

Bank Number	VREF	PinName/Function (2)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	U6T2	DOS for X8	DOS for X16	HMC Pin Assignment for D0B3/D0B2 /31	HMC Pin Assignment for LPPDB2	HPS Pin Mux Select 3	HPS Pin Mux Select 2	HPS Pin Mux Select 1	HPS Pin Mux Select 0
3A		TDO		TDO		V9									
3A		DATA0		DATA0		A65									
3A		TMS		TMS		A67									
3A		AS_DATA3		DATA3		A66									
3A		TCK		TCK		A65									
3A		AS_DATAT12		DATA12		A65									
3A		TDI		TDI		W10									
3A		AS_DATA1		DATA1		A66									
3A		DCLK		DCLK		A68									
3A		AS_DATA0,ASD0		DATA0		A67									
3A	VREF33AN0	IO		DATA6	DIFFIO_RX_B1n	DIFFOUT_B1n	Y9	DQ1B							
3A	VREF33AN0	IO		DATA5	DIFFIO_RX_B2n	DIFFOUT_B2n	Y4								
3A	VREF33AN0	IO		DATA8	DIFFIO_RX_B1p	DIFFOUT_B1p	W8	DQ1B							
3A	VREF33AN0	IO		DATA4	DIFFIO_RX_B2p	DIFFOUT_B2p	Y9	DQ1B							
3A	VREF33AN0	IO		DATA10	DIFFIO_RX_B3n	DIFFOUT_B3n	TR	D0S1B							
3A	VREF33AN0	IO		DATA9	DIFFIO_RX_B4n	DIFFOUT_B4n	AB4	D01B							
3A	VREF33AN0	IO		DATA12	DIFFIO_RX_B3p	DIFFOUT_B3p	US	DQS1B							
3A	VREF33AN0	IO		DATA11	DIFFIO_RX_B4p	DIFFOUT_B4p	A64								
3A	VREF33AN0	IO		DATA14	DIFFIO_RX_B5n	DIFFOUT_B5n	Y10	DQ1B							
3A	VREF33AN0	IO		DATA13	DIFFIO_RX_B6n	DIFFOUT_B6n	A64	DQ1B							
3A	VREF33AN0	IO		CLKUSR	DIFFIO_RX_B5p	DIFFOUT_B5p	U10	DQ1B							
3A	VREF33AN0	IO		DATA15	DIFFIO_RX_B6p	DIFFOUT_B6p	A64	DQ1B							
3A	VREF33AN0	IO		PB_DONE	DIFFIO_RX_B7n	DIFFOUT_B7n	A61								
3A	VREF33AN0	IO		PB_READY	DIFFIO_RX_B8n	DIFFOUT_B8n	AE6	D01B							
3A	VREF33AN0	IO		PB_ERROR	DIFFIO_RX_B7p	DIFFOUT_B7p	Y11								
3A	VREF33AN0	IO		DATA16	DIFFIO_RX_B8p	DIFFOUT_B8p	A65	DQ1B							
3B	VREF33BN0	IO		DATA17	DIFFIO_RX_B9n	DIFFOUT_B9n	A64	DQ1B							
3B	VREF33BN0	IO		DATA18	DIFFIO_RX_B10n	DIFFOUT_B10n	A69	DQ1B							
3B	VREF33BN0	IO		DATA19	DIFFIO_RX_B9p	DIFFOUT_B9p	A64	DQ1B							
3B	VREF33BN0	IO		DATA20	DIFFIO_RX_B11n	DIFFOUT_B11n	U11	D0S2B							
3B	VREF33BN0	IO		DATA21	DIFFIO_RX_B12n	DIFFOUT_B12n	AF8	D02B							
3B	VREF33BN0	IO		DATA22	DIFFIO_RX_B11p	DIFFOUT_B11p	T11	D0S2B							
3B	VREF33BN0	IO		DATA23	DIFFIO_RX_B13n	DIFFOUT_B13n	A65	DQ1B							
3B	VREF33BN0	IO		DATA24	DIFFIO_RX_B12p	DIFFOUT_B12p	A64	DQ1B							
3B	VREF33BN0	IO		DATA25	DIFFIO_RX_B13p	DIFFOUT_B13p	A69	DQ1B							
3B	VREF33BN0	IO		DATA26	DIFFIO_RX_B14n	DIFFOUT_B14n	A61	DQ1B							
3B	VREF33BN0	IO		DATA27	DIFFIO_RX_B13n	DIFFOUT_B13n	A69	DQ1B							
3B	VREF33BN0	IO		DATA28	DIFFIO_RX_B14p	DIFFOUT_B14p	U20	DQ1B							
3B	VREF33BN0	IO		DATA29	DIFFIO_RX_B15n	DIFFOUT_B15n	W11	DQ1B							
3B	VREF33BN0	IO		DATA30	DIFFIO_RX_B14p	DIFFOUT_B14p	A64	DQ1B							
3B	VREF33BN0	IO		DATA31	DIFFIO_RX_B15p	DIFFOUT_B15p	V11	DQ1B							
3B	VREF33BN0	IO		DATA32	DIFFIO_RX_B16n	DIFFOUT_B16n	A66	DQ1B							
3B	VREF33BN0	IO		DATA33	DIFFIO_RX_B15p	DIFFOUT_B15p	W11	DQ1B							
3B	VREF33BN0	IO		DATA34	DIFFIO_RX_B17n	DIFFOUT_B17n	A65	DQ1B							
3B	VREF33BN0	IO		DATA35	DIFFIO_RX_B16p	DIFFOUT_B16p	A66	DQ1B							
3B	VREF33BN0	IO		DATA36	DIFFIO_RX_B17p	DIFFOUT_B17p	A67	DQ1B							
3B	VREF33BN0	IO		DATA37	DIFFIO_RX_B18n	DIFFOUT_B18n	A68	DQ1B							
3B	VREF33BN0	IO		DATA38	DIFFIO_RX_B17p	DIFFOUT_B17p	A67	DQ1B							
3B	VREF33BN0	IO		DATA39	DIFFIO_RX_B19n	DIFFOUT_B19n	T12	D0S3B							
3B	VREF33BN0	IO		DATA40	DIFFIO_RX_B20n	DIFFOUT_B20n	AH2	D02B							
3B	VREF33BN0	IO		DATA41	DIFFIO_RX_B19p	DIFFOUT_B19p	C1K	DQ3B							
3B	VREF33BN0	IO		DATA42	DIFFIO_RX_B21n	DIFFOUT_B21n	A69	DQ1B							
3B	VREF33BN0	IO		DATA43	DIFFIO_RX_B22n	DIFFOUT_B22n	AH2	D02B							
3B	VREF33BN0	IO		DATA44	DIFFIO_RX_B21p	DIFFOUT_B21p	V11	DQ1B							
3B	VREF33BN0	IO		DATA45	DIFFIO_RX_B22p	DIFFOUT_B22p	AH2	D02B							
3B	VREF33BN0	IO		DATA46	DIFFIO_RX_B23n	DIFFOUT_B23n	AH2	D02B							
3B	VREF33BN0	IO		DATA47	DIFFIO_RX_B22p	DIFFOUT_B22p	U11	D0S4B							
3B	VREF33BN0	IO		DATA48	DIFFIO_RX_B23p	DIFFOUT_B23p	AH8	D04B							
3B	VREF33BN0	IO		DATA49	DIFFIO_RX_B24p	DIFFOUT_B24p	U10	D0S4B							
3B	VREF33BN0	IO		DATA50	DIFFIO_RX_B23n	DIFFOUT_B23n	AH9	D04B							
3B	VREF33BN0	IO		DATA51	DIFFIO_RX_B24n	DIFFOUT_B24n	AH9	D04B							
3B	VREF33BN0	IO		DATA52	DIFFIO_RX_B25n	DIFFOUT_B25n	AH10	D04B							
3B	VREF33BN0	IO		DATA53	DIFFIO_RX_B24p	DIFFOUT_B24p	AH10	D04B							
3B	VREF33BN0	IO		DATA54	DIFFIO_RX_B25p	DIFFOUT_B25p	AH11	D04B							
3B	VREF33BN0	IO		DATA55	DIFFIO_RX_B26n	DIFFOUT_B26n	AH11	D04B							
3B	VREF33BN0	IO		DATA56	DIFFIO_RX_B25p	DIFFOUT_B25p	V13	DQ1B							
3B	VREF33BN0	IO		DATA57	DIFFIO_RX_B26p	DIFFOUT_B26p	AH11	D04B							
3B	VREF33BN0	IO		DATA58	DIFFIO_RX_B27n	DIFFOUT_B27n	AH12	D04B							
3B	VREF33BN0	IO		DATA59	DIFFIO_RX_B26n	DIFFOUT_B26n	AH12	D04B							
3B	VREF33BN0	IO		DATA60	DIFFIO_RX_B27p	DIFFOUT_B27p	AH12	D04B							
3B	VREF33BN0	IO		DATA61	DIFFIO_RX_B28n	DIFFOUT_B28n	AH13	D04B							
3B	VREF33BN0	IO		DATA62	DIFFIO_RX_B27p	DIFFOUT_B27p	AH13	D04B							
3B	VREF33BN0	IO		DATA63	DIFFIO_RX_B29n	DIFFOUT_B29n	AH14	D04B							
3B	VREF33BN0	IO		DATA64	DIFFIO_RX_B28p	DIFFOUT_B28p	AH14	D04B							
3B	VREF33BN0	IO		DATA65	DIFFIO_RX_B29p	DIFFOUT_B29p	AH15	D04B							
3B	VREF33BN0	IO		DATA66	DIFFIO_RX_B30n	DIFFOUT_B30n	AH15	D04B							
3B	VREF33BN0	IO		DATA67	DIFFIO_RX_B29p	DIFFOUT_B29p	AH15	D04B							
3B	VREF33BN0	IO		DATA68	DIFFIO_RX_B31n	DIFFOUT_B31n	AH16	D04B							
3B	VREF33BN0	IO		DATA69	DIFFIO_RX_B30p	DIFFOUT_B30p	AH16	D04B							
3B	VREF33BN0	IO		DATA70	DIFFIO_RX_B31p	DIFFOUT_B31p	AH17	D05B							
3B	VREF33BN0	IO		DATA71	DIFFIO_RX_B32n	DIFFOUT_B32n	AH16	D04B							
3B	VREF33BN0	IO		DATA72	DIFFIO_RX_B31p	DIFFOUT_B31p	AH17	D05B							
3B	VREF33BN0	IO		DATA73	DIFFIO_RX_B33n	DIFFOUT_B33n	AH18	D04B							
3B	VREF33BN0	IO		DATA74	DIFFIO_RX_B32p	DIFFOUT_B32p	AH18	D04B							
3B	VREF33BN0	IO		DATA75	DIFFIO_RX_B33p	DIFFOUT_B33p	AH19	D04B							
3B	VREF33BN0	IO		DATA76	DIFFIO_RX_B34n	DIFFOUT_B34n	AH19	D04B							
3B	VREF33BN0	IO		DATA77	DIFFIO_RX_B33p	DIFFOUT_B33p	AH19	D04B							
3B	VREF33BN0	IO		DATA78	DIFFIO_RX_B35n	DIFFOUT_B35n	AH19	D04B							
3B	VREF33BN0	IO		DATA79	DIFFIO_RX_B34p	DIFFOUT_B34p	AH19	D04B							
3B	VREF33BN0	IO		DATA80	DIFFIO_RX_B35p	DIFFOUT_B35p	AH19	D04B							
3B	VREF33BN0	IO		DATA81	DIFFIO_RX_B36n	DIFFOUT_B36n	AH19	D04B							
3B	VREF33BN0	IO		DATA82	DIFFIO_RX_B35p	DIFFOUT_B35p	AH19	D04B							
3B	VREF33BN0	IO		DATA83	DIFFIO_RX_B37n	DIFFOUT_B37n	AH20	D04B							
3B	VREF33BN0	IO		DATA84	DIFFIO_RX_B36p	DIFFOUT_B36p	AH20	D04B							
3B	VREF33BN0	IO		DATA85	DIFFIO_RX_B37p	DIFFOUT_B37p	AH20	D04B							
3B	VREF33BN0	IO		DATA86	DIFFIO_RX_B38n	DIFFOUT_B38n	AH21	D04B							
3B	VREF33BN0	IO		DATA87	DIFFIO_RX_B37p	DIFFOUT_B37p	AH21	D04B							
3B	VREF33BN0	IO		DATA88	DIFFIO_RX_B39n	DIFFOUT_B39n	AH22	D04B							
3B	VREF33BN0	IO		DATA89	DIFFIO_RX_B38p	DIFFOUT_B38p	AH22	D04B							
3B	VREF33BN0	IO		DATA90	DIFFIO_RX_B39p	DIFFOUT_B39p	AH22	D04B							
3B	VREF33BN0	IO		DATA91	DIFFIO_RX_B40n	DIFFOUT_B40n	AH22	D04B							
3B	VREF33BN0	IO		DATA92	DIFFIO_RX_B39p	DIFFOUT_B39p	AH22	D04B							
3B	VREF33BN0	IO		DATA93	DIFFIO_RX_B41n	DIFFOUT_B41n	AH23	D04B							
3B	VREF33BN0	IO		DATA94	DIFFIO_RX_B40p	DIFFOUT_B40p	AH23	D04B							
3B	VREF33BN0	IO		DATA95	DIFFIO_RX_B41p	DIFFOUT_B41p									

Bank Number	VREF	PinName/Function (2)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	U6T2	DOS for X8	DOS for X16	HMC Pin Assignment for D0B3/D0B2 /31	HMC Pin Assignment for LPD0B2	HPS Pin Mux Select 3	HPS Pin Mux Select 2	HPS Pin Mux Select 1	HPS Pin Mux Select 0
JA	VREFB4A00	IO			DIFIO_RX_B4p	DIFOUT_B4p	AE27	DQ8B	DQ2B	B_DM_4	B_DM_4				
JA	VREFB4A00	IO	R20_1		DIFIO_RX_B4n	DIFOUT_B4n	AE26	DQ8R	DQ2R	B_DM_4	B_DM_4				
JA	VREFB5A00	IO			DIFIO_RX_R2n	DIFOUT_R2n	AE20	DQ1R	DQ1R						
JA	VREFB5A00	IO	PB_REQUEST	INIT_DONE	DIFIO_RX_R2n	DIFOUT_R2n	AE26	DQ1R	DQ1R						
JA	VREFB5A00	IO	CRC_ERROR		DIFIO_RX_R2n	DIFOUT_R2n	V19								
JA	VREFB5A00	IO		R2E0	DIFIO_RX_R2n	DIFOUT_R2n	V19	DQ16	DQ16						
JA	VREFB5A00	IO			DIFIO_RX_R2p	DIFOUT_R2p	V17	DQ16	DQ16						
JA	VREFB5A00	IO		CvP_CONF DONE	DIFIO_RX_R3n	DIFOUT_R3n	AD26	DQ1R	DQ1R						
JA	VREFB5A00	IO			DIFIO_RX_R4p	DIFOUT_R4p	V18	DQ1R	DQ1R						
JA	VREFB5A00	IO		DEV_OE	DIFIO_RX_R4n	DIFOUT_R4n	V18	DQ1R	DQ1R						
JA	VREFB5A00	IO			DIFIO_RX_R5p	DIFOUT_R5p	V16	DQS1R	DQS1R						
JA	VREFB5A00	IO		DEV_CLRn	DIFIO_RX_R5n	DIFOUT_R5n	AB23	DQ1R	DQ1R						
JA	VREFB5A00	IO			DIFIO_RX_R6p	DIFOUT_R6p	W15	DQS1R	DQS1R						
JA	VREFB5A00	IO			DIFIO_RX_R6n	DIFOUT_R6n	AC23	DQ16	DQ16						
JA	VREFB5A00	IO			DIFIO_RX_R7p	DIFOUT_R7p	V16	DQ16	DQ16						
JA	VREFB5A00	IO			DIFIO_RX_R7n	DIFOUT_R7n	AA23								
JA	VREFB5A00	IO			DIFIO_RX_R8n	DIFOUT_R8n	V19	DQ1R	DQ1R						
JB	VREFB6A00_HPS	HPS_DOR					N29			HPS_DM_4	HPS_DM_4				
JB	VREFB6A00_HPS	HPS_DOR					N28			HPS_DQ_39	HPS_DQ_39				
JB	VREFB6A00_HPS	HPS_DOR					V29			HPS_DQ_37	HPS_DQ_37				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_38	HPS_DQ_38				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_36	HPS_DQ_36				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_35	HPS_DQ_35				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_34	HPS_DQ_34				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_32	HPS_DQ_32				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_31	HPS_DQ_31				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_30	HPS_DQ_30				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_29	HPS_DQ_29				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_28	HPS_DQ_28				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_27	HPS_DQ_27				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_26	HPS_DQ_26				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_25	HPS_DQ_25				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_24	HPS_DQ_24				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_23	HPS_DQ_23				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_22	HPS_DQ_22				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_21	HPS_DQ_21				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_20	HPS_DQ_20				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_19	HPS_DQ_19				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_18	HPS_DQ_18				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_17	HPS_DQ_17				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_16	HPS_DQ_16				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_15	HPS_DQ_15				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_14	HPS_DQ_14				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_13	HPS_DQ_13				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_12	HPS_DQ_12				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_11	HPS_DQ_11				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_10	HPS_DQ_10				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_9	HPS_DQ_9				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_8	HPS_DQ_8				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_7	HPS_DQ_7				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_6	HPS_DQ_6				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_5	HPS_DQ_5				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_4	HPS_DQ_4				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_3	HPS_DQ_3				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_2	HPS_DQ_2				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_1	HPS_DQ_1				
JB	VREFB6A00_HPS	HPS_DOR								HPS_DQ_0	HPS_DQ_0				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_0	HPS_CS4_0				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_1	HPS_CS4_1				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_2	HPS_CS4_2				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_3	HPS_CS4_3				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_4	HPS_CS4_4				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_5	HPS_CS4_5				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_6	HPS_CS4_6				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_7	HPS_CS4_7				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_8	HPS_CS4_8				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_9	HPS_CS4_9				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_10	HPS_CS4_10				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_11	HPS_CS4_11				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_12	HPS_CS4_12				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_13	HPS_CS4_13				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_14	HPS_CS4_14				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_15	HPS_CS4_15				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_16	HPS_CS4_16				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_17	HPS_CS4_17				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_18	HPS_CS4_18				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_19	HPS_CS4_19				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_20	HPS_CS4_20				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_21	HPS_CS4_21				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_22	HPS_CS4_22				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_23	HPS_CS4_23				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_24	HPS_CS4_24				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_25	HPS_CS4_25				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_26	HPS_CS4_26				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_27	HPS_CS4_27				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_28	HPS_CS4_28				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_29	HPS_CS4_29				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_30	HPS_CS4_30				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_31	HPS_CS4_31				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_32	HPS_CS4_32				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_33	HPS_CS4_33				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_34	HPS_CS4_34				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_35	HPS_CS4_35				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_36	HPS_CS4_36				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_37	HPS_CS4_37				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_38	HPS_CS4_38				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_39	HPS_CS4_39				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_40	HPS_CS4_40				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_41	HPS_CS4_41				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_42	HPS_CS4_42				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_43	HPS_CS4_43				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_44	HPS_CS4_44				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_45	HPS_CS4_45				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_46	HPS_CS4_46				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_47	HPS_CS4_47				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_48	HPS_CS4_48				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_49	HPS_CS4_49				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_50	HPS_CS4_50				
JB	VREFB6A00_HPS	HPS_DOR								HPS_CS4_51	HPS_CS4_51				
JB	VREFB6A00_HPS	HPS_DOR													

Bank Number	VREF	PinName/Function (2)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	U6T2	DOS for X8	DOS for X16	HMC Pin Assignment for D0B3/D0B2 /3)	HMC Pin Assignment for LPDDB2	HPS Pin Mux Select 3	HPS Pin Mux Select 2	HPS Pin Mux Select 1	HPS Pin Mux Select 0
ZA		VCC/STOLK_HPS					J19								
ZA		HPS_VDD					K23								
ZA		HPS_TCX					K18								
ZA		HPS_TSST					C22								
ZA		HPS_TDI					D22								
ZA		HPS_VDDIO					K21								
ZA		HPS_PORSEL					E18								
ZA		HPS_CLK1					E20								
ZA		HPS_CLK2					D20								
ZA		VREF#B7/0/7/0/0/0/0_HPS					C21								
ZA		VREF#B7/0/7/0/0/0/0_HPS	TRACE_D0				A22								
ZA		VREF#B7/0/7/0/0/0/0_HPS	TRACE_D1				B21								
ZA		VREF#B7/0/7/0/0/0/0_HPS	TRACE_D2				A21								
ZA		VREF#B7/0/7/0/0/0/0_HPS	TRACE_D3				A18								
ZA		VREF#B7/0/7/0/0/0/0_HPS	TRACE_D4				A20								
ZA		VREF#B7/0/7/0/0/0/0_HPS	TRACE_D5				J18								
ZA		VREF#B7/0/7/0/0/0/0_HPS	TRACE_D6				A19								
ZA		VREF#B7/0/7/0/0/0/0_HPS	TRACE_D7				A20								
ZA		VREF#B7/0/7/0/0/0/0_HPS	SPMI_Clk				A18								
ZA		VREF#B7/0/7/0/0/0/0_HPS	SPMI_MOSI				C17								
ZA		VREF#B7/0/7/0/0/0/0_HPS	SPMI_MISO				B18								
ZA		VREF#B7/0/7/0/0/0/0_HPS	SPMI_SS0				A17								
ZA		VREF#B7/0/7/0/0/0/0_HPS	UART0_RX				A17								
ZA		VREF#B7/0/7/0/0/0/0_HPS	UART0_TX_CLKSEL1				H17								
ZA		VREF#B7/0/7/0/0/0/0_HPS	UART0_TX_CLKSEL2				C19								
ZA		VREF#B7/0/7/0/0/0/0_HPS	UART0_TXD				B18								
ZA		VREF#B7/0/7/0/0/0/0_HPS	CAN0_RX				A16								
ZA		VREF#B7/0/7/0/0/0/0_HPS	CAN0_TX_CLKSEL0				B16								
ZA		VREF#B7/0/7/0/0/0/0_HPS	CAN0_TXD				B16								
ZA		VREF#B7/0/7/0/0/0/0_HPS	CAN0_TX_CLKSEL1				C16								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_ALE				J15								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_CE				A16								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_CLE				J14								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_CE				A15								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_RB				D17								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_RD				A16								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D00				E16								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D01				A13								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D02				J13								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D03				A12								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D04				H12								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D05				A11								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D06				C15								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D07				A6								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D08				D14								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D09				A5								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D10				C13								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D11				B6								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D12				H13								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D13				A4								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D14				H12								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D15				B4								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D16				B12								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D17				B8								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D18				B11								
ZA		VREF#B7/0/7/0/0/0/0_HPS	NAND_D19				E9								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RX_CTL				E4								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				C10								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				F5								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				C9								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				C4								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				C8								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				D4								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				C7								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				D5								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				D6								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				F4								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				G6								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				G4								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				C5								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				C6								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				A10								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				A11								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				D10								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				D10								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				D10								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				H6								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				H6								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				L6								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				L6								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				L6								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				L9								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				L9								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				L9								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				L9								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				A11								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				A11								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				A11								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				A11								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				A12								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				A12								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				A12								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				A12								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				A13								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				A13								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				A13								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				A13								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				A14								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				A14								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				A14								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				A14								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				A15								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				A15								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				A15								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				A15								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				A16								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				A16								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				A16								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD3				A16								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD0				A17								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD1				A17								
ZA		VREF#B7/0/7/0/0/0/0_HPS	RGMII_RXD2				A17								
ZA		VREF#B7/0/7/0/0/0													

Bank Number	VREF	PinName/Function (2)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	U6T2	DOS for X8	DOS for X16	HMC Pin Assignment for D0B3/D0B2 /3)	HMC Pin Assignment for LPDDB2	HPS Pin Mux Select 3	HPS Pin Mux Select 2	HPS Pin Mux Select 1	HPS Pin Mux Select 0
		GND					AC1								
		GND					AC2								
		GND					AC3								
		GND					AD14								
		GND					AD22								
		GND					AD23								
		GND					AD3								
		GND					AD6								
		GND					AD8								
		GND					AE1								
		GND					AE16								
		GND					AE18								
		GND					AE2								
		GND					AE3								
		GND					AE24								
		GND					AF3								
		GND					AG1								
		GND					AG21								
		GND					AG2								
		GND					AG27								
		GND					AG3								
		GND					AG7								
		GND					AH10								
		GND					AH20								
		GND					B15								
		GND					B17								
		GND					B20								
		GND					B22								
		GND					B25								
		GND					B67								
		GND					B3								
		GND					B5								
		GND					B7								
		GND					C1								
		GND					C11								
		GND					C9								
		GND					C3								
		GND					D10								
		GND					D11								
		GND					D16								
		GND					D3								
		GND					E1								
		GND					E19								
		GND					E3								
		GND					E22								
		GND					E34								
		GND					E27								
		GND					E3								
		GND					E9								
		GND					F3								
		GND					G1								
		GND					G2								
		GND					G3								
		GND					H11								
		GND					H15								
		GND					H18								
		GND					H20								
		GND					H24								
		GND					H27								
		GND					H3								
		GND					Y3								
		GND					Y5								
		GND					Y10								
		GND					J1								
		GND					J2								
		GND					J3								
		GND					J5								
		GND					J9								
		GND					K11								
		GND					K12								
		GND					K14								
		GND					K16								
		GND					K20								
		GND					K3								
		GND					K4								
		GND					Y14								
		GND					L1								
		GND					Y15								
		GND					L15								
		GND					L17								
		GND					L19								
		GND					L24								
		GND					L27								
		GND					L3								
		GND					L5								
		GND					W4								
		GND					W3								
		GND					W10								
		GND					M11								
		GND					M14								
		GND					M16								
		GND					M20								
		GND					M1								
		GND					M8								
		GND					N1								
		GND					N13								
		GND					N15								
		GND					N17								
		GND					N19								
		GND					N3								
		GND					N4								
		GND					P10								
		GND					P12								
		GND					P16								
		GND					P18								
		GND					P20								
		GND					P25								
		GND					P5								
		GND					P9								
		GND					R1								
		GND					R11								
		GND					R13								
		GND					R15								
		GND					R2								
		GND					R3								
		GND					R8								
		GND					T10								
		GND					T14								
		GND					T3								
		GND					U1								
		GND					U12								

Bank Number	VREF	PinName/Function (2)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	U6T2	DOS for X8	DOS for X16	HMC Pin Assignment for D0B3/D0B2 /3)	HMC Pin Assignment for LPDDB2	HPS Pin Mux Select 3	HPS Pin Mux Select 2	HPS Pin Mux Select 1	HPS Pin Mux Select 0
		GND					U17								
		GND					U2								
		GND					U9								
		GND					U24								
		GND					U27								
		GND					U3								
		GND					U5								
		GND					U14								
		GND					V3								
		GND					V5								
		GND					W1								
		GND					W16								
		GND					W18								
		GND					W2								
		GND					AB25								
		GND					W24								
		GND					V23								
		GND					AB26								
		GND					W20								
		GND					AB26								
		GND					W21								
		GND					V25								
		VCC					V21								
		VCC					J11								
		VCC					K13								
		VCC					K15								
		VCC					L11								
		VCC					L12								
		VCC					L14								
		VCC					M12								
		VCC					M13								
		VCC					M15								
		VCC					N8								
		VCC					N10								
		VCC					N11								
		VCC					N12								
		VCC					N14								
		VCC					N8								
		VCC					P11								
		VCC					P13								
		VCC					P14								
		VCC					P15								
		VCC					R10								
		VCC					R12								
		VCC					R14								
		VCC					R9								
		VCC					T15								
		VCC					T9								
		VCC					U4								
		VCC					T4								
		VCC					M5								
		VCC					N5								
		VCC					N6								
		VCC					T6								
		DNU					U26								
		DNU					A2								
		DNU					B2								
		DNU					D1								
		DNU					D2								
		DNU					H1								
		DNU					H2								
		DNU					M1								
		DNU					M2								
		DNU					T1								
		DNU					V1								
		DNU					V2								
		DNU					A01								
		DNU					A02								
		DNU					A03								
		VCC03B					A07								
		VCC03B					A09								
		VCC03B					A013								
		VCC03B					A04								
		VCC03A					A016								
		VCC03A					A021								
		VCC03A					A014								
		VCC03A					A014								
		VCC03A					A019								
		VCC03A					A012								
		VCC03A					A022								
		VCC03A					A015								
		VCC03A					AH25								
		VCC03A					W13								
		VCC03A					AC25								
		VCC03A					W17								
		VCC03A					C25								
		VCC03A					C27								
		VCC03A					U18								
		VCC03A					W27								
		VCC03A					G20								
		VCC03A					D18								
		VCC03A					B15								
		VCC03A					H14								
		VCC03B					B10								
		VCC03B					D9								
		VCC03D					G5								
		VCC03B					E7								
		VCC03B					A10								
		VCCD94A					A11								
		VCCD94A					A013								
		VCCD94A					A016								
		VCCD94A					A018								
		VCCD94A					A021								
		VCCD94A					A09								
		VCCD95A					Y21								



Pin Information for the Cyclone® V 5CSEMA2 Device
Version 1.2
Note (1)

Bank Number	VREF	PinName/Function (2)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	U6T2	DOS for X8	DOS 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
		VCCPD6A6B_HPS			K21										
		VCCPD6A6B_HPS			K22										
		VCCPD6A6B_HPS			M24										
		VCCPD6A6B_HPS			P21										
		VCCPD6A6B_HPS			P24										
		VCCD7B_HPS			S21										
		VCCD7B_HPS			E17										
		VCCD7C_HPS			E14										
		VCCD7D_HPS			E13										
		VCCD7E_HPS			A10										
3A	VREFB3AAN0	VREFB3AN0			A65										
3B	VREFB3BAN0	VREFB3AN0			AF12										
4A	VREFB4AN0	VREFB4AN0			AF16										
5A	VREFB5AAN0	VREFB5AN0			AC26										
5A	VREFB7A/B/C/D/N0_HPS	VREFB7A/B/C/D/N0_HPS			D19										
8A	VREFB8AN0	VREFB8AN0			D9										
		NC			W25										
		NC			W26										
		NC			W19										
		VCCRSTOLK_HPS			F22										
		RREF_TL			B1										
		VCCA_FPLL			K5										
		VCCA_FPLL			P4										
		VCCA_FPLL			U4										
		VCCA_FPLL			W5										
		VCCA_FPLL			J4										
		VCCA_FPLL			AA21										
		VCCA_FPLL			M4										
		VCCA_FPLL			R4										
		VCC_AUX			AC24										
		VCC_AUX			AC8										
		VCC_AUX			AD15										
		VCC_AUX			E15										
		VCC_AUX			F8										
		VCC_AUX_SHARED			F21										
		VCCPLL_HPS			H23										
		VCC_HPS			U21										
		VCC_HPS			K17										
		VCC_HPS			L16										
		VCC_HPS			L18										
		VCC_HPS			M17										
		VCC_HPS			M18										
		VCC_HPS			M19										
		VCC_HPS			N16										
		VCC_HPS			N18										
		VCC_HPS			P17										
		VCC_HPS			P19										

Notes:
(1) For more information about pin definitions and pin connection guidelines, refer to the [Cyclone® V Device Family Pin Connection Guidelines](#).

(2) HPS DDR pins are for memory interface only. For the dedicated pin function corresponding with the respective memory interfaces, refer to the HMC columns.

(3) RESET# pin is only applicable for DDR3 device.



**Pin Information for the Cyclone® V 5CSEMA2 Device
Version 1.2**

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