

1	2	3	4	5	6	7	8
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# VALIMA

## VV1.0-AMD-DIS

### Cycle2

## PV build (A01) Final

**2010/3/12**

[www.masteram.su](http://www.masteram.su)

DATE	CHANGE NO.	REV

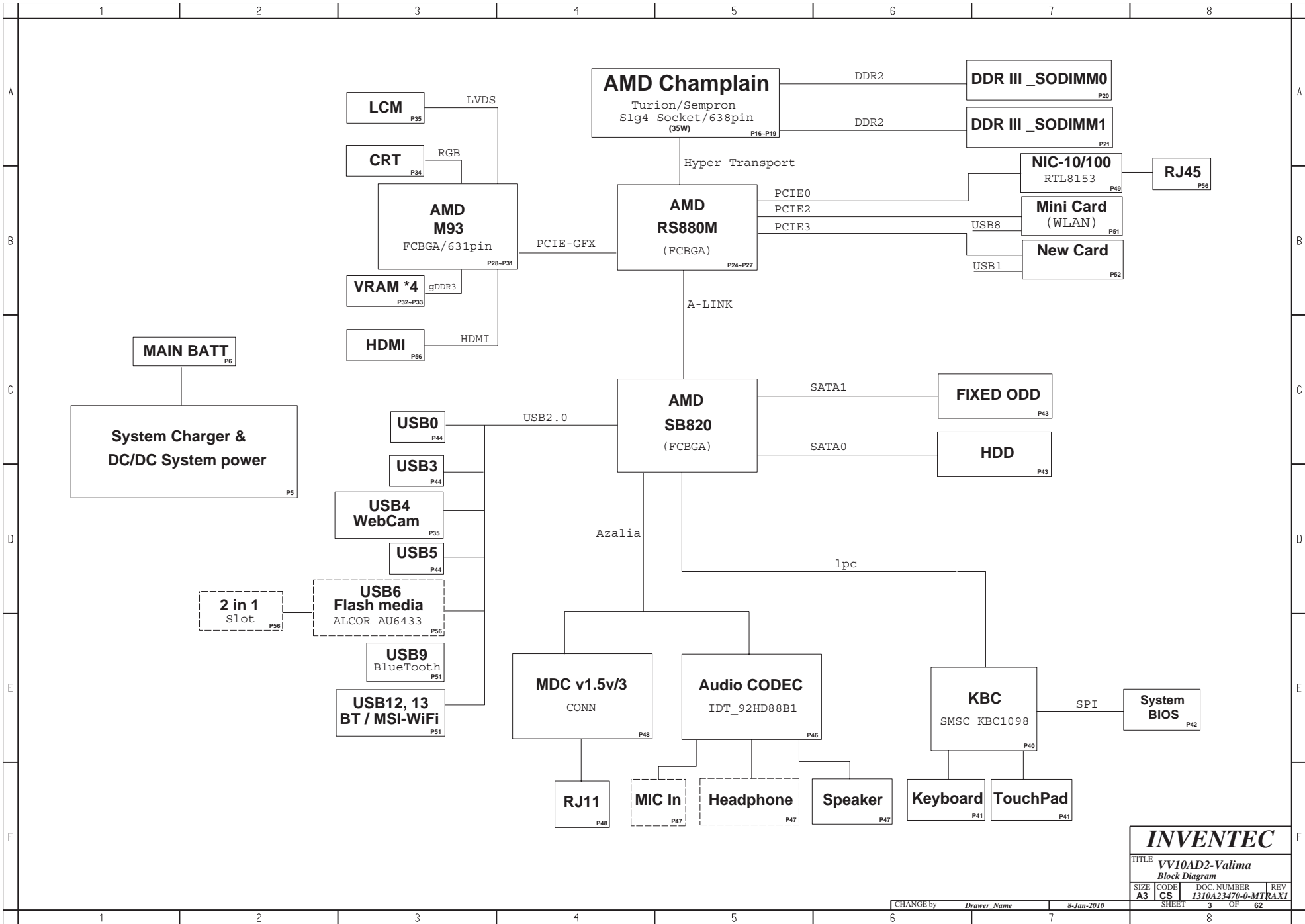
DRAWER	EE	DATE	POWER	DATE	<b>INVENTEC</b>
DESIGN					
CHECK					
RESPONSIBLE					
TITLE					VV10AD2-Valima
SIZE =	3	VER :		SIZE	A3
FILE NAME :	XXXX-XXXXXX-XX			CODE	CS
P/N	XXXXXXXXXXXX			DOC. NUMBER	1310A23470-0-MT
				REV	RAXI
				SHEET	1 OF 62

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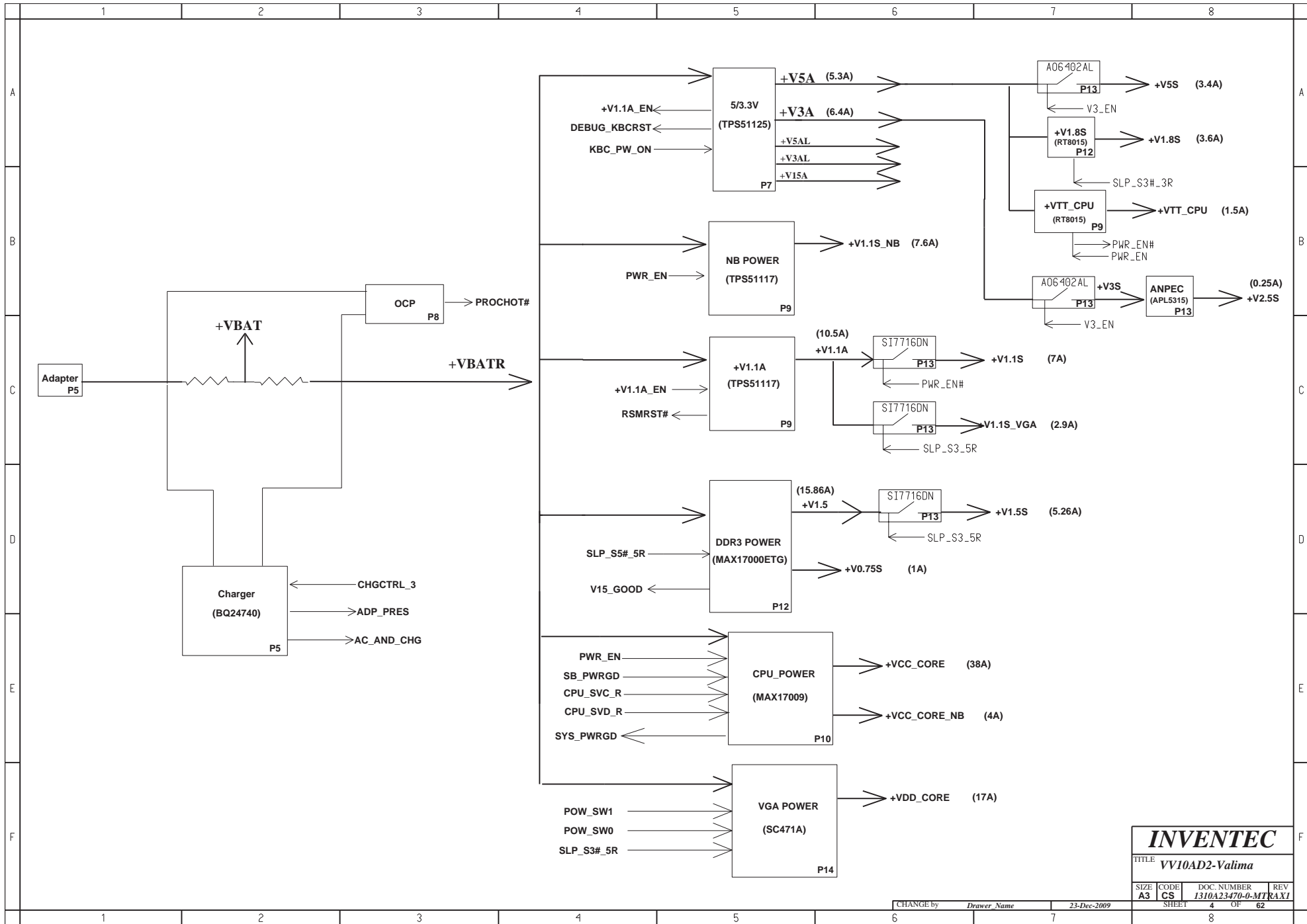
Page	Page	Page
5- DC & Baattery Charger	15- Blank	40- KBC & KBC debug CONN
6- Select & Battery CONN	16- CPU-1 (S1g4)	41- Keyboard & TouchPad CONN
7- +V5A & +V3A	17- CPU-2 (S1g4)	42- SPI
8- OCP	18- CPU-3 (S1g4)	43- HDD & ODD CONN
9- +V1.1S_NB & +VTT_CPU	19- CPU-4 (S1g4)	44- USB CONN
10- +VCC_CORE & +VCC_CORE_NB	20- DDR3 DIMM0 (5.2mm)	45- EMI solution (Power Plan CAP)
11- +V1.1A	21- DDR3 DIMM1 (9.2mm)	46- AZALIA CODEC
12- +V1.5 & +V_MVREF (for DDR3) , +V1.8S	22- Blank	47- Int. Speaker & MIC & Audio B2B CONN
13- +V5S,+V3S,+V2.5S,+V1.5S,+V1.1S,+V1.1S_VGA	23- Thermal(system) & Fan Controller	48- MDC CONN
14- +VDD_CORE & Power Sequence	24- NB-1 (RS880M)	49- NIC-10/100 Controller
	25- NB-2 (RS880M)	50- NIC 10/100 RJ45 CONN
	26- NB-3 (RS880M)	51- Mini Card (WLAN) & BT & WiFi+BT CONN
	27- NB-4 (RS880M)	52- New Card
	28- GPU-1 (M93)	53- SW & LED Board CONN
	29- GPU-2 (M93)	54- Screw
	30- GPU-3 (M93)	55- HDMI
	31- GPU-4 (M93)	56- Daughter board - SD/MMC Card Reader
	32- VRAM (gDDR3)-1	57- Daughter board - Earphone & MIC JACK
	33- VRAM (gDDR3)-2	58- Daughter board - Switch & LID
	34- VGA CONN	59- Daughter board - 15" ODD Extend board
	35- LED-LCD CONN & WebCAM CONN	60- Daughter board - USB Right side board
	36- SB-1 (SB820)	61- Daughter board - Pick Button board
	37- SB-2 (SB820)	62- Daughter board - 15" HDD Extend board
	38- SB-3 (SB820)	
	39- SB-4 (SB820)	

**INVENTEC**

TITLE <b>VV10AD2-Valima</b>			
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SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>AX1</b>
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<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
Block Diagram			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MTRAX1</b>	REV
CHANGE by <i>Drawer Name</i>		8-Jan-2010	
SHEET <b>3</b>		OF <b>62</b>	

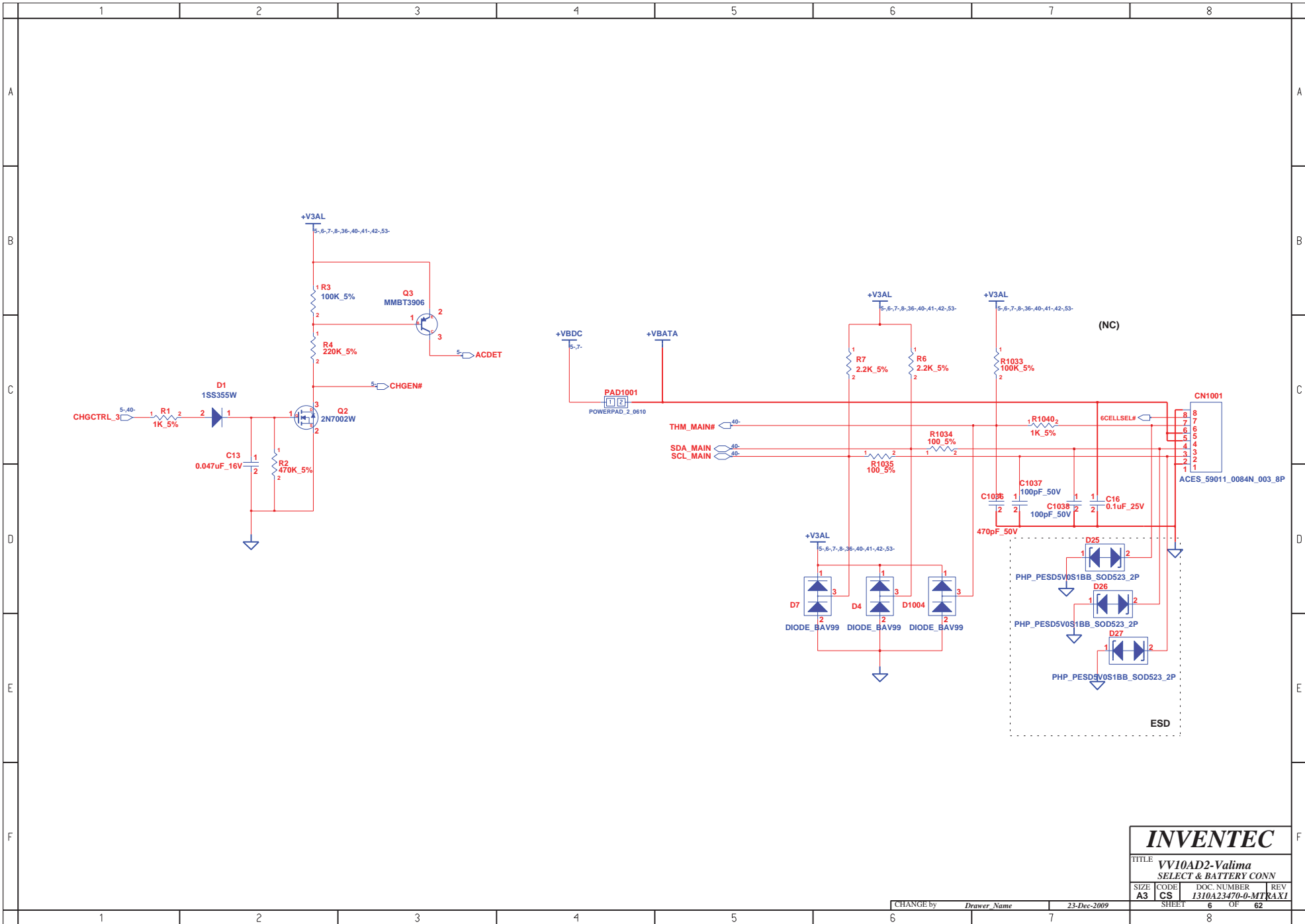


**INVENTEC**

TITLE: **VV10AD2-Valima**

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23470-0-MT	MAX1
CHANGE by		Drawer Name	23-Dec-2009
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# INVENTEC

TITLE  
**VV10AD2-Valima  
 SELECT & BATTERY CONN**

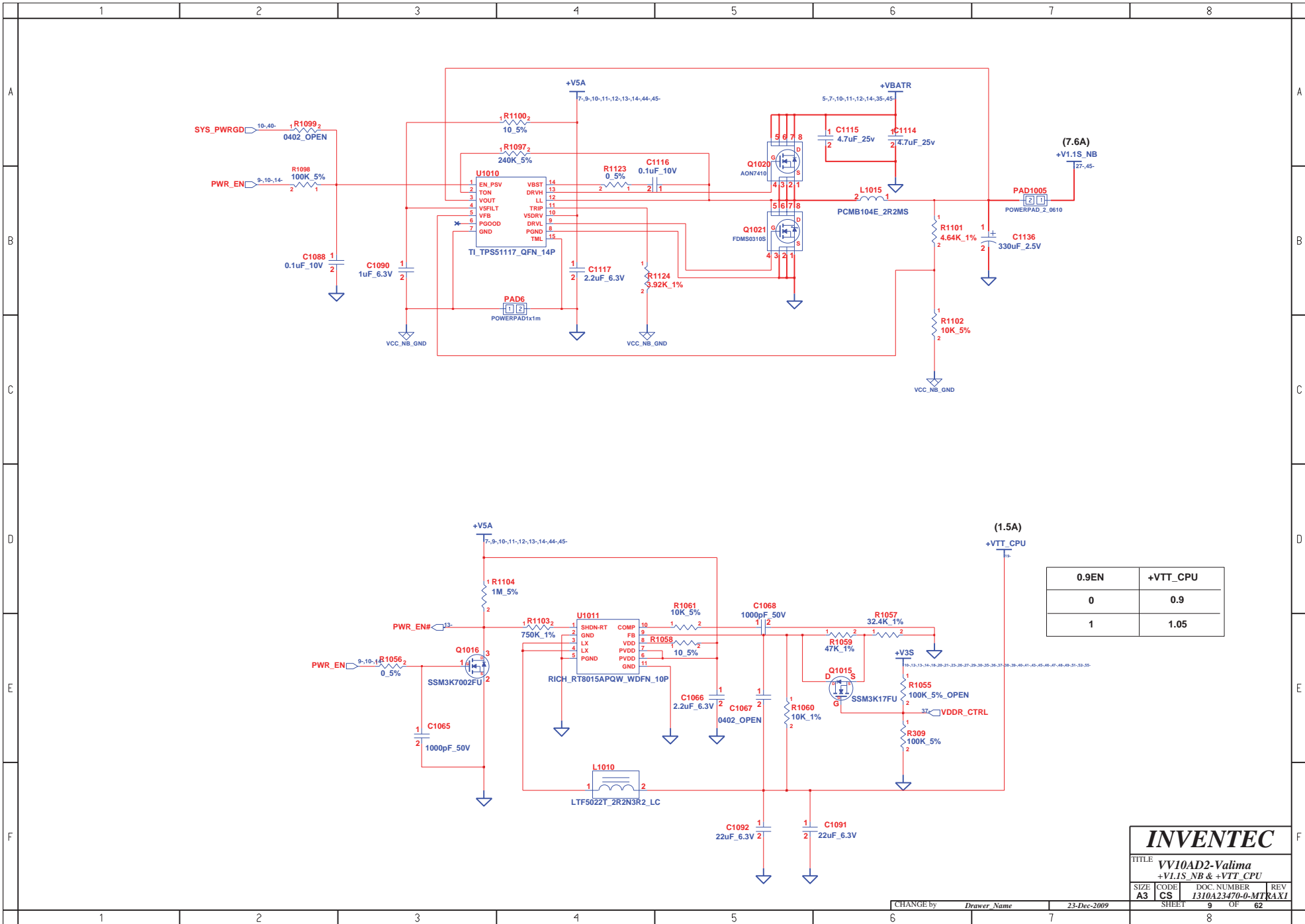
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CHANGE by *Drawer Name* 23-Dec-2009

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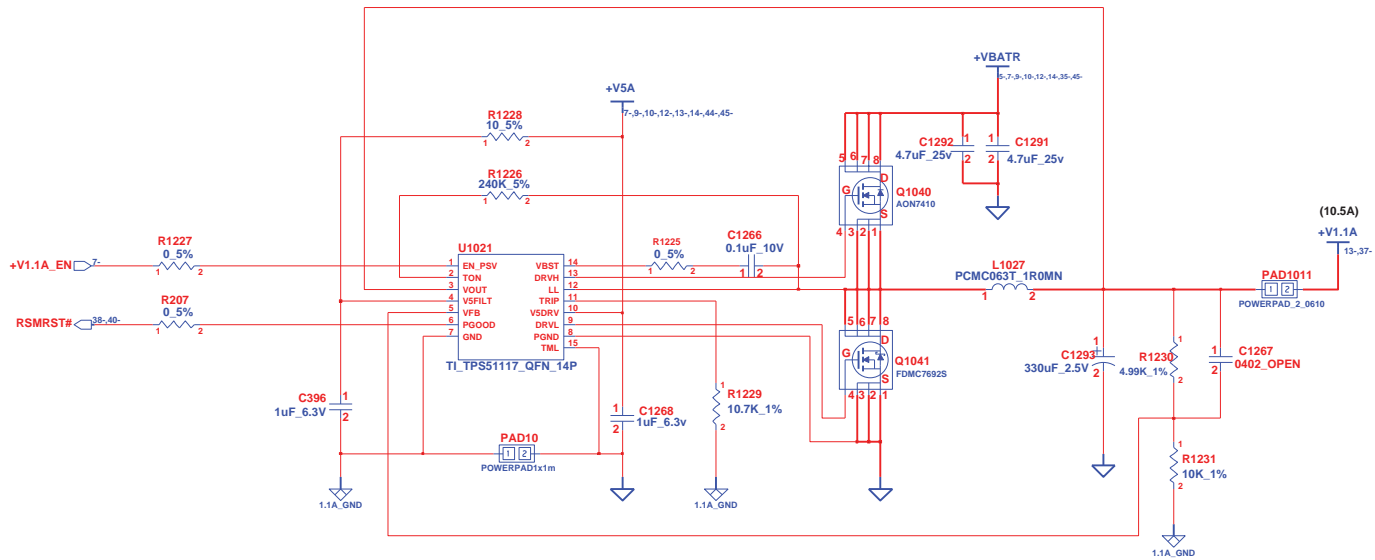
0.9EN	+VTT_CPU
0	0.9
1	1.05

**INVENTEC**

TITLE  
**VV10AD2-Valima**  
**+V1.1S\_NB & +VTT\_CPU**

SIZE <b>A3</b>	CODE <b>CS</b>	DOC NUMBER <b>1310A23470-0-MT</b>	REV <b>AX1</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	
SHEET <b>9</b>		OF <b>62</b>	

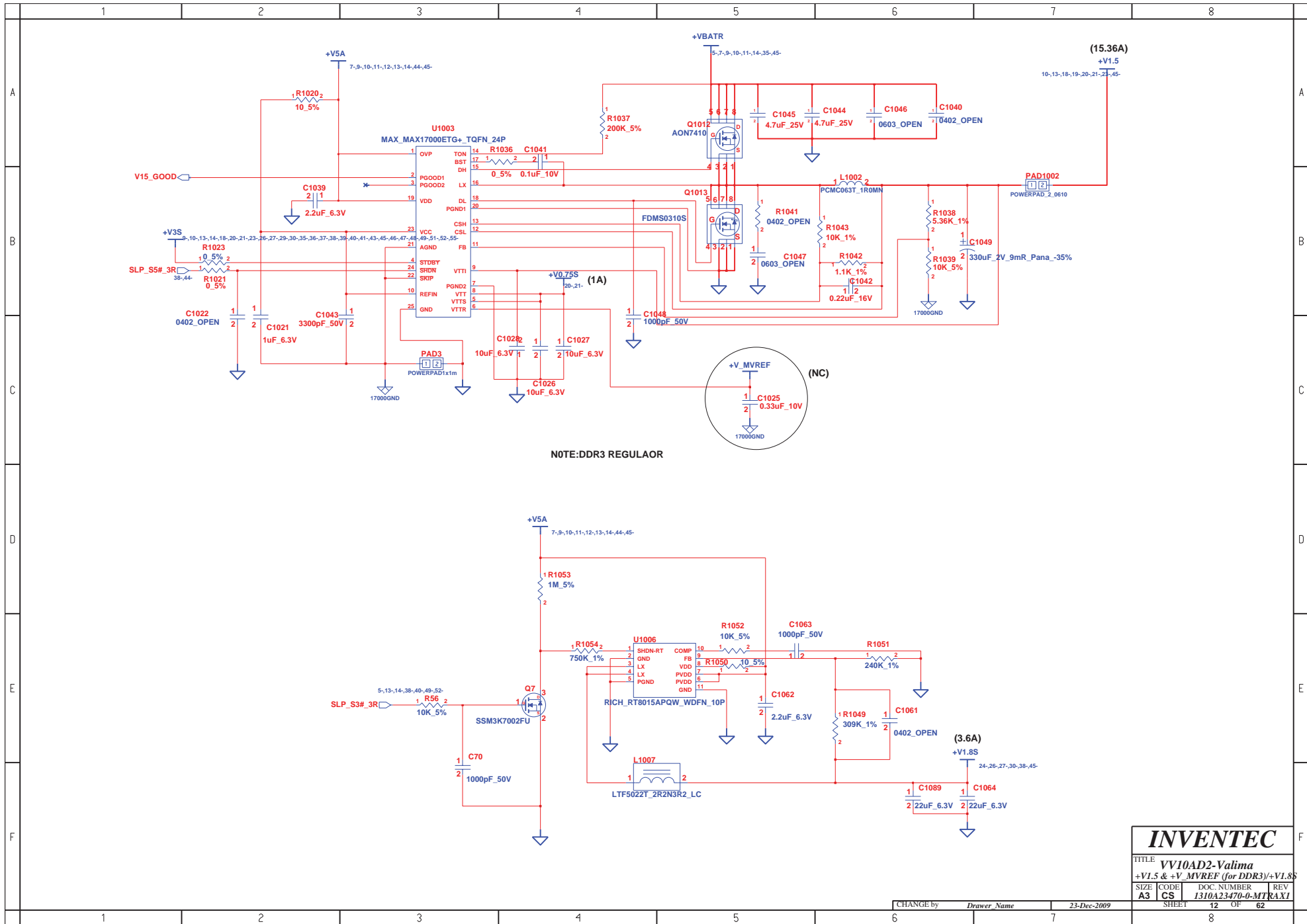




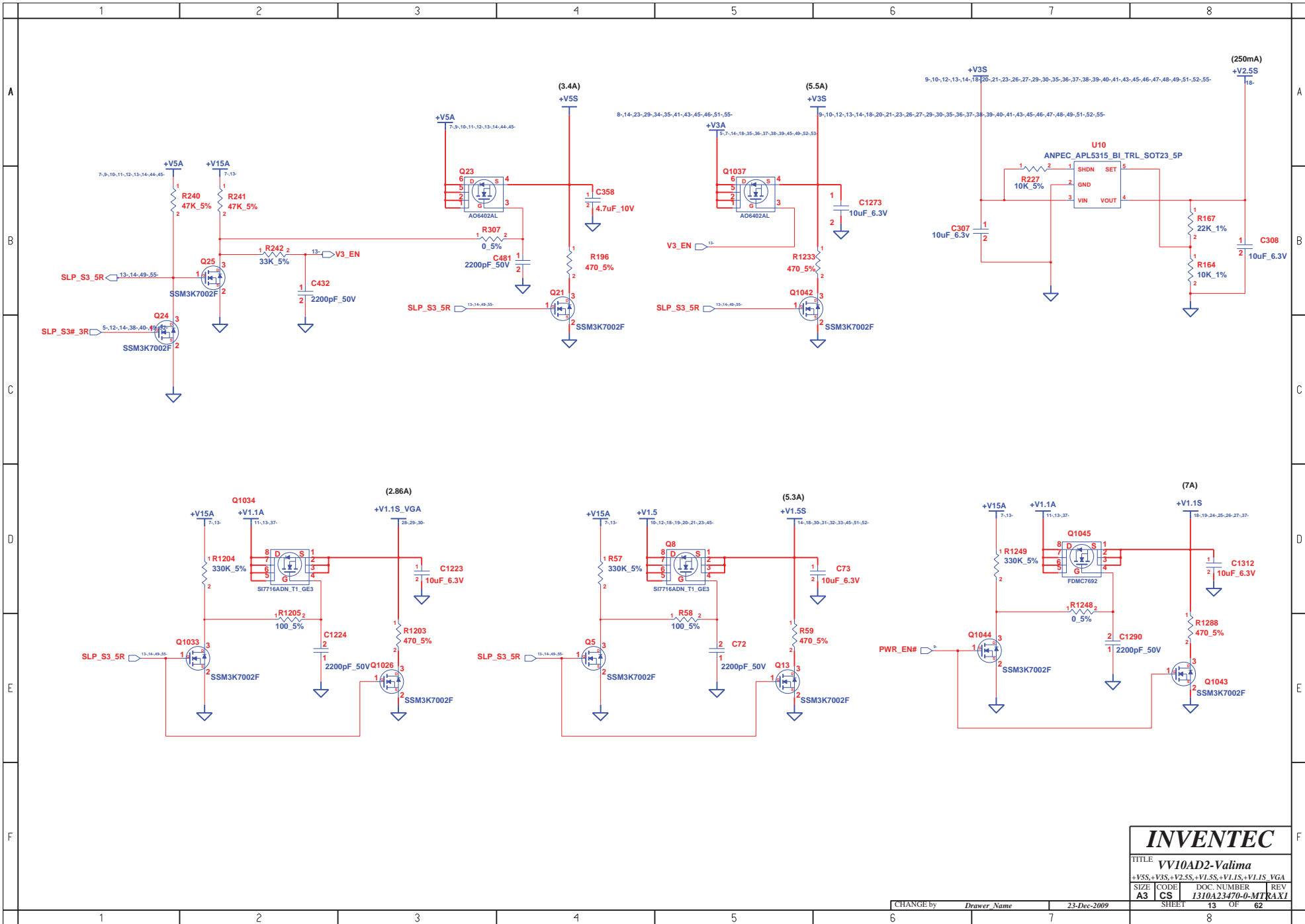
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TITLE			
VV10AD2-Valima			
+V1.1A			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23470-0-MT	KAX1
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CHANGE by *Drawer Name* 23-Dec-2009

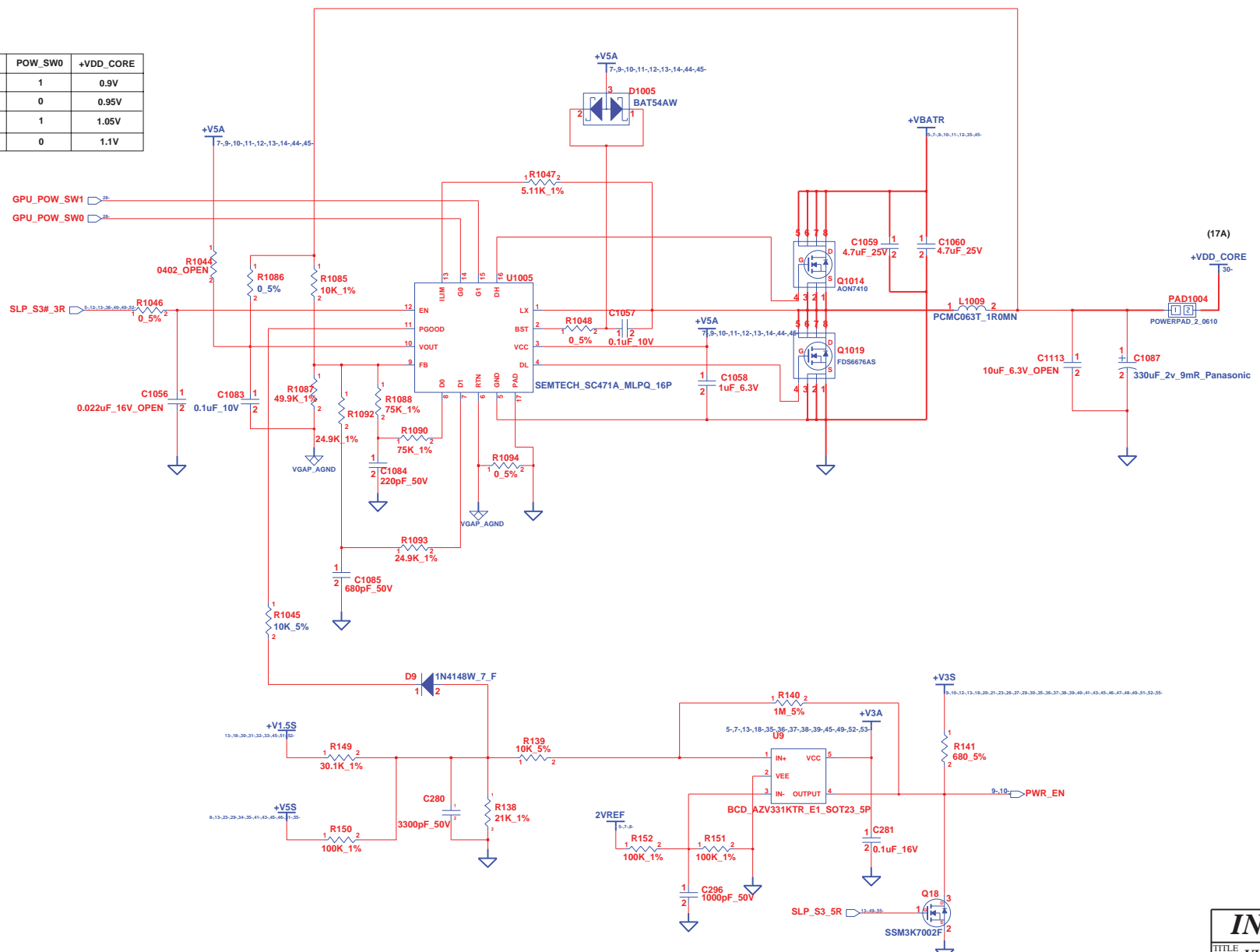


<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
+V1.5 & +V_MVREF (for DDR3)/+V1.8S			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC NUMBER <b>1310A23470-0-MT</b>	REV <b>RAXI</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	SHEET 12 OF 62



<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
+V5S,+V3S,+V2.5S,+V1.5S,+V1.1S,+V1.1S VGA			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>AX1</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	SHEET 13 OF 62

POW_SW1	POW_SW0	+VDD_CORE
1	1	0.9V
1	0	0.95V
0	1	1.05V
0	0	1.1V



**INVENTEC**

TITLE  
**VV10AD2-Valima**  
**+VDD\_CORE & Power Sequence**

SIZE <b>A3</b>	CODE <b>CS</b>	DOC NUMBER <b>1310A23470-0-MT</b>	REV <b>RAX1</b>
SHEET <b>14</b>		OF <b>62</b>	

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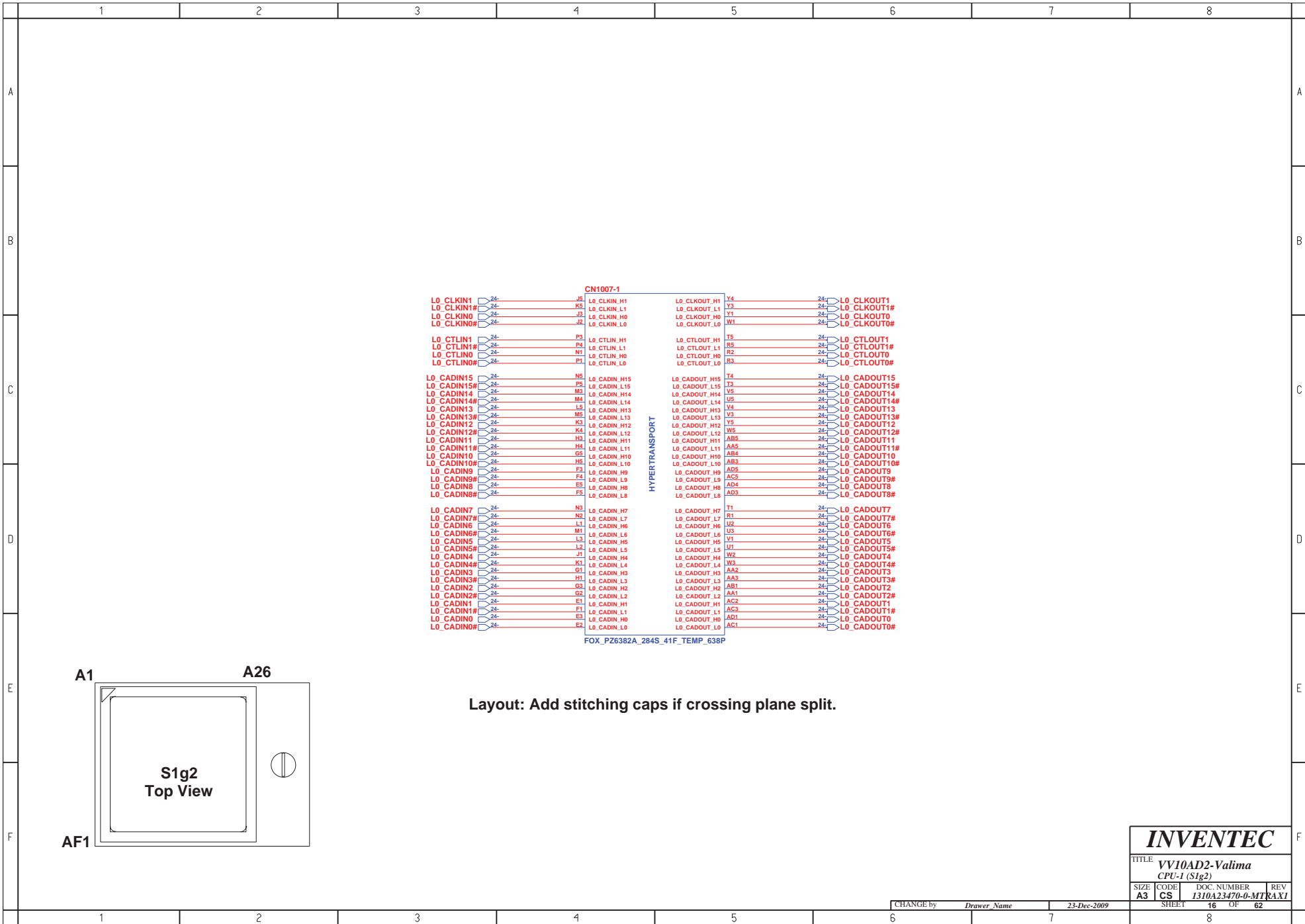
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TITLE **VV10AD2-Valima**  
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SIZE	CODE	DOC. NUMBER	REV
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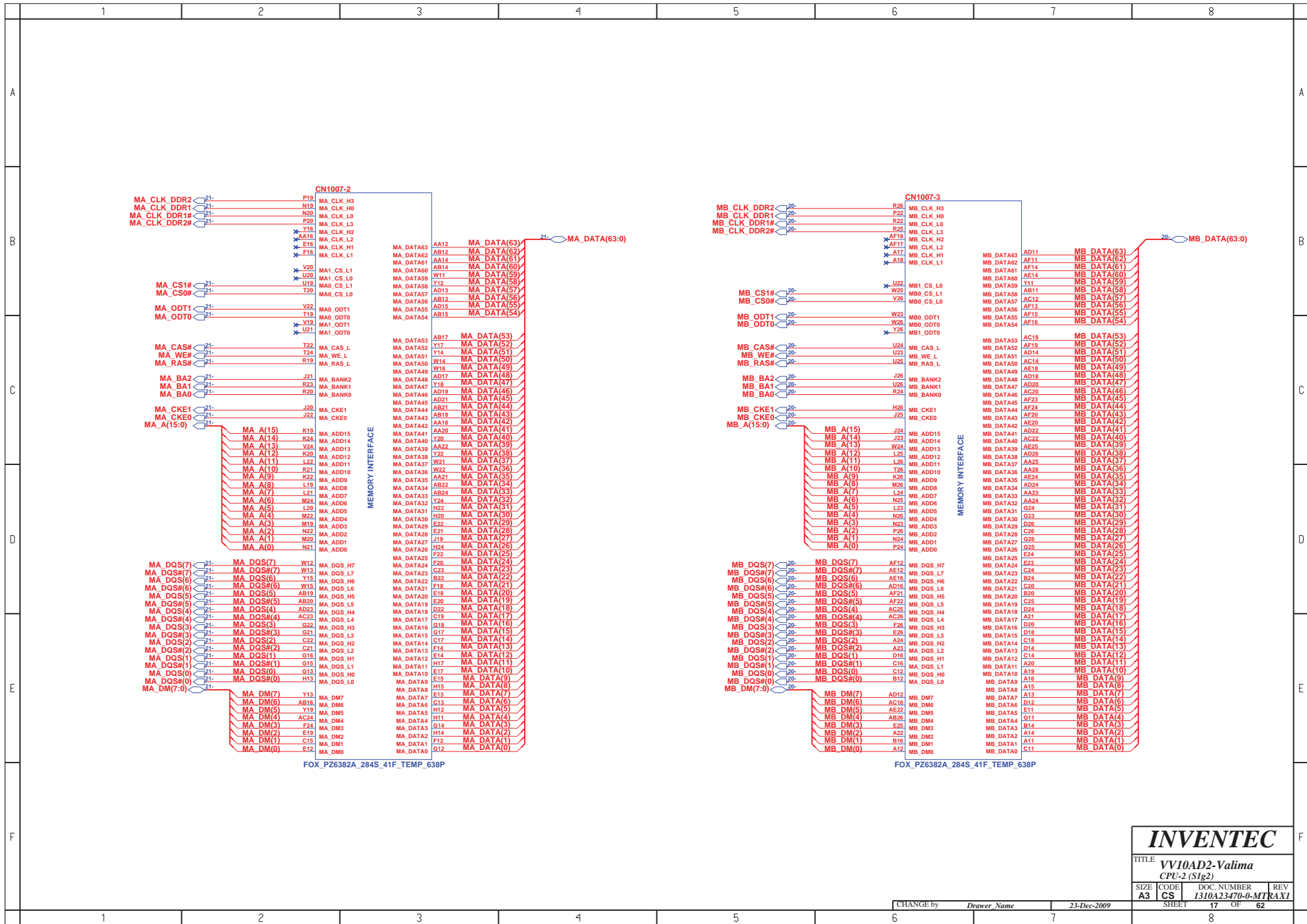
CHANGE by *Drawer Name* 23-Dec-2009

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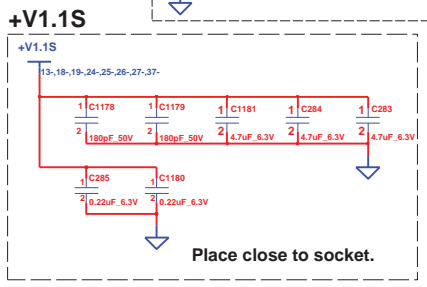
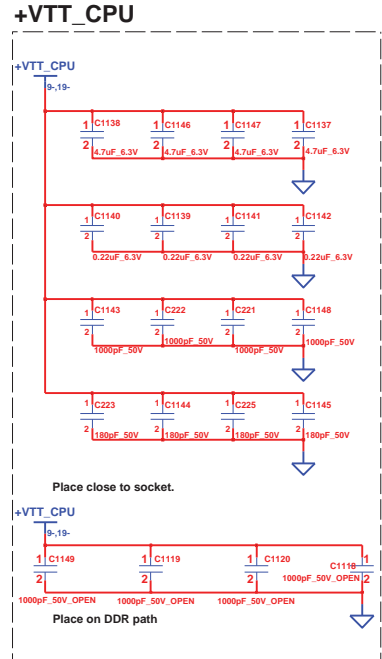
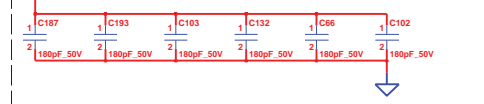
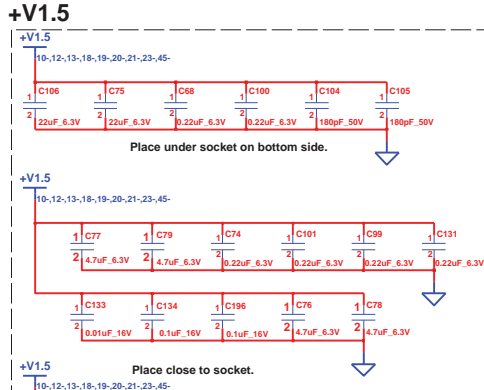
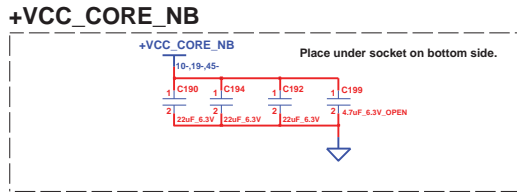
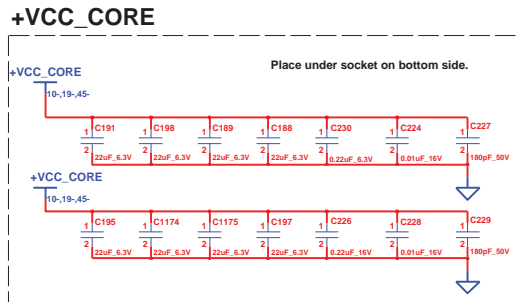
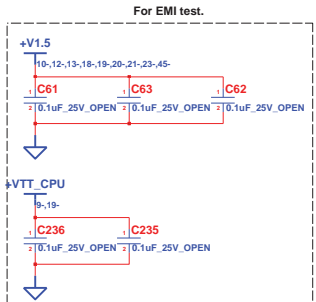
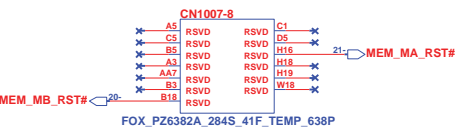
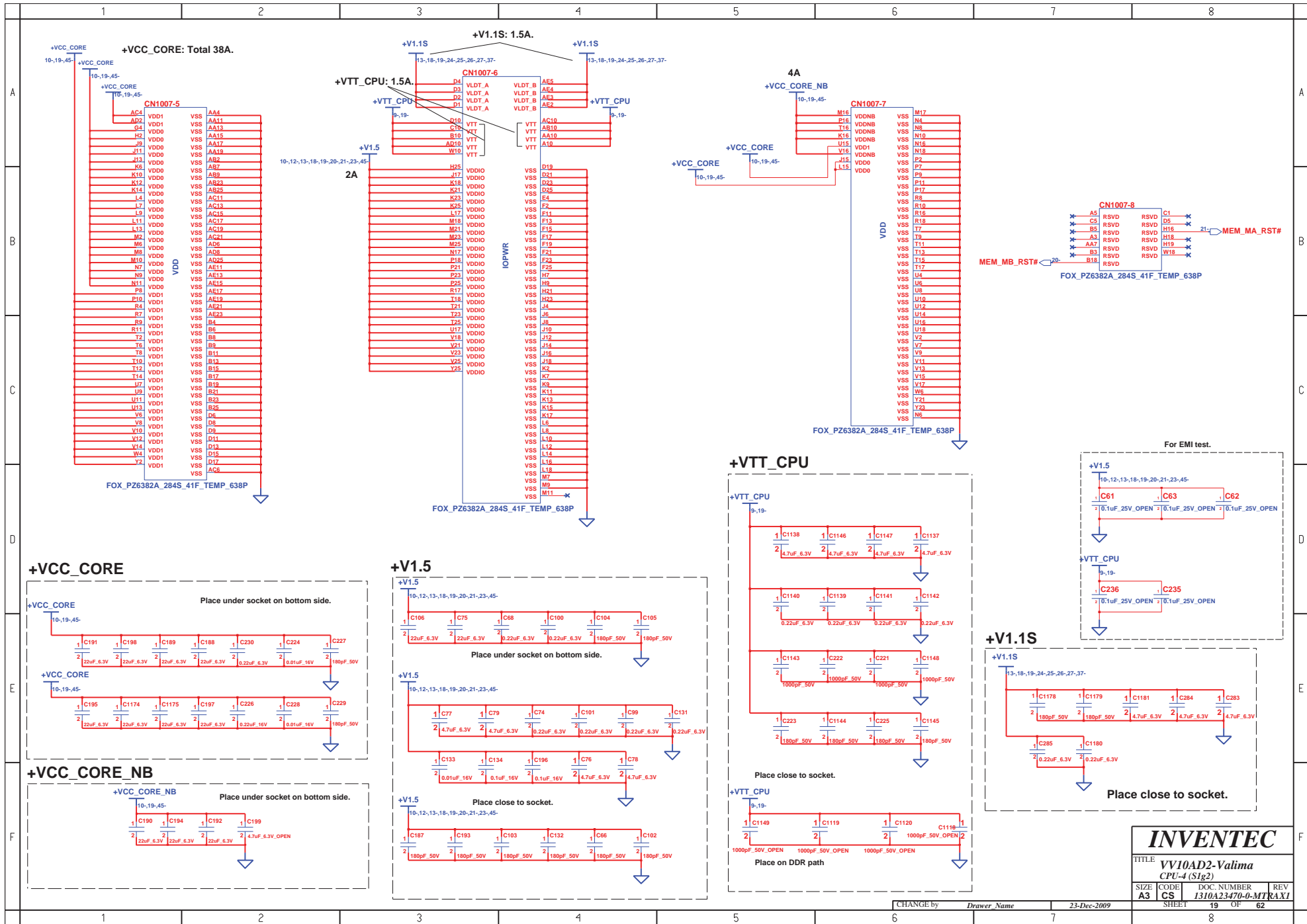
Layout: Add stitching caps if crossing plane split.

<b>INVENTEC</b>			
TITLE VV10AD2-Valima CPU-1 (S1g2)			
SIZE A3	CODE CS	DOC. NUMBER 1310A23470-0-MT	REV RAX1
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<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima CPU-2 (S1g2)</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MTRAXI</b>	REV
CHANGE by <b>Drawer Name</b>		23-Dec-2009	REV
		SHEET <b>17</b>	OF <b>62</b>

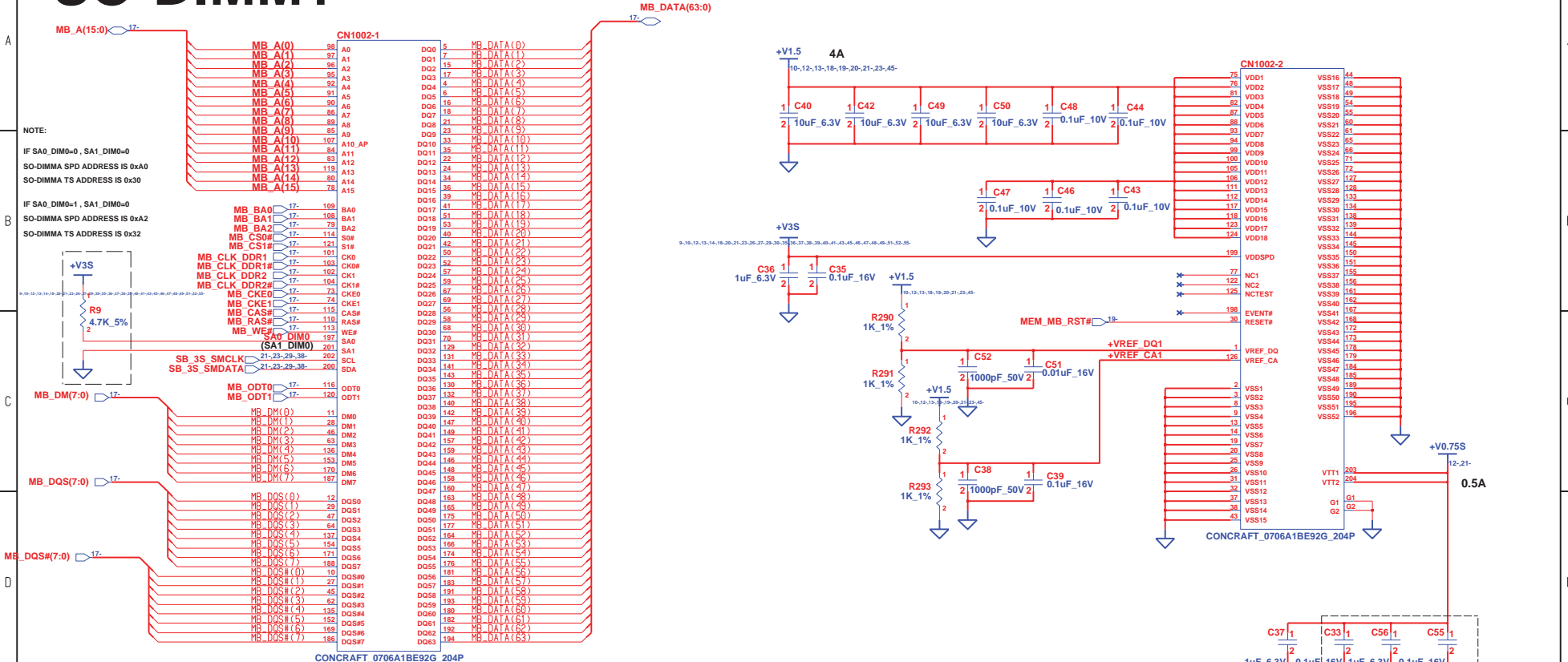




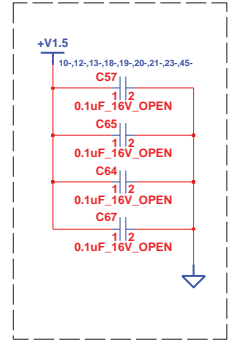
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TITLE <b>VV10AD2-Valima CPU-4 (S1g2)</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>RAX1</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	
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# SO-DIMM1

NOTE:  
 IF SA0\_DIM0=0, SA1\_DIM0=0  
 SO-DIMMA SPD ADDRESS IS 0xA0  
 SO-DIMMA TS ADDRESS IS 0x30  
 IF SA0\_DIM0=1, SA1\_DIM0=0  
 SO-DIMMA SPD ADDRESS IS 0xA2  
 SO-DIMMA TS ADDRESS IS 0x32



## SODIMM H = 9.2mm



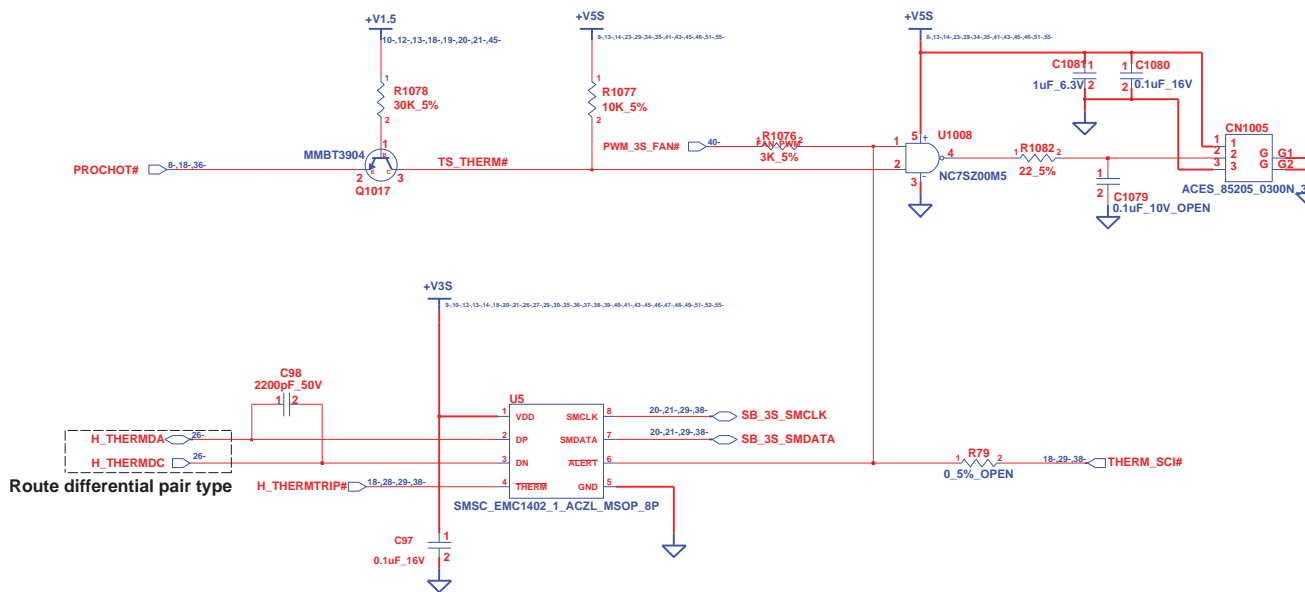
Place these caps  
close to VTT1 and  
VTT2

<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
DDR3 DIMM-0			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23470-0-MT	RAX1
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	1	2	3	4	5	6	7	8	
A	<h1>Blank</h1>								A
B									B
C									C
D									D
E									E
F									F
	1	2	3	4	5	6	7	8	

<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
Blank			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>AX1</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	
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LAYOUT Note: Put the thermal sensor close to CPU.

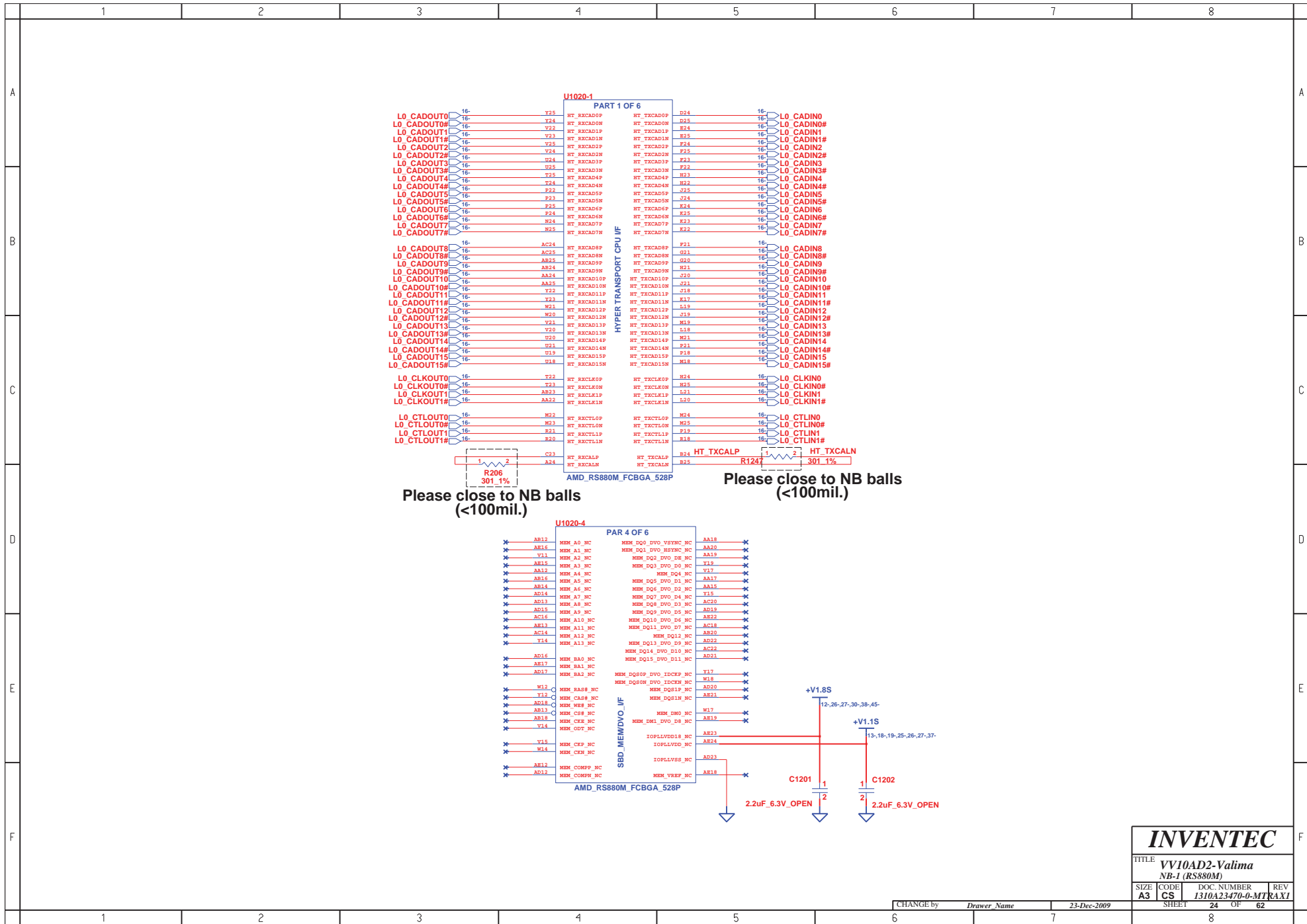
**INVENTEC**

TITLE **VV10AD2-Valima**  
THERMAL & FAN CONTROLLER

SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>RAX1</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	
SHEET <b>23</b>		OF <b>62</b>	

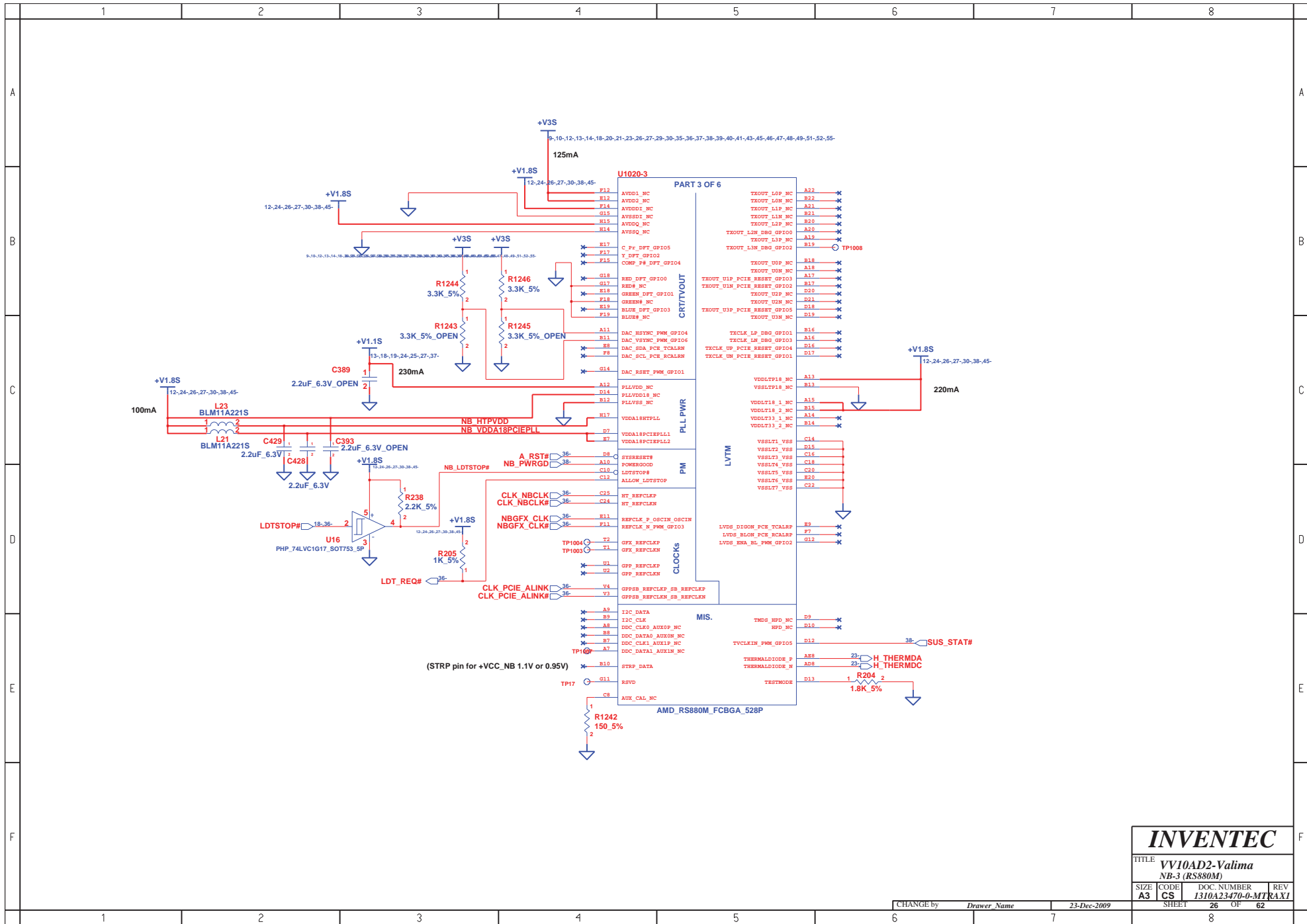
CHANGE by *Drawer Name* 23-Dec-2009

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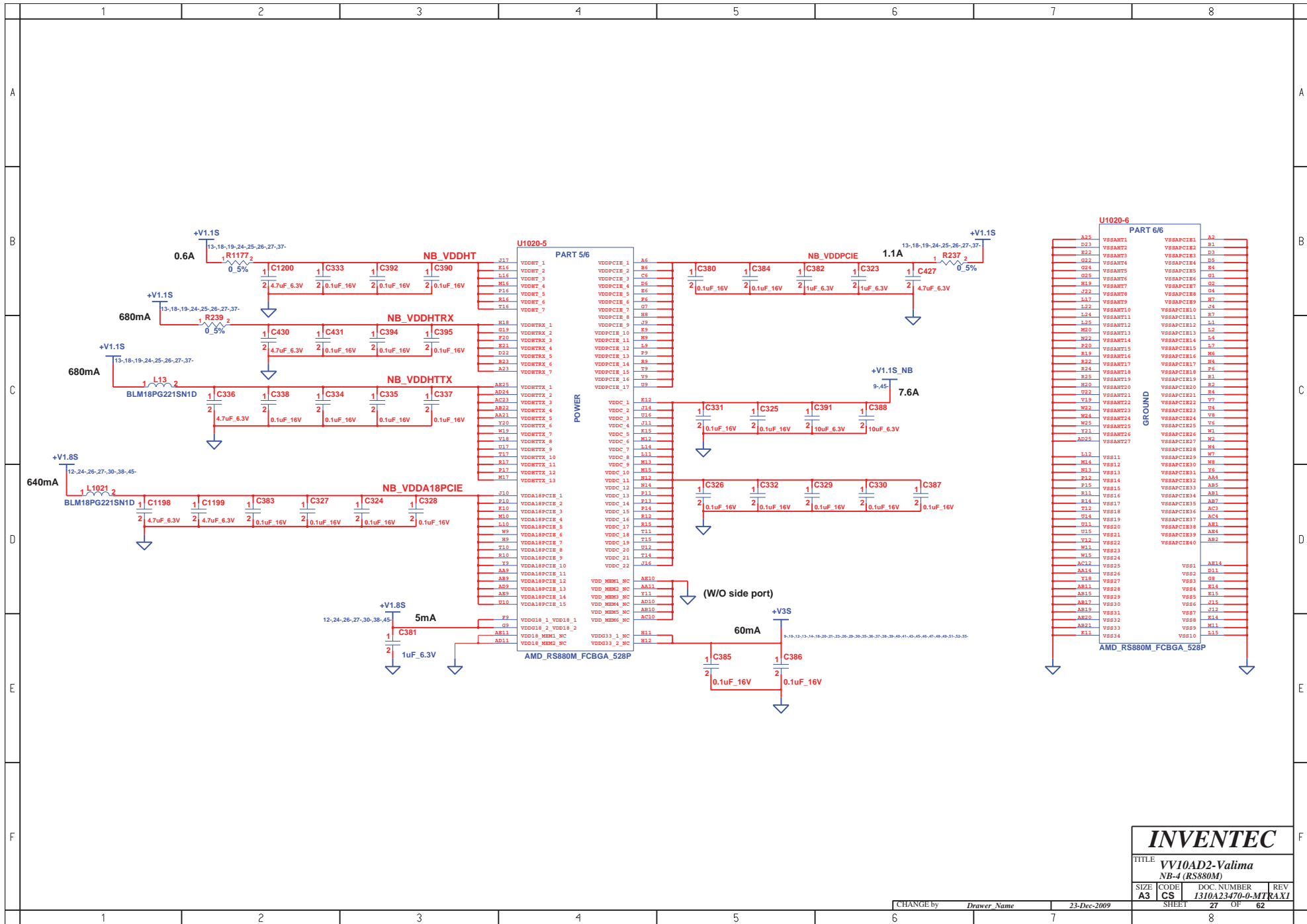


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TITLE VV10AD2-Valima NB-1 (RS880M)			
SIZE A3	CODE CS	DOC. NUMBER 1310A23470-0-MT	REV. 1
CHANGE by		Drawer Name	23-Dec-2009
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<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b> <b>NB-3 (RS880M)</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>AX1</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	SHEET 26 OF 62

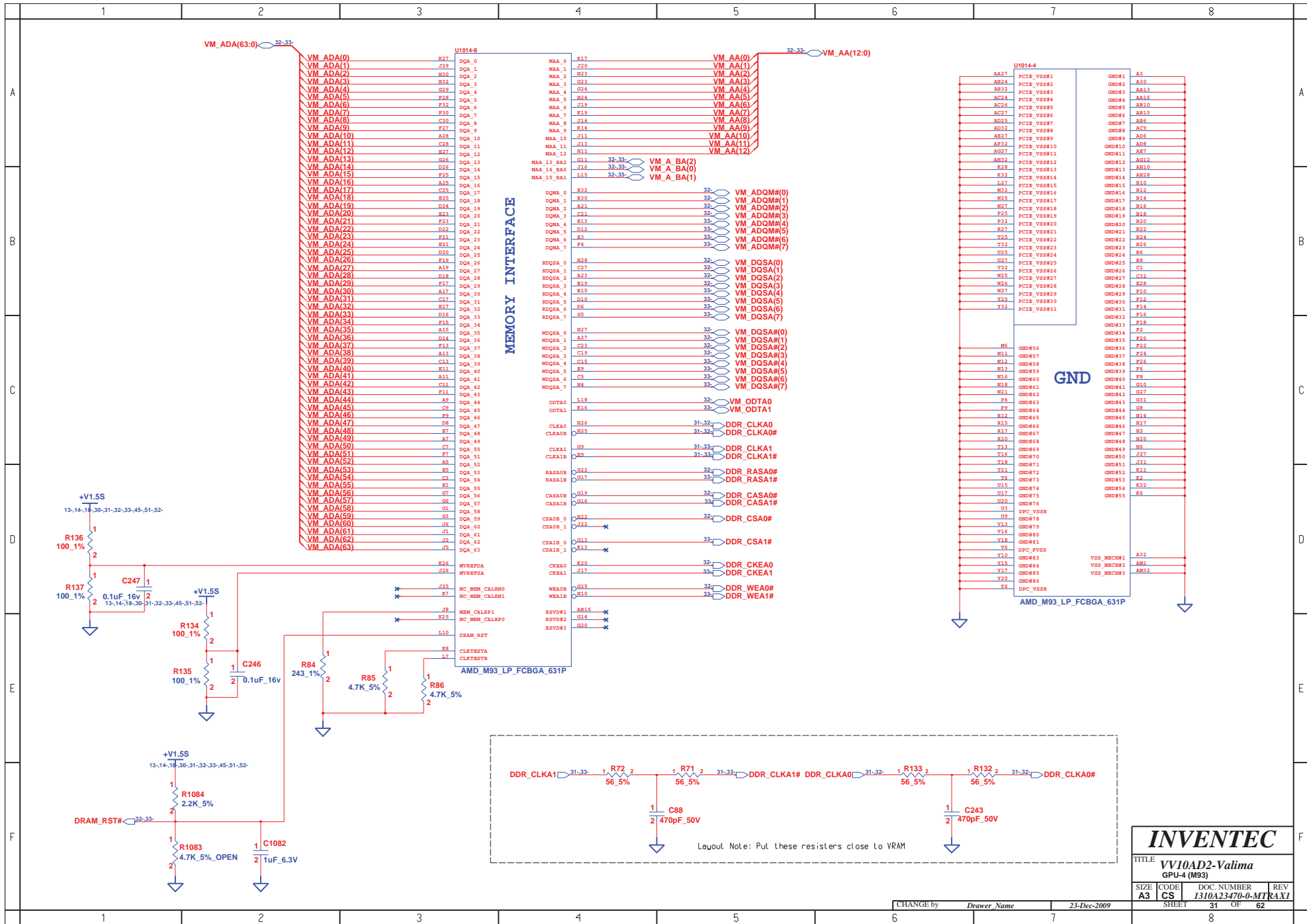


<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b> <b>NB-4 (RS880M)</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>RAX1</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	SHEET <b>27</b> OF <b>62</b>







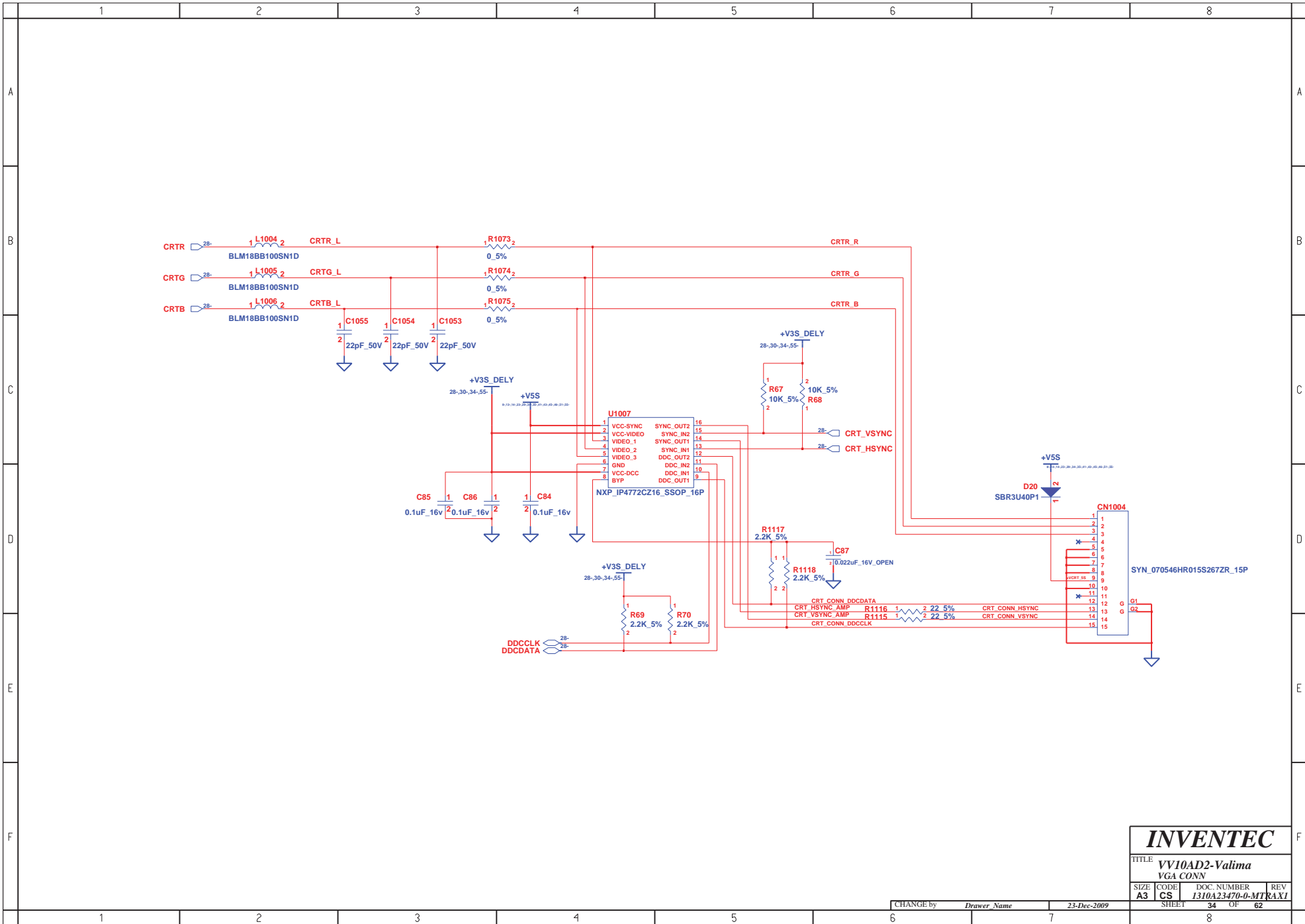


<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima GPU-4 (M93)</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MTRAX1</b>	REV <b></b>
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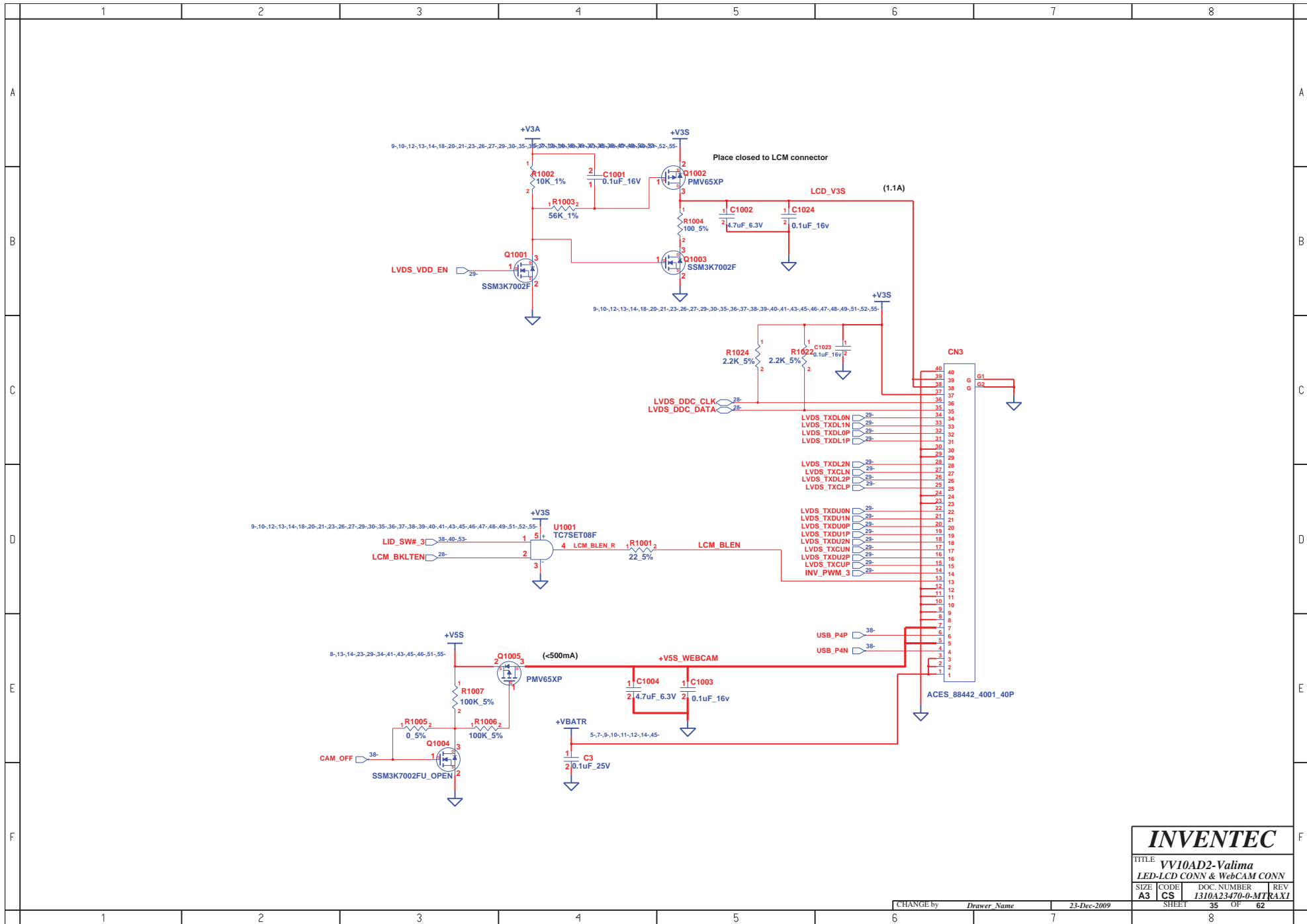
CHANGE by *Drawer Name* 23-Dec-2009







<b>INVENTEC</b>			
TITLE VV10AD2-Valima VGA CONN			
SIZE A3	CODE CS	DOC. NUMBER 1310A23470-0-MT	REV KAX1
CHANGE by Drawer Name		23-Dec-2009	SHEET 34 OF 62



# INVENTEC

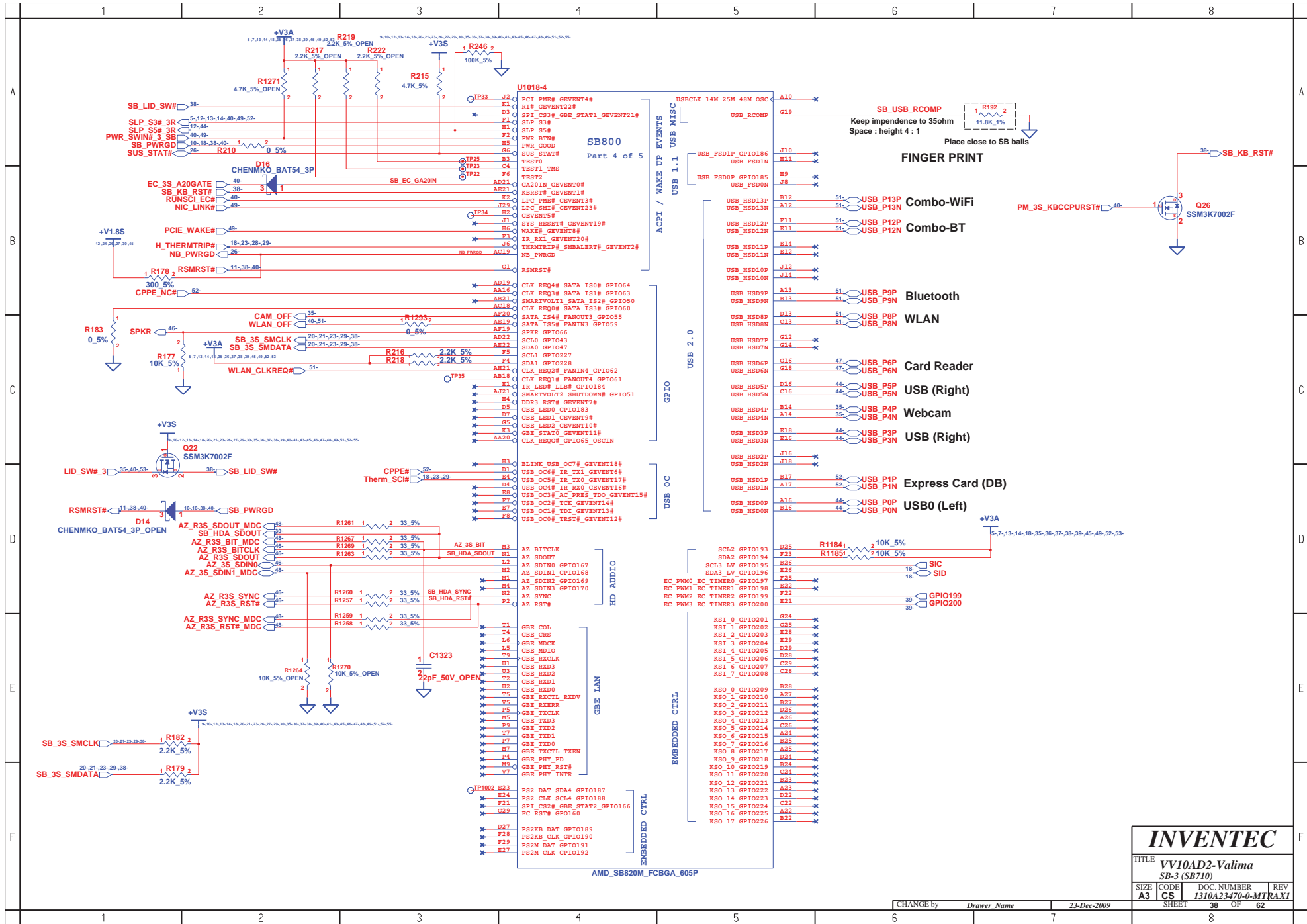
TITLE **VV10AD2-Valima**  
**LED-LCD CONN & WebCAM CONN**

SIZE <b>A3</b>	CODE <b>CS</b>	DOC NUMBER <b>1310A23470-0-MTRAXI</b>	REV
SHEET <b>35</b>		OF <b>62</b>	

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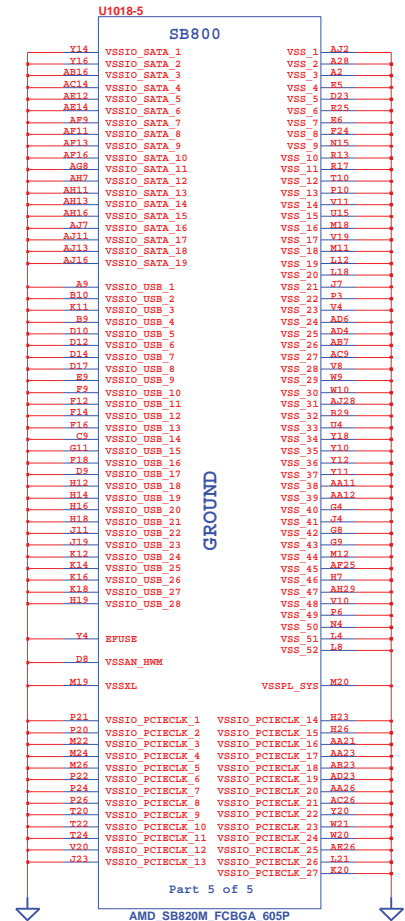
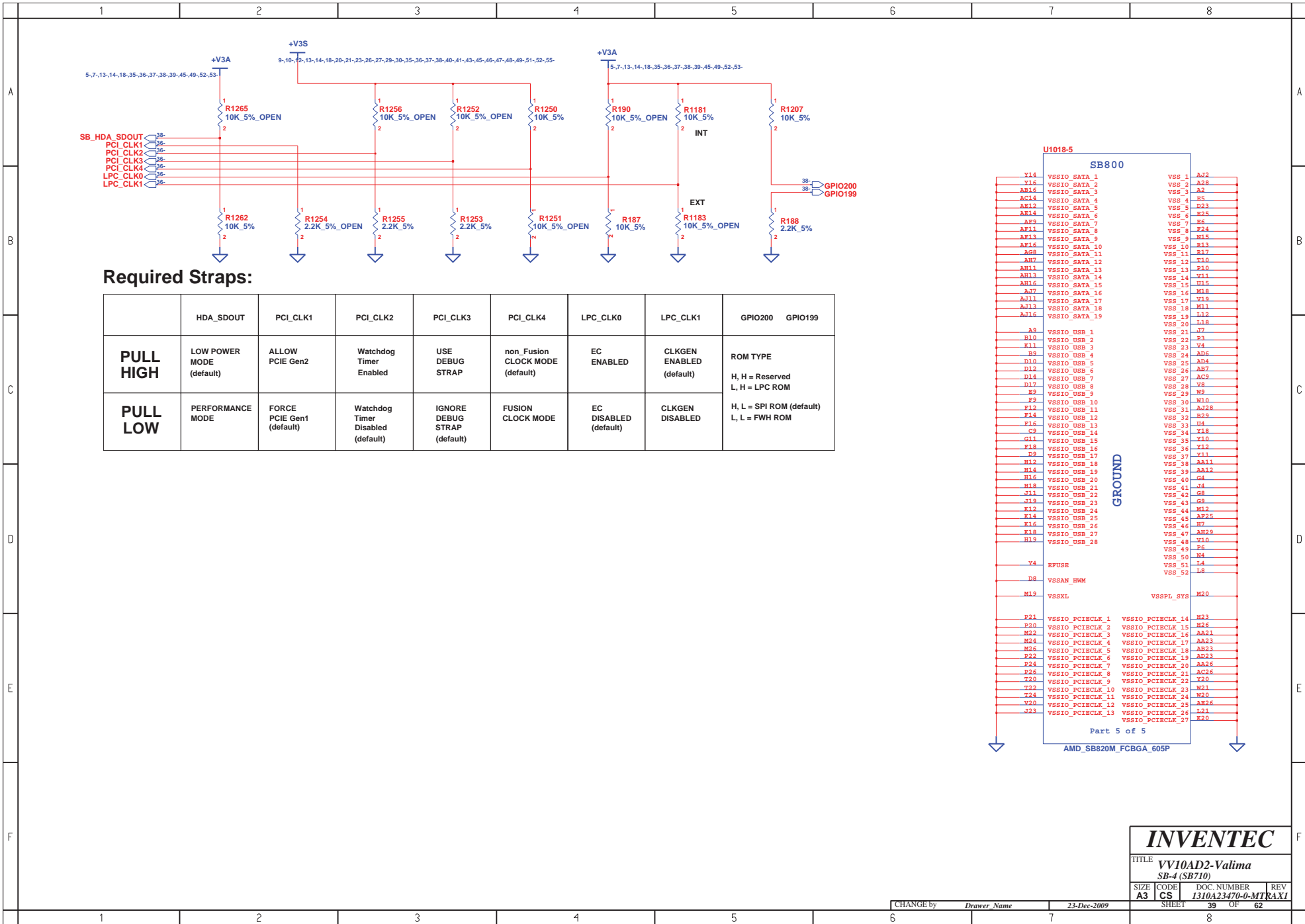




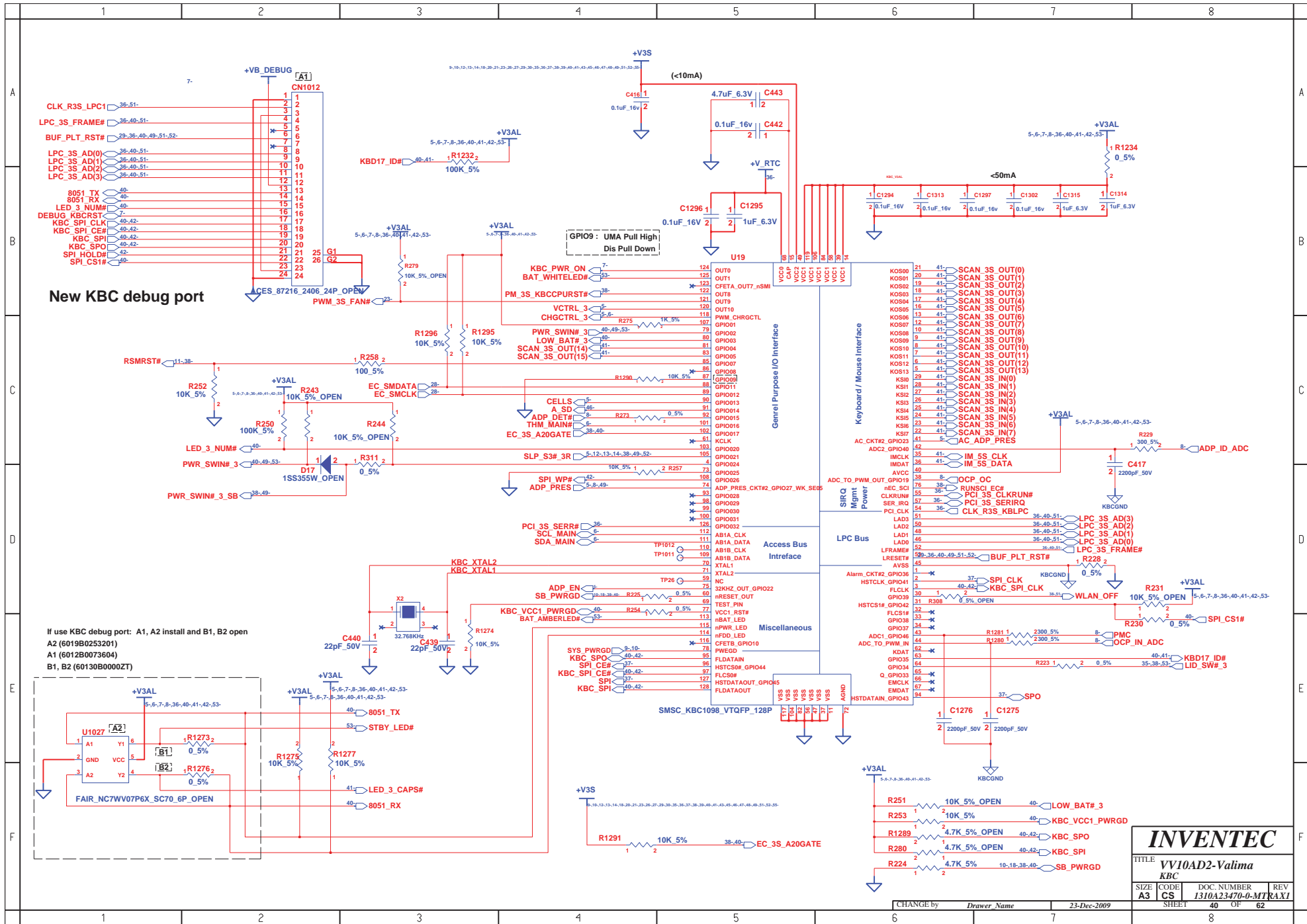
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TITLE VV10AD2-Valima SB-3 (SB710)			
SIZE A3	CODE CS	DOC. NUMBER 1310A23470-0-MTRAX1	REV
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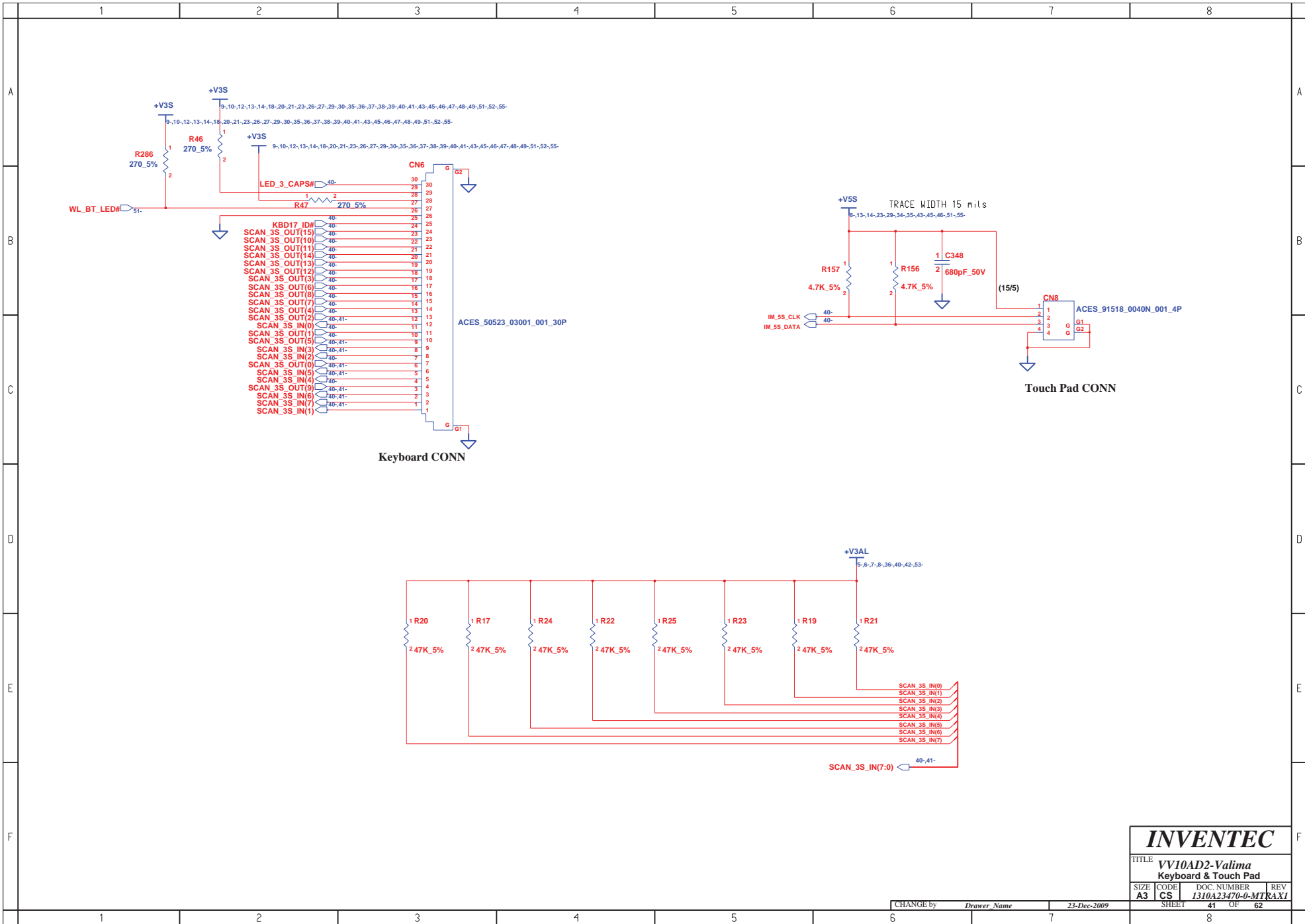
CHANGE by *Drawer Name* 23-Dec-2009

AMD\_SB820M\_FCBGA\_605P

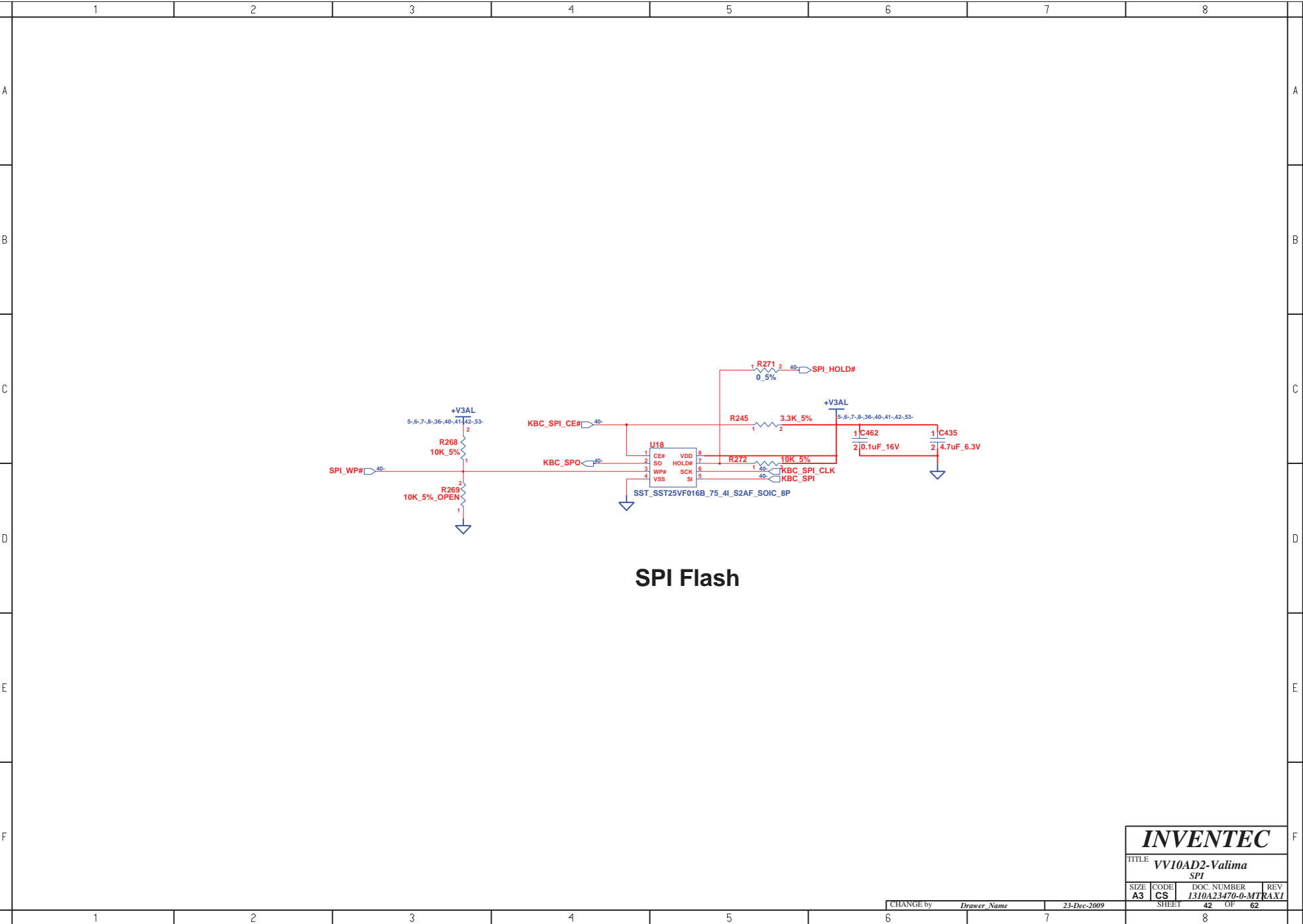


**INVENTEC**  
 TITLE VV10AD2-Valima  
 SB-4 (SB710)  
 SIZE A3 CODE CS DOC NUMBER 1310A23470-0-MT REV CS  
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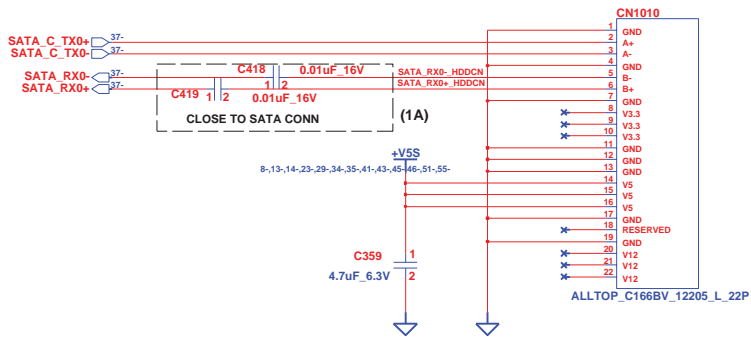




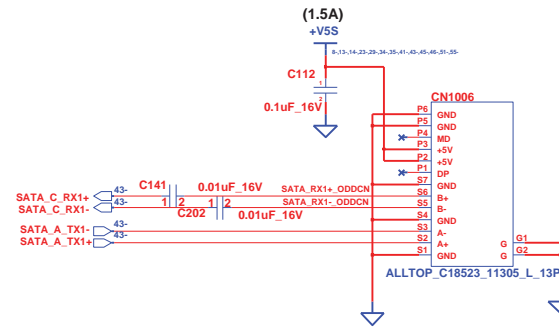
<b>INVENTEC</b>			
TITLE VV10AD2-Valima Keyboard & Touch Pad			
SIZE A3	CODE CS	DOC NUMBER 1310A23470-0-MTRAXI	REV
CHANGE by <i>Drawer Name</i>		23-Dec-2009	SHEET 41 OF 62
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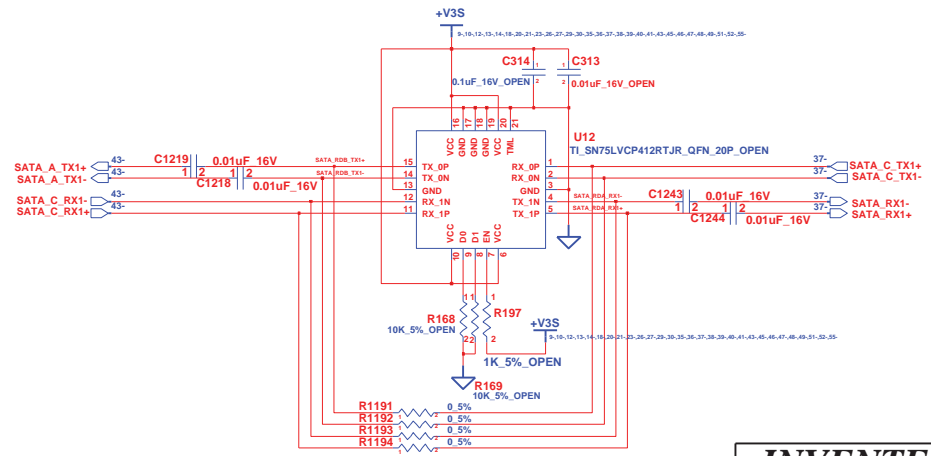
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TITLE <b>VV10AD2-Valima</b>			
SPI			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23470-0-MT	KAXI
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### HDD CONN

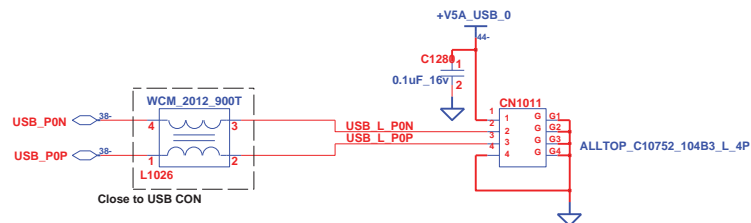
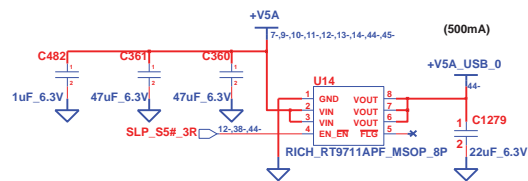


### ODD CONN

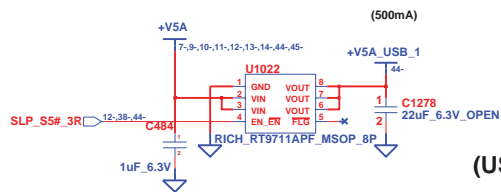
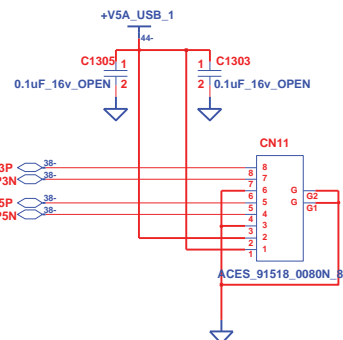
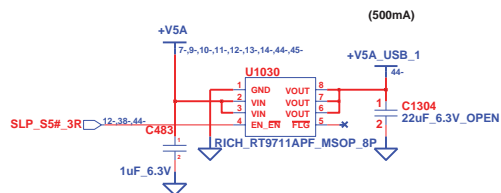


## INVENTEC

TITLE			
VV10AD2-Valima			
HDD & ODD CONN			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A23470-0-MT	RAX1
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(USB left side)



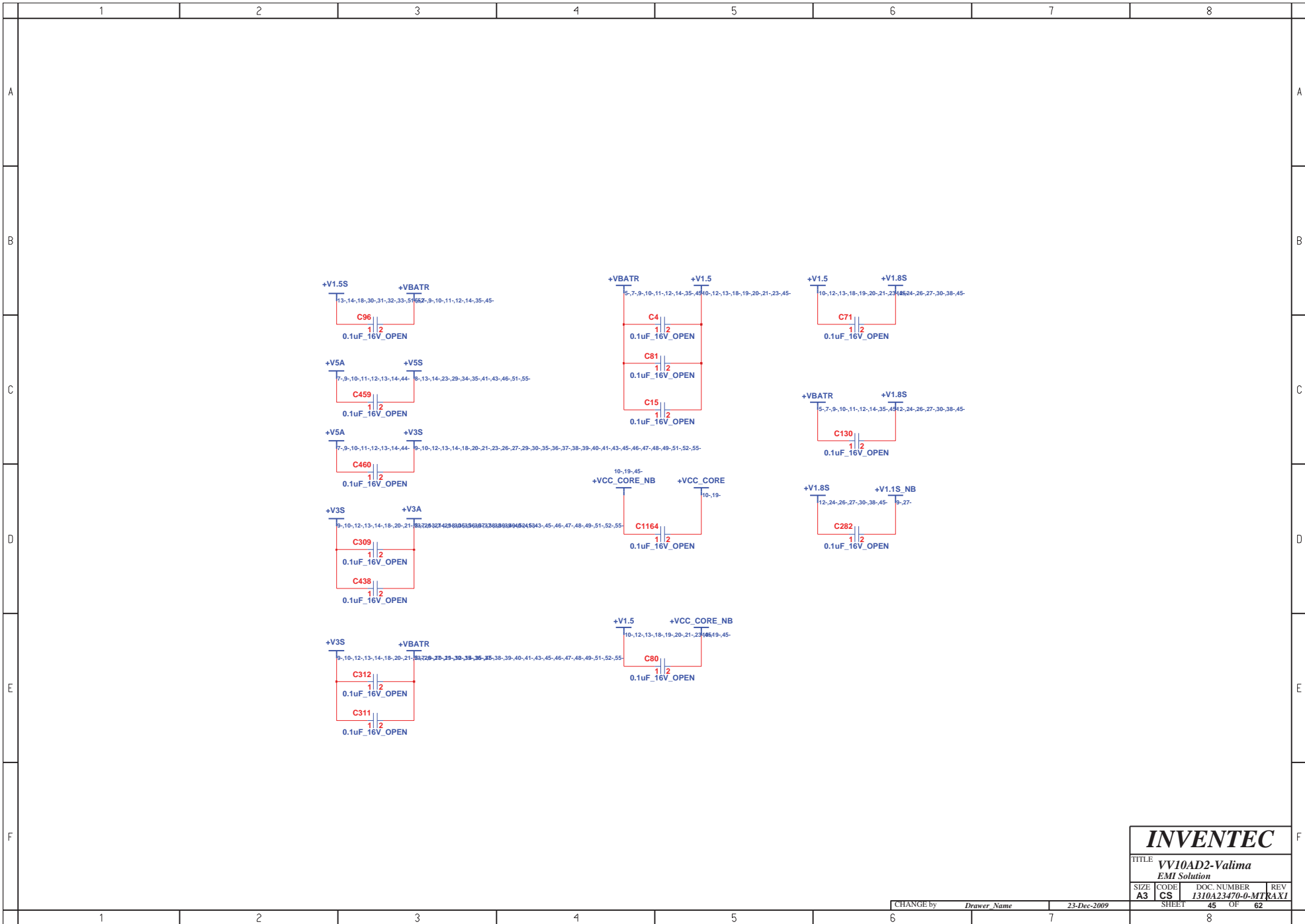
(USB right side)

**INVENTEC**

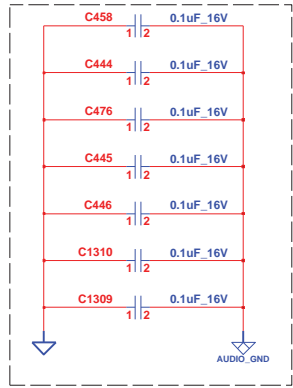
TITLE  
**VV10AD2-Valima**  
**USB CONN**

SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>RAX1</b>
SHEET <b>44</b>		OF <b>62</b>	

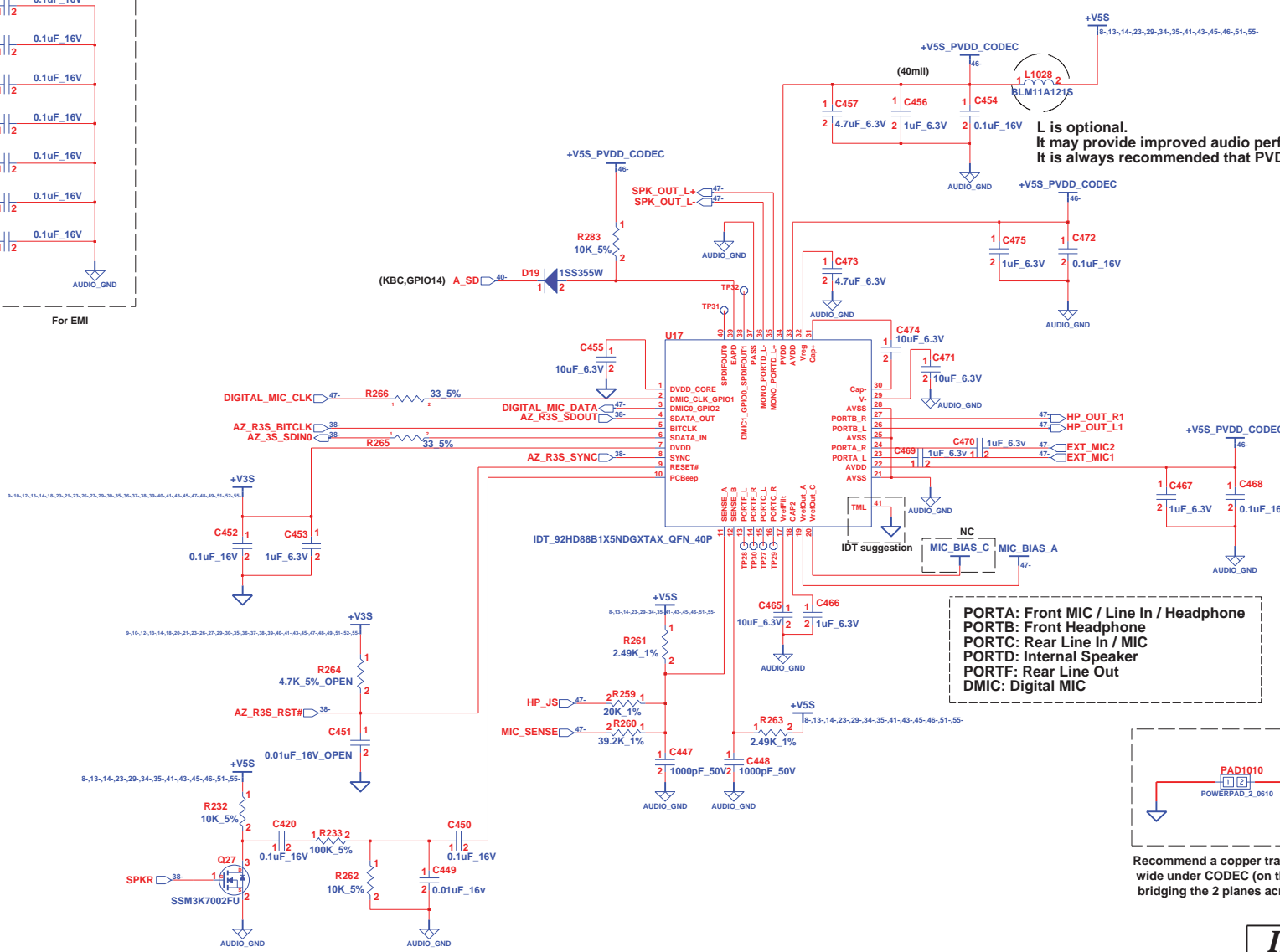
CHANGE by *Drawer Name* 23-Dec-2009



<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
EMI Solution			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>AXI</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	SHEET 45 OF 62

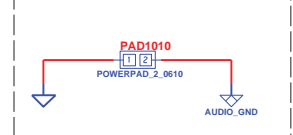


For EMI



L is optional.  
It may provide improved audio performance.  
It is always recommended that PVDD be filtered from 5V.

PORTA: Front MIC / Line In / Headphone  
PORTB: Front Headphone  
PORTC: Rear Line In / MIC  
PORTD: Internal Speaker  
PORTF: Rear Line Out  
DMIC: Digital MIC

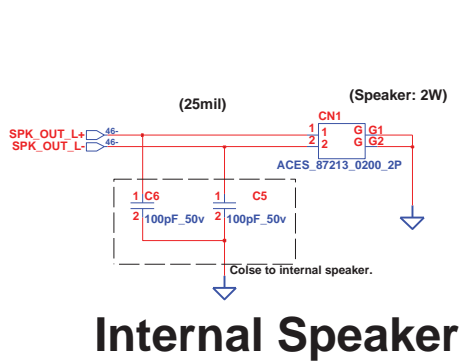
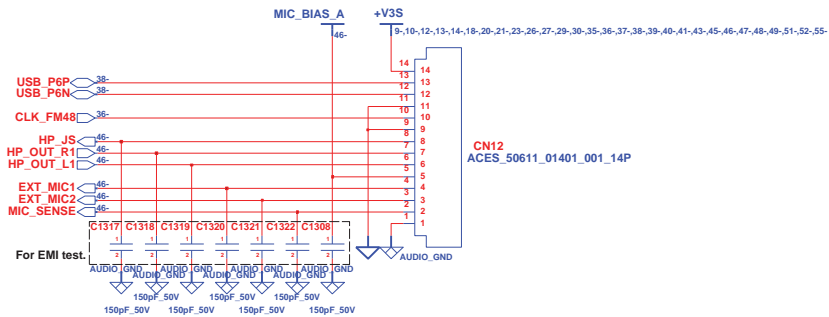


Recommend a copper trace about 100 mills wide under CODEC (on the GND layer) bridging the 2 planes across the moat.

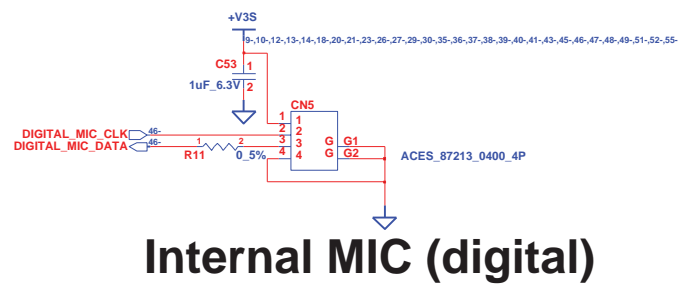
**INVENTEC**  
TITLE: VV10AD2-Valima  
AZALIA CODEC

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23470-0-MTRAXI	

## Audio & Card Reader B2B CONN (M/B side)

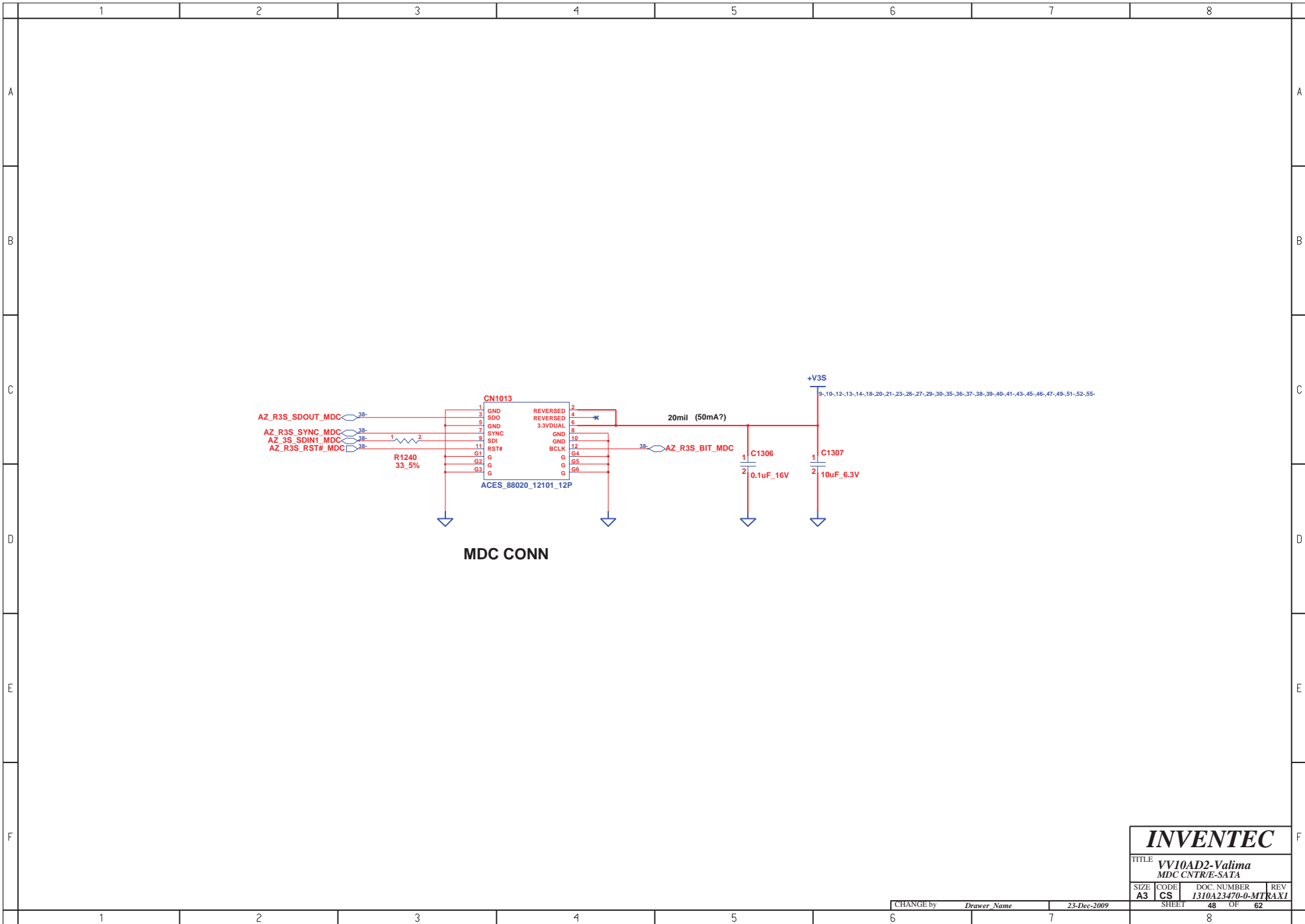


### Internal Speaker



### Internal MIC (digital)

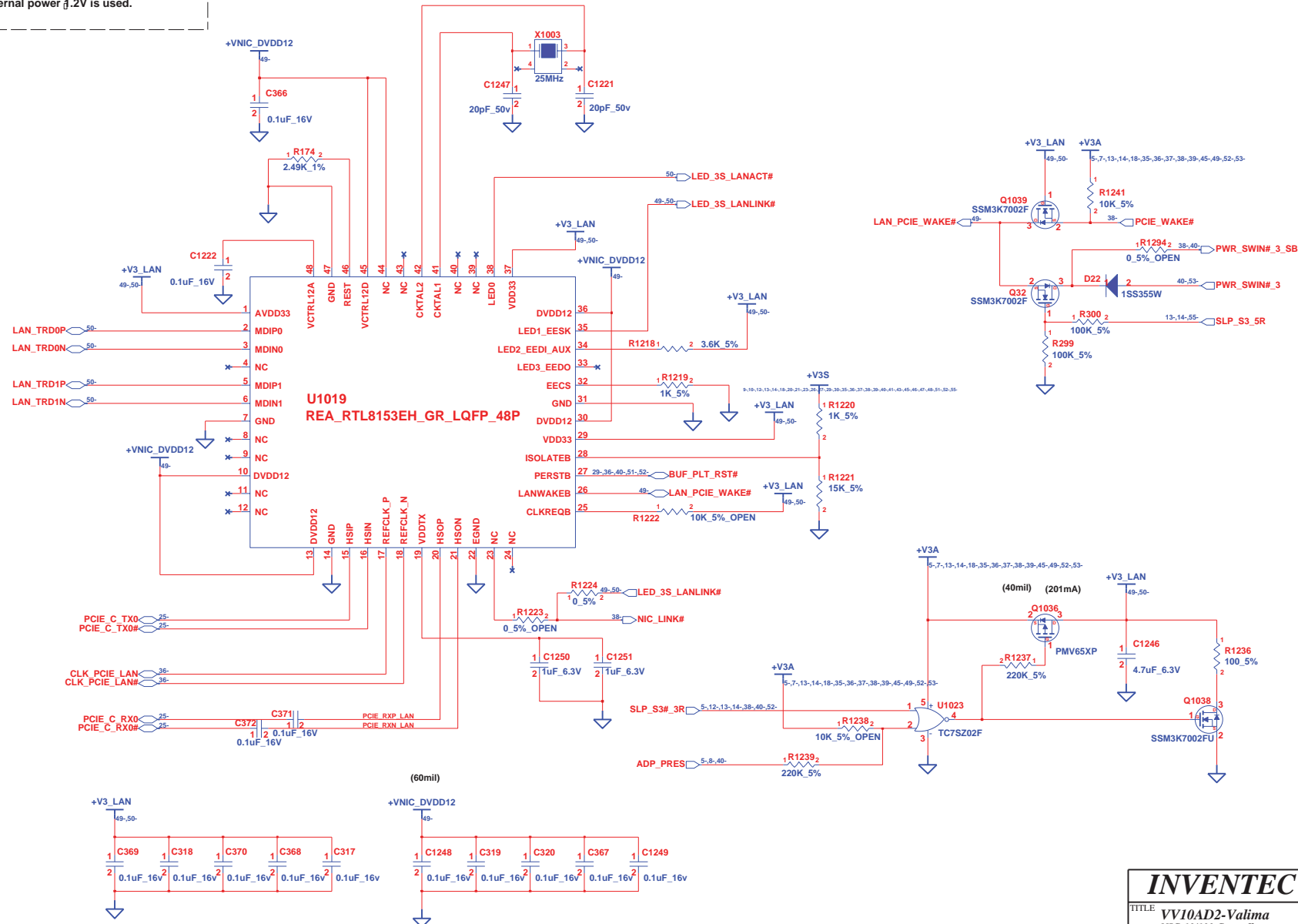
<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
Internal Speaker & MIC & Audio B2B CONN			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A23470-0-MT	RAXI
CHANGE by		Drawer Name	23-Dec-2009
SHEET		47	OF 62



**MDC CONN**

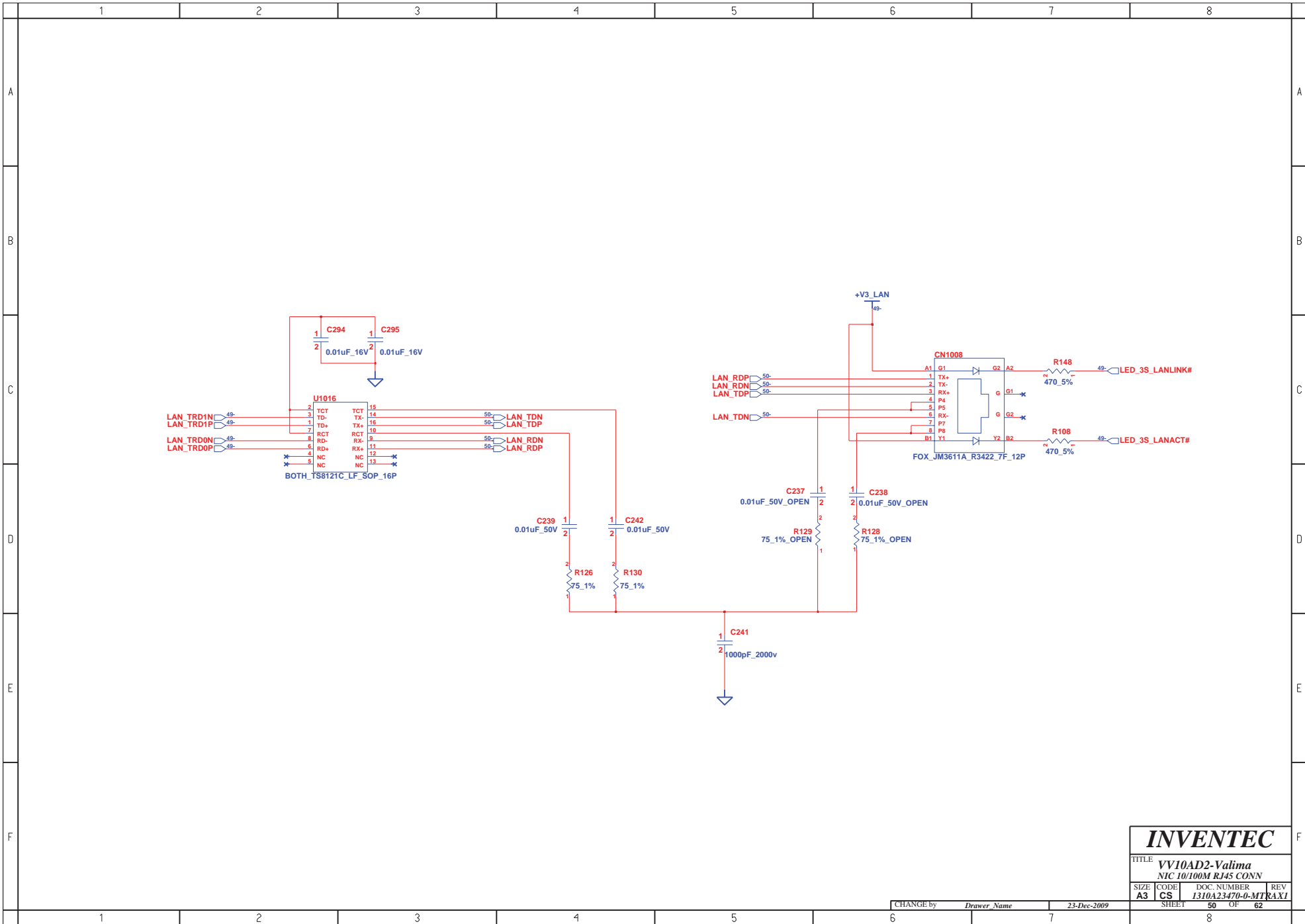
<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
MDC CNTR/E-SATA			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MTRAX1</b>	REV
CHANGE by <i>Drawer Name</i>		23-Dec-2009	
SHEET <b>48</b>		OF <b>62</b>	

PIN43 : (High) Switching regulator is enable.  
 PIN43 : (Low) External power  $\bar{f}$ .2V is used.

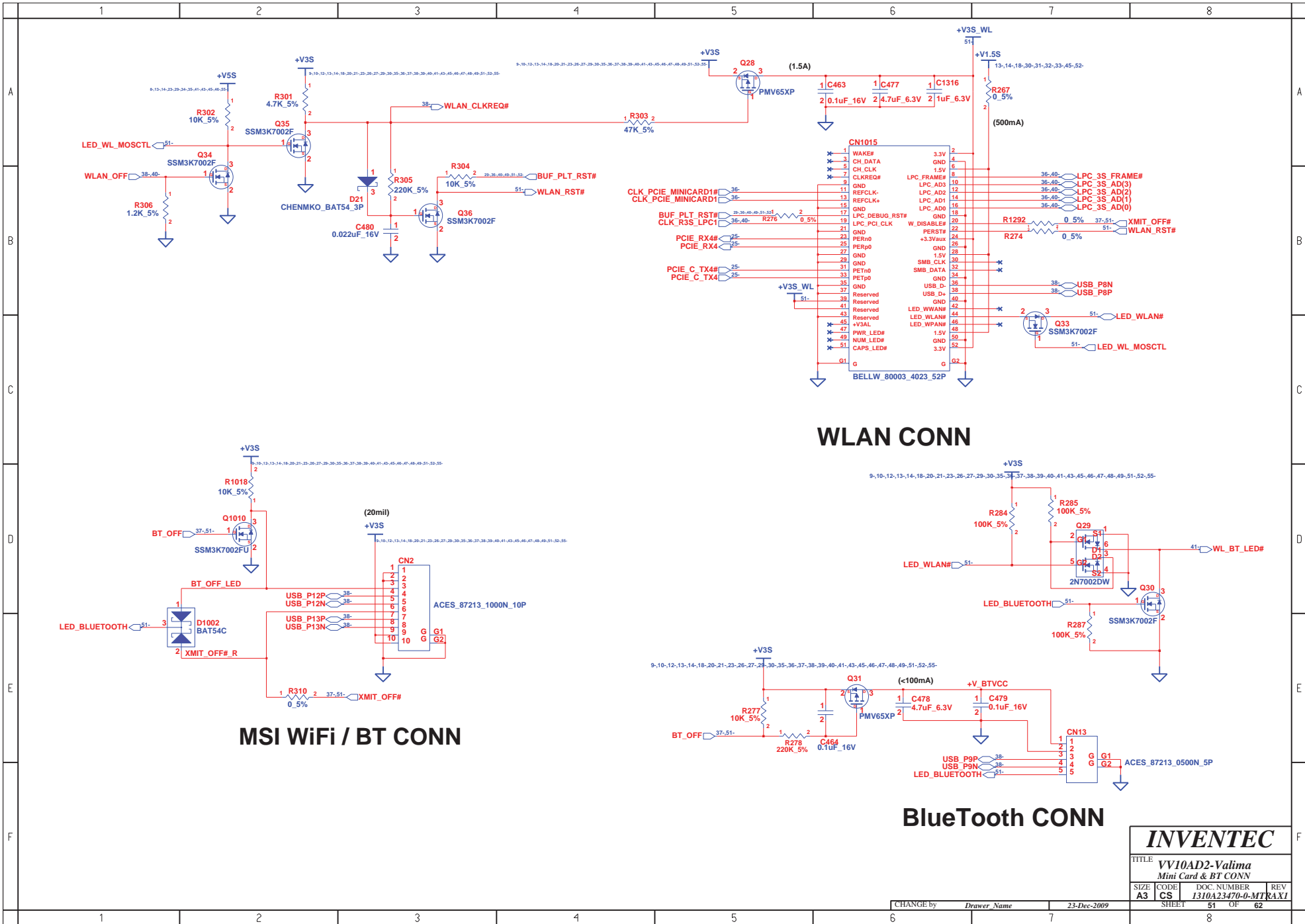


<b>INVENTEC</b>			
TITLE VV10AD2-Valima NIC-10/100 Controller			
SIZE A3	CODE CS	DOC NUMBER 1310A23470-0-MTRAX1	REV REV
SHEET 49		OF 62	

CHANGE by *Drawer Name* 23-Dec-2009



<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
NIC 10/100M RJ45 CONN			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>RAX1</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	SHEET 50 OF 62

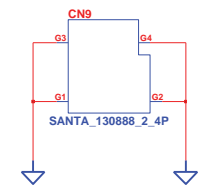
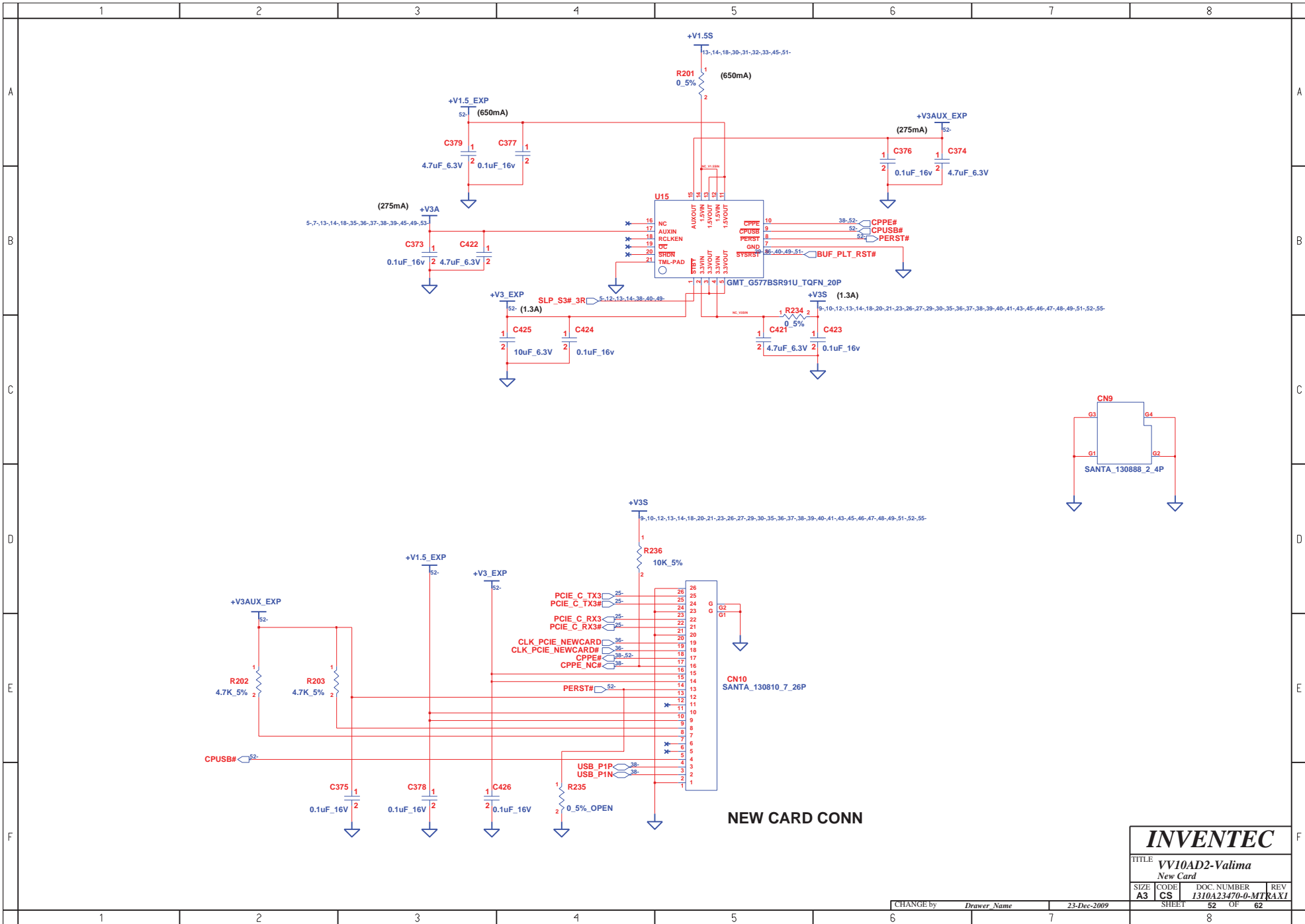


### WLAN CONN

### MSI WiFi / BT CONN

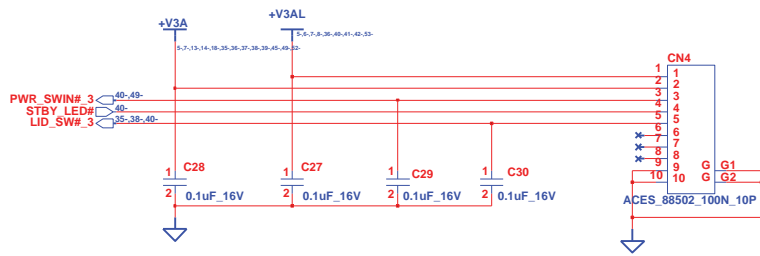
### BlueTooth CONN

<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
Mini Card & BT CONN			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC NUMBER <b>1310A23470-0-MTRAX1</b>	REV
CHANGE by <i>Drawer Name</i>		23-Dec-2009	SHEET 51 OF 62

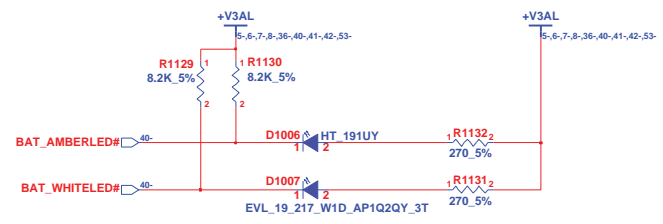


**NEW CARD CONN**

<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b> New Card			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>AX1</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	
SHEET		52 OF 62	

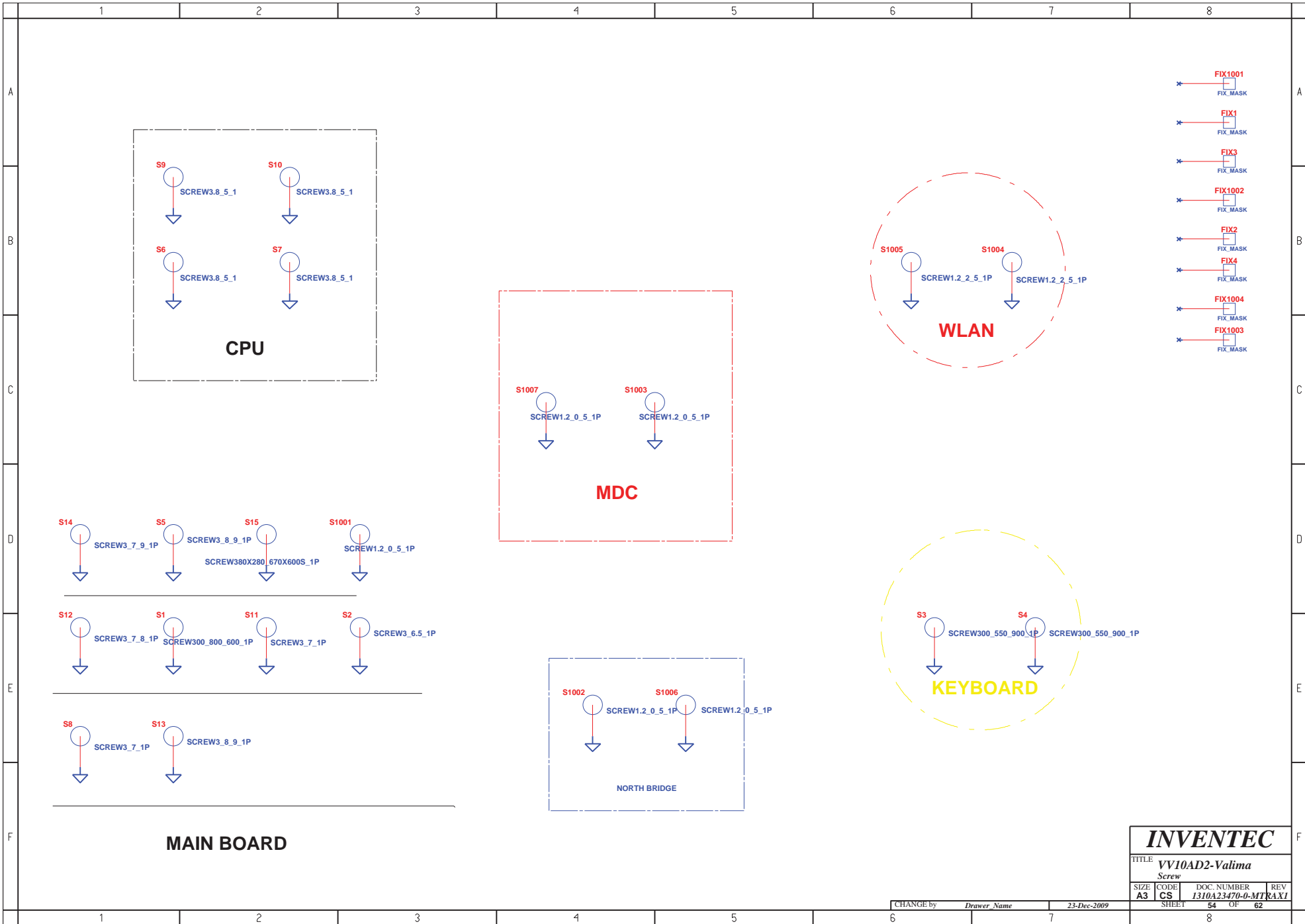


**Swich Board & LED Board CONN**  
(M/B side)

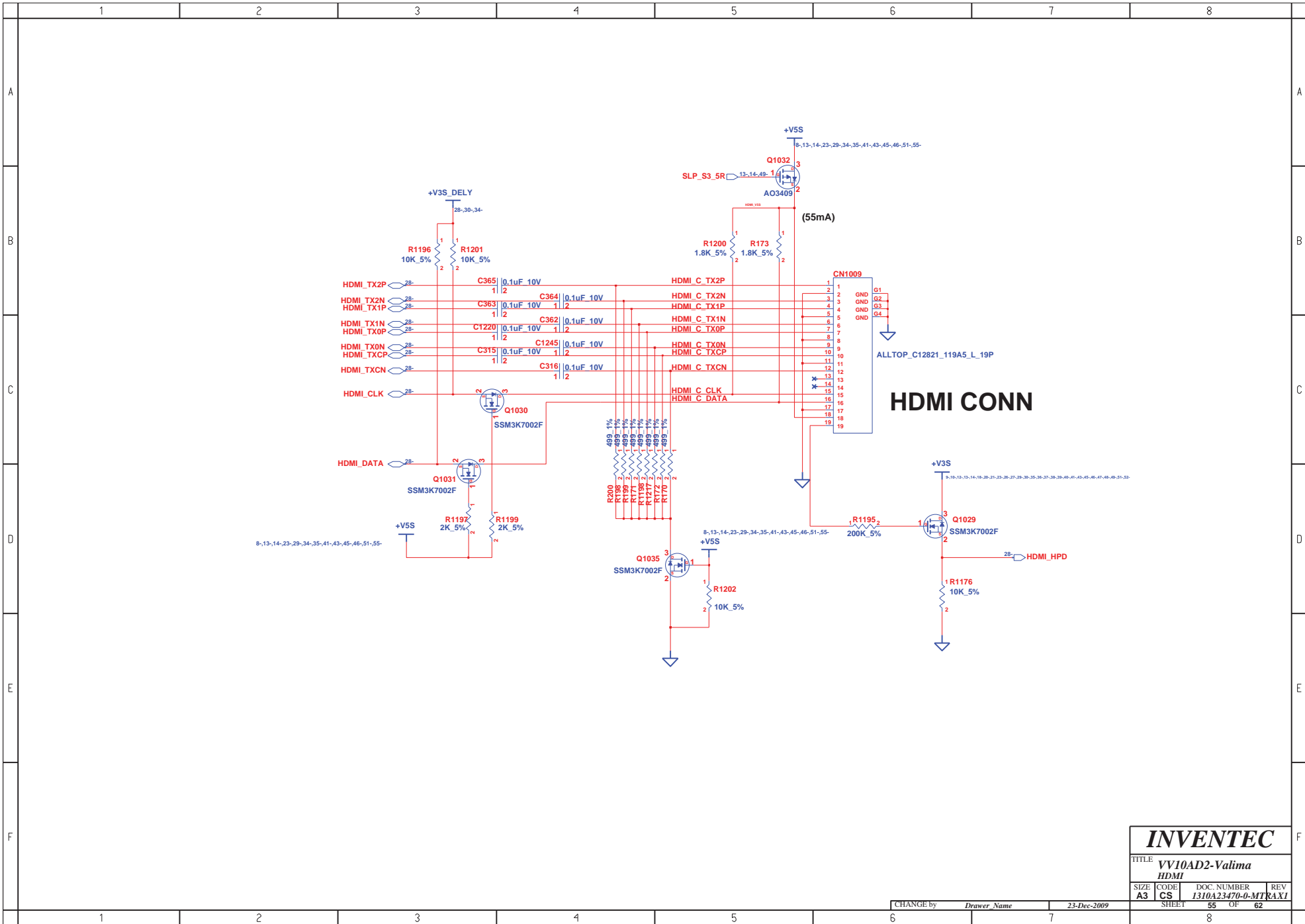


**Battery charger LED**

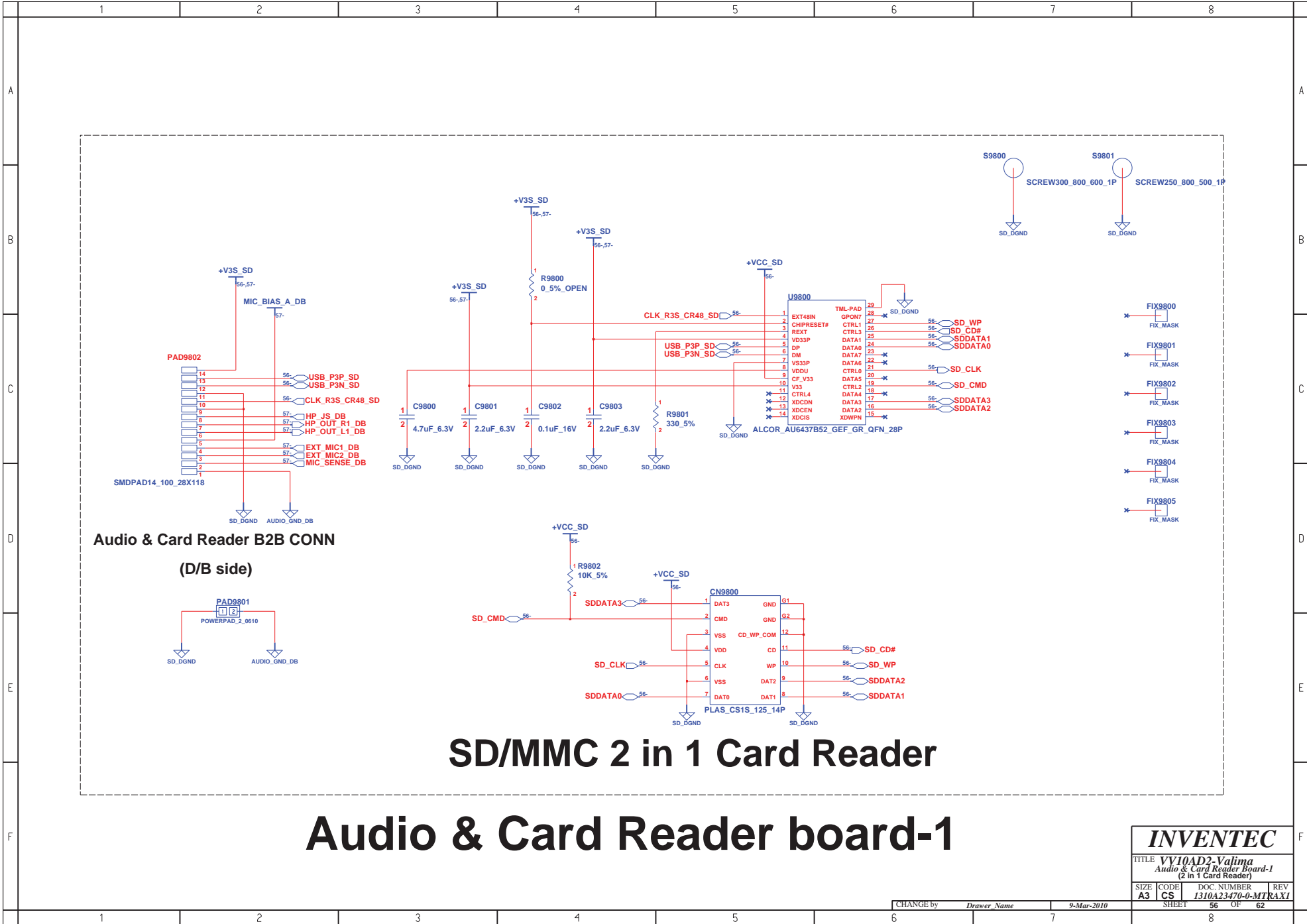
<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
W/B & SW/B & LED/B CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23470-0-MT	RAXI
CHANGE by		Drawer Name	23-Dec-2009
SHEET		53	OF 62



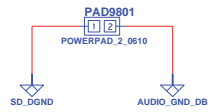
<b>INVENTEC</b>			
TITLE VV10AD2-Valima			
Screw			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23470-0-MT	RAX1
CHANGE by		23-Dec-2009	
Drawer Name			
SHEET		54	OF 62



<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b> <b>HDMI</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>KAX1</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	SHEET 55 OF 62



Audio & Card Reader B2B CONN  
(D/B side)

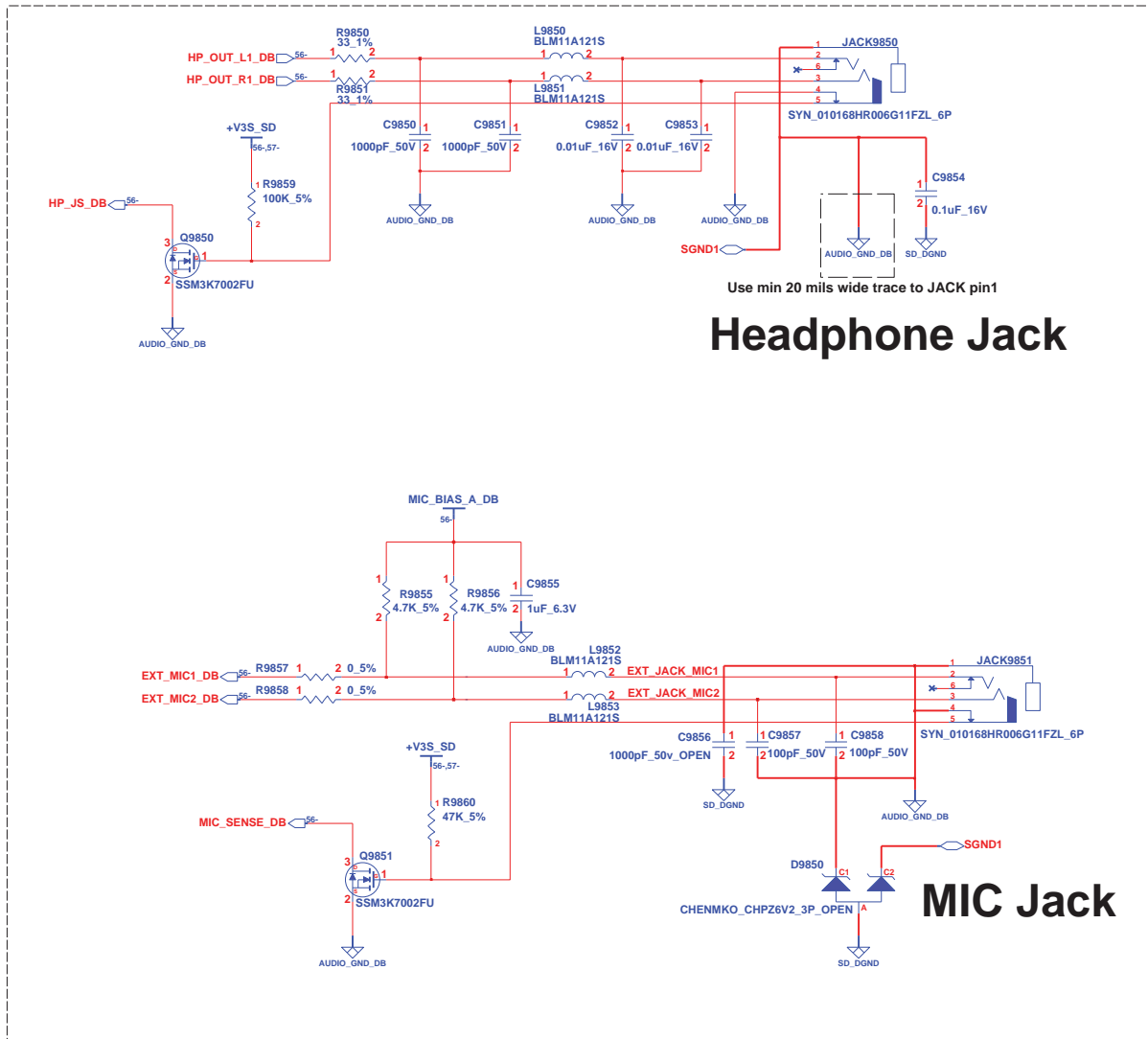


## SD/MMC 2 in 1 Card Reader

# Audio & Card Reader board-1

**INVENTEC**  
 TITLE VV10AD2-Valima  
 Audio & Card Reader Board-1  
 (2 in 1 Card Reader)

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23470-0-MT	RAX1



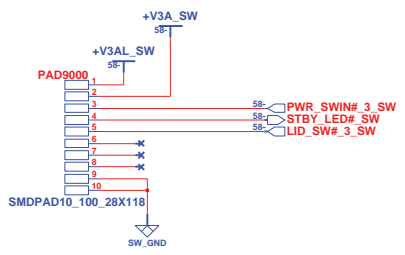
Use min 20 mils wide trace to JACK pin1

## Headphone Jack

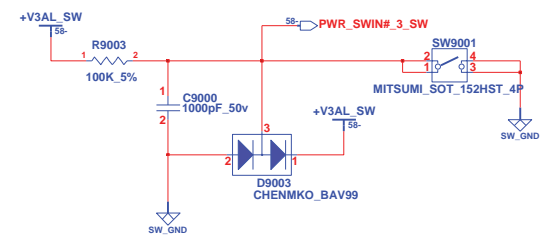
## MIC Jack

# Audio & Card Reader board-2

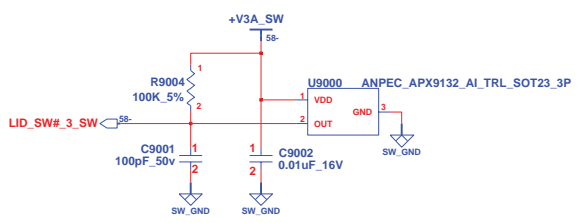
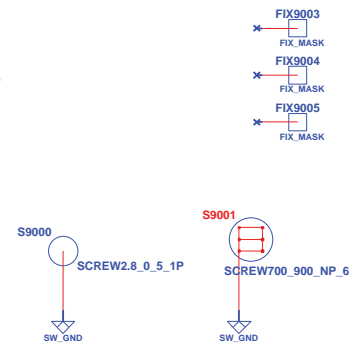
<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b> Audio & Card Reader Board-2 (HP & MIC JACKs)			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC. NUMBER <b>1310A23470-0-MT</b>	REV <b>AX1</b>
CHANGE by <i>Drawer Name</i>		13-Jan-2010	SHEET 57 OF 62



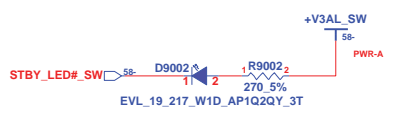
**PWR SW B/B CONN**



**Power Button**



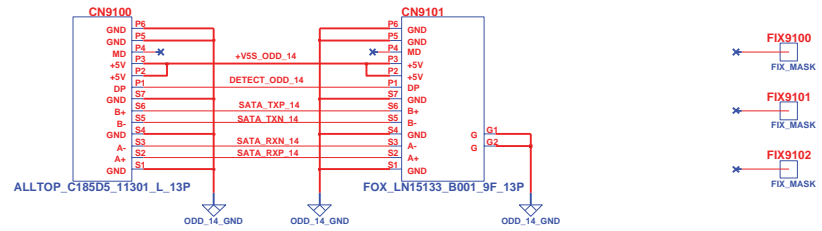
**LID Switch**



**Power / Standby LED**

# Power Button & LID Switch Board

<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b> <b>Power &amp; LID board</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC NUMBER <b>I310A23470-0-MTR</b>	REV <b>AX1</b>
CHANGE by <i>Drawer Name</i>		23-Dec-2009	
SHEET		58 OF 62	

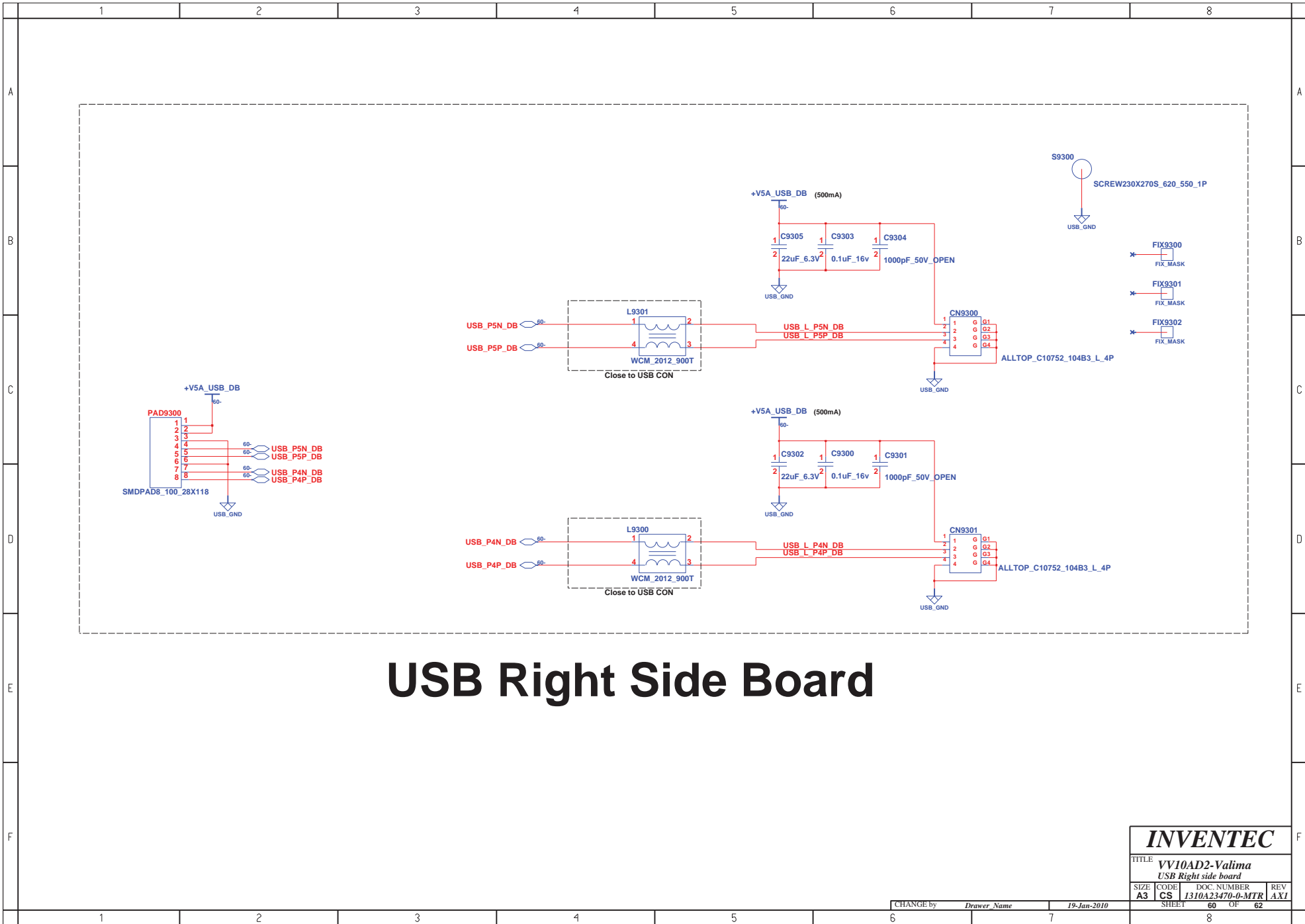


# 14'' ODD Extend Board

<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
15'' ODD Extend board			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A23470-0-MTR	AX1
SHEET		59	OF 62

CHANGE by *Drawer Name* 5-Mar-2010

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

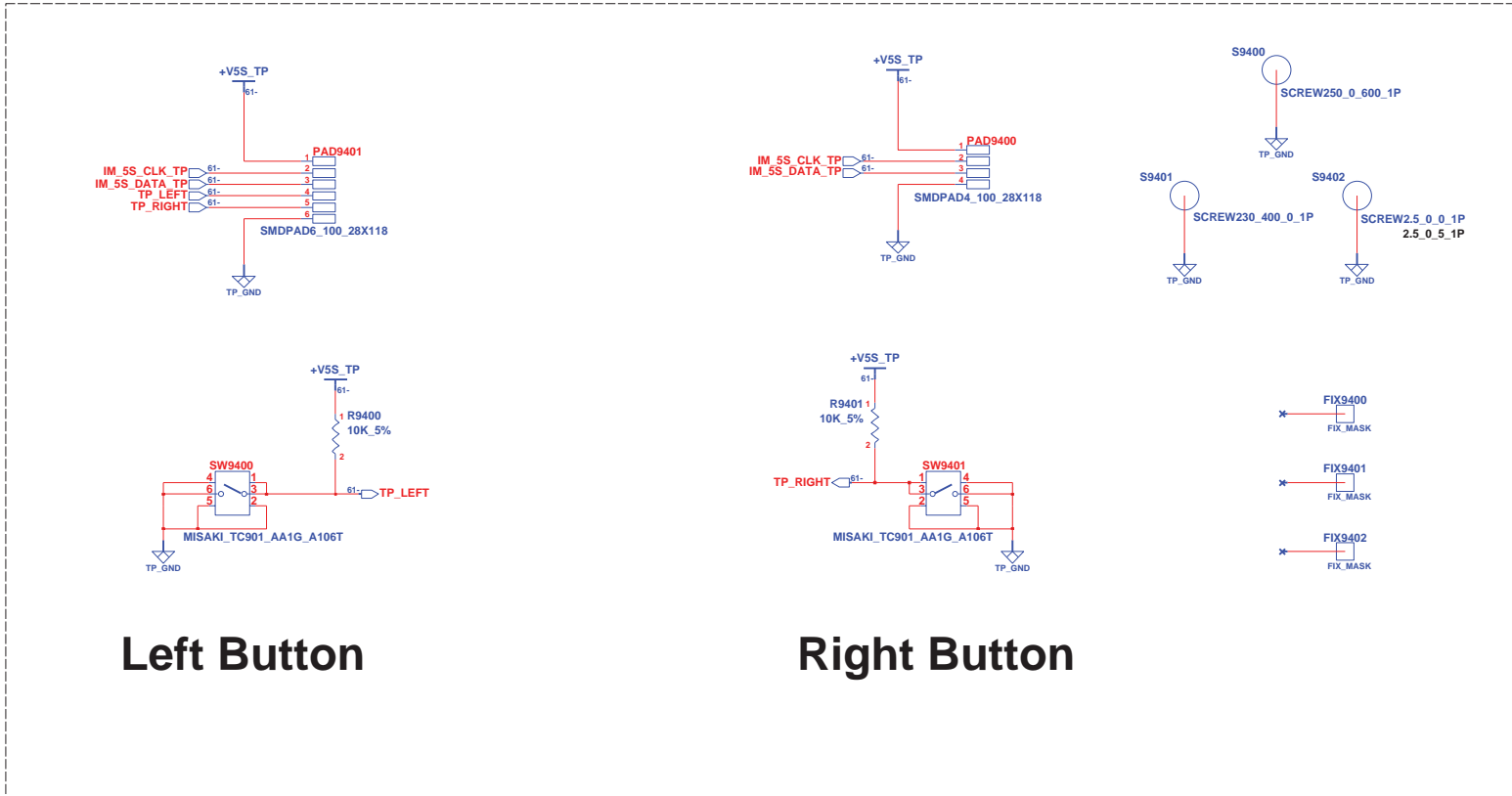


# USB Right Side Board

**INVENTEC**

TITLE			
VV10AD2-Valima			
USB Right side board			
SIZE	CODE	DOC NUMBER	REV
A3	CS	I310A23470-0-MTR	AXI
SHEET		60	OF 62

CHANGE by *Drawer Name* 19-Jan-2010



Left Button

Right Button

# PICK Button Board

<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b>			
Pick Button board			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC NUMBER <b>I310A23470-0-MTR</b>	REV <b>AXI</b>
CHANGE by <i>Drawer Name</i>		13-Jan-2010	SHEET 61 OF 62

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

**BLANK**

**15" SATA HDD Extend Board**

<b>INVENTEC</b>			
TITLE <b>VV10AD2-Valima</b> <b>15" HDD/B</b>			
SIZE <b>A3</b>	CODE <b>CS</b>	DOC NUMBER <b>15" HDD Extend/B</b>	REV <b>AX1</b>
CHANGE by <b>VV10A2</b>		5-Mar-2010	
SHEET		62	OF 62
		8	