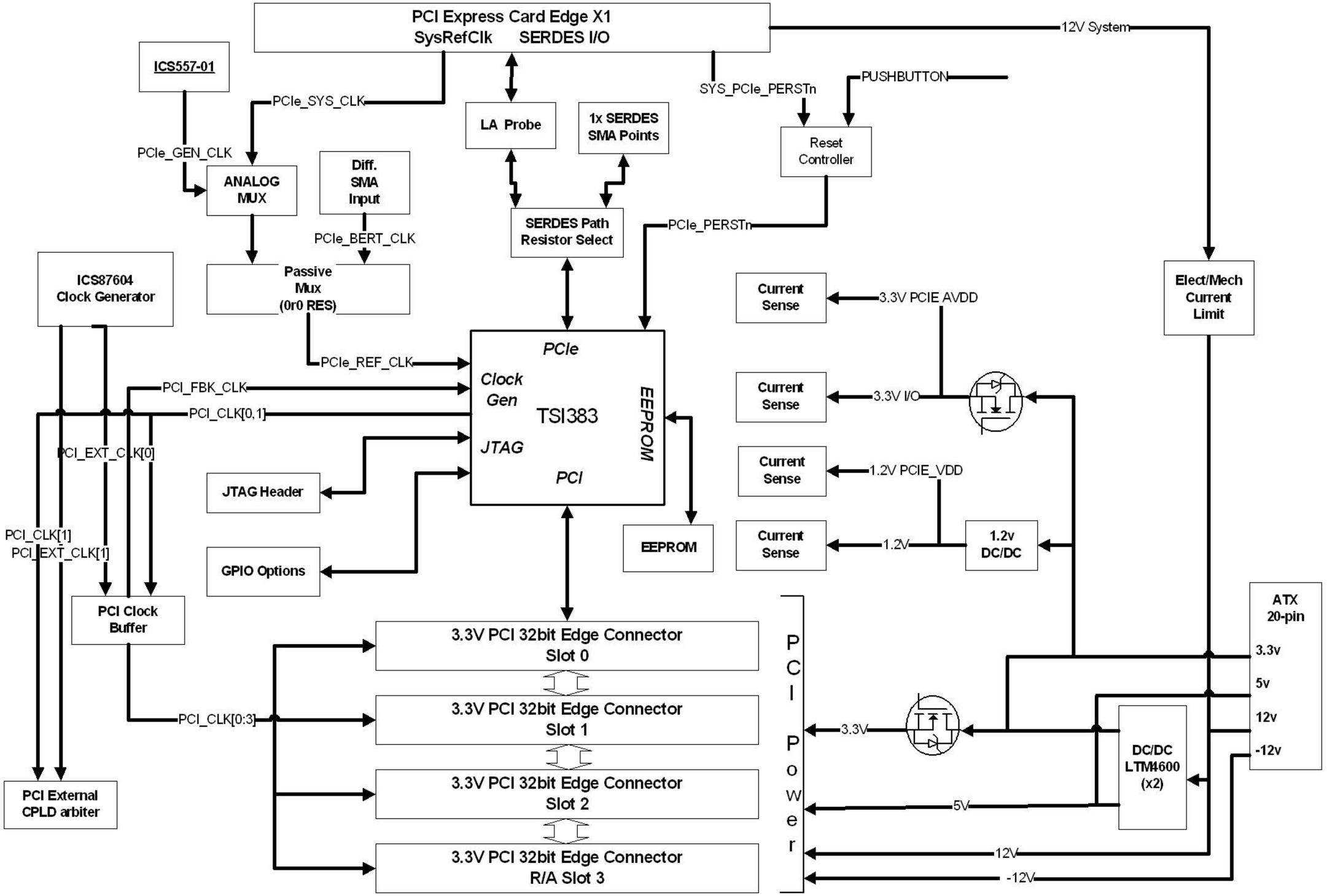
Tsi383 (QFP) Evaluation Board Schematics

TABLE OF CONTENTS

TITLE : TABLE OF CONTENTS			
SIZE C	DRAWING NUMBER : TBD	Version: 1.0	DESIGNER :
LAST MODIFIED DATE : 11-27-2009_13:11	SHEET 1 OF 15		

BLOCK DIAGRAM



TITLE : BLOCK DIAGRAM				
SIZE C	DRAWING NUMBER : TBD	Version: 1.0	DESIGNER :	
LAST MODIFIED DATE : 11-27-2009_13:11	SHEET 2 OF 15			

TSI383 PCIE/MISC INTERFACE

TSI383 STRAPS

S1 Default Configuration

Signal	(1=High,0=Low)
PLL_BYPASS	0

3.3V
R70 10K
R71 10K
R137 8.2K
R157 8.2K
1-1435790-4
S6
PWRUP_EN_ARB
PWRUP_PLL_BYPASS
15-C3
3-D3

TSI383 PCIE, MISC 1 OF 3

U11

4-D7 PCIE_RXD_P0 → 122 PCIE_RXD_N
4-D7 PCIE_RXD_N0 → 123 PCIE_RXD_P

10-C7 PCIE_REFCLK_P → 118 PCIE_REFCLK_N
10-C7 PCIE_REFCLK_N → 117 PCIE_REFCLK_P

3-B7,3-C4 TSI382_PERST# → 112 PCIE_PERST#

3-F2 PWRUP_PLL_BYPASS → 111 PWRUP_PLL_BYPASS

PCIE_REXT 120 → R63 191

TSI383QFP

TX Compliance Testing

PCIE_TXD_N 126 → C112 0.1U → R162 DNP → 49.9
PCIE_TXD_P 125 → C111 0.1U → R159 DNP → 49.9

PCIE_TXD_TSI_P0 4-D1
PCIE_TXD_TSI_N0 4-D1

TSI383JTAG

3.3V
R207 8.2K
R198 8.2K
R187 8.2K
C233 0.1U
U23
AT25640A-10PU-2
DNP
SCK SCK
CS# CS#
SI SI
SO SO
HOLD# HOLD#
VCC VCC
GND GND
WP# WP#

TSI382_SR_CLK → 106 SR_CLK
TSI382_SR_CSN → 108 SR_CS#
TSI382_SR_DIN → 104 SR_DIN
TSI382_SR_DOUT → 105 SR_DOUT

3-B5 TSI382_TCK → 83 JTAG_TCK
3-B5 TSI382_TDI → 89 JTAG_TDI
3-B4 TSI382_TDO → 86 JTAG_TDO
3-B5 TSI382_TMS → 85 JTAG_TMS
3-B5 TSI382_TRST# → 84 JTAG_TRST#
3-D6 TSI382_TEST_BCE → 109 TEST_BCE
3-D6 TSI382_TEST_ON → 110 TEST_ON

AP_U1
115-13-308-41-001

Manufacturing Test Only

3-D2 TSI382_TEST_BCE
3-D2 TSI382_TEST_ON
R148 2K DNP
R158 2K
R153 2K
J21
69190-102H

RESET CONTROLLER

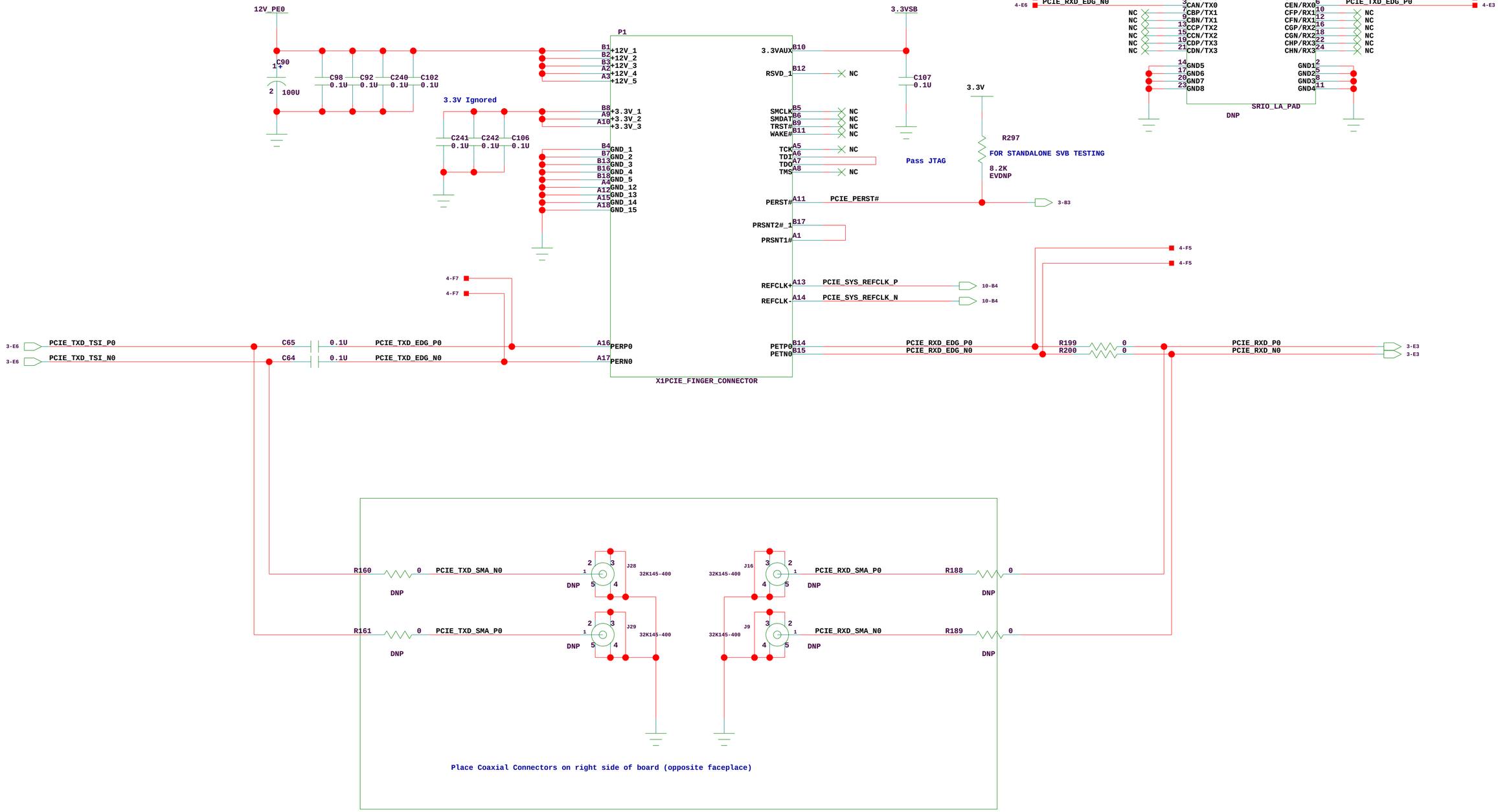
5V
R172 1K
B1
B2
SW2
EVQPAC07K
A1
A2
3.3V
5V
2.6V Threshold on SENSE
U15
TL7702BCD
VCC
SENSE RESIN#
CT
RESET#
RESET
REF
GND
NC
R173 1K
C231 10U
0.1U
C73
3.3V
R136 1K
U16
5VCC
GND
NC7SZ08
TSI382_PERST# → 3-B7,3-E3
4-E5 PCIE_PERST#

R296 33.2
3-D2 TSI382_TDO
3-D2 TSI382_TDI
3-D2 TSI382_TCK
3-D2 TSI382_TMS
3-D2 TSI382_TRST#

R295 10K
R293 10K
R288 10K
R294 10K
J22
5103309-3
NC
C228 0.1U
U18
VCC5
GND
NC7SZ08
TSI382_PERST# → 3-C4,3-E3

TITLE : TSI383 PCIE/MISC			
SIZE C	DRAWING NUMBER : TBD	Version: 1.0	DESIGNER :
LAST MODIFIED DATE : 11-27-2009_13:11		SHEET 3 OF 15	

PCIE CONNECTORS



TITLE : PCIE CONNECTORS			
SIZE C	DRAWING NUMBER : TBD	Version: 1.0	DESIGNER :
LAST MODIFIED DATE : 11-27-2009_13:11	SHEET 4 OF 15		

TSI383 PCI INTERFACE

VIO_PCI

R12 1K, R11 1K, R10 1K, R9 1K, R13 1K

8.2K: R283, R16, R25, R23, R24, R22, R21, R20, R19, R18, R120, R15, R256, R14, R118, R242, R241, R17

U11

6-C5,7-C5,8-C5,9-C5	PCI_CBE0	13	PCI_CBE#[0]
6-C3,7-D3,8-C2,9-C2	PCI_CBE1	26	PCI_CBE#[1]
6-D3,7-D3,8-D2,9-D2	PCI_CBE2	42	PCI_CBE#[2]
6-D3,7-D3,8-D2,9-D2	PCI_CBE3	56	PCI_CBE#[3]
9-D2,15-C2	PCI_REQ0#	67	PCI_REQ#[0]
6-D3,15-C2	PCI_REQ1#	70	PCI_REQ#[1]
7-E3,15-C2	PCI_REQ2#	69	PCI_REQ#[2]
8-D2,15-C2	PCI_REQ3#	74	PCI_REQ#[3]
9-D5,15-C2	PCI_GNT0#	75	PCI_GNT#[0]
6-D5,15-C2	PCI_GNT1#	76	PCI_GNT#[1]
7-E5,15-C2	PCI_GNT2#	77	PCI_GNT#[2]
8-D5,15-C2	PCI_GNT3#	80	PCI_GNT#[3]
6-D5,7-D5,8-D5,9-D5,15-C2	PCI_FRAME#	38	PCI_FRAME#
6-D3,7-D3,8-D2,9-D2,15-B2	PCI_IRDY#	37	PCI_IRDY#
6-D5,7-D5,8-D5,9-D5	PCI_TRDY#	35	PCI_TRDY#
6-D3,7-D3,8-D2,9-D2	PCI_DEVSEL#	36	PCI_DEVSEL#
6-D5,7-D5,8-D5,9-D5	PCI_STOP#	34	PCI_STOP#
6-D3,7-D3,8-C2,9-D2	PCI_SERR#	31	PCI_SERR#
6-D3,7-D3,8-D2,9-D2	PCI_PERR#	30	PCI_PERR#
6-D5,7-D5,8-C5,9-D5	PCI_PAR	27	PCI_PAR
6-D5,7-E5,8-D5,9-D5	PCI_PME#	90	PCI_PME#
6-D3,7-D3,8-D2,9-D2	PCI_LOCK#	32	PCI_LOCK#
	PCI_M66EN	43	PCI_M66EN
6-E5,7-E5,8-D5,9-E5,15-D3	PCI_RST#	82	PCI_RST#
6-E5,7-E3,8-E5,9-E2	PCI_INTA#	91	PCI_INTA#
6-E3,7-E5,8-E2,9-E5	PCI_INTB#	93	PCI_INTB#
6-E5,7-E3,8-E5,9-E2	PCI_INTC#	94	PCI_INTC#
6-E3,7-E5,8-E2,9-E5	PCI_INTD#	96	PCI_INTD#
10-B3	PCI_FBK_CLK	81	PCI_CLK
10-B1	PCI_INT_CLK0	103	PCI_CLKO[0]
10-B1	PCI_INT_CLK1	101	PCI_CLKO[1]
10-A1	PCI_INT_CLK2	99	PCI_CLKO[2]
	PCI_INT_CLK3	97	PCI_CLKO[3]
	PCI_INT_CLK4	95	PCI_CLKO[4]

PCI

2 OF 3

TSI383QFP

PCI_AD[0:31] — 6-D2,6-D6,6-D7,7-D2,7-D6,8-D2,8-D6,9-D2 9-D6

PCI_AD[0]	2	PCI_AD0
PCI_AD[1]	4	PCI_AD1
PCI_AD[2]	3	PCI_AD2
PCI_AD[3]	5	PCI_AD3
PCI_AD[4]	6	PCI_AD4
PCI_AD[5]	10	PCI_AD5
PCI_AD[6]	11	PCI_AD6
PCI_AD[7]	12	PCI_AD7
PCI_AD[8]	14	PCI_AD8
PCI_AD[9]	16	PCI_AD9
PCI_AD[10]	17	PCI_AD10
PCI_AD[11]	18	PCI_AD11
PCI_AD[12]	19	PCI_AD12
PCI_AD[13]	20	PCI_AD13
PCI_AD[14]	24	PCI_AD14
PCI_AD[15]	25	PCI_AD15
PCI_AD[16]	44	PCI_AD16
PCI_AD[17]	45	PCI_AD17
PCI_AD[18]	46	PCI_AD18
PCI_AD[19]	50	PCI_AD19
PCI_AD[20]	51	PCI_AD20
PCI_AD[21]	52	PCI_AD21
PCI_AD[22]	53	PCI_AD22
PCI_AD[23]	54	PCI_AD23
PCI_AD[24]	57	PCI_AD24
PCI_AD[25]	58	PCI_AD25
PCI_AD[26]	59	PCI_AD26
PCI_AD[27]	60	PCI_AD27
PCI_AD[28]	63	PCI_AD28
PCI_AD[29]	64	PCI_AD29
PCI_AD[30]	65	PCI_AD30
PCI_AD[31]	68	PCI_AD31

J8, J19, J20: DNP, 69190-102H

R59 49.9, R58 49.9, R53 49.9

R285 33.2, R284 33.2, R60 33.2, R61 33.2, R62 33.2

place close to U11 & corresponding 49.9 resistor

3.3V_PCI

R282 392

HSMG-C190, D18

VIO_PCI

5.1K R50 — PCI_REQ64# — 6-C5,7-C5,8-C5,9-C5

5.1K R51 — PCI_ACK64# — 6-C3,7-C3,8-C2,9-C2

VIO_PCI

R85 8.2K

1-1435790-4 S1

6-C2,7-C2,8-C2,9-C2 — SLOT_M66EN — 1

2 OPEN

3

4

NC NC

8 7 6 5 NC NC

PCI_M66EN

U3 NC7SZ08

3.3V — 5VCC (1, 4) — 2 — 3 GND

TITLE :	TSI383 PCI INTERFACE
SIZE	C
DRAWING NUMBER :	TBD
Version:	1.0
DESIGNER :	
LAST MODIFIED DATE :	11-27-2009_13:11
SHEET	5 OF 15

PCI SLOT 0 (R/A)

IDSEL AD16

- Required Interrupt Routing

  SLOT : BRIDGE

  INTA -> INTA

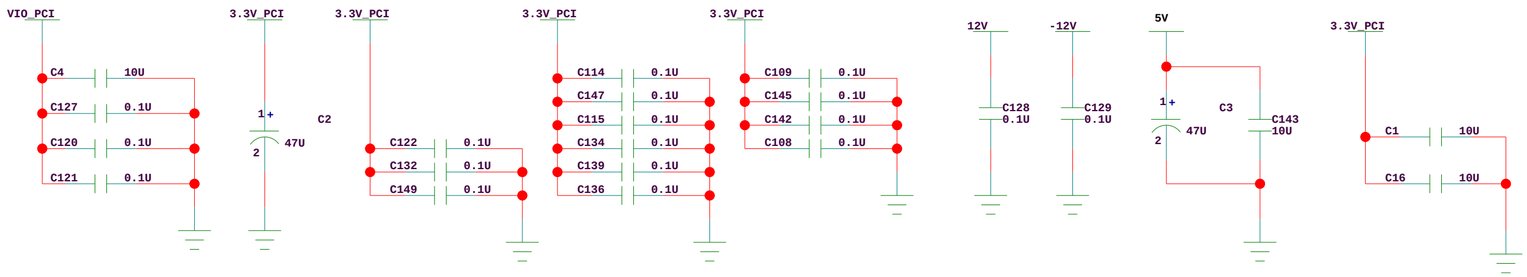
  INTB -> INTB

  INTC -> INTC

  INTD -> INTD

- PCI Clock PCI_CLK0

- PCI Arbitration PCI_GNT#1/PCI_REQ#1



TITLE : PCI SLOT 0			
SIZE C	DRAWING NUMBER : TBD	Version: 1.0	DESIGNER :
LAST MODIFIED DATE : 11-27-2009_13:11	SHEET 6 OF 15		

PCI SLOT 1 (Vertical)

IDSEL AD17

- Required Interrupt Routing

  SLOT : BRIDGE

  INTA -> INTB

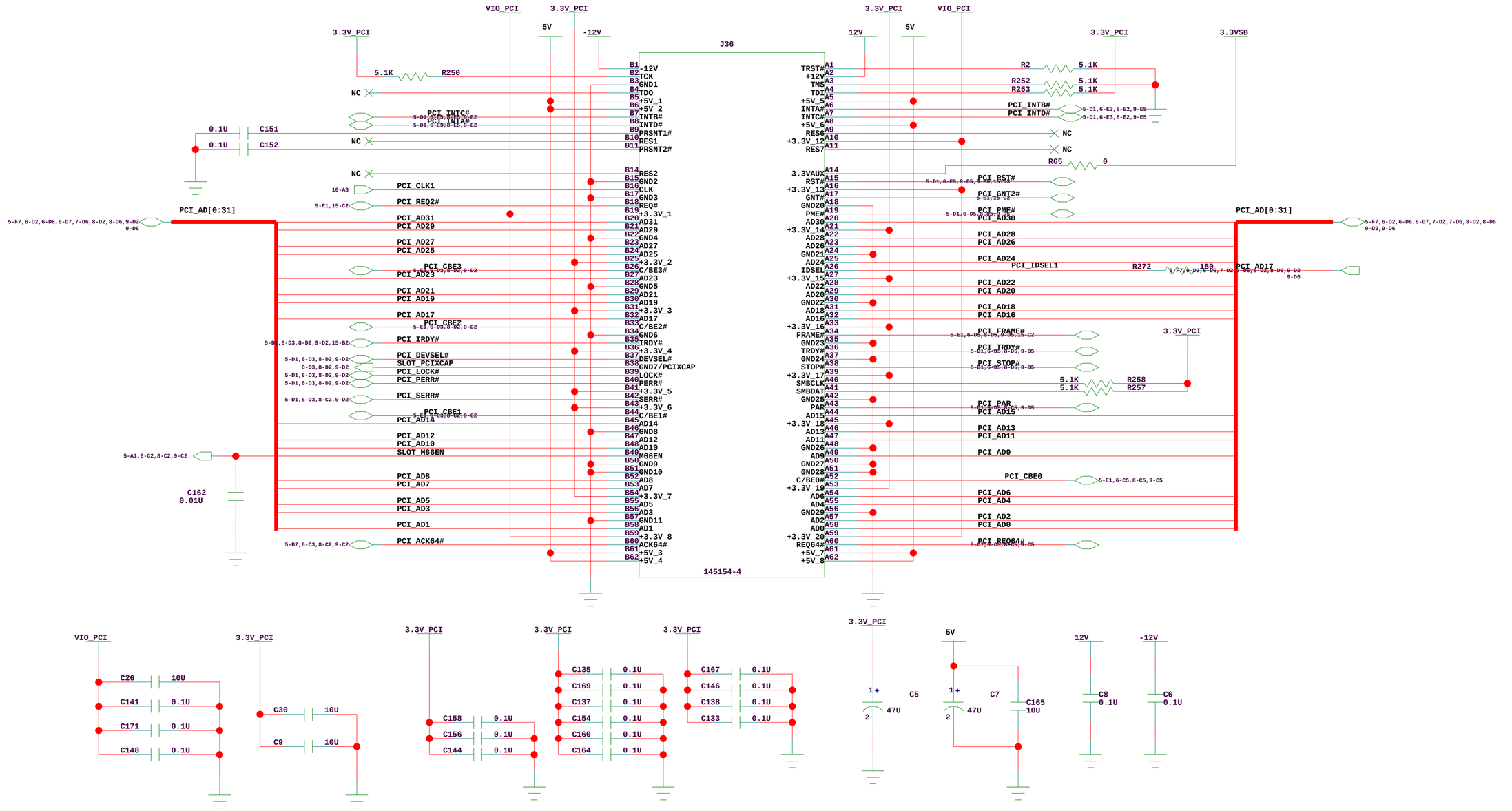
  INTB -> INTC

  INTC -> INTD

  INTD -> INTA

- PCI Clock PCI_CLK1

- PCI Arbitration PCI_GNT#2/PCI_REQ#2



TITLE : PCI SLOT 1			
SIZE C	DRAWING NUMBER : TBD	Version: 1.0	DESIGNER :
LAST MODIFIED DATE : 11-27-2009_13:11	SHEET 7 OF 15		

PCI SLOT 3 (Vertical)

IDSEL AD18

- Required Interrupt Routing

  SLOT : BRIDGE

  INTA -> INTC

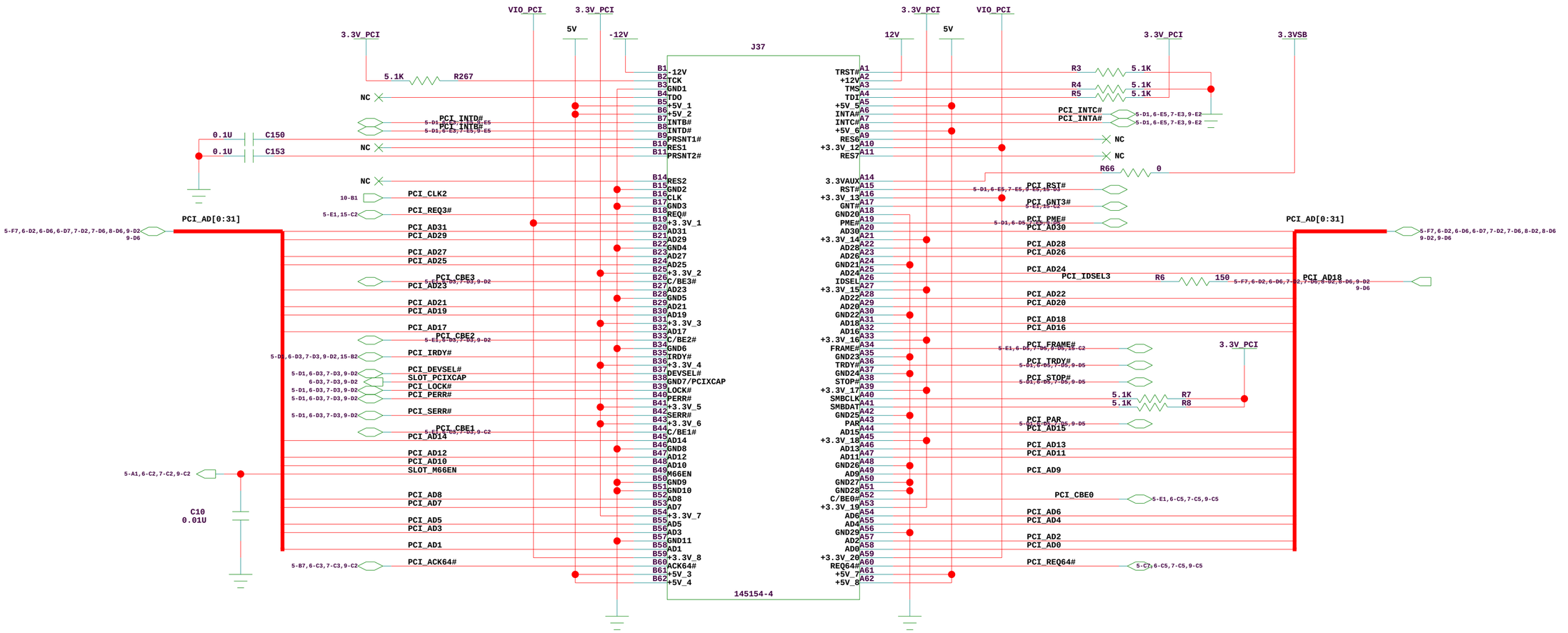
  INTB -> INTD

  INTC -> INTA

  INTD -> INTB

- PCI Clock PCI_CLK2

- PCI Arbitration PCI_GNT#3/PCI_REQ#3



TITLE : PCI SLOT 3			
SIZE C	DRAWING NUMBER : TBD	Version: 1.0	DESIGNER :
LAST MODIFIED DATE : 11-27-2009_13:11	SHEET 8 OF 15		

PCI SLOT 2 (Vertical)

IDSEL AD19

- Required Interrupt Routing

  SLOT : BRIDGE

  INTA -> INTD

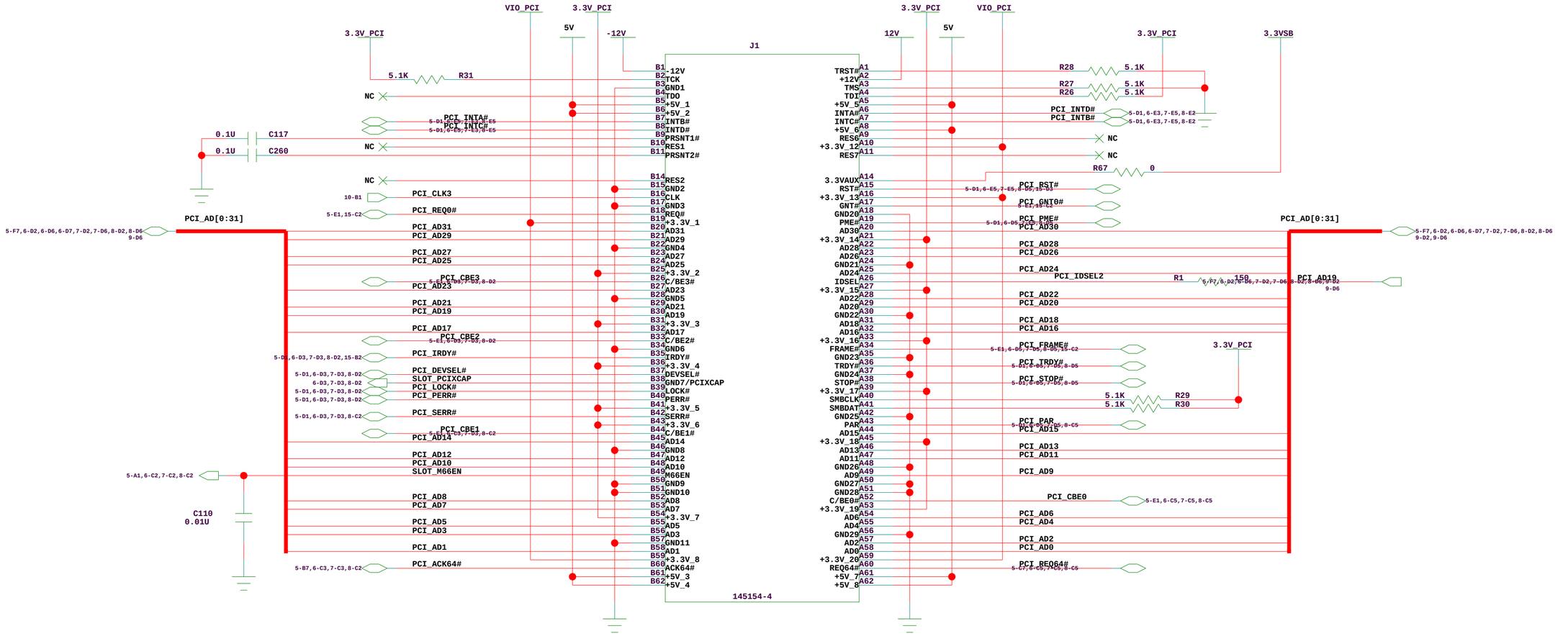
  INTB -> INTA

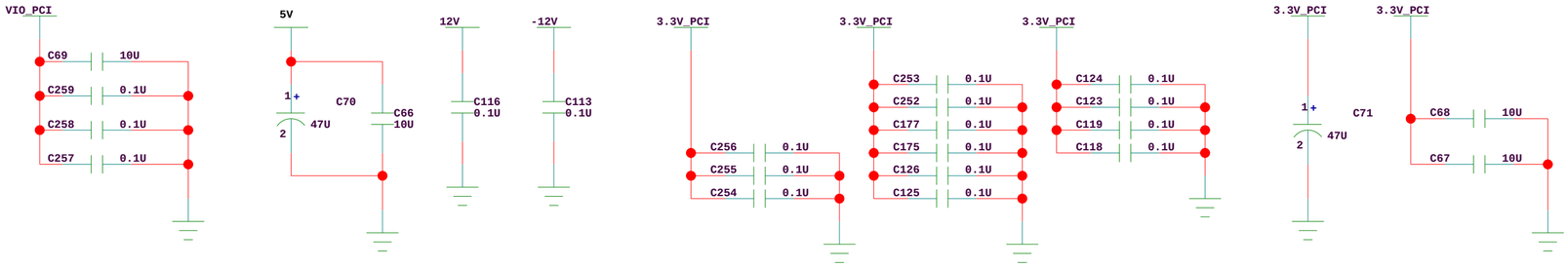
  INTC -> INTB

  INTD -> INTC

- PCI Clock PCI_CLK3

- PCI Arbitration PCI_GNT#0/PCI_REQ#0





TITLE : PCI SLOT 2

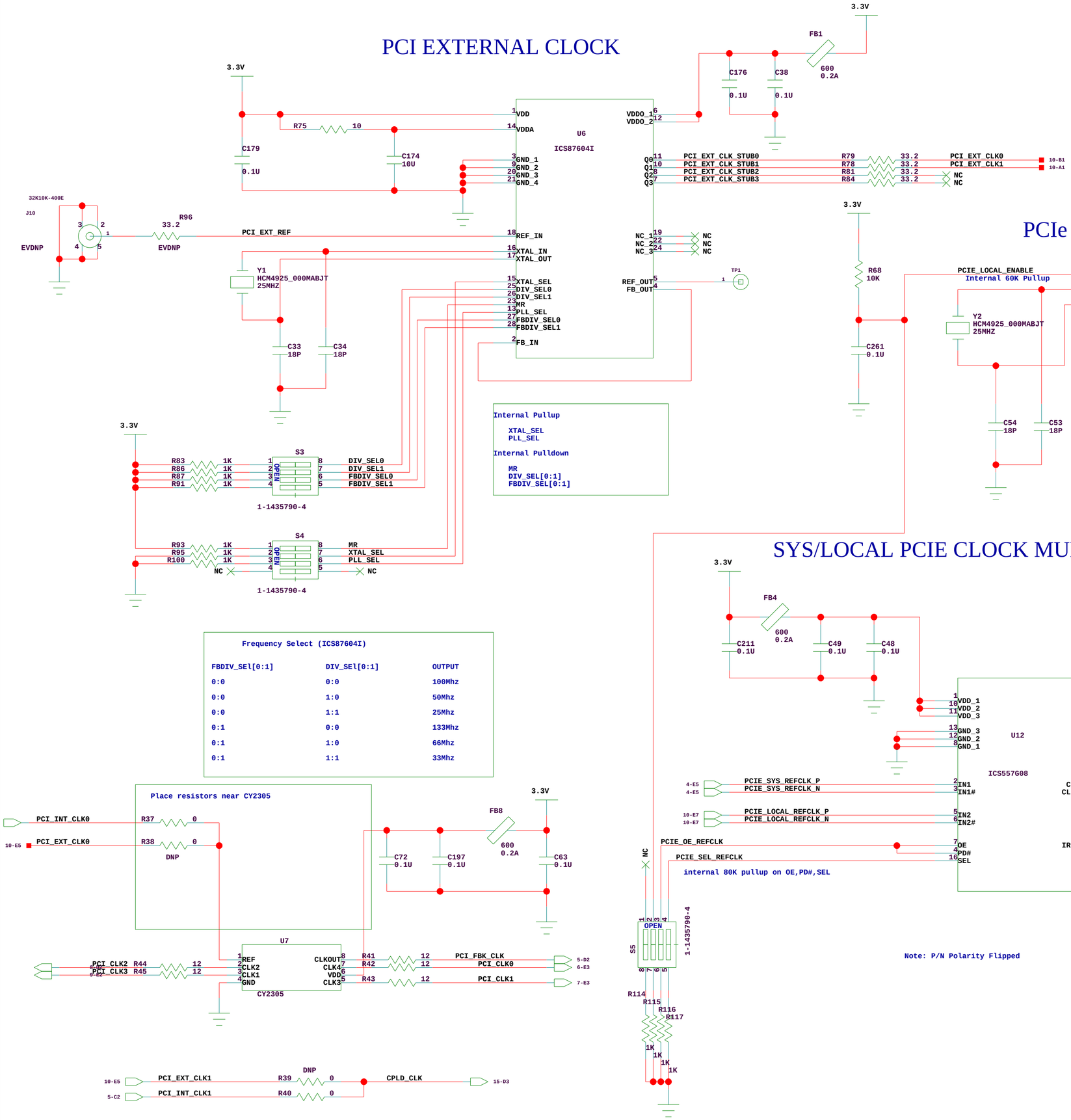
SIZE	DRAWING NUMBER :	Version:	DESIGNER :
C	TBD	1.0	

LAST MODIFIED DATE : 11-27-2009_13:11

SHEET 9 OF 15

CLOCK DISTRIBUTION

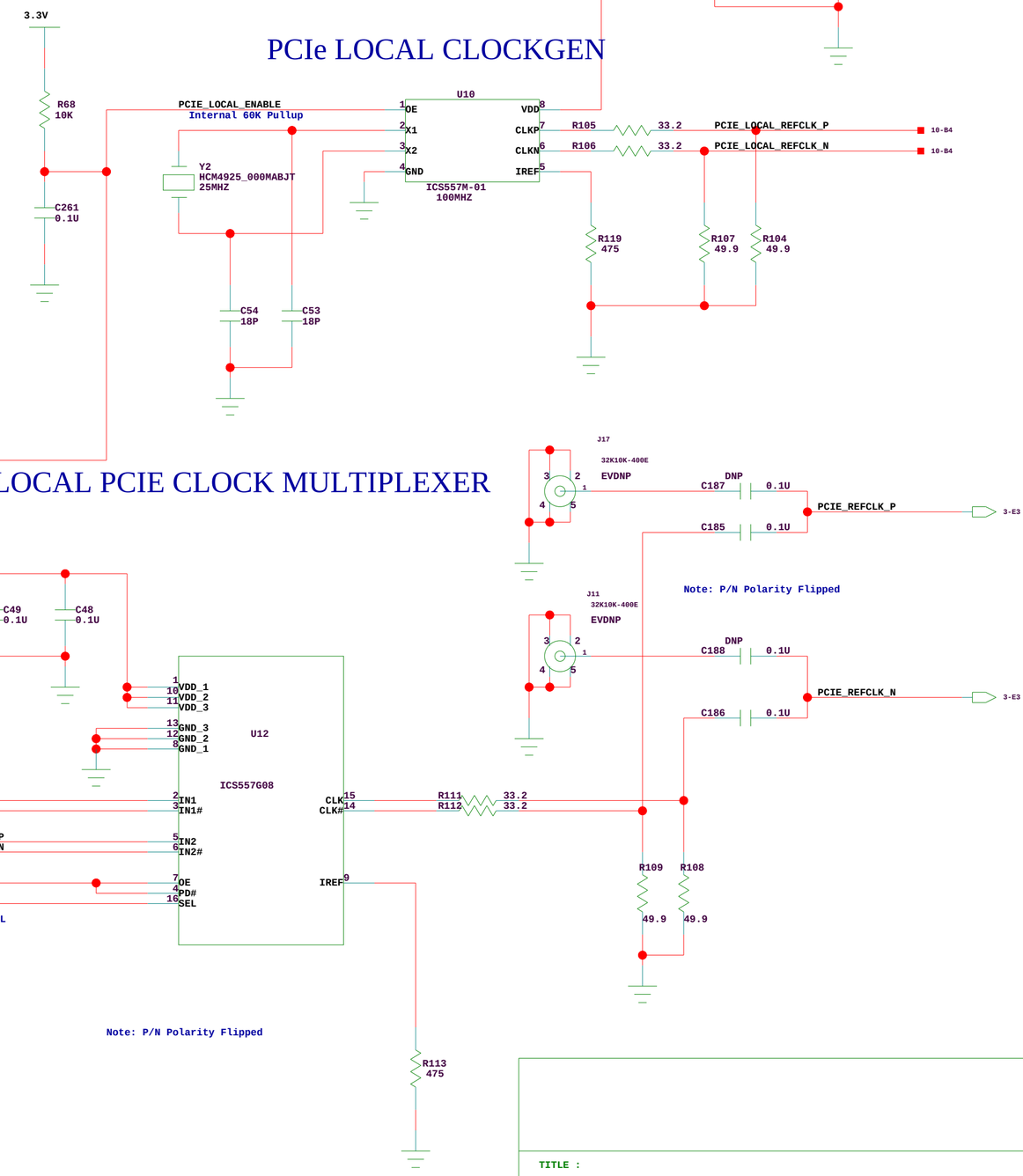
PCI EXTERNAL CLOCK



Frequency Select (ICS87604I)

FBDIV_SEl[0:1]	DIV_SEl[0:1]	OUTPUT
0:0	0:0	100Mhz
0:0	1:0	50Mhz
0:0	1:1	25Mhz
0:1	0:0	133Mhz
0:1	1:0	66Mhz
0:1	1:1	33Mhz

PCIe LOCAL CLOCKGEN

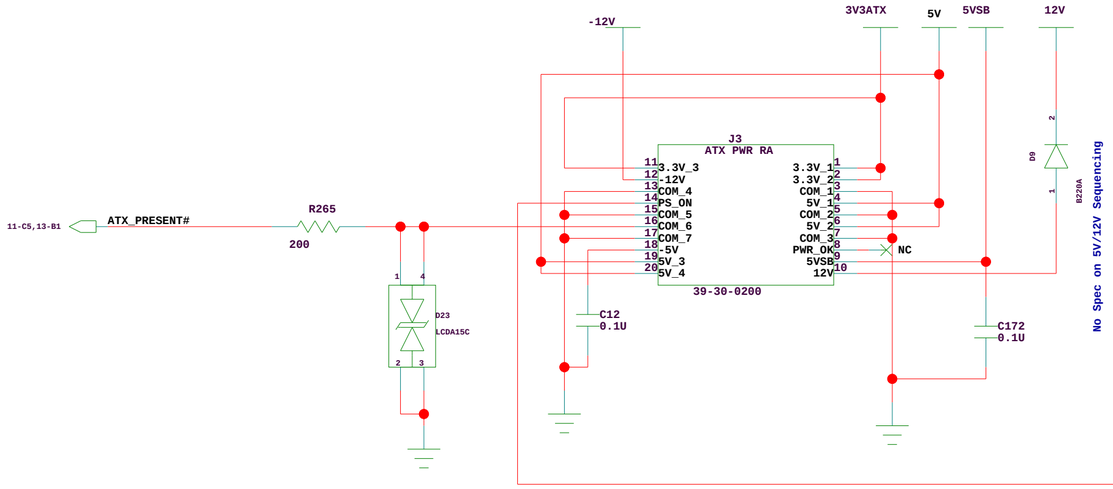


SYS/LOCAL PCIE CLOCK MULTIPLEXER

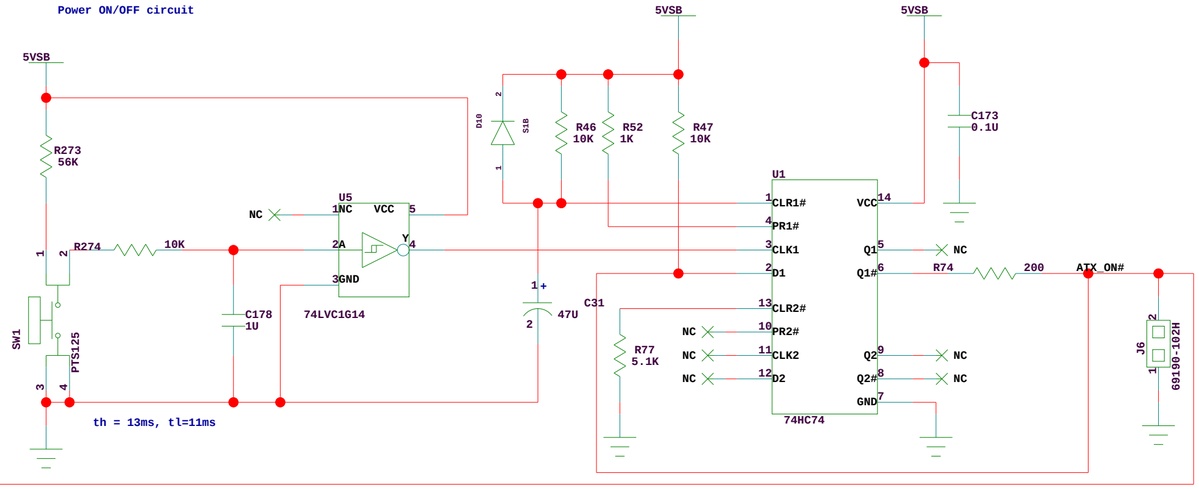
TITLE : CLOCK DISTRIBUTION			
SIZE C	DRAWING NUMBER :	Version: 1.0	DESIGNER :
LAST MODIFIED DATE : 11-27-2009_13:11		SHEET 10 OF 15	

POWER SOURCES

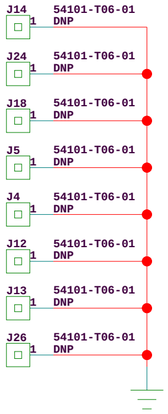
ATX

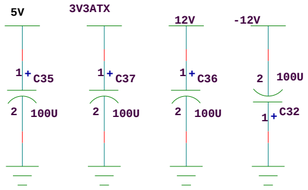


ATX SUPPLY TOGGLE

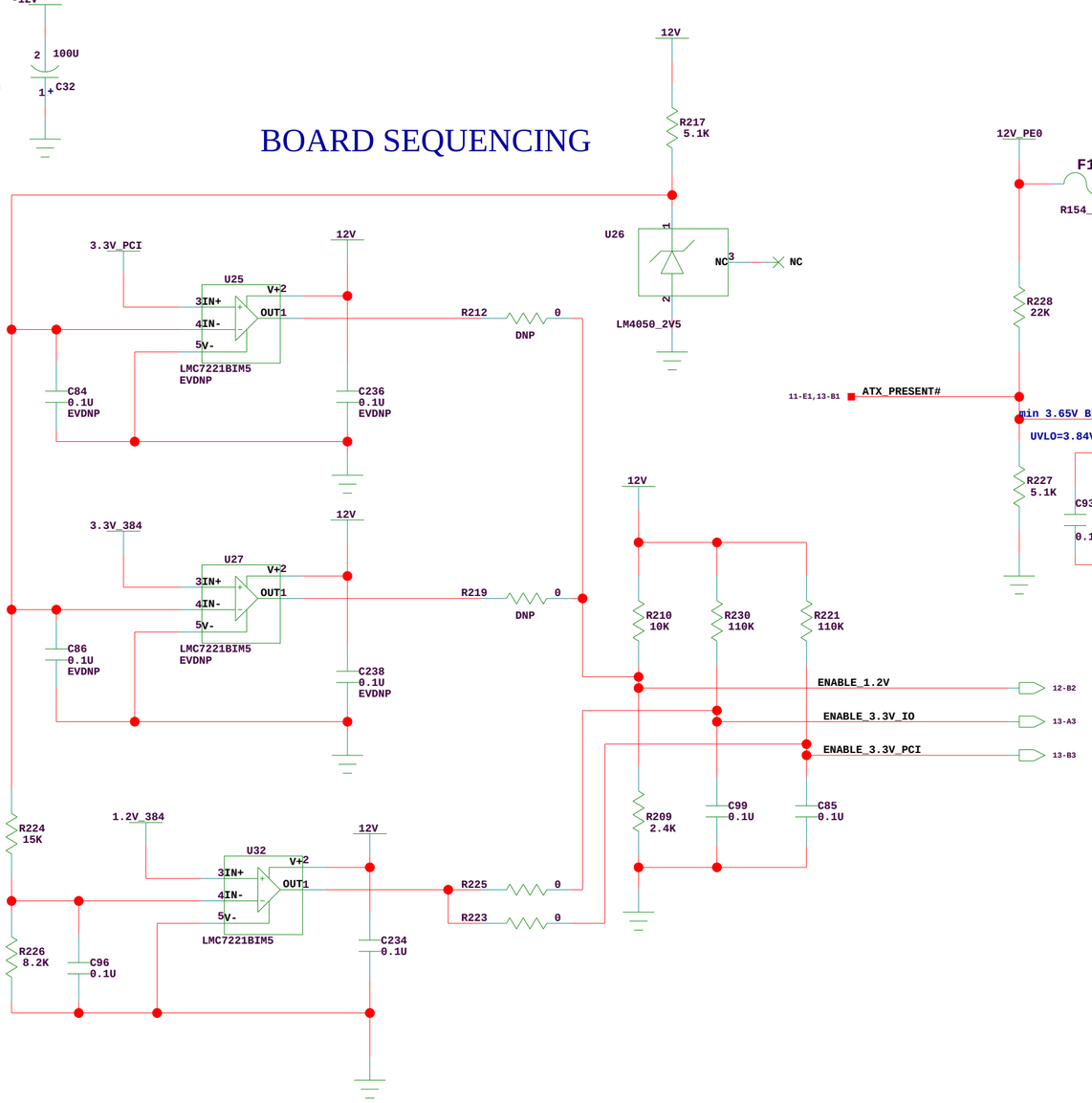


GND TESTPOINTS

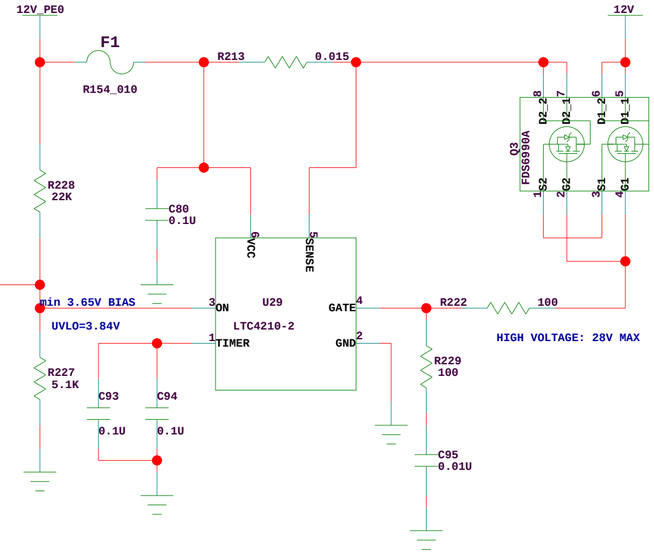




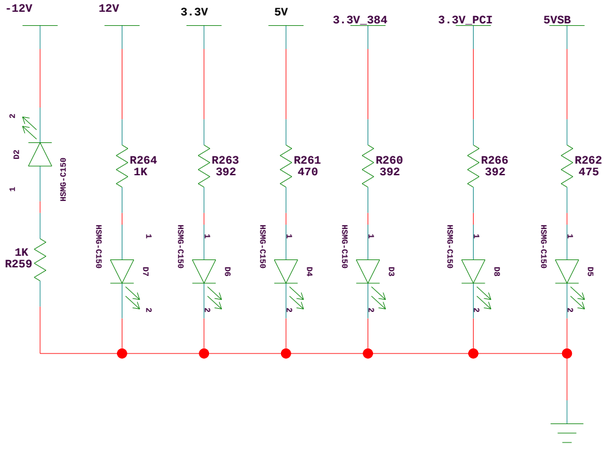
BOARD SEQUENCING



SYS SUPPLY SWITCH



POWER STATUS



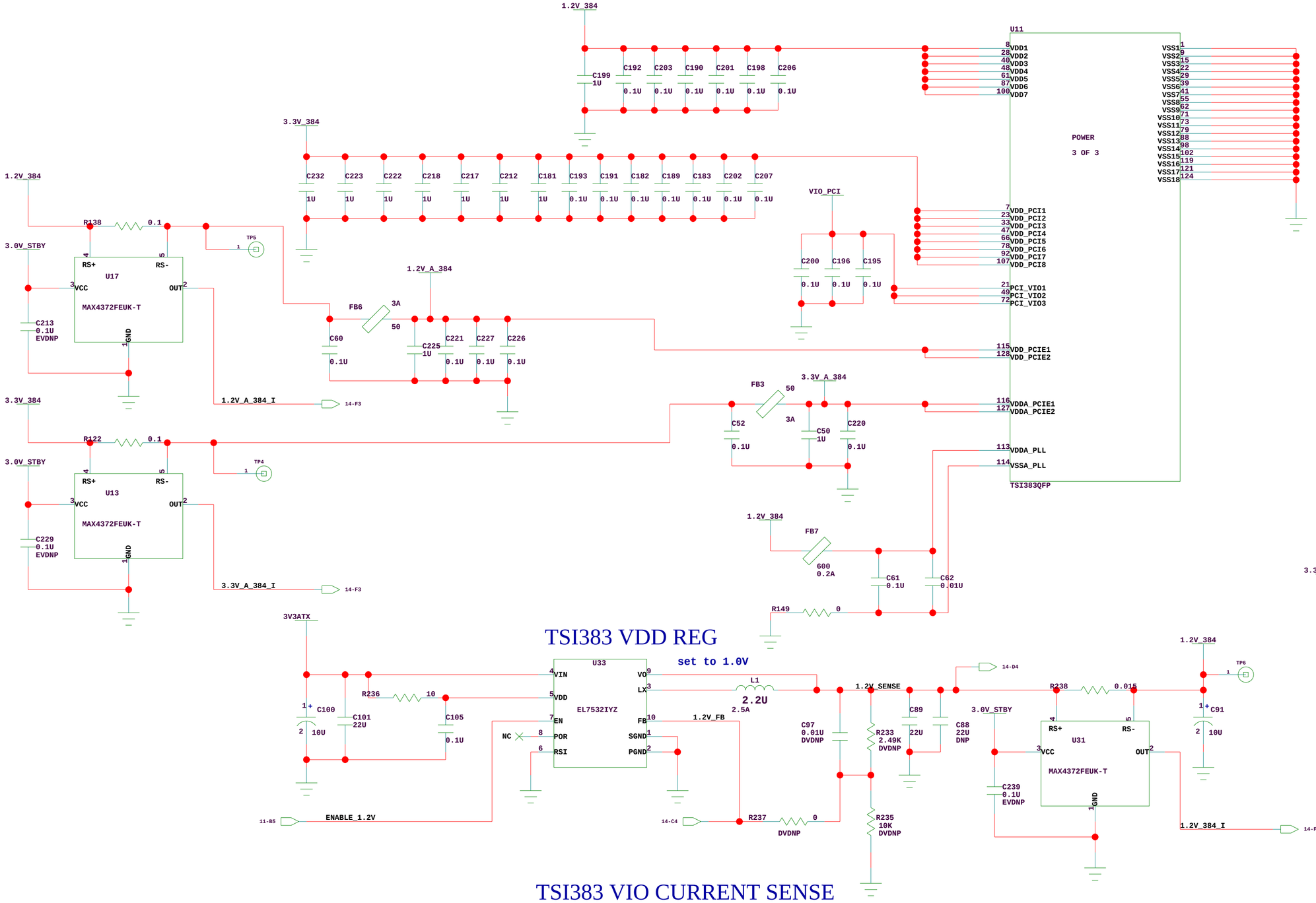
TITLE :
POWER SOURCES

SIZE	DRAWING NUMBER :	Version:	DESIGNER :
C	TBD	1.0	

LAST MODIFIED DATE :
11-27-2009_13:11

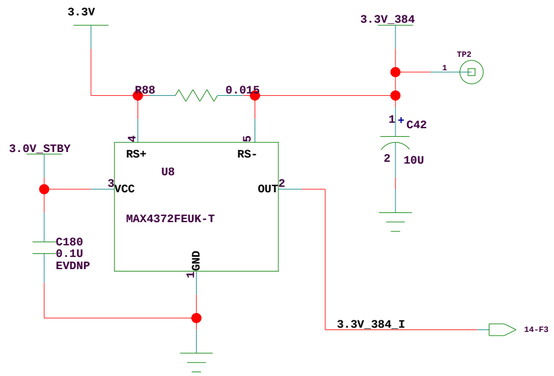
SHEET 11 OF 15

TSI383 POWER/REGULATORS



TSI383 VDD REG

TSI383 VIO CURRENT SENSE



TITLE :

TSI383 POWER/REGULATORS

SIZE	DRAWING NUMBER :	Version:	DESIGNER :
C	TBD	1.0	

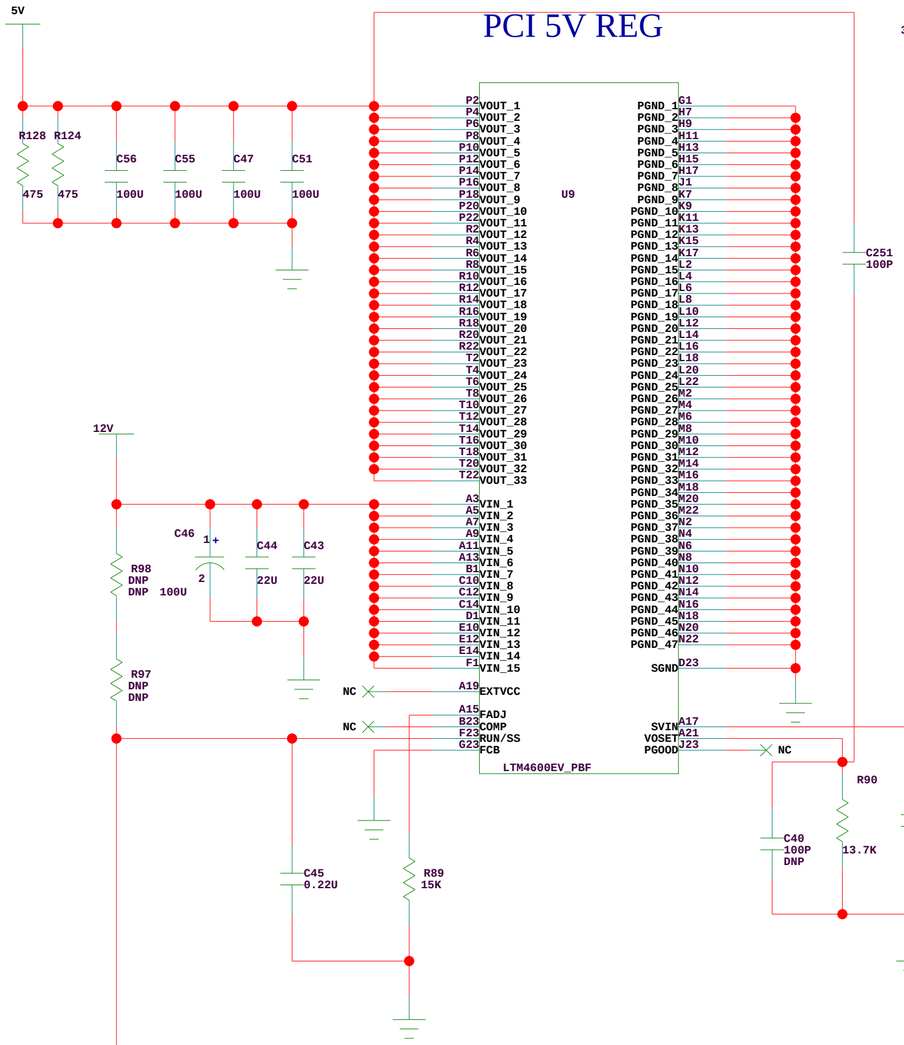
LAST MODIFIED DATE :

11-27-2009_13:11

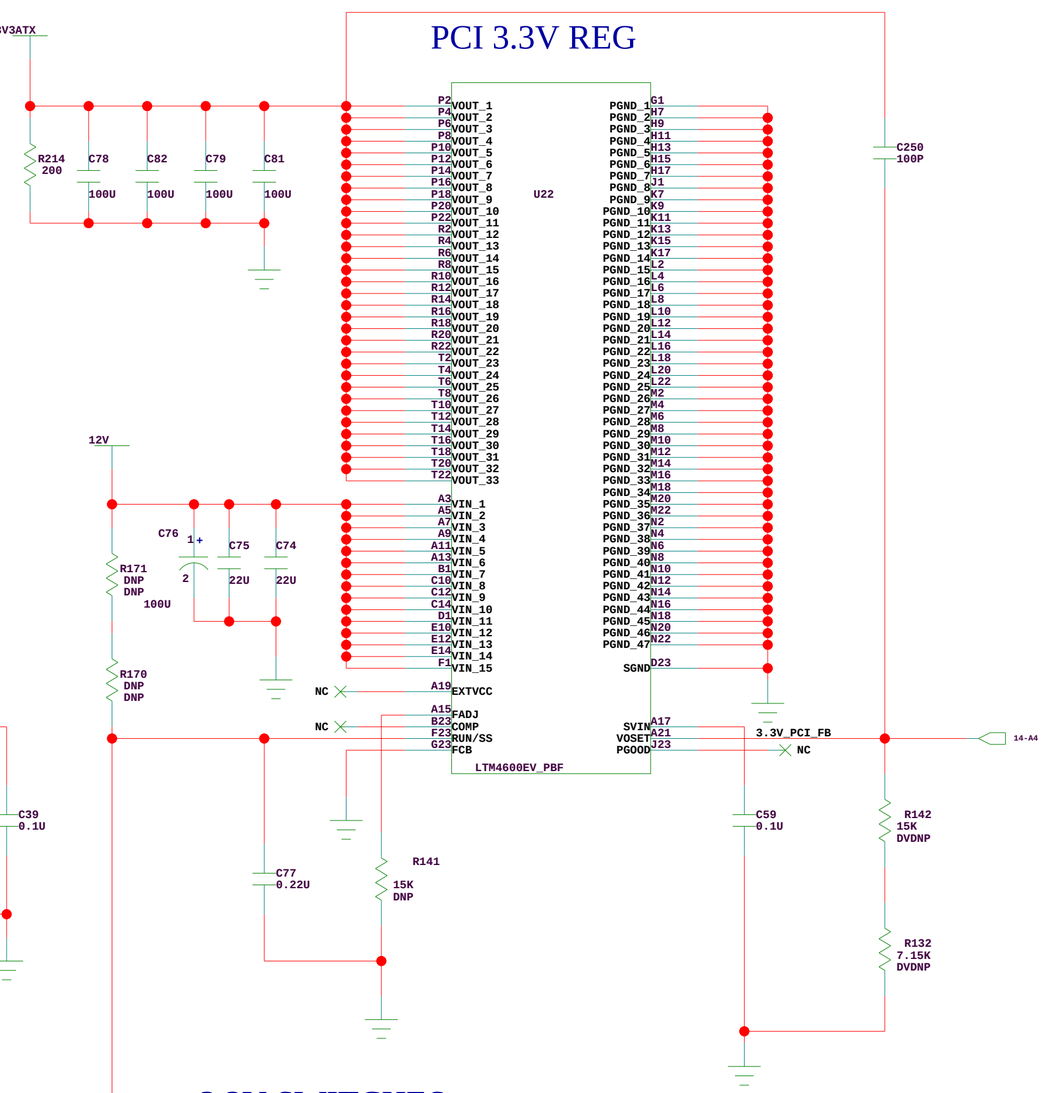
SHEET 12 OF 15

PCI POWER REGULATORS

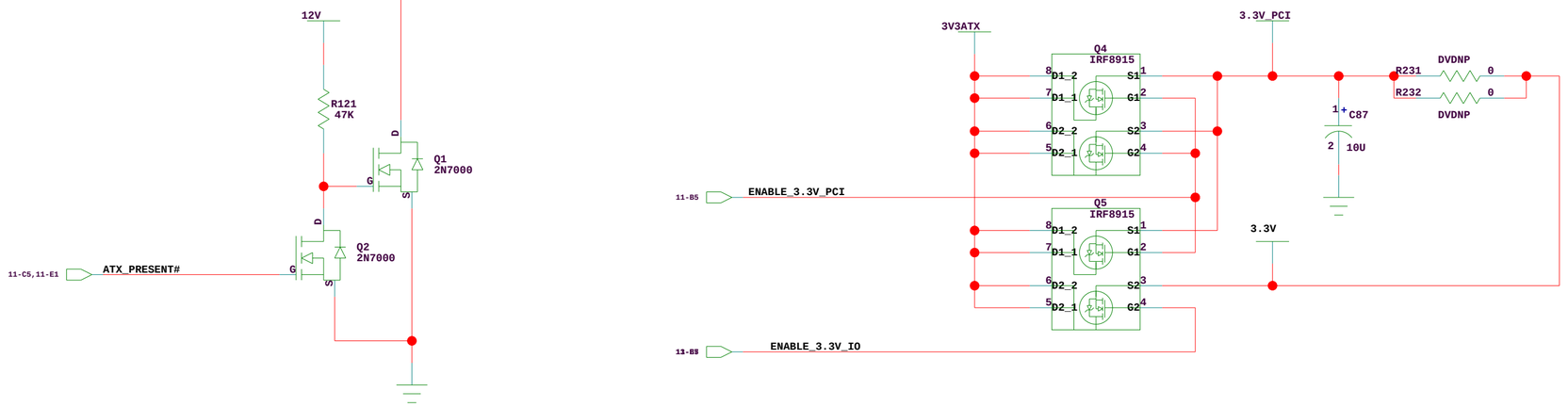
PCI 5V REG



PCI 3.3V REG



3.3V SWITCHES



TITLE : PCI POWER REGULATORS

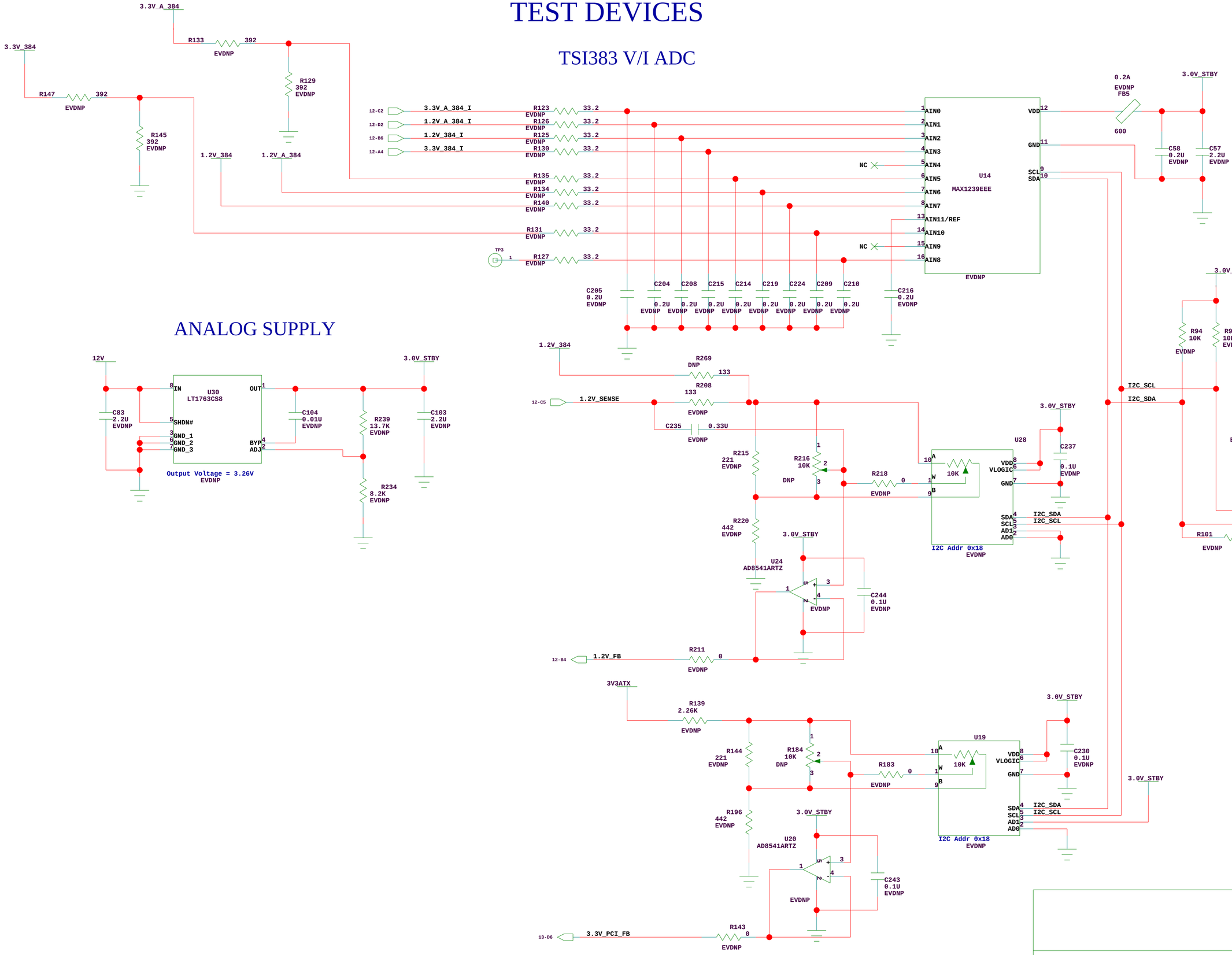
SIZE	DRAWING NUMBER :	Version:	DESIGNER :
C	TBD	1.0	

LAST MODIFIED DATE : 11-27-2009_13:11

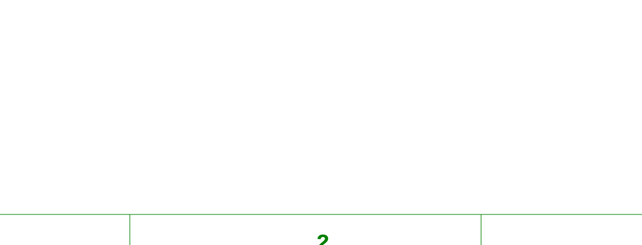
SHEET 13 OF 15

TEST DEVICES

TSI383 V/I ADC



ANALOG SUPPLY



I2C

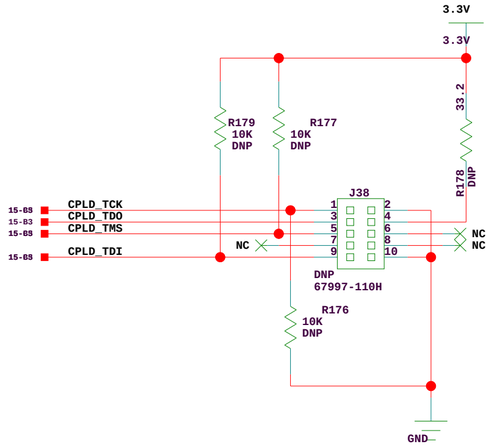
TITLE : TEST DEVICES

SIZE	DRAWING NUMBER :	Version:	DESIGNER :
C	TBD	1.0	

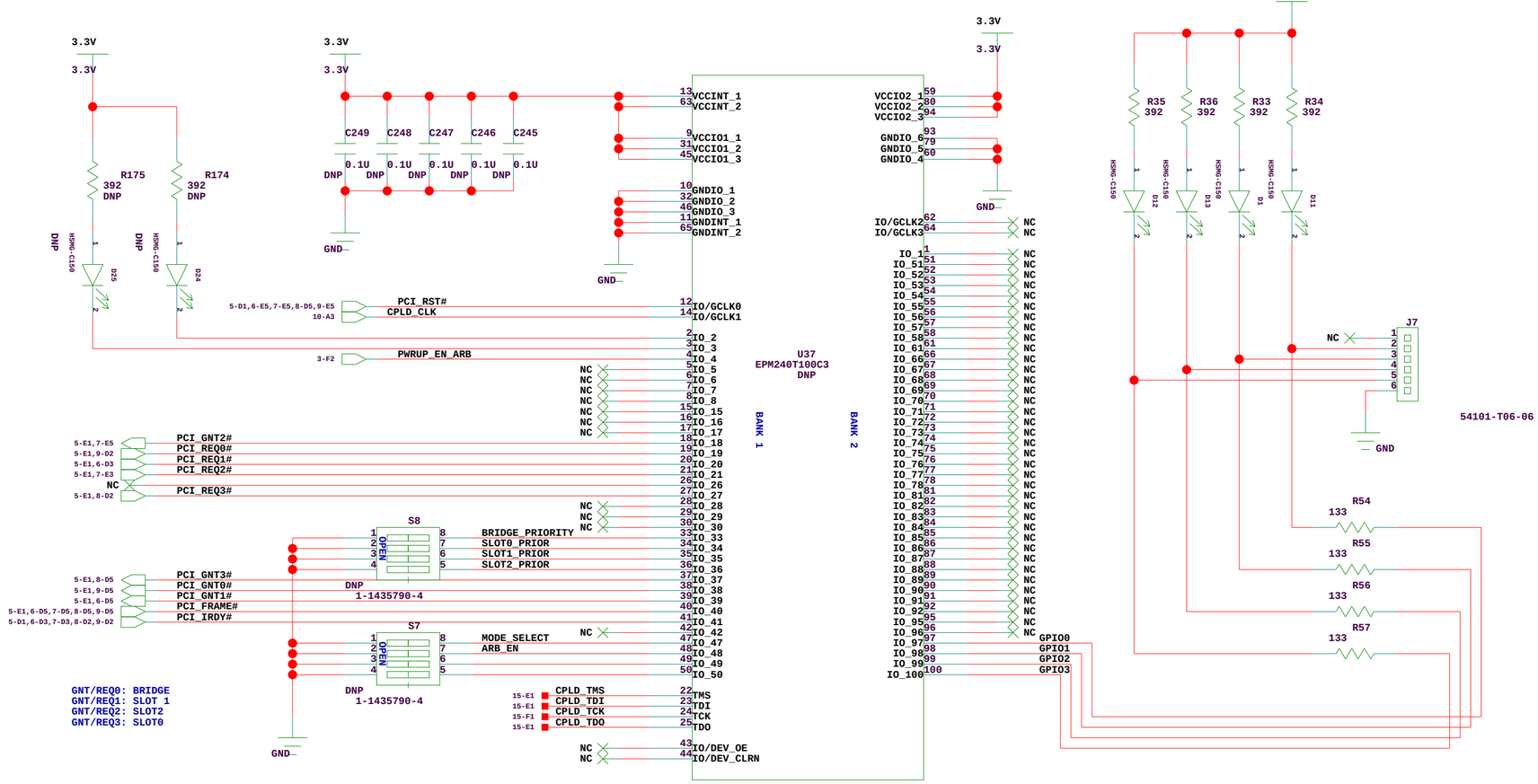
LAST MODIFIED DATE : 11-27-2009_13:11

SHEET 14 OF 15

TEST DEVICES CONT'D



PCIARBITER/GPIO CONTROL



TITLE :

TEST DEVICES CONT'D

SIZE	DRAWING NUMBER :	Version:	DESIGNER :
C	TBD	1.0	

LAST MODIFIED DATE :

11-27-2009_13:11

SHEET 15 OF 15