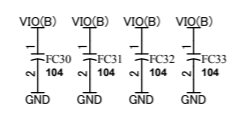




V12	V12
V25	V25
V33A	V33A
V33A	V33A
VIO(B)	VIO(B)
VIO(C)	VIO(C)
VIO(D)	VIO(D)
GND	GND

IOB[0_63]	IOB[0_63]
IOB[0_63]	IOB[0_63]
CLK 50M B5	CLK 50M B5
CLK 30M B5	CLK 30M B5
CLK 50M B8	CLK 50M B8
CLK 30M B8	CLK 30M B8
EX CLK BP	EX CLK BP
EX CLK BN	EX CLK BN
EX CLK DP	EX CLK DP
EX CLK DN	EX CLK DN
MSEL0	MSEL0
XCONFDONE	XCONFDONE

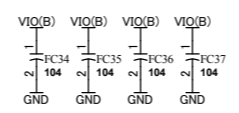
FPGA F	
CLK 50M B5	Y28
CLK 30M B5	Y27
AC25	IO DIFFIO R51n/B5
AC24	IO DIFFIO R51p/B5
AB24	IO DM3R/BWS#3R/B5
A27	IO DIFFIO R50n,DQ33R/CQ3R#CDPCLK4/B5
AE26	IO DIFFIO R50p/B5
AD26	IO DIFFIO R49n,DQ3R/B5
AC26	IO DIFFIO R49p/B5
AE28	IO DIFFIO R48n,DQ3R/B5
AE27	IO DIFFIO R47n,DQ3R/B5
AD28	IO DIFFIO R47p,DQ3R/B5
AD27	IO DIFFIO R46n,DQ3R/B5
Y24	IO DIFFIO R46p/B5
Y23	IO DIFFIO R45n,DQ3R/B5
AC28	IO DIFFIO R45p/B5
AC27	IO DIFFIO R44n,DQ3R/B5
AB26	IO DIFFIO R44p/B5
AB25	IO DIFFIO R43n,DQ3R/B5
AA26	IO DIFFIO R43p/B5
AA25	IO DIFFIO R42n,DQ3R/B5
AB28	IO DIFFIO R42p,BWS#3R/B5
AB27	IO DIFFIO R42n,DQ3R/B5
IOB0	IO DIFFIO R41p,DQ3R/B5
IOB1	IO DIFFIO R41n,DQ3R/B5
IOB2	IO DIFFIO R40n,DQ3R/B5
IOB3	IO DIFFIO R40p/B5
IOB35	IO DIFFIO R40n,DQ3R/B5
IOB6	IO DIFFIO R40p/B5
IOB7	IO DIFFIO R39n,DQ3R/B5
IOB8	IO DIFFIO R39p,DQ3R/B5
IOB9	IO DIFFIO R38n,DQ3R/B5
IOB5	IO DIFFIO R38p/B5
IOB4	IO DIFFIO R37n/B5
IOB33	IO DIFFIO R37p,DQ3R/B5
IOB32	IO DIFFIO R36n/B5
W21	IO DIFFIO R36p/B5
W21	IO DIFFIO R35n/B5
W21	IO DIFFIO R35p/B5
U22	IO DIFFIO R34n/B5
U22	IO DIFFIO R34p/B5
IOB11	IO DIFFIO R33n/B5
IOB10	IO DIFFIO R33p/B5
IOB13	IO DIFFIO R32n,DQ3R/B5
IOB12	IO DIFFIO R32p/B5
U27	IO DIFFIO R31n/B5
U22	IO DIFFIO R31p/B5
IOB37	IO DIFFIO R30n/B5
IOB36	IO DIFFIO R30p,DQ31R/CQ1R#DPCLK6/B5
T22	IO DIFFIO R29n,DEV_OE/B5
T21	IO DIFFIO R29p,DEV_OE/B5
IOB17	IO DIFFIO R28n,DQ3R/B5
IOB16	IO DIFFIO R28p,DQ3R/B5
IOB15	IO DIFFIO R27n,DM1R/BWS#1R/B5
IOB14	IO DIFFIO R27p,DQ1R/B5
R23	IO DIFFIO R26n/B5
R22	IO DIFFIO R26p/B5
R21	IO DIFFIO R25n/B5
R21	IO DIFFIO R25p/B5
P21	IO DIFFIO R25p/B5
AA23	IO/B5
R24	IO/B5
AA22	IO RUP3/B5
AB23	IO_RDN3/B5
AA24	IO_VREFB2N/B5
U23	IO_VREFB2P/B5
U24	IO_VREFB1N/B5
U24	IO_VREFB1P/B5
AA28	VCCIO5
AC28	VCCIO5
U24	VCCIO5
T28	VCCIO5
W24	VCCIO5
VIO(B)	U21
VIO(B)	U21



**Bank Group B**

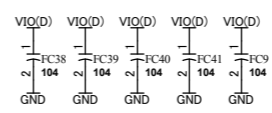
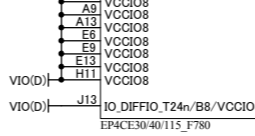
**(\*) NOTICE**  
**CE30/CE40: Vccio input**  
**CE115 : User I/O**

FPGA G	
EX CLK BN	J28
EX CLK BP	J27
XCONFDONE	P24
MSEL0	N22
GND	P23
V25	M22
V25	P22
V25	M23
IOB39	P26
IOB38	P25
IOB39	P26
IOB18	P27
IOB41	N26
IOB40	N25
IOB51	M26
IOB50	M27
IOB21	M26
IOB20	M25
IOB53	L28
IOB52	L27
IOB43	L24
IOB42	L23
IOB54	K28
IOB55	K27
IOB25	L26
IOB25	J26
IOB24	J25
IOB57	G28
IOB56	G27
IOB23	K26
IOB22	K25
IOB59	F28
IOB58	F27
IOB61	E28
IOB60	E27
H26	IO DIFFIO R11n/B6
H25	IO DIFFIO R11p/B6
E26	IO DIFFIO R10n/B6
E26	IO DIFFIO R10p/B6
F28	IO DIFFIO R9n,PADD22/B6
F28	IO DIFFIO R9p,DQ1R/B6
D22	IO DIFFIO R8n,PADD21/B6
D22	IO DIFFIO R8p,DQ1R/B6
D22	IO DIFFIO R7n/B6
J24	IO DIFFIO R6n/B6
J23	IO DIFFIO R6p/B6
K21	IO DIFFIO R5n/B6
K21	IO DIFFIO R5p/B6
H24	IO DIFFIO R4n/B6
H23	IO DIFFIO R4p/B6
G26	IO DIFFIO R3n/B6
G25	IO DIFFIO R3p/B6
F25	IO DIFFIO R2n/B6
F24	IO DIFFIO R2p/B6
G24	IO DIFFIO R1n/B6
G23	IO DIFFIO R1p/B6
M23	IO/B6
M24	IO/B6
L25	IO/B6
H22	IO/B6
N21	IO_VREFB2N/B6
M21	IO_VREFB2P/B6
J22	IO_VREFB0/B6
B28	VCCIO6
H28	VCCIO6
K24	VCCIO6
N24	VCCIO6
N28	VCCIO6
VIO(B)	L21
VIO(B)	L21

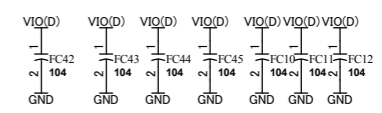
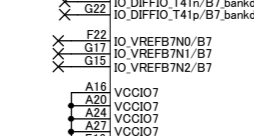


**Bank Group D**

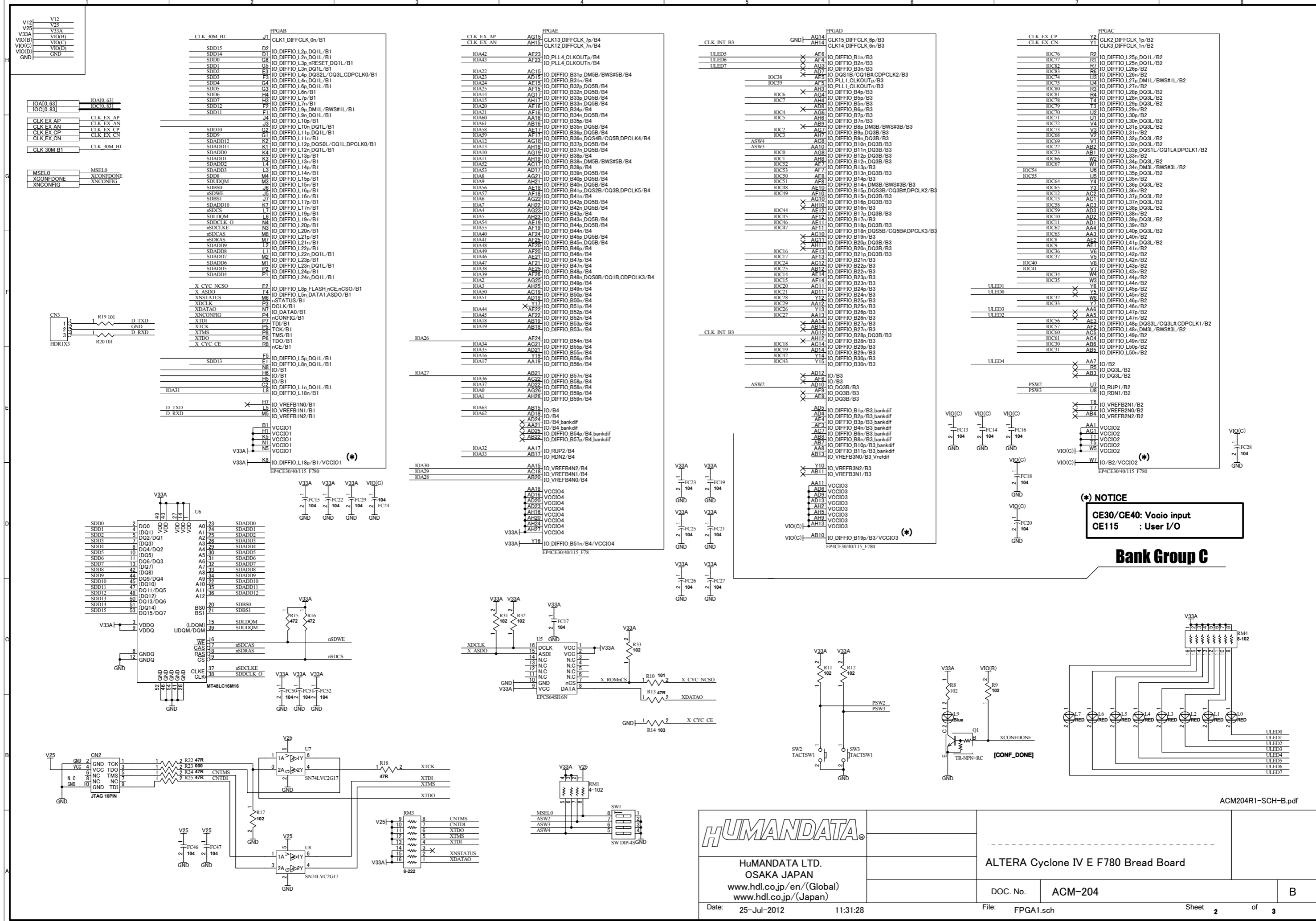
FPGA I	
CLK 50M B8	A14
CLK 30M B8	B14
IOB69	C13
IOB68	D13
IOB67	G14
IOB66	D14
IOB71	C12
IOB70	D12
IOB19	A12
IOB18	E14
IOB73	B11
IOB72	B11
IOB79	A10
IOB78	B10
IOB36	C10
IOB37	D10
IOB34	E14
IOB25	F14
IOB38	E11
IOB39	F11
IOB83	A7
IOB82	B7
IOB28	A6
IOB29	B6
IOB40	G11
IOB41	H12
IOB30	C11
IOB31	D11
IOB31	G10
IOB31	F10
IOB31	H10
IOB31	A9
IOB80	B8
IOB26	C8
IOB27	D8
IOB32	C7
IOB33	D7
IOB33	E7
IOB34	F7
IOB35	G8
IOB35	H8
IOB74	F7
IOB75	A4
IOB77	B3
IOB76	A3
IOB21	D5
IOB20	C5
IOB23	G5
IOB22	D4
E10	IO DIFFIO T31n,DQ3T/B8
C8	IO DIFFIO T31p,DQ3T/B8
O8	IO DIFFIO T30n,DQ3T/B8
O8	IO DIFFIO T30p,PADD15/B8
O8	IO DIFFIO T29n,PADD16,DQ3T/B8
O8	IO DIFFIO T29p,PADD17,DQ3T/CQ5T#DPCLK10/B8
H12	IO DIFFIO T27n,DQ3T/B8
A12	IO DIFFIO T26n/B8
E14	IO DIFFIO T26p,DQ3T/B8
B11	IO DIFFIO T25n,DATA2,DQ3T/B8
B11	IO DIFFIO T25p,DATA3,DQ3T/B8
A10	IO DIFFIO T24p/B8
B10	IO DIFFIO T23n,PADD18/B8
H10	IO DIFFIO T23p,DATA4,DM3T/BWS#3T/B8
C10	IO DIFFIO T22n,PADD19/B8
D10	IO DIFFIO T22p,DATA15,DQ3T/B8
E14	IO DIFFIO T21n,DQ3T/B8
F14	IO DIFFIO T20n,DATA14,DQ3T/CQ3T#DPCLK11/B8
F14	IO DIFFIO T19n,DQ3T/B8
F11	IO DIFFIO T18p/B8
A7	IO DIFFIO T18n,DQ3T/B8
B7	IO DIFFIO T18p,DATA5,DQ3T/B8
A6	IO DIFFIO T17n/B8
B6	IO DIFFIO T17p,DATA6,DQ3T/B8
G11	IO DIFFIO T16n/B8
H12	IO DIFFIO T16p/B8
C11	IO DIFFIO T15n,DATA7,DQ3T/B8
D11	IO DIFFIO T14n,DQ3T/B8
G10	IO DIFFIO T14p,DATA8/B8
F10	IO DIFFIO T13n/B8
F10	IO DIFFIO T13p/B8
H10	IO DIFFIO T12n/B8
H10	IO DIFFIO T12p/B8
A9	IO DIFFIO T11n,DATA9,DM3T/BWS#3T/B8
B8	IO DIFFIO T10n/B8
C8	IO DIFFIO T10p/B8
D7	IO DIFFIO T9n,DATA10/B8
C7	IO DIFFIO T9p,DATA11/B8
D6	IO DIFFIO T8n/B8
E6	IO DIFFIO T8p/B8
F8	IO DIFFIO T7n/B8
F8	IO DIFFIO T7p/B8
H8	IO DIFFIO T6n/B8
H8	IO DIFFIO T6p/B8
A4	IO DIFFIO T5p/B8
B3	IO DIFFIO T4p,DATA12,DQ3T/CQ3T#DPCLK7/B8
A3	IO DIFFIO T3n/B8
A3	IO DIFFIO T3p,Bankdif
D5	IO DIFFIO T3n/B8, bankdif
C5	IO DIFFIO T3p/B8, bankdif
G5	IO DIFFIO T2n/B8
D4	IO DIFFIO T2p/B8
E10	IO_VREFB0/B8
C8	IO_VREFB1/B8
O8	IO_VREFB2/B8
H14	IO DIFFIO T28n/B8, bankdif
J14	IO DIFFIO T28p/B8, bankdif
E4	IO DIFFIO T5n/B8, bankdif
E4	IO DIFFIO T5p/B8, bankdif
E5	IO DIFFIO T1p/B8, bankdif
G14	IO_VREFB0/B8
G12	IO_VREFB1/B8
G9	IO_VREFB2/B8
A2	VCCIO8
A5	VCCIO8
A9	VCCIO8
A13	VCCIO8
E6	VCCIO8
E9	VCCIO8
E13	VCCIO8
H11	VCCIO8
J13	IO DIFFIO T24n/B8/VCCIO8



FPGA H	
EX CLK DP	A15
EX CLK DN	B15
IOB0	D23
IOB1	C23
IOB3	B26
IOB2	D22
IOB42	E22
IOB43	A26
IOB55	A25
IOB54	E21
IOB54	F21
IOB45	C25
IOB44	A23
IOB44	B23
IOB44	C24
IOB5	C22
IOB4	D21
IOB47	A22
IOB46	B24
IOB49	A24
IOB48	B21
IOB64	E18
IOB58	F18
IOB59	D18
IOB7	C20
IOB6	D20
IOB9	C19
IOB8	D19
IOB61	C17
IOB60	D17
IOB51	A19
IOB50	B19
IOB53	A18
IOB52	B18
G20	IO DIFFIO T47n,DQ5T/B7
G20	IO DIFFIO T47p/B7
G21	IO DIFFIO T46n,PADD3,DQ5T/B7
G21	IO DIFFIO T46p,PADD4,DQ5T/CQ3T#DPCLK8/B7
H19	IO DIFFIO T45n,PADD5,DQ5T/B7
H19	IO DIFFIO T45p,PADD6,DQ5T/B7
J19	IO DIFFIO T44n,PADD7/B7
J19	IO DIFFIO T44p,PADD8,DQ5T/B7
G19	IO DIFFIO T43n/B7
G18	IO DIFFIO T43p/B7
G16	IO DIFFIO T40n/B7
G16	IO DIFFIO T40p/B7
H17	IO DIFFIO T39n/B7
H17	IO DIFFIO T39p/B7
E17	IO DIFFIO T38n/B7
J16	IO DIFFIO T38p,DQ5T/B7
J16	IO DIFFIO T37n/B7
J16	IO DIFFIO T37p/B7
C16	IO DIFFIO T36n,PADD9,DQ5T/B7
D16	IO DIFFIO T36p,PADD10/B7
A17	IO DIFFIO T35n,PADD11,DQ5T/B7
B17	IO DIFFIO T35p,PADD12,DQ5T/CQ5T#DPCLK9/B7
H15	IO DIFFIO T34n/B7
H15	IO DIFFIO T34p/B7
E15	IO DIFFIO T33n,PADD13/B7
E15	IO DIFFIO T33p,PADD14,DQ3T/B7
C15	IO DIFFIO T32n,PADD13/B7
D15	IO DIFFIO T32p,PADD14,DQ3T/B7
B25	IO/B7
C21	IO_Q5T/B7
J17	IO/B7
F19	IO_RUP4/B7
E19	IO_RDN4/B7
C26	IO DIFFIO T61n/B7, bankdif
D25	IO DIFFIO T57n/B7, bankdif
D24	IO DIFFIO T55p/B7, bankdif
E24	IO DIFFIO T48n/B7, bankdif
E25	IO DIFFIO T48p/B7, bankdif
H21	IO DIFFIO T41n/B7, bankdif
G22	IO DIFFIO T41p/B7, bankdif
F22	IO_VREFB7N0/B7
G17	IO_VREFB7N1/B7
G15	IO_VREFB7N2/B7
A20	VCCIO7
A24	VCCIO7
A27	VCCIO7
E16	VCCIO7
E20	VCCIO7
E23	VCCIO7
H18	VCCIO7
J15	IO DIFFIO T34p/B7/VCCIO7



<b>HUMAN DATA</b>		HuMANDATA LTD. OSAKA JAPAN www.hdl.co.jp/en/(Global) www.hdl.co.jp/(Japan)		ALTERA Cyclone IV E F780 Bread Board				
				DOC. No.	ACM-204	B		
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FPGA B		FPGA E		FPGA D		FPGA C	
CLK_30M_B1	J1	CLK_EX_AP	AG1	CLK_INT_B3	AG14	CLK_EX_CP	Y4
		CLK_EX_AN	AH15	GND	AH14	CLK_EX_CN	Y1
SDD15	D2	IOA42	AE23	ULED5	AE6	IOC76	R2
SDD14	B1	IOA43	AF23	ULED6	AE5	IOC77	R7
SDD9	G6	IOA22	AC15	ULED7	AD7	IOC78	R6
SDD2	E3	IOA23	AD15		AE5	IOC79	R3
SDD3	F3	IOA24	AE15		AF5	IOC80	R4
SDD4	G4	IOA25	AF15		AG5	IOC81	R5
SDD5	H4	IOA14	AG17		AH4	IOC82	R8
SDD6	H4	IOA15	AH17		AI4	IOC83	R9
SDD7	H3	IOA20	AE16		AG7	IOC84	R10
SDD12	F2	IOA21	AF16		AH7	IOC85	R11
SDD11	F1	IOA60	AA18		AI7	IOC86	R12
		IOA61	AB18		AG7	IOC87	R13
		IOA59	AF17		AG7	IOC88	R14
		IOA58	AE17		AG7	IOC89	R15
		IOA12	AG18		AG7	IOC90	R16
		IOA13	AH18		AG7	IOC91	R17
		IOA10	AG19		AG7	IOC92	R18
		IOA11	AH19		AG7	IOC93	R19
		IOA39	AF17		AG7	IOC94	R20
		IOA38	AE17		AG7	IOC95	R21
		IOA41	AG20		AG7	IOC96	R22
		IOA48	AE20		AG7	IOC97	R23
		IOA49	AF20		AG7	IOC98	R24
		IOA46	AE21		AG7	IOC99	R25
		IOA47	AF21		AG7	IOC100	R26
		IOA38	AE25		AG7	IOC101	R27
		IOA39	AF25		AG7	IOC102	R28
		IOA2	AG25		AG7	IOC103	R29
		IOA3	AH25		AG7	IOC104	R30
		IOA50	AC19		AG7	IOC105	R31
		IOA51	AD19		AG7	IOC106	R32
		IOA44	Y17		AG7	IOC107	R33
		IOA45	Y17		AG7	IOC108	R34
		IOA18	AE19		AG7	IOC109	R35
		IOA19	AF19		AG7	IOC110	R36
		IOA19	AB18		AG7	IOC111	R37
		IOA26	AE24		AG7	IOC112	R38
		IOA34	AC21		AG7	IOC113	R39
		IOA35	AD21		AG7	IOC114	R40
		IOA16	Y19		AG7	IOC115	R41
		IOA17	AA19		AG7	IOC116	R42
		IOA27	AB21		AG7	IOC117	R43
		IOA36	AC22		AG7	IOC118	R44
		IOA37	AD22		AG7	IOC119	R45
		IOA0	AG26		AG7	IOC120	R46
		IOA1	AH26		AG7	IOC121	R47
		IOA63	AB15		AG7	IOC122	R48
		IOA62	AD18		AG7	IOC123	R49
		IOA63	AD18		AG7	IOC124	R50
		IOA62	AD18		AG7	IOC125	R51
		IOA32	AA17		AG7	IOC126	R52
		IOA33	AB17		AG7	IOC127	R53
		IOA30	AA15		AG7	IOC128	R54
		IOA29	AC18		AG7	IOC129	R55
		IOA28	AD20		AG7	IOC130	R56
		IOA18	AD16		AG7	IOC131	R57
		IOA19	AD16		AG7	IOC132	R58
		IOA20	AD16		AG7	IOC133	R59
		IOA21	AD16		AG7	IOC134	R60
		IOA22	AD16		AG7	IOC135	R61
		IOA23	AD16		AG7	IOC136	R62
		IOA24	AD16		AG7	IOC137	R63
		IOA25	AD16		AG7	IOC138	R64
		IOA26	AD16		AG7	IOC139	R65
		IOA27	AD16		AG7	IOC140	R66
		IOA28	AD16		AG7	IOC141	R67
		IOA29	AD16		AG7	IOC142	R68
		IOA30	AD16		AG7	IOC143	R69
		IOA31	AD16		AG7	IOC144	R70
		IOA32	AD16		AG7	IOC145	R71
		IOA33	AD16		AG7	IOC146	R72
		IOA34	AD16		AG7	IOC147	R73
		IOA35	AD16		AG7	IOC148	R74
		IOA36	AD16		AG7	IOC149	R75
		IOA37	AD16		AG7	IOC150	R76
		IOA38	AD16		AG7	IOC151	R77
		IOA39	AD16		AG7	IOC152	R78
		IOA40	AD16		AG7	IOC153	R79
		IOA41	AD16		AG7	IOC154	R80
		IOA42	AD16		AG7	IOC155	R81
		IOA43	AD16		AG7	IOC156	R82
		IOA44	AD16		AG7	IOC157	R83
		IOA45	AD16		AG7	IOC158	R84
		IOA46	AD16		AG7	IOC159	R85
		IOA47	AD16		AG7	IOC160	R86
		IOA48	AD16		AG7	IOC161	R87
		IOA49	AD16		AG7	IOC162	R88
		IOA50	AD16		AG7	IOC163	R89
		IOA51	AD16		AG7	IOC164	R90
		IOA52	AD16		AG7	IOC165	R91
		IOA53	AD16		AG7	IOC166	R92
		IOA54	AD16		AG7	IOC167	R93
		IOA55	AD16		AG7	IOC168	R94
		IOA56	AD16		AG7	IOC169	R95
		IOA57	AD16		AG7	IOC170	R96
		IOA58	AD16		AG7	IOC171	R97
		IOA59	AD16		AG7	IOC172	R98
		IOA60	AD16		AG7	IOC173	R99
		IOA61	AD16		AG7	IOC174	R100

**(\*) NOTICE**  
**CE30/CE40: Vccio input**  
**CE115 : User I/O**

**Bank Group C**

**HUMAN DATA**

HuMANDATA LTD.  
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[www.hdl.co.jp/en/\(Global\)](http://www.hdl.co.jp/en/(Global))  
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