



| Bank Number | VREF | PinName/Function (2) | Optional Function(s) | Configuration Function | Dedicated TriX Channel | Emulated LVDS Output Channel | U02 | DQS for X8 | DQS for X16 | HMC Pin Assignment for DDR/DDR2 (3) | HMC Pin Assignment for LPDDR2 | HPS Pin Mux Select 3 | HPS Pin Mux Select 2 | HPS Pin Mux Select 1 | HPS Pin Mux Select 0 |
|-------------|-----------|----------------------|----------------------|------------------------|------------------------|------------------------------|------|------------|-------------|-------------------------------------|-------------------------------|----------------------|----------------------|----------------------|----------------------|
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B48b | DIFFOUT_B48b | A200 | DQ08 | DQ18 | B_DQ_26 | B_DQ_26 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B48c | DIFFOUT_B48c | A019 | DQ08 | DQ18 | B_DQ_22 | B_DQ_22 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B49c | DIFFOUT_B49c | A020 | DQ08 | DQ18 | B_DQ_21 | B_DQ_21 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B49d | DIFFOUT_B49d | A020 | DQ08 | DQ18 | B_DQ_23 | B_DQ_23 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B48d | DIFFOUT_B48d | A020 | DQ08 | DQ18 | B_DM_2 | B_DM_2 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B50a | DIFFOUT_B50a | A021 | DQ7b | DQ2b | B_DQ_24 | B_DQ_24 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B50b | DIFFOUT_B50b | A021 | DQ7b | DQ2b | B_DQ_28 | B_DQ_28 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B50c | DIFFOUT_B50c | A022 | DQ7b | DQ2b | B_DQ_25 | B_DQ_25 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B51a | DIFFOUT_B51a | A022 | DQ5/7b | DQ2b | B_DQ5#_3 | B_DQ5#_3 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B51b | DIFFOUT_B51b | A021 | DQ7b | DQ2b | B_DQ_27 | B_DQ_27 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B51c | DIFFOUT_B51c | A023 | DQ5/7b | DQ2b | B_DQ5#_3 | B_DQ5#_3 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B52a | DIFFOUT_B52a | A022 | DQ7b | DQ2b | QND | QND | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B52b | DIFFOUT_B52b | A023 | DQ7b | DQ2b | B_DQ_28 | B_DQ_28 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B53a | DIFFOUT_B53a | A023 | DQ7b | DQ2b | B_DQ_30 | B_DQ_30 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B53b | DIFFOUT_B53b | A023 | DQ7b | DQ2b | B_DQ_29 | B_DQ_29 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B54a | DIFFOUT_B54a | A024 | DQ7b | DQ2b | B_DQ_31 | B_DQ_31 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B54b | DIFFOUT_B54b | A024 | DQ7b | DQ2b | B_DM_3 | B_DM_3 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B55a | DIFFOUT_B55a | A023 | DQ8b | DQ2b | B_DQ_32 | B_DQ_32 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B55b | DIFFOUT_B55b | A024 | DQ8b | DQ2b | B_DQ_34 | B_DQ_34 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B56a | DIFFOUT_B56a | A023 | DQ8b | DQ2b | B_DQ_33 | B_DQ_33 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B56b | DIFFOUT_B56b | A023 | DQ8b | DQ2b | B_DQ5#_4 | B_DQ5#_4 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B57a | DIFFOUT_B57a | A022 | DQ8b | DQ2b | B_DQ_35 | B_DQ_35 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B57b | DIFFOUT_B57b | A022 | DQ8b | DQ2b | B_DQ5#_4 | B_DQ5#_4 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B58a | DIFFOUT_B58a | A021 | DQ8b | DQ2b | QND | QND | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B58b | DIFFOUT_B58b | A025 | DQ8b | DQ2b | B_DQ_36 | B_DQ_36 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B59a | DIFFOUT_B59a | A028 | DQ8b | DQ2b | B_DQ_38 | B_DQ_38 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B59b | DIFFOUT_B59b | A028 | DQ8b | DQ2b | B_DQ_37 | B_DQ_37 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B60a | DIFFOUT_B60a | A028 | DQ8b | DQ2b | B_DQ_39 | B_DQ_39 | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B60b | DIFFOUT_B60b | A028 | DQ8b | DQ2b | B_DM_4 | B_DM_4 | | | | |
| 4A | VREFBIAND | ID | RZQ_1 | | DIFFIO_TX_B61a | DIFFOUT_B61a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B61b | DIFFOUT_B61b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B62a | DIFFOUT_B62a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B62b | DIFFOUT_B62b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B63a | DIFFOUT_B63a | A027 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B63b | DIFFOUT_B63b | A027 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B64a | DIFFOUT_B64a | A027 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B64b | DIFFOUT_B64b | A027 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B65a | DIFFOUT_B65a | A027 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B65b | DIFFOUT_B65b | A027 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B66a | DIFFOUT_B66a | A027 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B66b | DIFFOUT_B66b | A027 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B67a | DIFFOUT_B67a | A025 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B67b | DIFFOUT_B67b | A025 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B68a | DIFFOUT_B68a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B68b | DIFFOUT_B68b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B69a | DIFFOUT_B69a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B69b | DIFFOUT_B69b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B70a | DIFFOUT_B70a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B70b | DIFFOUT_B70b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B71a | DIFFOUT_B71a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B71b | DIFFOUT_B71b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B72a | DIFFOUT_B72a | A025 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B72b | DIFFOUT_B72b | A025 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B73a | DIFFOUT_B73a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B73b | DIFFOUT_B73b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B74a | DIFFOUT_B74a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B74b | DIFFOUT_B74b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B75a | DIFFOUT_B75a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B75b | DIFFOUT_B75b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B76a | DIFFOUT_B76a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B76b | DIFFOUT_B76b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B77a | DIFFOUT_B77a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B77b | DIFFOUT_B77b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B78a | DIFFOUT_B78a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B78b | DIFFOUT_B78b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B79a | DIFFOUT_B79a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B79b | DIFFOUT_B79b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B80a | DIFFOUT_B80a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B80b | DIFFOUT_B80b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B81a | DIFFOUT_B81a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B81b | DIFFOUT_B81b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B82a | DIFFOUT_B82a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B82b | DIFFOUT_B82b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B83a | DIFFOUT_B83a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B83b | DIFFOUT_B83b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B84a | DIFFOUT_B84a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B84b | DIFFOUT_B84b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B85a | DIFFOUT_B85a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B85b | DIFFOUT_B85b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B86a | DIFFOUT_B86a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B86b | DIFFOUT_B86b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B87a | DIFFOUT_B87a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B87b | DIFFOUT_B87b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B88a | DIFFOUT_B88a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B88b | DIFFOUT_B88b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B89a | DIFFOUT_B89a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B89b | DIFFOUT_B89b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B90a | DIFFOUT_B90a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B90b | DIFFOUT_B90b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B91a | DIFFOUT_B91a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B91b | DIFFOUT_B91b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B92a | DIFFOUT_B92a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B92b | DIFFOUT_B92b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B93a | DIFFOUT_B93a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B93b | DIFFOUT_B93b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B94a | DIFFOUT_B94a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B94b | DIFFOUT_B94b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B95a | DIFFOUT_B95a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B95b | DIFFOUT_B95b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B96a | DIFFOUT_B96a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B96b | DIFFOUT_B96b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B97a | DIFFOUT_B97a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B97b | DIFFOUT_B97b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B98a | DIFFOUT_B98a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B98b | DIFFOUT_B98b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B99a | DIFFOUT_B99a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B99b | DIFFOUT_B99b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B00a | DIFFOUT_B00a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B00b | DIFFOUT_B00b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B01a | DIFFOUT_B01a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_RX_B01b | DIFFOUT_B01b | A028 | DQ8b | DQ2b | | | | | | |
| 4A | VREFBIAND | ID | | | DIFFIO_TX_B02a | DIFFOUT_B02a | A028 | DQ8b | DQ2b | | | | | | |
| 4A | | | | | | | | | | | | | | | |



| Bank Number | VREF | PinName/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | UEF2 | DQS for X8 | DQS for X16 | HMC Pin Assignment for DDRx/DDR2 (2) | HMC Pin Assignment for LPDDR2 | HPS Pin Mux Select 3 | HPS Pin Mux Select 2 | HPS Pin Mux Select 1 | HPS Pin Mux Select 0 |
|-------------|-----------|----------------------|--|------------------------|-------------------------|------------------------------|------|------------|-------------|--------------------------------------|-------------------------------|----------------------|----------------------|----------------------|----------------------|
| 6A | VREFBIAND | HPS DDR | | | | | D0 | | | HPS_A_6 | HPS_CA_6 | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | D06 | | | HPS_A_3 | HPS_CA_3 | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | D01 | | | HPS_CA | HPS_CA | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | D06 | | | HPS_A_6 | HPS_CA_6 | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | D09 | | | HPS_CA6 | HPS_CA6 | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | D06 | | | HPS_A_7 | HPS_CA_7 | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | D05 | | | HPS_BA_11 | | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | A27 | | | HPS_BA_0 | | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | G26 | | | HPS_BA_2 | | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | A26 | | | HPS_C046 | | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | A25 | | | HPS_RAS0 | | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | F26 | | | HPS_A_8 | HPS_CA_8 | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | A24 | | | HPS_A_10 | | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | F25 | | | HPS_A_9 | HPS_CA_9 | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | B04 | | | HPS_A_11 | | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | D21 | | | HPS_C06_0 | HPS_C06_0 | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | D04 | | | HPS_A_12 | | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | L07 | | | HPS_C06_1 | HPS_C06_1 | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | C04 | | | HPS_A_13 | | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | G23 | | | HPS_A_14 | | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | C04 | | | HPS_W06 | | | | | |
| 6A | VREFBIAND | HPS DDR | | | | | F24 | | | HPS_A_15 | | | | | |
| 6A | VREFBIAND | HPS R20_0 | | | | | D05 | | | | | | | | |
| 7A | | GND | | | | | F23 | | | | | | | | |
| 7A | | GND | | | | | E23 | | | | | | | | |
| 7A | | HPS_HRST | | | | | A23 | | | | | | | | |
| 7A | | HPS_H0R0 | | | | | H18 | | | | | | | | |
| 7A | | HPS_YD0 | | | | | B23 | | | | | | | | |
| 7A | | VCCRSTCLK_HPS | | | | | J19 | | | | | | | | |
| 7A | | HPS_TMS | | | | | C23 | | | | | | | | |
| 7A | | HPS_TCK | | | | | K19 | | | | | | | | |
| 7A | | HPS_TRST | | | | | C22 | | | | | | | | |
| 7A | | HPS_TDI | | | | | D22 | | | | | | | | |
| 7A | | GND | | | | | D21 | | | | | | | | |
| 7A | | HPS_PORSEL | | | | | E18 | | | | | | | | |
| 7A | | HPS_CLK2 | | | | | E20 | | | | | | | | |
| 7A | | HPS_CLK2 | | | | | D00 | | | | | | | | |
| 7A | VREFBIAND | TRACE_CLK | | | | | C21 | | | | | TRACE_CLK | | | HPS_GPD08 |
| 7A | VREFBIAND | TRACE_D0 | | | | | A20 | | | | | TRACE_D0 | SPIS0_CLK | UART0_RX | HPS_GPD09 |
| 7A | VREFBIAND | TRACE_D1 | | | | | B21 | | | | | TRACE_D1 | SPIS0_MOSI | UART0_TX | HPS_GPD00 |
| 7A | VREFBIAND | TRACE_D2 | | | | | A21 | | | | | TRACE_D2 | SPIS0_MISO | I2C1_SDA | HPS_GPD01 |
| 7A | VREFBIAND | TRACE_D3 | | | | | K18 | | | | | TRACE_D3 | SPIS0_SS0 | I2C1_SCL | HPS_GPD02 |
| 7A | VREFBIAND | TRACE_D4 | | | | | A20 | | | | | TRACE_D4 | SPIS0_CLK | CAN0_RX | HPS_GPD03 |
| 7A | VREFBIAND | TRACE_D5 | | | | | J18 | | | | | TRACE_D5 | SPIS0_MOSI | CAN0_TX | HPS_GPD04 |
| 7A | VREFBIAND | TRACE_D6 | | | | | H18 | | | | | TRACE_D6 | SPIS0_SS0 | I2C1_SDA | HPS_GPD05 |
| 7A | VREFBIAND | TRACE_D7 | | | | | C18 | | | | | TRACE_D7 | SPIS0_MISO | I2C1_SCL | HPS_GPD06 |
| 7A | VREFBIAND | SPIM0_CLK | | | | | A18 | | | | | SPIM0_CLK | I2C1_SDA | UART0_CTS | HPS_GPD07 |
| 7A | VREFBIAND | SPIM0_MOSI | | | | | C17 | | | | | SPIM0_MOSI | I2C1_SCL | UART0_RTS | HPS_GPD08 |
| 7A | VREFBIAND | SPIM0_MISO | | | | | B17 | | | | | SPIM0_MISO | CAN0_RX | UART1_CTS | HPS_GPD09 |
| 7A | VREFBIAND | SPIM0_SS0 | | | | | J17 | | | | | SPIM0_SS0 | CAN0_TX | UART1_RTS | HPS_GPD00 |
| 7A | VREFBIAND | UART0_RX_CLKSEL1 | | | | | A17 | | | | | UART0_RX | SPM0_S01 | | HPS_GPD01 |
| 7A | VREFBIAND | UART0_TX_CLKSEL1 | | | | | H17 | | | | | UART0_TX | SPM0_S01 | | HPS_GPD02 |
| 7A | VREFBIAND | I2C1_SDA | | | | | C19 | | | | | I2C1_SDA | UART1_RX | SPM1_CLK | HPS_GPD03 |
| 7A | VREFBIAND | I2C1_SCL | | | | | B16 | | | | | I2C1_SCL | UART1_TX | SPM1_MOSI | HPS_GPD04 |
| 7A | VREFBIAND | CAN0_RX | | | | | B19 | | | | | CAN0_RX | SPM1_MISO | | HPS_GPD05 |
| 7A | VREFBIAND | CAN0_TX_CLKSEL0 | | | | | C16 | | | | | CAN0_TX | UART0_TX | SPM1_SS0 | HPS_GPD06 |
| 7B | VREFBIAND | NAND_ALE | | | | | J15 | | | | | NAND_ALE | RGMI1_TX_CLK | | HPS_GPD14 |
| 7B | VREFBIAND | NAND_CE | | | | | A16 | | | | | NAND_CE | RGMI1_TXD0 | USB1_D0 | HPS_GPD15 |
| 7B | VREFBIAND | NAND_CLE | | | | | J14 | | | | | NAND_CLE | RGMI1_TXD1 | USB1_D1 | HPS_GPD16 |
| 7B | VREFBIAND | NAND_RE | | | | | A15 | | | | | NAND_RE | RGMI1_TXD2 | USB1_D2 | HPS_GPD17 |
| 7B | VREFBIAND | NAND_RB | | | | | D17 | | | | | NAND_RB | RGMI1_TXD3 | USB1_D3 | HPS_GPD18 |
| 7B | VREFBIAND | NAND_D00 | | | | | A14 | | | | | NAND_D00 | RGMI1_RXD0 | | HPS_GPD19 |
| 7B | VREFBIAND | NAND_D01 | | | | | E16 | | | | | NAND_D01 | RGMI1_RXD1 | I2C1_SDA | HPS_GPD20 |
| 7B | VREFBIAND | NAND_D02 | | | | | A13 | | | | | NAND_D02 | RGMI1_RXD2 | I2C1_SCL | HPS_GPD21 |
| 7B | VREFBIAND | NAND_D03 | | | | | J13 | | | | | NAND_D03 | RGMI1_RX_CTL | USB1_D4 | HPS_GPD22 |
| 7B | VREFBIAND | NAND_D04 | | | | | A12 | | | | | NAND_D04 | RGMI1_TX_CTL | USB1_D5 | HPS_GPD23 |
| 7B | VREFBIAND | NAND_D05 | | | | | J12 | | | | | NAND_D05 | RGMI1_RX_CLK | USB1_D6 | HPS_GPD24 |
| 7B | VREFBIAND | NAND_D06 | | | | | A11 | | | | | NAND_D06 | RGMI1_RXD1 | USB1_D7 | HPS_GPD25 |
| 7B | VREFBIAND | NAND_D07 | | | | | C15 | | | | | NAND_D07 | RGMI1_RXD0 | | HPS_GPD26 |
| 7B | VREFBIAND | NAND_WP | | | | | A9 | | | | | NAND_WP | RGMI1_RXD3 | OSPI_SS2 | HPS_GPD27 |
| 7B | VREFBIAND | NAND_WP_BOOTSEL2 | | | | | D16 | | | | | NAND_WP | OSPI_S01 | | HPS_GPD28 |
| 7B | VREFBIAND | OSPI_A00 | | | | | A8 | | | | | OSPI_A00 | USB1_CLK | | HPS_GPD29 |
| 7B | VREFBIAND | OSPI_A01 | | | | | H16 | | | | | OSPI_A01 | USB1_STP | | HPS_GPD30 |
| 7B | VREFBIAND | OSPI_A02 | | | | | A7 | | | | | OSPI_A02 | USB1_DM0 | | HPS_GPD31 |
| 7B | VREFBIAND | OSPI_A03 | | | | | J15 | | | | | OSPI_A03 | USB1_NXT | | HPS_GPD32 |
| 7B | VREFBIAND | OSPI_SS0_BOOTSEL1 | | | | | A6 | | | | | OSPI_SS0 | | | HPS_GPD33 |
| 7B | VREFBIAND | OSPI_CLK | | | | | C14 | | | | | OSPI_CLK | | | HPS_GPD34 |
| 7B | VREFBIAND | OSPI_S01 | | | | | B14 | | | | | OSPI_S01 | | | HPS_GPD35 |
| 7C | VREFBIAND | SDMMC_CMD | | | | | D14 | | | | | SDMMC_CMD | USB0_D0 | | HPS_GPD36 |
| 7C | VREFBIAND | SDMMC_A019EN | | | | | A6 | | | | | SDMMC_A019EN | USB0_D1 | | HPS_GPD37 |
| 7C | VREFBIAND | SDMMC_D0 | | | | | C13 | | | | | SDMMC_D0 | USB0_D2 | | HPS_GPD38 |
| 7C | VREFBIAND | SDMMC_D1 | | | | | B6 | | | | | SDMMC_D1 | USB0_D3 | | HPS_GPD39 |
| 7C | VREFBIAND | SDMMC_D4 | | | | | H13 | | | | | SDMMC_D4 | USB0_D4 | | HPS_GPD40 |
| 7C | VREFBIAND | SDMMC_D5 | | | | | A4 | | | | | SDMMC_D5 | USB0_D5 | | HPS_GPD41 |
| 7C | VREFBIAND | SDMMC_D6 | | | | | H12 | | | | | SDMMC_D6 | USB0_D6 | | HPS_GPD42 |
| 7C | VREFBIAND | SDMMC_D7 | | | | | B4 | | | | | SDMMC_D7 | USB0_D7 | | HPS_GPD43 |
| 7C | VREFBIAND | SDMMC_GPI044 | | | | | B12 | | | | | SDMMC_D8 | USB0_CLK | | HPS_GPD44 |
| 7C | VREFBIAND | SDMMC_CCLK_OUT | | | | | B9 | | | | | SDMMC_CCLK_OUT | USB0_STP | | HPS_GPD45 |
| 7C | VREFBIAND | SDMMC_D3 | | | | | B11 | | | | | SDMMC_D3 | USB0_DR | | HPS_GPD46 |
| 7C | VREFBIAND | SDMMC_D3 | | | | | B9 | | | | | SDMMC_D3 | USB0_NXT | | HPS_GPD47 |
| 7D | VREFBIAND | RGMI0_TX_CLK | | | | | E4 | | | | | RGMI0_TX_CLK | | | HPS_GPD0 |
| 7D | VREFBIAND | RGMI0_TXD0 | | | | | C10 | | | | | RGMI0_TXD0 | USB1_D0 | | HPS_GPD01 |
| 7D | VREFBIAND | RGMI0_TXD1 | | | | | E5 | | | | | RGMI0_TXD1 | USB1_D1 | | HPS_GPD02 |
| 7D | VREFBIAND | RGMI0_TXD2 | | | | | C9 | | | | | RGMI0_TXD2 | USB1_D2 | | HPS_GPD03 |
| 7D | VREFBIAND | RGMI0_TXD3 | | | | | C4 | | | | | RGMI0_TXD3 | USB1_D3 | | HPS_GPD04 |
| 7D | VREFBIAND | RGMI0_RXD0 | | | | | C8 | | | | | RGMI0_RXD0 | USB1_D4 | | HPS_GPD05 |
| 7D | VREFBIAND | RGMI0_RXD1 | | | | | D4 | | | | | RGMI0_RXD1 | USB1_D5 | | HPS_GPD06 |
| 7D | VREFBIAND | RGMI0_RXD2 | | | | | C7 | | | | | RGMI0_RXD2 | I2C1_SDA | | HPS_GPD07 |
| 7D | VREFBIAND | RGMI0_RX_CTL | | | | | F4 | | | | | RGMI0_RX_CTL | I2C1_SCL | | HPS_GPD08 |
| 7D | VREFBIAND | RGMI0_TX_CTL | | | | | C6 | | | | | RGMI0_TX_CTL | | | HPS_GPD09 |
| 7D | VREFBIAND | RGMI0_RX_CLK | | | | | E4 | | | | | RGMI0_RX_CLK | USB1_CLK | | HPS_GPD10 |
| 7D | VREFBIAND | RGMI0_RXD1 | | | | | C5 | | | | | RGMI0_RXD1 | USB1_STP | | HPS_GPD11 |
| 7D | VREFBIAND | RGMI0_RXD2 | | | | | E5 | | | | | RGMI0_RXD2 | USB1_DR | | HPS_GPD12 |
| 7D | VREFBIAND | RGMI0_RXD3 | | | | | D6 | | | | | RGMI0_RXD3 | USB1_NXT | | HPS_GPD13 |
| 8A | VREFBIAND | ID | CLKp7 | | | | D12 | | | | | | | | |
| 8A | VREFBIAND | ID | CLKm7 | | | | C12 | | | | | | | | |
| 8A | VREFBIAND | ID | FPLL_TL_CLKOUT0,FPLL_TL_CLKOUT1,FPLL_TL_FB | | | | F8 | | | | | | | | |
| 8A | VREFBIAND | ID | FPLL_TL_CLKOUT1,FPLL_TL_CLKOUT2 | | | | D8 | | | | | | | | |
| 8A | VREFBIAND | ID | CLKR6,FPLL_TL_FB0 | | | | E11 | | | | | | | | |
| 8A | VREFBIAND | ID | CLKR6,FPLL_TL_FB1 | | | | D11 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | L10 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | H6 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | L9 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | H5 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | L8 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | H8 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | H6 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | J10 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | J8 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | H8 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | E8 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | G8 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | H5 | | | | | | | | |
| 8A | VREFBIAND | ID | | | | | F7 | | | | | | | | |



| Bank Number | VREF | PinName/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | U02 | DQS for X8 | DQS for X16 | HMC Pin Assignment for DDR3/DDR2 (3) | HMC Pin Assignment for LPDDR2 | HPS Pin Mux Select 3 | HPS Pin Mux Select 2 | HPS Pin Mux Select 1 | HPS Pin Mux Select 0 |
|-------------|------|----------------------|----------------------|------------------------|-------------------------|------------------------------|------|------------|-------------|--------------------------------------|-------------------------------|----------------------|----------------------|----------------------|----------------------|
| | | MSEL4 | | MSEL4 | | | K3 | | | | | | | | |
| | | GND | | | | | F8 | | | | | | | | |
| | | GND | | | | | A10 | | | | | | | | |
| | | GND | | | | | A3 | | | | | | | | |
| | | GND | | | | | AA1 | | | | | | | | |
| | | GND | | | | | AA7 | | | | | | | | |
| | | GND | | | | | AA2 | | | | | | | | |
| | | GND | | | | | AA3 | | | | | | | | |
| | | GND | | | | | AA9 | | | | | | | | |
| | | GND | | | | | AB4 | | | | | | | | |
| | | GND | | | | | AB27 | | | | | | | | |
| | | GND | | | | | AB3 | | | | | | | | |
| | | GND | | | | | AC1 | | | | | | | | |
| | | GND | | | | | AC2 | | | | | | | | |
| | | GND | | | | | AC3 | | | | | | | | |
| | | GND | | | | | AD14 | | | | | | | | |
| | | GND | | | | | AD22 | | | | | | | | |
| | | GND | | | | | AD35 | | | | | | | | |
| | | GND | | | | | AD3 | | | | | | | | |
| | | GND | | | | | AD6 | | | | | | | | |
| | | GND | | | | | AD8 | | | | | | | | |
| | | GND | | | | | AE1 | | | | | | | | |
| | | GND | | | | | AE16 | | | | | | | | |
| | | GND | | | | | AE16 | | | | | | | | |
| | | GND | | | | | AE2 | | | | | | | | |
| | | GND | | | | | AE3 | | | | | | | | |
| | | GND | | | | | AF34 | | | | | | | | |
| | | GND | | | | | AF3 | | | | | | | | |
| | | GND | | | | | AG1 | | | | | | | | |
| | | GND | | | | | AG17 | | | | | | | | |
| | | GND | | | | | AG2 | | | | | | | | |
| | | GND | | | | | AG27 | | | | | | | | |
| | | GND | | | | | AG3 | | | | | | | | |
| | | GND | | | | | AG7 | | | | | | | | |
| | | GND | | | | | AH10 | | | | | | | | |
| | | GND | | | | | AH20 | | | | | | | | |
| | | GND | | | | | B15 | | | | | | | | |
| | | GND | | | | | B17 | | | | | | | | |
| | | GND | | | | | B20 | | | | | | | | |
| | | GND | | | | | B22 | | | | | | | | |
| | | GND | | | | | B25 | | | | | | | | |
| | | GND | | | | | B27 | | | | | | | | |
| | | GND | | | | | B3 | | | | | | | | |
| | | GND | | | | | B5 | | | | | | | | |
| | | GND | | | | | B7 | | | | | | | | |
| | | GND | | | | | C1 | | | | | | | | |
| | | GND | | | | | C11 | | | | | | | | |
| | | GND | | | | | C2 | | | | | | | | |
| | | GND | | | | | C3 | | | | | | | | |
| | | GND | | | | | D10 | | | | | | | | |
| | | GND | | | | | D13 | | | | | | | | |
| | | GND | | | | | D16 | | | | | | | | |
| | | GND | | | | | D3 | | | | | | | | |
| | | GND | | | | | E1 | | | | | | | | |
| | | GND | | | | | E19 | | | | | | | | |
| | | GND | | | | | E2 | | | | | | | | |
| | | GND | | | | | E22 | | | | | | | | |
| | | GND | | | | | E24 | | | | | | | | |
| | | GND | | | | | E27 | | | | | | | | |
| | | GND | | | | | E3 | | | | | | | | |
| | | GND | | | | | E9 | | | | | | | | |
| | | GND | | | | | F3 | | | | | | | | |
| | | GND | | | | | F51 | | | | | | | | |
| | | GND | | | | | G2 | | | | | | | | |
| | | GND | | | | | G3 | | | | | | | | |
| | | GND | | | | | H11 | | | | | | | | |
| | | GND | | | | | H15 | | | | | | | | |
| | | GND | | | | | H16 | | | | | | | | |
| | | GND | | | | | H20 | | | | | | | | |
| | | GND | | | | | H24 | | | | | | | | |
| | | GND | | | | | H27 | | | | | | | | |
| | | GND | | | | | H5 | | | | | | | | |
| | | GND | | | | | V3 | | | | | | | | |
| | | GND | | | | | V20 | | | | | | | | |
| | | GND | | | | | V20 | | | | | | | | |
| | | GND | | | | | J1 | | | | | | | | |
| | | GND | | | | | J5 | | | | | | | | |
| | | GND | | | | | J5 | | | | | | | | |
| | | GND | | | | | J5 | | | | | | | | |
| | | GND | | | | | J8 | | | | | | | | |
| | | GND | | | | | K11 | | | | | | | | |
| | | GND | | | | | K12 | | | | | | | | |
| | | GND | | | | | K14 | | | | | | | | |
| | | GND | | | | | K16 | | | | | | | | |
| | | GND | | | | | K20 | | | | | | | | |
| | | GND | | | | | K3 | | | | | | | | |
| | | GND | | | | | K4 | | | | | | | | |
| | | GND | | | | | Y14 | | | | | | | | |
| | | GND | | | | | L1 | | | | | | | | |
| | | GND | | | | | Y12 | | | | | | | | |
| | | GND | | | | | L13 | | | | | | | | |
| | | GND | | | | | L15 | | | | | | | | |
| | | GND | | | | | L17 | | | | | | | | |
| | | GND | | | | | L19 | | | | | | | | |
| | | GND | | | | | L2 | | | | | | | | |
| | | GND | | | | | L24 | | | | | | | | |
| | | GND | | | | | L27 | | | | | | | | |
| | | GND | | | | | L3 | | | | | | | | |
| | | GND | | | | | L5 | | | | | | | | |
| | | GND | | | | | U4 | | | | | | | | |
| | | GND | | | | | U5 | | | | | | | | |
| | | GND | | | | | M10 | | | | | | | | |
| | | GND | | | | | M11 | | | | | | | | |
| | | GND | | | | | M14 | | | | | | | | |
| | | GND | | | | | M16 | | | | | | | | |
| | | GND | | | | | M20 | | | | | | | | |
| | | GND | | | | | M3 | | | | | | | | |
| | | GND | | | | | M8 | | | | | | | | |
| | | GND | | | | | N1 | | | | | | | | |
| | | GND | | | | | N13 | | | | | | | | |
| | | GND | | | | | N15 | | | | | | | | |
| | | GND | | | | | N17 | | | | | | | | |
| | | GND | | | | | N19 | | | | | | | | |
| | | GND | | | | | N2 | | | | | | | | |
| | | GND | | | | | N3 | | | | | | | | |
| | | GND | | | | | N6 | | | | | | | | |
| | | GND | | | | | P10 | | | | | | | | |
| | | GND | | | | | P16 | | | | | | | | |
| | | GND | | | | | P18 | | | | | | | | |
| | | GND | | | | | P20 | | | | | | | | |
| | | GND | | | | | P25 | | | | | | | | |
| | | GND | | | | | P3 | | | | | | | | |
| | | GND | | | | | P5 | | | | | | | | |
| | | GND | | | | | P5 | | | | | | | | |



| Bank Number | VREF | PinName/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | U62 | DQS for X8 | DQS for X16 | HMC Pin Assignment for DDR3/DDR2 (3) | HMC Pin Assignment for LPDDR2 | HPS Pin Mux Select 3 | HPS Pin Mux Select 2 | HPS Pin Mux Select 1 | HPS Pin Mux Select 0 |
|-------------|------|----------------------|----------------------|------------------------|-------------------------|------------------------------|------|------------|-------------|--------------------------------------|-------------------------------|----------------------|----------------------|----------------------|----------------------|
| | | GND | | | | | R1 | | | | | | | | |
| | | GND | | | | | R11 | | | | | | | | |
| | | GND | | | | | R13 | | | | | | | | |
| | | GND | | | | | R15 | | | | | | | | |
| | | GND | | | | | R2 | | | | | | | | |
| | | GND | | | | | R3 | | | | | | | | |
| | | GND | | | | | R8 | | | | | | | | |
| | | GND | | | | | T10 | | | | | | | | |
| | | GND | | | | | T14 | | | | | | | | |
| | | GND | | | | | T3 | | | | | | | | |
| | | GND | | | | | U1 | | | | | | | | |
| | | GND | | | | | U12 | | | | | | | | |
| | | GND | | | | | U17 | | | | | | | | |
| | | GND | | | | | U2 | | | | | | | | |
| | | GND | | | | | U20 | | | | | | | | |
| | | GND | | | | | U25 | | | | | | | | |
| | | GND | | | | | U27 | | | | | | | | |
| | | GND | | | | | U3 | | | | | | | | |
| | | GND | | | | | U5 | | | | | | | | |
| | | GND | | | | | U14 | | | | | | | | |
| | | GND | | | | | U3 | | | | | | | | |
| | | GND | | | | | U5 | | | | | | | | |
| | | GND | | | | | V9 | | | | | | | | |
| | | GND | | | | | W1 | | | | | | | | |
| | | GND | | | | | W16 | | | | | | | | |
| | | GND | | | | | W19 | | | | | | | | |
| | | GND | | | | | W2 | | | | | | | | |
| | | GND | | | | | W25 | | | | | | | | |
| | | GND | | | | | W24 | | | | | | | | |
| | | GND | | | | | Y24 | | | | | | | | |
| | | GND | | | | | AA26 | | | | | | | | |
| | | GND | | | | | W20 | | | | | | | | |
| | | GND | | | | | AB26 | | | | | | | | |
| | | GND | | | | | W21 | | | | | | | | |
| | | GND | | | | | U26 | | | | | | | | |
| | | GND | | | | | U21 | | | | | | | | |
| | | VCC | | | | | J11 | | | | | | | | |
| | | VCC | | | | | K13 | | | | | | | | |
| | | VCC | | | | | K15 | | | | | | | | |
| | | VCC | | | | | L11 | | | | | | | | |
| | | VCC | | | | | L12 | | | | | | | | |
| | | VCC | | | | | L14 | | | | | | | | |
| | | VCC | | | | | M12 | | | | | | | | |
| | | VCC | | | | | M13 | | | | | | | | |
| | | VCC | | | | | M15 | | | | | | | | |
| | | VCC | | | | | M8 | | | | | | | | |
| | | VCC | | | | | N10 | | | | | | | | |
| | | VCC | | | | | N11 | | | | | | | | |
| | | VCC | | | | | N12 | | | | | | | | |
| | | VCC | | | | | N14 | | | | | | | | |
| | | VCC | | | | | N8 | | | | | | | | |
| | | VCC | | | | | P11 | | | | | | | | |
| | | VCC | | | | | P13 | | | | | | | | |
| | | VCC | | | | | P14 | | | | | | | | |
| | | VCC | | | | | P15 | | | | | | | | |
| | | VCC | | | | | R10 | | | | | | | | |
| | | VCC | | | | | R12 | | | | | | | | |
| | | VCC | | | | | R14 | | | | | | | | |
| | | VCC | | | | | R9 | | | | | | | | |
| | | VCC | | | | | T15 | | | | | | | | |
| | | VCC | | | | | T9 | | | | | | | | |
| | | VCC | | | | | U26 | | | | | | | | |
| | | DNU | | | | | A2 | | | | | | | | |
| | | DNU | | | | | B2 | | | | | | | | |
| | | DNU | | | | | D23 | | | | | | | | |
| | | DNU | | | | | E12 | | | | | | | | |
| | | DNU | | | | | U8 | | | | | | | | |
| | | DNU | | | | | U614 | | | | | | | | |
| | | VCCP0GM | | | | | V10 | | | | | | | | |
| | | VCCP0GM | | | | | AD24 | | | | | | | | |
| | | VCCP0GM | | | | | H19 | | | | | | | | |
| | | VCCP0AT | | | | | D7 | | | | | | | | |
| | | VCCD03A | | | | | AA5 | | | | | | | | |
| | | VCCD03A | | | | | H19 | | | | | | | | |
| | | VCCD03B | | | | | AA12 | | | | | | | | |
| | | VCCD03B | | | | | AE10 | | | | | | | | |
| | | VCCD03B | | | | | AE13 | | | | | | | | |
| | | VCCD03B | | | | | AG4 | | | | | | | | |
| | | VCCD04A | | | | | AA16 | | | | | | | | |
| | | VCCD04A | | | | | AE21 | | | | | | | | |
| | | VCCD04A | | | | | AF14 | | | | | | | | |
| | | VCCD04A | | | | | AF19 | | | | | | | | |
| | | VCCD04A | | | | | AG13 | | | | | | | | |
| | | VCCD04A | | | | | AG22 | | | | | | | | |
| | | VCCD04A | | | | | AH15 | | | | | | | | |
| | | VCCD04A | | | | | AH25 | | | | | | | | |
| | | VCCD04A | | | | | W13 | | | | | | | | |
| | | VCCD05A | | | | | AC25 | | | | | | | | |
| | | VCCD06A | | | | | W17 | | | | | | | | |
| | | VCCD06A_HPS | | | | | C25 | | | | | | | | |
| | | VCCD06A_HPS | | | | | C27 | | | | | | | | |
| | | VCCD06A_HPS | | | | | F27 | | | | | | | | |
| | | VCCD06A_HPS | | | | | G24 | | | | | | | | |
| | | VCCD06A_HPS | | | | | H21 | | | | | | | | |
| | | VCCD06A_HPS | | | | | H26 | | | | | | | | |
| | | VCCD06A_HPS | | | | | L26 | | | | | | | | |
| | | VCCD06A_HPS | | | | | M21 | | | | | | | | |
| | | VCCD06B_HPS | | | | | AD27 | | | | | | | | |
| | | VCCD06B_HPS | | | | | P27 | | | | | | | | |
| | | VCCD06B_HPS | | | | | T21 | | | | | | | | |
| | | VCCD06B_HPS | | | | | T26 | | | | | | | | |
| | | VCCD06B_HPS | | | | | U18 | | | | | | | | |
| | | VCCD06B_HPS | | | | | U27 | | | | | | | | |
| | | VCCD07A_HPS | | | | | C29 | | | | | | | | |
| | | VCCD07A_HPS | | | | | D18 | | | | | | | | |
| | | VCCD07B_HPS | | | | | B13 | | | | | | | | |
| | | VCCD07B_HPS | | | | | H14 | | | | | | | | |
| | | VCCD07C_HPS | | | | | B19 | | | | | | | | |
| | | VCCD07D_HPS | | | | | DK | | | | | | | | |
| | | VCCD07D_HPS | | | | | DS | | | | | | | | |
| | | VCCD08A | | | | | E7 | | | | | | | | |
| | | VCCP03A | | | | | AA19 | | | | | | | | |
| | | VCCP03BA | | | | | AA14 | | | | | | | | |
| | | VCCP03BA | | | | | AD13 | | | | | | | | |
| | | VCCP03BA | | | | | AD16 | | | | | | | | |
| | | VCCP03BA | | | | | AD18 | | | | | | | | |
| | | VCCP03BA | | | | | AD21 | | | | | | | | |
| | | VCCP03BA | | | | | AD9 | | | | | | | | |
| | | VCCP03BA | | | | | V21 | | | | | | | | |
| | | VCCP06AB_HPS | | | | | K21 | | | | | | | | |
| | | VCCP06AB_HPS | | | | | K24 | | | | | | | | |
| | | VCCP06AB_HPS | | | | | M24 | | | | | | | | |
| | | VCCP06AB_HPS | | | | | P21 | | | | | | | | |
| | | VCCP06AB_HPS | | | | | P24 | | | | | | | | |
| | | VCCP07A_HPS | | | | | E21 | | | | | | | | |



| Bank Number | VREF | PinName/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | U072 | DQS for X8 | DQS for X16 | HMC Pin Assignment for DDR3/DDR2 (3) | HMC Pin Assignment for LPDDR2 | HPS Pin Mux Select 3 | HPS Pin Mux Select 2 | HPS Pin Mux Select 1 | HPS Pin Mux Select 0 |
|-------------|-----------|-----------------------|-----------------------|------------------------|-------------------------|------------------------------|------|------------|-------------|--------------------------------------|-------------------------------|----------------------|----------------------|----------------------|----------------------|
| | | VCCPDY0_HPS | | | | | E17 | | | | | | | | |
| | | VCCPDY0_HPS | | | | | E14 | | | | | | | | |
| | | VCCPDY0_HPS | | | | | E15 | | | | | | | | |
| | | VCCPDY0_HPS | | | | | E19 | | | | | | | | |
| 3A | VREFB3AND | VREFB3AND | | | | | A65 | | | | | | | | |
| 3B | VREFB3BND | VREFB3BND | | | | | AF12 | | | | | | | | |
| 4A | VREFB4AND | VREFB4AND | | | | | AF16 | | | | | | | | |
| 5A | VREFB5AND | VREFB5AND | | | | | AC26 | | | | | | | | |
| | | VREFB7A/B/C/D/E/G_HPS | VREFB7A/B/C/D/E/G_HPS | | | | D19 | | | | | | | | |
| 8A | VREFB8AND | VREFB8AND | | | | | D9 | | | | | | | | |
| | | NC | | | | | W25 | | | | | | | | |
| | | NC | | | | | AA25 | | | | | | | | |
| | | NC | | | | | W19 | | | | | | | | |
| | | VCC4_GXB1 | | | | | M4 | | | | | | | | |
| | | VCC4_GXB1 | | | | | R4 | | | | | | | | |
| | | VCC4_GXB1 | | | | | L4 | | | | | | | | |
| | | VCC4_GXB1 | | | | | T4 | | | | | | | | |
| | | VCC4_GXB1 | | | | | F22 | | | | | | | | |
| | | MCPS1CLK_HPS | | | | | B1 | | | | | | | | |
| | | MCPS1TL | | | | | | | | | | | | | |
| | | VCCA_FP1L | | | | | K5 | | | | | | | | |
| | | VCCA_FP1L | | | | | R4 | | | | | | | | |
| | | VCCA_FP1L | | | | | U4 | | | | | | | | |
| | | VCCA_FP1L | | | | | U5 | | | | | | | | |
| | | VCCA_FP1L | | | | | J4 | | | | | | | | |
| | | VCCA_FP1L | | | | | AA21 | | | | | | | | |
| | | VCC_AUX | | | | | AC21 | | | | | | | | |
| | | VCC_AUX | | | | | AC6 | | | | | | | | |
| | | VCC_AUX | | | | | AD15 | | | | | | | | |
| | | VCC_AUX | | | | | E16 | | | | | | | | |
| | | VCC_AUX | | | | | F8 | | | | | | | | |
| | | VCC_AUX_SHARED | | | | | F21 | | | | | | | | |
| | | VCC4_GXB1 | | | | | M5 | | | | | | | | |
| | | VCC4_GXB1 | | | | | N5 | | | | | | | | |
| | | VCC4_GXB1 | | | | | R5 | | | | | | | | |
| | | VCC4_GXB1 | | | | | T5 | | | | | | | | |
| | | VCC4_GXB1 | | | | | H23 | | | | | | | | |
| | | VCC_HPS | | | | | U21 | | | | | | | | |
| | | VCC_HPS | | | | | K17 | | | | | | | | |
| | | VCC_HPS | | | | | L16 | | | | | | | | |
| | | VCC_HPS | | | | | L18 | | | | | | | | |
| | | VCC_HPS | | | | | M17 | | | | | | | | |
| | | VCC_HPS | | | | | M19 | | | | | | | | |
| | | VCC_HPS | | | | | M19 | | | | | | | | |
| | | VCC_HPS | | | | | N16 | | | | | | | | |
| | | VCC_HPS | | | | | N19 | | | | | | | | |
| | | VCC_HPS | | | | | P17 | | | | | | | | |
| | | VCC_HPS | | | | | P19 | | | | | | | | |

Notes:

- (1) For more information about pin definitions and pin connection guidelines, refer to the [Cyclone V Device Family Pin Connection Guidelines](#).
- (2) HPS DDR pins are for memory interface only. For the dedicated pin function corresponding with the respective memory interfaces, refer to the HMC columns.
- (3) RESET pin is only applicable for DDR3 device.



Pin Information for the Cyclone® V 5CSXFC4 Device
Version 1.2

| Version Number | Date | Changes Made |
|----------------|------------|--|
| 1.0 | 7/8/2013 | Initial release. |
| 1.1 | 9/30/2014 | Remove corresponding bank number from VCCRSTCLK_HPS pin. |
| 1.2 | 12/23/2016 | -Renamed SDMMC_FB_CLK_IN to HPS_GPIO44. |
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