

# VULCAIN UMA PV Build

2009.02.23

DATE	CHANGE NO.	REV

DRAWER	EE	DATE	POWER	DATE	<b>INVENTEC</b> TITLE <b>VV UMA SATA</b>
DESIGN					
CHECK					
RESPONSIBLE					
SIZE =	3	VER :			SIZE <b>D</b> CODE <b>CS</b> DOC. NUMBER <b>1310A22163-0-MTR</b> REV <b>A01</b>
FILE NAME :	XXXX-XXXXXX-XX				SHEET <b>1</b> OF <b>50</b>
P/N	XXXXXXXXXXXX				

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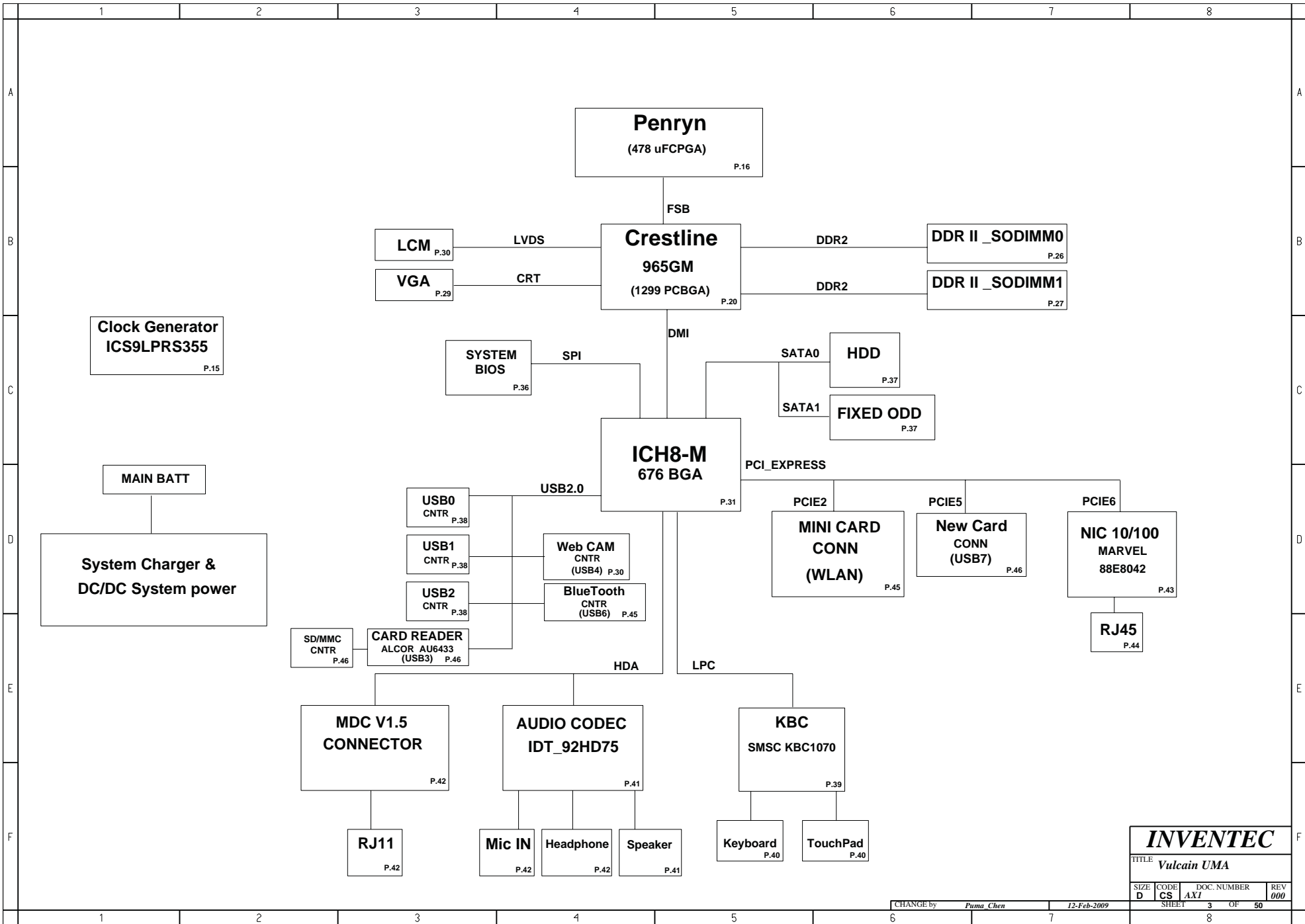
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**INVENTEC**

TITLE  
*Vulcain UMA*

SIZE	CODE	DOC. NUMBER	REV
<b>D</b>	<b>CS</b>	<i>AXI</i>	<i>000</i>
SHEET		2 OF	50

CHANGE by *Puna Chen* 26-Dec-2008

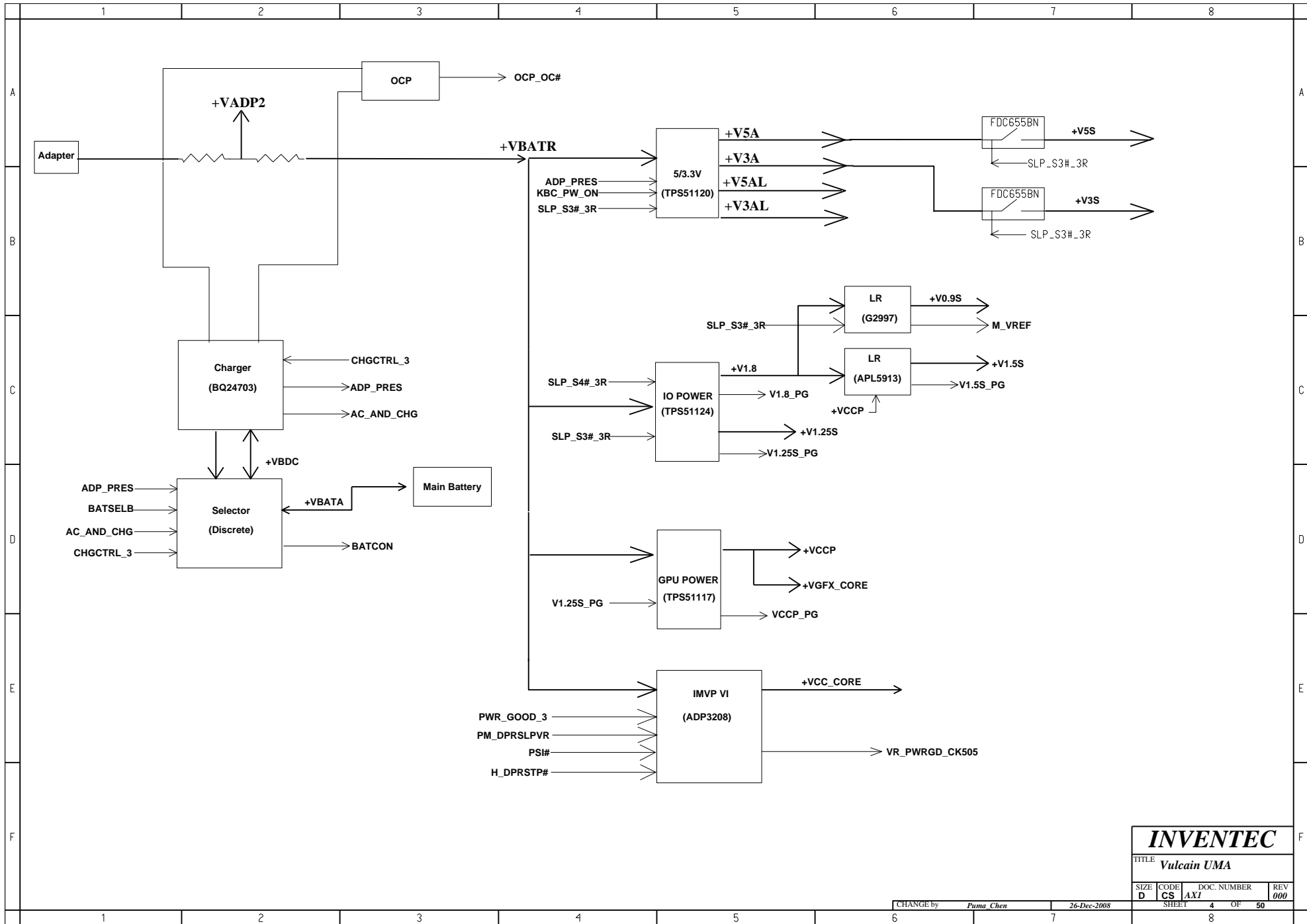


**INVENTEC**

TITLE **Vulcain UMA**

SIZE	CODE	DOC. NUMBER	REV
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SHEET		3 OF	50

CHANGE by *Puna Chen* 12-Feb-2009

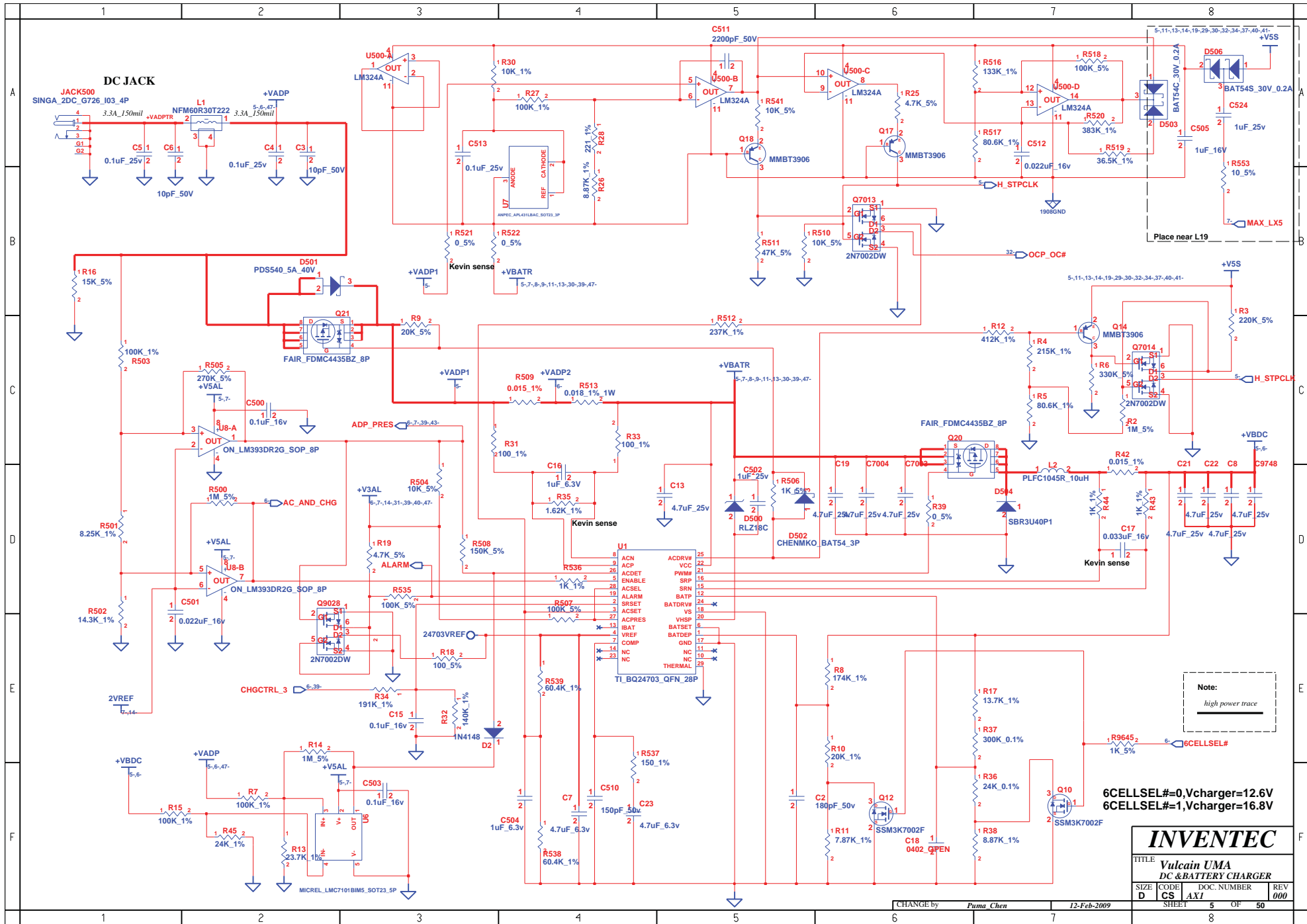


**INVENTEC**

TITLE  
Vulcain UMA

SIZE D	CODE CS	DOC. NUMBER AXI	REV 000
SHEET		4 OF	50

CHANGE by Puma Chen 26-Dec-2008



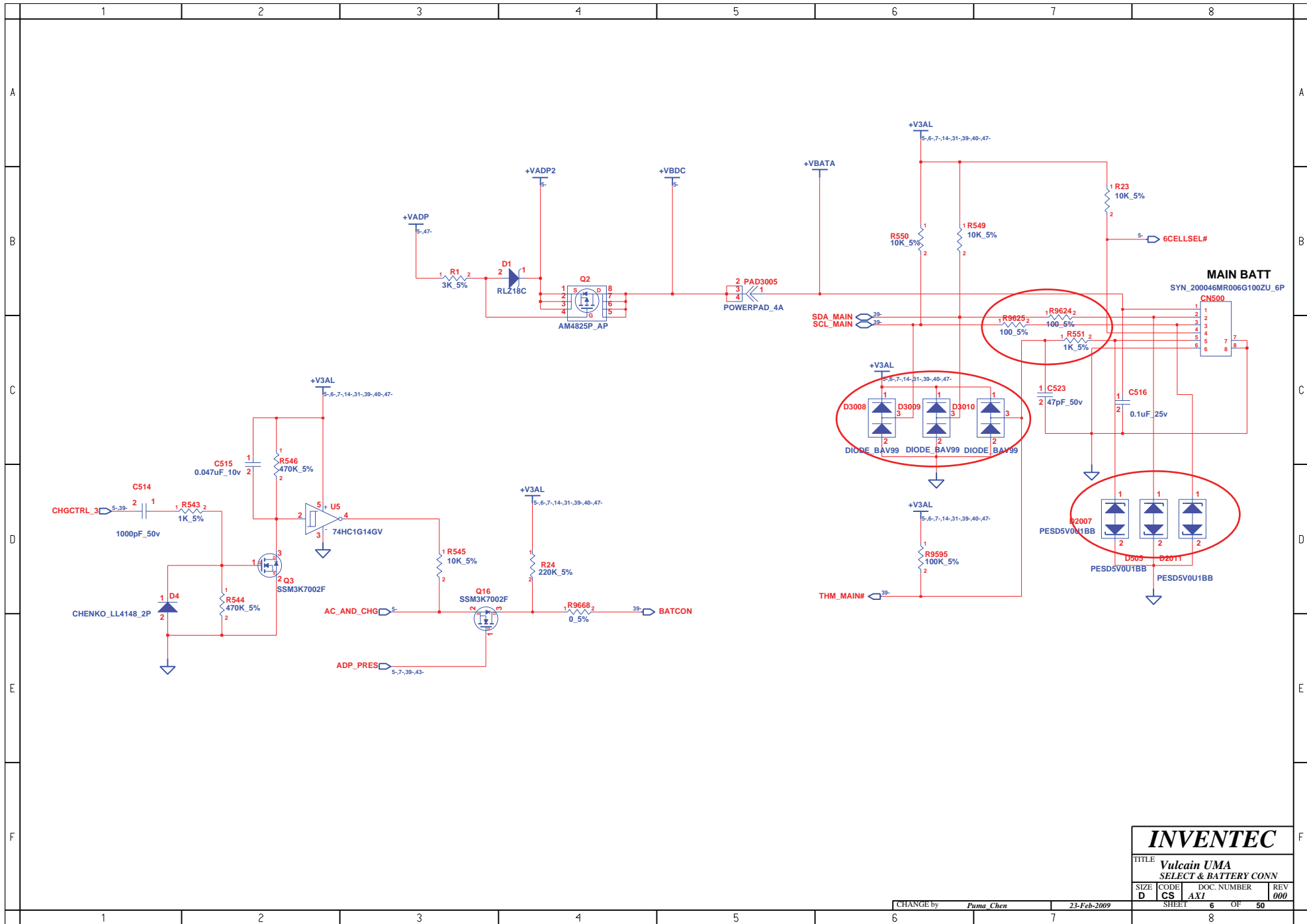
Note:  
high power trace

6CELLSEL#=0, Vcharger=12.6V  
6CELLSEL#=1, Vcharger=16.8V

**INVENTEC**

TITLE Vulcain UMA DC & BATTERY CHARGER			
SIZE D	CODE CS	DOC NUMBER AX1	REV 000

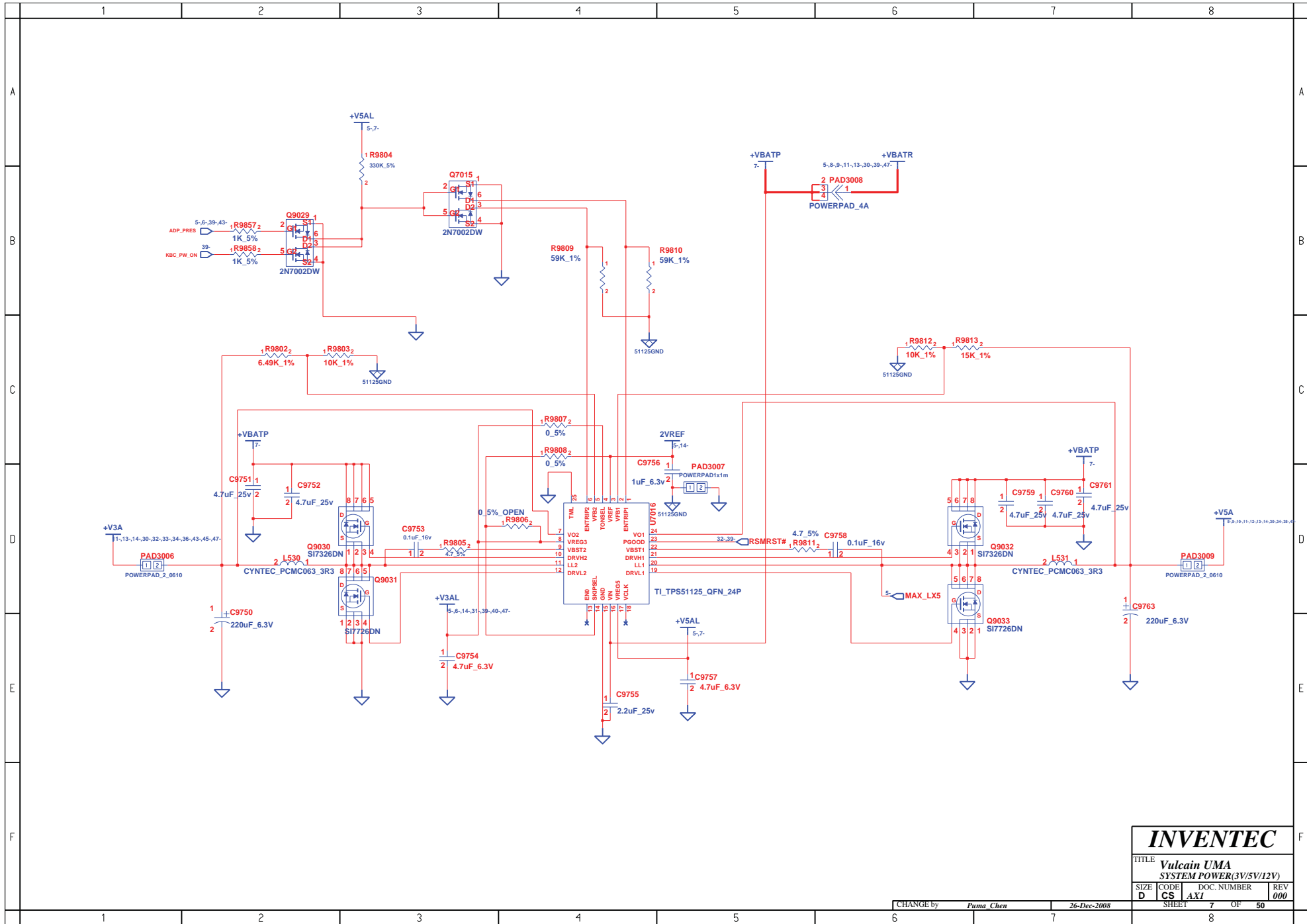
CHANGE by Puma Chen 12-Feb-2009



**INVENTEC**

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Vulcain UMA SELECT & BATTERY CONN			
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D	CS	AXI	000

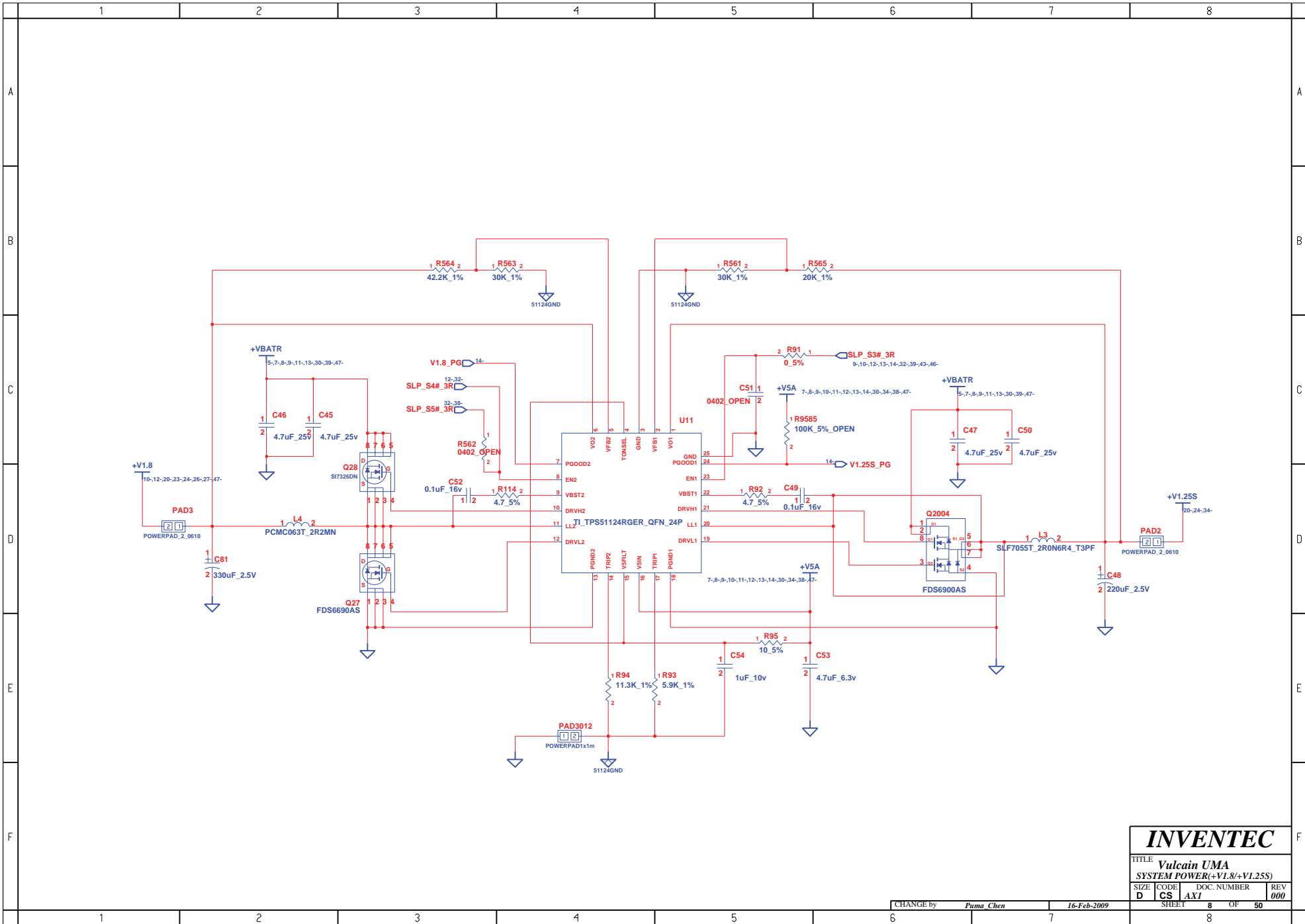
CHANGE by	Puma Chen	23-Feb-2009	SHEET	6	OF	50
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# INVENTEC

TITLE  
**Vulcain UMA**  
**SYSTEM POWER(3V/5V/12V)**

SIZE <b>D</b>	CODE <b>CS</b>	DOC NUMBER <b>AX1</b>	REV <b>000</b>
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# INVENTEC

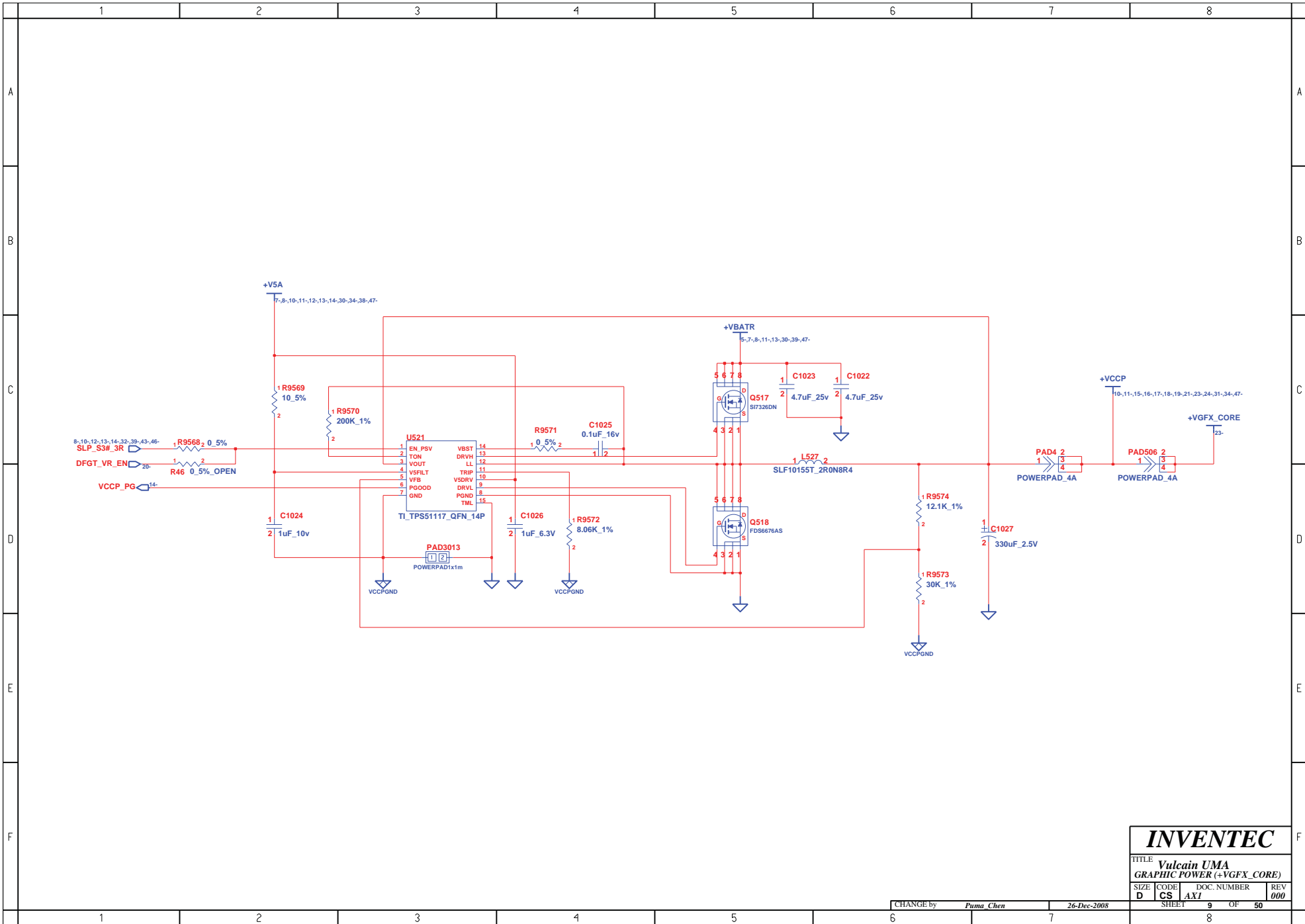
TITLE **Vulcain UMA**  
**SYSTEM POWER(+V1.8/+V1.25S)**

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D	CS	AXI	000

CHANGE by *Puma Chen* 16-Feb-2009

SHEET 8 OF 50



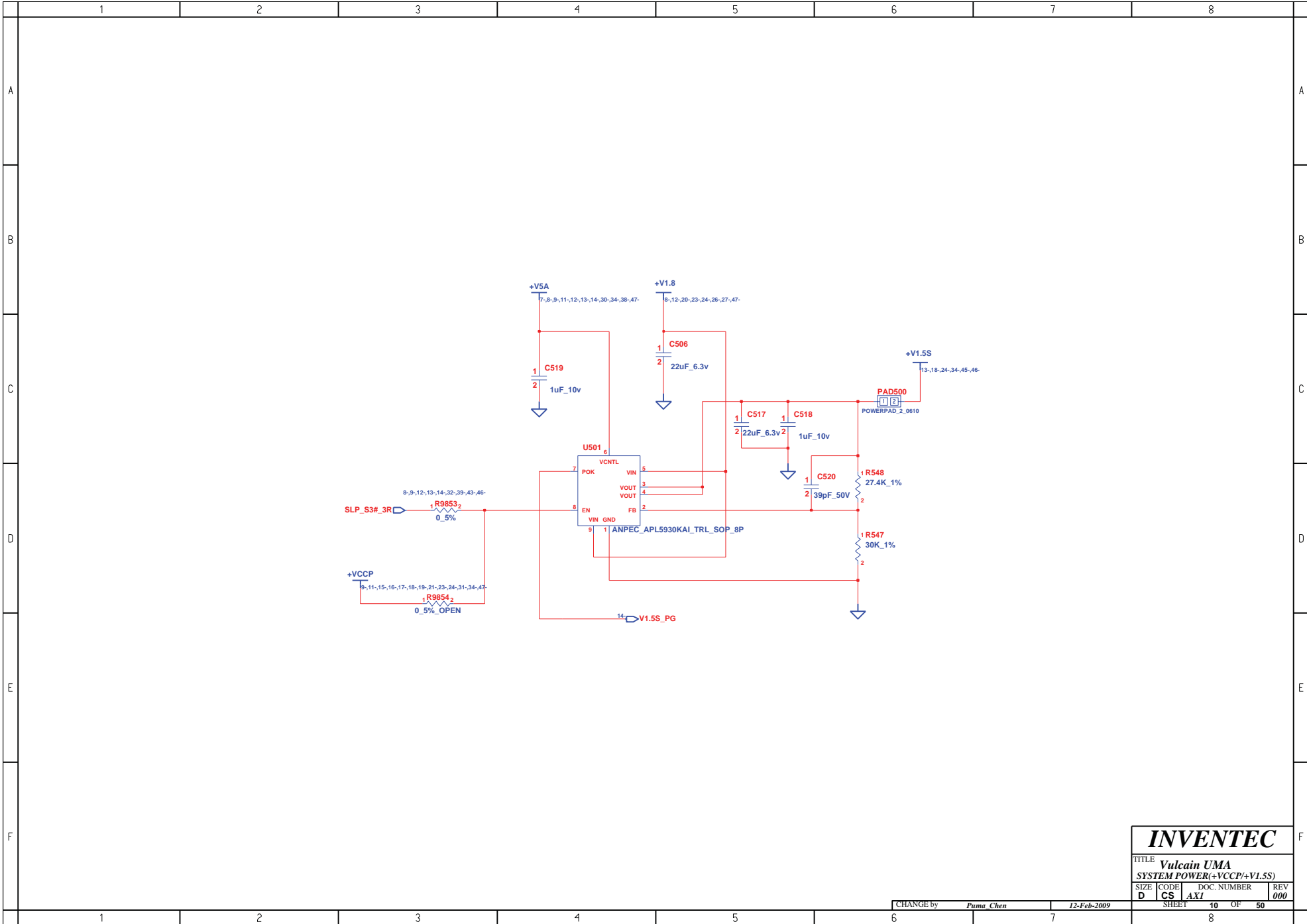


# INVENTEC

TITLE **Vulcain UMA**  
**GRAPHIC POWER (+VGFX\_CORE)**

SIZE	CODE	DOC. NUMBER	REV
D	CS	AXI	000

CHANGE by	Puma Chen	26-Dec-2008	SHEET 9 OF 50
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**INVENTEC**

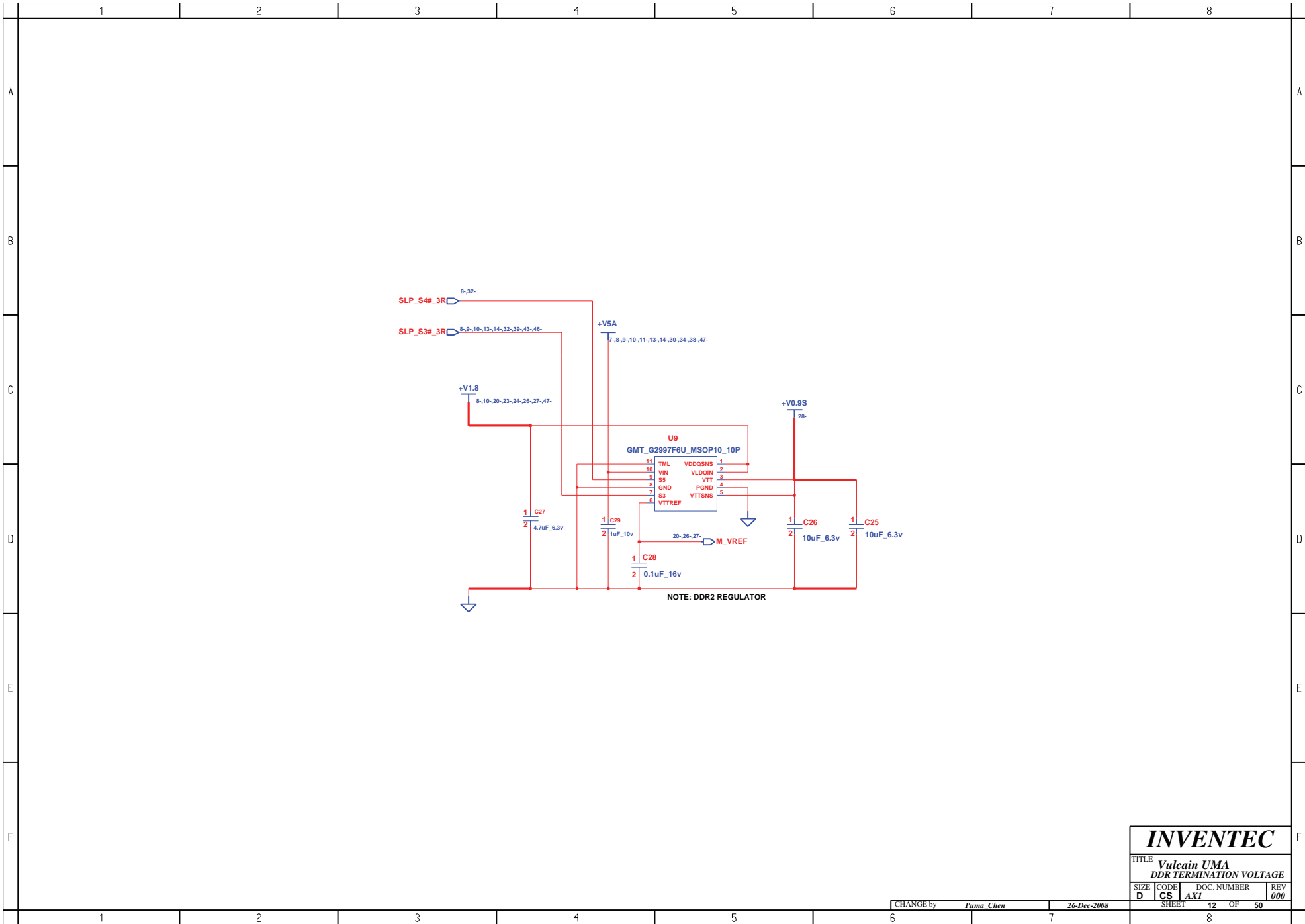
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**SYSTEM POWER(+VCCP/+V1.5S)**

SIZE	CODE	DOC. NUMBER	REV
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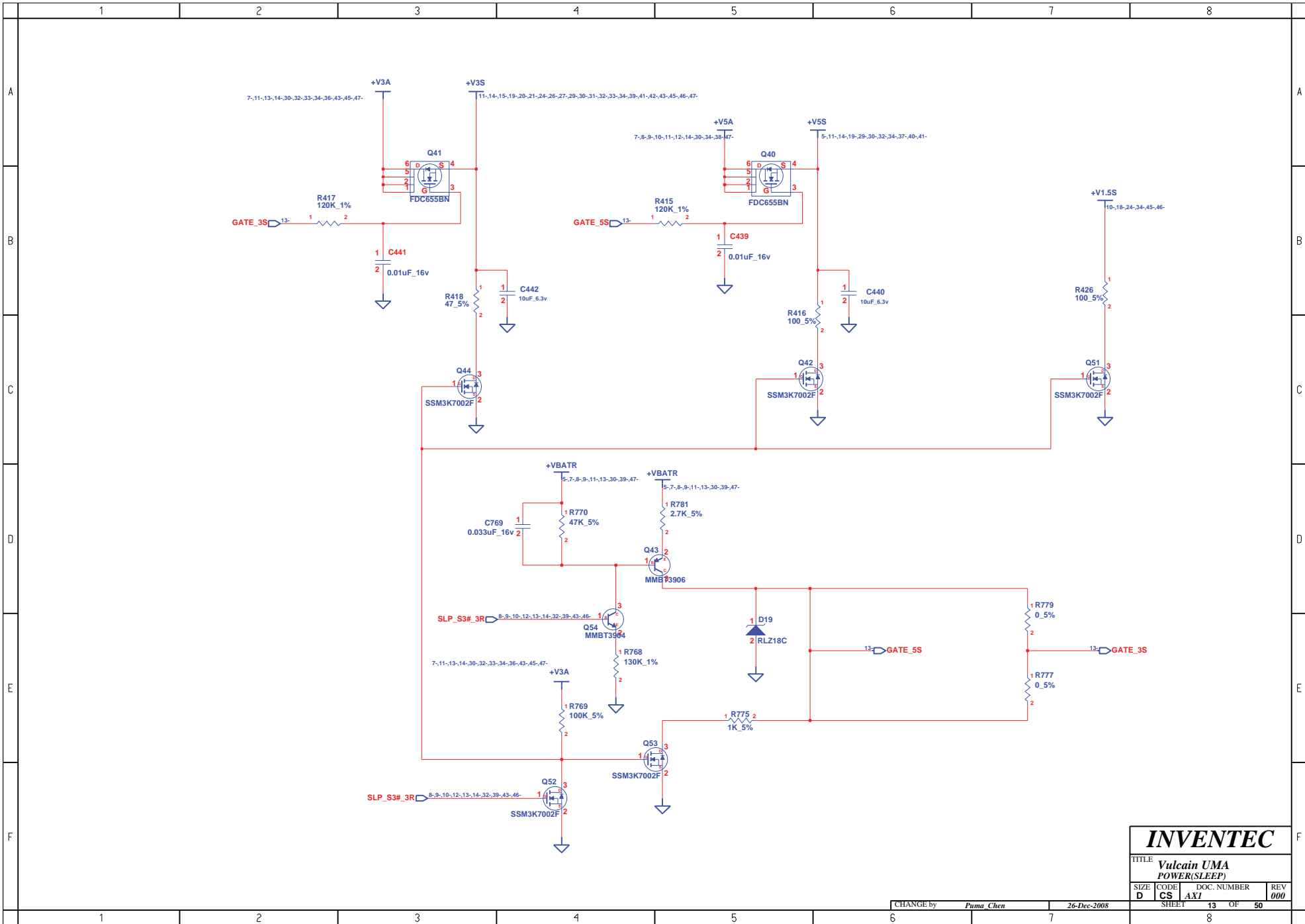
CHANGE by *Puma Chen* 12-Feb-2009

SHEET	10	OF	50
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<b>INVENTEC</b>			
TITLE <b>Vulcain UMA</b> <b>DDR TERMINATION VOLTAGE</b>			
SIZE	CODE	DOC. NUMBER	REV
D	CS	AXI	000
CHANGE by <i>Puma Chen</i>		26-Dec-2008	
SHEET		12 OF	50
		8	



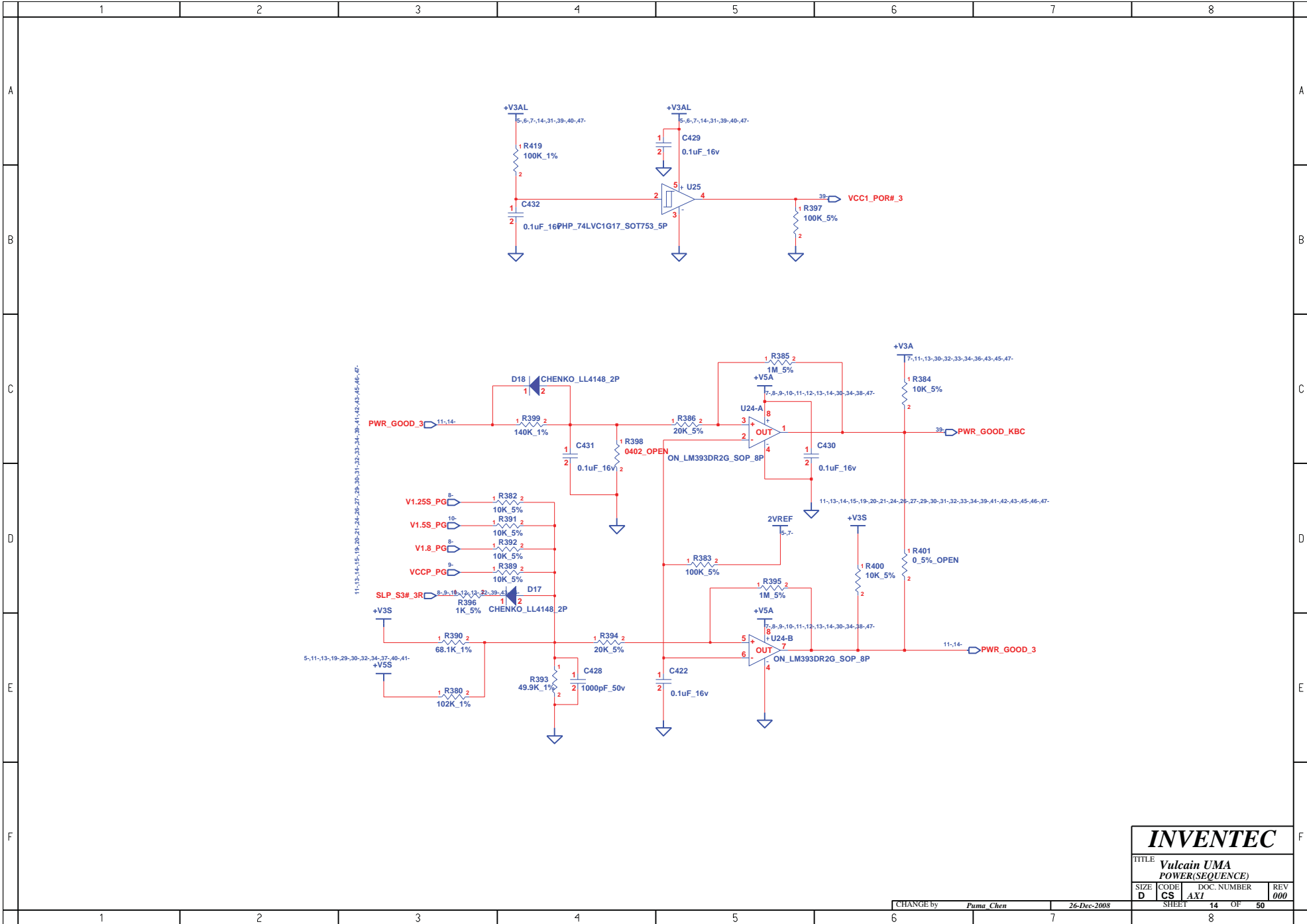
**INVENTEC**

TITLE  
**Vulcain UMA  
 POWER(SLEEP)**

SIZE <b>D</b>	CODE <b>CS</b>	DOC. NUMBER <b>AXI</b>	REV <b>000</b>
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CHANGE by *Puma Chen* 26-Dec-2008

SHEET 13 OF 50

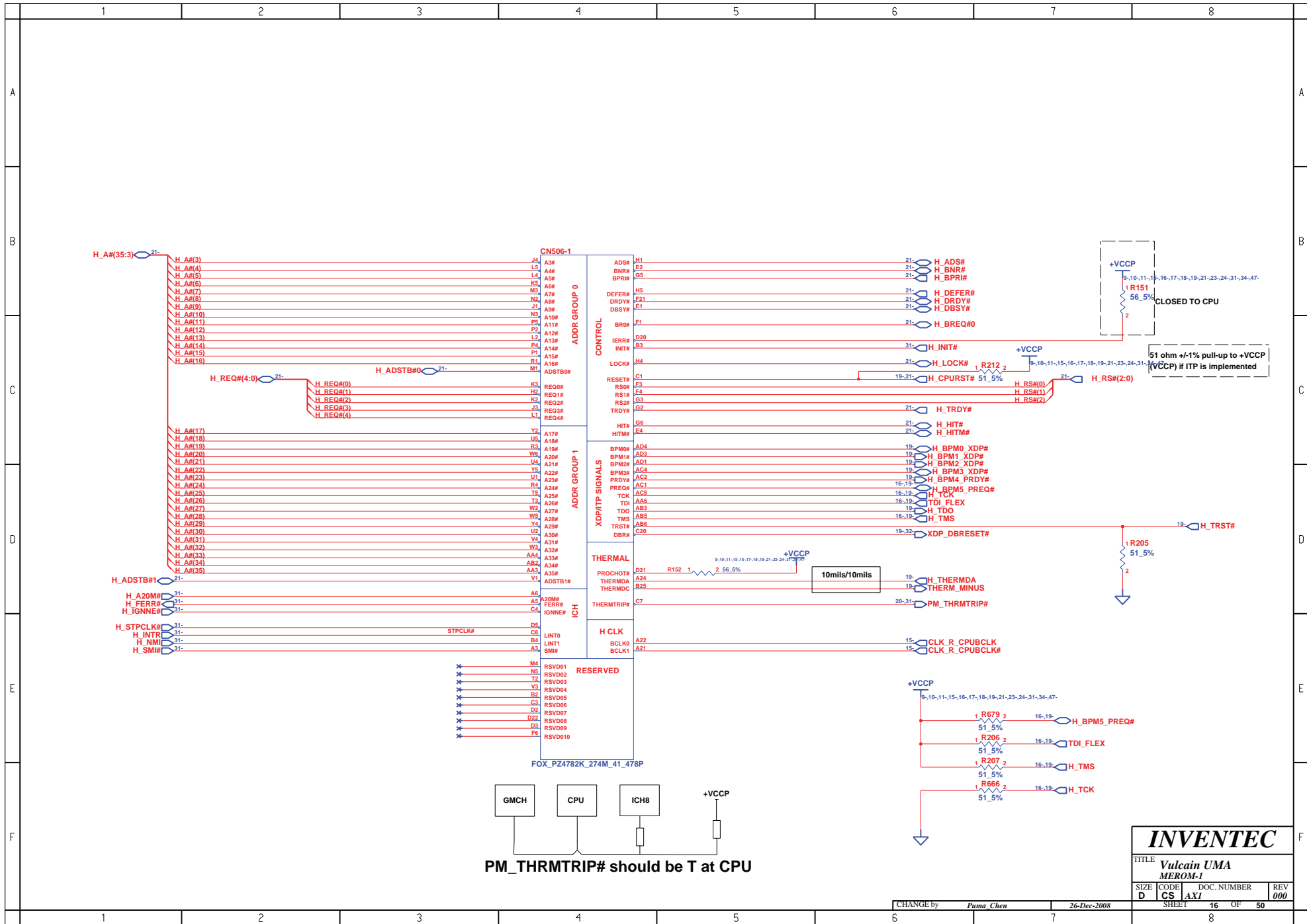


**INVENTEC**

TITLE			
Vulcain UMA POWER(SEQUENCE)			
SIZE	CODE	DOC. NUMBER	REV
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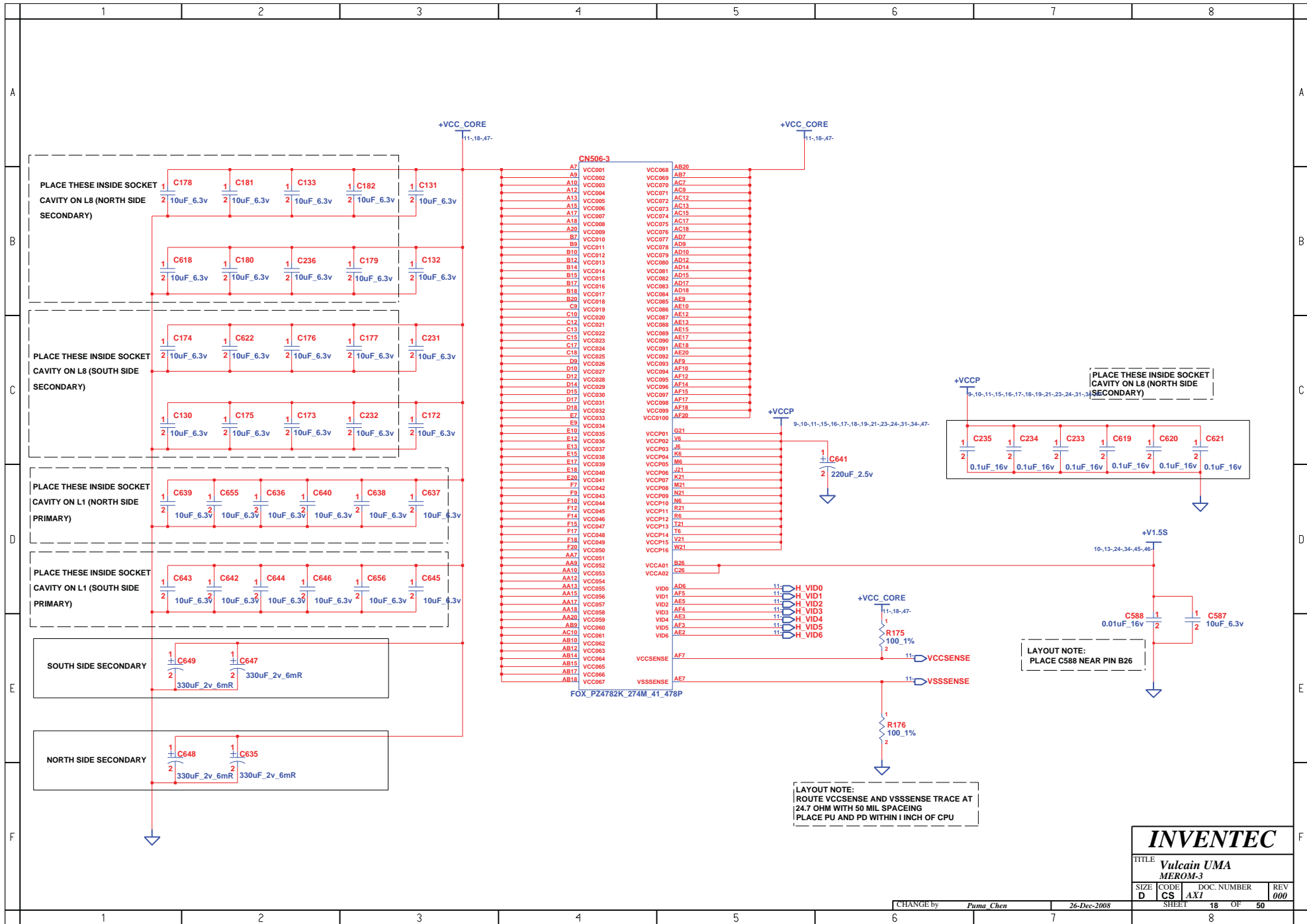
CHANGE by	Puma Chen	26-Dec-2008	SHEET	14	OF	50
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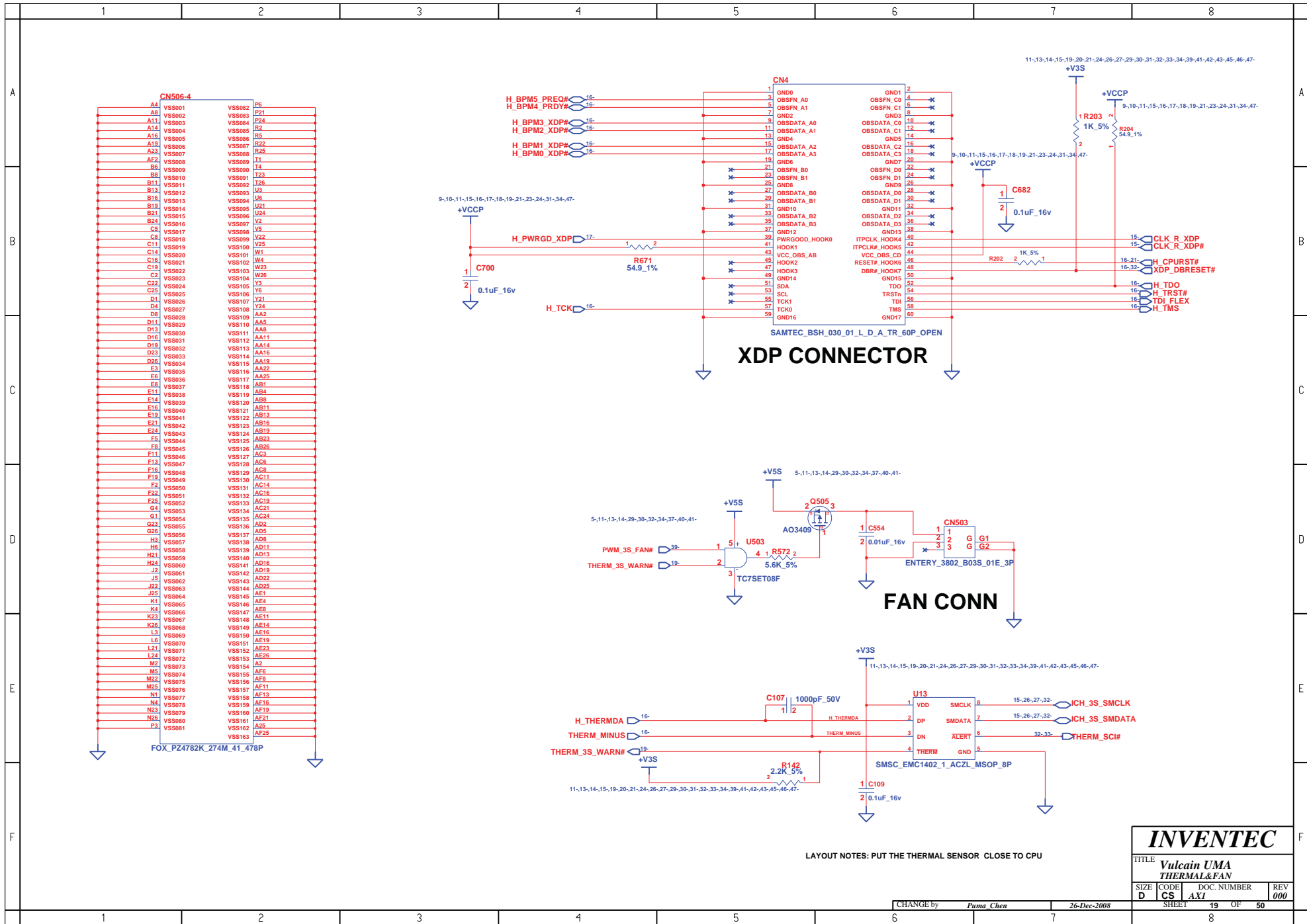




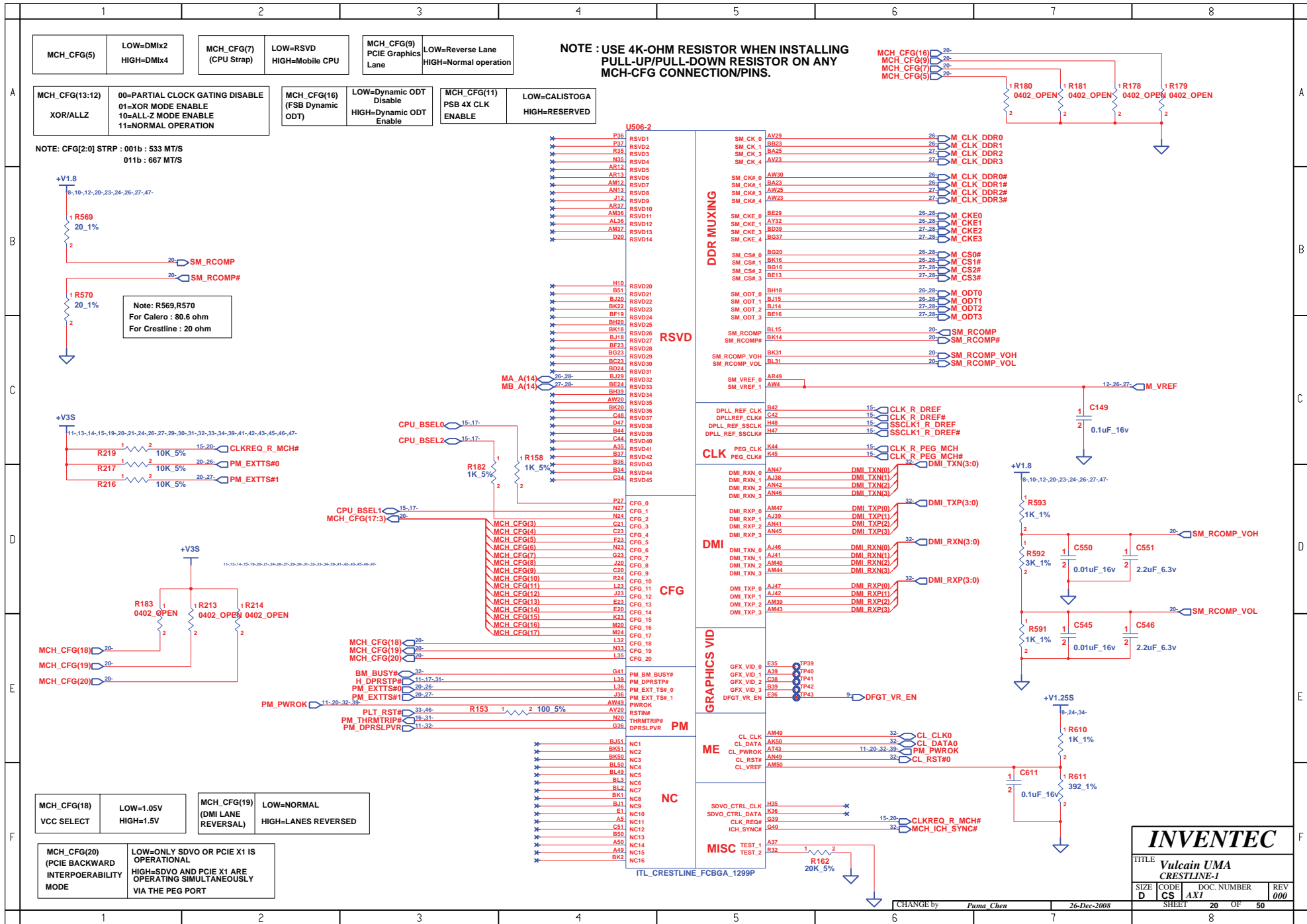
# INVENTEC

TITLE			
Vulcain UMA			
MEROM-3			
SIZE	CODE	DOC NUMBER	REV
D	CS	AXI	18 OF 50
SHEET		18	OF 50

CHANGE by Puma Chen 26-Dec-2008



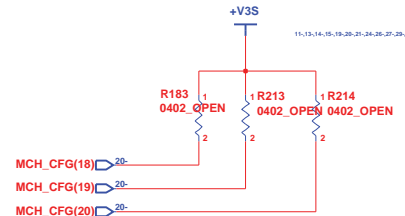
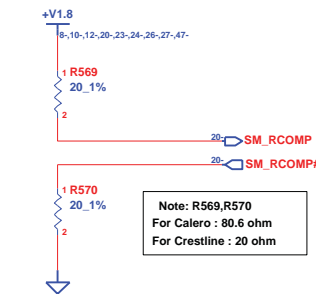
<b>INVENTEC</b>			
TITLE <b>Vulcain UMA THERMAL&amp;FAN</b>			
SIZE <b>D</b>	CODE <b>CS</b>	DOC NUMBER <b>AXI</b>	REV <b>000</b>
CHANGE by <i>Puma Chen</i>		26-Dec-2008	
SHEET 19		OF 50	



MCH_CFG(5)	LOW=DMiX2 HIGH=DMiX4	MCH_CFG(7) (CPU Strap)	LOW=RSVD HIGH=Mobile CPU	MCH_CFG(9) PCIe Graphics Lane	LOW=Reverse Lane HIGH=Normal operation
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MCH_CFG(13:12) XOR/ALLZ	00=PARTIAL CLOCK GATING DISABLE 01=XOR MODE ENABLE 10=ALL-Z MODE ENABLE 11=NORMAL OPERATION	MCH_CFG(16) (FSB Dynamic ODT)	LOW=Dynamic ODT Disable HIGH=Dynamic ODT Enable	MCH_CFG(11) PSB 4X CLK ENABLE	LOW=RESERVED HIGH=RESERVED
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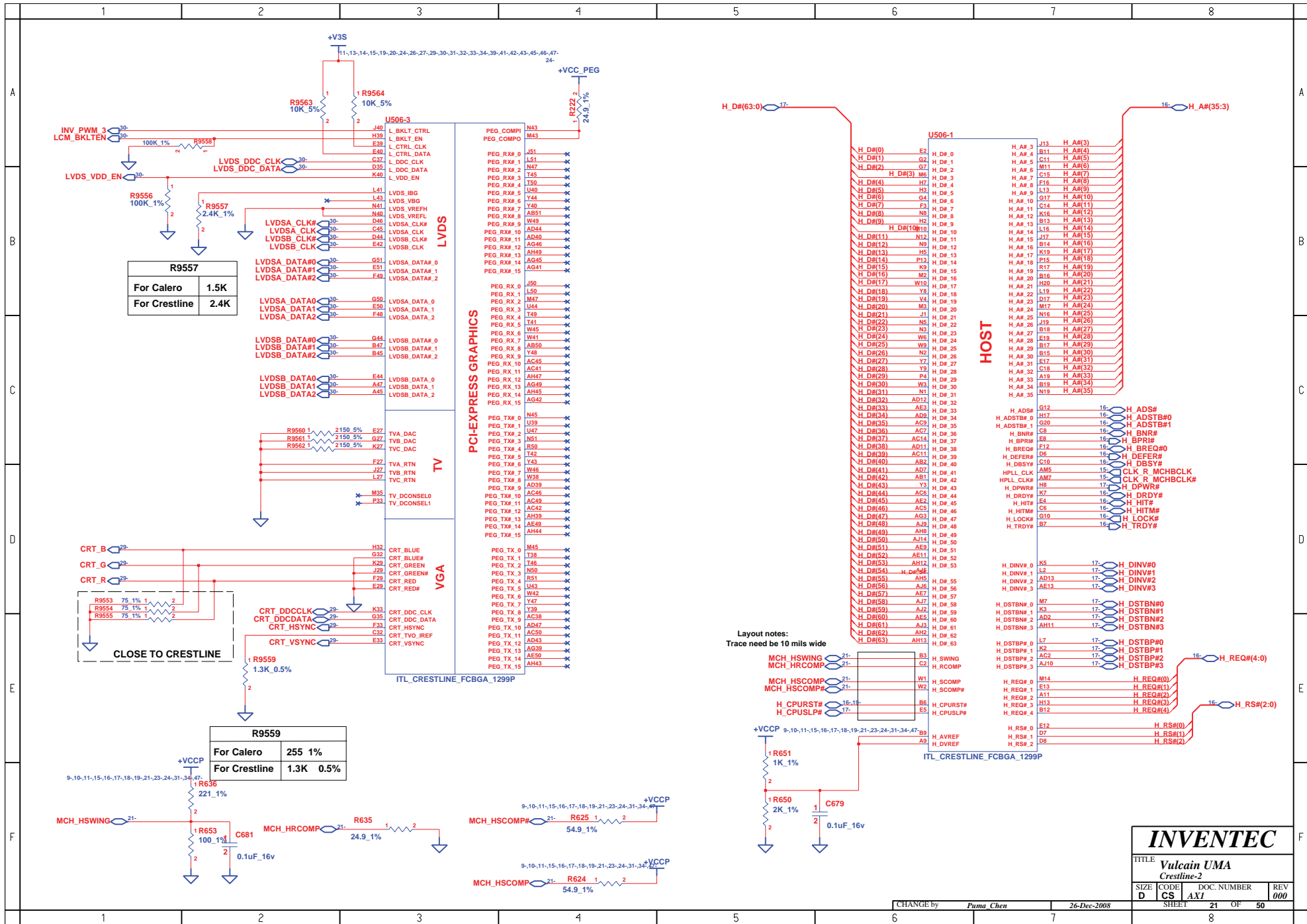
NOTE: CFG[2:0] STRP : 001b : 533 MT/S  
011b : 667 MT/S



MCH_CFG(18) VCC SELECT	LOW=1.05V HIGH=1.5V	MCH_CFG(19) (DMI LANE REVERSAL)	LOW=NORMAL HIGH=LANES REVERSED
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MCH_CFG(20) (PCIe BACKWARD INTEROPERABILITY MODE)	LOW=ONLY SDVO OR PCIe X1 IS OPERATIONAL HIGH=SDVO AND PCIe X1 ARE OPERATING SIMULTANEOUSLY VIA THE PEG PORT
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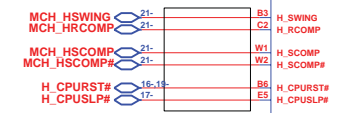
<b>INVENTEC</b>			
TITLE Vulcain UMA CRESTLINE-1			
SIZE D	CODE CS	DOC NUMBER AX1	REV 000
SHEET 20		OF 50	



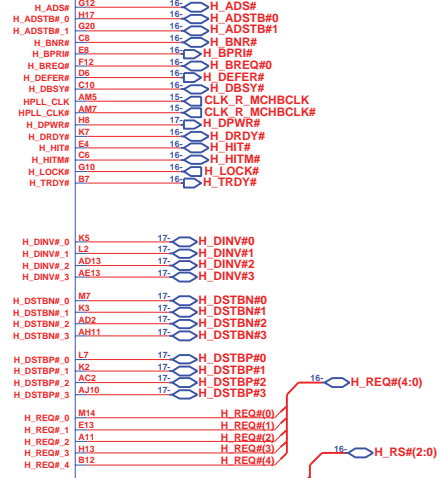
R9557	
For Calero	1.5K
For Crestline	2.4K

R9559	
For Calero	255 1%
For Crestline	1.3K 0.5%

Layout notes:  
Trace need be 10 mils wide

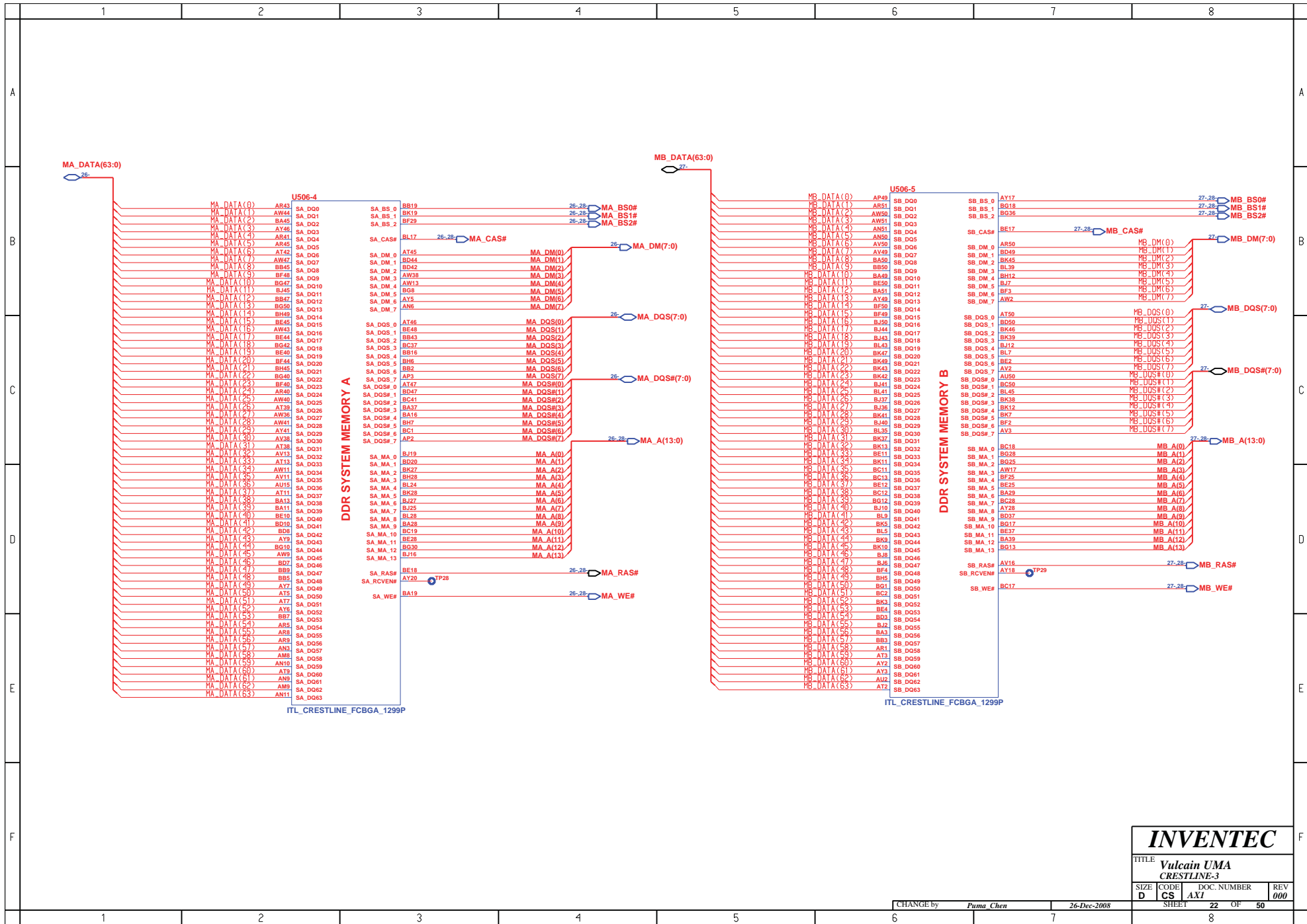


HOST



<b>INVENTEC</b>			
TITLE <b>Vulcain UMA</b>			
Crestline-2			
SIZE	CODE	DOC NUMBER	REV
D	CS	AX1	000
SHEET		21	OF 50

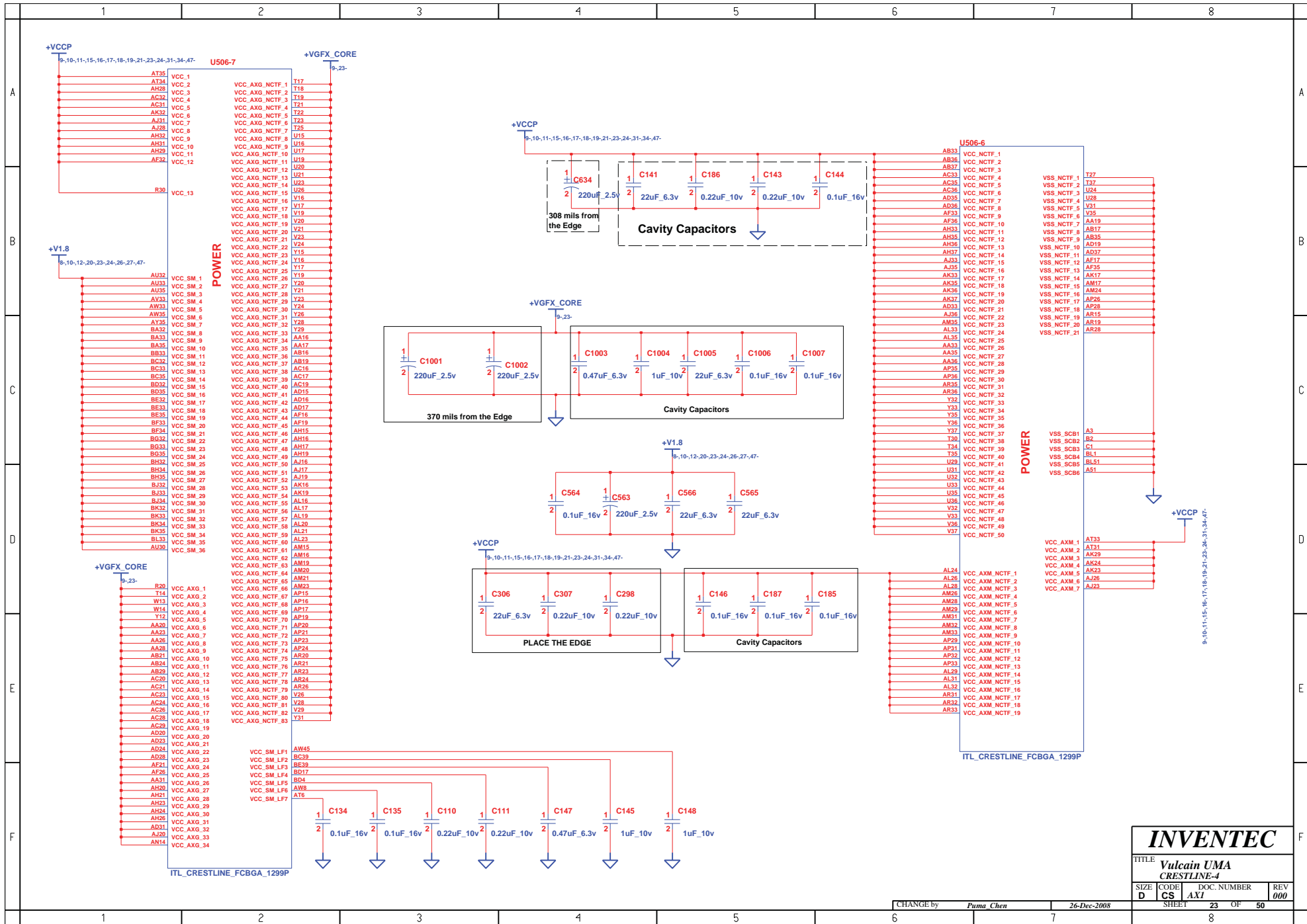
CHANGE by *Puma Chen* 26-Dec-2008



**INVENTEC**

TITLE  
**Vulcain UMA**  
**CRESTLINE-3**

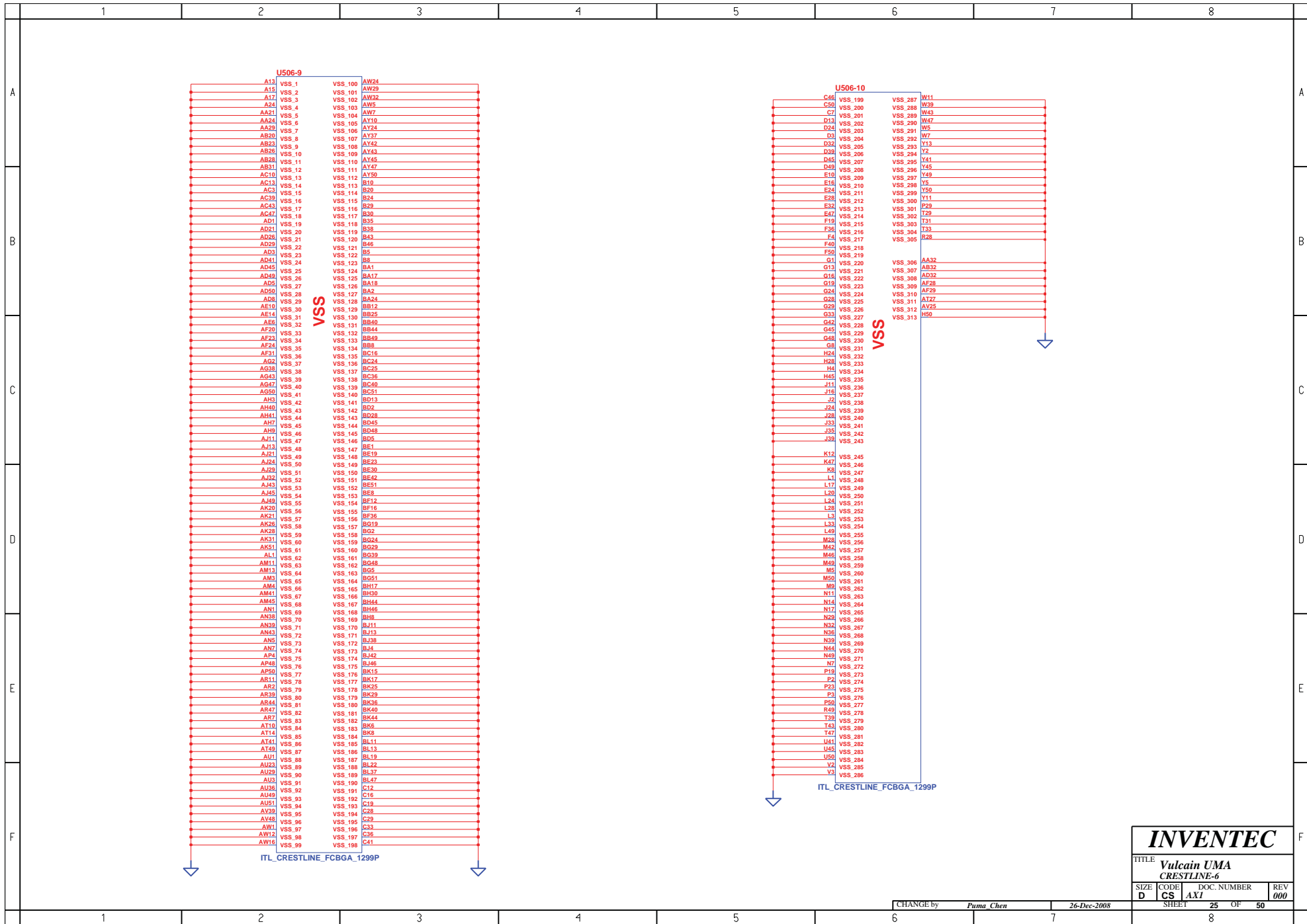
SIZE <b>D</b>	CODE <b>CS</b>	DOC. NUMBER <b>AX1</b>	REV <b>000</b>
CHANGE by <i>Puma Chen</i>		26-Dec-2008	
SHEET 22		OF 50	



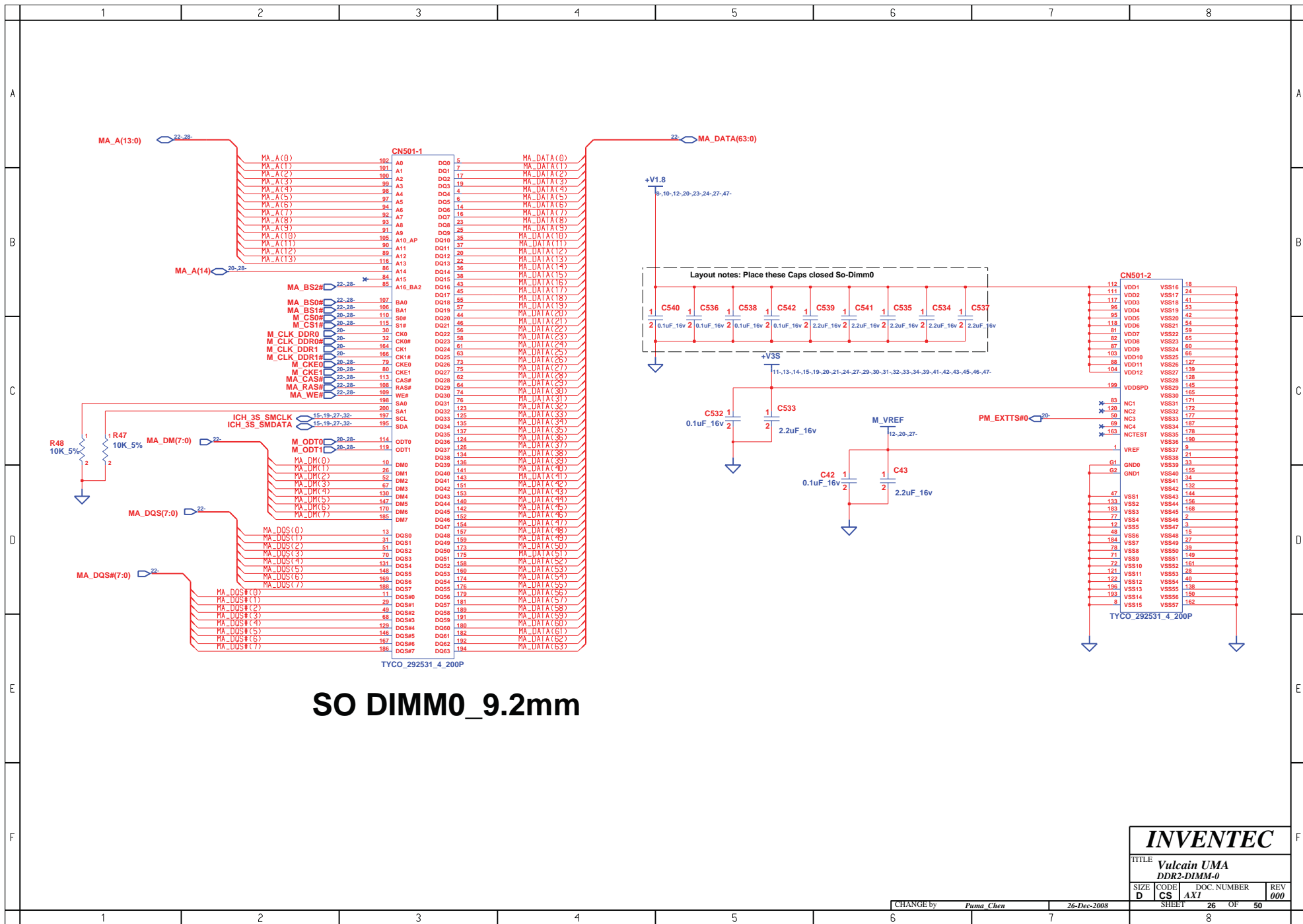
<b>INVENTEC</b>			
TITLE <b>Vulcain UMA CRESTLINE-4</b>			
SIZE <b>D</b>	CODE <b>CS</b>	DOC NUMBER <b>AX1</b>	REV <b>000</b>
CHANGE by <i>Puna Chen</i>		26-Dec-2008	
SHEET		23	OF 50







<b>INVENTEC</b>			
TITLE <b>Vulcain UMA</b> <b>CRESTLINE-6</b>			
SIZE <b>D</b>	CODE <b>CS</b>	DOC. NUMBER <b>AXI</b>	REV <b>000</b>
CHANGE by <i>Puma Chen</i>		26-Dec-2008	
SHEET 25		OF 50	



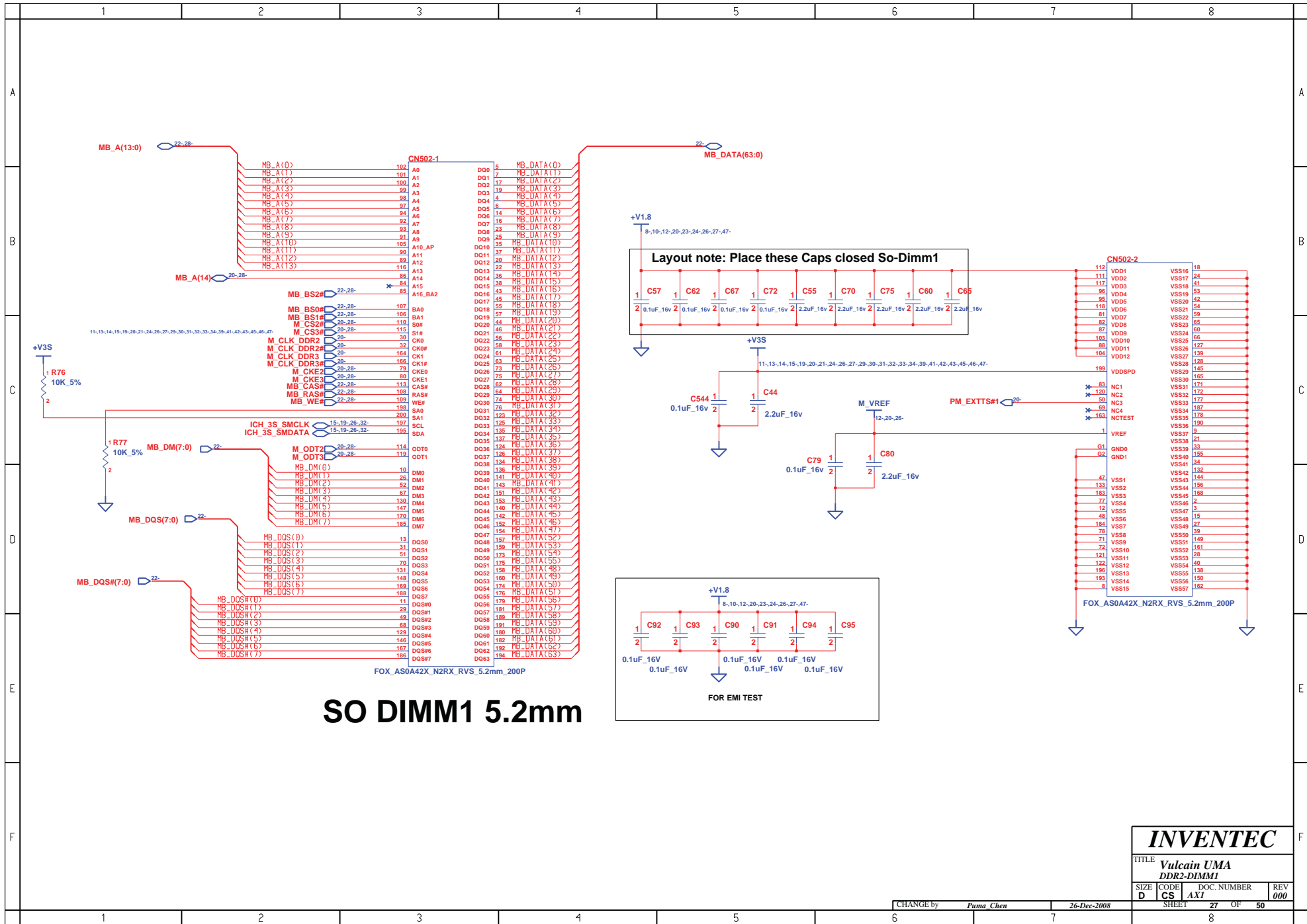
**INVENTEC**

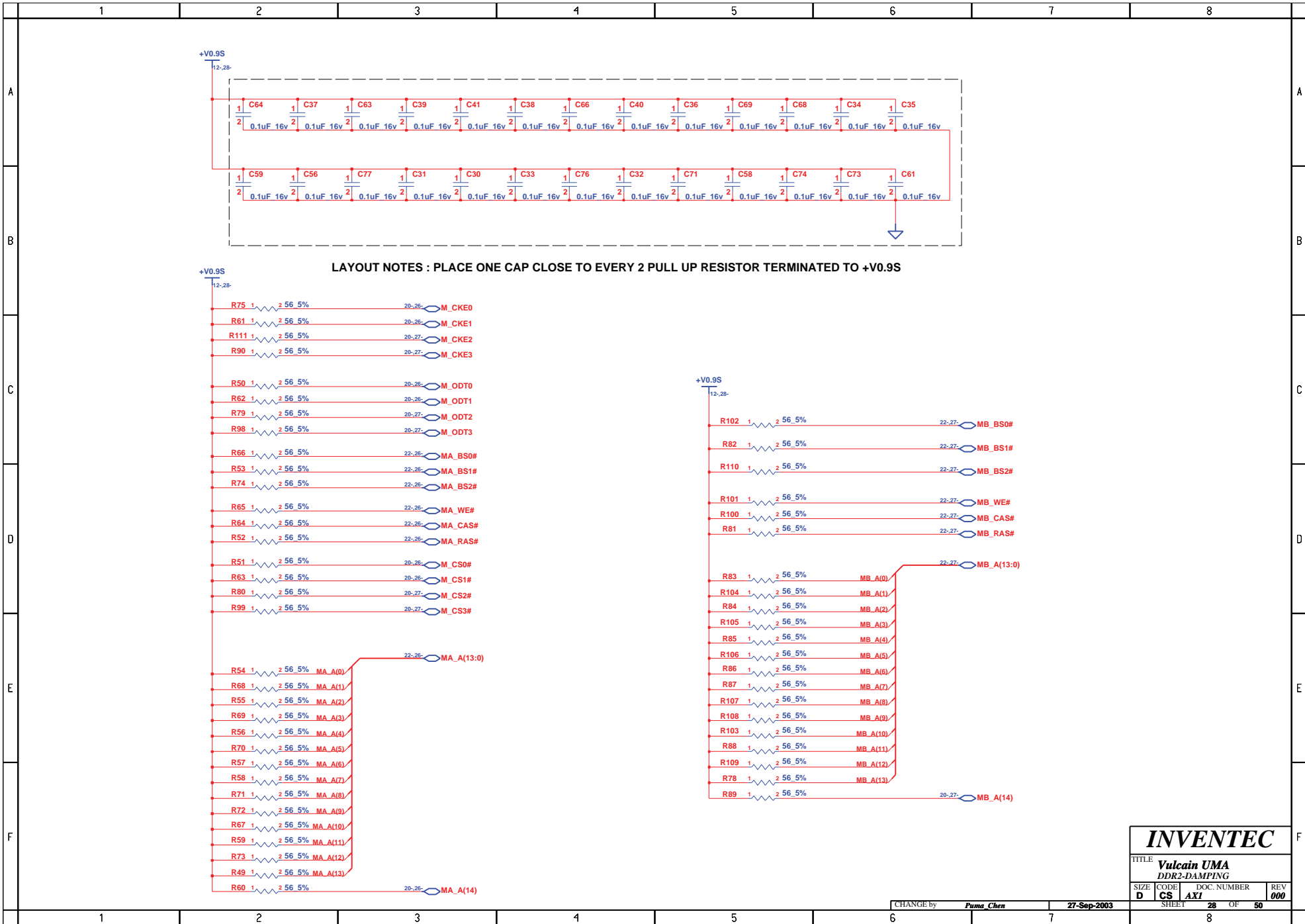
TITLE  
**Vulcain UMA**  
**DDR2-DIMM-0**

SIZE	CODE	DOC. NUMBER	REV
D	CS	AXI	000

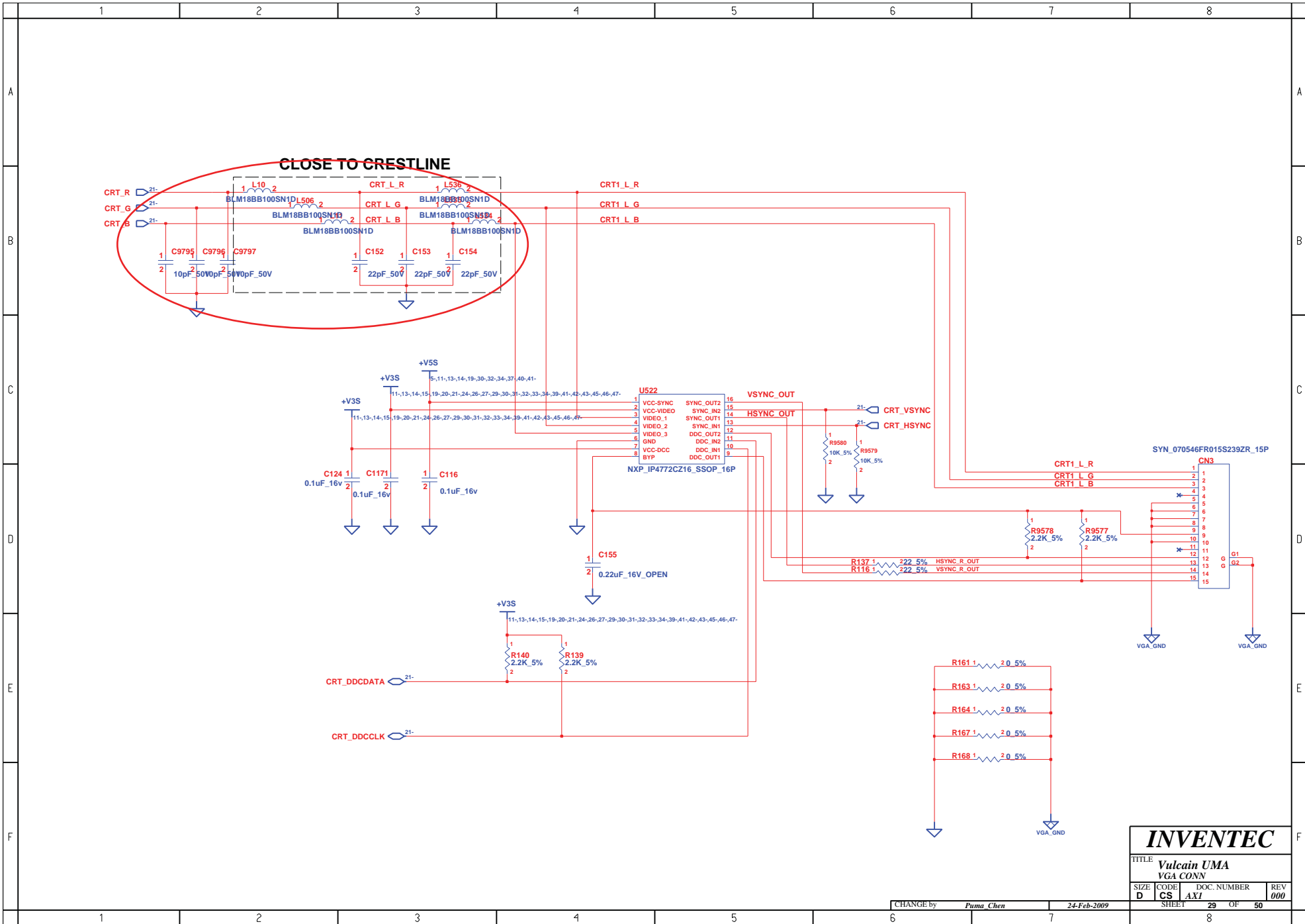
CHANGE by *Puma Chen*    26-Dec-2008

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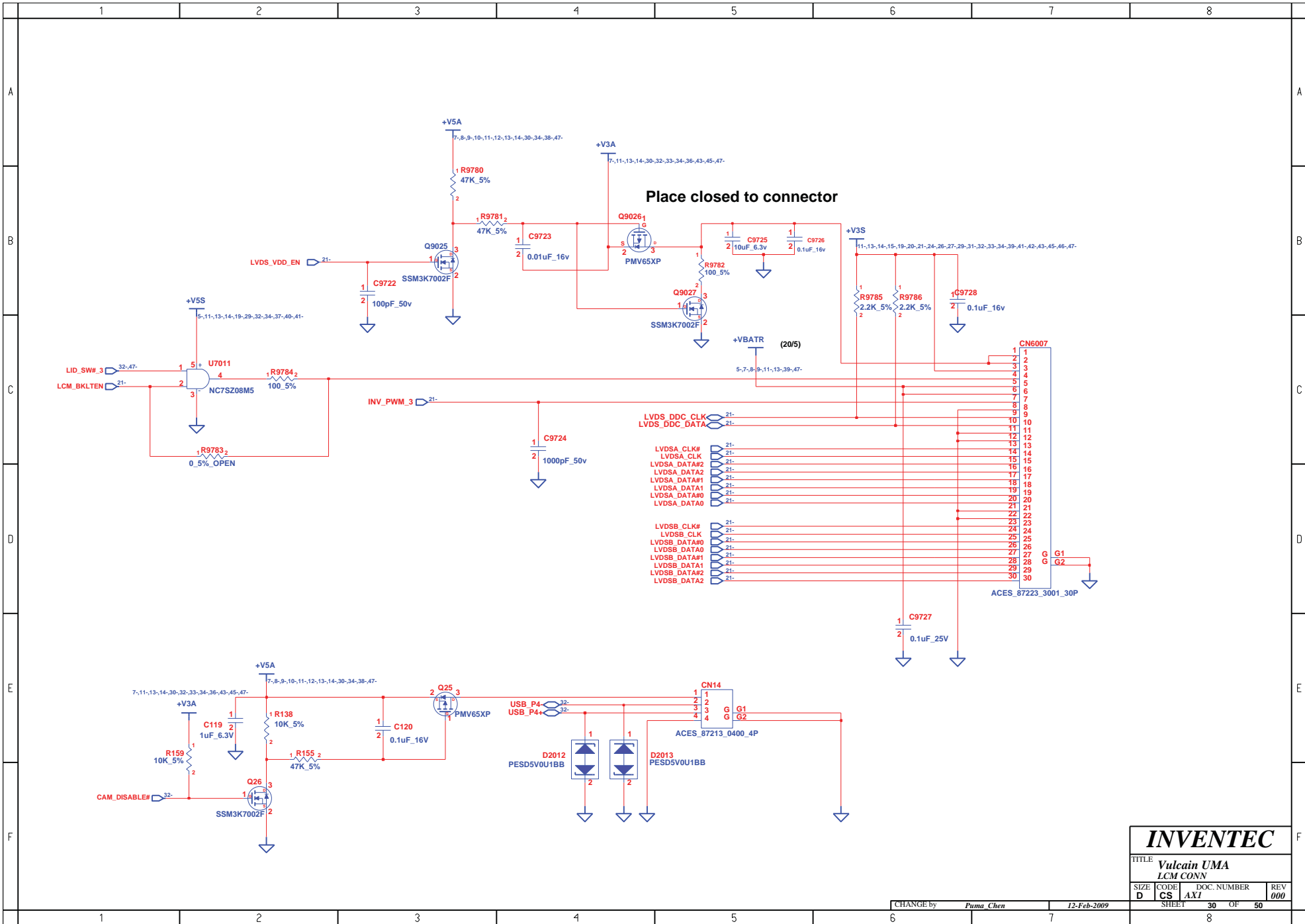




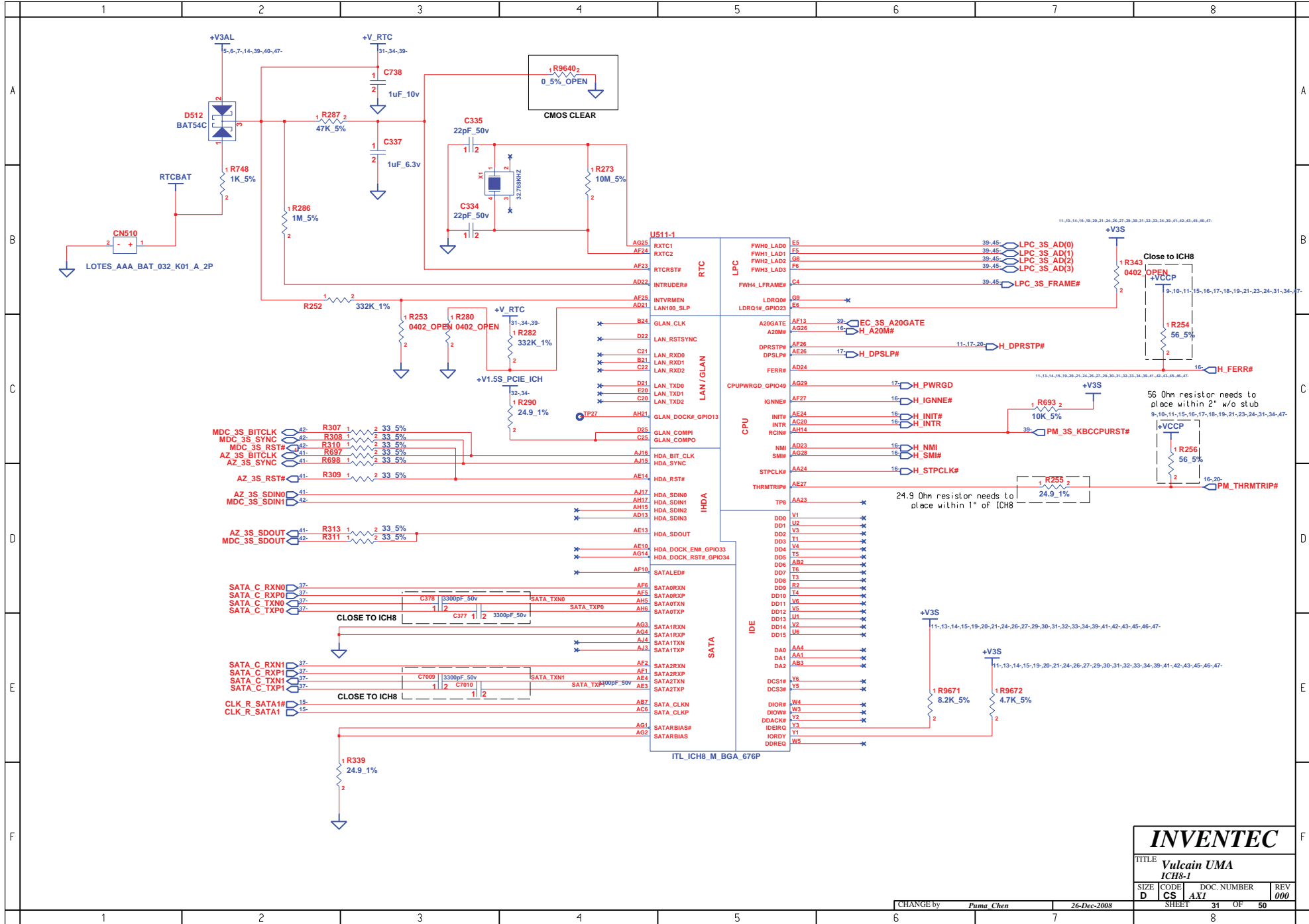
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TITLE <b>Vulcain UMA</b>			
DDR2-DAMPING			
SIZE	CODE	DOC. NUMBER	REV
D	CS	AXI	000
CHANGE by <b>Puma Chen</b>		27-Sep-2003	
SHEET		28	OF 50



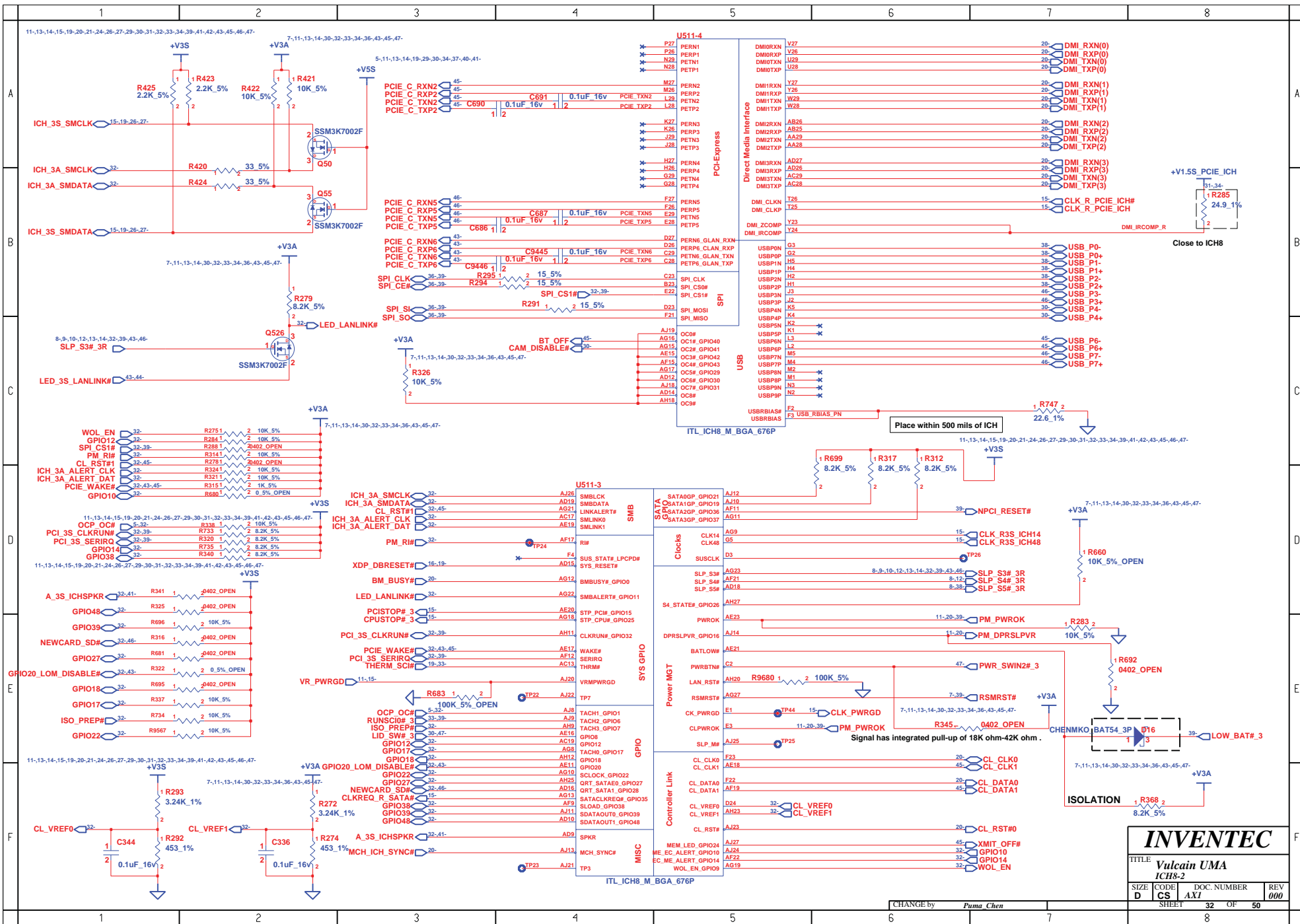
<b>INVENTEC</b>			
TITLE Vulcain UMA VGA CONN			
SIZE D	CODE CS	DOC NUMBER AX1	REV 000
CHANGE by Puma Chen		24-Feb-2009	
SHEET		29	OF 50



<b>INVENTEC</b>			
TITLE <b>Vulcain UMA</b> LCM CONN			
SIZE <b>D</b>	CODE <b>CS</b>	DOC. NUMBER <b>AXI</b>	REV <b>000</b>
CHANGE by <i>Puma Chen</i>		12-Feb-2009	
SHEET 30		OF 50	



<b>INVENTEC</b>			
TITLE <b>Vulcain UMA ICH8-1</b>			
SIZE <b>D</b>	CODE <b>CS</b>	DOC. NUMBER <b>AX1</b>	REV <b>000</b>
CHANGE by <b>Puna Chen</b>		26-Dec-2008	
SHEET <b>31</b>		OF <b>50</b>	

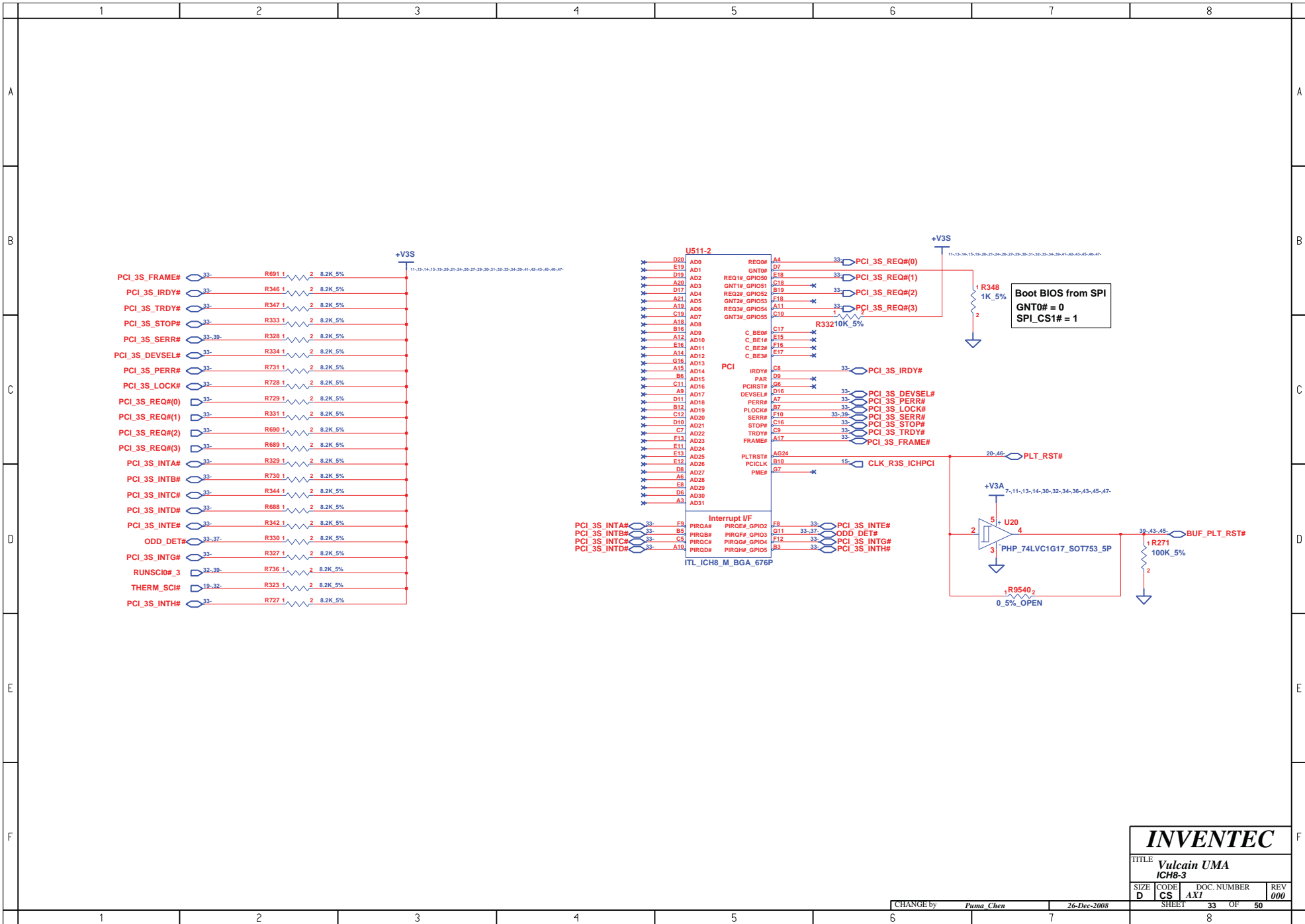


# INVENTEC

TITLE <b>Vulcain UMA</b>			
IC8-2			
SIZE	CODE	DOC NUMBER	REV
D	CS	AXI	000
SHEET		32	OF 50

CHANGE by *Puma Chen*





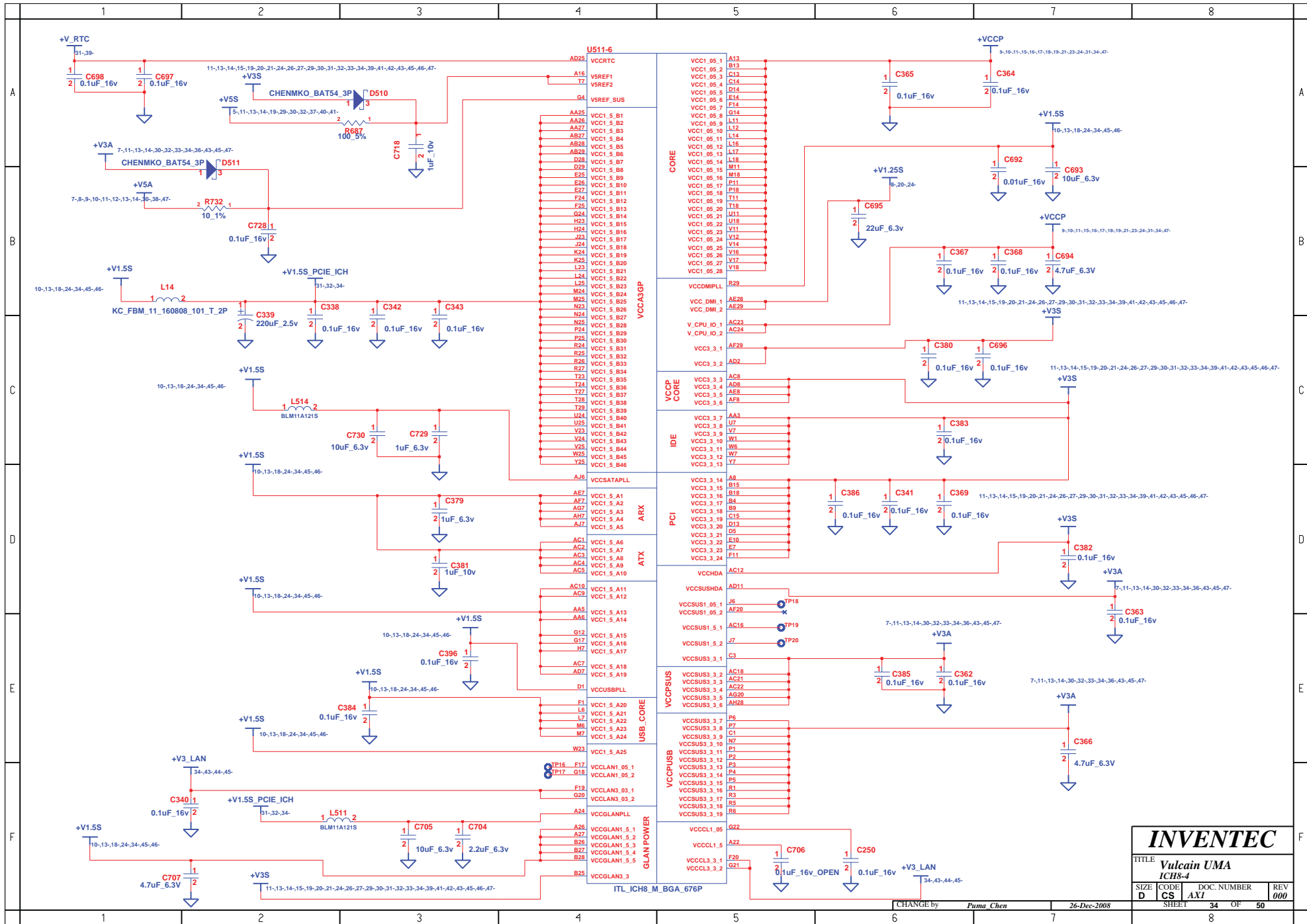
# INVENTEC

TITLE **Vulcain UMA ICH8-3**

SIZE	CODE	DOC. NUMBER	REV
D	CS	AXI	000

CHANGE by *Puma Chen* 26-Dec-2008

SHEET 33 OF 50



<b>INVENTEC</b>			
TITLE <b>Vulcain UMA</b>			
<b>ICH8-4</b>			
SIZE	CODE	DOC NUMBER	REV
D	CS	AXI	000
SHEET		34 OF	50
		8	

CHANGE by *Puma Chen* 26-Dec-2008

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

US11-5

A23	VSS001	VSS099	K7
A2	VSS002	VSS100	L1
AA2	VSS003	VSS101	L13
AA7	VSS004	VSS102	L15
AA4	VSS005	VSS103	L26
AB1	VSS006	VSS104	L27
AB24	VSS007	VSS105	L4
AC11	VSS008	VSS106	L4
AC14	VSS009	VSS107	M12
AC25	VSS010	VSS108	M13
AC28	VSS011	VSS109	M14
AC27	VSS012	VSS110	M15
AD17	VSS013	VSS111	M16
AD20	VSS014	VSS112	M17
AD28	VSS015	VSS113	M23
AD29	VSS016	VSS114	M28
AD3	VSS017	VSS115	M29
AD4	VSS018	VSS116	M3
AD6	VSS019	VSS117	N1
AE1	VSS020	VSS118	N11
AE12	VSS021	VSS119	N12
AE2	VSS022	VSS120	N13
AE22	VSS023	VSS121	N14
AD1	VSS024	VSS122	N15
AE26	VSS025	VSS123	N16
AE5	VSS026	VSS124	N17
AE6	VSS027	VSS125	N18
AE3	VSS028	VSS126	N26
AF14	VSS029	VSS127	N27
AF16	VSS030	VSS128	N4
AF18	VSS031	VSS129	N6
AF3	VSS032	VSS130	N6
AF4	VSS033	VSS131	P12
AG5	VSS034	VSS132	P13
AG8	VSS035	VSS133	P14
AH10	VSS036	VSS134	P15
AH13	VSS037	VSS135	P16
AH16	VSS038	VSS136	P17
AH19	VSS039	VSS137	P23
AM2	VSS040	VSS138	P28
AF28	VSS041	VSS139	P29
AH22	VSS042	VSS140	R11
AH24	VSS043	VSS141	R12
AH26	VSS044	VSS142	R13
AH3	VSS045	VSS143	R14
AH4	VSS046	VSS144	R15
AH8	VSS047	VSS145	R16
AJ5	VSS048	VSS146	R17
B11	VSS049	VSS147	R18
B14	VSS050	VSS148	R28
B17	VSS051	VSS149	R4
B2	VSS052	VSS150	T12
B20	VSS053	VSS151	T13
B22	VSS054	VSS152	T14
B5	VSS055	VSS153	T15
C24	VSS056	VSS154	T16
C28	VSS057	VSS155	T17
C27	VSS058	VSS156	T2
C6	VSS059	VSS157	U12
D12	VSS060	VSS158	U13
D15	VSS061	VSS159	U14
D18	VSS062	VSS160	U15
D4	VSS063	VSS161	U16
D2	VSS064	VSS162	U17
E21	VSS065	VSS163	U23
E24	VSS066	VSS164	U26
E4	VSS067	VSS165	U27
E9	VSS068	VSS166	U3
F15	VSS069	VSS167	U5
E23	VSS070	VSS168	V13
F28	VSS071	VSS169	V15
F28	VSS072	VSS170	V28
F7	VSS073	VSS171	W29
G1	VSS074	VSS172	W2
E2	VSS075	VSS173	W26
G10	VSS076	VSS174	W27
G13	VSS077	VSS175	Y28
G18	VSS078	VSS176	Y29
G23	VSS079	VSS177	Y4
G25	VSS080	VSS178	AB4
G26	VSS081	VSS179	AB23
G27	VSS082	VSS180	AB5
H25	VSS083	VSS181	AB6
H28	VSS084	VSS182	AD5
H29	VSS085	VSS183	U1
H3	VSS086	VSS184	W24
H6	VSS087	VSS185	A1
J1	VSS088	VSS_NCTF_01	A2
J25	VSS089	VSS_NCTF_02	A28
J26	VSS090	VSS_NCTF_03	A29
J27	VSS091	VSS_NCTF_04	AH1
J4	VSS092	VSS_NCTF_05	AH29
J5	VSS093	VSS_NCTF_06	A11
K23	VSS094	VSS_NCTF_07	A12
K28	VSS095	VSS_NCTF_08	AJ28
K23	VSS096	VSS_NCTF_09	AJ29
K3	VSS097	VSS_NCTF_D10	B1
K6	VSS098	VSS_NCTF_D11	B29
K6	VSS098	VSS_NCTF_D12	B29

ITL\_ICH8\_M\_BGA\_676P

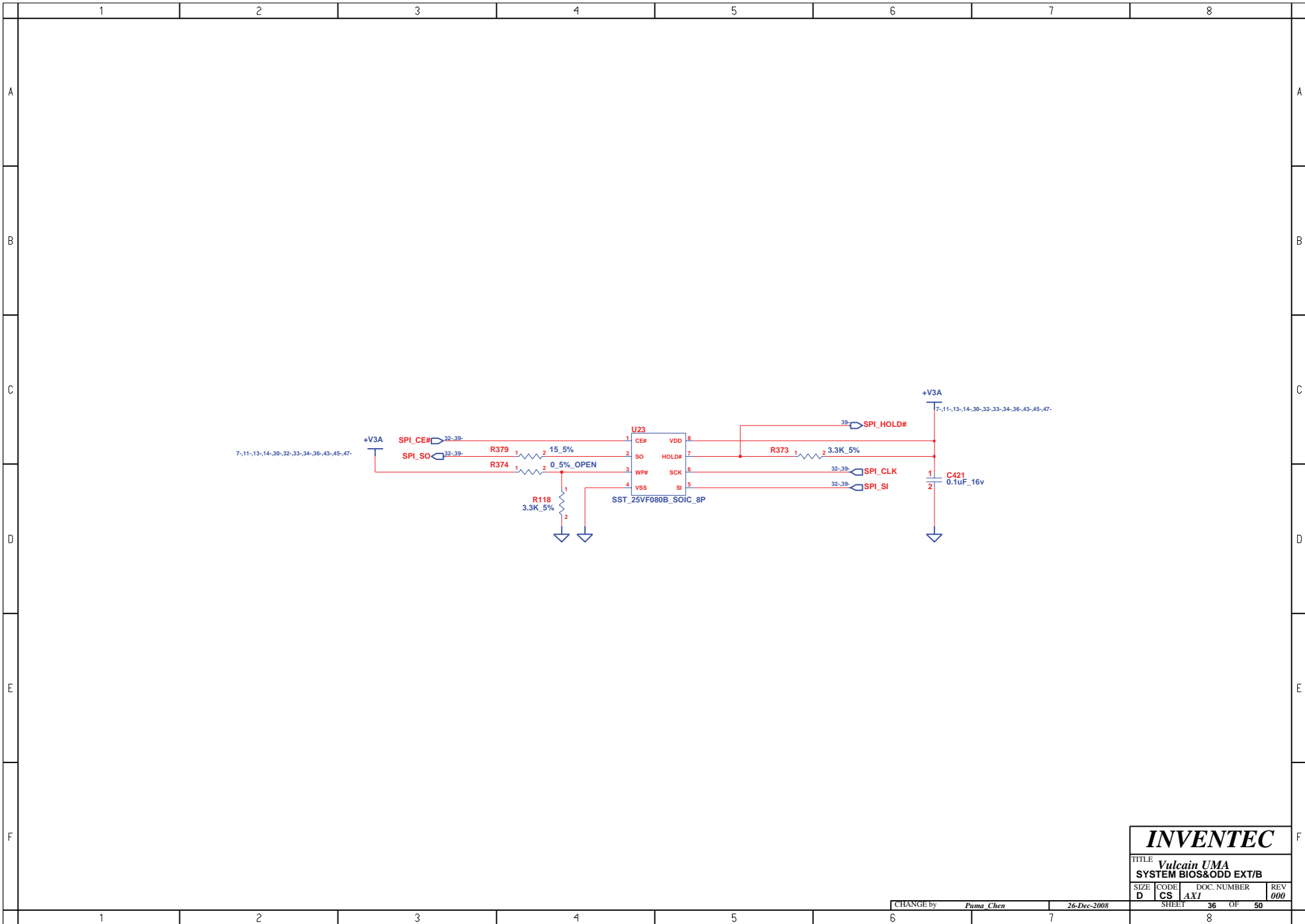
**INVENTEC**

TITLE **Vulcain UMA**  
**ICH8-5**

SIZE <b>D</b>	CODE <b>CS</b>	DOC. NUMBER <b>AX1</b>	REV <b>000</b>
SHEET		35 OF	50

CHANGE by *Puma Chen* 26-Dec-2008

	1	2	3	4	5	6	7	8	
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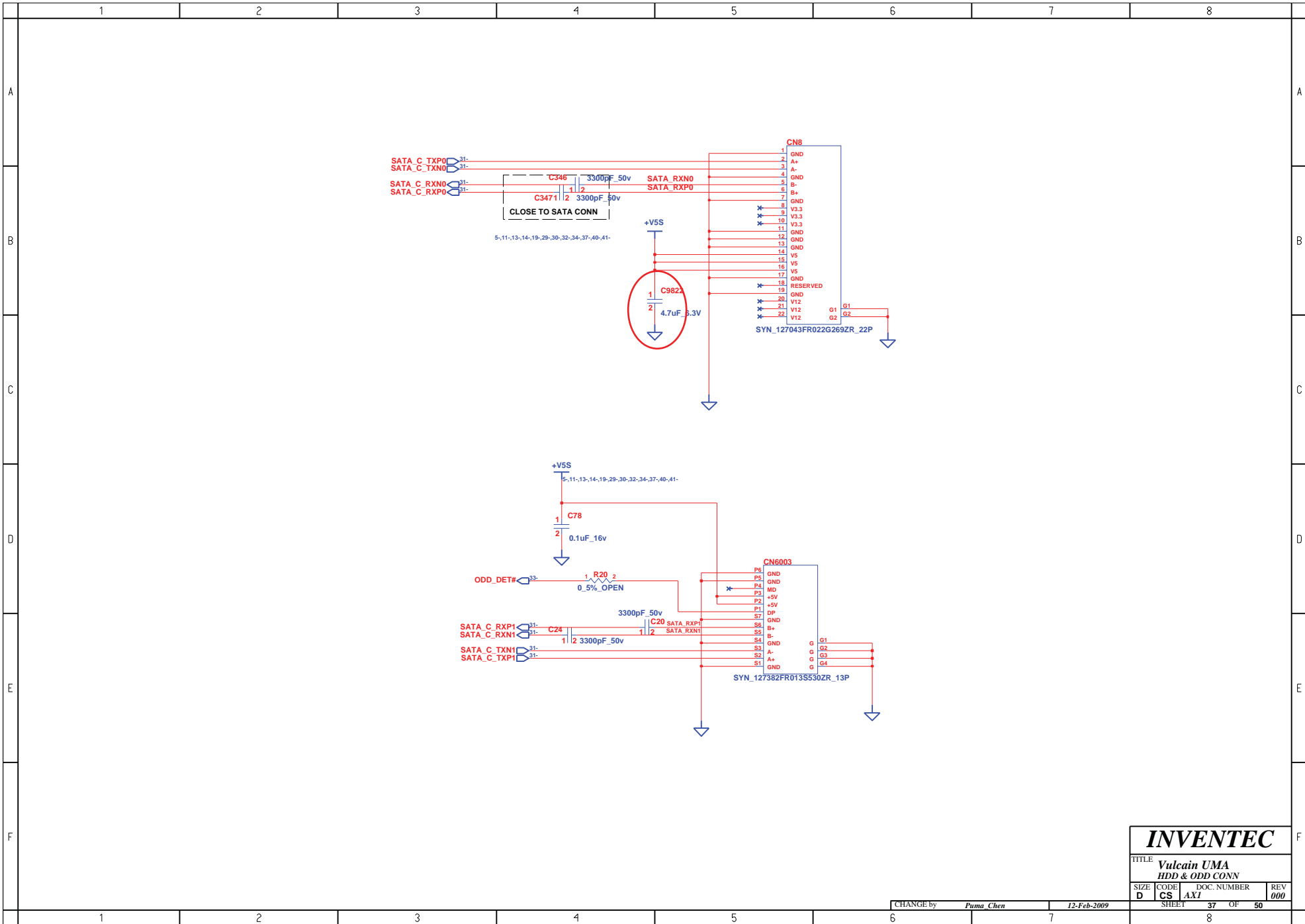
**INVENTEC**

TITLE *Vulcain UMA*  
 SYSTEM BIOS&ODD EXT/B

SIZE	CODE	DOC. NUMBER	REV
D	CS	AXI	000

CHANGE by *Puna Chen* 26-Dec-2008

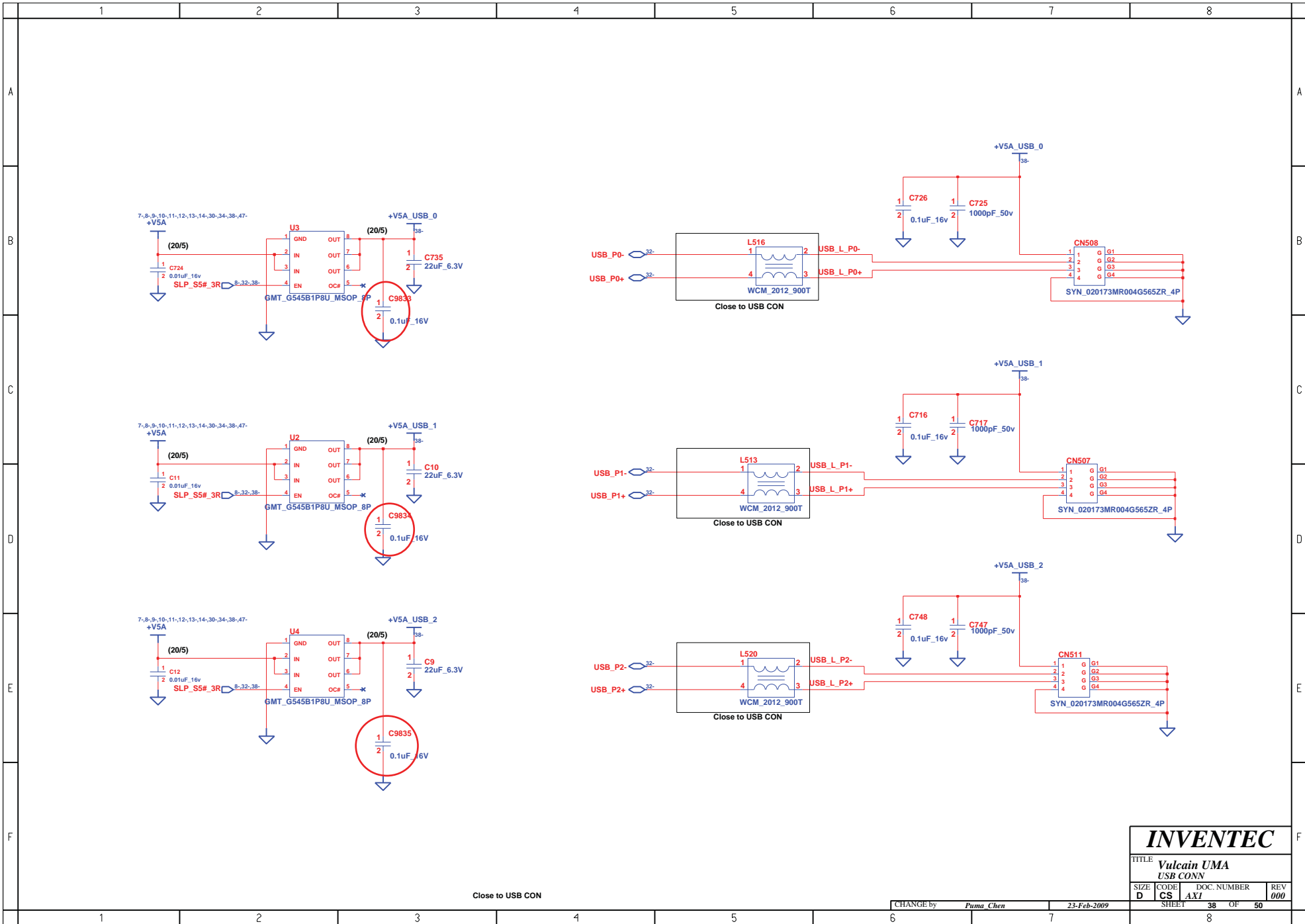
SHEET	36	OF	50
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**INVENTEC**

TITLE			
Vulcain UMA HDD & ODD CONN			
SIZE	CODE	DOC. NUMBER	REV
D	CS	AXI	000
SHEET		37 OF	50

CHANGE by Puma Chen 12-Feb-2009

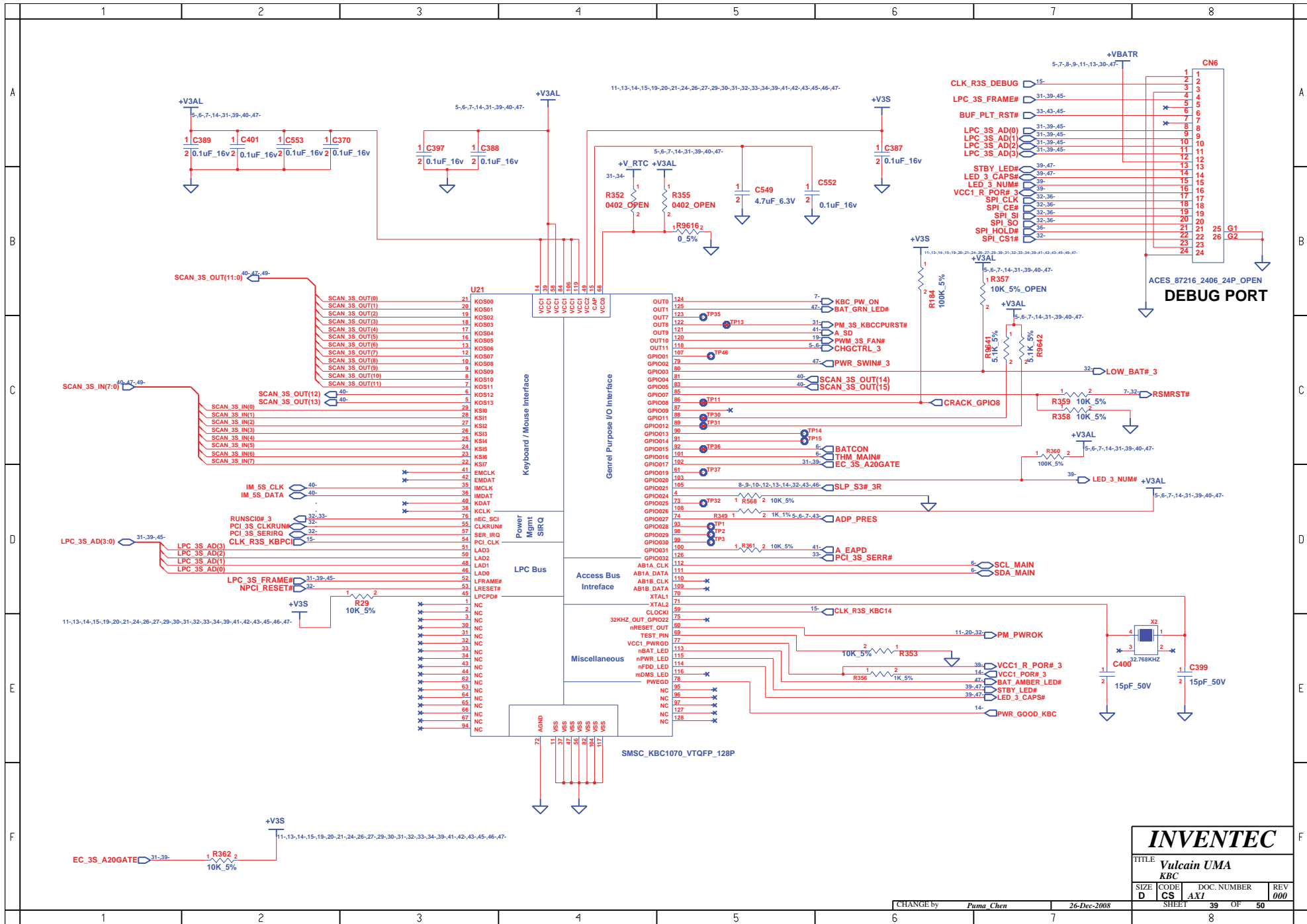


Close to USB CON

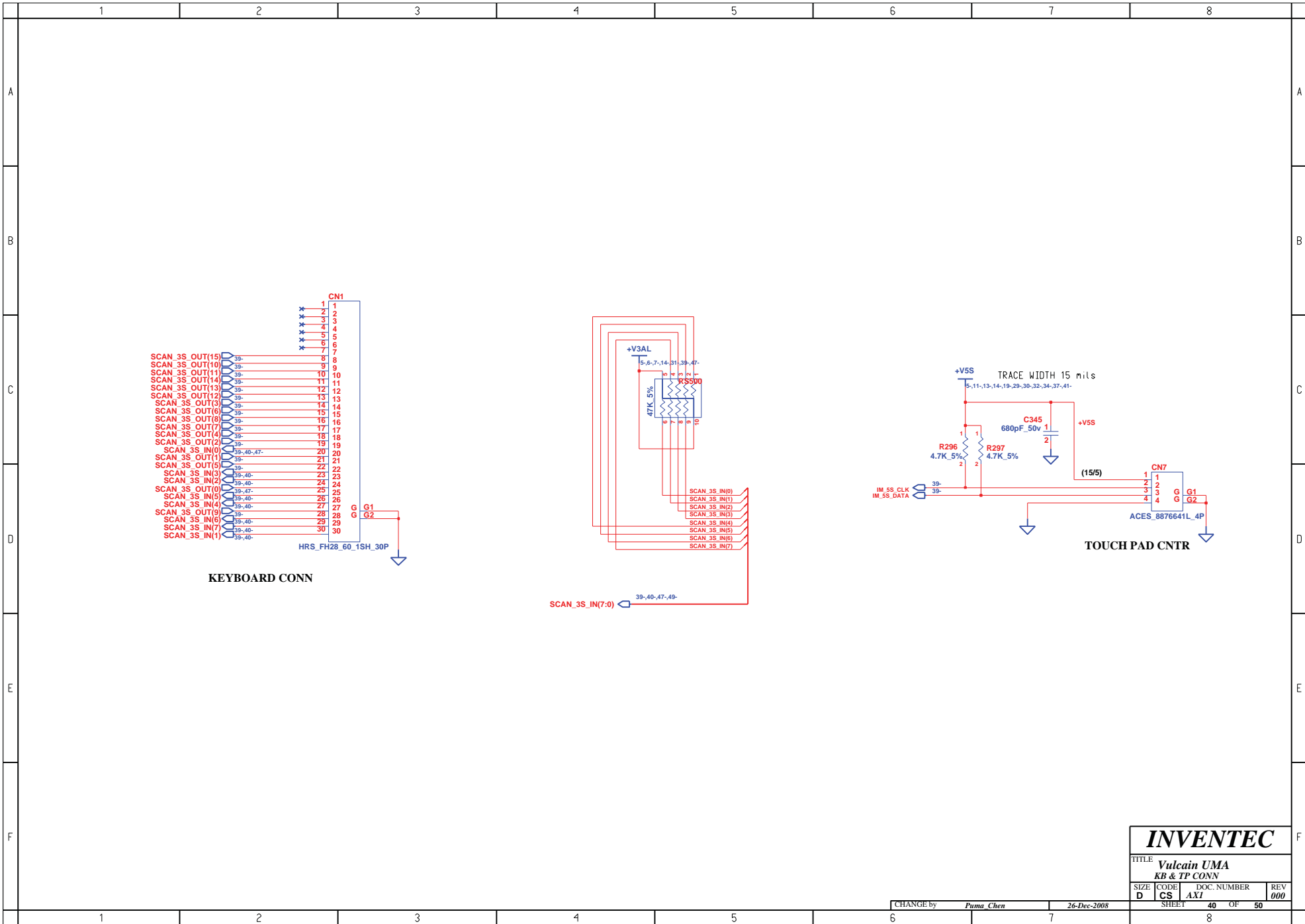
# INVENTEC

TITLE  
**Vulcain UMA**  
 USB CONN

SIZE <b>D</b>	CODE <b>CS</b>	DOC. NUMBER <b>AX1</b>	REV <b>000</b>
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<b>INVENTEC</b>			
TITLE <b>Vulcain UMA</b>			
KBC			
SIZE <b>D</b>	CODE <b>CS</b>	DOC NUMBER <b>AX1</b>	REV <b>000</b>
CHANGE by <b>Puna Chen</b>		26-Dec-2008	
SHEET <b>39</b>		OF <b>50</b>	



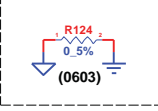
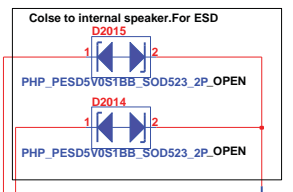
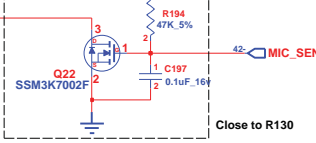
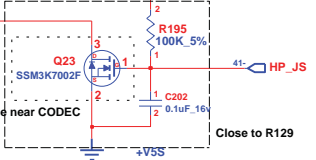
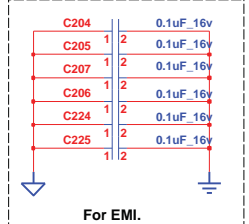
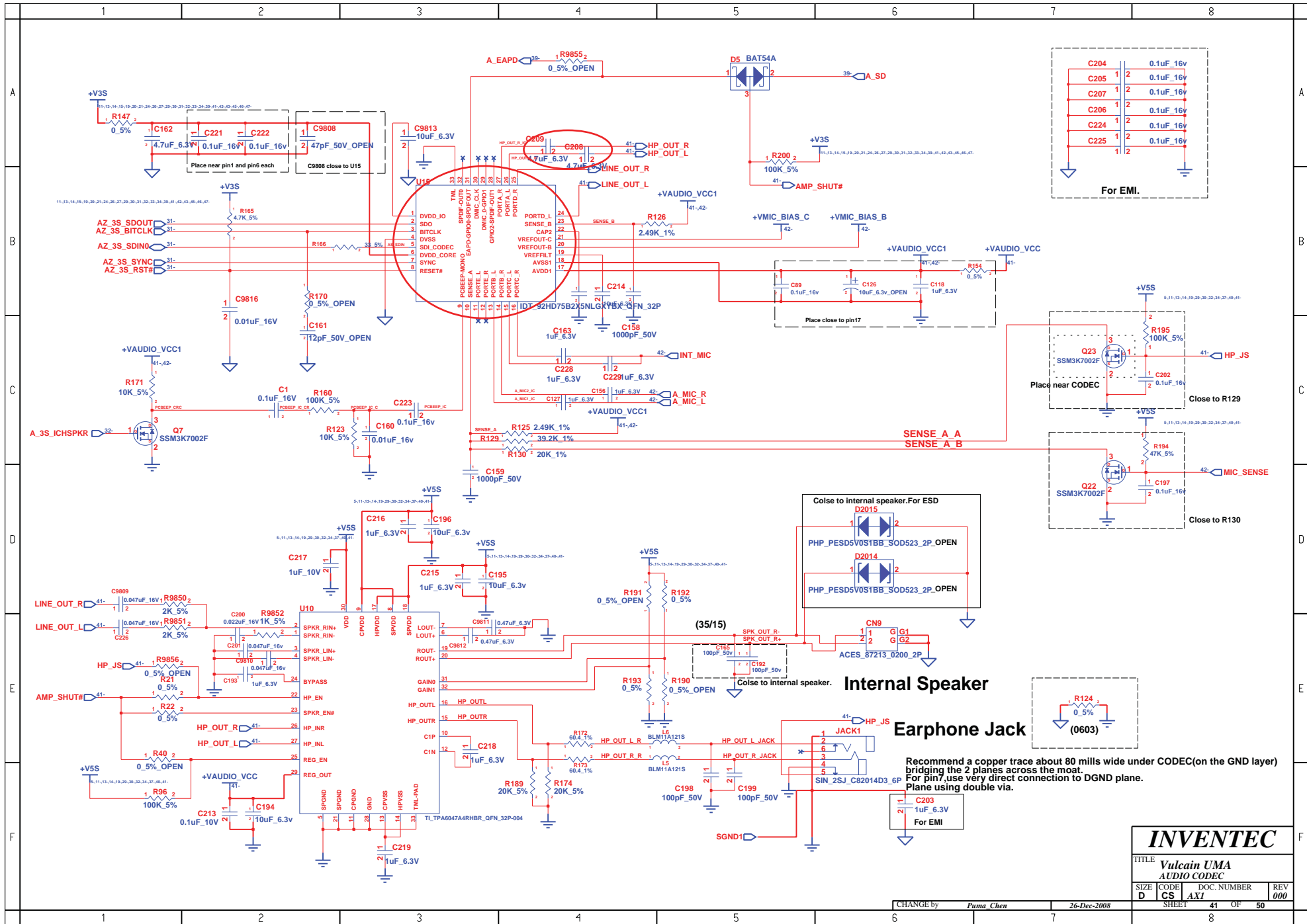
**INVENTEC**

TITLE			
Vulcain UMA			
KB & TP CONN			
SIZE	CODE	DOC. NUMBER	REV
D	CS	AXI	000

CHANGE by Puma Chen 26-Dec-2008

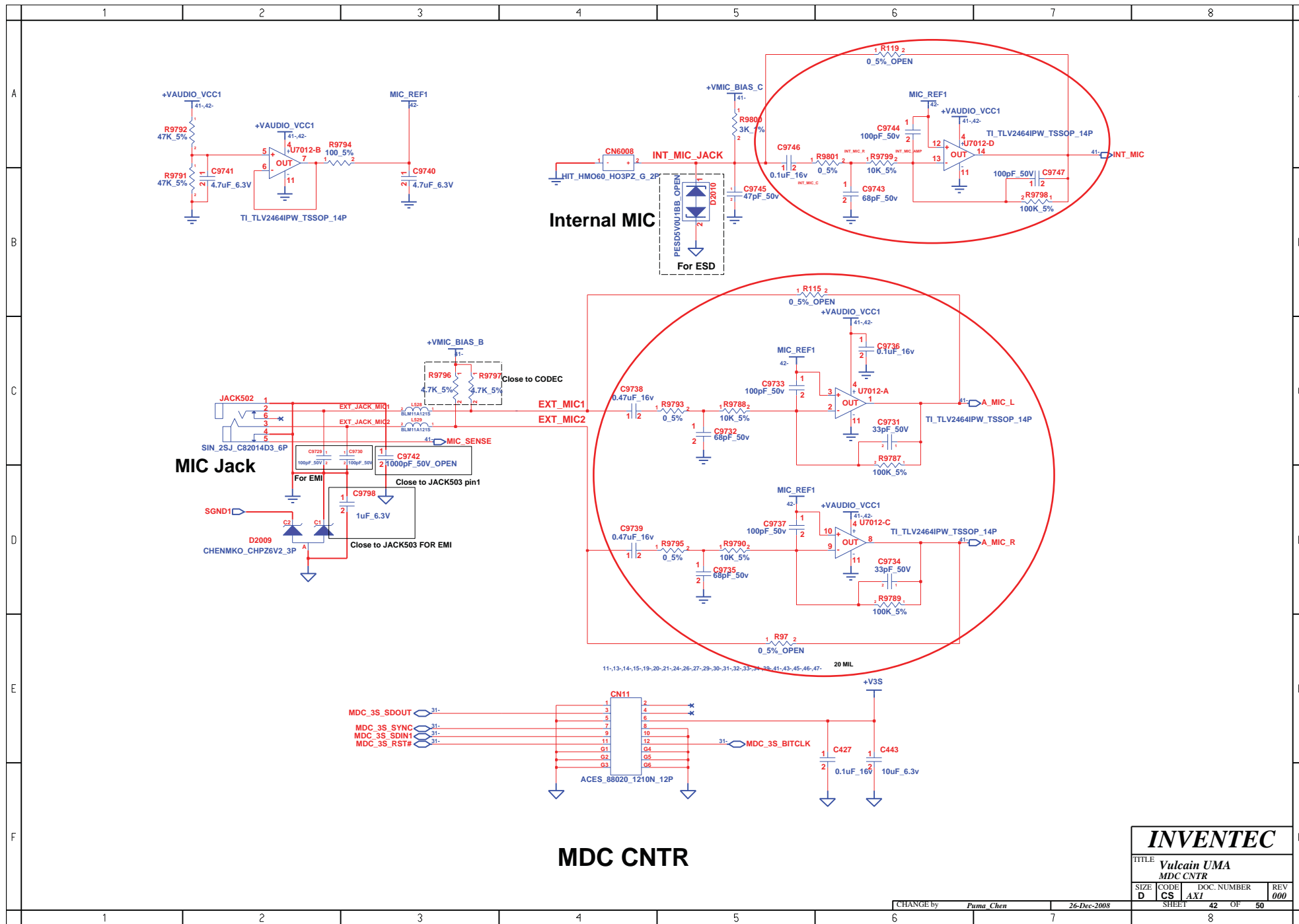
SHEET 40 OF 50





Recommend a copper trace about 80 mills wide under CODEC(on the GND layer) bridging the 2 planes across the moat.  
For pin7, use very direct connection to DGND plane.  
Plane using double via.

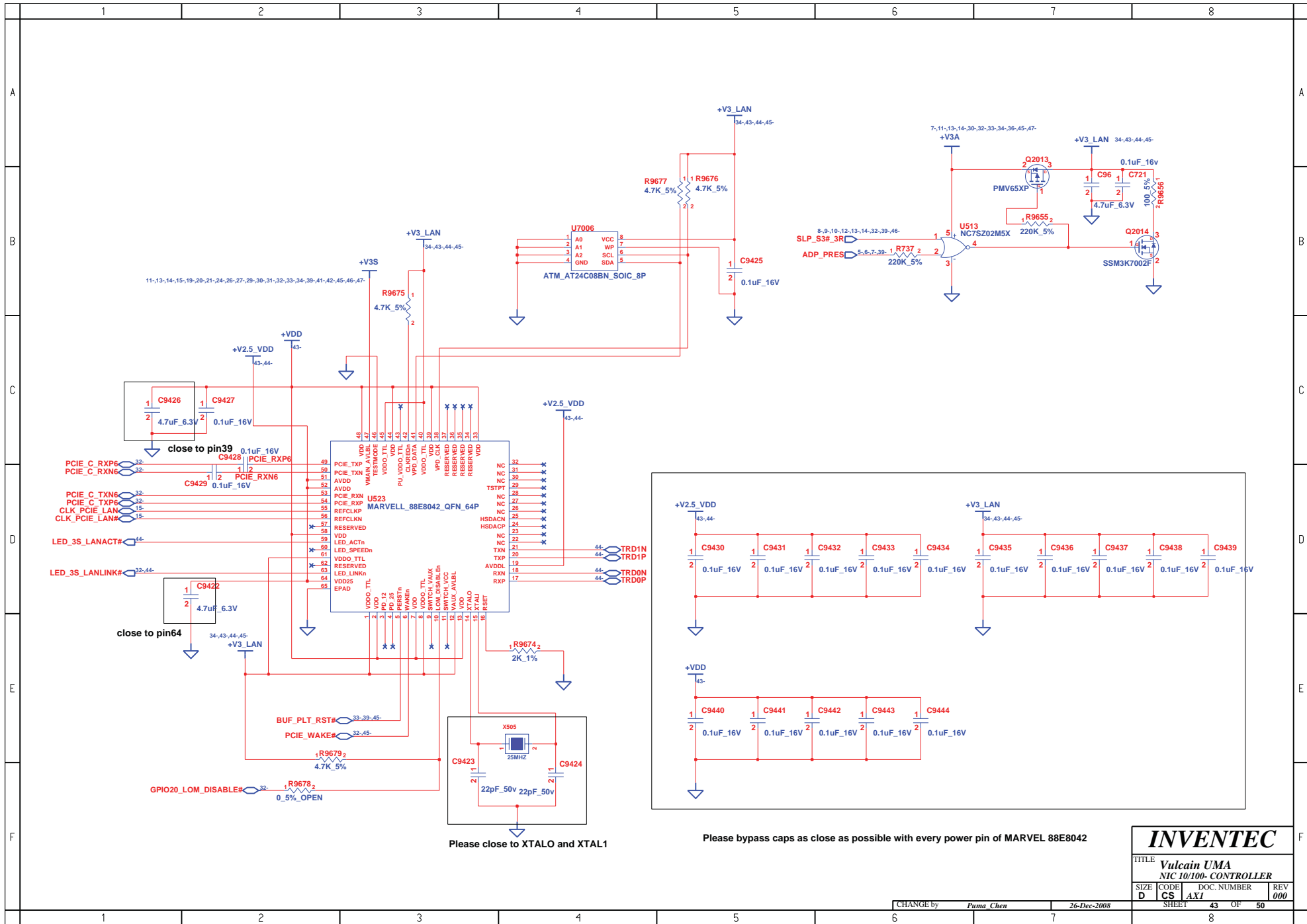
<b>INVENTEC</b>			
TITLE Vulcain UMA AUDIO CODEC			
SIZE D	CODE CS	DOC. NUMBER AX1	REV 000
CHANGE by Puma Chen		26-Dec-2008	SHEET 41 OF 50



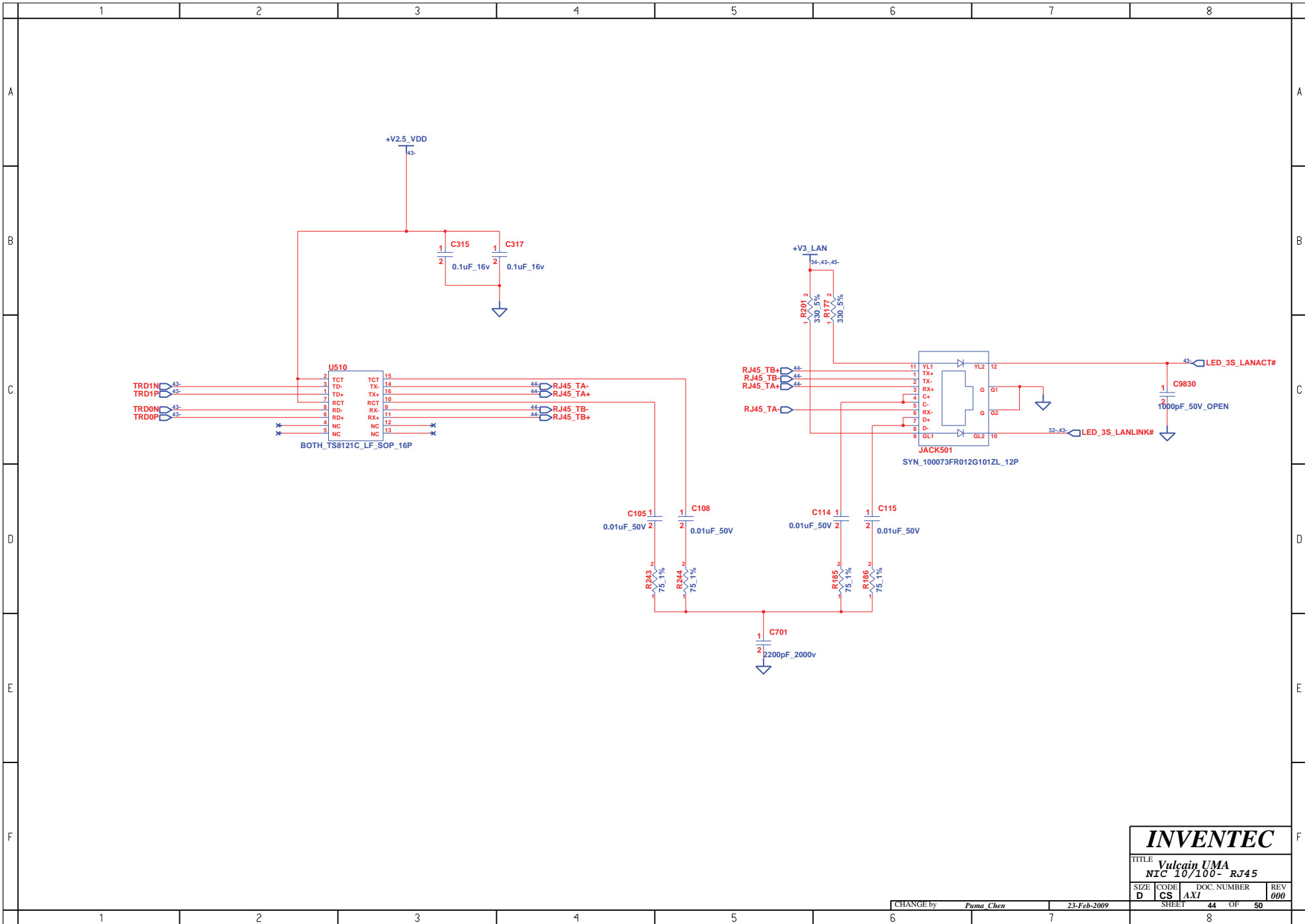
**INVENTEC**

TITLE			
Vulcain UMA			
MDC CNTR			
SIZE	CODE	DOC NUMBER	REV
D	CS	AXI	42 OF 50
SHEET			REV
			000

CHANGE by Puma Chen 26-Dec-2008



<b>INVENTEC</b>			
TITLE Vulcain UMA NIC 10/100- CONTROLLER			
SIZE D	CODE CS	DOC. NUMBER AXI	REV 000
CHANGE by Puma Chen		26-Dec-2008	
SHEET 43		OF 50	



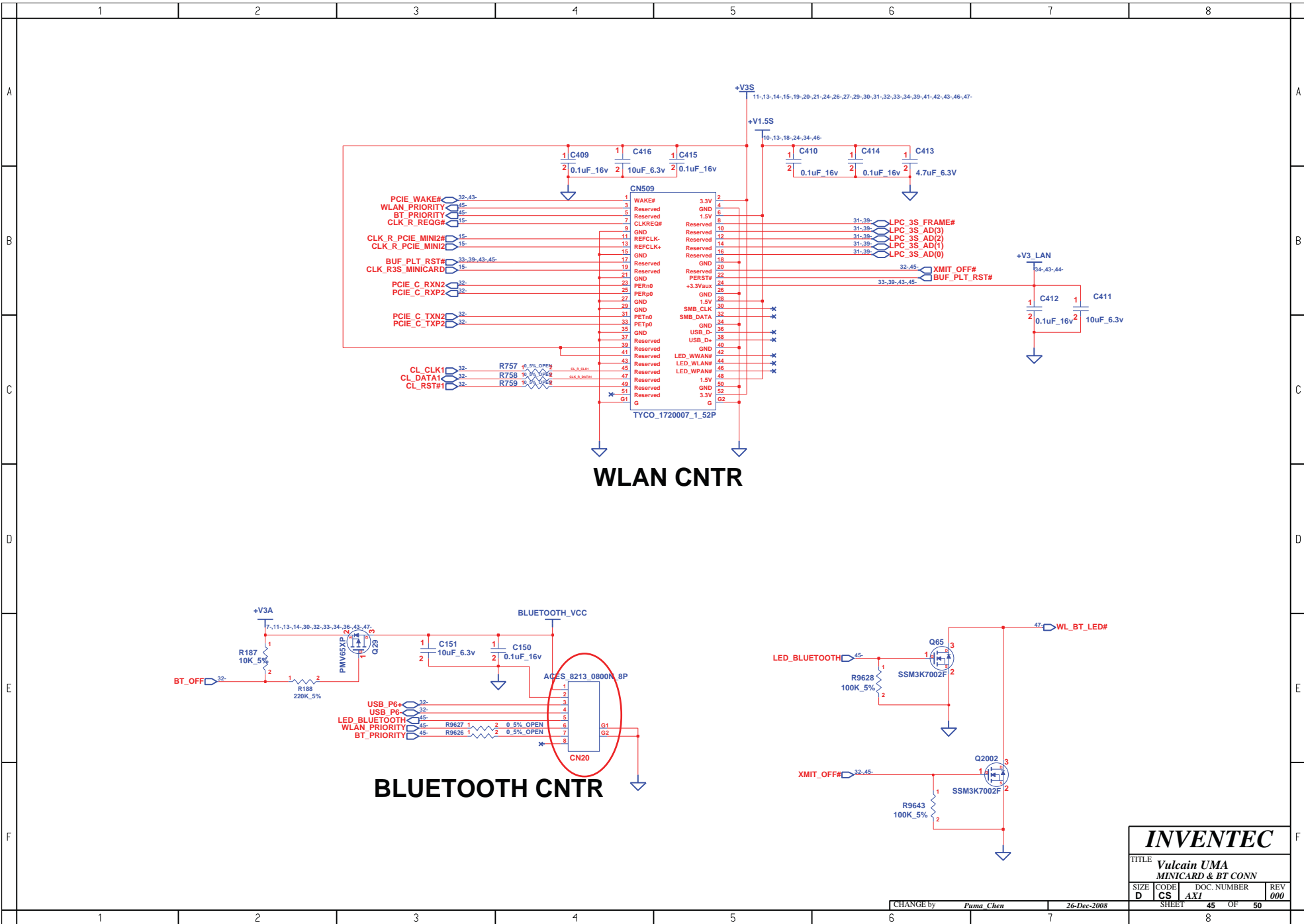
**INVENTEC**

TITLE  
**Vulcaip UMA**  
**NIC 10/100-RJ45**

SIZE <b>D</b>	CODE <b>CS</b>	DOC NUMBER <b>AXI</b>	REV <b>000</b>
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CHANGE by *Puma Chen* 23-Feb-2009

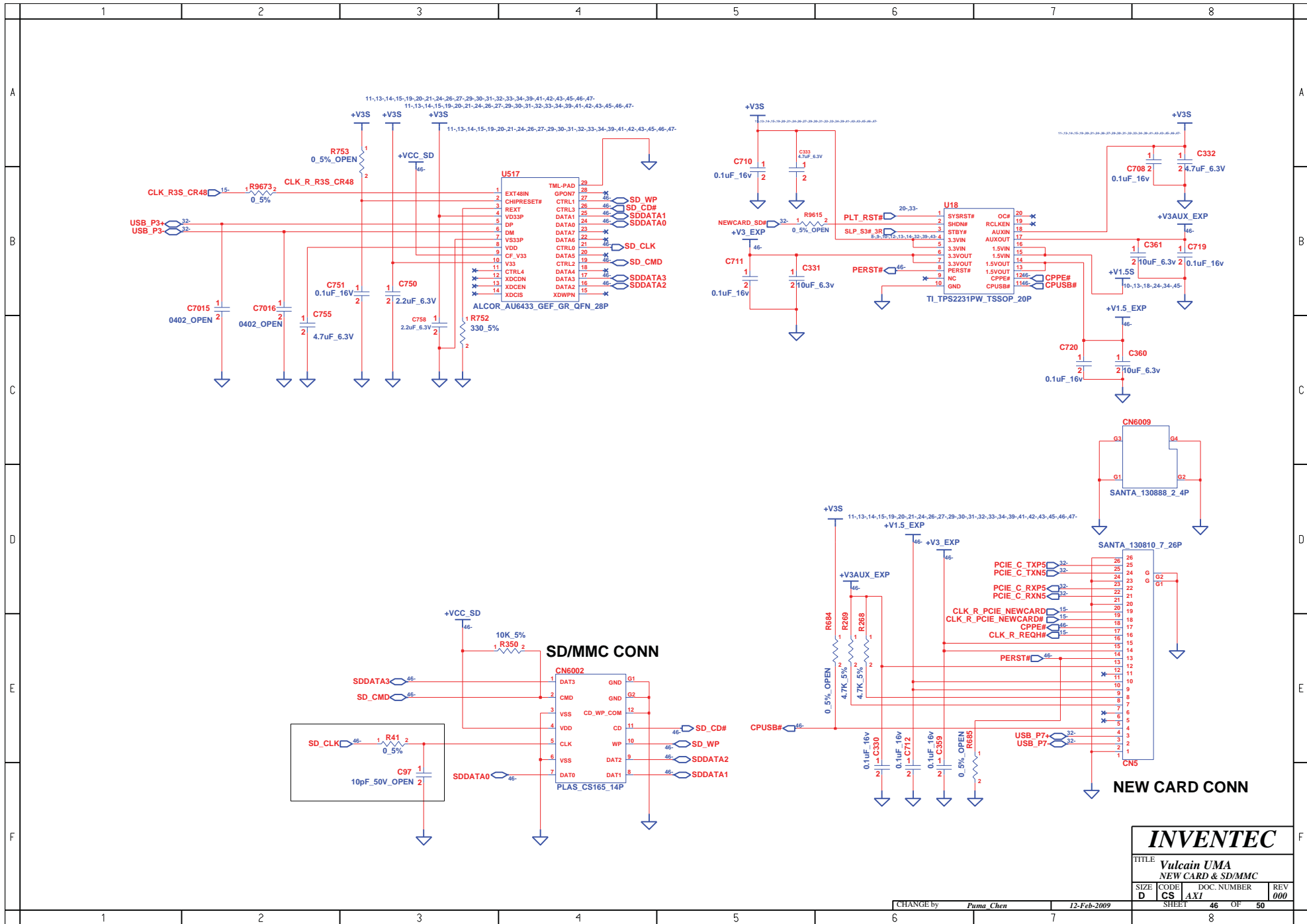
SHEET 44 OF 50



### WLAN CNTR

### BLUETOOTH CNTR

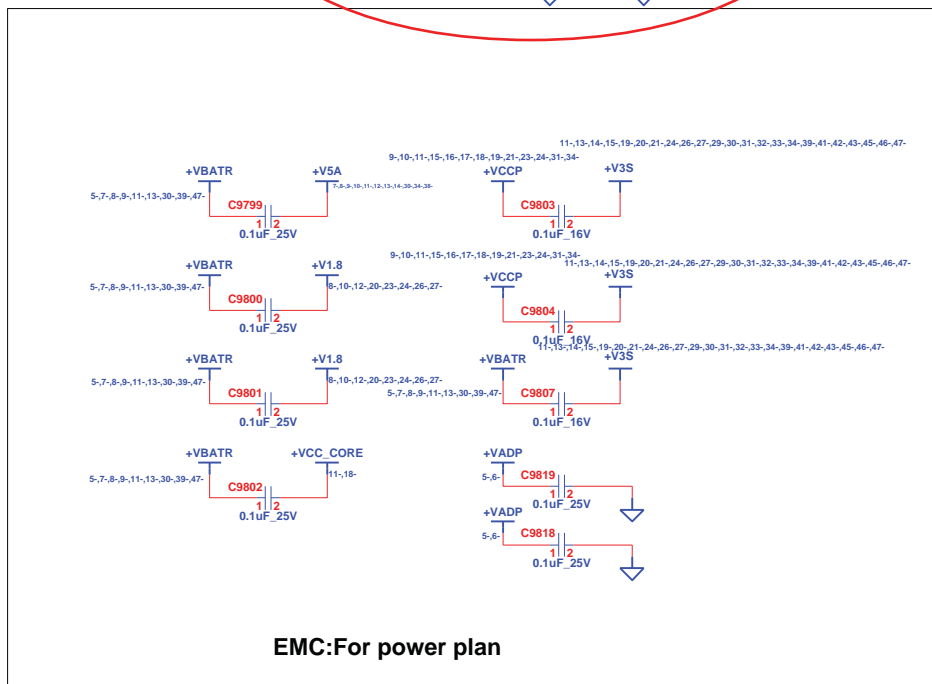
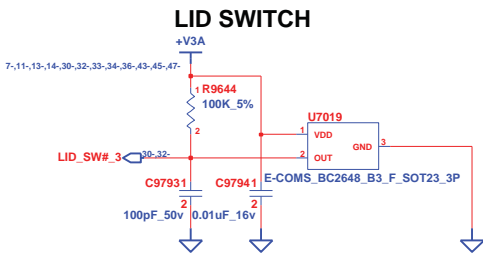
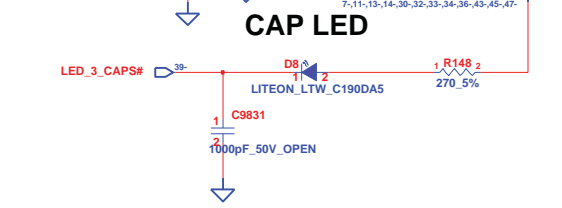
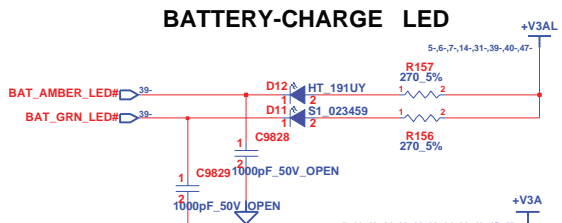
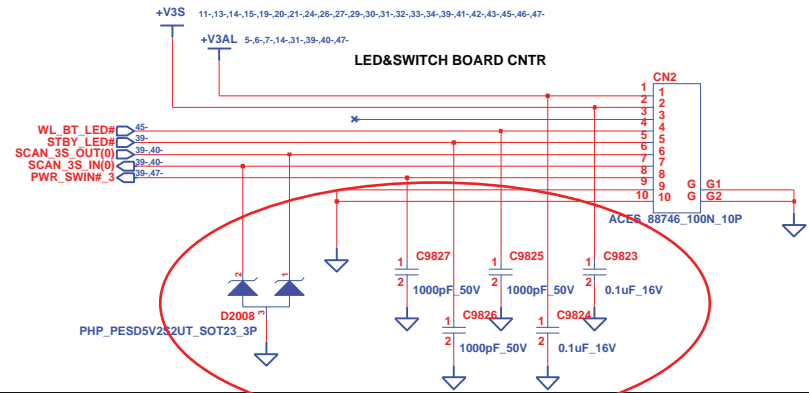
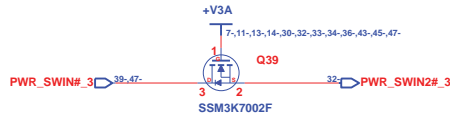
<b>INVENTEC</b>			
TITLE <b>Vulcain UMA MINICARD &amp; BT CONN</b>			
SIZE <b>D</b>	CODE <b>CS</b>	DOC. NUMBER <b>AX1</b>	REV <b>000</b>
CHANGE by <i>Puma Chen</i>		26-Dec-2008	
SHEET		45 OF 50	



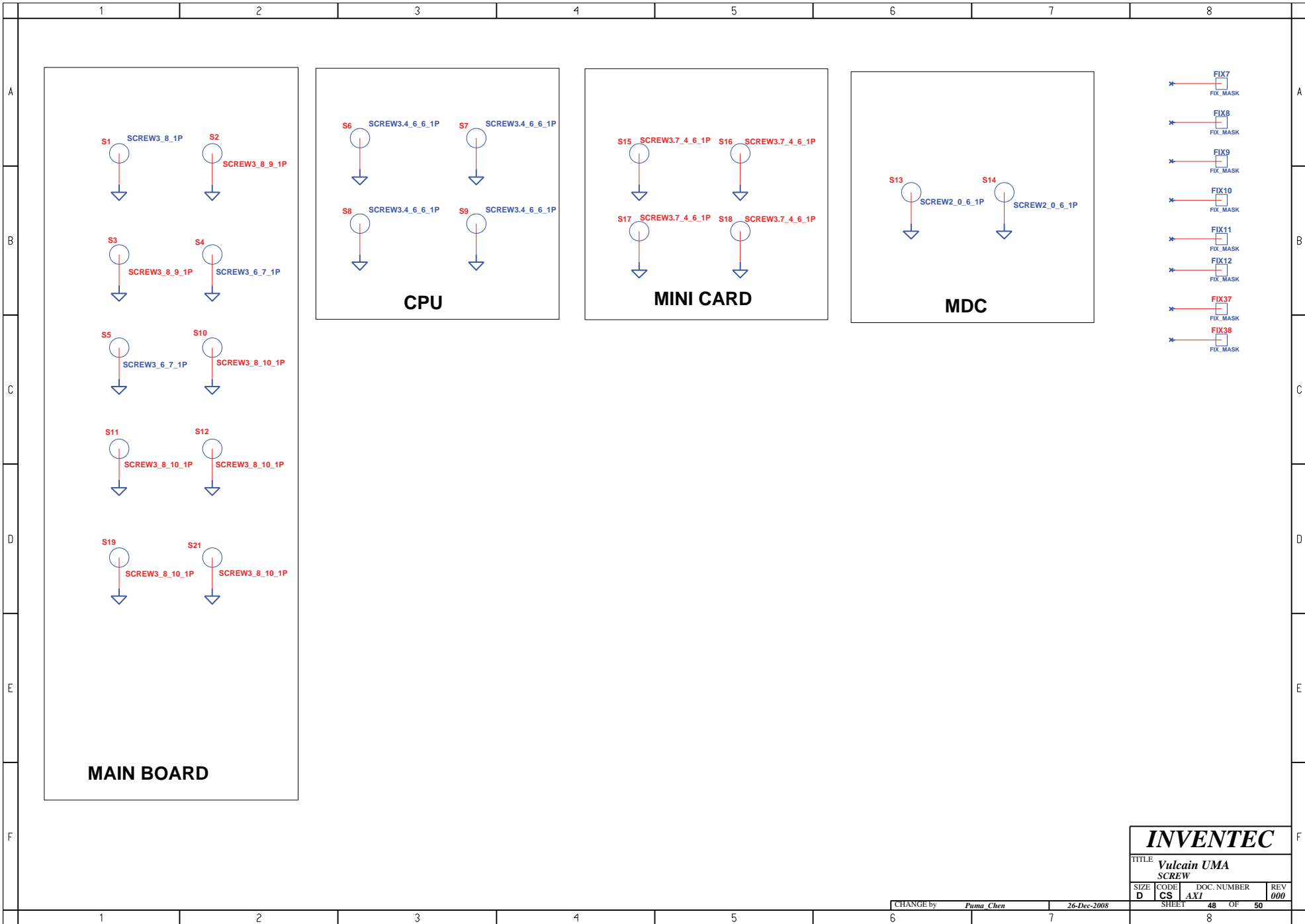
**INVENTEC**

TITLE  
**Vulcain UMA  
 NEW CARD & SD/MMC**

SIZE <b>D</b>	CODE <b>CS</b>	DOC NUMBER <b>AXI</b>	REV <b>000</b>
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<b>INVENTEC</b>			
TITLE <b>Vulcain UMA</b>			
<b>BUTTON &amp; LED</b>			
SIZE	CODE	DOC. NUMBER	REV
D	CS	AXI	000
CHANGE by <i>Puma Chen</i>		24-Feb-2009	
SHEET 47		OF 50	



**INVENTEC**

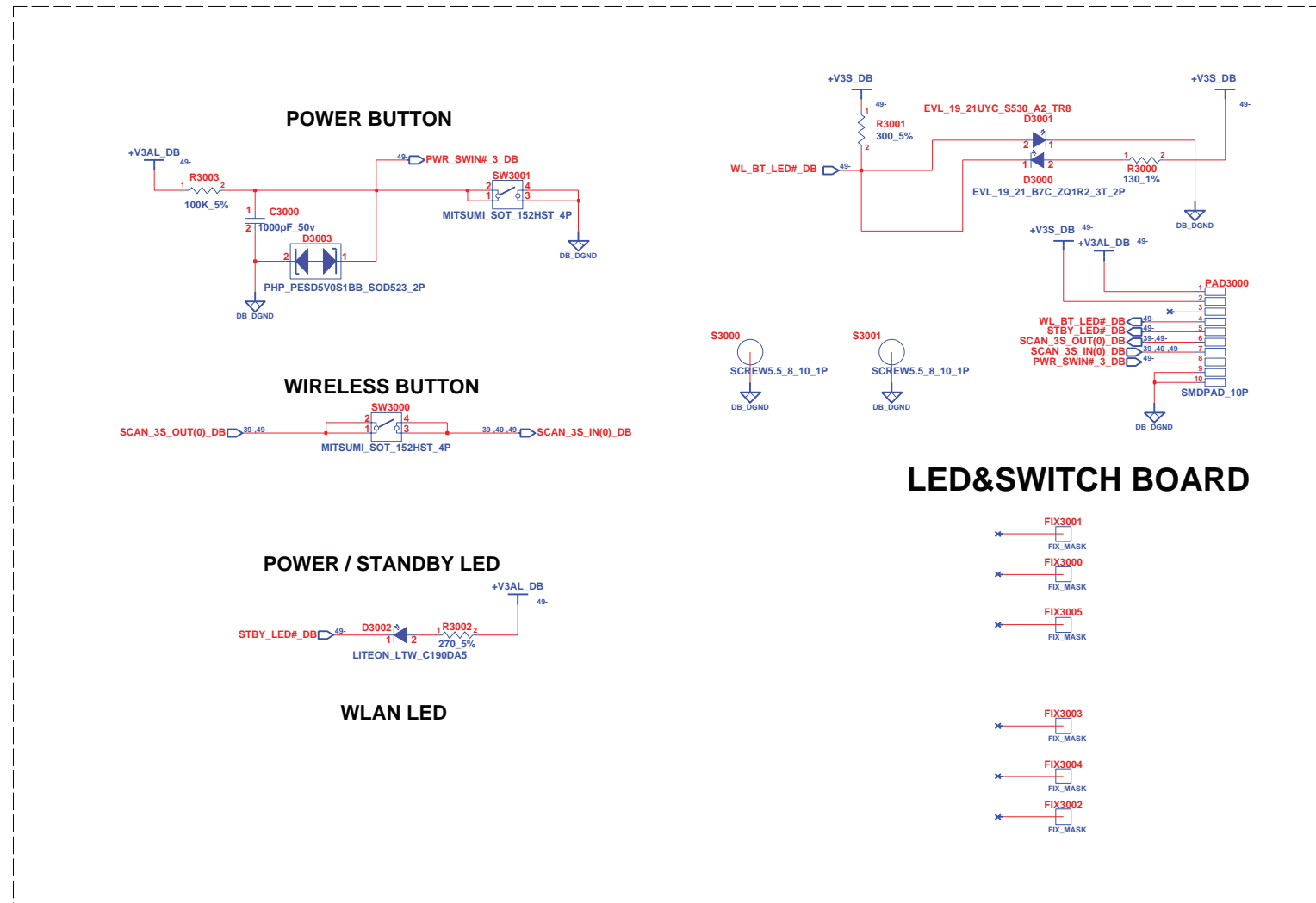
TITLE **Vulcain UMA**  
**SCREW**

SIZE	CODE	DOC. NUMBER	REV
D	CS	AXI	000

CHANGE by *Puna Chen* 26-Dec-2008

SHEET 48 OF 50





**SWITCH DAUGHTER BOARD**

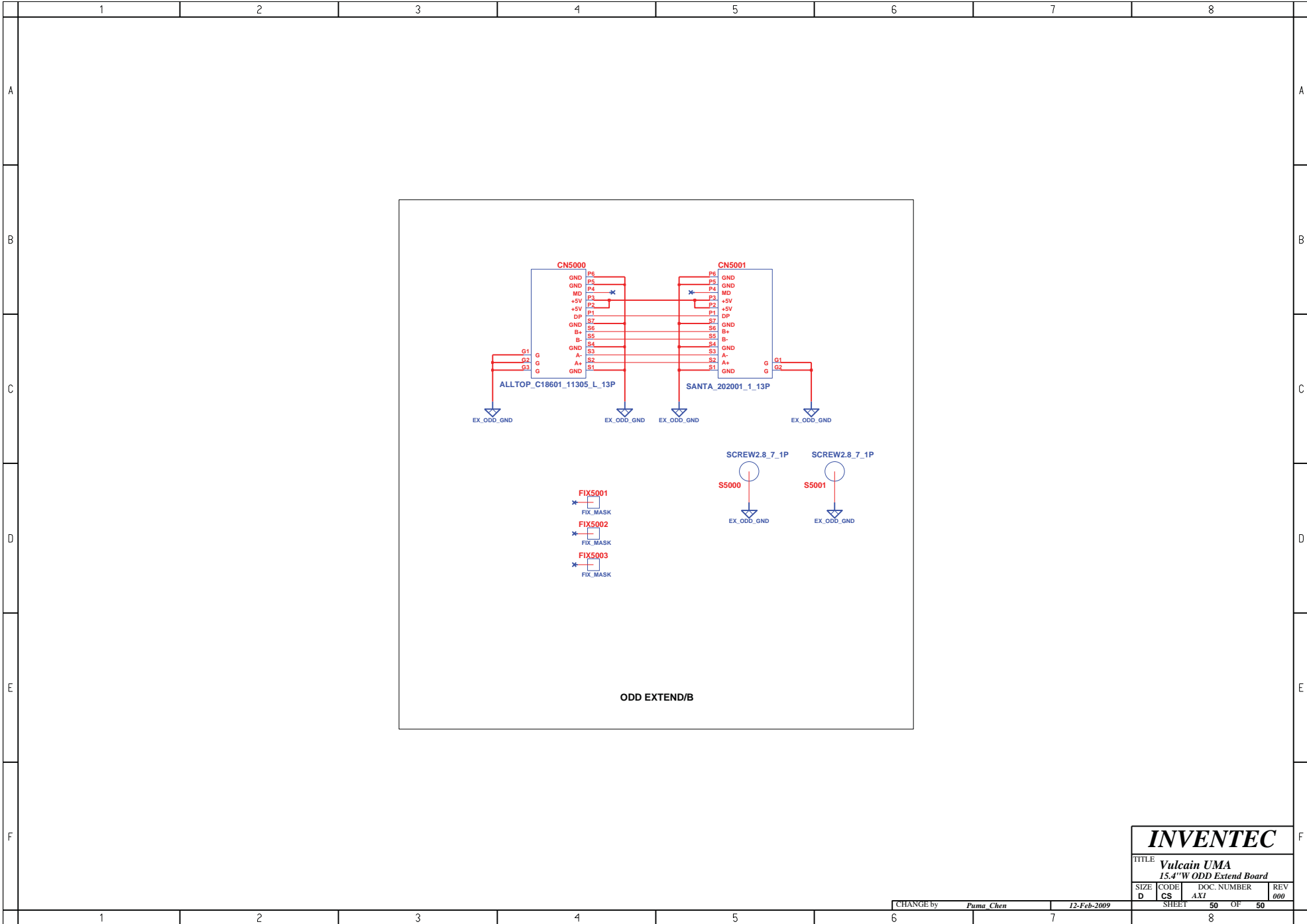
**INVENTEC**

TITLE  
**Vulcain UMA  
SWITCH Board**

SIZE D	CODE CS	DOC. NUMBER AXI	REV 000
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CHANGE by *Puma Chen* 26-Dec-2008

SHEET 49 OF 50



**INVENTEC**

TITLE **Vulcain UMA**  
15.4" W ODD Extend Board

SIZE	CODE	DOC. NUMBER	REV
D	CS	AXI	000

CHANGE by *Puma Chen* 12-Feb-2009

SHEET	50	OF	50
	8		