

# MAINZ 10G

## MP Build (A03)

2010.01.12

<b>INVENTEC</b>			
TITLE <b>MAINZ10G</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>6050A23072-0-MTR</b>	REV <b>A</b>
CHANGE by <b>CHRIS HUA</b>		13-Jan-2010	
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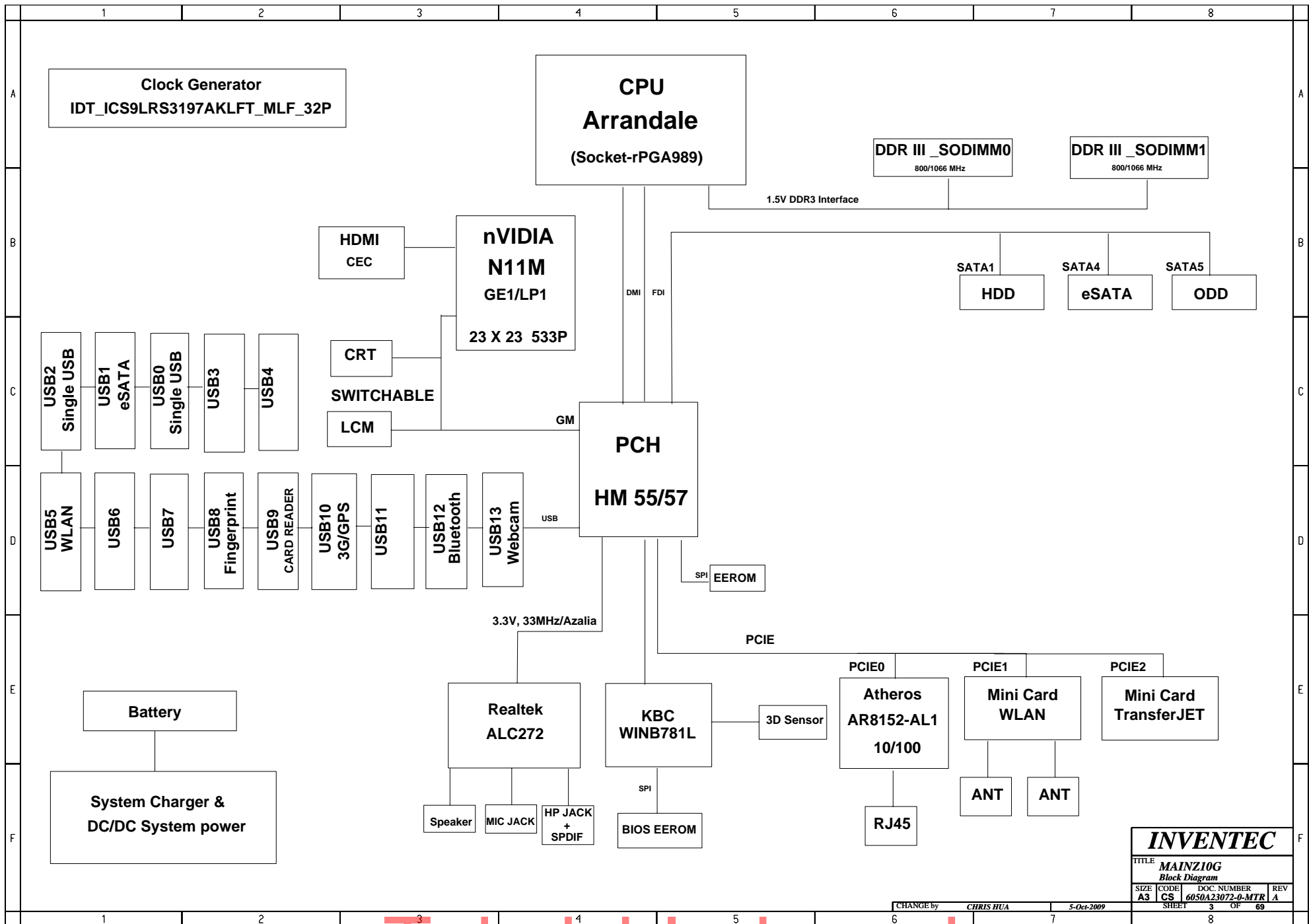
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**INVENTEC**

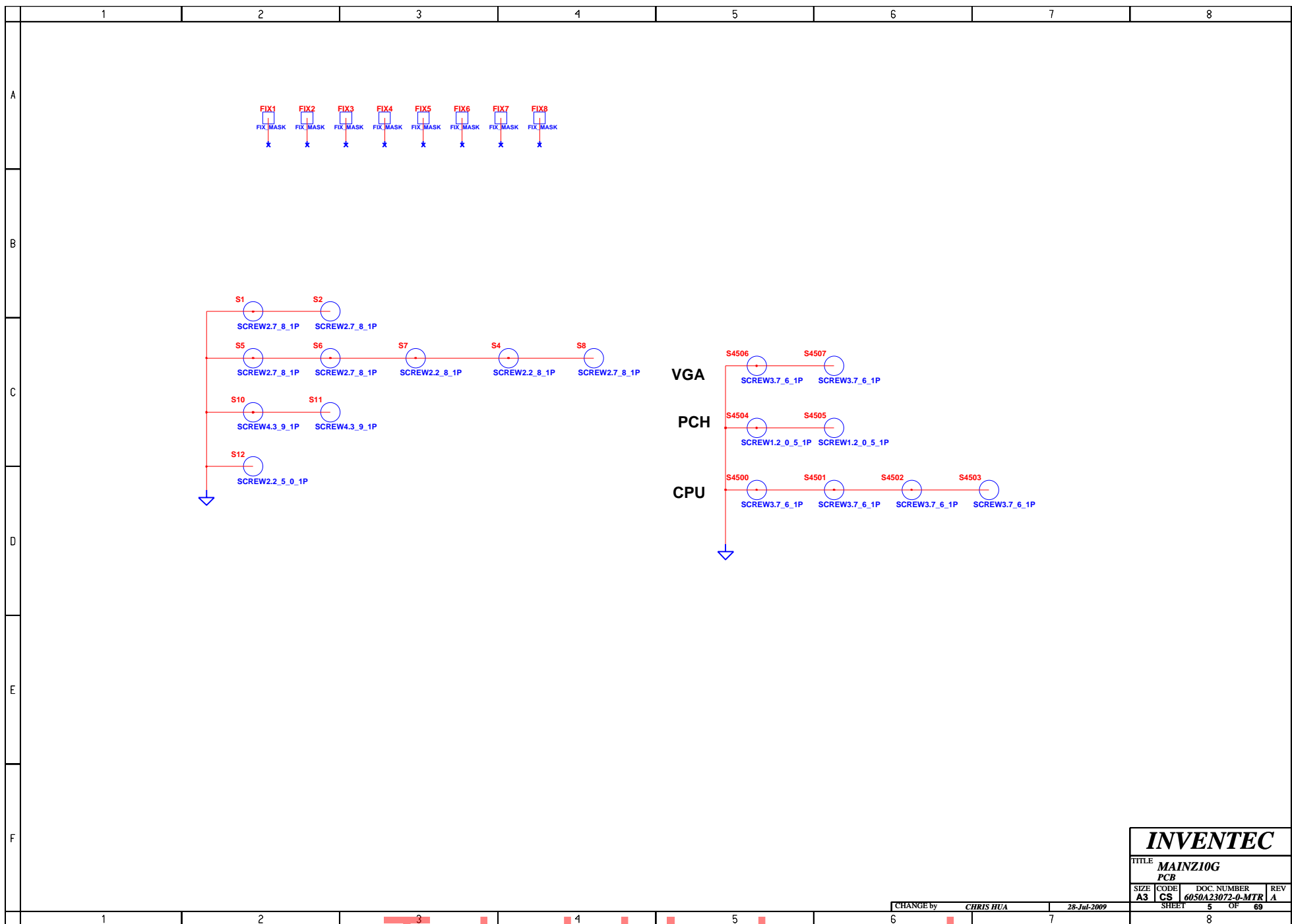
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SIZE	CODE	DOC. NUMBER	REV
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CHANGE by **CHRIS HUA** 16-Nov-2009

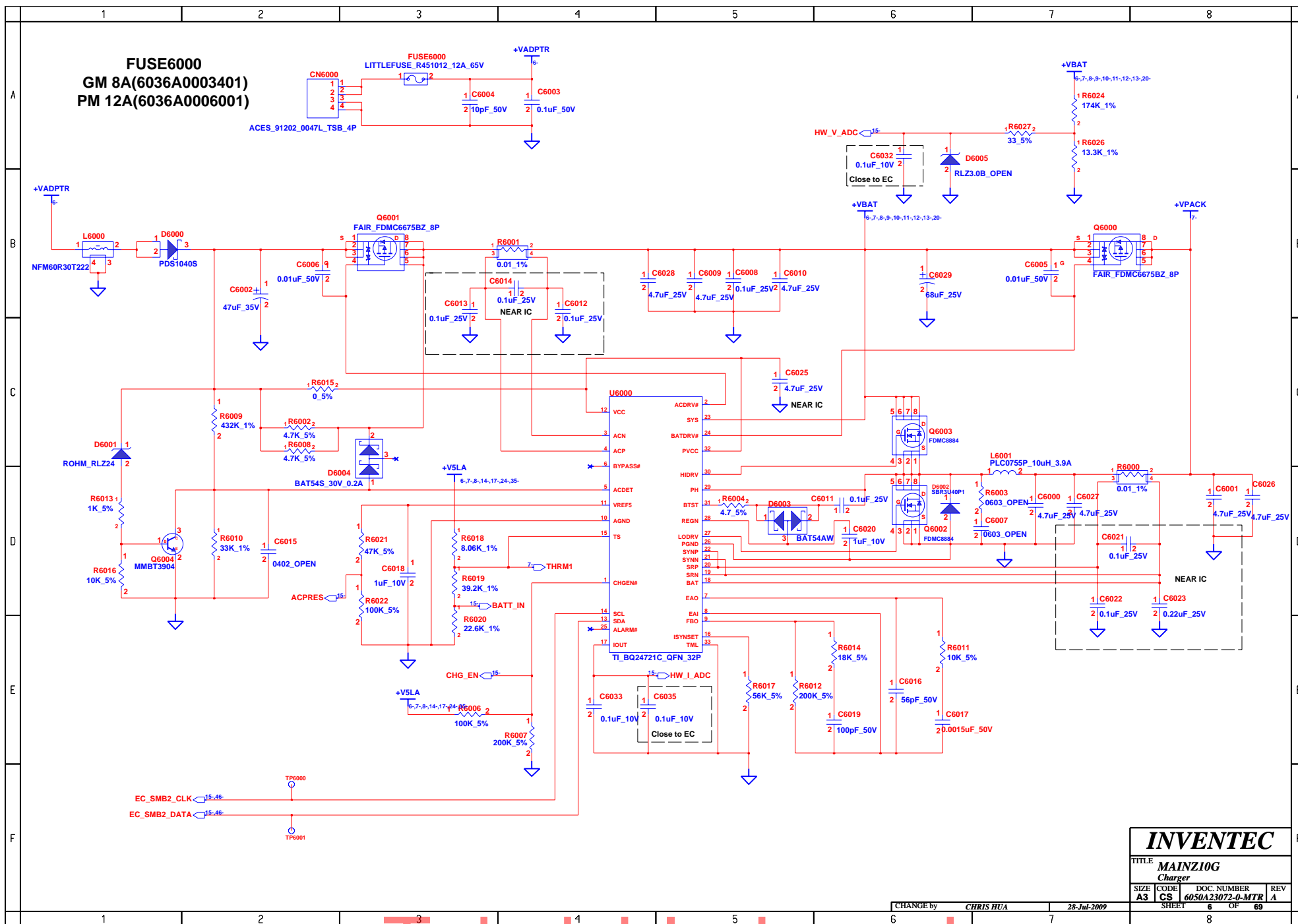


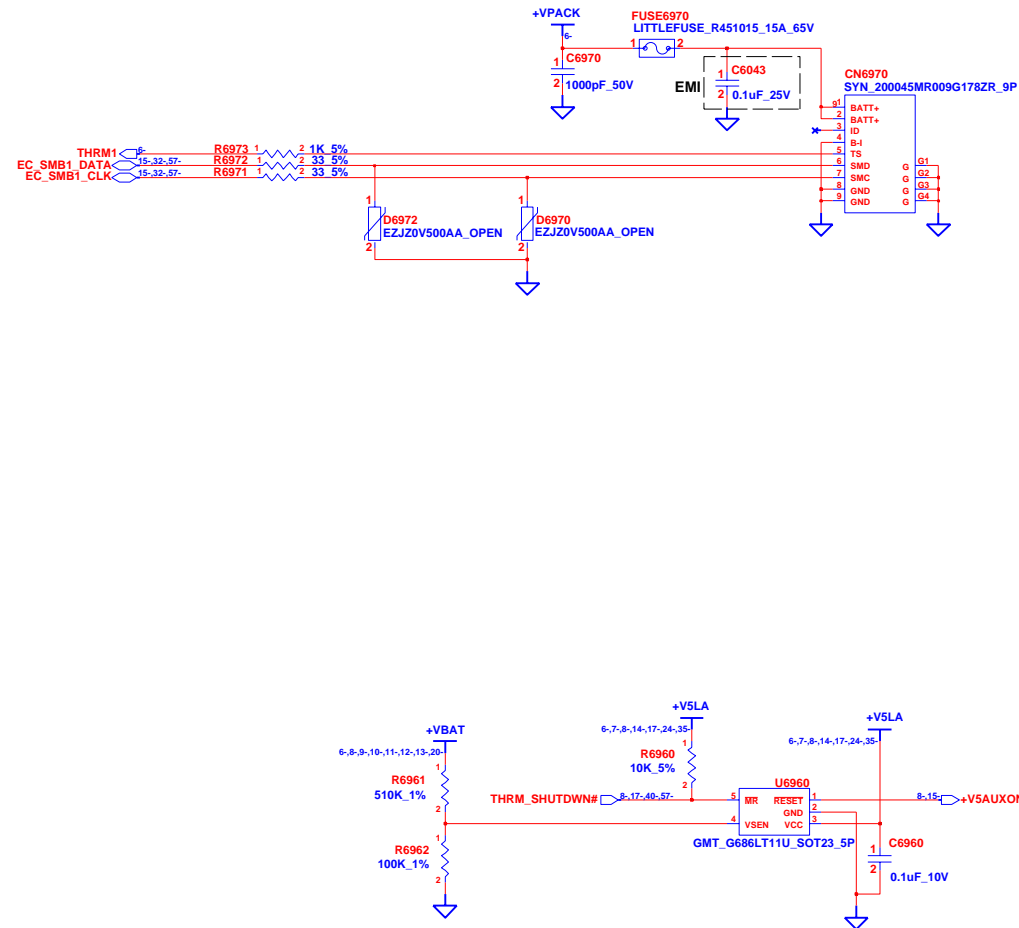
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B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

<b>INVENTEC</b>			
TITLE <b>MAINZ10G</b>			
Power Sequence Block			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>6050A23072-0-MTR</b>	REV <b>A</b>
CHANGE by <b>CHRIS HUA</b>		28-Jul-2009	
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INVENTEC			
TITLE MAINZ10G			
PCB			
SIZE A3	CODE CS	DOC. NUMBER 6050A23072-0-MTR	REV A
CHANGE by CHRIS HUA		28-Jul-2009	
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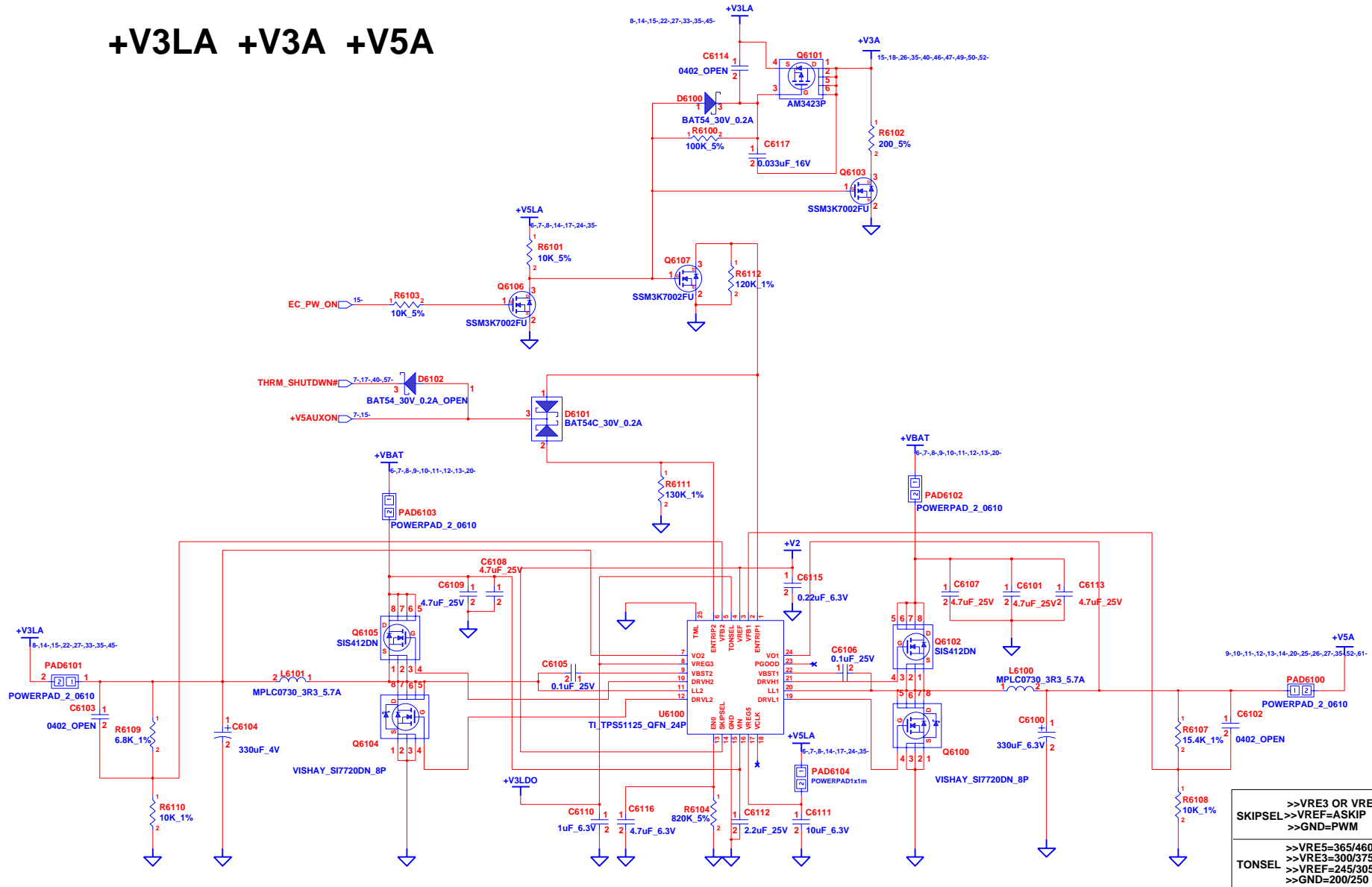




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TITLE: MAINZ10G Battery, Reset IC			
SIZE: A3	CODE: CS	DOC. NUMBER: 6050A23072-0-MTR	REV: A
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CHANGE by: CHRIS HUA 28-Jul-2009

**+V3LA +V3A +V5A**



>>VRE3 OR VRE5=OOA  
 SKIPSEL>>VREF=ASKIP  
 >>GND=PWM  
 >>VRE5=365/460  
 >>VRE3=300/375  
 TONSEL >>VREF=245/305  
 >>GND=200/250

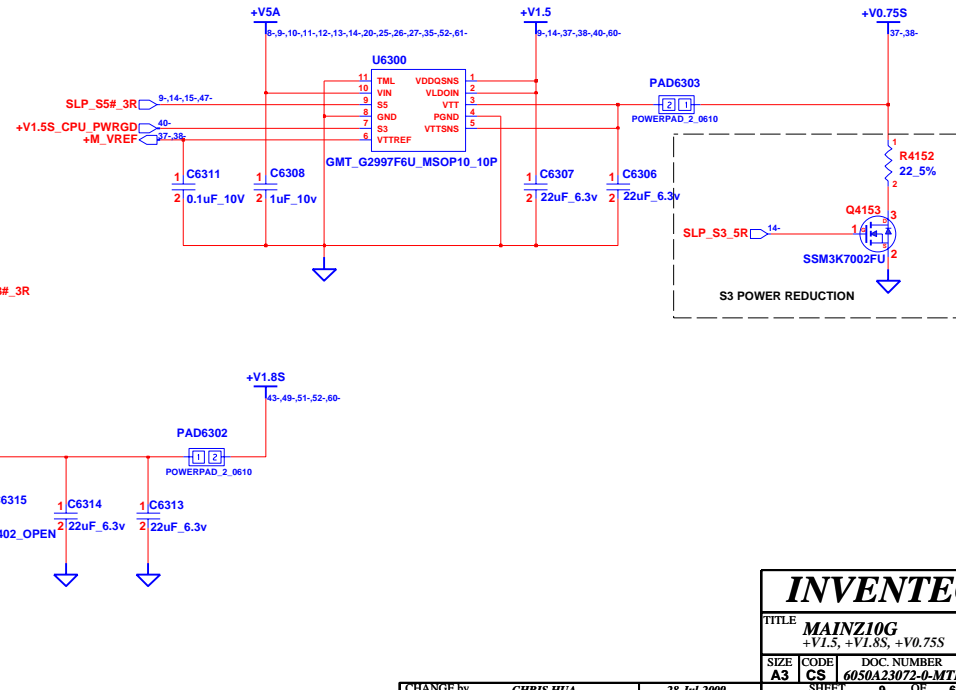
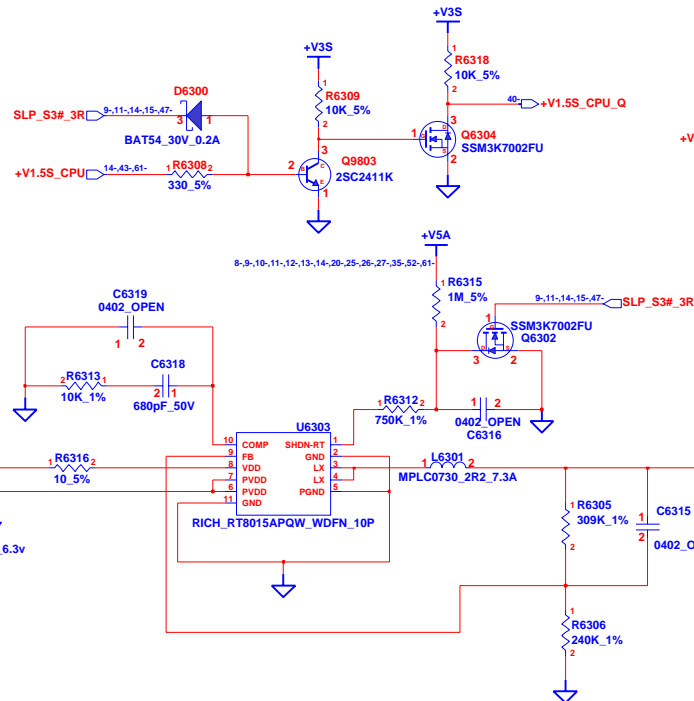
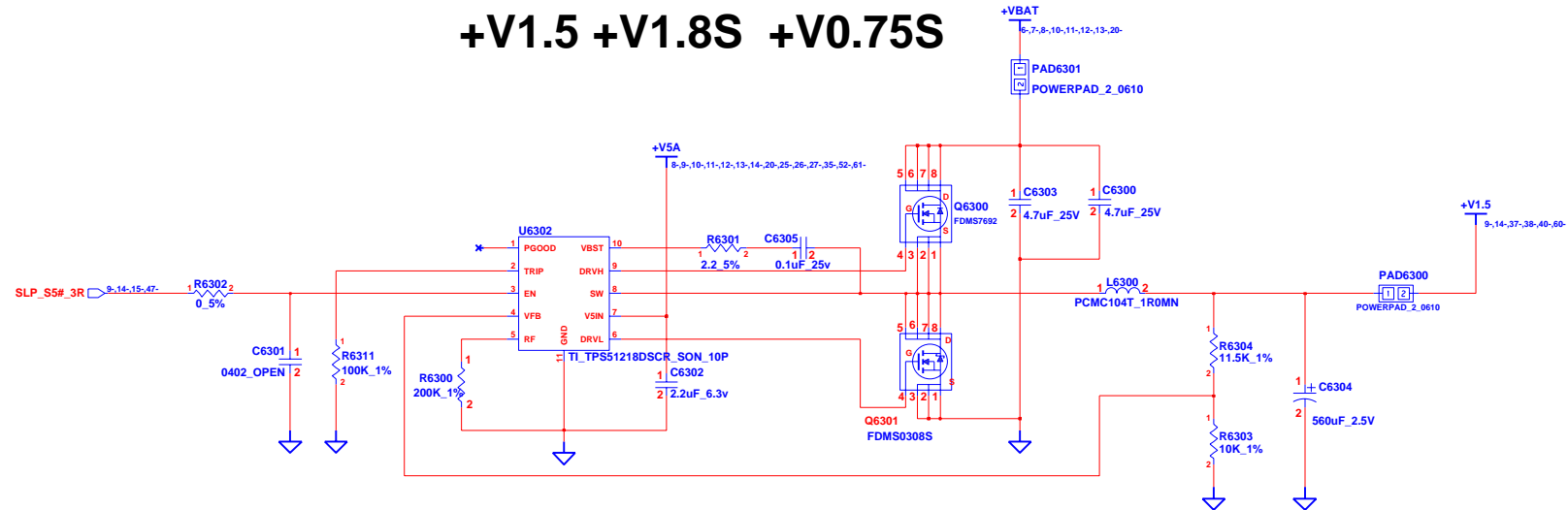
**INVENTEC**

TITLE MAINZ10G			
+V3LA, +V3A, +V5A			
SIZE A3	CODE CS	DOC. NUMBER 6050A23072-0-MTR	REV A
SHEET 8		OF 69	

CHANGE by CHRIS HUA 28-Jul-2009



# +V1.5 +V1.8S +V0.75S



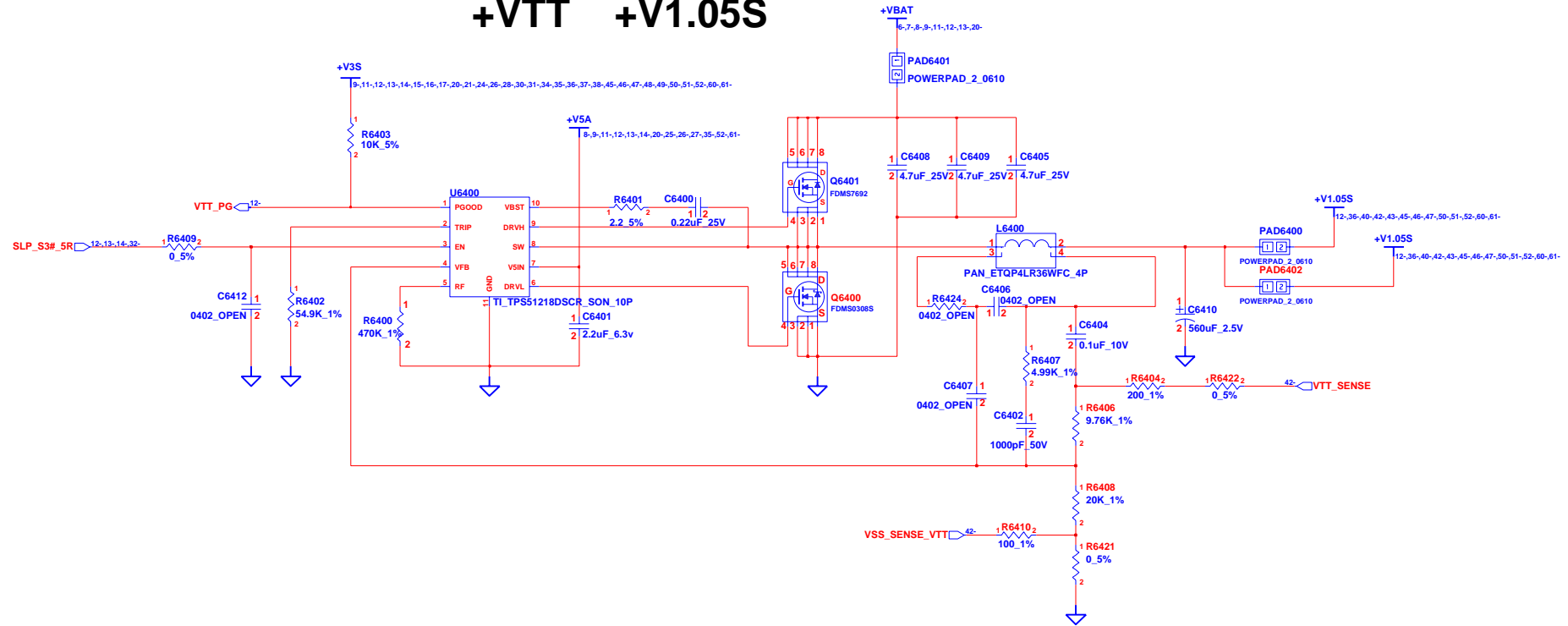
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**MAINZ10G**  
+V1.5, +V1.8S, +V0.75S

SIZE <b>A3</b>	CODE <b>CS</b>	DOC NUMBER <b>6050A23072-0-MTR</b>	REV <b>A</b>
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# +VTT +V1.05S



**INVENTEC**

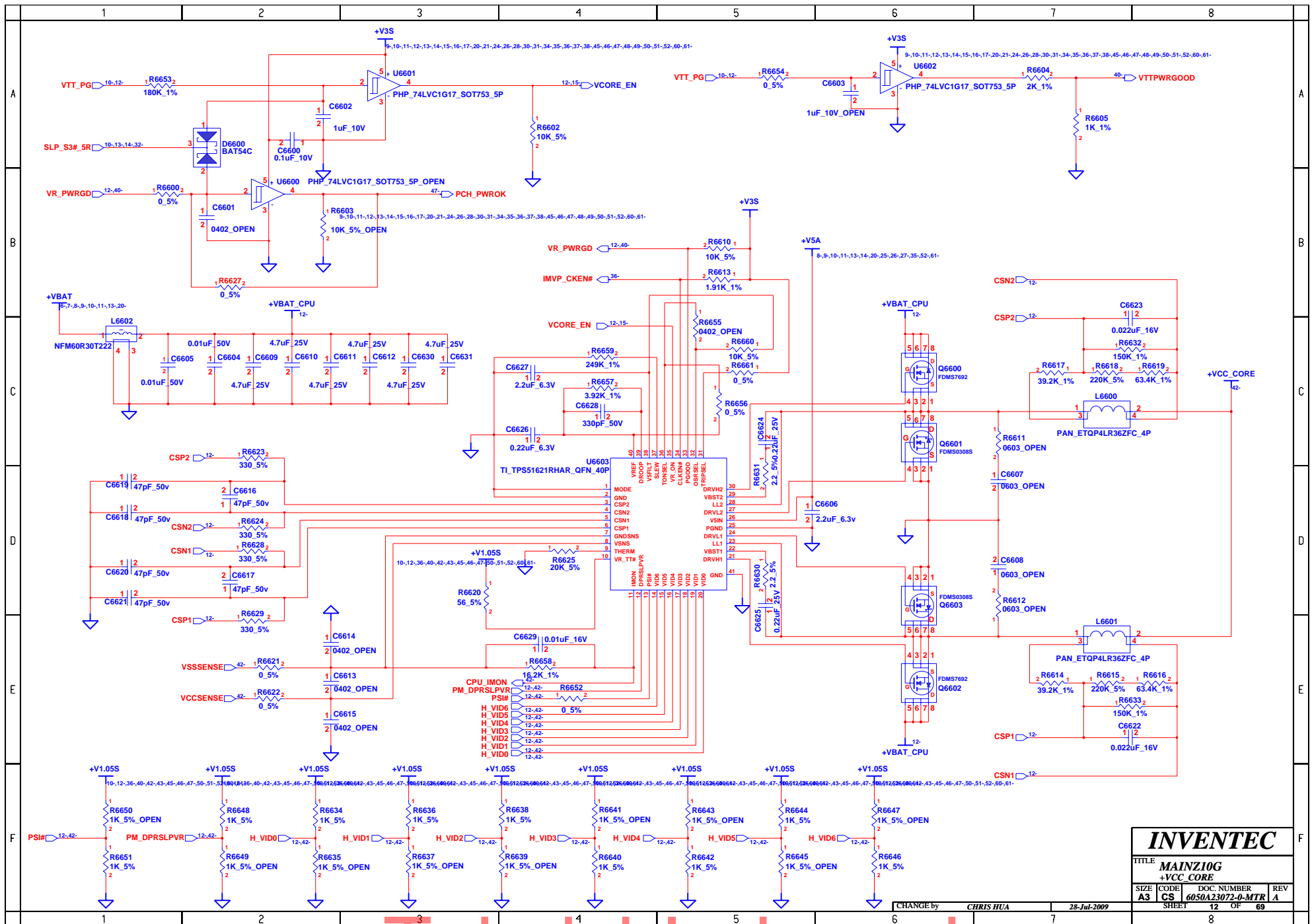
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MAINZ10G			
+VTT, +V1.05S			
SIZE	CODE	DOC. NUMBER	REV
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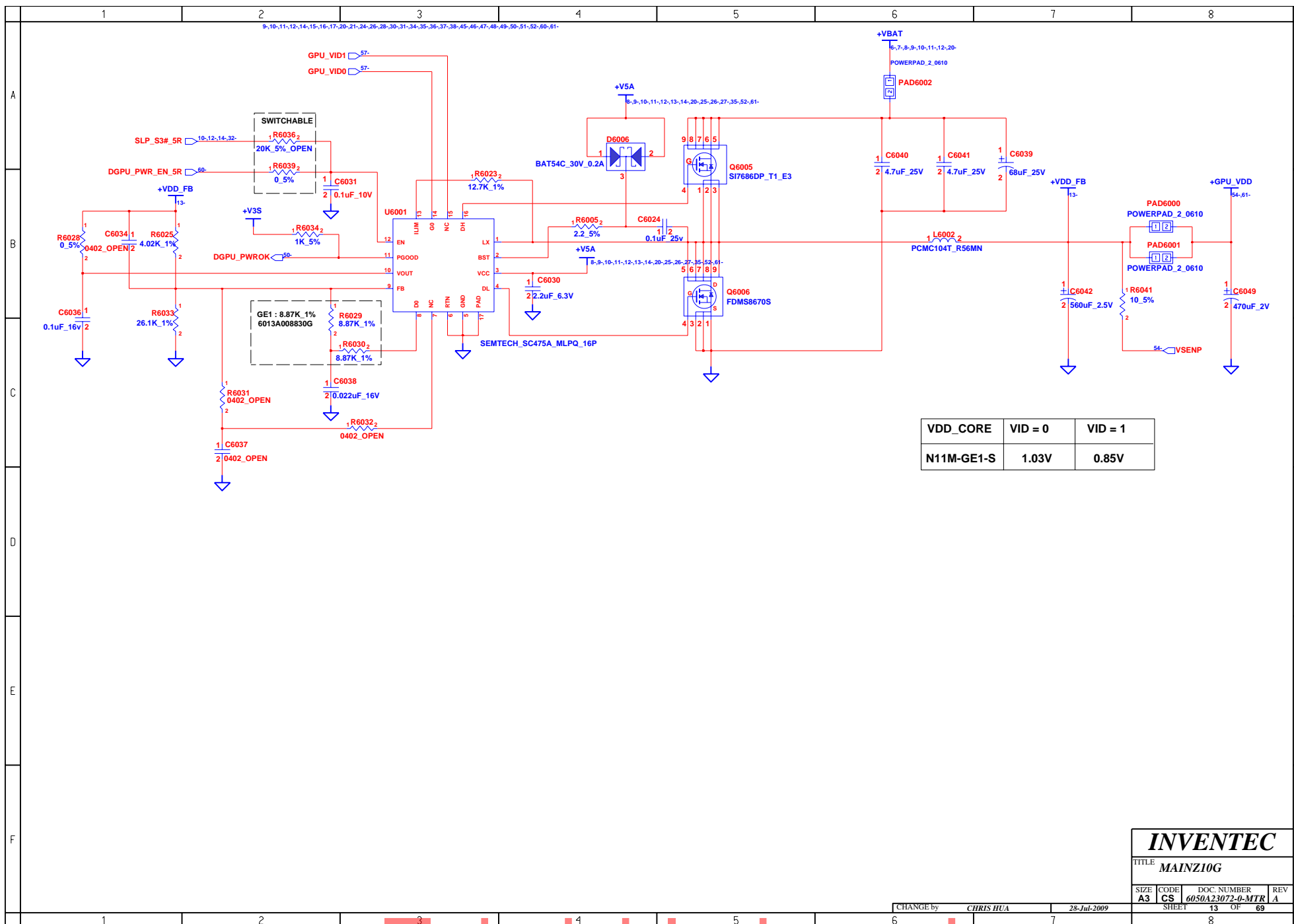
CHANGE by CHRIS HUA 28-Jul-2009

[illegible]

2 3 4 5 6 7

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**INVENTEC**

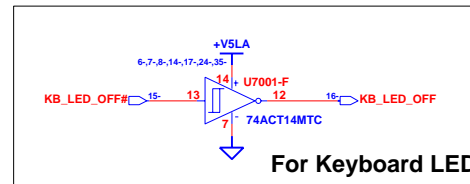
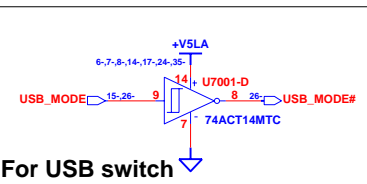
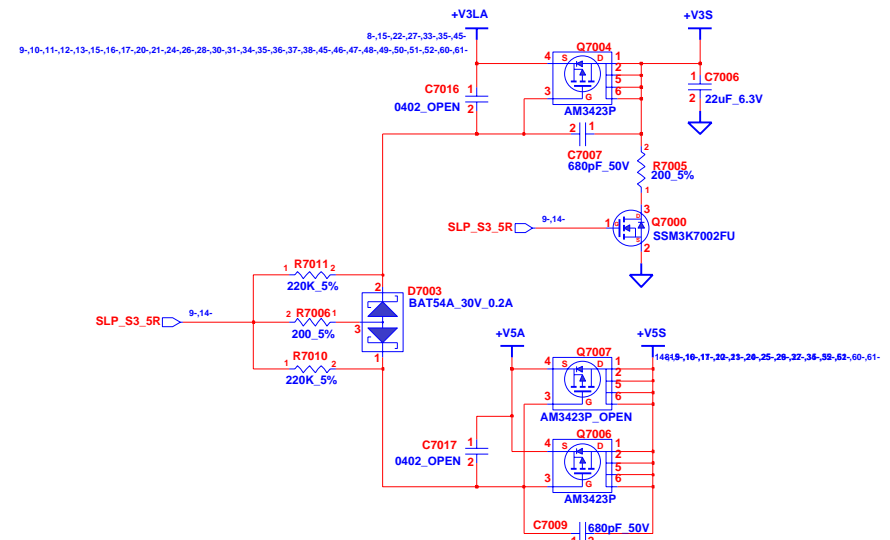
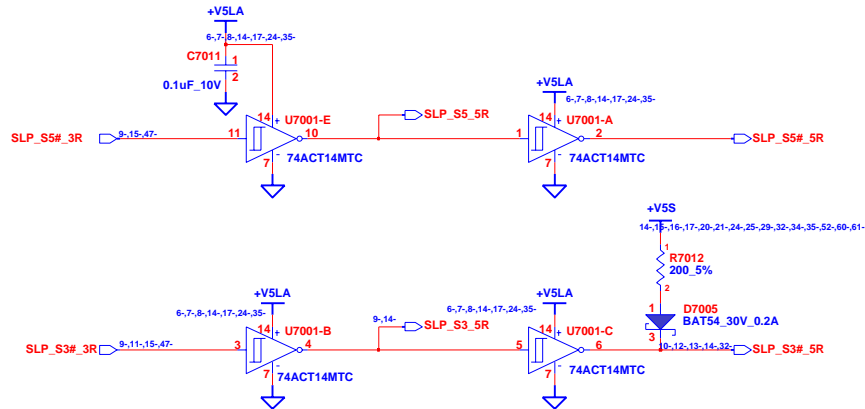
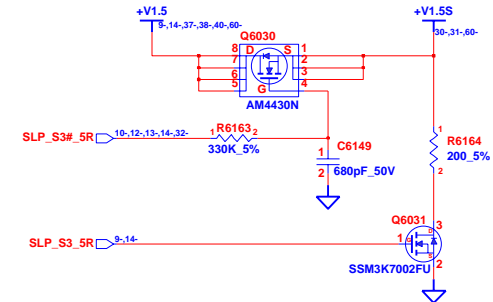
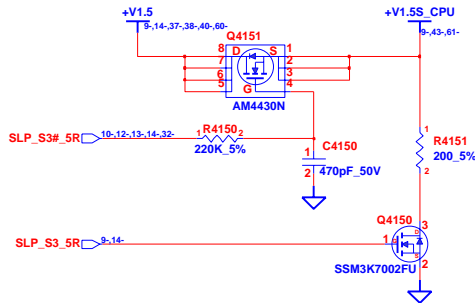
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**MAINZ10G**

SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>6050A23072-0-MTR</b>	REV <b>A</b>
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# +V5S +V3S +V1.5S +V1.5S\_CPU

## S3 POWER REDUCTION

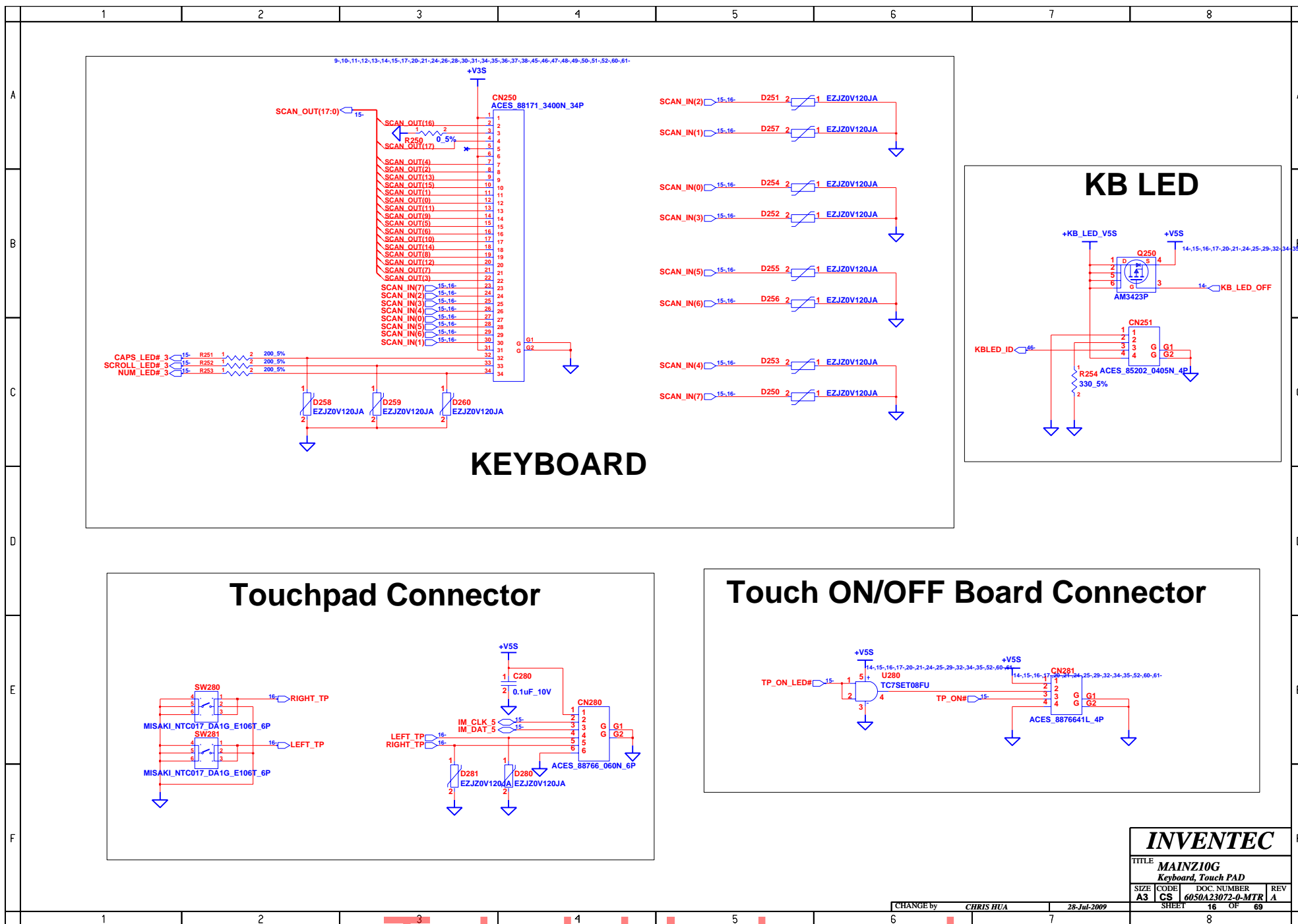


**INVENTEC**

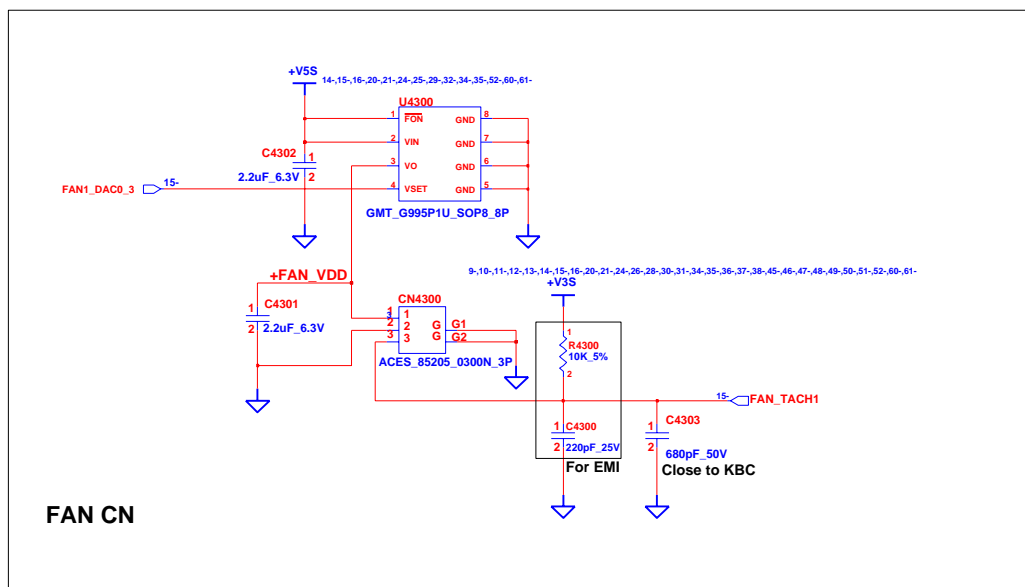
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MAINZ10G			
+V5S +V3S +V1.5S			
SIZE	CODE	DOC. NUMBER	REV
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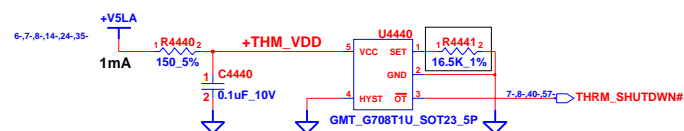








### Board Thermal Sensor



Thermal shutdown at 98 C° +/- 3 C° from 60 C° to 100 C°

$$RSET = 0.0012 * T^2 - 0.9308 * T + 96.147$$

Hysteresis is 30C

**INVENTEC**

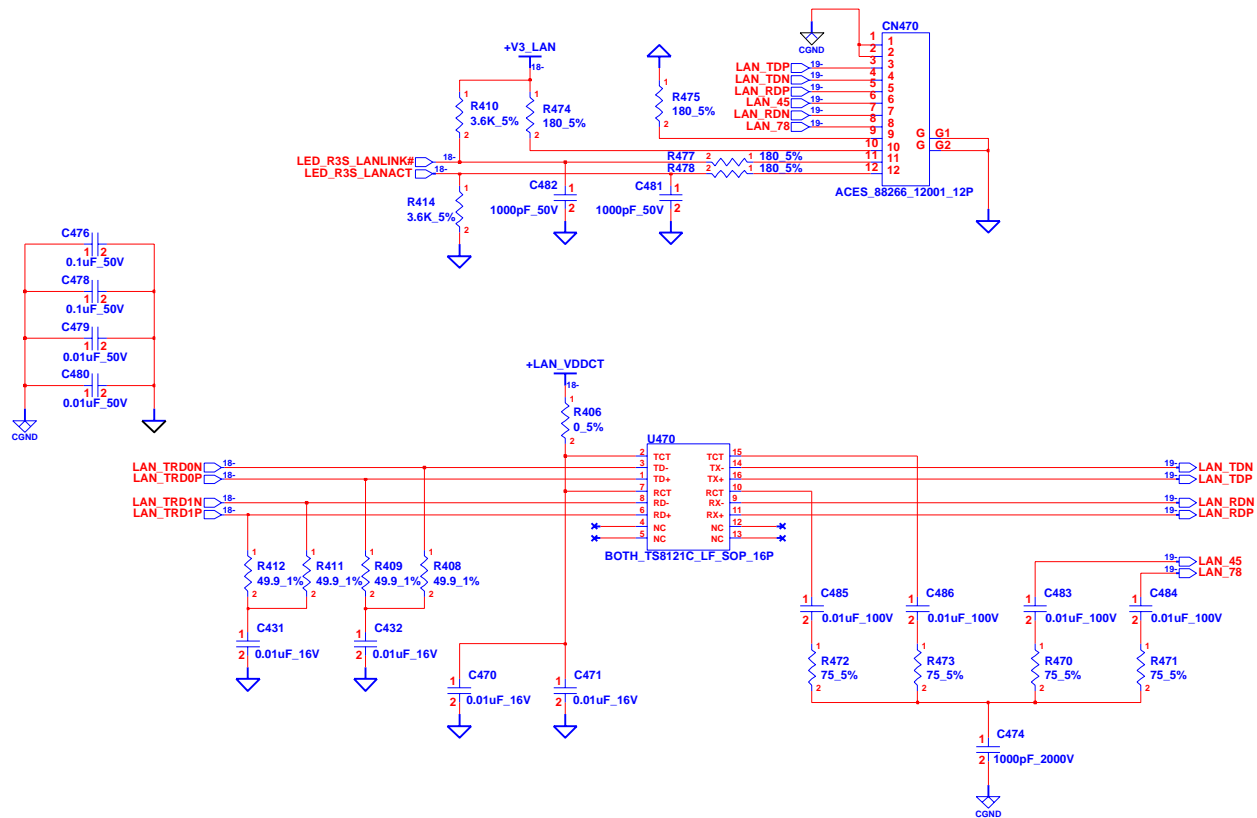
TITLE: **MAINZ10G**  
FAN, Thermal controller

SIZE	CODE	DOC. NUMBER	REV
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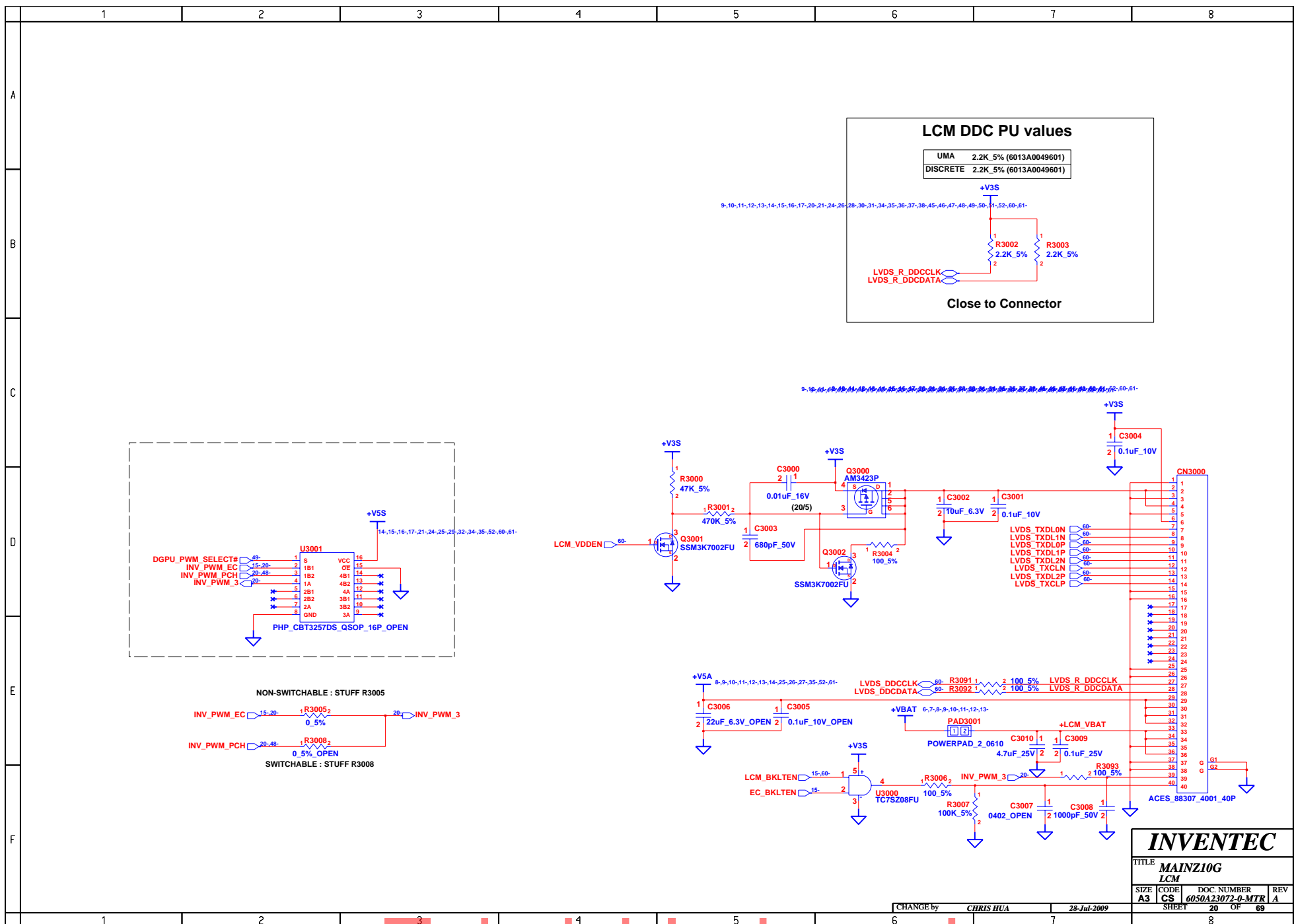
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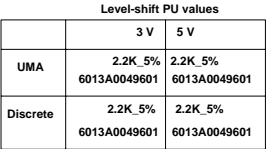
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INVENTEC			
TITLE: MAINZ10G			
Transformer, RJ45			
SIZE: A3	CODE: CS	DOC. NUMBER: 6050A23072-0-MTR	REV: A
CHANGE by: CHRIS HUA		28-Jul-2009	
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	3 V	5 V
UMA	2.2K_5% 6013A0049601	2.2K_5% 6013A0049601
Discrete	2.2K_5% 6013A0049601	2.2K_5% 6013A0049601

0.1uF\_10V\_OPEN

C3053 1 2

C3054 1 2

0.1uF\_10V\_OPEN

RESERVE cap for EMI

SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>6050A23072-0-MTR</b>	R <b>A</b>
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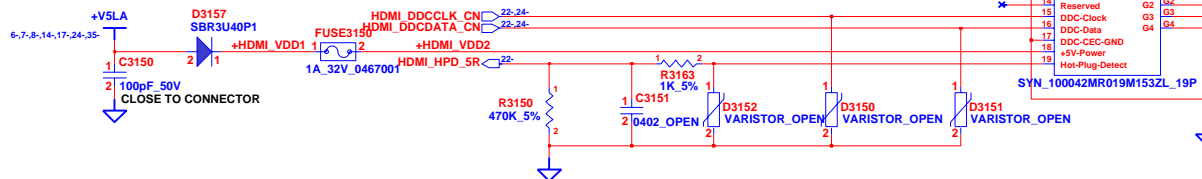
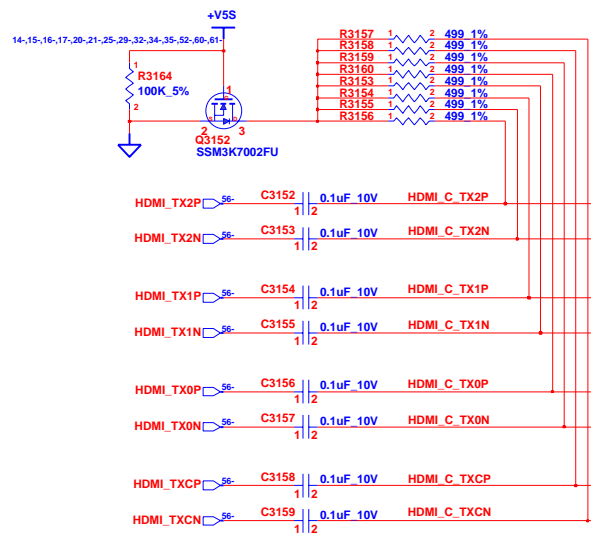
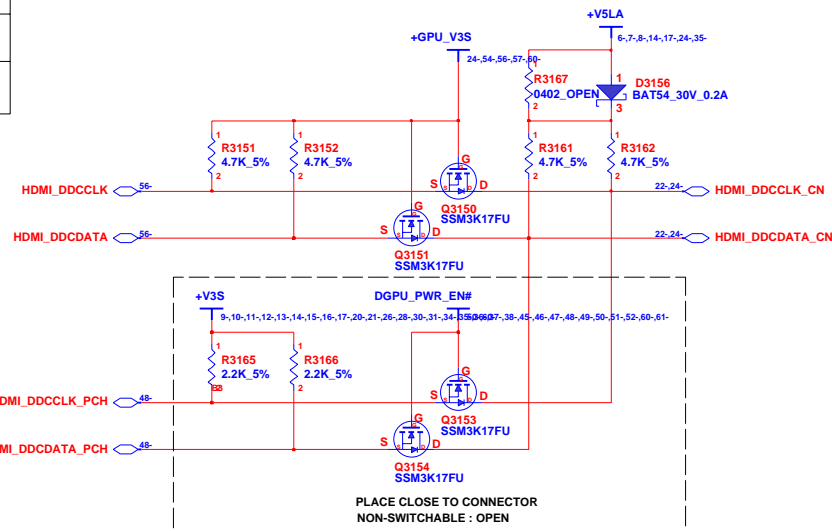
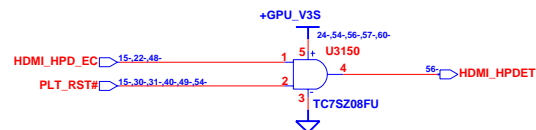
CHANGE by	CHRIS HUA	28-Jul-2009
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B									B
C									C
D									D
E									E
F									F
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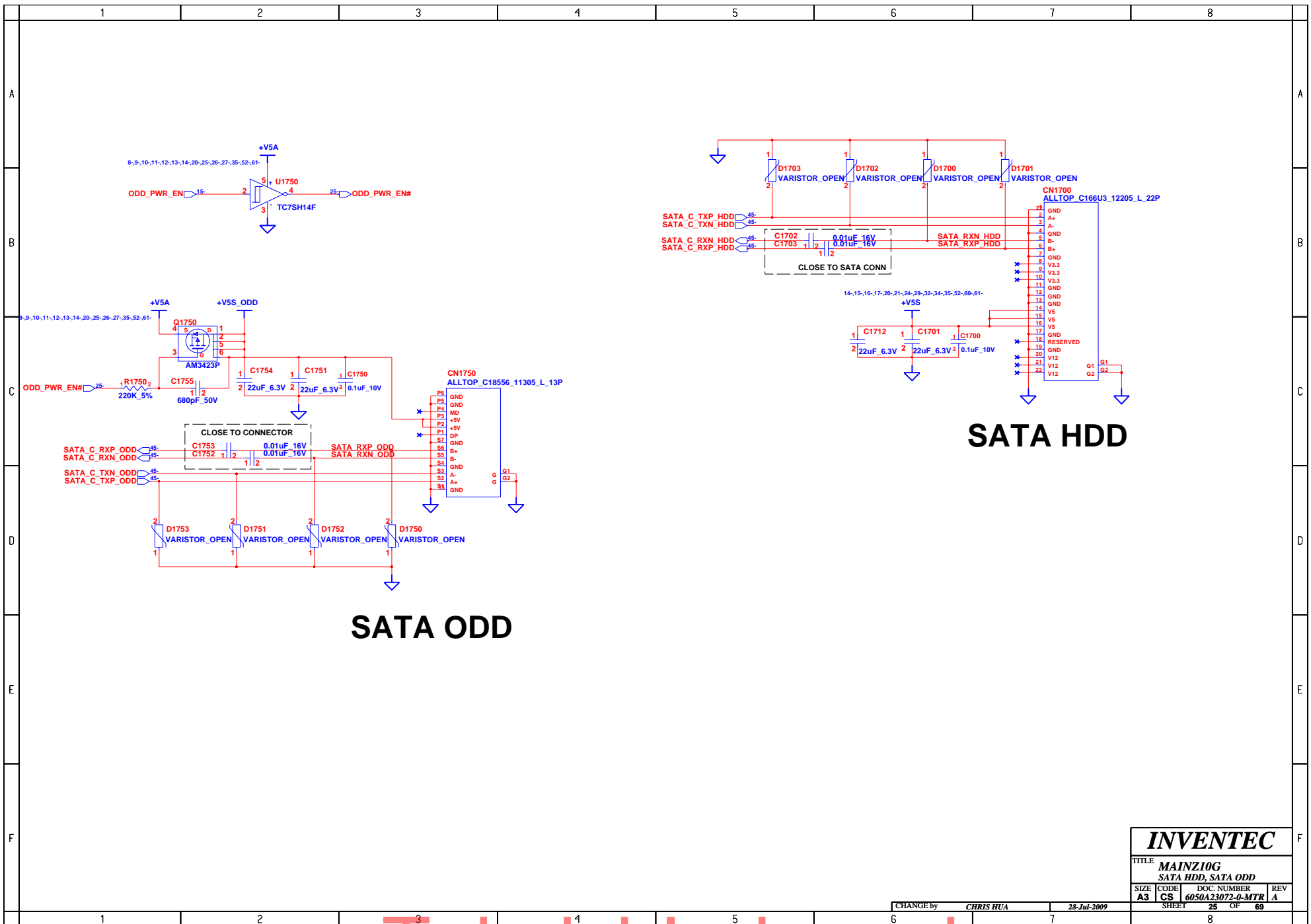
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TITLE <b>MAINZ10G</b> HDMI Level Shifter			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>6050A23072-0-MTR</b>	REV <b>A</b>
CHANGE by <b>CHRIS HUA</b>		28-Jul-2009	
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Level-shift PU values		
	3 V	5V
UMA	2.2K_5% 6013A0049601	2.2K_5% 6013A0049601
DISCRETE	4.7K_5% 60130B4720ZT	4.7K_5% 60130B4720ZT

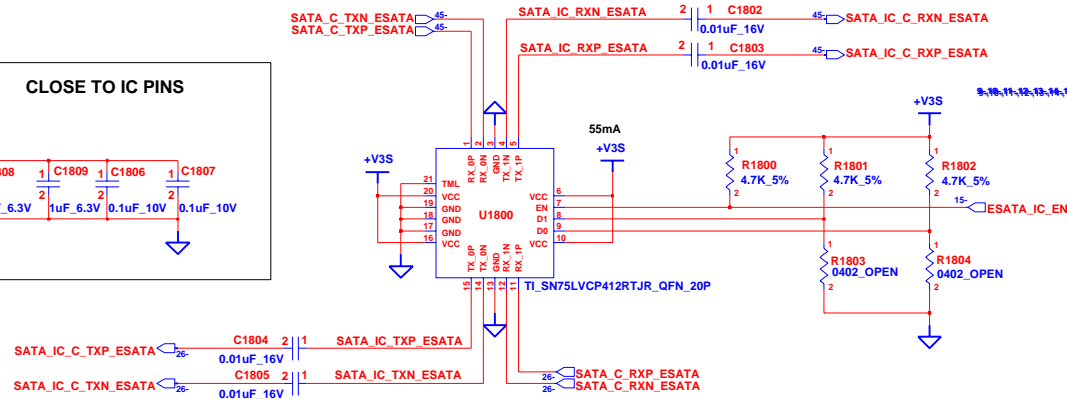
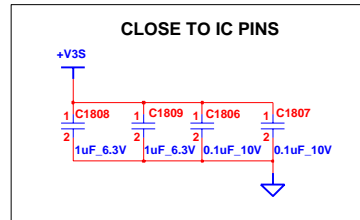


INVENTEC			
TITLE: MAINZ10G HDMI			
SIZE: A3	CODE: CS	DOC. NUMBER: 6050A23072-0-MTR	REV: A
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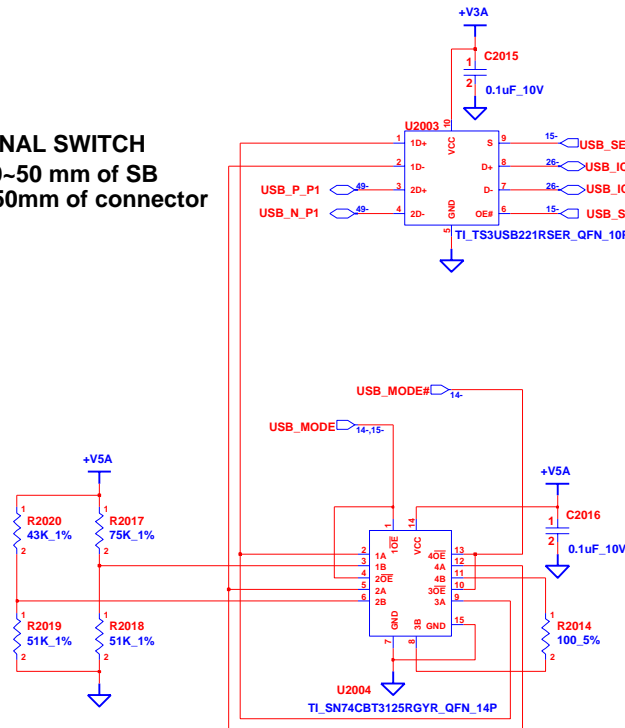


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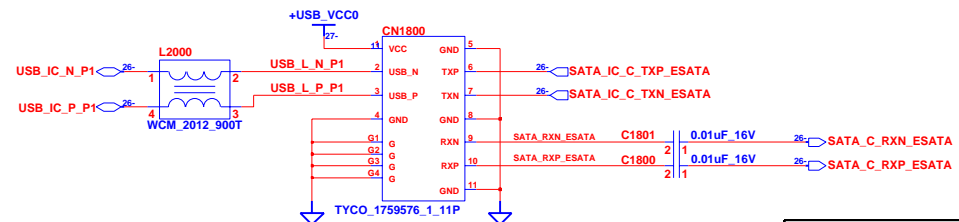


EN	D0	D1	FUNCTION
0	X	X	STANDBY
1	0	0	DEFAULT
1	1	0	CH0->5DB
1	0	1	CH1->5DB
1	1	1	CH0,1->5DB

**USB SIGNAL SWITCH**  
Within 40~50 mm of SB  
Within 150mm of connector



S	OE#	Function
L	L	D=1D
H	L	D=2D



**INVENTEC**

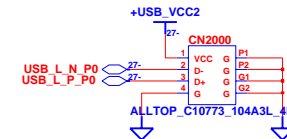
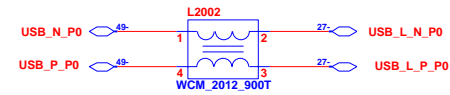
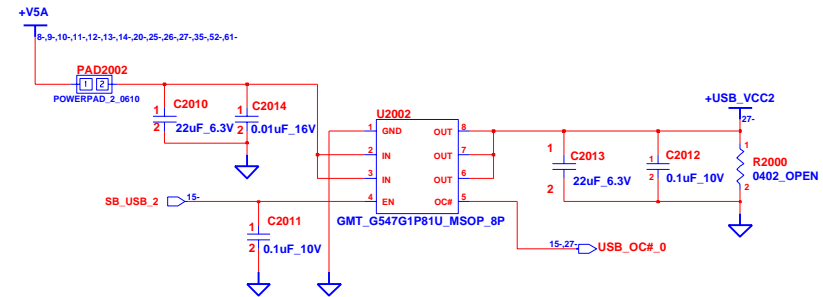
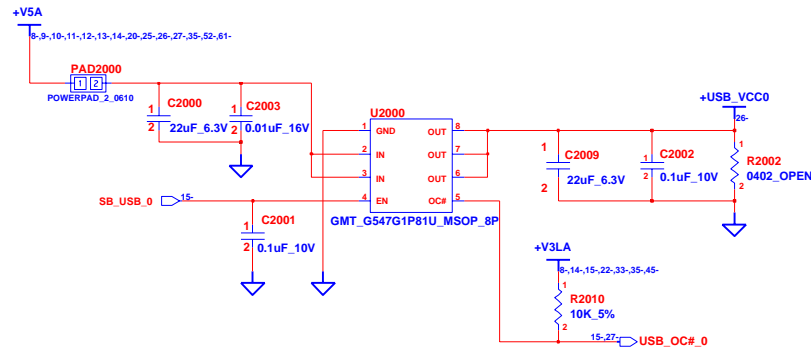
TITLE  
**MAINZ10G**  
e-SATA

SIZE CODE DOC. NUMBER REV  
**A3 CS 6050A23072-0-MTR A**

CHANGE by **CHRIS HUA** 28-Jul-2009

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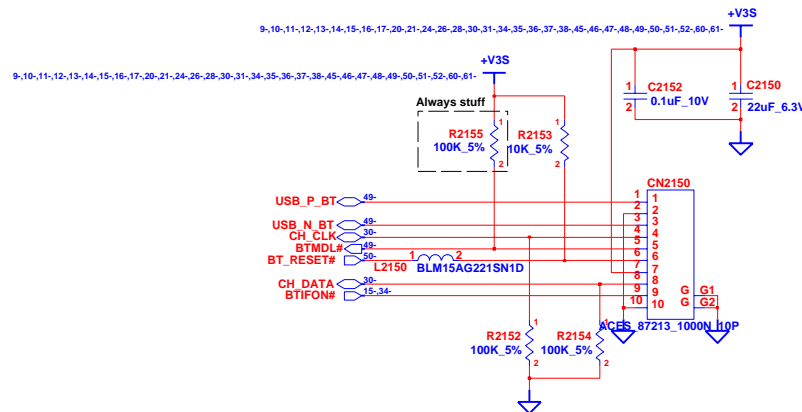
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<b>INVENTEC</b>			
TITLE: MAINZ10G			
USB			
SIZE: A3	CODE: CS	DOC. NUMBER: 6050A23072-0-MTR	REV: A
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CHANGE by: CHRIS HUA 28-Jul-2009

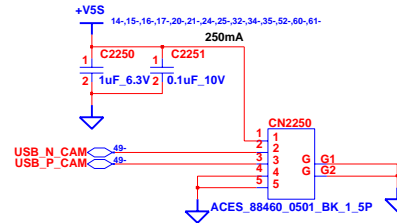
# BLUEBOOTH



INVENTEC			
TITLE MAINZ10G BlueTooth			
SIZE A3	CODE CS	DOC. NUMBER 6050A23072-0-MTR	REV A
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CHANGE by CHRIS HUA 28-Jul-2009

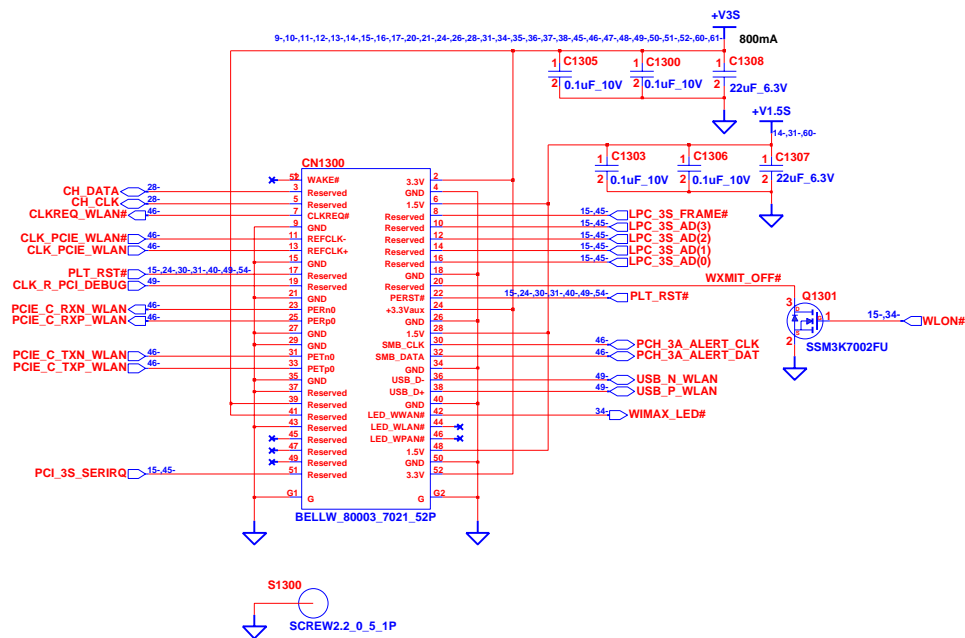
# WEBCAM



INVENTEC			
TITLE MAINZ10G Camera			
SIZE A3	CODE CS	DOC. NUMBER 6050A23072-0-MTR	REV A
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CHANGE by CHRIS HUA 28-Jul-2009

## Wireless & Debug card

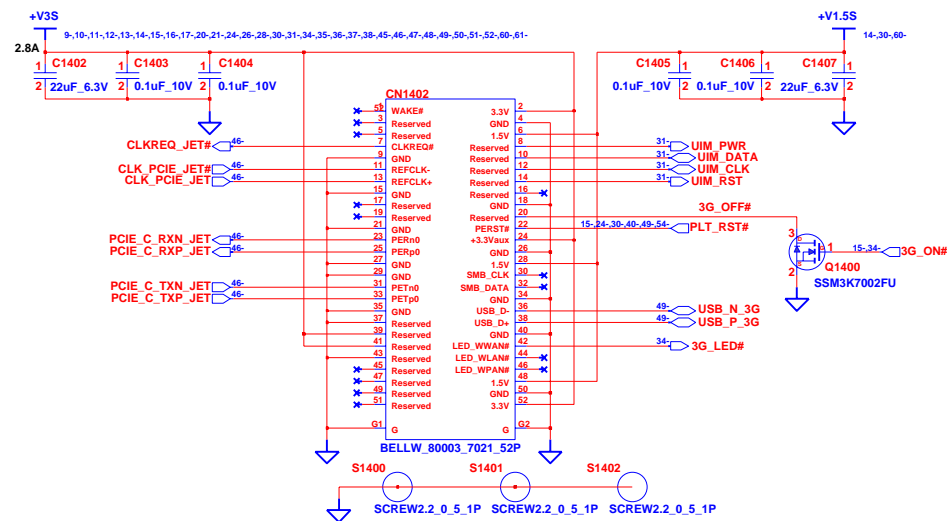
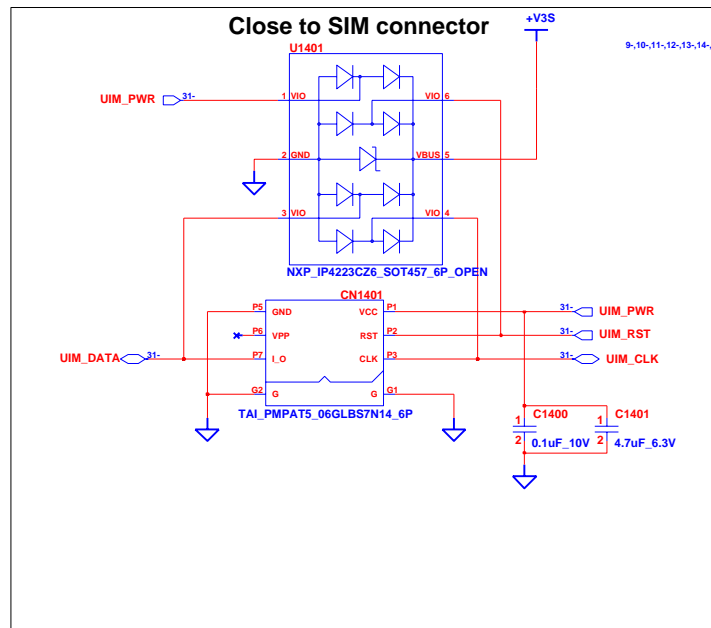


**INVENTEC**

TITLE <b>MAINZ10G</b> WLAN			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>6050A23072-0-MTR</b>	REV <b>A</b>
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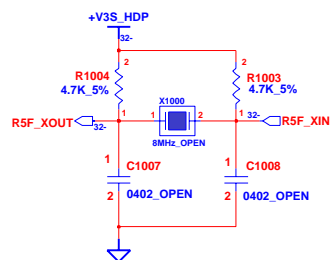
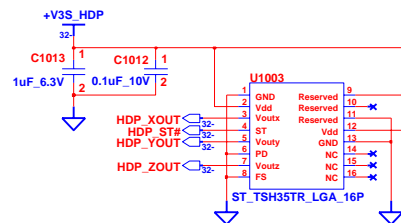
CHANGE by **CHRIS HUA** 28-Jul-2009

## 3G

**INVENTEC**

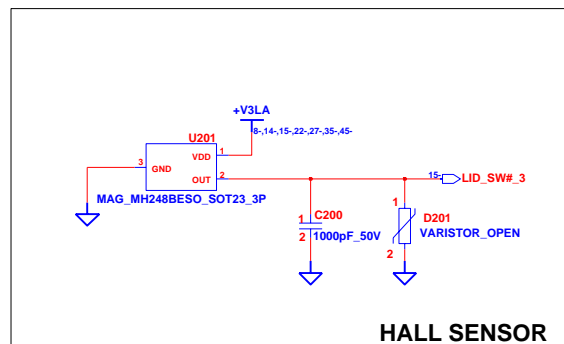
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MAINZ10G 3G			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23072-0-MTR	A
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CHANGE by	<b>CHRIS HUA</b>	<b>28-Jul-2009</b>
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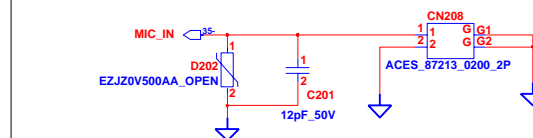


Q





### INTERNAL MIC

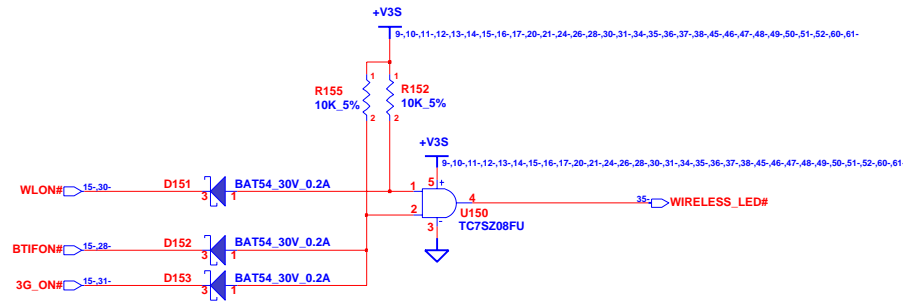


INVENTEC			
TITLE MAINZ10G Hall Sensor			
SIZE A3	CODE CS	DOC. NUMBER 6050A23072-0-MTR	REV A
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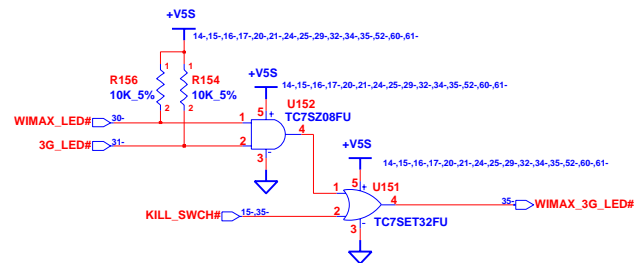
CHANGE by CHRIS HUA 28-Jul-2009

### WLAN/WIMAX/3G/BT FUNCTION LED

PU / BUFFER / LED ALWAYS STUFF  
UNLESS ALL DEVICES NOT SUPPORTED



### 3G/WIMAX LED

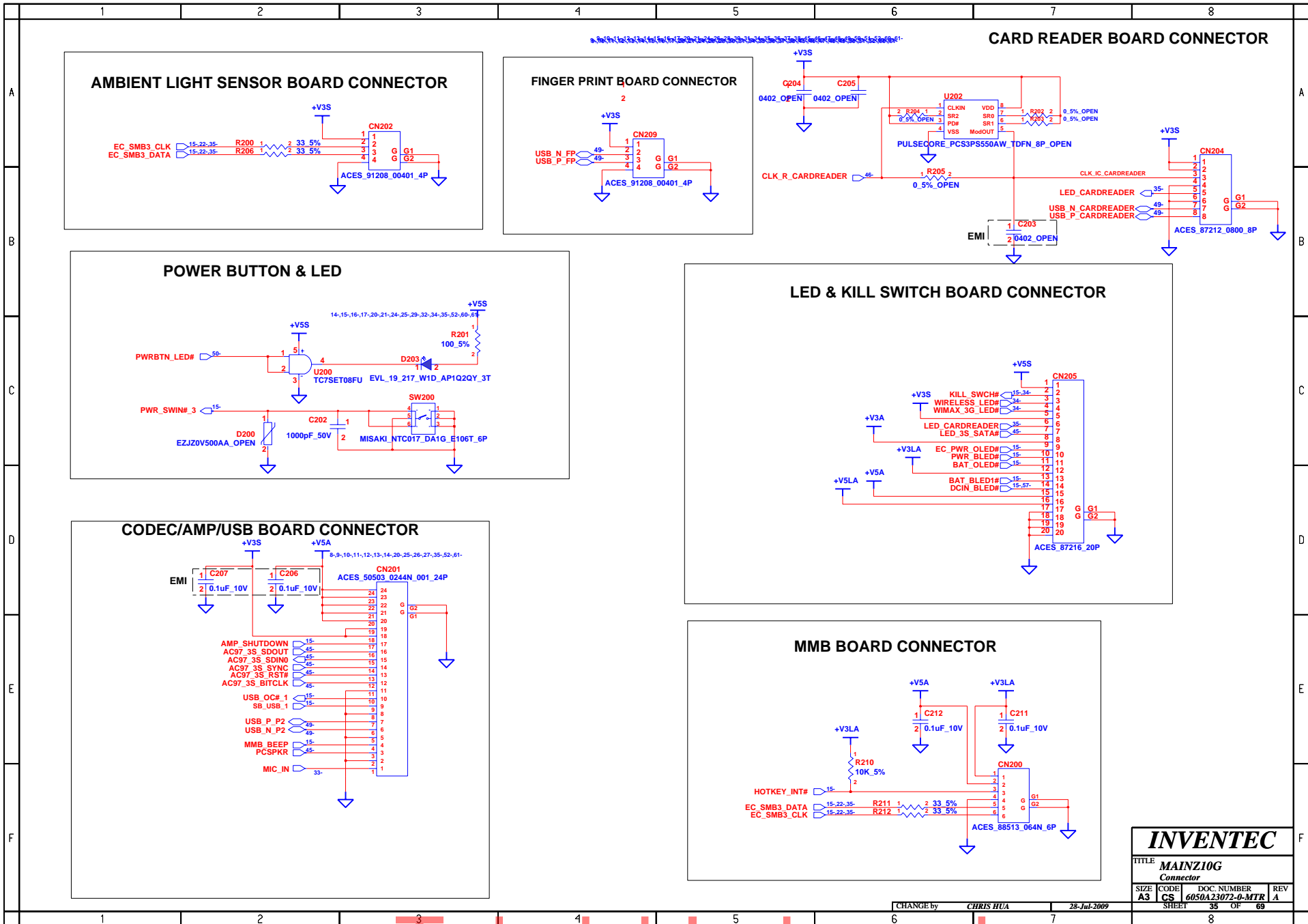


**INVENTEC**

TITLE **MAINZ10G  
LED**

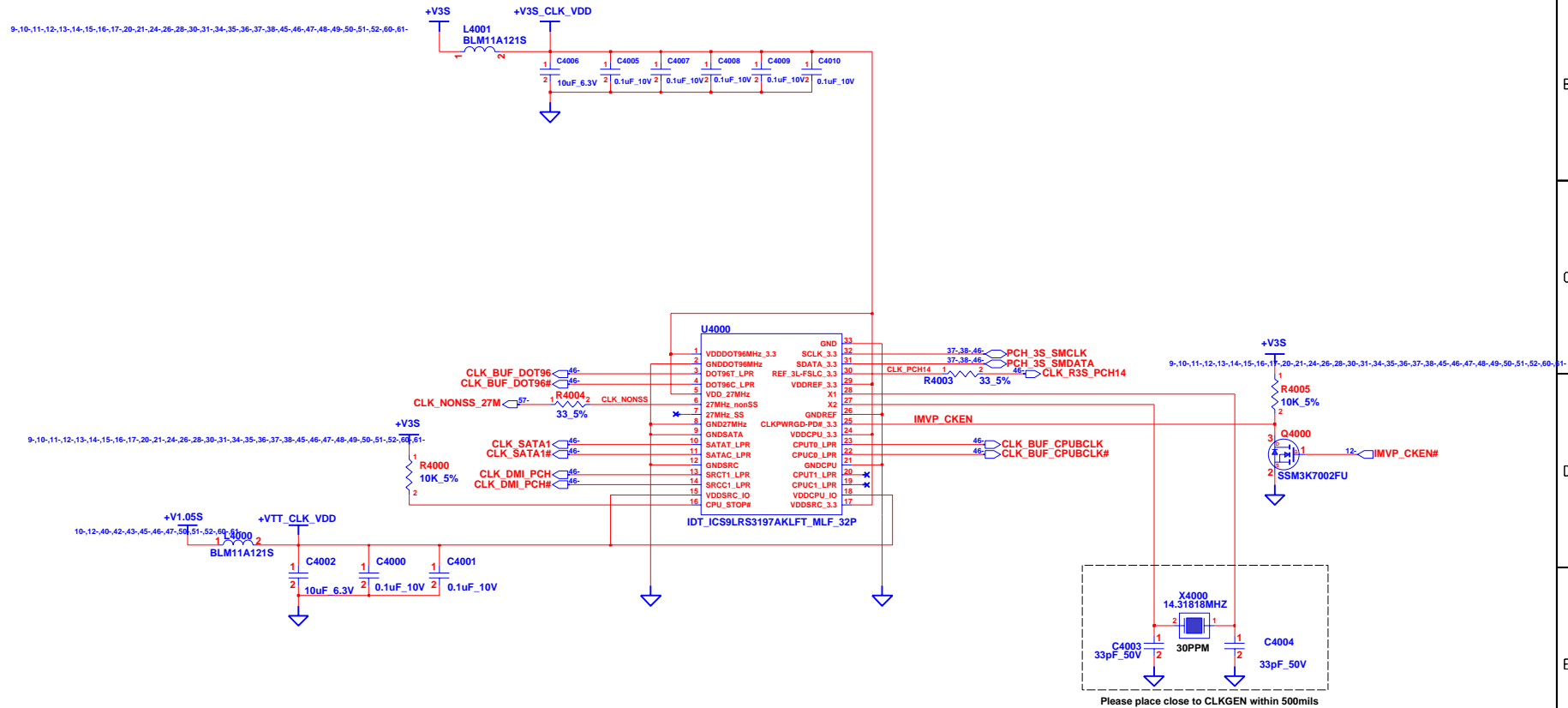
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>6050A23072-0-MTR</b>	REV <b>A</b>
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CHANGE by **CHRIS HUA** 28-Jul-2009



<b>INVENTEC</b>			
TITLE MAIN210G Connector			
SIZE A3	CODE CS	DOC. NUMBER 6050423073-0-MTR	REV A
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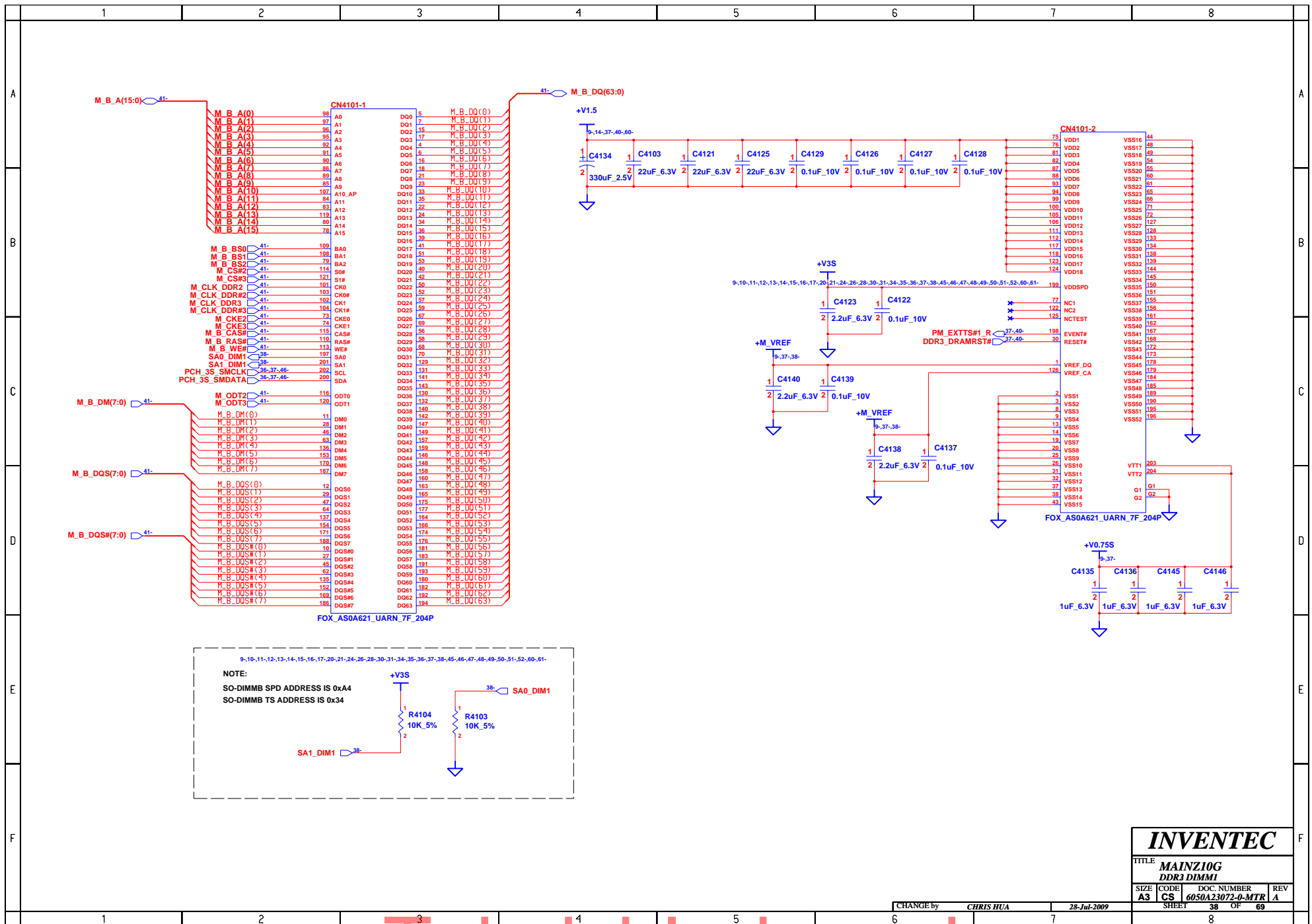
CHANGE by CHRIS HUA 28-Jul-2009



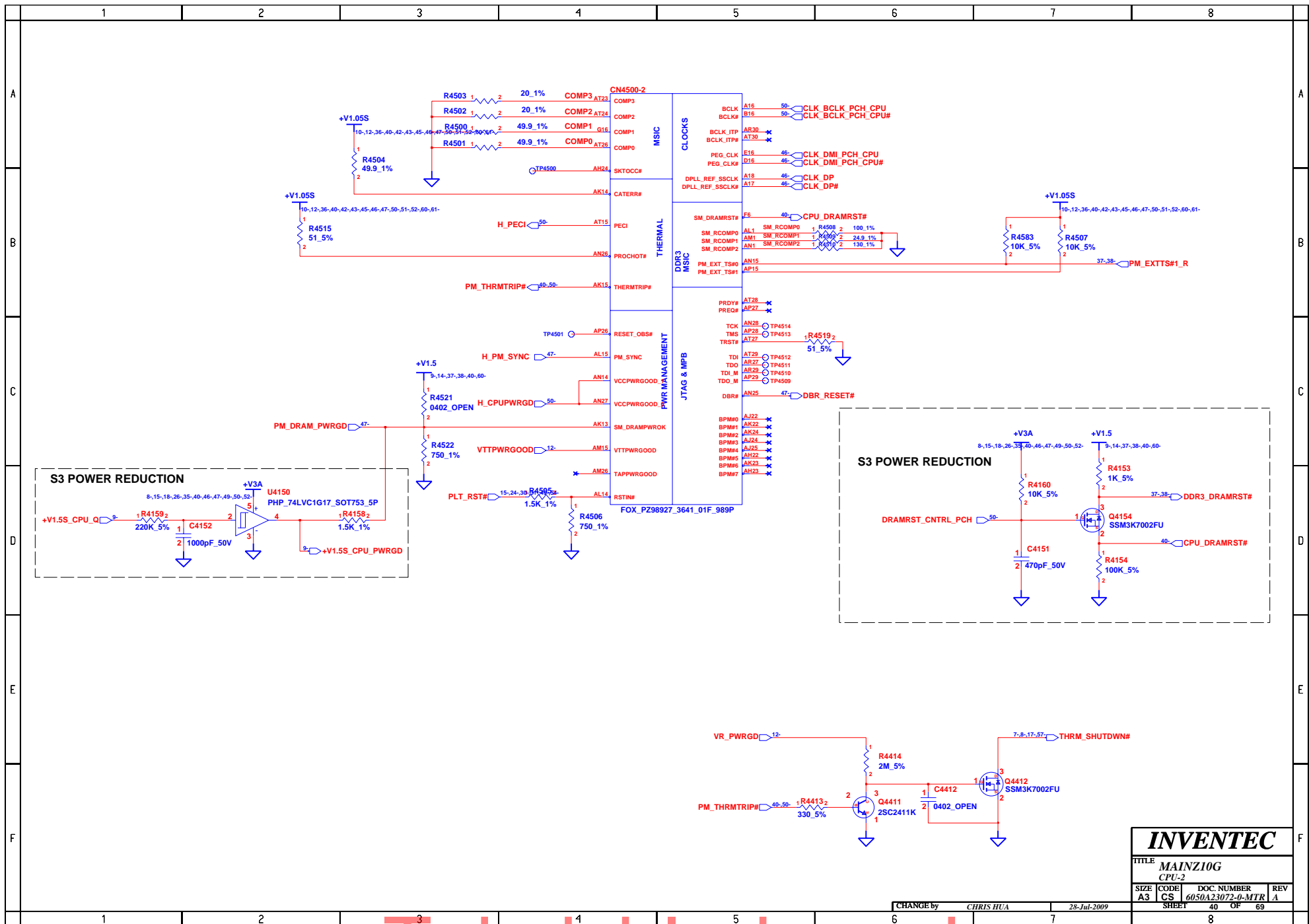
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CHANGE by: CHRIS HUA 28-Jul-2009



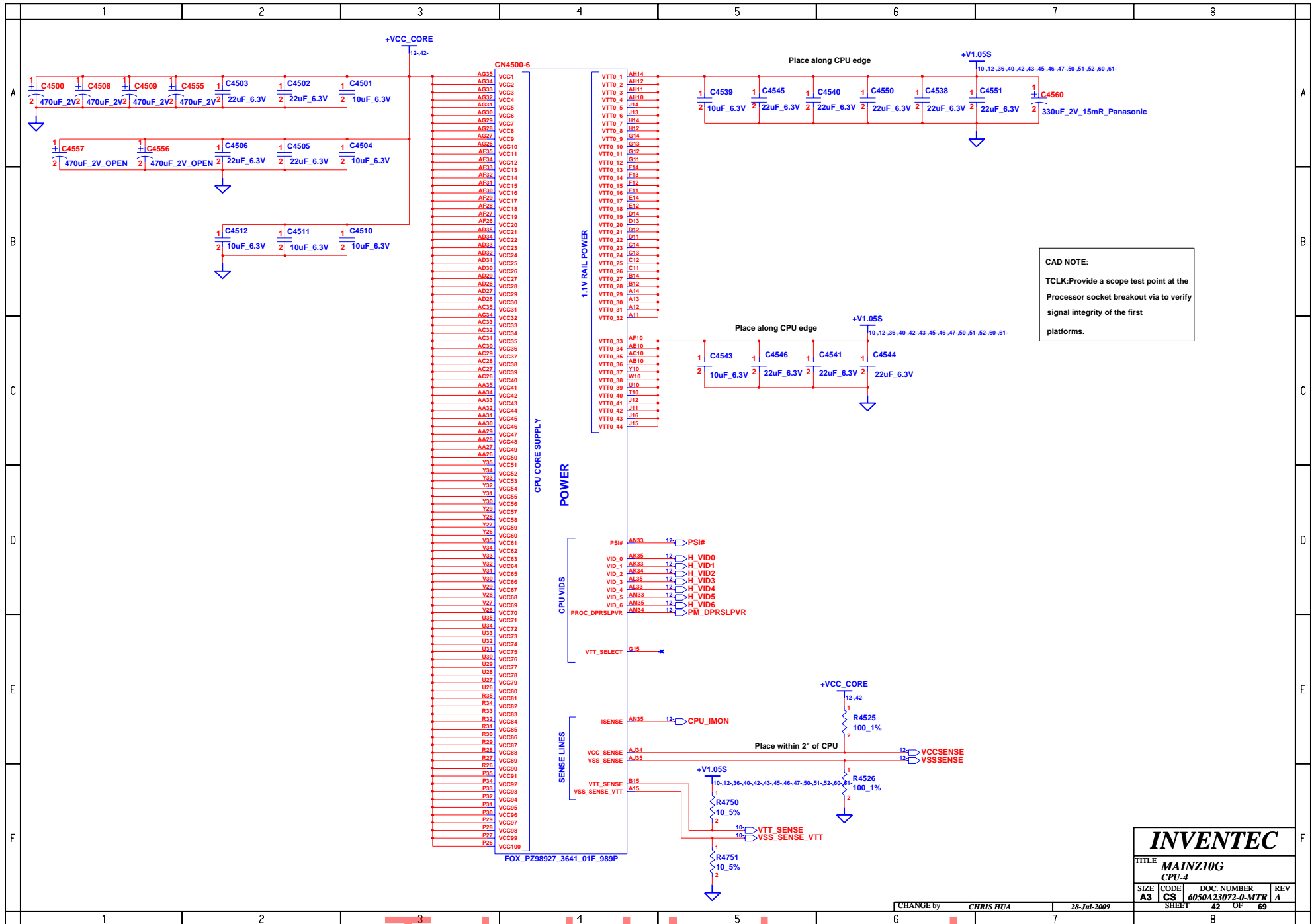


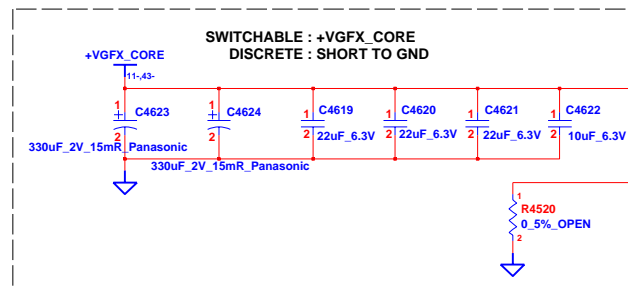




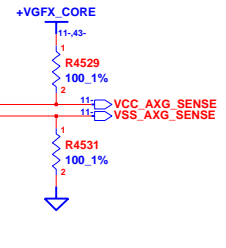




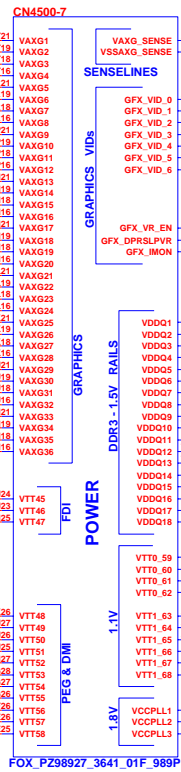
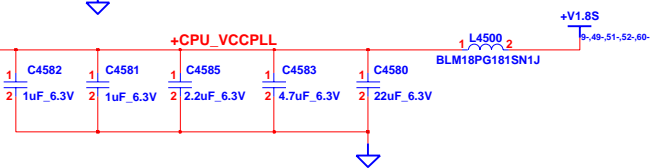
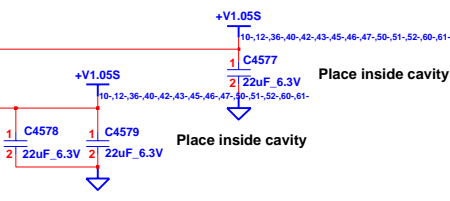
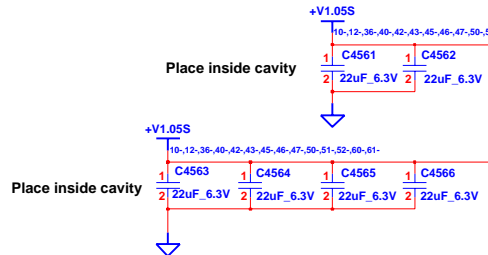
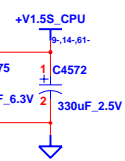




Route VCC\_AXG\_SENSE and  
VSS\_AXG\_SENSE  
differentially



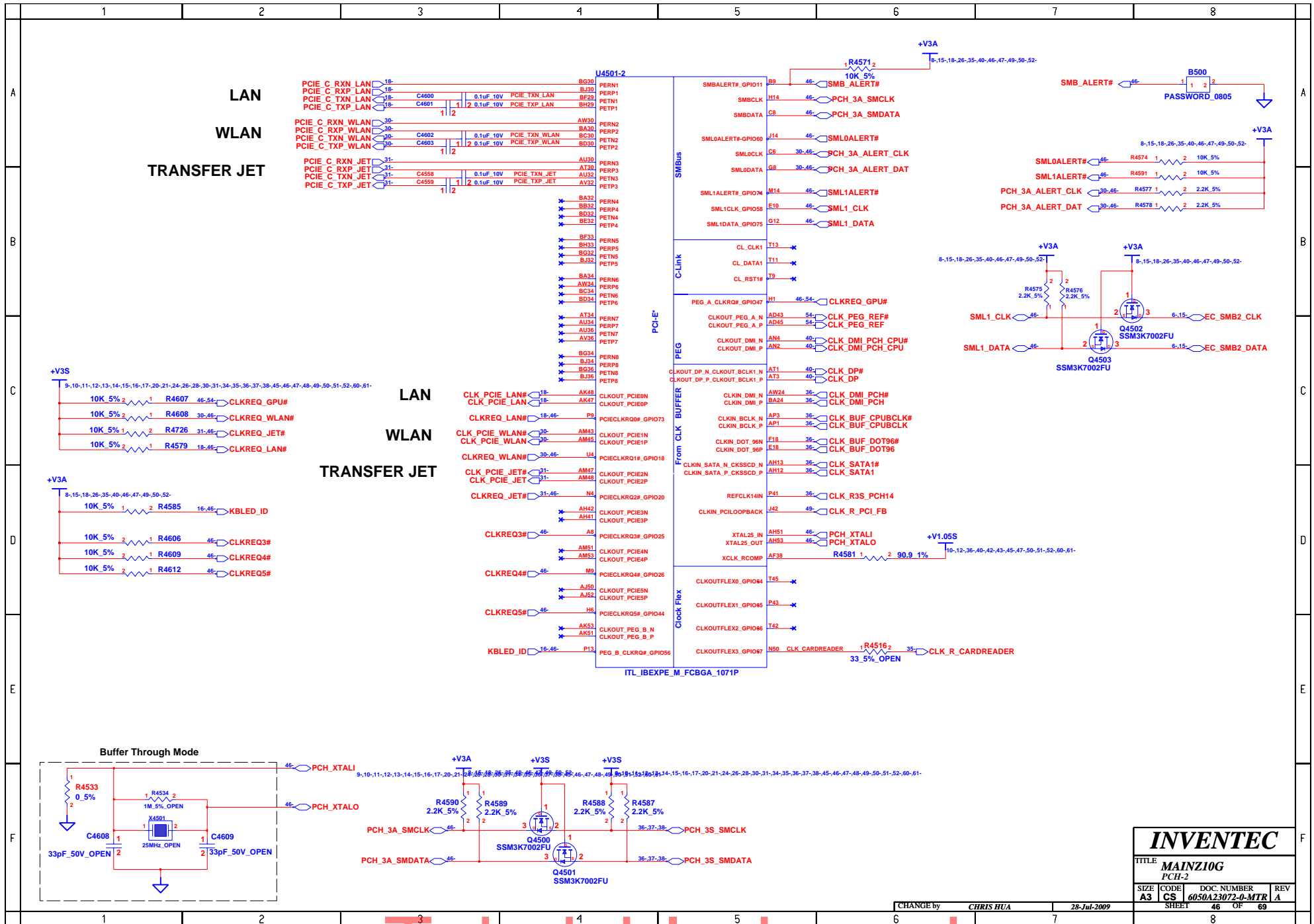
**SWITCHABLE : OPEN  
DISCRETE : STUFF**

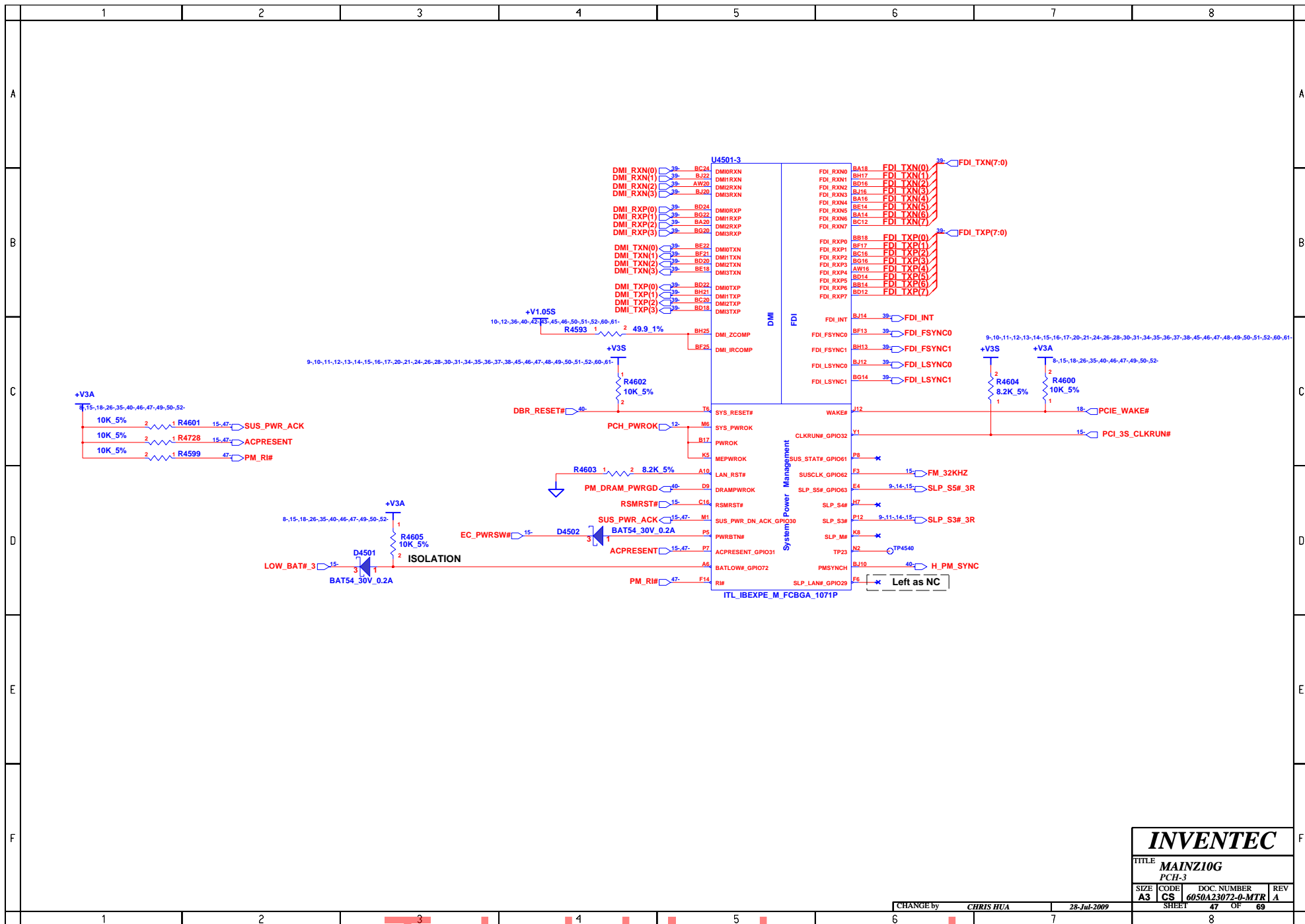


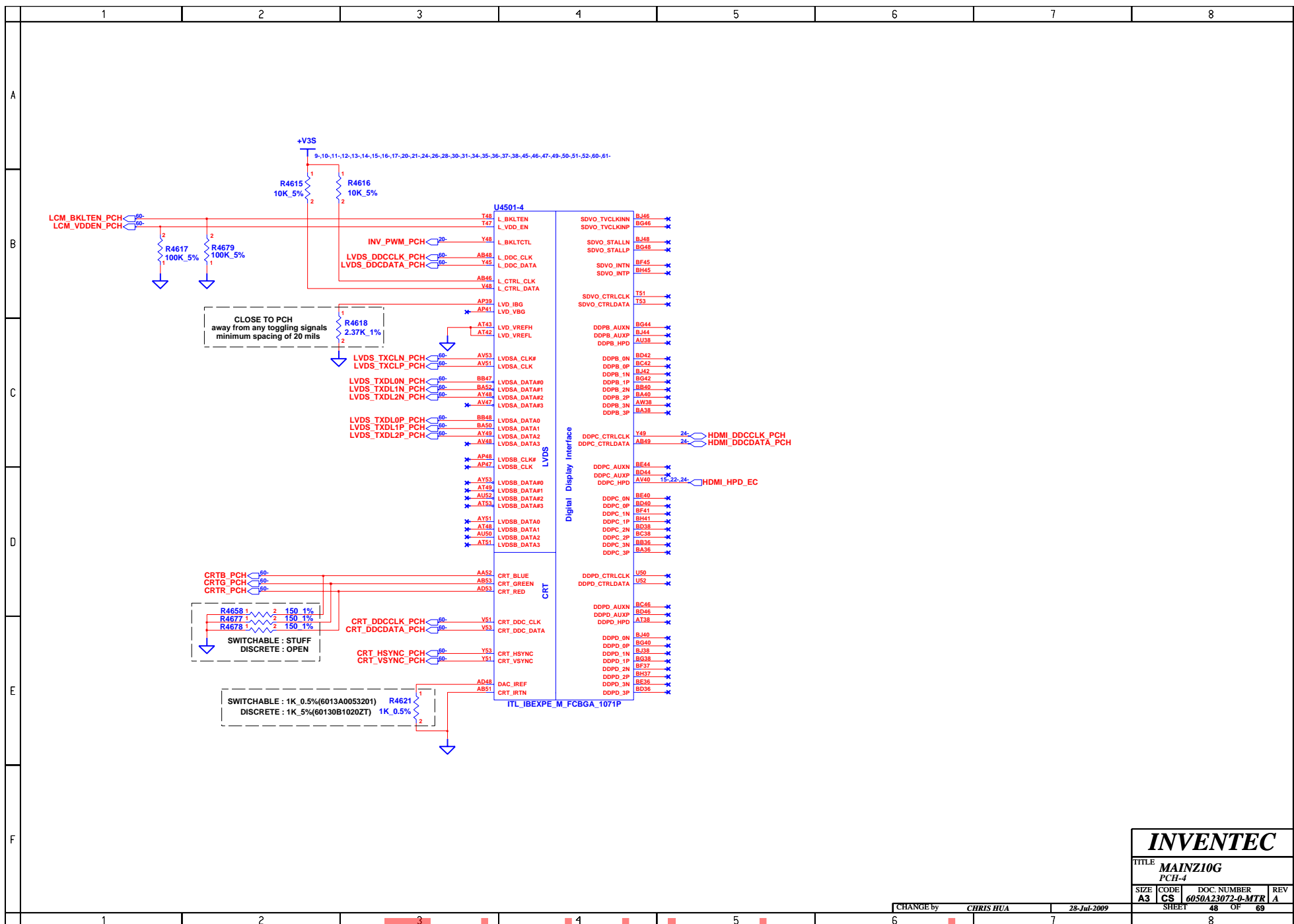
INVENTEC			
TITLE: MAINZ10G CPU-5			
SIZE: A3	CODE: CS	DOC. NUMBER: 6050A23072-0-MTR	REV: A
CHANGE by: CHRIS HUA		28-Jul-2009	
SHEET: 43		OF: 69	











**INVENTEC**

TITLE  
**MAINZ10G**  
PCH-4

SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23072-0-MTR	A

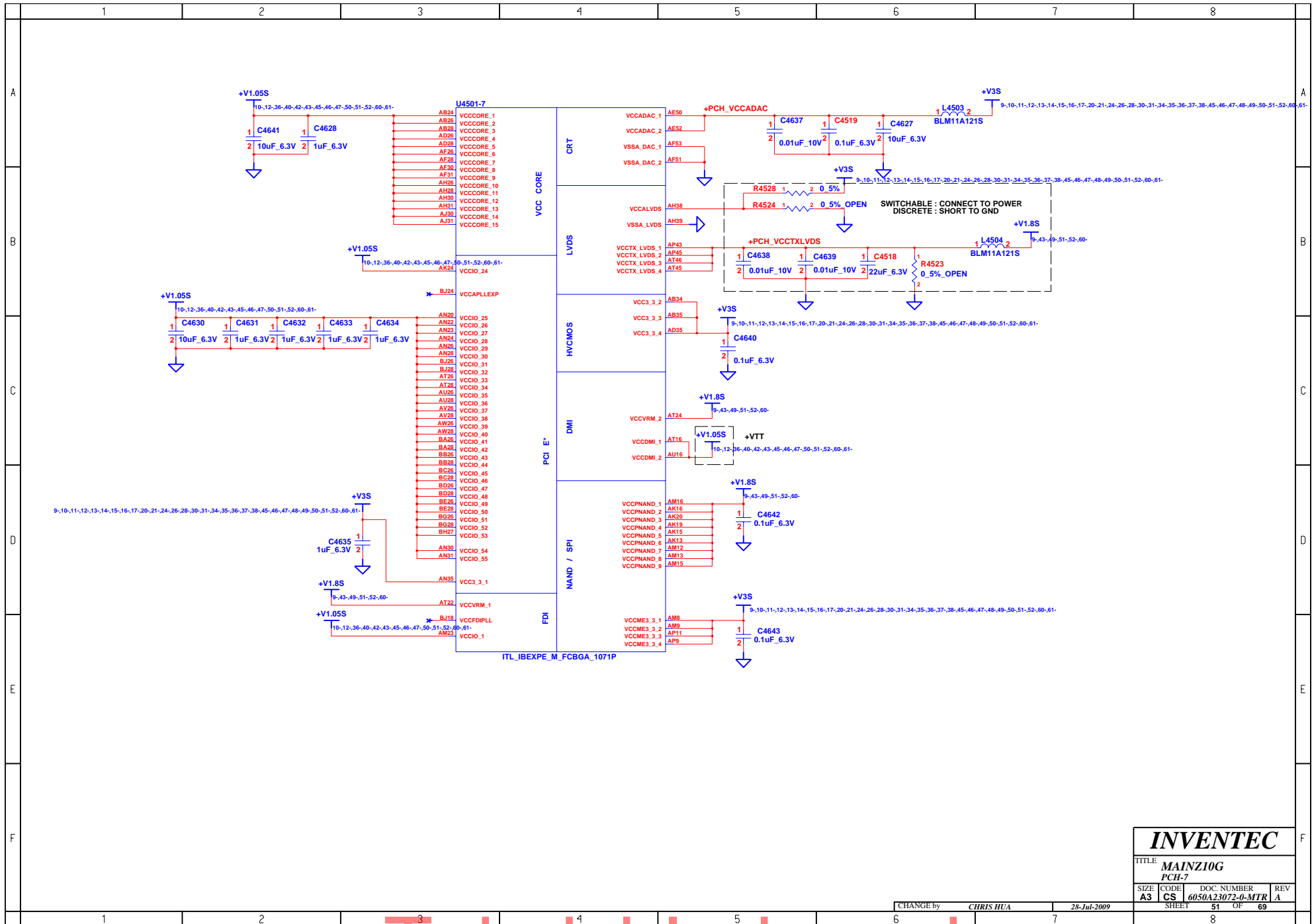
CHANGE by **CHRIS HUA** 28-Jul-2009

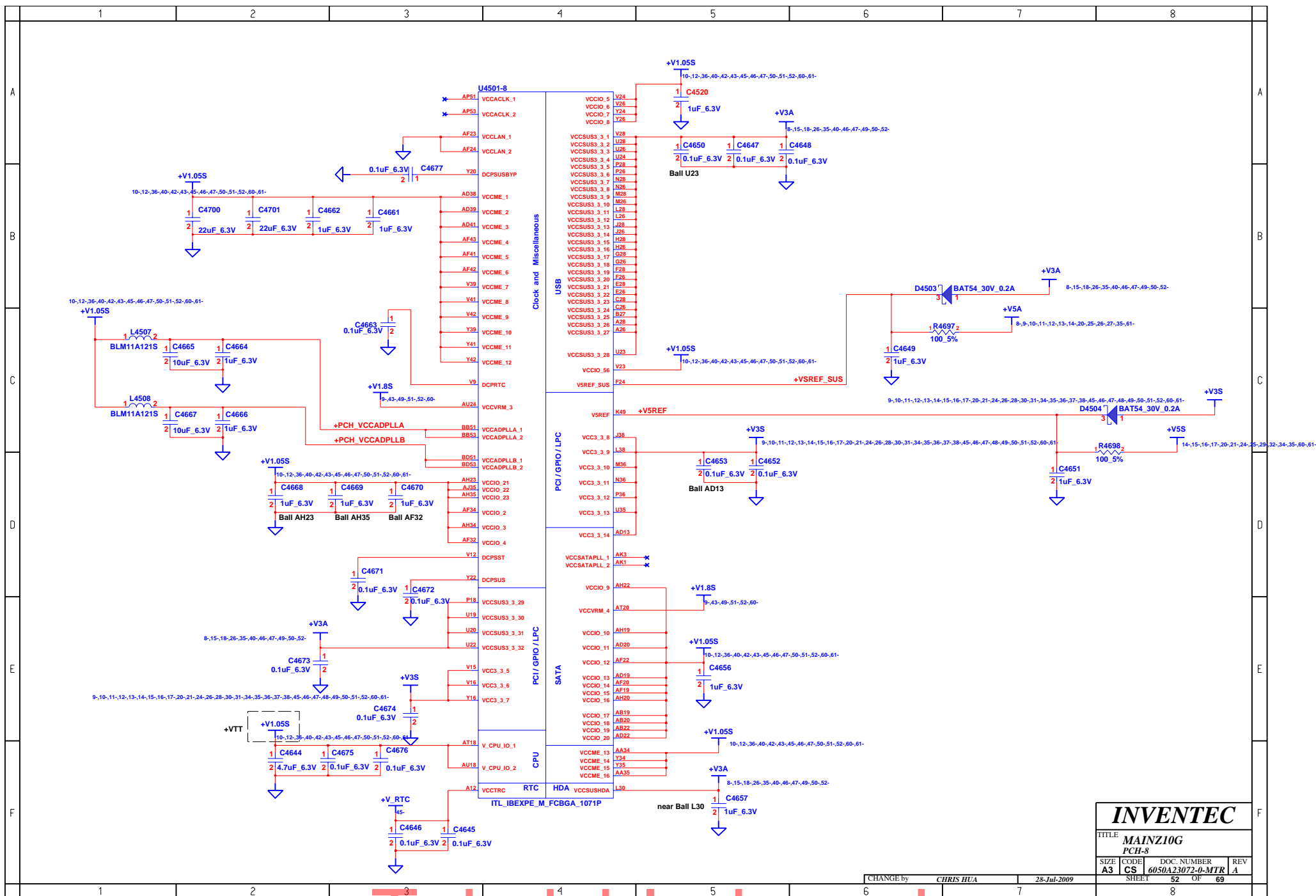
SHEET 48 OF 69











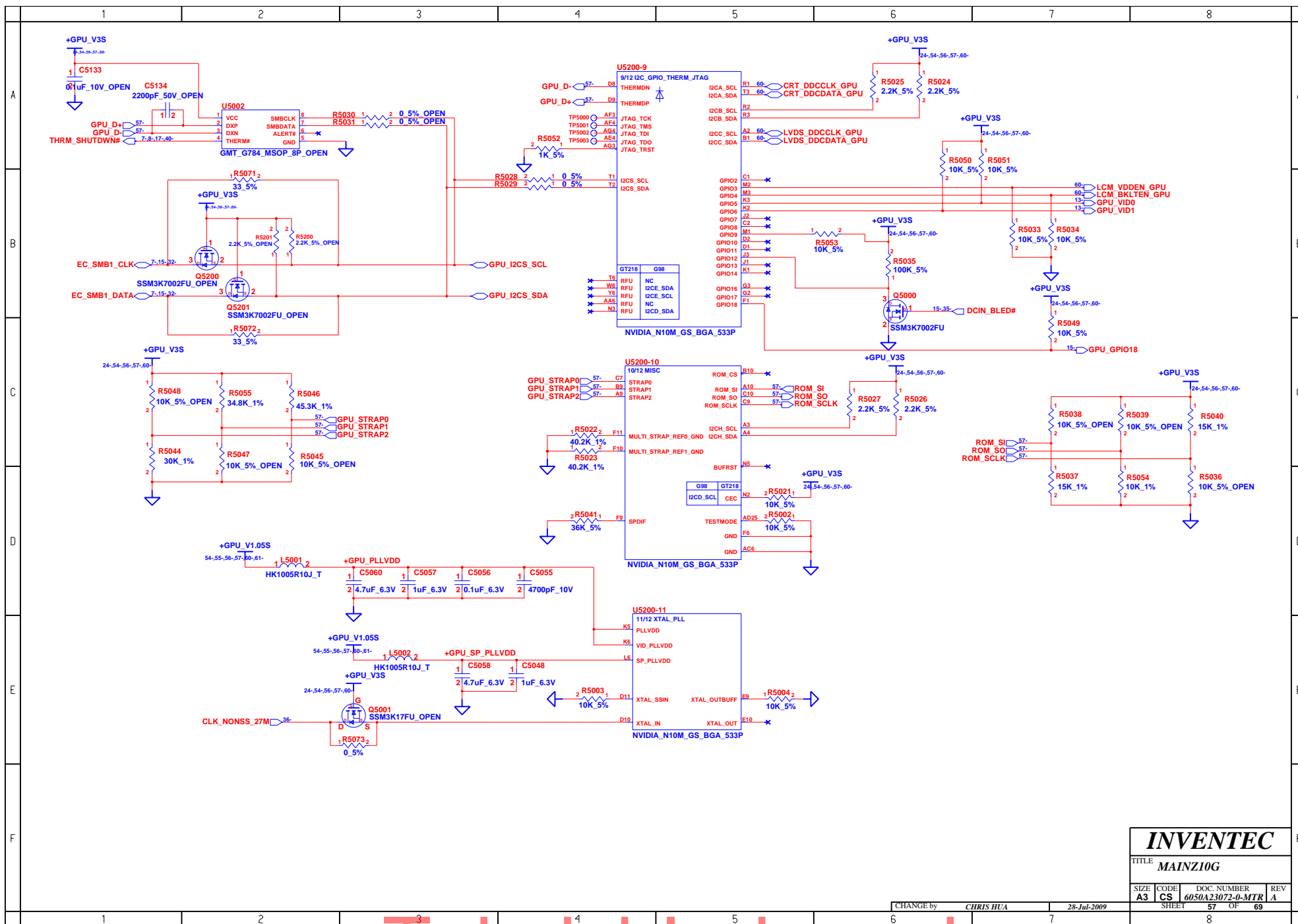
[illegible]

Changed by	Date Changed	Time Changed	UA CHK	REV	Drawing Number	Sheet 54 of 69
MAJNZ106	28-Jul-2009	4:57:56 on		A		









**INVENTEC**

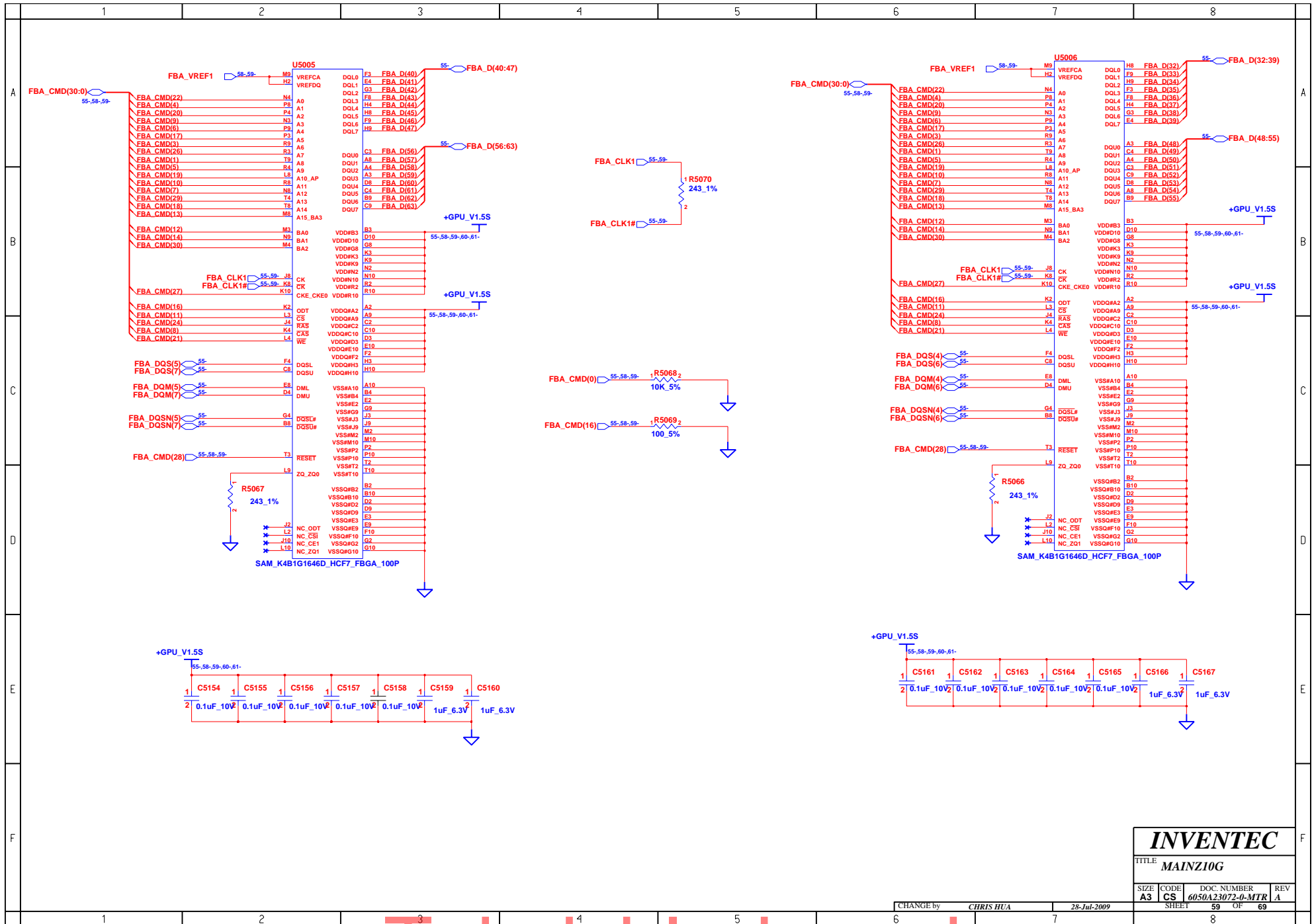
TITLE: **MAINZ10G**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23072-0-MTR	A

CHANGE by: **CHRIS HUA** 28-Jul-2009

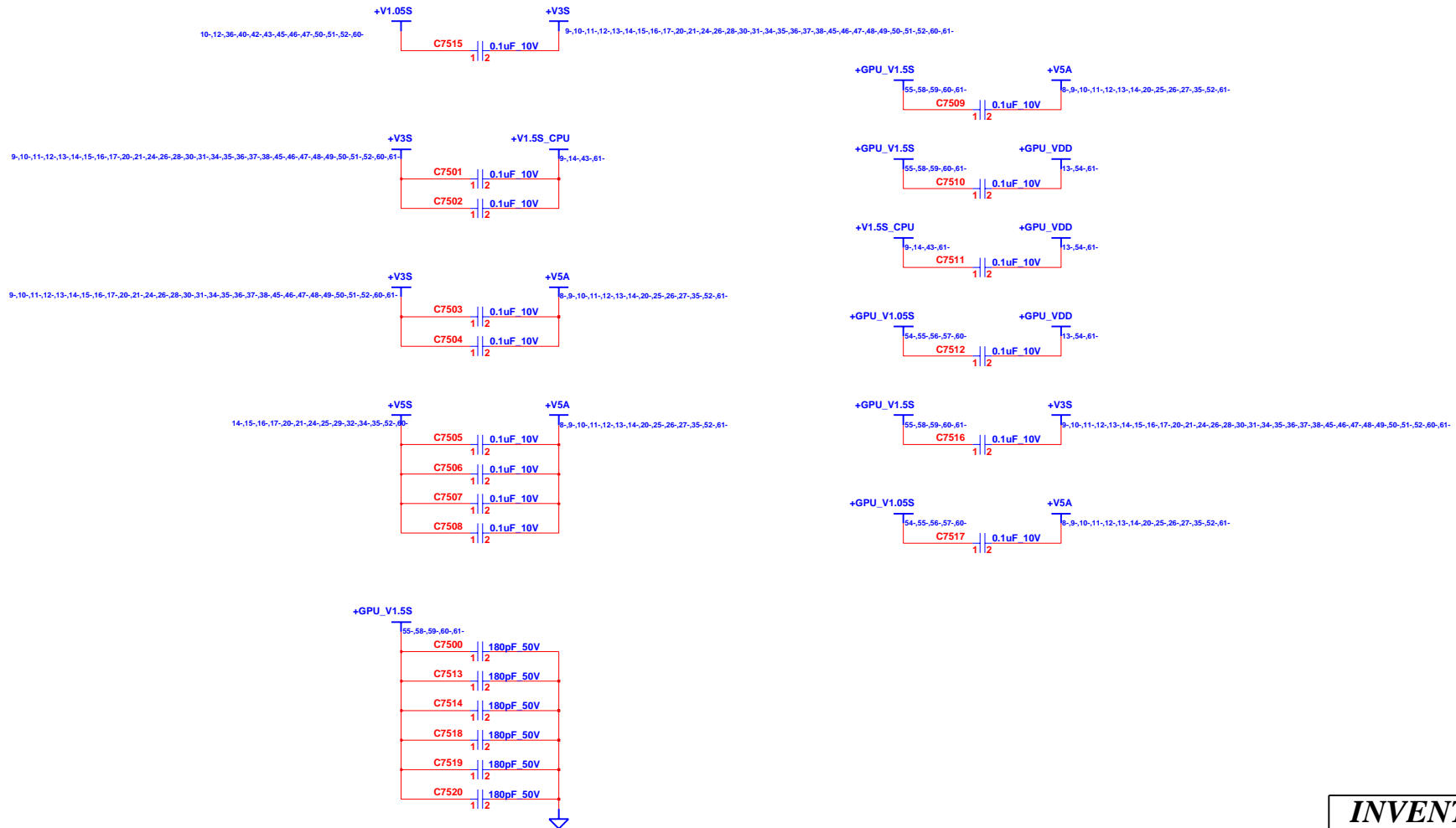
SHEET 57 OF 69







# EMI



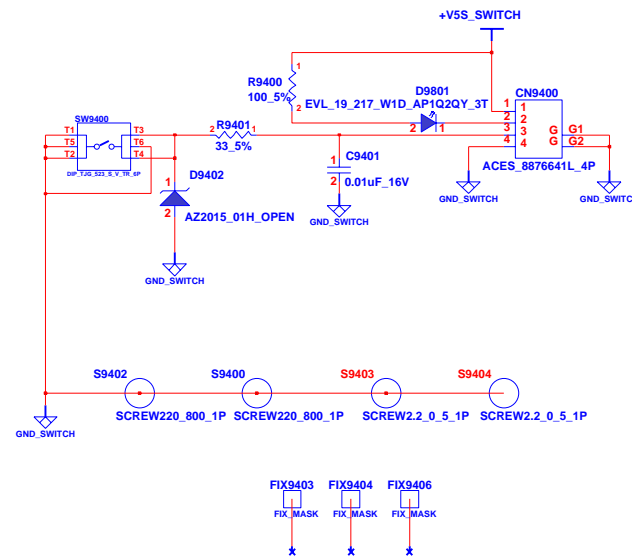
**INVENTEC**

TITLE: MAINZ10G  
EMI

SIZE: A3 CODE: CS DOC. NUMBER: 6050A23072-0-MTR REV: A  
SHEET: 61 OF 69

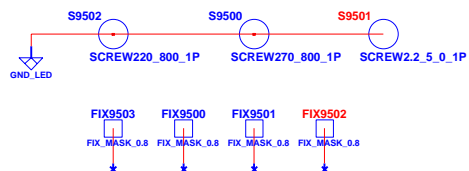
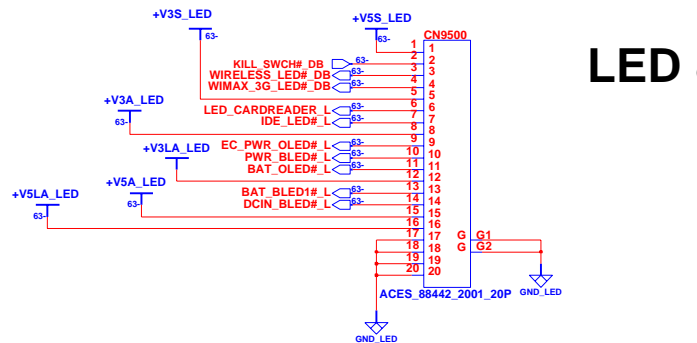
CHANGE by: CHRIS HUA 28-Jul-2009

# TOUCHPAD ON/OFF BOARD

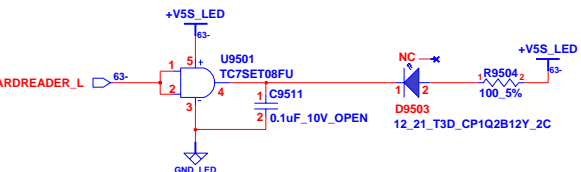


INVENTEC			
TITLE: MAINZ10G Touchpad Switch Board			
SIZE: A3	CODE: CS	DOC. NUMBER: 6050A23072-0-MTR	REV: A
CHANGE by: CHRIS HUA		10-Nov-2009	
SHEET: 62		OF: 69	

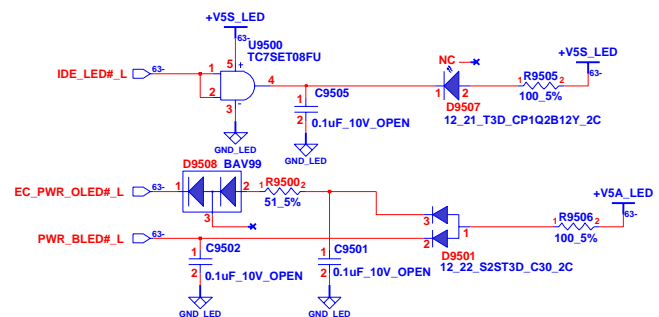
# LED & KILL SWITCH BOARD



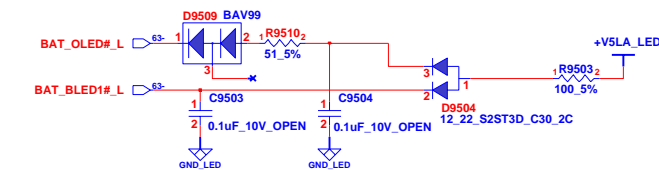
## CARDREADER LED



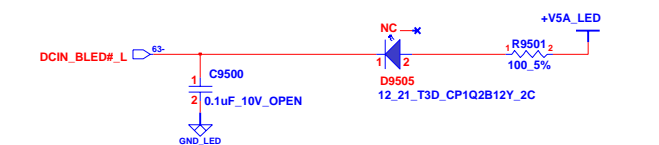
## HDD LED



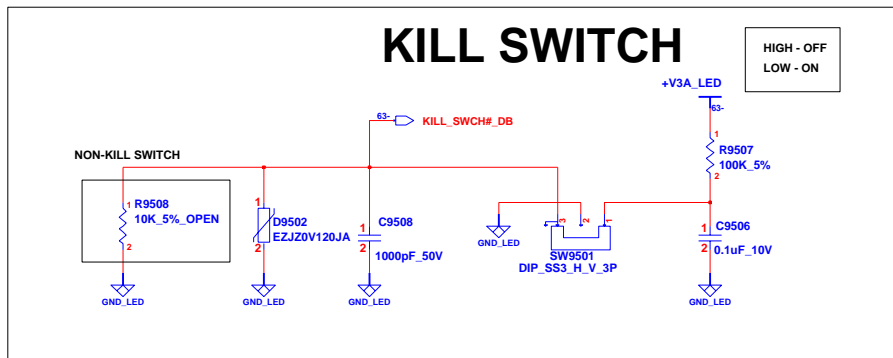
## POWER LED



## BATTERY LED



## DC LED



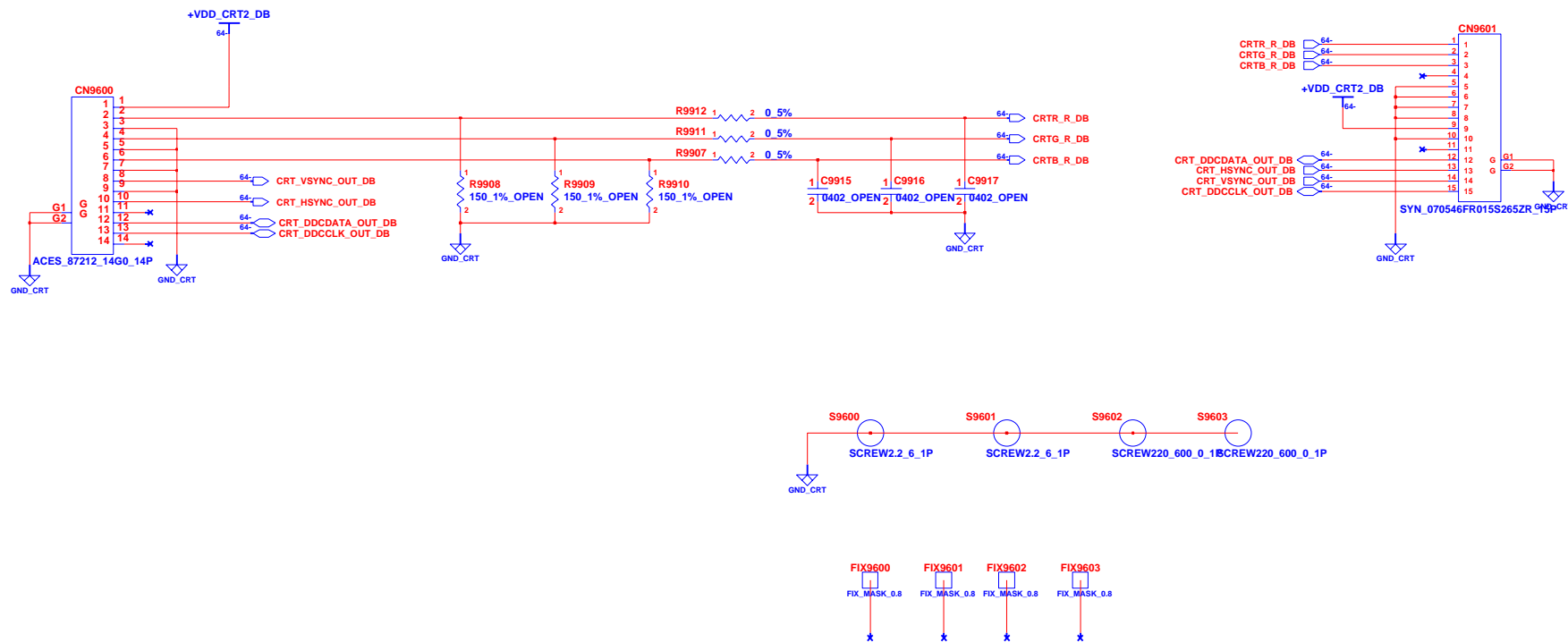
## KILL SWITCH

**INVENTEC**

TITLE: MAINZ10G  
LED & Kill Switch Board  
SIZE: A3 CODE: CS DOC. NUMBER: 6050A23072-0-MTR REV: A  
SHEET: 63 OF 69

CHANGE by: CHRIS HUA 28-Jul-2009

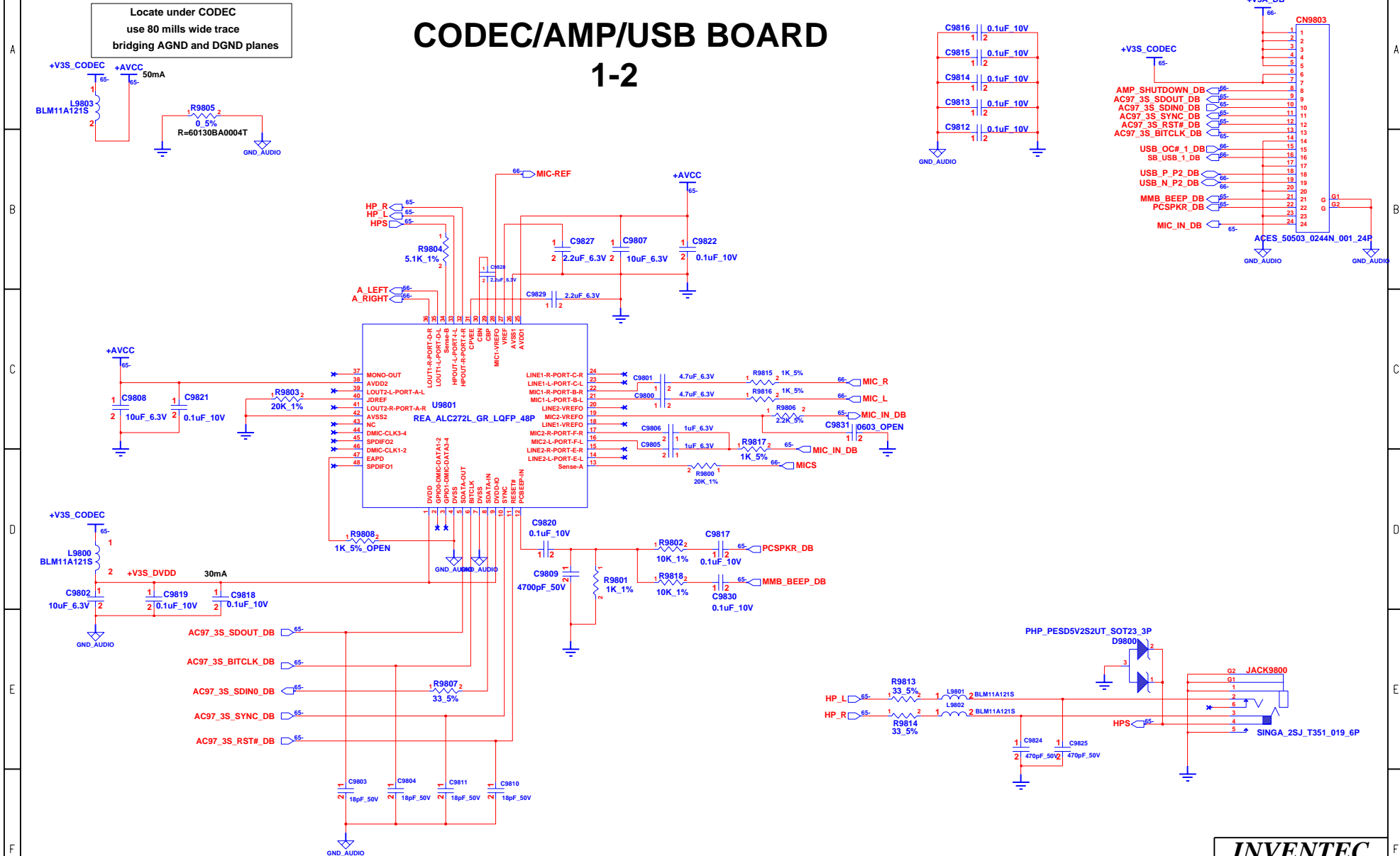
# CRT BOARD



INVENTEC			
TITLE: MAINZ10G Power Button Board			
SIZE: A3	CODE: CS	DOC. NUMBER: 6050A23072-0-MTR	REV: A
CHANGE by: CHRIS HUA		24-Aug-2009	
SHEET: 64		OF: 69	



# CODEC/AMP/USB BOARD 1-2

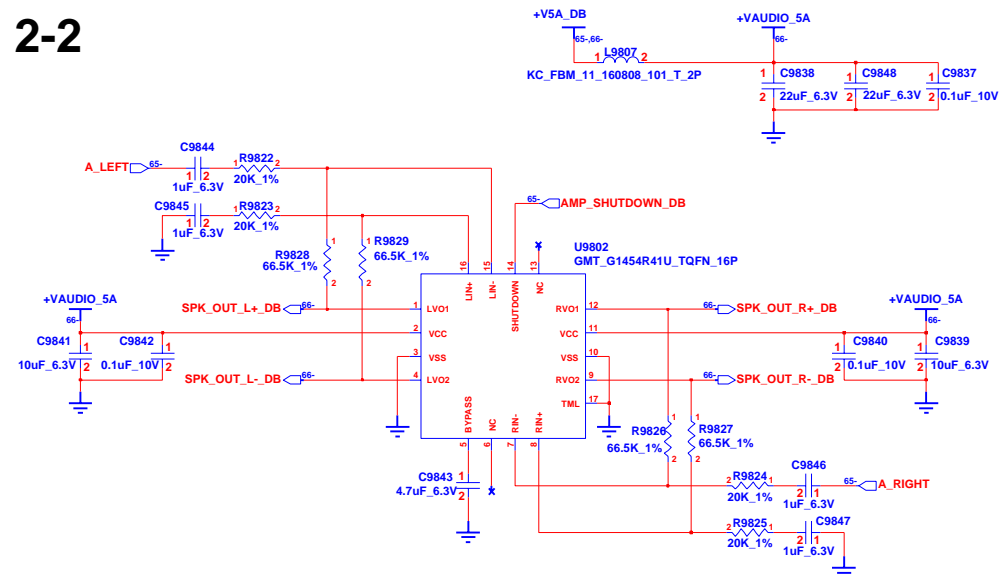
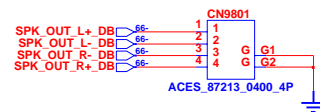


**INVENTEC**

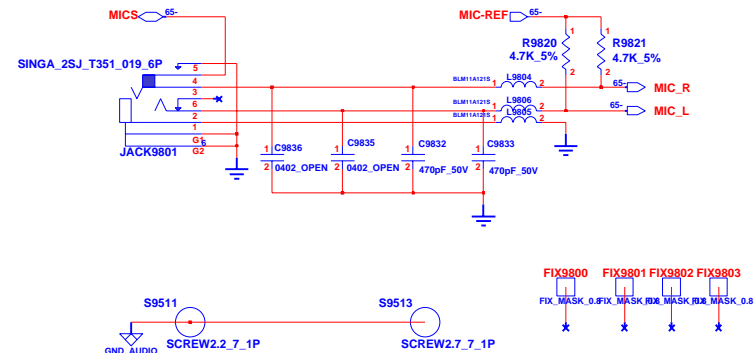
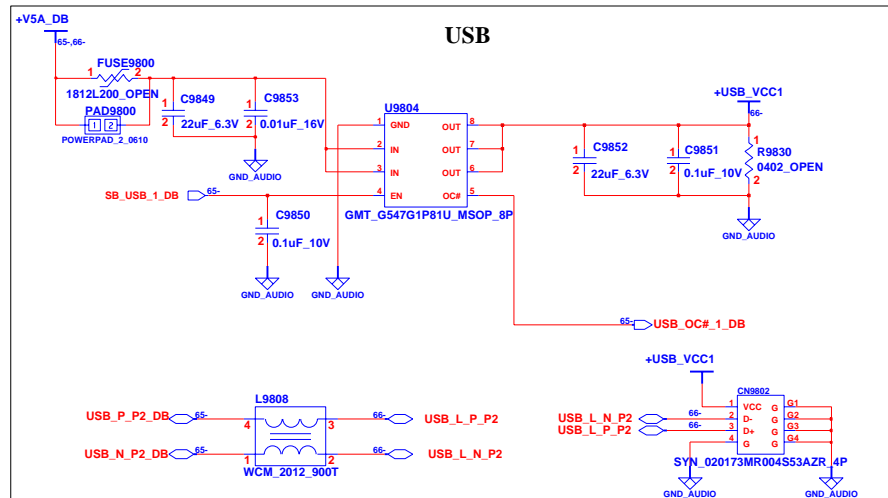
TITLE: MAINZ10G AZALIA CODEC			
SIZE: A3	CODE: CS	DOC. NUMBER: 6050A23072-0-MTR	REV: 65
CHANGE by: CHRIS HUA		28-Jul-2009	
SHEET: 65		OF: 69	

**2-2**

### SPEAKER CONNECTOR



## USB



**INVENTEC**

TITLE	<b>MAINZ10G</b> <b>AUDIO AMP &amp; MIC &amp;SPEAKER</b>
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SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23072-0-MTRA	

SHEET 66 OF 69

CHANGE by	CHRIS HUA	28-Jul-2009
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[illegible]

# AMBIENT LIGHT SENSOR BOARD

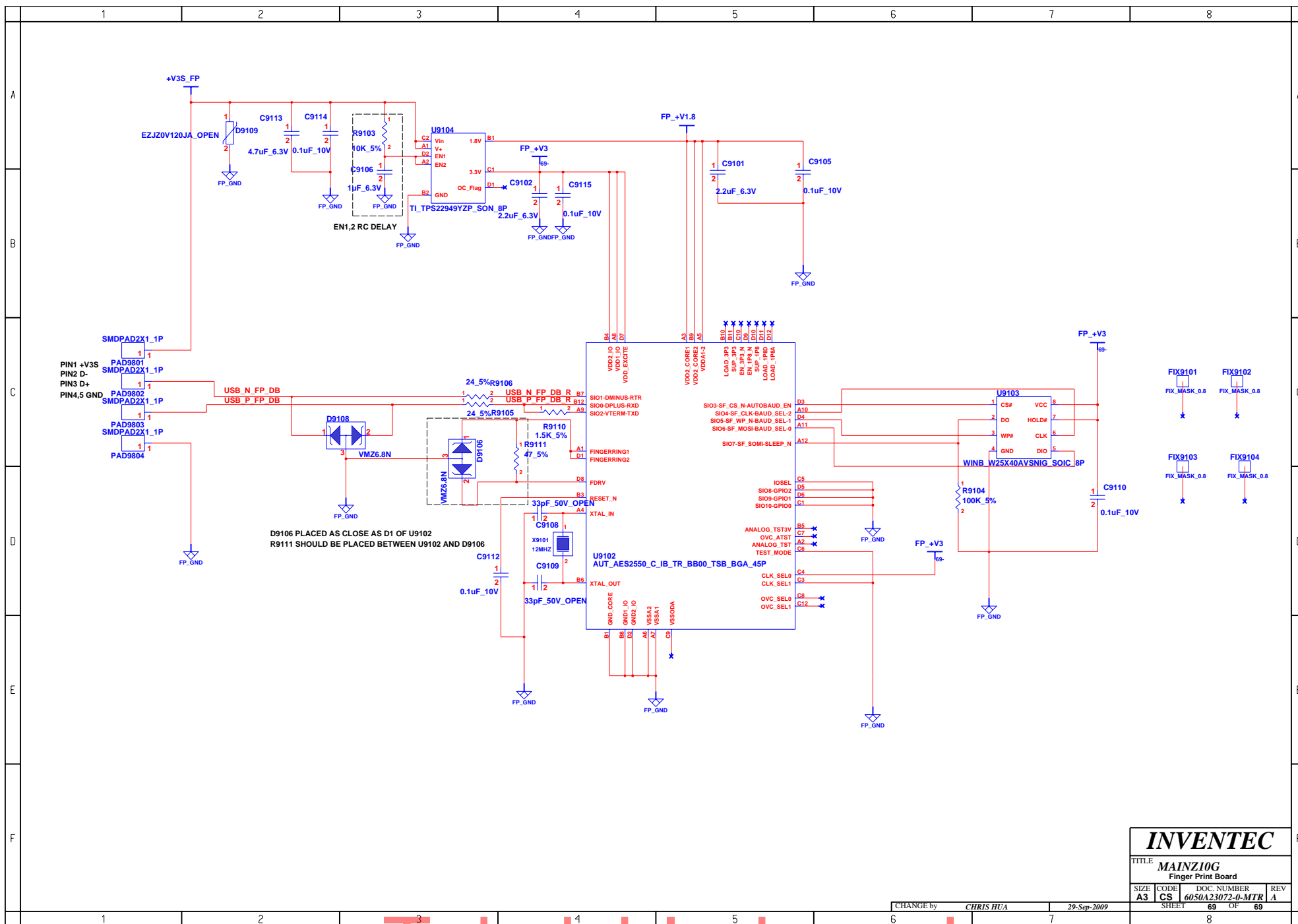
**AMBIENT LIGHT SENSOR BOARD**

**INVENTEC**

TITLE			
MAINZ10G			
Ambient Light Sensor Board			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	6050A23072-0-MTR	A
SHEET		68	OF 69

CHANGE	by	CHRIS HUA	25-Aug-2009				
1	2	3	4	5	6	7	8

8
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<b>INVENTEC</b>				
TITLE <b>MAINZ10G</b> Finger Print Board				
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>6050A23072-0-MTR</b>		REV <b>A</b>
SHEET <b>69</b>		OF <b>69</b>		

CHANGE by: CHRIS HUA 29-Sep-2009