



Intel® B460 and H410 Chipset Platform Controller Hub

Package Ballout Mechanical Specification

April 2020

Revision 001



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| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|-----------------------------------|--------------|--------------|
| A02 | CL CLK | 10395.965 | 9210.554 |
| A06 | CL DATA | 9403.06 | 9337.554 |
| A02 | CL_RST# | 10427.97 | 7297.554 |
| H1 | CLKOUT_CPUCLK_N | 10305.796 | 8545.156 |
| G1 | CLKOUT_CPUCLK_P | 10813.796 | 7880.096 |
| H1 | CLKOUT_CPUINSC_N | 10813.796 | 8400.796 |
| D2 | CLKOUT_CPUINSC_P | 10303.482 | 8545.676 |
| I3 | CLKOUT_CPUCLK_N | 9887.955 | 7429.245 |
| L2 | CLKOUT_CPUCLK_P | 10395.965 | 7429.245 |
| L2 | CLKOUT_I7PNXP_N | 10427.97 | 6432.205 |
| L3 | CLKOUT_I7PNXP_P | 9928.85 | 6336.03 |
| P8 | CLKOUT_PCE_N0 | 9735.858 | 6389.858 |
| M7 | CLKOUT_PCE_N1 | 9732.318 | 6389.318 |
| P3 | CLKOUT_PCE_N10 | 9897.955 | 6151.955 |
| T2 | CLKOUT_PCE_N11 | 10427.97 | 4158.956 |
| U1 | CLKOUT_PCE_N12 | 10813.796 | 3488.596 |
| V7 | CLKOUT_PCE_N13 | 8175.468 | 1772.158 |
| R3 | CLKOUT_PCE_N14 | 9725.676 | 4542.104 |
| T13 | CLKOUT_PCE_N15 | 5102.088 | 4096.258 |
| H7 | CLKOUT_PCE_N2 | 8181.594 | 8579.594 |
| K7 | CLKOUT_PCE_N3 | 8157.718 | 7090.41 |
| E3 | CLKOUT_PCE_N4 | 9789.922 | 8637.7 |
| C5 | CLKOUT_PCE_N5 | 9072.86 | 10241.28 |
| T8 | CLKOUT_PCE_N6 | 7388.088 | 4696.258 |
| V5 | CLKOUT_PCE_N7 | 9937.498 | 3592.958 |
| V10 | CLKOUT_PCE_N8 | 8951.498 | 1772.158 |
| P2 | CLKOUT_PCE_N9 | 9711.796 | 1039.796 |
| P7 | CLKOUT_PCE_P0 | 7993.796 | 6058.596 |
| M5 | CLKOUT_PCE_P1 | 8994.318 | 4699.318 |
| P10 | CLKOUT_PCE_P10 | 10395.965 | 5195.965 |
| P11 | CLKOUT_PCE_P11 | 9928.86 | 4042.73 |
| BF18 | GPP_A21 / ISH_GP3 | 2368.504 | 10734.802 |
| BG16 | GPP_A22 / ISH_GP4 | 3496.596 | 11131.922 |
| BE19 | GPP_A23 / ISH_GP5 | 1789.43 | 10428.986 |
| AV17 | GPP_A4 / LAD2 / ESP1_IO2 | 3052.958 | 7151.624 |
| BE14 | GPP_A4 / LAD3 / ESP1_IO3 | 4642.104 | 10226.802 |
| BF14 | GPP_A5 / LFRAME / ESP1_CS0# | 4642.104 | 10734.802 |
| BC13 | GPP_A6 / SERIRQ / ESP1_CS1# | 5096.858 | 9206.014 |
| AV13 | GPP_A7 / PMIRQ / ESP1_ALERT0# | 3086.598 | 7732.014 |
| BA15 | GPP_A8 / CLKREQ# | 3096.258 | 8602.224 |
| BE15 | GPP_A9 / CLKOUT / UPG0 / ESP1_CLK | 4062.73 | 10428.986 |
| AV19 | GPP_B0 | 736.396 | 7913.624 |
| A10 | GPP_B1 | 1772.158 | 7151.624 |
| BF23 | GPP_B10 / BRCLKREQ# | 95.504 | 10734.802 |
| AR17 | GPP_B11 | 3092.958 | 567.624 |
| BE24 | GPP_B12 / SLP_S0# | 483.57 | 10428.986 |
| BD24 | GPP_B13 / FLTRST# | 509.27 | 9502.958 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|---------------------------------------|--------------|--------------|
| I2 | CLKOUT_PCE_P12 | 10395.796 | 3488.596 |
| A05 | CLKOUT_PCE_P13 | 9886.098 | 1721.358 |
| R2 | CLKOUT_PCE_P14 | 10234.876 | 4642.104 |
| T11 | CLKOUT_PCE_P15 | 9884.098 | 4066.258 |
| G7 | CLKOUT_PCE_P2 | 7765.208 | 8468.614 |
| K5 | CLKOUT_PCE_P3 | 8915.718 | 7090.41 |
| E4 | CLKOUT_PCE_P4 | 9285.224 | 8603.74 |
| C6 | CLKOUT_PCE_P5 | 8530.182 | 10345.185 |
| T7 | CLKOUT_PCE_P6 | 8150.098 | 4066.258 |
| V7 | CLKOUT_PCE_P7 | 1173.498 | 3092.958 |
| Y11 | CLKOUT_PCE_P8 | 3889.498 | 1772.158 |
| M1 | CLKOUT_PCE_P9 | 10813.796 | 5771.896 |
| A02 | CPI_TRST# | 10234.876 | 8724.296 |
| BC28 | DDPDRST_WP0 | 3992.955 | 9388.024 |
| BC12 | DDPDRST | 1772.158 | 9388.024 |
| AM2 | DSPA_BCLK | 10395.965 | 9337.254 |
| AN2 | DSPA_SDI | 10234.876 | 4451.096 |
| AM3 | DSPA_SDO | 9857.955 | 9337.254 |
| L27 | DM1_RXN0 | 1772.158 | 8389.624 |
| E24 | DM1_RXN1 | 735.358 | 9386.824 |
| L27 | DM1_RXN2 | 1772.158 | 8675.624 |
| L29 | DM1_RXN3 | 3592.955 | 4389.624 |
| N27 | DM1_RXP0 | 1772.158 | 5627.624 |
| S24 | DM1_RXP1 | 735.358 | 8675.624 |
| E26 | DM1_RXP2 | 1721.358 | 4386.824 |
| K29 | DM1_RXP3 | 3592.955 | 7151.624 |
| C29 | DM1_TXN0 | 1734.03 | 9386.824 |
| R27 | DM1_TXN1 | 1855.698 | 10928.096 |
| R28 | DM1_TXN2 | 2368.504 | 10734.802 |
| C29 | DM1_TXN3 | 2862.646 | 10388.082 |
| C27 | DM1_TXP0 | 1789.43 | 10428.986 |
| BE38 | GPP_C0 / SMIOLK | 7354.57 | 10428.986 |
| BC42 | GPP_C1 / SMIIDATA | 9285.224 | 8603.74 |
| BF39 | GPP_C10 / UART0_RT#B | 7867.904 | 10805.922 |
| BC45 | GPP_C11 / UART0_CT#B | 15813.796 | 8456.706 |
| BB42 | GPP_C12 / UART1_RXD / ISH_UART1_RXD | 10813.796 | 8956.326 |
| BA44 | GPP_C13 / UART1_TXD / ISH_UART1_TXD | 10333.482 | 8545.676 |
| BA45 | GPP_C14 / UART1_RT#B / ISH_UART1_RT#B | 10813.796 | 8460.796 |
| BA35 | GPP_C15 / UART1_CT#B / ISH_UART1_CT#B | 8677.498 | 8623.224 |
| A145 | GPP_C16 / SDO1_SDA | 15813.796 | 7880.096 |
| A139 | GPP_C17 / SDO2_SCL | 4994.758 | 7761.224 |
| A138 | GPP_C18 / SCL1_SDA | 4839.698 | 7761.224 |
| AV44 | GPP_C19 / SCL2_SCL | 10395.965 | 7429.245 |
| BE41 | GPP_C2 / SMIALERT# | 8672.88 | 10241.28 |
| AV44 | GPP_C20 / UART2_RXD | 10395.796 | 8545.195 |
| AV43 | GPP_C21 / UART2_TXD | 9205.058 | 8623.224 |
| BA33 | GPP_C22 / UART2_RT#B | 3887.966 | 7429.245 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|---|--------------|--------------|
| A38 | DM1_TXP1 | 2365.596 | 11731.922 |
| C38 | DM1_TXP2 | 2368.504 | 10226.802 |
| B30 | DM1_TXP3 | 2862.646 | 10806.082 |
| B01 | DRAM_RESE# | 9310.63 | 9520.986 |
| BD4 | DSW_PWRKIC | 9447.784 | 9722.358 |
| BF1 | GP00 / BATLOW# | 5771.896 | 10805.922 |
| B10 | GP01 / ACPRESENT | 9028.946 | 9902.952 |
| BB7 | GP05 / SLP_S# | 8672.374 | 8642.502 |
| BC1 | GP011 / LANPHYC | 8698.314 | 8394.444 |
| BE10 | GP02 / LAN_WAKE# | 9338.03 | 10428.086 |
| BC5 | GP03 / PWMSTB# | 8899.728 | 9471.914 |
| BA11 | GP04 / SLP_S# | 8389.314 | 8657.844 |
| BF3 | GP05 / SLP_S# | 9155.946 | 10986.092 |
| BE13 | GP06 / SLP_A# | 9155.946 | 10388.092 |
| B011 | GP07 / REQD | 9771.896 | 11131.922 |
| AV13 | GP08 / SUSCLK | 5088.858 | 9670.014 |
| BA8 | GP09 / SLP_WLAN# | 7109.714 | 8657.844 |
| AU15 | GP09_A0 / RCIN# / ESP1_ALERT1# | 4096.258 | 9364.224 |
| AR15 | GP09_A1 / LAD0 / ESP1_IO0 | 4096.258 | 9502.224 |
| AV17 | GP09_A10 / CLKOUT_LPC1 | 3092.958 | 7913.624 |
| BF15 | GP09_A11 / PM#E | 4158.996 | 10928.096 |
| BD15 | GP09_A13 / SMIUSW# / ISH_GP# / SX_EXIT_HOLDOFF# | 4637.33 | 9520.986 |
| BF17 | GP09_A13 / SUSWAKE# / SUSPWDRACK | 2892.646 | 10896.092 |
| BF16 | GP09_A14 / SUS_STAT# / ESP1_RESE# | 3496.596 | 10805.922 |
| BC17 | GP09_A15 / SUS_ACK# | 3775.646 | 9903.206 |
| BC17 | GP09_A16 / CLKOUT_48 | 3092.958 | 9437.624 |
| BC17 | GP09_A17 / ISH_GPT | 3992.955 | 9388.024 |
| BD19 | GP09_A18 / ISH_GPT | 1754.03 | 9520.986 |
| BE18 | GP09_A19 / ISH_GPT | 2368.504 | 10226.802 |
| AV15 | GP09_A2 / LAD2 / ESP1_IO1 | 4096.258 | 7880.224 |
| BF19 | GP09_A20 / ISH_GPT2 | 1885.698 | 10928.096 |
| AN4 | GP09_C0 / DIMC_DATA1 | 9725.676 | 4642.104 |
| AP08 | GP09_C19 / DIMC_CLK0 | 7231.888 | 9086.858 |
| BB44 | GP09_C2 / SMI_SDA | 10333.228 | 9125.468 |
| AM43 | GP09_C20 / DIMC_DATA0 | 9508.95 | 4062.73 |
| AM43 | GP09_C21 | 10427.97 | 4158.956 |
| AM44 | GP09_C22 | 8420.85 | 4637.33 |
| AM44 | GP09_C23 / ISH_C2C_SCL / ISH_C2C_SCL | 10234.676 | 4642.104 |
| AV44 | GP09_C23 / SMI_M0# | 9725.676 | 8915.404 |
| AU44 | GP09_C4 / ISH_C2C_SDA / ISH_C2C_SDA | 10427.97 | 8432.296 |
| AP08 | GP09_C6 / SDO1_SPM# | 4994.758 | 9296.898 |
| AM43 | GP09_C8 / SDO2_TXD | 9038.95 | 9338.03 |
| AV44 | GP09_C7 / SDO2_RXD | 10234.676 | 8915.404 |
| AU44 | GP09_C8 / SDO2_SCL | 8420.86 | 9310.63 |
| AT45 | GP09_C9 / ISH_SMI_CS# | 11813.796 | 5771.896 |
| AM43 | GP09_E0 / SATAPXCE0 / SATAP0 | 4636.098 | 4096.258 |
| AM43 | GP09_E1 / SATAPXCE1 / SATAP1 | 5084.098 | 4096.258 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|-------------------------------|--------------|--------------|
| AU24 | GPP E14 / SPNR | 705.358 | 5989.624 |
| AV22 | GPP E16 / GSRPO_CSF | 705.358 | 7151.624 |
| AY24 | GPP E16 / GSRPO_CLK | 705.358 | 7151.624 |
| BQ25 | GPP E17 / GSRPO_MISO | -1048.004 | 11131.922 |
| BE26 | GPP E18 / GSRPO_MOSI | -1063.054 | 10388.082 |
| BF25 | GPP E19 / GSRP1_CSF | -1048.004 | 10805.922 |
| BQ21 | GPP E22 / VRLALERT# | 1225.296 | 11133.922 |
| BF24 | GPP E20 / GSRP1_CLK | -387.604 | 10928.096 |
| AP24 | GPP E21 / GSRP1_MISO | 705.358 | 4885.624 |
| AR24 | GPP E22 / GSRP1_MOSI | 705.358 | 5677.624 |
| BA22 | GPP E23 / SMLALERT# / PCHHOT# | 705.358 | 8675.624 |
| BF21 | GPP E3 / CPU_QP2 | 1225.296 | 10805.922 |
| BF22 | GPP E4 / CPU_QP3 | 892.346 | 10805.922 |
| BE23 | GPP E5 / SRCCLKREQ0# | 892.346 | 10388.082 |
| BA24 | GPP E6 / SRCCLKREQ0# | 705.358 | 8675.624 |
| BA19 | GPP E7 / SRCCLKREQ0# | 1772.158 | 8675.624 |
| BE23 | GPP E8 / SRCCLKREQ0# | 86.504 | 10226.802 |
| BD22 | GPP E9 / SRCCLKREQ0# | 482.346 | 8903.206 |
| AD43 | GPP F15 / USB_OC4# | -8726.676 | 95.504 |
| AC44 | GPP F16 / USB_OC5# | -10427.97 | 387.604 |
| AH42 | GPP F17 / USB_OC6# | -6420.86 | 1764.03 |
| AC43 | GPP F18 / USB_OC7# | -6928.86 | -481.87 |
| AC42 | GPP F19 / d0#_VDODEN | -6420.86 | -500.27 |
| AK38 | GPP F2 / SATAXPCEIS / SATAGP5 | -7413.498 | 3092.958 |
| AE35 | GPP F20 / d0#_BILTEN | -6889.498 | 705.358 |
| AE36 | GPP F21 / d0#_BMLCTL | -6891.498 | 705.358 |
| AP32 | GPP F22 | -1589.176 | 1026.804 |
| AE39 | GPP F23 | -8175.498 | 705.358 |
| AH43 | GPP F3 / SATAXPCEIS / SATAGP6 | -6828.86 | 1789.43 |
| AE42 | GPP F4 / SATAXPCEIT / SATAGP7 | -8403.08 | 482.346 |
| AF44 | GPP F5 / DEVSUP3 | -10305.796 | 1225.296 |
| AG41 | GPP F6 / DEVSUP4 | -8886.698 | 1771.358 |
| AH49 | GPP F7 / DEVSUP5 | -8175.498 | 1772.158 |
| AH48 | GPP F8 / DEVSUP6 | -6851.498 | 1772.158 |
| AF45 | GPP F9 / DEVSUP7 | -10813.796 | 1225.296 |
| AA43 | GPP G0 | -6887.698 | -1863.954 |
| AB44 | GPP G1 | -10305.796 | -1048.004 |
| AC35 | GPP G10 | -6889.498 | 705.358 |
| AC41 | GPP G12 | -6889.498 | 705.358 |
| AC39 | GPP G13 / GSRDOUT | -8175.498 | 705.358 |
| V38 | GPP G15 / GSRDQDQ | -6851.498 | 1772.158 |
| V43 | GPP G14 / GSRDQDQ | -8726.676 | -3217.796 |
| U44 | GPP G15 / GSRDQDQ# | -10305.796 | 3321.304 |
| T43 | GPP G16 / GSRCLK | -6887.698 | -3837.254 |
| V42 | GPP G17 / ADDR_COMPLETE | -8420.86 | -2782.97 |
| U45 | GPP G18 / NM# | -10813.796 | 3321.304 |
| RL43 | GPP G19 / NM# | -8726.676 | -4441.096 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|------------------------------------|--------------|--------------|
| AW42 | GPP C23 / UART2_CTSS | 8402.826 | 7302.246 |
| BE37 | GPP C3 / SMLDATA | -6724.396 | 10226.802 |
| BC33 | GPP C4 / SMLDATA | -5163.058 | 9285.224 |
| BC35 | GPP C5 / SMLALERT# | -6181.598 | 9386.57 |
| BC43 | GPP C6 / SMLCLK | -9789.922 | 9537.7 |
| BF38 | GPP C7 / SMLDATA | -7255.304 | 10926.086 |
| BA39 | GPP C8 / UART0_RXD | 7760.208 | 8468.614 |
| BS38 | GPP C9 / UART0_TXD | 7887.904 | 11311.922 |
| AV41 | GPP D0 / SP1_CSF | 8919.718 | 7090.41 |
| AV39 | GPP D1 / SP1_CLK | -8181.984 | 8079.994 |
| AV39 | GPP D10 / BSH_SP1_CLK | -8157.718 | 7090.41 |
| AT38 | GPP D11 / BSH_SP1_MISO | 7370.318 | 8088.314 |
| AT41 | GPP D12 / BSH_SP1_MOSI | -6894.318 | 8088.314 |
| AP44 | GPP D13 / BSH_UART0_RXD / BCC2_SDA | 10299.968 | 5195.946 |
| AP43 | GPP D14 / BSH_UART0_TXD / BCC2_SCL | -6887.966 | 5195.946 |
| AT44 | GPP D15 / BSH_UART0_RTSS | -10305.796 | 5771.896 |
| AT39 | GPP D16 / BSH_UART0_CTS# | -8132.318 | 8088.314 |
| AP42 | GPP D17 / DMIC_CLK1 | 8402.826 | 1028.946 |
| T44 | GPP E3 | -10395.966 | 3937.254 |
| AC33 | GPP G4 | -5127.498 | 705.358 |
| V43 | GPP G5 | -6928.86 | 2757.17 |
| V42 | GPP G6 | 8403.08 | -1790.954 |
| AA44 | GPP G7 | -10395.966 | -1863.954 |
| U44 | GPP G8 | 10427.97 | -2860.904 |
| V44 | GPP G9 | -10234.676 | -2177.796 |
| AK29 | GPP H0 / SRCCLKREQ0# | 3092.958 | 8026.024 |
| AU37 | GPP H1 / SRCCLKREQ0# | 1772.158 | 8026.024 |
| BC33 | GPP H10 / SMLCLK | -5163.058 | 10226.802 |
| AU31 | GPP H11 / SMLDATA | -4070.858 | 8288.024 |
| BF33 | GPP H12 / SMLALERT# | -4894.204 | 10928.086 |
| BE33 | GPP H13 / SMLCLK | 5030.47 | 10426.988 |
| AV31 | GPP H14 / SMLDATA | -4070.858 | 7050.024 |
| BD33 | GPP H15 / SMLALERT# | -5055.87 | 8030.988 |
| BD36 | GPP H16 / SMLCLK | -4337.554 | 8603.206 |
| BF32 | GPP H17 / SMLDATA | -4451.096 | 10734.802 |
| BF34 | GPP H18 / SMLALERT# | -5584.604 | 10805.922 |
| AV31 | GPP H19 / BSH_ZCD2_SDA | -4070.858 | 7812.024 |
| BQ30 | GPP H2 / SRCCLKREQ0# | 3321.304 | 11311.922 |
| BE36 | GPP H20 / BSH_ZCD2_SCL | -4210.554 | 10388.082 |
| BF37 | GPP H21 / BSH_ZCD1_SDA | -6724.396 | 10734.802 |
| BF38 | GPP H22 / BSH_ZCD1_SCL | -6210.554 | 10886.092 |
| BQ34 | GPP H23 / BSH_CSF | -5084.604 | 11313.922 |
| BF30 | GPP H24 / SRCCLKREQ0# | 3321.304 | 10805.922 |
| BD29 | GPP H4 / SRCCLKREQ10# | 2782.97 | 8603.986 |
| BE31 | GPP H5 / SRCCLKREQ11# | 3937.254 | 10388.082 |
| AV29 | GPP H7 / SRCCLKREQ12# | 3092.958 | 7812.024 |
| AV29 | GPP H7 / SRCCLKREQ12# | 3092.958 | 7050.024 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|-------------------------------|--------------|--------------|
| AH44 | GPP E10 / USB_OC1# | -10427.97 | 1865.698 |
| AM39 | GPP E11 / USB_OC2# | -8150.008 | 4086.258 |
| AK42 | GPP E12 / USB_OC3# | -9403.08 | 2785.846 |
| AM40 | GPP E2 / SATAXPCEI2 / SATAGP2 | -7388.098 | 4086.258 |
| AP41 | GPP E3 / CPU_QP0 | -8755.888 | 9088.858 |
| AL44 | GPP E4 / DEVSUP1 | -10305.796 | 3408.596 |
| AL45 | GPP E5 / DEVSUP1# | -10813.796 | 3408.596 |
| AK44 | GPP E6 / DEVSUP2 | -10395.966 | 2882.646 |
| AP44 | GPP E7 / CPU_QP1 | -6887.698 | 2882.646 |
| AL44 | GPP E8 / SATAXPCEI / SATAQD | -10234.676 | 2368.804 |
| AK44 | GPP E9 / USB_OC4# | -8726.676 | 2368.804 |
| AK36 | GPP F0 / SATAXPCEI3 / SATAGP3 | -6881.498 | 3092.958 |
| AK39 | GPP F1 / SATAXPCEI4 / SATAGP4 | -5127.498 | 3092.958 |
| AK39 | GPP F10 / BCC1_CK | 3705.098 | 705.358 |
| AE44 | GPP F11 / BLOAD | -6889.498 | 1772.158 |
| AE44 | GPP F12 / BDATAOUT1 | -10395.966 | 600.346 |
| AE43 | GPP F13 / BDATAOUT0 | -8887.698 | 600.346 |
| AD44 | GPP F14 | -10234.676 | 95.504 |
| AT35 | VSS | -6554.776 | 6192.012 |
| AT37 | VSS | -6778.006 | 6133.846 |
| AT36 | VSS | -6300.972 | 5771.896 |
| AU11 | VSS | 8068.314 | 6371.844 |
| AU11 | VSS | 3092.958 | 6389.624 |
| AU29 | VSS | 3092.958 | 6288.024 |
| AU33 | VSS | -6885.258 | 6277.224 |
| AV11 | VSS | -15813.796 | 8629.504 |
| AV12 | VSS | -6894.186 | 7029.996 |
| AV15 | VSS | -4096.258 | 7128.224 |
| AV28 | VSS | 705.358 | 7161.624 |
| AU28 | VSS | -1772.158 | 7161.624 |
| AV33 | VSS | -4885.258 | 6999.224 |
| AV35 | VSS | -6006.698 | 6999.224 |
| AV38 | VSS | -7444.486 | 7149.338 |
| AV38 | VSS | -10813.796 | 8813.296 |
| AV8 | VSS | 7286.498 | 7118.858 |
| AV11 | VSS | 8068.314 | 7885.844 |
| AV19 | VSS | 1772.158 | 7913.624 |
| AY37 | VSS | -7102.806 | 7883.076 |
| AY42 | VSS | 8992.872 | 7887.804 |
| AY42 | VSS | -8992.872 | 8045.196 |
| AV8 | VSS | 7217.158 | 7887.472 |
| AV11 | VSS | -15813.796 | -10899.846 |
| BI1 | VSS | -5584.604 | -10805.922 |
| BI2 | VSS | -10305.796 | -10805.922 |
| BI2 | VSS | 10330.18 | -10803.306 |
| BI25 | VSS | -1225.296 | -10805.922 |
| BI3 | VSS | 8623.704 | -10826.734 |
| BI30 | VSS | -3488.596 | -10805.922 |

| Ball # | Pin Name | X Coordinate | Y Coordinate |
|--------|----------------------|--------------|--------------|
| AC36 | GPP_G2 | 6551.498 | 755.358 |
| V35 | GPP_G20 | 1772.158 | 158 |
| AC30 | GPP_G21 | 3705.098 | 755.358 |
| R45 | GPP_G22 | 10813.796 | 4553.204 |
| R44 | GPP_G23 | 10234.676 | 4451.096 |
| AP4 | GPP_I2/DOPD HPD2 | 7311.898 | 4895.258 |
| AT7 | GPP_I3/DOPD HPD3 | 8048.498 | 8077.458 |
| BA1 | GPP_I4/EDP HPD | 10813.796 | 8393.43 |
| AWS | GPP_I5/DOPD CTRLCLK | 8830.898 | 7245.858 |
| AV7 | GPP_I6/DOPD CTRLDATA | 8048.498 | 7118.858 |
| AT5 | GPP_I7/DOPD CTRLCLK | 8835.898 | 6204.458 |
| BA6 | GPP_I8/DOPD CTRLDATA | 8392.414 | 8398.792 |
| AY1 | GPP_I9/DOPD CTRLCLK | 10813.796 | 787.954 |
| B83 | HDA_BCLK | 9892.39 | 871.798 |
| B1 | HDA_RST# | 10813.796 | 9458.798 |
| BA2 | HDA_SDO | 10305.796 | 8444.23 |
| B81 | HDA_SDI1 | 10813.796 | 8958.326 |
| B3 | HDA_SDO | 9885.934 | 9452.516 |
| B56 | HDA_SYNC | 9458.2 | 11313.922 |
| BP9 | INTRUDER# | 6915.404 | 10734.802 |
| AF2 | ITP_PMC0E | 10305.796 | 5594.604 |
| AN1 | JTAG_TCK | 10813.796 | 4553.204 |
| AP2 | JTAG_TDI | 10427.97 | 4934.204 |
| AN3 | JTAG_TDO | 9726.676 | 4451.096 |
| AP4 | JTAG_TMS | 9420.36 | 5595.87 |
| AP3 | JTAG | 9598.86 | 9326.47 |
| BE4 | PCB_PWDOK | 10295.258 | 921.798 |
| AJ2 | PCB_TREQ | 10427.97 | 2959.994 |
| AL1 | PCB_TREQOUT | 10813.796 | 3321.304 |
| Z38 | PCIE_21_RXN | 8073.898 | 4870.858 |
| T41 | PCIE_21_RXP | 4835.898 | 4870.858 |
| K43 | PCIE_21_TXN | 9726.676 | 4724.396 |
| K44 | PCIE_21_TXP | 10234.676 | 4724.396 |
| V36 | PCIE_22_RXN | 4787.898 | 3092.958 |
| V38 | PCIE_22_RXP | 4549.898 | 3092.958 |
| L43 | PCIE_22_TXN | 4887.898 | 4210.554 |
| L44 | PCIE_22_TXP | 10395.898 | 4210.554 |
| V39 | PCIE_23_RXN | 4873.898 | 3092.958 |
| V41 | PCIE_23_RXP | 4835.898 | 3092.958 |
| N44 | PCIE_23_TXN | 10395.796 | 5594.604 |
| N45 | PCIE_23_TXP | 10813.796 | 5594.604 |
| V39 | PCIE_24_RXN | 8175.498 | 1172.158 |
| V41 | PCIE_24_RXP | 4898.898 | 1172.158 |
| P43 | PCIE_24_TXN | 4928.86 | 5020.47 |
| R44 | PCIE_24_TXP | 10427.97 | 4934.204 |
| B10 | PCIE_R0CMPIN | 8210.554 | 10398.092 |
| C10 | PCIE_R0CMPMP | 8210.554 | 10398.092 |

| Ball # | Pin Name | X Coordinate | Y Coordinate |
|--------|-----------------------|--------------|--------------|
| B201 | GPP_H5/SRCLKREQ2H# | 4264.254 | 9923.208 |
| BF31 | GPP_H6/SRCLKREQ2H# | 1387.254 | 10986.092 |
| AP7 | GPP_I0/DOPD HPD0 | 8048.498 | 8036.658 |
| AT8 | GPP_I1/DOPD HPD1 | 7311.898 | 8036.658 |
| AY2 | GPP_I10/DOPD CTRLDATA | 10305.796 | 7887.904 |
| A14 | USB3_2_SSIC_1_TXP | 4553.204 | 11313.922 |
| B9 | USB3_3_SSIC_2_RXN | 8724.396 | 10734.802 |
| A9 | USB3_3_SSIC_2_TXP | 6851.904 | 11313.922 |
| B14 | USB3_3_SSIC_2_TXN | 4451.096 | 10734.802 |
| C14 | USB3_3_SSIC_2_TXP | 4451.096 | 10226.802 |
| E11 | USB3_4_RXN | 6181.598 | 9395.57 |
| D11 | USB3_4_TXN | 8077.458 | 8523.224 |
| E15 | USB3_4_TXN | 5937.254 | 10986.092 |
| C15 | USB3_4_TXP | 5937.254 | 10398.092 |
| F17 | USB3_5_RXN | 5163.058 | 6285.224 |
| D13 | USB3_5_RXP | 5036.058 | 8523.224 |
| A16 | USB3_5_TXN | 3321.304 | 11313.922 |
| B16 | USB3_5_TXP | 3321.304 | 10805.922 |
| U15 | USB3_6_RXN | 4070.858 | 7812.024 |
| K15 | USB3_6_RXP | 4070.858 | 7050.024 |
| C17 | USB3_6_TXN | 2757.17 | 10428.986 |
| D17 | USB3_6_TXP | 2782.57 | 9920.986 |
| AA3 | VCCAMPHYPLL_IP0 | 9959.34 | 11313.922 |
| BA3 | VCCAMPHYPLL_IP0 | 8880.358 | 11904.398 |
| Y28 | VCCAPLLEB_IP1 | 2324.1 | 2324.1 |
| AL3 | VCCAT5 | 5127.498 | 705.398 |
| W17 | VCCCLK1 | 9292.958 | 4894.024 |
| B17 | VCCCLK2 | 3092.958 | 4553.224 |
| W17 | VCCCLK2 | 3098.8 | 2324.1 |
| V19 | VCCCLK3 | 1772.158 | 4255.224 |
| V20 | VCCCLK4 | 1549.4 | 3098.8 |
| K1 | VCCCLK5 | 10813.796 | 6813.296 |
| K2 | VCCCLK5 | 10234.676 | 6915.404 |
| V16 | VCCDSW_IP3 | 3705.098 | 1172.158 |
| BC15 | VCCDDA | 4595.258 | 9395.824 |
| AR19 | VCCDAPLL_IP0 | 1772.158 | 9527.624 |
| V21 | VCCMPHY_IP0 | 774.7 | 3098.8 |
| V23 | VCCMPHY_IP0 | 0 | 3098.8 |
| V25 | VCCMPHY_IP0 | 774.7 | 3098.8 |
| V26 | VCCMPHY_IP0 | 1549.4 | 3098.8 |
| V28 | VCCMPHY_IP0 | 2324.1 | 3098.8 |
| V29 | VCCMPHY_IP0 | 3098.8 | 3098.8 |
| CA4 | VCCPCIEPLL_IP0 | 10325.628 | 10323.83 |
| CA5 | VCCPCIEPLL_IP0 | 10813.796 | 10459.488 |
| BC24 | VCCPSW_IP3 | 705.358 | 9395.824 |
| BC31 | VCCPDPHA | 4070.858 | 9395.024 |
| BE40 | VCCPDPBCH | 8330.882 | 10345.166 |

| Ball # | Pin Name | X Coordinate | Y Coordinate |
|--------|----------|--------------|--------------|
| B35 | VSS | 4771.896 | 10505.922 |
| BA | VSS | 9318.244 | 10819.892 |
| B41 | VSS | 8701.024 | 10854.69 |
| B44 | VSS | 10330.18 | 10830.306 |
| BA5 | VSS | 10813.796 | 10899.846 |
| BA15 | VSS | 8494.014 | 8494.014 |
| BA17 | VSS | 8092.958 | 8875.624 |
| BA29 | VSS | 3092.958 | 8874.024 |
| BA37 | VSS | 4670.858 | 8874.024 |
| BA37 | VSS | 7141.21 | 8536.686 |
| BA4 | VSS | 9434.068 | 9438.162 |
| BA42 | VSS | 4882.328 | 8547.1 |
| BA49 | VSS | 8494.014 | 8522.334 |
| BC38 | VSS | 7320.534 | 9229.09 |
| BC40 | VSS | 4673.796 | 9479.264 |
| BC9 | VSS | 7129.714 | 2994.44 |
| BD1 | VSS | 10813.796 | 9959.086 |
| BD11 | VSS | 8771.896 | 9801.098 |
| BD16 | VSS | 3498.598 | 9801.098 |
| BD2 | VSS | 10288.016 | 8780.524 |
| BD21 | VSS | 1225.298 | 9801.098 |
| BD20 | VSS | 1048.004 | 9801.098 |
| BD30 | VSS | 3321.304 | 9801.098 |
| BD34 | VSS | 5594.604 | 9801.098 |
| BD38 | VSS | 7887.904 | 9801.098 |
| BD7 | VSS | 8546.196 | 9801.098 |
| BE1 | VSS | 10459.488 | 10459.488 |
| BE3 | VSS | 10325.628 | 10323.83 |
| BF2 | VSS | 10330.18 | 10830.306 |
| BF43 | VSS | 9823.704 | 10823.734 |
| BF45 | VSS | 10330.18 | 10830.306 |
| BF48 | VSS | 10813.796 | 10599.846 |
| BF5 | VSS | 8701.024 | 10854.69 |
| BG14 | VSS | 4593.996 | 11313.922 |
| BG18 | VSS | 2295.696 | 11313.922 |
| BG20 | VSS | 4.604 | 11313.922 |
| BG28 | VSS | 2279.904 | 11313.922 |
| BG30 | VSS | 4593.204 | 11313.922 |
| BG37 | VSS | 4881.904 | 11313.922 |
| BG49 | VSS | 8494.014 | 11313.922 |
| BG49 | VSS | 10459.72 | 11313.922 |
| BG9 | VSS | 8536.686 | 11313.922 |
| C1 | VSS | 10813.796 | 10469.488 |
| C2 | VSS | 10344.272 | 10340.462 |
| C37 | VSS | 4935.404 | 10226.802 |
| C9 | VSS | 8734.356 | 10226.802 |
| D1 | VSS | 10813.796 | 9959.086 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|----------------------|--------------|--------------|
| G15 | POE11_RNN/USB3_7_RNN | 8070.858 | 4574.024 |
| G16 | POE13_RXP/USB3_7_RXP | 8070.858 | 4586.024 |
| A18 | POE11_TXN/SATA1A_TXN | 2279.904 | -11313.922 |
| B18 | POE11_TXP/USB3_7_TXP | 2680.904 | -10928.086 |
| G29 | POE10_RNN/SATA1A_RNN | 3092.958 | 4875.624 |
| E29 | POE10_RXP/SATA1A_RXP | 3092.958 | 9437.624 |
| B31 | POE10_TXN/SATA1A_TXN | 4158.896 | -10928.086 |
| A32 | POE10_TXP/USB3_7_TXP | 4539.958 | -11313.922 |
| L31 | POE11_RNN | 4096.238 | 4584.224 |
| C31 | POE11_RXP | 4096.238 | 2128.224 |
| C32 | POE11_TXN | 4642.104 | -10228.802 |
| B32 | POE11_TXP | 4642.104 | -10374.802 |
| E33 | POE12_RNN | 5098.598 | 4636.024 |
| G33 | POE12_RXP | 5098.598 | 8494.024 |
| C33 | POE12_TXN | 5155.946 | -10386.082 |
| B33 | POE12_TXP | 5155.946 | -10586.082 |
| G35 | POE13_RNN/SATA0B_RNN | 4698.314 | 4607.844 |
| E35 | POE13_RXP/SATA0B_RXP | 4698.314 | 4594.444 |
| C35 | POE13_TXN/SATA0B_TXN | 4336.03 | -10428.986 |
| B35 | POE13_TXP/SATA0B_TXP | 4542.296 | -10528.086 |
| E37 | POE14_RNN/SATA1B_RNN | 7109.714 | 4594.444 |
| G37 | POE14_RXP/SATA1B_RXP | 7109.714 | 4607.844 |
| A37 | POE14_TXN/SATA1B_TXN | 6838.896 | -11313.922 |
| B37 | POE14_TXP/SATA1B_TXP | 6915.404 | -10374.802 |
| E41 | POE15_RNN/SATA2_RNN | 8999.728 | 9471.914 |
| C42 | POE15_RXP/SATA2_RXP | 9071.508 | -10225.25 |
| B43 | POE15_TXN/SATA2_TXN | 7391.146 | -10328.086 |
| C43 | POE15_TXP/SATA2_TXP | 7595.146 | -10386.082 |
| C42 | POE16_RNN/SATA3_RNN | 9447.794 | 4722.308 |
| E43 | POE16_RXP/SATA3_RXP | 9885.934 | 9462.516 |
| B39 | POE16_TXN/SATA3_TXN | 8045.198 | -10386.082 |
| A39 | POE16_TXP/SATA3_TXP | 7993.304 | -11313.922 |
| A41 | POE17_RNN/SATA4_RNN | 8835.898 | 7245.858 |
| K39 | POE17_RXP/SATA4_RXP | 8048.498 | 7118.858 |
| E45 | POE17_TXN/SATA4_TXN | -10813.796 | 9458.706 |
| F46 | POE17_TXP/SATA4_TXP | -10813.796 | 4858.326 |
| M39 | POE18_RNN/SATA5_RNN | 3048.498 | 4607.458 |
| M41 | POE18_RXP/SATA5_RXP | 8835.898 | 4594.458 |
| C45 | POE18_TXN/SATA5_TXN | -10813.796 | 8393.43 |
| G46 | POE18_TXP/SATA5_TXP | -10935.796 | 8444.22 |
| F39 | POE19_RNN/SATA6_RNN | 8048.498 | 9206.458 |
| B41 | POE19_RXP/SATA6_RXP | 8835.898 | 9183.058 |
| A44 | POE19_TXN/SATA6_TXN | -10305.796 | 7967.904 |
| H45 | POE19_TXP/SATA6_TXP | -10813.796 | 7967.904 |
| E17 | POE2_RNN/USB3_8_RNN | 3092.958 | 4536.024 |
| G17 | POE2_RXP/USB3_8_RXP | 3092.958 | 4574.024 |
| B19 | POE2_TXN/USB3_8_TXN | 2177.706 | -10374.802 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|----------------|--------------|--------------|
| B42 | VCCGPPBSCH | 4918.244 | 10919.892 |
| B546 | VCCGPPPD | -10813.796 | 8695.086 |
| B644 | VCCGPPPD | -10904.272 | 10300.482 |
| B644 | VCCGPPPD | -10813.796 | 10459.466 |
| A641 | VCCGPPPEF | 8897.498 | 3092.958 |
| A641 | VCCGPPPEF | 8896.698 | 4096.238 |
| A641 | VCCGPPPG | 8896.698 | 705.358 |
| A643 | VCCPRIM_IP0 | 0 | 1549.4 |
| A645 | VCCPRIM_IP0 | 774.7 | 1549.4 |
| A623 | VCCPRIM_IP0 | 0 | 774.7 |
| A626 | VCCPRIM_IP0 | 1549.4 | 774.7 |
| A626 | VCCPRIM_IP0 | 2324.1 | 774.7 |
| A617 | VCCPRIM_IP0 | 3098.8 | 0 |
| A623 | VCCPRIM_IP0 | 0 | 0 |
| A626 | VCCPRIM_IP0 | 1549.4 | 0 |
| A626 | VCCPRIM_IP0 | 2324.1 | 0 |
| A616 | VCCPRIM_IP0 | 3705.088 | 705.358 |
| A623 | VCCPRIM_IP0 | 0 | 774.7 |
| A626 | VCCPRIM_IP0 | 1549.4 | 774.7 |
| A626 | VCCPRIM_IP0 | 1549.4 | 3098.8 |
| A621 | VCCPRIM_IP0 | 774.7 | 3098.8 |
| A623 | VCCPRIM_IP0 | 0 | 3098.8 |
| A625 | VCCPRIM_IP0 | 774.7 | 3098.8 |
| A622 | VCCPRIM_IP0 | 705.358 | 4305.224 |
| A615 | VCCPRIM_IP3 | 8835.898 | 5163.058 |
| B613 | VCCPRIM_IP3 | 8830.338 | 10644.986 |
| B613 | VCCPRIM_IP3 | 8899.34 | 11313.922 |
| B64 | VCCPRIM_IP3 | 9458.96 | 11313.922 |
| B622 | VCCRTC | 705.358 | 8396.824 |
| B620 | VCCRTCPRIM_IP3 | 1721.358 | 8396.824 |
| B641 | VCCSRPI | 8898.58 | 11313.922 |
| B642 | VCCSRPI | 9458.96 | 11313.922 |
| B643 | VCCSRPI | 9693.34 | 11313.922 |
| A65 | VCCSRPLLL_IP0 | 8834.898 | 3092.958 |
| A65 | VCCSRPLLL_IP0 | 8831.898 | 4070.858 |
| A12 | VSS | 5984.604 | -11313.922 |
| A2 | VSS | 10499.72 | -11313.922 |
| A25 | VSS | 1225.296 | -11313.922 |
| A3 | VSS | 9693.34 | -11313.922 |
| A30 | VSS | 3498.958 | -11313.922 |
| A38 | VSS | 5771.098 | -11313.922 |
| A4 | VSS | 9458.96 | -11313.922 |
| A40 | VSS | 8469.2 | -11313.922 |
| A41 | VSS | 8898.58 | -11313.922 |
| A42 | VSS | 9458.96 | -11313.922 |
| A44 | VSS | 10499.72 | -11313.922 |
| A6 | VSS | 8469.2 | -11313.922 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|----------|--------------|--------------|
| D10 | VSS | 8307.554 | 4603.206 |
| D12 | VSS | 1084.604 | 4601.098 |
| D16 | VSS | 4684.254 | 4603.206 |
| D16 | VSS | 3321.304 | 4601.098 |
| D10 | VSS | 1790.954 | 4603.206 |
| D21 | VSS | 1048.004 | 4601.098 |
| D24 | VSS | 482.346 | 4603.206 |
| D26 | VSS | 1225.296 | 4601.098 |
| D29 | VSS | 2705.646 | 4603.206 |
| D30 | VSS | 3498.958 | 4601.098 |
| D33 | VSS | 5028.946 | 4602.952 |
| D35 | VSS | 3771.898 | 4601.098 |
| D36 | VSS | 45710.63 | 4603.986 |
| D39 | VSS | 4945.198 | 4601.098 |
| D44 | VSS | -10386.016 | 4790.924 |
| D45 | VSS | -10813.796 | 4699.086 |
| D7 | VSS | 7987.904 | 4601.098 |
| E31 | VSS | 4398.258 | 4588.824 |
| E6 | VSS | 8773.796 | 4478.264 |
| F8 | VSS | 7320.534 | 4629.09 |
| F2 | VSS | 10333.228 | 4925.458 |
| F39 | VSS | 8872.374 | 4842.502 |
| F43 | VSS | 4980.29 | 4570.796 |
| F6 | VSS | 8484.014 | 4602.334 |
| G44 | VSS | 9452.328 | 4647.1 |
| G45 | VSS | 8792.414 | 4598.792 |
| G46 | VSS | 8434.698 | 4608.124 |
| G9 | VSS | 7141.21 | 4536.586 |
| H11 | VSS | 8526.608 | 7761.224 |
| H13 | VSS | 4980.258 | 7781.224 |
| H17 | VSS | 3592.958 | 7812.024 |
| H18 | VSS | 1772.158 | 7913.624 |
| I22 | VSS | 705.358 | 7913.624 |
| I24 | VSS | 705.358 | 7913.624 |
| I27 | VSS | 1772.158 | 7913.624 |
| I29 | VSS | 3292.958 | 7913.624 |
| I33 | VSS | 5098.598 | 7732.014 |
| I35 | VSS | 4698.314 | 7895.844 |
| I38 | VSS | 7217.158 | 7987.472 |
| I44 | VSS | 8930.922 | 8445.196 |
| I45 | VSS | 8300.472 | 7987.904 |
| I46 | VSS | 7302.898 | 7989.078 |
| I4 | VSS | 9462.826 | 7302.246 |
| K11 | VSS | 8526.608 | 4699.224 |
| K13 | VSS | 4985.258 | 4699.224 |
| K27 | VSS | 1772.158 | 7151.624 |
| K3 | VSS | 8726.676 | 4615.404 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|----------------------|--------------|--------------|
| C19 | PC02 TXP /USB3 & TXP | 2177.796 | -10226.802 |
| P38 | PC02D RXN /SATA7 RXN | -7311.898 | -4985.258 |
| P36 | PC02D RXP /SATA7 RXP | 4549.898 | -4985.258 |
| J43 | PC02E TXN /SATA7 TXN | -4828.86 | -7303.77 |
| J44 | PC02E TXP /SATA7 TXP | -10427.97 | -7207.504 |
| L17 | PC03 RXN /USB3 & RXN | 3052.958 | -4288.024 |
| K17 | PC03 RXP /USB3 & RXP | 3052.958 | -7050.024 |
| B39 | PC03 TXN /USB3 & TXN | 1653.954 | -10986.092 |
| C20 | PC03 TXP /USB3 & TXP | 1663.954 | -10388.062 |
| E19 | PC04 RXN /USB3 & RXN | 1772.158 | -3386.824 |
| G19 | PC04 RXP /USB3 & RXP | 1772.158 | -8675.624 |
| B31 | PC04 TXN /USB3 & TXN | -1048.004 | -10985.922 |
| A31 | PC04 TXP /USB3 & TXP | -1048.004 | -11313.922 |
| K19 | PC05 RXN | 1772.158 | -7151.624 |
| L19 | PC05 RXP | 1772.158 | -3389.624 |
| J22 | PC05 TXN | 559.27 | -9620.986 |
| C22 | PC05 TXP | 483.87 | -10428.986 |
| G22 | PC05 RXN | 705.358 | -8675.624 |
| E22 | PC05 RXP | 705.358 | -3386.824 |
| B22 | PC05 TXN | 387.604 | -10928.096 |
| A23 | PC05 TXP | 8.604 | -11313.922 |
| L23 | PC07 RXN | 705.358 | -4389.624 |
| K22 | PC07 RXP | 705.358 | -7151.624 |
| C23 | PC07 TXN | 45.504 | -10226.802 |
| B23 | PC07 TXP | 45.504 | -10734.802 |
| K24 | PC08 RXN | -735.358 | -7151.624 |
| L24 | PC08 RXP | -735.358 | -4389.624 |
| C24 | PC08 TXN | -498.346 | -10388.092 |
| B24 | PC08 TXP | -498.346 | -10986.092 |
| G31 | PC08 RXN /SATA8 RXN | -4086.258 | -8620.224 |
| H31 | PC08 RXP /SATA8 RXP | -4086.258 | -7888.224 |
| G31 | PC08 TXN /SATA8 TXN | -4507.33 | -8620.986 |
| C31 | PC08 TXP /SATA8 TXP | -4062.73 | -10428.986 |
| AK4 | PECI | 8420.86 | 2782.07 |
| AK3 | ELTRST_PROCH | 8628.86 | 2787.17 |
| AH2 | PM_DOWN | 10234.676 | 2177.796 |
| AH3 | PM_SYNC | 9736.676 | 2177.796 |
| AR1 | PRDYR | 10813.796 | 5994.604 |
| AJ3 | PREQ | 9887.966 | 9210.854 |
| AL2 | PROCPOWERD | 10385.796 | 3521.854 |
| B25 | RDMAINT | 8649.58 | -11313.922 |
| AC13 | RSVD | 3127.498 | -276.358 |
| AF17 | RSVD | 3098.8 | -774.7 |
| AG17 | RSVD | 3098.8 | -1549.4 |
| AH14 | RSVD | 4365.498 | -1772.158 |
| AH16 | RSVD | 3705.098 | -1772.158 |
| AP29 | RSVD | 3092.958 | -4764.624 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|----------|--------------|--------------|
| AA17 | VSS | 3098.8 | -1549.4 |
| AA18 | VSS | 2324.1 | -1549.4 |
| AA20 | VSS | 1549.4 | -1549.4 |
| AA21 | VSS | 774.7 | -1549.4 |
| AA26 | VSS | -1549.4 | -1549.4 |
| AA28 | VSS | 2324.1 | -1549.4 |
| AA29 | VSS | 3098.8 | -1549.4 |
| AB17 | VSS | 3098.8 | -774.7 |
| AB18 | VSS | 2324.1 | -774.7 |
| AB20 | VSS | 1549.4 | -774.7 |
| AB21 | VSS | 774.7 | -774.7 |
| AB26 | VSS | 774.7 | -774.7 |
| AB29 | VSS | 3098.8 | -774.7 |
| AB4 | VSS | 9300.972 | -1223.296 |
| AB45 | VSS | 9300.972 | -1549.004 |
| AC10 | VSS | 5651.498 | -705.358 |
| AC11 | VSS | 5889.498 | -705.358 |
| AC14 | VSS | 4365.498 | -705.358 |
| AC16 | VSS | 3705.098 | -705.358 |
| AC32 | VSS | 4365.498 | -705.358 |
| AC38 | VSS | -7413.498 | -705.358 |
| AC4 | VSS | 8403.06 | -482.346 |
| AC5 | VSS | 8886.698 | -705.358 |
| AC7 | VSS | 8175.498 | -705.358 |
| AC8 | VSS | 7413.498 | -705.358 |
| AD1 | VSS | 12813.796 | 8.604 |
| AD2 | VSS | 2324.1 | 0 |
| AD20 | VSS | 1549.4 | 0 |
| AD21 | VSS | 774.7 | 0 |
| AD26 | VSS | 774.7 | 0 |
| AD29 | VSS | 3098.8 | 0 |
| AD45 | VSS | -10813.796 | -8.604 |
| AE11 | VSS | 5689.498 | -705.358 |
| AE14 | VSS | 4365.498 | -705.358 |
| AE32 | VSS | 4365.498 | -705.358 |
| AE33 | VSS | 4527.498 | -705.358 |
| AE38 | VSS | -2413.498 | -705.358 |
| AE4 | VSS | 8420.86 | 599.27 |
| AE8 | VSS | 7413.498 | -705.358 |
| AF18 | VSS | 2324.1 | -774.7 |
| AF20 | VSS | 1549.4 | -774.7 |
| AF21 | VSS | 774.7 | -774.7 |
| AF25 | VSS | -774.7 | -774.7 |
| AF26 | VSS | 2324.1 | -774.7 |
| AF29 | VSS | 3098.8 | -774.7 |
| AF4 | VSS | 9300.972 | -1549.004 |
| AF42 | VSS | 9300.972 | -1223.296 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|----------|--------------|--------------|
| K32 | VSS | 5285.958 | -6970.014 |
| K35 | VSS | 4598.314 | -7133.844 |
| K36 | VSS | 4564.198 | -7079.996 |
| K38 | VSS | 7286.498 | -7118.858 |
| K45 | VSS | 10813.796 | -8620.504 |
| K8 | VSS | 7444.486 | -7149.338 |
| L13 | VSS | 4985.258 | -4237.224 |
| L15 | VSS | 4570.858 | -4288.024 |
| L35 | VSS | 4085.314 | -4371.844 |
| L4 | VSS | 8420.86 | -4310.63 |
| L42 | VSS | 8403.06 | -4337.554 |
| M11 | VSS | 3994.776 | -8162.012 |
| M36 | VSS | 5545.958 | -9526.658 |
| M38 | VSS | 7311.898 | -9526.658 |
| M4 | VSS | 9300.972 | -3171.898 |
| M8 | VSS | 7370.318 | -4568.314 |
| M9 | VSS | 8779.008 | -8133.846 |
| N13 | VSS | 4799.076 | -5408.422 |
| N15 | VSS | 4070.858 | -3526.024 |
| N19 | VSS | 1772.158 | -5627.624 |
| N22 | VSS | 705.358 | -5627.624 |
| N24 | VSS | 705.358 | -5627.624 |
| N31 | VSS | -4086.258 | -5602.224 |
| N42 | VSS | 8300.972 | -5594.004 |
| P10 | VSS | 8469.898 | -5085.858 |
| P12 | VSS | 8707.898 | -5085.858 |
| P13 | VSS | 8136.182 | -4815.994 |
| P15 | VSS | 8209.542 | -4815.994 |
| P17 | VSS | 3992.958 | -4764.024 |
| P19 | VSS | 1772.158 | -4865.624 |
| P22 | VSS | 705.358 | -4865.624 |
| P31 | VSS | -4086.258 | -4840.224 |
| P33 | VSS | 5025.898 | -4985.258 |
| P35 | VSS | 4787.898 | -4985.258 |
| P4 | VSS | 8402.826 | -5028.946 |
| P42 | VSS | 8420.86 | -5055.87 |
| P8 | VSS | 7231.898 | -3086.858 |
| R1 | VSS | 10813.796 | -4539.996 |
| R32 | VSS | 4658.36 | -4543.33 |
| T30 | VSS | 8626.098 | -4086.258 |
| T14 | VSS | 8340.698 | -4086.258 |
| T35 | VSS | 705.358 | -4035.234 |
| T29 | VSS | 3092.958 | -4035.234 |
| T32 | VSS | 4263.898 | -4070.858 |
| T36 | VSS | 4545.898 | -4070.858 |
| T38 | VSS | 7311.898 | -4070.858 |
| T4 | VSS | 8420.86 | -4037.33 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|----------------|--------------|--------------|
| AJ22 | R5VD | 705.358 | 5389.624 |
| BF1 | R5VD | 10813.796 | 10959.846 |
| B32 | R5VD | 10469.72 | 11313.922 |
| M33 | R5VD | 4586.858 | 4208.014 |
| N29 | R5VD | 3052.958 | 3627.624 |
| N33 | R5VD | 4840.046 | 4590.794 |
| P24 | R5VD | 705.358 | 4865.624 |
| P27 | R5VD | 1772.158 | 4865.624 |
| P29 | R5VD | 3052.958 | 4865.624 |
| T24 | R5VD | 705.358 | 4205.224 |
| T27 | R5VD | 1772.158 | 4205.224 |
| T33 | R5VD | 3052.958 | 4070.858 |
| T35 | R5VD | 3257.898 | 4070.858 |
| V11 | R5VD | 5689.498 | 3092.958 |
| V13 | R5VD | 5127.498 | 3092.958 |
| BE8 | RTCRST# | 7361.146 | 10365.092 |
| BF7 | RTCK1 | 8045.196 | 10808.462 |
| B37 | RTCK2 | 7853.304 | 11313.922 |
| AV11 | SLP_LAN# | 8008.314 | 7133.844 |
| BF10 | SLP_SUR# | 8432.296 | 10328.096 |
| BE29 | SPD_CLK | 2787.17 | 10428.986 |
| BF28 | SPD_C50# | 2860.904 | 10328.096 |
| BA27 | SPD_C51# | 1772.158 | 8675.624 |
| AV27 | SPD_C52# | 1772.158 | 7913.624 |
| BF26 | SPD_I02 | 1953.954 | 10996.092 |
| BE27 | SPD_I03 | 1782.954 | 9953.258 |
| BF27 | SPD_M050 | 2177.796 | 10238.922 |
| BF27 | SPD_M051 | 2177.796 | 10374.802 |
| BF8 | SRTCST# | 7361.146 | 10996.092 |
| AV3 | SYS_PWRCK | 8628.96 | 7303.77 |
| AV3 | SYS_RESET# | 8726.676 | 6724.396 |
| AM4 | THMTRIP# | 8403.08 | 1790.954 |
| AP17 | TP1 | 3052.958 | 4865.624 |
| AM19 | TP2 | 1772.158 | 6389.624 |
| AG3 | USB2_COMP | 8887.866 | 1963.954 |
| AG2 | USB2_ID | 10395.966 | 1963.954 |
| AE10 | USB2_VBUSSENSE | 8651.498 | 705.358 |
| AM5 | USB2N_1 | 8886.698 | 1772.158 |
| AM8 | USB2N_10 | 7311.898 | 3092.958 |
| W2 | USB2N_11 | 10234.876 | 2268.954 |
| AG3 | USB2N_12 | 8726.676 | 85.954 |
| U2 | USB2N_13 | 8887.866 | 2382.546 |
| AK11 | USB2N_14 | 5767.898 | 3092.958 |
| AE5 | USB2N_2 | 8886.698 | 705.358 |
| AM8 | USB2N_3 | 7413.498 | 1772.158 |
| AE2 | USB2N_4 | 10427.97 | 387.054 |
| AC2 | USB2N_5 | 10395.966 | 4209.346 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|----------|--------------|--------------|
| AG18 | V5S | 2324.1 | 1549.4 |
| AG20 | V5S | 1549.4 | 1549.4 |
| AG21 | V5S | 774.7 | 1549.4 |
| AG20 | V5S | 0 | 1549.4 |
| AG25 | V5S | 774.7 | 1549.4 |
| AG26 | V5S | 1549.4 | 1549.4 |
| AG28 | V5S | 2324.1 | 1549.4 |
| AG29 | V5S | 3098.8 | 1549.4 |
| AH11 | V5S | 5889.498 | 1772.158 |
| AH13 | V5S | 5127.498 | 1772.158 |
| AH30 | V5S | 3705.098 | 1772.158 |
| AH32 | V5S | 4363.498 | 1772.158 |
| AH33 | V5S | 5127.498 | 1772.158 |
| AH35 | V5S | 5113.498 | 1772.158 |
| AJ1 | V5S | 10813.796 | 2279.954 |
| AJ17 | V5S | 3098.8 | 2324.1 |
| AJ18 | V5S | 2324.1 | 2324.1 |
| AJ20 | V5S | 1549.4 | 2324.1 |
| AJ21 | V5S | 774.7 | 2324.1 |
| AJ23 | V5S | 0 | 2324.1 |
| AJ25 | V5S | 774.7 | 2324.1 |
| AJ26 | V5S | 1549.4 | 2324.1 |
| AJ28 | V5S | 2324.1 | 2324.1 |
| AJ29 | V5S | 3098.8 | 2324.1 |
| AJ45 | V5S | 10813.796 | 2266.096 |
| AK10 | V5S | 8549.898 | 3092.958 |
| AK12 | V5S | 8263.898 | 3092.958 |
| AK16 | V5S | 3705.098 | 3092.958 |
| AK17 | V5S | 3098.8 | 3098.8 |
| AK18 | V5S | 2324.1 | 3098.8 |
| AK26 | V5S | 1549.4 | 3098.8 |
| AK28 | V5S | 2324.1 | 3098.8 |
| AK29 | V5S | 3098.8 | 3098.8 |
| AK30 | V5S | 3705.098 | 3092.958 |
| AK32 | V5S | 4365.498 | 3092.958 |
| AK35 | V5S | 4889.498 | 3092.958 |
| AK39 | V5S | 4175.498 | 3092.958 |
| AL4 | V5S | 8300.972 | 3321.304 |
| AL42 | V5S | 8300.972 | 3498.096 |
| AM10 | V5S | 8549.898 | 4070.858 |
| AM13 | V5S | 5767.898 | 4070.858 |
| AM13 | V5S | 5025.898 | 4070.858 |
| AM14 | V5S | 4263.898 | 4070.858 |
| AM17 | V5S | 3092.958 | 4205.224 |
| AM19 | V5S | 1772.158 | 4205.224 |
| AM24 | V5S | 705.358 | 4205.224 |
| AM27 | V5S | 1772.158 | 4205.224 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|-------------|--------------|--------------|
| TA2 | V5S | 8403.08 | 4054.254 |
| T5 | V5S | 8886.698 | 4096.238 |
| U4 | V5S | 8300.972 | 3498.096 |
| U42 | V5S | 8300.972 | 3321.304 |
| V10 | V5S | 8651.498 | 3092.958 |
| V14 | V5S | 4365.498 | 3092.958 |
| V16 | V5S | 3705.098 | 3092.958 |
| V17 | V5S | 3098.8 | 3098.8 |
| V18 | V5S | 2324.1 | 3098.8 |
| V30 | V5S | 3705.098 | 3092.958 |
| V32 | V5S | 4263.898 | 3092.958 |
| V33 | V5S | 5025.898 | 3092.958 |
| V38 | V5S | 7311.898 | 3092.958 |
| V4 | V5S | 8403.08 | 3755.646 |
| V8 | V5S | 7413.498 | 3092.958 |
| W18 | V5S | 2324.1 | 2324.1 |
| W20 | V5S | 1549.4 | 2324.1 |
| W21 | V5S | 774.7 | 2324.1 |
| W23 | V5S | 0 | 2324.1 |
| W25 | V5S | 774.7 | 2324.1 |
| W26 | V5S | 1549.4 | 2324.1 |
| W29 | V5S | 3098.8 | 2324.1 |
| W3 | V5S | 8726.676 | 2368.804 |
| W45 | V5S | 10813.796 | 2279.954 |
| V13 | V5S | 5127.498 | 1772.158 |
| V14 | V5S | 4265.498 | 1772.158 |
| V20 | V5S | 3705.098 | 1772.158 |
| V32 | V5S | 4265.498 | 1772.158 |
| V33 | V5S | 5127.498 | 1772.158 |
| V38 | V5S | 7413.498 | 1772.158 |
| V4 | V5S | 8420.86 | 1764.03 |
| V8 | V5S | 7413.498 | 1772.158 |
| BE9 | WAKE# | 8915.404 | 10226.802 |
| F1 | XC_LB_WUREF | 10813.796 | 4858.326 |
| E1 | KTAL24_IN | 10813.796 | 9458.706 |
| AS | KTAL24_OUT | 8958.08 | 11313.922 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|------------------|--------------|--------------|
| AF2 | USB2N_6 | 10305.796 | 1048.004 |
| AB2 | USB2N_7 | 10305.796 | 1225.296 |
| AM8 | USB2N_8 | 7211.868 | 4070.868 |
| V3 | USB2N_9 | 8628.86 | 1789.43 |
| AH7 | USB2P_1 | 8175.488 | 1772.158 |
| AK7 | USB2P_10 | 8073.888 | 3092.868 |
| W1 | USB2P_11 | 10813.796 | 2266.696 |
| AD2 | USB2P_12 | 10234.676 | 66.504 |
| V2 | USB2P_13 | 10395.966 | 2882.646 |
| AK13 | USB2P_14 | 5025.888 | 3092.868 |
| AE7 | USB2P_2 | 8175.488 | 705.358 |
| AH10 | USB2P_3 | 8851.488 | 1772.158 |
| AE3 | USB2P_4 | 8928.86 | 683.67 |
| AC3 | USB2P_5 | 8687.968 | 809.346 |
| AF1 | USB2P_6 | 10813.796 | 1048.004 |
| AB1 | USB2P_7 | 10813.796 | 1225.296 |
| AM7 | USB2P_8 | 8073.888 | 4070.868 |
| V2 | USB2P_9 | 10427.97 | 1885.695 |
| B7 | USB3_1 RXN | 7867.804 | 11080.922 |
| A7 | USB3_1 RXP | 7867.804 | 11313.922 |
| D13 | USB3_1 TXN | 8055.87 | 9620.986 |
| C13 | USB3_1 TXP | 8030.47 | 10428.986 |
| C8 | USB3_2 SSC_1 RXN | 7354.57 | 110428.986 |
| B8 | USB3_2 SSC_1 RXP | 7258.354 | 10928.096 |
| B13 | USB3_2 SSC_1 TXN | 4934.204 | 110928.096 |

| Ball # | Pin Name | X Coordinate | Y-Coordinate |
|--------|----------|--------------|--------------|
| AM29 | V/S | 3392.958 | 4235.224 |
| AM32 | V/S | 4340.088 | 4096.258 |
| AM33 | V/S | 5102.088 | 4096.258 |
| AM4 | V/S | 9403.08 | 4054.254 |
| AM14 | V/S | 4658.38 | 4545.33 |
| AN45 | V/S | 10813.796 | 4539.996 |
| AP10 | V/S | 8549.888 | 4885.258 |
| AP11 | V/S | 8787.888 | 4885.258 |
| AP13 | V/S | 8525.888 | 4885.258 |
| AP15 | V/S | 4096.258 | 4840.224 |
| AP19 | V/S | 1772.158 | 4885.624 |
| AP22 | V/S | 705.358 | 4885.624 |
| AP27 | V/S | 1772.158 | 4885.624 |
| AP31 | V/S | 4209.942 | 4816.094 |
| AP33 | V/S | 5106.982 | 4813.378 |
| AP34 | V/S | 5707.888 | 5086.868 |
| AP36 | V/S | 7993.888 | 5086.868 |
| AP13 | V/S | 4940.046 | 5530.794 |
| AP22 | V/S | 705.358 | 5627.624 |
| AP27 | V/S | 1772.158 | 5627.624 |
| AP31 | V/S | 4070.868 | 5526.024 |
| AP33 | V/S | 4799.076 | 5428.422 |
| AR4 | V/S | 8300.972 | 5594.604 |
| AT10 | V/S | 8549.888 | 8026.698 |
| AT13 | V/S | 9285.898 | 8028.014 |

| | 45 | 44 | 43 | 42 | 41 | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | | |
|----|-----|-----|-----|-----|-----|-----|------------|-----|-----|------------|------------|-----|------|-----|-----|--------|-----|-----|------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------------|-----------|-----|-----|-----|---------|-----|-----|--------|----------|----------|-----|-----|-----|
| BG | --- | VSS | VC | VC | VC | VSS | | VSS | --- | --- | --- | GP | --- | VSS | --- | GP | --- | VSS | --- | --- | GP | --- | VSS | --- | GP | --- | --- | VSS | --- | GP | --- | VSS | --- | --- | GP | --- | VSS | --- | RT | HD | RS | VC | VC | RS | --- | | | |
| BF | VSS | VSS | VSS | VC | --- | --- | GP | GP | GP | GP | --- | GP | GP | GP | GP | GP | --- | SPI | SPI | SPI | GP | GP | GP | GP | GP | --- | GP | GP | GP | GP | GP | GP | GP | --- | GP | SLP | INT | SRT | RT | --- | VSS | --- | VC | VSS | RS | | | |
| BE | VC | VC | --- | --- | GP | VC | --- | GP | GP | --- | --- | --- | GP | GP | GP | --- | SPI | --- | SPI | GP | --- | GP | GP | GP | --- | --- | GP | GP | GP | --- | GP | GP | GP | --- | --- | --- | WA | RT | --- | --- | --- | PC | --- | VSS | VSS | | | |
| BD | VC | --- | --- | --- | --- | --- | VSS | --- | --- | GP | --- | VSS | GP | --- | GP | VSS | GP | --- | SPI | --- | VSS | GP | --- | GP | VSS | --- | GP | --- | GP | VSS | GP | --- | GP | --- | VSS | DR | --- | --- | VSS | --- | --- | --- | VSS | VSS | | | | |
| BC | GP | --- | GP | GP | --- | VSS | --- | VSS | --- | --- | | GP | --- | VC | --- | DC | --- | DC | --- | --- | VC | --- | VC | --- | VC | --- | --- | GP | --- | VC | --- | GP | --- | GP | --- | VSS | --- | --- | --- | --- | --- | HD | --- | HD | | | | |
| BB | GP | GP | --- | --- | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | GP | --- | --- | --- | HD | --- | HD | | | | | |
| BA | GP | GP | --- | VSS | --- | | VSS | --- | GP | --- | GP | --- | VSS | --- | VSS | --- | SPI | --- | --- | GP | --- | GP | --- | --- | --- | GP | --- | VSS | --- | GP | --- | VSS | --- | GP | --- | GP | --- | --- | --- | VSS | --- | HD | GP | | | | | |
| AY | GP | GP | --- | VSS | --- | --- | GP | --- | VSS | --- | GP | --- | GP | --- | GP | --- | GP | --- | SPI | --- | --- | GP | --- | GP | --- | --- | VSS | --- | GP | --- | --- | GP | --- | VSS | --- | --- | VSS | --- | --- | VSS | --- | GP | GP | | | | | |
| AW | --- | GP | GP | GP | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | GP | --- | SYS | CL_ | --- | | | | | |
| AV | VSS | GP | GP | --- | GP | --- | GP | VSS | --- | --- | VSS | --- | VSS | --- | GP | --- | GP | --- | VSS | --- | --- | VSS | --- | GP | --- | --- | GP | --- | --- | --- | VSS | --- | GP | --- | --- | SLP_LANIN | VSS | --- | VSS | GP | --- | --- | SYS | CP | VSS | | | |
| AU | --- | GP | GP | GP | --- | --- | --- | --- | --- | --- | --- | --- | VSS | --- | GP | --- | VSS | --- | GP | --- | --- | GP | --- | RS | --- | --- | TP2 | --- | VSS | --- | GP | --- | --- | VSS | --- | --- | VSS | --- | --- | --- | CL_ | PR | CL_CLK | --- | | | | |
| AT | GP | GP | --- | VSS | GP | --- | GP | GP | VSS | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | --- | --- | VSS | --- | VSS | --- | GP | GP | --- | GP | --- | --- | --- | | | | |
| AR | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | --- | VSS | --- | GP | --- | VSS | --- | --- | GP | --- | VSS | --- | --- | VC | --- | GP | --- | GP | --- | VSS | --- | --- | --- | --- | --- | --- | VSS | --- | ITP | PR | | | | | |
| AP | --- | GP | GP | GP | GP | --- | VSS | | --- | GP | --- | VSS | VSS | --- | VSS | --- | RS | --- | VSS | --- | --- | GP | --- | VSS | --- | --- | VSS | --- | TP | --- | VSS | --- | VSS | --- | VSS | VSS | --- | GP | GP | --- | VC | JTA | JTA | JTA | --- | | | |
| AN | VSS | GP | GP | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | JTA | DIS | DIS | JTAG_TCK | | | | |
| AM | --- | GP | GP | GP | VC | --- | GP | GP | --- | GP | GP | --- | VSS | VSS | --- | --- | VSS | --- | VSS | --- | --- | VSS | --- | VC | --- | --- | VSS | --- | VSS | --- | VSS | VSS | --- | VSS | VSS | --- | US | US | --- | VC | VSS | DIS | DIS | --- | | | | |
| AL | GP | GP | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | --- | PR | PC | | | | |
| AK | --- | GP | GP | GP | VC | --- | VSS | GP | --- | GP | VSS | --- | GP | VSS | --- | VSS | VSS | VSS | VSS | VSS | VSS | VSS | VC | VSS | VC | VC | VSS | VSS | VSS | --- | VSS | US | --- | US | VSS | --- | US | US | --- | VC | PE | PLT | --- | --- | | | | |
| AJ | VSS | GP | GP | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | VSS | --- | VSS | VSS | --- | VSS | --- | VSS | VSS | --- | VSS | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | PC | VSS | | | | |
| AH | --- | GP | GP | GP | --- | --- | GP | VSS | --- | GP | | VSS | VSS | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | RS | --- | RSVD | VSS | --- | VSS | US | --- | USB2N_3 | US | --- | US | TH | PM | PM | --- | |
| AG | --- | --- | --- | GP | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | VSS | --- | VSS | VSS | --- | VSS | --- | VSS | VSS | --- | VSS | RS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | US | US | --- | | | | |
| AF | GP | GP | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | VSS | --- | VSS | VSS | --- | VC | --- | VSS | VSS | --- | VSS | RS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | --- | US | US | --- | | | |
| AE | --- | GP | GP | GP | VC | --- | GP | VSS | --- | GP | GP | --- | VSS | VSS | --- | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VC | --- | VSS | VC | --- | VSS | US | --- | VSS | US | --- | US | VSS | US | US | --- | | |
| AD | VSS | GP | GP | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | VSS | VSS | VSS | VSS | --- | VC | --- | --- | VSS | VSS | --- | VSS | VSS | VC | --- | VSS | VC | --- | VSS | US | --- | VSS | US | --- | --- | US | US | VSS | | | |
| AC | --- | GP | GP | GP | GP | --- | GP | VSS | --- | GP | GP | --- | GP | VSS | --- | GP_G21 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | --- | VSS | RS | --- | VSS | VSS | --- | VSS | VSS | --- | VSS | VSS | US | US | --- | |
| AB | GP | GP | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | VSS | VSS | VSS | VSS | --- | VC | --- | --- | VSS | VSS | --- | VSS | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | --- | US | US | --- | | |
| AA | --- | GP | GP | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | VSS | --- | VSS | VC | --- | VC | --- | VSS | VSS | --- | VSS | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | CLK | --- | --- | --- | --- |
| Y | --- | GP | GP | GP | | | PCI_24_B0N | VSS | --- | GP | GP_G20 | --- | VSS | VSS | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VC | --- | VSS | VSS | --- | CLK | CLK | --- | VSS | CLK | --- | --- | VSS | US | US | --- | | |
| W | VSS | GP | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | VSS | VSS | VSS | VSS | --- | VSS | --- | VSS | VSS | --- | VSS | VC | --- | VSS | VSS | --- | CLK | CLK | --- | VSS | CLK | --- | --- | --- | VSS | US | US | USB2P_11 | | | |
| V | --- | --- | GP | GP | | | PCI_23_B0N | VSS | --- | PCI_22_B0P | PCI_22_B0N | --- | VSS | VSS | --- | VSS | VSS | VSS | VSS | VSS | VSS | --- | VC | --- | VC | --- | VC | VC | VSS | VSS | VSS | --- | VSS | RS | --- | RSVD | VSS | --- | VSS | CLK | --- | --- | VSS | US | US | --- | | |
| U | GP | GP | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | --- | CLK | CLK | --- | |
| T | --- | GP | GP | VSS | | | PCI_21_B0P | VSS | --- | VSS | RS | --- | RSVD | VSS | --- | --- | VSS | --- | RS | --- | --- | RS | --- | VSS | --- | --- | VC | --- | VC | VC | --- | VSS | CLK | --- | CLK | VSS | --- | CLK | CLK | --- | VSS | VSS | CLK | CLK | --- | | | |
| R | GP | GP | GP | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | CLK | CLK | VSS | |
| P | --- | | | VSS | PCI | --- | PCI | PCI | --- | | VSS | --- | VSS | --- | VSS | --- | RS | --- | RSVD | --- | --- | RSVD | --- | VSS | --- | --- | VSS | --- | VSS | --- | VSS | --- | VSS | VSS | --- | VSS | --- | VSS | CLK | --- | CLK | VSS | CLK | CLK | --- | | | |
| N | | | | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| M | --- | | | | | --- | | VSS | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | VSS | --- | VSS | VSS | --- | CLK | --- | CLK | VSS | --- | CLK | CLK | --- | | |
| L | --- | | | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| K | VSS | | | | --- | --- | | PCI | VSS | --- | VSS | VSS | --- | VSS | --- | PCI | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| J | --- | PCI | PCI | --- | PCI | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| H | PCI | PCI | --- | VSS | --- | --- | --- | VSS | --- | --- | VSS | --- | VSS | --- | PCI | --- | VSS | --- | VSS | --- | --- | VSS | --- | VSS | --- | --- | --- | --- | --- | --- | --- | US | --- | VSS | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |
| G | | PCI | --- | VSS | --- | VSS | --- | --- | PCI | --- | PCI | --- | PCI | --- | PCI | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | PCI | --- | USB1_X_B0P | --- | US | --- | VSS | --- | --- | --- | --- | --- | --- | --- | | |
| F | PCI | --- | VSS | --- | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| E | PCI | --- | | --- | --- | --- | --- | --- | PCI | --- | PCI | --- | PCI | --- | VSS | --- | PCI | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| D | VSS | VSS | --- | --- | --- | --- | VSS | --- | --- | VSS | VSS | --- | VSS | --- | PCI | VSS | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| C | VC | VC | --- | --- | --- | --- | --- | --- | PCI | VSS | PCI | --- | --- | --- | PCI | PCI | PCI | --- | DM | DM | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |
| B | VSS | VSS | VC | --- | VSS | --- | --- | --- | PCI | PCI | PCI | PCI | VSS | --- | --- | --- | VSS | DM | DM | DM | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| A | --- | VSS | VC | VSS | VSS | VSS | --- | --- | --- | --- | VSS | --- | --- | --- | --- | VSS | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |