



Bank Number	VREF	PinName/Function (3) (2)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	F866 (4)	DQS for X8/X9	DQS for X16/ X18	DQS for X32/ X36	HMC pin assignment for DQR3 (5)	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
		DNU					R29									
		DNU					T29									
		DNU					T30									
GXB_L1		REFCLK2n					W23									
GXB_L1		REFCLK2p					W24									
GXB_L1		GXB_TX_L11n					U27									
GXB_L1		GXB_TX_L11p					U28									
GXB_L1		GXB_RX_L11n.GXB_REFCLK_L11n					V29									
GXB_L1		GXB_RX_L11p.GXB_REFCLK_L11p					V29									
GXB_L1		GXB_TX_L10n					W27									
GXB_L1		GXB_TX_L10p					W28									
GXB_L1		GXB_RX_L10n.GXB_REFCLK_L10n					Y30									
GXB_L1		GXB_RX_L10p.GXB_REFCLK_L10p					Y29									
GXB_L1		GXB_TX_L8n					AA27									
GXB_L1		GXB_TX_L8p					AA28									
GXB_L1		GXB_RX_L8n.GXB_REFCLK_L8n					AB30									
GXB_L1		GXB_RX_L8p.GXB_REFCLK_L8p					AB29									
GXB_L1		GXB_TX_L6n					AC27									
GXB_L1		GXB_TX_L6p					AC28									
GXB_L1		GXB_RX_L6n.GXB_REFCLK_L6n					AD30									
GXB_L1		GXB_RX_L6p.GXB_REFCLK_L6p					AD29									
GXB_L1		GXB_TX_L7n					AE27									
GXB_L1		GXB_TX_L7p					AE28									
GXB_L1		GXB_RX_L7n.GXB_REFCLK_L7n					AF29									
GXB_L1		GXB_RX_L7p.GXB_REFCLK_L7p					AF28									
GXB_L1		GXB_TX_L6n					AG27									
GXB_L1		GXB_TX_L6p					AG28									
GXB_L1		GXB_RX_L6n.GXB_REFCLK_L6n					AH29									
GXB_L1		GXB_RX_L6p.GXB_REFCLK_L6p					AH28									
GXB_L1		REFCLK2n					AA23									
GXB_L1		REFCLK2p					AA22									
		DNU					AJ28									
JA		TD0		TD0			AF25									
JA		TMS		TMS			AK29									
JA		TCK		TCK			AH25									
JA		TDI		TDI			AG25									
JA		DCLK		DCLK			AK27									
JA		AS0		AS0			AJ27									
JA		AS_DATA3		DATA3			AK28									
JA		AS_DATA2		DATA2			AE25									
JA		AS_DATA1		DATA1			AC25									
JA		AS_DATAASD0		DATA0			AK26									
JA	VREFBAND	IO	RZD_0		DIFFIO_TX_B1n	DIFFOUT_B1n	AD25									
JA	VREFBAND	IO	CLK0n		DIFFIO_RX_B2n	DIFFOUT_B2n	AE24									
JA	VREFBAND	IO	CLK0p		DIFFIO_RX_B2p	DIFFOUT_B2p	AE24									
JA	VREFBAND	IO	CLK1n		DIFFIO_RX_B4n	DIFFOUT_B4n	AJ25									
JA	VREFBAND	IO	CLK1p		DIFFIO_RX_B4p	DIFFOUT_B4p	AK25									
JA	VREFBAND	IO	FPLL_B1_CLKOUT0.FPLL_B1_CLKOUT0		DIFFIO_TX_B5n	DIFFOUT_B5n	AD23									
JA	VREFBAND	IO	FPLL_B1_CLKOUT0.FPLL_B1_CLKOUT0		DIFFIO_TX_B5p	DIFFOUT_B5p	AE23									
JA	VREFBAND	IO	FPLL_B1_CLKOUT3.FPLL_B1_CLKOUT3		DIFFIO_RX_B6n	DIFFOUT_B6n	AG24									
JA	VREFBAND	IO	FPLL_B1_CLKOUT3.FPLL_B1_CLKOUT3		DIFFIO_RX_B6p	DIFFOUT_B6p	AG24									
JA	VREFBAND	IO	FPLL_B1_CLKOUT2.FPLL_B1_CLKOUT2		DIFFIO_RX_B6p	DIFFOUT_B6p	AH24									
JA	VREFBAND	IO	CLK2n		DIFFIO_RX_B7n	DIFFOUT_B7n	AJ24									
JA	VREFBAND	IO	CLK2p		DIFFIO_RX_B7p	DIFFOUT_B7p	AK24									
JA	VREFBAND	IO	CLK3n		DIFFIO_TX_B8n	DIFFOUT_B8n	AC22				CSF_3A.1	CSF_3A.1				
JA	VREFBAND	IO	CLK3p		DIFFIO_TX_B8p	DIFFOUT_B8p	AC21				CSF_3A.0	CSF_3A.0				
JA	VREFBAND	IO	CLK3n		DIFFIO_RX_B8n	DIFFOUT_B8n	AG23									
JA	VREFBAND	IO	CLK3p		DIFFIO_RX_B8p	DIFFOUT_B8p	AH23									
JA	VREFBAND	IO	CLK3n		DIFFIO_TX_B10n	DIFFOUT_B10n	AE21				ODT_3A.1	ODT_3A.1				
JA	VREFBAND	IO	CLK3p		DIFFIO_TX_B10p	DIFFOUT_B10p	AD22				ODT_3A.0	ODT_3A.0				
JA	VREFBAND	IO	CLK3n		DIFFIO_RX_B11n	DIFFOUT_B11n	AK23				WEA_3A					
JA	VREFBAND	IO	CLK3p		DIFFIO_RX_B11p	DIFFOUT_B11p	AK22				CAS_3A					
JA	VREFBAND	IO	CLK3n		DIFFIO_TX_B12n	DIFFOUT_B12n	AJ22				RASE_3A					
JA	VREFBAND	IO	CLK3p		DIFFIO_TX_B12p	DIFFOUT_B12p	AJ21				BA_3A.2					
JA	VREFBAND	IO	CLK3n		DIFFIO_RX_B13n	DIFFOUT_B13n	AG22				BA_3A.1					
JA	VREFBAND	IO	CLK3p		DIFFIO_RX_B13p	DIFFOUT_B13p	AG22				BA_3A.0					
JA	VREFBAND	IO	CLK3n		DIFFIO_TX_B14n	DIFFOUT_B14n	AE18				A_3A.15					
JA	VREFBAND	IO	CLK3p		DIFFIO_TX_B14p	DIFFOUT_B14p	AE18				A_3A.14					
JA	VREFBAND	IO	CLK3n		DIFFIO_RX_B15n	DIFFOUT_B15n	AK21				A_3A.13					
JA	VREFBAND	IO	CLK3p		DIFFIO_RX_B15p	DIFFOUT_B15p	AK20				A_3A.12					
JA	VREFBAND	IO	CLK3n		DIFFIO_TX_B16n	DIFFOUT_B16n	AH21				A_3A.11					
JA	VREFBAND	IO	CLK3p		DIFFIO_TX_B16p	DIFFOUT_B16p	AH20				A_3A.10					
JA	VREFBAND	IO	CLK3n		DIFFIO_RX_B17n	DIFFOUT_B17n	AF21				CA_3A.9	CA_3A.9				
JA	VREFBAND	IO	CLK3p		DIFFIO_RX_B17p	DIFFOUT_B17p	AG21				CA_3A.8	CA_3A.8				
JA	VREFBAND	IO	CLK3n		DIFFIO_TX_B18n	DIFFOUT_B18n	AD21				CA_3A.7	CA_3A.7				
JA	VREFBAND	IO	CLK3p		DIFFIO_TX_B18p	DIFFOUT_B18p	AD20				CA_3A.6	CA_3A.6				
JA	VREFBAND	IO	CLK3n		DIFFIO_RX_B19n	DIFFOUT_B19n	AJ19				CA_3A.5	CA_3A.5				
JA	VREFBAND	IO	CLK3p		DIFFIO_RX_B19p	DIFFOUT_B19p	AK19				CA_3A.4	CA_3A.4				
JA	VREFBAND	IO	CLK3n		DIFFIO_TX_B20n	DIFFOUT_B20n	AG20				CA_3A.3	CA_3A.3				
JA	VREFBAND	IO	CLK3p		DIFFIO_TX_B20p	DIFFOUT_B20p	AG19				CA_3A.2	CA_3A.2				
JA	VREFBAND	IO	CLK3n		DIFFIO_RX_B21n	DIFFOUT_B21n	AG18				CA_3A.1	CA_3A.1				
JA	VREFBAND	IO	CLK3p		DIFFIO_RX_B21p	DIFFOUT_B21p	AH18				A_3A.0	CA_3A.0				
JA	VREFBAND	IO	CLK3n		DIFFIO_TX_B22n	DIFFOUT_B22n	AD19				CKE_3A.1	CKE_3A.1				
JA	VREFBAND	IO	CLK3p		DIFFIO_TX_B22p	DIFFOUT_B22p	AD18				CKE_3A.0	CKE_3A.0				
JA	VREFBAND	IO	CLK3n		DIFFIO_RX_B23n	DIFFOUT_B23n	AF19				CKE_3A	CKE_3A				
JA	VREFBAND	IO	CLK3p		DIFFIO_RX_B23p	DIFFOUT_B23p	AE20				CK_3A	CK_3A				
JB	VREFBAND	IO	CLK4n		DIFFIO_TX_B24n	DIFFOUT_B24n	AE15				RESETP_3A					
JB	VREFBAND	IO	CLK4p		DIFFIO_TX_B24p	DIFFOUT_B24p	AE14				DQ1_3B.6					
JB	VREFBAND	IO	CLK4n		DIFFIO_RX_B25n	DIFFOUT_B25n	AJ18				DQ1_3B.8	DQ1_3B.8				
JB	VREFBAND	IO	CLK4p		DIFFIO_RX_B25p	DIFFOUT_B25p	AJ18				DQ1_3B.7	DQ1_3B.7				
JB	VREFBAND	IO	CLK4n		DIFFIO_RX_B25p	DIFFOUT_B25p	AK18				DQ1_3B.6	DQ1_3B.6				
JB	VREFBAND	IO	CLK4p		DIFFIO_TX_B26n	DIFFOUT_B26n	AK15				DQ1_3B.5	DQ1_3B.5				
JB	VREFBAND	IO	CLK4n		DIFFIO_TX_B26p	DIFFOUT_B26p	AK14				DM1_3B	DM1_3B				
JB	VREFBAND	IO	CLK4p		DIFFIO_RX_B27n	DIFFOUT_B27n	AK17				DQS#1_3B	DQS#1_3B				
JB	VREFBAND	IO	CLK4n		DIFFIO_RX_B27p	DIFFOUT_B27p	AK16				DQS#1_3B	DQS#1_3B				
JB	VREFBAND	IO	CLK4p		DIFFIO_TX_B28n	DIFFOUT_B28n	AC16				DQS#2_3B	DQS#2_3B				
JB	VREFBAND	IO	CLK4n		DIFFIO_TX_B28p	DIFFOUT_B28p	AD15				DQ1_3B.5	DQ1_3B.5				
JB	VREFBAND	IO	CLK4p		DIFFIO_RX_B29n	DIFFOUT_B29n	AJ16				DQ1_3B.4	DQ1_3B.4				
JB	VREFBAND	IO	CLK4n		DIFFIO_RX_B29p	DIFFOUT_B29p	AJ15				DQ1_3B.3	DQ1_3B.3				
JB	VREFBAND	IO	CLK4p		DIFFIO_RX_B30n	DIFFOUT_B30n	AD17				DQ1_3B.2	DQ1_3B.2				
JB	VREFBAND	IO	CLK4n		DIFFIO_RX_B30p	DIFFOUT_B30p	AH17				DQ1_3B.1	DQ1_3B.1				
JB	VREFBAND	IO	CLK4p		DIFFIO_RX_B30p	DIFFOUT_B30p	AH16				DQ1_3B.0	DQ1_3B.0				
JB	VREFBAND	IO	CLK4n		DIFFIO_TX_B31p	DIFFOUT_B31p	AG17				DQ2_3B.8	DQ2_3B.8				
JB	VREFBAND	IO	CLK4p		DIFFIO_RX_B32n	DIFFOUT_B32n	AH14				DQ2_3B.7	DQ2_3B.7				
JB	VREFBAND	IO	CLK4n		DIFFIO_RX_B32p	DIFFOUT_B32p	AH14				DQ2_3B.6	DQ2_3B.6				
JB	VREFBAND	IO	CLK4p		DIFFIO_TX_B33p	DIFFOUT_B33p	AE17				DM2_3B	DM2_3B				
JB	VREFBAND	IO	CLK4n		DIFFIO_RX_B34n	DIFFOUT_B34n	AF16				DQS#2_3B	DQS#2_3B				
JB	VREFBAND	IO	CLK4p		DIFFIO_RX_B34p	DIFFOUT_B34p	AG16				DQS#2_3B	DQS#2_3B				
JB	VREFBAND	IO	CLK4n		DIFFIO_TX_B35n	DIFFOUT_B35n	AD14				DQ2_3B.5	DQ2_3B.5				
JB	VREFBAND	IO	CLK4p		DIFFIO_RX_B36n	DIFFOUT_B36n	AF15				DQ2_3B.4	DQ2_3B.4				
JB	VREFBAND	IO	CLK4n		DIFFIO_RX_B36p	DIFFOUT_B36p	AG15				DQ2_3B.3	DQ2_3B.3				
JB	VREFBAND	IO	CLK4p		DIFFIO_TX_B37p	DIFFOUT_B37p	AD13				DQ2_3B.2	DQ2_3B.2				
JB	VREFBAND	IO	CLK4n		DIFFIO_RX_B38n	DIFFOUT_B38n	AB13				DQ2_3B.1	DQ2_3B.1				
JB	VREFBAND	IO	CLK4p		DIFFIO_RX_B38p	DIFFOUT_B38p	AC13				DQ2_3B.0	DQ2_3B.0				
JD	VREFBAND	IO	CLK4n		DIFFIO_RX_B76n	DIFFOUT_B76n	AJ13									



Bank Number	VREF	PinName/Function (3) (2)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	F896 (4)	DQS for X8/X9	DQS for X16/ X18	DQS for X32/ X36	HMC pin assignment for DORS (5)	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
3D	VREFB3ND	IO	CLK5n		DIFFIO_RX_B78n	DIFFOUT_B78n	AH12									
3D	VREFB3ND	IO	CLK5p		DIFFIO_RX_B78p	DIFFOUT_B78p	AJ12									
3D	VREFB3ND	IO			DIFFIO_TX_B79n	DIFFOUT_B79n	AB12									
3D	VREFB3ND	IO			DIFFIO_TX_B79p	DIFFOUT_B79p	AC12									
3D	VREFB3ND	IO			DIFFIO_RX_B80n	DIFFOUT_B80n	AH13									
3D	VREFB3ND	IO			DIFFIO_RX_B80p	DIFFOUT_B80p	AG12									
3D	VREFB3ND	IO	CLK6n		DIFFIO_RX_B82n	DIFFOUT_B82n	AP13									
3D	VREFB3ND	IO	CLK6p		DIFFIO_RX_B82p	DIFFOUT_B82p	AP12									
3D	VREFB3ND	IO	CLK7n		DIFFIO_RX_B84n	DIFFOUT_B84n	AD12									
3D	VREFB3ND	IO	CLK7p		DIFFIO_RX_B84p	DIFFOUT_B84p	AD11									
			VCC2_FPLL				AB15									
			VCCA_FPLL				AB16									
			DNJ				AC16									
4A	VREFB4ND	IO		DATA10	DIFFIO_TX_B140p	DIFFOUT_B140p	AC10	DQ58								
4A	VREFB4ND	IO		DATA11	DIFFIO_RX_B147n	DIFFOUT_B147n	AE10	DQ58								
4A	VREFB4ND	IO		DATA5	DIFFIO_RX_B147p	DIFFOUT_B147p	AF10	DQ58								
4A	VREFB4ND	IO		DATA6	DIFFIO_TX_B148p	DIFFOUT_B148p	AD10	DQ58								
4A	VREFB4ND	IO		DATA12	DIFFIO_TX_B148n	DIFFOUT_B148n	AG11	DQS58B/QK58								
4A	VREFB4ND	IO		DATA13	DIFFIO_RX_B149p	DIFFOUT_B149p	AH11	DQS58C/QK58C/QK58B								
4A	VREFB4ND	IO		DATA7	DIFFIO_TX_B150n	DIFFOUT_B150n	AK12	DQ58								
4A	VREFB4ND	IO		DATA8	DIFFIO_TX_B150p	DIFFOUT_B150p	AK11	DQ58								
4A	VREFB4ND	IO		DATA14	DIFFIO_RX_B151n	DIFFOUT_B151n	AG10	DQ58								
4A	VREFB4ND	IO		DATA15	DIFFIO_RX_B151p	DIFFOUT_B151p	AH10	DQ58								
4A	VREFB4ND	IO		DATA9	DIFFIO_TX_B152n	DIFFOUT_B152n	AE9	DQ58								
4A	VREFB4ND	IO		CLKUSR	DIFFIO_TX_B152p	DIFFOUT_B152p	AF9	DQ58								
4A	VREFB4ND	IO			DIFFIO_RX_B153n	DIFFOUT_B153n	AK10	DQ58								
4A	VREFB4ND	IO			DIFFIO_RX_B153p	DIFFOUT_B153p	AK9	DQ58								
4A	VREFB4ND	IO		PR_ERROR	DIFFIO_TX_B154n	DIFFOUT_B154n	AJ10	DQ58								
4A	VREFB4ND	IO		PR_READY	DIFFIO_TX_B154p	DIFFOUT_B154p	AJ9	DQ58								
4A	VREFB4ND	IO		PR_DONE	DIFFIO_RX_B155n	DIFFOUT_B155n	AG9	DQ58								
4A	VREFB4ND	IO		PR_REQUEST	DIFFIO_RX_B155p	DIFFOUT_B155p	AH9	DQ58								
4A	VREFB4ND	IO		PERSTR0	DIFFIO_TX_B156n	DIFFOUT_B156n	AD9	DQ58								
4A	VREFB4ND	IO			DIFFIO_TX_B156p	DIFFOUT_B156p	AC8	DQ58								
4A	VREFB4ND	IO		CLP_CONF_DONE	DIFFIO_RX_B157n	DIFFOUT_B157n	AK8	DQS58B/QK58B								
4A	VREFB4ND	IO		CRC_ERROR	DIFFIO_TX_B157p	DIFFOUT_B157p	AK7	DQS58C/QK58C/QK58A								
4A	VREFB4ND	IO		DEV_DE	DIFFIO_TX_B158n	DIFFOUT_B158n	AK6	DQ58								
4A	VREFB4ND	IO		DEV_CLRn	DIFFIO_TX_B158p	DIFFOUT_B158p	AK5	DQ58								
4A	VREFB4ND	IO		INT_DONE	DIFFIO_RX_B159n	DIFFOUT_B159n	AG8	DQ58								
4A	VREFB4ND	IO		ICE0	DIFFIO_RX_B159p	DIFFOUT_B159p	AH8	DQ58								
4A	VREFB4ND	IO		VREFB4ND			AC9	DQ58								
4A	VREFB4ND	IO					AE8	DQ58								
4A	VREFB4ND	IO		CLK11n	DIFFIO_RX_B160n	DIFFOUT_B160n	AJ4	DQ58								
4A	VREFB4ND	IO		CLK11p	DIFFIO_RX_B160p	DIFFOUT_B160p	AK4	DQ58								
4A	VREFB4ND	IO			DIFFIO_TX_B161n	DIFFOUT_B161n	AJ7	DQ58								
4A	VREFB4ND	IO			DIFFIO_TX_B161p	DIFFOUT_B161p	AJ6	DQ58								
4A	VREFB4ND	IO			DIFFIO_RX_B162n	DIFFOUT_B162n	AG6	DQ58								
4A	VREFB4ND	IO			DIFFIO_RX_B162p	DIFFOUT_B162p	AG5	DQ58								
4A	VREFB4ND	IO			DIFFIO_TX_B162n	DIFFOUT_B162n	AH6	DQ58								
4A	VREFB4ND	IO			DIFFIO_TX_B164n	DIFFOUT_B164n	AZ7	DQ58								
4A	VREFB4ND	IO			DIFFIO_RX_B164p	DIFFOUT_B164p	AG7	DQ58								
4A	VREFB4ND	IO			DIFFIO_RX_B166n	DIFFOUT_B166n	AE6	DQ58								
4A	VREFB4ND	IO			DIFFIO_RX_B166p	DIFFOUT_B166p	AF6	DQ58								
4A	VREFB4ND	IO			DIFFIO_TX_B167n	DIFFOUT_B167n	AC7	DQ58								
4A	VREFB4ND	IO		RZD_1	DIFFIO_TX_B167p	DIFFOUT_B167p	AD7	DQ58								
4A	VREFB4ND	IO		CLK8n	DIFFIO_RX_B168n	DIFFOUT_B168n	AC6	DQ58								
4A	VREFB4ND	IO		CLK8p	DIFFIO_RX_B168p	DIFFOUT_B168p	AD6	DQ58								
			RREF_BR				AK2									
			DNJ				AJ3									
			DNJ				AK3									
GXB_R0		REFCLK0Rp					AA8									
GXB_R0		REFCLK0Rn					AA8									
GXB_R0		GXB_RX_R0n:GXB_REFCLK_R0n					AH2									
GXB_R0		GXB_RX_R0p:GXB_REFCLK_R0p					AH1									
GXB_R0		GXB_TX_R0p					AG3									
GXB_R0		GXB_TX_R0n					AG4									
GXB_R0		GXB_RX_R1n:GXB_REFCLK_R1n					AF2									
GXB_R0		GXB_RX_R1p:GXB_REFCLK_R1p					AF1									
GXB_R0		GXB_TX_R1p					AE3									
GXB_R0		GXB_TX_R1n					AE4									
GXB_R0		GXB_RX_R2n:GXB_REFCLK_R2n					AD2									
GXB_R0		GXB_RX_R2p:GXB_REFCLK_R2p					AD1									
GXB_R0		GXB_TX_R2p					AC3									
GXB_R0		GXB_TX_R2n					AC4									
GXB_R0		GXB_RX_R3n:GXB_REFCLK_R3n					AB2									
GXB_R0		GXB_RX_R3p:GXB_REFCLK_R3p					AB1									
GXB_R0		GXB_TX_R3p					AA3									
GXB_R0		GXB_TX_R3n					AA4									
GXB_R0		GXB_RX_R4n:GXB_REFCLK_R4n					V2									
GXB_R0		GXB_RX_R4p:GXB_REFCLK_R4p					V1									
GXB_R0		GXB_TX_R4p					W3									
GXB_R0		GXB_TX_R4n					W4									
GXB_R0		GXB_RX_R5n:GXB_REFCLK_R5n					V2									
GXB_R0		GXB_RX_R5p:GXB_REFCLK_R5p					V1									
GXB_R0		GXB_TX_R5p					U3									
GXB_R0		GXB_TX_R5n					U4									
GXB_R0		REFCLK1Rp					W9									
GXB_R0		REFCLK1Rn					W8									
BB	VREFB8ND	HPS	HPS_DDR				R4				HPS_DM_4		HPS_DM_4			
BB	VREFB8ND	HPS	HPS_DDR				R5				HPS_DQ_38		HPS_DQ_39			
BB	VREFB8ND	HPS	HPS_DDR				P7				HPS_DQ_37		HPS_DQ_37			
BB	VREFB8ND	HPS	HPS_DDR				N7				HPS_DQ_38		HPS_DQ_38			
BB	VREFB8ND	HPS	HPS_DDR				R7				HPS_DQ_38		HPS_DQ_38			
BB	VREFB8ND	HPS	HPS_DDR				R3				HPS_DQS_4		HPS_DQS_4			
BB	VREFB8ND	HPS	HPS_GPI13				T7									
BB	VREFB8ND	HPS	HPS_DDR				R2				HPS_DQS#_4		HPS_DQS#_4			
BB	VREFB8ND	HPS	HPS_DDR				T8				HPS_DQ_35		HPS_DQ_35			
BB	VREFB8ND	HPS	HPS_DDR				R1				HPS_DQ_33		HPS_DQ_33			
BB	VREFB8ND	HPS	HPS_DDR				M6				HPS_DQ_34		HPS_DQ_34			
BB	VREFB8ND	HPS	HPS_DDR				T1				HPS_DQ_32		HPS_DQ_32			
BB	VREFB8ND	HPS	HPS_GPI12				N6									
BB	VREFB8ND	HPS	HPS_GPI11				N3									
BB	VREFB8ND	HPS	HPS_DDR				R4				HPS_DM_3		HPS_DM_3			
BB	VREFB8ND	HPS	HPS_GPI10				P3									
BB	VREFB8ND	HPS	HPS_DDR				N5				HPS_DQ_31		HPS_DQ_31			
BB	VREFB8ND	HPS	HPS_DDR				A2				HPS_DQ_29		HPS_DQ_29			
BB	VREFB8ND	HPS	HPS_DDR				R6				HPS_DQ_30		HPS_DQ_30			
BB	VREFB8ND	HPS	HPS_DDR				P1				HPS_DQ_28		HPS_DQ_28			
BB	VREFB8ND	HPS	VREFB8ND				T6									
BB	VREFB8ND	HPS	HPS_DDR				M2				HPS_DQS_3		HPS_DQS_3			
BB	VREFB8ND	HPS	HPS_GPI9				L1									
BB	VREFB8ND	HPS	HPS_DDR				M3				HPS_DQS#_3		HPS_DQS#_3			
BB	VREFB8ND	HPS	HPS_DDR				M1				HPS_DQ_27		HPS_DQ_27			
BB	VREFB8ND	HPS	HPS_DDR				L4				HPS_DQ_25		HPS_DQ_25			
BB	VREFB8ND	HPS	HPS_DDR				U9				HPS_DQ_26		HPS_DQ_26			
BB	VREFB8ND	HPS	HPS_DDR				M4				HPS_DQ_24		HPS_DQ_24			
BB	VREFB8ND	HPS	HPS_GPI8				T9									
BB	VREFB8ND	HPS	HPS_GPI7				K1									
BB	VREFB8ND	HPS	HPS_DDR				L3				HPS_DM_2		HPS_DM_2			



Bank Number	VREF	PinName/Function (3, 2)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	F896 (4)	DQS for X8/X9	DQS for X16/ X18	DQS for X32/ X36	HMC pin assignment for DORS (5)	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
GB	VREFBAND0_HPS	HPS_GPI6					J1									
GB	VREFBAND0_HPS	HPS_DDR					K3									
GB	VREFBAND0_HPS	HPS_DDR					M4				HPS_DQ_23	HPS_DQ_23				
GB	VREFBAND0_HPS	HPS_DDR					J8				HPS_DQ_21	HPS_DQ_21				
GB	VREFBAND0_HPS	HPS_DDR					M5				HPS_DQ_22	HPS_DQ_22				
GB	VREFBAND0_HPS	HPS_GPI6					K8				HPS_DQ_20	HPS_DQ_20				
GB	VREFBAND0_HPS	HPS_DDR					G8				HPS_DQS_2	HPS_DQS_2				
GB	VREFBAND0_HPS	HPS_DDR					J2				HPS_RESET#	HPS_RESET#				
GB	VREFBAND0_HPS	HPS_DDR					F8				HPS_DQS#_2	HPS_DQS#_2				
GB	VREFBAND0_HPS	HPS_DDR					K2				HPS_DQ_19	HPS_DQ_19				
GB	VREFBAND0_HPS	HPS_DDR					J4				HPS_DQ_17	HPS_DQ_17				
GB	VREFBAND0_HPS	HPS_DDR					R9				HPS_DQ_18	HPS_DQ_18				
GB	VREFBAND0_HPS	HPS_DDR					J3				HPS_DQ_16	HPS_DQ_16				
GB	VREFBAND0_HPS	HPS_GPI4					P9									
GA	VREFBAND0_HPS	HPS_GPI3					D1									
GA	VREFBAND0_HPS	HPS_DDR					E3				HPS_DM_1	HPS_DM_1				
GA	VREFBAND0_HPS	HPS_GPI2					C1									
GA	VREFBAND0_HPS	HPS_DDR					F3				HPS_DQ_15	HPS_DQ_15				
GA	VREFBAND0_HPS	HPS_DDR					F1				HPS_DQ_13	HPS_DQ_13				
GA	VREFBAND0_HPS	HPS_DDR					M7				HPS_DQ_14	HPS_DQ_14				
GA	VREFBAND0_HPS	HPS_DDR					G1				HPS_DQ_12	HPS_DQ_12				
GA	VREFBAND0_HPS	HPS_DDR					L7				HPS_CKE_0	HPS_CKE_0				
GA	VREFBAND0_HPS	HPS_DDR					D2				HPS_DQS_1	HPS_DQS_1				
GA	VREFBAND0_HPS	HPS_DDR					A2				HPS_CAE_1	HPS_CAE_1				
GA	VREFBAND0_HPS	HPS_DDR					E1				HPS_DQS#_1	HPS_DQS#_1				
GA	VREFBAND0_HPS	HPS_DDR					B1				HPS_DQ_11	HPS_DQ_11				
GA	VREFBAND0_HPS	HPS_DDR					A3				HPS_DQ_9	HPS_DQ_9				
GA	VREFBAND0_HPS	HPS_DDR					G2				HPS_DQ_10	HPS_DQ_10				
GA	VREFBAND0_HPS	HPS_DDR					B3				HPS_DQ_8	HPS_DQ_8				
GA	VREFBAND0_HPS	HPS_GPI1					H3									
GA	VREFBAND0_HPS	HPS_GPI0					A4									
GA	VREFBAND0_HPS	HPS_DDR					K5				HPS_DM_0	HPS_DM_0				
GA	VREFBAND0_HPS	HPS_DDR					K6				HPS_DQ_7	HPS_DQ_7				
GA	VREFBAND0_HPS	HPS_DDR					J3				HPS_DQ_5	HPS_DQ_5				
GA	VREFBAND0_HPS	HPS_DDR					A4				HPS_DQ_6	HPS_DQ_6				
GA	VREFBAND0_HPS	HPS_DDR					C3				HPS_DQ_4	HPS_DQ_4				
GA	VREFBAND0_HPS	HPS_DDR					B4				HPS_ODT_1	HPS_ODT_1				
GA	VREFBAND0_HPS	HPS_DDR					A5				HPS_DQS_0	HPS_DQS_0				
GA	VREFBAND0_HPS	HPS_DDR					G3				HPS_ODT_0	HPS_ODT_0				
GA	VREFBAND0_HPS	HPS_DDR					B6				HPS_DQS#_0	HPS_DQS#_0				
GA	VREFBAND0_HPS	HPS_DDR					G4				HPS_DQ_3	HPS_DQ_3				
GA	VREFBAND0_HPS	HPS_DDR					C4				HPS_DQ_1	HPS_DQ_1				
GA	VREFBAND0_HPS	HPS_DDR					E7				HPS_DQ_2	HPS_DQ_2				
GA	VREFBAND0_HPS	HPS_DDR					G4				HPS_DQ_0	HPS_DQ_0				
GA	VREFBAND0_HPS	VREFBAND0_HPS					K7									
GA	VREFBAND0_HPS	HPS_DDR					F5				HPS_A_0	HPS_CA_0				
GA	VREFBAND0_HPS	HPS_DDR					E4				HPS_A_1	HPS_CA_1				
GA	VREFBAND0_HPS	HPS_DDR					B7				HPS_A_4	HPS_CA_4				
GA	VREFBAND0_HPS	HPS_DDR					G5				HPS_A_2	HPS_CA_2				
GA	VREFBAND0_HPS	HPS_DDR					A6				HPS_A_5	HPS_CA_5				
GA	VREFBAND0_HPS	HPS_DDR					H6				HPS_A_3	HPS_CA_3				
GA	VREFBAND0_HPS	HPS_DDR					G6				HPS_CK	HPS_CK				
GA	VREFBAND0_HPS	HPS_DDR					A8				HPS_A_6	HPS_CA_6				
GA	VREFBAND0_HPS	HPS_DDR					G7				HPS_CK#	HPS_CK#				
GA	VREFBAND0_HPS	HPS_DDR					A7				HPS_A_7	HPS_CA_7				
GA	VREFBAND0_HPS	HPS_DDR					A10				HPS_BA_1					
GA	VREFBAND0_HPS	HPS_DDR					H7				HPS_BA_0					
GA	VREFBAND0_HPS	HPS_DDR					A8				HPS_BA_2					
GA	VREFBAND0_HPS	HPS_DDR					E6				HPS_CAS#					
GA	VREFBAND0_HPS	HPS_DDR					D5				HPS_RAS#					
GA	VREFBAND0_HPS	HPS_DDR					D6				HPS_A_8	HPS_CA_8				
GA	VREFBAND0_HPS	HPS_DDR					J6				HPS_A_10					
GA	VREFBAND0_HPS	HPS_DDR					C6				HPS_A_9	HPS_CA_9				
GA	VREFBAND0_HPS	HPS_DDR					J7				HPS_A_11					
GA	VREFBAND0_HPS	HPS_DDR					C9				HPS_CSN_0	HPS_CSN_0				
GA	VREFBAND0_HPS	HPS_DDR					D7				HPS_A_12					
GA	VREFBAND0_HPS	HPS_DDR					C10				HPS_CSN_1	HPS_CSN_1				
GA	VREFBAND0_HPS	HPS_DDR					C7				HPS_A_13					
GA	VREFBAND0_HPS	HPS_DDR					D9				HPS_A_14					
GA	VREFBAND0_HPS	HPS_DDR					B9				HPS_WE#					
GA	VREFBAND0_HPS	HPS_DDR					D8				HPS_A_15					
GA	VREFBAND0_HPS	HPS_RZQ_0					B10									
		DNU					F7									
		GND					P9									
		GND					F10									
ZA		HPS_nRST					M8									
ZA		HPS_nPOR					H10									
ZA		HPS_TDO					H9									
ZA		VDCRSTCLK_HPS					L9									
ZA		HPS_TMS					L9									
ZA		HPS_TXC					J11									
ZA		HPS_TRST					K9									
ZA		HPS_TDI					J11									
		GND					A19									
ZA		HPS_PORSEL					A13									
ZA		HPS_CLK1					A11									
ZA		HPS_CLK2					A14									
ZA	VREFB7A7B7C7D7E0_HPS	TRACE_CLK					A15						TRACE_CLK			HPS_GPI048
ZA	VREFB7A7B7C7D7E0_HPS	TRACE_D0					K10						TRACE_D0	SPIS0_CLK	UART0_RX	HPS_GPI049
ZA	VREFB7A7B7C7D7E0_HPS	TRACE_D1					A16						TRACE_D1	SPIS0_MOSI	UART0_TX	HPS_GPI050
ZA	VREFB7A7B7C7D7E0_HPS	TRACE_D2					L10						TRACE_D2	SPIS0_MISO	IC21_SDA	HPS_GPI051
ZA	VREFB7A7B7C7D7E0_HPS	TRACE_D3					A18						TRACE_D3	SPIS0_SS0	IC21_SCL	HPS_GPI052
ZA	VREFB7A7B7C7D7E0_HPS	TRACE_D4					L11						TRACE_D4	SPIS1_CLK		HPS_GPI053
ZA	VREFB7A7B7C7D7E0_HPS	TRACE_D6					A17						TRACE_D6	SPIS1_MOSI		HPS_GPI054
ZA	VREFB7A7B7C7D7E0_HPS	TRACE_D6					M11						TRACE_D6	SPIS1_MISO	IC20_SDA	HPS_GPI055
ZA	VREFB7A7B7C7D7E0_HPS	TRACE_D7					B15						TRACE_D7	SPIS1_MISO	IC20_SCL	HPS_GPI056
ZA	VREFB7A7B7C7D7E0_HPS	SPIM0_CLK					A20						SPIM0_CLK	IC21_SDA	UART0_CTS	HPS_GPI057
ZA	VREFB7A7B7C7D7E0_HPS	SPIM0_MOSI					B16						SPIM0_MOSI	IC21_SCL	UART0_RTS	HPS_GPI058
ZA	VREFB7A7B7C7D7E0_HPS	SPIM0_MISO					A19						SPIM0_MISO	UART1_CTS		HPS_GPI059
ZA	VREFB7A7B7C7D7E0_HPS	SPIM0_SS0					B13						SPIM0_SS0	UART1_RTS		HPS_GPI060
ZA	VREFB7A7B7C7D7E0_HPS	UART0_RX					M12						UART0_RX	SPIM0_SS1		HPS_GPI061
ZA	VREFB7A7B7C7D7E0_HPS	UART0_TX					B12						UART0_TX	SPIM1_SS1		HPS_GPI062
ZA	VREFB7A7B7C7D7E0_HPS	IC20_SDA					N12						IC20_SDA	UART1_RX	SPIM1_CLK	HPS_GPI063
ZA	VREFB7A7B7C7D7E0_HPS	IC20_SCL					B18						IC20_SCL	UART1_TX	SPIM1_MISO	HPS_GPI064
ZA	VREFB7A7B7C7D7E0_HPS	UART0_RX*					C11						UART0_RX	SPIM1_MISO		HPS_GPI065
ZA	VREFB7A7B7C7D7E0_HPS	UART0_TX*					B19						UART0_TX	SPIM1_SS0		HPS_GPI066
ZA	VREFB7A7B7C7D7E0_HPS	SPIS1_CLK					D10						SPIS1_CLK	SPIM1_CLK		HPS_GPI067
ZA	VREFB7A7B7C7D7E0_HPS	SPIS1_MOSI					F11						SPIS1_MOSI	SPIM1_MOSI		HPS_GPI068
ZA	VREFB7A7B7C7D7E0_HPS	SPIS1_MISO					J10						SPIS1_MISO	SPIM1_MISO		HPS_GPI069
ZA	VREFB7A7B7C7D7E0_HPS	SPIS1_SS0					G11						SPIS1_SS0	SPIM1_SS0		HPS_GPI070
ZA	VREFB7A7B7C7D7E0_HPS	UART1_RX					J8						UART1_RX	SPIM1_SS1		HPS_GPI071
ZA	VREFB7A7B7C7D7E0_HPS	UART1_TX					A21						UART1_TX	SPIM0_CLK		HPS_GPI072
ZA	VREFB7A7B7C7D7E0_HPS	IC21_SDA					F10						IC21_SDA	SPIM0_MOSI		HPS_GPI073
ZA	VREFB7A7B7C7D7E0_HPS	IC21_SCL					A22						IC21_SCL	SPIM0_MISO		HPS_GPI074
ZA	VREFB7A7B7C7D7E0_HPS	SPIM0_SS0					E9						SPIM0_SS0			HPS_GPI075
ZA	VREFB7A7B7C7D7E0_HPS	SPIS0_CLK					D11						SPIS0_CLK	SPIM0_SS1		HPS_GPI076
ZA	VREFB7A7B7C7D7E0_HPS	SPIS0_MOSI					P12						SPIS0_MOSI			HPS_GPI077



Pin Information for the Arria® V 5ASXMB5 Device
Version 1.3
Note (1)

Bank Number	REF	PinName/Function (2), (3)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	FB96 (4)	DQS for X8/X9	DQS for X16/ X18	DQS for X32/ X36	HMC pin assignment for DQ03 (5)	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
7A	VREFB7A7B7C7D7E0_HPS	SPIS0_MISO					E11						SPIS0_MISO			HPS_GPI069
7A	VREFB7A7B7C7D7E0_HPS	SPIS0_SSD					P13						SPIS0_SSD			HPS_GPI070
7B	VREFB7A7B7C7D7E0_HPS	NAND_ALE					A23						NAND_ALE	RGMI1_TX_CLK	GSPI_SS3	HPS_GPI014
7B	VREFB7A7B7C7D7E0_HPS	NAND_CE					B22						NAND_CE	RGMI1_TXD0	USBI_D9	HPS_GPI016
7B	VREFB7A7B7C7D7E0_HPS	NAND_GLE					B22						NAND_GLE	RGMI1_TXD1	USBI_D1	HPS_GPI016
7B	VREFB7A7B7C7D7E0_HPS	NAND_RE					D21						NAND_RE	RGMI1_TXD2	USBI_D2	HPS_GPI017
7B	VREFB7A7B7C7D7E0_HPS	NAND_RB					A24						NAND_RB	RGMI1_TXD3	USBI_D3	HPS_GPI018
7B	VREFB7A7B7C7D7E0_HPS	NAND_DQ0					C12						NAND_DQ0	RGMI1_RXD0		HPS_GPI016
7B	VREFB7A7B7C7D7E0_HPS	NAND_DQ1					B24						NAND_DQ1	RGMI1_MDC0	ZC2_SDA	HPS_GPI020
7B	VREFB7A7B7C7D7E0_HPS	NAND_DQ2					D12						NAND_DQ2	RGMI1_MDC	ZC2_SCL	HPS_GPI021
7B	VREFB7A7B7C7D7E0_HPS	NAND_DQ3					C16						NAND_DQ3	RGMI1_RX_CTL	USBI_D4	HPS_GPI022
7B	VREFB7A7B7C7D7E0_HPS	NAND_DQ4					C14						NAND_DQ4	RGMI1_TX_CTL	USBI_D5	HPS_GPI023
7B	VREFB7A7B7C7D7E0_HPS	NAND_DQ5					C16						NAND_DQ5	RGMI1_RX_CLK	USBI_D6	HPS_GPI024
7B	VREFB7A7B7C7D7E0_HPS	NAND_DQ6					C13						NAND_DQ6	RGMI1_RXD1	USBI_D7	HPS_GPI026
7B	VREFB7A7B7C7D7E0_HPS	NAND_DQ7					C18						NAND_DQ7	RGMI1_RXD2		HPS_GPI026
7B	VREFB7A7B7C7D7E0_HPS	NAND_WP					K12						NAND_WP	RGMI1_RXD3	GSPI_SS2	HPS_GPI027
7B	VREFB7A7B7C7D7E0_HPS	NAND_WE_BOOTSEL2					C17						NAND_WE	GSPI_SS1		HPS_GPI028
7B	VREFB7A7B7C7D7E0_HPS	QSPI_D0					I12						QSPI_D0	USBI_CLK		HPS_GPI029
7B	VREFB7A7B7C7D7E0_HPS	QSPI_I01					B21						QSPI_I01	USBI_STP		HPS_GPI030
7B	VREFB7A7B7C7D7E0_HPS	QSPI_I02					C20						QSPI_I02	USBI_DR		HPS_GPI031
7B	VREFB7A7B7C7D7E0_HPS	QSPI_I03					C21						QSPI_I03	USBI_NXT		HPS_GPI032
7B	VREFB7A7B7C7D7E0_HPS	QSPI_SS0_BOOTSEL1					C19						QSPI_SS0			HPS_GPI033
7B	VREFB7A7B7C7D7E0_HPS	QSPI_CLK					A26						QSPI_CLK			HPS_GPI034
7B	VREFB7A7B7C7D7E0_HPS	QSPI_SS1					B26						QSPI_SS1			HPS_GPI036
7C	VREFB7A7B7C7D7E0_HPS	SDMMC_CMD					D13						SDMMC_CMD	USB0_D0		HPS_GPI037
7C	VREFB7A7B7C7D7E0_HPS	SDMMC_PWRREN					K13						SDMMC_PWRREN	USB0_D1		HPS_GPI037
7C	VREFB7A7B7C7D7E0_HPS	SDMMC_D0					D14						SDMMC_D0	USB0_D2		HPS_GPI038
7C	VREFB7A7B7C7D7E0_HPS	SDMMC_D1					L13						SDMMC_D1	USB0_D3		HPS_GPI038
7C	VREFB7A7B7C7D7E0_HPS	SDMMC_D4					E13						SDMMC_D4	USB0_D4		HPS_GPI040
7C	VREFB7A7B7C7D7E0_HPS	SDMMC_D6					N13						SDMMC_D6	USB0_D6		HPS_GPI041
7C	VREFB7A7B7C7D7E0_HPS	SDMMC_D8					F13						SDMMC_D8	USB0_D8		HPS_GPI042
7C	VREFB7A7B7C7D7E0_HPS	SDMMC_D7					P14						SDMMC_D7	USB0_D7		HPS_GPI043
7C	VREFB7A7B7C7D7E0_HPS	HPS_GPI044					G13							USB0_CLK		HPS_GPI044
7C	VREFB7A7B7C7D7E0_HPS	SDMMC_CLK_OUT					J13						SDMMC_CLK_OUT	USB0_STP		HPS_GPI046
7C	VREFB7A7B7C7D7E0_HPS	SDMMC_D2					H13						SDMMC_D2	USB0_DIR		HPS_GPI046
7C	VREFB7A7B7C7D7E0_HPS	SDMMC_D3					H12						SDMMC_D3	USB0_NXT		HPS_GPI047
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_TX_CLK					L15						RGMI0_TX_CLK			HPS_GPI01
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_TXD0					N15						RGMI0_TXD0	USBI_D0		HPS_GPI01
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_TXD1					K15						RGMI0_TXD1	USBI_D1		HPS_GPI02
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_TXD2					P16						RGMI0_TXD2	USBI_D2		HPS_GPI03
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_TXD3					D16						RGMI0_TXD3	USBI_D3		HPS_GPI04
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_RXD0					M15						RGMI0_RXD0	USBI_D4		HPS_GPI05
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_MDC0					E15						RGMI0_MDC0	USBI_D6	ZC2_SDA	HPS_GPI06
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_MDC					N16						RGMI0_MDC	USBI_D8	ZC2_SCL	HPS_GPI07
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_RX_CTL					D17						RGMI0_RX_CTL			HPS_GPI08
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_TX_CTL					M14						RGMI0_TX_CTL			HPS_GPI09
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_RX_CLK					D16						RGMI0_RX_CLK	USBI_CLK		HPS_GPI10
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_RXD1					L14						RGMI0_RXD1	USBI_STP		HPS_GPI11
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_RXD2					F15						RGMI0_RXD2	USBI_DIR		HPS_GPI12
7D	VREFB7A7B7C7D7E0_HPS	RGMI0_RXD3					D19						RGMI0_RXD3	USBI_NXT		HPS_GPI13
7D	VREFB7A7B7C7D7E0_HPS	RGMI1_TX_CLK					E16						RGMI1_TX_CLK			HPS_GPI048
7D	VREFB7A7B7C7D7E0_HPS	RGMI1_TXD0					D18						RGMI1_TXD0			HPS_GPI049
7D	VREFB7A7B7C7D7E0_HPS	RGMI1_TXD1					E19						RGMI1_TXD1			HPS_GPI050
7D	VREFB7A7B7C7D7E0_HPS	RGMI1_TX_CTL					H15						RGMI1_TX_CTL			HPS_GPI051
7D	VREFB7A7B7C7D7E0_HPS	RGMI1_RXD0					D20						RGMI1_RXD0			HPS_GPI052
7D	VREFB7A7B7C7D7E0_HPS	RGMI1_RXD1					H14						RGMI1_RXD1			HPS_GPI053
7E	VREFB7A7B7C7D7E0_HPS	RGMI1_MDC0					F16						RGMI1_MDC0	SPIM0_CLK	SPIS0_CLK	HPS_GPI054
7E	VREFB7A7B7C7D7E0_HPS	RGMI1_MDC					H16						RGMI1_MDC	SPIM0_MOSI	SPIS0_MOSI	HPS_GPI055
7E	VREFB7A7B7C7D7E0_HPS	RGMI1_TXD0					H16						RGMI1_TXD0	SPIM0_MISO	SPIS0_MISO	HPS_GPI056
7E	VREFB7A7B7C7D7E0_HPS	RGMI1_TXD2					F17						RGMI1_TXD2	SPIM0_SS0	SPIS0_SS0	HPS_GPI057
7E	VREFB7A7B7C7D7E0_HPS	RGMI1_RX_CLK					H16						RGMI1_RX_CLK	SPIS1_CLK	SPIM1_CLK	HPS_GPI058
7E	VREFB7A7B7C7D7E0_HPS	RGMI1_RX_CTL					R16						RGMI1_RX_CTL	SPIS1_MOSI	SPIM1_MOSI	HPS_GPI059
7E	VREFB7A7B7C7D7E0_HPS	RGMI1_RXD2					K16						RGMI1_RXD2	SPIS1_MISO	SPIM1_MISO	HPS_GPI060
7E	VREFB7A7B7C7D7E0_HPS	RGMI1_RXD3					F16						RGMI1_RXD3	SPIS1_SS0	SPIM1_SS0	HPS_GPI061
		VCCA_FPLL					F16									
		VCCD_FPLL					T15									
		INU					G16									
8D	VREFB8D0	IO	CLK19b			DIFFIO_RX_T31a	DIFFOUT_T31a									
8D	VREFB8D0	IO	CLK19b			DIFFIO_RX_T31a	DIFFOUT_T31a									
8D	VREFB8D0	IO	CLK19b			DIFFIO_RX_T33a	DIFFOUT_T33a									
8D	VREFB8D0	IO	CLK19b			DIFFIO_RX_T33a	DIFFOUT_T33a									
8D	VREFB8D0	IO	FPLL_TC_CLKOUT2_FPLL_TC_Fb0_FPLL_TC_FB1			DIFFIO_RX_T35a	DIFFOUT_T35a									
8D	VREFB8D0	IO	FPLL_TC_CLKOUT3_FPLL_TC_FBn			DIFFIO_RX_T35a	DIFFOUT_T35a									
8D	VREFB8D0	IO	FPLL_TC_CLKOUT0_FPLL_TC_CLKOUT1_FPLL_TC_FB0			DIFFIO_RX_T36a	DIFFOUT_T36a									
8D	VREFB8D0	IO	FPLL_TC_CLKOUT1_FPLL_TC_CLKOUT0			DIFFIO_RX_T36a	DIFFOUT_T36a									
8D	VREFB8D0	IO	CLK17p			DIFFIO_RX_T37a	DIFFOUT_T37a									
8D	VREFB8D0	IO	CLK17p			DIFFIO_RX_T37a	DIFFOUT_T37a									
8D	VREFB8D0	IO	CLK18b			DIFFIO_RX_T39a	DIFFOUT_T39a									
8D	VREFB8D0	IO	CLK18b			DIFFIO_RX_T39a	DIFFOUT_T39a									
8C	VREFB8C0	IO	VREFB8D0			DIFFIO_RX_T54a	DIFFOUT_T54a				D05_BC 0	D06_BC 0				
8C	VREFB8C0	IO				DIFFIO_RX_T54a	DIFFOUT_T54a				D05_BC 1	D06_BC 1				
8C	VREFB8C0	IO				DIFFIO_TX_T55a	DIFFOUT_T55a				D05_BC 2	D06_BC 2				
8C	VREFB8C0	IO				DIFFIO_TX_T55a	DIFFOUT_T55a				D05_BC 3	D06_BC 3				
8C	VREFB8C0	IO				DIFFIO_RX_T56a	DIFFOUT_T56a				D05_BC 4	D06_BC 4				
8C	VREFB8C0	IO				DIFFIO_TX_T57a	DIFFOUT_T57a				D05_BC 5	D06_BC 5				
8C	VREFB8C0	IO				DIFFIO_RX_T58a	DIFFOUT_T58a				D058_BC	D059_BC				
8C	VREFB8C0	IO				DIFFIO_TX_T59a	DIFFOUT_T59a				D058a_BC	D059a_BC				
8C	VREFB8C0	IO				DIFFIO_TX_T59a	DIFFOUT_T59a				D058a_BC	D059a_BC				
8C	VREFB8C0	IO				DIFFIO_RX_T60a	DIFFOUT_T60a				D058a_BC	D059a_BC				
8C	VREFB8C0	IO				DIFFIO_TX_T60a	DIFFOUT_T60a				D058a_BC	D059a_BC				
8C	VREFB8C0	IO				DIFFIO_TX_T61a	DIFFOUT_T61a				D058a_BC	D059a_BC				
8C	VREFB8C0	IO				DIFFIO_RX_T62a	DIFFOUT_T62a				D048a_BC 0	D048a_BC 0				
8C	VREFB8C0	IO				DIFFIO_RX_T62a	DIFFOUT_T62a				D048a_BC 1	D048a_BC 1				
8C	VREFB8C0	IO				DIFFIO_RX_T62a	DIFFOUT_T62a				D048a_BC 2	D048a_BC 2				
8C	VREFB8C0	IO					K18									
8C	VREFB8C0	IO				DIFFIO_RX_T63a	DIFFOUT_T63a				D048a_BC 3	D048a_BC 3				
8C	VREFB8C0	IO				DIFFIO_RX_T63a	DIFFOUT_T63a				D048a_BC 4	D048a_BC 4				
8C	VREFB8C0	IO				DIFFIO_TX_T64a	DIFFOUT_T64a				D048a_BC 5	D048a_BC 5				
8C	VREFB8C0	IO				DIFFIO_RX_T65a	DIFFOUT_T65a				D054a_BC	D054a_BC				
8C	VREFB8C0	IO				DIFFIO_RX_T65a	DIFFOUT_T65a				D054a_BC	D054a_BC				
8C	VREFB8C0	IO				DIFFIO_TX_T66a	DIFFOUT_T66a				D054a_BC	D054a_BC				
8C	VREFB8C0	IO				DIFFIO_TX_T66a	DIFFOUT_T66a				D054a_BC	D054a_BC				
8C	VREFB8C0	IO				DIFFIO_RX_T67a	DIFFOUT_T67a				D048a_BC 6	D048a_BC 6				
8C	VREFB8C0	IO				DIFFIO_RX_T67a	DIFFOUT_T67a				D048a_BC 7	D048a_BC 7				
8C	VREFB8C0	IO				DIFFIO_TX_T68a	DIFFOUT_T68a				D048a_BC					



Bank Number	VREF	PinName/Function (3, 3)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	FB6 (4)	DQS for X8/X9	DQS for X16/ X18	DQS for X32/ X36	HMC pin assignment for DQS3 (5)	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
IC	VREFB3C0	IO			DIFFIO_TX_T76e	DIFFOUT_T76e	K21	DQ3T	DQ1T	DQ1T	DQ3_8C_8	DQ3_8C_8				
IB	VREFB3D0	IO			DIFFIO_RX_T77f	DIFFOUT_T77f	K22	DQ4T	DQ2T	DQ2T	DQ2_8E_0	DQ2_8E_0				
IB	VREFB3E0	IO			DIFFIO_RX_T77h	DIFFOUT_T77h	J22	DQ4T	DQ2T	DQ2T	DQ2_8E_1	DQ2_8E_1				
IB	VREFB3F0	IO			DIFFIO_TX_T78e	DIFFOUT_T78e	G23	DQ4T	DQ2T	DQ2T	DQ2_8E_2	DQ2_8E_2				
IB	VREFB3G0	IO			DIFFIO_RX_T79e	DIFFOUT_T79e	M23	DQ4T	DQ2T	DQ2T	DQ2_8E_3	DQ2_8E_3				
IB	VREFB3H0	IO			DIFFIO_RX_T79h	DIFFOUT_T79h	L22	DQ4T	DQ2T	DQ2T	DQ2_8E_4	DQ2_8E_4				
IB	VREFB3I0	IO			DIFFIO_TX_T80e	DIFFOUT_T80e	J23	DQ4T	DQ2T	DQ2T	DQ2_8E_5	DQ2_8E_5				
IB	VREFB3J0	IO			DIFFIO_RX_T81e	DIFFOUT_T81e	F23	DQS4T/CLK4T	DQS4T/CLK4T	DQS4T/CLK4T	DQS2_8B	DQS2_8B				
IB	VREFB3K0	IO			DIFFIO_RX_T81h	DIFFOUT_T81h	F24	DQS4T/CLK4T	DQS4T/CLK4T	DQS4T/CLK4T	DQS2_8B	DQS2_8B				
IB	VREFB3L0	IO			DIFFIO_TX_T82e	DIFFOUT_T82e	H24	DQ4T	DQ2T	DQ2T	DM2_8B	DM2_8B				
IB	VREFB3M0	IO			DIFFIO_RX_T83e	DIFFOUT_T83e	K21	DQ4T	DQ2T	DQ2T	DQ2_8E_6	DQ2_8E_6				
IB	VREFB3N0	IO			DIFFIO_RX_T83h	DIFFOUT_T83h	M21	DQ4T	DQ2T	DQ2T	DQ2_8E_7	DQ2_8E_7				
IB	VREFB3O0	IO			DIFFIO_TX_T84e	DIFFOUT_T84e	K24	DQ4T	DQ2T	DQ2T	DQ2_8E_8	DQ2_8E_8				
IB	VREFB3P0	IO			DIFFIO_RX_T85e	DIFFOUT_T85e	F26	DQ6T	DQ2T	DQ2T	DO1_8B_0	DO1_8B_0				
IB	VREFB3Q0	IO			DIFFIO_RX_T85h	DIFFOUT_T85h	F27	DQ6T	DQ2T	DQ2T	DO1_8B_1	DO1_8B_1				
IB	VREFB3R0	IO			DIFFIO_RX_T86e	DIFFOUT_T86e	J24	DQ6T	DQ2T	DQ2T	DO1_8B_2	DO1_8B_2				
IB	VREFB3S0	IO	VREFB8N0		DIFFIO_RX_T86e	DIFFOUT_T86e	H22	DQ6T	DQ2T	DQ2T	DO1_8B_3	DO1_8B_3				
IB	VREFB3T0	IO			DIFFIO_RX_T86h	DIFFOUT_T86h	D26	DQ6T	DQ2T	DQ2T	DO1_8B_4	DO1_8B_4				
IB	VREFB3U0	IO			DIFFIO_TX_T87e	DIFFOUT_T87e	K25	DQ6T	DQ2T	DQ2T	DO1_8B_5	DO1_8B_5				
IB	VREFB3V0	IO			DIFFIO_TX_T87h	DIFFOUT_T87h	L24	DQ6T	DQ2T	DQ2T	DO1_8B_5	DO1_8B_5				
IB	VREFB3W0	IO			DIFFIO_RX_T88e	DIFFOUT_T88e	C28	DQS5T/CLK5T	DQS5T/CLK5T	DQS5T/CLK5T	DQS1_8B	DQS1_8B				
IB	VREFB3X0	IO			DIFFIO_RX_T88h	DIFFOUT_T88h	C29	DQS5T/CLK5T	DQS5T/CLK5T	DQS5T/CLK5T	DQS1_8B	DQS1_8B				
IB	VREFB3Y0	IO			DIFFIO_TX_T89e	DIFFOUT_T89e	G24	DQ6T	DQ2T	DQ2T	DM1_8B	DM1_8B				
IB	VREFB3Z0	IO			DIFFIO_TX_T89h	DIFFOUT_T89h	G25	DQ6T	DQ2T	DQ2T	DM1_8B	DM1_8B				
IB	VREFB4A0	IO			DIFFIO_RX_T90e	DIFFOUT_T90e	P21	DQ6T	DQ2T	DQ2T	DO1_8B_6	DO1_8B_6				
IB	VREFB4B0	IO			DIFFIO_RX_T90h	DIFFOUT_T90h	N22	DQ6T	DQ2T	DQ2T	DO1_8B_7	DO1_8B_7				
IB	VREFB4C0	IO			DIFFIO_TX_T91e	DIFFOUT_T91e	C30	DQ6T	DQ2T	DQ2T	DO1_8B_8	DO1_8B_8				
IB	VREFB4D0	IO			DIFFIO_TX_T91h	DIFFOUT_T91h	C30	DQ6T	DQ2T	DQ2T	DO1_8B_8	DO1_8B_8				
IA	VREFB4E0	IO			DIFFIO_RX_T92e	DIFFOUT_T92e	E28	DQ6T	DQ3T	DQ3T	CK_8A	CK_8A				
IA	VREFB4F0	IO			DIFFIO_RX_T92h	DIFFOUT_T92h	D29	DQ6T	DQ3T	DQ3T	CKE_8A	CKE_8A				
IA	VREFB4G0	IO			DIFFIO_TX_T93e	DIFFOUT_T93e	G26	DQ6T	DQ3T	DQ3T	CKE_8A_0	CKE_8A_0				
IA	VREFB4H0	IO			DIFFIO_TX_T93h	DIFFOUT_T93h	G27	DQ6T	DQ3T	DQ3T	CKE_8A_1	CKE_8A_1				
IA	VREFB4I0	IO			DIFFIO_RX_T94e	DIFFOUT_T94e	F30	DQ6T	DQ3T	DQ3T	CA_8A_0	CA_8A_0				
IA	VREFB4J0	IO			DIFFIO_RX_T94h	DIFFOUT_T94h	E30	DQ6T	DQ3T	DQ3T	CA_8A_1	CA_8A_1				
IA	VREFB4K0	IO			DIFFIO_TX_T95e	DIFFOUT_T95e	G29	DQ6T	DQ3T	DQ3T	A_8A_2	CA_8A_2				
IA	VREFB4L0	IO			DIFFIO_TX_T95h	DIFFOUT_T95h	G30	DQ6T	DQ3T	DQ3T	A_8A_3	CA_8A_3				
IA	VREFB4M0	IO			DIFFIO_RX_T96e	DIFFOUT_T96e	G28	DQS3T/CLK3T	DQS3T/CLK3T	DQS3T/CLK3T	A_8A_4	CA_8A_4				
IA	VREFB4N0	IO			DIFFIO_RX_T96h	DIFFOUT_T96h	F28	DQS3T/CLK3T	DQS3T/CLK3T	DQS3T/CLK3T	A_8A_5	CA_8A_5				
IA	VREFB4O0	IO			DIFFIO_TX_T97e	DIFFOUT_T97e	H27	DQ6T	DQ3T	DQ3T	A_8A_6	CA_8A_6				
IA	VREFB4P0	IO			DIFFIO_TX_T97h	DIFFOUT_T97h	H28	DQ6T	DQ3T	DQ3T	A_8A_7	CA_8A_7				
IA	VREFB4Q0	IO			DIFFIO_RX_T98e	DIFFOUT_T98e	J30	DQ6T	DQ3T	DQ3T	A_8A_8	CA_8A_8				
IA	VREFB4R0	IO			DIFFIO_RX_T98h	DIFFOUT_T98h	H30	DQ6T	DQ3T	DQ3T	A_8A_9	CA_8A_9				
IA	VREFB4S0	IO			DIFFIO_TX_T99e	DIFFOUT_T99e	K28	DQ6T	DQ3T	DQ3T	A_8A_10	CA_8A_10				
IA	VREFB4T0	IO			DIFFIO_TX_T99h	DIFFOUT_T99h	L28	DQ6T	DQ3T	DQ3T	A_8A_11	CA_8A_11				
IA	VREFB4U0	IO			DIFFIO_RX_T100e	DIFFOUT_T100e	L30	DQ7T	DQ3T	DQ3T	A_8A_12	CA_8A_12				
IA	VREFB4V0	IO			DIFFIO_RX_T100h	DIFFOUT_T100h	K30	DQ7T	DQ3T	DQ3T	A_8A_13	CA_8A_13				
IA	VREFB4W0	IO			DIFFIO_TX_T101e	DIFFOUT_T101e	M27	DQ7T	DQ3T	DQ3T	A_8A_14	CA_8A_14				
IA	VREFB4X0	IO			DIFFIO_TX_T101h	DIFFOUT_T101h	L27	DQ7T	DQ3T	DQ3T	A_8A_15	CA_8A_15				
IA	VREFB4Y0	IO			DIFFIO_RX_T102e	DIFFOUT_T102e	L26	DQ7T	DQ3T	DQ3T	BA_8A_0	CA_8A_0				
IA	VREFB4Z0	IO			DIFFIO_RX_T102h	DIFFOUT_T102h	K29	DQ7T	DQ3T	DQ3T	BA_8A_1	CA_8A_1				
IA	VREFB5A0	IO			DIFFIO_TX_T103e	DIFFOUT_T103e	N30	DQ7T	DQ3T	DQ3T	BA_8A_2	CA_8A_2				
IA	VREFB5B0	IO			DIFFIO_TX_T103h	DIFFOUT_T103h	M30	DQ7T	DQ3T	DQ3T	BA_8A_3	CA_8A_3				
IA	VREFB5C0	IO			DIFFIO_RX_T104e	DIFFOUT_T104e	T24	DQS7T/CLK7T	DQS7T/CLK7T	DQS7T/CLK7T	RAS7_8A	CAS7_8A				
IA	VREFB5D0	IO			DIFFIO_RX_T104h	DIFFOUT_T104h	T23	DQS7T/CLK7T	DQS7T/CLK7T	DQS7T/CLK7T	WE7_8A	WE7_8A				
IA	VREFB5E0	IO			DIFFIO_TX_T105e	DIFFOUT_T105e	K26	DQ7T	DQ3T	DQ3T	ODT_8A_0	ODT_8A_0				
IA	VREFB5F0	IO	CLK23b		DIFFIO_TX_T105h	DIFFOUT_T105h	K27	DQ7T	DQ3T	DQ3T	ODT_8A_1	ODT_8A_1				
IA	VREFB5G0	IO	CLK23h		DIFFIO_RX_T106e	DIFFOUT_T106e	P30	DQ7T	DQ3T	DQ3T	CS7_8A_0	CS7_8A_0				
IA	VREFB5H0	IO			DIFFIO_RX_T106h	DIFFOUT_T106h	N29	DQ7T	DQ3T	DQ3T	CS7_8A_1	CS7_8A_1				
IA	VREFB5I0	IO			DIFFIO_TX_T107e	DIFFOUT_T107e	R22	DQ7T	DQ3T	DQ3T	CS7_8A_0	CS7_8A_0				
IA	VREFB5J0	IO			DIFFIO_TX_T107h	DIFFOUT_T107h	R23	DQ7T	DQ3T	DQ3T	CS7_8A_1	CS7_8A_1				
IA	VREFB5K0	IO	CLK22b		DIFFIO_RX_T108e	DIFFOUT_T108e	R28									
IA	VREFB5L0	IO			DIFFIO_RX_T108h	DIFFOUT_T108h	P28									
IA	VREFB5M0	IO			DIFFIO_RX_T109e	DIFFOUT_T109e	N29									
IA	VREFB5N0	IO	FPLL_TL_CLKOUT2_FPPLL_TL_FB0_FPPLL_TL_FB1		DIFFIO_RX_T109h	DIFFOUT_T109h	M28									
IA	VREFB5O0	IO	FPLL_TL_CLKOUT3_FPPLL_TL_FB0_FPPLL_TL_FB1		DIFFIO_RX_T109e	DIFFOUT_T109e	M28									
IA	VREFB5P0	IO	FPLL_TL_CLKOUT3_FPPLL_TL_FB0_FPPLL_TL_FB1		DIFFIO_TX_T110e	DIFFOUT_T110e	T25									
IA	VREFB5Q0	IO	FPLL_TL_CLKOUT3_FPPLL_TL_CLKOUT3_FPPLL_TL_CLKOUT3		DIFFIO_TX_T110h	DIFFOUT_T110h	R26									
IA	VREFB5R0	IO	CLK31e		DIFFIO_RX_T111e	DIFFOUT_T111e	R27									
IA	VREFB5S0	IO	CLK31h		DIFFIO_RX_T111h	DIFFOUT_T111h	P27									
IA	VREFB5T0	IO	CLK20e		DIFFIO_RX_T112e	DIFFOUT_T112e	R25									
IA	VREFB5U0	IO	CLK20h		DIFFIO_RX_T112h	DIFFOUT_T112h	R25									
IA	VREFB5V0	IO	RZD_6		DIFFIO_TX_T114e	DIFFOUT_T114e	J25									
IA	MSEL0			MSEL0			P24									
IA	MSEL1			MSEL1			R26									
IA	MSEL2			MSEL2			M25									
IA	MSEL3			MSEL3			L25									
IA	MSEL4			MSEL4			N20									
IA	CONF_DONE			CONF_DONE			N05									
IA	HSTATUS			HSTATUS			M28									
IA	HCE			HCE			M24									
IA	HCONFIG			HCONFIG			M23									
IA	VDD_HPS						T26									
IA	GND						W11									
IA	GND						W10									
IA	GND						AA24									
IA	GND						AA29									
IA	GND						AA30									
IA	GND						AB22									
IA	GND						AB23									
IA	GND						AB24									
IA	GND						AB25									
IA	GND						AB26									
IA	GND						AB27									
IA	GND						AB28									
IA	GND						AC26									
IA	GND						AC29									
IA	GND						AC30									
IA	GND						AD27									
IA	GND						AD28									
IA	GND						AE26									
IA	GND						AE29									
IA	GND						AE30									
IA	GND						AF27									
IA	GND						AF28									
IA	GND						AG26									
IA	GND						AG29									
IA	GND						AG30									
IA	GND															



Bank Number	VREF	PinName/Function (3), (2)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	R696 (4)	DQS for X8/X9	DQS for X16/ X18	DQS for X32/ X36	HMC pin assignment for DDR3 (5)	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					U24									
		GND					U25									
		GND					U26									
		GND					U29									
		GND					U30									
		GND					V23									
		GND					V27									
		GND					V28									
		GND					W24									
		GND					W29									
		GND					W35									
		GND					Y23									
		GND					Y25									
		GND					Y26									
		GND					Y27									
		GND					Y28									
		GND					AA1									
		GND					AA2									
		GND					AA7									
		GND					AB3									
		GND					AB4									
		GND					AB5									
		GND					AB6									
		GND					AC1									
		GND					AC2									
		GND					AC5									
		GND					AD3									
		GND					AD4									
		GND					AE1									
		GND					AE2									
		GND					AE5									
		GND					AF3									
		GND					AF4									
		GND					AG1									
		GND					AG2									
		GND					AG5									
		GND					AH3									
		GND					AH4									
		GND					AJ1									
		GND					AJ2									
		GND					T3									
		GND					T4									
		GND					L1									
		GND					L2									
		GND					L5									
		GND					L6									
		GND					V3									
		GND					V4									
		GND					V8									
		GND					W1									
		GND					W2									
		GND					W5									
		GND					W7									
		GND					Y3									
		GND					Y4									
		GND					Y6									
		GND					Y8									
		VCCP					AB10									
		VCCP					AB14									
		VCCP					AB17									
		VCCP					AB20									
		VCCP					AC19									
		VCCP					P10									
		VCCP					RT7									
		VCCP					R21									
		VCCP					T10									
		VCCA_FPLL					V9									
		VCCA_FPLL					V22									
		VCCPLL_HPS					L10									
		VCCBAT					H25									
		VCC_AUX					AB11									
		VCC_AUX					AB18									
		VCC_AUX					R20									
		VCC_AUX_SHARED					R13									
		VCCD_FPLL					V9									
		VCCD_FPLL					Y22									
		VCCA_GXBR0					W6									
		VCCA_GXBL1					W20									
		VCCD_GXBR0					V7									
		VCCD_GXBL1					V24									
		VCCD_GXBR0					V5									
		VCCD_GXBL1					V6									
		VCCD_GXBL1					V25									
		VCCD_GXBL1					V26									
		VCCR_GXBL					AA25									
		VCCR_GXBL					AA26									
		VCCR_GXBL					AA5									
		VCCR_GXBR					AA6									
		VCCD_GXBR0					V5									
		VCCD_GXBL1					V7									
		VCCD_GXBL1					W25									
		VCCD_GXBL1					V24									
		VCC					AA10									
		VCC					AA13									
		VCC					AA14									
		VCC					AA16									
		VCC					AA18									
		VCC					AA19									
		VCC					AA20									
		VCC					T17									
		VCC					T19									
		VCC					T21									
		VCC					T22									
		VCC					U16									
		VCC					U18									
		VCC					U20									
		VCC					V15									
		VCC					V17									
		VCC					V19									
		VCC					V21									
		VCC					W12									
		VCC					W14									
		VCC					W18									
		VCC					W20									
		VCC					Y11									
		VCC					Y13									
		VCC					Y15									



Bank Number	VREF	PinName/Function (3), (2)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	R96 (4)	DQS for X8/X9	DQS for X16/ X18	DQS for X32/ X36	HMC pin assignment for DDR3 (5)	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					Y16									
		VCC					Y17									
		VCC					Y19									
		VCC					Y21									
		VCC					W16									
		VCC_HPS					R12									
		VCC_HPS					T11									
		VCC_HPS					T13									
		VCC_HPS					U12									
		VCC_HPS					U13									
		VCC_HPS					U14									
		VCC_HPS					V11									
		VCC_HPS					V13									
		VCC00A					AE19									
		VCC00A					AE22									
		VCC00A					AF26									
		VCC00A					AH19									
		VCC00A					AH22									
		VCC00A					AH26									
		VCC00B					AE13									
		VCC00B					AE16									
		VCC00B					AH15									
		VCC00B					AE11									
		VCC00B					AD19									
		VCC00A					AD5									
		VCC00A					AE7									
		VCC00A					AP5									
		VCC00A					AM5									
		VCC00A					AH7									
		VCC00A_HPS					C2									
		VCC00A_HPS					C5									
		VCC00A_HPS					C8									
		VCC00A_HPS					F2									
		VCC00A_HPS					F4									
		VCC00A_HPS					F6									
		VCC00A_HPS					H1									
		VCC00A_HPS					J5									
		VCC00B_HPS					L4									
		VCC00B_HPS					M4									
		VCC00B_HPS					N1									
		VCC00B_HPS					N6									
		VCC00B_HPS					T2									
		VCC00B_HPS					T5									
		VCC07A_HPS					B14									
		VCC07A_HPS					B17									
		VCC07A_HPS					G10									
		VCC07A_HPS					M10									
		VCC07B_HPS					R20									
		VCC07B_HPS					E12									
		VCC07C_HPS					E14									
		VCC07D_HPS					E18									
		VCC07D_HPS					J14									
		VCC07E_HPS					G15									
		VCC08A					F9									
		VCC08A					J7									
		VCC08A					J9									
		VCC08A					M9									
		VCC08A					N4									
		VCC08A					N7									
		VCC08B					E27									
		VCC08B					F25									
		VCC08B					K23									
		VCC08C					D25									
		VCC08C					F9									
		VCC08C					J1									
		VCC08C					L19									
		VCC08D					E21									
		VCC08D					K17									
		VCCP03					AB21									
		VCCP03					AC18									
		VCCP03					AC24									
		VCCP04					AB7									
		VCCP06A6B_HPS					MB									
		VCCP06A6B_HPS					MB									
		VCCP06A6B_HPS					OB									
		VCCP06A6B_HPS					UB									
		VCCP07A_HPS					N11									
		VCCP07B_HPS					L12									
		VCCP07C_HPS					M13									
		VCCP07D_HPS					M16									
		VCCP07E_HPS					J15									
		VCCP08					P18									
		VCCP08					P22									
		VCCP08					R19									
		VCCP08					R24									
		VCCP09					F12									
		VCCP09					AD26									
		VCCP09					OB									
		VCC_HPS					R10									
		VCC_HPS					R11									
		VCC_HPS					R14									
		VCC_HPS					R15									
		VREFB7A/B7C7D7E0_HPS					F14									
		GND					AA11									
		GND					AA13									
		GND					AA15									
		GND					AA17									
		GND					AA21									
		GND					AB19									
		GND					AB8									
		GND					AB9									
		GND					AC11									
		GND					AC14									
		GND					AC17									
		GND					AC20									
		GND					AC23									
		GND					AD8									
		GND					AF11									
		GND					AF14									
		GND					AF17									
		GND					AF20									
		GND					AF23									
		GND					AF8									
		GND					AJ14									
		GND					AJ14									
		GND					AJ17									
		GND					AJ20									



Bank Number	VREF	PinName/Function (2), (3)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	FB96 (4)	DQS for X8/X9	DQS for X16/ X18	DQS for X32/ X36	HMC pin assignment for DDR3 (5)	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					A123									
		GND					A126									
		GND					A15									
		GND					A16									
		GND					B1									
		GND					B2									
		GND					B23									
		GND					B26									
		GND					B29									
		GND					B5									
		GND					B8									
		GND					E17									
		GND					E2									
		GND					E20									
		GND					E23									
		GND					E26									
		GND					E29									
		GND					E5									
		GND					E8									
		GND					G12									
		GND					G14									
		GND					H17									
		GND					H2									
		GND					H20									
		GND					H23									
		GND					H26									
		GND					H29									
		GND					H5									
		GND					H8									
		GND					K11									
		GND					K14									
		GND					L17									
		GND					L2									
		GND					L20									
		GND					L23									
		GND					L26									
		GND					L29									
		GND					L5									
		GND					L8									
		GND					N10									
		GND					N14									
		GND					P11									
		GND					P17									
		GND					P16									
		GND					P2									
		GND					P20									
		GND					P23									
		GND					P26									
		GND					P29									
		GND					P5									
		GND					P8									
		GND					R18									
		GND					T12									
		GND					T14									
		GND					T18									
		GND					T20									
		GND					U11									
		GND					U15									
		GND					U17									
		GND					U19									
		GND					U21									
		GND					U7									
		GND					V10									
		GND					V12									
		GND					V14									
		GND					V18									
		GND					V20									
		GND					V14									
		GND					W13									
		GND					W15									
		GND					W17									
		GND					W19									
		GND					W21									
		GND					X10									
		GND					Y12									
		GND					Y18									
		GND					Y20									

Notes:
 (1) For more information about pin definitions and pin connection guidelines, refer to the [Arria V Device Family Pin Connection Guidelines](#).
 (2) GAB, REFCLK pin is not supported in current Quartus II version, but will be supported in future Quartus II release version.
 (3) Pins with * contains similar name with other pins in the same column. For the selection of the HPS pins, refer to the "HPS Pin Mux Select x" columns.
 (4) Pins with ~ are the 10 Gbps transceiver channels. For more information about the 10 Gbps transceiver channels clocking recommendation, refer to the [Transceiver Clocking in Arria V Devices chapter](#).
 (5) RESET pin is only applicable for DDR3 device.



Bank Number	VREF	PinName/Function (2), (3)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	F1517 (4)	DQS for X0/X3	DQS for X16/X18	DQS for X32/X36	HMC pin assignment for DQS3 (6)	HMC pin assignment for FCODE2	HPS Pin Mux Select 3	HPS Pin Mux Select 2	HPS Pin Mux Select 1	HPS Pin Mux Select 0	
		DNU					A39										
		REF_TL					B39										
GXB_L2		REFCLKM0n					U32										
GXB_L2		REFCLKM0p					U31										
GXB_L2		GXB_TX_L17n					C36										
GXB_L2		GXB_TX_L17p					C37										
GXB_L2		GXB_RX_L17n/GXB_REFCLK_L17n					D39										
GXB_L2		GXB_RX_L17p/GXB_REFCLK_L17p					D38										
GXB_L2		GXB_TX_L16n					E36										
GXB_L2		GXB_TX_L16p					E37										
GXB_L2		GXB_RX_L16n/GXB_REFCLK_L16n					F39										
GXB_L2		GXB_RX_L16p/GXB_REFCLK_L16p					F38										
GXB_L2		GXB_TX_L15n					G36										
GXB_L2		GXB_TX_L15p					G37										
GXB_L2		GXB_RX_L15n/GXB_REFCLK_L15n					H39										
GXB_L2		GXB_RX_L15p/GXB_REFCLK_L15p					H38										
GXB_L2		GXB_TX_L14n					J36										
GXB_L2		GXB_TX_L14p					J37										
GXB_L2		GXB_RX_L14n/GXB_REFCLK_L14n					K39										
GXB_L2		GXB_RX_L14p/GXB_REFCLK_L14p					K38										
GXB_L2		GXB_TX_L13n					L36										
GXB_L2		GXB_TX_L13p					L37										
GXB_L2		GXB_RX_L13n/GXB_REFCLK_L13n					M39										
GXB_L2		GXB_RX_L13p/GXB_REFCLK_L13p					M38										
GXB_L2		GXB_TX_L12n					N36										
GXB_L2		GXB_TX_L12p					N37										
GXB_L2		GXB_RX_L12n/GXB_REFCLK_L12n					P39										
GXB_L2		GXB_RX_L12p/GXB_REFCLK_L12p					P38										
GXB_L2		REFCLKM0n					W32										
GXB_L2		REFCLKM0p					W31										
GXB_L1		REFCLKM0n					AA32										
GXB_L1		REFCLKM0p					AA31										
GXB_L1		GXB_TX_L11n					B36										
GXB_L1		GXB_TX_L11p					B37										
GXB_L1		GXB_RX_L11n/GXB_REFCLK_L11n					T39										
GXB_L1		GXB_RX_L11p/GXB_REFCLK_L11p					T38										
GXB_L1		GXB_TX_L10n					U36										
GXB_L1		GXB_TX_L10p					U37										
GXB_L1		GXB_RX_L10n/GXB_REFCLK_L10n					V39										
GXB_L1		GXB_RX_L10p/GXB_REFCLK_L10p					V38										
GXB_L1		GXB_TX_L9n					W36										
GXB_L1		GXB_TX_L9p					W37										
GXB_L1		GXB_RX_L9n/GXB_REFCLK_L9n					Y39										
GXB_L1		GXB_RX_L9p/GXB_REFCLK_L9p					Y38										
GXB_L1		GXB_TX_L8n					AA36										
GXB_L1		GXB_TX_L8p					AA37										
GXB_L1		GXB_RX_L8n/GXB_REFCLK_L8n					AB39										
GXB_L1		GXB_RX_L8p/GXB_REFCLK_L8p					AB38										
GXB_L1		GXB_TX_L7n					AC36										
GXB_L1		GXB_TX_L7p					AC37										
GXB_L1		GXB_RX_L7n/GXB_REFCLK_L7n					AD39										
GXB_L1		GXB_RX_L7p/GXB_REFCLK_L7p					AD38										
GXB_L1		GXB_TX_L6n					AE36										
GXB_L1		GXB_TX_L6p					AE37										
GXB_L1		GXB_RX_L6n/GXB_REFCLK_L6n					AF39										
GXB_L1		GXB_RX_L6p/GXB_REFCLK_L6p					AF38										
GXB_L1		REFCLKM0n					AG32										
GXB_L1		REFCLKM0p					AG31										
GXB_L0		REFCLK11n					AE32										
GXB_L0		REFCLK10p					AE31										
GXB_L0		GXB_TX_L6n					AG36										
GXB_L0		GXB_TX_L6p					AG37										
GXB_L0		GXB_RX_L6n/GXB_REFCLK_L6n					AH39										
GXB_L0		GXB_RX_L6p/GXB_REFCLK_L6p					AH38										
GXB_L0		GXB_TX_L5n					AJ36										
GXB_L0		GXB_TX_L5p					AJ37										
GXB_L0		GXB_RX_L5n/GXB_REFCLK_L5n					AK39										
GXB_L0		GXB_RX_L5p/GXB_REFCLK_L5p					AK38										
GXB_L0		GXB_TX_L4n					AL36										
GXB_L0		GXB_TX_L4p					AL37										
GXB_L0		GXB_RX_L4n/GXB_REFCLK_L4n					AM39										
GXB_L0		GXB_RX_L4p/GXB_REFCLK_L4p					AM38										
GXB_L0		GXB_TX_L3n					AN36										
GXB_L0		GXB_TX_L3p					AN37										
GXB_L0		GXB_RX_L3n/GXB_REFCLK_L3n					AP39										
GXB_L0		GXB_RX_L3p/GXB_REFCLK_L3p					AP38										
GXB_L0		GXB_TX_L2n					AQ36										
GXB_L0		GXB_TX_L2p					AQ37										
GXB_L0		GXB_RX_L2n/GXB_REFCLK_L2n					AR39										
GXB_L0		GXB_RX_L2p/GXB_REFCLK_L2p					AR38										
GXB_L0		GXB_TX_L1n					AT36										
GXB_L0		GXB_TX_L1p					AT37										
GXB_L0		GXB_RX_L1n/GXB_REFCLK_L1n					AW39										
GXB_L0		GXB_RX_L1p/GXB_REFCLK_L1p					AW38										
GXB_L0		REFCLK0n					AV32										
GXB_L0		REFCLK0p					AV31										
3A		DNU					AM31										
3A		TDO		TDO			AT34										
3A		TMS		TMS			AM35										
3A		TCX		TCX			AV34										
3A		TDI		TDI			AT33										
3A		DCLK		DCLK			AW34										
3A		HPS0		DATA4			AM34										
3A		AS_DATA3		DATA3			AM34										
3A		AS_DATA2		DATA2			AP33										
3A		AS_DATA1		DATA1			AM33										
3A		AS_DATA0ASD0		DATA0			AV33										
3A	VREFBANK	I0	R2D_0				AM33	DIFF0_TX_B1n	DIFFOUT_B1n								
3A	VREFBANK	I0	CLK0n				AM33	DIFF0_TX_B1p	DIFFOUT_B1p	DO1B							
3A	VREFBANK	I0	CLK0p				AM34	DIFF0_RX_B0n	DIFFOUT_B0n	AM34	DO1B						
3A	VREFBANK	I0	CLK0p				AM34	DIFF0_RX_B0p	DIFFOUT_B0p	AM34	DO1B						
3A	VREFBANK	I0	CLK0p				AM32	DIFF0_TX_B3p	DIFFOUT_B3p	AM32	DO1B						
3A	VREFBANK	I0	CLK1n				AM34	DIFF0_RX_B4n	DIFFOUT_B4n	A134	DO2B/DO20B						
3A	VREFBANK	I0	CLK1p				AM34	DIFF0_RX_B4p	DIFFOUT_B4p	AM34	DO2B/DO20B/DO18B/DO16B						
3A	VREFBANK	I0	FPLL_BL_CLKOUT1/FPLL_BL_CLKOUTn				AM34	DIFF0_TX_B5n	DIFFOUT_B5n	AM34	DO1B						
3A	VREFBANK	I0	FPLL_BL_CLKOUT2/FPLL_BL_CLKOUTp/FPLL_BL_FB0				AM34	DIFF0_TX_B6n	DIFFOUT_B6n	AM34	DO1B						
3A	VREFBANK	I0	FPLL_BL_CLKOUT3/FPLL_BL_FBn				AM33	DIFF0_RX_B6n	DIFFOUT_B6n	A133	DO1B						
3A	VREFBANK	I0	FPLL_BL_CLKOUT7/FPLL_BL_FBp/FPLL_BL_FB1				AM33	DIFF0_RX_B6p	DIFFOUT_B6p	AM33	DO1B						
3A	VREFBANK	I0	VREFBANK				A131										
3A	VREFBANK	I0	CLK2n				AM31	DIFF0_RX_B7n	DIFFOUT_B7n	AM31	DO1B						
3A	VREFBANK	I0	CLK2p				AM33	DIFF0_RX_B7p	DIFFOUT_B7p	AM33	DO1B						
3A	VREFBANK	I0	CLK2p				AM32	DIFF0_TX_B8n	DIFFOUT_B8n	AM32	DO1B						
3A	VREFBANK	I0	CLK2p				AM32	DIFF0_TX_B8p	DIFFOUT_B8p	AM32	DO1B						
3A	VREFBANK	I0	CLK3n				AM32	DIFF0_RX_B9n	DIFFOUT_B9n	A132	DO2B	DO1B					
3A	VREFBANK	I0	CLK3p				AM32	DIFF0_RX_B9p	DIFFOUT_B9p	AM32	DO2B	DO1B					
3A	VREFBANK	I0	CLK3p				AM31	DIFF0_TX_B10n	DIFFOUT_B10n	A131	DO2B	DO1B					
3A	VREFBANK	I0	CLK3p				AM31	DIFF0_TX_B10p	DIFFOUT_B10p	AM31	DO2B	DO1B					
3A	VREFBANK	I0	CLK3p				AM33	DIFF0_RX_B11n	DIFFOUT_B11n	AM33	DO2B/DO20B	DO1B					
3A	VREFBANK	I0	CLK3p				AM32	DIFF0_RX_B11p	DIFFOUT_B11p	AM32	DO2B/DO20B/DO18B/DO16B	DO1B					
3A	VREFBANK	I0	CLK3p				AM31	DIFF0_TX_B12n	DIFFOUT_B12n	AM31	DO2B						
3A	VREFBANK	I0	CLK3p				AM31	DIFF0_TX_B12p	DIFFOUT_B12p	AM31	DO2B						
3A	VREFBANK	I0	CLK3p				AM31	DIFF0_RX_B13n	DIFFOUT_B13n	AM31	DO2B						
3A	VREFBANK	I0	CLK3p				AM31	DIFF0_RX_B13p	DIFFOUT_B13p	AM31	DO2B						
3A	VREFBANK	I0	CLK3p				AM32	DIFF0_TX_B14n	DIFFOUT_B14n	AM32	DO2B						
3A	VREFBANK	I0	CLK3p				AM32	DIFF0_TX_B14p	DIFFOUT_B14p	AM32	DO2B						
3A	VREFBANK	I0	CLK3p														



Bank Number	VREF	PinName/Function (2), (3)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	F1517 (4)	DQS for X8/X9	DQS for X16/X18	DQS for X32/X36	HMC pin assignment for DQES (6)	HMC pin assignment for FPDS2 (6)	HPS Pin Mux Select 3	HPS Pin Mux Select 2	HPS Pin Mux Select 1	HPS Pin Mux Select 0
3A	VREFBAND0	IO			DIFFIO_TX_B16n	DIFFOUT_B16n	AV131	DD0B				A_3A_11				
3A	VREFBAND0	IO			DIFFIO_TX_B16n	DIFFOUT_B16n	AV131	DD0B				A_3A_10				
3A	VREFBAND0	IO			DIFFIO_TX_B17p	DIFFOUT_B17p	AV131	DD0B				A_3A_9	CA_3A_9			
3A	VREFBAND0	IO			DIFFIO_TX_B18n	DIFFOUT_B18n	AV131	DD0B				A_3A_8	CA_3A_8			
3A	VREFBAND0	IO			DIFFIO_TX_B18p	DIFFOUT_B18p	AV131	DD0B				A_3A_7	CA_3A_7			
3A	VREFBAND0	IO			DIFFIO_TX_B19n	DIFFOUT_B19n	AV131	DD0B				A_3A_6	CA_3A_6			
3A	VREFBAND0	IO			DIFFIO_TX_B19p	DIFFOUT_B19p	AV131	DD0B				A_3A_5	CA_3A_5			
3A	VREFBAND0	IO			DIFFIO_TX_B20n	DIFFOUT_B20n	AV131	DD0B				A_3A_4	CA_3A_4			
3A	VREFBAND0	IO			DIFFIO_TX_B20p	DIFFOUT_B20p	AV131	DD0B				A_3A_3	CA_3A_3			
3A	VREFBAND0	IO			DIFFIO_TX_B21n	DIFFOUT_B21n	AV131	DD0B				A_3A_2	CA_3A_2			
3A	VREFBAND0	IO			DIFFIO_TX_B21p	DIFFOUT_B21p	AV131	DD0B				A_3A_1	CA_3A_1			
3A	VREFBAND0	IO			DIFFIO_TX_B22n	DIFFOUT_B22n	AV131	DD0B				CA_3A_1	CA_3A_1			
3A	VREFBAND0	IO			DIFFIO_TX_B22p	DIFFOUT_B22p	AV131	DD0B				CA_3A_0	CA_3A_0			
3A	VREFBAND0	IO			DIFFIO_TX_B23n	DIFFOUT_B23n	AV131	DD0B				CKF_3A_1	CKF_3A_1			
3A	VREFBAND0	IO			DIFFIO_TX_B23p	DIFFOUT_B23p	AV131	DD0B				CKF_3A_0	CKF_3A_0			
3B	VREFBAND0	IO			DIFFIO_TX_B24n	DIFFOUT_B24n	AV131	DD0B				CKF_3A	CKF_3A			
3B	VREFBAND0	IO			DIFFIO_TX_B24p	DIFFOUT_B24p	AV131	DD0B				CK_3A	CK_3A			
3B	VREFBAND0	IO			DIFFIO_TX_B25n	DIFFOUT_B25n	AV131	DD0B				RESETS_3A				
3B	VREFBAND0	IO			DIFFIO_TX_B25p	DIFFOUT_B25p	AV131	DD0B				DO1_3B_8	DO1_3B_8			
3B	VREFBAND0	IO			DIFFIO_TX_B26n	DIFFOUT_B26n	AV131	DD0B				DO1_3B_7	DO1_3B_7			
3B	VREFBAND0	IO			DIFFIO_TX_B26p	DIFFOUT_B26p	AV131	DD0B				DO1_3B_6	DO1_3B_6			
3B	VREFBAND0	IO			DIFFIO_TX_B27n	DIFFOUT_B27n	AV131	DD0B				DO1_3B_5	DO1_3B_5			
3B	VREFBAND0	IO			DIFFIO_TX_B27p	DIFFOUT_B27p	AV131	DD0B				DO1_3B_4	DO1_3B_4			
3B	VREFBAND0	IO			DIFFIO_TX_B28n	DIFFOUT_B28n	AV131	DD0B				DO1_3B_3	DO1_3B_3			
3B	VREFBAND0	IO			DIFFIO_TX_B28p	DIFFOUT_B28p	AV131	DD0B				DO1_3B_2	DO1_3B_2			
3B	VREFBAND0	IO			DIFFIO_TX_B29n	DIFFOUT_B29n	AV131	DD0B				DO1_3B_1	DO1_3B_1			
3B	VREFBAND0	IO			DIFFIO_TX_B29p	DIFFOUT_B29p	AV131	DD0B				DO1_3B_0	DO1_3B_0			
3B	VREFBAND0	IO			DIFFIO_TX_B30n	DIFFOUT_B30n	AV131	DD0B				DO2_3B_8	DO2_3B_8			
3B	VREFBAND0	IO			DIFFIO_TX_B30p	DIFFOUT_B30p	AV131	DD0B				DO2_3B_7	DO2_3B_7			
3B	VREFBAND0	IO			DIFFIO_TX_B31n	DIFFOUT_B31n	AV131	DD0B				DO2_3B_6	DO2_3B_6			
3B	VREFBAND0	IO			DIFFIO_TX_B31p	DIFFOUT_B31p	AV131	DD0B				DO2_3B_5	DO2_3B_5			
3B	VREFBAND0	IO			DIFFIO_TX_B32n	DIFFOUT_B32n	AV131	DD0B				DO2_3B_4	DO2_3B_4			
3B	VREFBAND0	IO			DIFFIO_TX_B32p	DIFFOUT_B32p	AV131	DD0B				DO2_3B_3	DO2_3B_3			
3B	VREFBAND0	IO			DIFFIO_TX_B33n	DIFFOUT_B33n	AV131	DD0B				DO2_3B_2	DO2_3B_2			
3B	VREFBAND0	IO			DIFFIO_TX_B33p	DIFFOUT_B33p	AV131	DD0B				DO2_3B_1	DO2_3B_1			
3B	VREFBAND0	IO			DIFFIO_TX_B34n	DIFFOUT_B34n	AV131	DD0B				DO2_3B_0	DO2_3B_0			
3B	VREFBAND0	IO			DIFFIO_TX_B35n	DIFFOUT_B35n	AV131	DD0B				DO3_3B_8	DO3_3B_8			
3B	VREFBAND0	IO			DIFFIO_TX_B35p	DIFFOUT_B35p	AV131	DD0B				DO3_3B_7	DO3_3B_7			
3B	VREFBAND0	IO			DIFFIO_TX_B36n	DIFFOUT_B36n	AV131	DD0B				DO3_3B_6	DO3_3B_6			
3B	VREFBAND0	IO			DIFFIO_TX_B36p	DIFFOUT_B36p	AV131	DD0B				DO3_3B_5	DO3_3B_5			
3B	VREFBAND0	IO			DIFFIO_TX_B37n	DIFFOUT_B37n	AV131	DD0B				DO3_3B_4	DO3_3B_4			
3B	VREFBAND0	IO			DIFFIO_TX_B37p	DIFFOUT_B37p	AV131	DD0B				DO3_3B_3	DO3_3B_3			
3B	VREFBAND0	IO			DIFFIO_TX_B38n	DIFFOUT_B38n	AV131	DD0B				DO3_3B_2	DO3_3B_2			
3B	VREFBAND0	IO			DIFFIO_TX_B38p	DIFFOUT_B38p	AV131	DD0B				DO3_3B_1	DO3_3B_1			
3B	VREFBAND0	IO			DIFFIO_TX_B39n	DIFFOUT_B39n	AV131	DD0B				DO3_3B_0	DO3_3B_0			
3B	VREFBAND0	IO			DIFFIO_TX_B40n	DIFFOUT_B40n	AV131	DD0B				DO4_3C_8	DO4_3C_8			
3B	VREFBAND0	IO			DIFFIO_TX_B40p	DIFFOUT_B40p	AV131	DD0B				DO4_3C_7	DO4_3C_7			
3B	VREFBAND0	IO			DIFFIO_TX_B41n	DIFFOUT_B41n	AV131	DD0B				DO4_3C_6	DO4_3C_6			
3B	VREFBAND0	IO			DIFFIO_TX_B41p	DIFFOUT_B41p	AV131	DD0B				DO4_3C_5	DO4_3C_5			
3B	VREFBAND0	IO			DIFFIO_TX_B42n	DIFFOUT_B42n	AV131	DD0B				DO4_3C_4	DO4_3C_4			
3B	VREFBAND0	IO			DIFFIO_TX_B42p	DIFFOUT_B42p	AV131	DD0B				DO4_3C_3	DO4_3C_3			
3B	VREFBAND0	IO			DIFFIO_TX_B43n	DIFFOUT_B43n	AV131	DD0B				DO4_3C_2	DO4_3C_2			
3B	VREFBAND0	IO			DIFFIO_TX_B43p	DIFFOUT_B43p	AV131	DD0B				DO4_3C_1	DO4_3C_1			
3B	VREFBAND0	IO			DIFFIO_TX_B44n	DIFFOUT_B44n	AV131	DD0B				DO4_3C_0	DO4_3C_0			
3B	VREFBAND0	IO			DIFFIO_TX_B45n	DIFFOUT_B45n	AV131	DD0B				DO5_3C_8	DO5_3C_8			
3B	VREFBAND0	IO			DIFFIO_TX_B45p	DIFFOUT_B45p	AV131	DD0B				DO5_3C_7	DO5_3C_7			
3B	VREFBAND0	IO			DIFFIO_TX_B46n	DIFFOUT_B46n	AV131	DD0B				DO5_3C_6	DO5_3C_6			
3B	VREFBAND0	IO			DIFFIO_TX_B46p	DIFFOUT_B46p	AV131	DD0B				DO5_3C_5	DO5_3C_5			
3B	VREFBAND0	IO			DIFFIO_TX_B47n	DIFFOUT_B47n	AV131	DD0B				DO5_3C_4	DO5_3C_4			
3B	VREFBAND0	IO			DIFFIO_TX_B47p	DIFFOUT_B47p	AV131	DD0B				DO5_3C_3	DO5_3C_3			
3B	VREFBAND0	IO			DIFFIO_TX_B48n	DIFFOUT_B48n	AV131	DD0B				DO5_3C_2	DO5_3C_2			
3B	VREFBAND0	IO			DIFFIO_TX_B48p	DIFFOUT_B48p	AV131	DD0B				DO5_3C_1	DO5_3C_1			
3B	VREFBAND0	IO			DIFFIO_TX_B49n	DIFFOUT_B49n	AV131	DD0B				DO5_3C_0	DO5_3C_0			
3B	VREFBAND0	IO			DIFFIO_TX_B50n	DIFFOUT_B50n	AV131	DD0B				DO6_3C_8	DO6_3C_8			
3B	VREFBAND0	IO			DIFFIO_TX_B50p	DIFFOUT_B50p	AV131	DD0B				DO6_3C_7	DO6_3C_7			
3B	VREFBAND0	IO			DIFFIO_TX_B51n	DIFFOUT_B51n	AV131	DD0B				DO6_3C_6	DO6_3C_6			
3B	VREFBAND0	IO			DIFFIO_TX_B51p	DIFFOUT_B51p	AV131	DD0B				DO6_3C_5	DO6_3C_5			
3B	VREFBAND0	IO			DIFFIO_TX_B52n	DIFFOUT_B52n	AV131	DD0B				DO6_3C_4	DO6_3C_4			
3B	VREFBAND0	IO			DIFFIO_TX_B52p	DIFFOUT_B52p	AV131	DD0B				DO6_3C_3	DO6_3C_3			
3B	VREFBAND0	IO			DIFFIO_TX_B53n	DIFFOUT_B53n	AV131	DD0B				DO6_3C_2	DO6_3C_2			
3B	VREFBAND0	IO			DIFFIO_TX_B53p	DIFFOUT_B53p	AV131	DD0B				DO6_3C_1	DO6_3C_1			
3B	VREFBAND0	IO			DIFFIO_TX_B54n	DIFFOUT_B54n	AV131	DD0B				DO6_3C_0	DO6_3C_0			
3B	VREFBAND0	IO			DIFFIO_TX_B55n	DIFFOUT_B55n	AV131	DD0B				DO7_3C_8	DO7_3C_8			
3B	VREFBAND0	IO			DIFFIO_TX_B55p	DIFFOUT_B55p	AV131	DD0B				DO7_3C_7	DO7_3C_7			
3B	VREFBAND0	IO			DIFFIO_TX_B56n	DIFFOUT_B56n	AV131	DD0B				DO7_3C_6	DO7_3C_6			
3B	VREFBAND0	IO			DIFFIO_TX_B56p	DIFFOUT_B56p	AV131	DD0B				DO7_3C_5	DO7_3C_5			
3B	VREFBAND0	IO			DIFFIO_TX_B57n	DIFFOUT_B57n	AV131	DD0B				DO7_3C_4	DO7_3C_4			
3B	VREFBAND0	IO			DIFFIO_TX_B57p	DIFFOUT_B57p	AV131	DD0B				DO7_3C_3	DO7_3C_3			
3B	VREFBAND0	IO			DIFFIO_TX_B58n	DIFFOUT_B58n	AV131	DD0B				DO7_3C_2	DO7_3C_2			
3B	VREFBAND0	IO			DIFFIO_TX_B58p	DIFFOUT_B58p	AV131	DD0B				DO7_3C_1	DO7_3C_1			
3B	VREFBAND0	IO			DIFFIO_TX_B59n	DIFFOUT_B59n	AV131	DD0B				DO7_3C_0	DO7_3C_0			
3B	VREFBAND0	IO			DIFFIO_TX_B60n	DIFFOUT_B60n	AV131	DD0B				DO8_3C_8	DO8_3C_8			
3B	VREFBAND0	IO			DIFFIO_TX_B60p	DIFFOUT_B60p	AV131	DD0B				DO8_3C_7	DO8_3C_7			
3B	VREFBAND0	IO			DIFFIO_TX_B61n	DIFFOUT_B61n	AV131	DD0B				DO8_3C_6	DO8_3C_6			
3B	VREFBAND0	IO			DIFFIO_TX_B61p	DIFFOUT_B61p	AV131	DD0B				DO8_3C_5	DO8_3C_5			
3B	VREFBAND0	IO			DIFFIO_TX_B62n	DIFFOUT_B62n	AV131	DD0B				DO8_3C_4	DO8_3C_4			
3B	VREFBAND0	IO			DIFFIO_TX_B62p	DIFFOUT_B62p	AV131	DD0B				DO8_3C_3	DO8_3C_3			
3B	VREFBAND0	IO			DIFFIO_TX_B63n	DIFFOUT_B63n	AV131	DD0B				DO8_3C_2	DO8_3C_2			
3B	VREFBAND0	IO			DIFFIO_TX_B63p	DIFFOUT_B63p	AV131	DD0B				DO8_3C_1	DO8_3C_1			
3B	VREFBAND0	IO			DIFFIO_TX_B64n	DIFFOUT_B64n	AV131	DD0B				DO8_3C_0	DO8_3C_0			
3B	VREFBAND0	IO			DIFFIO_TX_B65n	DIFFOUT_B65n	AV131	DD0B				DO9_3C_8	DO9_3C_8			
3B	VREFBAND0	IO			DIFFIO_TX_B65p	DIFFOUT_B65p	AV131	DD0B				DO9_3C_7	DO9_3C_7			
3B	VREFBAND0	IO			DIFFIO_TX_B66n	DIFFOUT_B66n	AV131	DD0B				DO9_3C_6	DO9_3C_6			
3B	VREFBAND0	IO			DIFFIO_TX_B66p	DIFFOUT_B66p	AV131	DD0B				DO9_3C_5	DO9_3C_5			
3B	VREFBAND0	IO			DIFFIO_TX_B67n	DIFFOUT_B67n	AV131	DD0B				DO9_3C_4	DO9_3C_4			
3B	VREFBAND0	IO			DIFFIO_TX_B67p	DIFFOUT_B67p	AV131	DD0B				DO9_3C_3	DO9_3C_3			
3B	VREFBAND0	IO			DIFFIO_TX_B68n	DIFFOUT_B68n	AV131	DD0B				DO9_3C_2	DO9_3C_2			
3B	VREFBAND0	IO			DIFFIO_TX_B68p	DIFFOUT_B68p	AV131	DD0B				DO9_3C_1	DO9_3C_1			



Bank Number	REF	PinName/Function (1), (2)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	F1517 (4)	DQS for X8/X9	DQS for X16/X18	DQS for X32/X36	HMC pin assignment for DQS3 (5)	HMC pin assignment for LPDQS2	HPS Pin Mux Select 3	HPS Pin Mux Select 2	HPS Pin Mux Select 1	HPS Pin Mux Select 0	
3D	UREFBAND	IO	CLK6n		DIFF0_RX_B78n	DIFFOUT_B78n	AE21	DQ11B	DQ6B	DQ2B							
3D	UREFBAND	IO	CLK6p		DIFF0_RX_B78n	DIFFOUT_B78n	AE21	DQ11B	DQ6B	DQ2B							
3D	UREFBAND	IO	FPLL_BC_CLKOUT0/FPLL_BC_CLKOUT1		DIFF0_TX_B79p	DIFFOUT_B79p	AE22	DQ11B	DQ6B	DQ2B							
3D	UREFBAND	IO	FPLL_BC_CLKOUT0/FPLL_BC_CLKOUT1/FPLL_BC_FB0		DIFF0_RX_B80n	DIFFOUT_B80n	AE21	DQS8118QK118	DQ6B	DQ2B							
3D	UREFBAND	IO	FPLL_BC_CLKOUT0/FPLL_BC_FB0		DIFF0_RX_B80p	DIFFOUT_B80p	AE21	DQS118CQ118CQ118CQn118	DQ6B	DQ2B							
3D	UREFBAND	IO	CLK6n		DIFF0_TX_B81n	DIFFOUT_B81n	AE20	DQ11B	DQ6B	DQ2B							
3D	UREFBAND	IO	CLK6p		DIFF0_RX_B82n	DIFFOUT_B82n	AE21	DQ11B	DQ6B	DQ2B							
3D	UREFBAND	IO	CLK6p		DIFF0_TX_B83n	DIFFOUT_B83n	AE20	DQ11B	DQ6B	DQ2B							
3D	UREFBAND	IO	CLK6n		DIFF0_TX_B83p	DIFFOUT_B83p	AE20	DQ11B	DQ6B	DQ2B							
3D	UREFBAND	IO	CLK7n		DIFF0_RX_B84n	DIFFOUT_B84n	AE20	DQ11B	DQ6B	DQ2B							
3D	UREFBAND	IO	CLK7p		DIFF0_RX_B84p	DIFFOUT_B84p	AE20	DQ11B	DQ6B	DQ2B							
4D	UREFBAND	IO	VCC0 FPLL				AE20										
4D	UREFBAND	IO	VCCA FPLL				AE21										
4D	UREFBAND	IO	DN0				AE20										
4D	UREFBAND	IO			DIFF0_TX_B85n	DIFFOUT_B85n	AV18	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B86n	DIFFOUT_B86n	AG19	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B86p	DIFFOUT_B86p	AG19	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B87n	DIFFOUT_B87n	AP19	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B87p	DIFFOUT_B87p	AP19	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B88n	DIFFOUT_B88n	AK19	DQS128QK128	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B88p	DIFFOUT_B88p	AL19	DQS128CQ128CQ128CQn128CQn128	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B89n	DIFFOUT_B89n	AH18	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B89p	DIFFOUT_B89p	AH18	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B90n	DIFFOUT_B90n	AI19	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B90p	DIFFOUT_B90p	AI19	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B91n	DIFFOUT_B91n	AF19	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B91p	DIFFOUT_B91p	AF19	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B92n	DIFFOUT_B92n	AV17	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B92p	DIFFOUT_B92p	AV17	DQ12B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B93n	DIFFOUT_B93n	AK17	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B93p	DIFFOUT_B93p	AK17	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B94n	DIFFOUT_B94n	AT17	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B94p	DIFFOUT_B94p	AJ17	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B95n	DIFFOUT_B95n	AC19	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B95p	DIFFOUT_B95p	AD19	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B96n	DIFFOUT_B96n	AF18	DQS118QK118	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B96p	DIFFOUT_B96p	AF18	DQS118CQ118CQ118CQn118CQn118	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B97n	DIFFOUT_B97n	AD17	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B97p	DIFFOUT_B97p	AD17	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B98n	DIFFOUT_B98n	AE18	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B98p	DIFFOUT_B98p	AE18	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO	VREFBAND				AF18	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO					AG18	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B99n	DIFFOUT_B99n	AL18	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B99p	DIFFOUT_B99p	AM18	DQ13B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B100n	DIFFOUT_B100n	AJ17	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B100p	DIFFOUT_B100p	AH17	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B101n	DIFFOUT_B101n	AK17	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B101p	DIFFOUT_B101p	AK17	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B102n	DIFFOUT_B102n	AF16	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B102p	DIFFOUT_B102p	AF16	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B103n	DIFFOUT_B103n	AL16	DQS148QK148	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B103p	DIFFOUT_B103p	AL16	DQS148CQ148CQ148CQn148CQn148	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B104n	DIFFOUT_B104n	AK16	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B104p	DIFFOUT_B104p	AK16	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B105n	DIFFOUT_B105n	AM16	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B105p	DIFFOUT_B105p	AM16	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B106n	DIFFOUT_B106n	AL16	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_TX_B106p	DIFFOUT_B106p	AL16	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B107n	DIFFOUT_B107n	AM16	DQ14B	DQ6B	DQ2B							
4D	UREFBAND	IO			DIFF0_RX_B107p	DIFFOUT_B107p	AM16	DQ14B	DQ6B	DQ2B							
4C	UREFBAND	IO			DIFF0_TX_B108n	DIFFOUT_B108n	AM15	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B108p	DIFFOUT_B108p	AM15	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B109n	DIFFOUT_B109n	AV14	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B109p	DIFFOUT_B109p	AV14	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B110n	DIFFOUT_B110n	AC16	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B110p	DIFFOUT_B110p	AC16	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B111n	DIFFOUT_B111n	AD16	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B111p	DIFFOUT_B111p	AD16	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B112n	DIFFOUT_B112n	AK15	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B112p	DIFFOUT_B112p	AK15	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B113n	DIFFOUT_B113n	AV13	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B113p	DIFFOUT_B113p	AV13	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B114n	DIFFOUT_B114n	AE15	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B114p	DIFFOUT_B114p	AE15	DQ15B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B115n	DIFFOUT_B115n	AC15	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B115p	DIFFOUT_B115p	AC15	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B116n	DIFFOUT_B116n	AT14	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B116p	DIFFOUT_B116p	AT14	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B117n	DIFFOUT_B117n	AT13	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B117p	DIFFOUT_B117p	AT13	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B118n	DIFFOUT_B118n	AE16	DQS168QK168	DQ6B	DQ2B							
4C	UREFBAND	IO			DIFF0_TX_B118p	DIFFOUT_B118p	AE16	DQS168CQ168CQ168CQn168CQn168	DQ6B	DQ2B							
4C	UREFBAND	IO			DIFF0_TX_B119n	DIFFOUT_B119n	AK14	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B119p	DIFFOUT_B119p	AK14	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B120n	DIFFOUT_B120n	AN14	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B120p	DIFFOUT_B120p	AN14	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B121n	DIFFOUT_B121n	AP14	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_TX_B121p	DIFFOUT_B121p	AP14	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B122n	DIFFOUT_B122n	AD15	DQ16B	DQ7B	DQ3B							
4C	UREFBAND	IO			DIFF0_RX_B122p	DIFFOUT_B122p	AD15	DQ16B	DQ7B	DQ3B							
4B	UREFBAND	IO			DIFF0_TX_B123n	DIFFOUT_B123n	AP13	DQ17B	DQ8B	DQ3B							
4B	UREFBAND	IO			DIFF0_TX_B123p	DIFFOUT_B123p	AP13	DQ17B	DQ8B	DQ3B							
4B	UREFBAND	IO			DIFF0_RX_B124n	DIFFOUT_B124n	AK13	DQ17B	DQ8B	DQ3B							
4B	UREFBAND	IO			DIFF0_RX_B124p	DIFFOUT_B124p	AK13	DQ17B	DQ8B	DQ3B							
4B	UREFBAND	IO			DIFF0_TX_B125n	DIFFOUT_B125n	AT12	DQ17B	DQ8B	DQ3B							
4B	UREFBAND	IO			DIFF0_TX_B125p	DIFFOUT_B125p	AT12	DQ17B	DQ8B	DQ3B							
4B	UREFBAND	IO			DIFF0_RX_B126n	DIFFOUT_B126n	AV12	DQS178QK178	DQ6B	DQ2B							
4B	UREFBAND	IO			DIFF0_RX_B126p	DIFFOUT_B126p	AV12	DQS178CQ178CQ178CQn178CQn178	DQ6B	DQ2B							
4B	UREFBAND	IO			DIFF0_TX_B127n	DIFFOUT_B127n	AL13	DQ17B	DQ8B	DQ3B							
4B	UREFBAND	IO			DIFF0_TX_B127p	DIFFOUT_B127p	AL13	DQ17B	DQ8B	DQ3B							



Bank Number	VREF	PinName/Function (2), (3)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	F1517 (4)	DQS for X8/X9	DQS for X16/X18	DQS for X32/X36	HMC pin assignment for DQS3 (6)	HMC pin assignment for FQDSE2	HPS Pin Mux Select 3	HPS Pin Mux Select 2	HPS Pin Mux Select 1	HPS Pin Mux Select 0
BA	VREFBAND	IO			DIFFIO_TX_T112n	DIFFIO_TX_T112n	G32									
BA	VREFBAND	IO	CLK20b		DIFFIO_RX_T113b	DIFFIO_RX_T113b	G34	DD11T								
BA	VREFBAND	IO	CLK20b		DIFFIO_RX_T113b	DIFFIO_RX_T113b	G34	DD11T								
BA	VREFBAND	IO			DIFFIO_TX_T114p	DIFFIO_TX_T114p	E33	DD11T								
BA	VREFBAND	IO			DIFFIO_TX_T114n	DIFFIO_TX_T114n	F33									
BA		MSEL0	R20_6	MSEL0			H35									
BA		MSEL1		MSEL1			A34									
BA		MSEL2		MSEL2			D35									
BA		MSEL3		MSEL3			A37									
BA		MSEL4		MSEL4			P34									
BA		CONF_DONE		CONF_DONE			K35									
BA		hSTATUS		hSTATUS			F35									
BA		hCE		hCE			M35									
BA		hCONFG0		hCONFG0			A36									
		GND					P35									
		VCC_MPS					V16									
		GND					W16									
		GND					AA33									
		GND					AA35									
		GND					AA38									
		GND					AA39									
		GND					AB11									
		GND					AB12									
		GND					AB14									
		GND					AB16									
		GND					AB17									
		GND					AC13									
		GND					AC18									
		GND					AC19									
		GND					AC22									
		GND					AD16									
		GND					AD17									
		GND					AE13									
		GND					AE15									
		GND					AE18									
		GND					AE19									
		GND					AF11									
		GND					AF12									
		GND					AF14									
		GND					AF16									
		GND					AF17									
		GND					AG16									
		GND					AG19									
		GND					AH13									
		GND					AH14									
		GND					AH15									
		GND					AH16									
		GND					AM17									
		GND					AN15									
		GND					AN16									
		GND					AN19									
		GND					AP19									
		GND					AR16									
		GND					AR19									
		GND					AT16									
		GND					AT17									
		GND					AV15									
		GND					AV18									
		GND					AV19									
		GND					AV25									
		GND					AV28									
		GND					AV38									
		GND					AV39									
		GND					AV38									
		GND					AV38									
		GND					B17									
		GND					C15									
		GND					C18									
		GND					C19									
		GND					D16									
		GND					D17									
		GND					E16									
		GND					E18									
		GND					E19									
		GND					F16									
		GND					F17									
		GND					G15									
		GND					G18									
		GND					G19									
		GND					H16									
		GND					H17									
		GND					J15									
		GND					J18									
		GND					J19									
		GND					K16									
		GND					K17									
		GND					L16									
		GND					L18									
		GND					L19									
		GND					M16									
		GND					M17									
		GND					N15									
		GND					N18									
		GND					N19									
		GND					P16									
		GND					P17									
		GND					R14									
		GND					R18									
		GND					R19									
		GND					T12									
		GND					T18									
		GND					T17									
		GND					U13									
		GND					U16									
		GND					U18									
		GND					U19									
		GND					V12									
		GND					V14									
		GND					V16									
		GND					V17									
		GND					W13									
		GND					W18									
		GND					W19									
		GND					Y11									
		GND					Y12									



Bank Number	VREF	PinName/Function (2), (3)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	F1517 (4)	DQS for X8/X9	DQS for X16/X18	DQS for X32/X36	HMC pin assignment for DQS3 (5)	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					Y26									
		GND					Y27									
		GND					Y28									
		GND					AA4									
		GND					AA6									
		GND					AA8									
		GND					AB1									
		GND					AB2									
		GND					AB7									
		GND					AC3									
		GND					AC4									
		GND					AC8									
		GND					AD1									
		GND					AD2									
		GND					AD5									
		GND					AD7									
		GND					AE3									
		GND					AE4									
		GND					AE5									
		GND					AE8									
		GND					AF1									
		GND					AF2									
		GND					AF9									
		GND					AG3									
		GND					AG4									
		GND					AG5									
		GND					AG9									
		GND					AG7									
		GND					AG8									
		GND					AH1									
		GND					AH2									
		GND					AH5									
		GND					AI3									
		GND					AI4									
		GND					AK1									
		GND					AK2									
		GND					AK5									
		GND					AL3									
		GND					AL4									
		GND					AM1									
		GND					AM2									
		GND					AM5									
		GND					AN3									
		GND					AN4									
		GND					AP1									
		GND					AP2									
		GND					AP5									
		GND					AR3									
		GND					AR4									
		GND					AT1									
		GND					AT2									
		GND					AT5									
		GND					AT3									
		GND					AU4									
		GND					AV1									
		GND					AV2									
		GND					N3									
		GND					N4									
		GND					P1									
		GND					P2									
		GND					PS									
		GND					R3									
		GND					R4									
		GND					RS									
		GND					T1									
		GND					T2									
		GND					TS									
		GND					U3									
		GND					U4									
		GND					US									
		GND					U8									
		GND					V1									
		GND					V2									
		GND					V7									
		GND					W3									
		GND					W4									
		GND					W8									
		GND					Y1									
		GND					Y2									
		GND					Y8									
		GND					Y7									
		VCCP					AB21									
		VCCP					AB25									
		VCCP					AB15									
		VCCP					U10									
		VCCP					U16									
		VCCP					V26									
		VCCP					V27									
		VCCP					W10									
		VCCP					V27									
		VCCA_FPLL					AC30									
		VCCA_FPLL					AD9									
		VCCA_FPLL					Y30									
		VCCA_FPLL					AA9									
		VCCA_FPLL					V31									
		VCCPLL_HPS					U8									
		VCCMNT					R33									
		VCC_AUX					AB14									
		VCC_AUX					AB8									
		VCC_AUX					U28									
		VCC_AUX_SHARED					U15									
		VCCD_FPLL					AB1									
		VCCD_FPLL					AB9									
		VCCD_FPLL					W30									
		VCCD_FPLL					W8									
		VCCD_FPLL					T31									
		VCCA_GXBLO					AF33									
		VCCA_GXBRO					AE7									
		VCCA_GXB1					AB33									
		VCCA_GXB1					AA7									
		VCCA_GXB2					V33									
		VCCD_GXBLO					AD33									
		VCCD_GXBRO					AE7									
		VCCD_GXB1					Y33									
		VCCD_GXB1					W7									
		VCCD_GXB2					T33									
		VCCD_GXBLO					AD34									
		VCCD_GXBLO					AD35									
		VCCD_GXBRO					AE5									
		VCCD_GXBRO					AE6									
		VCCD_GXB1					Y34									
		VCCD_GXB1					V35									
		VCCD_GXB1					W5									
		VCCD_GXB1					W6									
		VCCD_GXB2					T34									
		VCCD_GXB2					T35									
		VCCD_GXB1					U34									
		VCCD_GXB1					W34									
		VCCD_GXB1					AA34									
		VCCD_GXB1					AB35									



Bank Number	VREF	PinName/Function (2), (3)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	F1517 (4)	DQS for X8/X9	DQS for X16/X18	DQS for X32/X36	HMC pin assignment for DQS3 (5)	HMC pin assignment for LPDQS2	HPS Pin Mux Select 3	HPS Pin Mux Select 2	HPS Pin Mux Select 1	HPS Pin Mux Select 0
		VCCIOBA					G33									
		VCCIOBA					K3									
		VCCIOBA					K31									
		VCCIOBA					P33									
		VCCIOBA					E38									
		VCCIOBB					E30									
		VCCIOBB					H30									
		VCCIOBB					K38									
		VCCIOBC					G25									
		VCCIOBC					D27									
		VCCIOBC					F25									
		VCCIOBC					G27									
		VCCIOBC					J26									
		VCCIOBC					M24									
		VCCIOBD					G21									
		VCCIOBD					D32									
		VCCIOBD					F21									
		VCCIOBD					G22									
		VCCIOBD					G23									
		VCCIOBD					M21									
		VCCIO3					AA27									
		VCCIO3					AA28									
		VCCIO3					AA29									
		VCCIO3					AA22									
		VCCIO3					AA23									
		VCCIO3					AA24									
		VCCIO3					AA30									
		VCCIO3A					AE10									
		VCCIO4A					AE10									
		VCCIO4B					AB12									
		VCCIO4B					AB13									
		VCCIO4B					AB16									
		VCCIO4B					AB18									
		VCCIO4B					AB19									
		VCCIO4MB_HPS					L6									
		VCCIO4MB_HPS					T10									
		VCCIO4MB_HPS					T6									
		VCCIO4MB_HPS					T8									
		VCCIO7A_HPS					R12									
		VCCIO7B_HPS					T14									
		VCCIO7C_HPS					F16									
		VCCIO7D_HPS					T17									
		VCCIO7E_HPS					R18									
		VCCIO7E_G					U21									
		VCCIO8					R32									
		VCCIO8					T30									
		VCCIO8					U22									
		VCCIO8					U24									
		VCCIO8					U26									
		VCCIO8					U29									
		VCCIO8M					J19									
		VCCIO8M					AE29									
		VCCIO8M					L30									
		VCC_HPS					T13									
		VCC_HPS					U14									
		VCC_HPS					U9									
		VCC_HPS					V10									
	VREFB7A7B7C7D7E_GND_HPS	VREFB7A7B7C7D7E_GND_HPS					P16									
		GND					AA11									
		GND					AA13									
		GND					AA15									
		GND					AA17									
		GND					AA19									
		GND					AA23									
		GND					AA30									
		GND					AE10									
		GND					AE11									
		GND					AE14									
		GND					AE17									
		GND					AE20									
		GND					AE26									
		GND					AE28									
		GND					AE29									
		GND					AE30									
		GND					AE31									
		GND					AE32									
		GND					AE33									
		GND					AE34									
		GND					AF17									
		GND					AF20									
		GND					AF23									
		GND					AF26									
		GND					AF28									
		GND					AF30									
		GND					AG29									
		GND					AJ11									
		GND					AJ14									
		GND					AJ17									
		GND					AJ20									
		GND					AK23									
		GND					AL26									
		GND					AJ29									
		GND					AL32									
		GND					AL38									
		GND					AM11									
		GND					AM14									
		GND					AM17									
		GND					AM20									
		GND					AM23									
		GND					AM26									
		GND					AM29									
		GND					AM32									
		GND					AM35									
		GND					AM38									
		GND					AM41									
		GND					AR14									
		GND					AR17									
		GND					AR20									
		GND					AR23									
		GND					AR26									
		GND					AR29									
		GND					AR32									
		GND					AR8									
		GND					AV11									
		GND					AV14									
		GND					AV17									
		GND					AV20									
		GND					AV23									
		GND					AV26									
		GND					AV29									
		GND					AV32									
		GND					AV35									
		GND					AV38									
		GND					B11									
		GND					B16									
		GND					B2									
		GND					B24									
		GND					B25									
		GND					B26									
		GND					B29									



Bank Number	VREF	PinName/Function (2), (3)	Optional Function(s)	Configuration Function	Dedicated Tx/Rx Channel	Emulated LVDS Output Channel	F1517 (4)	DQS for X8/X9	DQS for X16/X18	DQS for X32/X36	HMC pin assignment for DDR3 (5)	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					B02									
		GND					B5									
		GND					E11									
		GND					E17									
		GND					E2									
		GND					E20									
		GND					E23									
		GND					E26									
		GND					E29									
		GND					E32									
		GND					E5									
		GND					E8									
		GND					F14									
		GND					H11									
		GND					H17									
		GND					H2									
		GND					H20									
		GND					H23									
		GND					H26									
		GND					H29									
		GND					H32									
		GND					H5									
		GND					H8									
		GND					K14									
		GND					K20									
		GND					L11									
		GND					L17									
		GND					L2									
		GND					L23									
		GND					L26									
		GND					L29									
		GND					L32									
		GND					L5									
		GND					L8									
		GND					N11									
		GND					N14									
		GND					N17									
		GND					N20									
		GND					P11									
		GND					P23									
		GND					P26									
		GND					P29									
		GND					P22									
		GND					P25									
		GND					W21									
		GND					T12									
		GND					T15									
		GND					T16									
		GND					T18									
		GND					T20									
		GND					T9									
		GND					U11									
		GND					U13									
		GND					U17									
		GND					U23									
		GND					U26									
		GND					U27									
		GND					U30									
		GND					U7									
		GND					V14									
		GND					V9									
		GND					V18									
		GND					V21									
		GND					V24									
		GND					V26									
		GND					V28									
		GND					V30									
		GND					V8									
		GND					W17									
		GND					W11									
		GND					W13									
		GND					W15									
		GND					W17									
		GND					W19									
		GND					W23									
		GND					W25									
		GND					W29									
		GND					V10									
		GND					V12									
		GND					V14									
		GND					V15									
		GND					V18									
		GND					V20									
		GND					V22									
		GND					V24									
		GND					V26									
		GND					V28									

Notes:

- (1) For more information about pin definitions and pin connection guidelines, refer to the [Arria V Device Family Pin Connection Guidelines](#).
- (2) GND_AREFCLK pin is not supported in current Quartus II version, but will be supported in future Quartus II release version.
- (3) Pins with * contains similar name with other pins in the same column. For the selection of the HPS pins, refer to the "HPS Pin Mux Select x" columns.
- (4) Pins with # are the 10 Gbps transceiver channels. For more information about the 10 Gbps transceiver channels clocking recommendation, refer to the [Transceiver Clocking in Arria V Devices](#) chapter.
- (5) RESET pin is only applicable for DDR3 device.



**Pin Information for the Arria® V 5ASXMB5 Device
Version 1.3**

Version Number	Date	Changes Made
1.0	4/19/2013	Initial release.
1.1	9/30/2014	Remove corresponding bank number from VCCRSTCLK_HPS pin.
1.2	7/31/2015	Renamed the following columns: - Renamed "DDR3/DDR2 hard memory PHY" to "HMC pin assignment for DDR3". - Renamed "LPDDR2 hard memory PHY" to "HMC pin assignment for LPDDR2".
1.3	12/23/2016	-Renamed SDMMC_FB_CLK_IN to HPS_GPIO44.