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HSF Property : HF

ROCKY2  
Calpella Platform  
MV Build  
2010/12/21

DATE	1	CHANGE NO.	REV

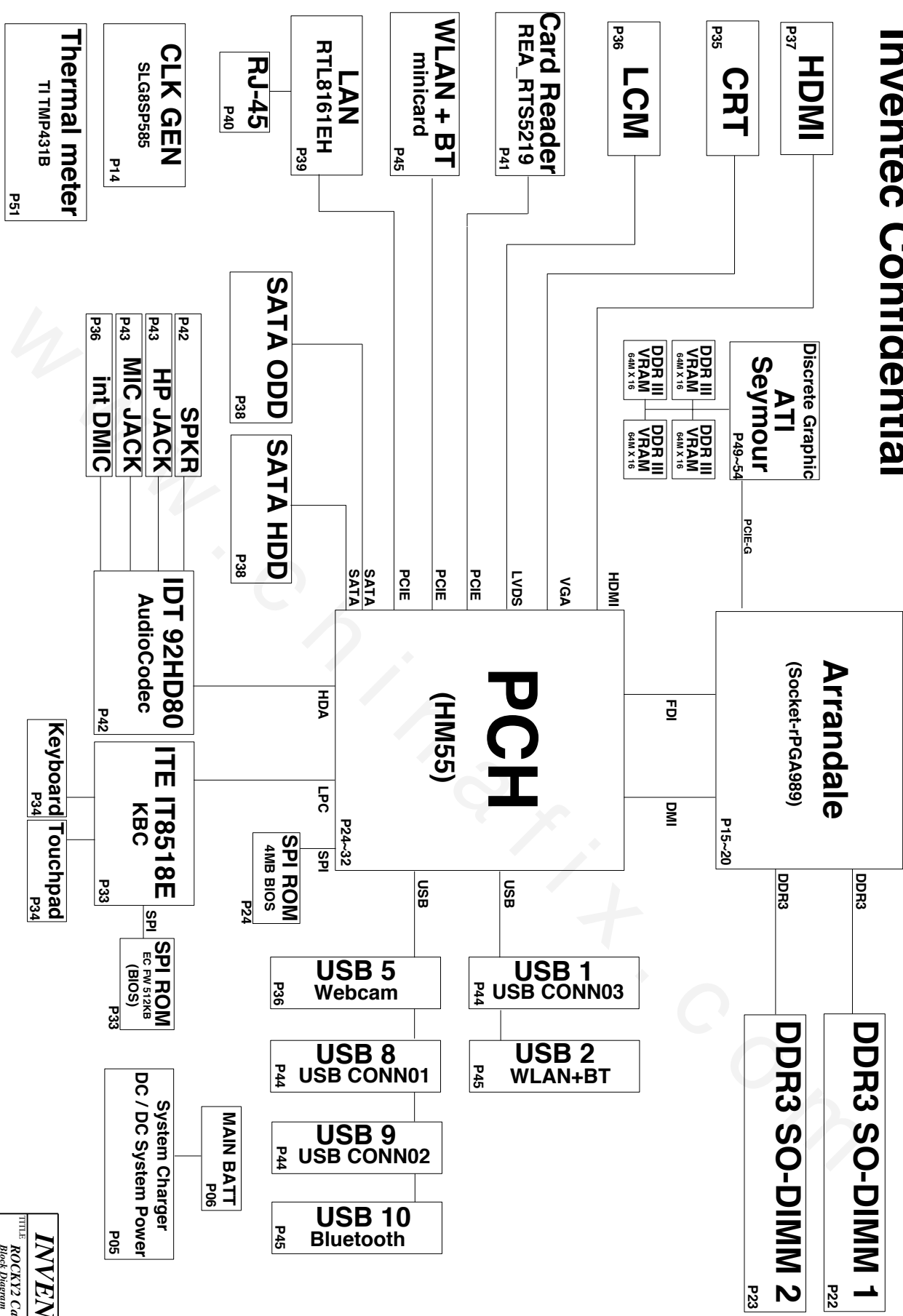
DESIGN	EE	DATE	POWER	DATE	TITLE
CHECK					INVENTEC
SIZE =	3	VER:			ROCKY2 Calpella
FILE NAME:					Project Name
FILE NAME:					Project Name
FILE NAME:					Project Name
FILE NAME:					Project Name
FILE NAME:					Project Name
FILE NAME:					Project Name
FILE NAME:					Project Name
FILE NAME:					Project Name







# Inventec Confidential



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

INVENTEC

ROCKY2 Calpella

Block Diagram

Model No

3 - 07

56

CHANGED BY

Drawn Name

20-Aug-2010

SIZE

CODE

DOC NUMBER

REV

A3

CS

Model No

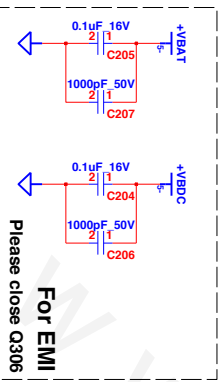
3 - 07

56

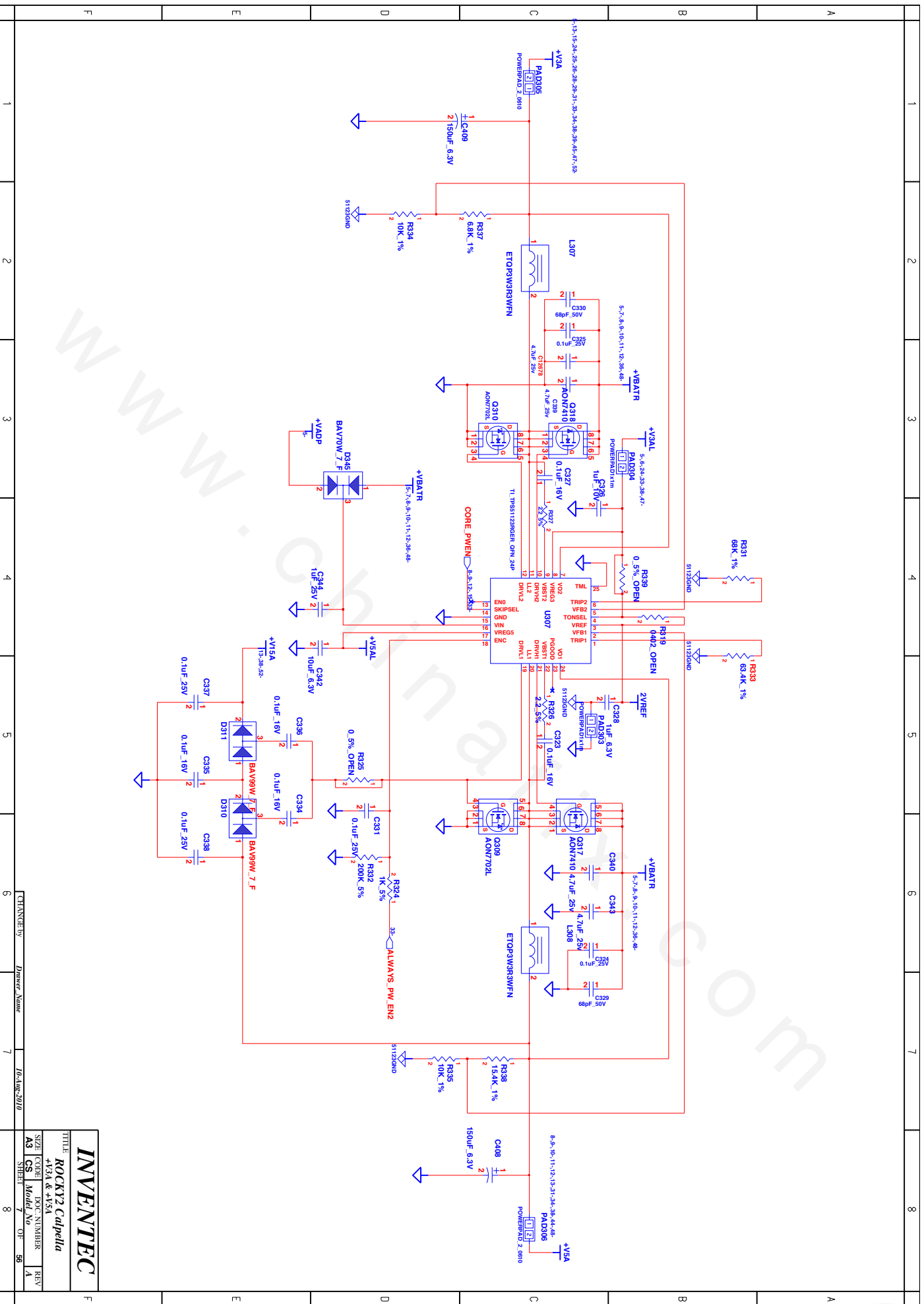


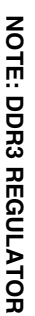


<b><i>INVENTEC</i></b>			
TITLE			
<b><i>ROCKY2 Calpella</i></b>			
<b><i>DC &amp; Battery Charger</i></b>			
SIZE	CODE	DOC NUMBER	REV#
A3	CS	Model No	A
SHEET	5	OF	56



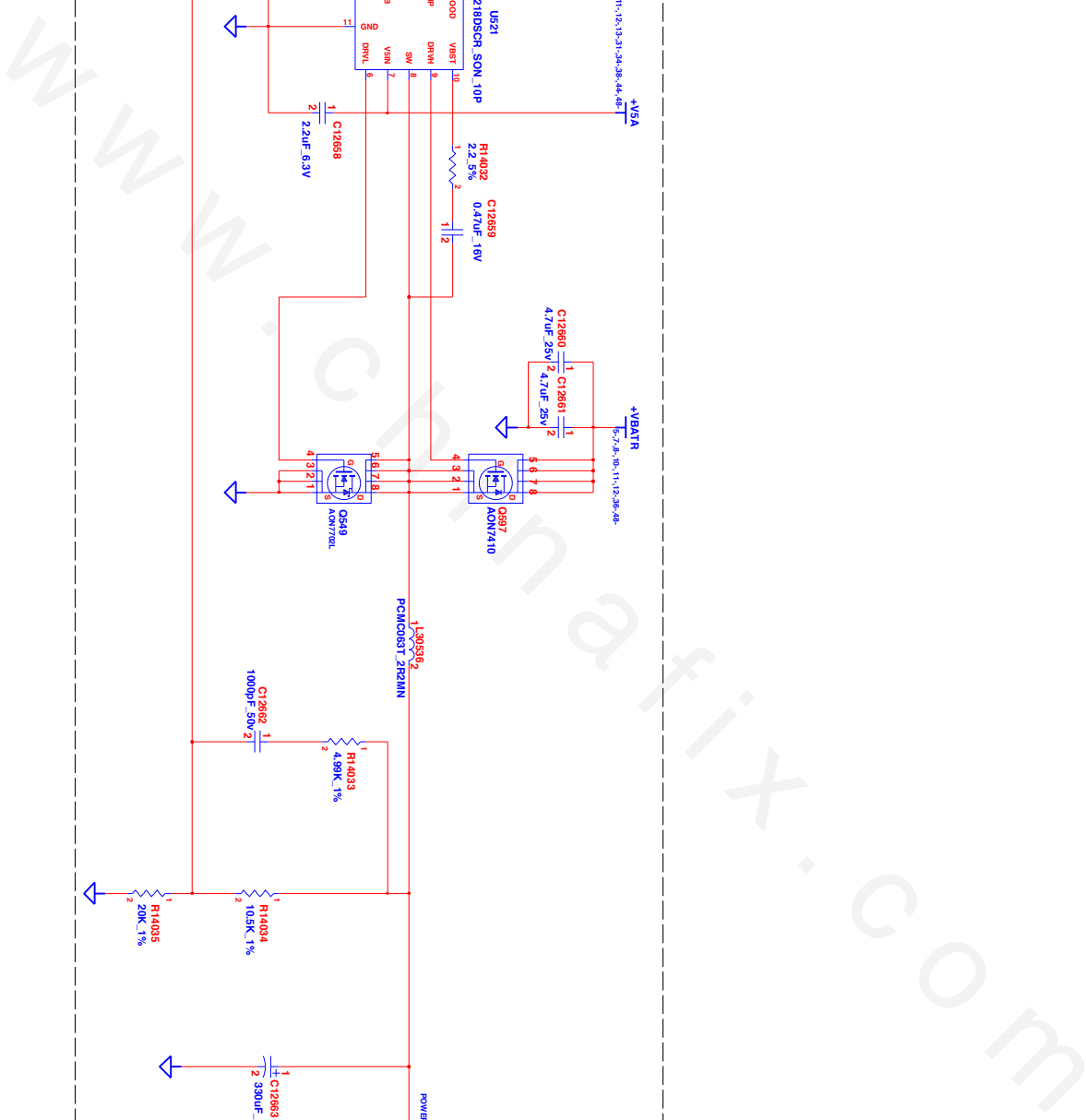
<b>INVENTEC</b>			
TITLE			
<b>ROCKY2 Calpella</b>			
<b>Battery CONN</b>			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	Model No	A
SHEET		6	OF 56



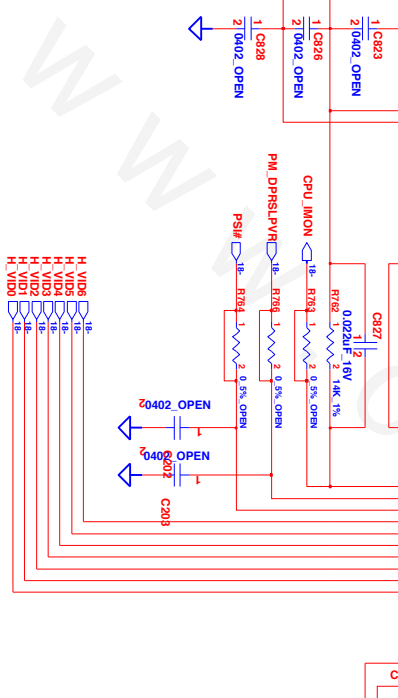


<b><i>INVENTEC</i></b>			
TITLE <b><i>ROCKY2 Calpella</i></b> <b><i>+V1.5 &amp; +V0.75</i></b>			
SIZE	CODE	DOC. NUMBER	REV
<b>A3</b>	<b>CS</b>	<b>Model No</b>	<b>1</b>
SHEET <b>8</b>		OF <b>56</b>	





CHANGE by	Drawer Name	10-Aug-2010
6		7

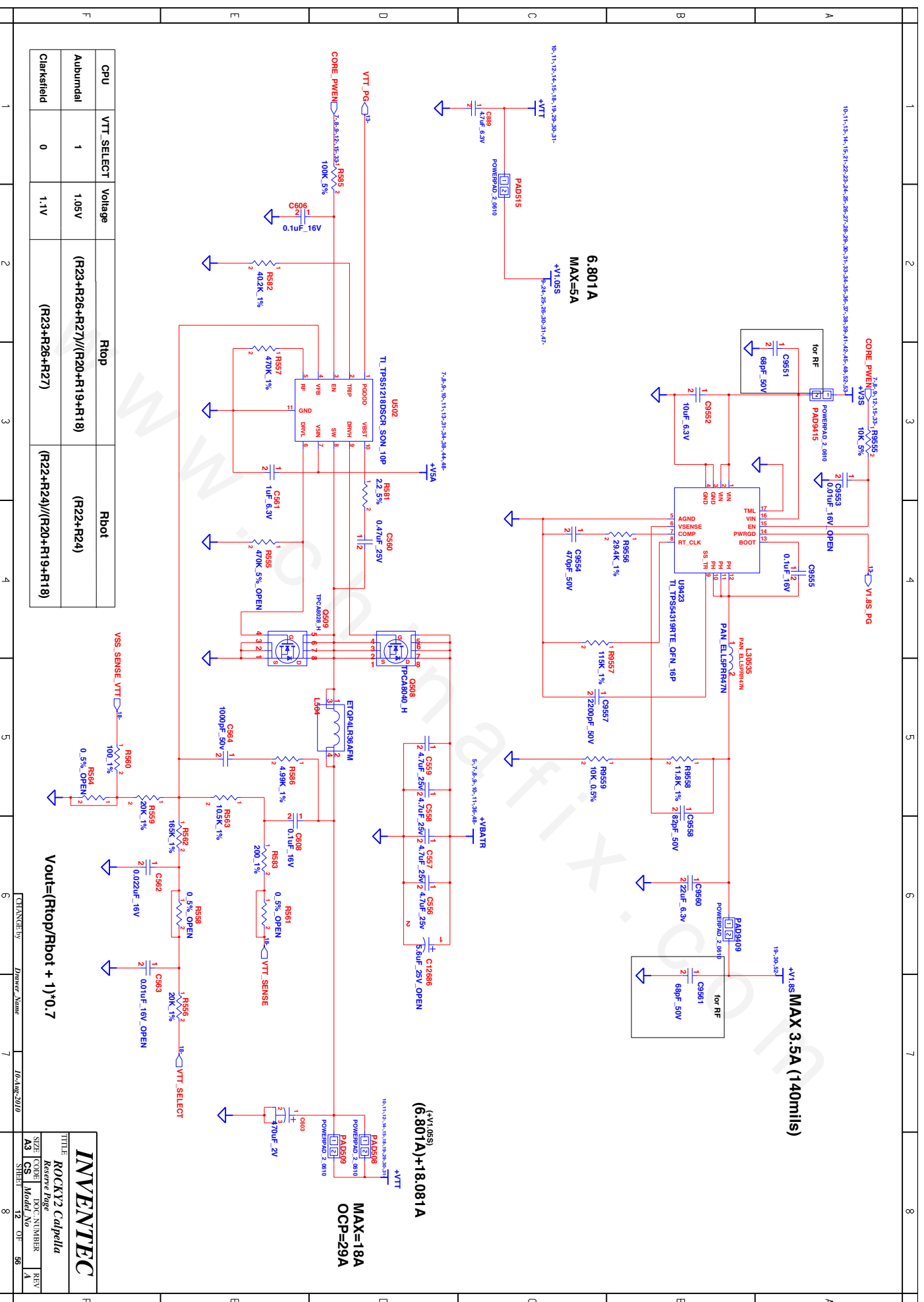


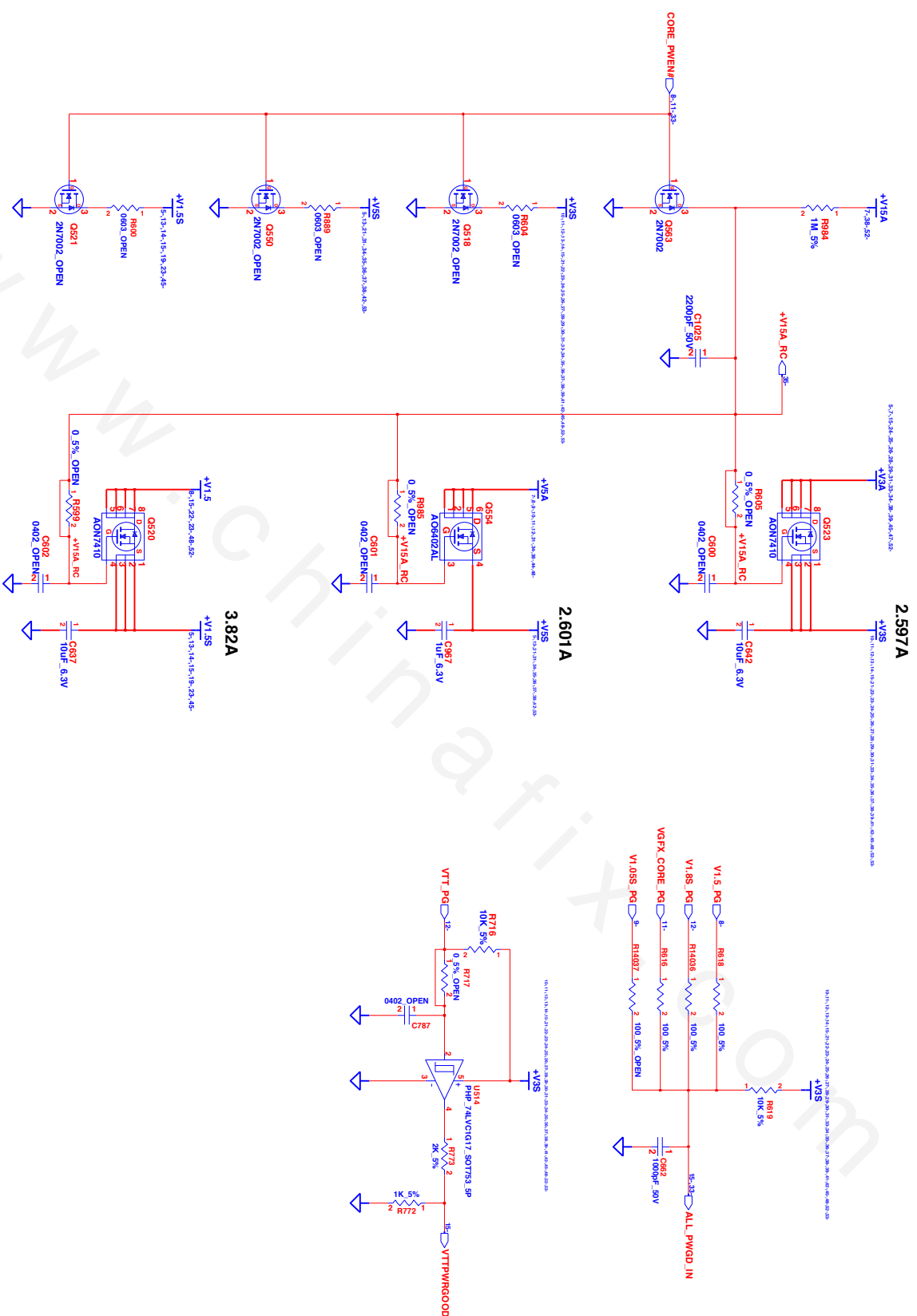
+V<sub>GRX\_CORE</sub>

SIZE	CODE	DOC. NUMBER	REMARKS

ORDER	CODE	BOOTH NUMBER	FEE
A3	CS	Model No	A

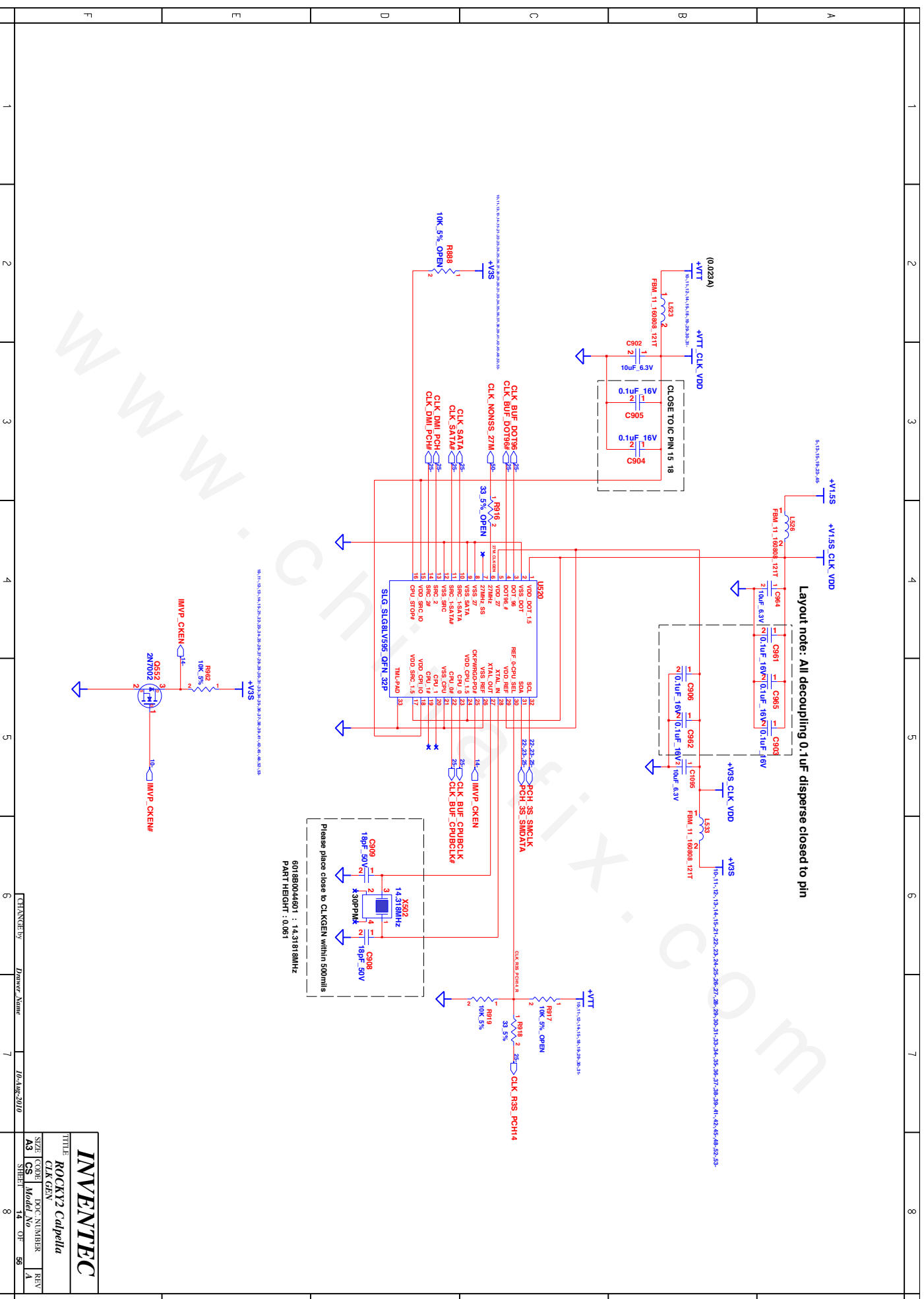
SHEET 11 OF 56





CHANGE by	Drawer Name	10-Aug-2010
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<b>INVENTEC</b>			
TITLE			
<b>ROCKY2 Calpella</b>			
<b>+V35 &amp; +V35</b>			
SIZE	CODE	DOC. NUMBER	REV
<b>A3</b>	<b>CS</b>	<i>Model No</i>	<b>A</b>
SHEET		13	OF 56

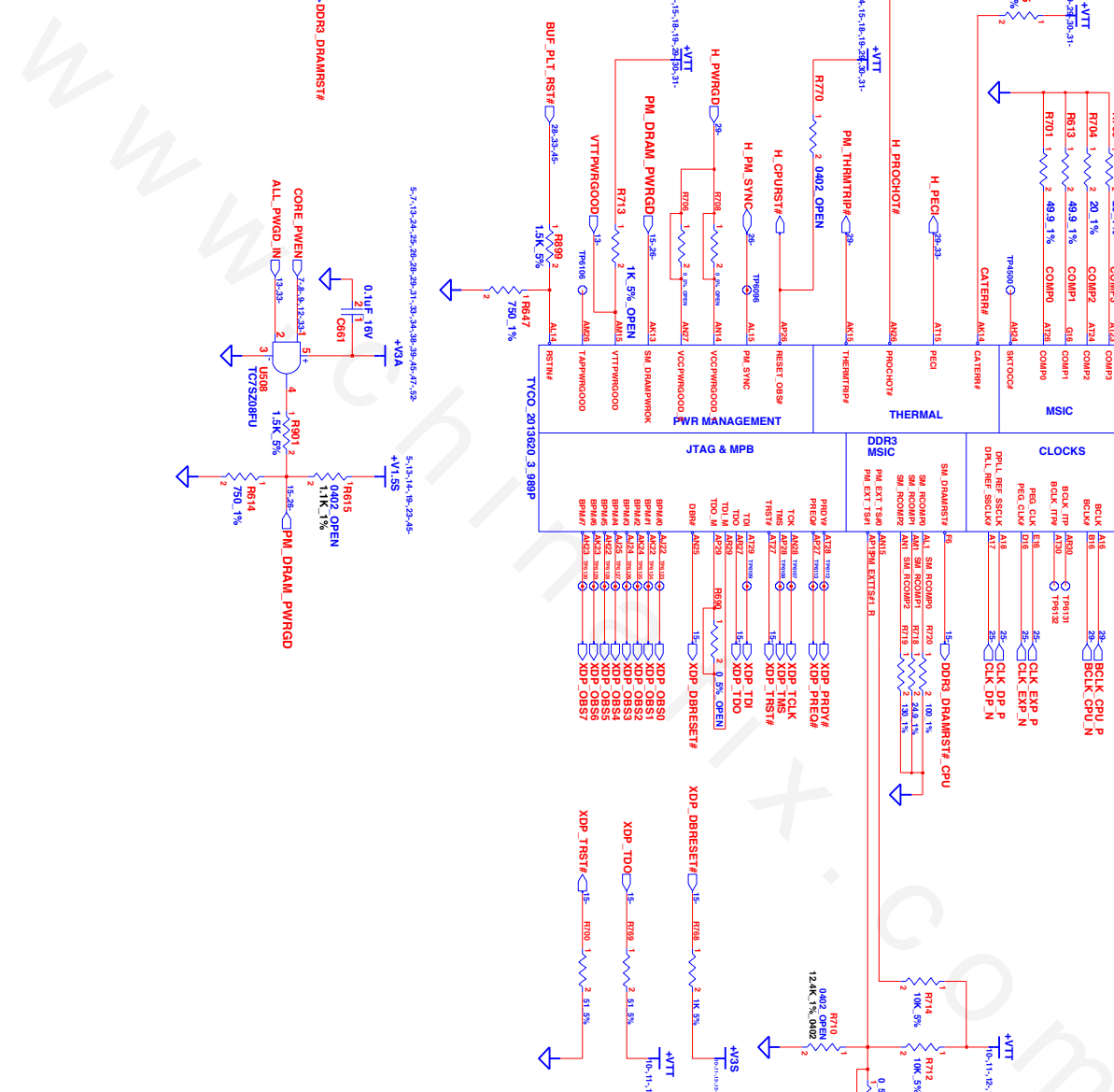


**INVENTEC**

ROCKY2 Calpella

SIZE CODE DOC NUMBER REV  
A3 CS Model No 14 OF 56

CHANGED BY: Dwyer Name 10-Aug-2010



<b><i>INVENTEC</i></b>			
TITLE			
<b><i>ROCKY2 Calpella</i></b>			
<i>CPU-1</i>			
SIZE	CODE	DOC. NUMBER	REV.
<b>A3</b>	<b>CS</b>	<i>Model No</i>	<b>A</b>
SHEET		15 OF 56	

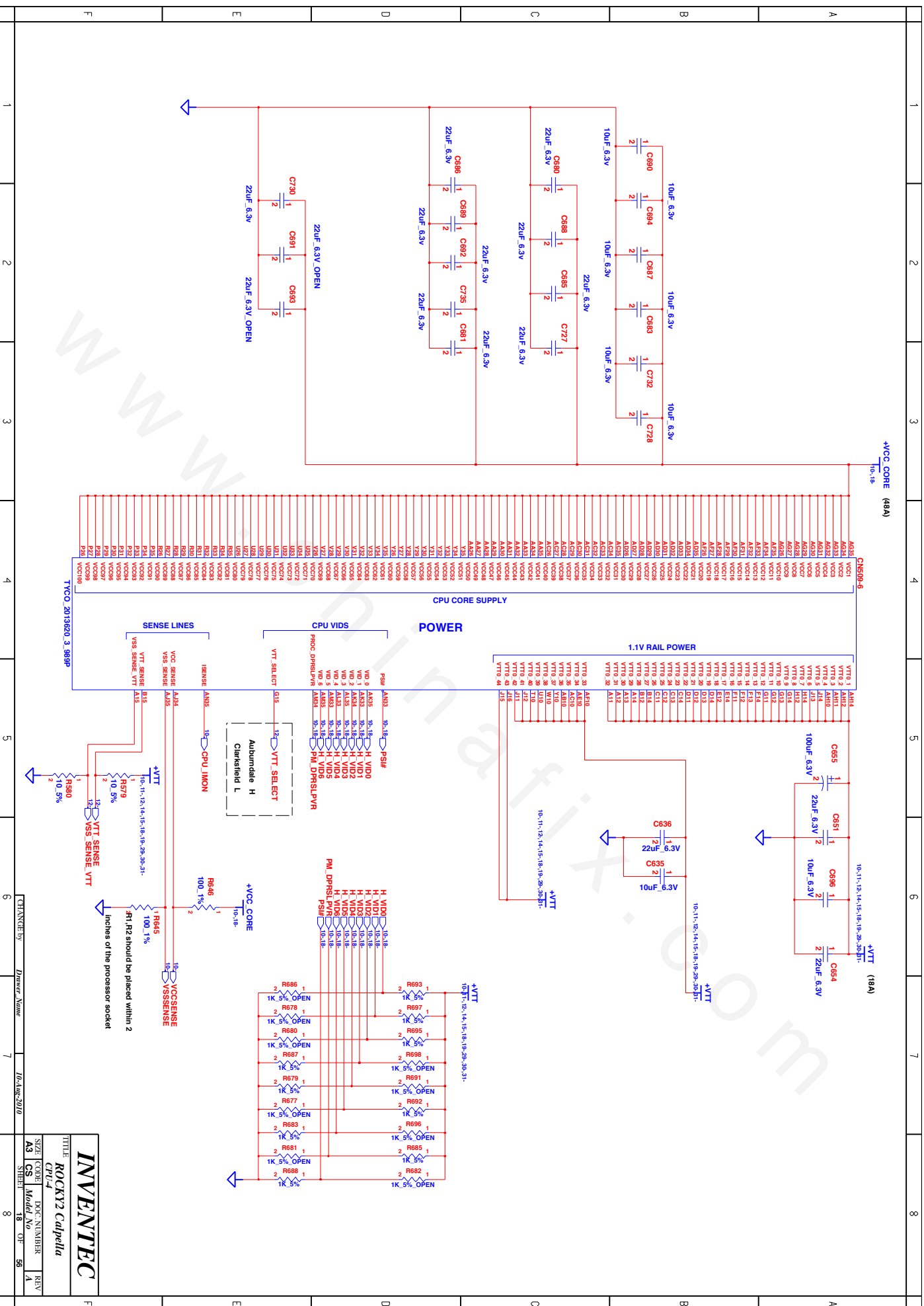


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TITLE			
<b>ROCKY2 Calpella</b>			
<i>CPU-2</i>			
SIZE	CODE	DOC NUMBER	REV
A3	CS	Model No	A
SHEET		16	OF 56
8			

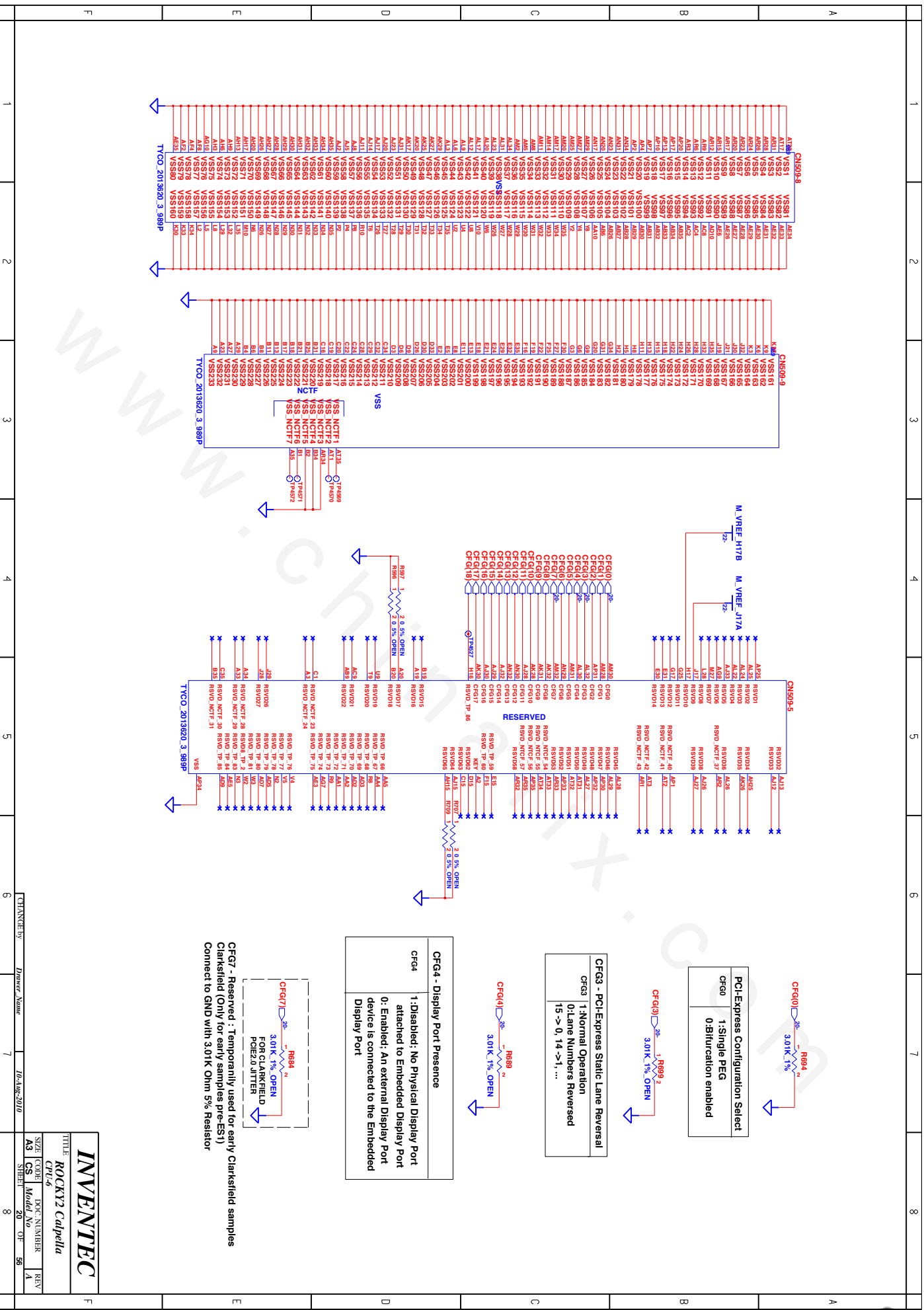




<b><i>INVENTEC</i></b>					
TITLE: <b><i>ROCKY2 Calypella</i></b>					
PARTS					
SZ#	QTY	DWG NUMBER	REV		
A3	CS	Model No.	A		
SHEET	17	OF	56		
CHANGE by:	Project Name			10-Aug-2010	
6	7			8	







PCI-E-Express Configuration Select  
CFG0 1: Single PEG  
0: Bifurcation enabled

CFG3 - PCIe-Express Static Lane Reversal  
CFG3 1: Normal Operation  
0: Lane Numbers Reversed  
15 -> 0, 14 -> 1, ...

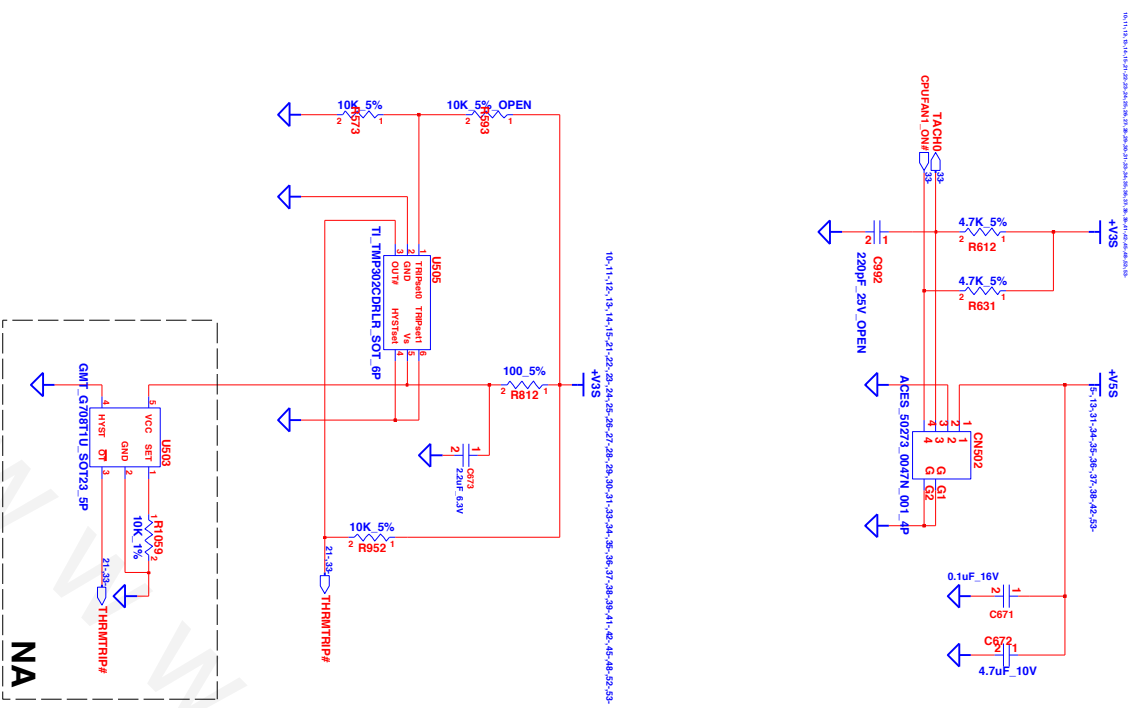
CFG4 - Display Port Presence  
CFG4 1: Disabled; No Physical Display Port attached to Embedded Display Port  
0: Enabled; An external Display Port device is connected to the Embedded Display Port

CFG7 - Reserved : Temporarily used for early Clarkfield samples  
Clarkfield (Only for early samples pre-E51)  
Connect to GND with 3.01K Ohm 5% Resistor

INVENTEC  
CPU-6  
ROCKY2 Calpella  
SIZE CODE DOC-NUMBER REV  
A3 CS Model No 20 01 56

CHANGED BY: Dincer Nume 10-Aug-2010

# FAN CONN



NA

**INVENTEC**

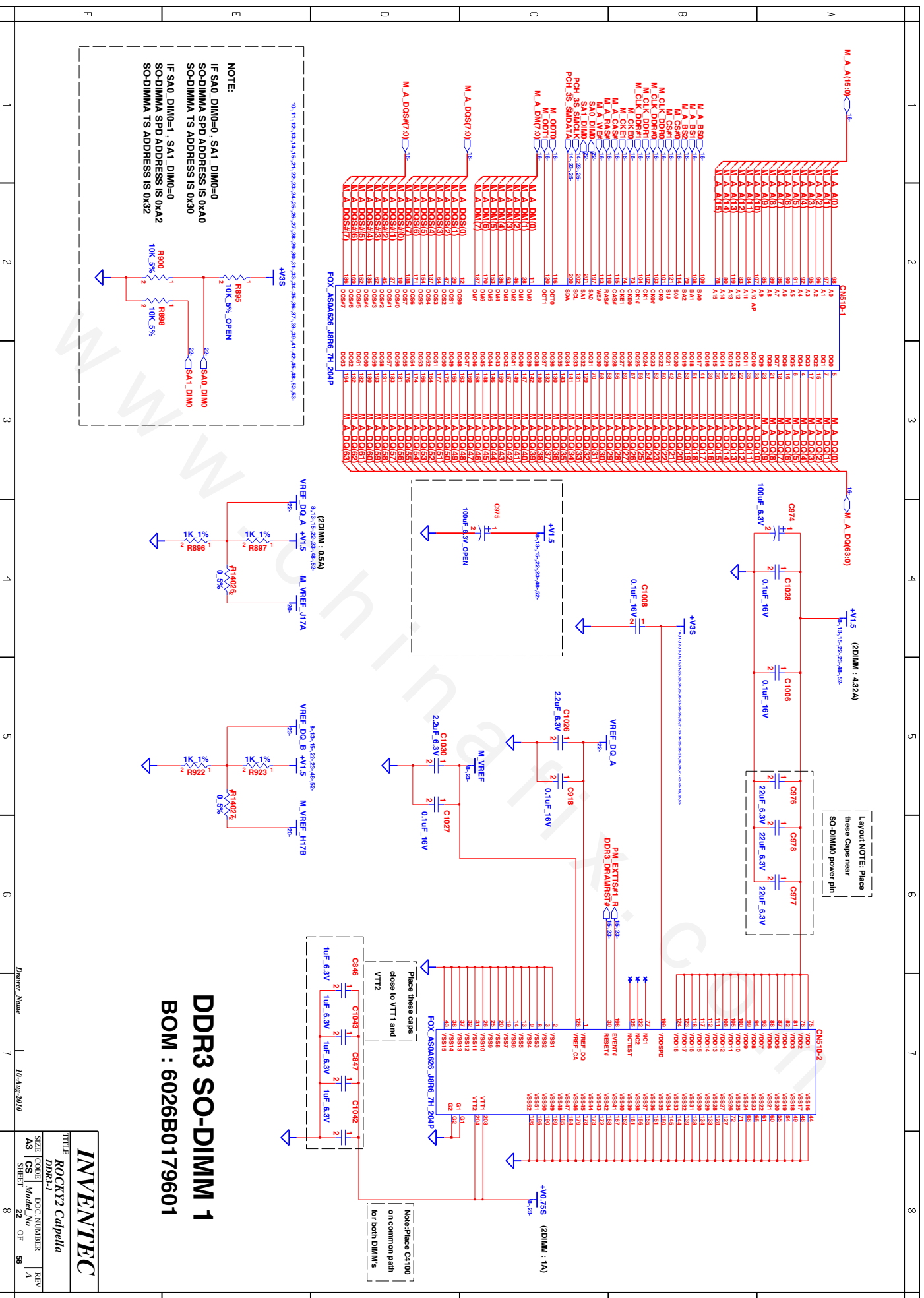
ROCKY2 Calpella

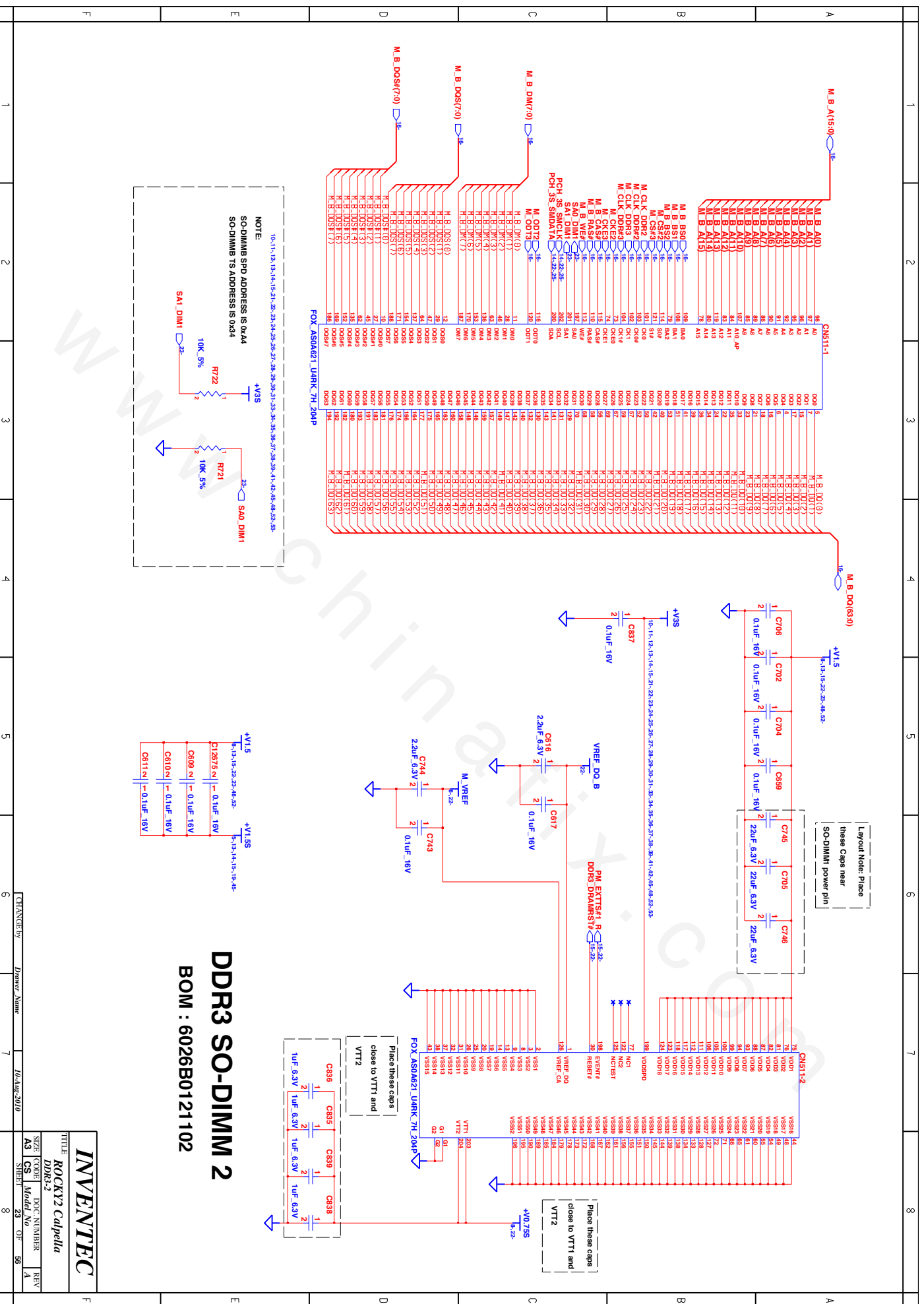
Thermal Fan & XOP

SIZE CODE DOC NUMBER REV

A3 CS Model No 21-07-96

CHANGED BY Drawn Name 7 10-Aug-2010

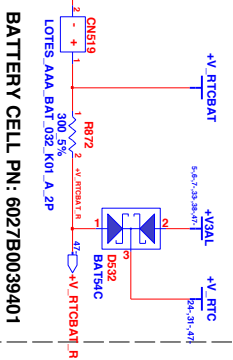




\*BOM (for HP)  
PCH(HM55) : 6019B0713401

IF USE U538  
DS92CMA

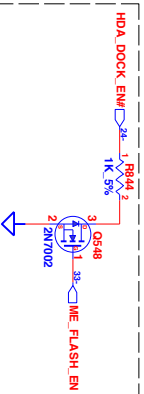
## RTC BATTERY



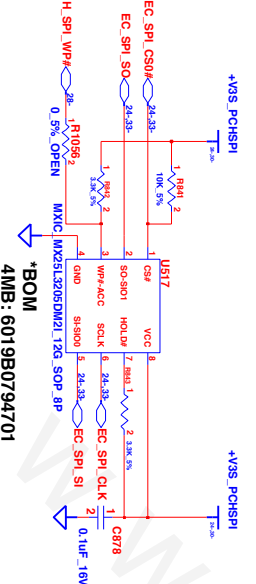
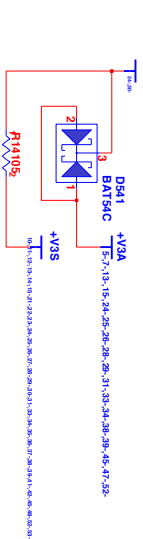
BATTERY CELL PN: 6027B0039401

SP MISCO:  
No series resistor if 1.5"-6.5"  
with 1 SPI device  
Use a 330ohm series resistor  
close to PCH if using 2 SPI device

Flash Descriptor Security Override  
HDA DOCK\_EN#  
Low Enable  
High Disable

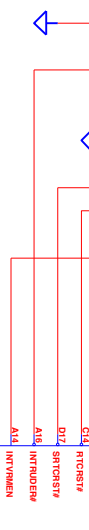
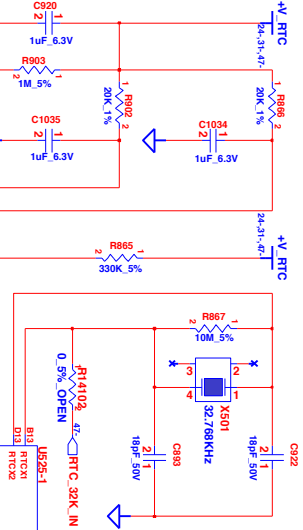


## Close TO PCH



INTEGRATED :  
Integrated SIS 1.1V VMM Enable  
High - Enable Internal VRS

6L:MOUNT X501,C893,C922  
8L:MOUNT R14102



HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

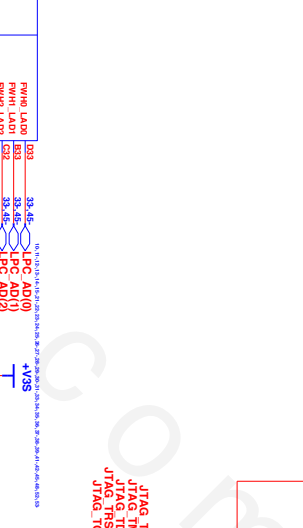
HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

INTEGRATED :  
Integrated SIS 1.1V VMM Enable  
High - Enable Internal VRS

6L:MOUNT X501,C893,C922  
8L:MOUNT R14102



HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

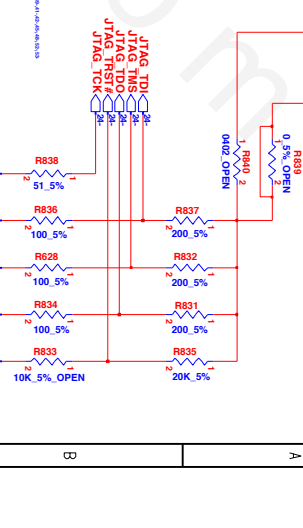
HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

INTEGRATED :  
Integrated SIS 1.1V VMM Enable  
High - Enable Internal VRS

6L:MOUNT X501,C893,C922  
8L:MOUNT R14102



HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

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Low Enable  
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HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

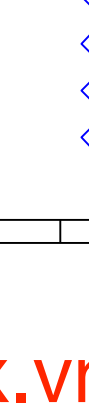
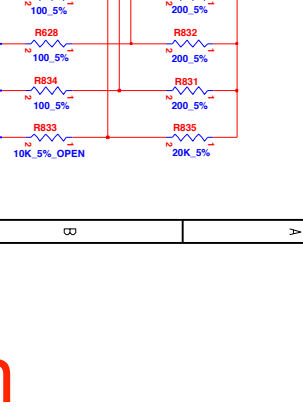
HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

INTEGRATED :  
Integrated SIS 1.1V VMM Enable  
High - Enable Internal VRS

6L:MOUNT X501,C893,C922  
8L:MOUNT R14102



HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

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High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable

HDA DOCK\_EN#  
Low Enable  
High Disable





SMB	SMLO	SM1.1
1CLK GEN		1.CPU Thermal
2.DDR		
3.3D sensor		

<b>INVENTEC</b>		
TITLE		
<i>ROCKY2 Calpella</i>		
<i>PCH.2</i>		
SIZE	DOC. NUMBER	REV.
A3	CS <i>Model No</i>	A
SHEET 25		OF 56

CHANGE by	Drawer Name	10-Aug-2010
6		7



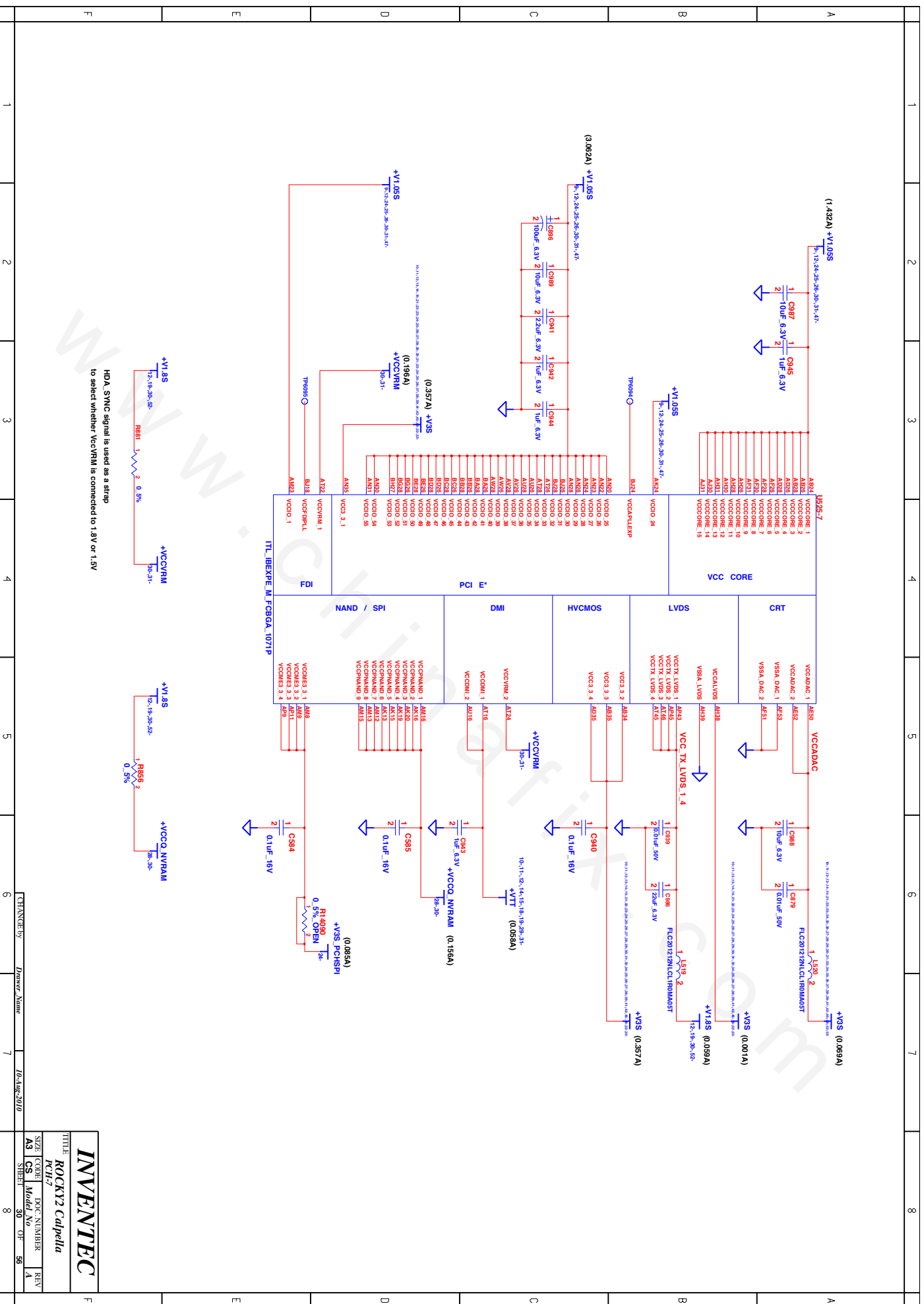


BOARD ID	ID0	ID1	ID2	ID3	ID4	ID5
D/S	0	0	0	0	1	0
UMA	1	1	1	0	0	0

<b>INVENTEC</b>		
TITLE: <b>ROCKY2 Calpella</b>		
<b>PC4.5</b>		
SIZE	DOC. NUMBER	REV.
A3	CS <i>Model No</i>	A
SHEET 28		OF 56



<b>INVENTEC</b>			
TITLE			
<i>ROCKY2 Calpella</i>			
<i>PC#6</i>			
SIZE	CODE	DOC. NUMBER	REV#
A3	CS	Model No	A
SHEET	29	OF	56



INVENTEC

ROCKY2 Calpella

SIZE CODE  
CS Model No  
SHRIT 30 07 96

CHANGING BY: Diverge Name 7 10-Aug-2010



<b><i>INVENTEC</i></b>			
TITLE			
<b><i>ROCKY2 Calpella</i></b>			
<b><i>PCH-8</i></b>			
SIZE	CODE	DOC. NUMBER	REV
<b>A3</b>	<b>CS</b>	<b>Model No</b>	<b>A</b>
SHEET	31	OF	56

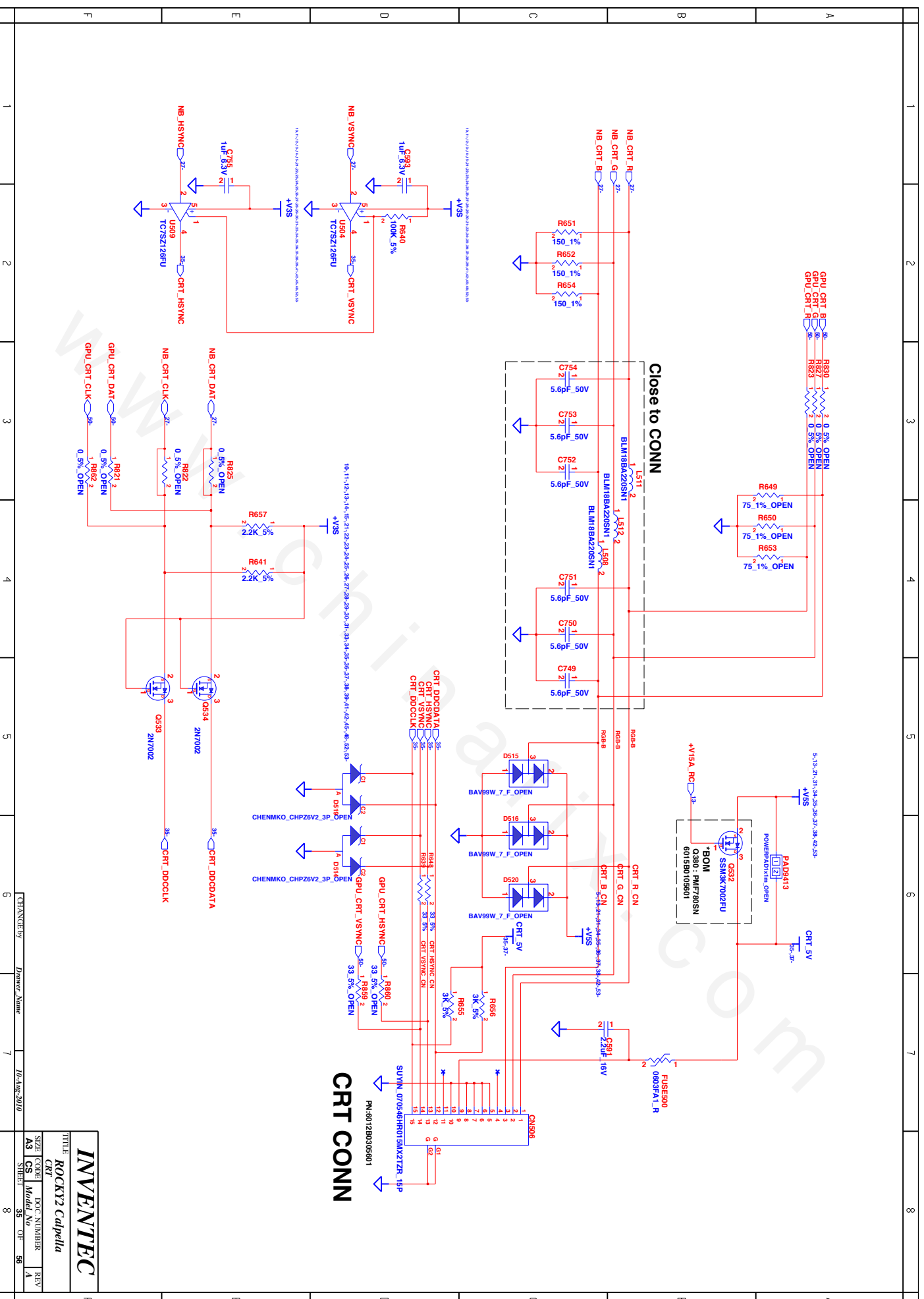


<b>INVENTEC</b>			
TITLE			
<b>ROCKY2 Calpella</b>			
<i>PC9.9</i>			
SIZE	CODE	DOC. NUMBER	REV
<b>A3</b>	<b>CS</b>	<i>Model No</i>	<b>A</b>
SHEET		<b>32</b>	OF <b>56</b>
<b>8</b>			





<b>INVENTEC</b>			
TITLE			
<b>ROCKY2 Calpella</b>			
KAC			
SIZE	CODE	DOC NUMBER	REV
A3	CS	Model No	A
SHEET		33	OF 56

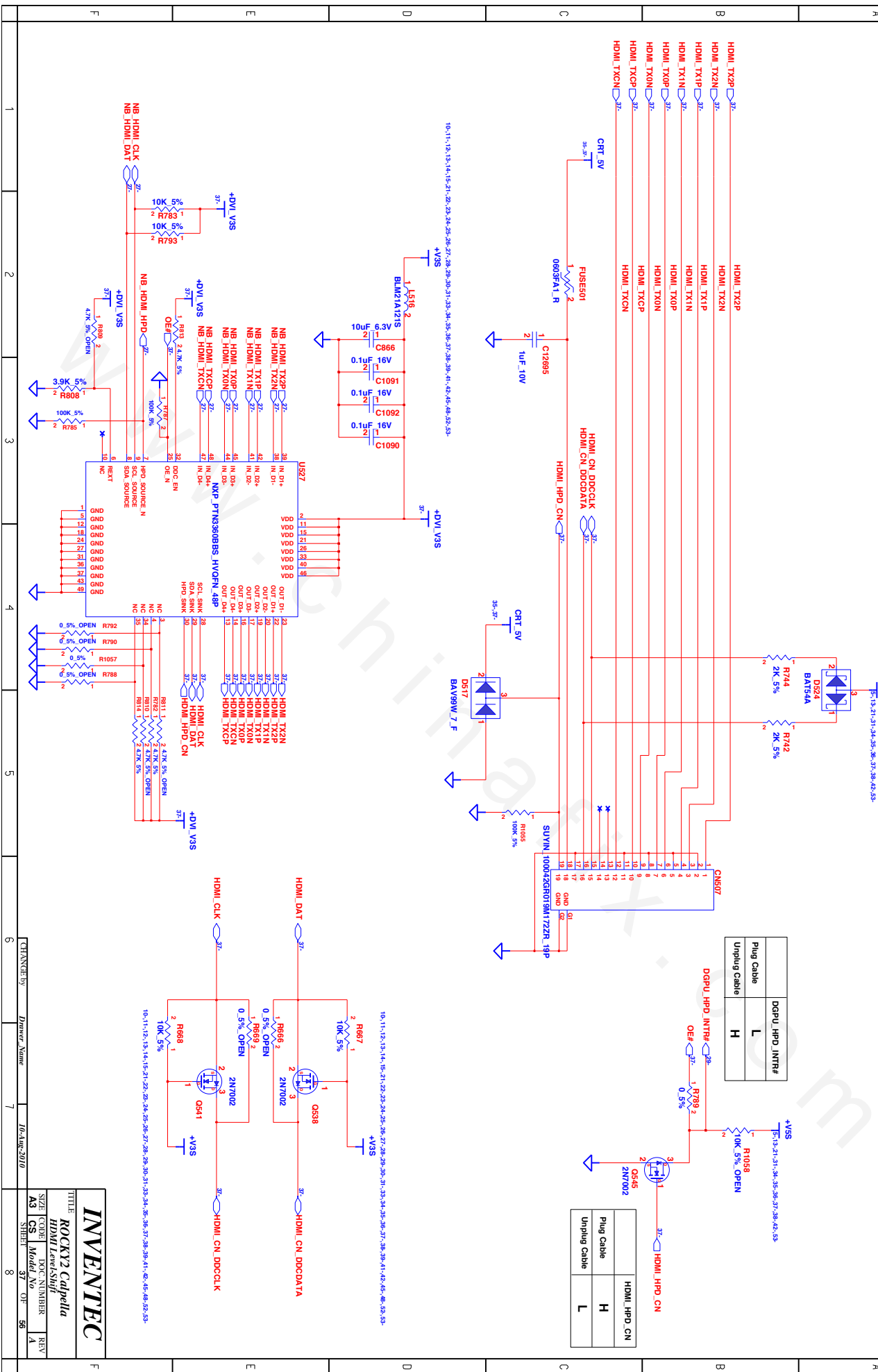


**\*BOM  
(6012B0105001)**

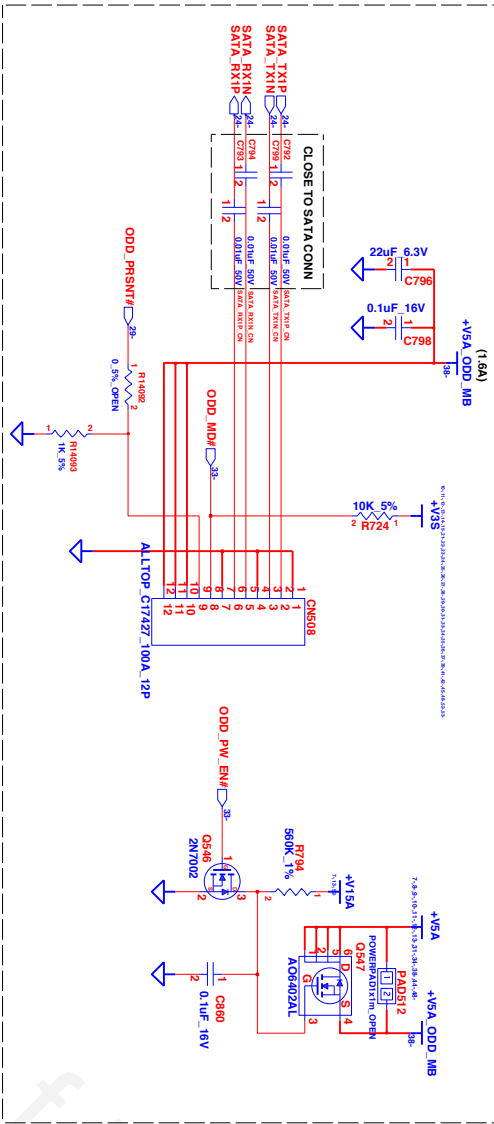


<b>INVENTEC</b>			
TITLE			
<i>ROCKY2 Calpella</i>			
<i>LCM</i>			
SIZE	CODE	DOC. NUMBER	REV.
A3	CS	Model No	A
SHEET		36	OF 56

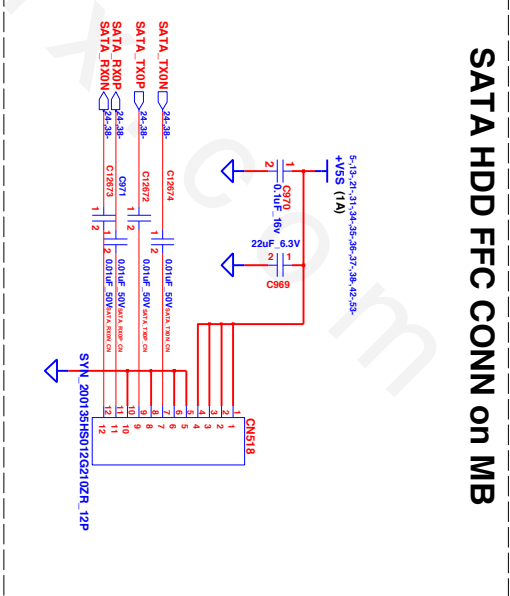
# HDMI CONN



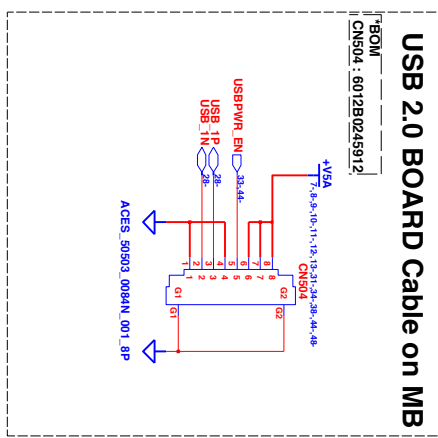
## SATA ODD FPC CONN on MB



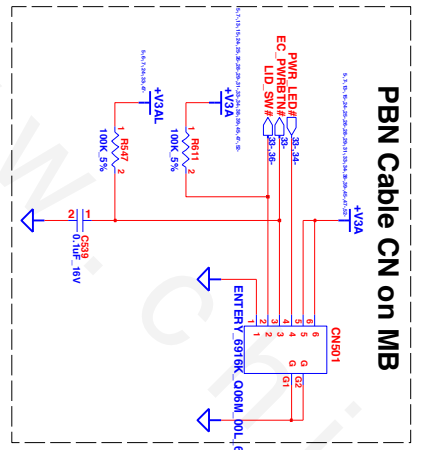
## SATA HDD FFC CONN on MB



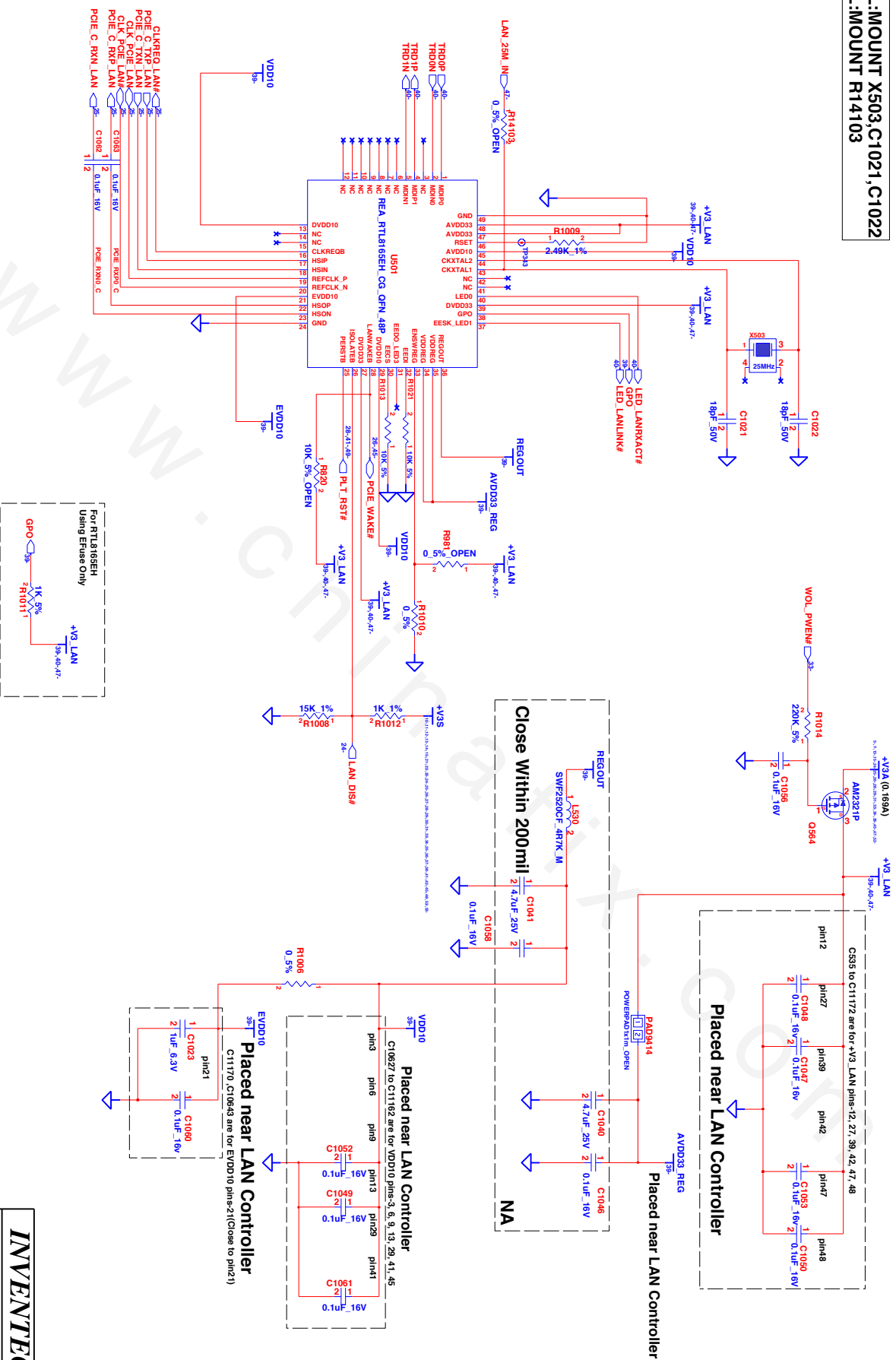
## USB 2.0 BOARD Cable on MB



## PBN Cable CN on MB

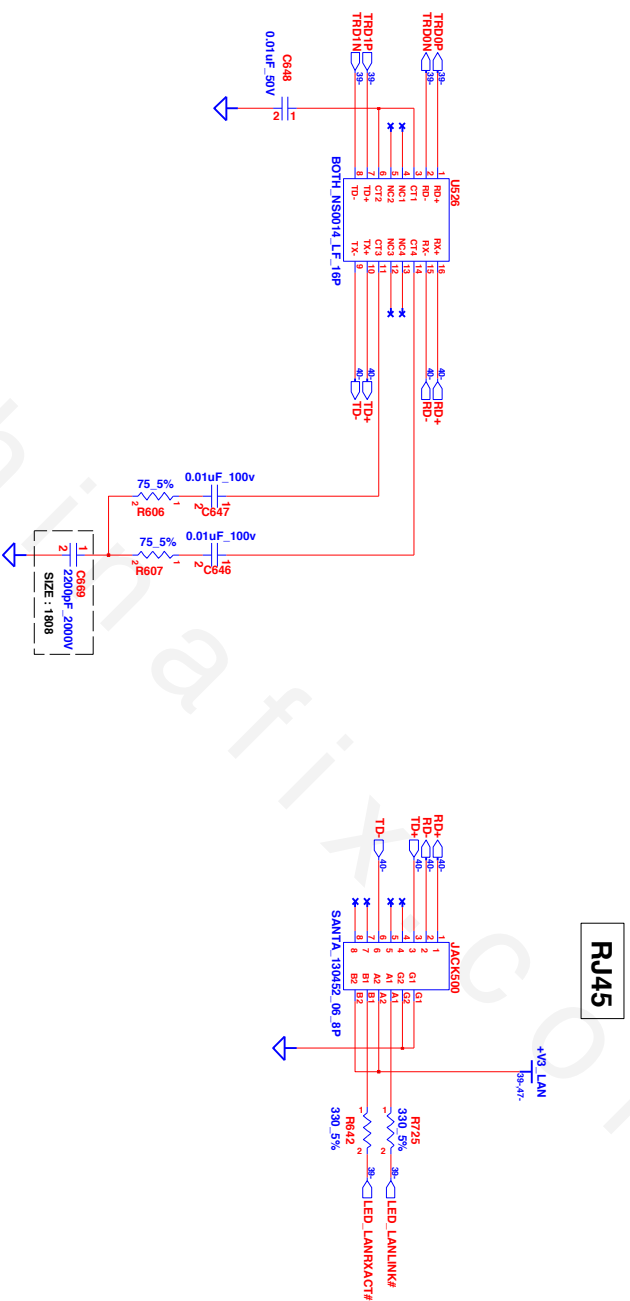


6L:MOUNT X503,C1021,C1022  
8L:MOUNT R14103



CHANGE by	Drawer Name	10-Aug-2010
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<b><i>INVENTEC</i></b>			
TITLE			
<b><i>ROCKY2 Calpella</i></b>			
LAY			
SIZE	CODE	DOC NUMBER	REV
A3	CS	Model No	A
SHEET	39	OF	56



LAYOUT NOTE : Place termination resistors and caps as close to LAN controller as possible

INVENTEC

TITLE  
ROCKY2 Calpella

SIZE  
KI-45

DOC NUMBER  
Model No

REV  
A

SHRIT

40 OF 56

CHANGED BY  
Drawn Name

7

10-Aug-2010

8





PN:6026B0103603

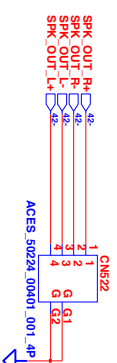
CHANGE by	<i>Drawer_Name</i>	<i>10-Aug-2010</i>
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<b>INVENTEC</b>			
TITLE			
<b>ROCKY2 Calpella</b>			
<i>Card Reader</i>			
SIZE	CODE	DOC. NUMBER	REV.
A3	CS	Model No	A
SHEET		41	OF 56



PORT	Description	Sense
A	NO USE	
B	Headphone	HPS
C	Microphone	MICS
D	SPKR	
E	NO USE	
F	NO USE	

# INT-SPEAKER CONN



ACES\_50224\_00401\_001\_4P

**INVENTEC**

**ROCKY2 Calpella**

### Audio Codec

SIZE	CODE	DOC. NUMBER
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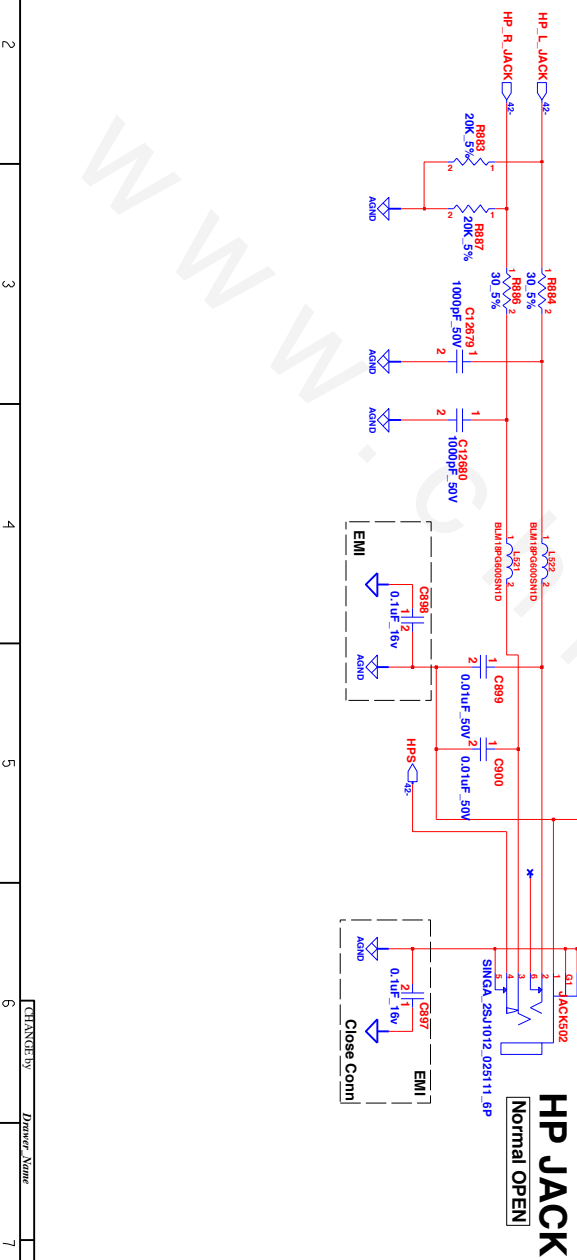
DOC. NUMBER	Model No	CS	A3
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A3	CS	Model No
SHEET 42 OF		

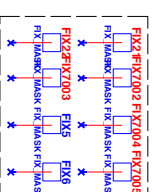
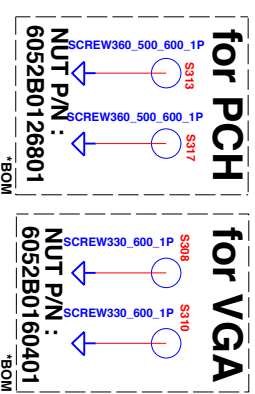
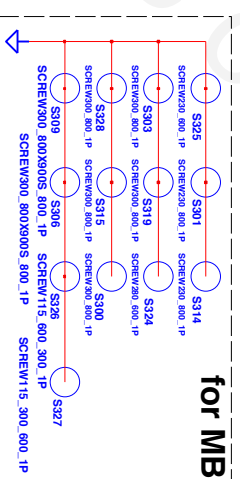
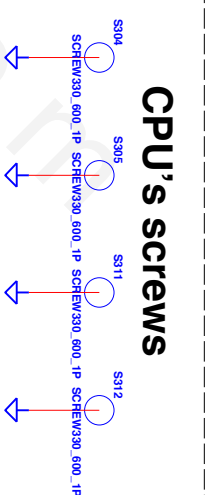
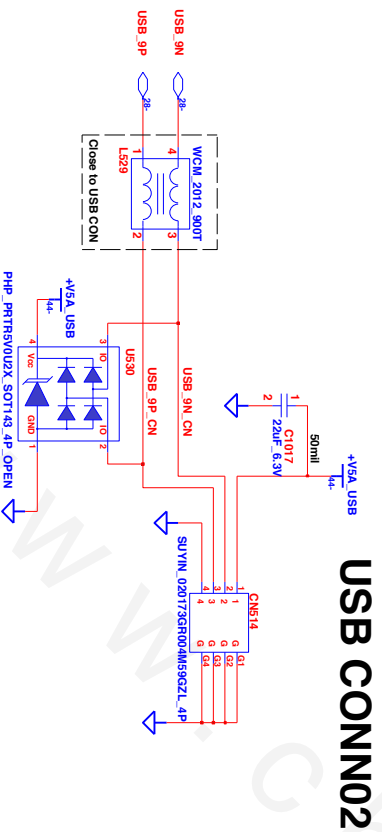
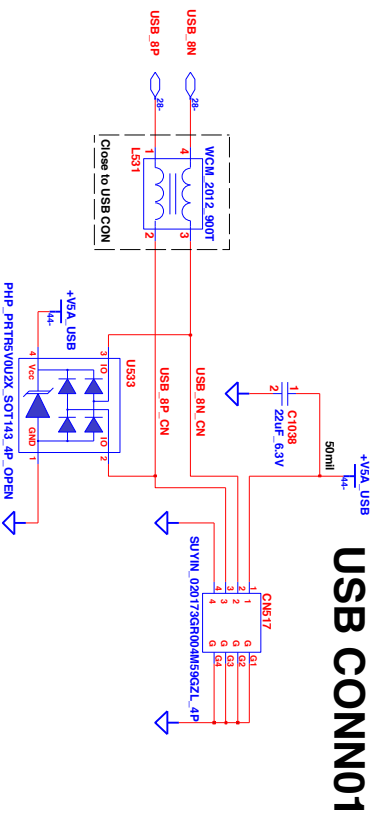
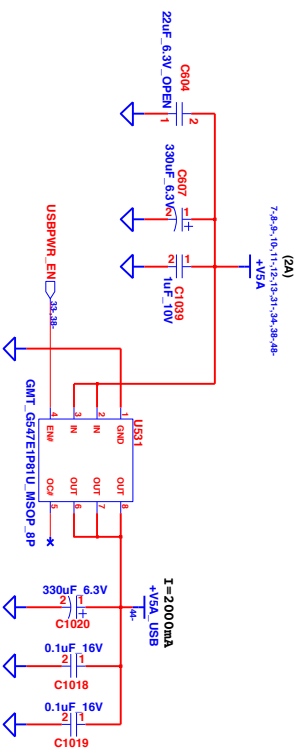
SHEET 42 OF 50

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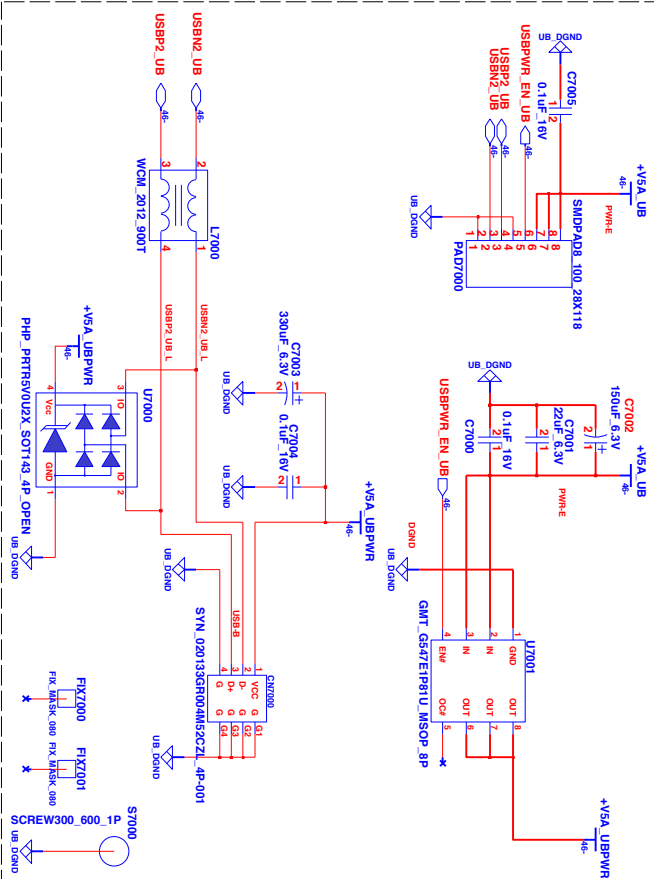
<b>INVENTEC</b>			
TITLE			
<b>ROCKY2 Calpella</b>			
<b>HP JACK &amp; MIC JACK</b>			
SIZE	CODE	DOC. NUMBER	REV.
A3	CS	Model No	A
SHEET		43	OF 56
8			



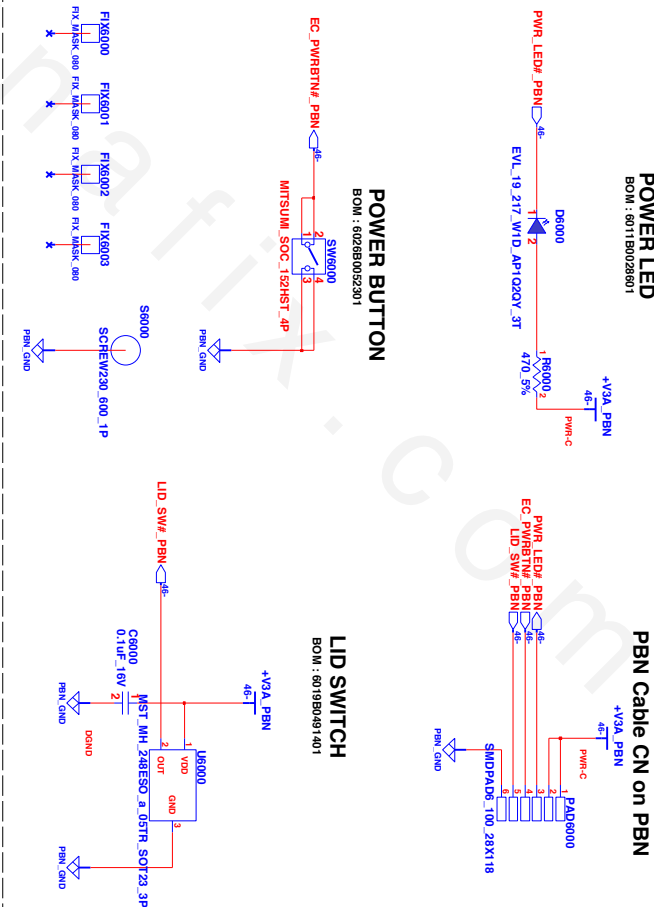
INVENTEC		TITLE	
ROCKY2 Calpella		SIZE	
ESATA, SCREW & LID		CODE	
DOC NUMBER		REV	
Model No		A	
Sheet		OF	
4		56	
CHANGE BY		DATE	
Drews Name		10-Aug-2010	
6		7	



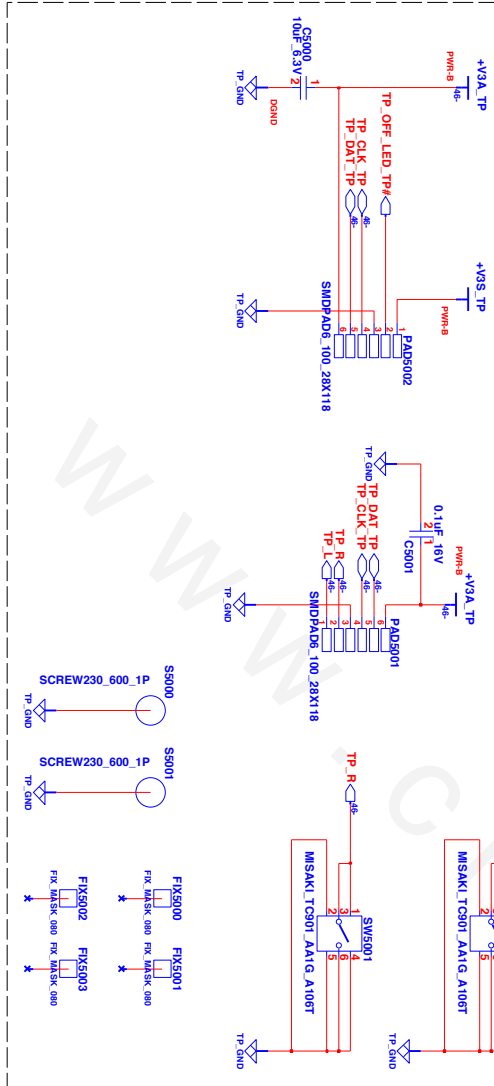
# USB BOARD USB CONN03



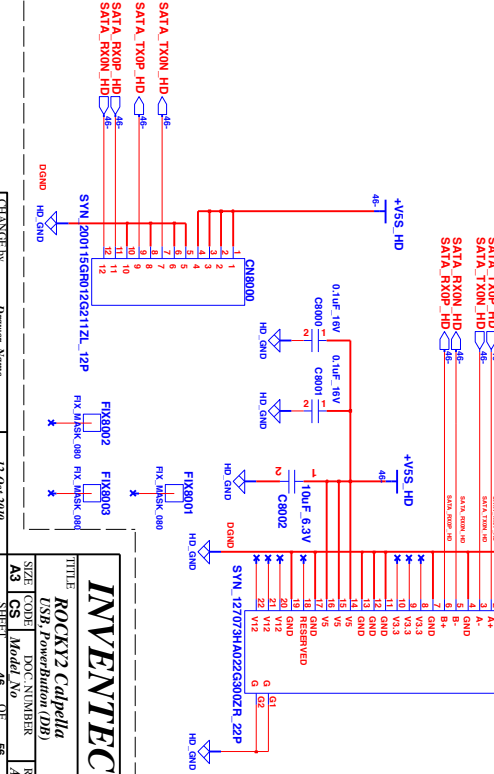
# Power Button Board



# Pick-Button Board

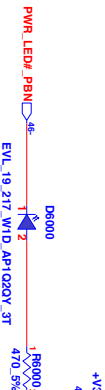


# HDD BOARD



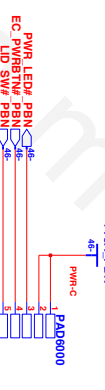
## POWER LED

BOM : 6011B028601



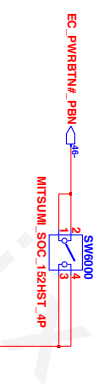
## PBN Cable CN on PBN

BOM : 6019B0491401



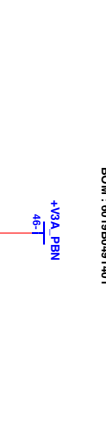
## POWER BUTTON

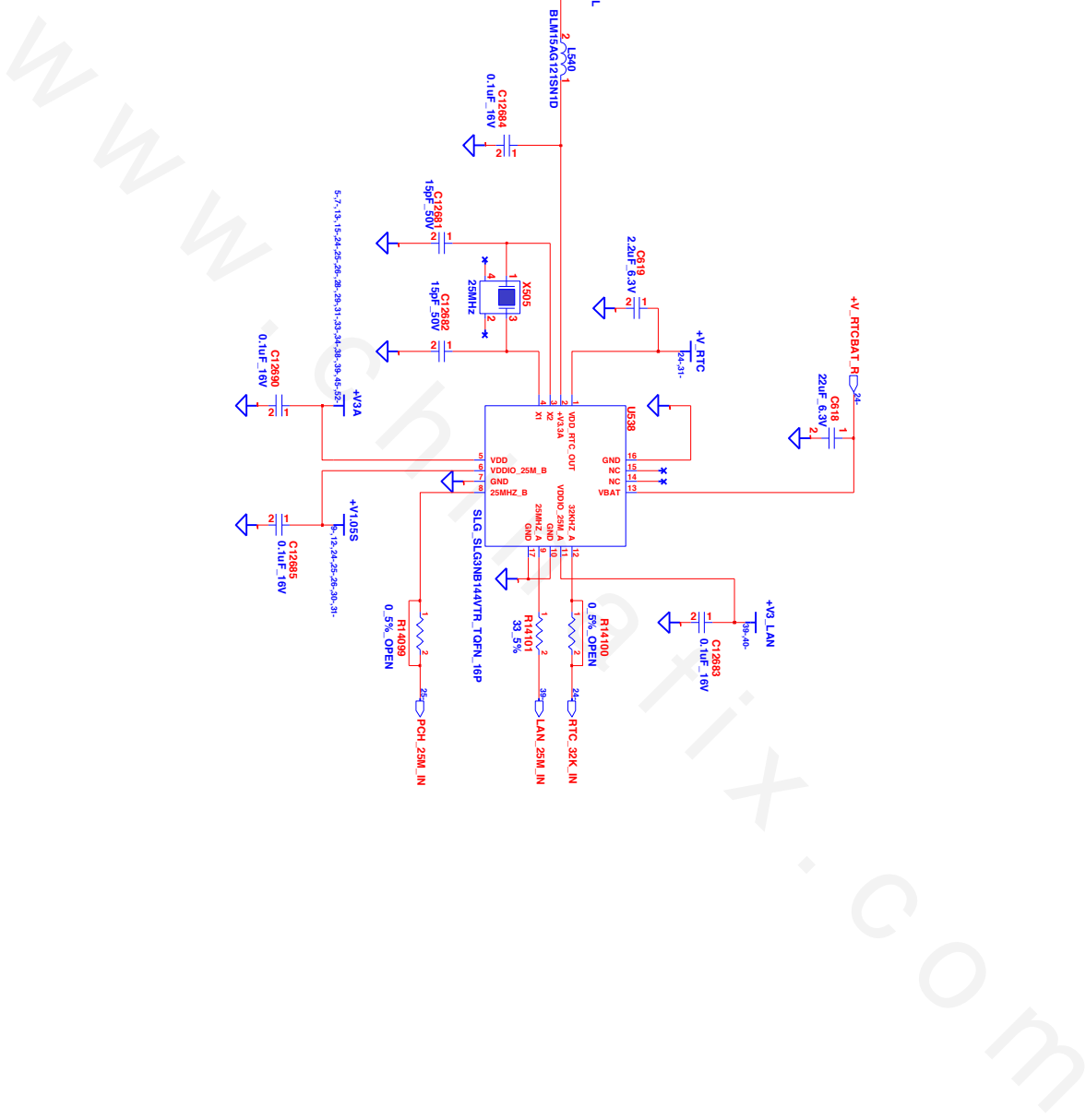
BOM : 6026B0052301



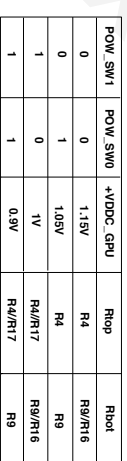
## LID SWITCH

BOM : 6019B0491401





CHANGE by	Drawer Name	19-Aug-2010
6		7

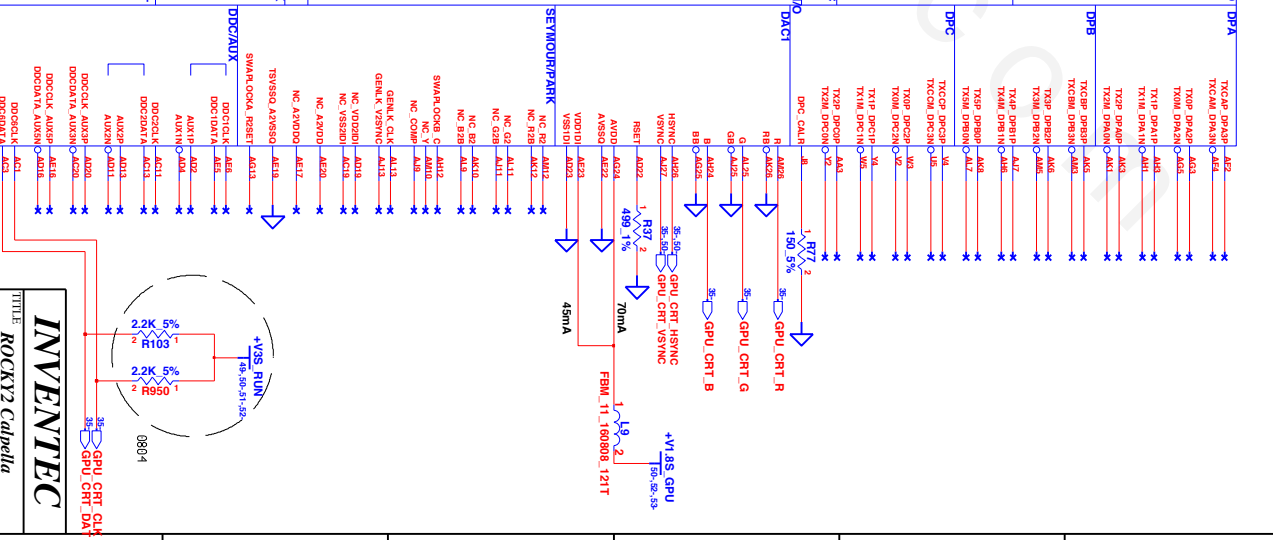
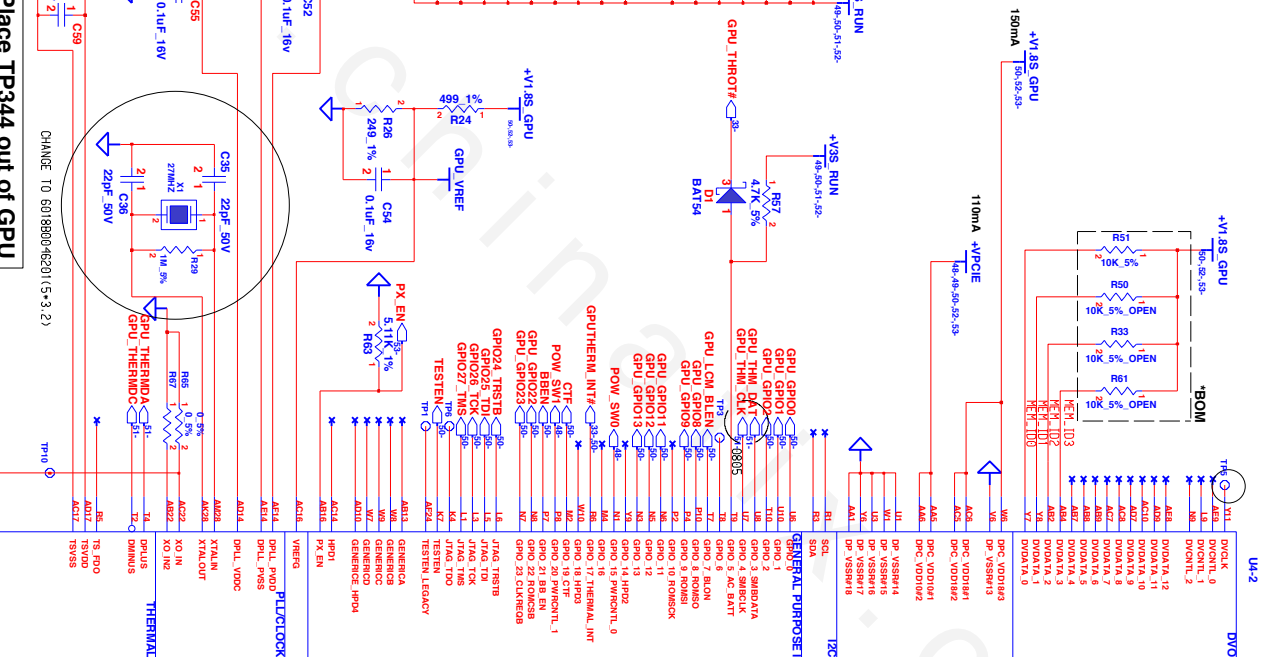

$$V_{out} = (R_{top}/R_{bot} + 1) \cdot 0.75$$

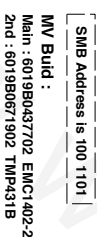
300





If GPIO_22_EN = 0, then GPIO[3:11] defines the primary memory aperture size.			
GPIO_13	GPIO_12	GPIO_11	Memory aperture size
0	0	1	512MB / 256MB (Default)
1	1	0	reserved





***INVENTEC***

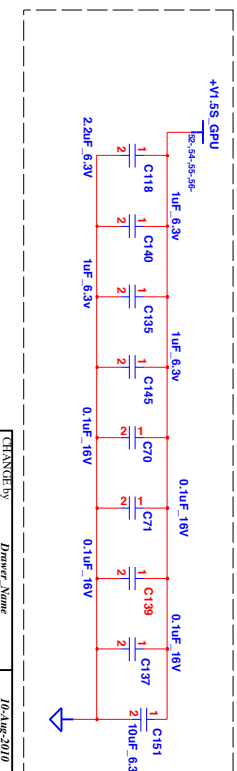
TITLE ***ROCKY2 Capella***

SIZE	CODE	DOC NUMBER	REV
A3	CS	Model No	A
SHEET	51	OF	56









LE  
**ROCKY2 Calpella**

SIZE	CODE	DOC. NUMBER	1
A3	CS	Model No	1
SHEET		55	OF 56

