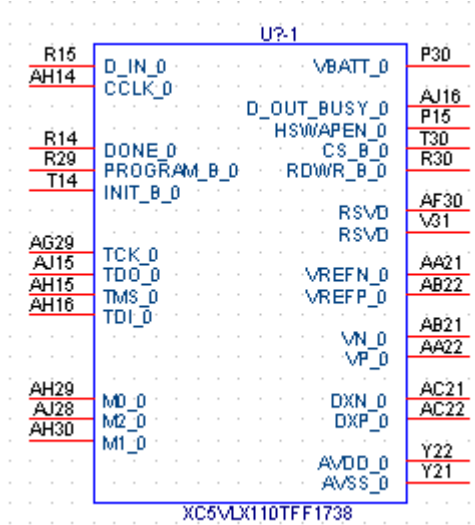


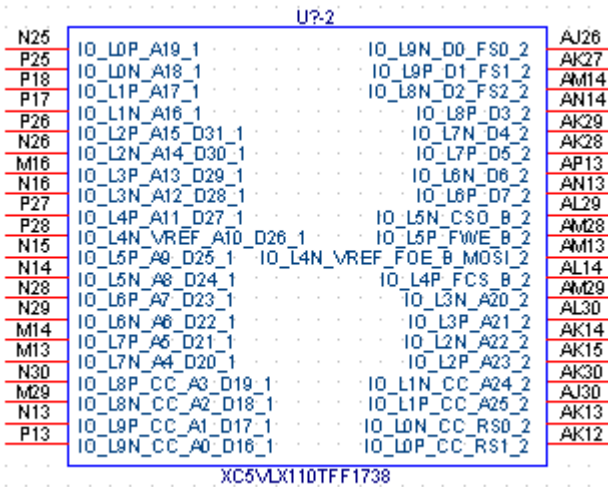
## Schematic Symbol for XC5VLX110TFF1738

The Schematic symbol consists of 30 heterogeneous parts that are listed below:

### 1. Programming Interface



### 2. I/O Banks 1 and 2



### 3. I/O Banks 3 and 4

U?3			
J16	IO_L0P_CC_GC_3	IO_L9N_CC_GC_4	AP15
J15	IO_L0N_CC_GC_3	IO_L9P_CC_GC_4	AP16
M26	IO_L1P_CC_GC_3	IO_L8N_CC_GC_4	AL26
L27	IO_L1N_CC_GC_3	IO_L8P_CC_GC_4	AL27
J17	IO_L2P_GC_VRN_3	IO_L7N_GC_VRP_4	AN16
K17	IO_L2N_GC_VRP_3	IO_L7P_GC_VRN_4	AN15
M27	IO_L3P_GC_3	IO_L6N_GC_4	AM26
M28	IO_L3N_GC_3	IO_L6P_GC_4	AM27
L17	IO_L4P_GC_3	IO_L5N_GC_4	AM17
M17	IO_L4N_GC_VREF_3	IO_L5P_GC_4	AM16
L29	IO_L5P_GC_3	IO_L4N_GC_VREF_4	AN28
K28	IO_L5N_GC_3	IO_L4P_GC_4	AP27
L16	IO_L6P_GC_3	IO_L3N_GC_D8_4	AL16
L15	IO_L6N_GC_3	IO_L3P_GC_D9_4	AL15
K29	IO_L7P_GC_3	IO_L2N_GC_D10_4	AP28
J30	IO_L7N_GC_3	IO_L2P_GC_D11_4	AN29
L14	IO_L8P_GC_3	IO_L1N_GC_D12_4	AL17
K15	IO_L8N_GC_3	IO_L1P_GC_D13_4	AK17
K30	IO_L9P_GC_3	IO_L0N_GC_D14_4	AP30
L30	IO_L9N_GC_3	IO_L0P_GC_D15_4	AN30

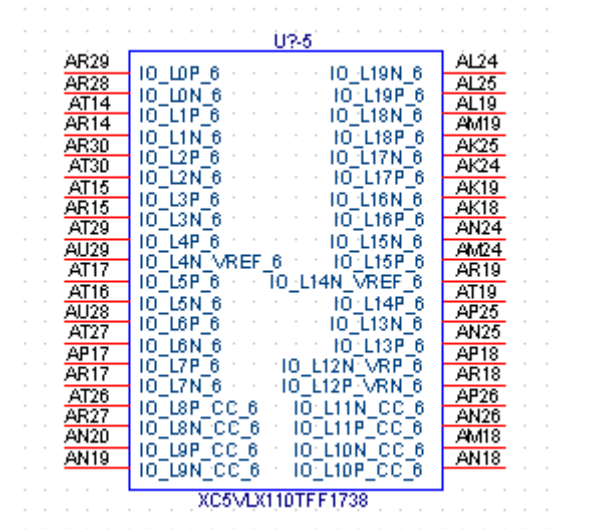
XC5VLX110TFF1738

### 4. I/O Bank 5

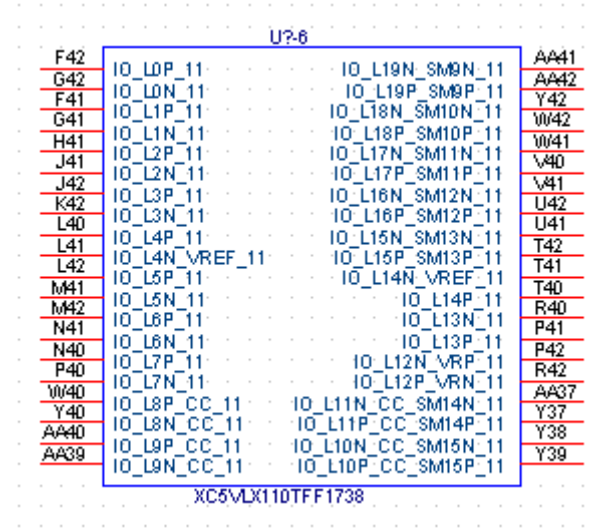
U?4			
L24	IO_L0P_5	IO_L19N_5	H30
M24	IO_L0N_5	IO_L19P_5	H29
E18	IO_L1P_5	IO_L18N_5	L19
E17	IO_L1N_5	IO_L18P_5	L20
K24	IO_L2P_5	IO_L17N_5	F29
L25	IO_L2N_5	IO_L17P_5	G29
F16	IO_L3P_5	IO_L16N_5	N18
F17	IO_L3N_5	IO_L16P_5	M18
K25	IO_L4P_5	IO_L15N_5	H28
J25	IO_L4N_VREF_5	IO_L15P_5	G28
G16	IO_L5P_5	IO_L14N_VREF_5	N19
H16	IO_L5N_5	IO_L14P_5	M19
H26	IO_L6P_5	IO_L13N_5	F27
J26	IO_L6N_5	IO_L13P_5	G27
G18	IO_L7P_5	IO_L12N_VRP_5	P20
G17	IO_L7N_5	IO_L12P_VRN_5	N20
J28	IO_L8P_CC_5	IO_L11N_CC_5	L26
J27	IO_L8N_CC_5	IO_L11P_CC_5	K27
J18	IO_L9P_CC_5	IO_L10N_CC_5	K19
H18	IO_L9N_CC_5	IO_L10P_CC_5	K18

XC5VLX110TFF1738

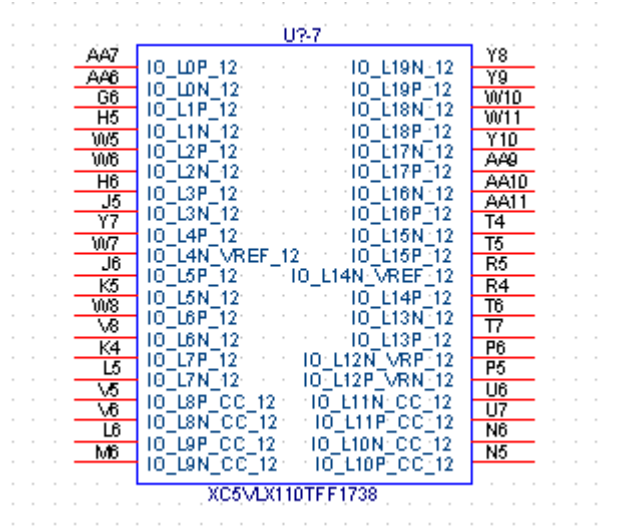
### 5. I/O Bank 6



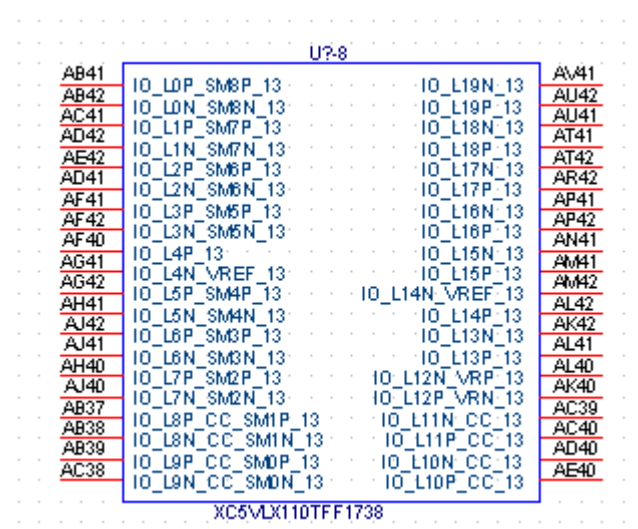
### 6. I/O Bank 11



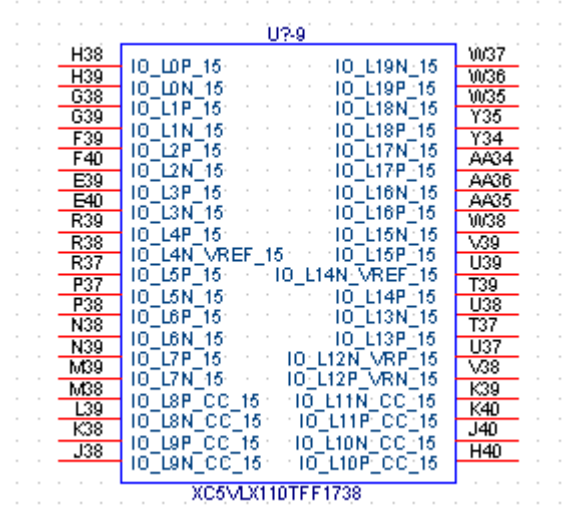
### 7. I/O Bank 12



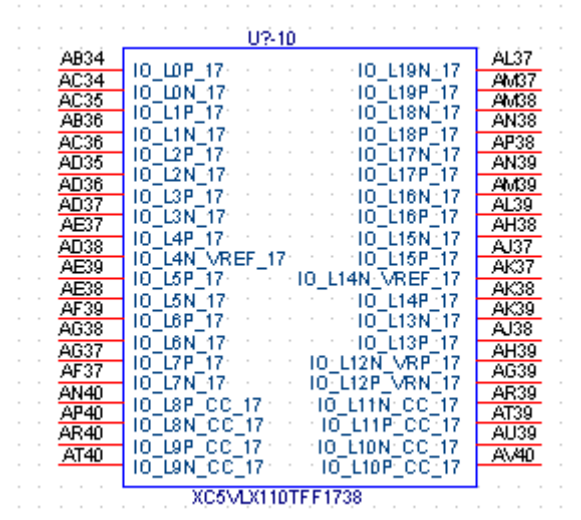
### 8. I/O Bank 13



### 9. I/O Bank 15



### 10. I/O Bank 17



### 11. I/O Bank 18

U?-11			
AJ7	IO_L0P_18	IO_L19N_18	AF12
AK7	IO_L0N_18	IO_L19P_18	AF11
AB11	IO_L1P_18	IO_L18N_18	AE10
AC10	IO_L1N_18	IO_L18P_18	AE9
AL5	IO_L2P_18	IO_L17N_18	AF10
AK5	IO_L2N_18	IO_L17P_18	AF9
AB9	IO_L3P_18	IO_L16N_18	AE8
AB8	IO_L3N_18	IO_L16P_18	AD8
AJ6	IO_L4P_18	IO_L15N_18	AE7
AJ5	IO_L4N_VREF_18	IO_L15P_18	AF7
AC8	IO_L5P_18	IO_L14N_VREF_18	AD5
AC9	IO_L5N_18	IO_L14P_18	AE5
AH6	IO_L6P_18	IO_L13N_18	AG7
AH5	IO_L6N_18	IO_L13P_18	AG6
AD10	IO_L7P_18	IO_L12N_VRP_18	AD7
AD11	IO_L7N_18	IO_L12P_VRN_18	AD6
AG4	IO_L8P_CC_18	IO_L11N_CC_18	AF6
AH4	IO_L8N_CC_18	IO_L11P_CC_18	AF5
AB7	IO_L9P_CC_18	IO_L10N_CC_18	AC6
AB6	IO_L9N_CC_18	IO_L10P_CC_18	AC5

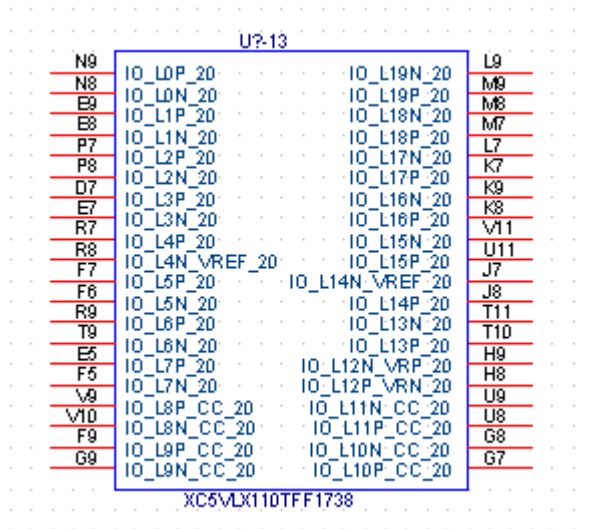
XC5VLX110TFF1738

### 12. I/O Bank 19

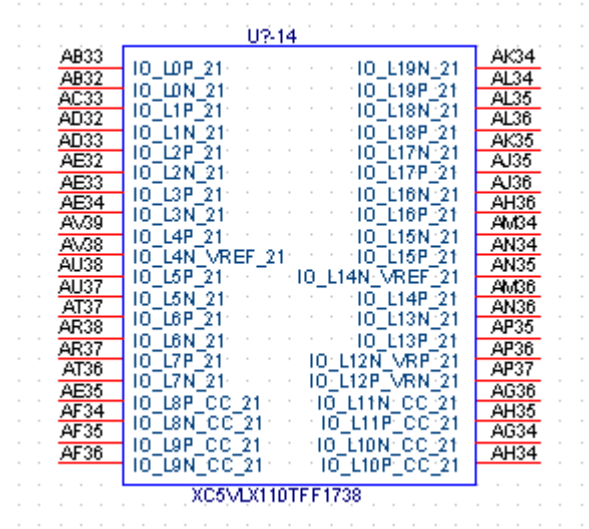
U?-12			
R34	IO_L0P_19	IO_L19N_19	AA32
P35	IO_L0N_19	IO_L19P_19	Y32
N35	IO_L1P_19	IO_L18N_19	W32
M36	IO_L1N_19	IO_L18P_19	Y33
L37	IO_L2P_19	IO_L17N_19	W33
M37	IO_L2N_19	IO_L17P_19	V33
N36	IO_L3P_19	IO_L16N_19	V34
P36	IO_L3N_19	IO_L16P_19	V35
L36	IO_L4P_19	IO_L15N_19	D37
L35	IO_L4N_VREF_19	IO_L15P_19	E38
K35	IO_L5P_19	IO_L14N_VREF_19	E37
J35	IO_L5N_19	IO_L14P_19	F37
H35	IO_L6P_19	IO_L13N_19	G36
J36	IO_L6N_19	IO_L13P_19	F36
K37	IO_L7P_19	IO_L12N_VRP_19	G37
J37	IO_L7N_19	IO_L12P_VRN_19	H36
U34	IO_L8P_CC_19	IO_L11N_CC_19	V36
T35	IO_L8N_CC_19	IO_L11P_CC_19	U36
T34	IO_L9P_CC_19	IO_L10N_CC_19	T36
U33	IO_L9N_CC_19	IO_L10P_CC_19	R35

XC5VLX110TFF1738

### 13. I/O Bank 20



### 14. I/O Bank 21



### 15. I/O Bank 23

U2-15			
N33	IO_L0P_23	IO_L19N_23	T31
N34	IO_L0N_23	IO_L19P_23	U31
M34	IO_L1P_23	IO_L18N_23	U32
M33	IO_L1N_23	IO_L18P_23	T32
M32	IO_L2P_23	IO_L17N_23	R32
M31	IO_L2N_23	IO_L17P_23	R33
N31	IO_L3P_23	IO_L16N_23	P32
P31	IO_L3N_23	IO_L16P_23	P33
H34	IO_L4P_23	IO_L15N_23	L31
G34	IO_L4N_VREF_23	IO_L15P_23	L32
G33	IO_L5P_23	IO_L14N_VREF_23	J32
H33	IO_L5N_23	IO_L14P_23	K32
G32	IO_L6P_23	IO_L13N_23	J33
G31	IO_L6N_23	IO_L13P_23	K33
H31	IO_L7P_23	IO_L12N_VRP_23	K34
J31	IO_L7N_23	IO_L12P_VRN_23	L34
F35	IO_L8P_CC_23	IO_L11N_CC_23	E33
E35	IO_L8N_CC_23	IO_L11P_CC_23	E32
E34	IO_L9P_CC_23	IO_L10N_CC_23	F32
F34	IO_L9N_CC_23	IO_L10P_CC_23	F31

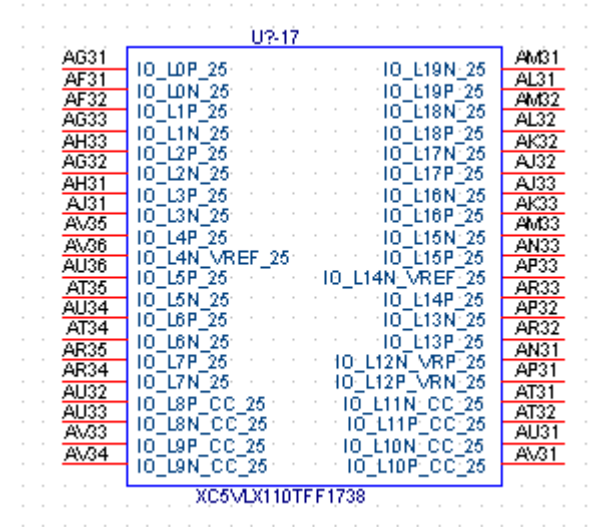
XC5VLX110TFF1738

### 16. I/O Bank 24

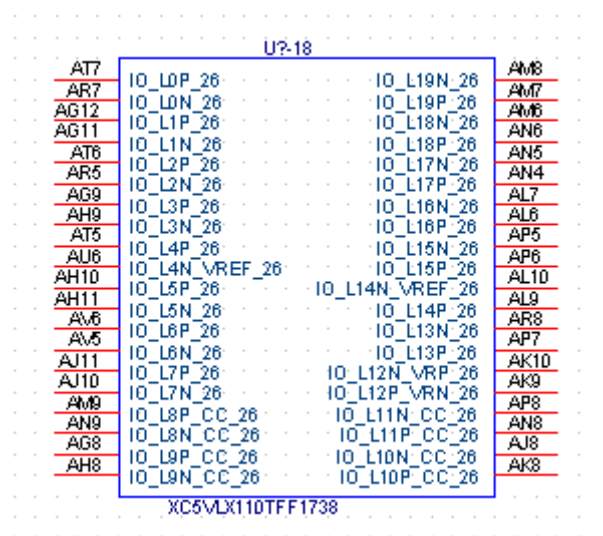
U2-16			
J12	IO_L0P_24	IO_L19N_24	F15
H11	IO_L0N_24	IO_L19P_24	E15
G12	IO_L1P_24	IO_L18N_24	P10
G11	IO_L1N_24	IO_L18P_24	R10
F12	IO_L2P_24	IO_L17N_24	E14
F11	IO_L2N_24	IO_L17P_24	D13
E10	IO_L3P_24	IO_L16N_24	N10
F10	IO_L3N_24	IO_L16P_24	P11
K14	IO_L4P_24	IO_L15N_24	D12
K13	IO_L4N_VREF_24	IO_L15P_24	E12
K12	IO_L5P_24	IO_L14N_VREF_24	P12
J11	IO_L5N_24	IO_L14P_24	N11
J13	IO_L6P_24	IO_L13N_24	E13
H13	IO_L6N_24	IO_L13P_24	F14
H10	IO_L7P_24	IO_L12N_VRP_24	M12
J10	IO_L7N_24	IO_L12P_VRN_24	M11
H14	IO_L8P_CC_24	IO_L11N_CC_24	G14
H15	IO_L8N_CC_24	IO_L11P_CC_24	G13
K10	IO_L9P_CC_24	IO_L10N_CC_24	L11
L10	IO_L9N_CC_24	IO_L10P_CC_24	L12

XC5VLX110TFF1738

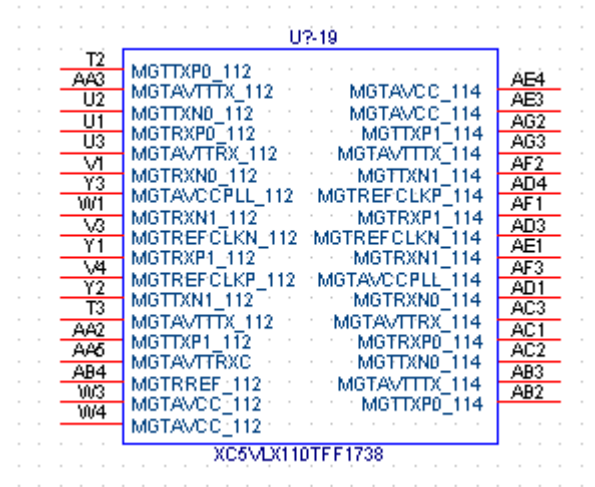
### 17. I/O Bank 25



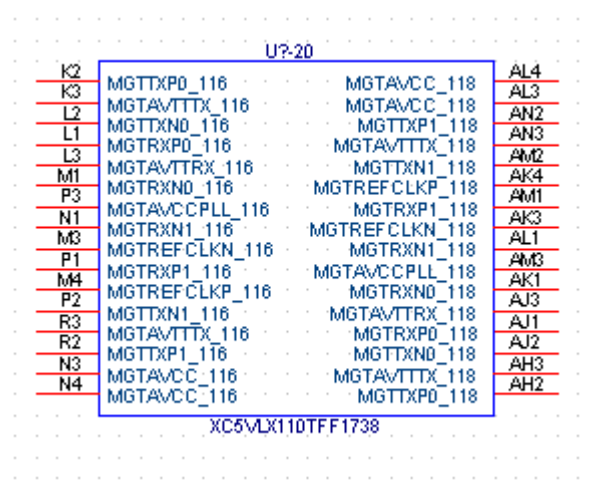
### 18. I/O Bank 26



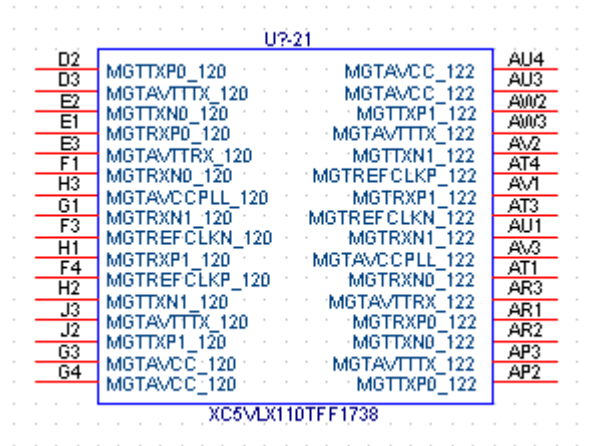
### 19. MGT 112 and 114



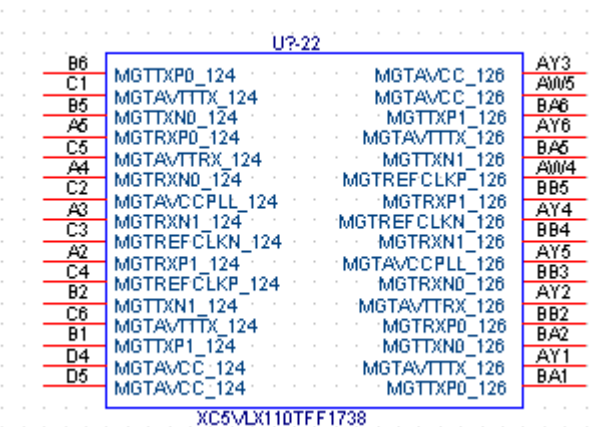
### 20. MGT 116 and 118



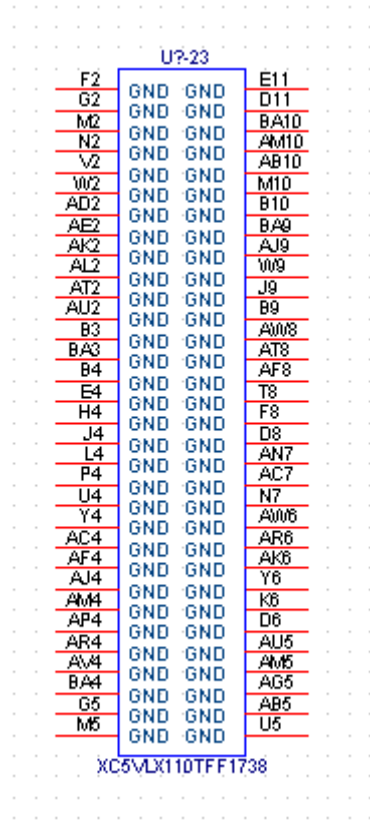
## 21. MGT 120 and 122



## 22. MGT 124 and 126



### 23. GND 1



## 24. GND 2

U?-24			
K11	GND	GND	R17
R11	GND	GND	N17
Y11	GND	GND	D17
AC11	GND	GND	BA16
AE11	GND	GND	AK16
AR11	GND	GND	AF16
AW11	GND	GND	AD16
H12	GND	GND	AB16
N12	GND	GND	Y16
T12	GND	GND	V16
V12	GND	GND	T16
Y12	GND	GND	P16
AB12	GND	GND	K16
AD12	GND	GND	E16
AH12	GND	GND	B16
AN12	GND	GND	BA15
AV12	GND	GND	AU15
L13	GND	GND	AM15
R13	GND	GND	AG15
U13	GND	GND	AE15
W13	GND	GND	AC15
AA13	GND	GND	AA15
AC13	GND	GND	W15
AE13	GND	GND	U15
AG13	GND	GND	M15
AJ13	GND	GND	G15
AL13	GND	GND	B15
D14	GND	GND	AW14
P14	GND	GND	AP14
V14	GND	GND	AJ14
Y14	GND	GND	AF14
AB14	GND	GND	AD14

XC5VLX110TFF1738

### 25. GND 3

U?-25			
U17	GND	GND	A23
W17	GND	GND	AV22
AA17	GND	GND	AN22
AC17	GND	GND	AH22
AE17	GND	GND	AF22
AG17	GND	GND	AD22
AJ17	GND	GND	V22
AN17	GND	GND	T22
AW17	GND	GND	P22
F18	GND	GND	H22
L18	GND	GND	AR21
T18	GND	GND	AK21
V18	GND	GND	AG21
Y18	GND	GND	AE21
AB18	GND	GND	W21
AD18	GND	GND	U21
AF18	GND	GND	R21
AH18	GND	GND	K21
AL18	GND	GND	E21
AT18	GND	GND	AM20
A19	GND	GND	AH20
B19	GND	GND	AF20
C19	GND	GND	AD20
J19	GND	GND	AB20
P19	GND	GND	Y20
R19	GND	GND	V20
U19	GND	GND	T20
W19	GND	GND	M20
AA19	GND	GND	B20
AC19	GND	GND	BB19
AE19	GND	GND	AW19
AG19	GND	GND	AJ19

XC5VLX110TFF1738

## 26. GND 4

U?-26			
L23	GND	GND	AD28
R23	GND	GND	AB28
U23	GND	GND	Y28
W23	GND	GND	V28
AA23	GND	GND	T28
AC23	GND	GND	L28
AE23	GND	GND	F28
AG23	GND	GND	A28
AJ23	GND	GND	AN27
AL23	GND	GND	AJ27
BA23	GND	GND	AG27
D24	GND	GND	AE27
J24	GND	GND	AC27
P24	GND	GND	AA27
T24	GND	GND	W27
V24	GND	GND	U27
Y24	GND	GND	R27
AB24	GND	GND	N27
AD24	GND	GND	C27
AF24	GND	GND	AY26
AH24	GND	GND	AK26
AP24	GND	GND	AH26
G25	GND	GND	AF26
M25	GND	GND	AD26
R25	GND	GND	AB26
U25	GND	GND	Y26
W25	GND	GND	V26
AA25	GND	GND	T26
AC25	GND	GND	K26
AE25	GND	GND	BB25
AG25	GND	GND	AJ25
AJ25	GND	GND	AM25

XC5VLX110TFF1738

## 27. GND 5

U?-27		
AF28		AV42
AH28	GND GND	AN42
AT28	GND GND	AH42
J29	GND GND	AC42
P29	GND GND	V42
U29	GND GND	N42
W29	GND GND	H42
AA29	GND GND	C42
AC29	GND GND	AY41
AE29	GND GND	AR41
AJ29	GND GND	AE41
AP29	GND GND	R41
AW29	GND GND	E41
B30	GND GND	BB40
M30	GND GND	AM40
V30	GND GND	AB40
Y30	GND GND	M40
AB30	GND GND	B40
AD30	GND GND	AW39
AM30	GND GND	AJ39
BB30	GND GND	W39
E31	GND GND	J39
K31	GND GND	BA38
R31	GND GND	AT38
W31	GND GND	AF38
AA31	GND GND	T38
AC31	GND GND	F38
AE31	GND GND	A38
AK31	GND GND	AN37
AR31	GND GND	AC37
H32	GND GND	N37
N32	GND GND	C37
V32	GND GND	AY36
AC32	GND GND	AK36
AH32	GND GND	Y36
AN32	GND GND	K36
AV32	GND GND	BB35
A33	GND GND	AJ35
L33	GND GND	AG35
T33	GND GND	U35
AA33	GND GND	M35
AF33	GND GND	G35
AL33	GND GND	AP34
BA33	GND GND	AD34
D34	GND GND	W34
	GND	P34
	GND	

XC5VLX110TFF1738

## 28. Power 1

U?-28			
R12	VCCAUX	VCCINT	R20
U12	VCCAUX	VCCINT	AH19
W12	VCCAUX	VCCINT	AF19
AA12	VCCAUX	VCCINT	AD19
AC12	VCCAUX	VCCINT	AB19
AE12	VCCAUX	VCCINT	Y19
AJ12	VCCAUX	VCCINT	V19
T13	VCCAUX	VCCINT	T19
AF13	VCCAUX	VCCINT	AJ18
AH13	VCCAUX	VCCINT	AG18
T29	VCCAUX	VCCINT	AE18
AF29	VCCAUX	VCCINT	AC18
U30	VCCAUX	VCCINT	AA18
W30	VCCAUX	VCCINT	W18
AA30	VCCAUX	VCCINT	U18
AC30	VCCAUX	VCCINT	R18
AE30	VCCAUX	VCCINT	AH17
Y31	VCCAUX	VCCINT	AF17
AB31	VCCAUX	VCCINT	AD17
AD31	VCCAUX	VCCINT	AB17
V13	VCCINT	VCCINT	Y17
Y13	VCCINT	VCCINT	V17
AB13	VCCINT	VCCINT	T17
AD13	VCCINT	VCCINT	AG16
U14	VCCINT	VCCINT	AE16
W14	VCCINT	VCCINT	AC16
AA14	VCCINT	VCCINT	AA16
AC14	VCCINT	VCCINT	W16
AE14	VCCINT	VCCINT	U16
AG14	VCCINT	VCCINT	R16
T15	VCCINT	VCCINT	AF15
V15	VCCINT	VCCINT	AD15
Y15	VCCINT	VCCINT	AB15

XC5VLX110TFF1738

## 29. Power 2

U?-29			
U20	VCCINT	VCCINT	AD29
W20	VCCINT	VCCINT	AB29
AA20	VCCINT	VCCINT	Y29
AC20	VCCINT	VCCINT	V29
AE20	VCCINT	VCCINT	AG28
AG20	VCCINT	VCCINT	AE28
AJ20	VCCINT	VCCINT	AC28
P21	VCCINT	VCCINT	AA28
T21	VCCINT	VCCINT	W28
V21	VCCINT	VCCINT	U28
AD21	VCCINT	VCCINT	R28
AF21	VCCINT	VCCINT	AH27
AH21	VCCINT	VCCINT	AF27
R22	VCCINT	VCCINT	AD27
U22	VCCINT	VCCINT	AB27
W22	VCCINT	VCCINT	Y27
AE22	VCCINT	VCCINT	V27
AG22	VCCINT	VCCINT	T27
P23	VCCINT	VCCINT	AG26
T23	VCCINT	VCCINT	AE26
V23	VCCINT	VCCINT	AC26
Y23	VCCINT	VCCINT	AA26
AB23	VCCINT	VCCINT	W26
AD23	VCCINT	VCCINT	U26
AF23	VCCINT	VCCINT	R26
AH23	VCCINT	VCCINT	AH25
R24	VCCINT	VCCINT	AF25
U24	VCCINT	VCCINT	AD25
W24	VCCINT	VCCINT	AB25
AA24	VCCINT	VCCINT	Y25
AC24	VCCINT	VCCINT	V25
AE24	VCCINT	VCCINT	T25
AG24	VCCINT	VCCINT	AJ24
	VCCINT	VCCINT	

XC5VLX110TFF1738

### 30. Power 3

U2:30			
AL28	VCC0_0	VCC0_34	AU10
AG30	VCC0_0	VCC0_34	AP9
		VCC0_34	AV7
F13	VCC0_1		AY31
J14	VCC0_1	VCC0_33	AU30
		VCC0_33	BA28
AR26	VCC0_2	VCC0_33	
AV27	VCC0_2		C32
		VCC0_31	G30
E26	VCC0_3	VCC0_31	D29
H27	VCC0_3	VCC0_31	
		VCC0_29	AV37
AT13	VCC0_4	VCC0_29	AM34
AR16	VCC0_4	VCC0_29	AT33
		VCC0_29	
C22	VCC0_5		B35
F23	VCC0_5	VCC0_27	J34
B25	VCC0_5	VCC0_27	F33
		VCC0_27	
AY21	VCC0_6		AK11
AT23	VCC0_6	VCC0_26	AL8
AM24	VCC0_6	VCC0_26	AH7
		VCC0_26	
H17	VCC0_7		AU40
D19	VCC0_7	VCC0_25	AP39
G20	VCC0_7	VCC0_25	AR36
		VCC0_25	
AV17	VCC0_8		G10
AP19	VCC0_8	VCC0_24	H7
AU20	VCC0_8	VCC0_24	E8
		VCC0_24	
V37	VCC0_11		D39
AA38	VCC0_11	VCC0_23	H37
Y41	VCC0_11	VCC0_23	E36
		VCC0_23	
V7	VCC0_12		AL38
A48	VCC0_12	VCC0_21	AM35
U10	VCC0_12	VCC0_21	AJ34
		VCC0_21	
AB35	VCC0_13		P9
AE36	VCC0_13	VCC0_20	L8
AD39	VCC0_13	VCC0_20	R6
		VCC0_20	
R36	VCC0_15		K41
P39	VCC0_15	VCC0_19	G40
U40	VCC0_15	VCC0_19	L38
		VCC0_19	
AH37	VCC0_17		AG10
AG40	VCC0_17	VCC0_18	AD9
AK41	VCC0_17	VCC0_18	AEB
		VCC0_18	

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### 31. Revision History

	Revision	Date	By	Comments
1	1.01	Feb. 20, 2007	MD	Initial Release