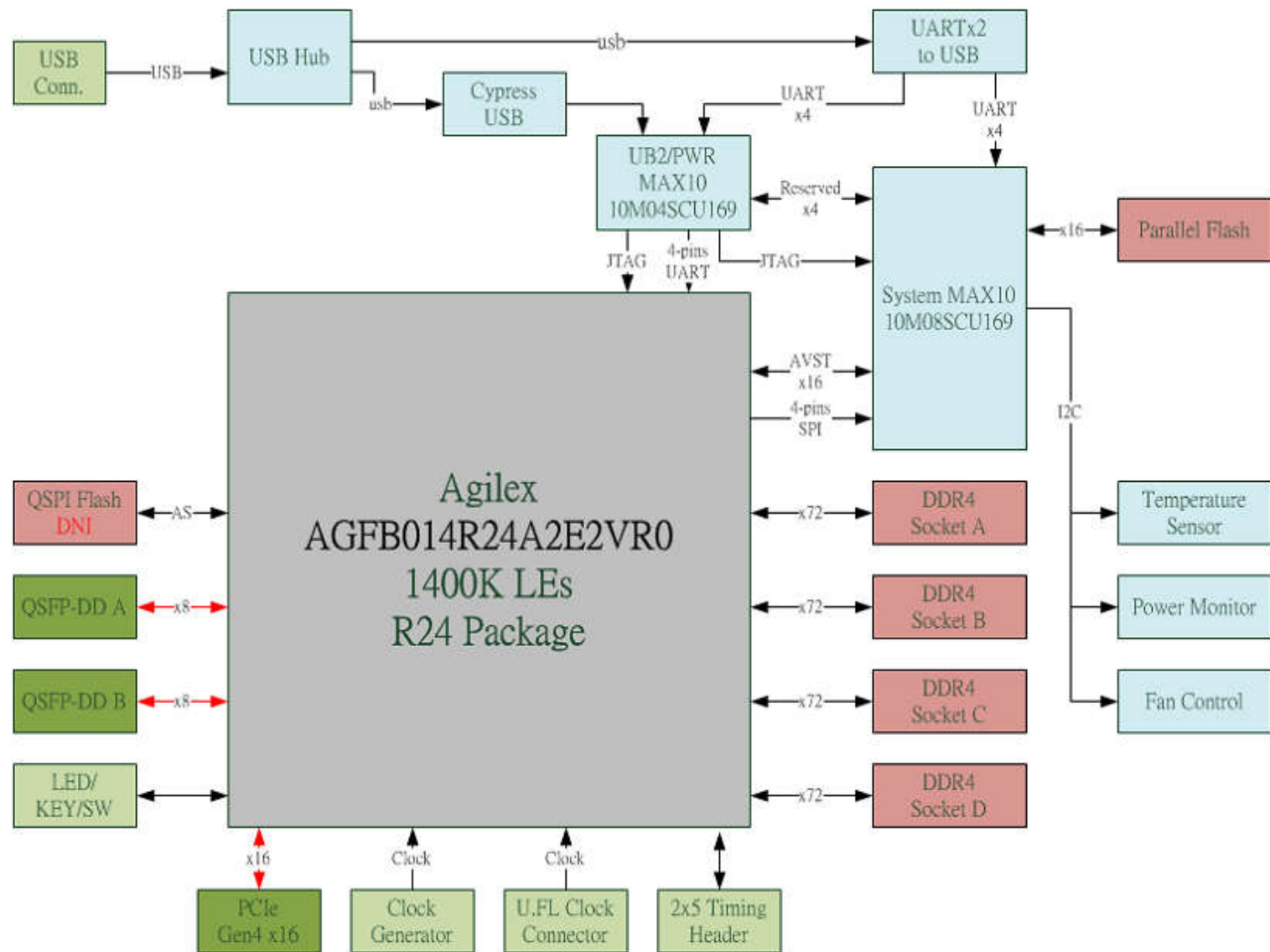
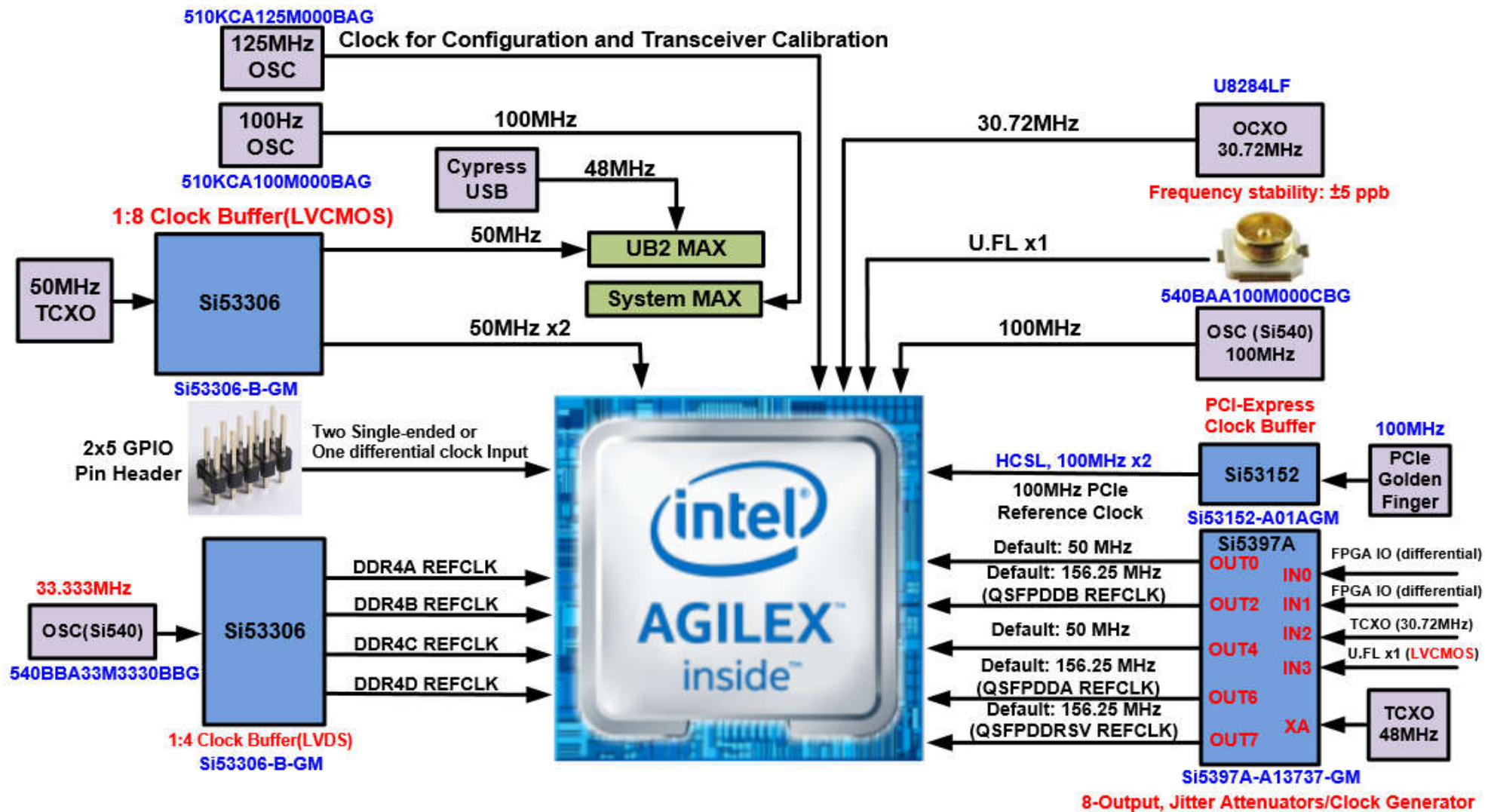


Block Diagram



Clock Tree



DDR4 SO-DIMM C

| | |
|-------------------|--------|
| DDR4C_CK[1..0] | 34 |
| DDR4C_BA[1..0] | 34 |
| DDR4C_BG[1..0] | 34 |
| DDR4C_ODT[1..0] | 34 |
| DDR4C_CS_n[1..0] | 34 |
| DDR4C_DQ[71..0] | 13..34 |
| DDR4C_DQS[8..0] | 13..34 |
| DDR4C_DQS_n[8..0] | 13..34 |
| DDR4C_A[16..0] | 34 |
| DDR4C_DBI_n[8..0] | 13..34 |
| DDR4C_CKE[1..0] | 34 |
| DDR4C_RESET_n | 34 |
| DDR4C_C[1..0] | 34 |
| DDR4C_PAR | 34 |
| DDR4C_ACT_n | 34 |
| DDR4C_ALERT_n | 34 |
| DDR4C_SDA | 11..13 |
| DDR4C_SCL | 11..13 |
| DDR4C_EVENT_n | 11..13 |

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

| | |
|----------------|---|
| DDR4C_REFCLK_p | 5 |
| DDR4C_REFCLK_n | 5 |

FPGA Bank - 2D


U157B

| | | | |
|--------------|------|---|----|
| DDR4C_DQ51 | CF3 | IO, LVDS2D_25N, DQ4 | 47 |
| DDR4C_DQ55 | CH3 | IO, LVDS2D_25P, DQ4 | 46 |
| DDR4C_DQ54 | CE4 | IO, LVDS2D_26N, DQ4 | 45 |
| DDR4C_DQ48 | CG4 | IO, LVDS2D_26P, DQ4 | 44 |
| DDR4C_DBI_n6 | CF5 | IO, LVDS2D_27N, DQ4 | 43 |
| DDR4C_DQS_n6 | CH5 | IO, LVDS2D_27P, DQ4 | 42 |
| DDR4C_DQ56 | CE6 | IO, LVDS2D_28N, DQS4 | 41 |
| DDR4C_DQ50 | CG6 | IO, LVDS2D_28P, DQS4 | 40 |
| DDR4C_DQ53 | CF7 | IO, LVDS2D_29N, DQ4 | 39 |
| DDR4C_DQ52 | CH7 | IO, LVDS2D_29P, DQ4 | 38 |
| DDR4C_DQ49 | CE8 | IO, LVDS2D_30N, DQ4 | 37 |
| DDR4C_DQ63 | CK3 | IO, LVDS2D_30P, DQ4 | 36 |
| DDR4C_DQ58 | CM3 | IO, LVDS2D_31N, DQ5 | 35 |
| DDR4C_DQ59 | CL4 | IO, LVDS2D_31P, DQ5 | 34 |
| DDR4C_DQ62 | CN4 | IO, LVDS2D_32N, DQ5 | 33 |
| DDR4C_DBI_n7 | CK5 | IO, LVDS2D_32P, DQ5 | 32 |
| DDR4C_DQS_n7 | CM5 | IO, LVDS2D_33N, DQ5 | 31 |
| DDR4C_DQ57 | CN6 | IO, LVDS2D_33P, DQ5 | 30 |
| DDR4C_DQ61 | CK7 | IO, PLL_2D_B_CLKOUT1N, LVDS2D_34N, DQS5 | 29 |
| DDR4C_DQ56 | CM7 | IO, PLL_2D_B_CLKOUT1P, PLL_2D_B_CLKOUT1, PLL_2D_B_FB1, LVDS2D_34P, DQS5 | 28 |
| DDR4C_DQ60 | CL8 | IO, RZQ_B_2D, LVDS2D_35P, DQ5 | 26 |
| DDR4C_DQ57 | CN8 | IO, CLK_B_2D_1N, LVDS2D_36N, DQ5 | 25 |
| DDR4C_DQ36 | CE10 | IO, CLK_B_2D_1P, LVDS2D_36P, DQ5 | 24 |
| DDR4C_DQ37 | CG10 | IO, CLK_B_2D_0N, LVDS2D_37N, DQ6 | 23 |
| DDR4C_DQ32 | CF11 | IO, CLK_B_2D_0P, LVDS2D_37P, DQ6 | 22 |
| DDR4C_DQ39 | CH11 | IO, LVDS2D_38N, DQ8 | 21 |
| DDR4C_DBI_n4 | CG12 | IO, LVDS2D_38P, DQ8 | 20 |
| DDR4C_DQS_n4 | CF13 | IO, PLL_2D_B_CLKOUT0N, LVDS2D_39N, DQ6 | 19 |
| DDR4C_DQ33 | CH13 | IO, PLL_2D_B_CLKOUT0P, PLL_2D_B_CLKOUT0, PLL_2D_B_FB0, LVDS2D_39P, DQ6 | 18 |
| DDR4C_DQ34 | CG14 | IO, LVDS2D_40N, DQS6 | 17 |
| DDR4C_DQ35 | CF15 | IO, LVDS2D_40P, DQS6 | 16 |
| DDR4C_DQ38 | CH15 | IO, LVDS2D_41P, DQ6 | 15 |
| DDR4C_DQ43 | CL10 | IO, LVDS2D_41P, DQ6 | 14 |
| DDR4C_DQ47 | CN10 | IO, LVDS2D_42N, DQ6 | 13 |
| DDR4C_DQ46 | CK11 | IO, LVDS2D_42P, DQ6 | 12 |
| DDR4C_DQ42 | CM11 | IO, LVDS2D_43N, DQ7 | 11 |
| DDR4C_DBI_n5 | CL12 | IO, LVDS2D_43P, DQ7 | 10 |
| DDR4C_DQS_n5 | CN12 | IO, LVDS2D_44N, DQ7 | 9 |
| DDR4C_DQ55 | CK13 | IO, LVDS2D_44P, DQ7 | 8 |
| DDR4C_DQ44 | CL14 | IO, LVDS2D_45N, DQ7 | 7 |
| DDR4C_DQ40 | CN14 | IO, LVDS2D_45P, DQ7 | 6 |
| DDR4C_DQ45 | CK15 | IO, LVDS2D_46N, DQS7 | 5 |
| DDR4C_DQ41 | CM15 | IO, LVDS2D_46P, DQS7 | 4 |
| | | IO, LVDS2D_47N, DQ7 | 3 |
| | | IO, LVDS2D_47P, DQ7 | 2 |
| | | IO, LVDS2D_48N, DQ7 | 1 |
| | | IO, LVDS2D_48P, DQ7 | 0 |

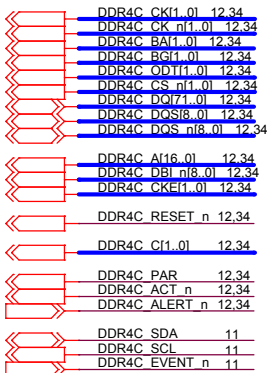
BOT TOP

Bank 2D vccio = 1.2v

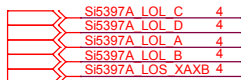
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| | | |
|--|----------------------------|----------------|
|  Copyright (c) 2017 by Terasic Inc. Taiwan. All rights reserved. No part of this schematic design may be reproduced, duplicated, or used without the prior written permission of Terasic. | | |
| Title | | |
| DE10-Agilex Board | | |
| Size | Document Number | Rev |
| B | FPGA Bank 2D | C |
| Date: | Thursday, October 07, 2021 | Sheet 12 of 52 |

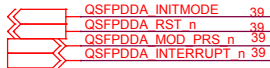
DDR4 SO-DIMM C



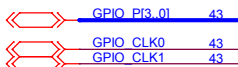
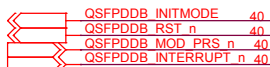
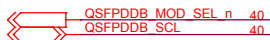
RAS_n is a multiplexed function with A16
CAS_n is a multiplexed function with A15
WE_n is a multiplexed function with A14



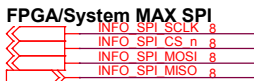
QSFPDD Port A Control Interface



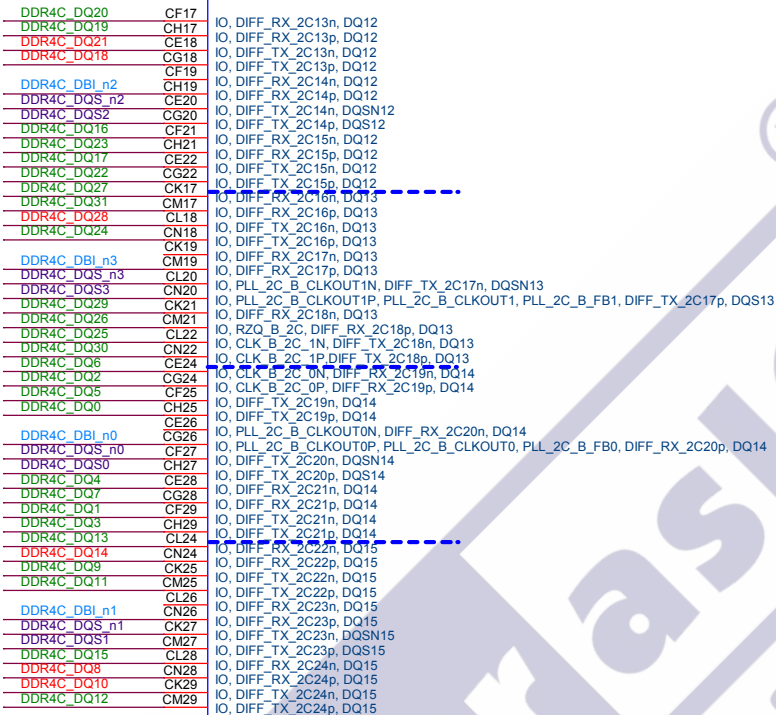
QSFPDD Port B Control Interface



OCXO 30.72MHz clock



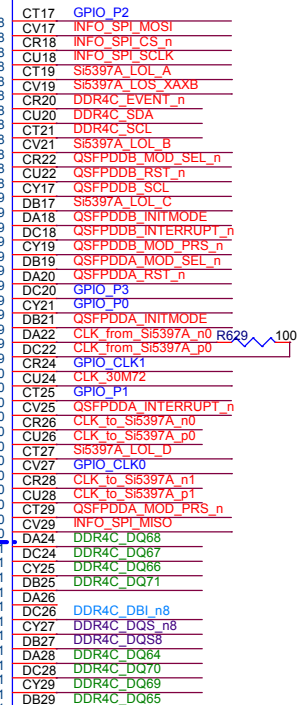
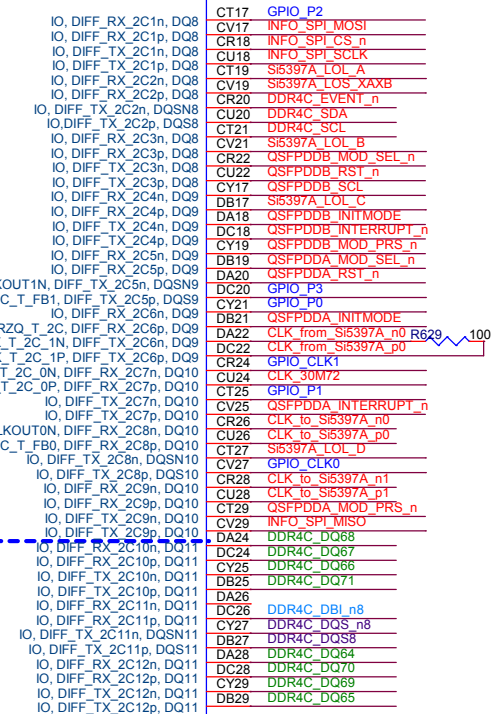
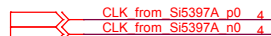
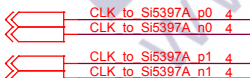
U157C



BOT TOP

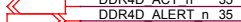
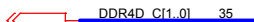
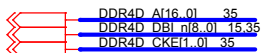
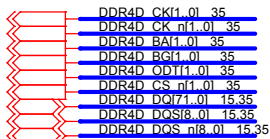
Bank 2C vccio = 1.2v

AGFB014R24B1E1V

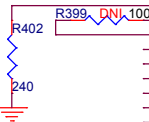
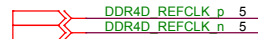


| | | |
|-------------------|---------------------------------|----------------|
| Title | | |
| DE10-Agilex Board | | |
| Size B | Document Number FPGA Bank 2C | Rev C |
| Date: | Thursday, October 07, 2021 | Sheet 13 of 52 |

DDR4 SO-DIMM D



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



| | |
|----------------|------|
| DDR4D_CK_n1 | CF43 |
| DDR4D_CK1 | CH43 |
| | CE42 |
| | CG42 |
| | CF41 |
| | CH41 |
| | CE40 |
| | CG40 |
| | CF39 |
| | CH39 |
| | CE38 |
| DDR4D_C1 | CG38 |
| DDR4D_C0 | CK43 |
| DDR4D_BG0 | CM43 |
| DDR4D_BA0 | CL42 |
| DDR4D_ALERT_n | CN42 |
| DDR4D_A16 | CK41 |
| DDR4D_A15 | CM41 |
| DDR4D_A14 | CL40 |
| DDR4D_A13 | CN40 |
| DDR4D_A12 | CK39 |
| DDR4D_RZQ | CM39 |
| DDR4D_REFCLK_n | CL38 |
| DDR4D_REFCLK_p | CN38 |
| DDR4D_A11 | CE36 |
| DDR4D_A10 | CG36 |
| DDR4D_A9 | CF35 |
| DDR4D_A8 | CH35 |
| DDR4D_A7 | CE34 |
| DDR4D_A6 | CG34 |
| DDR4D_A5 | CF33 |
| DDR4D_A4 | CH33 |
| DDR4D_A3 | CE32 |
| DDR4D_A2 | CG32 |
| DDR4D_A1 | CF31 |
| DDR4D_A0 | CH31 |
| DDR4D_PAR | CL36 |
| DDR4D_CS_n1 | CN36 |
| DDR4D_CK_n0 | CK35 |
| DDR4D_CK0 | CM35 |
| DDR4D_CKE1 | CL34 |
| DDR4D_CKE0 | CN34 |
| DDR4D_ODT1 | CK33 |
| DDR4D_ODT0 | CM33 |
| DDR4D_ACT_n | CL32 |
| DDR4D_CS_n0 | CN32 |
| DDR4D_RESET_n | CK31 |
| DDR4D_BG1 | CM31 |

U157D

| | |
|---|----|
| IO, LVDS2B_25N, DQ20 | 47 |
| IO, LVDS2B_25P, DQ20 | 46 |
| IO, LVDS2B_26N, DQ20 | 45 |
| IO, LVDS2B_26P, DQ20 | 44 |
| IO, LVDS2B_27N, DQ20 | 43 |
| IO, LVDS2B_27P, DQ20 | 42 |
| IO, LVDS2B_28N, DQSN20 | 41 |
| IO, LVDS2B_28P, DQSN20 | 40 |
| IO, LVDS2B_29N, DQ20 | 39 |
| IO, LVDS2B_29P, DQ20 | 38 |
| IO, LVDS2B_30N, DQ20 | 37 |
| IO, LVDS2B_30P, DQ20 | 36 |
| IO, LVDS2B_31N, DQ21 | 35 |
| IO, LVDS2B_31P, DQ21 | 34 |
| IO, LVDS2B_32N, DQ21 | 33 |
| IO, LVDS2B_32P, DQ21 | 32 |
| IO, LVDS2B_33N, DQ21 | 31 |
| IO, LVDS2B_33P, DQ21 | 30 |
| IO, PLL_2B_B_CLKOUT1N, LVDS2B_34N, DQSN21 | 29 |
| IO, PLL_2B_B_CLKOUT1P, PLL_2B_B_CLKOUT1, PLL_2B_B_FB1, LVDS2B_34P, DQSN21 | 28 |
| IO, LVDS2B_35N, DQ21 | 27 |
| IO, RZQ_B_2B, LVDS2B_35P, DQ21 | 26 |
| IO, CLK_B_2B_1N, LVDS2B_36N, DQ21 | 25 |
| IO, CLK_B_2B_1P, LVDS2B_36P, DQ21 | 24 |
| IO, CLK_B_2B_0N, LVDS2B_37N, DQ22 | 23 |
| IO, CLK_B_2B_0P, LVDS2B_37P, DQ22 | 22 |
| IO, LVDS2B_38N, DQ22 | 21 |
| IO, LVDS2B_38P, DQ22 | 20 |
| IO, PLL_2B_B_CLKOUT0N, LVDS2B_39N, DQ22 | 19 |
| IO, PLL_2B_B_CLKOUT0P, PLL_2B_B_CLKOUT0, PLL_2B_B_FB0, LVDS2B_39P, DQ22 | 18 |
| IO, LVDS2B_40N, DQSN22 | 17 |
| IO, LVDS2B_40P, DQSN22 | 16 |
| IO, LVDS2B_41N, DQ22 | 15 |
| IO, LVDS2B_41P, DQ22 | 14 |
| IO, LVDS2B_42N, DQ22 | 13 |
| IO, LVDS2B_42P, DQ22 | 12 |
| IO, LVDS2B_43N, DQ23 | 11 |
| IO, LVDS2B_43P, DQ23 | 10 |
| IO, LVDS2B_44N, DQ23 | 9 |
| IO, LVDS2B_44P, DQ23 | 8 |
| IO, LVDS2B_45N, DQ23 | 7 |
| IO, LVDS2B_45P, DQ23 | 6 |
| IO, LVDS2B_46N, DQSN23 | 5 |
| IO, LVDS2B_46P, DQSN23 | 4 |
| IO, LVDS2B_47N, DQ23 | 3 |
| IO, LVDS2B_47P, DQ23 | 2 |
| IO, LVDS2B_48N, DQ23 | 1 |
| IO, LVDS2B_48P, DQ23 | 0 |

BOT

TOP

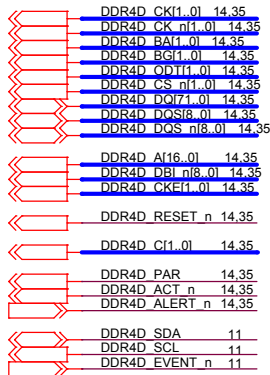
Bank 2B VCCIO = 1.2V

AGFB014R24B1E1V

| | |
|---|--|
| IO, LVDS2B_1N, DQ16 | |
| IO, LVDS2B_1P, DQ16 | |
| IO, LVDS2B_2N, DQ16 | |
| IO, LVDS2B_2P, DQ16 | |
| IO, LVDS2B_3N, DQ16 | |
| IO, LVDS2B_3P, DQ16 | |
| IO, LVDS2B_4N, DQSN16 | |
| IO, LVDS2B_4P, DQSN16 | |
| IO, LVDS2B_5N, DQ16 | |
| IO, LVDS2B_5P, DQ16 | |
| IO, LVDS2B_6N, DQ16 | |
| IO, LVDS2B_6P, DQ16 | |
| IO, LVDS2B_7N, DQ17 | |
| IO, LVDS2B_7P, DQ17 | |
| IO, LVDS2B_8N, DQ17 | |
| IO, LVDS2B_8P, DQ17 | |
| IO, LVDS2B_9N, DQ17 | |
| IO, LVDS2B_9P, DQ17 | |
| IO, PLL_2B_T_CLKOUT1N, LVDS2B_10N, DQSN17 | |
| IO, PLL_2B_T_CLKOUT1P, PLL_2B_T_CLKOUT1, PLL_2B_T_FB1, LVDS2B_10P, DQSN17 | |
| IO, LVDS2B_11N, DQ17 | |
| IO, RZQ_T_2B, LVDS2B_11P, DQ17 | |
| IO, CLK_T_2B_1N, LVDS2B_12N, DQ17 | |
| IO, CLK_T_2B_1P, LVDS2B_12P, DQ17 | |
| IO, CLK_T_2B_0N, LVDS2B_13N, DQ18 | |
| IO, CLK_T_2B_0P, LVDS2B_13P, DQ18 | |
| IO, LVDS2B_14N, DQ18 | |
| IO, LVDS2B_14P, DQ18 | |
| IO, PLL_2B_T_CLKOUT0N, LVDS2B_15N, DQ18 | |
| IO, PLL_2B_T_CLKOUT0P, PLL_2B_T_CLKOUT0, PLL_2B_T_FB0, LVDS2B_15P, DQ18 | |
| IO, LVDS2B_16N, DQSN18 | |
| IO, LVDS2B_16P, DQSN18 | |
| IO, LVDS2B_17N, DQ18 | |
| IO, LVDS2B_17P, DQ18 | |
| IO, LVDS2B_18N, DQ18 | |
| IO, LVDS2B_18P, DQ18 | |
| IO, LVDS2B_19N, DQ19 | |
| IO, LVDS2B_19P, DQ19 | |
| IO, LVDS2B_20N, DQ19 | |
| IO, LVDS2B_20P, DQ19 | |
| IO, LVDS2B_21N, DQ19 | |
| IO, LVDS2B_21P, DQ19 | |
| IO, LVDS2B_22N, DQSN19 | |
| IO, LVDS2B_22P, DQSN19 | |
| IO, LVDS2B_23N, DQ19 | |
| IO, LVDS2B_23P, DQ19 | |
| IO, LVDS2B_24N, DQ19 | |
| IO, LVDS2B_24P, DQ19 | |

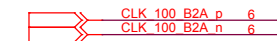
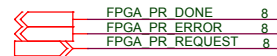
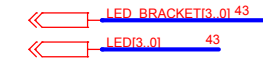
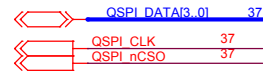
| | |
|------|--------------|
| CT43 | DDR4D_DQ66 |
| CV43 | DDR4D_DQ67 |
| CR42 | DDR4D_DQ65 |
| CU42 | DDR4D_DQ70 |
| CT41 | |
| CV41 | DDR4D_DBI_n8 |
| CR40 | DDR4D_DQS_n8 |
| CU40 | DDR4D_DQS8 |
| CT39 | DDR4D_DQ89 |
| CV39 | DDR4D_DQ84 |
| CR38 | DDR4D_DQ88 |
| CU38 | DDR4D_DQ71 |
| CT43 | DDR4D_DQ32 |
| DB43 | DDR4D_DQ36 |
| DA42 | DDR4D_DQ33 |
| DC42 | DDR4D_DQ37 |
| CY41 | |
| DB41 | DDR4D_DBI_n4 |
| DA40 | DDR4D_DQS_n4 |
| DC40 | DDR4D_DQS4 |
| CV39 | DDR4D_DQ38 |
| DB39 | DDR4D_DQ39 |
| DA38 | DDR4D_DQ35 |
| DC38 | DDR4D_DQ34 |
| CR36 | DDR4D_DQ57 |
| CU36 | DDR4D_DQ63 |
| CT35 | DDR4D_DQ59 |
| CV35 | DDR4D_DQ58 |
| CR34 | |
| CU34 | DDR4D_DBI_n7 |
| CT33 | DDR4D_DQS_n7 |
| CV33 | DDR4D_DQS7 |
| CR32 | DDR4D_DQ62 |
| CU32 | DDR4D_DQ60 |
| CT31 | DDR4D_DQ56 |
| CV31 | DDR4D_DQ61 |
| DA36 | DDR4D_DQ48 |
| DC36 | DDR4D_DQ53 |
| CY35 | DDR4D_DQ52 |
| DB35 | DDR4D_DQ54 |
| DA34 | |
| DC34 | DDR4D_DBI_n6 |
| CY33 | DDR4D_DQS_n6 |
| DB33 | DDR4D_DQS6 |
| DA32 | DDR4D_DQ55 |
| DC32 | DDR4D_DQ49 |
| CY31 | DDR4D_DQ50 |
| DB31 | DDR4D_DQ51 |

DDR4 SO-DIMM D

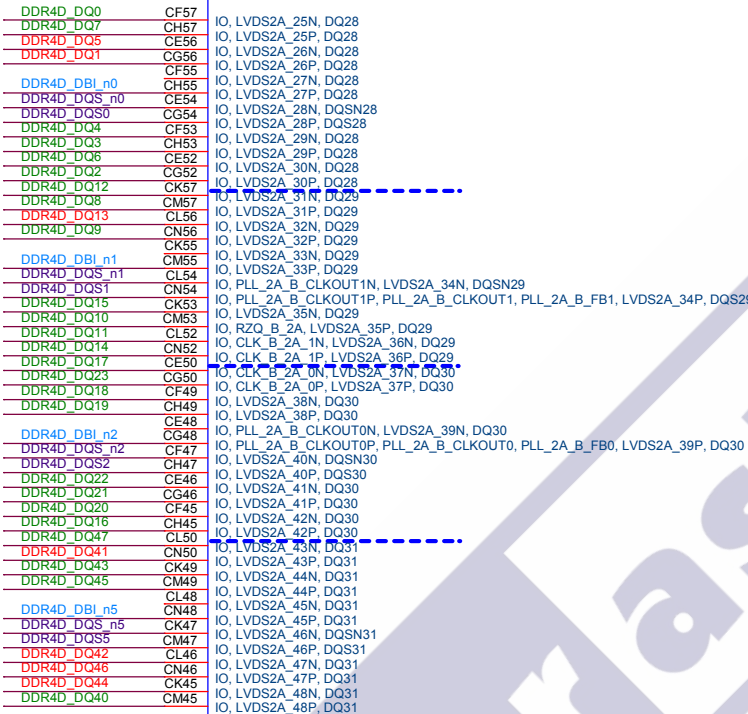
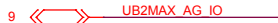


RAS_n is a multiplexed function with A16
CAS_n is a multiplexed function with A15
WE_n is a multiplexed function with A14

QSPI Flash Interface



FPGA / UB2 MAX communication signal

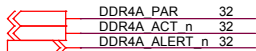
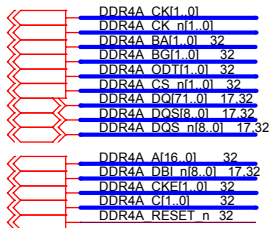


BOT TOP

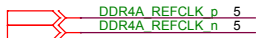
Bank 2AVCCIO = 1.2V



DDR4 SO-DIMM A



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_DQ22 | V5 | IO, LVDS3D_25N, DQ36 | 47 |
| DDR4A_DQ21 | T5 | IO, LVDS3D_25P, DQ36 | 46 |
| DDR4A_DQ18 | W6 | IO, LVDS3D_26N, DQ36 | 45 |
| DDR4A_DQ16 | U6 | IO, LVDS3D_26P, DQ36 | 44 |
| DDR4A_DBI_n2 | T7 | IO, LVDS3D_27N, DQ36 | 43 |
| DDR4A_DQS_n2 | W8 | IO, LVDS3D_27P, DQ36 | 42 |
| DDR4A_DQS2 | U8 | IO, LVDS3D_28N, DQSN36 | 41 |
| DDR4A_DQ17 | V9 | IO, LVDS3D_28P, DQ36 | 40 |
| DDR4A_DQ19 | T9 | IO, LVDS3D_29N, DQ36 | 39 |
| DDR4A_DQ20 | W10 | IO, LVDS3D_29P, DQ36 | 38 |
| DDR4A_DQ23 | U10 | IO, LVDS3D_30N, DQ36 | 37 |
| DDR4A_DQ9 | P5 | IO, LVDS3D_30P, DQ36 | 36 |
| DDR4A_DQ15 | M5 | IO, LVDS3D_31N, DQ37 | 35 |
| DDR4A_DQ12 | N6 | IO, LVDS3D_31P, DQ37 | 34 |
| DDR4A_DQ10 | L6 | IO, LVDS3D_32N, DQ37 | 33 |
| DDR4A_DBI_n1 | P7 | IO, LVDS3D_32P, DQ37 | 32 |
| DDR4A_DQS_n1 | M7 | IO, LVDS3D_33N, DQ37 | 31 |
| DDR4A_DQS1 | N8 | IO, LVDS3D_33P, DQ37 | 30 |
| DDR4A_DQS1 | L8 | IO, PLL_3D_B_CLKOUT1N, LVDS3D_34N, DQSN37 | 29 |
| DDR4A_DQ13 | P9 | IO, PLL_3D_B_CLKOUT1P, PLL_3D_B_CLKOUT1, PLL_3D_B_FB1, LVDS3D_34P, DQSN37 | 28 |
| DDR4A_DQ14 | M9 | IO, LVDS3D_35N, DQ37 | 27 |
| DDR4A_DQ8 | N10 | IO, RZQ_B_3D, LVDS3D_35P, DQ37 | 26 |
| DDR4A_DQ11 | L10 | IO, CLK_B_3D_1N, LVDS3D_36N, DQ37 | 25 |
| DDR4A_DQ0 | W12 | IO, CLK_B_3D_1P, LVDS3D_36P, DQ37 | 24 |
| DDR4A_DQ2 | U12 | IO, CLK_B_3D_0N, LVDS3D_37N, DQ38 | 23 |
| DDR4A_DQ3 | V13 | IO, CLK_B_3D_0P, LVDS3D_37P, DQ38 | 22 |
| DDR4A_DQ6 | T13 | IO, LVDS3D_38N, DQ38 | 21 |
| DDR4A_DBI_n0 | W14 | IO, LVDS3D_38P, DQ38 | 20 |
| DDR4A_DQS_n0 | U14 | IO, PLL_3D_B_CLKOUT0N, LVDS3D_39N, DQ38 | 19 |
| DDR4A_DQS0 | V15 | IO, PLL_3D_B_CLKOUT0P, PLL_3D_B_CLKOUT0, PLL_3D_B_FB0, LVDS3D_39P, DQ38 | 18 |
| DDR4A_DQ1 | T15 | IO, LVDS3D_40N, DQSN38 | 17 |
| DDR4A_DQ7 | W16 | IO, LVDS3D_40P, DQ38 | 16 |
| DDR4A_DQ5 | U16 | IO, LVDS3D_41N, DQ38 | 15 |
| DDR4A_DQ4 | V17 | IO, LVDS3D_41P, DQ38 | 14 |
| DDR4A_DQ31 | T17 | IO, LVDS3D_42N, DQ38 | 13 |
| DDR4A_DQ25 | N12 | IO, LVDS3D_42P, DQ38 | 12 |
| DDR4A_DQ28 | L12 | IO, LVDS3D_43N, DQ39 | 11 |
| DDR4A_DQ29 | P13 | IO, LVDS3D_43P, DQ39 | 10 |
| DDR4A_DBI_n3 | M13 | IO, LVDS3D_44N, DQ39 | 9 |
| DDR4A_DQS_n3 | N14 | IO, LVDS3D_44P, DQ39 | 8 |
| DDR4A_DQS3 | L14 | IO, LVDS3D_45N, DQ39 | 7 |
| DDR4A_DQS3 | P15 | IO, LVDS3D_45P, DQ39 | 6 |
| DDR4A_DQ24 | M15 | IO, LVDS3D_46N, DQSN39 | 5 |
| DDR4A_DQ30 | N16 | IO, LVDS3D_46P, DQ39 | 4 |
| DDR4A_DQ27 | L16 | IO, LVDS3D_47N, DQ39 | 3 |
| DDR4A_DQ26 | P17 | IO, LVDS3D_47P, DQ39 | 2 |
| DDR4A_DQ26 | M17 | IO, LVDS3D_48N, DQ39 | 1 |
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BOT TOP

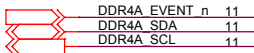
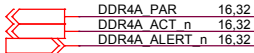
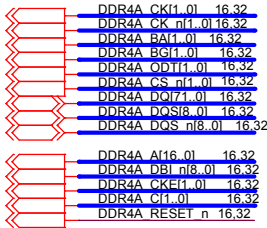
Bank 3D VCCIO = 1.2V

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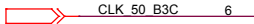
| | | |
|---|-----|----------------|
| IO, LVDS3D_1N, DQ32 | H5 | DDR4A_CK_n1 |
| IO, LVDS3D_1P, DQ32 | F5 | DDR4A_CK1 |
| IO, LVDS3D_2N, DQ32 | J6 | |
| IO, LVDS3D_2P, DQ32 | G6 | |
| IO, LVDS3D_3N, DQ32 | H7 | |
| IO, LVDS3D_3P, DQ32 | F7 | |
| IO, LVDS3D_4N, DQSN32 | J8 | |
| IO, LVDS3D_4P, DQ32 | G8 | |
| IO, LVDS3D_5N, DQ32 | H9 | |
| IO, LVDS3D_5P, DQ32 | F9 | |
| IO, LVDS3D_6N, DQ32 | J10 | DDR4A_C1 |
| IO, LVDS3D_6P, DQ32 | G10 | DDR4A_C0 |
| IO, LVDS3D_7N, DQ33 | D5 | DDR4A_BG0 |
| IO, LVDS3D_7P, DQ33 | B5 | DDR4A_BA1 |
| IO, LVDS3D_8N, DQ33 | C6 | DDR4A_BA0 |
| IO, LVDS3D_8P, DQ33 | A6 | DDR4A_ALERT_n |
| IO, LVDS3D_9N, DQ33 | D7 | DDR4A_A16 |
| IO, LVDS3D_9P, DQ33 | B7 | DDR4A_A15 |
| IO, PLL_3D_T_CLKOUT1N, LVDS3D_10N, DQSN33 | C8 | DDR4A_A14 |
| IO, PLL_3D_T_CLKOUT1P, PLL_3D_T_CLKOUT1, PLL_3D_T_FB1, LVDS3D_10P, DQSN33 | A8 | DDR4A_A13 |
| IO, LVDS3D_11N, DQ33 | D9 | DDR4A_A12 |
| IO, RZQ_T_3D, LVDS3D_11P, DQ33 | B9 | DDR4A_RZQ |
| IO, CLK_T_3D_1N, LVDS3D_12N, DQ33 | C10 | DDR4A_REFCLK_n |
| IO, CLK_T_3D_1P, LVDS3D_12P, DQ33 | A10 | DDR4A_REFCLK_p |
| IO, CLK_T_3D_0N, LVDS3D_13N, DQ34 | J12 | DDR4A_A11 |
| IO, CLK_T_3D_0P, LVDS3D_13P, DQ34 | G12 | DDR4A_A10 |
| IO, LVDS3D_14N, DQ34 | H13 | DDR4A_A9 |
| IO, LVDS3D_14P, DQ34 | F13 | DDR4A_A8 |
| IO, PLL_3D_T_CLKOUT0N, LVDS3D_15N, DQ34 | J14 | DDR4A_A7 |
| IO, PLL_3D_T_CLKOUT0P, PLL_3D_T_CLKOUT0, PLL_3D_T_FB0, LVDS3D_15P, DQ34 | G14 | DDR4A_A6 |
| IO, LVDS3D_16N, DQSN34 | H15 | DDR4A_A5 |
| IO, LVDS3D_16P, DQ34 | F15 | DDR4A_A4 |
| IO, LVDS3D_17N, DQ34 | J16 | DDR4A_A3 |
| IO, LVDS3D_17P, DQ34 | G16 | DDR4A_A2 |
| IO, LVDS3D_18N, DQ34 | H17 | DDR4A_A1 |
| IO, LVDS3D_18P, DQ34 | F17 | DDR4A_A0 |
| IO, LVDS3D_19N, DQ35 | C12 | DDR4A_PAR |
| IO, LVDS3D_19P, DQ35 | A12 | DDR4A_CS_n1 |
| IO, LVDS3D_20N, DQ35 | D13 | DDR4A_CK_n0 |
| IO, LVDS3D_20P, DQ35 | B13 | DDR4A_CK0 |
| IO, LVDS3D_21N, DQ35 | C14 | DDR4A_CKE1 |
| IO, LVDS3D_21P, DQ35 | A14 | DDR4A_CKE0 |
| IO, LVDS3D_22N, DQSN35 | D15 | DDR4A_ODT1 |
| IO, LVDS3D_22P, DQ35 | B15 | DDR4A_ODT0 |
| IO, LVDS3D_23N, DQ35 | C16 | DDR4A_ACT_n |
| IO, LVDS3D_23P, DQ35 | A16 | DDR4A_CS_n0 |
| IO, LVDS3D_24N, DQ35 | D17 | DDR4A_RESET_n |
| IO, LVDS3D_24P, DQ35 | B17 | DDR4A_BG1 |



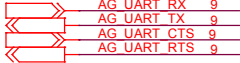
DDR4 SO-DIMM A



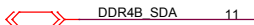
RAS_n is a multiplexed function with A16
CAS_n is a multiplexed function with A15
WE_n is a multiplexed function with A14



FPGA UART to USB



DDR4 SO-DIMM B



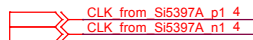
U157G

| | | |
|--------------|-----|---|
| DDR4A_DQ57 | V19 | IO, LVDS3C_25N, DQ44 |
| DDR4A_DQ63 | T19 | IO, LVDS3C_25P, DQ44 |
| DDR4A_DQ60 | W20 | IO, LVDS3C_28N, DQ44 |
| DDR4A_DQ59 | U20 | IO, LVDS3C_28P, DQ44 |
| DDR4A_DBI_n7 | V21 | IO, LVDS3C_27N, DQ44 |
| DDR4A_DQS_n7 | T21 | IO, LVDS3C_27P, DQ44 |
| DDR4A_DQ37 | W22 | IO, LVDS3C_28N, DQSN44 |
| DDR4A_DQ56 | V23 | IO, LVDS3C_28P, DQSN44 |
| DDR4A_DQ61 | T23 | IO, LVDS3C_29N, DQ44 |
| DDR4A_DQ62 | W24 | IO, LVDS3C_29P, DQ44 |
| DDR4A_DQ58 | U24 | IO, LVDS3C_30N, DQ44 |
| DDR4A_DQ68 | P19 | IO, LVDS3C_30P, DQ44 |
| DDR4A_DQ69 | M19 | IO, LVDS3C_31N, DQ45 |
| DDR4A_DQ65 | N20 | IO, LVDS3C_31P, DQ45 |
| DDR4A_DQ66 | L20 | IO, LVDS3C_32N, DQ45 |
| DDR4A_DBI_n8 | P21 | IO, LVDS3C_32P, DQ45 |
| DDR4A_DQS_n8 | M21 | IO, LVDS3C_33N, DQ45 |
| DDR4A_DQ35 | N22 | IO, LVDS3C_33P, DQ45 |
| DDR4A_DQ67 | P23 | IO, PLL_3C_B_CLKOUT1N, LVDS3C_34N, DQSN45 |
| DDR4A_DQ64 | M23 | IO, PLL_3C_B_CLKOUT1P, PLL_3C_B_CLKOUT1, PLL_3C_B_FB1, LVDS3C_34P, DQSN45 |
| DDR4A_DQ71 | N24 | IO, LVDS3C_35N, DQ45 |
| DDR4A_DQ70 | L24 | IO, RZQ_B_3C, LVDS3C_35P, DQ45 |
| DDR4A_DQ50 | W26 | IO, CLK_B_3C_1N, LVDS3C_36N, DQ45 |
| DDR4A_DQ53 | U26 | IO, CLK_B_3C_1P, LVDS3C_36P, DQ45 |
| DDR4A_DQ52 | V27 | IO, CLK_B_3C_0N, LVDS3C_37N, DQ46 |
| DDR4A_DQ48 | T27 | IO, CLK_B_3C_0P, LVDS3C_37P, DQ46 |
| DDR4A_DBI_n6 | U28 | IO, LVDS3C_38N, DQ46 |
| DDR4A_DQS_n6 | V29 | IO, LVDS3C_38P, DQ46 |
| DDR4A_DQ36 | T29 | IO, PLL_3C_B_CLKOUT0N, LVDS3C_39N, DQ46 |
| DDR4A_DQ35 | W30 | IO, PLL_3C_B_CLKOUT0P, PLL_3C_B_CLKOUT0, PLL_3C_B_FB0, LVDS3C_39P, DQ46 |
| DDR4A_DQ49 | U30 | IO, LVDS3C_40N, DQSN46 |
| DDR4A_DQ51 | V31 | IO, LVDS3C_40P, DQSN46 |
| DDR4A_DQ54 | T31 | IO, LVDS3C_41N, DQ46 |
| DDR4A_DQ41 | N26 | IO, LVDS3C_41P, DQ46 |
| DDR4A_DQ45 | L26 | IO, LVDS3C_42N, DQ46 |
| DDR4A_DQ44 | P27 | IO, LVDS3C_42P, DQ46 |
| DDR4A_DQ40 | M27 | IO, LVDS3C_43N, DQ47 |
| DDR4A_DBI_n5 | L28 | IO, LVDS3C_43P, DQ47 |
| DDR4A_DQS_n5 | P29 | IO, LVDS3C_44N, DQ47 |
| DDR4A_DQ35 | M29 | IO, LVDS3C_44P, DQ47 |
| DDR4A_DQ42 | N30 | IO, LVDS3C_45N, DQ47 |
| DDR4A_DQ46 | L30 | IO, LVDS3C_45P, DQ47 |
| DDR4A_DQ43 | P31 | IO, LVDS3C_46N, DQSN47 |
| DDR4A_DQ47 | M31 | IO, LVDS3C_46P, DQSN47 |
| | | IO, LVDS3C_47N, DQ47 |
| | | IO, LVDS3C_47P, DQ47 |
| | | IO, LVDS3C_48N, DQ47 |
| | | IO, LVDS3C_48P, DQ47 |

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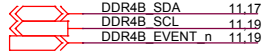
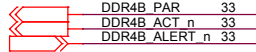
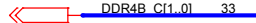
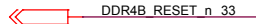
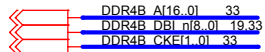
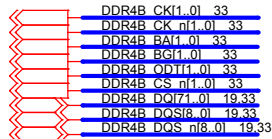
BOT TOP

Bank 3C VCCIO = 1.2V

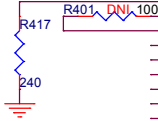
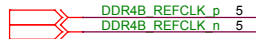


| | | |
|--|---------------------------------|----------------|
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| Title DE10-Agilex Board | | |
| Size B | Document Number FPGA Bank 3C | Rev C |
| Date: | Thursday, October 07, 2021 | Sheet 17 of 52 |

DDR4 SO-DIMM B



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



| | |
|----------------|-----|
| DDR4B_CK_n1 | V45 |
| DDR4B_CK1 | T45 |
| | W44 |
| | U44 |
| | V43 |
| | T43 |
| | W42 |
| | U42 |
| | V41 |
| | T41 |
| DDR4B_C1 | W40 |
| DDR4B_C0 | U40 |
| DDR4B_BG0 | P45 |
| DDR4B_BA1 | M45 |
| DDR4B_BA0 | N44 |
| DDR4B_ALERT_n | L44 |
| DDR4B_A16 | P43 |
| DDR4B_A15 | M43 |
| DDR4B_A14 | N42 |
| DDR4B_A13 | L42 |
| DDR4B_A12 | P41 |
| DDR4B_RZQ | M41 |
| DDR4B_REFCLK_n | N40 |
| DDR4B_REFCLK_p | L40 |
| DDR4B_A11 | W38 |
| DDR4B_A10 | U38 |
| DDR4B_A9 | V37 |
| DDR4B_A8 | T37 |
| DDR4B_A7 | W36 |
| DDR4B_A6 | U36 |
| DDR4B_A5 | V35 |
| DDR4B_A4 | T35 |
| DDR4B_A3 | W34 |
| DDR4B_A2 | U34 |
| DDR4B_A1 | V33 |
| DDR4B_A0 | T33 |
| DDR4B_PAR | N38 |
| DDR4B_CS_n1 | L38 |
| DDR4B_CK_n0 | P37 |
| DDR4B_CK0 | M37 |
| DDR4B_CKE1 | N36 |
| DDR4B_CKE0 | L36 |
| DDR4B_ODT1 | P35 |
| DDR4B_ODT0 | M35 |
| DDR4B_ACT_n | N34 |
| DDR4B_CS_n0 | L34 |
| DDR4B_RESET_n | P33 |
| DDR4B_BG1 | M33 |

U157H

| | |
|---|----|
| IO, LVDS3B_25N, DQ52 | 47 |
| IO, LVDS3B_25P, DQ52 | 46 |
| IO, LVDS3B_26N, DQ52 | 45 |
| IO, LVDS3B_26P, DQ52 | 44 |
| IO, LVDS3B_27N, DQ52 | 43 |
| IO, LVDS3B_27P, DQ52 | 42 |
| IO, LVDS3B_28N, DQ52 | 41 |
| IO, LVDS3B_28P, DQ52 | 40 |
| IO, LVDS3B_29N, DQ52 | 39 |
| IO, LVDS3B_29P, DQ52 | 38 |
| IO, LVDS3B_30N, DQ52 | 37 |
| IO, LVDS3B_30P, DQ52 | 36 |
| IO, LVDS3B_31N, DQ53 | 35 |
| IO, LVDS3B_31P, DQ53 | 34 |
| IO, LVDS3B_32N, DQ53 | 33 |
| IO, LVDS3B_32P, DQ53 | 32 |
| IO, LVDS3B_33N, DQ53 | 31 |
| IO, LVDS3B_33P, DQ53 | 30 |
| IO, PLL_3B_B_CLKOUT1N, LVDS3B_34N, DQ53 | 29 |
| IO, PLL_3B_B_CLKOUT1P, PLL_3B_B_CLKOUT1, PLL_3B_B_FB1, LVDS3B_34P, DQ53 | 28 |
| IO, LVDS3B_35N, DQ53 | 27 |
| IO, RZQ_B_3B, LVDS3B_35P, DQ53 | 26 |
| IO, CLK_B_3B_1N, LVDS3B_36N, DQ53 | 25 |
| IO, CLK_B_3B_1P, LVDS3B_36P, DQ53 | 24 |
| IO, CLK_B_3B_0N, LVDS3B_37N, DQ54 | 23 |
| IO, CLK_B_3B_0P, LVDS3B_37P, DQ54 | 22 |
| IO, LVDS3B_38N, DQ54 | 21 |
| IO, LVDS3B_38P, DQ54 | 20 |
| IO, PLL_3B_B_CLKOUT0N, LVDS3B_39N, DQ54 | 19 |
| IO, PLL_3B_B_CLKOUT0P, PLL_3B_B_CLKOUT0, PLL_3B_B_FB0, LVDS3B_39P, DQ54 | 18 |
| IO, LVDS3B_40N, DQ54 | 17 |
| IO, LVDS3B_40P, DQ54 | 16 |
| IO, LVDS3B_41N, DQ54 | 15 |
| IO, LVDS3B_41P, DQ54 | 14 |
| IO, LVDS3B_42N, DQ54 | 13 |
| IO, LVDS3B_42P, DQ54 | 12 |
| IO, LVDS3B_43N, DQ55 | 11 |
| IO, LVDS3B_43P, DQ55 | 10 |
| IO, LVDS3B_44N, DQ55 | 9 |
| IO, LVDS3B_44P, DQ55 | 8 |
| IO, LVDS3B_45N, DQ55 | 7 |
| IO, LVDS3B_45P, DQ55 | 6 |
| IO, LVDS3B_46N, DQ55 | 5 |
| IO, LVDS3B_46P, DQ55 | 4 |
| IO, LVDS3B_47N, DQ55 | 3 |
| IO, LVDS3B_47P, DQ55 | 2 |
| IO, LVDS3B_48N, DQ55 | 1 |
| IO, LVDS3B_48P, DQ55 | 0 |

BOT TOP

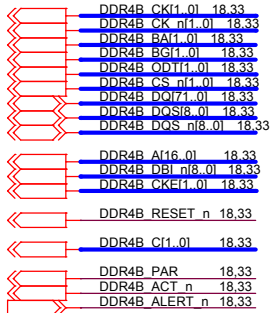
Bank 3B VCCIO = 1.2V

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| | |
|---|-----|
| IO, LVDS3B_1N, DQ48 | H45 |
| IO, LVDS3B_1P, DQ48 | F45 |
| IO, LVDS3B_2N, DQ48 | J44 |
| IO, LVDS3B_2P, DQ48 | G44 |
| IO, LVDS3B_3N, DQ48 | H43 |
| IO, LVDS3B_3P, DQ48 | F43 |
| IO, LVDS3B_4N, DQ54 | J42 |
| IO, LVDS3B_4P, DQ54 | G42 |
| IO, LVDS3B_5N, DQ48 | H41 |
| IO, LVDS3B_5P, DQ48 | F41 |
| IO, LVDS3B_6N, DQ48 | J40 |
| IO, LVDS3B_6P, DQ48 | G40 |
| IO, LVDS3B_7N, DQ49 | H39 |
| IO, LVDS3B_7P, DQ49 | F39 |
| IO, LVDS3B_8N, DQ49 | J38 |
| IO, LVDS3B_8P, DQ49 | G38 |
| IO, LVDS3B_9N, DQ49 | H37 |
| IO, LVDS3B_9P, DQ49 | F37 |
| IO, PLL_3B_T_CLKOUT1N, LVDS3B_10N, DQ54 | C42 |
| IO, PLL_3B_T_CLKOUT1P, PLL_3B_T_CLKOUT1, PLL_3B_T_FB1, LVDS3B_10P, DQ54 | A42 |
| IO, LVDS3B_11N, DQ49 | D41 |
| IO, RZQ_T_3B, LVDS3B_11P, DQ49 | B41 |
| IO, CLK_T_3B_1N, LVDS3B_12N, DQ49 | C40 |
| IO, CLK_T_3B_1P, LVDS3B_12P, DQ49 | A40 |
| IO, CLK_T_3B_0N, LVDS3B_13N, DQ50 | J38 |
| IO, CLK_T_3B_0P, LVDS3B_13P, DQ50 | G38 |
| IO, LVDS3B_14N, DQ50 | H37 |
| IO, LVDS3B_14P, DQ50 | F37 |
| IO, PLL_3B_T_CLKOUT0N, LVDS3B_15N, DQ50 | J36 |
| IO, PLL_3B_T_CLKOUT0P, PLL_3B_T_CLKOUT0, PLL_3B_T_FB0, LVDS3B_15P, DQ50 | G36 |
| IO, LVDS3B_16N, DQ50 | H35 |
| IO, LVDS3B_16P, DQ50 | F35 |
| IO, LVDS3B_17N, DQ50 | J34 |
| IO, LVDS3B_17P, DQ50 | G34 |
| IO, LVDS3B_18N, DQ50 | H33 |
| IO, LVDS3B_18P, DQ50 | F33 |
| IO, LVDS3B_19N, DQ51 | C38 |
| IO, LVDS3B_19P, DQ51 | A38 |
| IO, LVDS3B_20N, DQ51 | D37 |
| IO, LVDS3B_20P, DQ51 | B37 |
| IO, LVDS3B_21N, DQ51 | C36 |
| IO, LVDS3B_21P, DQ51 | A36 |
| IO, LVDS3B_22N, DQ51 | D35 |
| IO, LVDS3B_22P, DQ51 | B35 |
| IO, LVDS3B_23N, DQ51 | C34 |
| IO, LVDS3B_23P, DQ51 | A34 |
| IO, LVDS3B_24N, DQ51 | D33 |
| IO, LVDS3B_24P, DQ51 | B33 |

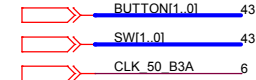
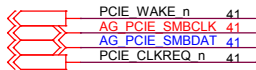
| | | |
|--|---------------------------------|----------------|
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| Title DE10-Agilex Board | | |
| Size B | Document Number FPGA Bank 3B | Rev C |
| Date: | Thursday, October 07, 2021 | Sheet 18 of 52 |

DDR4 SO-DIMM B

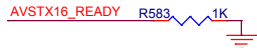
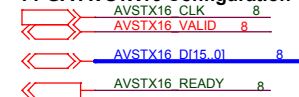


RAS_n is a multiplexed function with A16
CAS_n is a multiplexed function with A15
WE_n is a multiplexed function with A14

PCIe Control signal



FPGA AVSTX16 Configuration



| | | |
|--------------|-----|--|
| DDR4B_DQ57 | V59 | IO, LVDS3A_25N, DQ60 |
| DDR4B_DQ62 | T59 | IO, LVDS3A_25P, DQ60 |
| DDR4B_DQ56 | W58 | IO, LVDS3A_26N, DQ60 |
| DDR4B_DQ58 | U58 | IO, LVDS3A_26P, DQ60 |
| DDR4B_DBI_n7 | V57 | IO, LVDS3A_27N, DQ60 |
| DDR4B_DQS_n7 | T57 | IO, LVDS3A_27P, DQ60 |
| DDR4B_DQS7 | W56 | IO, LVDS3A_28N, DQSN60 |
| DDR4B_DQ59 | V55 | IO, LVDS3A_28P, DQ560 |
| DDR4B_DQ61 | T55 | IO, LVDS3A_29N, DQ60 |
| DDR4B_DQ63 | W54 | IO, LVDS3A_29P, DQ60 |
| DDR4B_DQ60 | U54 | IO, LVDS3A_30N, DQ60 |
| DDR4B_DQ61 | P59 | IO, LVDS3A_30P, DQ60 |
| DDR4B_DQ55 | M59 | IO, LVDS3A_31N, DQ61 |
| DDR4B_DQ54 | N58 | IO, LVDS3A_31P, DQ61 |
| DDR4B_DQ48 | L58 | IO, LVDS3A_32P, DQ61 |
| DDR4B_DBI_n6 | P57 | IO, LVDS3A_33N, DQ61 |
| DDR4B_DQS_n6 | M57 | IO, LVDS3A_33P, DQ61 |
| DDR4B_DQS6 | N56 | IO, PLL_3A_B_CLKOUT1N, LVDS3A_34N, DQSN61 |
| DDR4B_DQ50 | L56 | IO, PLL_3A_B_CLKOUT1P, PLL_3A_B_CLKOUT1, PLL_3A_B_FB1, LVDS3A_34P, DQS61 |
| DDR4B_DQ53 | M55 | IO, LVDS3A_35N, DQ61 |
| DDR4B_DQ52 | N54 | IO, RZQ_B_3A, LVDS3A_35P, DQ61 |
| DDR4B_DQ49 | L54 | IO, CLK_B_3A_1N, LVDS3A_36N, DQ61 |
| DDR4B_DQ46 | W52 | IO, CLK_B_3A_1P, LVDS3A_36P, DQ61 |
| DDR4B_DQ42 | U52 | IO, CLK_B_3A_0N, LVDS3A_37N, DQ62 |
| DDR4B_DQ47 | V51 | IO, CLK_B_3A_0P, LVDS3A_37P, DQ62 |
| DDR4B_DQ44 | T51 | IO, LVDS3A_38N, DQ62 |
| DDR4B_DBI_n5 | W50 | IO, PLL_3A_B_CLKOUT0N, LVDS3A_39N, DQ62 |
| DDR4B_DQS_n5 | U50 | IO, PLL_3A_B_CLKOUT0P, PLL_3A_B_CLKOUT0, PLL_3A_B_FB0, LVDS3A_39P, DQ62 |
| DDR4B_DQS5 | V49 | IO, LVDS3A_40N, DQSN62 |
| DDR4B_DQ43 | T49 | IO, LVDS3A_40P, DQ562 |
| DDR4B_DQ40 | U48 | IO, LVDS3A_41N, DQ62 |
| DDR4B_DQ41 | V47 | IO, LVDS3A_41P, DQ62 |
| DDR4B_DQ45 | T47 | IO, LVDS3A_42N, DQ62 |
| DDR4B_DQ71 | N52 | IO, LVDS3A_42P, DQ62 |
| DDR4B_DQ70 | L52 | IO, LVDS3A_43N, DQ63 |
| DDR4B_DQ68 | P51 | IO, LVDS3A_43P, DQ63 |
| DDR4B_DQ67 | M51 | IO, LVDS3A_44N, DQ63 |
| DDR4B_DBI_n8 | N50 | IO, LVDS3A_44P, DQ63 |
| DDR4B_DQS_n8 | L50 | IO, LVDS3A_45P, DQ63 |
| DDR4B_DQS8 | P49 | IO, LVDS3A_46N, DQSN63 |
| DDR4B_DQ65 | M49 | IO, LVDS3A_46P, DQ563 |
| DDR4B_DQ64 | N48 | IO, LVDS3A_47N, DQ63 |
| DDR4B_DQ65 | L48 | IO, LVDS3A_47P, DQ63 |
| DDR4B_DQ69 | P47 | IO, LVDS3A_48N, DQ63 |
| DDR4B_DQ69 | M47 | IO, LVDS3A_48P, DQ63 |

U1571

AGFB014R24B1E1V

BOT TOP

Bank 3A VCCIO = 1.2V



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| | | |
|---|-----|-----------------------|
| IO, LVDS3A_1N, DQ56 | H59 | IO, LVDS3A_1N, DQ56 |
| IO, LVDS3A_1P, DQ56 | F59 | IO, LVDS3A_1P, DQ56 |
| IO, LVDS3A_2N, DQ56 | J58 | IO, LVDS3A_2N, DQ56 |
| IO, LVDS3A_2P, DQ56 | G58 | IO, LVDS3A_2P, DQ56 |
| IO, LVDS3A_3N, DQ56 | H57 | IO, LVDS3A_3N, DQ56 |
| IO, LVDS3A_3P, DQ56, AVST_READY | F57 | AVSTX16_READY |
| IO, LVDS3A_4N, DQSN56, SDM_MISSION_DATA31 | J56 | DDR4B_EVENT_n |
| IO, LVDS3A_4P, DQ56, SDM_MISSION_DATA30 | G56 | CPU_RESET_n |
| IO, LVDS3A_5N, DQ56, SDM_MISSION_DATA29 | H55 | DDR4B_SCL |
| IO, LVDS3A_5P, DQ56, SDM_MISSION_DATA28 | F55 | PCIE_CLKREQ_n |
| IO, LVDS3A_6N, DQ56, SDM_MISSION_DATA27 | J54 | BUTTON0 |
| IO, LVDS3A_6P, DQ56, SDM_MISSION_DATA26 | G54 | BUTTON1 |
| IO, LVDS3A_7N, DQ57, SDM_MISSION_DATA25 | H61 | DDR4B_DQ36 |
| IO, LVDS3A_7P, DQ57, SDM_MISSION_DATA24 | F61 | DDR4B_DQ35 |
| IO, LVDS3A_8N, DQ57, SDM_MISSION_DATA23 | D59 | DDR4B_DQ39 |
| IO, LVDS3A_8P, DQ57, SDM_MISSION_DATA22 | C58 | DDR4B_DQ34 |
| IO, LVDS3A_9N, DQ57, SDM_MISSION_DATA21 | D57 | DDR4B_DBI_n4 |
| IO, LVDS3A_9P, DQ57, SDM_MISSION_DATA20 | B57 | DDR4B_DQS_n4 |
| IO, PLL_3A_T_CLKOUT1N, LVDS3A_10N, DQSN57, SDM_MISSION_DATA19 | C56 | DDR4B_DQS4 |
| IO, PLL_3A_T_CLKOUT1P, PLL_3A_T_CLKOUT1, PLL_3A_T_FB1, LVDS3A_10P, DQ57, SDM_MISSION_DATA18 | D55 | DDR4B_DQ33 |
| IO, LVDS3A_11N, DQ57, SDM_MISSION_DATA17 | B55 | DDR4B_DQ38 |
| IO, RZQ_T_3A, LVDS3A_11P, DQ57, SDM_MISSION_DATA16 | C54 | DDR4B_DQ37 |
| IO, CLK_T_3A_1N, LVDS3A_12N, DQ57 | A54 | DDR4B_DQ32 |
| IO, CLK_T_3A_1P, LVDS3A_12P, DQ57 | J52 | AG_PCIE_SMBDAT |
| IO, CLK_T_3A_0N, LVDS3A_13N, DQ58 | G52 | CLK_50_B3A |
| IO, CLK_T_3A_0P, LVDS3A_13P, DQ58 | H51 | SW0 |
| IO, LVDS3A_14N, DQ58 | F51 | SW1 |
| IO, LVDS3A_14P, DQ58 | J50 | PCIE_WAKE_n |
| IO, PLL_3A_T_CLKOUT0N, LVDS3A_15N, DQ58 | G50 | R615 0 AG_PCIE_SMBCLK |
| IO, PLL_3A_T_CLKOUT0P, PLL_3A_T_CLKOUT0, PLL_3A_T_FB0, LVDS3A_15P, DQ58 | H49 | AVSTX16_CLK |
| IO, LVDS3A_16N, DQSN58, SDM_MISSION_CLK | F49 | AVSTX16_D15 |
| IO, LVDS3A_16P, DQ58, SDM_MISSION_DATA15 | J48 | AVSTX16_D14 |
| IO, LVDS3A_17N, DQ58, SDM_MISSION_DATA14 | G48 | AVSTX16_D13 |
| IO, LVDS3A_17P, DQ58, SDM_MISSION_DATA13 | H47 | AVSTX16_D12 |
| IO, LVDS3A_18N, DQ58, SDM_MISSION_DATA12 | F47 | AVSTX16_D11 |
| IO, LVDS3A_18P, DQ58, SDM_MISSION_DATA11 | C52 | AVSTX16_D10 |
| IO, LVDS3A_19N, DQ59, SDM_MISSION_DATA10 | A52 | AVSTX16_D9 |
| IO, LVDS3A_19P, DQ59, SDM_MISSION_DATA9 | D51 | AVSTX16_D8 |
| IO, LVDS3A_20N, DQ59, SDM_MISSION_DATA8 | B51 | AVSTX16_VALID |
| IO, LVDS3A_20P, DQ59, SDM_MISSION_DATA7 | C50 | AVSTX16_D7 |
| IO, LVDS3A_21N, DQ59, SDM_MISSION_DATA6 | A50 | AVSTX16_D6 |
| IO, LVDS3A_21P, DQ59, SDM_MISSION_DATA5 | D49 | AVSTX16_D5 |
| IO, LVDS3A_22N, DQSN59, SDM_MISSION_DATA4 | B49 | AVSTX16_D4 |
| IO, LVDS3A_22P, DQ59, SDM_MISSION_DATA3 | C48 | AVSTX16_D3 |
| IO, LVDS3A_23N, DQ59, SDM_MISSION_DATA2 | A48 | AVSTX16_D2 |
| IO, LVDS3A_23P, DQ59, SDM_MISSION_DATA1 | D47 | AVSTX16_D1 |
| IO, LVDS3A_24N, DQ59, SDM_MISSION_DATA0 | B47 | AVSTX16_D0 |
| IO, LVDS3A_24P, DQ59, SDM_MISSION_DATA0 | | |

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| Title | | |
| DE10-Agilex Board | | |
| Size | Document Number | Rev |
| B | FPGA Bank 3A | C |
| Date: | Thursday, October 07, 2021 | Sheet 19 of 52 |

FPGA Bank - HPS

U157J

AH5 HPS_IOA_1, GPIO0_IO0, SPIM0_SS1_N, SPIS0_CLK, UART0_CTS_N, NAND_ADQ0, USB0_CLK, SDMMC_CCLK
AD1 HPS_IOA_2, GPIO0_IO1, SPIM1_SS1_N, SPIS0_MOSI, UART0_RTS_N, NAND_ADQ1, USB0_STP, SDMMC_CMD
AG6 HPS_IOA_3, GPIO0_IO2, SPIS0_SS0_N, UART0_TX, I2C1_SDA, NAND_WE_N, USB0_DIR, SDMMC_DATA0
AB1 HPS_IOA_4, GPIO0_IO3, SPIS0_MISO, UART0_RX, I2C1_SCL, NAND_RE_N, USB0_DATA0, SDMMC_DATA1
AG4 HPS_IOA_5, GPIO0_IO4, SPIM0_CLK, UART1_CTS_N, I2C0_SDA, NAND_WP_N, USB0_DATA1, SDMMC_DATA2
AD3 HPS_IOA_6, GPIO0_IO5, SPIM0_MOSI, UART1_RTS_N, I2C0_SCL, NAND_ADQ2, USB0_NXT, SDMMC_DATA3
AF5 HPS_IOA_7, GPIO0_IO6, SPIM0_MISO, MDIO2_MDIO, UART1_TX, I2C_EMAC2_SDA, NAND_ADQ3, USB0_DATA2, SDMMC_DATA4
AC2 HPS_IOA_8, GPIO0_IO7, SPIM0_SS0_N, MDIO2_MDC, UART1_RX, I2C_EMAC2_SCL, NAND_CLE, USB0_DATA3, SDMMC_DATA5
AF1 HPS_IOA_9, GPIO0_IO8, SPIM1_CLK, SPIS1_CLK, MDIO1_MDIO, I2C_EMAC1_SDA, NAND_ADQ4, USB0_DATA4, SDMMC_DATA6
AB3 HPS_IOA_10, GPIO0_IO9, SPIM1_MOSI, SPIS1_MOSI, MDIO1_MDC, I2C_EMAC1_SCL, NAND_ADQ5, USB0_DATA5, SDMMC_DATA7
AF3 HPS_IOA_11, GPIO0_IO10, SPIM1_MISO, SPIS1_SS0_N, MDIO0_MDIO, I2C_EMAC0_SDA, NAND_ADQ6, USB0_DATA6
AA2 HPS_IOA_12, GPIO0_IO11, SPIM1_SS0_N, SPIS1_MISO, MDIO0_MDC, I2C_EMAC0_SCL, NAND_ADQ7, USB0_DATA7
AC4 HPS_IOA_13, GPIO0_IO12, NAND_ALE, USB1_CLK, EMAC0_TX_CLK
V1 HPS_IOA_14, GPIO0_IO13, NAND_RB, USB1_STP, EMAC0_TX_CTL
AA4 HPS_IOA_15, GPIO0_IO14, NAND_CE_N, USB1_DIR, EMAC0_RX_CLK
T1 HPS_IOA_16, GPIO0_IO15, USB1_DATA0, EMAC0_RX_CTL
AD5 HPS_IOA_17, GPIO0_IO16, NAND_ADQ8, USB1_DATA1, EMAC0_TXD0
P1 HPS_IOA_18, GPIO0_IO17, NAND_ADQ9, USB1_NXT, EMAC0_TXD1
AF7 HPS_IOA_19, GPIO0_IO18, NAND_ADQ10, USB1_DATA2, EMAC0_RXD0
M1 HPS_IOA_20, GPIO0_IO19, SPIM1_SS1_N, NAND_ADQ11, USB1_DATA3, EMAC0_RXD1
AF9 HPS_IOA_21, GPIO0_IO20, SPIM1_CLK, SPIS0_CLK, UART0_CTS_N, I2C1_SDA, NAND_ADQ12, USB1_DATA4, EMAC0_TXD2
W2 HPS_IOA_22, GPIO0_IO21, SPIM1_MOSI, SPIS0_MOSI, UART0_RTS_N, I2C1_SCL, NAND_ADQ13, USB1_DATA5, EMAC0_TXD3
AB5 HPS_IOA_23, GPIO0_IO22, SPIM1_MISO, SPIS0_SS0_N, UART0_TX, I2C0_SDA, NAND_ADQ14, USB1_DATA6, EMAC0_RXD2
U2 HPS_IOA_24, GPIO0_IO23, SPIM1_SS0_N, SPIS0_MISO, UART0_RX, I2C0_SCL, NAND_ADQ15, USB1_DATA7, EMAC0_RXD3
AC6 HPS_IOB_1, GPIO1_IO0, SPIM1_CLK, UART0_CTS_N, NAND_ADQ0, EMAC1_TX_CLK
H1 HPS_IOB_2, GPIO1_IO1, SPIM1_MOSI, UART0_RTS_N, NAND_ADQ1, EMAC1_TX_CTL
F1 HPS_IOB_3, GPIO1_IO2, SPIM1_MISO, UART0_TX, I2C0_SDA, NAND_WE_N, EMAC1_RX_CLK
AD7 HPS_IOB_4, GPIO1_IO3, SPIM1_SS0_N, UART0_RX, I2C0_SCL, NAND_RE_N, EMAC1_RX_CTL
N2 HPS_IOB_5, GPIO1_IO4, SPIM1_SS1_N, SPIS1_CLK, UART1_CTS_N, NAND_WP_N, EMAC1_TXD0
AB7 HPS_IOB_6, GPIO1_IO5, SPIS1_MOSI, UART1_RTS_N, NAND_ADQ2, EMAC1_TXD1
L2 HPS_IOB_7, GPIO1_IO6, SPIS1_SS0_N, UART1_TX, I2C1_SDA, NAND_ADQ3, EMAC1_RXD0
AC8 HPS_IOB_8, GPIO1_IO7, SPIS1_MISO, UART1_RX, I2C1_SCL, NAND_CLE, EMAC1_RXD1
J2 HPS_IOB_9, GPIO1_IO8, JTAG_TCK, SPIS0_CLK, MDIO2_MDIO, I2C_EMAC2_SDA, NAND_ADQ4, EMAC1_TXD2
AA8 HPS_IOB_10, GPIO1_IO9, JTAG_TMS, SPIS0_MOSI, MDIO2_MDC, I2C_EMAC2_SCL, NAND_ADQ5, EMAC1_TXD3
G2 HPS_IOB_11, GPIO1_IO10, JTAG_TDO, SPIS0_SS0_N, MDIO0_MDIO, I2C_EMAC0_SDA, NAND_ADQ6, EMAC1_RXD2
AD9 HPS_IOB_12, GPIO1_IO11, JTAG_TDI, SPIS0_MISO, MDIO0_MDC, I2C_EMAC0_SCL, NAND_ADQ7, EMAC1_RXD3
V3 HPS_IOB_13, GPIO1_IO12, I2C1_SDA, NAND_ALE, SDMMC_DATA0, EMAC2_TX_CLK
AB9 HPS_IOB_14, GPIO1_IO13, I2C1_SCL, NAND_RB, SDMMC_CMD, EMAC2_TX_CTL
T3 HPS_IOB_15, GPIO1_IO14, UART1_TX, NAND_CE_N, SDMMC_CCLK, EMAC2_RX_CLK
AC10 HPS_IOB_16, GPIO1_IO15, UART1_RX, SDMMC_DATA1, EMAC2_RX_CTL
P3 HPS_IOB_17, GPIO1_IO16, UART1_CTS_N, NAND_ADQ8, SDMMC_DATA2, EMAC2_TXD0
AD11 HPS_IOB_18, GPIO1_IO17, SPIM0_SS1_N, UART1_RTS_N, NAND_ADQ9, SDMMC_DATA3, EMAC2_TXD1
M3 HPS_IOB_19, GPIO1_IO18, SPIM0_MISO, MDIO1_MDIO, I2C_EMAC1_SDA, NAND_ADQ10, SDMMC_DATA4, EMAC2_RXD0
AC12 HPS_IOB_20, GPIO1_IO19, SPIM0_SS0_N, MDIO1_MDC, I2C_EMAC1_SCL, NAND_ADQ11, SDMMC_DATA5, EMAC2_RXD1
H3 HPS_IOB_21, GPIO1_IO20, SPIM0_CLK, SPIS1_CLK, I2C_EMAC2_SDA, NAND_ADQ12, SDMMC_DATA6, EMAC2_TXD2
AD13 HPS_IOB_22, GPIO1_IO21, SPIM0_MOSI, SPIS1_MOSI, I2C_EMAC2_SCL, NAND_ADQ13, SDMMC_DATA7, EMAC2_TXD3
F3 HPS_IOB_23, GPIO1_IO22, SPIM0_MISO, SPIS1_SS0_N, MDIO0_MDIO, I2C_EMAC0_SDA, NAND_ADQ14, EMAC2_RXD2
HPS_IOB_24, GPIO1_IO23, SPIM0_SS0_N, SPIS1_MISO, MDIO0_MDC, I2C_EMAC0_SCL, NAND_ADQ15, EMAC2_RXD3

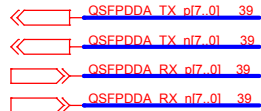
AH19 DNU6
AJ20 DNU7

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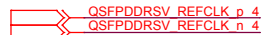
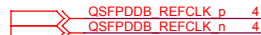
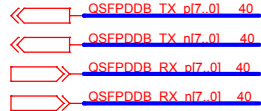
AGFB014R24B1E1V

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| Title | | |
| DE10-Agilex Board | | |
| Size | Document Number | Rev |
| B | FPGA Bank HPS | C |
| Date: | Thursday, October 07, 2021 | Sheet 20 of 52 |

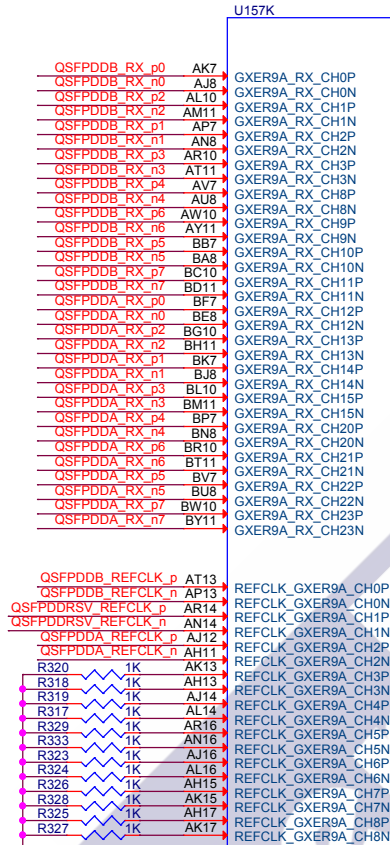
QSFPDD Port A Transceivers



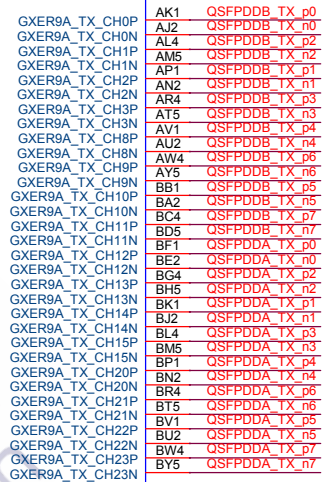
QSFPDD Port B Transceivers



FPGA Temperature diode




Bank 9A



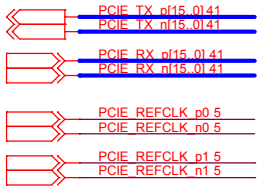
IO_AUX_RREF20

TEMPDIODE4P
TEMPDIODE4N

DNU16
DNU17
DNU18
DNU19

| | | |
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| Title DE10-Agilex Board | | |
| Size B | Document Number FPGA Bank 9A E-tile | Rev C |
| Date: | Thursday, October 07, 2021 | Sheet 21 of 52 |

PCIe Transceiver



PCIE_PERST_n_41

FPGA Temperature diode



