

8 7 6 5 4 3 2 1  
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F HSF Property: ROHS or Halogen-Free(5L3?)

RALPH1.1  
SI-2 BUILD  
2012.1.3

12-12-2011		
DATE	CHANGE NO.	REV

	EE	DATE	POWER	DATE	INVENTEC			
DRAWER								
DESIGN								
CHECK								
RESPONSIBLE								
SIZE				VER	SIZE	CODE	DOCUMENT	REV
FILE NAME					C	CS	1310A24893-0	AK1
PN	David Chang				SHEET		#	67

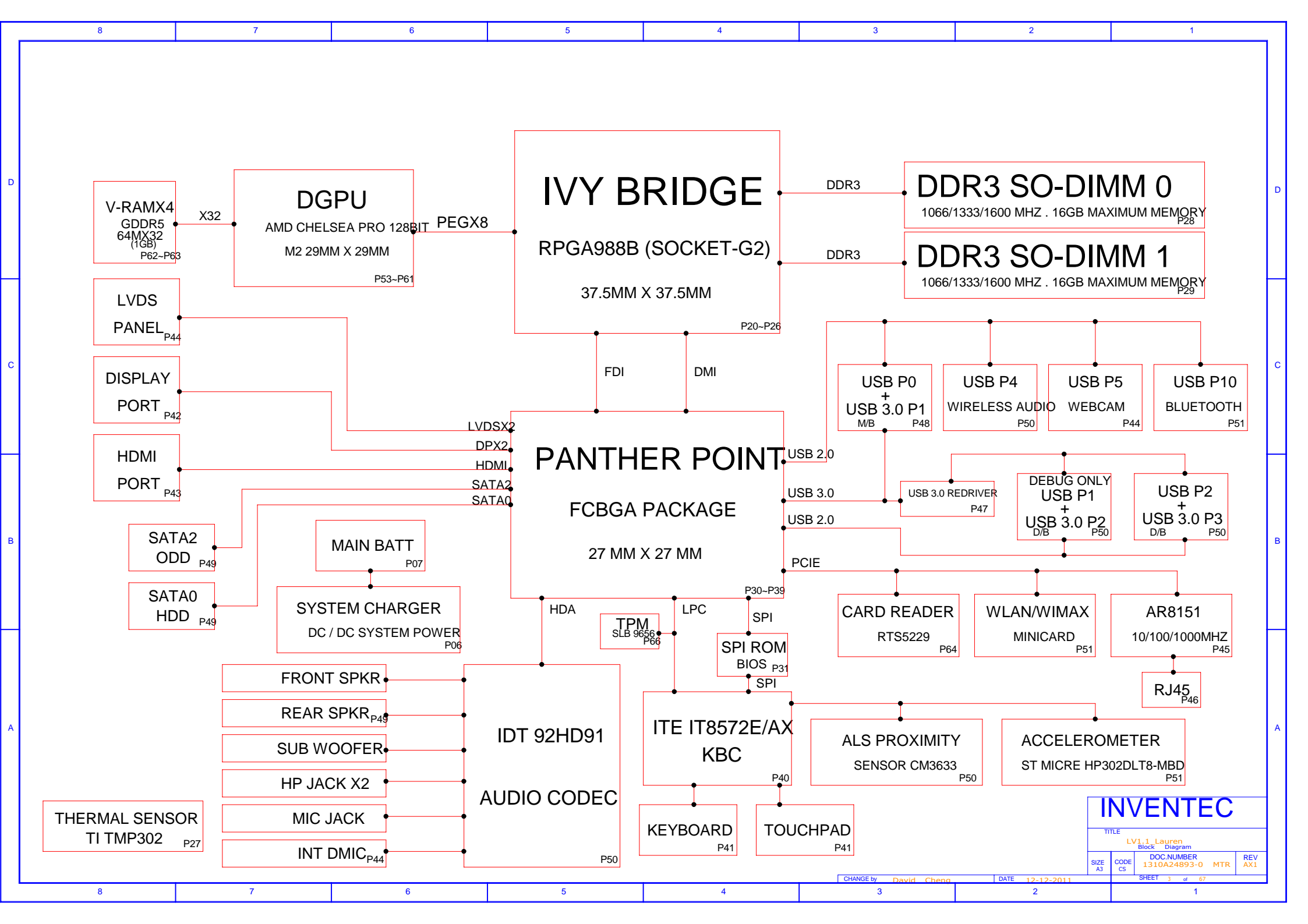
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33. PCH-3-DMI & FDI & POWER MANAGEMENT	65. ODD/B & WIRELESS AUDIO/B & POWER BUTTON/B
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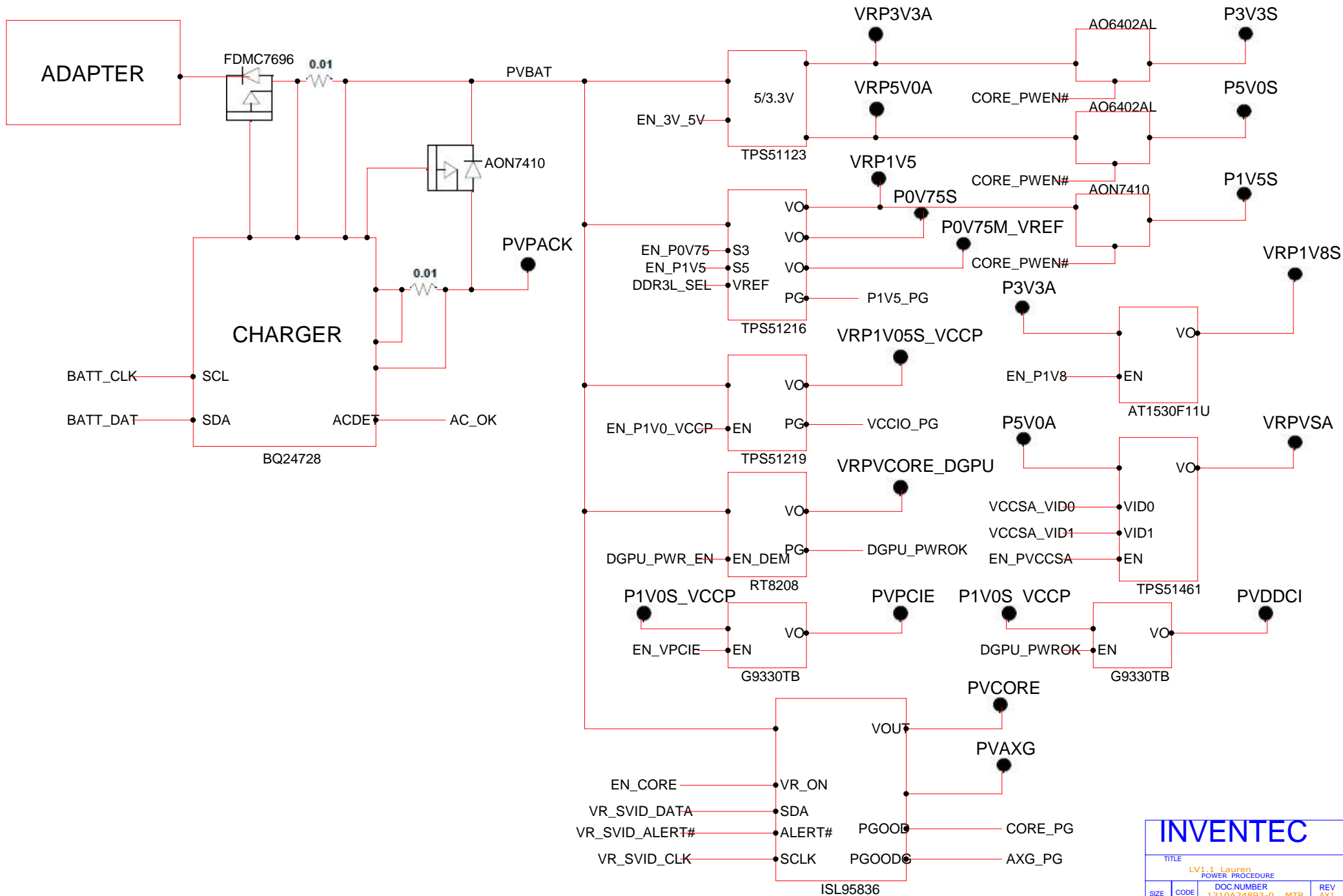
INVENTEC

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LV1.1 Lauren Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A24893-0	AX1
CHANGE by		DATE	SHEET
David Cheng		12-12-2011	2 of 67



INVENTEC

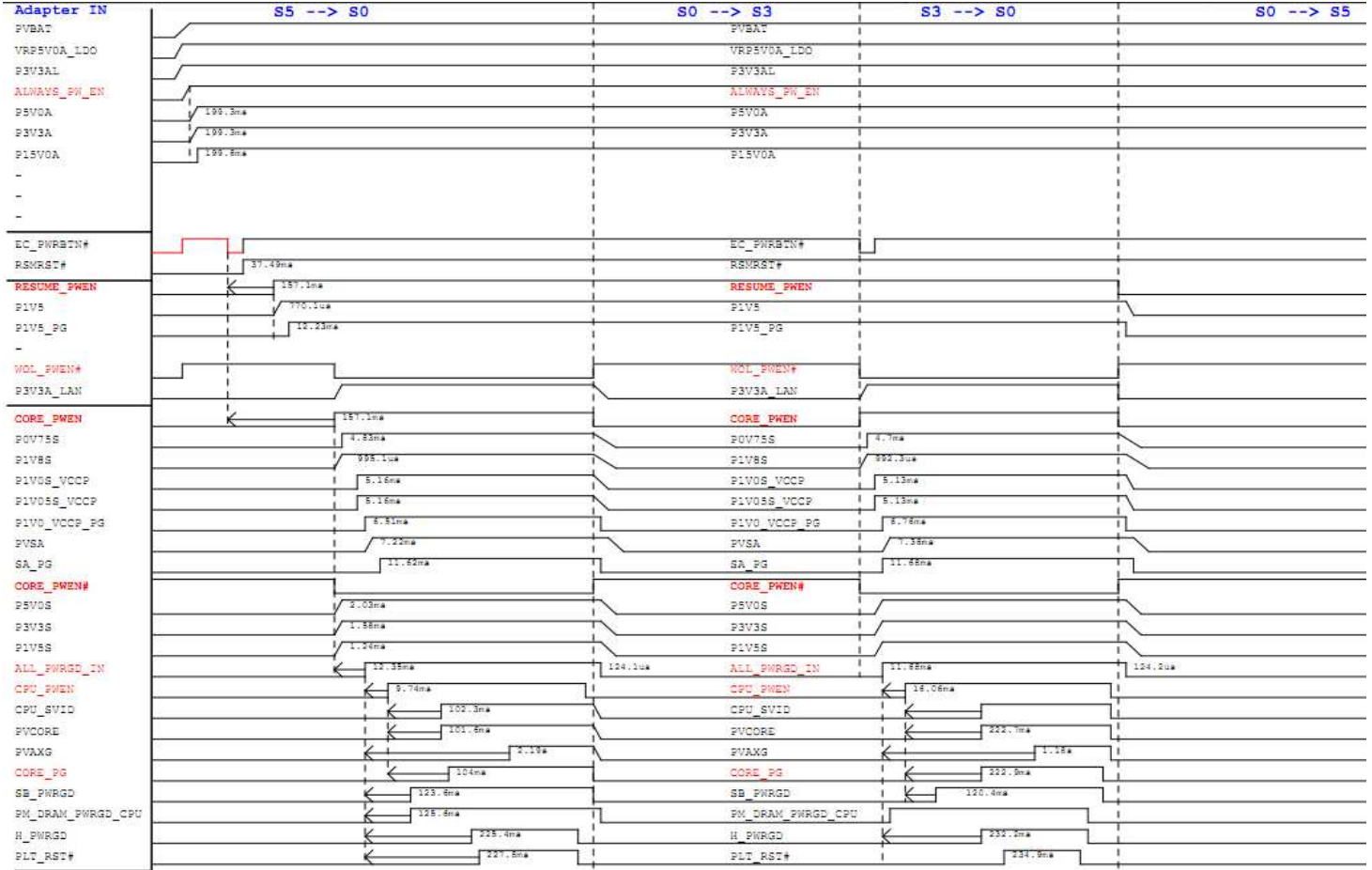
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LV1.1 Lauren Block Diagram				
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A3	CS	1310A24893-0		AX1
SHEET		3	of	67



**INVENTEC**

TITLE			
LV101 Lauren POWER PROCEDURE			
DOC NUMBER			
1310A24893-0 MTR			
REV			
AX1			

# Power sequence



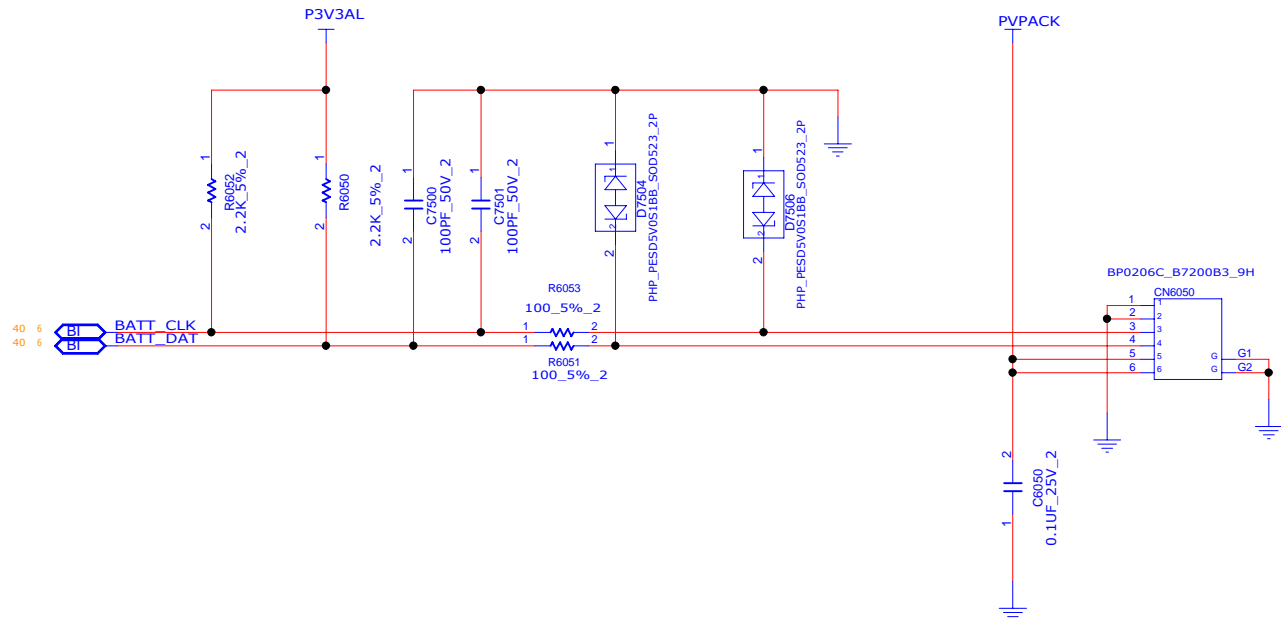
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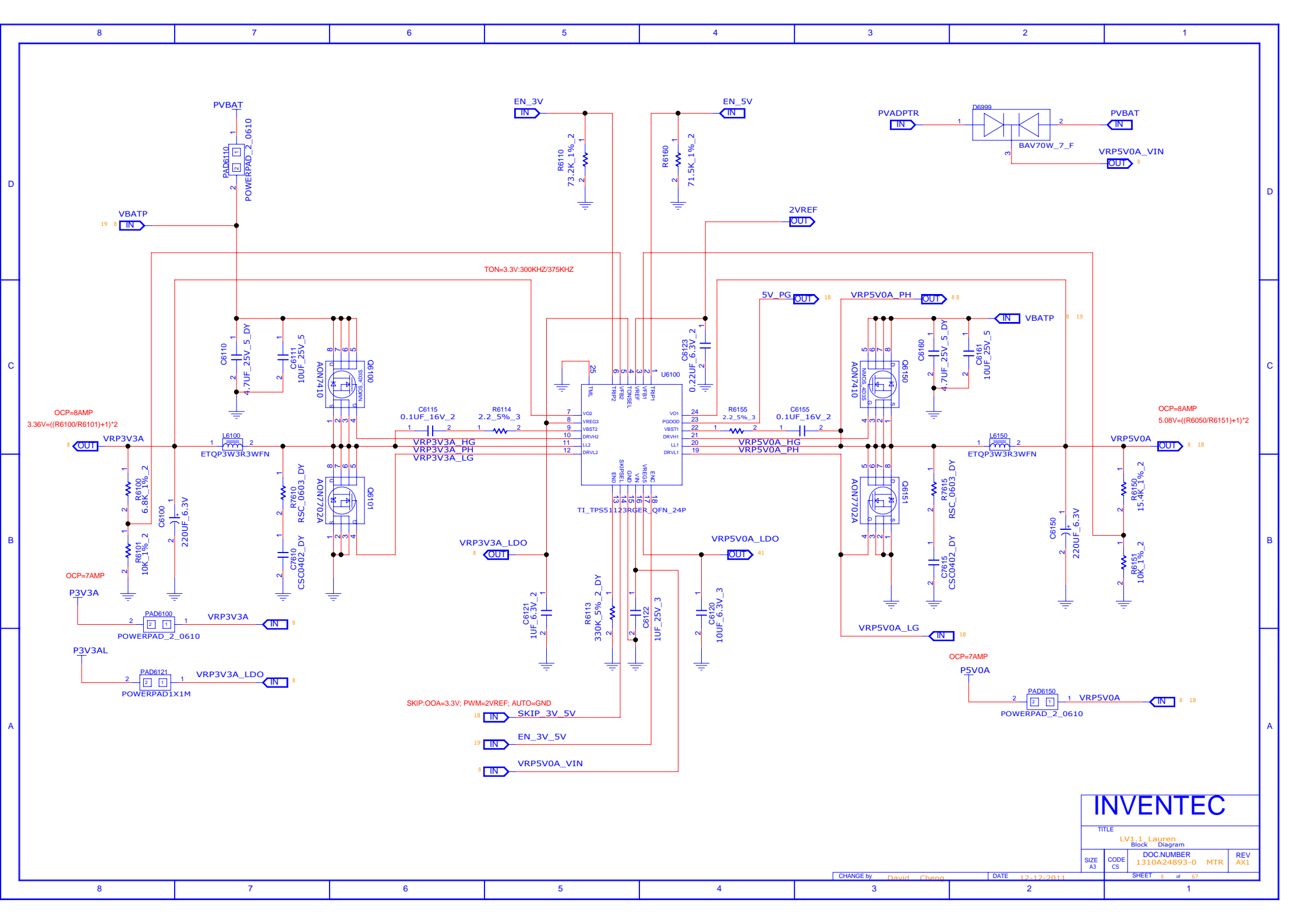
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Block Diagram  
DOC NUMBER  
1310A24893-0 MTR REV  
AX1

CHANGE by David Cheng DATE 12-12-2011

SHEET 5 of 67







INVENTEC

TITLE  
LV1.1 Lauren  
Block Diagram

SIZE A3	CODE CS	DOC NUMBER 1310A24893-0	MTR	REV AX1
SHEET 8		of 67		

CHANGE by David Cheng DATE 12-12-2011



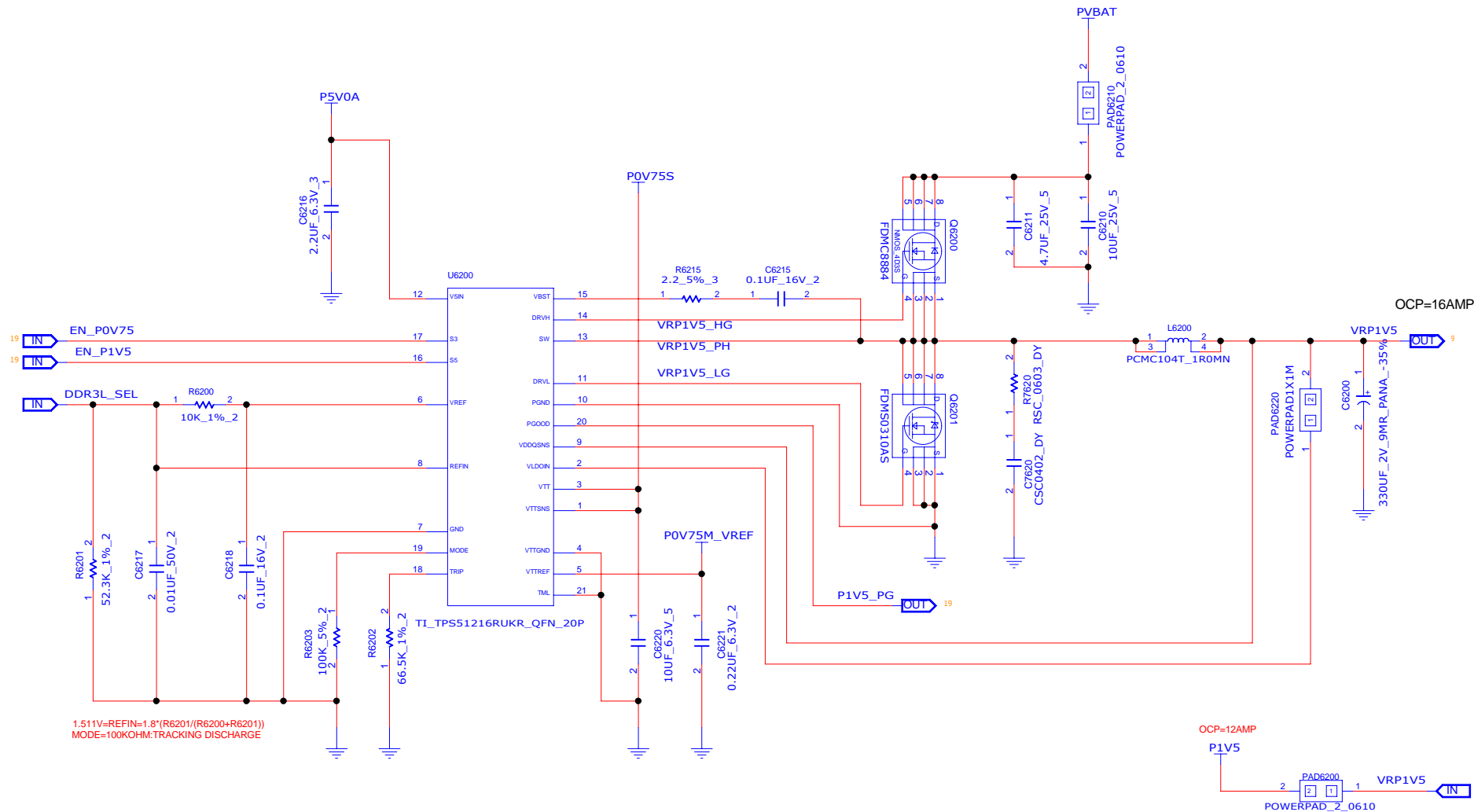


Table 1. S3/S5 Power State Control

STATE	S3	S5	VREF	VDDQ	VTTREF	VTT
S0	HI	HI	ON	ON	ON	ON
S3	LO	HI	ON	ON	ON	OFF(High-Z)
S4/S5	LO	LO	OFF	OFF(Discharge)	OFF(Discharge)	OFF(Discharge)

INVENTEC

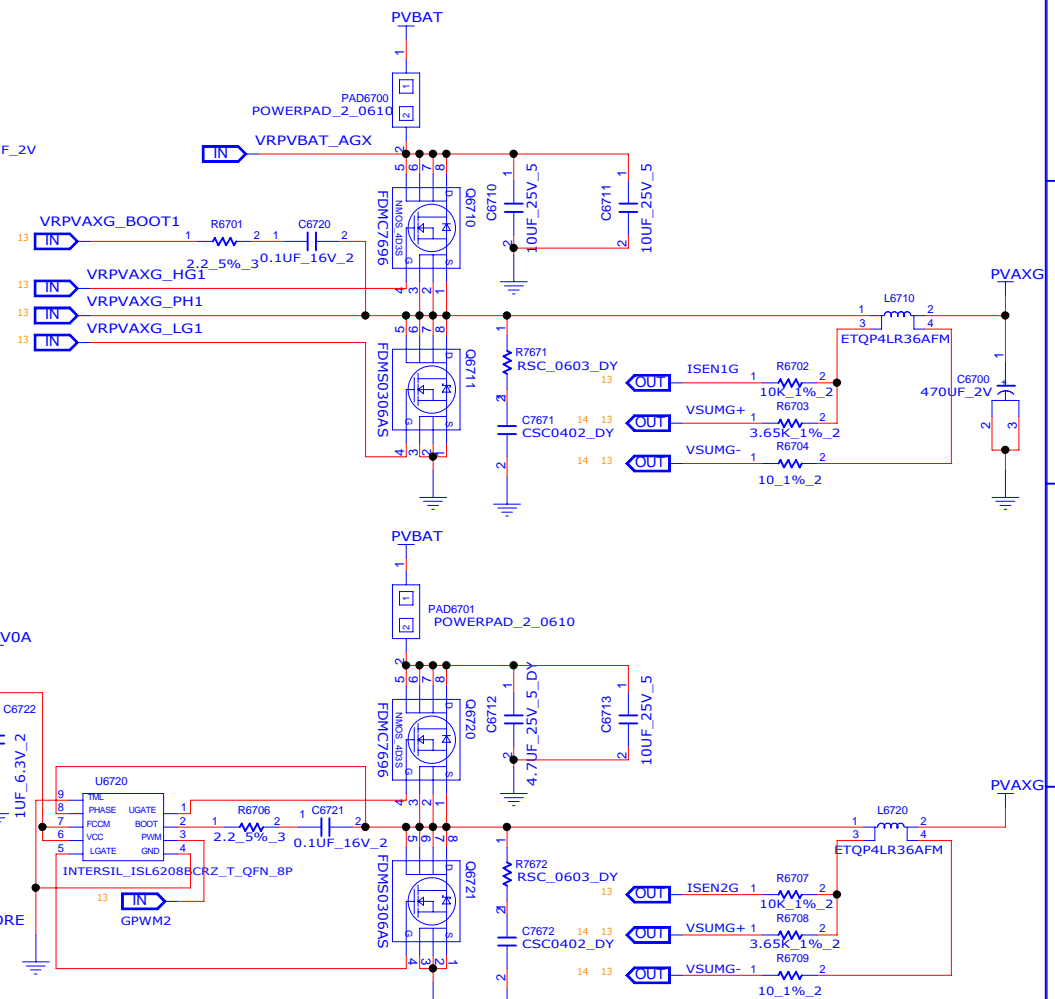
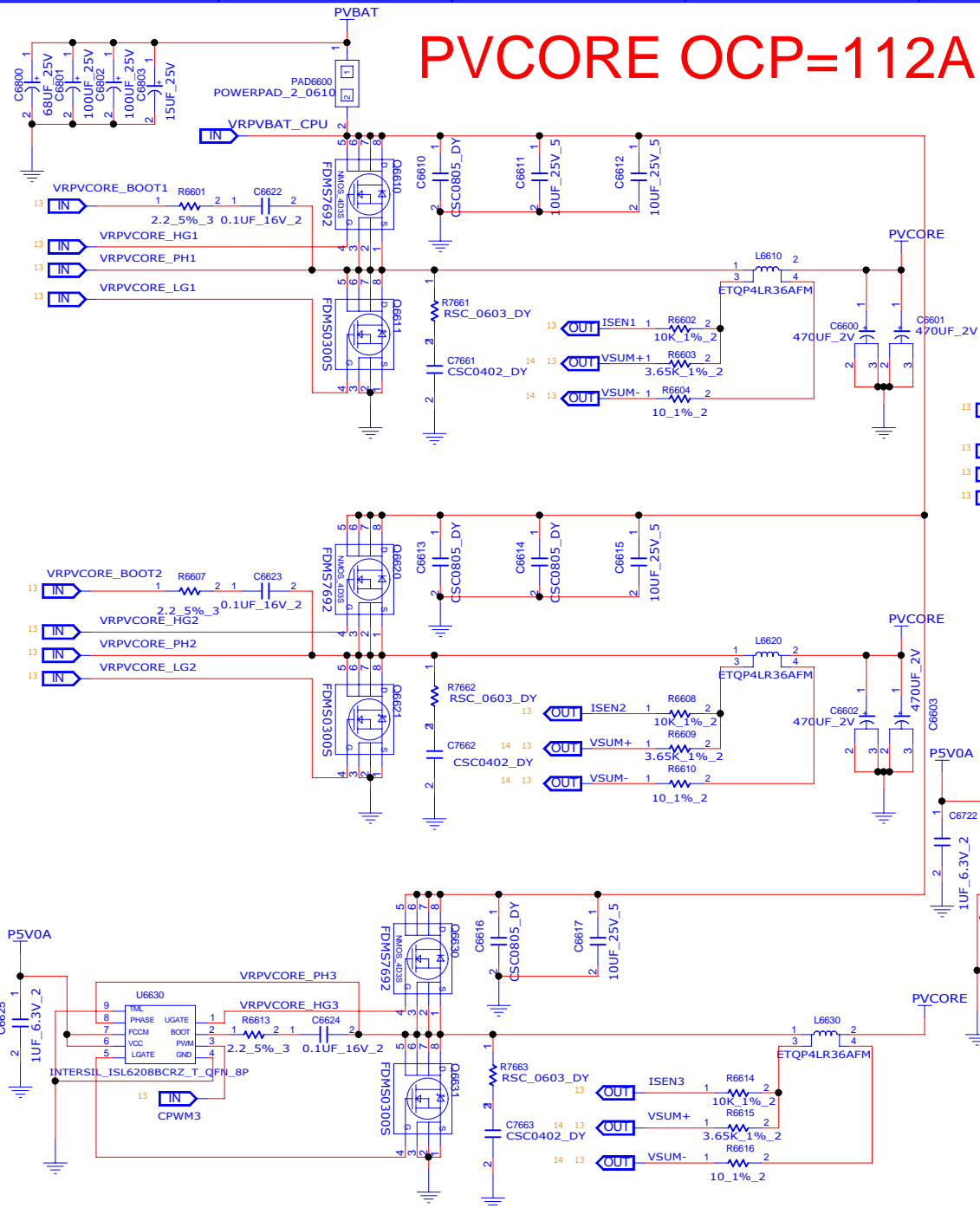
TITLE			
LV1.1_Lauren Block Diagram			
SIZE A3	CODE CS	DOC NUMBER 1310A24893-0	REV AX1
SHEET 8 of 67			











TITLE

LV1.1\_Lauren

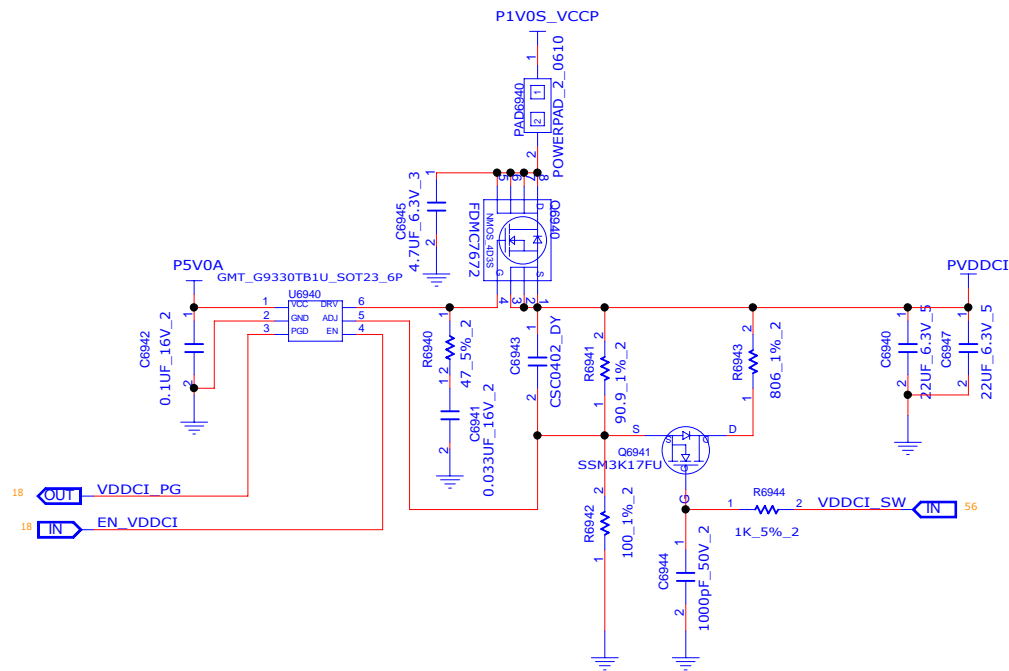
Block Diagram

SIZE	CODE	DOC.NUMBER 1310A24893-0 MTR	REV AX1
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A3	CS	1510101000 0 11111	1001
		SHEET 14 of 63	

14 of 14



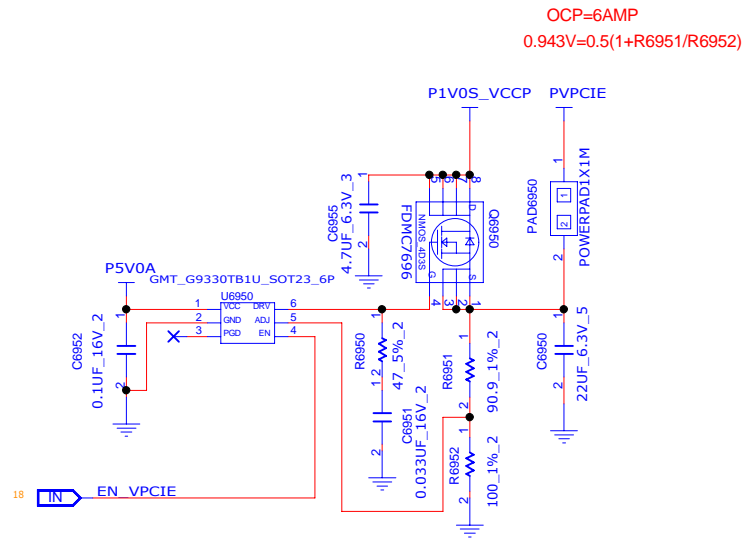


OCP=6AMP  
HIGH :  $0.908V = 0.5 [ 1 + ( ( R6941 / R6943 ) / R6942 ) ]$   
LOW :  $0.954V = 0.5 ( 1 + R6941 / R6942 )$

INVENTEC

TITLE			
LV1.1_Lauren Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A24893-0 MTR	AX1

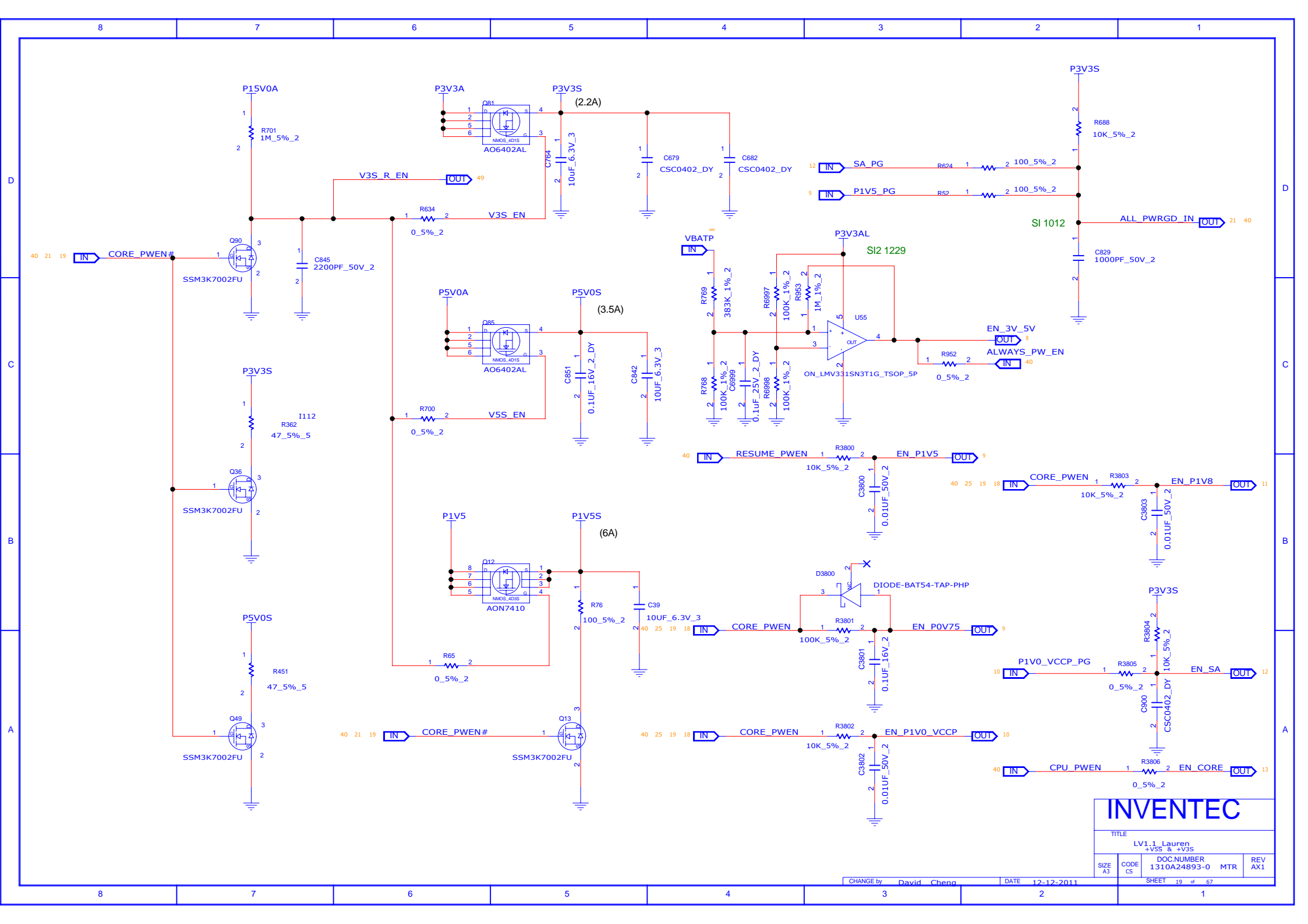




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LV1.1_Lauren Block Diagram			
SIZE		DOC NUMBER	
A3	CS	1310A24893-0	MTR
REV		AX1	



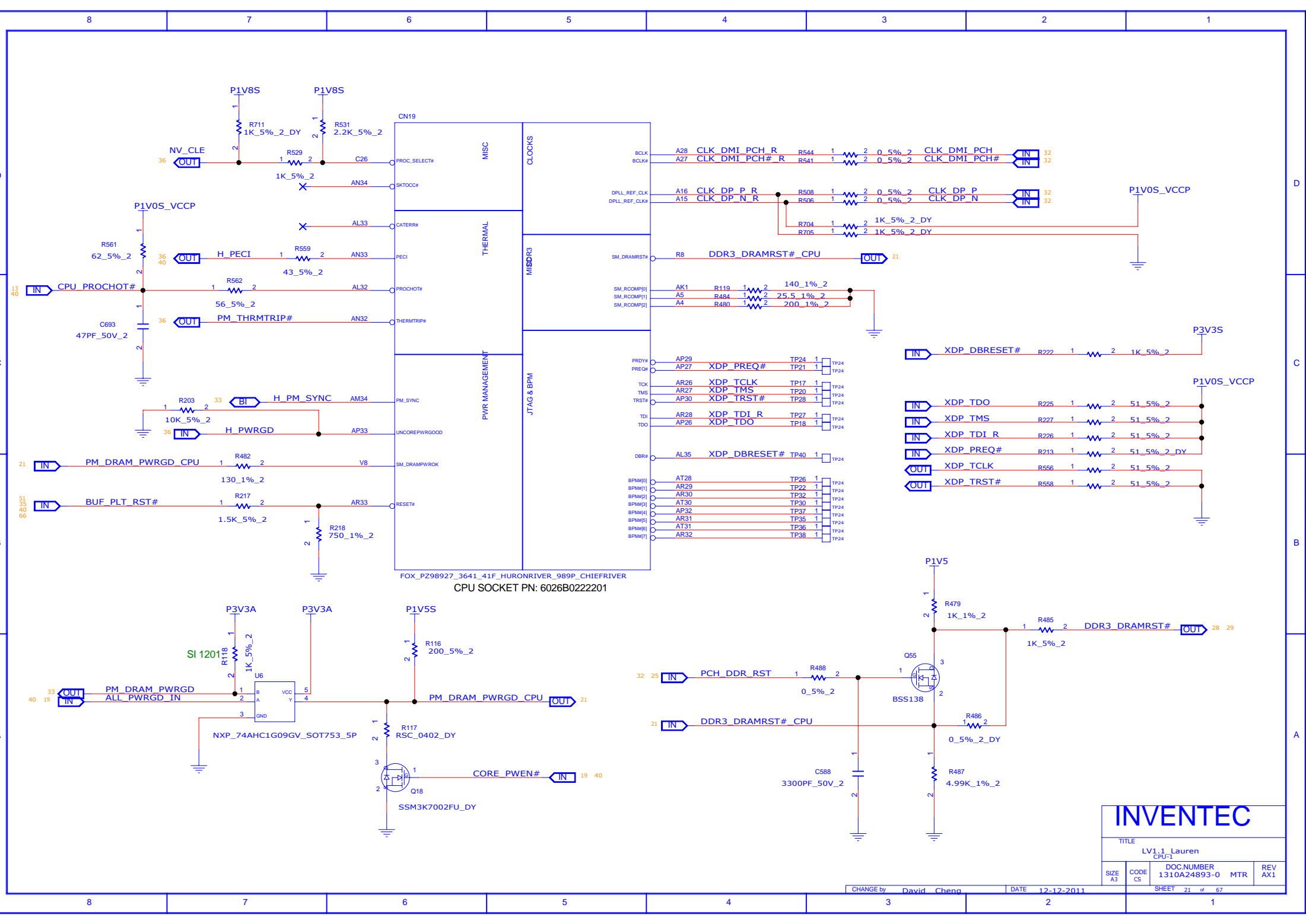


	8	7	6	5	4	3	2	1
D								
C								
B								
A								
	8	7	6	5	4	3	2	1

CPU

INVENTEC

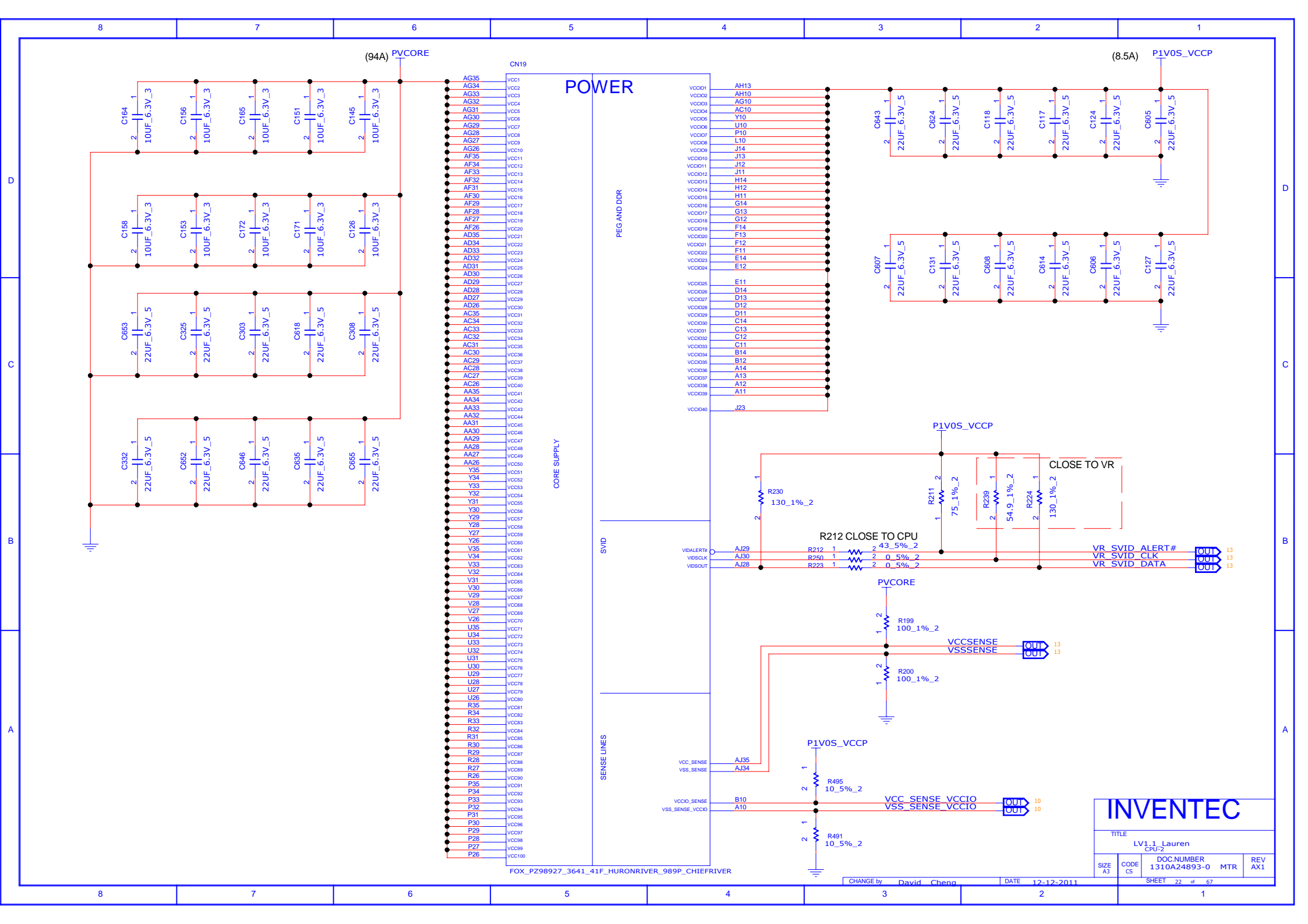
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SHEET 20 of 67			



CPU SOCKET PN: 6026B0222201

INVENTEC

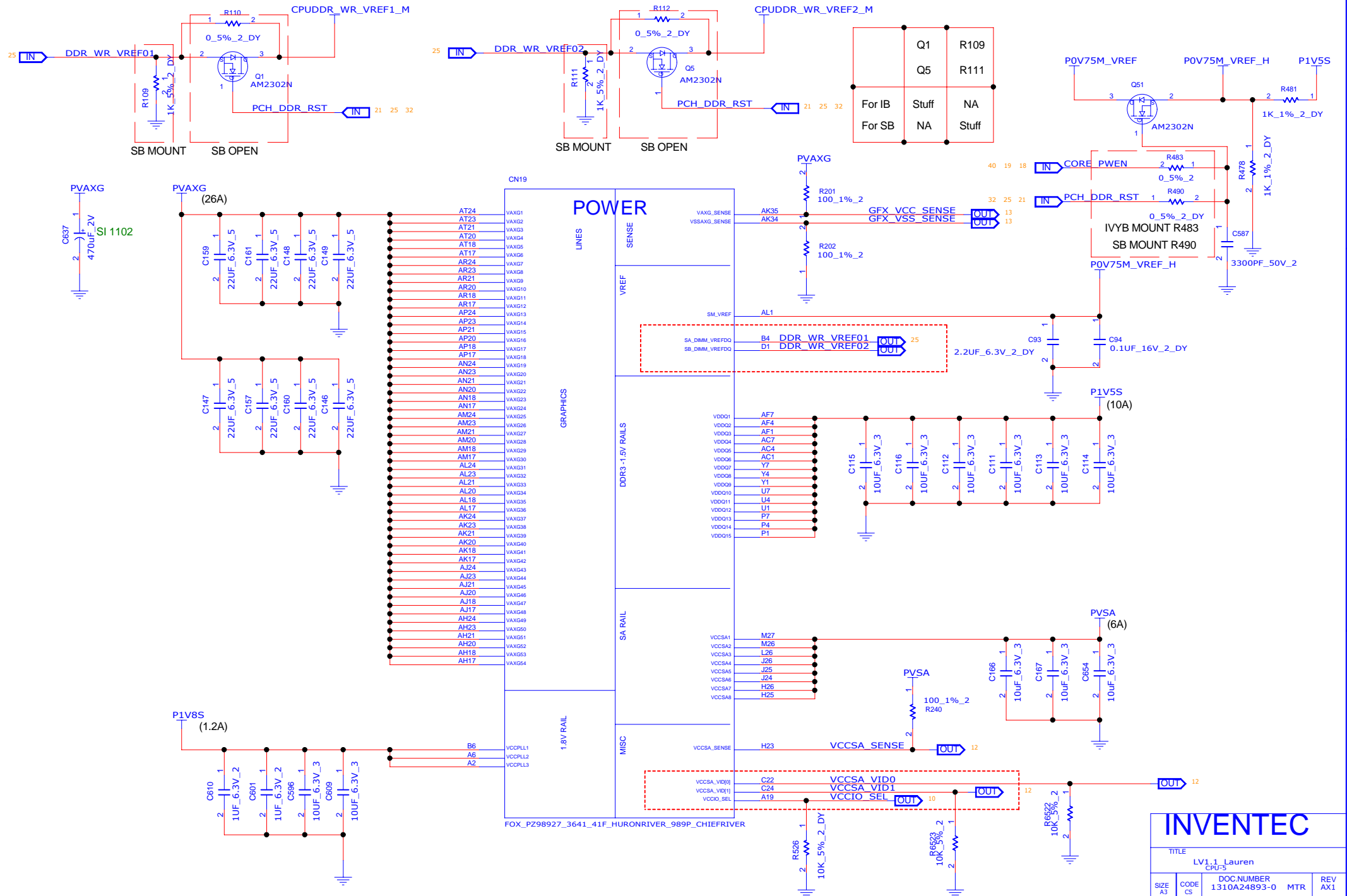
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CPU1				
SIZE	CODE	DOC NUMBER	MTR	REV
A3	CS	1310A24893-0		AX1











INVENTEC

TITLE

LV1.1-Lauren

SIZE A3

CODE CS

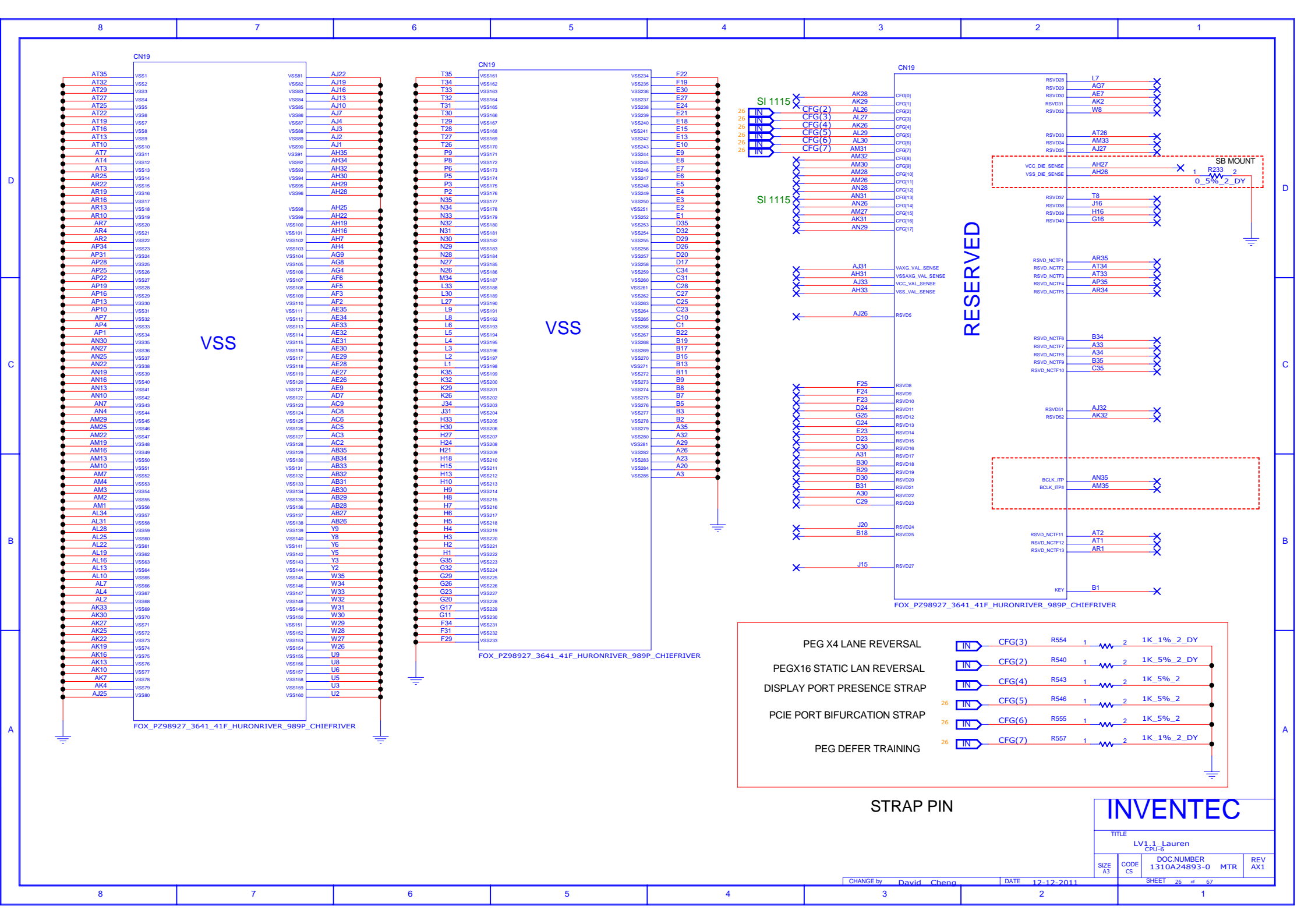
DOC NUMBER 1310A24893-0

MTR REV AX1

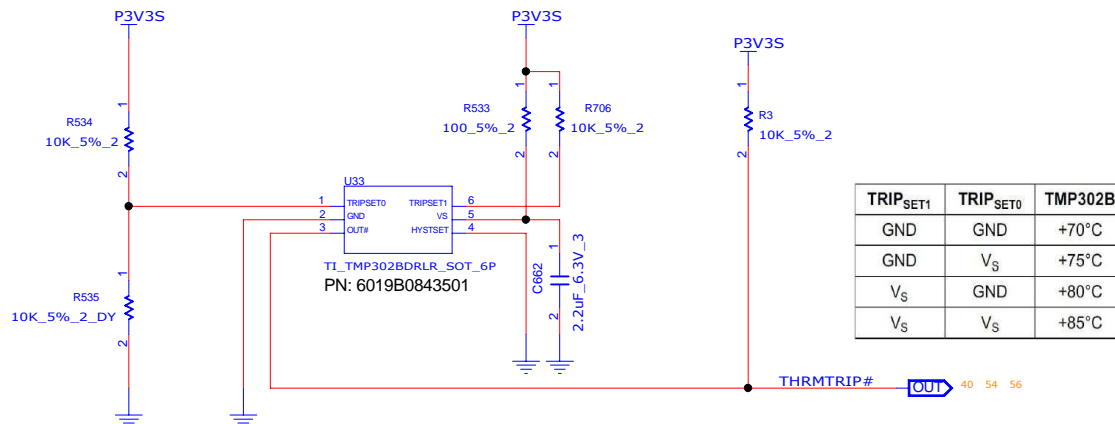
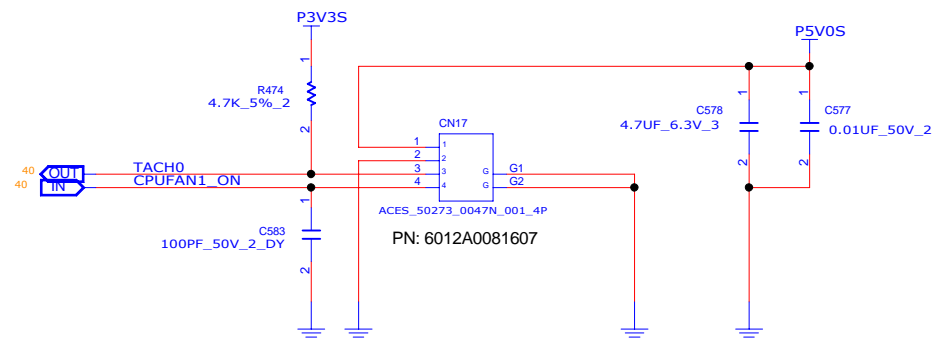
CHANGE by David Cheng

DATE 12-12-2011

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# FAN CONN

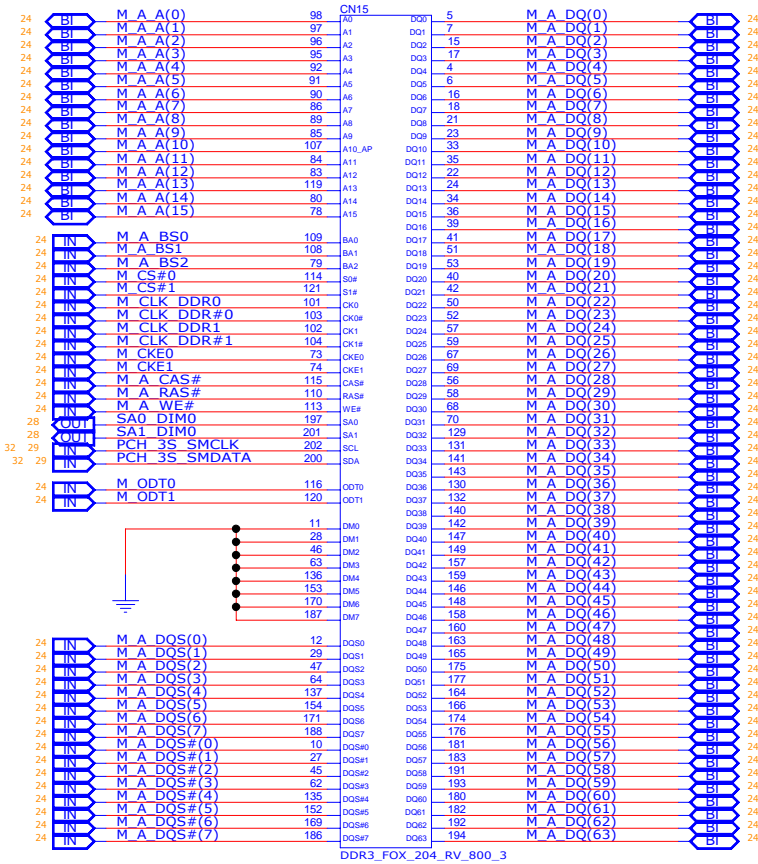


TRIP <sub>SET1</sub>	TRIP <sub>SET0</sub>	TMP302B
GND	GND	+70°C
GND	V <sub>S</sub>	+75°C
V <sub>S</sub>	GND	+80°C
V <sub>S</sub>	V <sub>S</sub>	+85°C

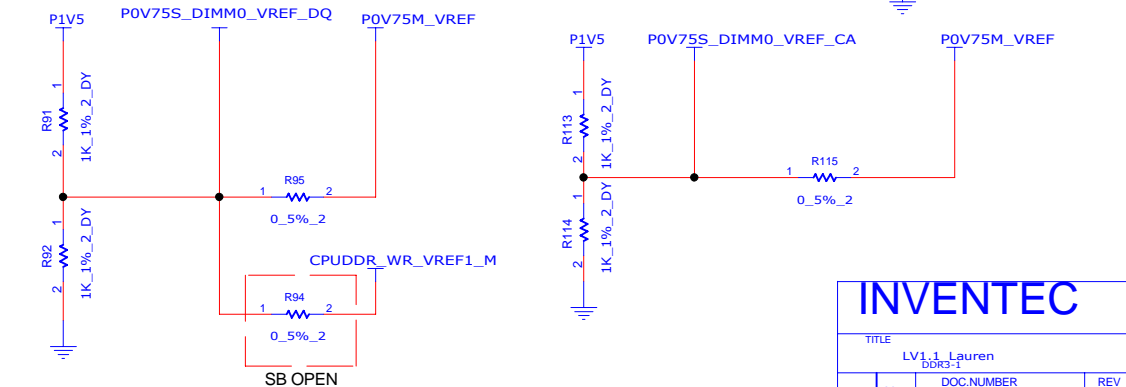
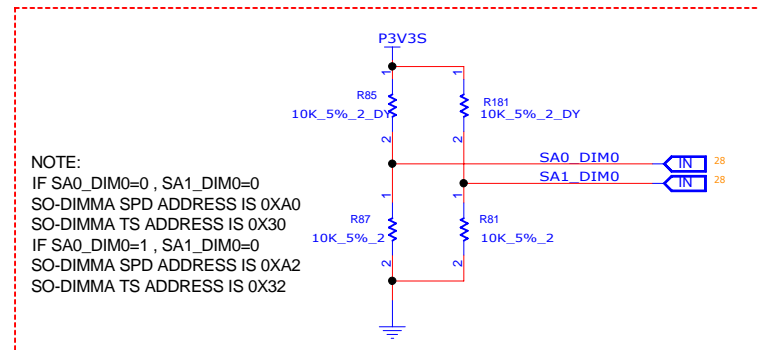
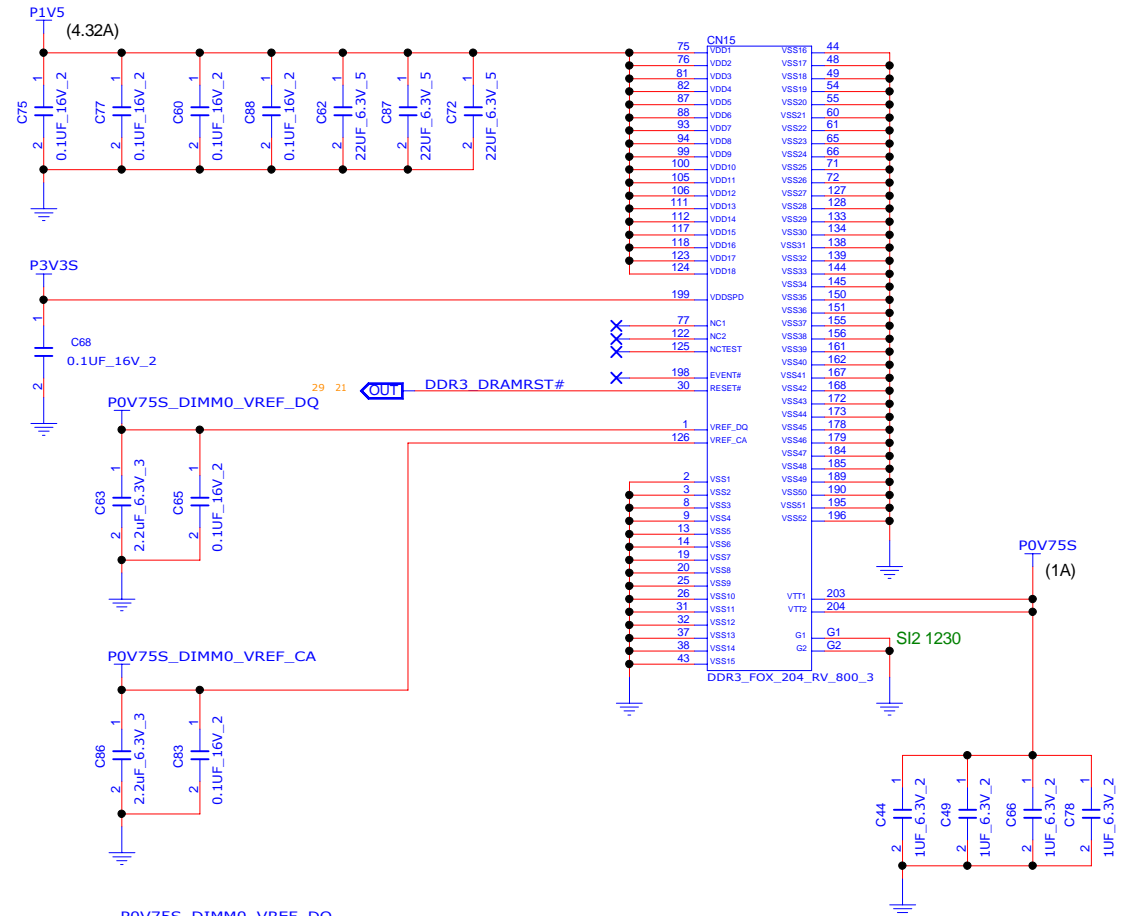
INVENTEC

TITLE			
LV1.1_Lauren			
FAN			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A24893-0 MTR	AX1

# DDR3 SO-DIMM 0



DDR3 SOCKET (RV\_800) PN: 6026B0221101

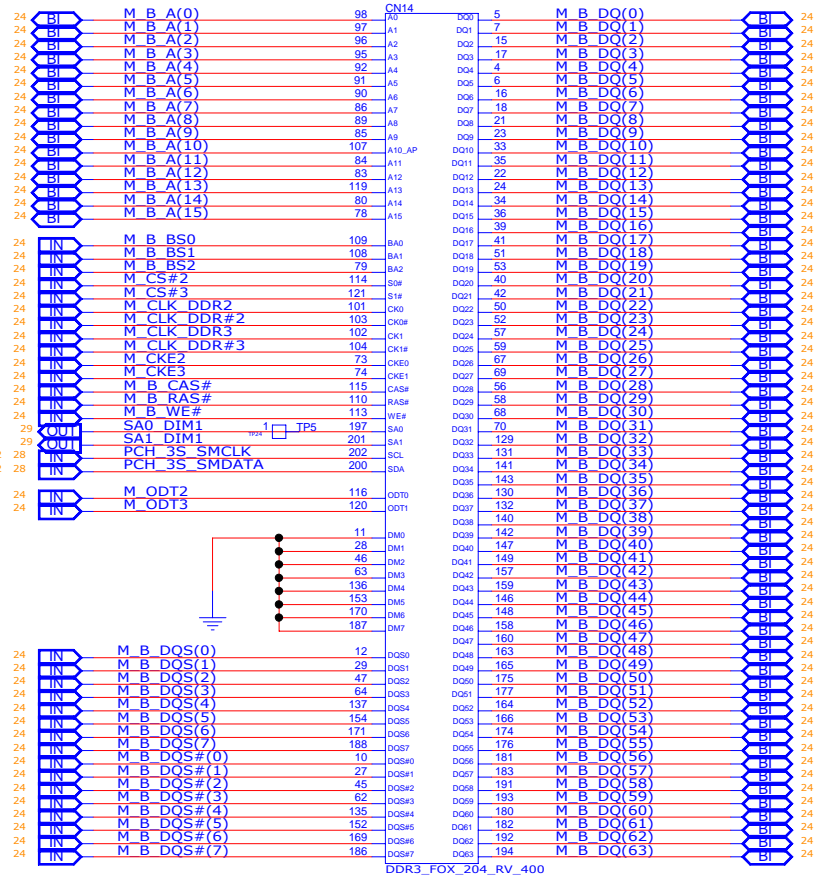


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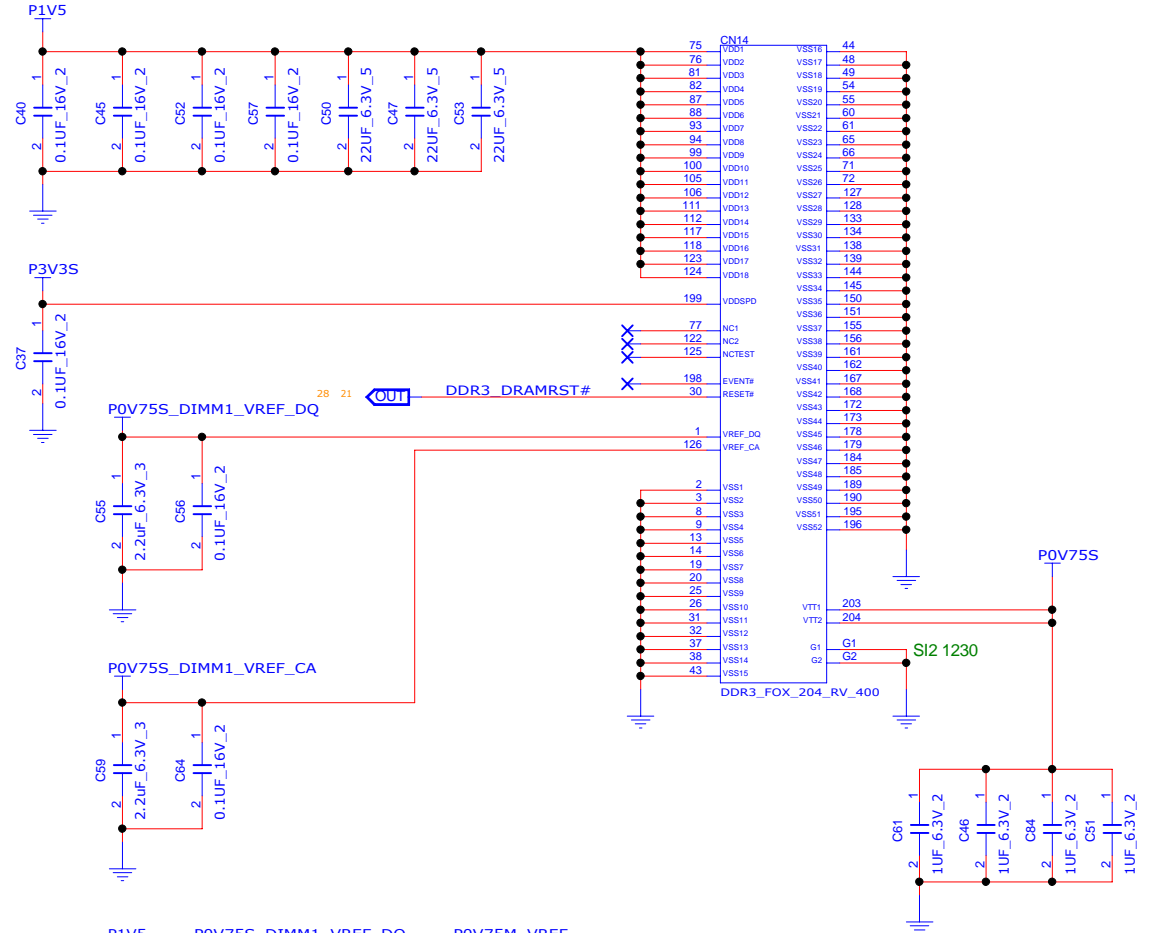
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LV1.1 Lauren  
DDR3-1

SIZE A3 CODE CS DOC NUMBER 1310A24893-0 MTR REV AX1

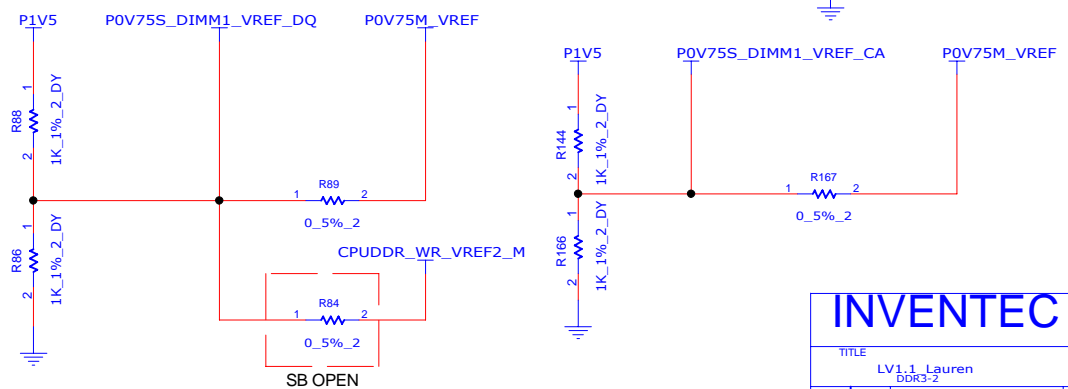
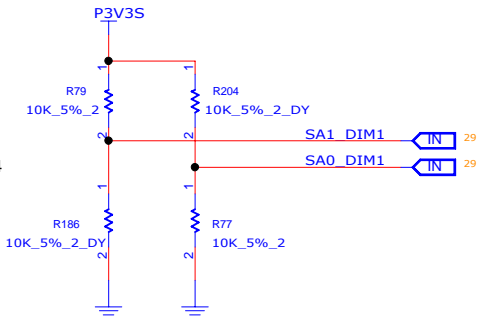
# DDR3 SO-DIMM 1



DDR3 SOCKET (RV\_400) PN: 6026B0221601



NOTE:  
SO-DIMMB SPD ADDRESS IS 0XA4  
SO-DIMMB TS ADDRESS IS 0X34



INVENTEC

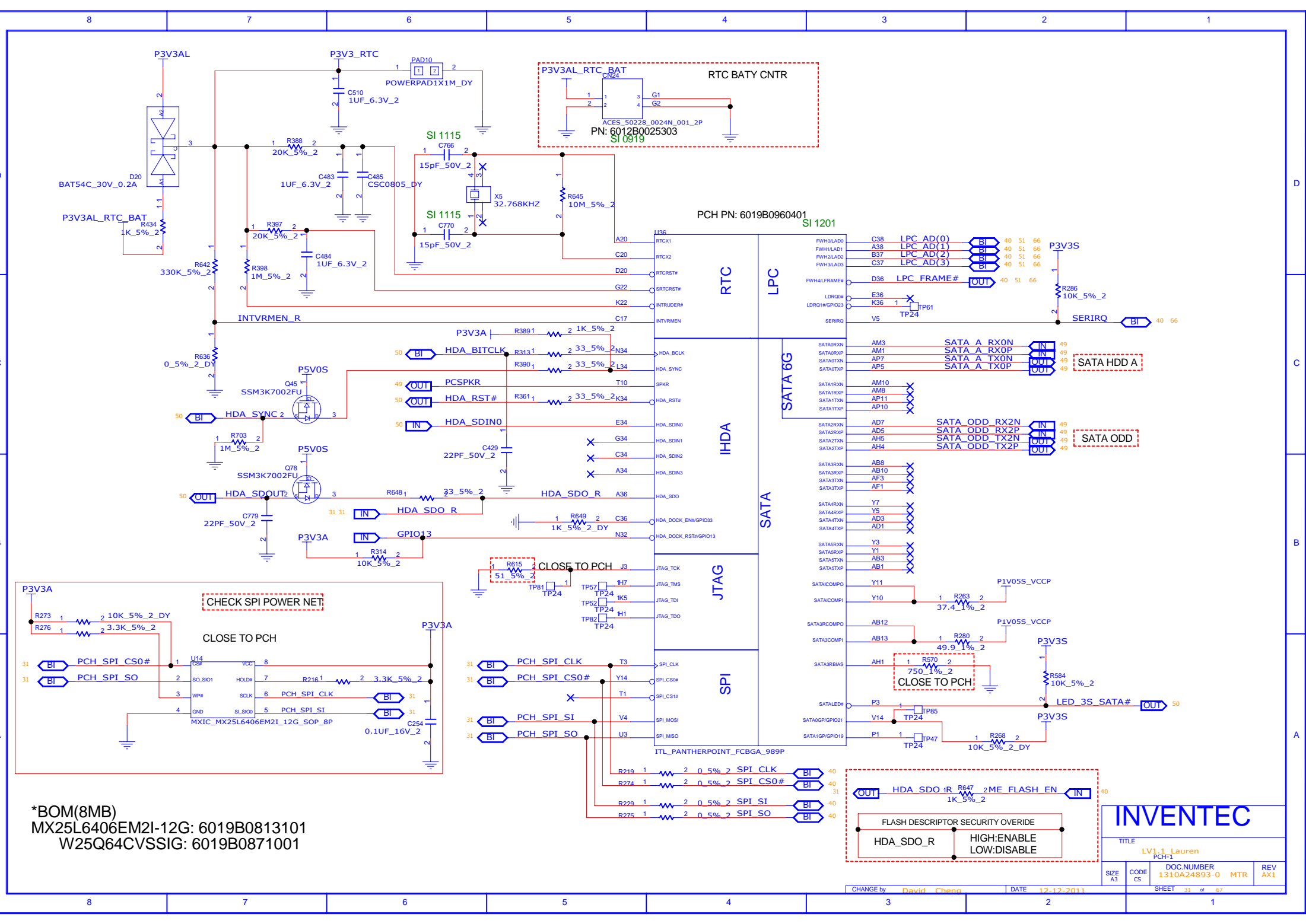
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LV1.1 Lauren			
DDR3-2			
SIZE	CODE	DOC.NUMBER	REV
A3	CS	1310A24893-0	AX1
SHEET		29 of 67	

8	7	6	5	4	3	2	1
D							D
C							C
B							B
A							A
8	7	6	5	4	3	2	1

PCH

INVENTEC

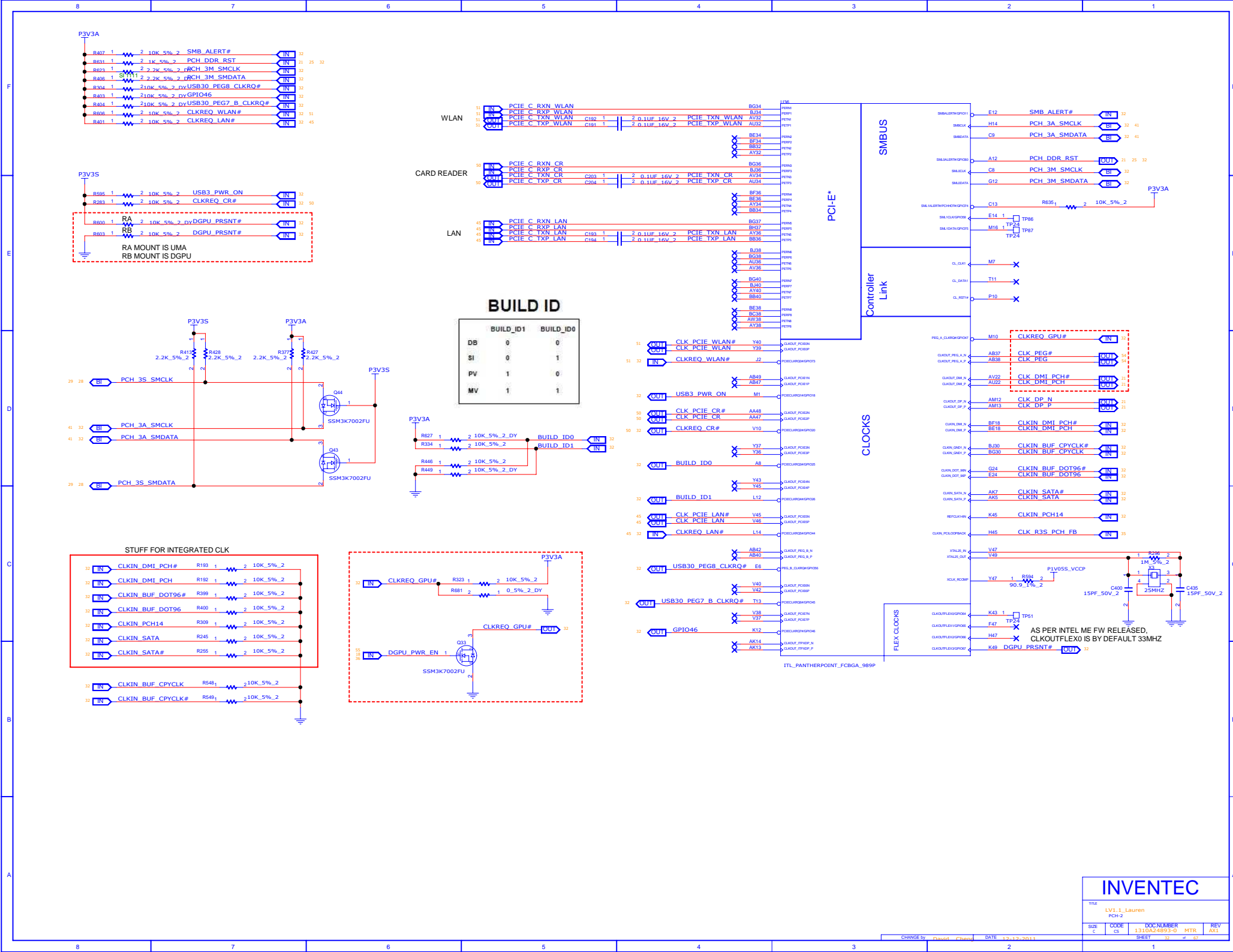
TITLE			
LV1: J. Lauren BLANK			
SIZE A3	CODE CS	DOC NUMBER 1310A24893-0 MTR	REV AX1



\*BOM(8MB)  
MX25L6406EM2I-12G: 6019B0813101  
W25Q64CVSSIG: 6019B0871001

INVENTEC			
TITLE			
LV1-L-Lauren			
PCH1			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A24893-0	AX1
MTR			
SHEET 31 of 67			

CHANGE by David Cheng DATE 12-12-2011



INVENTEC

LV1.1\_Lauren  
PCH-2

SIZE CODE DOC NUMBER  
C C 1310A2AB53-0 MTR

SHEET 32 of 67

CHANGE BY: Claudio Chaves DATE: 12-12-2014



NOTE:1.SLP\_SUS AND SUSACK# ARE NC IF DSW IS NOT SUPPORTED  
2.DPWROK SHOULD CONNECT TO RSMRST# IF DSW NOT SUPPORTED

D

D

C

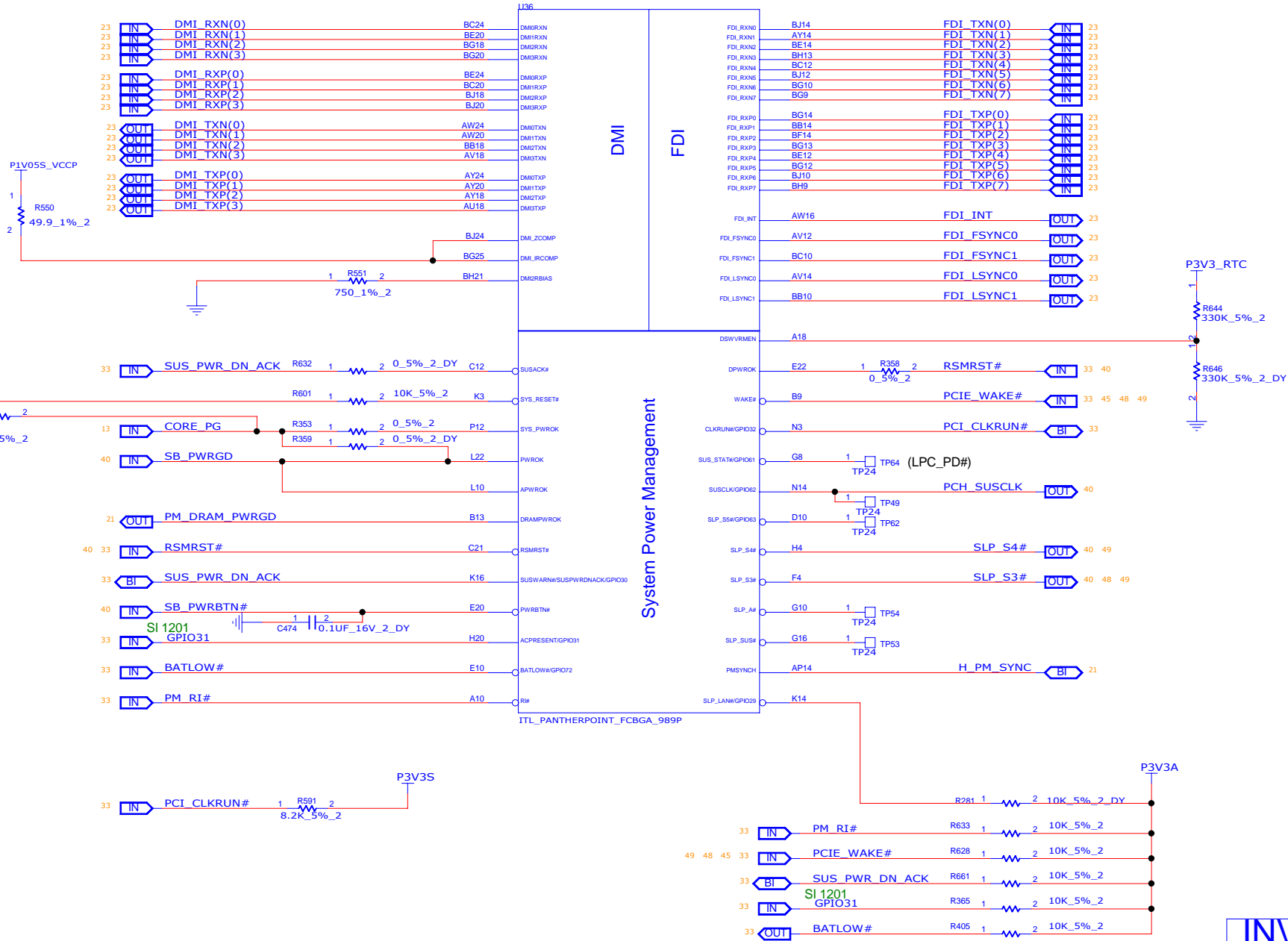
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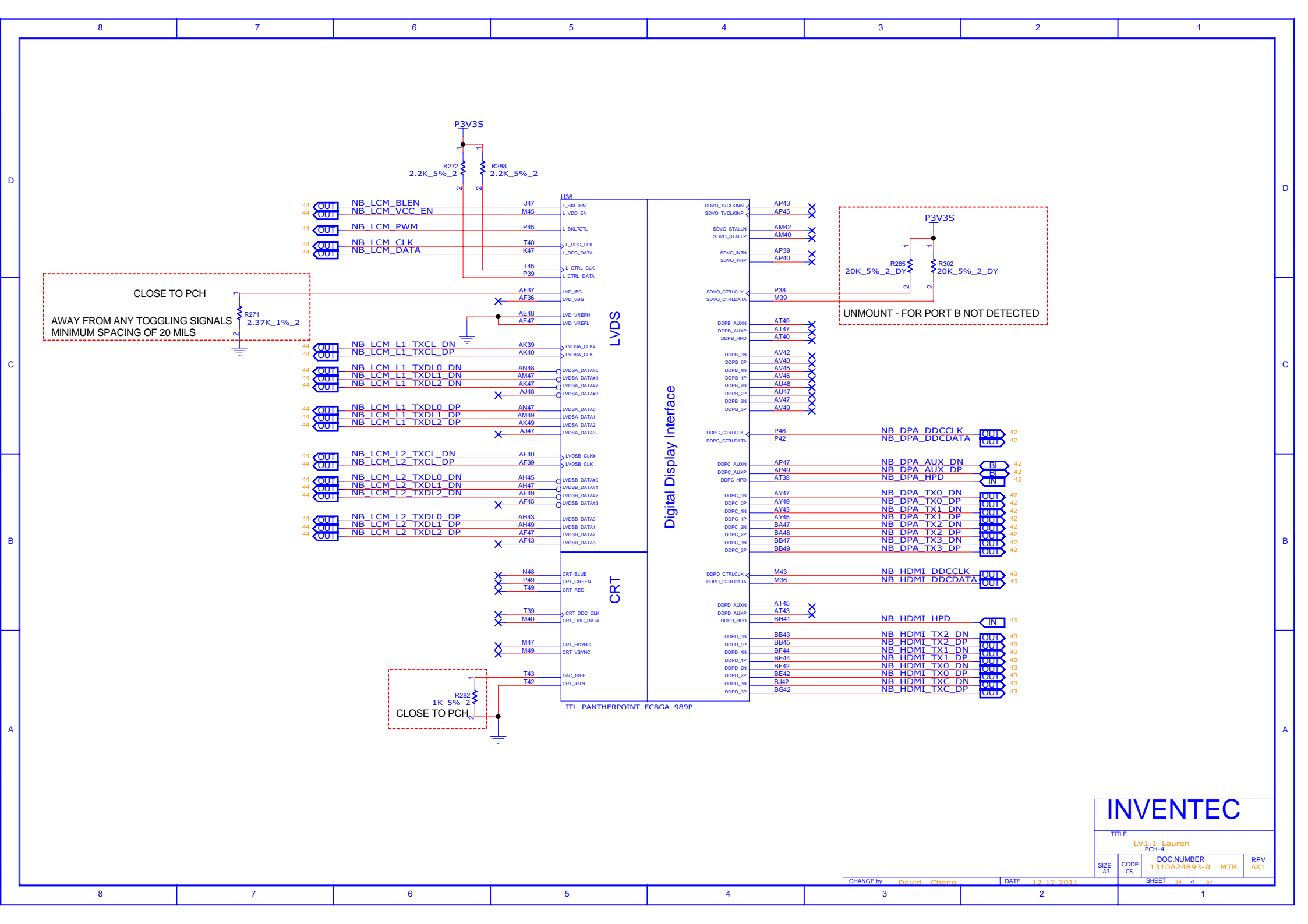
B

B

A

A





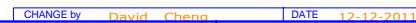
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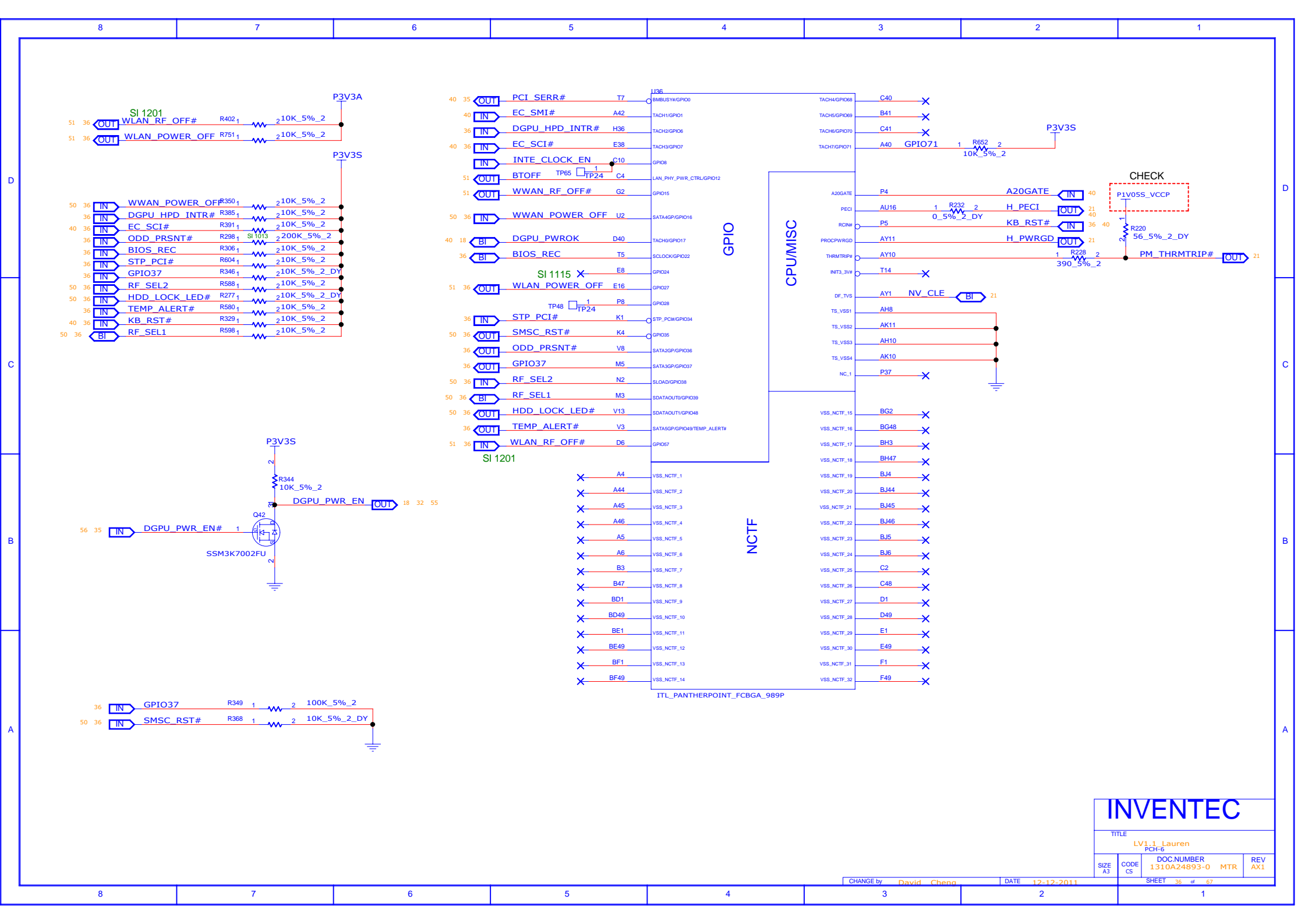
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LV1-1-Lauren  
PCH4

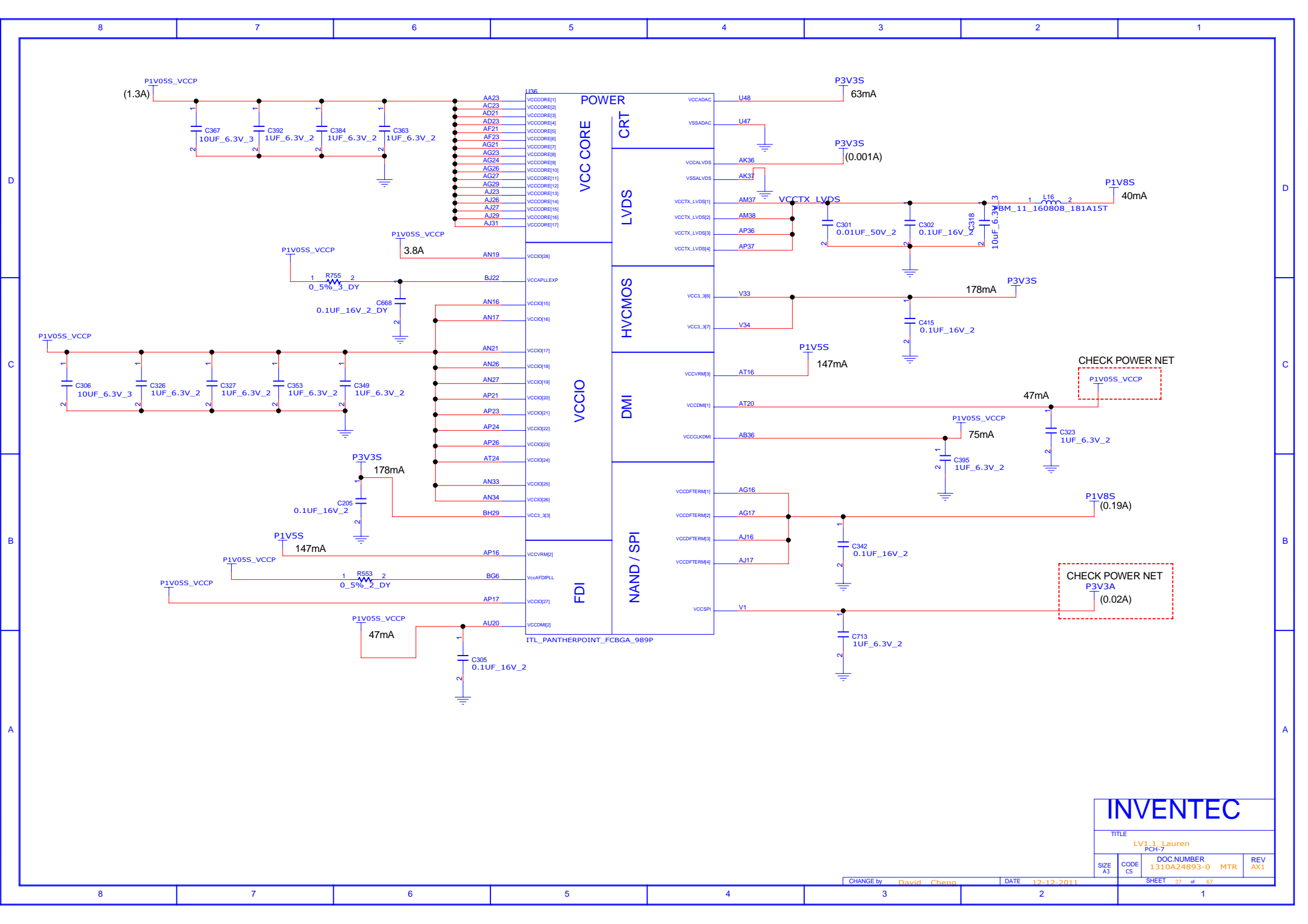
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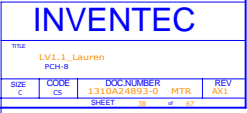
CHANGE by David Cheng DATE 12-12-2011

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D

C

B

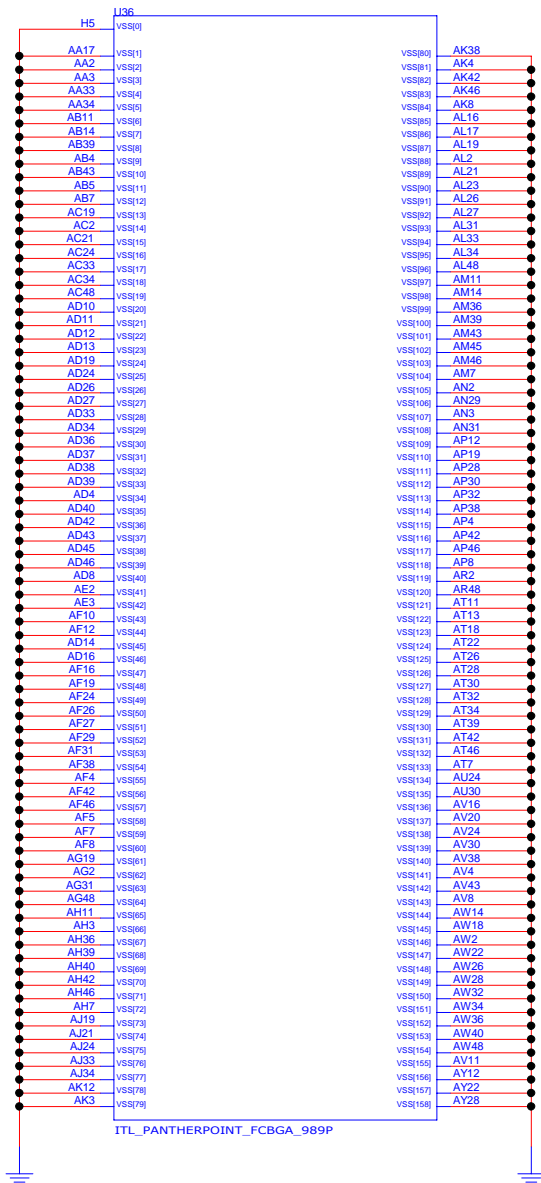
A

D

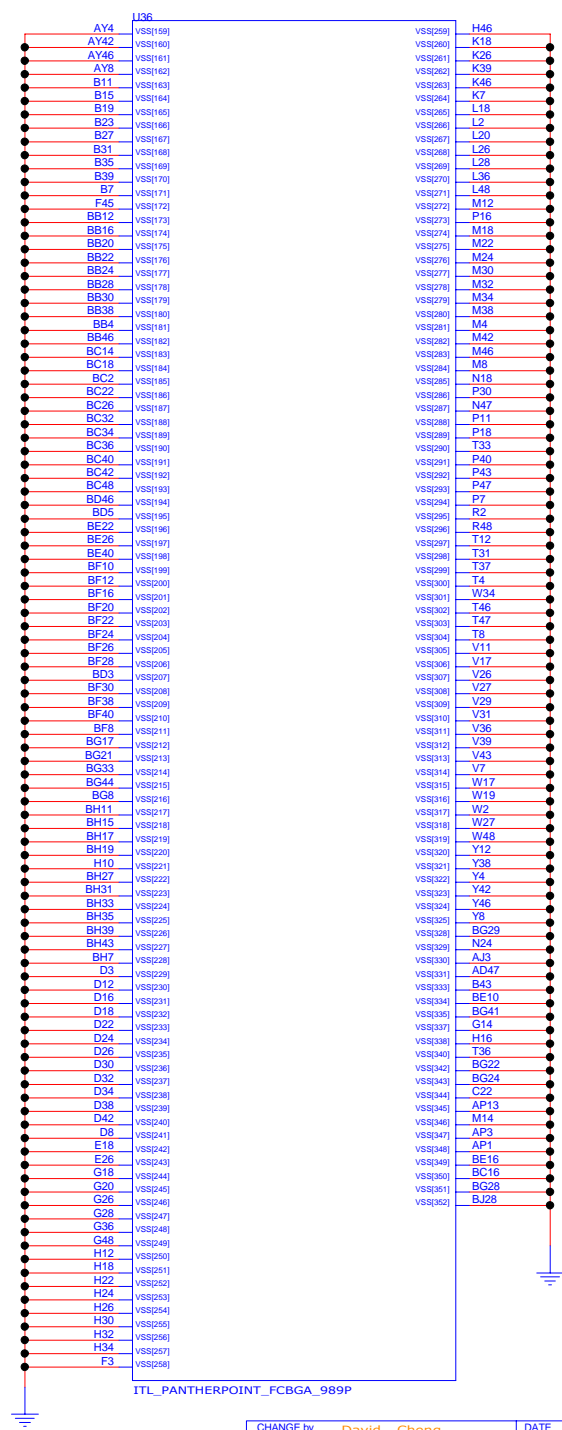
C

B

A



ITL\_PANTHERPOINT\_FCBGA\_989P

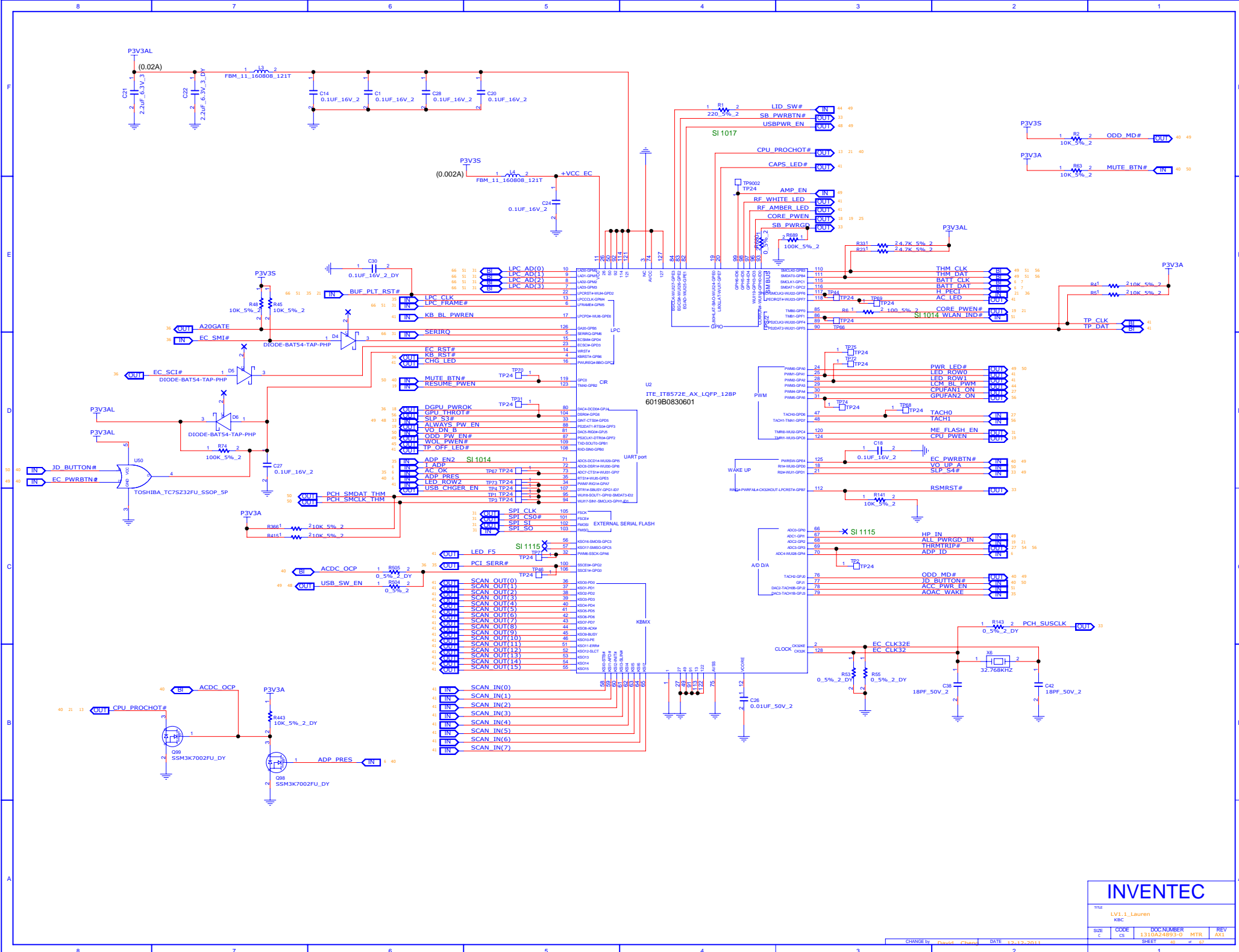


ITL\_PANTHERPOINT\_FCBGA\_989P

INVENTEC				
TITLE LV1:1 Lauren PCH-9				
SIZE A3	CODE CS	DOC NUMBER 1310A24893-0	MTR	REV AX1
SHEET 39 of 67				

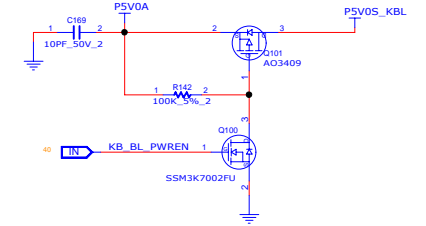
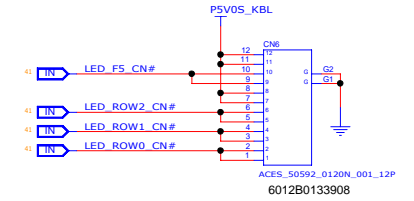
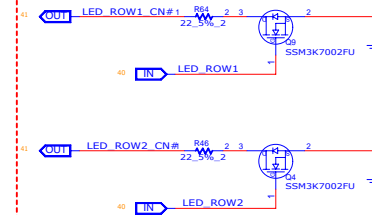
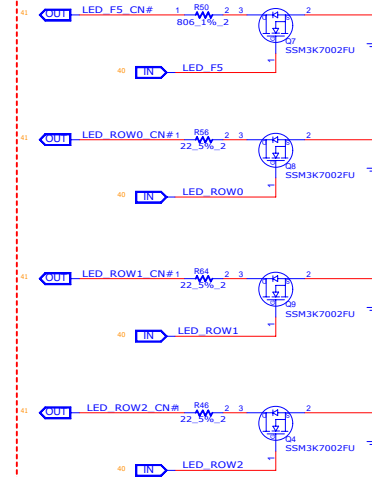
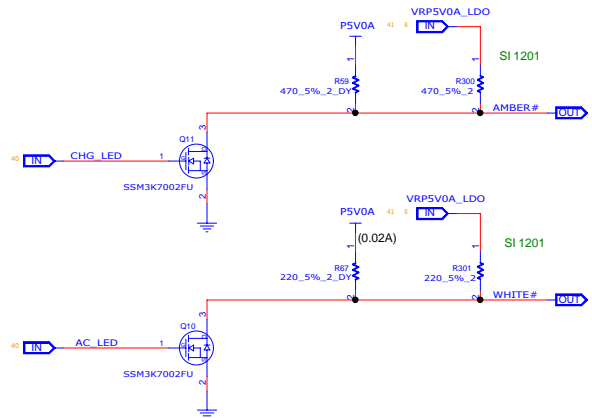
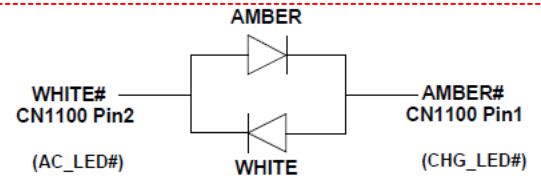
CHANGE by David Cheng

DATE 12-12-2011

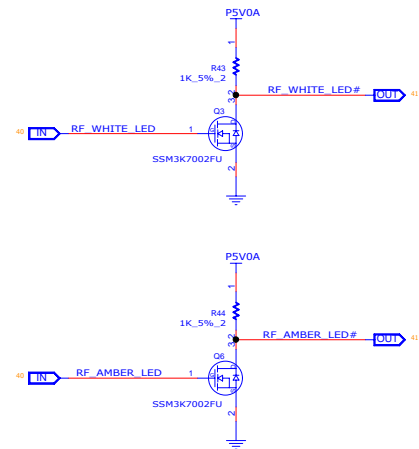
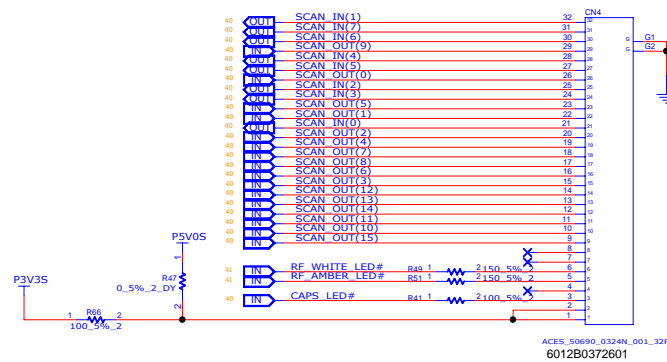




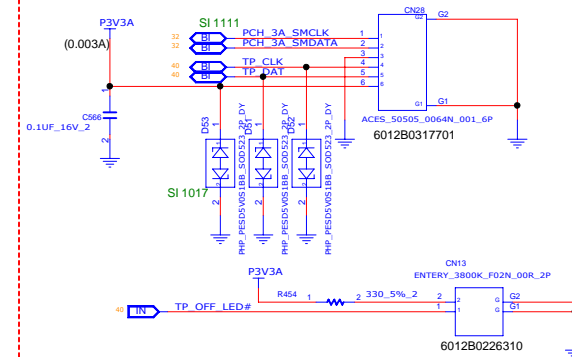
## DC-JACK LED



## KEYBOARD CONN



## TOUCHPAD MODULE CONN

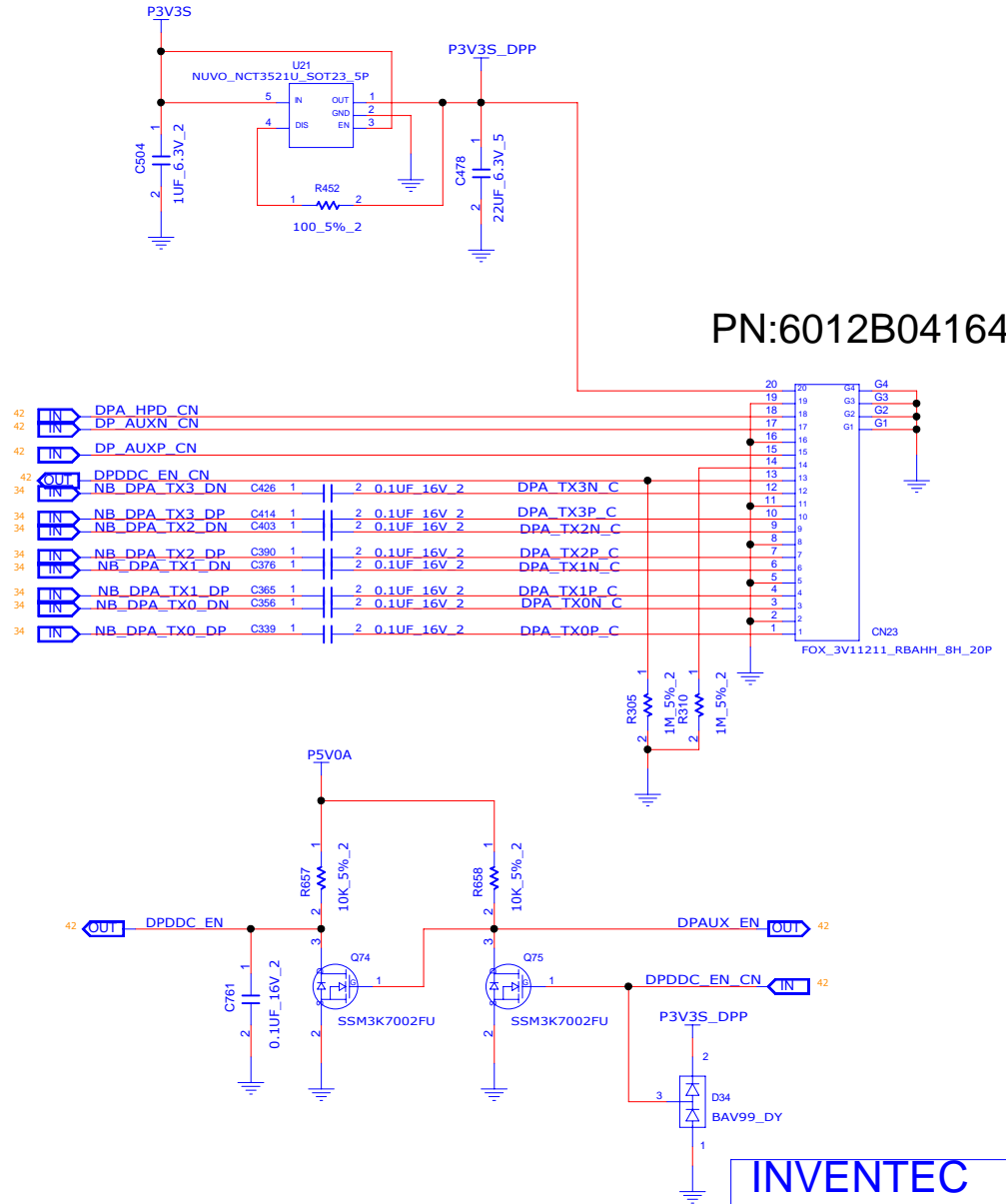
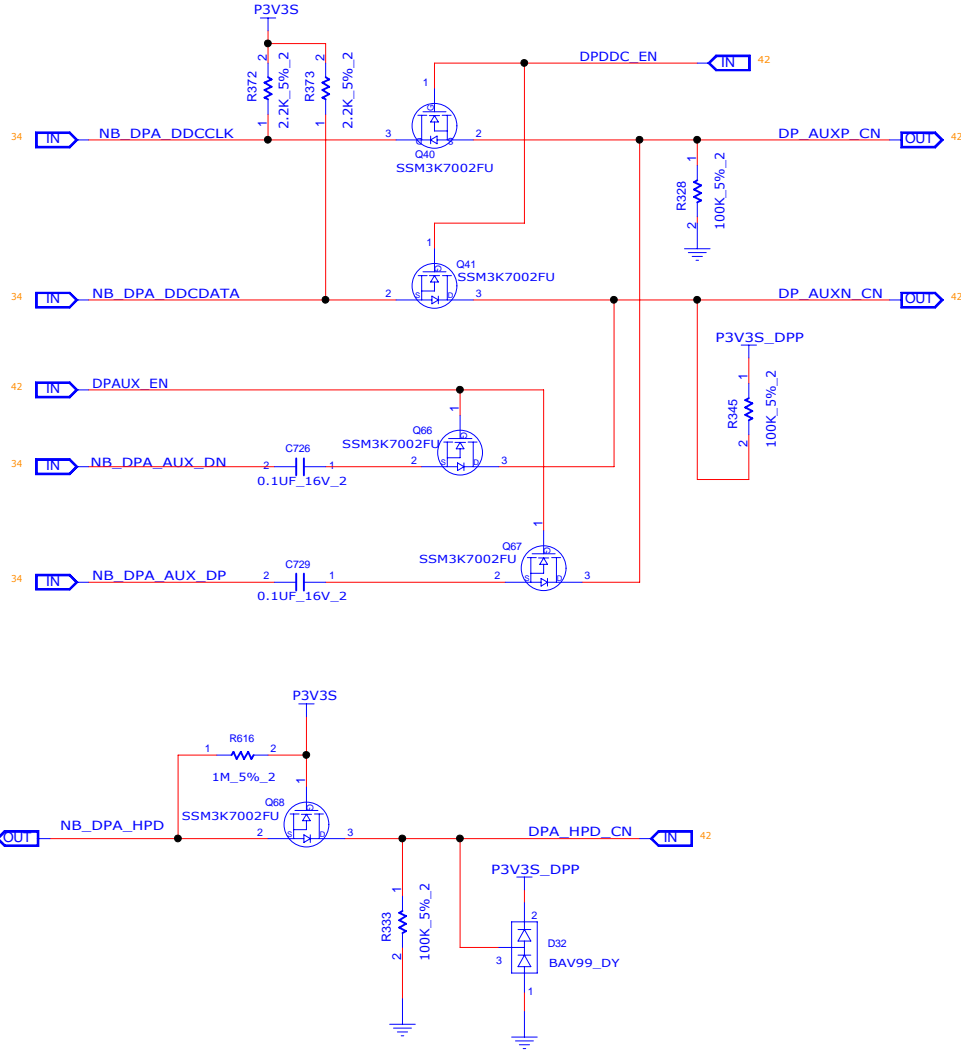


INVENTEC

Title			
LV1.1_Lauren			
KEYBOARD & TOUCHPAD			
SIZE	CODE	DOC NUMBER	REV
C	CS	1310A24853-5	MTR
SHEET		SI	6

CHANGE by: David\_Chaud DATE: 12-12-2014

# DISPLAY PORT



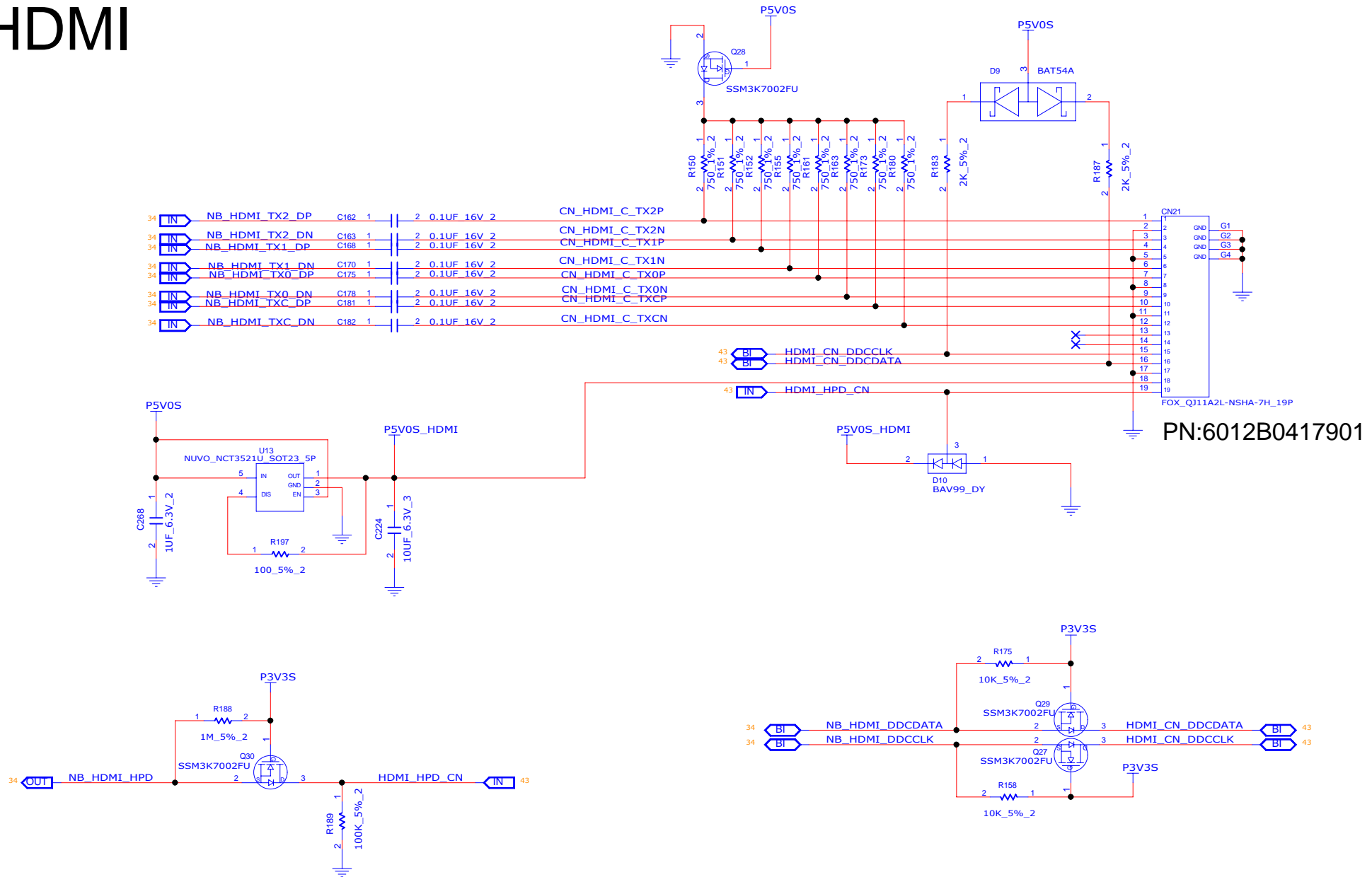
PN:6012B0416401

INVENTEC

TITLE			
LV1.1-Lauren			
DISPLAY_PORT_CONN			
DOCNUMBER			
1310A24893-0 MTR			
REV			
AX1			
SIZE	CODE	SHEET	
A3	CS	42 of 67	

CHANGE by David Cheng DATE 12-12-2011

# HDMI



INVENTEC

TITLE			
LV1.1 Lauren HDMI_CONN			
SIZE A3	CODE CS	DOC NUMBER 1310A24893-0	REV AX1
SHEET 43 of 67			

CHANGE by David Cheng DATE 12-12-2011

A B C D E F

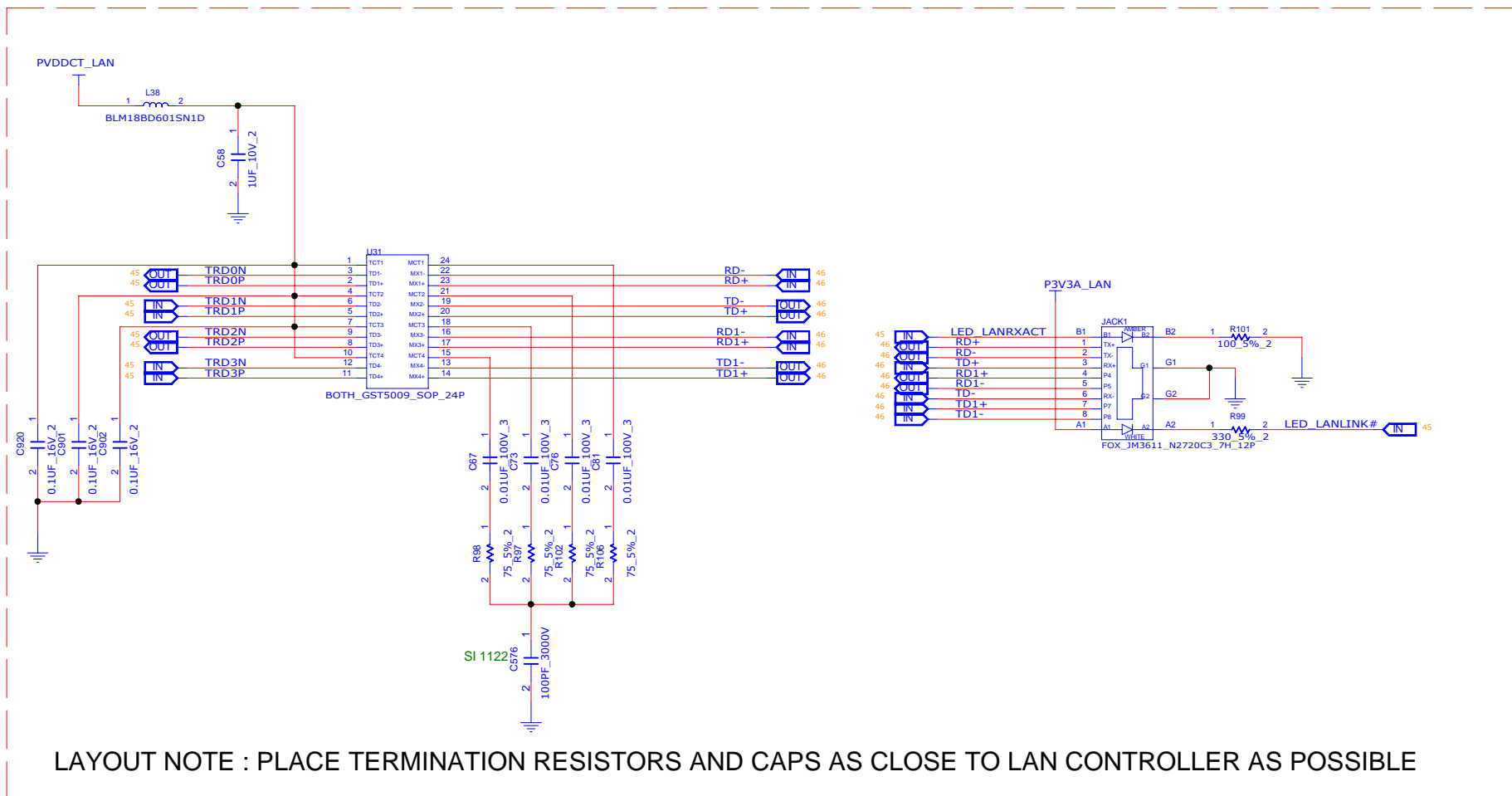


## A



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# RJ45

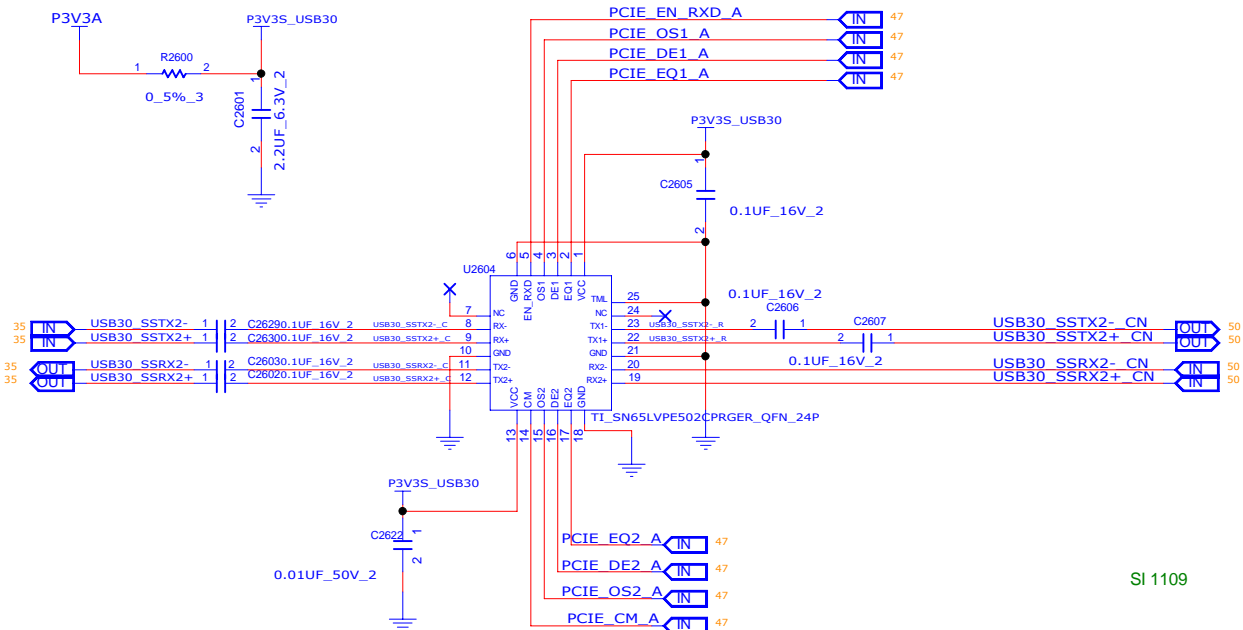


LAYOUT NOTE : PLACE TERMINATION RESISTORS AND CAPS AS CLOSE TO LAN CONTROLLER AS POSSIBLE

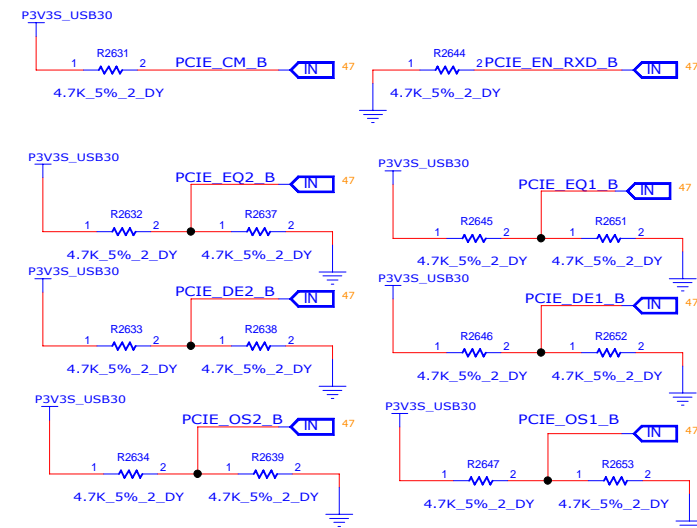
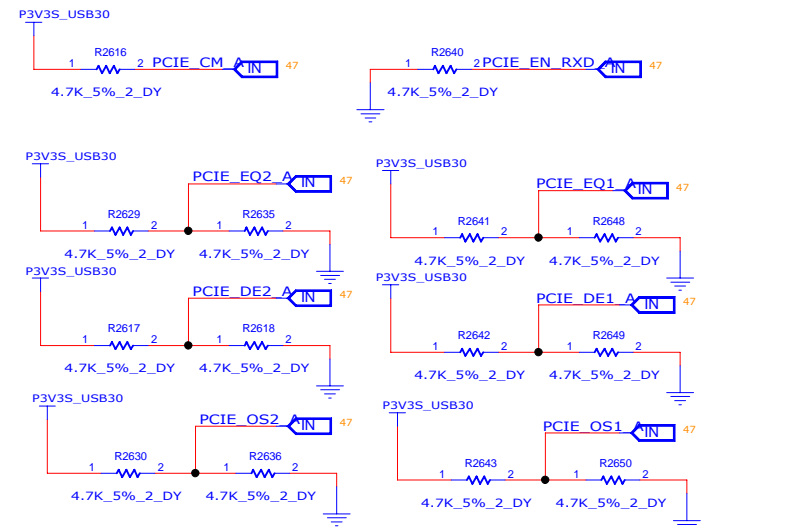
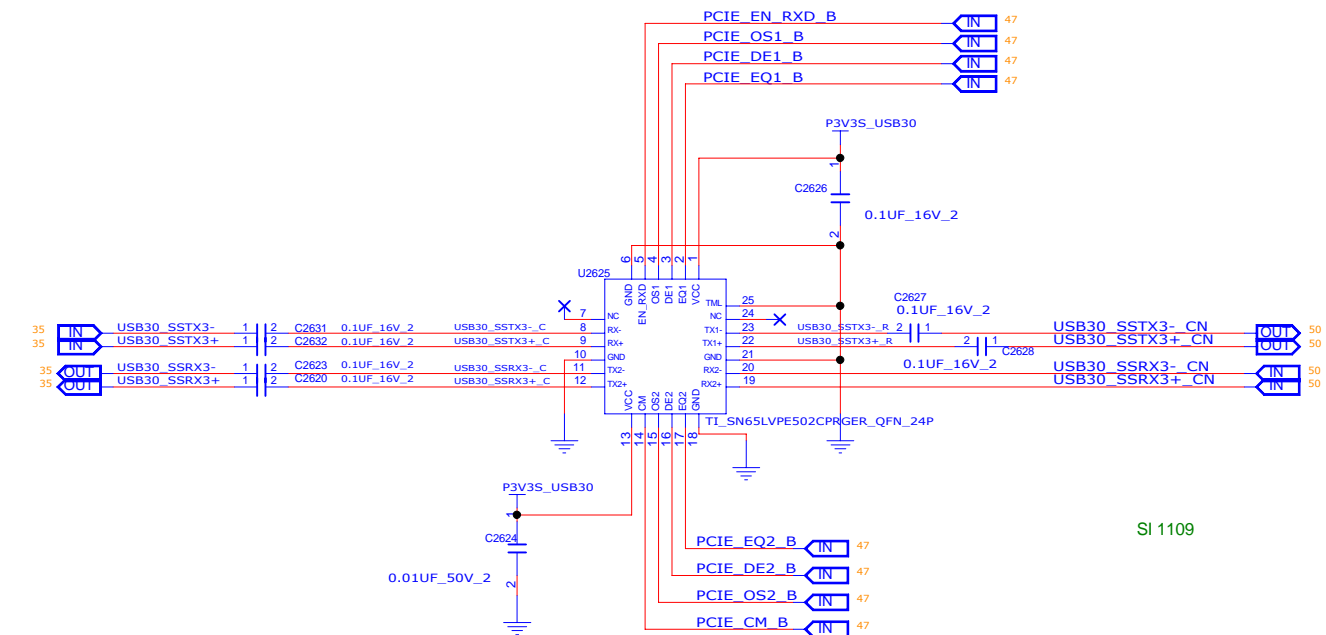
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LV1.1 Lauren RJ-45			
SIZE A3	CODE CS	DOC.NUMBER 1310A24893-0 MTR	REV AX1

# USB30\_REDRIIVER\_PORT2



# USB30\_REDRIIVER\_PORT3

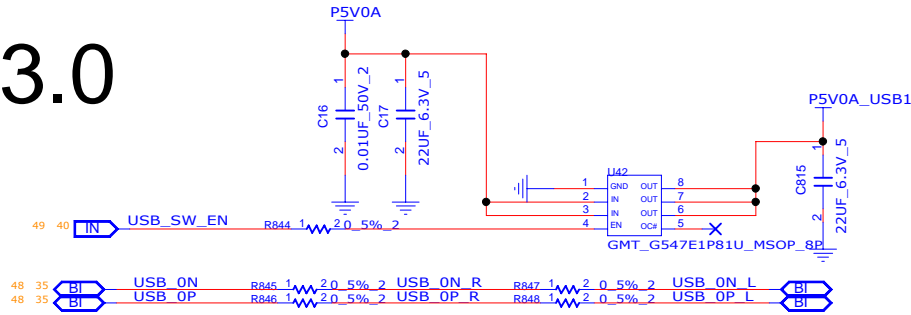


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DOCNUMBER				
1310A24893-0				
SIZE	CODE	MTR	REV	
A3	CS		AX1	

CHANGE by David Cheng DATE 12-12-2011

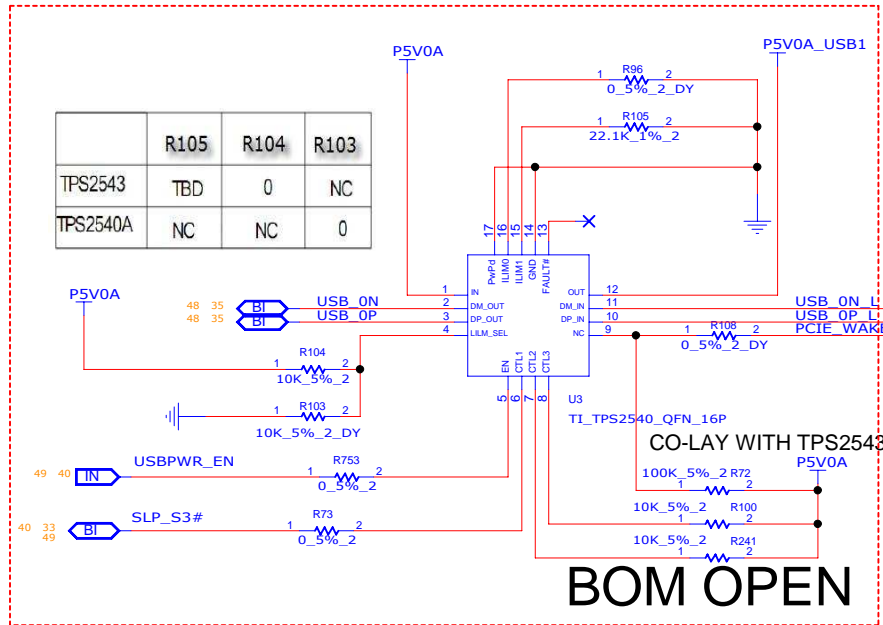
SHEET 47 of 67

# USB 3.0



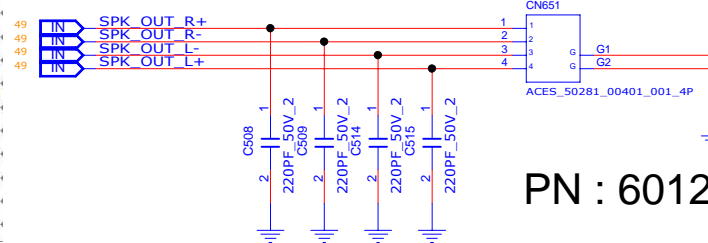
TPS2543/44 Control Truth Table

Input Logic Level				Logic Output	
CTL1	CTL2	CTL3	ILIM_SEL	Charging Mode	WAKE Output (active low)
0	0	0	x	OUT discharge, power switch off	off
0	x	1	0	Dedicated charging port, auto-detect	off
0	x	1	1	Dedicated charging port, auto-detect, w/ Mouse/Keyboard detect + pass through enabled (back to auto detect when detached)	active low if DCP load present
x	1	0	x	Standard downstream port, USB 2.0 Mode	off
1	0	0	x	Dedicated charging port, BC1.2 only	off
1	0	1	x	Dedicated charging port, divider	off
1	1	1	0	Standard downstream port, USB 2.0 Mode	off
1	1	1	1	Charging downstream port, BC1.2	active low if CDP load present



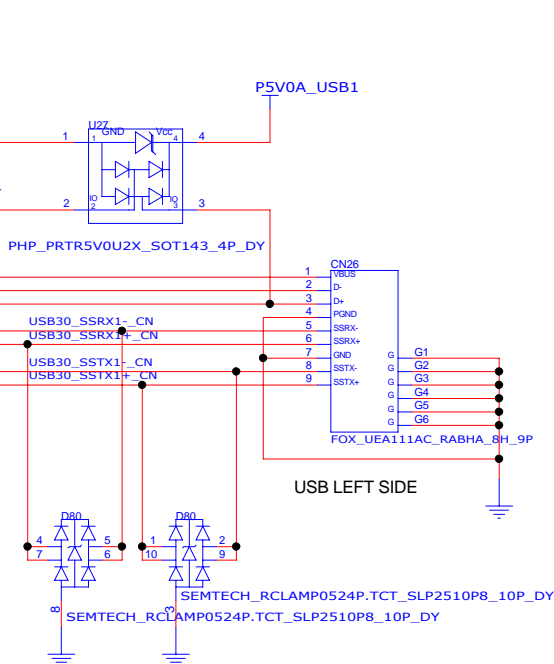
BOM OPEN

# REAR SPEAKER



PN : 6012B0096202

# USB CONN01



	USB charger port <sup>o</sup>			Standard USB port <sup>o</sup>		
	S0 <sup>o</sup>	S3 <sup>o</sup>	S4,S5 <sup>o</sup>	S0 <sup>o</sup>	S3 <sup>o</sup>	S4,S5 <sup>o</sup>
AC <sup>o</sup>	ON (EN=1) <sup>o</sup> (1,1,1) <sup>o</sup> (CDP MODE) <sup>o</sup>	ON (EN=1) <sup>o</sup> (0,1,1) <sup>o</sup> (DCP auto MODE) <sup>o</sup>	ON (EN=1) <sup>o</sup> (0,1,1) <sup>o</sup> (DCP auto MODE) <sup>o</sup>	ON <sup>o</sup>	ON <sup>o</sup>	ON <sup>o</sup>
DC <sup>o</sup> (normal batt) <sup>o</sup> (10%-100%) <sup>o</sup>	ON (EN=1) <sup>o</sup> (1,1,1) <sup>o</sup> (CDP MODE) <sup>o</sup>	ON (EN=1) <sup>o</sup> (0,1,1) <sup>o</sup> (DCP auto MODE) <sup>o</sup>	ON (EN=1) <sup>o</sup> (0,1,1) <sup>o</sup> (DCP auto MODE) <sup>o</sup>	ON <sup>o</sup>	OFF <sup>o</sup>	OFF <sup>o</sup>
DC <sup>o</sup> (low batt 10%) <sup>o</sup>	ON (EN=1) <sup>o</sup> (1,1,1) <sup>o</sup> (CDP MODE) <sup>o</sup>	OFF (EN=0) <sup>o</sup> (0,1,1) <sup>o</sup>	OFF (EN=0) <sup>o</sup> (0,1,1) <sup>o</sup>	ON <sup>o</sup>	OFF <sup>o</sup>	OFF <sup>o</sup>

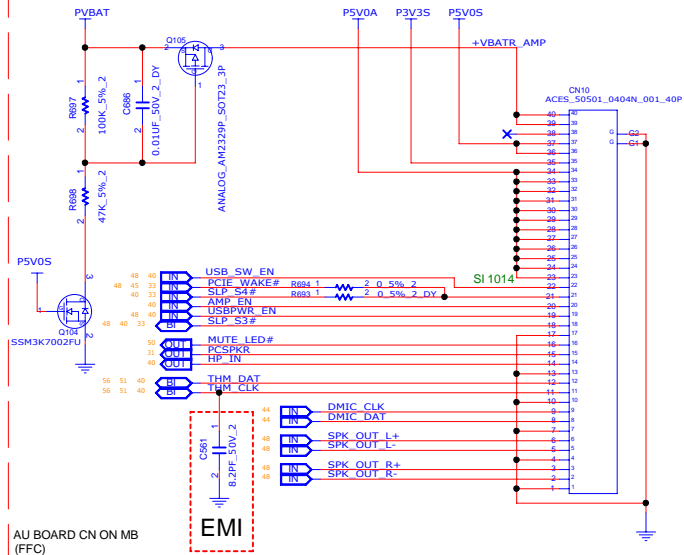
INVENTEC

TITLE			
LV1.1 Lauren USB3.0_CONN			
SIZE A3	CODE CS	DOC NUMBER 1310A24893-0	REV AX1

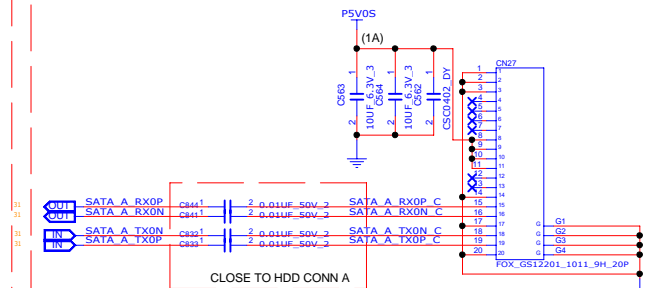


AU BOARD CN ON MB

PN : 6012B0218428

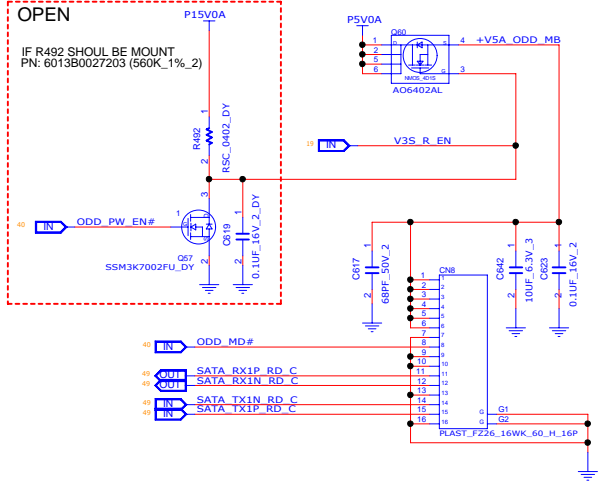


SATA HDD CONN A

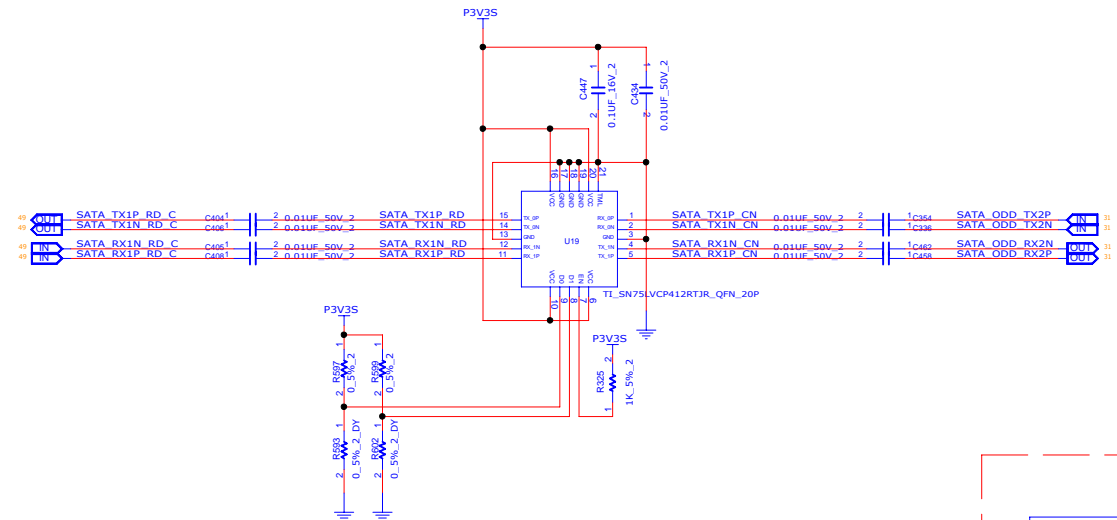
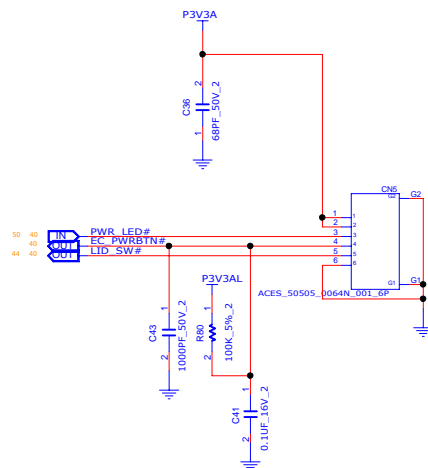


SATA ODD FFC CONN ON MB

IF R492 SHOUL BE MOUNT  
PN: 6013B0027203 (560K\_1%\_2)



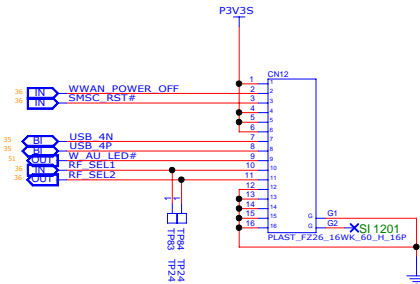
## PBN CABLE CN ON MB



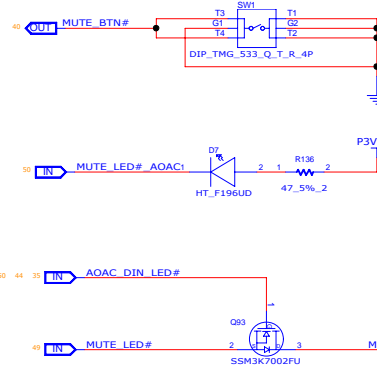
## INVENTEC

TITLE			
LV1.1_Lauren AUDIO, PWB, ODD BOARD & HDD CONN			
SIZE C	CODE CS	DOC NUMBER 1310A24893-0	REV AX1
SHEET 49 of 67			

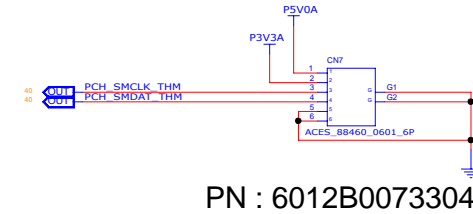
## WIRELESS AUDIO BOARD CN ON MB MUTE BUTTON



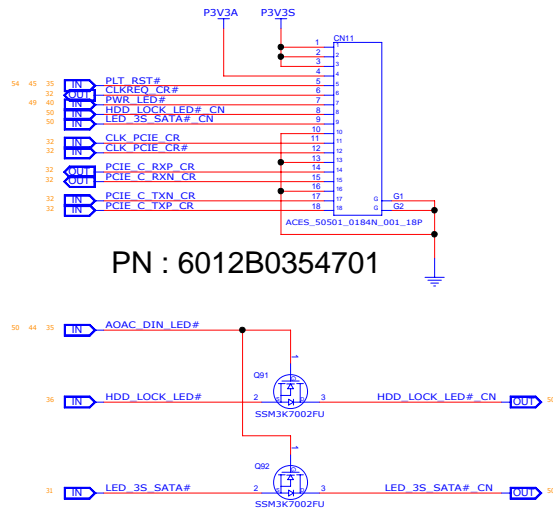
### MUTE BUTTON SWITCH



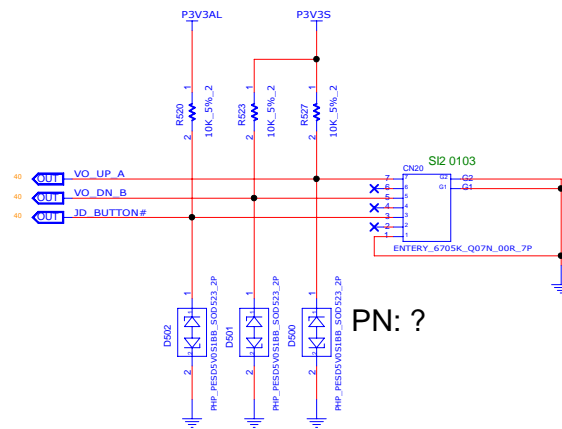
## LDPS BOARD CN ON MB



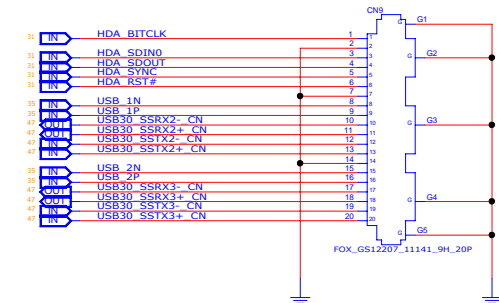
## CR BOARD CN ON MB



## JOG DIAL CN ON MB



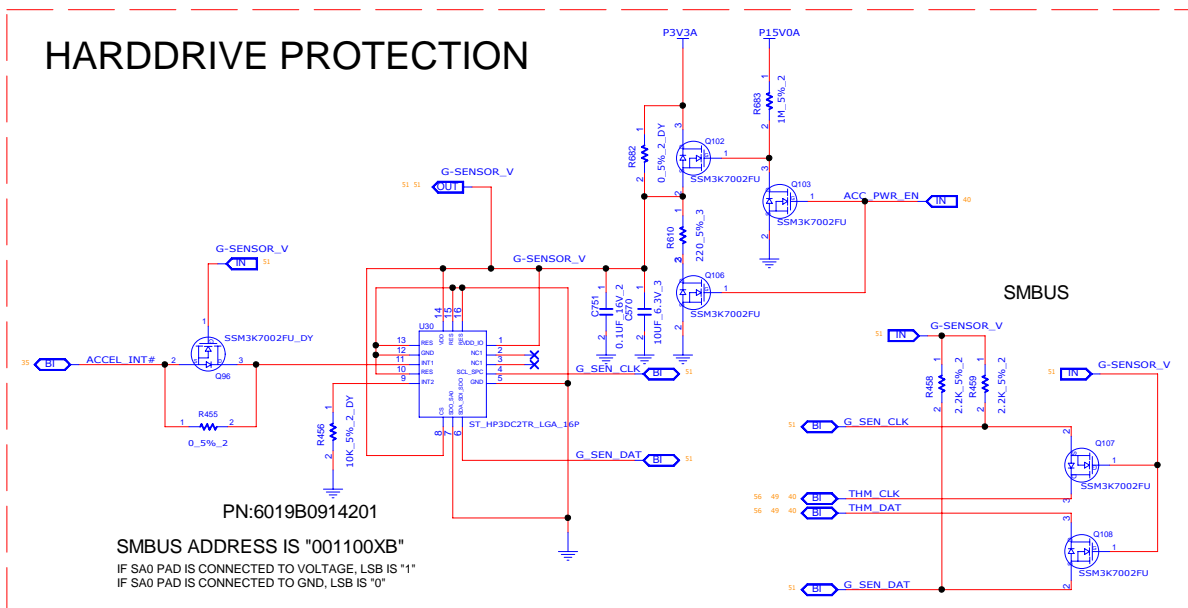
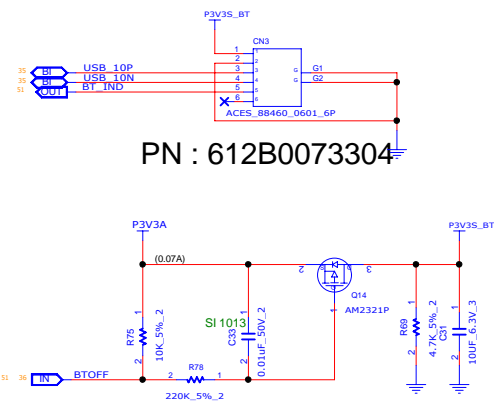
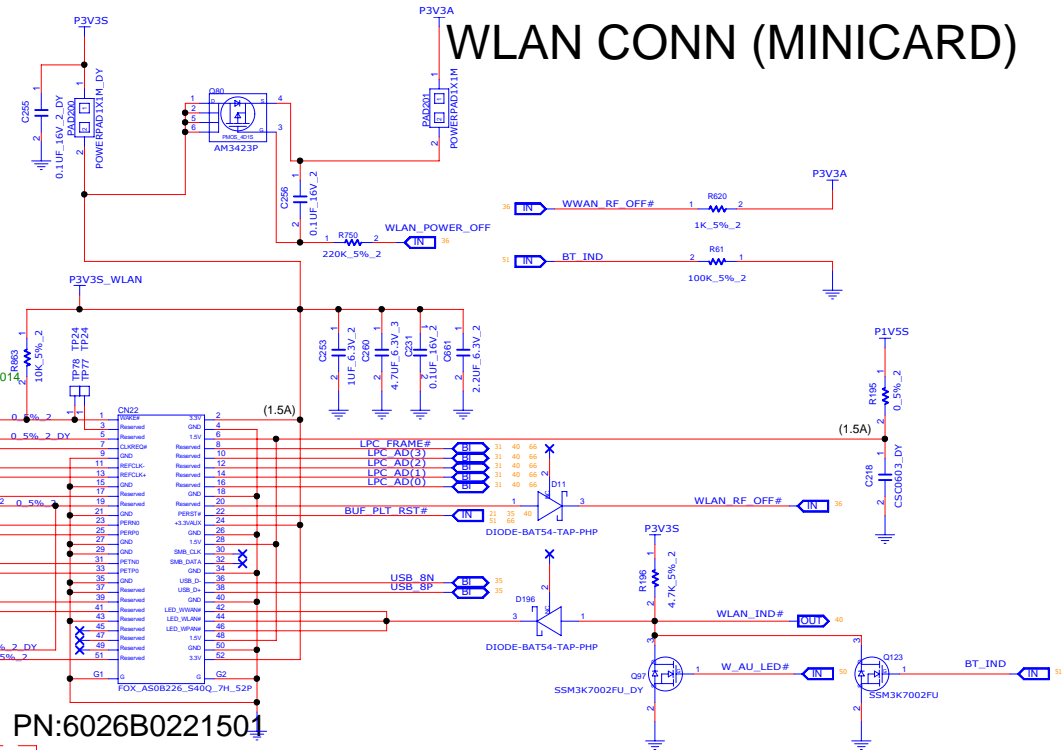
## AU-USB30 CN ON MB (WIRE OR COXIAL)



INVENTEC

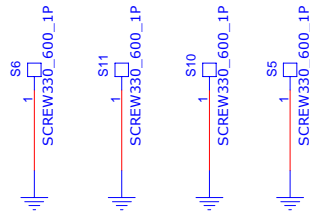
Title				
LV1.1_Lauren				
WIRELESS AUDIO,LDPS,CR,JOG,USB				
SIZE	CODE	DOC NUMBER	MTR	REV
C	CS	1310A24853-0		A/1
SHEET 31 of 67				

CHANGE by: Claude\_Chaput DATE: 12-12-2014

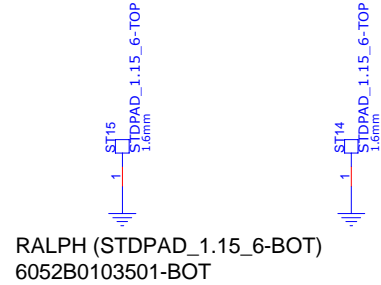


TITLE			
LV1.1_Lauren WLAN & HDD PROTECTION			
SIZE C	CODE CS	DOC NUMBER 1310A24893-0	REV AX1
SHEET		51	of 67

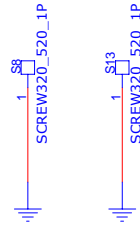
## CPU SCREWS



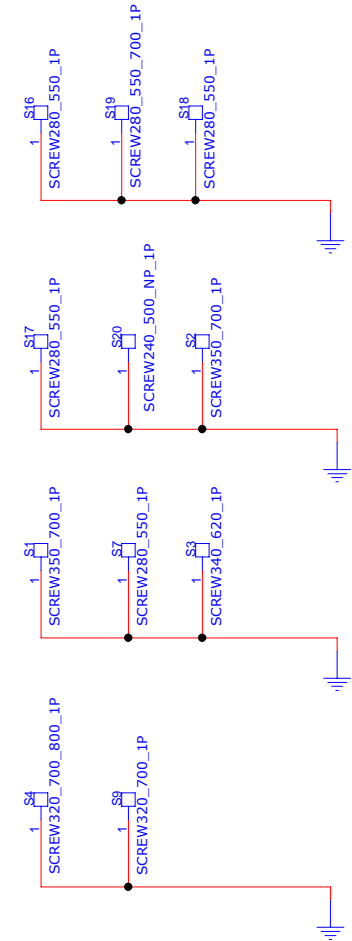
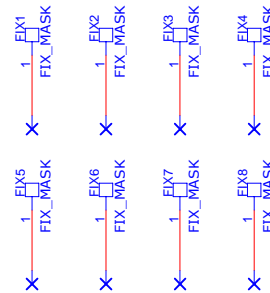
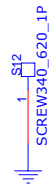
## WWAN SCREWS



## VGA SCREWS



## FAN SCREWS



INVENTEC

TITLE			
LV1.1-Lauren EMI CAP & SCREW			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A24893-0 MTR	AX1

CHANGE by David Cheng

DATE 12-12-2011

SHEET 52 of 67

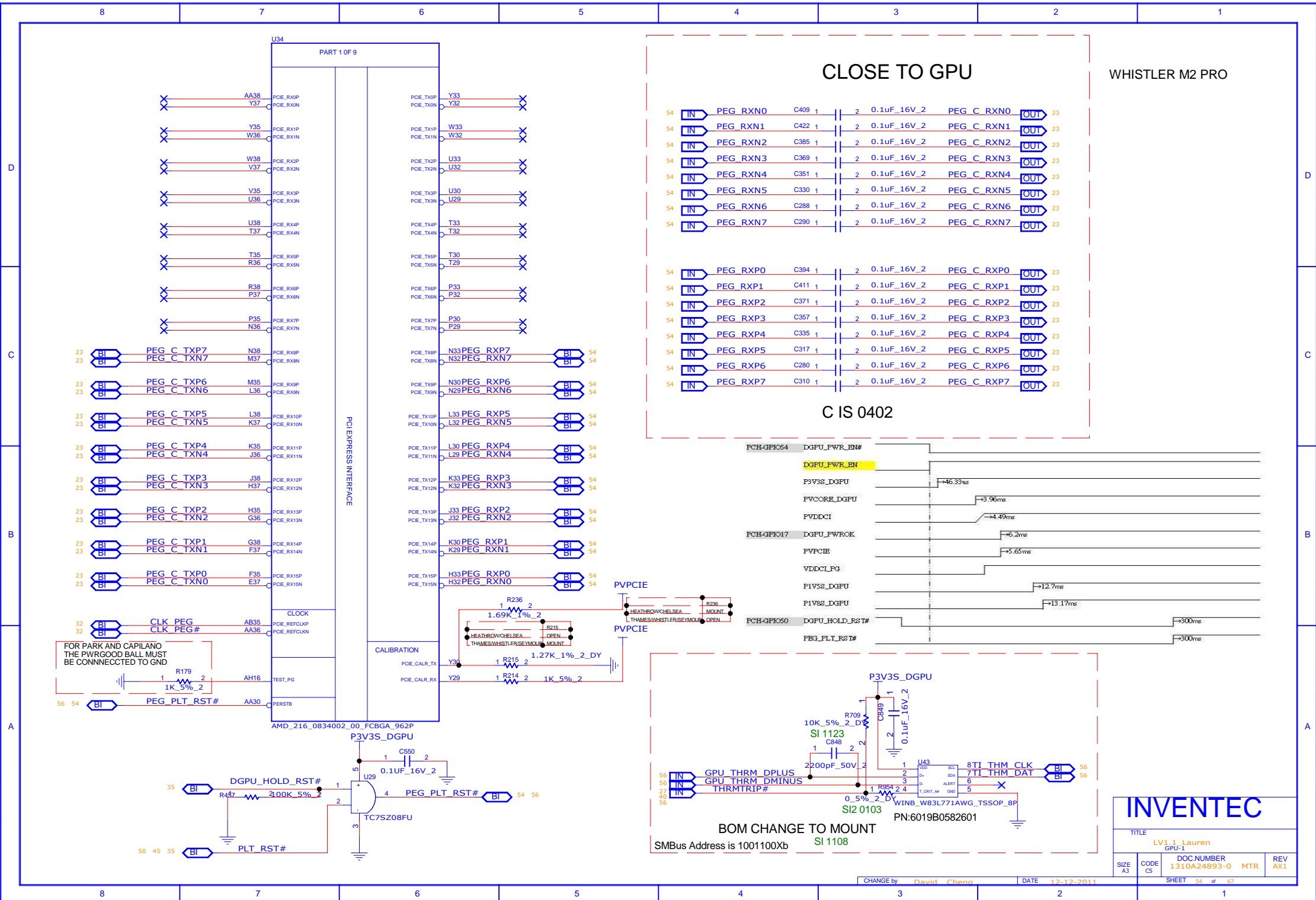
GPU

INVENTEC

TITLE			
LV1:1 Lauren BLANK			
SIZE A3	CODE CS	DOC NUMBER 1310A24893-0 MTR	REV AX1

CHANGE by David Cheng DATE 12-12-2011

SHEET 53 of 67





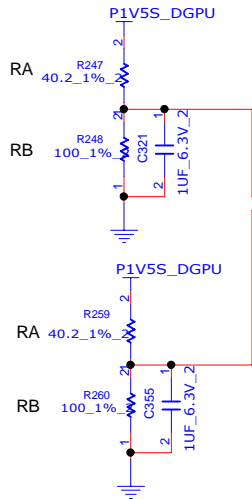




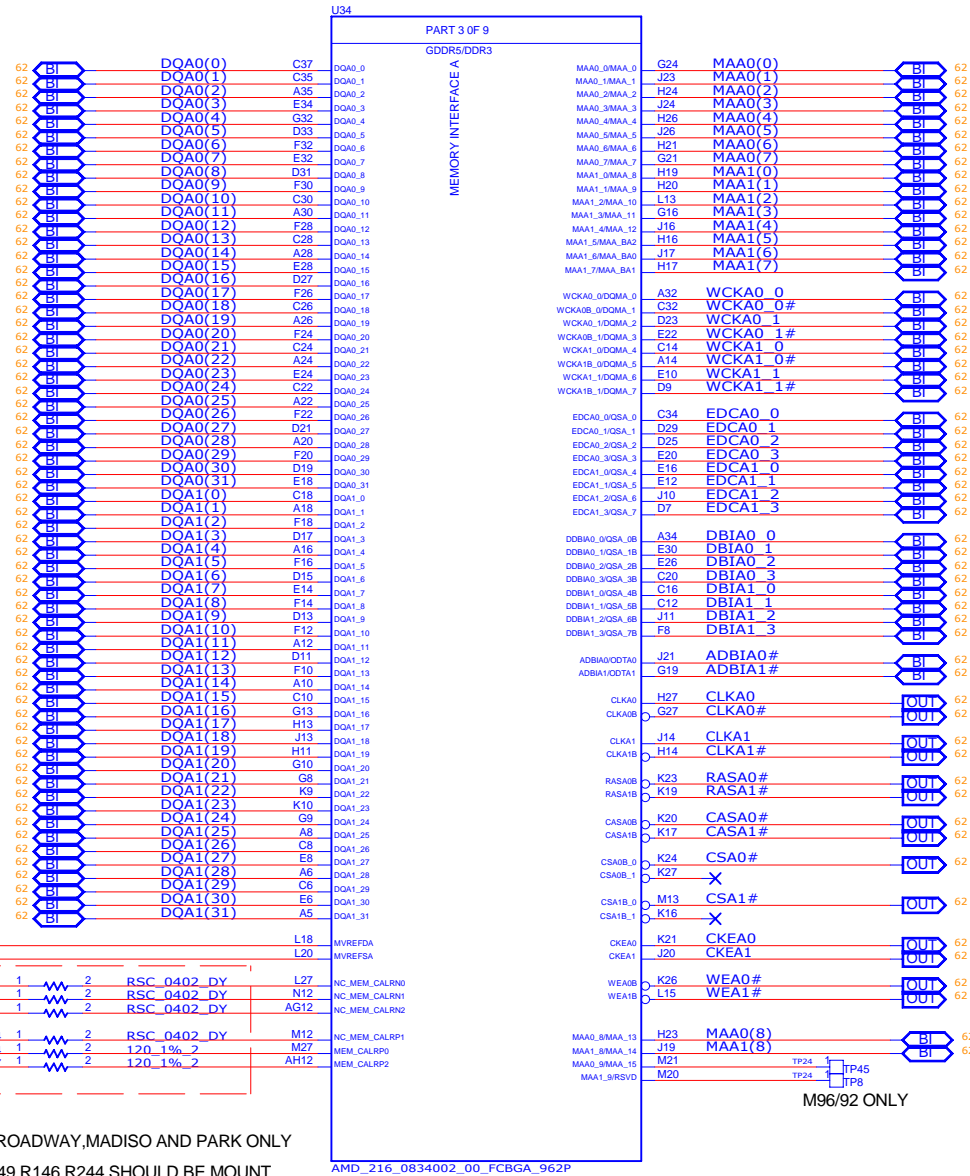
# CHANNEL A

## DDR3/GDDR3MEMORY STUFF OPTION

	GDDR5	GDDR3	DDR3
MVDDQ	1.5V	1.8V/1.5V	1.5V
RA	40.2R	40.2R	40.2R
RB	100R	100R	100R



FOR M97,BROADWAY,MADISO AND PARK ONLY  
IF R258,R249,R146,R244 SHOULD BE MOUNT,  
P/N 6013A0087806 (243OHM,1%)



# INVENTEC

TITLE  
LV1.1\_Lauren

SIZE A3 CODE CS DOCNUMBER 1310A24893-0 MTR REV AX1

CHANGE by David Cheng

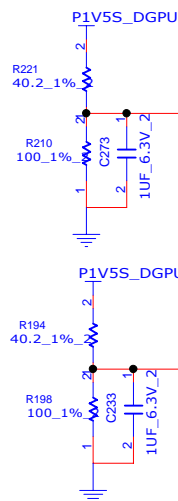
DATE 12-12-2011

SHEET 57 of 67

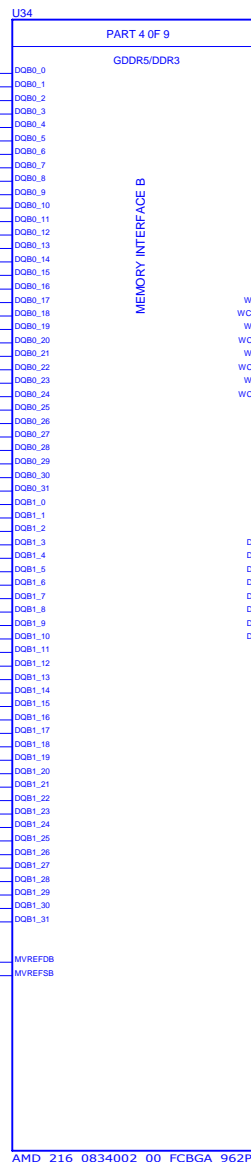
# CHANNEL B

## DDR3/GDDR3MEMORY STUFF OPTION

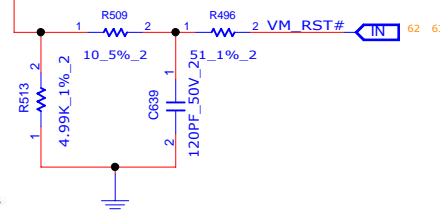
	GDDR5	GDDR3	DDR3
MVDDQ	1.5V	1.8V/1.5V	1.5V
RA	40.2R	40.2R	40.2R
RB	100R	100R	100R



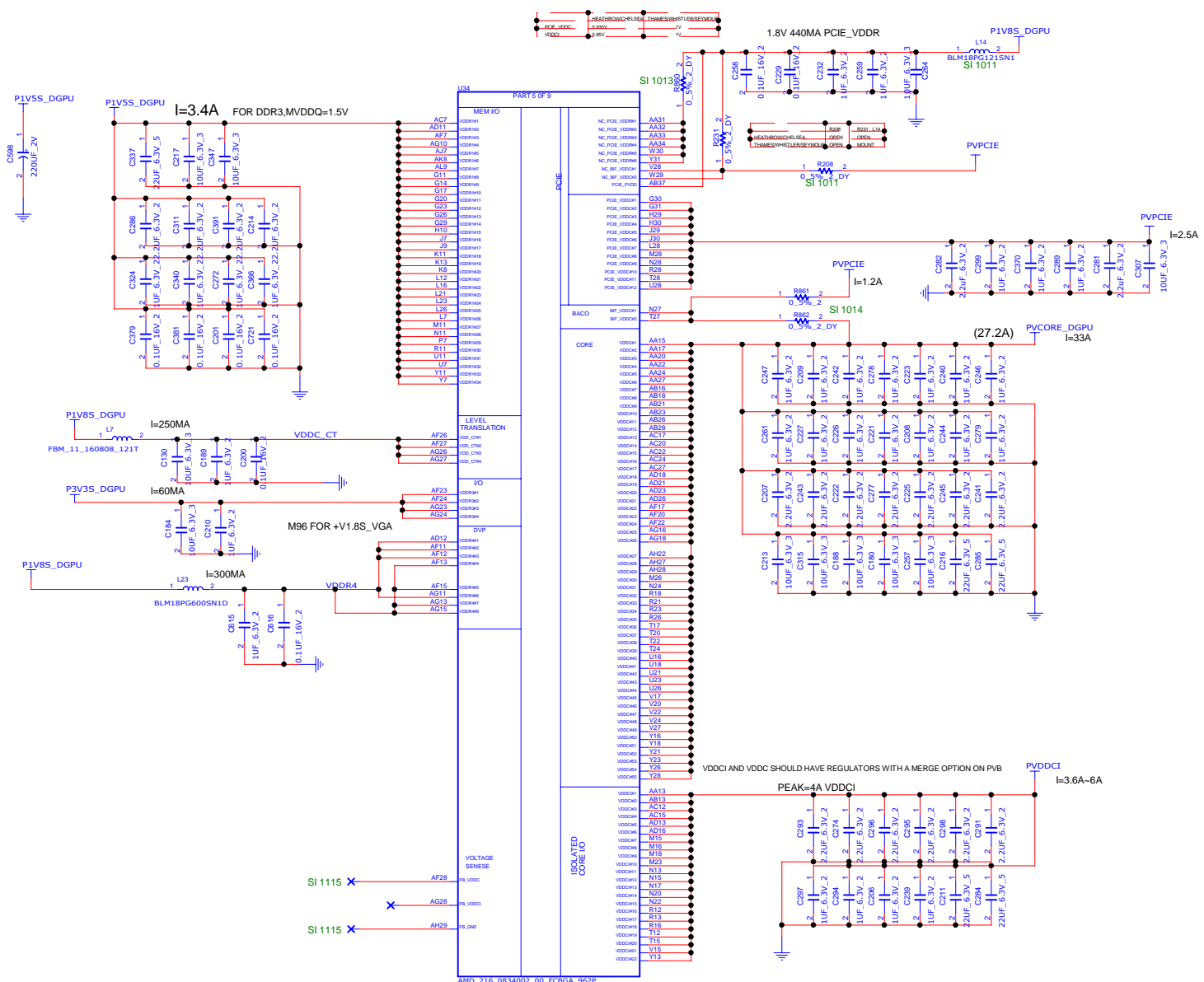
MVREFDB\_GPU  
MVREFSB\_GPU

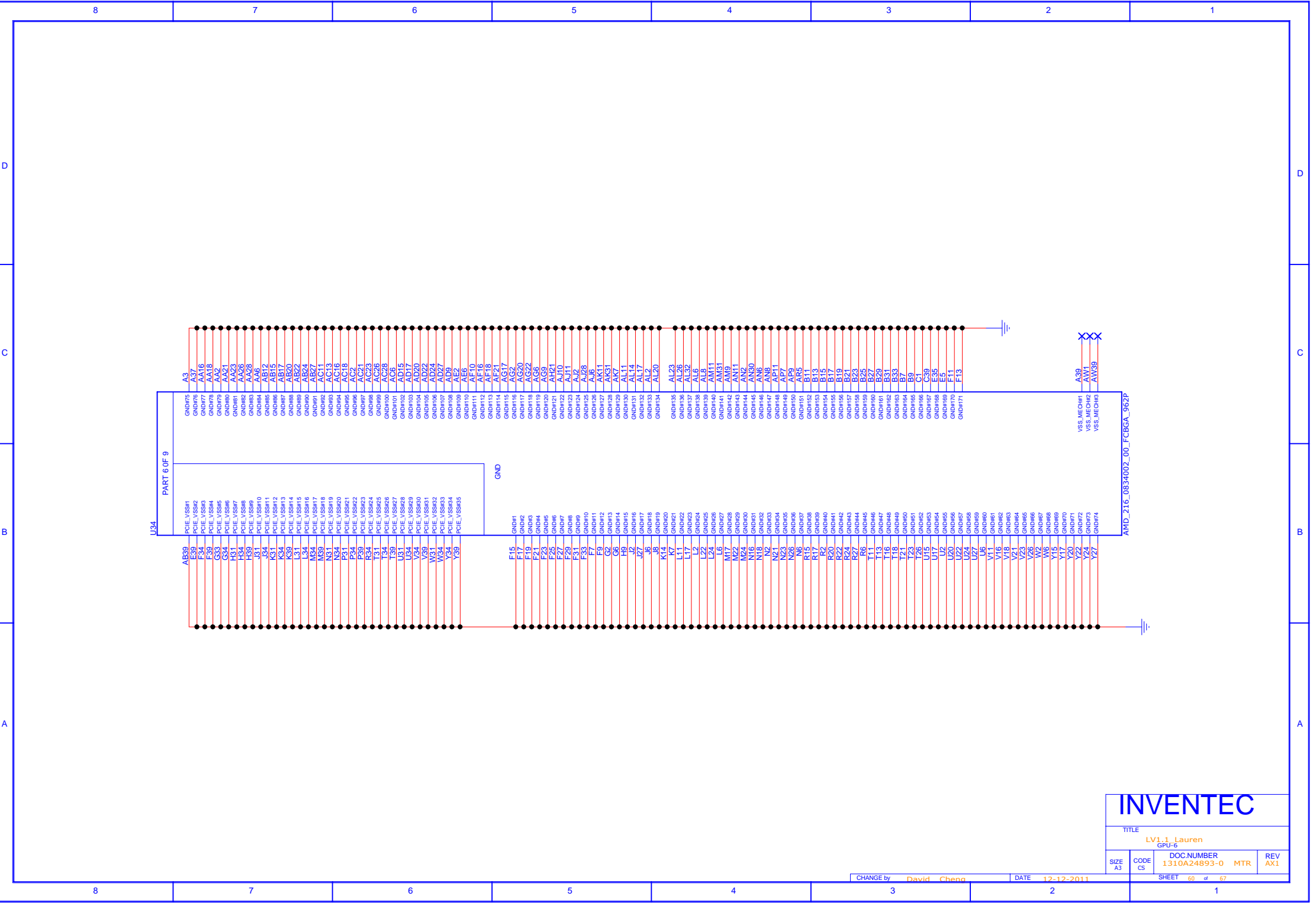


Place all these components vry close to GPU (Within 25mm)  
and keep all component close to each other (within 5mm) except Rser2  
\* This basic topology should be used for DDR3/GDDR3/GDDR5  
These Capacitors and Resistor values are an example only.  
The Series R and || Cap values will depend on the DRAM load and will have to be  
calculated for different Memory , DRAM Load and board to pass Reset Signal Spec.



INVENTEC			
TITLE			
LV1.1_Lauren			
DOC NUMBER			
1310A24893-0			
MTR			
REV			
AX1			
SHEET	58	of	67





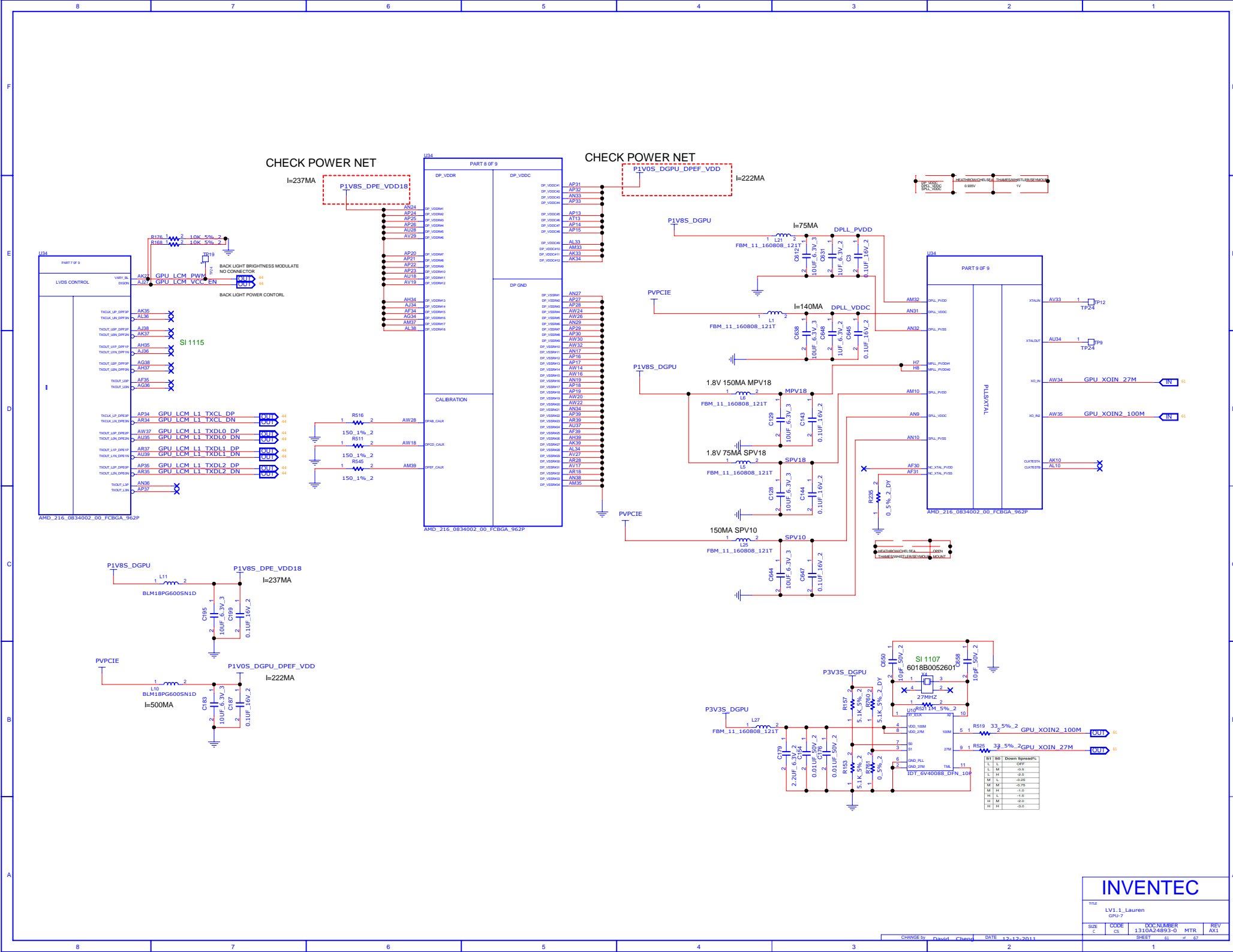
INVENTEC

TITLE			
LV1.1_Lauren GPU_6			
SIZE	CODE	DOC-NUMBER	REV
A3	CS	1310A24893-0 MTR	AX1

CHANGE by David\_Cheng

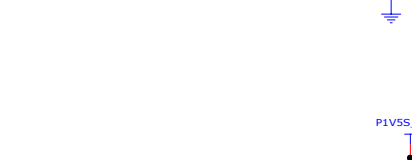
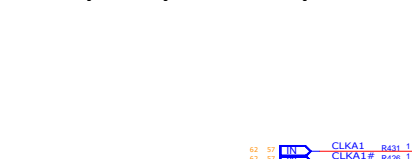
DATE 12-12-2011

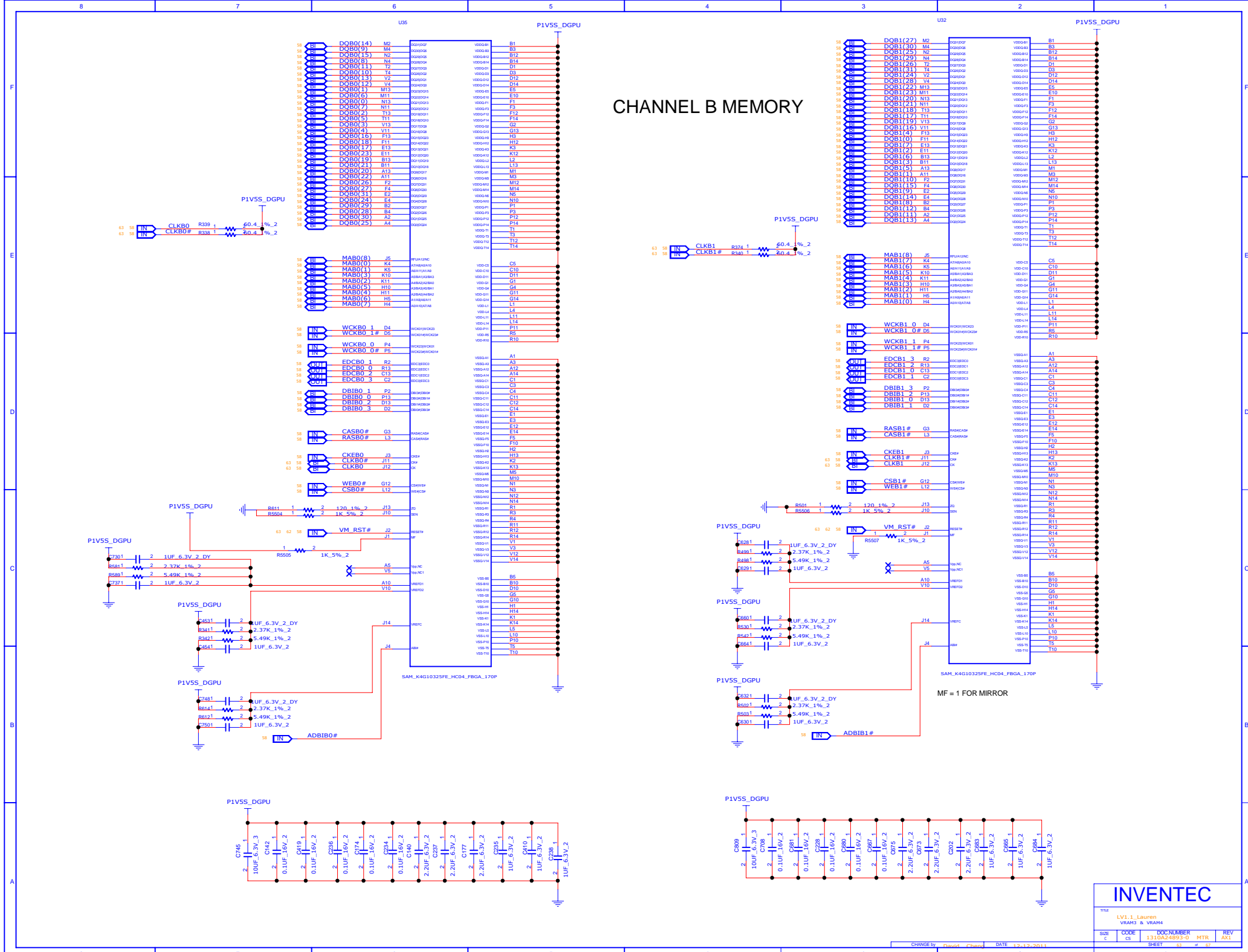
SHEET 60 of 67



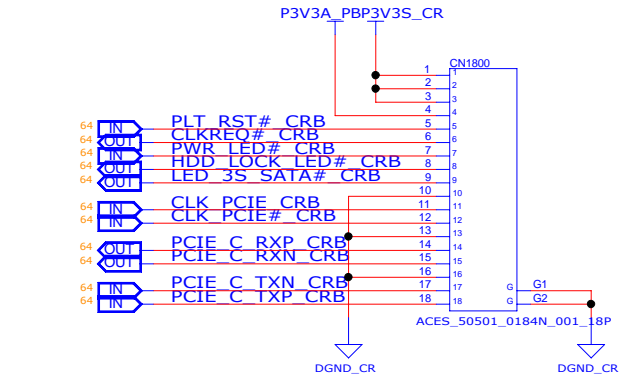
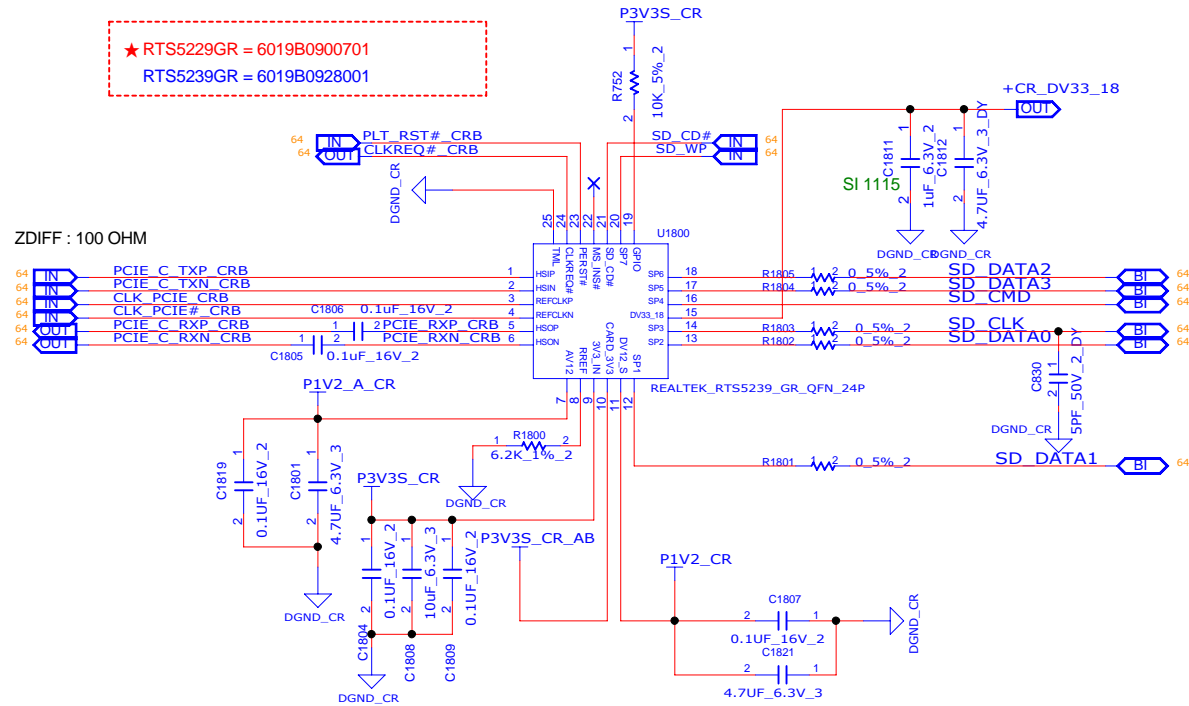
# CHANNEL A MEMORY

VENDER	DENSITY	VENDER PN	IEC PN
SAMSUNG	32MX32	K4G10325FG-HC04	6019B0889201
HYNIX	32MX32	H5GQ1H24BFR-T2C	6019B0866701
SAMSUNG	64MX32	K4G20325FC-HC04	6019B0842201
HYNIX	64MX32	H5GQ2H24MFR-T2C	6019B0843001

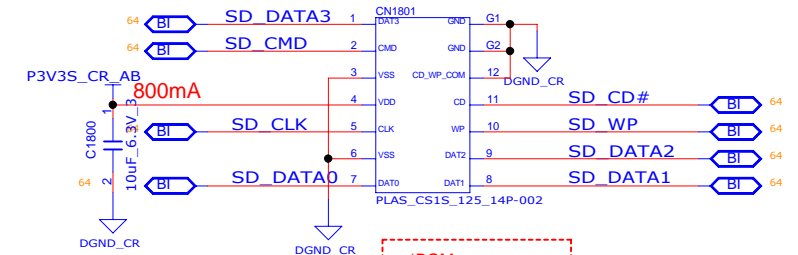




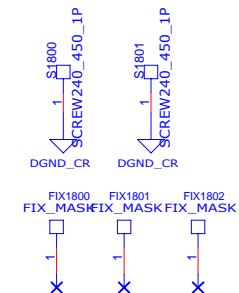
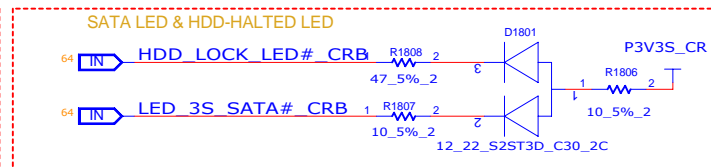
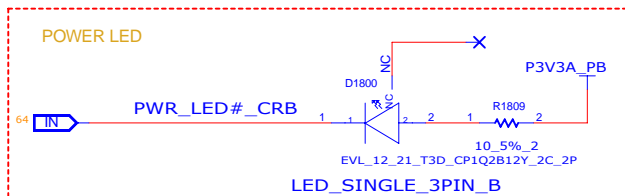
# CARDREADER BOARD



## CARD READER CONN



\*BOM  
CN1801  
PN: 6026B0103603



INVENTEC

TITLE  
LV1.1 Lauren  
CARDREADER BOARD

DOC NUMBER  
1310A24893-0 MTR

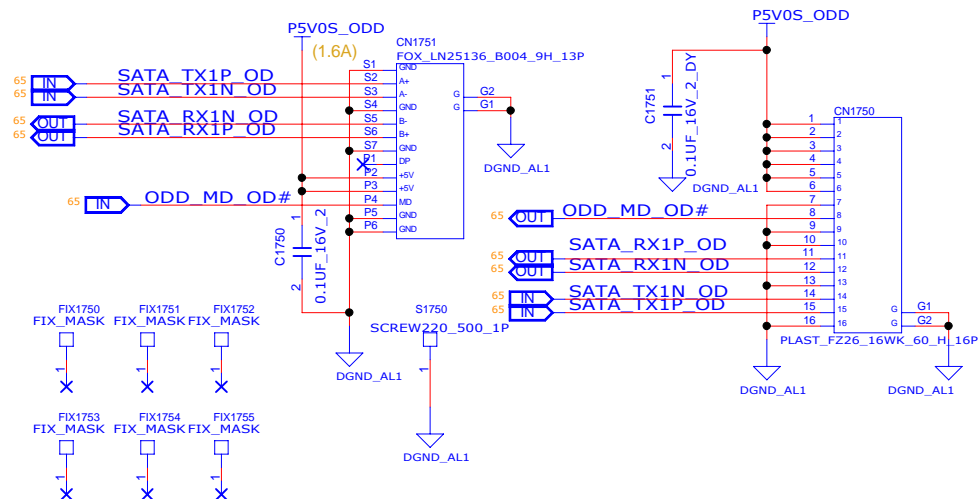
REV  
AX1

CHANGE by David Cheng DATE 12-12-2011

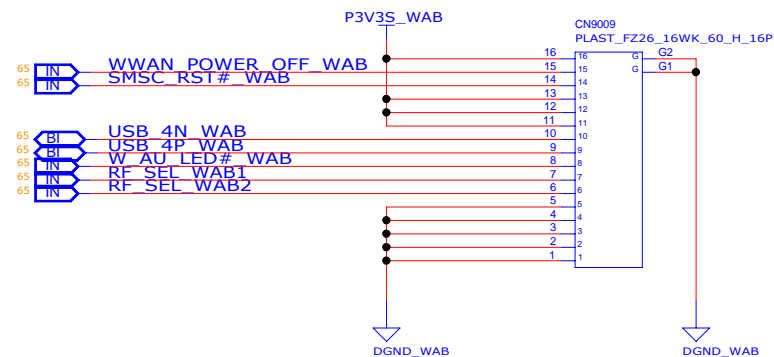
SHEET 64 of 67



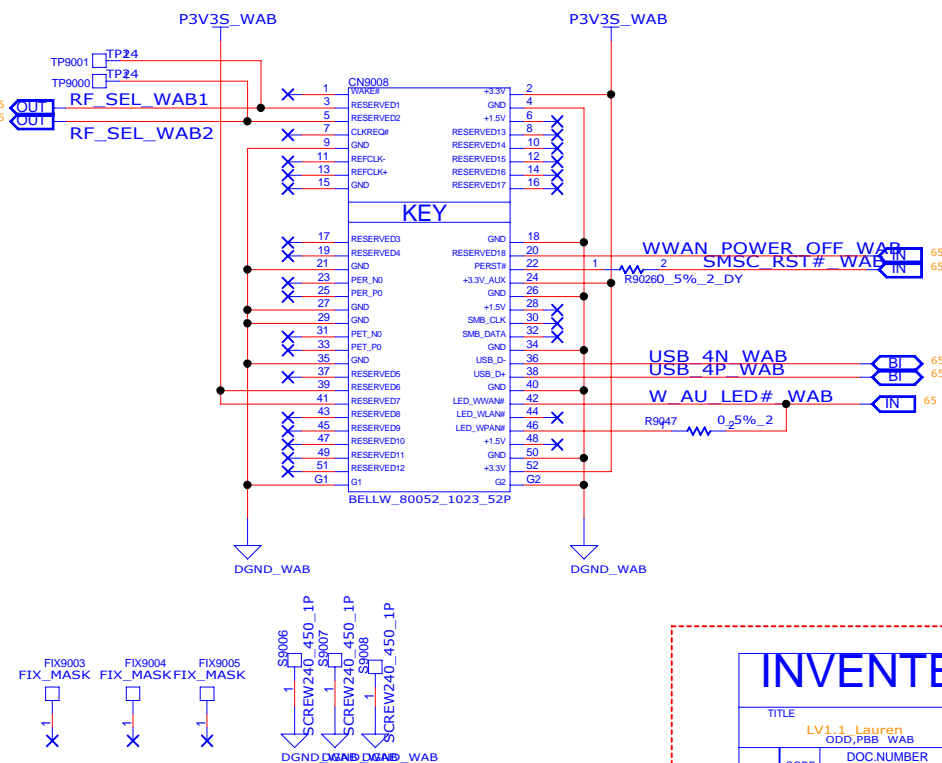
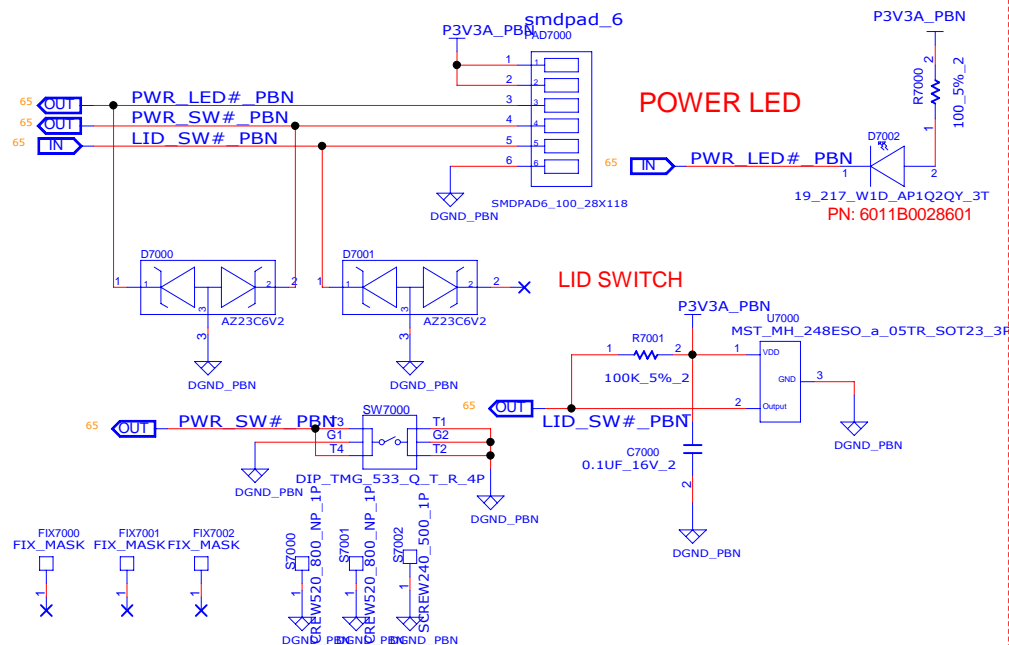
# ODD Board



# WIRELESS AUDIO BOARD

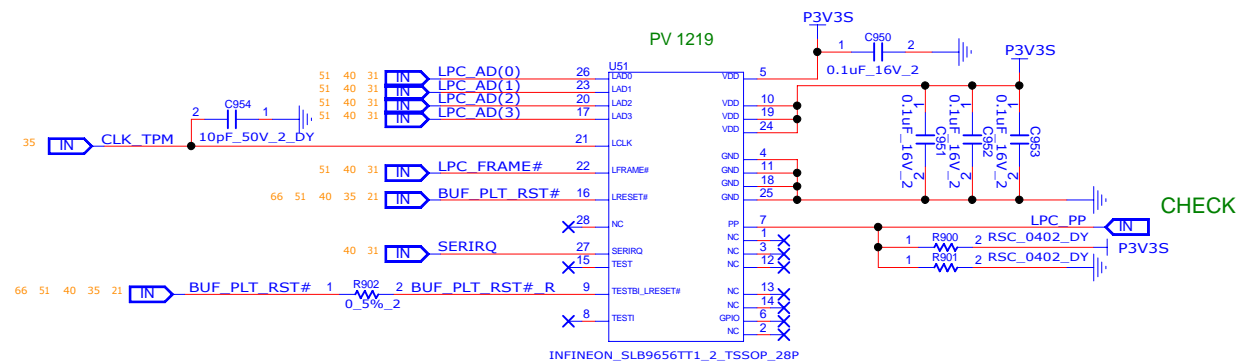


# Power Button Board



INVENTEC

TITLE				
LV1.1 Lauren ODD_PBB_WAB				
DOC NUMBER				
1310A24893-0				
REV				
AX1				
SIZE	CODE	MTR		REV
A3	CS			AX1



# TPM1.2

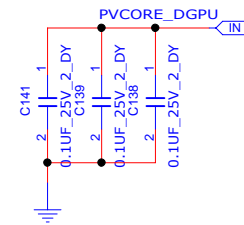
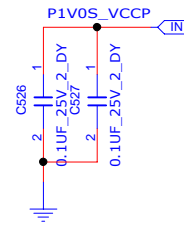
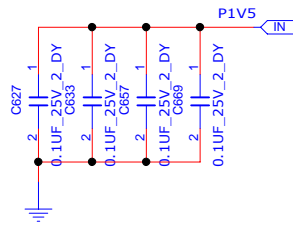
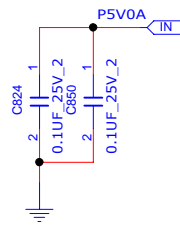
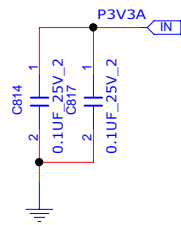
INVENTEC

TITLE			
LV1.1_Lauren Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A24893-0 MTR	AX1

CHANGE by David Cheng DATE 12-12-2011

SHEET 66 of 67

# EMI



INVENTEC

TITLE			
LV1.1_Lauren Block Diagram			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A24893-0 MTR	AX1