Tsi383 (QFN) Evaluation Board Schematics

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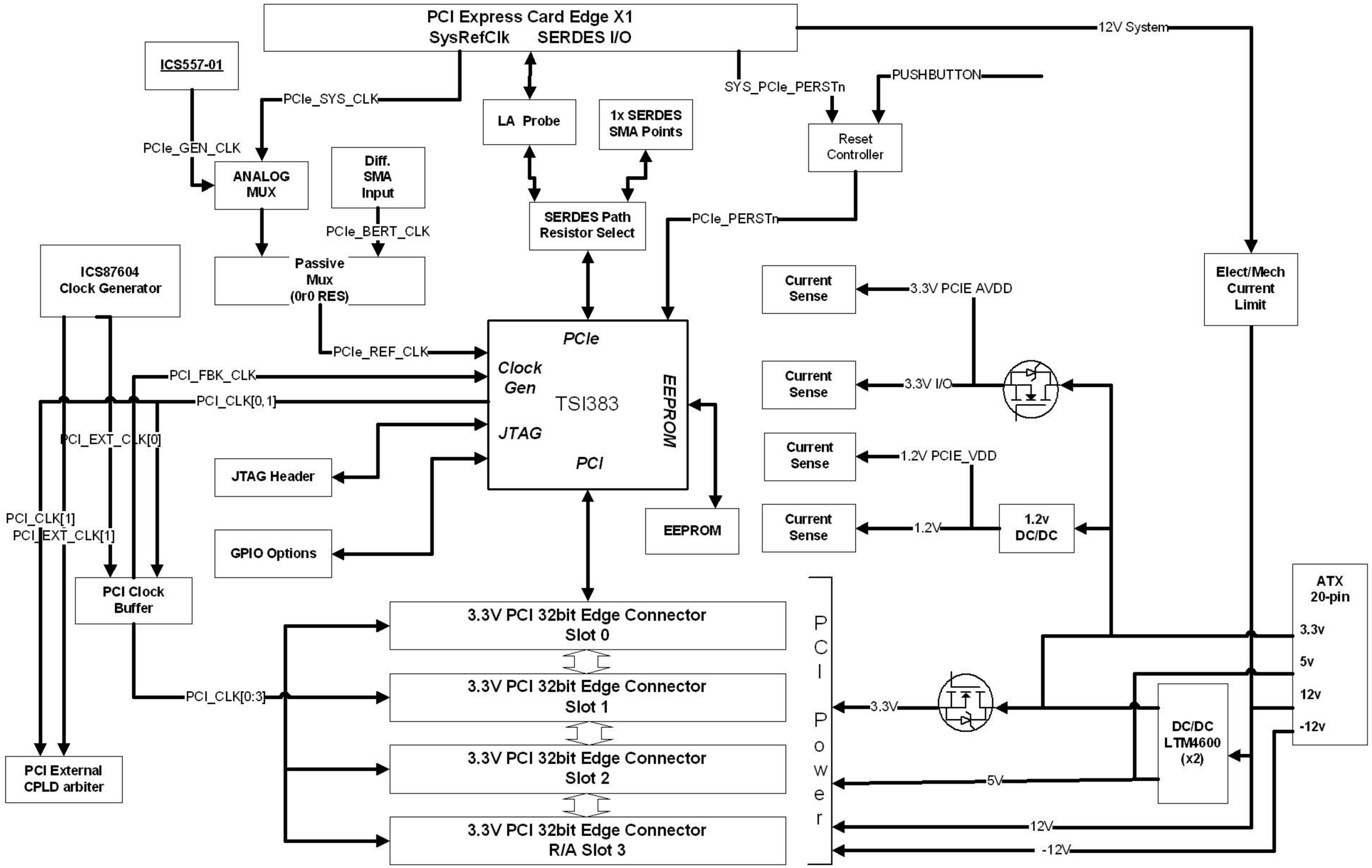
BLOCK DIAGRAM



TITLE : BLOCK DIAGRAM			
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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

PCIE, MISC

1 OF 3

U2

PCIE_RXD_P0 (4-D7) — B57 PCIE_RXD_N
PCIE_RXD_N0 (4-D7) — A68 PCIE_RXD_P
PCIE_REFCLK_P (10-C7) — A66 PCIE_REFCLK_N
PCIE_REFCLK_N (10-C7) — B55 PCIE_REFCLK_P
TSI382_PERST# (3-B7,3-C4) — A63 PCIE_PERST#
PWRUP_PLL_BYPASS (3-F2) — B52 PWRUP_PLL_BYPASS
PCIE_REXT — A67
TSI382_SR_CLK — B49 SR_CLK
TSI382_SR_CSN — A61 SR_CS#
TSI382_SR_DIN — A59 SR_DIN
TSI382_SR_DOUT — A60 SR_DOUT
TSI382_TCK (3-B5) — B39 JTAG_TCK
TSI382_TDI (3-B5) — A49 JTAG_TDI
TSI382_TDO (3-B4) — A48 JTAG_TDO
TSI382_TMS (3-B5) — B40 JTAG_TMS
TSI382_TRST# (3-B5) — A47 JTAG_TRST#
TSI382_TEST_BCE (3-D6) — B51 TEST_BCE
TSI382_TEST_ON (3-D6) — A62 TEST_ON
TSI383QFN

TX Compliance Testing

PCIE_TXD_N B59 — PCIE_TXD_TSI_P0 (4-D1)
PCIE_TXD_P A69 — PCIE_TXD_TSI_N0 (4-D1)
0.1U C112
0.1U C111
R162 DNP 49.9
R159 DNP 49.9

SPI Flash

3.3V
R207 8.2K
R198 8.2K
R187 8.2K
C233 0.1U
U23
VCC 8
GND 4
WP# 3
SCK 6
CS# 1
SI 5
SO 2
HOLD# 7
AT25640A-10PU-2
DNP

Manufacturing Test Only

3.3V
2K R148 DNP
2K R158
2K R153
J21 69190-102H
TSI382_TEST_BCE (3-D2)
TSI382_TEST_ON (3-D2)

TSI383JTAG

AP_U1
115-13-308-41-001

RESET CONTROLLER

5V
R172 1K
B1
B2
SW2
EVQPAC07K
A1
A2
3.3V
5V
2.6V Threshold on SENSE
U15
VCC 8
SENSE 7
RESIN# 2
CT 3
RESET# 5
RESET 6
REF 1
GND 4
TL7702BCD
R173 1K
C231 10U
0.1U
C73
NC
3.3V
R136 1K
3.3V
U16
5VCC 1
2
GND 3
4 TSI382_PERST#
NC7SZ08
3-B7,3-E3
4-E5 PCIE_PERST#

JTAG Header

3.3V
R295 10K
R293 10K
R288 10K
R294 10K
J22
5103309-3
NC
C228 0.1U
3.3V
U18
VCC5 1
4
GND 3
2 TSI382_PERST# (3-C4,3-E3)
NC7SZ08
3-D2 TSI382_TDO
R296 33.2
3-D2 TSI382_TDI
3-D2 TSI382_TCK
3-D2 TSI382_TMS
3-D2 TSI382_TRST#

TITLE : TSI383 PCIE/MISC

SIZE	DRAWING NUMBER :	Version:	DESIGNER :
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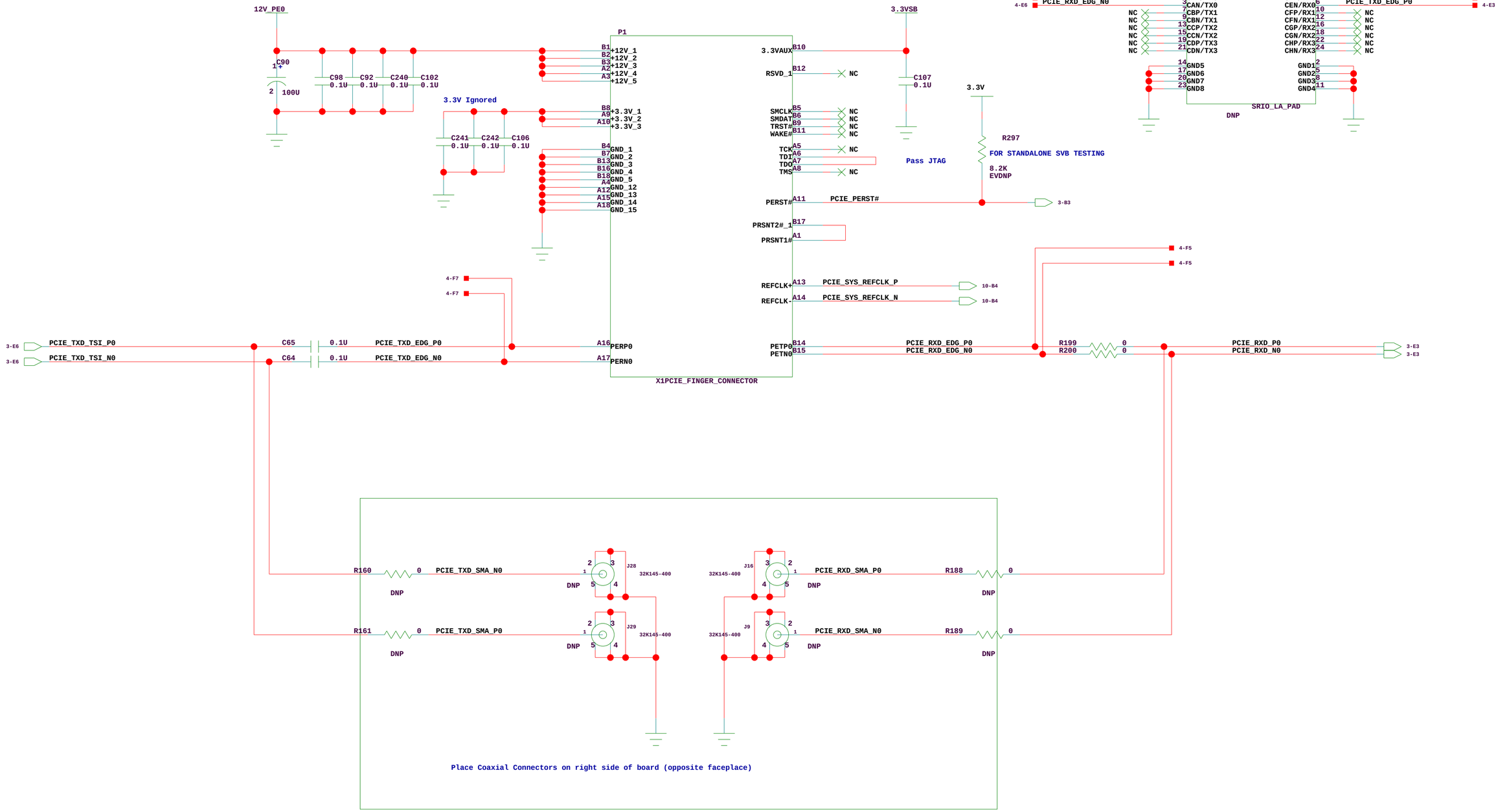
PCIE CONNECTORS



TITLE : PCIE CONNECTORS			
SIZE C	DRAWING NUMBER : TBD	Version: 1.0	DESIGNER :
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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

U2

PCI_CBE0 B7 PCI_CBE#[0]
PCI_CBE1 A14 PCI_CBE#[1]
PCI_CBE2 B20 PCI_CBE#[2]
PCI_CBE3 A31 PCI_CBE#[3]

PCI_REQ0# B32 PCI_REQ#[0]
PCI_REQ1# A41 PCI_REQ#[1]
PCI_REQ2# B33 PCI_REQ#[2]
PCI_REQ3# A42 PCI_REQ#[3]

PCI_GNT0# B35 PCI_GNT#[0]
PCI_GNT1# A43 PCI_GNT#[1]
PCI_GNT2# B36 PCI_GNT#[2]
PCI_GNT3# A45 PCI_GNT#[3]

PCI_FRAME# A23 PCI_FRAME#
PCI_IRDY# B18 PCI_IRDY#
PCI_TRDY# A22 PCI_TRDY#
PCI_DEVSEL# B17 PCI_DEVSEL#
PCI_STOP# B16 PCI_STOP#
PCI_SERR# A16 PCI_SERR#
PCI_PERR# B14 PCI_PERR#
PCI_PAR B13 PCI_PAR

PCI_PME# B42 PCI_PME#
PCI_LOCK# B15 PCI_LOCK#

PCI_M66EN A25 PCI_M66EN

PCI_RST# A46 PCI_RST#

PCI_INTA# B43 PCI_INTA#
PCI_INTB# A51 PCI_INTB#
PCI_INTC# B44 PCI_INTC#
PCI_INTD# B45 PCI_INTD#

B38 PCI_CLK

PCI_INT_CLK_STUB0 B48 PCI_CLKO[0]
PCI_INT_CLK_STUB1 A58 PCI_CLKO[1]
PCI_INT_CLK_STUB2 A57 PCI_CLKO[2]
PCI_INT_CLK_STUB3 B46 PCI_CLKO[3]
PCI_INT_CLK_STUB4 A52 PCI_CLKO[4]

PCI 2 OF 3

TSI383QFN

PCI_AD[0:31]

PCI_AD[0] A3 PCI_AD0
PCI_AD[1] B2 PCI_AD1
PCI_AD[2] A4 PCI_AD2
PCI_AD[3] B3 PCI_AD3
PCI_AD[4] A5 PCI_AD4
PCI_AD[5] A7 PCI_AD5
PCI_AD[6] B6 PCI_AD6
PCI_AD[7] A8 PCI_AD7
PCI_AD[8] A9 PCI_AD8
PCI_AD[9] B8 PCI_AD9
PCI_AD[10] A10 PCI_AD10
PCI_AD[11] B9 PCI_AD11
PCI_AD[12] A11 PCI_AD12
PCI_AD[13] B10 PCI_AD13
PCI_AD[14] A13 PCI_AD14
PCI_AD[15] B12 PCI_AD15
PCI_AD[16] B21 PCI_AD16
PCI_AD[17] A26 PCI_AD17
PCI_AD[18] B22 PCI_AD18
PCI_AD[19] B24 PCI_AD19
PCI_AD[20] A29 PCI_AD20
PCI_AD[21] B25 PCI_AD21
PCI_AD[22] A30 PCI_AD22
PCI_AD[23] B26 PCI_AD23
PCI_AD[24] B27 PCI_AD24
PCI_AD[25] A32 PCI_AD25
PCI_AD[26] B28 PCI_AD26
PCI_AD[27] A33 PCI_AD27
PCI_AD[28] A34 PCI_AD28
PCI_AD[29] B30 PCI_AD29
PCI_AD[30] B31 PCI_AD30
PCI_AD[31] A40 PCI_AD31

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

6-C5,7-C5,8-C5,9-C5
6-C3,7-D3,8-C2,9-C2
6-D3,7-D3,8-D2,9-D2
6-D3,7-D3,8-D2,9-D2

9-D2,15-C2
6-D3,15-C2
7-E3,15-C2
8-D2,15-C2

9-D5,15-C2
6-D5,15-C2
7-E5,15-C2
8-D5,15-C2

6-D5,7-D5,8-D5,9-D5,15-C2
6-D3,7-D3,8-D2,9-D2,15-B2
6-D5,7-D5,8-D5,9-D5
6-D3,7-D3,8-D2,9-D2
6-D5,7-D5,8-D5,9-D5
6-D3,7-D3,8-C2,9-D2
6-D3,7-D3,8-D2,9-D2
6-D5,7-D5,8-C5,9-D5

6-D5,7-E5,8-D5,9-D5
6-D3,7-D3,8-D2,9-D2

6-E5,7-E5,8-D5,9-E5,15-D3

6-E5,7-E3,8-E5,9-E2
6-E3,7-E5,8-E2,9-E5
6-E5,7-E3,8-E5,9-E2
6-E3,7-E5,8-E2,9-E5

10-B3 PCI_FBK_CLK

10-B1 PCI_INT_CLK0
10-B1 PCI_INT_CLK1
10-A1 PCI_INT_CLK2
PCI_INT_CLK3
PCI_INT_CLK4

R285 33.2
R284 33.2
R60 33.2
R61 33.2
R62 33.2

J8 DNP 1 2 69190-102H
J19 DNP 1 2 69190-102H
J20 DNP 1 2 69190-102H

R59 49.9
R58 49.9
R53 49.9

place close to U11 & corresponding 49.9 resistor

3.3V_PCI

R282 392

HSMG-C150 D18

VIO_PCI

R85 8.2K

1-1435790-4 S1

6-C2,7-C2,8-C2,9-C2 SLOT_M66EN
NC NC NC NC
OPEN

PCI_M66EN

U3 NC7SZ08
3.3V
5VCC
GND

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

TITLE : TSI383 PCI INTERFACE			
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PCI SLOT 0 (R/A)

IDSEL AD16

- Required Interrupt Routing

  SLOT : BRIDGE

  INTA -> INTA

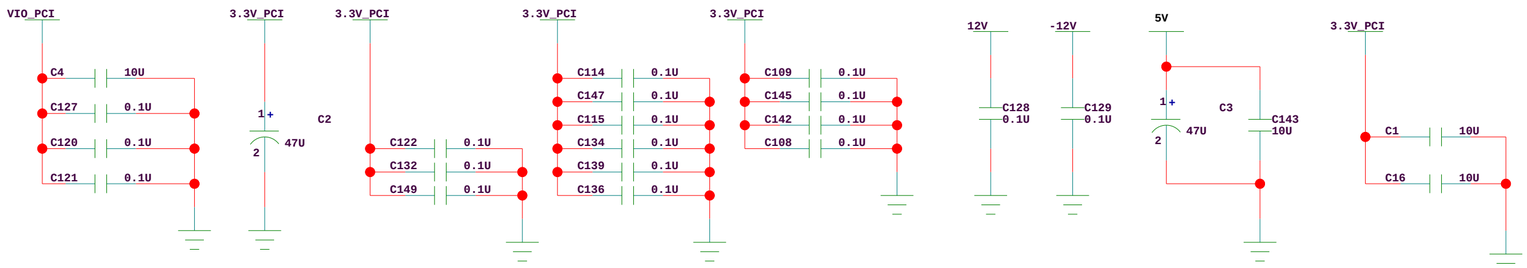
  INTB -> INTB

  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 :
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PCI SLOT 1 (Vertical)

IDSEL AD17

- Required Interrupt Routing

  SLOT : BRIDGE

  INTA -> INTB

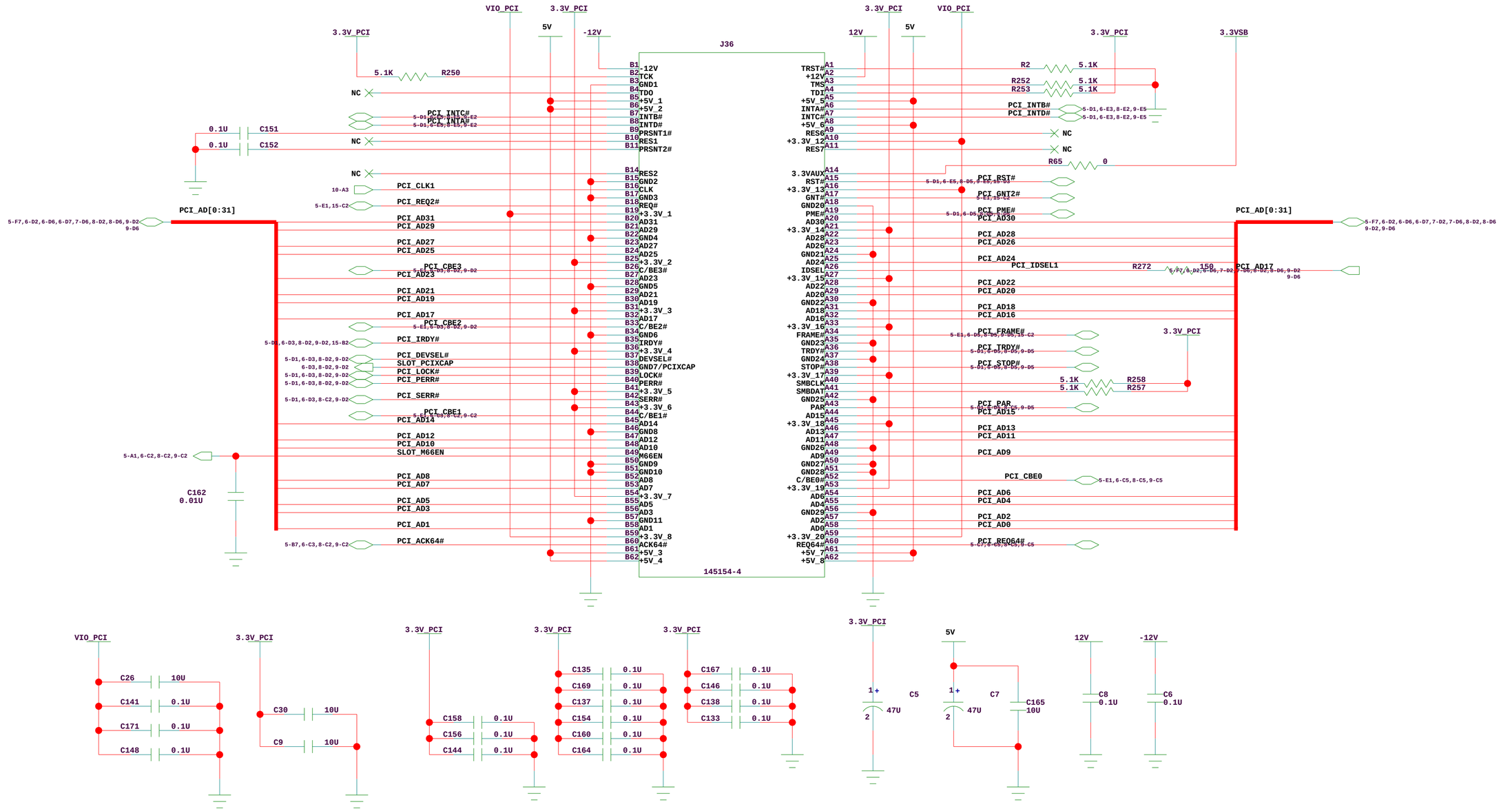
  INTB -> INTC

  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 :
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PCI SLOT 3 (Vertical)

IDSEL AD18

- Required Interrupt Routing

  SLOT : BRIDGE

  INTA -> INTC

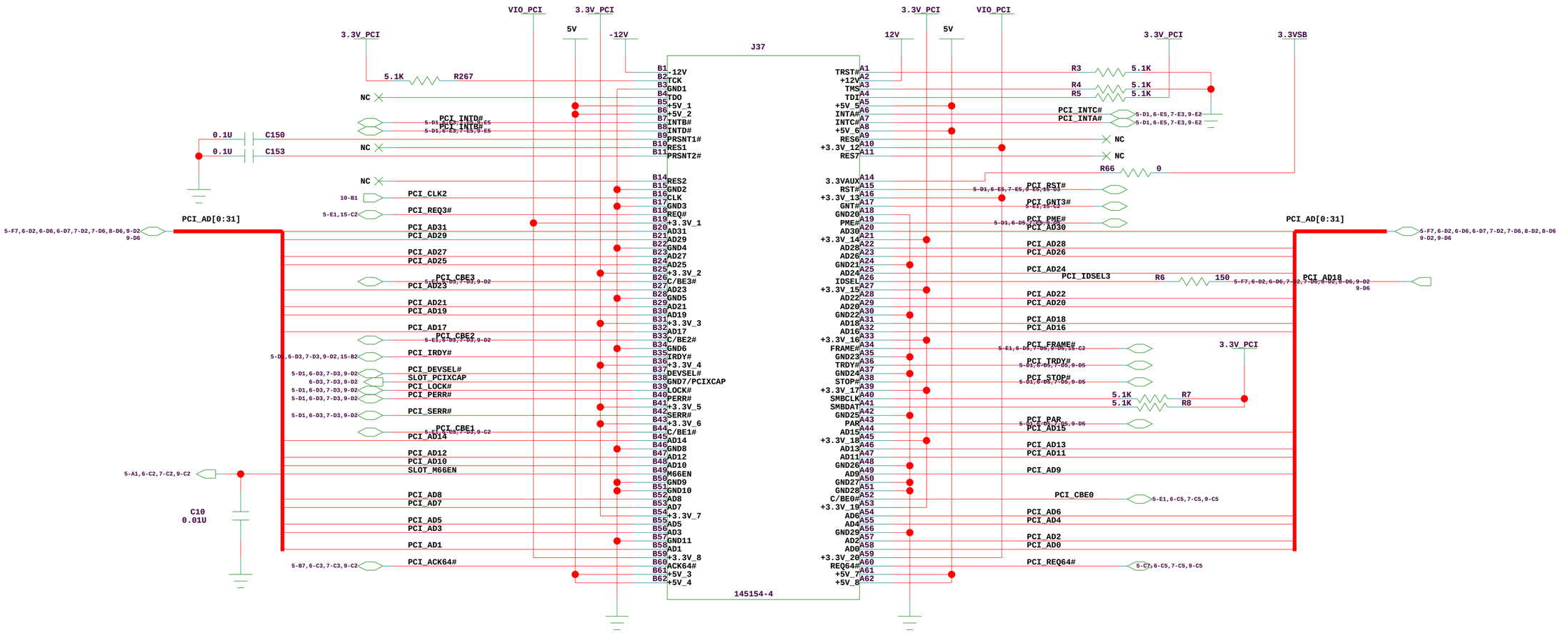
  INTB -> INTD

  INTC -> INTA

  INTD -> INTB

- PCI Clock PCI_CLK2

- PCI Arbitration PCI_GNT#3/PCI_REQ#3



PCI SLOT 2 (Vertical)

IDSEL AD19

- Required Interrupt Routing

  SLOT : BRIDGE

  INTA -> INTD

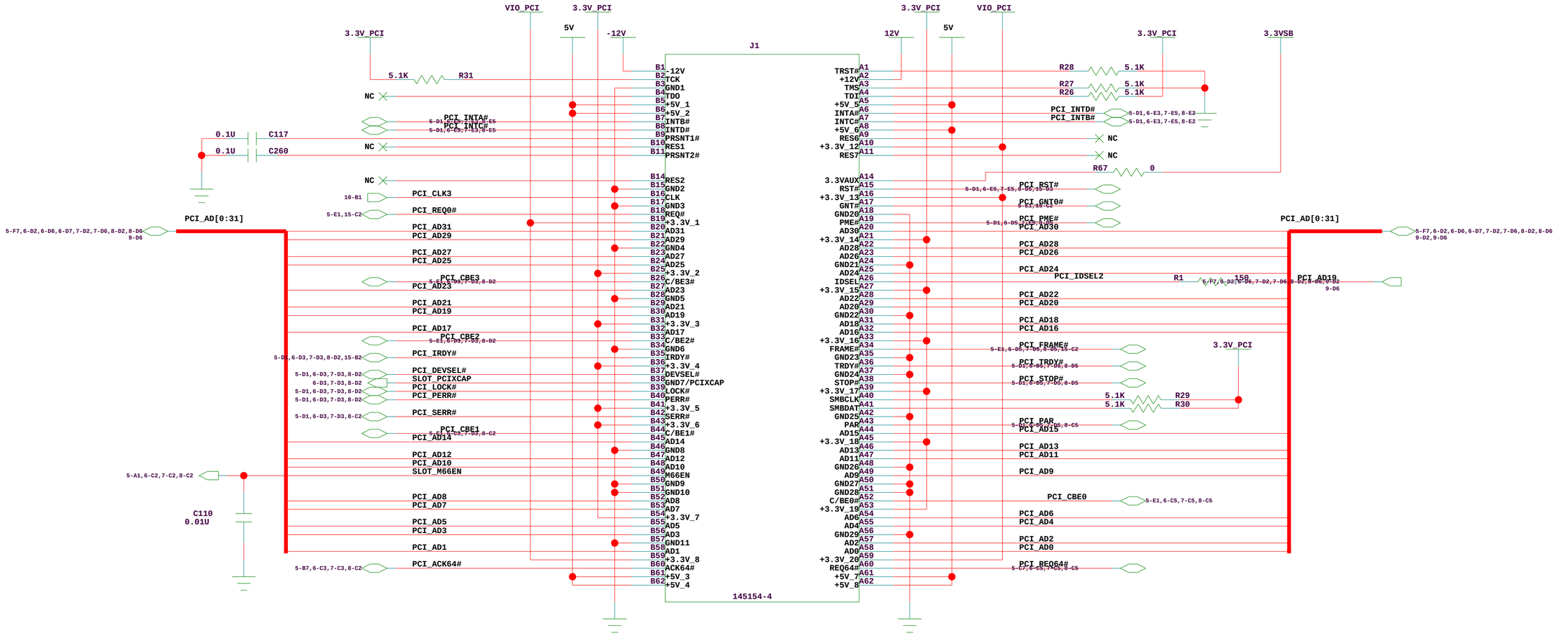
  INTB -> INTA

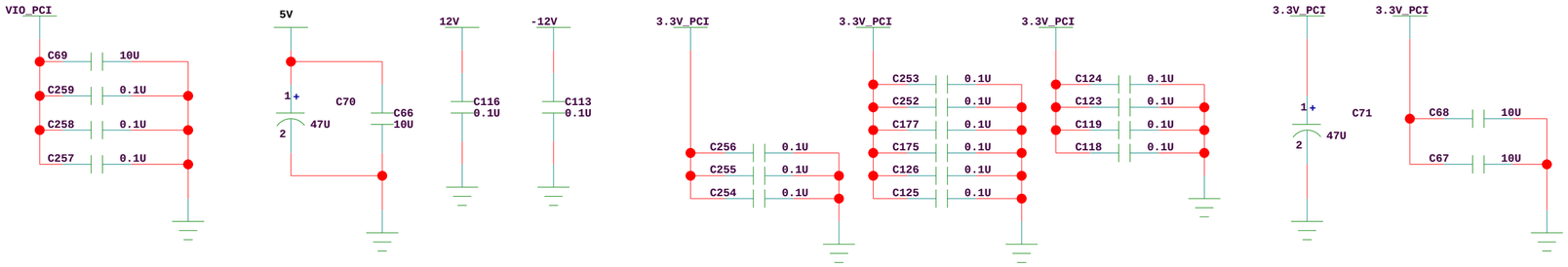
  INTC -> INTB

  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	

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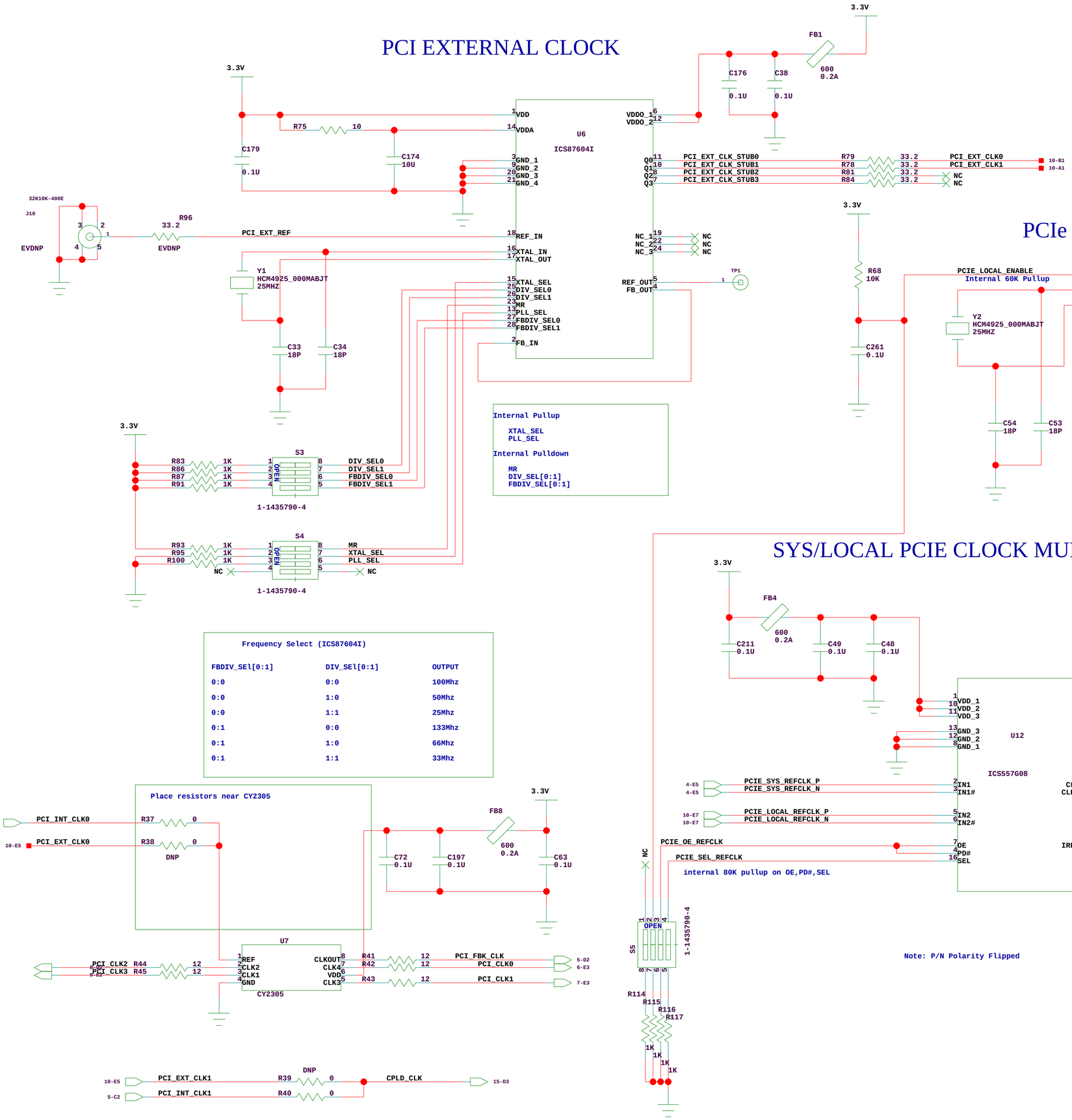
CLOCK DISTRIBUTION

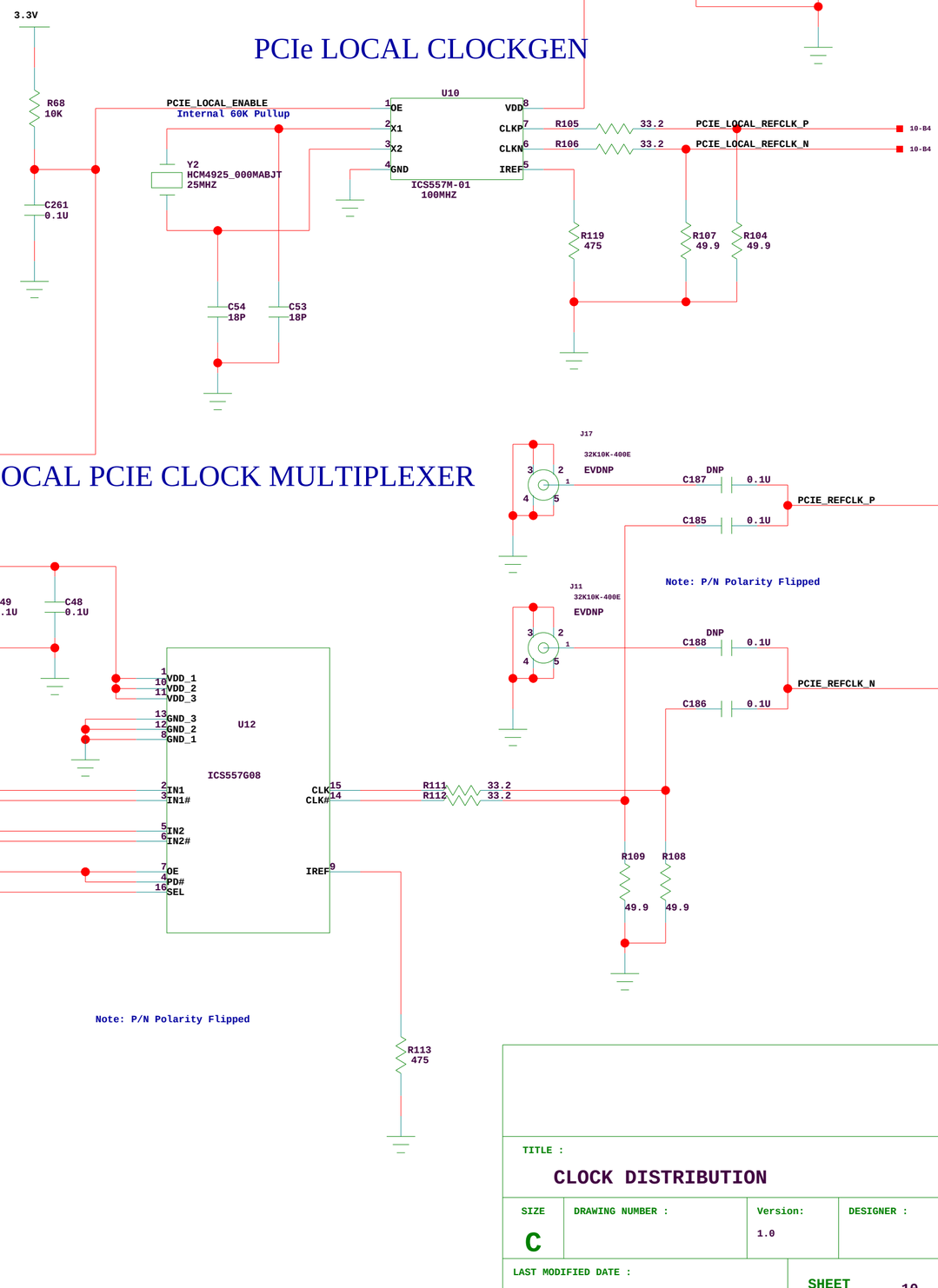
PCI EXTERNAL CLOCK



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 :
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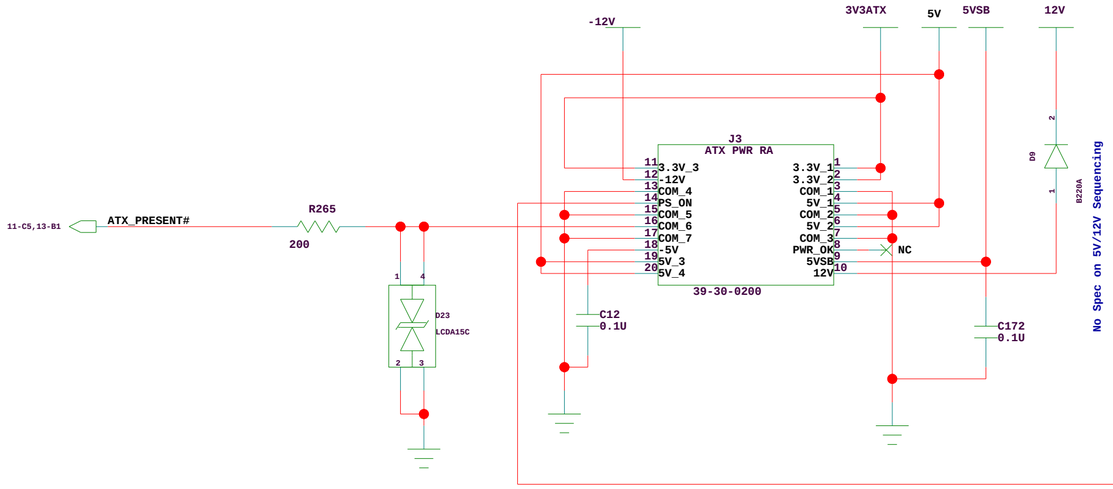
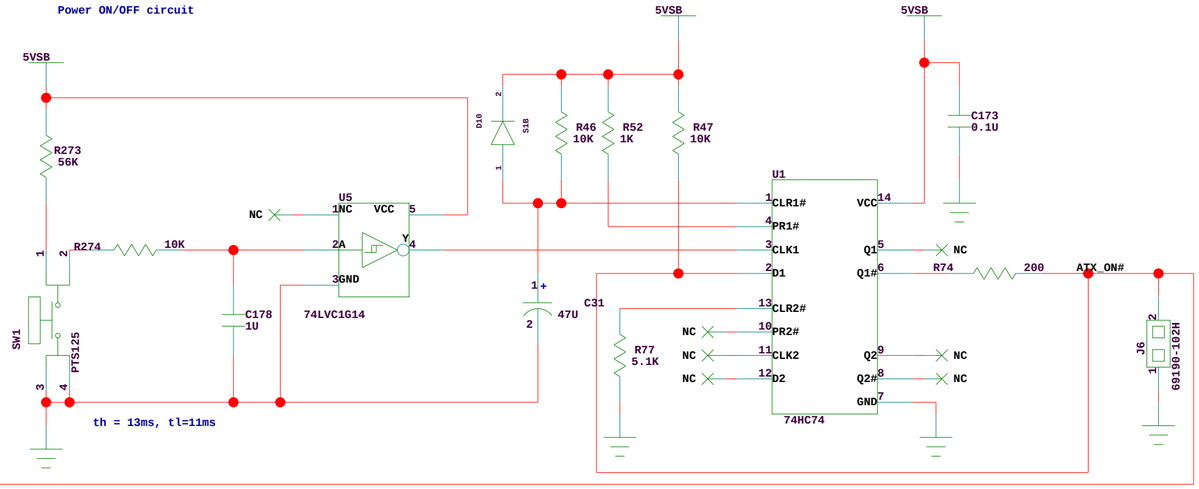
POWER SOURCES

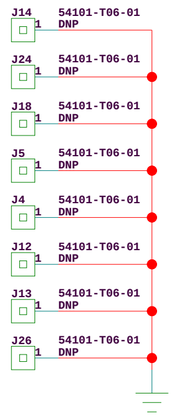
ATX

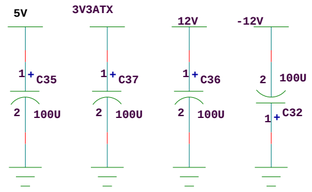


ATX SUPPLY TOGGLE

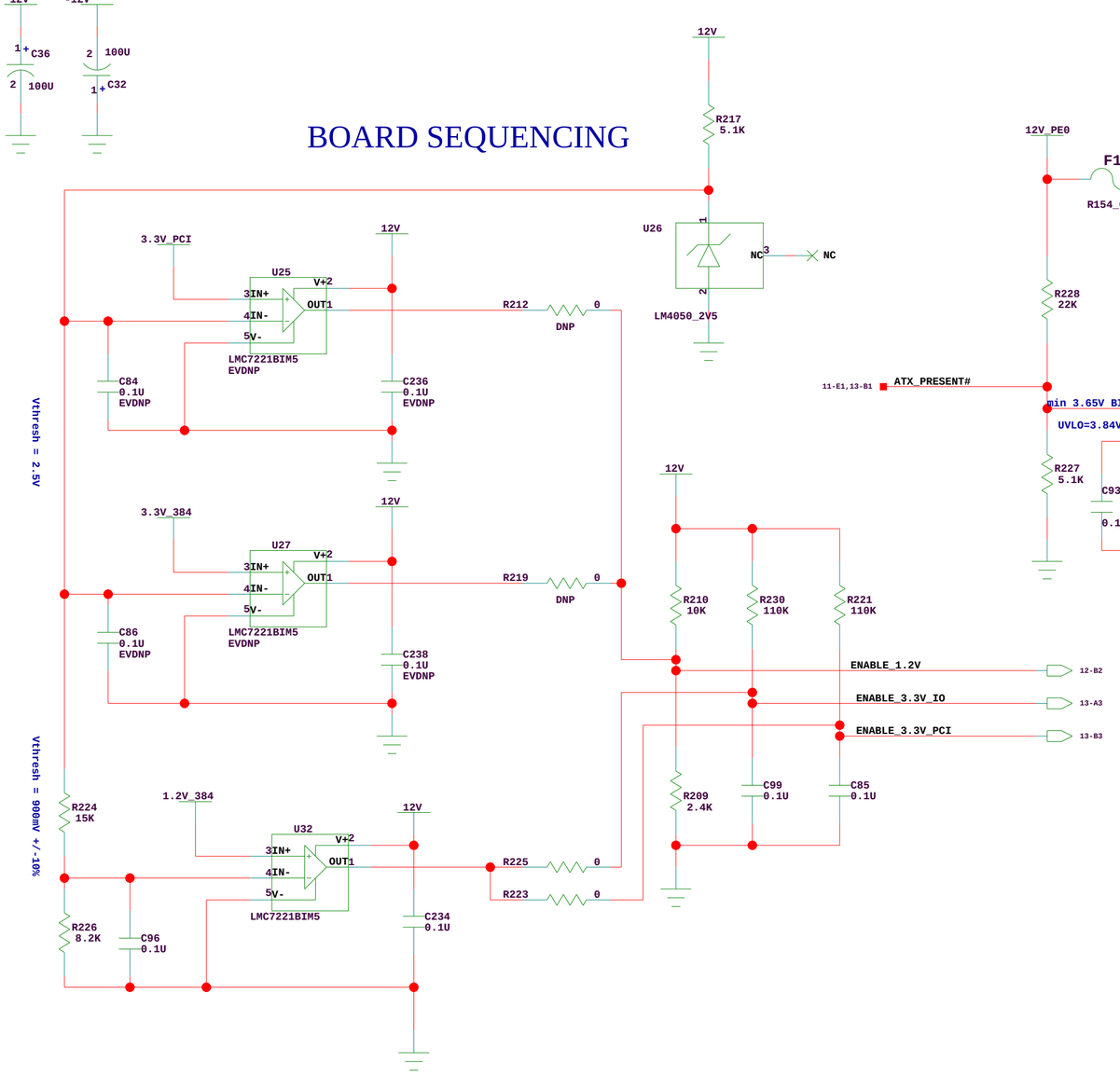


GND TESTPOINTS

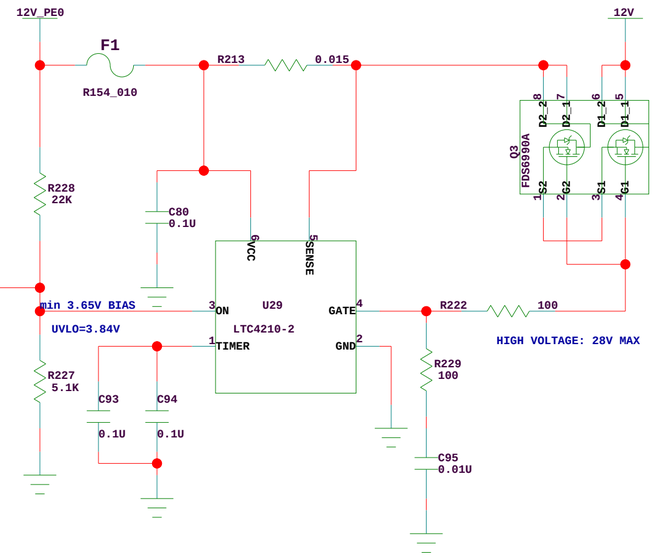




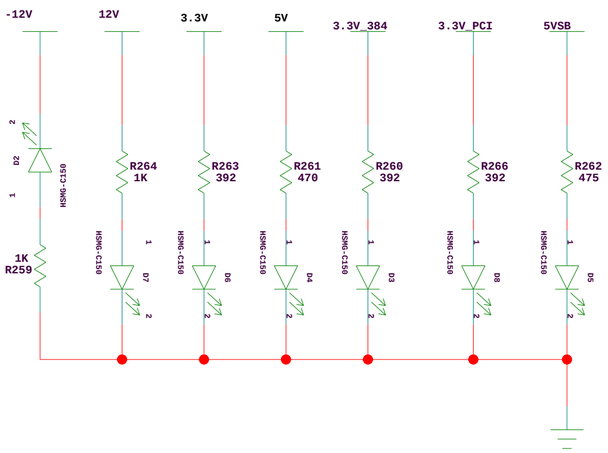
BOARD SEQUENCING



SYS SUPPLY SWITCH



POWER STATUS



TITLE : POWER SOURCES

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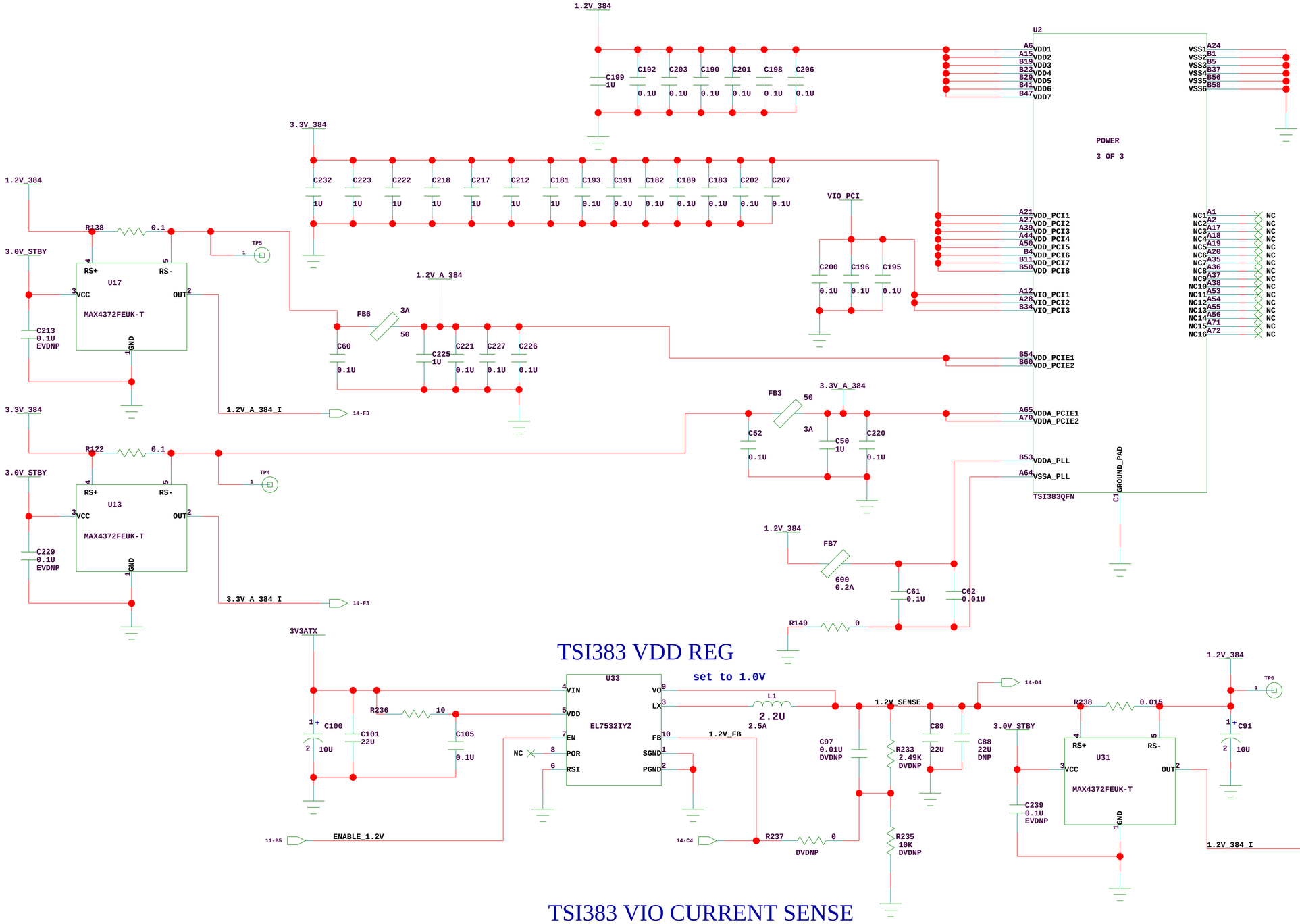
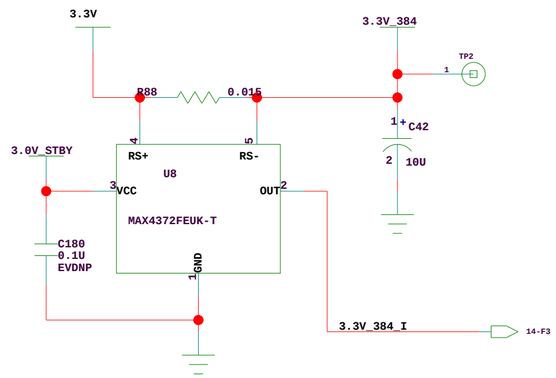
TSI383 POWER/REGULATORS



TSI383 VDD REG

TSI383 VIO CURRENT SENSE



TITLE :

TSI383 POWER/REGULATORS

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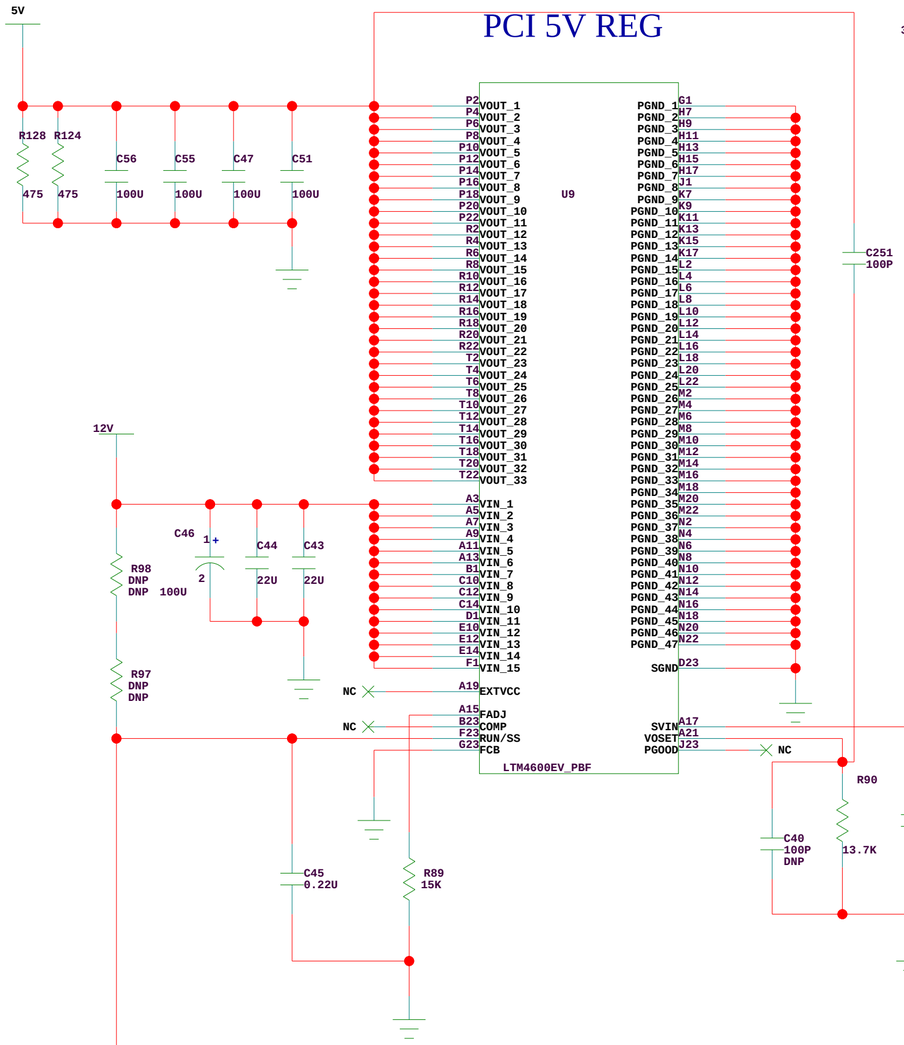
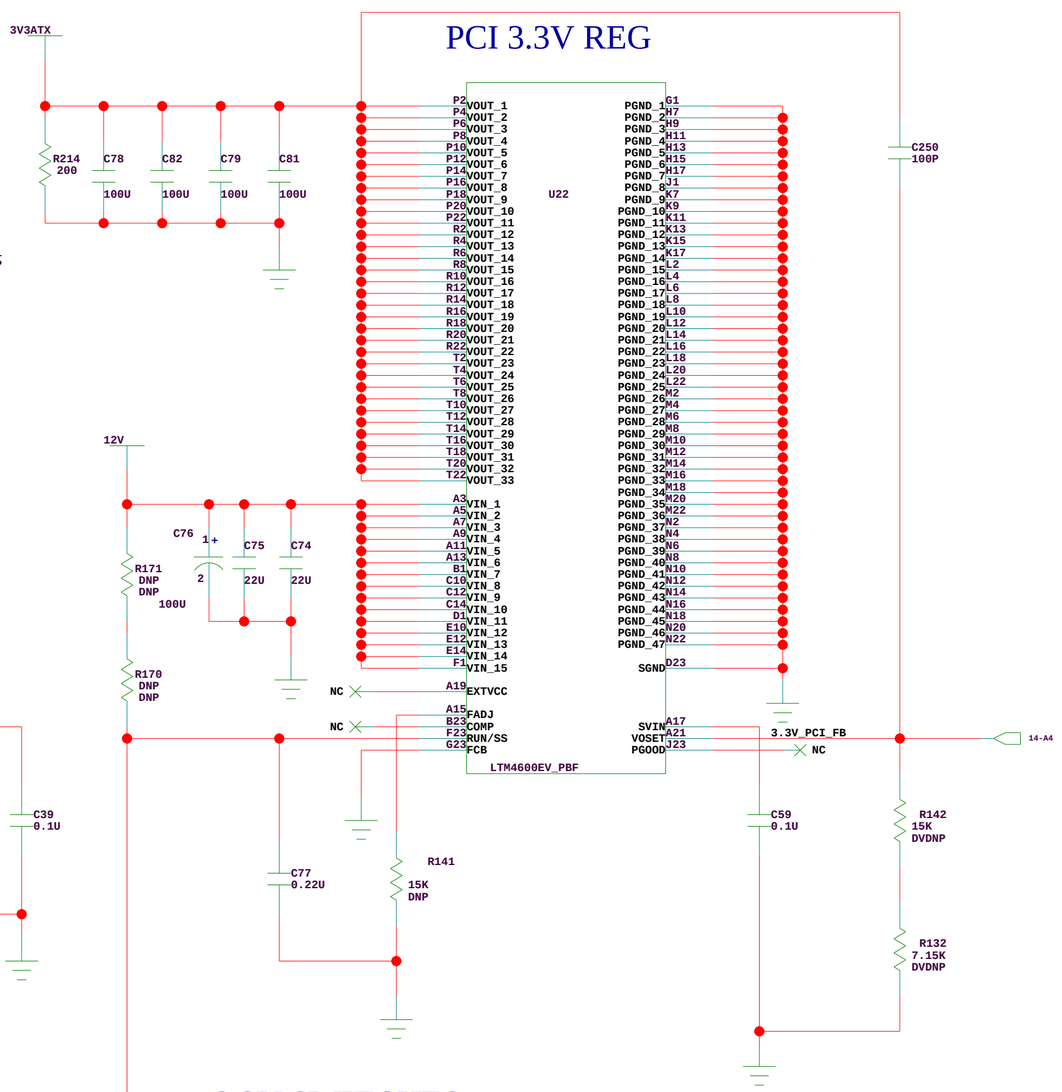
PCI POWER REGULATORS

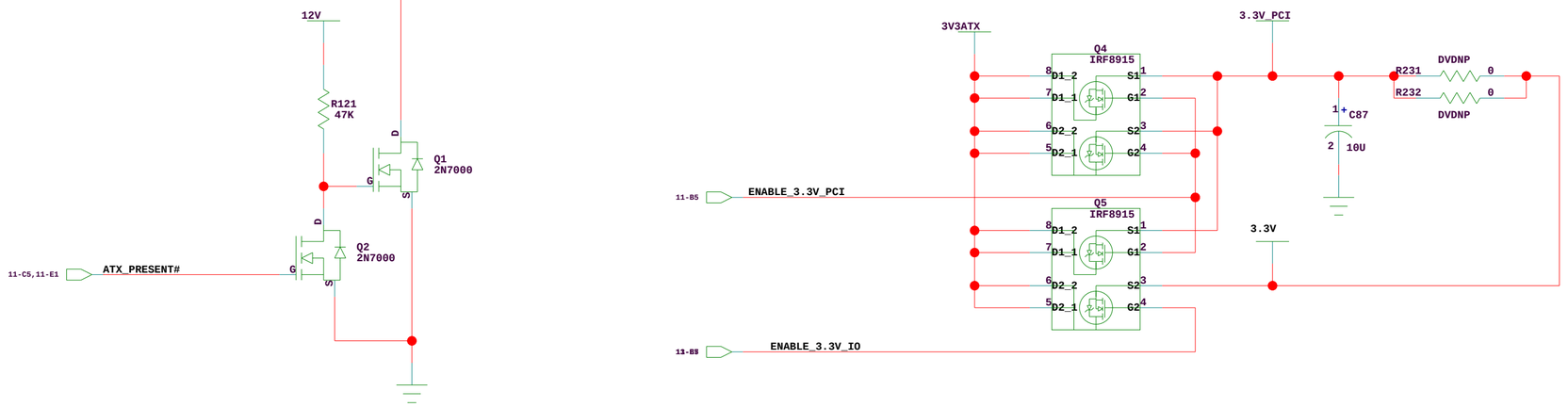
PCI 5V REG



PCI 3.3V REG



3.3V SWITCHES



TITLE : PCI POWER REGULATORS

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TEST DEVICES

TSI383 V/I ADC

3.3V_A_384
R133 392 EVDNP
3.3V_384
R147 392 EVDNP
R145 392 EVDNP
R129 392 EVDNP
1.2V_384
1.2V_A_384

12-C2 3.3V_A_384_I R123 33.2 EVDNP
12-D2 1.2V_A_384_I R126 33.2 EVDNP
12-B6 1.2V_384_I R125 33.2 EVDNP
12-A4 3.3V_384_I R130 33.2 EVDNP
R135 33.2 EVDNP
R134 33.2 EVDNP
R140 33.2 EVDNP
R131 33.2 EVDNP
TP3
R127 33.2 EVDNP

U14 MAX1239EEE
AIN0 AIN1 AIN2 AIN3 NC AIN4 AIN5 AIN6 AIN7 AIN11/REF AIN10 NC AIN9 AIN8
VDD GND SCL SDA
EVDNP

0.2A EVDNP FB5
600
3.0V_STBY
C58 0.2U EVDNP
C57 2.2U EVDNP

C205 0.2U EVDNP
C204 C208 C215 C214 C219 C224 C209 C210 0.2U EVDNP
C216 0.2U EVDNP

ANALOG SUPPLY

12V
C83 2.2U EVDNP
U30 LT1763CS8
IN SHDN# GND_1 GND_2 GND_3 OUT BYP ADJ
C104 0.01U EVDNP
R239 13.7K EVDNP
R234 8.2K EVDNP
3.0V_STBY
C103 2.2U EVDNP
Output Voltage = 3.26V
EVDNP

I2C

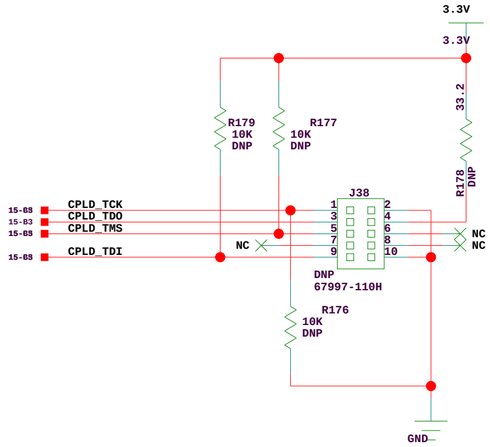
3.0V_STBY
R94 10K EVDNP
R99 10K EVDNP
I2C_SCL
I2C_SDA
C41 0.1U EVDNP
J15
NC NC NC NC NC NC
R101 33.2 EVDNP
87832-1420 EVDNP

1.2V_384
R269 DNP 133
12-C5 1.2V_SENSE
R208 133 EVDNP
C235 0.33U EVDNP
R215 221 EVDNP
R216 10K DNP
R218 0 EVDNP
10K
I2C Addr 0x18 EVDNP
U28
VDD VLOGIC GND SDA SCL AD1 AD0
C237 0.1U EVDNP
R220 442 EVDNP
U24 AD8541ARTZ
C244 0.1U EVDNP
12-B4 1.2V_FB R211 0 EVDNP

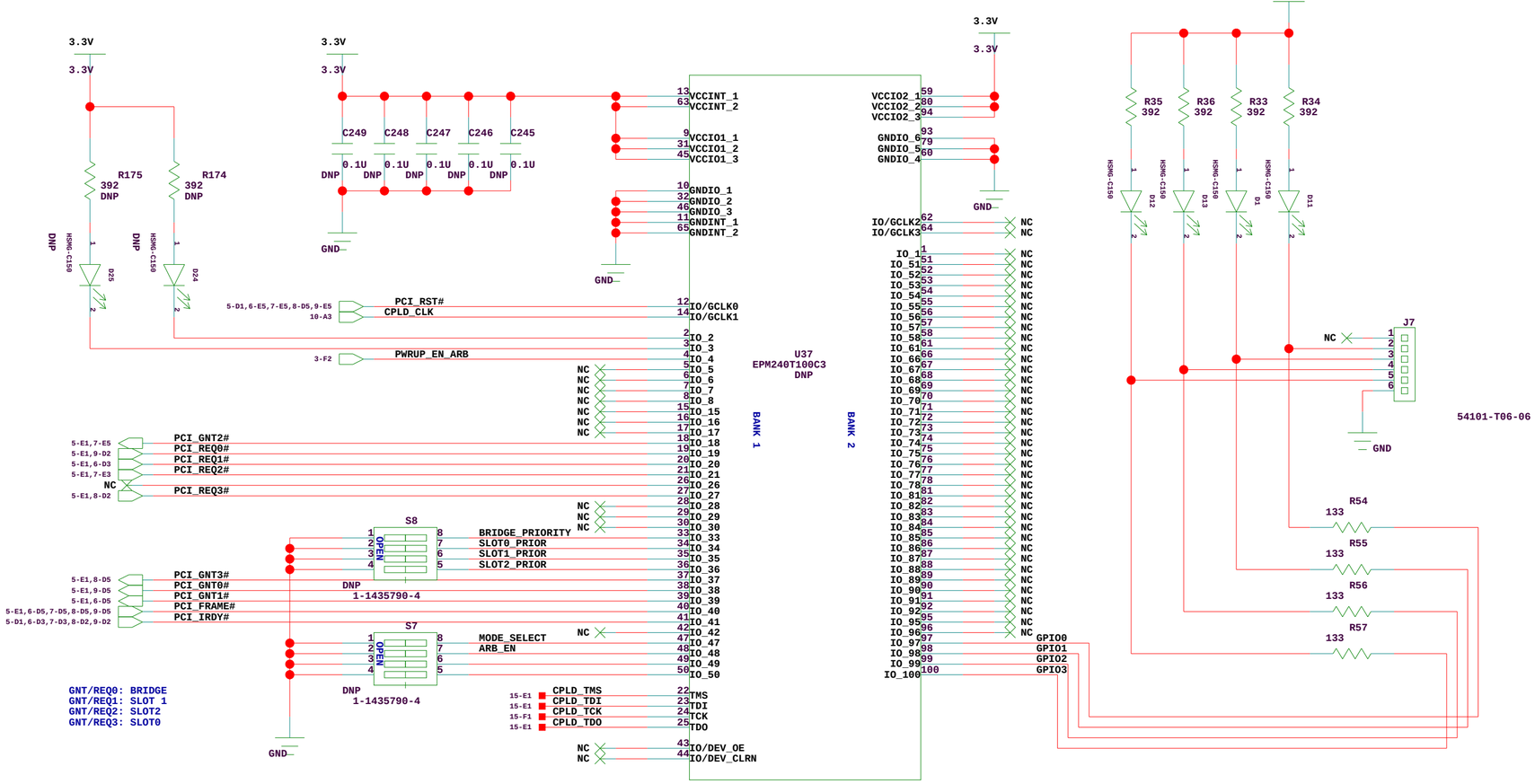
3V3ATX
R139 2.26K EVDNP
R144 221 EVDNP
R184 10K DNP
R183 0 EVDNP
U19
C230 0.1U EVDNP
R196 442 EVDNP
U20 AD8541ARTZ
C243 0.1U EVDNP
13-D6 3.3V_PCI_FB R143 0 EVDNP

TITLE : TEST DEVICES			
SIZE C	DRAWING NUMBER : TBD	Version: 1.0	DESIGNER :
LAST MODIFIED DATE : 12-17-2009_15:26		SHEET 14 OF 15	

TEST DEVICES CONT'D



PCIARBITER/GPIO CONTROL



TITLE : TEST DEVICES CONT'D			
SIZE: C	DRAWING NUMBER : TBD	Version: 1.0	DESIGNER :
LAST MODIFIED DATE : 12-17-2009_15:26	SHEET 15 OF 15		