/DQS51/CQ51
DDR4A_DQ31	K12	IO_3D/DIFF_RX_3D12N/51/DQ51
DDR4A_DQ30	J11	IO_3D/DIFF_RX_3D12P/50/DQ51
DDR4A_DQ24	F12	IO_3D/DIFF_TX_3D12N/49/DQ51
DDR4A_DQ26	G11	IO_3D/DIFF_TX_3D12P/48/DQ51

TOP | BOT

AD2	DDR4A_DQ66	IO_3D/DIFF_RX_3D13N/47/DQ52
AE1	DDR4A_DQ65	IO_3D/DIFF_RX_3D13P/46/DQ52
AB2	DDR4A_DQ71	IO_3D/DIFF_TX_3D13N/45/DQ52
AA1	DDR4A_DQ70	IO_3D/DIFF_TX_3D13P/44/DQ52
AB4		IO_3D/DIFF_RX_3D14N/43/DQ52
AA3	DDR4A_DBI_n8	IO_3D/DIFF_RX_3D14P/42/DQ52
AB6	DDR4A_DQS_n8	IO_3D/DIFF_TX_3D14N/41/DQSN52/CQN52
AA5	DDR4A_DQS8	IO_3D/DIFF_TX_3D14P/40/DQS52/CQ52
AE7	DDR4A_DQ68	IO_3D/DIFF_RX_3D15N/39/DQ52
AD6	DDR4A_DQ69	IO_3D/DIFF_RX_3D15P/38/DQ52
AB8	DDR4A_DQ64	IO_3D/DIFF_TX_3D15N/37/DQ52
AA7	DDR4A_DQ67	IO_3D/DIFF_TX_3D15P/36/DQ52
Y2	DDR4A_BG0	IO_3D/DIFF_RX_3D16N/35/DQ53
W1	DDR4A_BA1	IO_3D/DIFF_RX_3D16P/34/DQ53
T2	DDR4A_BA0	IO_3D/DIFF_TX_3D16N/33/DQ53
U1	DDR4A_ALERT_n	IO_3D/DIFF_TX_3D16P/32/DQ53
Y4	DDR4A_A16	IO_3D/DIFF_RX_3D17N/31/DQ53
W3	DDR4A_A15	IO_3D/DIFF_RX_3D17P/30/DQ53
T4	DDR4A_A14	IO_3D/PLL_3D_B_CLKOUT1N/DIFF_TX_3D17N/29/DQSN53/CQN53
U3	DDR4A_A13	IO_3D/PLL_3D_B_CLKOUT1P,PLL_3D_B_CLKOUT1,PLL_3D_B_FB1/DIFF_TX_3D17P/28/DQS53/CQ53
Y6	DDR4A_A12	IO_3D/DIFF_RX_3D18N/27/DQ53
W5	DDR4A_RZQ	IO_3D/RZQ_B_3D/DIFF_RX_3D18P/26/DQ53
T6	DDR4A_REFCLK_n	IO_3D/CLK_B_3D_1N/DIFF_TX_3D18N/25/DQ53
U5	DDR4A_REFCLK_p	IO_3D/CLK_B_3D_1P/DIFF_TX_3D18P/24/DQ53
Y8	DDR4A_A11	IO_3D/CLK_B_3D_0N/DIFF_RX_3D19N/23/DQ54
W7	DDR4A_A10	IO_3D/CLK_B_3D_0P/DIFF_RX_3D19P/22/DQ54
T8	DDR4A_A9	IO_3D/DIFF_TX_3D19N/21/DQ54
U7	DDR4A_A8	IO_3D/DIFF_TX_3D19P/20/DQ54
Y10	DDR4A_A7	IO_3D/PLL_3D_B_CLKOUT0N/DIFF_RX_3D20N/19/DQ54
W9	DDR4A_A6	IO_3D/PLL_3D_B_CLKOUT0P,PLL_3D_B_CLKOUT0,PLL_3D_B_FB0/DIFF_RX_3D20P/18/DQ54
T10	DDR4A_A5	IO_3D/DIFF_TX_3D20N/17/DQSN54/CQN54
U9	DDR4A_A4	IO_3D/DIFF_TX_3D20P/16/DQS54/CQ54
Y12	DDR4A_A3	IO_3D/DIFF_RX_3D21N/15/DQ54
W11	DDR4A_A2	IO_3D/DIFF_RX_3D21P/14/DQ54
T12	DDR4A_A1	IO_3D/DIFF_TX_3D21N/13/DQ54
U11	DDR4A_A0	IO_3D/DIFF_TX_3D21P/12/DQ54
P8	DDR4A_PAR	IO_3D/DIFF_RX_3D22N/11/DQ55
R7		IO_3D/DIFF_RX_3D22P/10/DQ55
M8	DDR4A_CK_n	IO_3D/DIFF_TX_3D22N/9/DQ55
L7	DDR4A_CK	IO_3D/DIFF_TX_3D22P/8/DQ55
P10		IO_3D/DIFF_RX_3D23N/7/DQ55
R9	DDR4A_CKE	IO_3D/DIFF_RX_3D23P/6/DQ55
M10		IO_3D/DIFF_TX_3D23N/5/DQSN55/CQN55
L9	DDR4A_ODT	IO_3D/DIFF_TX_3D23P/4/DQS55/CQ55
P12	DDR4A_ACT_n	IO_3D/DIFF_RX_3D24N/3/DQ55
R11	DDR4A_CS_n	IO_3D/DIFF_RX_3D24P/2/DQ55
M12	DDR4A_RESET_n	IO_3D/DIFF_TX_3D24N/1/DQ55
L11	DDR4A_BG1	IO_3D/DIFF_TX_3D24P/DQ55

AGFB027R24C2E2VR2

R375 DNI 100

R376 240

Title: A7SK

Size	Document Number	Rev
B	FPGA Bank 3D	A

Date: Wednesday, May 10, 2023 Sheet 14 of 52

DDR4 SO-DIMM A

DDR4A_CK 14,30
DDR4A_CK_n 14,30
DDR4A_BA[1..0] 14,30
DDR4A_BG[1..0] 14,30
DDR4A_ODT 14,30
DDR4A_CS_n 14,30
DDR4A_DQ[71..0] 14,30
DDR4A_DQS[8..0] 14,30
DDR4A_DQS_n[8..0] 14,30

DDR4A_A[16..0] 14,30
DDR4A_DBI_n[8..0] 14,30
DDR4A_CKE 14,30

DDR4A_RESET_n 14,30

DDR4A_PAR 14,30
DDR4A_ACT_n 14,30
DDR4A_ALERT_n 14,30

DDR4A_EVENT_n 7,17
DDR4A_SDA 7,17
DDR4A_SCL 7,17

RAS_n is a multiplexed function with A16
CAS_n is a multiplexed function with A15
WE_n is a multiplexed function with A14

CLK_50_B3C_p 6
CLK_50_B3C_n 6

U35G

IO Bank 3C VCCIO = 1.2V

D12	IO_3C/DIFF_RX_3C1N/95/DQ56	IO_3C/DIFF_RX_3C13N/47/DQ60	Y14 DDR4A_DQ58
E11	IO_3C/DIFF_RX_3C1P/94/DQ56	IO_3C/DIFF_RX_3C13P/46/DQ60	W13 DDR4A_DQ63
B12	IO_3C/DIFF_TX_3C1N/93/DQ56	IO_3C/DIFF_TX_3C13N/45/DQ60	T14 DDR4A_DQ60
A11	IO_3C/DIFF_TX_3C1P/92/DQ56	IO_3C/DIFF_TX_3C13P/44/DQ60	U13 DDR4A_DQ57
D14	IO_3C/DIFF_RX_3C2N/91/DQ56	IO_3C/DIFF_RX_3C14N/43/DQ60	Y16
E13	IO_3C/DIFF_RX_3C2P/90/DQ56	IO_3C/DIFF_RX_3C14P/42/DQ60	W15 DDR4A_DBI_n7
B14	IO_3C/DIFF_TX_3C2N/89/DQSN56/CQN56	IO_3C/DIFF_TX_3C14N/41/DQSN60/CQN60	T16 DDR4A_DQS_n7
A13	IO_3C/DIFF_TX_3C2P/88/DQS56/CQ56	IO_3C/DIFF_TX_3C14P/40/DQS60/CQ60	U15 DDR4A_DQS7
D16	IO_3C/DIFF_RX_3C3N/87/DQ56	IO_3C/DIFF_RX_3C15N/39/DQ60	Y18 DDR4A_DQ59
E15	IO_3C/DIFF_RX_3C3P/86/DQ56	IO_3C/DIFF_RX_3C15P/38/DQ60	W17 DDR4A_DQ62
B16	IO_3C/DIFF_TX_3C3N/85/DQ56	IO_3C/DIFF_TX_3C15N/37/DQ60	T18 DDR4A_DQ61
A15	IO_3C/DIFF_TX_3C3P/84/DQ56	IO_3C/DIFF_TX_3C15P/36/DQ60	U17 DDR4A_DQ56
K14			P14 DDR4A_DQ37
J13	IO_3C/DIFF_RX_3C4N/83/DQ57	IO_3C/DIFF_RX_3C16N/35/DQ61	R13 DDR4A_DQ39
F14	IO_3C/DIFF_RX_3C4P/82/DQ57	IO_3C/DIFF_RX_3C16P/34/DQ61	M14 DDR4A_DQ32
G13	IO_3C/DIFF_TX_3C4N/81/DQ57	IO_3C/DIFF_TX_3C16N/33/DQ61	L13 DDR4A_DQ36
K16	IO_3C/DIFF_TX_3C4P/80/DQ57	IO_3C/DIFF_TX_3C16P/32/DQ61	P16
J15	IO_3C/DIFF_RX_3C5N/79/DQ57	IO_3C/DIFF_RX_3C17N/31/DQ61	R15 DDR4A_DBI_n4
F16	IO_3C/DIFF_RX_3C5P/78/DQ57	IO_3C/DIFF_RX_3C17P/30/DQ61	M16 DDR4A_DQS_n4
G15	IO_3C/PLL_3C_T_CLKOUT1N/DIFF_TX_3C5N/77/DQSN57/CQN57	IO_3C/PLL_3C_B_CLKOUT1N/DIFF_TX_3C17N/29/DQSN61/CQN61	L15 DDR4A_DQS4
K18	IO_3C/PLL_3C_T_CLKOUT1P,PLL_3C_T_CLKOUT1,PLL_3C_T_FB1/DIFF_TX_3C5P/76/DQS57/CQ57	IO_3C/PLL_3C_B_CLKOUT1P,PLL_3C_B_CLKOUT1,PLL_3C_B_FB1/DIFF_TX_3C17P/28/DQS61/CQ61	P18 DDR4A_DQ34
J17	IO_3C/DIFF_RX_3C6N/75/DQ57	IO_3C/DIFF_RX_3C18N/27/DQ61	R17 DDR4A_DQ35
F18	IO_3C/RZQ_T_3C/DIFF_RX_3C6P/74/DQ57	IO_3C/RZQ_B_3C/DIFF_RX_3C18P/26/DQ61	M18 DDR4A_DQ38
G17	IO_3C/CLK_T_3C_1N/DIFF_TX_3C6N/73/DQ57	IO_3C/CLK_B_3C_1N/DIFF_TX_3C18N/25/DQ61	L17 DDR4A_DQ33
	IO_3C/CLK_T_3C_1P/DIFF_TX_3C6P/72/DQ57	IO_3C/CLK_B_3C_1P/DIFF_TX_3C18P/24/DQ61	
CLK_50_B3C_n D18			P20 DDR4A_DQ54
CLK_50_B3C_p E17	IO_3C/CLK_T_3C_0N/DIFF_RX_3C7N/71/DQ58	IO_3C/CLK_B_3C_0N/DIFF_RX_3C19N/23/DQ62	R19 DDR4A_DQ53
B18	IO_3C/CLK_T_3C_0P/DIFF_RX_3C7P/70/DQ58	IO_3C/CLK_B_3C_0P/DIFF_RX_3C19P/22/DQ62	M20 DDR4A_DQ52
A17	IO_3C/DIFF_TX_3C7N/69/DQ58	IO_3C/DIFF_TX_3C19N/21/DQ62	L19 DDR4A_DQ48
D20	IO_3C/DIFF_TX_3C7P/68/DQ58	IO_3C/DIFF_TX_3C19P/20/DQ62	P22
E19	IO_3C/PLL_3C_T_CLKOUT0N/DIFF_RX_3C8N/67/DQ58	IO_3C/PLL_3C_B_CLKOUT0N/DIFF_RX_3C20N/19/DQ62	R21 DDR4A_DBI_n6
B20	IO_3C/PLL_3C_T_CLKOUT0P,PLL_3C_T_CLKOUT0,PLL_3C_T_FB0/DIFF_RX_3C8P/66/DQ58	IO_3C/PLL_3C_B_CLKOUT0P,PLL_3C_B_CLKOUT0,PLL_3C_B_FB0/DIFF_RX_3C20P/18/DQ62	M22 DDR4A_DQS_n6
A19	IO_3C/DIFF_TX_3C8N/65/DQSN58/CQN58	IO_3C/DIFF_TX_3C20N/17/DQSN62/CQN62	L21 DDR4A_DQS6
D22	IO_3C/DIFF_TX_3C8P/64/DQS58/CQ58	IO_3C/DIFF_TX_3C20P/16/DQS62/CQ62	P24 DDR4A_DQ51
E21	IO_3C/DIFF_RX_3C9N/63/DQ58	IO_3C/DIFF_RX_3C21N/15/DQ62	R23 DDR4A_DQ50
B22	IO_3C/DIFF_RX_3C9P/62/DQ58	IO_3C/DIFF_RX_3C21P/14/DQ62	M24 DDR4A_DQ55
A21	IO_3C/DIFF_TX_3C9N/61/DQ58	IO_3C/DIFF_TX_3C21N/13/DQ62	L23 DDR4A_DQ49
	IO_3C/DIFF_TX_3C9P/60/DQ58	IO_3C/DIFF_TX_3C21P/12/DQ62	
K20			Y20 DDR4A_DQ43
J19	IO_3C/DIFF_RX_3C10N/59/DQ59	IO_3C/DIFF_RX_3C22N/11/DQ63	W19 DDR4A_DQ45
F20	IO_3C/DIFF_RX_3C10P/58/DQ59	IO_3C/DIFF_RX_3C22P/10/DQ63	T20 DDR4A_DQ47
G19	IO_3C/DIFF_TX_3C10N/57/DQ59	IO_3C/DIFF_TX_3C22N/9/DQ63	U19 DDR4A_DQ41
K22	IO_3C/DIFF_TX_3C10P/56/DQ59	IO_3C/DIFF_TX_3C22P/8/DQ63	Y22
J21	IO_3C/DIFF_RX_3C11N/55/DQ59	IO_3C/DIFF_RX_3C23N/7/DQ63	W21 DDR4A_DBI_n5
F22	IO_3C/DIFF_RX_3C11P/54/DQ59	IO_3C/DIFF_RX_3C23P/6/DQ63	T22 DDR4A_DQS_n5
G21	IO_3C/DIFF_TX_3C11N/53/DQSN59/CQN59	IO_3C/DIFF_TX_3C23N/5/DQSN63/CQN63	U21 DDR4A_DQS5
K24	IO_3C/DIFF_TX_3C11P/52/DQS59/CQ59	IO_3C/DIFF_TX_3C23P/4/DQS63/CQ63	Y24 DDR4A_DQ42
J23	IO_3C/DIFF_RX_3C12N/51/DQ59	IO_3C/DIFF_RX_3C24N/3/DQ63	W23 DDR4A_DQ46
F24	IO_3C/DIFF_RX_3C12P/50/DQ59	IO_3C/DIFF_RX_3C24P/2/DQ63	T24 DDR4A_DQ44
G23	IO_3C/DIFF_TX_3C12N/49/DQ59	IO_3C/DIFF_TX_3C24N/1/DQ63	U23 DDR4A_DQ40
	IO_3C/DIFF_TX_3C12P/48/DQ59	IO_3C/DIFF_TX_3C24P/DQ63	

TOP BOT

AGFB027R24C2E2VR2

Title: A7SK

Size	Document Number	Rev
B	FPGA Bank 3C	A

Date: Wednesday, May 10, 2023 Sheet 15 of 52

U35H

IO Bank 3B VCCIO = 1.2V

K36	IO_3B/DIFF_RX_3B1N/95/DQ80	IO_3B/DIFF_RX_3B13N/47/DQ84	P36
J35	IO_3B/DIFF_RX_3B1P/94/DQ80	IO_3B/DIFF_RX_3B13P/46/DQ84	R35
F36	IO_3B/DIFF_TX_3B1N/93/DQ80	IO_3B/DIFF_TX_3B13N/45/DQ84	M36
G35	IO_3B/DIFF_TX_3B1P/92/DQ80	IO_3B/DIFF_TX_3B13P/44/DQ84	L35
K34	IO_3B/DIFF_RX_3B2N/91/DQ80	IO_3B/DIFF_RX_3B14N/43/DQ84	P34
J33	IO_3B/DIFF_RX_3B2P/90/DQ80	IO_3B/DIFF_RX_3B14P/42/DQ84	R33
F34	IO_3B/DIFF_TX_3B2N/89/DQSN80/CQN80	IO_3B/DIFF_TX_3B14N/41/DQSN84/CQN84	M34
G33	IO_3B/DIFF_TX_3B2P/88/DQS80/CQ80	IO_3B/DIFF_TX_3B14P/40/DQS84/CQ84	L33
K32	IO_3B/DIFF_RX_3B3N/87/DQ80	IO_3B/DIFF_RX_3B15N/39/DQ84	P32
J31	IO_3B/DIFF_RX_3B3P/86/DQ80	IO_3B/DIFF_RX_3B15P/38/DQ84	R31
F32	IO_3B/DIFF_TX_3B3N/85/DQ80	IO_3B/DIFF_TX_3B15N/37/DQ84	M32
G31	IO_3B/DIFF_TX_3B3P/84/DQ80	IO_3B/DIFF_TX_3B15P/36/DQ84	L31
D34			Y36
E33	IO_3B/DIFF_RX_3B4N/83/DQ81	IO_3B/DIFF_RX_3B16N/35/DQ85	W35
B34	IO_3B/DIFF_RX_3B4P/82/DQ81	IO_3B/DIFF_RX_3B16P/34/DQ85	T36
A33	IO_3B/DIFF_TX_3B4N/81/DQ81	IO_3B/DIFF_TX_3B16N/33/DQ85	U35
D32	IO_3B/DIFF_TX_3B4P/80/DQ81	IO_3B/DIFF_TX_3B16P/32/DQ85	Y34
E31	IO_3B/DIFF_RX_3B5N/79/DQ81	IO_3B/DIFF_RX_3B17N/31/DQ85	W33
B32	IO_3B/DIFF_RX_3B5P/78/DQ81	IO_3B/DIFF_RX_3B17P/30/DQ85	T34
A31	IO_3B/PLL_3B_T_CLKOUT1N/DIFF_TX_3B5N/77/DQSN81/CQN81	IO_3B/PLL_3B_B_CLKOUT1N/DIFF_TX_3B17N/29/DQSN85/CQN85	U33
D30	IO_3B/PLL_3B_T_CLKOUT1P,PLL_3B_T_CLKOUT1,PLL_3B_T_FB1/DIFF_TX_3B5P/76/DQS81/CQ81	IO_3B/PLL_3B_B_CLKOUT1P,PLL_3B_B_CLKOUT1,PLL_3B_B_FB1/DIFF_TX_3B17P/28/DQS85/CQ85	Y32
E29	IO_3B/DIFF_RX_3B6N/75/DQ81	IO_3B/DIFF_RX_3B18N/27/DQ85	W31
B30	IO_3B/RZQ_T_3B/DIFF_RX_3B6P/74/DQ81	IO_3B/RZQ_B_3B/DIFF_RX_3B18P/26/DQ85	T32
A29	IO_3B/CLK_T_3B_1N/DIFF_TX_3B6N/73/DQ81	IO_3B/CLK_B_3B_1N/DIFF_TX_3B18N/25/DQ85	U31
	IO_3B/CLK_T_3B_1P/DIFF_TX_3B6P/72/DQ81	IO_3B/CLK_B_3B_1P/DIFF_TX_3B18P/24/DQ85	
K30			P30
J29	IO_3B/CLK_T_3B_0N/DIFF_RX_3B7N/71/DQ82	IO_3B/CLK_B_3B_0N/DIFF_RX_3B19N/23/DQ86	R29
F30	IO_3B/CLK_T_3B_0P/DIFF_RX_3B7P/70/DQ82	IO_3B/CLK_B_3B_0P/DIFF_RX_3B19P/22/DQ86	M30
G29	IO_3B/DIFF_TX_3B7N/69/DQ82	IO_3B/DIFF_TX_3B19N/21/DQ86	L29
K28	IO_3B/DIFF_TX_3B7P/68/DQ82	IO_3B/DIFF_TX_3B19P/20/DQ86	P28
J27	IO_3B/PLL_3B_T_CLKOUT0N/DIFF_RX_3B8N/67/DQ82	IO_3B/PLL_3B_B_CLKOUT0N/DIFF_RX_3B20N/19/DQ86	R27
F28	IO_3B/PLL_3B_T_CLKOUT0P,PLL_3B_T_CLKOUT0,PLL_3B_T_FB0/DIFF_RX_3B8P/66/DQ82	IO_3B/PLL_3B_B_CLKOUT0P,PLL_3B_B_CLKOUT0,PLL_3B_B_FB0/DIFF_RX_3B20P/18/DQ86	M28
G27	IO_3B/DIFF_TX_3B8N/65/DQSN82/CQN82	IO_3B/DIFF_TX_3B20N/17/DQSN86/CQN86	L27
K26	IO_3B/DIFF_TX_3B8P/64/DQS82/CQ82	IO_3B/DIFF_TX_3B20P/16/DQS86/CQ86	P26
J25	IO_3B/DIFF_RX_3B9N/63/DQ82	IO_3B/DIFF_RX_3B21N/15/DQ86	R25
F26	IO_3B/DIFF_RX_3B9P/62/DQ82	IO_3B/DIFF_RX_3B21P/14/DQ86	M26
G25	IO_3B/DIFF_TX_3B9N/61/DQ82	IO_3B/DIFF_TX_3B21N/13/DQ86	L25
	IO_3B/DIFF_TX_3B9P/60/DQ82	IO_3B/DIFF_TX_3B21P/12/DQ86	
D28			Y30
E27	IO_3B/DIFF_RX_3B10N/59/DQ83	IO_3B/DIFF_RX_3B22N/11/DQ87	W29
B28	IO_3B/DIFF_RX_3B10P/58/DQ83	IO_3B/DIFF_RX_3B22P/10/DQ87	T30
A27	IO_3B/DIFF_TX_3B10N/57/DQ83	IO_3B/DIFF_TX_3B22N/9/DQ87	U29
D26	IO_3B/DIFF_TX_3B10P/56/DQ83	IO_3B/DIFF_TX_3B22P/8/DQ87	Y28
E25	IO_3B/DIFF_RX_3B11N/55/DQ83	IO_3B/DIFF_RX_3B23N/7/DQ87	W27
B26	IO_3B/DIFF_RX_3B11P/54/DQ83	IO_3B/DIFF_RX_3B23P/6/DQ87	T28
A25	IO_3B/DIFF_TX_3B11N/53/DQSN83/CQN83	IO_3B/DIFF_TX_3B23N/5/DQSN87/CQN87	U27
D24	IO_3B/DIFF_TX_3B11P/52/DQS83/CQ83	IO_3B/DIFF_TX_3B23P/4/DQS87/CQ87	Y26
E23	IO_3B/DIFF_RX_3B12N/51/DQ83	IO_3B/DIFF_RX_3B24N/3/DQ87	W25
B24	IO_3B/DIFF_RX_3B12P/50/DQ83	IO_3B/DIFF_RX_3B24P/2/DQ87	T26
A23	IO_3B/DIFF_TX_3B12N/49/DQ83	IO_3B/DIFF_TX_3B24N/1/DQ87	U25
	IO_3B/DIFF_TX_3B12P/48/DQ83	IO_3B/DIFF_TX_3B24P/DQ87	

TOP BOT

AGFB027R24C2E2VR2

Title	A7SK	
Size B	Document Number FPGA Bank 3B	Rev A
Date: Wednesday, May 10, 2023	Sheet 16 of 52	

CLK_50_B3A_p 6
CLK_50_B3A_n 6

CLK_100_B3A_p 6
CLK_100_B3A_n 6

U35I

IO Bank 3A VCCIO = 1.2V

INFO_SPI_SCLK	D54	IO_3A/DIFF_RX_3A1N/95/DQ88	
INFO_SPI_MOSI	E53	IO_3A/DIFF_RX_3A1P/94/DQ88	
DVI_TX_SDA	D52	IO_3A/DIFF_TX_3A1N/93/DQ88	
INFO_SPI_MISO	E51	IO_3A/DIFF_TX_3A1P/92/DQ88	
GPIO_P3	D50	IO_3A/DIFF_RX_3A2N/91/DQ88	
INFO_SPI_CS_n	E49	IO_3A/AVST_READY/DIFF_RX_3A2P/90/DQ88	
DVI_TX_SCL	B50	IO_3A/AVST_DATA31/DIFF_TX_3A2N/89/DQSN88/CQN88	
CPU_RESET_n	A49	IO_3A/AVST_DATA30/DIFF_TX_3A2P/88/DQS88/CQ88	
DVI_TX_CEC_IN_n	D48	IO_3A/AVST_DATA29/DIFF_RX_3A3N/87/DQ88	
QSFP28_LP_MODE	E47	IO_3A/AVST_DATA28/DIFF_RX_3A3P/86/DQ88	
DVI_TX_HPD_n	B48	IO_3A/AVST_DATA27/DIFF_TX_3A3N/85/DQ88	
HDMI_TX_SCL	A47	IO_3A/AVST_DATA26/DIFF_TX_3A3P/84/DQ88	
HDMI_TX_SDA	F50		
GPIO_CLK1	G49	IO_3A/AVST_DATA25/DIFF_RX_3A4N/83/DQ89	
EXP_EN	F48	IO_3A/AVST_DATA24/DIFF_RX_3A4P/82/DQ89	
DDR4A_EVENT_n	G47	IO_3A/AVST_DATA23/DIFF_TX_3A4N/81/DQ89	
GPIO_P1	K46	IO_3A/AVST_DATA22/DIFF_TX_3A4P/80/DQ89	
GPIO_CLK0	J45	IO_3A/AVST_DATA21/DIFF_RX_3A5N/79/DQ89	
Si5340A1_I2C_SCL	F46	IO_3A/AVST_DATA20/DIFF_RX_3A5P/78/DQ89	
GPIO_P2	G45	IO_3A/PLL_3A_T_CLKOUT1N/AVST_DATA19/DIFF_TX_3A5N/77/DQSN89/CQN89	
Si5340A1_I2C_SDA	K44	IO_3A/PLL_3A_T_CLKOUT1P,PLL_3A_T_CLKOUT1,PLL_3A_T_FB1/AVST_DATA18/DIFF_TX_3A5P/76/DQS89/CQ89	
GPIO_P0	J43	IO_3A/AVST_DATA17/DIFF_RX_3A6N/75/DQ89	
CLK_148M5_n	F44	IO_3A/RZQ_T_3A/AVST_DATA16/DIFF_RX_3A6P/74/DQ89	
CLK_148M5_p	G43	IO_3A/CLK_T_3A_1N/DIFF_TX_3A6N/73/DQ89	
		IO_3A/CLK_T_3A_1P/DIFF_TX_3A6P/72/DQ89	
CLK_100_n	D46		
CLK_100_p	E45	IO_3A/CLK_T_3A_0N/DIFF_RX_3A7N/71/DQ90	
Si5340A0_I2C_SDA	B46	IO_3A/CLK_T_3A_0P/DIFF_RX_3A7P/70/DQ90	
QSFP28_INTERRUPT_n	A45	IO_3A/DIFF_TX_3A7N/69/DQ90	
Si5340A0_I2C_SCL	D44	IO_3A/DIFF_TX_3A7P/68/DQ90	
Si5340A1_RST_n	E43	IO_3A/PLL_3A_T_CLKOUT0N/DIFF_RX_3A8N/67/DQ90	
Si5340A1_OE_n	B44	IO_3A/PLL_3A_T_CLKOUT0P,PLL_3A_T_CLKOUT0,PLL_3A_T_FB0/DIFF_RX_3A8P/66/DQ90	
DVI_TX_5V	A43	IO_3A/AVST_CLK/DIFF_TX_3A8N/65/DQSN90/CQN90	
	D42	IO_3A/AVST_DATA15/DIFF_TX_3A8P/64/DQS90/CQ90	
	E41	IO_3A/AVST_DATA14/DIFF_RX_3A9N/63/DQ90	
QSFP28_SCL	B42	IO_3A/AVST_DATA13/DIFF_RX_3A9P/62/DQ90	
DVI_TX_CEC_OUT_n	A41	IO_3A/AVST_DATA12/DIFF_TX_3A9N/61/DQ90	
		IO_3A/AVST_DATA11/DIFF_TX_3A9P/60/DQ90	
Si5340A0_OE_n	D40		
QSFP28_SDA	E39	IO_3A/AVST_DATA10/DIFF_RX_3A10N/59/DQ91	
Si5340A0_RST_n	B40	IO_3A/AVST_DATA9/DIFF_RX_3A10P/58/DQ91	
QSFP28_MOD_PRS_n	A39	IO_3A/AVST_DATA8/DIFF_TX_3A10N/57/DQ91	
PCIE_SMBDAT	D38	IO_3A/AVST_VALID/DIFF_TX_3A10P/56/DQ91	
DDR4A_SDA	E37	IO_3A/AVST_DATA7/DIFF_RX_3A11N/55/DQ91	
QSFP28_RST_n	B38	IO_3A/AVST_DATA6/DIFF_RX_3A11P/54/DQ91	
PCIE_CLKREQ_n	A37	IO_3A/AVST_DATA5/DIFF_TX_3A11N/53/DQSN91/CQN91	
PCIE_WAKE_n	D36	IO_3A/AVST_DATA4/DIFF_TX_3A11P/52/DQS91/CQ91	
DDR4A_SCL	E35	IO_3A/AVST_DATA3/DIFF_RX_3A12N/51/DQ91	
QSFP28_MOD_SEL_n	B36	IO_3A/AVST_DATA2/DIFF_RX_3A12P/50/DQ91	
PCIE_SMBCLK	A35	IO_3A/AVST_DATA1/DIFF_TX_3A12N/49/DQ91	
		IO_3A/AVST_DATA0/DIFF_TX_3A12P/48/DQ91	

TOP BOT

	Y42	IO_3A/DIFF_RX_3A13N/47/DQ92	
	W41	IO_3A/DIFF_RX_3A13P/46/DQ92	
	T42	IO_3A/DIFF_TX_3A13N/45/DQ92	
	U41	IO_3A/DIFF_TX_3A13P/44/DQ92	
	Y40	IO_3A/DIFF_RX_3A14N/43/DQ92	
	W39	IO_3A/DIFF_RX_3A14P/42/DQ92	
	T40	IO_3A/DIFF_TX_3A14N/41/DQSN92/CQN92	
	U39	IO_3A/DIFF_TX_3A14P/40/DQS92/CQ92	
	Y38	IO_3A/DIFF_RX_3A15N/39/DQ92	
	W37	IO_3A/DIFF_RX_3A15P/38/DQ92	
	T38	IO_3A/DIFF_TX_3A15N/37/DQ92	
	U37	IO_3A/DIFF_TX_3A15P/36/DQ92	
	M48		
	L47	IO_3A/DIFF_RX_3A16N/35/DQ93	
	K48	IO_3A/DIFF_RX_3A16P/34/DQ93	
	J47	IO_3A/DIFF_TX_3A16N/33/DQ93	
	P46	IO_3A/DIFF_TX_3A16P/32/DQ93	
	R45	IO_3A/DIFF_RX_3A17N/31/DQ93	
	M46	IO_3A/DIFF_RX_3A17P/30/DQ93	
	L45	IO_3A/PLL_3A_B_CLKOUT1N/DIFF_TX_3A17N/29/DQSN93/CQN93	
	P44	IO_3A/PLL_3A_B_CLKOUT1P,PLL_3A_B_CLKOUT1,PLL_3A_B_FB1/DIFF_TX_3A17P/28/DQS93/CQ93	
	R43	IO_3A/DIFF_RX_3A18N/27/DQ93	
	M44	IO_3A/RZQ_B_3A/DIFF_RX_3A18P/26/DQ93	CLK_100_B3A_n R524 DNI 100
	L43	IO_3A/CLK_B_3A_1N/DIFF_TX_3A18N/25/DQ93	CLK_100_B3A_p
		IO_3A/CLK_B_3A_1P/DIFF_TX_3A18P/24/DQ93	
	P42		CLK_50_B3A_n
	R41	IO_3A/CLK_B_3A_0N/DIFF_RX_3A19N/23/DQ94	CLK_50_B3A_p
	M42	IO_3A/CLK_B_3A_0P/DIFF_RX_3A19P/22/DQ94	
	L41	IO_3A/DIFF_RX_3A19N/21/DQ94	
	P40	IO_3A/DIFF_TX_3A19P/20/DQ94	
	R39	IO_3A/PLL_3A_B_CLKOUT0N/DIFF_RX_3A20N/19/DQ94	
	M40	IO_3A/PLL_3A_B_CLKOUT0P,PLL_3A_B_CLKOUT0,PLL_3A_B_FB0/DIFF_RX_3A20P/18/DQ94	
	L39	IO_3A/DIFF_TX_3A20N/17/DQSN94/CQN94	
	P38	IO_3A/DIFF_TX_3A20P/16/DQS94/CQ94	
	R37	IO_3A/DIFF_RX_3A21N/15/DQ94	
	M38	IO_3A/DIFF_RX_3A21P/14/DQ94	
	L37	IO_3A/DIFF_TX_3A21N/13/DQ94	
		IO_3A/DIFF_TX_3A21P/12/DQ94	
	K42		
	J41	IO_3A/DIFF_RX_3A22N/11/DQ95	
	F42	IO_3A/DIFF_RX_3A22P/10/DQ95	
	G41	IO_3A/DIFF_TX_3A22N/9/DQ95	
	K40	IO_3A/DIFF_TX_3A22P/8/DQ95	
	J39	IO_3A/DIFF_RX_3A23N/7/DQ95	
	F40	IO_3A/DIFF_RX_3A23P/6/DQ95	
	G39	IO_3A/DIFF_TX_3A23N/5/DQSN95/CQN95	
	K38	IO_3A/DIFF_TX_3A23P/4/DQS95/CQ95	
	J37	IO_3A/DIFF_RX_3A24N/3/DQ95	
	F38	IO_3A/DIFF_RX_3A24P/2/DQ95	
	G37	IO_3A/DIFF_TX_3A24N/1/DQ95	
		IO_3A/DIFF_TX_3A24P/DQ95	

AGFB027R24C2E2VR2

DDR4A_EVENT_n 7
DDR4A_SDA 7
DDR4A_SCL 7

EXP_EN 45

PCIe control signals

PCIE_WAKE_n 41
PCIE_SMBDAT 41
PCIE_SMBCLK 41

PCIE_CLKREQ_n 41

CPU_RESET_n 8,43

2x5 Timing Header

43 GPIO_P[3..0]

43 GPIO_CLK0
43 GPIO_CLK1

HDMI Clocks

CLK_100_p 4
CLK_100_n 4

CLK_148M5_p 5
CLK_148M5_n 5

FPGA/System MAX SPI

INFO_SPI_SCLK 8
INFO_SPI_CS_n 8
INFO_SPI_MOSI 8
INFO_SPI_MISO 8

Si5340A0 Interface

Si5340A0_I2C_SDA 4
Si5340A0_I2C_SCL 4
Si5340A0_RST_n 4
Si5340A0_OE_n 4

QSFP28 Control Interface

QSFP28_MOD_SEL_n 40
QSFP28_RST_n 40
QSFP28_SCL 40
QSFP28_SDA 40
QSFP28_LP_MODE 40
QSFP28_INTERRUPT_n 40
QSFP28_MOD_PRS_n 40

Si5340A1 Interface

Si5340A1_I2C_SDA 5
Si5340A1_I2C_SCL 5
Si5340A1_RST_n 5
Si5340A1_OE_n 5

HDMI control signals

39 HDMI_TX_SDA
39 HDMI_TX_SCL
39 DVI_TX_SCL
39 DVI_TX_SDA

39 DVI_TX_HPD_n
39 DVI_TX_CEC_OUT_n
39 DVI_TX_5V
39 DVI_TX_CEC_IN_n

Title: A7SK

Size	Document Number	Rev
B	FPGA Bank 3A	A

Date: Wednesday, May 10, 2023 Sheet 17 of 52

FPGA Bank - HPS

Ethernet PHY Interface (RGMII)

HPS_ENET_TX_DATA[3..0] 36
HPS_ENET_TX_CLK 36
HPS_ENET_TX_CTL 36
HPS_ENET_RX_DATA[3..0] 36
HPS_ENET_RX_CLK 36
HPS_ENET_RX_CTL 36
HPS_ENET_MDC 36
HPS_ENET_MDIO 36

SD Card Interface

HPS_SD_DATA[3..0] 38
HPS_SD_CLK 38
HPS_SD_CMD 38

HPS 25MHz Clock

HPS_OSC_CLK 6

HPS JTAG Interface

HPS_JTAG_TCK 9
HPS_JTAG_TMS 9
HPS_JTAG_TDI 9
HPS_JTAG_TDO 9

HPS User Button

HPS_KEY 43

HPS User LED

HPS_LED 43

UART Interface

HPS_UART_RX 8
HPS_UART_TX 8

U35J

HPS Bank VCCIO = 1.8V

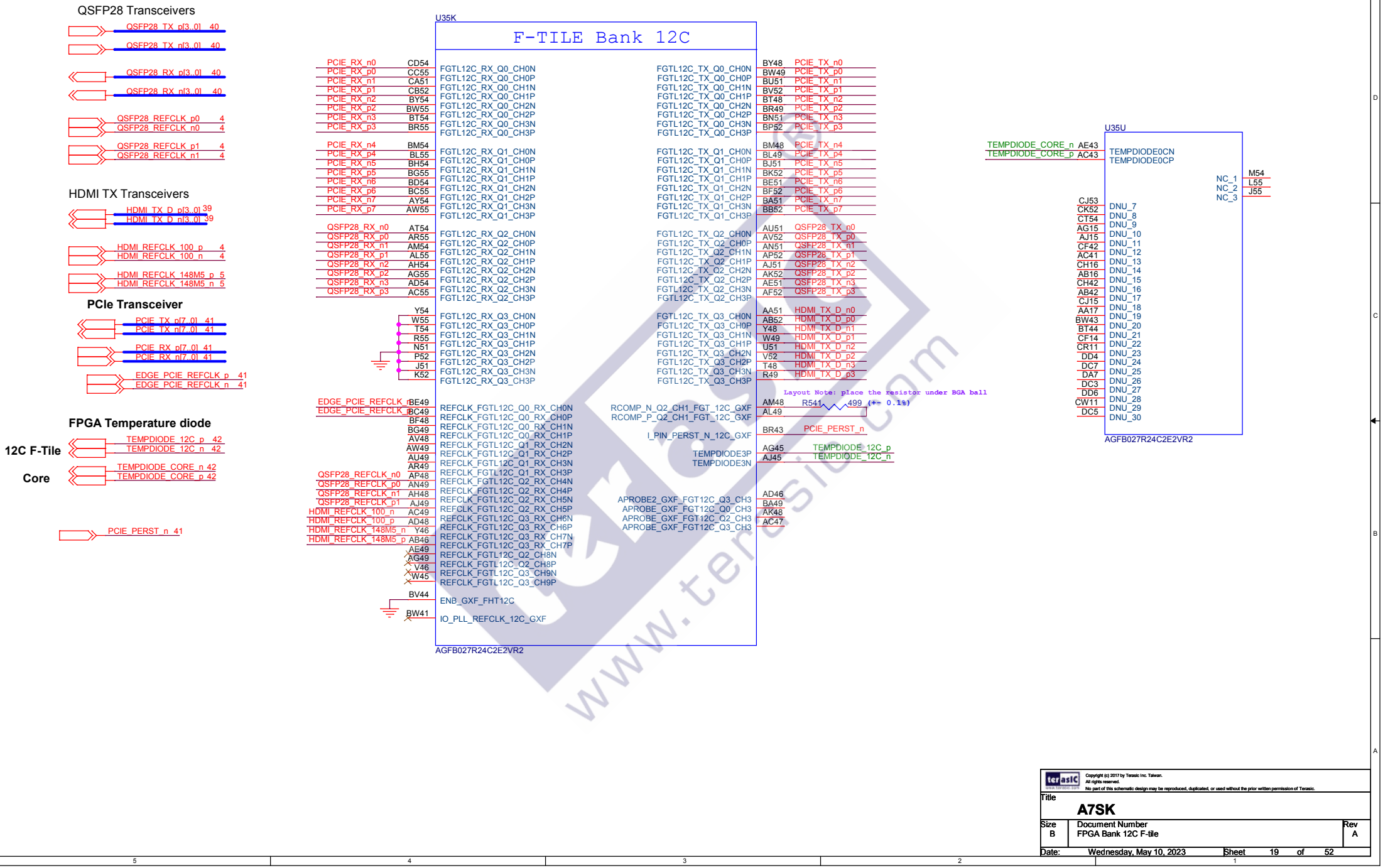
	AC15	HPS_IOA_1/GPIO0_IO0,SPIM0_SS1_N,SPIS0_CLK,UART0_CTS_N,NAND_ADQ0,USB0_CLK,SDMMC_CCLK
	AL15	HPS_IOA_2/GPIO0_IO1,SPIM1_SS1_N,SPIS0_MOSI,UART0_RTS_N,NAND_ADQ1,USB0_STP,SDMMC_CMD
	AJ11	HPS_IOA_3/GPIO0_IO2,SPIS0_SS0_N,UART0_TX,I2C1_SDA,NAND_WE_N,USB0_DIR,SDMMC_DATA0
	AM16	HPS_IOA_4/GPIO0_IO3,SPIS0_MISO,UART0_RX,I2C1_SCL,NAND_RE_N,USB0_DATA0,SDMMC_DATA1
	AH12	HPS_IOA_5/GPIO0_IO4,SPIM0_CLK,UART1_CTS_N,I2C0_SDA,NAND_WP_N,USB0_DATA1,SDMMC_DATA2
	AN15	HPS_IOA_6/GPIO0_IO5,SPIM0_MOSI,UART1_RTS_N,I2C0_SCL,NAND_ADQ2,USB0_NXT,SDMMC_DATA3
	AG13	HPS_IOA_7/GPIO0_IO6,SPIM0_MISO,MDIO2_MDIO,UART1_TX,I2C_EMAC2_SDA,NAND_ADQ3,USB0_DATA2,SDMMC_DATA4
	AP16	HPS_IOA_8/GPIO0_IO7,SPIM0_SS0_N,MDIO2_MDC,UART1_RX,I2C_EMAC2_SCL,NAND_CLE,USB0_DATA3,SDMMC_DATA5
	AF14	HPS_IOA_9/GPIO0_IO8,SPIM1_CLK,SPIS1_CLK,MDIO1_MDIO,I2C_EMAC1_SDA,NAND_ADQ4,USB0_DATA4,SDMMC_DATA6
	AT16	HPS_IOA_10/GPIO0_IO9,SPIM1_MOSI,SPIS1_MOSI,MDIO1_MDC,I2C_EMAC1_SCL,NAND_ADQ5,USB0_DATA5,SDMMC_DATA7
	AH10	HPS_IOA_11/GPIO0_IO10,SPIM1_MISO,SPIS1_SS0_N,MDIO0_MDIO,I2C_EMAC0_SDA,NAND_ADQ6,USB0_DATA6
	AU15	HPS_IOA_12/GPIO0_IO11,SPIM1_SS0_N,SPIS1_MISO,MDIO0_MDC,I2C_EMAC0_SCL,NAND_ADQ7,USB0_DATA7
HPS_ENET_TX_CLK	AJ7	HPS_IOA_13/GPIO0_IO12,NAND_ALE,USB1_CLK,EMAC0_TX_CLK
HPS_ENET_TX_CTL	AL13	HPS_IOA_14/GPIO0_IO13,NAND_RB,USB1_STP,EMAC0_TX_CTL
HPS_ENET_RX_CLK	AH8	HPS_IOA_15/GPIO0_IO14,NAND_CE_N,USB1_DIR,EMAC0_RX_CLK
HPS_ENET_RX_CTL	AM14	HPS_IOA_16/GPIO0_IO15,USB1_DATA0,EMAC0_RX_CTL
HPS_ENET_TX_DATA0	AD14	HPS_IOA_17/GPIO0_IO16,NAND_ADQ8,USB1_DATA1,EMAC0_TXD0
HPS_ENET_TX_DATA1	AN13	HPS_IOA_18/GPIO0_IO17,NAND_ADQ9,USB1_NXT,EMAC0_TXD1
HPS_ENET_RX_DATA0	AG11	HPS_IOA_19/GPIO0_IO18,NAND_ADQ10,USB1_DATA2,EMAC0_RXD0
HPS_ENET_RX_DATA1	AP14	HPS_IOA_20/GPIO0_IO19,SPIM1_SS1_N,NAND_ADQ11,USB1_DATA3,EMAC0_RXD1
HPS_ENET_TX_DATA2	AG9	HPS_IOA_21/GPIO0_IO20,SPIM1_CLK,SPIS0_CLK,UART0_CTS_N,I2C1_SDA,NAND_ADQ12,USB1_DATA4,EMAC0_TXD2
HPS_ENET_TX_DATA3	AT14	HPS_IOA_22/GPIO0_IO21,SPIM1_MOSI,SPIS0_MOSI,UART0_RTS_N,I2C1_SCL,NAND_ADQ13,USB1_DATA5,EMAC0_TXD3
HPS_ENET_RX_DATA2	AF12	HPS_IOA_23/GPIO0_IO22,SPIM1_MISO,SPIS0_SS0_N,UART0_TX,I2C0_SDA,NAND_ADQ14,USB1_DATA6,EMAC0_RXD2
HPS_ENET_RX_DATA3	AU13	HPS_IOA_24/GPIO0_IO23,SPIM1_SS0_N,SPIS0_MISO,UART0_RX,I2C0_SCL,NAND_ADQ15,USB1_DATA7,EMAC0_RXD3
HPS_LED	AF10	HPS_IOB_1/GPIO1_IO0,SPIM1_CLK,UART0_CTS_N,NAND_ADQ0,EMAC1_TX_CLK
HPS_KEY	AU11	HPS_IOB_2/GPIO1_IO1,SPIM1_MOSI,UART0_RTS_N,NAND_ADQ1,EMAC1_TX_CTL
HPS_UART_TX	AF8	HPS_IOB_3/GPIO1_IO2,SPIM1_MISO,UART0_TX,I2C0_SDA,NAND_WE_N,EMAC1_RX_CLK
HPS_UART_RX	AT12	HPS_IOB_4/GPIO1_IO3,SPIM1_SS0_N,UART0_RX,I2C0_SCL,NAND_RE_N,EMAC1_RX_CTL
	AG7	HPS_IOB_5/GPIO1_IO4,SPIM1_SS1_N,SPIS1_CLK,UART1_CTS_N,NAND_WP_N,EMAC1_TXD0
HPS_OSC_CLK	AP12	HPS_IOB_6/GPIO1_IO5,SPIS1_MOSI,UART1_RTS_N,NAND_ADQ2,EMAC1_TXD1
	AC13	HPS_IOB_7/GPIO1_IO6,SPIS1_SS0_N,UART1_TX,I2C1_SDA,NAND_ADQ3,EMAC1_RXD0
	AN11	HPS_IOB_8/GPIO1_IO7,SPIS1_MISO,UART1_RX,I2C1_SCL,NAND_CLE,EMAC1_RXD1
HPS_JTAG_TCK	AD12	HPS_IOB_9/GPIO1_IO8,JTAG_TCK,SPIS0_CLK,MDIO2_MDIO,I2C_EMAC2_SDA,NAND_ADQ4,EMAC1_TXD2
HPS_JTAG_TMS	AM12	HPS_IOB_10/GPIO1_IO9,JTAG_TMS,SPIS0_MOSI,MDIO2_MDC,I2C_EMAC2_SCL,NAND_ADQ5,EMAC1_TXD3
HPS_JTAG_TDO	AD10	HPS_IOB_11/GPIO1_IO10,JTAG_TDO,SPIS0_SS0_N,MDIO0_MDIO,I2C_EMAC0_SDA,NAND_ADQ6,EMAC1_RXD2
HPS_JTAG_TDI	AL11	HPS_IOB_12/GPIO1_IO11,JTAG_TDI,SPIS0_MISO,MDIO0_MDC,I2C_EMAC0_SCL,NAND_ADQ7,EMAC1_RXD3
HPS_SD_DATA0	AC11	HPS_IOB_13/GPIO1_IO12,I2C1_SDA,NAND_ALE,SDMMC_DATA0,EMAC2_TX_CLK
HPS_SD_CMD	AT10	HPS_IOB_14/GPIO1_IO13,I2C1_SCL,NAND_RB,SDMMC_CMD,EMAC2_TX_CTL
HPS_SD_CLK	AD8	HPS_IOB_15/GPIO1_IO14,UART1_TX,NAND_CE_N,SDMMC_CCLK,EMAC2_RX_CLK
HPS_SD_DATA1	AP10	HPS_IOB_16/GPIO1_IO15,UART1_RX,SDMMC_DATA1,EMAC2_RX_CTL
HPS_SD_DATA2	AC9	HPS_IOB_17/GPIO1_IO16,UART1_CTS_N,NAND_ADQ8,SDMMC_DATA2,EMAC2_TXD0
HPS_SD_DATA3	AM10	HPS_IOB_18/GPIO1_IO17,SPIM0_SS1_N,UART1_RTS_N,NAND_ADQ9,SDMMC_DATA3,EMAC2_TXD1
	AB10	HPS_IOB_19/GPIO1_IO18,SPIM0_MISO,MDIO1_MDIO,I2C_EMAC1_SDA,NAND_ADQ10,SDMMC_DATA4,EMAC2_RXD0
	AJ13	HPS_IOB_20/GPIO1_IO19,SPIM0_SS0_N,MDIO1_MDC,I2C_EMAC1_SCL,NAND_ADQ11,SDMMC_DATA5,EMAC2_RXD1
	AB14	HPS_IOB_21/GPIO1_IO20,SPIM0_CLK,SPIS1_CLK,I2C_EMAC2_SDA,NAND_ADQ12,SDMMC_DATA6,EMAC2_TXD2
	AH14	HPS_IOB_22/GPIO1_IO21,SPIM0_MOSI,SPIS1_MOSI,I2C_EMAC2_SCL,NAND_ADQ13,SDMMC_DATA7,EMAC2_TXD3
HPS_ENET_MDIO	AB12	HPS_IOB_23/GPIO1_IO22,SPIM0_MISO,SPIS1_SS0_N,MDIO0_MDIO,I2C_EMAC0_SDA,NAND_ADQ14,EMAC2_RXD2
HPS_ENET_MDC	AJ9	HPS_IOB_24/GPIO1_IO23,SPIM0_SS0_N,SPIS1_MISO,MDIO0_MDC,I2C_EMAC0_SCL,NAND_ADQ15,EMAC2_RXD3
	CH50	DNU_5
	CF50	DNU_6

AGFB027R24C2E2VR2

Title: A7SK

Size	Document Number	Rev
B	FPGA Bank HPS	A

Date: Wednesday, May 10, 2023 Sheet 18 of 52


QSFP28 Transceivers
QSFP28_TX_p[3..0] 40
QSFP28_TX_n[3..0] 40
QSFP28_RX_p[3..0] 40
QSFP28_RX_n[3..0] 40
QSFP28_REFCLK_p0 4
QSFP28_REFCLK_n0 4
QSFP28_REFCLK_p1 4
QSFP28_REFCLK_n1 4
HDMI TX Transceivers
HDMI_TX_D_p[3..0] 39
HDMI_TX_D_n[3..0] 39
HDMI_REFCLK_100_p 4
HDMI_REFCLK_100_n 4
HDMI_REFCLK_148M5_p 5
HDMI_REFCLK_148M5_n 5
PCIe Transceiver
PCIE_TX_p[7..0] 41
PCIE_TX_n[7..0] 41
PCIE_RX_p[7..0] 41
PCIE_RX_n[7..0] 41
EDGE_PCIE_REFCLK_p 41
EDGE_PCIE_REFCLK_n 41
FPGA Temperature diode
12C F-Tile
TEMPDIODE_12C_p 42
TEMPDIODE_12C_n 42
Core
TEMPDIODE_CORE_n 42
TEMPDIODE_CORE_p 42
PCIE_PERST_n 41
U35K
F-TILE Bank 12C
PCIE_RX_n0 CD54
PCIE_RX_p0 CC55
PCIE_RX_n1 CA51
PCIE_RX_p1 CB52
PCIE_RX_n2 BY54
PCIE_RX_p2 BW55
PCIE_RX_n3 BT54
PCIE_RX_p3 BR55
PCIE_RX_n4 BM54
PCIE_RX_p4 BL55
PCIE_RX_n5 BH54
PCIE_RX_p5 BG55
PCIE_RX_n6 BD54
PCIE_RX_p6 BC55
PCIE_RX_n7 AY54
PCIE_RX_p7 AW55
QSFP28_RX_n0 AT54
QSFP28_RX_p0 AR55
QSFP28_RX_n1 AM54
QSFP28_RX_p1 AL55
QSFP28_RX_n2 AH54
QSFP28_RX_p2 AG55
QSFP28_RX_n3 AD54
QSFP28_RX_p3 AC55
Y54
W55
T54
R55
N51
P52
J51
K52
EDGE_PCIE_REFCLK_n BE49
EDGE_PCIE_REFCLK_p BC49
BF48
BG49
AV48
AW49
AU49
AR49
QSFP28_REFCLK_n0 AP48
QSFP28_REFCLK_p0 AN49
QSFP28_REFCLK_n1 AH48
QSFP28_REFCLK_p1 AJ49
HDMI_REFCLK_100_n AC49
HDMI_REFCLK_100_p AD48
HDMI_REFCLK_148M5_n Y46
HDMI_REFCLK_148M5_p AB46
AE49
AG49
V46
W45
BV44
BW41
FGTL12C_RX_Q0_CH0N
FGTL12C_RX_Q0_CH0P
FGTL12C_RX_Q0_CH1N
FGTL12C_RX_Q0_CH1P
FGTL12C_RX_Q0_CH2N
FGTL12C_RX_Q0_CH2P
FGTL12C_RX_Q0_CH3N
FGTL12C_RX_Q0_CH3P
FGTL12C_RX_Q1_CH0N
FGTL12C_RX_Q1_CH0P
FGTL12C_RX_Q1_CH1N
FGTL12C_RX_Q1_CH1P
FGTL12C_RX_Q1_CH2N
FGTL12C_RX_Q1_CH2P
FGTL12C_RX_Q1_CH3N
FGTL12C_RX_Q1_CH3P
FGTL12C_RX_Q2_CH0N
FGTL12C_RX_Q2_CH0P
FGTL12C_RX_Q2_CH1N
FGTL12C_RX_Q2_CH1P
FGTL12C_RX_Q2_CH2N
FGTL12C_RX_Q2_CH2P
FGTL12C_RX_Q2_CH3N
FGTL12C_RX_Q2_CH3P
FGTL12C_RX_Q3_CH0N
FGTL12C_RX_Q3_CH0P
FGTL12C_RX_Q3_CH1N
FGTL12C_RX_Q3_CH1P
FGTL12C_RX_Q3_CH2N
FGTL12C_RX_Q3_CH2P
FGTL12C_RX_Q3_CH3N
FGTL12C_RX_Q3_CH3P
REFCLK_FGTL12C_Q0_RX_CH0N
REFCLK_FGTL12C_Q0_RX_CH0P
REFCLK_FGTL12C_Q0_RX_CH1N
REFCLK_FGTL12C_Q0_RX_CH1P
REFCLK_FGTL12C_Q1_RX_CH2N
REFCLK_FGTL12C_Q1_RX_CH2P
REFCLK_FGTL12C_Q1_RX_CH3N
REFCLK_FGTL12C_Q1_RX_CH3P
REFCLK_FGTL12C_Q2_RX_CH4N
REFCLK_FGTL12C_Q2_RX_CH4P
REFCLK_FGTL12C_Q2_RX_CH5N
REFCLK_FGTL12C_Q2_RX_CH5P
REFCLK_FGTL12C_Q3_RX_CH6N
REFCLK_FGTL12C_Q3_RX_CH6P
REFCLK_FGTL12C_Q3_RX_CH7N
REFCLK_FGTL12C_Q3_RX_CH7P
REFCLK_FGTL12C_Q2_CH8N
REFCLK_FGTL12C_Q2_CH8P
REFCLK_FGTL12C_Q3_CH9N
REFCLK_FGTL12C_Q3_CH9P
ENB_GXF_FHT12C
IO_PLL_REFCLK_12C_GXF
FGTL12C_TX_Q0_CH0N
FGTL12C_TX_Q0_CH0P
FGTL12C_TX_Q0_CH1N
FGTL12C_TX_Q0_CH1P
FGTL12C_TX_Q0_CH2N
FGTL12C_TX_Q0_CH2P
FGTL12C_TX_Q0_CH3N
FGTL12C_TX_Q0_CH3P
FGTL12C_TX_Q1_CH0N
FGTL12C_TX_Q1_CH0P
FGTL12C_TX_Q1_CH1N
FGTL12C_TX_Q1_CH1P
FGTL12C_TX_Q1_CH2N
FGTL12C_TX_Q1_CH2P
FGTL12C_TX_Q1_CH3N
FGTL12C_TX_Q1_CH3P
FGTL12C_TX_Q2_CH0N
FGTL12C_TX_Q2_CH0P
FGTL12C_TX_Q2_CH1N
FGTL12C_TX_Q2_CH1P
FGTL12C_TX_Q2_CH2N
FGTL12C_TX_Q2_CH2P
FGTL12C_TX_Q2_CH3N
FGTL12C_TX_Q2_CH3P
FGTL12C_TX_Q3_CH0N
FGTL12C_TX_Q3_CH0P
FGTL12C_TX_Q3_CH1N
FGTL12C_TX_Q3_CH1P
FGTL12C_TX_Q3_CH2N
FGTL12C_TX_Q3_CH2P
FGTL12C_TX_Q3_CH3N
FGTL12C_TX_Q3_CH3P
RCOMP_N_Q2_CH1_FGT_12C_GXF
RCOMP_P_Q2_CH1_FGT_12C_GXF
I_PIN_PERST_N_12C_GXF
TEMPDIODE3P
TEMPDIODE3N
APROBE2_GXF_FGT12C_Q3_CH3
APROBE_GXF_FGT12C_Q0_CH3
APROBE_GXF_FGT12C_Q2_CH3
APROBE_GXF_FGT12C_Q3_CH3
BY48 PCIE_TX_n0
BW49 PCIE_TX_p0
BU51 PCIE_TX_n1
BV52 PCIE_TX_p1
BT48 PCIE_TX_n2
BR49 PCIE_TX_p2
BN51 PCIE_TX_n3
BP52 PCIE_TX_p3
BM48 PCIE_TX_n4
BL49 PCIE_TX_p4
BJ51 PCIE_TX_n5
BK52 PCIE_TX_p5
BE51 PCIE_TX_n6
BF52 PCIE_TX_p6
BA51 PCIE_TX_n7
BB52 PCIE_TX_p7
AU51 QSFP28_TX_n0
AV52 QSFP28_TX_p0
AN51 QSFP28_TX_n1
AP52 QSFP28_TX_p1
AJ51 QSFP28_TX_n2
AK52 QSFP28_TX_p2
AE51 QSFP28_TX_n3
AF52 QSFP28_TX_p3
AA51 HDMI_TX_D_n0
AB52 HDMI_TX_D_p0
Y48 HDMI_TX_D_n1
W49 HDMI_TX_D_p1
U51 HDMI_TX_D_n2
V52 HDMI_TX_D_p2
T48 HDMI_TX_D_n3
R49 HDMI_TX_D_p3
Layout Note: place the resistor under BGA ball
AM48 R541 499 (+- 0.1%)
AL49
BR43 PCIE_PERST_n
AG45 TEMPDIODE_12C_p
AJ45 TEMPDIODE_12C_n
AD46
BA49
AK48
AC47
AGFB027R24C2E2VR2
U35U
TEMPDIODE_CORE_n AE43
TEMPDIODE_CORE_p AC43
TEMPDIODE0CN
TEMPDIODE0CP
NC_1 M54
NC_2 L55
NC_3 J55
CJ53 DNU_7
CK52 DNU_8
CT54 DNU_9
AG15 DNU_10
AJ15 DNU_11
CF42 DNU_12
AC41 DNU_13
CH16 DNU_14
AB16 DNU_15
CH42 DNU_16
AB42 DNU_17
CJ15 DNU_18
AA17 DNU_19
BW43 DNU_20
BT44 DNU_21
CF14 DNU_22
CR11 DNU_23
DD4 DNU_24
DC7 DNU_25
DA7 DNU_26
DC3 DNU_27
DD6 DNU_28
CW11 DNU_29
DC5 DNU_30
AGFB027R24C2E2VR2
Copyright (c) 2017 by Terasic Inc. Taiwan.
All rights reserved.
No part of this schematic design may be reproduced, duplicated, or used without the prior written permission of Terasic.
Title
A7SK
Size B
Document Number
FPGA Bank 12C F-tile
Rev A
Date: Wednesday, May 10, 2023
Sheet 19 of 52

FMC+ Transceiver

FMCP_DP_C2M_p[15..0] 34
FMCP_DP_C2M_n[15..0] 34
FMCP_DP_M2C_p[15..0] 34
FMCP_DP_M2C_n[15..0] 34

FMCP_REFCLK0_p 5
FMCP_REFCLK0_n 5 **Default: 184.32MHz LVDS**

FMCP_REFCLK1_p 5
FMCP_REFCLK1_n 5 **Default: 156.25MHz LVDS**

FMCP_REFCLK2_p 4
FMCP_REFCLK2_n 4 **Default: 100MHz LVDS**

FMCP_REFCLK3_p 5
FMCP_REFCLK3_n 5 **Default: 148.5MHz LVDS**

FMCP_GBTCLK_M2C_p[1..0] 34
FMCP_GBTCLK_M2C_n[1..0] 34

FMCP_RES0 34

FPGA Temperature diode

13A F-Tile

TEMPDIODE_13A_p 42
TEMPDIODE_13A_n 42

U35L

F-TILE Bank 13A

FMCP_DP_M2C_n0	AG5	FGTR13A_RX_Q0_CH0N	FGTR13A_TX_Q0_CH0N	AL5	FMCP_DP_C2M_n0
FMCP_DP_M2C_p0	AF4	FGTR13A_RX_Q0_CH0P	FGTR13A_TX_Q0_CH0P	AK4	FMCP_DP_C2M_p0
FMCP_DP_M2C_n1	AH2	FGTR13A_RX_Q0_CH1N	FGTR13A_TX_Q0_CH1N	AM8	FMCP_DP_C2M_n1
FMCP_DP_M2C_p1	AJ1	FGTR13A_RX_Q0_CH1P	FGTR13A_TX_Q0_CH1P	AN7	FMCP_DP_C2M_p1
FMCP_DP_M2C_n2	AM2	FGTR13A_RX_Q0_CH2N	FGTR13A_TX_Q0_CH2N	AR5	FMCP_DP_C2M_n2
FMCP_DP_M2C_p2	AN1	FGTR13A_RX_Q0_CH2P	FGTR13A_TX_Q0_CH2P	AP4	FMCP_DP_C2M_p2
FMCP_DP_M2C_n3	AT2	FGTR13A_RX_Q0_CH3N	FGTR13A_TX_Q0_CH3N	AT8	FMCP_DP_C2M_n3
FMCP_DP_M2C_p3	AU1	FGTR13A_RX_Q0_CH3P	FGTR13A_TX_Q0_CH3P	AU7	FMCP_DP_C2M_p3
FMCP_DP_M2C_n4	AY2	FGTR13A_RX_Q1_CH0N	FGTR13A_TX_Q1_CH0N	AW5	FMCP_DP_C2M_n4
FMCP_DP_M2C_p4	BA1	FGTR13A_RX_Q1_CH0P	FGTR13A_TX_Q1_CH0P	AV4	FMCP_DP_C2M_p4
FMCP_DP_M2C_n5	BD2	FGTR13A_RX_Q1_CH1N	FGTR13A_TX_Q1_CH1N	AY8	FMCP_DP_C2M_n5
FMCP_DP_M2C_p5	BE1	FGTR13A_RX_Q1_CH1P	FGTR13A_TX_Q1_CH1P	BA7	FMCP_DP_C2M_p5
FMCP_DP_M2C_n6	BH2	FGTR13A_RX_Q1_CH2N	FGTR13A_TX_Q1_CH2N	BC5	FMCP_DP_C2M_n6
FMCP_DP_M2C_p6	BJ1	FGTR13A_RX_Q1_CH2P	FGTR13A_TX_Q1_CH2P	BB4	FMCP_DP_C2M_p6
FMCP_DP_M2C_n7	BM2	FGTR13A_RX_Q1_CH3N	FGTR13A_TX_Q1_CH3N	BG5	FMCP_DP_C2M_n7
FMCP_DP_M2C_p7	BN1	FGTR13A_RX_Q1_CH3P	FGTR13A_TX_Q1_CH3P	BF4	FMCP_DP_C2M_p7
FMCP_DP_M2C_n8	BT2	FGTR13A_RX_Q2_CH0N	FGTR13A_TX_Q2_CH0N	BL5	FMCP_DP_C2M_n8
FMCP_DP_M2C_p8	BU1	FGTR13A_RX_Q2_CH0P	FGTR13A_TX_Q2_CH0P	BK4	FMCP_DP_C2M_p8
FMCP_DP_M2C_n9	BY2	FGTR13A_RX_Q2_CH1N	FGTR13A_TX_Q2_CH1N	BR5	FMCP_DP_C2M_n9
FMCP_DP_M2C_p9	CA1	FGTR13A_RX_Q2_CH1P	FGTR13A_TX_Q2_CH1P	BP4	FMCP_DP_C2M_p9
FMCP_DP_M2C_n10	CD2	FGTR13A_RX_Q2_CH2N	FGTR13A_TX_Q2_CH2N	BW5	FMCP_DP_C2M_n10
FMCP_DP_M2C_p10	CE1	FGTR13A_RX_Q2_CH2P	FGTR13A_TX_Q2_CH2P	BV4	FMCP_DP_C2M_p10
FMCP_DP_M2C_n11	CH2	FGTR13A_RX_Q2_CH3N	FGTR13A_TX_Q2_CH3N	CC5	FMCP_DP_C2M_n11
FMCP_DP_M2C_p11	CJ1	FGTR13A_RX_Q2_CH3P	FGTR13A_TX_Q2_CH3P	CB4	FMCP_DP_C2M_p11
FMCP_DP_M2C_n12	CM2	FGTR13A_RX_Q3_CH0N	FGTR13A_TX_Q3_CH0N	CG5	FMCP_DP_C2M_n12
FMCP_DP_M2C_p12	CN1	FGTR13A_RX_Q3_CH0P	FGTR13A_TX_Q3_CH0P	CF4	FMCP_DP_C2M_p12
FMCP_DP_M2C_n13	CR5	FGTR13A_RX_Q3_CH1N	FGTR13A_TX_Q3_CH1N	CL5	FMCP_DP_C2M_n13
FMCP_DP_M2C_p13	CP4	FGTR13A_RX_Q3_CH1P	FGTR13A_TX_Q3_CH1P	CK4	FMCP_DP_C2M_p13
FMCP_DP_M2C_n14	CT2	FGTR13A_RX_Q3_CH2N	FGTR13A_TX_Q3_CH2N	CM8	FMCP_DP_C2M_n14
FMCP_DP_M2C_p14	CU1	FGTR13A_RX_Q3_CH2P	FGTR13A_TX_Q3_CH2P	CN7	FMCP_DP_C2M_p14
FMCP_DP_M2C_n15	CW5	FGTR13A_RX_Q3_CH3N	FGTR13A_TX_Q3_CH3N	CT8	FMCP_DP_C2M_n15
FMCP_DP_M2C_p15	CV4	FGTR13A_RX_Q3_CH3P	FGTR13A_TX_Q3_CH3P	CU7	FMCP_DP_C2M_p15

Layout Note: place the resistor under BGA ball

CA7 — R402 — 499 (+- 0.1%) — BY8

FMCP_REFCLK3_n	BJ7	REFCLK_FGTR13A_Q0_RX_CH0N	RCOMP_N_Q2_CH1_FGT_13A_GXF
FMCP_REFCLK3_p	BH8	REFCLK_FGTR13A_Q0_RX_CH0P	RCOMP_P_Q2_CH1_FGT_13A_GXF
	BE7	REFCLK_FGTR13A_Q0_RX_CH1N	
	BG7	REFCLK_FGTR13A_Q0_RX_CH1P	
FMCP_REFCLK0_n	BU7	REFCLK_FGTR13A_Q1_RX_CH2N	I_PIN_PERST_N_13A_GXF
FMCP_REFCLK0_p	BR7	REFCLK_FGTR13A_Q1_RX_CH2P	
FMCP_REFCLK1_n	BN7	REFCLK_FGTR13A_Q1_RX_CH3N	
FMCP_REFCLK1_p	BP8	REFCLK_FGTR13A_Q1_RX_CH3P	TEMPDIODE4P
FMCP_REFCLK2_n	BV8	REFCLK_FGTR13A_Q2_RX_CH4N	TEMPDIODE4N
FMCP_REFCLK2_p	BW7	REFCLK_FGTR13A_Q2_RX_CH4P	
FMCP_GBTCLK_M2C_n0	CC7	REFCLK_FGTR13A_Q2_RX_CH5N	
FMCP_GBTCLK_M2C_p0	CD8	REFCLK_FGTR13A_Q2_RX_CH5P	
FMCP_GBTCLK_M2C_n1	CH8	REFCLK_FGTR13A_Q3_RX_CH6N	APROBE_GXF_FGT13A_Q0_CH3
FMCP_GBTCLK_M2C_p1	CJ7	REFCLK_FGTR13A_Q3_RX_CH6P	APROBE_GXF_FGT13A_Q2_CH3
	CD10	REFCLK_FGTR13A_Q3_RX_CH7N	APROBE_GXF_FGT13A_Q3_CH3
	CF10	REFCLK_FGTR13A_Q3_RX_CH7P	APROBE2_GXF_FGT13A_Q3_CH3
	CG7	REFCLK_FGTR13A_Q2_CH8N	
	CE7	REFCLK_FGTR13A_Q2_CH8P	
	CG11	REFCLK_FGTR13A_Q3_CH9N	
	CH10	REFCLK_FGTR13A_Q3_CH9P	
	CV10	ENB_GXF_FHT13A	
	CN11	IO_PLL_REFCLK_13A_GXF	

CG13 — FMCP_RES0

CB12 — TEMPDIODE_13A_p
CA11 — TEMPDIODE_13A_n

BL7
CB8
CK10
CJ9

AGFB027R24C2E2VR2

Title	A7SK	
Size B	Document Number FPGA Bank 13A F-tile	Rev A
Date: Wednesday, May 10, 2023	Sheet 20 of 52	

FMC+ PORT INTERFACE(HPC)

FMC+ 1

FMCP_LA_p[33..0] 13
FMCP_LA_n[33..0] 13
FMCP_HA_p[23..0] 12
FMCP_HA_n[23..0] 12
FMCP_HB_p[21..0] 12
FMCP_HB_n[21..0] 12

J1A

LA_RX_CLK	FMCP_LA_p0	G6	LA_P0_CC	LA_P16	G18	FMCP_LA_p16	
	FMCP_LA_n0	G7	LA_N0_CC	LA_N16	G19	FMCP_LA_n16	LA_RX6
	FMCP_LA_p1	D8	LA_P1_CC	LA_P17_CC	D20	FMCP_LA_p17	
	FMCP_LA_n1	D9	LA_N1_CC	LA_N17_CC	D21	FMCP_LA_n17	
	FMCP_LA_p2	H7	LA_P2	LA_P18_CC	C22	FMCP_LA_p18	
	FMCP_LA_n2	H8	LA_N2	LA_N18_CC	C23	FMCP_LA_n18	LA_RX7
LA_RX0	FMCP_LA_p3	G9	LA_P3	LA_P19	H22	FMCP_LA_p19	
	FMCP_LA_n3	G10	LA_N3	LA_N19	H23	FMCP_LA_n19	
	FMCP_LA_p4	H10	LA_P4	LA_P20	G21	FMCP_LA_p20	
	FMCP_LA_n4	H11	LA_N4	LA_N20	G22	FMCP_LA_n20	LA_RX8
	FMCP_LA_p5	D11	LA_P5	LA_P21	H25	FMCP_LA_p21	
	FMCP_LA_n5	D12	LA_N5	LA_N21	H26	FMCP_LA_n21	
LA_RX1	FMCP_LA_p6	C10	LA_P6	LA_P22	G24	FMCP_LA_p22	
	FMCP_LA_n6	C11	LA_N6	LA_N22	G25	FMCP_LA_n22	LA_RX9
	FMCP_LA_p7	H13	LA_P7	LA_P23	D23	FMCP_LA_p23	
	FMCP_LA_n7	H14	LA_N7	LA_N23	D24	FMCP_LA_n23	
	FMCP_LA_p8	G12	LA_P8	LA_P24	H28	FMCP_LA_p24	
LA_RX2	FMCP_LA_n8	G13	LA_N8	LA_N24	H29	FMCP_LA_n24	
	FMCP_LA_p9	D14	LA_P9	LA_P25	G27	FMCP_LA_p25	
	FMCP_LA_n9	D15	LA_N9	LA_N25	G28	FMCP_LA_n25	LA_RX10
LA_RX3	FMCP_LA_p10	C14	LA_P10	LA_P26	D26	FMCP_LA_p26	
	FMCP_LA_n10	C15	LA_N10	LA_N26	D27	FMCP_LA_n26	
	FMCP_LA_p11	H16	LA_P11	LA_P27	C26	FMCP_LA_p27	LA_RX11
	FMCP_LA_n11	H17	LA_N11	LA_N27	C27	FMCP_LA_n27	
	FMCP_LA_p12	G15	LA_P12	LA_P28	H31	FMCP_LA_p28	
LA_RX4	FMCP_LA_n12	G16	LA_N12	LA_N28	H32	FMCP_LA_n28	
	FMCP_LA_p13	D17	LA_P13	LA_P29	G30	FMCP_LA_p29	
	FMCP_LA_n13	D18	LA_N13	LA_N29	G31	FMCP_LA_n29	LA_RX12
LA_RX5	FMCP_LA_p14	C18	LA_P14	LA_P30	H34	FMCP_LA_p30	
	FMCP_LA_n14	C19	LA_N14	LA_N30	H35	FMCP_LA_n30	
	FMCP_LA_p15	H19	LA_P15	LA_P31	G33	FMCP_LA_p31	
	FMCP_LA_n15	H20	LA_N15	LA_N31	G34	FMCP_LA_n31	LA_RX13
				LA_P32	H37	FMCP_LA_p32	LA_RX15
				LA_N32	H38	FMCP_LA_n32	
				LA_P33	G36	FMCP_LA_p33	LA_RX14
				LA_N33	G37	FMCP_LA_n33	

ASP-184329-01

J1C

HB_TX_CLK	FMCP_HB_p0	K25	HB_P0_CC	HB_P11	J30	FMCP_HB_p11	
	FMCP_HB_n0	K26	HB_N0_CC	HB_N11	J31	FMCP_HB_n11	HB_RX7
HB_RX_CLK	FMCP_HB_p1	J24	HB_P1	HB_P12	F31	FMCP_HB_p12	
	FMCP_HB_n1	J25	HB_N1	HB_N12	F32	FMCP_HB_n12	HB_TX3
HB_TX0	FMCP_HB_p2	F22	HB_P2	HB_P13	E30	FMCP_HB_p13	
	FMCP_HB_n2	F23	HB_N2	HB_N13	E31	FMCP_HB_n13	HB_RX3
HB_RX0	FMCP_HB_p3	E21	HB_P3	HB_P14	K34	FMCP_HB_p14	
	FMCP_HB_n3	E22	HB_N3	HB_N14	K35	FMCP_HB_n14	HB_TX8
	FMCP_HB_p4	F25	HB_P4	HB_P15	J33	FMCP_HB_p15	
HB_TX1	FMCP_HB_n4	F26	HB_N4	HB_N15	J34	FMCP_HB_n15	HB_RX8
HB_RX1	FMCP_HB_p5	E24	HB_P5	HB_P16	F35	FMCP_HB_p16	
	FMCP_HB_n5	E25	HB_N5	HB_N16	F34	FMCP_HB_n16	HB_TX4
HB_TX6	FMCP_HB_p6	K28	HB_P6_CC	HB_P17_CC	K37	FMCP_HB_p17	
	FMCP_HB_n6	K29	HB_N6_CC	HB_N17_CC	K38	FMCP_HB_n17	HB_TX9
HB_RX6	FMCP_HB_p7	J27	HB_P7	HB_P18	J36	FMCP_HB_p18	
	FMCP_HB_n7	J28	HB_N7	HB_N18	J37	FMCP_HB_n18	HB_RX9
	FMCP_HB_p8	F28	HB_P8	HB_P19	E33	FMCP_HB_p19	
HB_TX2	FMCP_HB_n8	F29	HB_N8	HB_N19	E34	FMCP_HB_n19	HB_RX4
HB_RX2	FMCP_HB_p9	E27	HB_P9	HB_P20	F37	FMCP_HB_p20	
	FMCP_HB_n9	E28	HB_N9	HB_N20	F38	FMCP_HB_n20	HB_TX5
HB_TX7	FMCP_HB_p10	K31	HB_P10	HB_P21	E36	FMCP_HB_p21	
	FMCP_HB_n10	K32	HB_N10	HB_N21	E37	FMCP_HB_n21	HB_RX5

ASP-184329-01

J1B

HA_TX_CLK	FMCP_HA_p0	F4	HA_P0_CC	HA_P12	F13	FMCP_HA_p12	
	FMCP_HA_n0	F5	HA_N0_CC	HA_N12	F14	FMCP_HA_n12	HA_TX2
HA_RX_CLK	FMCP_HA_p1	E2	HA_P1_CC	HA_P13	E12	FMCP_HA_p13	
	FMCP_HA_n1	E3	HA_N1_CC	HA_N13	E13	FMCP_HA_n13	HA_RX2
HA_TX5	FMCP_HA_p2	K7	HA_P2	HA_P14	J15	FMCP_HA_p14	
	FMCP_HA_n2	K8	HA_N2	HA_N14	J16	FMCP_HA_n14	HA_RX8
HA_RX5	FMCP_HA_p3	J6	HA_P3	HA_P15	F16	FMCP_HA_p15	
	FMCP_HA_n3	J7	HA_N3	HA_N15	F17	FMCP_HA_n15	HA_TX3
	FMCP_HA_p4	F7	HA_P4	HA_P16	E15	FMCP_HA_p16	
HA_TX0	FMCP_HA_n4	F8	HA_N4	HA_N16	E16	FMCP_HA_n16	HA_RX3
HA_RX0	FMCP_HA_p5	E6	HA_P5	HA_P17_CC	K16	FMCP_HA_p17	
	FMCP_HA_n5	E7	HA_N5	HA_N17_CC	K17	FMCP_HA_n17	HA_TX8
HA_TX6	FMCP_HA_p6	K10	HA_P6	HA_P18	J18	FMCP_HA_p18	
	FMCP_HA_n6	K11	HA_N6	HA_N18	J19	FMCP_HA_n18	HA_RX9
HA_RX6	FMCP_HA_p7	J9	HA_P7	HA_P19	F19	FMCP_HA_p19	
	FMCP_HA_n7	J10	HA_N7	HA_N19	F20	FMCP_HA_n19	HA_TX4
	FMCP_HA_p8	F10	HA_P8	HA_P20	E18	FMCP_HA_p20	
HA_TX1	FMCP_HA_n8	F11	HA_N8	HA_N20	E19	FMCP_HA_n20	HA_RX4
HA_RX1	FMCP_HA_p9	E9	HA_P9	HA_P21	K19	FMCP_HA_p21	
	FMCP_HA_n9	E10	HA_N9	HA_N21	K20	FMCP_HA_n21	HA_TX9
HA_TX7	FMCP_HA_p10	K13	HA_P10	HA_P22	J21	FMCP_HA_p22	
	FMCP_HA_n10	K14	HA_N10	HA_N22	J22	FMCP_HA_n22	HA_RX10
HA_RX7	FMCP_HA_p11	J12	HA_P11	HA_P23	K22	FMCP_HA_p23	
	FMCP_HA_n11	J13	HA_N11	HA_N23	K23	FMCP_HA_n23	HA_TX10

ASP-184329-01

The blue RX and TX affixtures are applied only for True Differential Signaling signals. If you do not use True Differential Signaling signals, you can configure each differential I/O buffer as RX or TX

J1F

E20	GND0		
E23	GND1	GND80	E17
E26	GND2	GND81	E14
E29	GND3	GND82	E11
E38	GND4	GND83	E8
E32	GND5	GND84	E5
E35	GND6	GND85	E4
E40	GND7	GND86	E1
K2	GND8	GND87	F39
K3	GND9	GND88	F36
K6	GND10	GND89	F33
K9	GND11	GND90	F30
K12	GND12	GND91	F27
K15	GND13	GND92	F24
K18	GND14	GND93	F21
K21	GND15	GND94	F18
K24	GND16	GND95	F15
K27	GND17	GND96	F12
K30	GND18	GND97	F9
K33	GND19	GND98	F6
K36	GND20	GND99	F3
K39	GND21	GND100	F2
J1	GND22	GND101	G40
J4	GND23	GND102	G38
J5	GND24	GND103	G35
J8	GND25	GND104	G32
J11	GND26	GND105	G29
J14	GND27	GND106	G26
J17	GND28	GND107	G23
J20	GND29	GND108	G20
J23	GND30	GND109	G17
J26	GND31	GND120	G14
J29	GND32	GND121	G11
J32	GND33	GND122	G8
J35	GND34	GND123	G5
J38	GND35	GND124	G4
J40	GND36	GND125	G1
H3	GND37	GND126	A40
H6	GND38	GND127	A37
H9	GND39	GND128	A36
H12	GND40	GND129	A33
H15	GND41	GND130	A32
H18	GND42	GND131	A29
H21	GND43	GND132	A28
H24	GND44	GND133	A25
H27	GND45	GND134	A24
H30	GND46	GND135	A21
H33	GND47	GND136	A20
H36	GND48	GND137	A17
H39	GND49	GND138	A16
D2	GND50	GND139	A13
D3	GND51	GND140	A12
D6	GND52	GND141	A9
D7	GND53	GND142	A8
D10	GND54	GND143	A5
D13	GND55	GND144	A4
D16	GND56	GND145	A1
D19	GND57	GND146	B39
D22	GND58	GND147	B38
D25	GND59	GND148	B35
D28	GND60	GND149	B34
D37	GND61	GND150	B31
D39	GND62	GND151	B30
C1	GND63	GND152	B27
C4	GND64	GND153	B26
C5	GND65	GND154	B23
C8	GND66	GND155	B22
C9	GND67	GND156	B19
C12	GND68	GND157	B18
C13	GND69	GND158	B15
C16	GND70	GND159	B14
C17	GND71	GND110	B11
C20	GND72	GND111	B10
C21	GND73	GND112	B7
C24	GND74	GND113	B6
C25	GND75	GND114	B3
C28	GND76	GND115	B2
C29	GND77	GND116	C40
C32	GND78	GND117	C38
C33	GND79	GND118	C36

ASP-184329-01

J1G

M1	GND119	GND199	Y1
M4	GND160	GND200	Y4
M5	GND161	GND201	Y5
M8	GND162	GND202	Y8
M9	GND163	GND203	Y9
M12	GND164	GND204	Y12
M13	GND165	GND205	Y13
M16	GND166	GND206	Y16
M17	GND167	GND207	Y17
M20	GND168	GND208	Y20
M21	GND169	GND209	Y21
M24	GND170	GND210	Y24
M25	GND171	GND211	Y25
M28	GND172	GND212	Y28
M29	GND173	GND213	Y29
M32	GND174	GND214	Y32
M33	GND175	GND215	Y33
M36	GND176	GND216	Y36
M37	GND177	GND217	Y37
M40	GND178	GND218	Y40
L2	GND179	GND219	Z2
L3	GND180	GND220	Z3
L6	GND181	GND221	Z6
L7	GND182	GND222	Z7
L10	GND183	GND223	Z10
L11	GND184	GND224	Z11
L14	GND185	GND225	Z14
L15	GND186	GND226	Z15
L18	GND187	GND227	Z18
L19	GND188	GND228	Z19
L22	GND189	GND229	Z22
L23	GND190	GND230	Z23
L26	GND191	GND231	Z26
L27	GND192	GND232	Z27
L30	GND193	GND233	Z30
L31	GND194	GND234	Z31
L34	GND195	GND235	Z34
L35	GND196	GND236	Z35
L38	GND197	GND237	Z38
L39	GND198	GND238	Z39

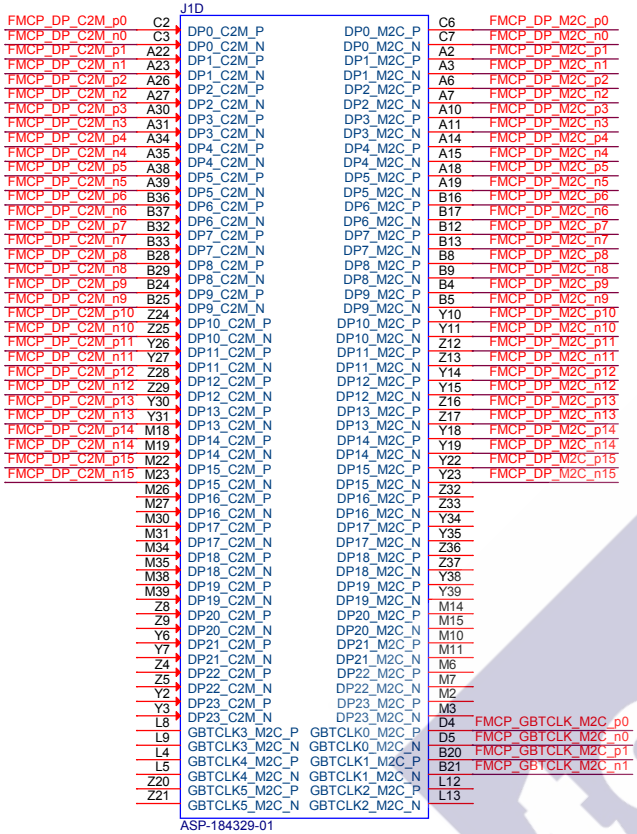
ASP-184329-01

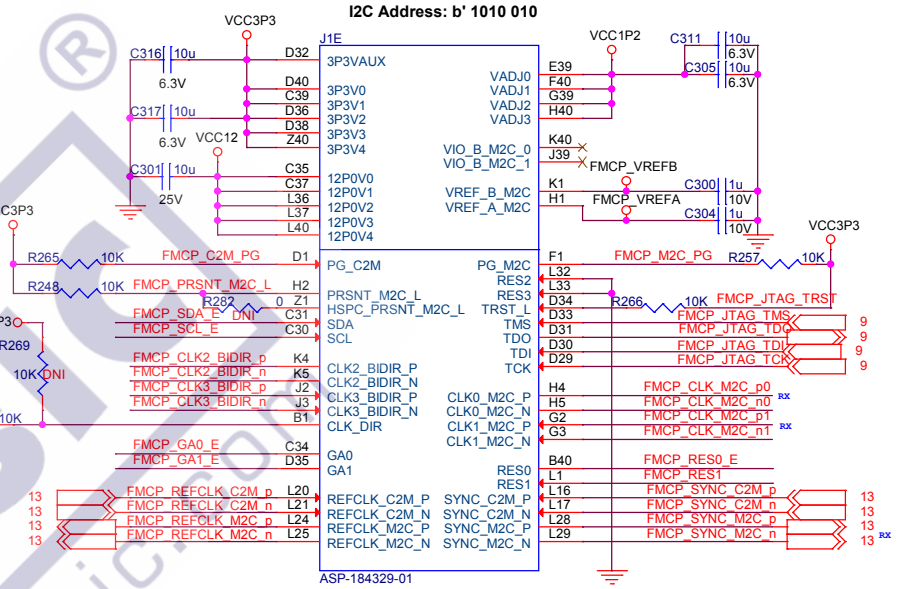
Title: A7SK

Size: B | Document Number: FMC+ 1 | Rev: A

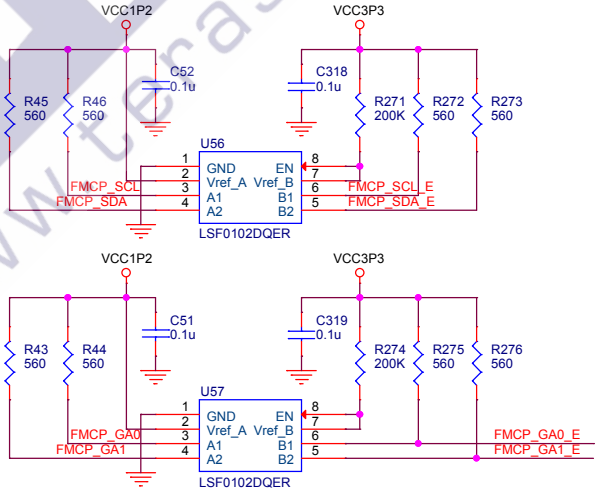
Date: Tuesday, March 21, 2023 | Sheet 33 of 52

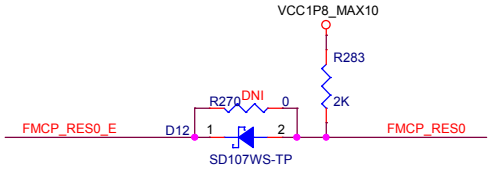
FMC+ 2



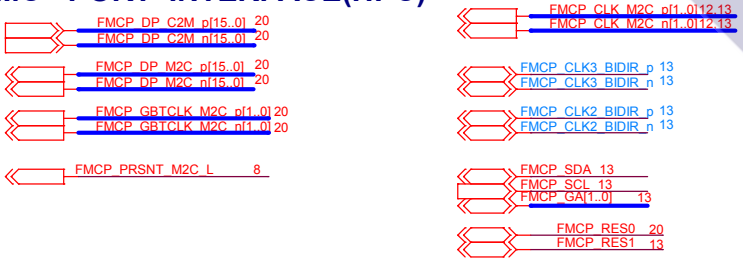


Translation Up need pull up resistor

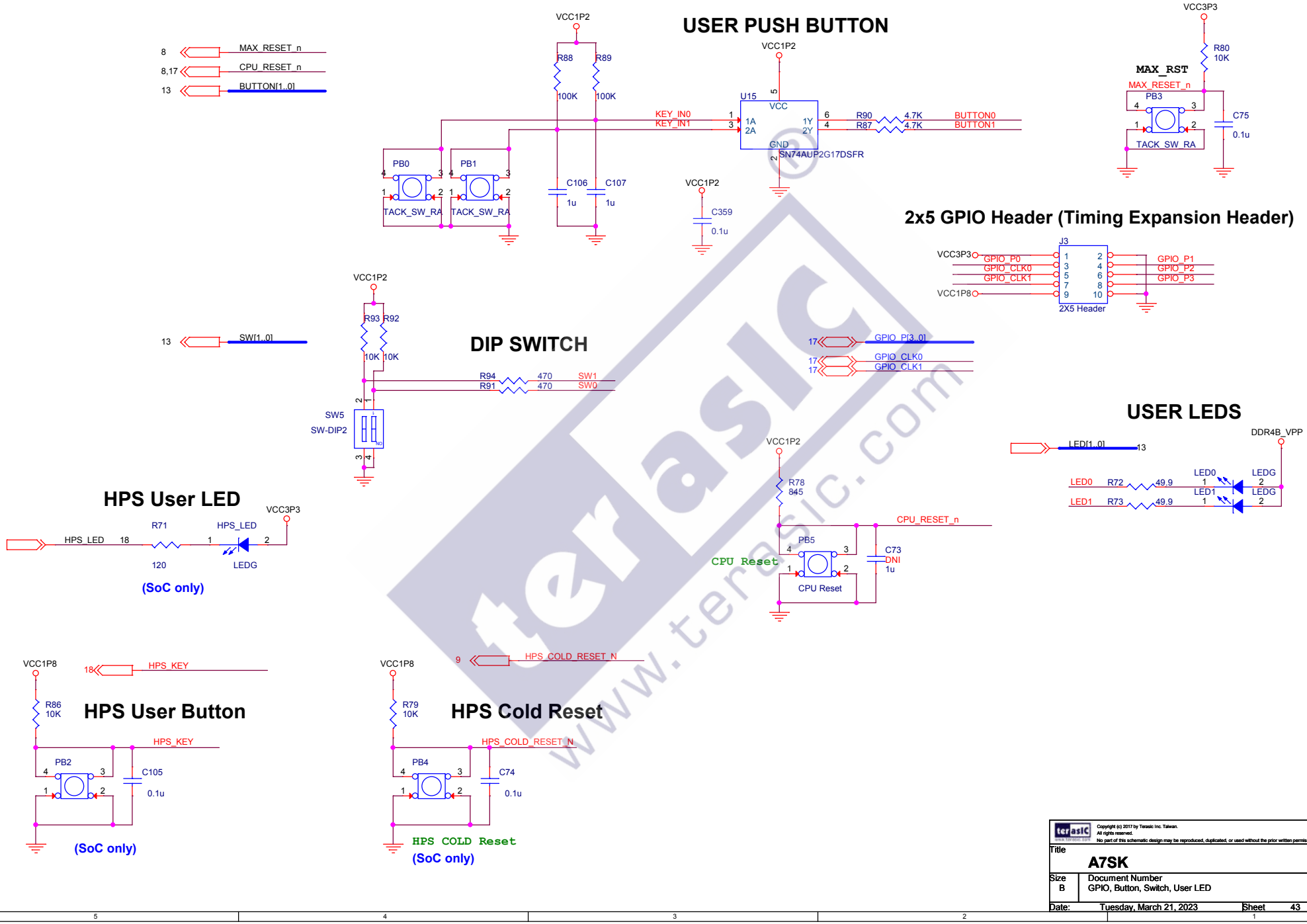




FMC+ PORT INTERFACE(HPC)



Title	A7SK	
Size B	Document Number FMC+ 2	Rev A
Date: Tuesday, March 21, 2023	Sheet 34 of 52	



Title	A7SK	
Size B	Document Number GPIO, Button, Switch, User LED	Rev A
Date: Tuesday, March 21, 2023	Sheet 43 of 52	