













| Bank Number | VREF      | PinName/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | U672 | 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 |
|-------------|-----------|----------------------|----------------------|------------------------|-------------------------|------------------------------|------|------------|-------------|--------------------------------------|-------------------------------|----------------------|----------------------|----------------------|----------------------|
|             |           | VCCPD6B/HPS          |                      |                        |                         |                              | P24  |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCCPD7A/HPS          |                      |                        |                         |                              | E41  |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCCPD7B/HPS          |                      |                        |                         |                              | E17  |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCCPD7C/HPS          |                      |                        |                         |                              | E14  |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCCPD7D/HPS          |                      |                        |                         |                              | E13  |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCCPD8A              |                      |                        |                         |                              | E10  |            |             |                                      |                               |                      |                      |                      |                      |
| 3A          | VREFB3AND | VREFB3AND            |                      |                        |                         |                              | AE5  |            |             |                                      |                               |                      |                      |                      |                      |
| 3B          | VREFB3BND | VREFB3BND            |                      |                        |                         |                              | AF12 |            |             |                                      |                               |                      |                      |                      |                      |
| 3A          | VREFB3AND | VREFB3AND            |                      |                        |                         |                              | AF16 |            |             |                                      |                               |                      |                      |                      |                      |
| 3A          | VREFB3AND | VREFB3AND            |                      |                        |                         |                              | AC06 |            |             |                                      |                               |                      |                      |                      |                      |
| 3B          | VREFB3BND | VREFB3BND            |                      |                        |                         |                              | AA26 |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VREFB7A/B/C/D/E/HPS  |                      |                        |                         |                              | D19  |            |             |                                      |                               |                      |                      |                      |                      |
| 8A          | VREFB8AND | VREFB8AND            |                      |                        |                         |                              | D9   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC4_GXBIL           |                      |                        |                         |                              | M4   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC4_GXBIL           |                      |                        |                         |                              | R4   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC4_GXBIL           |                      |                        |                         |                              | L4   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC4_GXBIL           |                      |                        |                         |                              | T4   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC4_GXBIL/HPS       |                      |                        |                         |                              | F22  |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | RREF_TL              |                      |                        |                         |                              | B1   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCCA_FPLL            |                      |                        |                         |                              | K5   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCCA_FPLL            |                      |                        |                         |                              | R4   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCCA_FPLL            |                      |                        |                         |                              | U4   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCCA_FPLL            |                      |                        |                         |                              | U5   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCCA_FPLL            |                      |                        |                         |                              | J4   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCCA_FPLL            |                      |                        |                         |                              | AA21 |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC_AUX              |                      |                        |                         |                              | AC21 |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC_AUX              |                      |                        |                         |                              | AC6  |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC_AUX              |                      |                        |                         |                              | AD15 |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC_AUX              |                      |                        |                         |                              | E16  |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC_AUX              |                      |                        |                         |                              | F8   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC_AUX_SHARED       |                      |                        |                         |                              | F21  |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC4_GXBIL           |                      |                        |                         |                              | M5   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC4_GXBIL           |                      |                        |                         |                              | N6   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC4_GXBIL           |                      |                        |                         |                              | R5   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC4_GXBIL           |                      |                        |                         |                              | T5   |            |             |                                      |                               |                      |                      |                      |                      |
|             |           | VCC4_GXBIL/HPS       |                      |                        |                         |                              | 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 I/O 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.















| Bank Number | VREF | PinName/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F896 | 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                  |                      |                        |                         |                              | L11  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | L13  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | L15  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | L17  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | L19  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | L22  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | L3   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | L4   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | L6   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | M1   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | M10  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | M12  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | M14  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | M16  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | M18  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | M2   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | M20  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | M29  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | M5   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | M7   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | M8   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | N11  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | N13  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | N16  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | N17  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | N19  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | N26  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | N3   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | N4   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | N6   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | N8   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | N9   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | P1   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | P10  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | P12  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | P14  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | P16  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | P18  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | P2   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | P20  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | P5   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | P7   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | R11  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | R13  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | R15  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | R17  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | R3   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | R30  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | R4   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | R6   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | R8   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | R9   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | T1   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | T10  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | T12  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | T14  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | T15  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | T16  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | T2   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | T20  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | T27  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | T5   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | T7   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | U11  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | U13  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | U15  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | U17  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | U21  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | U29  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | U3   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | U4   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | U6   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | U9   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | V1   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | V10  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | V12  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | V14  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | V19  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | V2   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | V21  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | V5   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | W7   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | W11  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | W13  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | W18  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | W28  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | W3   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | W4   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | W6   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | W9   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | Y1   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | Y10  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | Y12  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | Y14  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | Y15  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | Y2   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | Y20  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | Y25  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | Y30  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | Y5   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | Y7   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | Y8   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | U22  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | GND                  |                      |                        |                         |                              | T18  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | M11  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | M13  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | M9   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | N10  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | N12  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | N14  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | P11  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | P10  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | R10  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | R12  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | R14  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | T11  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | T13  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | U10  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | U12  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | U14  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | V11  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | V13  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | V15  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | W10  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC                  |                      |                        |                         |                              | W12  |            |             |                                      |                               |                      |                      |                      |                      |





| Bank Number | VREF | PinName/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F896 | 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 |
|-------------|------|----------------------|----------------------|------------------------|-------------------------|------------------------------|------|------------|-------------|--------------------------------------|-------------------------------|----------------------|----------------------|----------------------|----------------------|
|             |      | VCC_AUX_SHARED       |                      |                        |                         |                              | L21  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_GXBL             |                      |                        |                         |                              | AA5  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_GXBL             |                      |                        |                         |                              | ME   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_GXBL             |                      |                        |                         |                              | NE   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_GXBL             |                      |                        |                         |                              | TE   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_GXBL             |                      |                        |                         |                              | US   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_GXBL             |                      |                        |                         |                              | YE   |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCCPLL_HPS           |                      |                        |                         |                              | L21  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | U18  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | L18  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | L18  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | L20  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | M15  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | N20  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | P19  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | P17  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | P19  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | R18  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | T17  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | T19  |            |             |                                      |                               |                      |                      |                      |                      |
|             |      | VCC_HPS              |                      |                        |                         |                              | U16  |            |             |                                      |                               |                      |                      |                      |                      |

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 5CSXFC5 Device  
Version 1.4

| Version Number | Date       | Changes Made  |
|----------------|------------|---|
| 1.0            | 10/18/2012 | Initial release.  |
| 1.1            | 1/17/2013  | A pin that was marked as VCC_HPS has been corrected to VCCRSTCLK_HPS  |
| 1.2            | 3/25/2013  | Updated the following pin names:<br>- Changed SDMMC_CLK_IN to SDMMC_FB_CLK_IN<br>- Changed SDMMC_CLK to SDMMC_CCLK_OUT                                      |
| 1.3            | 9/30/2014  | - Remove corresponding bank number from VCCRSTCLK_HPS pin.<br>- Changed HMC Pin Assignment for DDR3 to HMC Pin Assignment for DDR3/DDR2.<br>- Added note 3. |
| 1.4            | 12/23/2016 | -Renamed SDMMC_FB_CLK_IN to HPS_GPIO44.   |
|                |            |   |