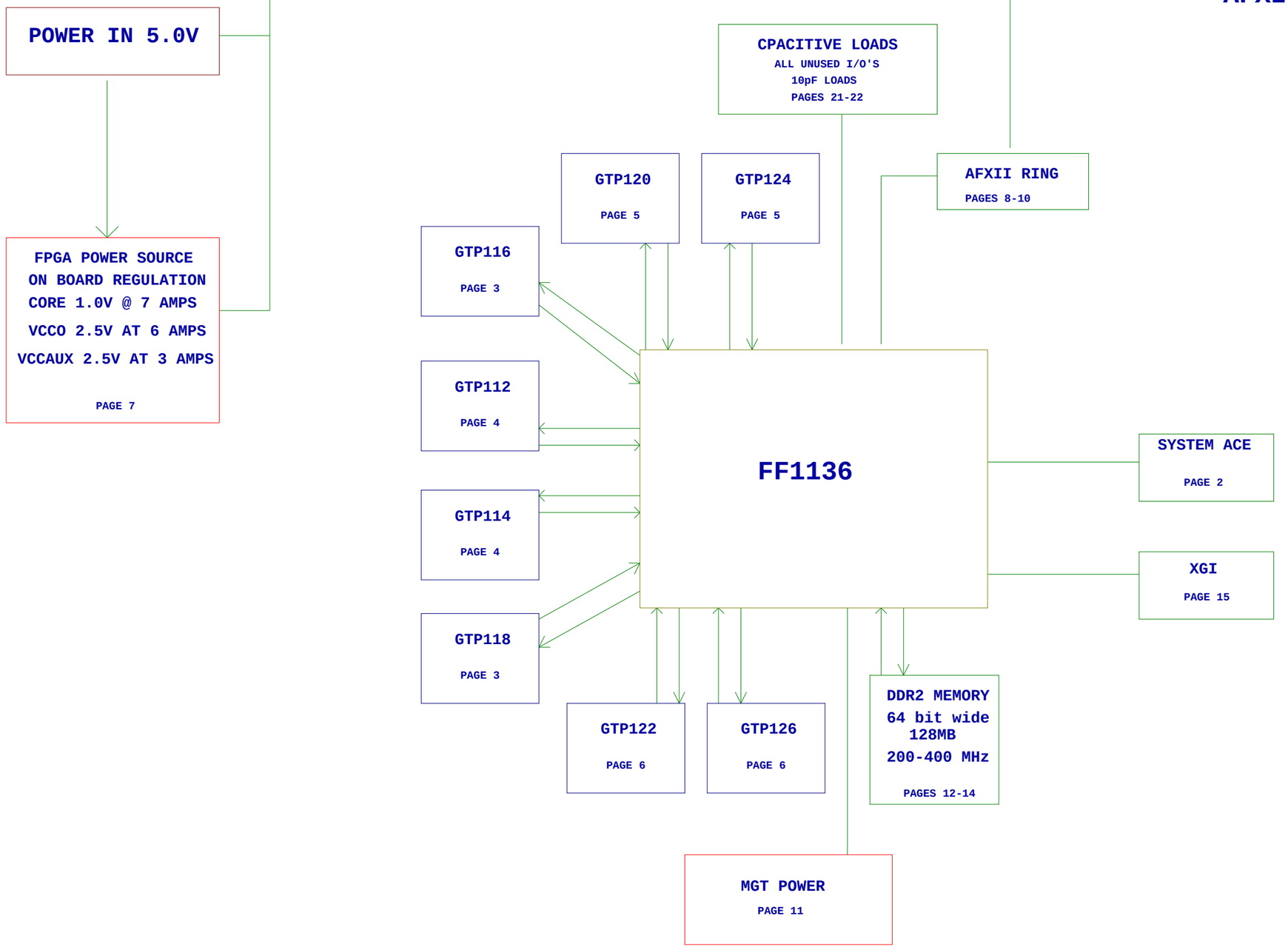
MGT CHARACTERIZATION BOARD FOR V5 AFXII COMPATIBLE



XILINX

SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397

Title: SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR

BLOCK DIAGRAM

Date: 11-28-2006_14:58	Ver: D
Sheet Size: B	Rev: 01
Sheet 1 of 24	Drawn By PATRICK J.

JTAG HEADER

HDR_1X6

J2

VCC33

1
2
3 TCK — 2
4 TDO — 2
5 TDI — 2
6 TMS — 2

H-1X6

VCC33

C13 100UF 10V TANT
C11 4.7UF 10V TANT
C15 X7R 16V 0.1UF
C16 X7R 16V 0.1UF
C17 X7R 16V 0.1UF
R6 4.7K 5% 1/16W

VCCAUX

C14 100UF 10V TANT
C12 4.7UF 10V TANT
C20 X7R 16V 0.1UF
C19 X7R 16V 0.1UF
C18 X7R 16V 0.1UF

VCC33

ERRLED# — LED-GRN-SMT DS2 — R15 1005% 1/16W
STATLED# — LED-GRN-SMT DS1 — R14 1005% 1/16W

VCCAUX

C21 X7R 16V 0.1UF
C22 X7R 16V 0.1UF
R4 4.7K 5% 1/16W

SYSTEM ACE CLOCK

X1
VCC_A 14 — OE_A 1
VCC_B 11 — OE_B 4
OUT 8 — GND 7
4236-118-14
33 MHz

ACE_CLK-R
ACE_CLK 2,18 — R1 0 5% 1/10W

J4
H-1X3

R5 4.7K 5% 1/16W

CFD[15:00]

CFA[10:00]

U16

NC	2	TCK	
CFREG#	3	CFREG	
CFA00	4	CFA00	
CFD00	5	CFD00	
CFD01	6	CFD01	
CFD08	7	CFD08	
CFD02	8	CFD02	
CFD09	11	CFD09	
CFD10	12	CFD10	
CFCD2#	13	CFCD2	
NC	14	CFGTCK3	
NC	16	CFGINIT3	
NC	19	CFGINIT2	
NC	20	CFGTDI3	
NC	21	CFGTDO2	
NC	22	CFGPROG2	
NC	23	CFGTMS2	
NC	24	CFGTCK2	
NC	27	CFGTDI2	
NC	28	CFGTDO1	
NC	29	CFGPROG1	
NC	30	CFGTMS1	
NC	31	CFGTCK1	
NC	32	CFGTDI1	
	33	RESET	
NC	34	TDI	
NC	36	TDO	

XCCACE-TQ144I

121	CFA10		
119	CFCE1#		
118	CFD15		
143	NC		
142	CFA01		
141	CFA02		
140	CFWAIT#		
139	CFA03		
138	CFCE2#		
137	CFA04		
135	CFA05		
134	CFA06		
133	CFRDYNBSY		
132	CFA07		
131	CFWE#		
130	CFA08		
127	NC		
125	CFA09		
124	NC		
123	CFOE#		
122	NC		
117	CFGTDO3		
116	CFD07		
115	CFD14		
114	CFD06		
113	CFD13		
112	CFD05		
110	M1		
	M0		
	M2	108	
CFD12		107	CFD12
CFD04		106	CFD04
CFD11		105	CFD11
CFD03		104	CFD03
CFCD1		103	CFCD1#
TSTTDI		102	TDI
TSTTCK		101	TCK
TSTTMS		98	TMS
TSTTDO		97	TDO
ERRLED		96	ERRLED#
STATLED		95	STATLED#
CLK		93	ACE_CLK
CFGINIT1		90	NC
CFGMODE		89	
CFGADDR2		88	CFGADDR2
CFGADDR1		87	
CFGADDR0		86	CFGADDR0
CFGTMS0		85	FL_TMS
CFGTDO0		82	FL-TDO
CFGTDI0		81	FL-TDI
CFGTCK0		80	FL_TCK
CFGPROG0		79	PROG
CFGINIT0		78	INIT
MPOE		77	MPOE#
MPWE		76	MPWE#
DONE		74	NC

SIGNAL=VCC33;1,17,37,55,73,92,109,128
SIGNAL=GND;83,91,100,111,120,129,136,144
SIGNAL=GND;9,18,26,35,46,54,64,75
SIGNAL=VCCAUX;10,15,25,57,84,94,99,126

	72	PROGRAM	
NC	73	INIT	
MPA00	70	MPA00	
MPA01	69	MPA01	
MPA02	68	MPA02	
MPD00	66	MPD00	
MPA03	67	MPA03	
MPD01	65	MPD01	
MPD02	63	MPD02	
MPD03	62	MPD03	
MPD04	61	MPD04	
MPD05	60	MPD05	
MPD06	59	MPD06	
MPD07	58	MPD07	
NC	56	MPD08	
NC	55	MPD09	
NC	53	MPD10	
NC	52	MPD11	
NC	51	MPD12	
NC	50	MPD13	
NC	49	MPD14	
NC	48	MPD15	
MPA04	47	MPA04	
MPA05	45	MPA05	
MPA06	44	MPA06	
MPCE#	43	MPCE	
MPIRQ	42	MPIRQ	
NC	41	DIN	
MPBRDY	40	MPBRDY	
NC	39	CCLK	
	38		

SW?	FUNCTION
1	CONFIG FILE ADDESS 2
2	CONFIG FILE ADDESS 1
3	CONFIG FILE ADDESS 0
	1 2 3 SELETION
	○ ○ ○ FILE INDEX 0
	○ ○ ● FILE INDEX 1
	○ ● ○ FILE INDEX 2
	● ● ● FILE INDEX 7

NOTATION
○ OPEN
● CLOSED

VCC33 — R9 4.7K 5% 1/16W

VCCAUX

SW1
CFGADDR2 1 — 6
CFGADDR1 2 — 5
3 — 4
OMROM_A6S-5102

J131 H-1X2
CFG_TMS 9,15,17
CFG_TCK 9,15,17
J132 H-1X2
J129 H-1X2
REMOVE JUMPER TO ISOLATE FLASH J-TAG
CFG_TDO 9,17
CFG_TDI 9,15
J128 H-1X2

CON2 CONNECTOR
N7E50-7516PG-20

CFD03
CFD04
CFD05
CFD06
CFD07
CFCE1# 2
CFA10 2
CFOE# 2
CFA09
CFA08
CFA07
CFD00
CFD01
CFD02
NC
CFCD2# 2
CFCD1# 2
CFD11
CFD12
CFD13
CFD14
CFD15
CFCE2# 2
NC
IORD#
IOWR#
CFWE# 2
NC 2
CSEL#
NC
CFWAIT# 2
NC 2
CFREG# 2
NC
NC

RESET#
ESQ211L07K
R7 4.7K 1/16W
R8 4.7K 1/16W
CFRESET
R13 1.00K 1% 1/16W
R12 1.00K 1% 1/16W

I2C_DUT_WP 10
I2C_DUT_SCL 10
I2C_DUT_SDA 10
U12
SCL — SDA — WP
A0 — A1 — A2 — VCC — GND
24LC32
VCC33
C183 X7R 16V 0.1UF

I2C EEPROM

RS-232

U3
C1+ 1 — C1- 3
C2+ 4 — C2- 5
T1IN 7 — T2IN 8 — T3IN 9
R1OUT 13 — R2OUT 12
LOUT 10 — SWOUT 11
SHDN 24 — VCC 23 — VL 14
V+ 2 — V- 6
T1OUT 21 — T2OUT 20 — T3OUT 19
R1IN 18 — R2IN 17
LIN 16 — SWIN 15
GND 22
MAX3388ECUG+

C23 X7R 16V 0.1UF
C24 X7R 16V 0.1UF
C26 X7R 16V 0.1UF
C25 X7R 16V 0.1UF

T1IN 17
T2IN 17
R1OUT 17
R2OUT 17
NC
NC
NC
NC

DB-9 CONECTOR
5747250-4
J3
1 DCD
2 RXD
3 TXD
4 DTR
5 GND
6 DSR
7 RTS
8 CTS
9 RI
GND3 11
GND2 10

TXD
RTS
NC
RXD
CTS
NC
NC

VCCO
J1
TMS 2 — 1
TCK 4 — 3
TDO 6 — 5
TDI 8 — 7
NC 10 — 9
INIT 12 — 11
2,9,16,17 — 14 — 13
87832-1420

GND TEST POINTS

J16 1 — 10-109-3-01
J18 1 — 10-109-3-01
J23 1 — 10-109-3-01
1 — 10-109-3-01
J20 1 — 10-109-3-01

XILINX

SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397

Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
SYSTEM ACE/UART/CONFIGURATION PINS

Date: 11-28-2006_14:58	Ver: D
Sheet Size: B	Rev: 01
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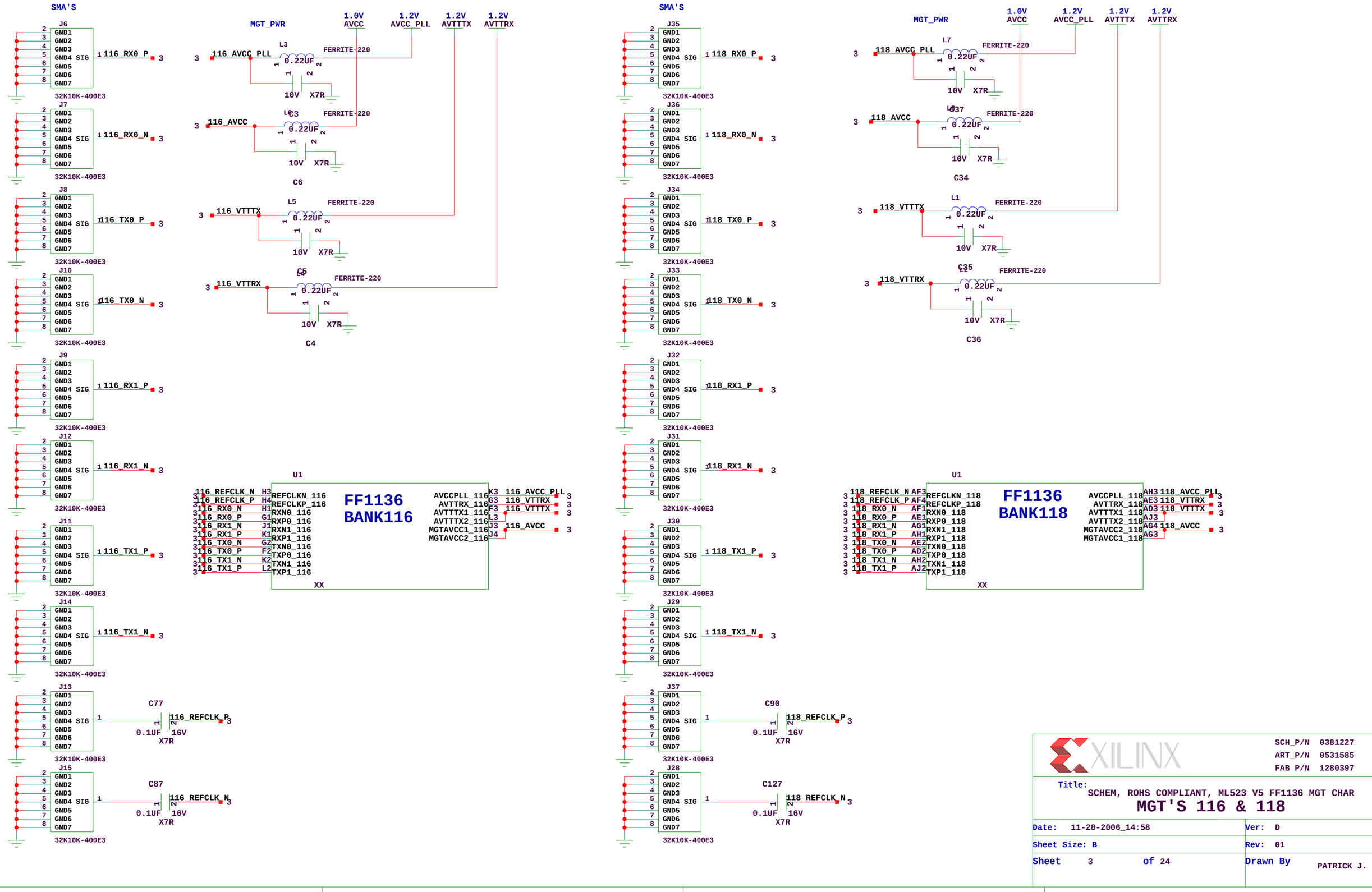
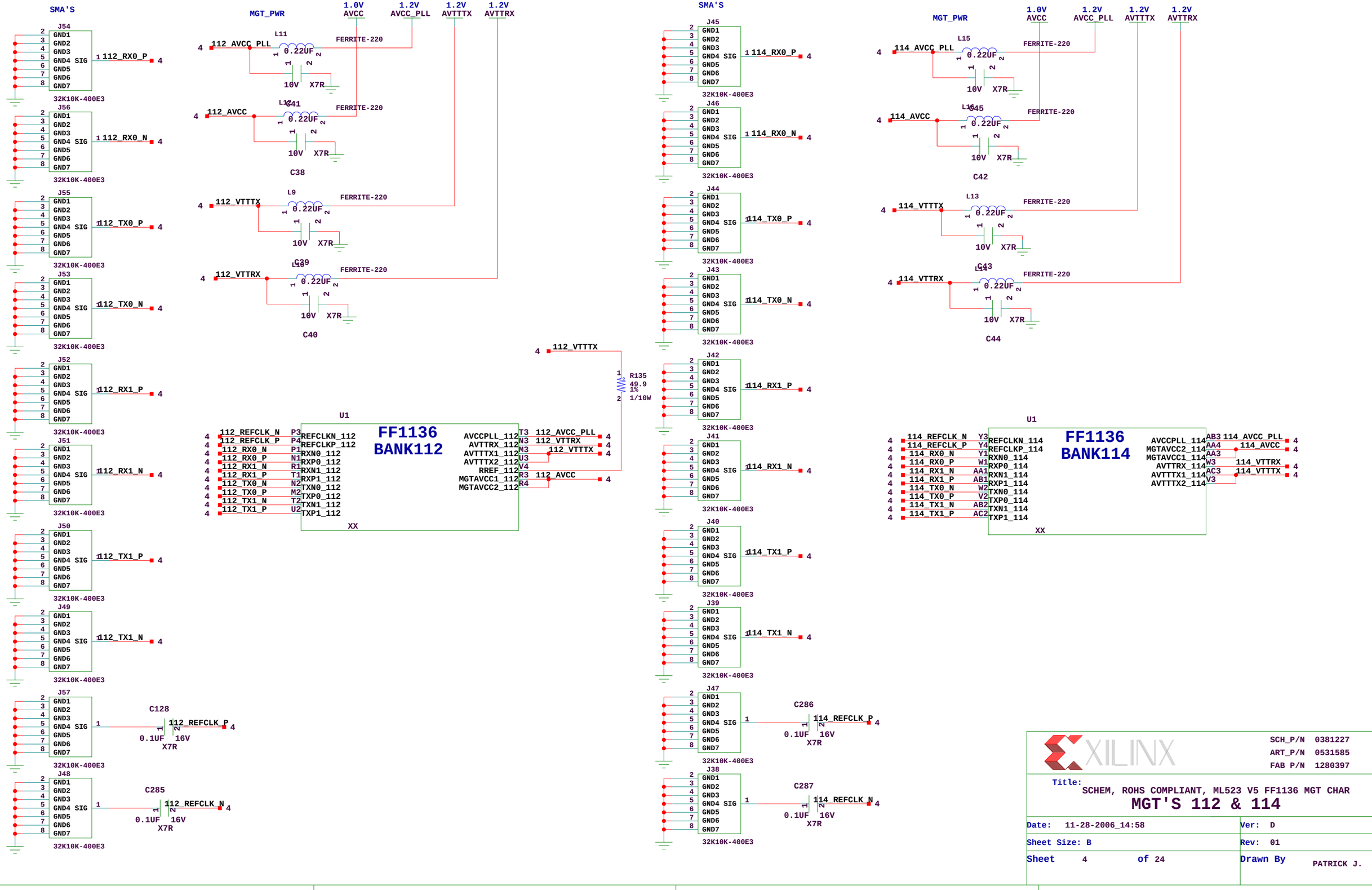

SMA'S
J6
GND1
GND2
GND3
GND4 SIG
GND5
GND6
GND7
116_RX0_P
32K10K-400E3
J7
116_RX0_N
J8
116_TX0_P
J10
116_TX0_N
J9
116_RX1_P
J12
116_RX1_N
J11
116_TX1_P
J14
116_TX1_N
J13
C77
116_REFCLK_P
0.1UF 16V X7R
J15
C87
116_REFCLK_N
MGT_PWR
1.0V AVCC
1.2V AVCC_PLL
1.2V AVTTTX
1.2V AVTTRX
116_AVCC_PLL
L3
FERRITE-220
0.22UF
10V X7R
C3
116_AVCC
C6
116_VTTTX
L5
C5
116_VTTRX
L4
C4
U1
FF1136
BANK116
XX
REFCLKN_116
REFCLKP_116
RXN0_116
RXP0_116
RXN1_116
RXP1_116
TXN0_116
TXP0_116
TXN1_116
TXP1_116
AVCCPLL_116
AVTTRX_116
AVTTTX1_116
AVTTTX2_116
MGTAVCC1_116
MGTAVCC2_116
116_VTTRX
116_VTTTX
116_AVCC
SMA'S
J35
118_RX0_P
J36
118_RX0_N
J34
118_TX0_P
J33
118_TX0_N
J32
118_RX1_P
J31
118_RX1_N
J30
118_TX1_P
J29
118_TX1_N
J37
C90
118_REFCLK_P
J28
C127
118_REFCLK_N
MGT_PWR
1.0V AVCC
1.2V AVCC_PLL
1.2V AVTTTX
1.2V AVTTRX
118_AVCC_PLL
L7
FERRITE-220
0.22UF
10V X7R
C37
118_AVCC
C34
118_VTTTX
L1
C35
118_VTTRX
L2
C36
U1
FF1136
BANK118
XX
REFCLKN_118
REFCLKP_118
RXN0_118
RXP0_118
RXN1_118
RXP1_118
TXN0_118
TXP0_118
TXN1_118
TXP1_118
AVCCPLL_118
AVTTRX_118
AVTTTX1_118
AVTTTX2_118
MGTAVCC2_118
MGTAVCC1_118
118_VTTRX
118_VTTTX
118_AVCC
XILINX
SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397
Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
MGT'S 116 & 118
Date: 11-28-2006_14:58
Ver: D
Sheet Size: B
Rev: 01
Sheet 3 of 24
Drawn By PATRICK J.


SMA'S
J54
GND1
GND2
GND3
GND4 SIG
GND5
GND6
GND7
112_RX0_P
32K10K-400E3
J56
112_RX0_N
J55
112_TX0_P
J53
112_TX0_N
J52
112_RX1_P
J51
112_RX1_N
J50
112_TX1_P
J49
112_TX1_N
J57
J48
MGT_PWR
1.0V AVCC
1.2V AVCC_PLL
1.2V AVTTTX
1.2V AVTTRX
112_AVCC_PLL
L11
FERRITE-220
0.22UF
10V X7R
112_AVCC
C41
C38
112_VTTTX
L9
C39
112_VTTRX
L10
C40
C128
112_REFCLK_P
0.1UF 16V X7R
C285
112_REFCLK_N
112_VTTTX
R135
49.9 1% 1/10W
U1
FF1136
BANK112
REFCLKN_112
REFCLKP_112
RXN0_112
RXP0_112
RXN1_112
RXP1_112
TXN0_112
TXP0_112
TXN1_112
TXP1_112
AVCCPLL_112
AVTTRX_112
AVTTTX1_112
AVTTTX2_112
RREF_112
MGTAVCC1_112
MGTAVCC2_112
112_VTTRX
112_AVCC
XX
SMA'S
J45
114_RX0_P
J46
114_RX0_N
J44
114_TX0_P
J43
114_TX0_N
J42
114_RX1_P
J41
114_RX1_N
J40
114_TX1_P
J39
114_TX1_N
J47
J38
MGT_PWR
1.0V AVCC
1.2V AVCC_PLL
1.2V AVTTTX
1.2V AVTTRX
114_AVCC_PLL
L15
FERRITE-220
0.22UF
10V X7R
114_AVCC
C45
C42
114_VTTTX
L13
C43
114_VTTRX
L14
C44
C286
114_REFCLK_P
0.1UF 16V X7R
C287
114_REFCLK_N
U1
FF1136
BANK114
REFCLKN_114
REFCLKP_114
RXN0_114
RXP0_114
RXN1_114
RXP1_114
TXN0_114
TXP0_114
TXN1_114
TXP1_114
AVCCPLL_114
MGTAVCC2_114
MGTAVCC1_114
AVTTRX_114
AVTTTX1_114
AVTTTX2_114
114_VTTRX
114_VTTTX
XX
XILINX
SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397
Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
MGT'S 112 & 114
Date: 11-28-2006_14:58
Ver: D
Sheet Size: B
Rev: 01
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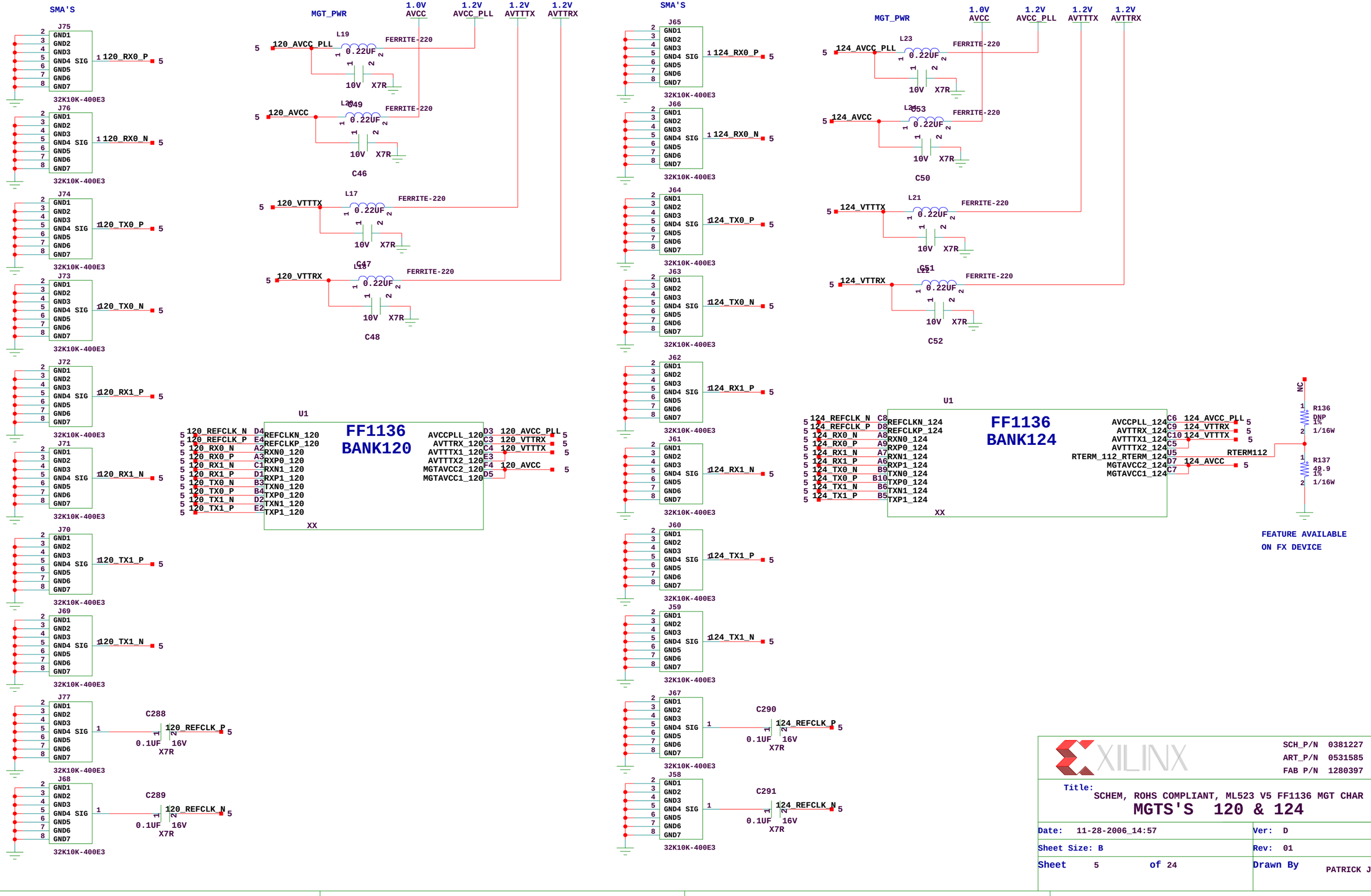
Drawn By PATRICK J.


SMA'S
J75
J76
J74
J73
J72
J71
J70
J69
J77
J68
32K10K-400E3
120_RX0_P
120_RX0_N
120_TX0_P
120_TX0_N
120_RX1_P
120_RX1_N
120_TX1_P
120_TX1_N
C288
C289
0.1UF 16V X7R
120_REFCLK_P
120_REFCLK_N
MGT_PWR
1.0V AVCC
1.2V AVCC_PLL
1.2V AVTTTX
1.2V AVTTRX
L19
L20
L17
L18
FERRITE-220
0.22UF
10V X7R
120_AVCC_PLL
120_AVCC
120_VTTTX
120_VTTRX
C49
C46
C47
C48
U1
FF1136
BANK120
120_REFCLK_N D4
120_REFCLK_P E4
120_RX0_N A2
120_RX0_P A3
120_RX1_N C1
120_RX1_P D1
120_TX0_N B3
120_TX0_P B4
120_TX1_N D2
120_TX1_P E2
AVCCPLL_120 D3
AVTTRX_120 C3
AVTTTX1_120 C4
AVTTTX2_120 E3
MGTAVCC2_120 F4
MGTAVCC1_120 D5
120_AVCC_PLL
120_VTTRX
120_VTTTX
120_AVCC
XX
SMA'S
J65
J66
J64
J63
J62
J61
J60
J59
J67
J58
124_RX0_P
124_RX0_N
124_TX0_P
124_TX0_N
124_RX1_P
124_RX1_N
124_TX1_P
124_TX1_N
C290
C291
124_REFCLK_P
124_REFCLK_N
MGT_PWR
1.0V AVCC
1.2V AVCC_PLL
1.2V AVTTTX
1.2V AVTTRX
L23
L24
L21
L22
124_AVCC_PLL
124_AVCC
124_VTTTX
124_VTTRX
C53
C50
C51
C52
U1
FF1136
BANK124
124_REFCLK_N C8
124_REFCLK_P D8
124_RX0_N A8
124_RX0_P A9
124_RX1_N A7
124_RX1_P A6
124_TX0_N B9
124_TX0_P B10
124_TX1_N B6
124_TX1_P B5
REFCLKN_124
REFCLKP_124
RXN0_124
RXP0_124
RXN1_124
RXP1_124
TXN0_124
TXP0_124
TXN1_124
TXP1_124
AVCCPLL_124 C6
AVTTRX_124 C9
AVTTTX1_124 C10
AVTTTX2_124 C5
RTERM_112_RTERM_124 U5
MGTAVCC2_124 D7
MGTAVCC1_124 C7
124_AVCC_PLL
124_VTTRX
124_VTTTX
RTERM112
124_AVCC
XX
NC
R136
DNP
1%
1/16W
R137
49.9
1%
1/16W
FEATURE AVAILABLE
ON FX DEVICE
XILINX
SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397
Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
MGTS'S 120 & 124
Date: 11-28-2006_14:57
Ver: D
Sheet Size: B
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Drawn By PATRICK J.

SMA'S

J95 J96 J94 J93 J92 J91 J90 J89 J97 J88
GND1 GND2 GND3 GND4 SIG GND5 GND6 GND7
32K10K-400E3

122_RX0_P 122_RX0_N 122_TX0_P 122_TX0_N 122_RX1_P 122_RX1_N 122_TX1_P 122_TX1_N

MGT_PWR

1.0V AVCC
1.2V AVCC_PLL
1.2V AVTTTX
1.2V AVTTRX

L27 122_AVCC_PLL FERRITE-220
L26 122_AVCC FERRITE-220
L25 122_VTTTX FERRITE-220
L28 122_VTTRX FERRITE-220
0.22UF 10V X7R
C57 C54 C55 C56

C292 122_REFCLK_P
C293 122_REFCLK_N
0.1UF 16V X7R

U1

FF1136 BANK122

122_REFCLK_N AL4
122_REFCLK_P AL5
122_RX0_N AM1
122_RX0_P AL1
122_RX1_N AP2
122_RX1_P AP3
122_TX0_N AL2
122_TX0_P AK2
122_TX1_N AN3
122_TX1_P AN4

REFCLKN_122 REFCLKP_122 RXN0_122 RXP0_122 RXN1_122 RXP1_122 TXN0_122 TXP0_122 TXN1_122 TXP1_122

AVCCPLL_122 AM4 122_AVCC_PLL
AVTTRX_122 AL3 122_VTTRX
AVTTTX1_122 AK3 122_VTTTX
AVTTTX2_122 AM3
MGTAVCC2_122 AK5 122_AVCC
MGTAVCC1_122 AJ4

XX

SMA'S

J85 J86 J84 J83 J82 J81 J80 J79 J87 J78
GND1 GND2 GND3 GND4 SIG GND5 GND6 GND7
32K10K-400E3

126_RX0_P 126_RX0_N 126_TX0_P 126_TX0_N 126_RX1_P 126_RX1_N 126_TX1_P 126_TX1_N

MGT_PWR

1.0V AVCC
1.2V AVCC_PLL
1.2V AVTTTX
1.2V AVTTRX

L31 126_AVCC_PLL FERRITE-220
L30 126_AVCC FERRITE-220
L29 126_VTTTX FERRITE-220
L32 126_VTTRX FERRITE-220
0.22UF 10V X7R
C61 C58 C59 C60

C294 126_REFCLK_P
C295 126_REFCLK_N
0.1UF 16V X7R

U1

FF1136 BANK126

126_REFCLK_N AM7
126_REFCLK_P AL7
126_RX0_N AP7
126_RX0_P AP6
126_RX1_N AP8
126_RX1_P AP9
126_TX0_N AN6
126_TX0_P AN5
126_TX1_N AN9
126_TX1_P AN10

REFCLKN_126 REFCLKP_126 RXN0_126 RXP0_126 RXN1_126 RXP1_126 TXN0_126 TXP0_126 TXN1_126 TXP1_126

AVCCPLL_126 AM9 126_AVCC_PLL
AVTTRX_126 AM6 126_VTTRX
AVTTTX1_126 AM10 126_VTTTX
AVTTTX2_126 AM5
VREF U4
VTRXC V5 VCCRXC
MGTAVCC2_126 AM8 126_AVCC
MGTAVCC1_126 AL8

XX

XILINX

SCH_P/N 0381227
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Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
MGTS'S 122 & 126

Date: 11-28-2006_14:57	Ver: D
Sheet Size: B	Rev: 01
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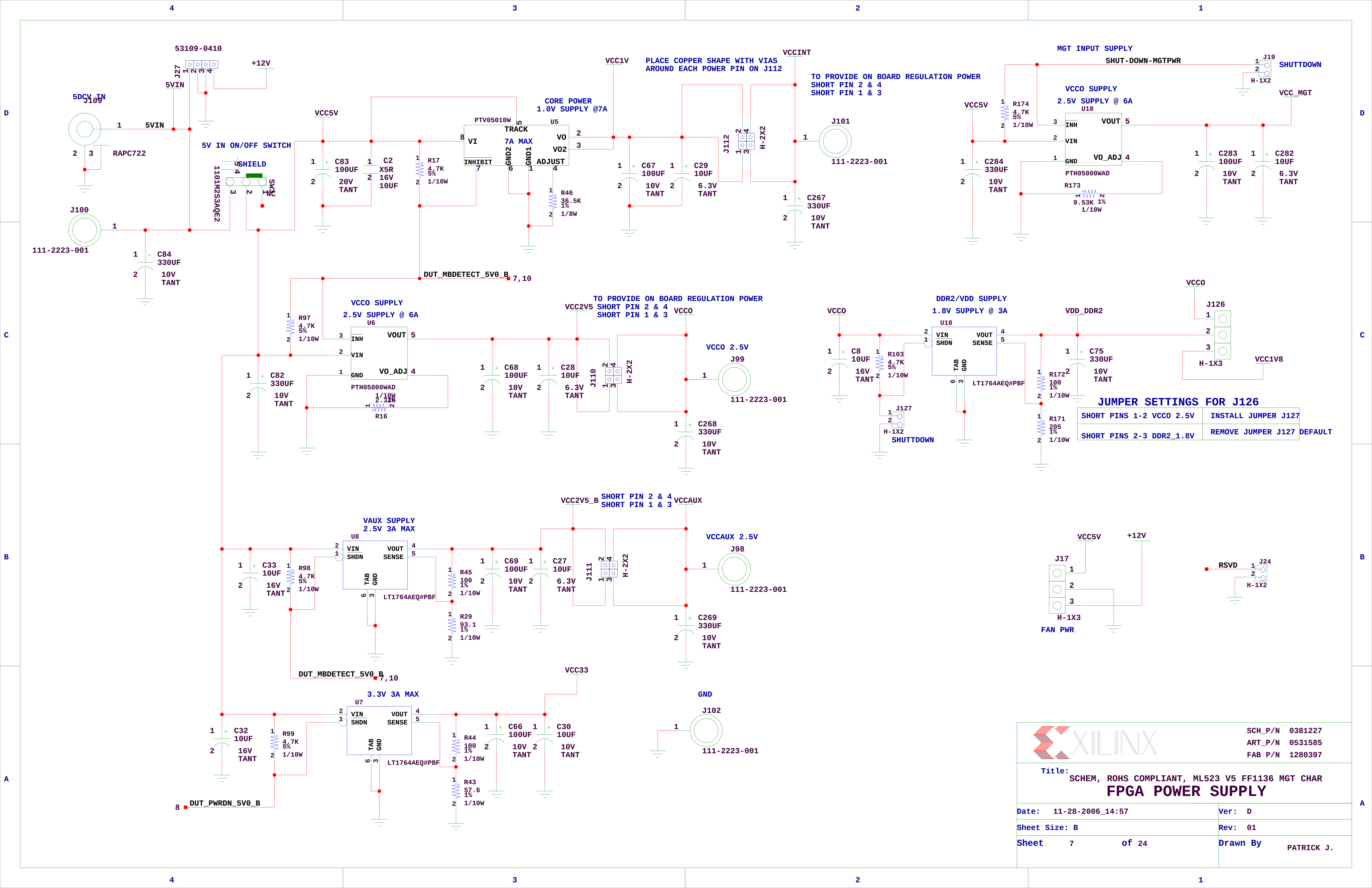
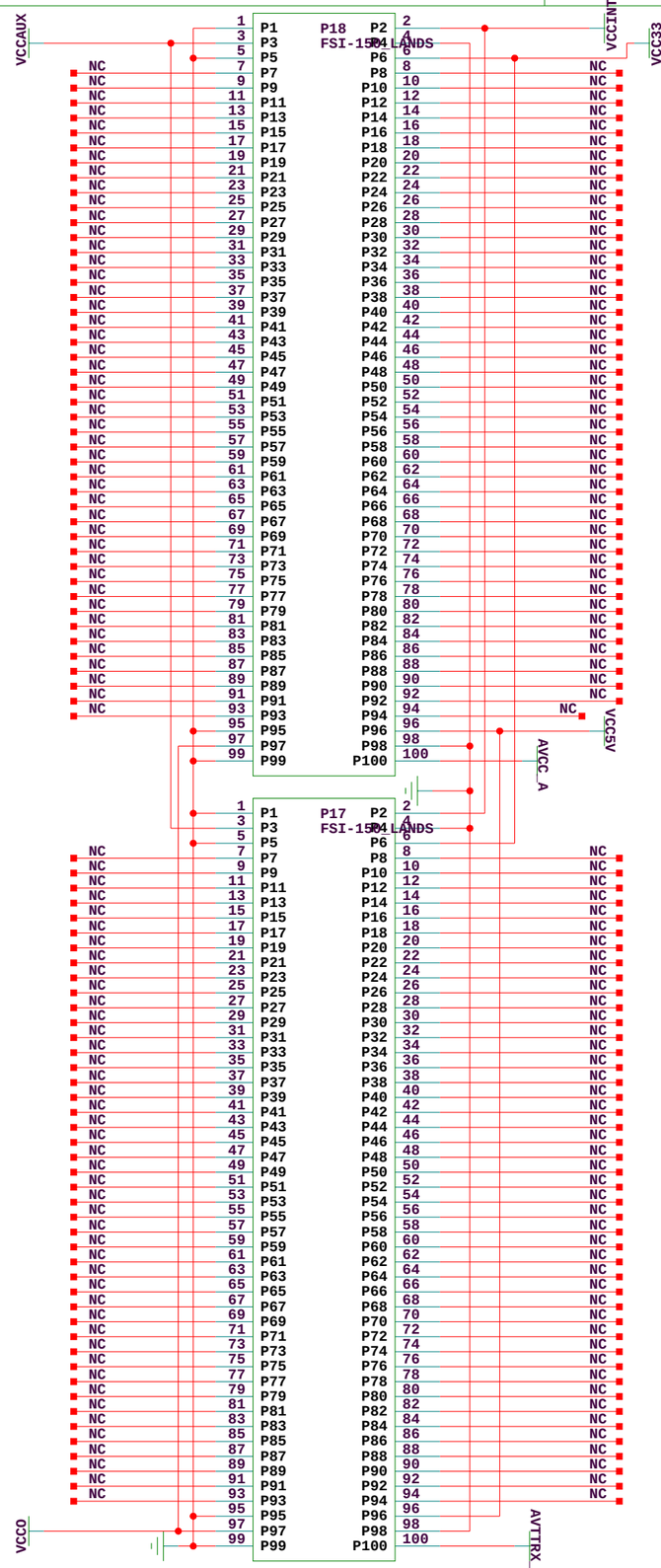
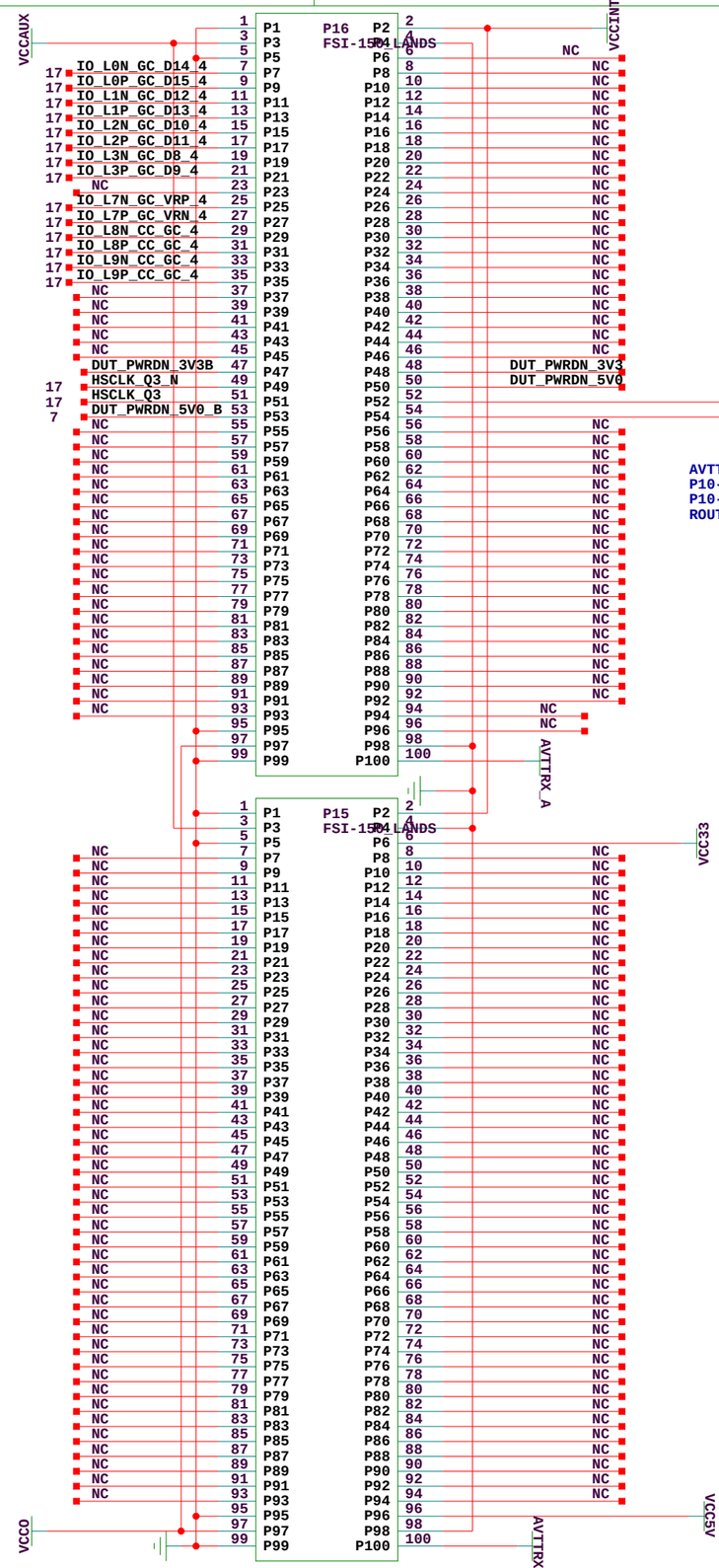


53109-0410
J27
+12V
5VIN
5DCV_IN
J109
RAPC722
J100
111-2223-001
C84 330UF 10V TANT
5V IN ON/OFF SWITCH
SHIELD
1101M2S3AQE2
SW3
NC
VCC5V
C83 100UF 20V TANT
C2 X5R 16V 10UF
R17 4.7K 5% 1/10W
PTV05010W
U5
TRACK
VI
7A MAX
VO
VO2
INHIBIT
GND2
GND1
ADJUST
R46 36.5K 1% 1/8W
CORE POWER
1.0V SUPPLY @7A
VCC1V
PLACE COPPER SHAPE WITH VIAS
AROUND EACH POWER PIN ON J112
C67 100UF 10V TANT
C29 10UF 6.3V TANT
J112
H-2X2
VCCINT
TO PROVIDE ON BOARD REGULATION POWER
SHORT PIN 2 & 4
SHORT PIN 1 & 3
J101
111-2223-001
C267 330UF 10V TANT
MGT INPUT SUPPLY
SHUT-DOWN-MGTPWR
J19
SHUTTDOWN
H-1X2
VCC_MGT
VCCO SUPPLY
2.5V SUPPLY @ 6A
U18
INH
VIN
GND
VOUT
VO_ADJ
PTH05000WAD
R174 4.7K 5% 1/10W
VCC5V
C284 330UF 10V TANT
R173 9.53K 1% 1/10W
C283 100UF 10V TANT
C282 10UF 6.3V TANT
DUT_MBDETECT_5V0_B 7,10
R97 4.7K 5% 1/10W
VCCO SUPPLY
2.5V SUPPLY @ 6A
U6
INH
VIN
GND
VOUT
VO_ADJ
PTH05000WAD
R16 2.32K 1/10W
C82 330UF 10V TANT
TO PROVIDE ON BOARD REGULATION POWER
VCC2V5
SHORT PIN 2 & 4
SHORT PIN 1 & 3
VCCO
C68 100UF 10V TANT
C28 10UF 6.3V TANT
J110
H-2X2
VCCO 2.5V
J99
111-2223-001
C268 330UF 10V TANT
VCCO
C8 10UF 16V TANT
R103 4.7K 5% 1/10W
J127
H-1X2
SHUTTDOWN
DDR2/VDD SUPPLY
1.8V SUPPLY @ 3A
U10
VIN
SHDN
VOUT
SENSE
TAB
GND
LT1764AEQ#PBF
VDD_DDR2
R172 100 1% 1/10W
R171 205 1% 1/10W
C75 330UF 10V TANT
VCCO
J126
H-1X3
VCC1V8
JUMPER SETTINGS FOR J126
SHORT PINS 1-2 VCCO 2.5V
INSTALL JUMPER J127
SHORT PINS 2-3 DDR2_1.8V
REMOVE JUMPER J127 DEFAULT
VAUX SUPPLY
2.5V 3A MAX
U8
VIN
SHDN
VOUT
SENSE
TAB
GND
LT1764AEQ#PBF
C33 10UF 16V TANT
R98 4.7K 5% 1/10W
R45 100 1% 1/10W
R29 93.1 1% 1/10W
C69 100UF 10V TANT
C27 10UF 6.3V TANT
VCC2V5_B
SHORT PIN 2 & 4
SHORT PIN 1 & 3
VCCAUX
J111
H-2X2
VCCAUX 2.5V
J98
111-2223-001
C269 330UF 10V TANT
DUT_MBDETECT_5V0_B 7,10
VCC5V
+12V
J17
H-1X3
FAN PWR
RSVD
J24
H-1X2
3.3V 3A MAX
U7
VIN
SHDN
VOUT
SENSE
TAB
GND
LT1764AEQ#PBF
C32 10UF 16V TANT
R99 4.7K 5% 1/10W
R44 100 1% 1/10W
R43 57.6 1% 1/10W
C66 100UF 10V TANT
C30 10UF 10V TANT
VCC33
GND
J102
111-2223-001
8 DUT_PWRDN_5V0_B
XILINX
SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397
Title: SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
FPGA POWER SUPPLY
Date: 11-28-2006_14:57
Ver: D
Sheet Size: B
Rev: 01
Sheet 7 of 24
Drawn By PATRICK J.





AVTTRX VOLTAGE SENSE
P10-52 WAS VDCPS6_SNS_P
P10-54 WAS VDCPS6_SNS_N
ROUTE DIFF TO DUT

AFXII MOUNTING HOLES

MH4 MH_125_250
MH5 MH_125_250
MH6 MH_125_250
MH7 MH_125_250
MH8 MH_125_250
MH9 MH_125_250
MH15 MH_125_250
MH14 MH_125_250
MH13 MH_125_250
MH12 MH_125_250
MH11 MH_125_250
MH10 MH_125_250

AFXII GUIDE HOLES

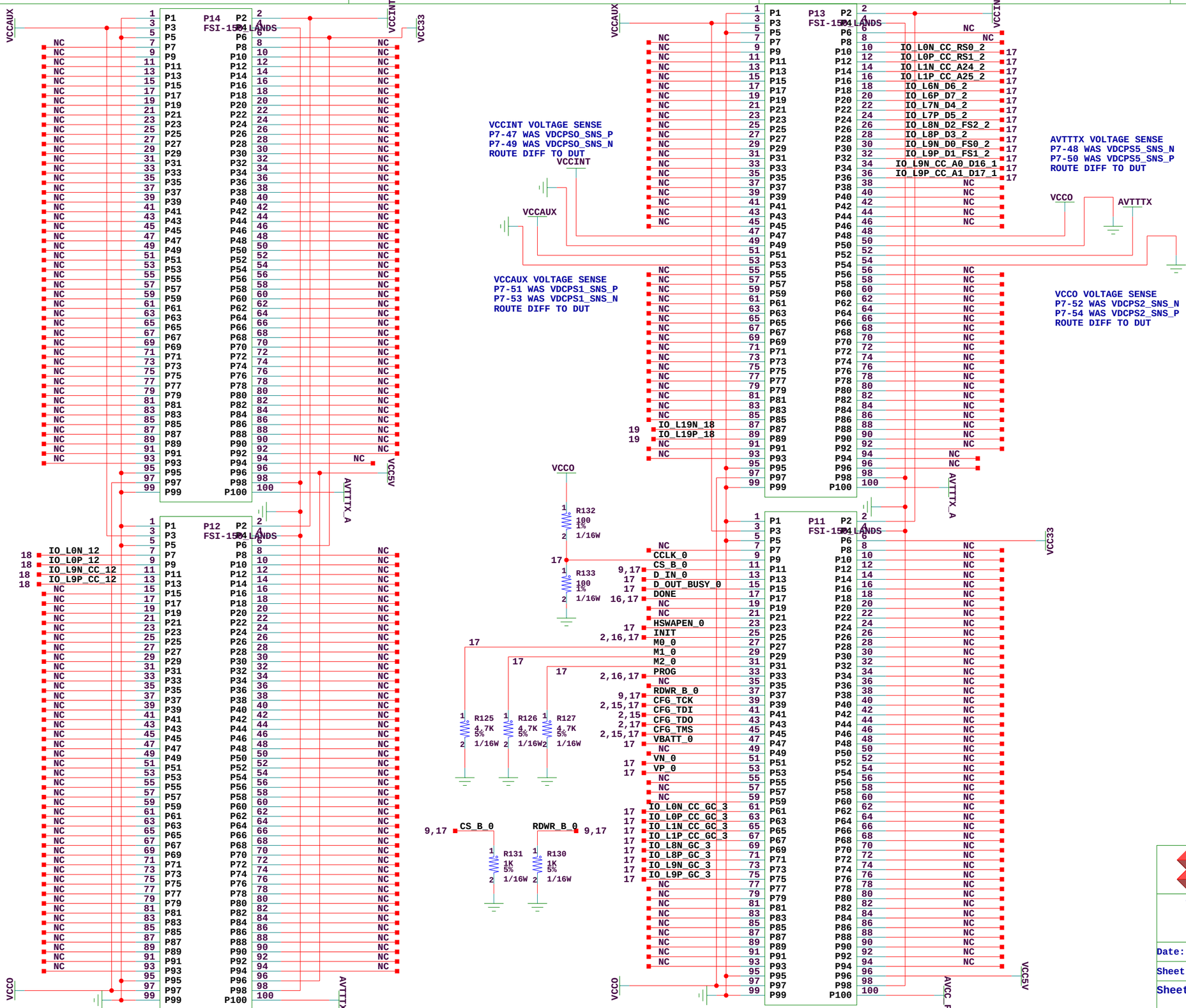
MH1 MH_190_250
MH2 MH_190_250
MH3 MH_190_250

XILINX

SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397

Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
AFX2_CON P15-P18

Date: 11-28-2006_14:57	Ver: D
Sheet Size: B	Rev: 01
Sheet 8 of 24	Drawn By PATRICK J.

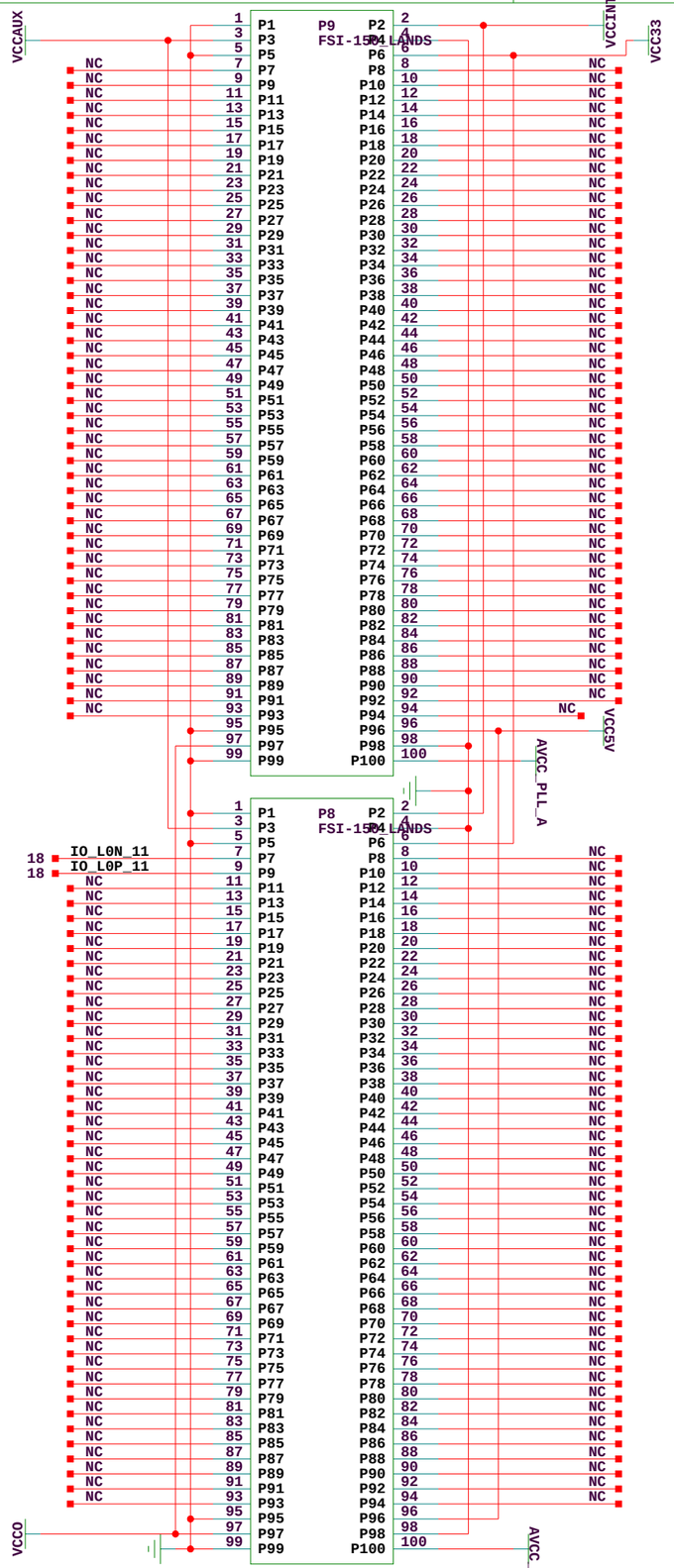


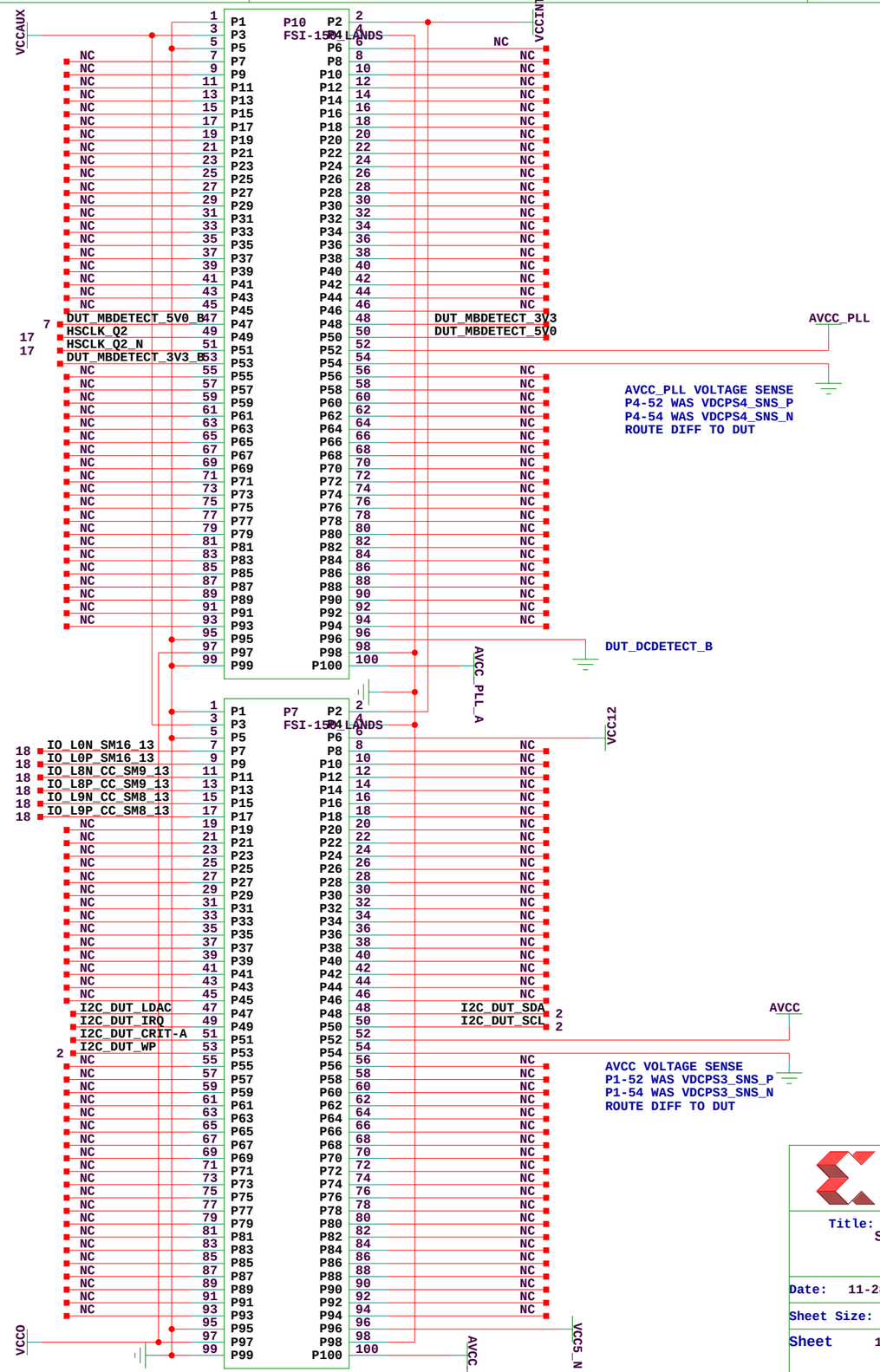
SCH_P/N	0381227
ART_P/N	0531585
FAB P/N	1280397

Title: SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR

AFX2_CON P11-P14

Date: 11-28-2006_14:57	Ver: D
Sheet Size: B	Rev: 01
Sheet 9 of 24	Drawn By PATRICK J.





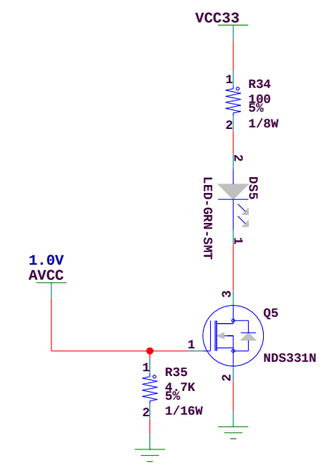
XILINX

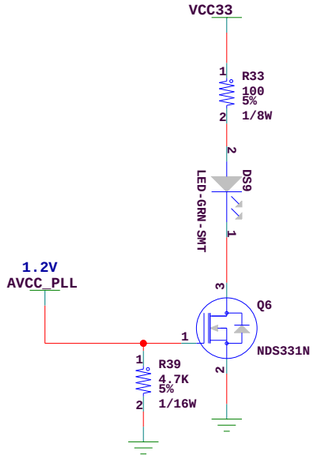
SCH_P/N	0381227
ART_P/N	0531585
FAB P/N	1280397

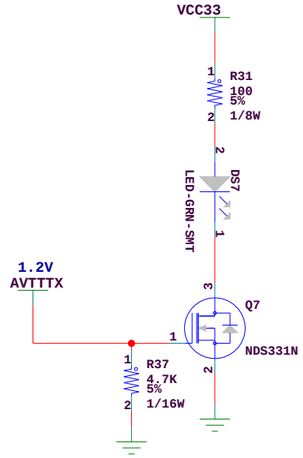
Title: SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR

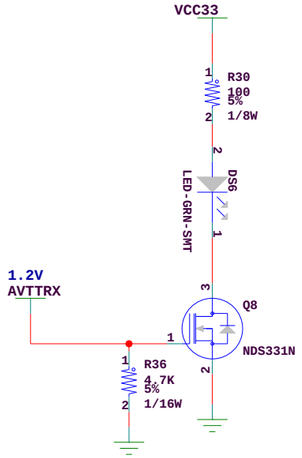
AFX2_CON P7-P10

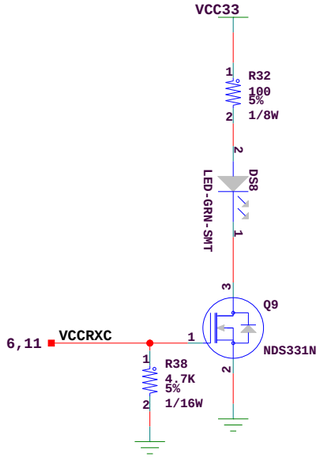
Date: 11-28-2006_14:56	Ver: D
Sheet Size: B	Rev: 01
Sheet 10 of 24	Drawn By PATRICK J.

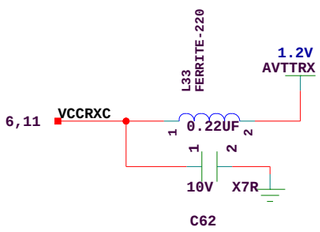


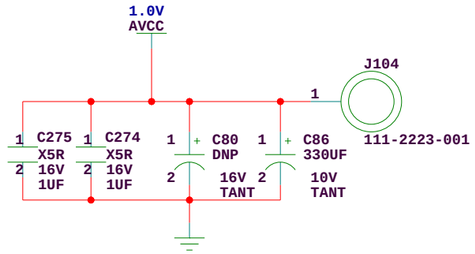


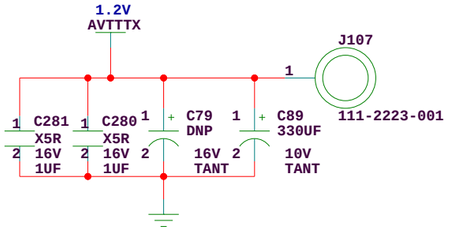


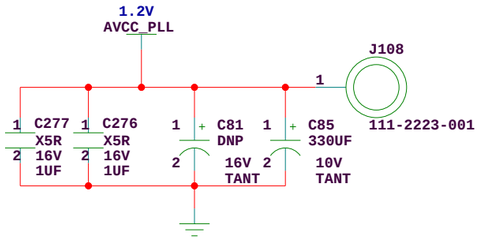


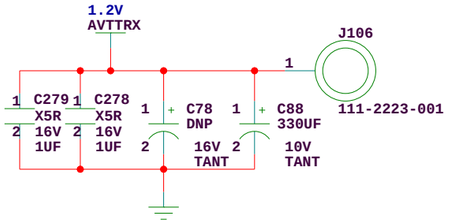




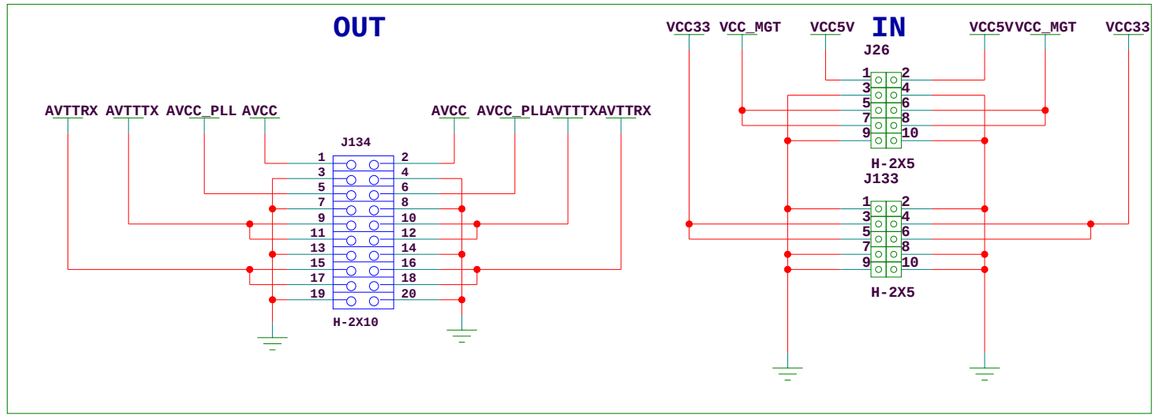


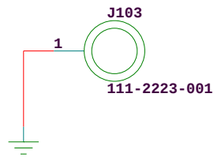




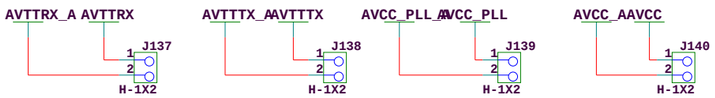


POWER SUPPLY MODULE





ISOLATION JUMPERS



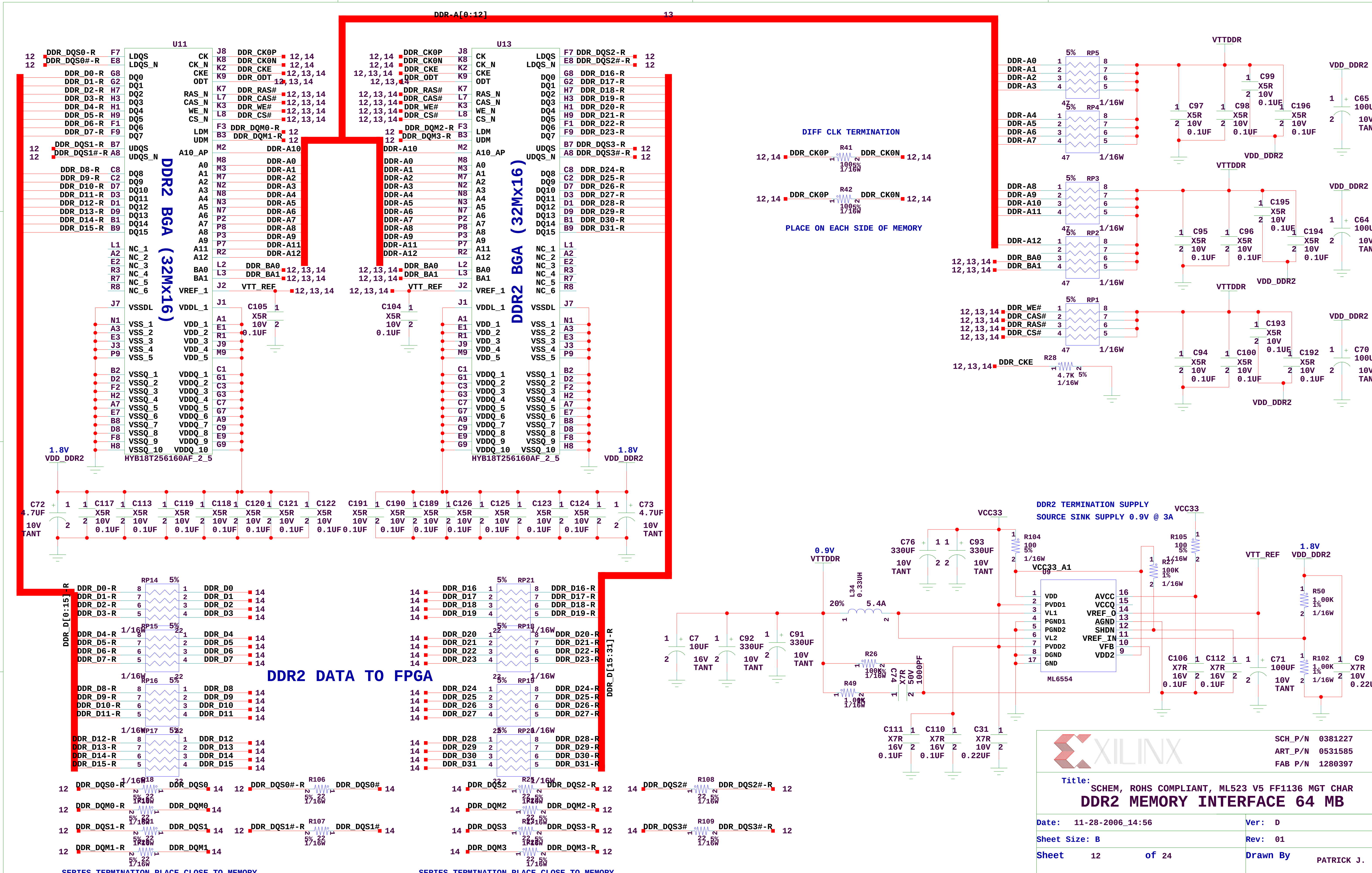
JUMPER ON FOR AFXII DCPS POWER FOR MGT'S
JUMPER OFF FOR ON BOARD REGULATION

XILINX

SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397

Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
MGT'S POWER SUPPLY

Date: 11-28-2006_14:56	Ver: D
Sheet Size: B	Rev: 01
Sheet 11 of 24	Drawn By PATRICK J.



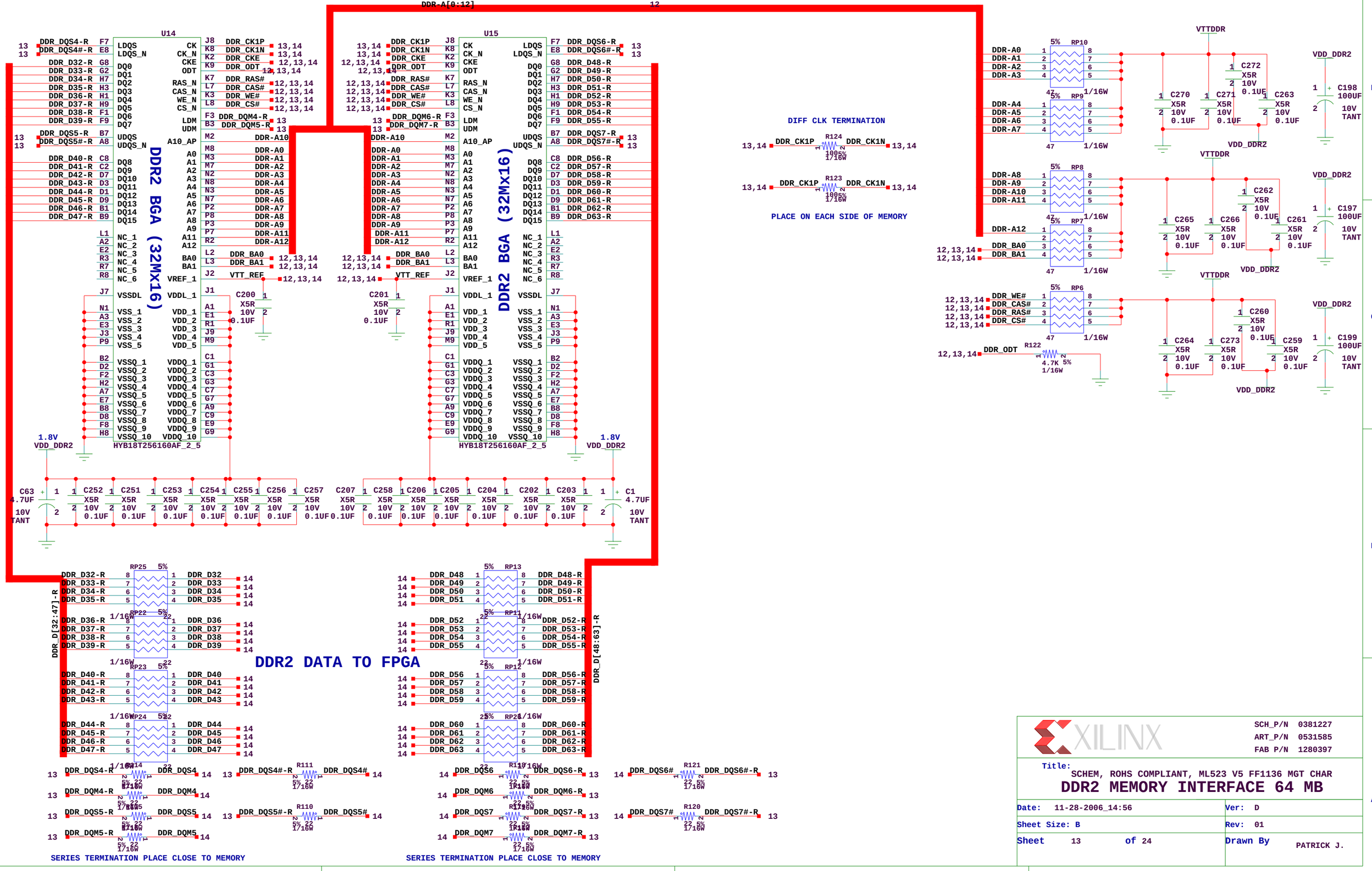
XILINX

SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397

Title: SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR

DDR2 MEMORY INTERFACE 64 MB

Date: 11-28-2006_14:56		Ver: D	
Sheet Size: B		Rev: 01	
Sheet 12	of 24	Drawn By	PATRICK J.

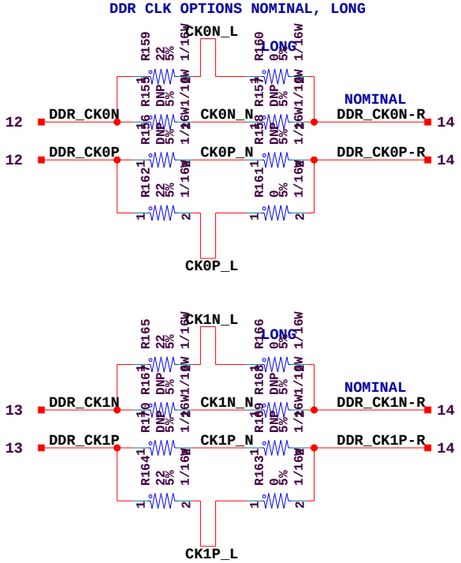

DDR-A[0:12]
12
U14
U15
DDR2 BGA (32Mx16)
HYB18T256160AF_2_5
DIFF CLK TERMINATION
PLACE ON EACH SIDE OF MEMORY
DDR2 DATA TO FPGA
DDR_D[32:47]-R
DDR_D[48:63]-R
SERIES TERMINATION PLACE CLOSE TO MEMORY
SERIES TERMINATION PLACE CLOSE TO MEMORY
VTTDDR
VDD_DDR2
1.8V
XILINX
SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397
Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
DDR2 MEMORY INTERFACE 64 MB
Date: 11-28-2006_14:56
Ver: D
Sheet Size: B
Rev: 01
Sheet 13 of 24
Drawn By PATRICK J.

NOTE:

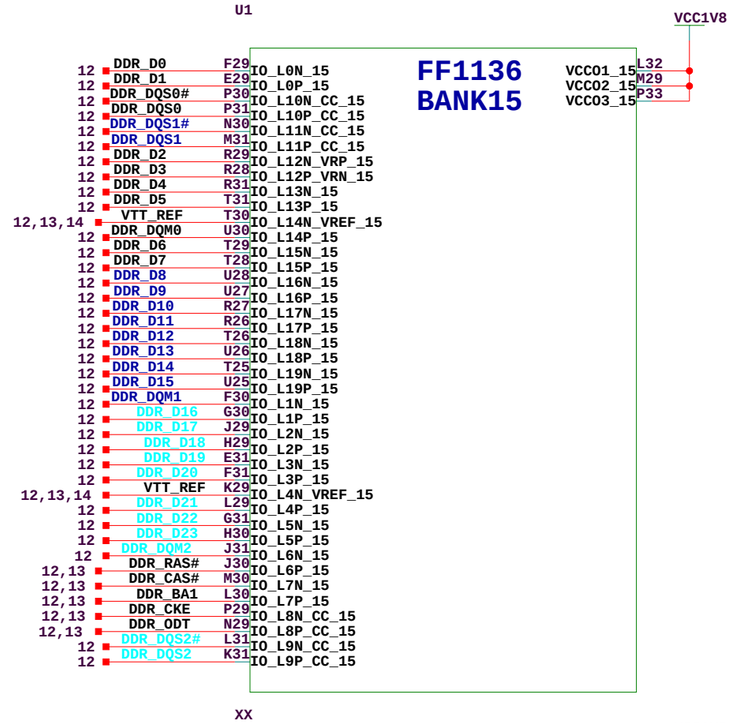
DCI IS NOT REQUIRED
WILL USE EXTERNAL SERIES TERMINATION
VREF PINS ARE TIED TO VEREF TERMINATION

CHECK TO SEE IF CC PINS ARE CAPABLE
OF DRIVING DIFFERENTIAL CLOCKS

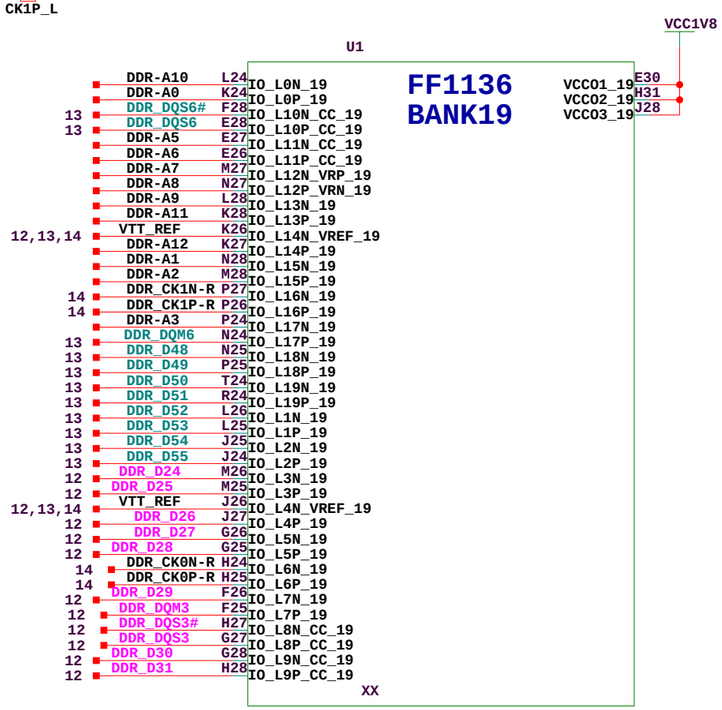
DDR CLK OPTIONS NOMINAL, LONG



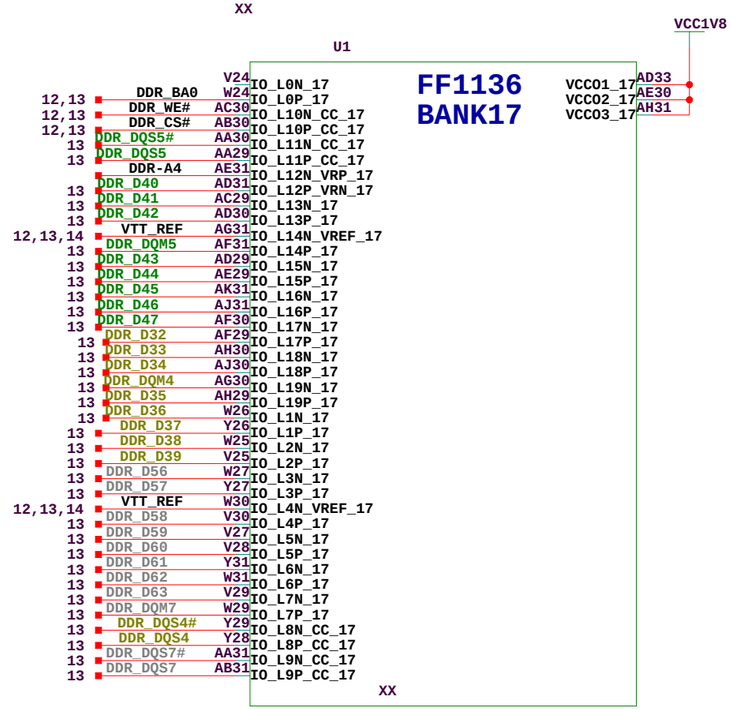
U1



U1



U1

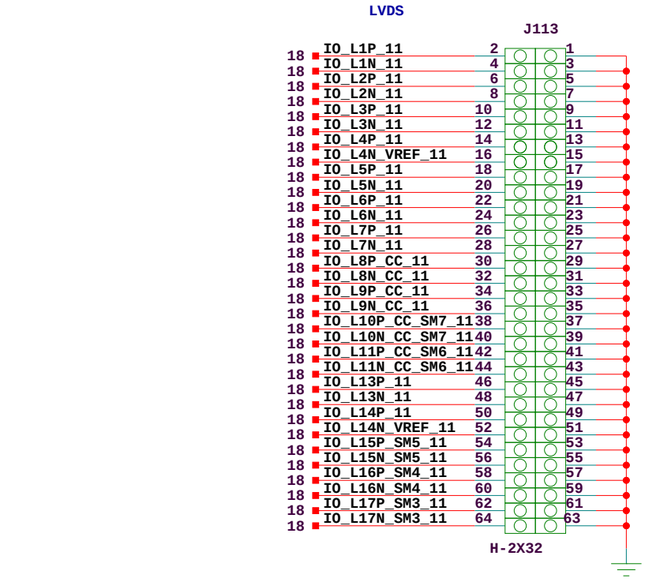


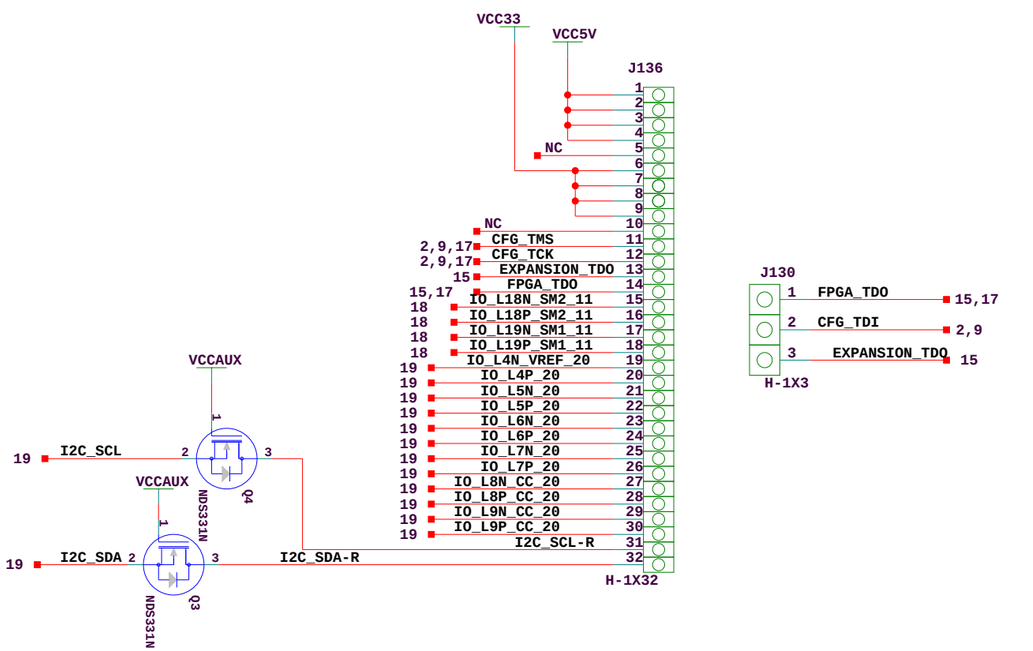
XILINX

SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397

Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
DDR2 MEMORY INTERFACE FPGA SIDE

Date: 11-28-2006_14:56	Ver: D
Sheet Size: B	Rev: 01
Sheet 14 of 24	Drawn By PATRICK J.



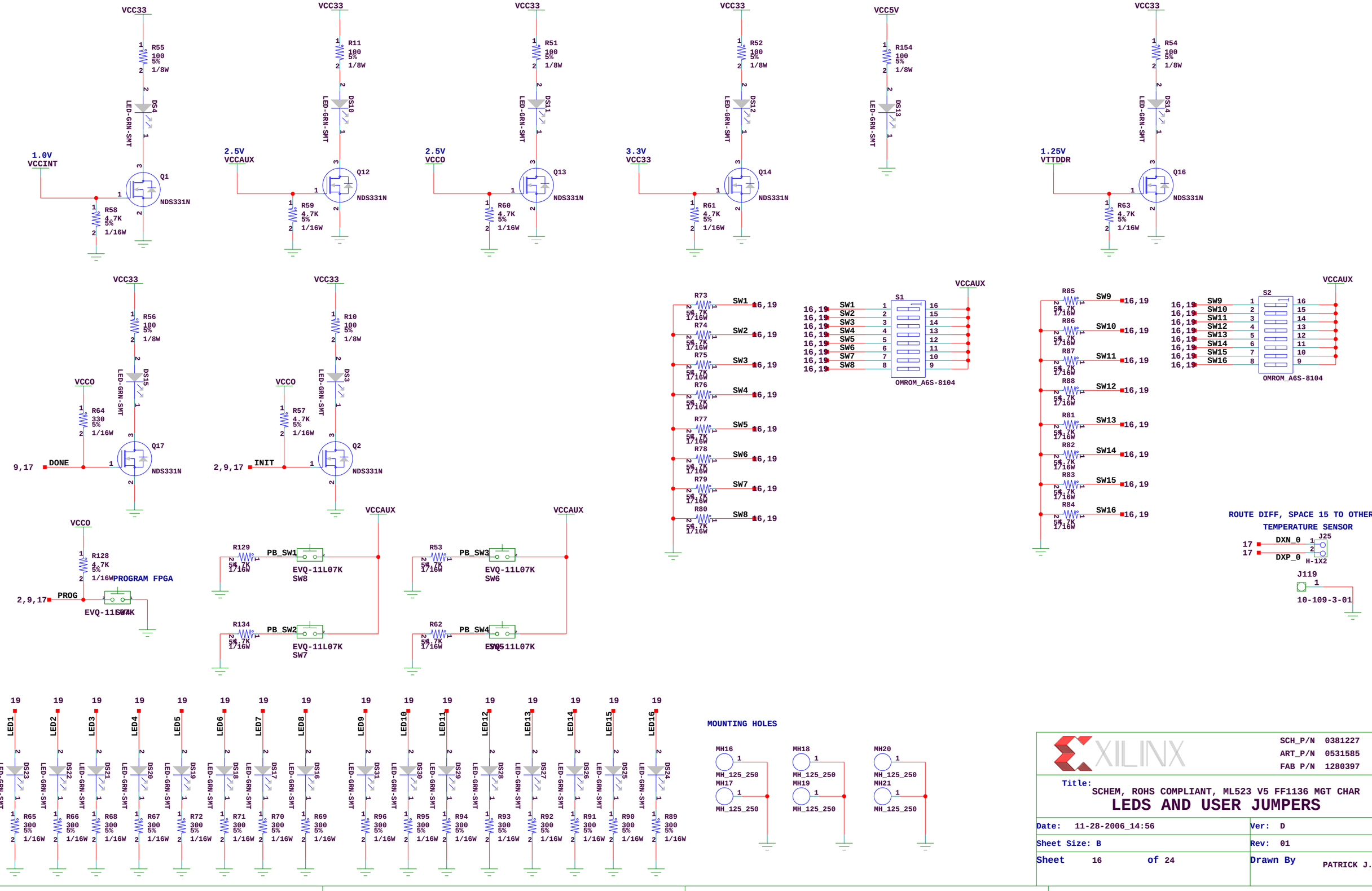


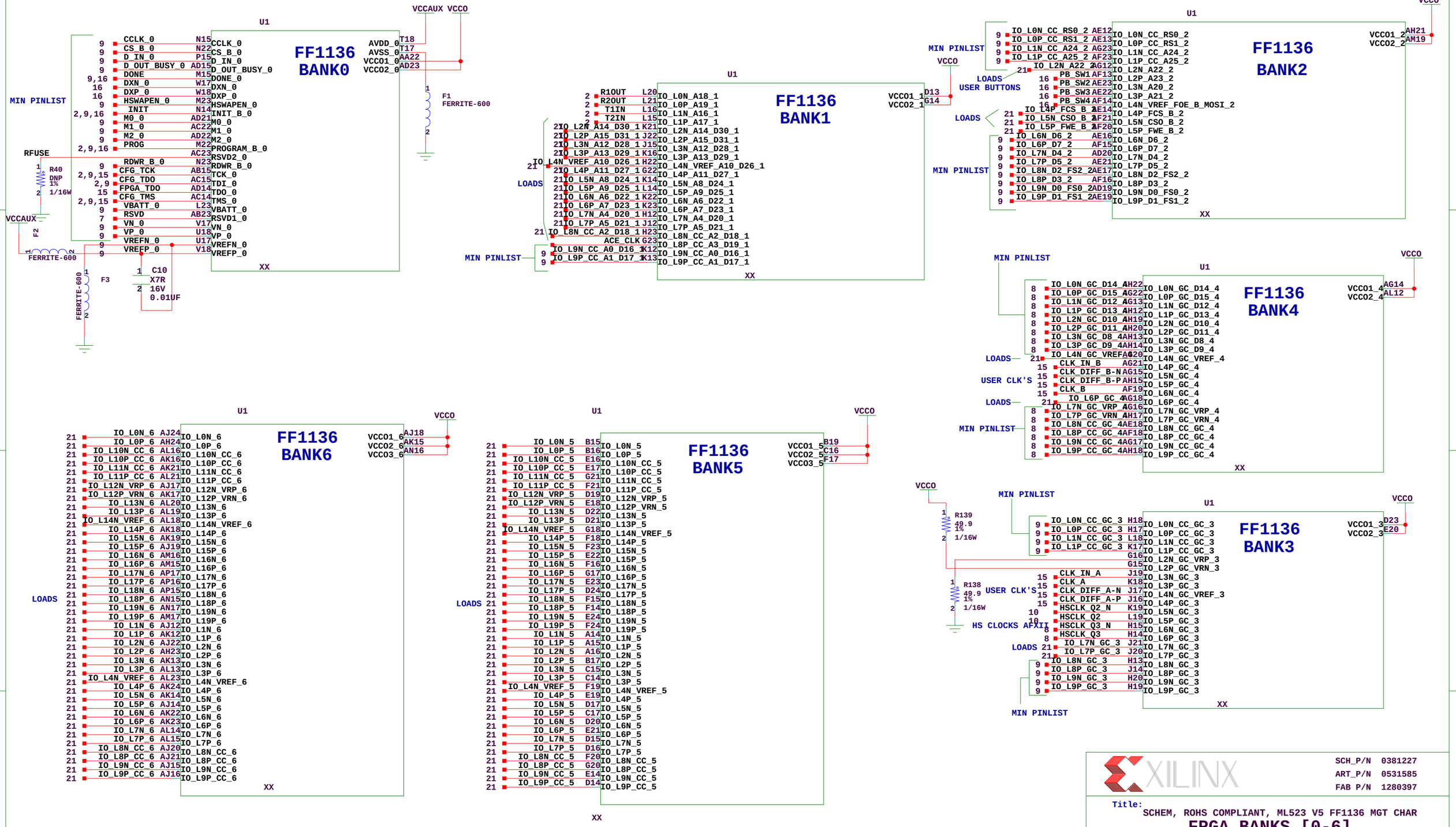
SCH_P/N	0381227
ART_P/N	0531585
FAB P/N	1280397

Title: SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR

XGI INTERFACE & GLOBAL CLOCKS

Date: 12-22-2006_11:40	Ver: D
Sheet Size: B	Rev: 01
Sheet 15 of 24	Drawn By PATRICK J.


VCC33
R55 100 5% 1/8W
DS4 LED-GRN-SMT
1.0V VCCINT
Q1 NDS331N
R58 4.7K 5% 1/16W
VCC33
R11 100 5% 1/8W
DS10 LED-GRN-SMT
2.5V VCCAUX
Q12 NDS331N
R59 4.7K 5% 1/16W
VCC33
R51 100 5% 1/8W
DS11 LED-GRN-SMT
2.5V VCCO
Q13 NDS331N
R60 4.7K 5% 1/16W
VCC33
R52 100 5% 1/8W
DS12 LED-GRN-SMT
3.3V VCC33
Q14 NDS331N
R61 4.7K 5% 1/16W
VCC5V
R154 100 5% 1/8W
DS13 LED-GRN-SMT
VCC33
R54 100 5% 1/8W
DS14 LED-GRN-SMT
1.25V VTTDDR
Q16 NDS331N
R63 4.7K 5% 1/16W
VCC33
R56 100 5% 1/8W
DS15 LED-GRN-SMT
VCCO
R64 330 5% 1/16W
9,17 DONE
Q17 NDS331N
VCC33
R10 100 5% 1/8W
DS3 LED-GRN-SMT
VCCO
R57 4.7K 5% 1/16W
2,9,17 INIT
Q2 NDS331N
VCCO
R128 4.7K 5% 1/16W
2,9,17 PROG
PROGRAM FPGA
EVQ-11L07K SW7
VCCAUX
R129 5%.7K 1/16W
PB_SW1
EVQ-11L07K SW8
R134 5%.7K 1/16W
PB_SW2
EVQ-11L07K SW7
VCCAUX
R53 5%.7K 1/16W
PB_SW3
EVQ-11L07K SW6
R62 5%.7K 1/16W
PB_SW4
EVQ-11L07K SW5
R73 5%.7K 1/16W SW1 16,19
R74 5%.7K 1/16W SW2 16,19
R75 5%.7K 1/16W SW3 16,19
R76 5%.7K 1/16W SW4 16,19
R77 5%.7K 1/16W SW5 16,19
R78 5%.7K 1/16W SW6 16,19
R79 5%.7K 1/16W SW7 16,19
R80 5%.7K 1/16W SW8 16,19
VCCAUX
S1
16,19 SW1 1 16
16,19 SW2 2 15
16,19 SW3 3 14
16,19 SW4 4 13
16,19 SW5 5 12
16,19 SW6 6 11
16,19 SW7 7 10
16,19 SW8 8 9
OMROM_A6S-8104
R85 5%.7K 1/16W SW9 16,19
R86 5%.7K 1/16W SW10 16,19
R87 5%.7K 1/16W SW11 16,19
R88 5%.7K 1/16W SW12 16,19
R81 5%.7K 1/16W SW13 16,19
R82 5%.7K 1/16W SW14 16,19
R83 5%.7K 1/16W SW15 16,19
R84 5%.7K 1/16W SW16 16,19
VCCAUX
S2
16,19 SW9 1 16
16,19 SW10 2 15
16,19 SW11 3 14
16,19 SW12 4 13
16,19 SW13 5 12
16,19 SW14 6 11
16,19 SW15 7 10
16,19 SW16 8 9
OMROM_A6S-8104
ROUTE DIFF, SPACE 15 TO OTHER TEMPERATURE SENSOR
17 DXN_0
17 DXP_0
J25 H-1X2
J119 1
10-109-3-01
19 LED1 DS23 R65 300 5% 1/16W
19 LED2 DS22 R66 300 5% 1/16W
19 LED3 DS21 R68 300 5% 1/16W
19 LED4 DS20 R67 300 5% 1/16W
19 LED5 DS19 R72 300 5% 1/16W
19 LED6 DS18 R71 300 5% 1/16W
19 LED7 DS17 R70 300 5% 1/16W
19 LED8 DS16 R69 300 5% 1/16W
19 LED9 DS31 R96 300 5% 1/16W
19 LED10 DS30 R95 300 5% 1/16W
19 LED11 DS29 R94 300 5% 1/16W
19 LED12 DS28 R93 300 5% 1/16W
19 LED13 DS27 R92 300 5% 1/16W
19 LED14 DS26 R91 300 5% 1/16W
19 LED15 DS25 R90 300 5% 1/16W
19 LED16 DS24 R89 300 5% 1/16W
MOUNTING HOLES
MH16 MH17 MH_125_250
MH18 MH19 MH_125_250
MH20 MH21 MH_125_250
XILINX
SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397
Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
LEDS AND USER JUMPERS
Date: 11-28-2006_14:56
Ver: D
Sheet Size: B
Rev: 01
Sheet 16 of 24
Drawn By PATRICK J.

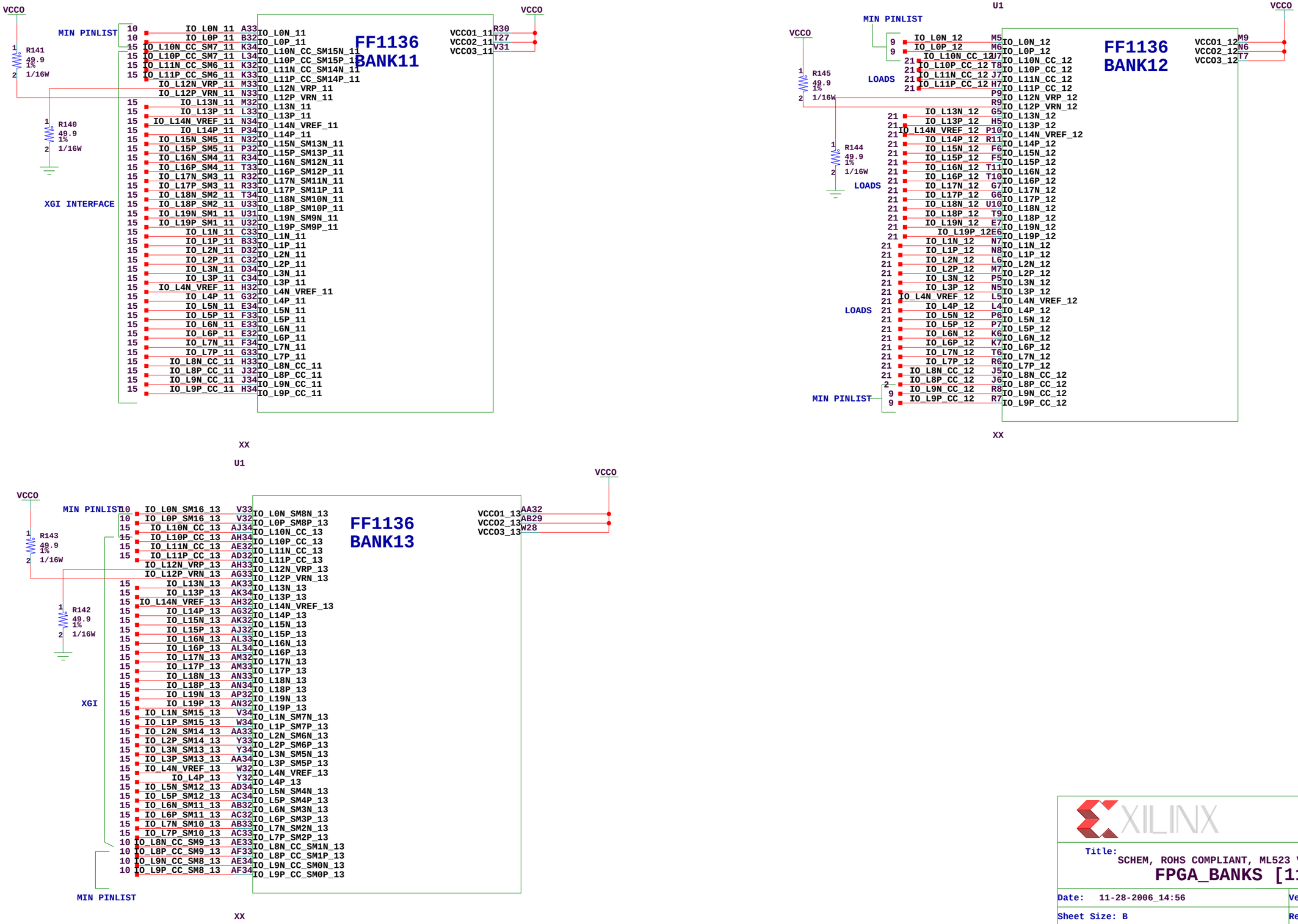


SCH_P/N	0381227
ART_P/N	0531585
FAB P/N	1280397

Title: SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR

FPGA_BANKS [0-6]

Date: 11-28-2006_14:56	Ver: D
Sheet Size: B	Rev: 01
Sheet 17 of 24	Drawn By PATRICK J.



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SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397

Title: SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR

FPGA_BANKS [11-13]

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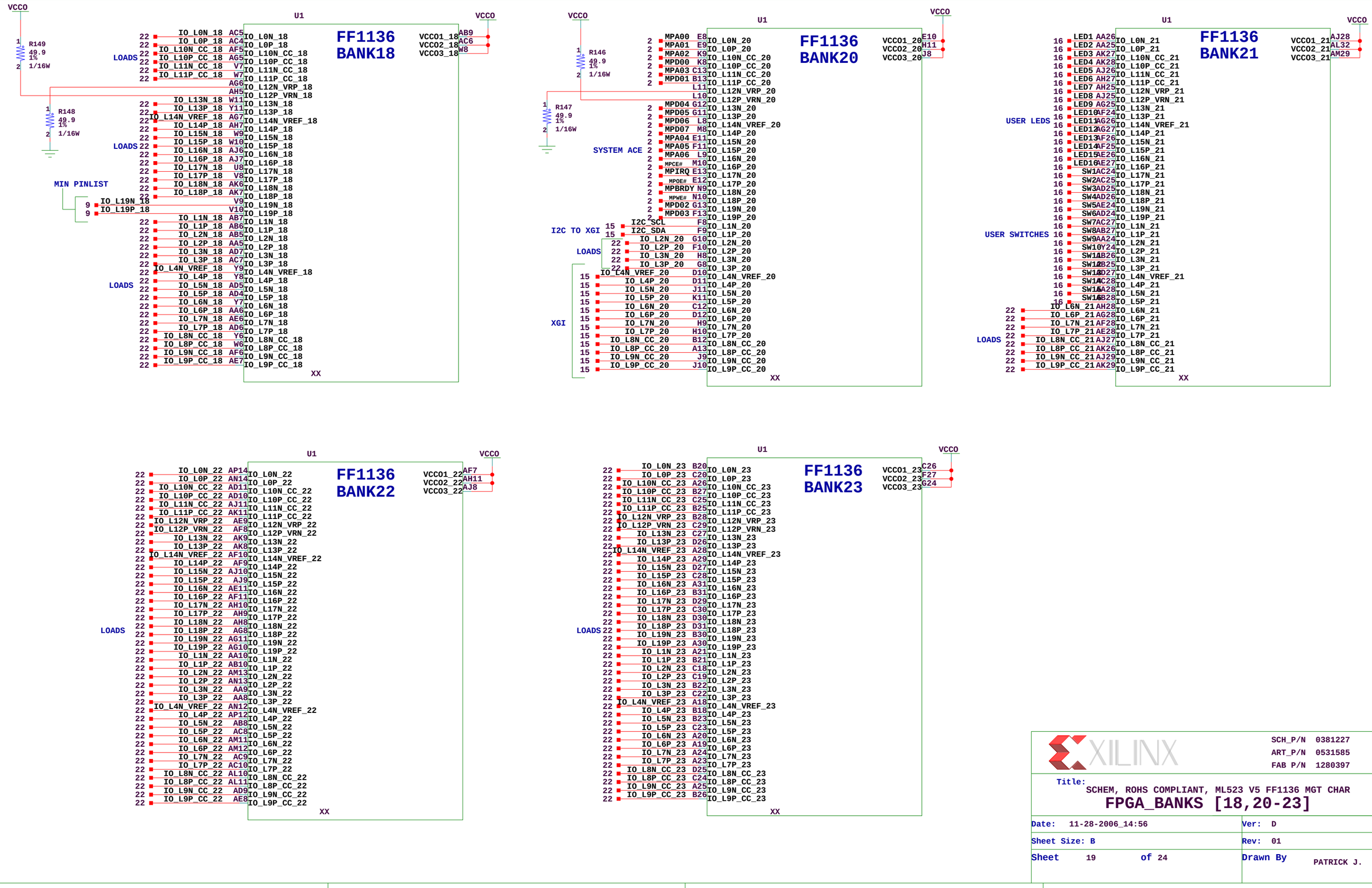
Sheet 18 of 24	Drawn By PATRICK J.



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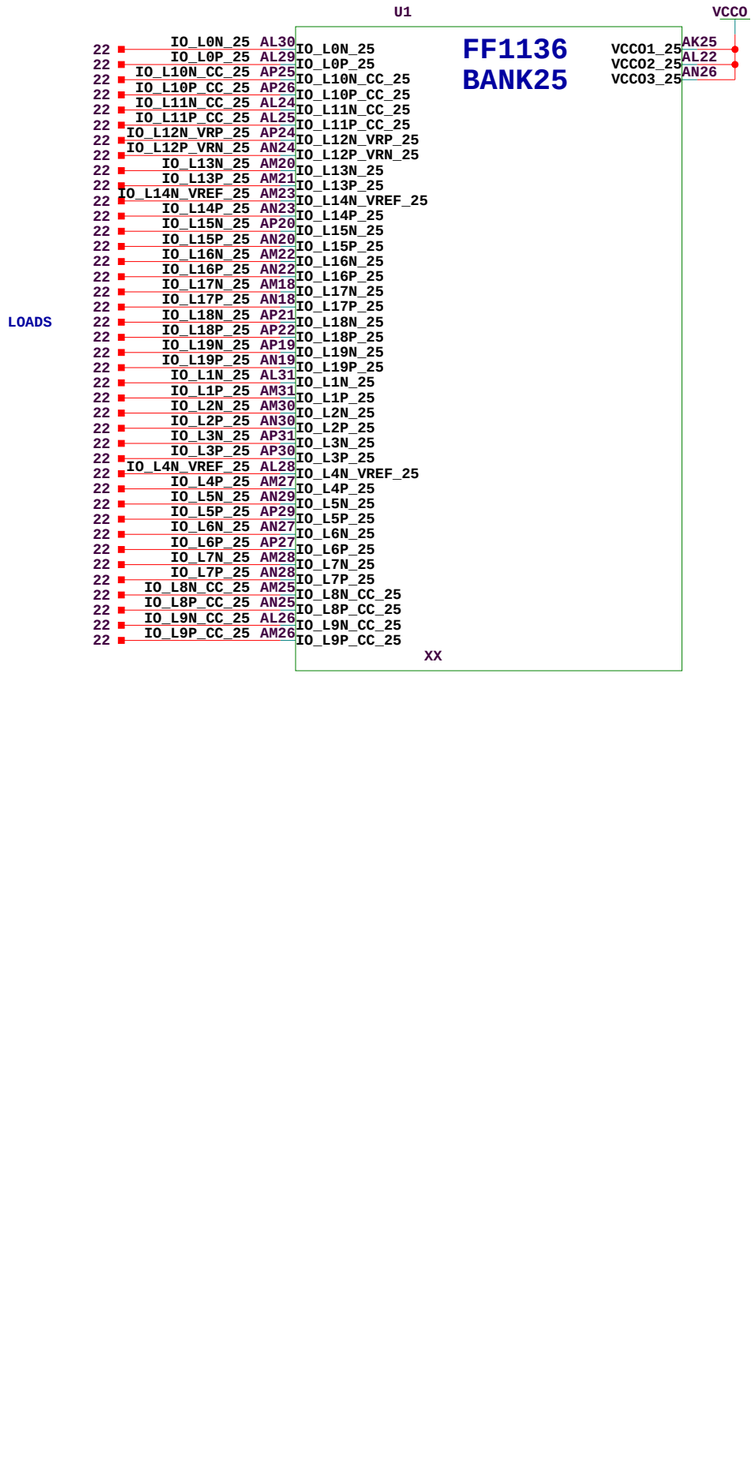
Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
FPGA_BANKS [18,20-23]

Date: 11-28-2006_14:56	Ver: D
Sheet Size: B	Rev: 01
Sheet 19 of 24	Drawn By PATRICK J.



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Title: SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR FPGA_BANK [25]	
Date: 11-28-2006_14:56	Ver: D
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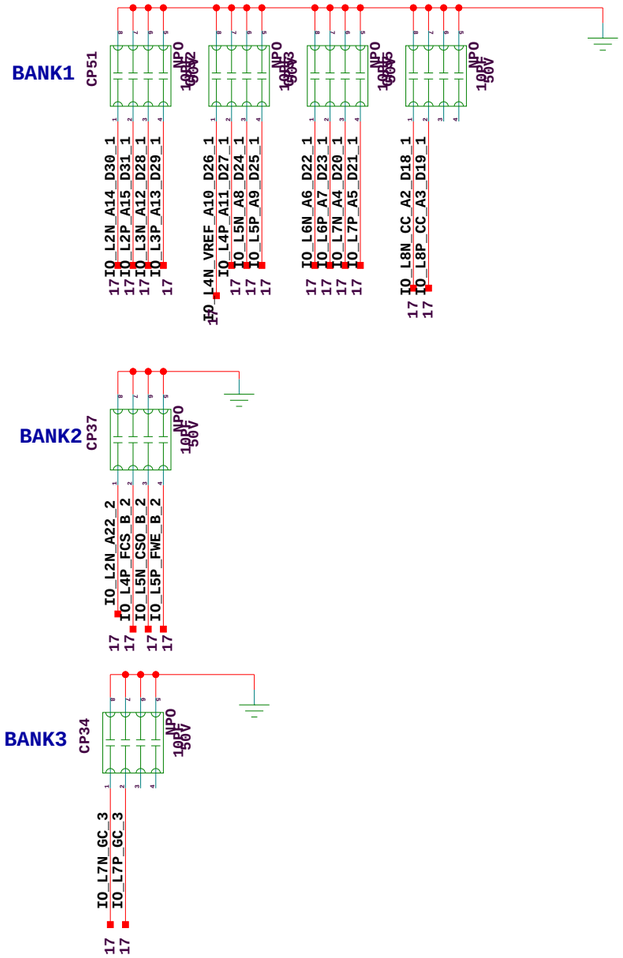
Sheet 20 of 24	Drawn By PATRICK J.



XILINX

SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397

Title: SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR

CAPACITIVE LOADS

Date: 11-28-2006_14:56	Ver: D
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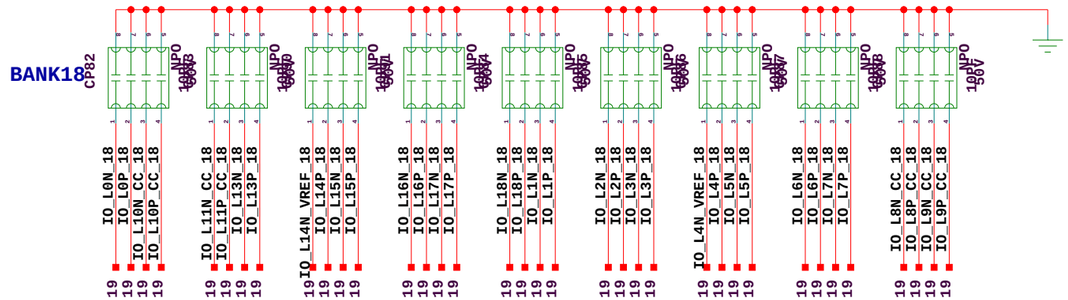
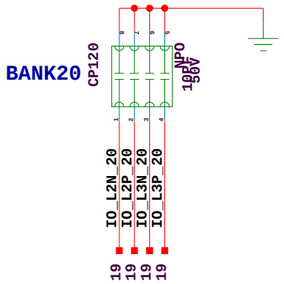
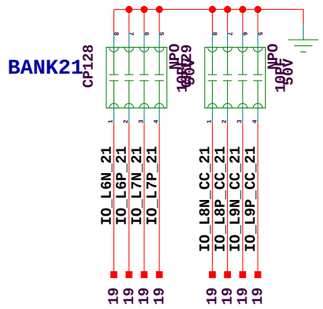
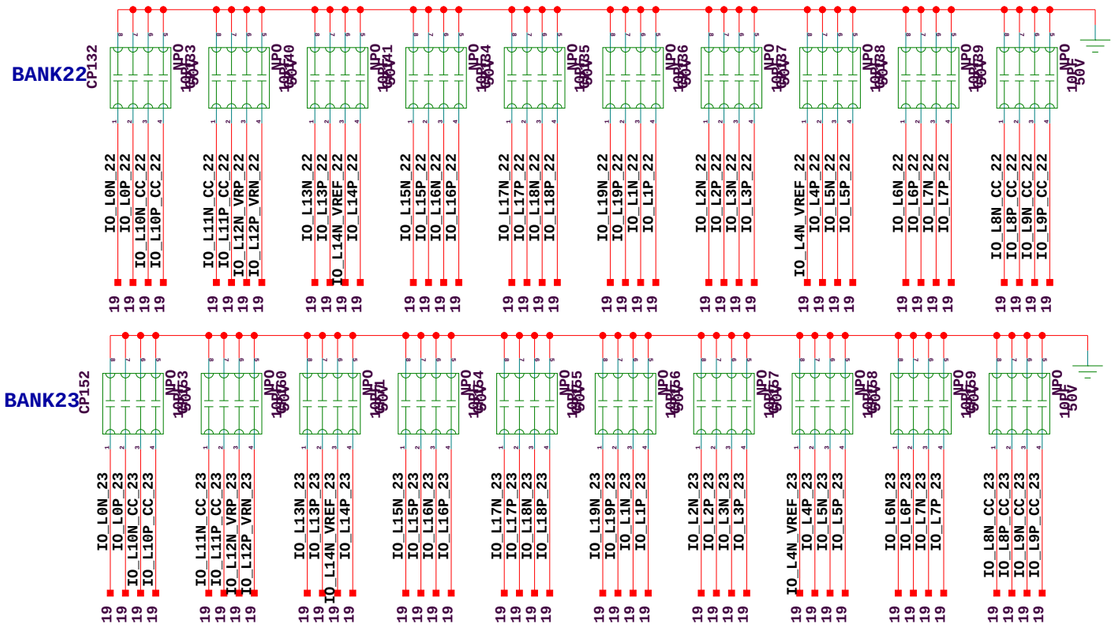
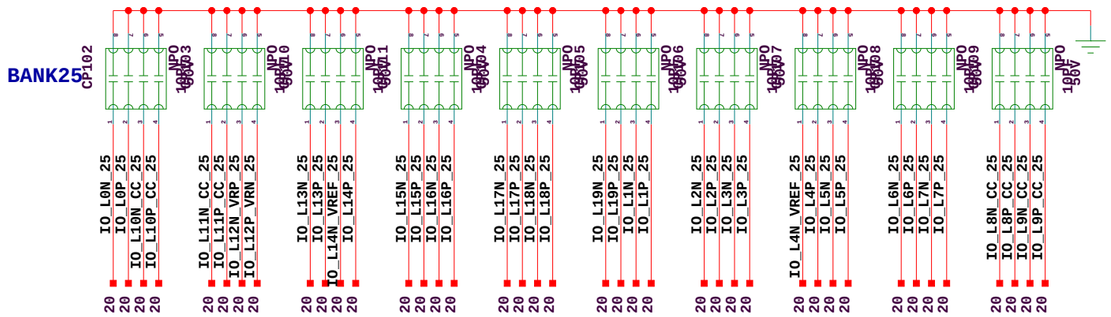
Sheet 21 of 24	Drawn By PATRICK J.











XILINX

SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397

Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
CAPACITIVE LOADS

Date: 11-28-2006_14:56	Ver: D
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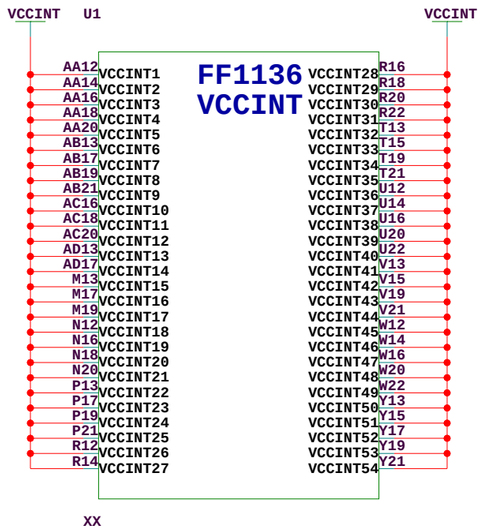
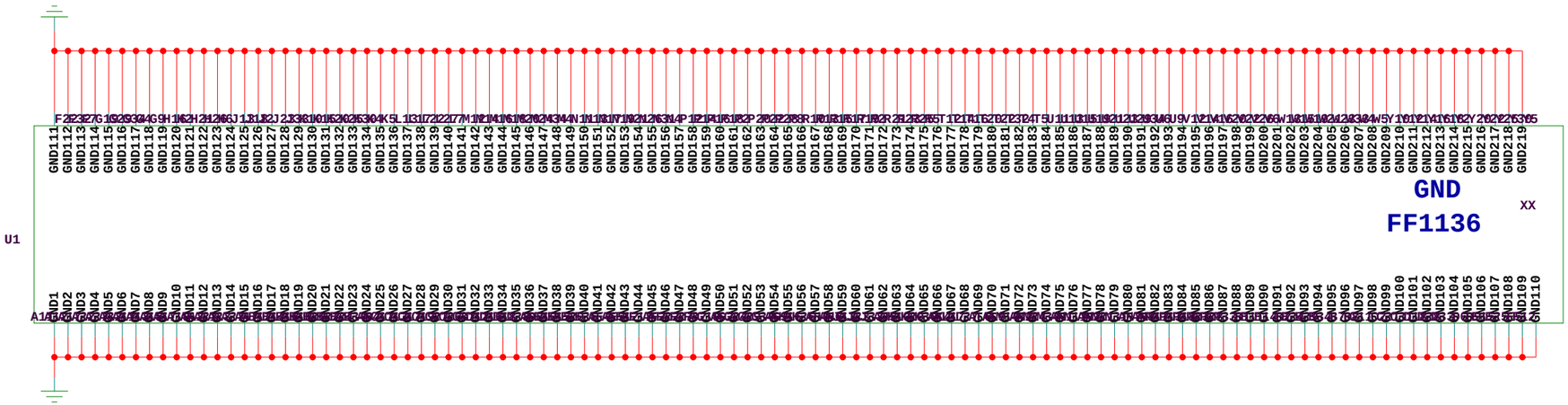
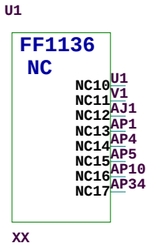
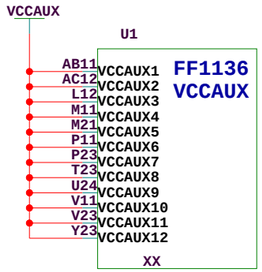
Sheet 22 of 24	Drawn By PATRICK J.









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SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397

Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR
FPGA PWR/GND

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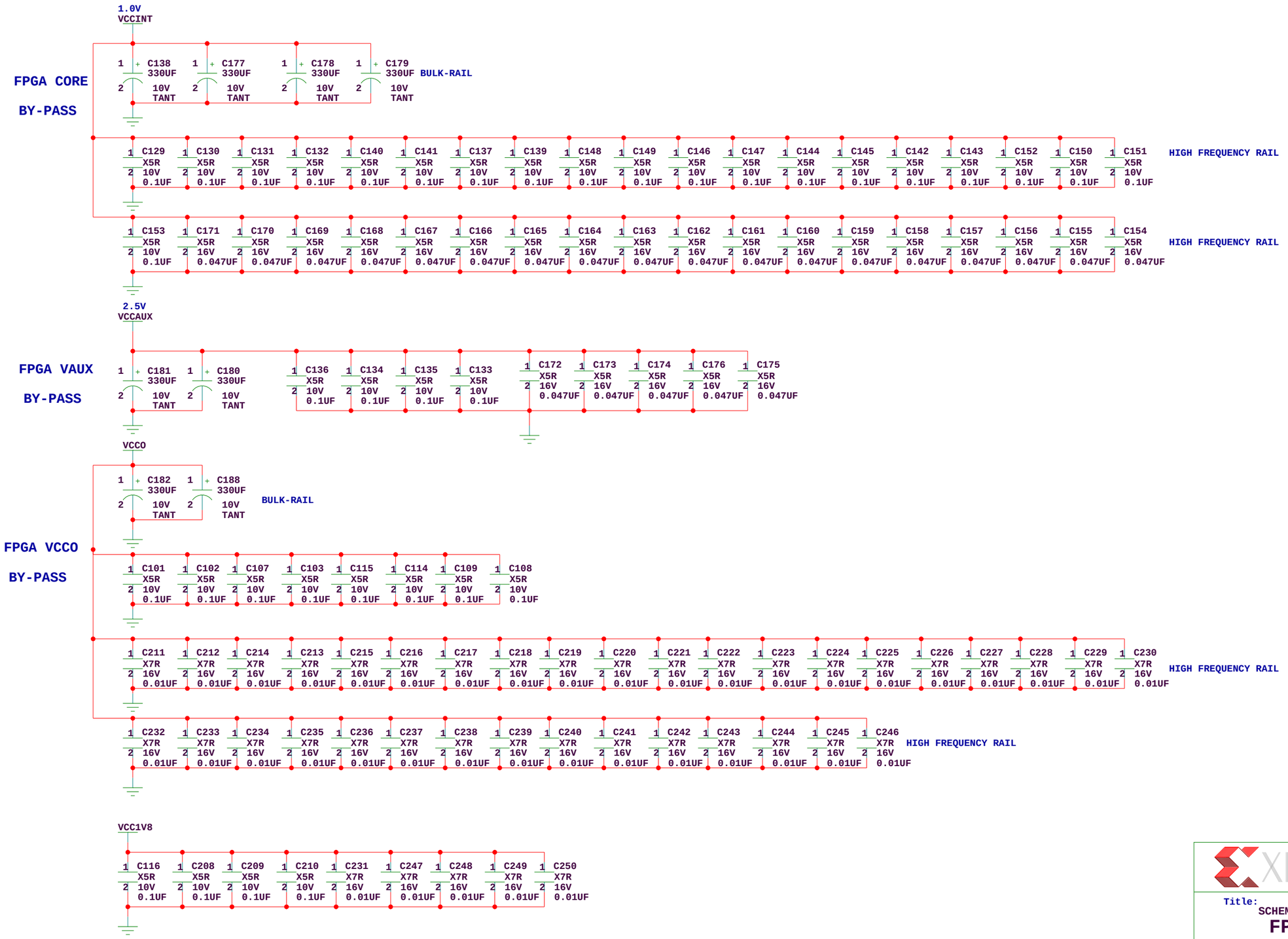
Sheet 23 of 24	Drawn By PATRICK J.



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SCH_P/N 0381227
ART_P/N 0531585
FAB P/N 1280397

Title:
SCHEM, ROHS COMPLIANT, ML523 V5 FF1136 MGT CHAR

FPGA_DECOUPLING NETWORK

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