

Compal Model Name: KML60

PCB NO: LA-4671P R03(X02)

BOM P/N: 46161631L01 (DIS)

46161631L02 (UMA)

Function Field: @ unpop
 UMA@ UMA component
 VGA@ discrete component
 CONN@ ME connector
 TPM@ TPM component

Half Penny Bridge 17"

Compal Confidential

Schematic Document

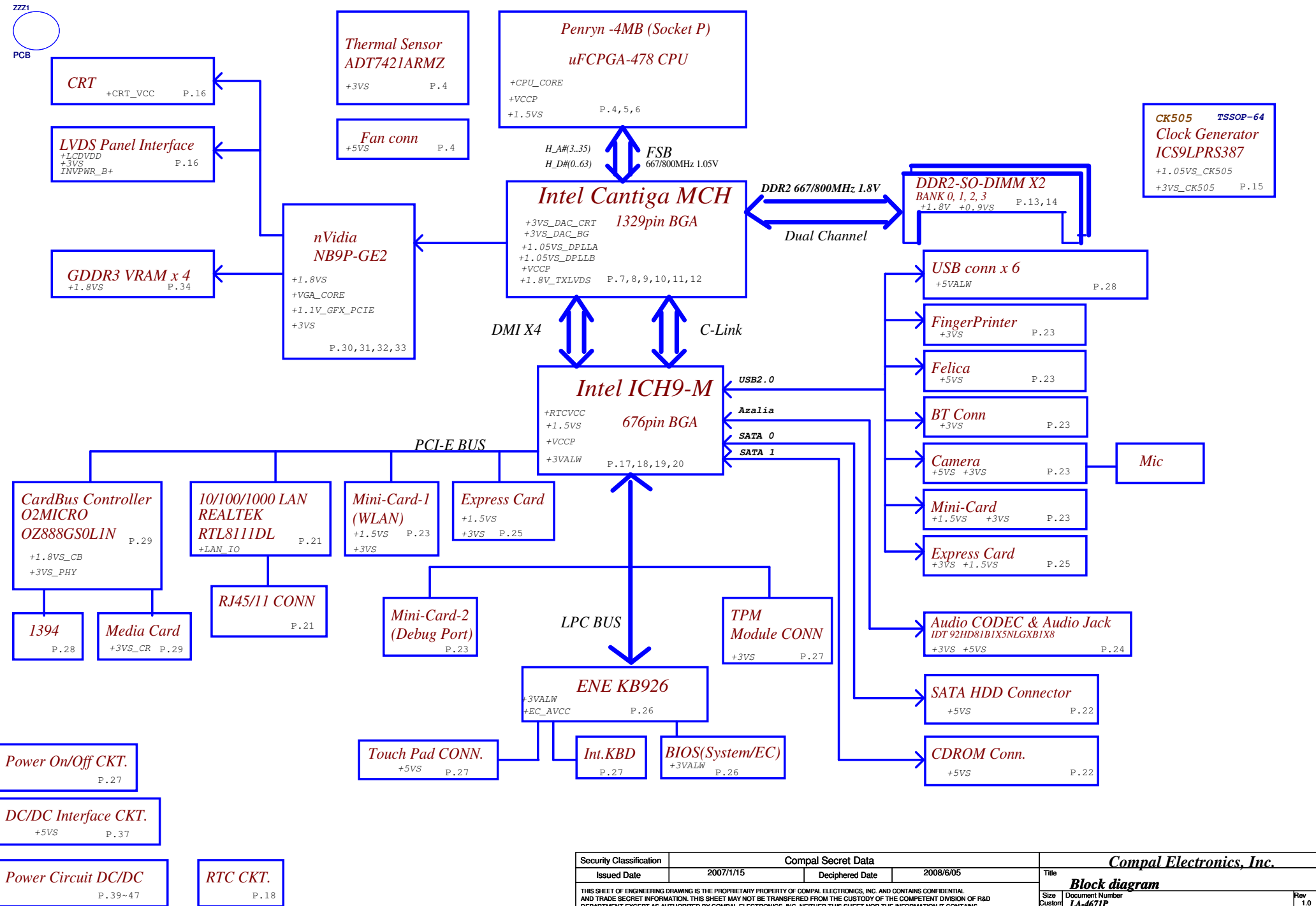
Cantiga + ICH9

2009 / 2 / 19 Rev:1.0 (A00)

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/1/15	Deciphered Date	2008/6/05	Title	Cover Sheet
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-4671P
				Date: Friday, February 20, 2009	Rev 1.0
				Sheet 1 of 53	

Half Penny Bridge17

File Name : LA-4671P

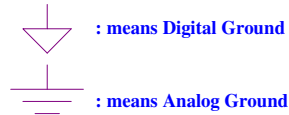


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/1/15	Deciphered Date	2008/6/05	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Block diagram	
Size	Document Number	Date		Rev	
Custom	LA-4671P	Friday, February 20, 2009		1.0	
Sheet		2		of 53	

power plane	State	+B	+5VALW +3VALW	+1.8V	+5VS +3VS +1.5VS +0.9V +VCCP +CPU_CORE +VGA_CORE +2.5VS +1.8VS +1.2VS +0.9VGA
S0		O	O	O	O
S1		O	O	O	O
S3		O	O	O	X
S5 S4/AC		O	O	X	X
S5 S4/ Battery only		O	X	X	X
S5 S4/AC & Battery don't exist		X	X	X	X

ICH9-M	USB PORT#	DESTINATION
	0	JUSBP1
	1	CAMERA
	2	JUSBP3
	3	Felica
	4	Blue Tooth
	5	Finger Printer
	6	JMINI2-WLAN
	7	Express card
	8	JUSBP3
	9	JMINI1-WWAN
	10	JUSBP4
11	NA	

Symbol Note :



@ : means just reserve , no build
DEBUG@ : means just reserve for debug.

BOARD ID Table

Board ID	PCB Revision
0	0.1
1	0.2
2	
3	
4	
5	
6	
7	

Board ID Table for AD channel

Vcc	3.3V +/- 5%			
Ra / Rc	100K +/- 5%			
Board ID	Rb / Rd	VAD_BID min	VAD_BID typ	VAD_BID max
0	115K +/-1%	1.6613 V	1.7651 V	1.8706 V
1	154K +/-1%	1.8857 V	2.0008 V	2.1173 V
2	215K +/-1%	2.1261 V	2.2524 V	2.38 V
3	316K +/-1%	2.3948 V	2.5067 V	2.6447 V
4	560K +/-1%	2.6519 V	2.8 V	2.9488 V
5	NC			
6	NC			
7	NC			

PCI EXPRESS	DESTINATION
Lane 1	NA
Lane 2	GLAN RTL8111DL
Lane 3	MINI CARD WLAN
Lane 4	EXPRESS CARD
Lane 5	CARD READER OZ886
Lane 6	NA

SATA	DESTINATION
Lane 0	HDD
Lane 1	ODD
Lane 4	NA
Lane 5	NA

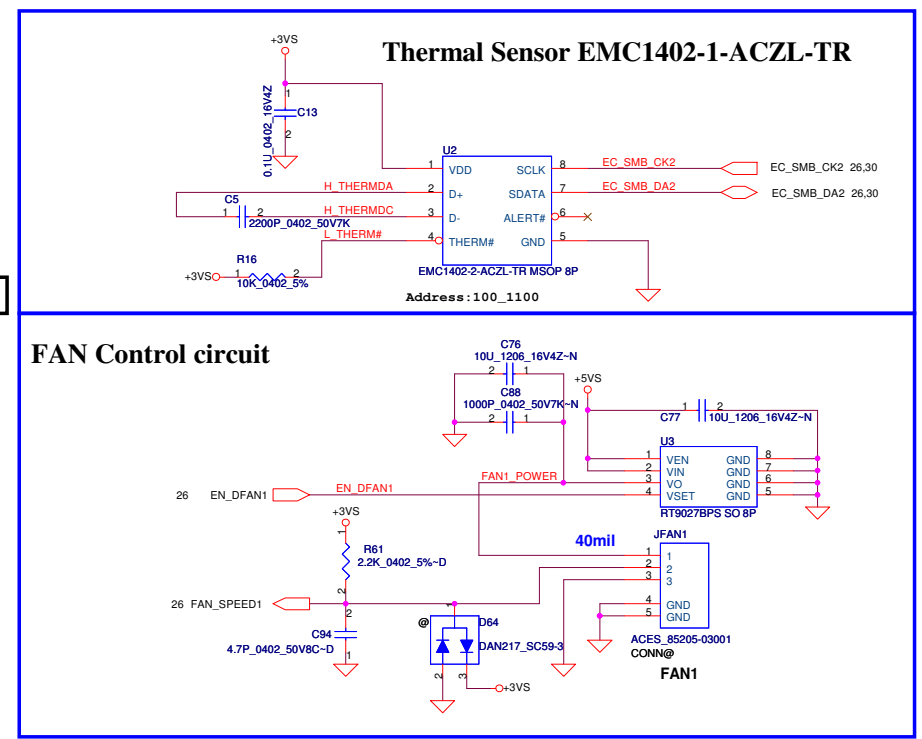
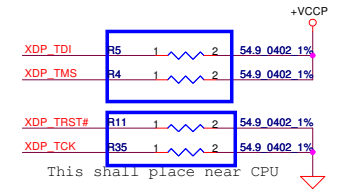
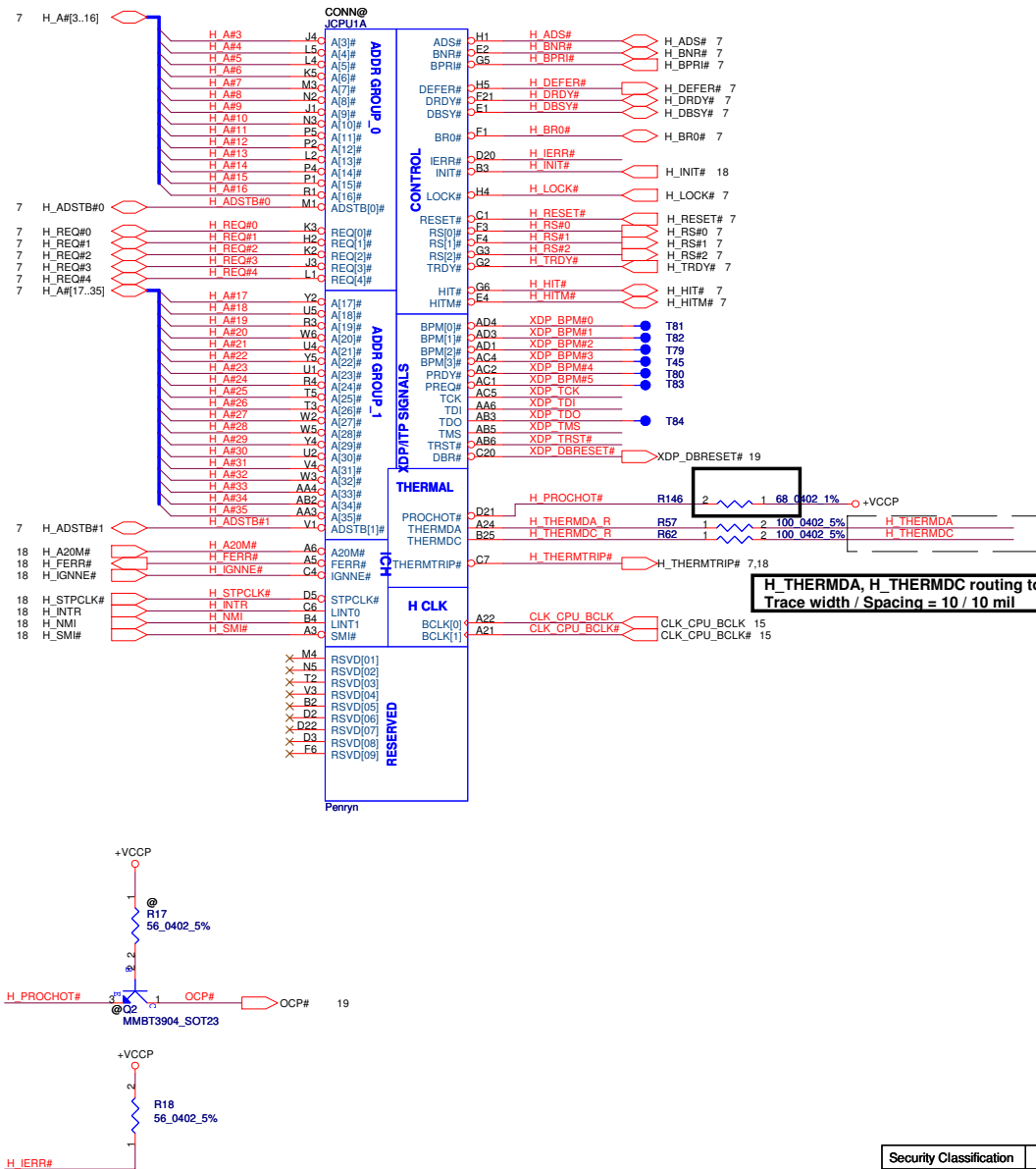
I2C / SMBUS ADDRESSING

DEVICE	HEX	ADDRESS
DDR SO-DIMM 0	A0	10100000
DDR SO-DIMM 1	A4	10100100
CLOCK GENERATOR (EXT.)	D2	11010010

SMBUS Control Table

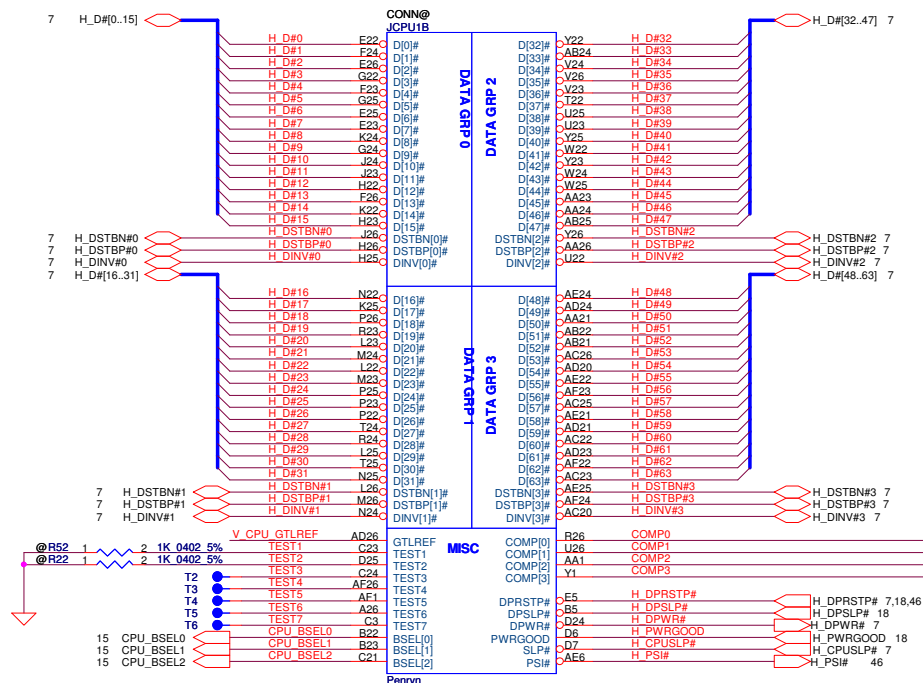
	SOURCE	INVERTER	BATT	SERIAL EEPROM	THERMAL SENSOR (CPU)	SODIMM	CLK CHIP	MINI CARD	LCD
SMB_EC_CK1 SMB_EC_DA1	KB926	X	V	V	X	X	X	X	X
SMB_EC_CK2 SMB_EC_DA2	KB926	X	X	X	V	X	X	X	X
SMB_CK_CLK1 SMB_CK_DAT1	ICH9	X	X	X	X	V	V	V	X
LCD_CLK LCD_DAT	Cantiga	X	X	X	X	X	X	X	V

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2005/03/10	Deciphered Date	2008/6/05	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE USED BY ANY DISCLOSED TO ANY OTHER PARTY WITHOUT THE PRESENT OF COMPAL ELECTRONICS, INC.				Notes List
Size Document Number Custom LA-4671P				Rev 1.0
Date: Friday, February 20, 2009				Sheet 3 of 53

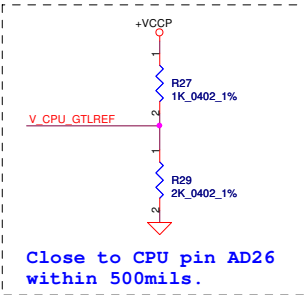


H_THERMDA, H_THERMDC routing together,
Trace width / Spacing = 10 / 10 mil

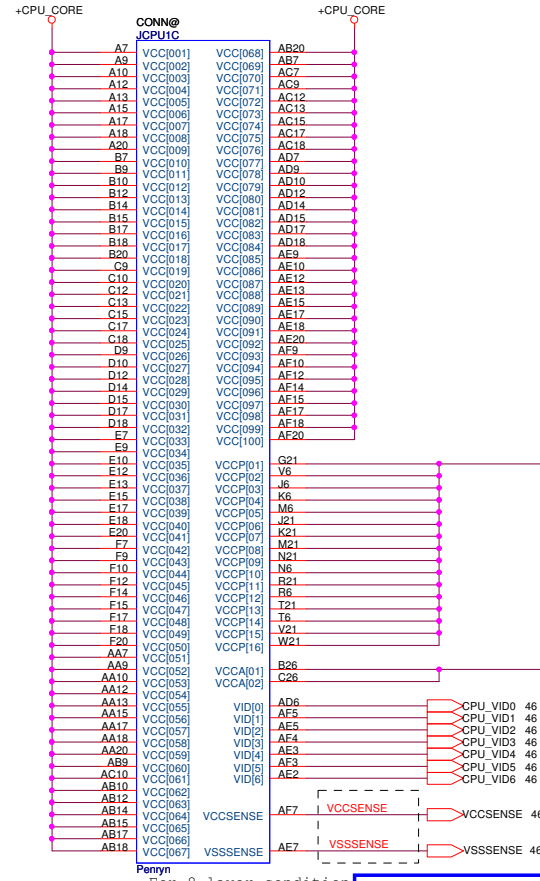
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2006/02/13				Title			
Deciphered Date				2008/6/05				Penryn(1/3)-AGTLA/ITP-XDP			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size				Document Number			
				Customer				LA-4671P			
				Date				Friday, February 20, 2009			
				Sheet				4 of 53			
				Rev				1.0			



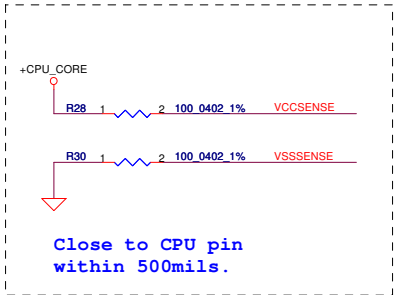
Resistor placed within 0.5" of CPU pin. Trace should be at least 25 mils away from any other toggling signal. COMP[0,2] trace width is 18 mils. COMP[1,3] trace width is 4

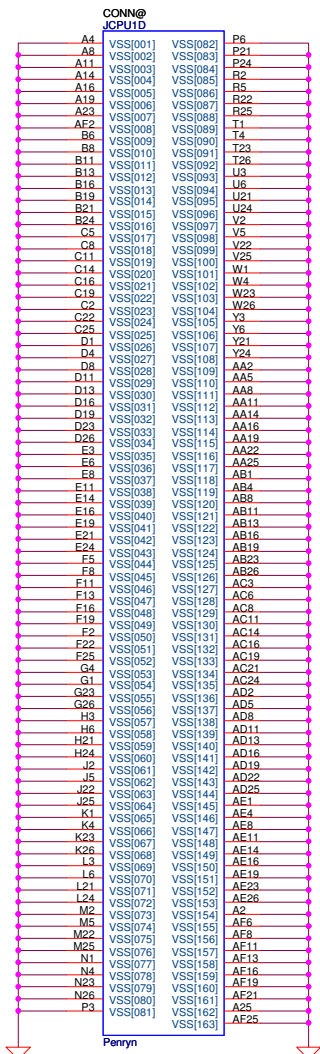


For 6 layer
Z=27.4 ohm
VCCSENSE, VSSSENSE/ 14mils (MS),
16mils (SL) width, 7mils space, 25mils
space to other signals Mismatch =25mils.



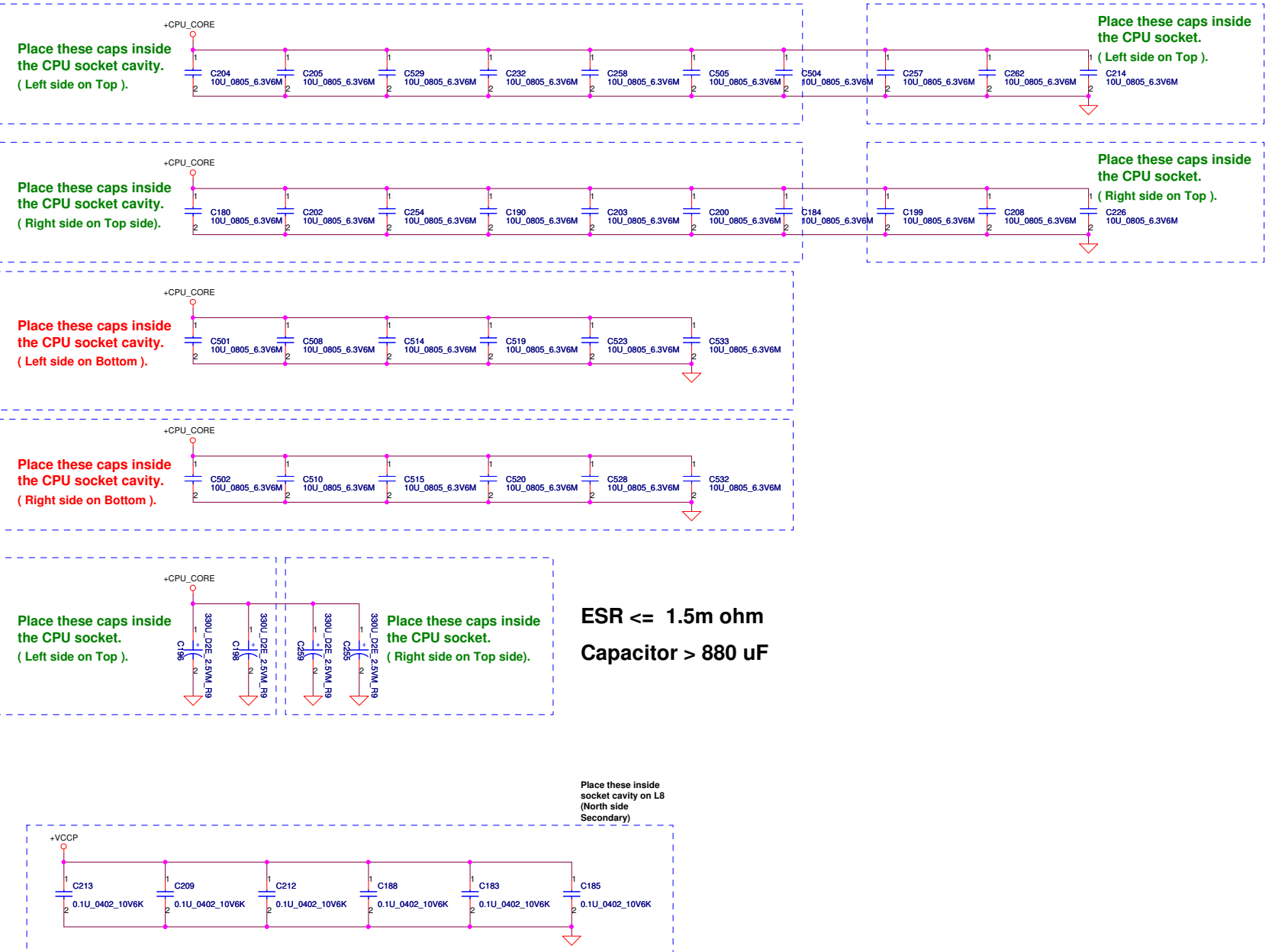
Length match within 25 mils. The trace width/space/other is 20/7/25.



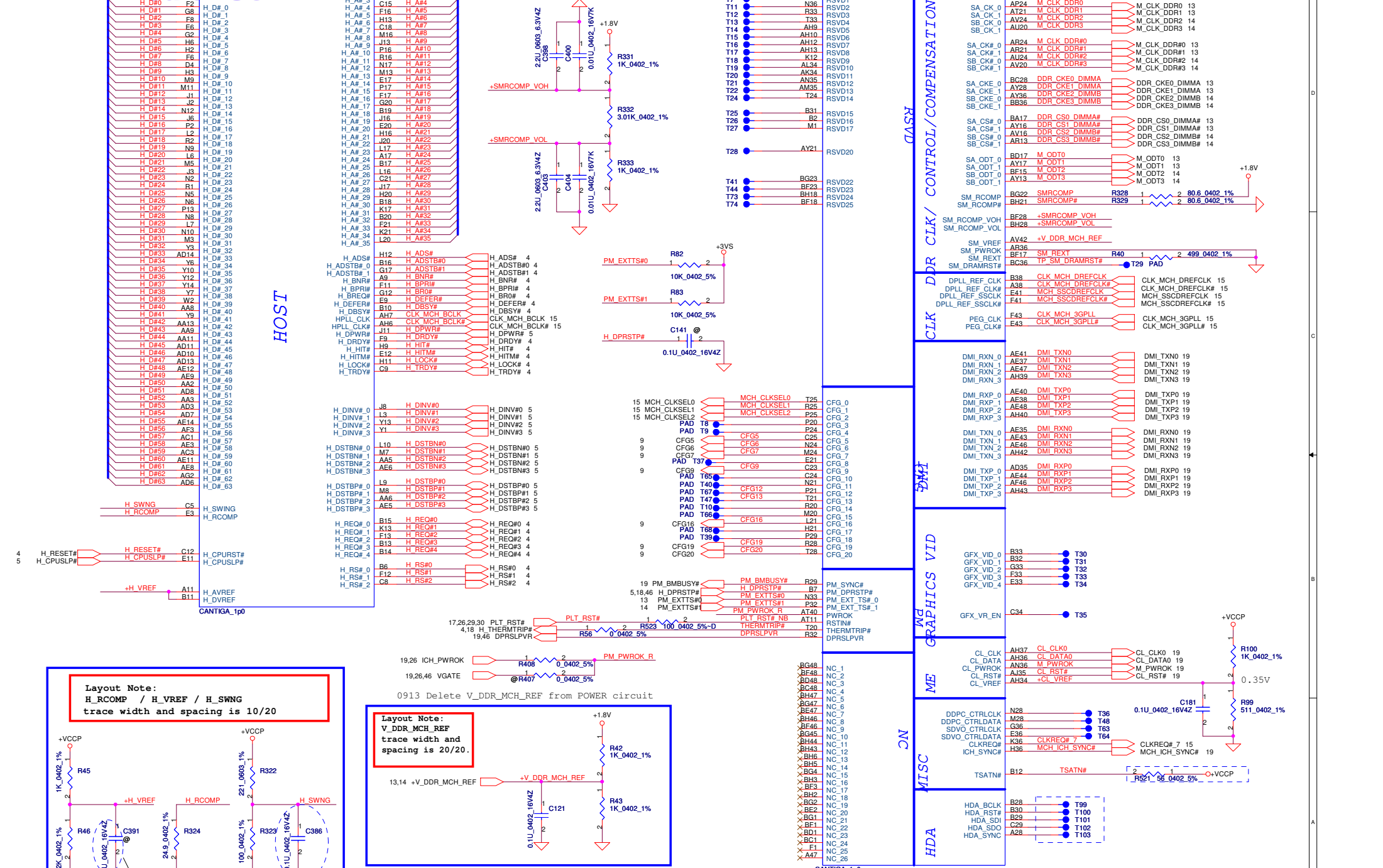


High Frequency Decoupling

10uF 0805 X5R -> 85 degree.

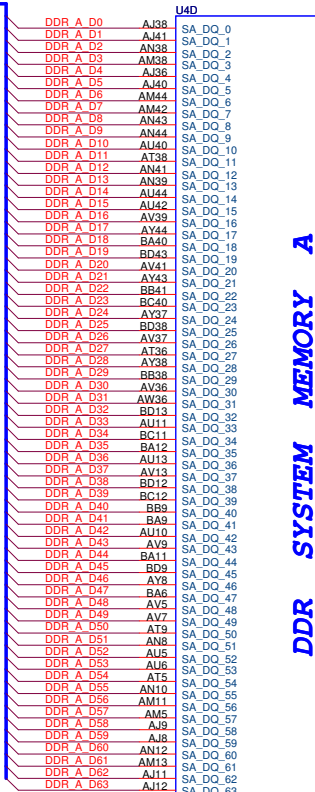


Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2006/02/13	Deciphered Date	2008/06/05	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				Custom	LA-4671P	1.0
				Date:	Friday, February 20, 2009	Rev 1.0
				Sheet	6	of 53

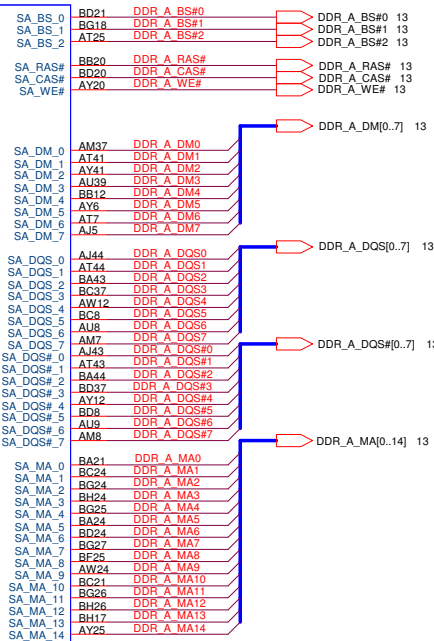


Security Classification		Compal Secret Data		Compal Electronics, Inc. Cantiga(1/6)-AGTL/DMI/DDR	
Issued Date	2006/02/13	Deciphered Date	2008/6/05	Title	Cantiga(1/6)-AGTL/DMI/DDR Size Document Number LA-4671P
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE USED BY ANY OTHER PERSON OR ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Date: Friday, February 20, 2009	Sheet 7 of 53
				Rev 1.0	

13 DDR_A_D[0..63]

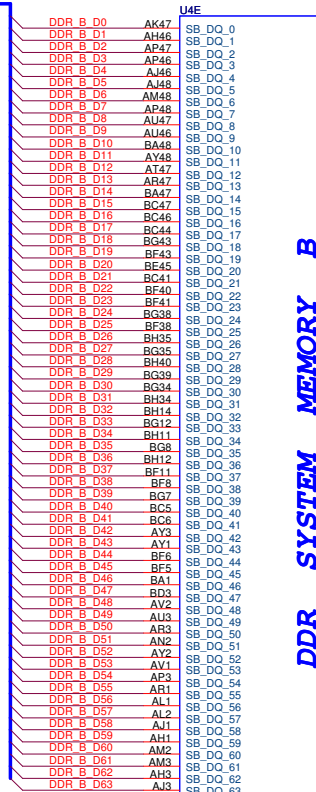


DDR SYSTEM MEMORY A

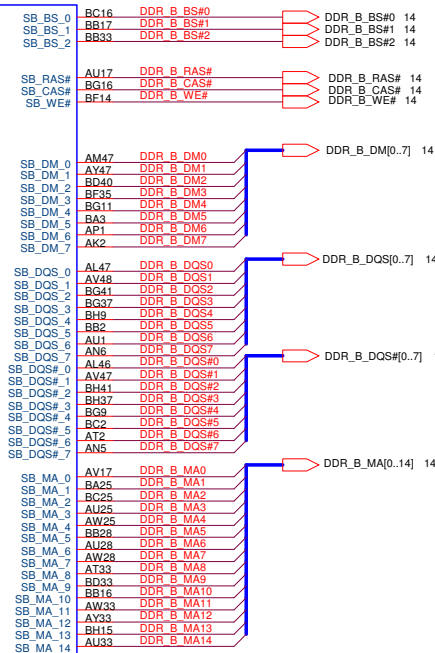


CANTIGA_1p0

14 DDR_B_D[0..63]

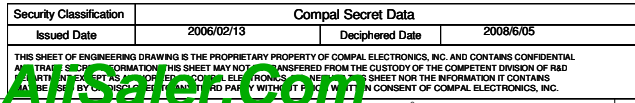
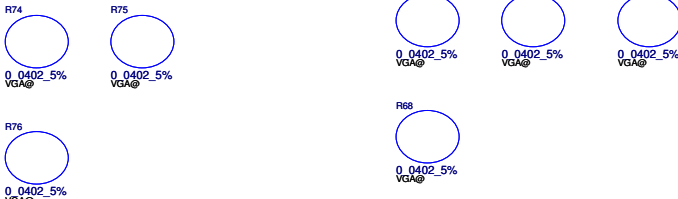


DDR SYSTEM MEMORY B



CANTIGA_1p0

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/02/13	Deciphered Date	2008/6/05	Title	Cantiga(2/6)-DDR2 A/B CH
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-4671P
Date: Friday, February 20, 2009				Sheet	8 of 53



CFG5 @ R66 1 2 2.21K 0.402 1%-D

CFG6 @ R58 1 2 2.21K 0.402 1%-D

CFG7 @ R59 1 2 2.21K 0.402 1%-D

CFG9 @ R55 1 2 2.21K 0.402 1%-D

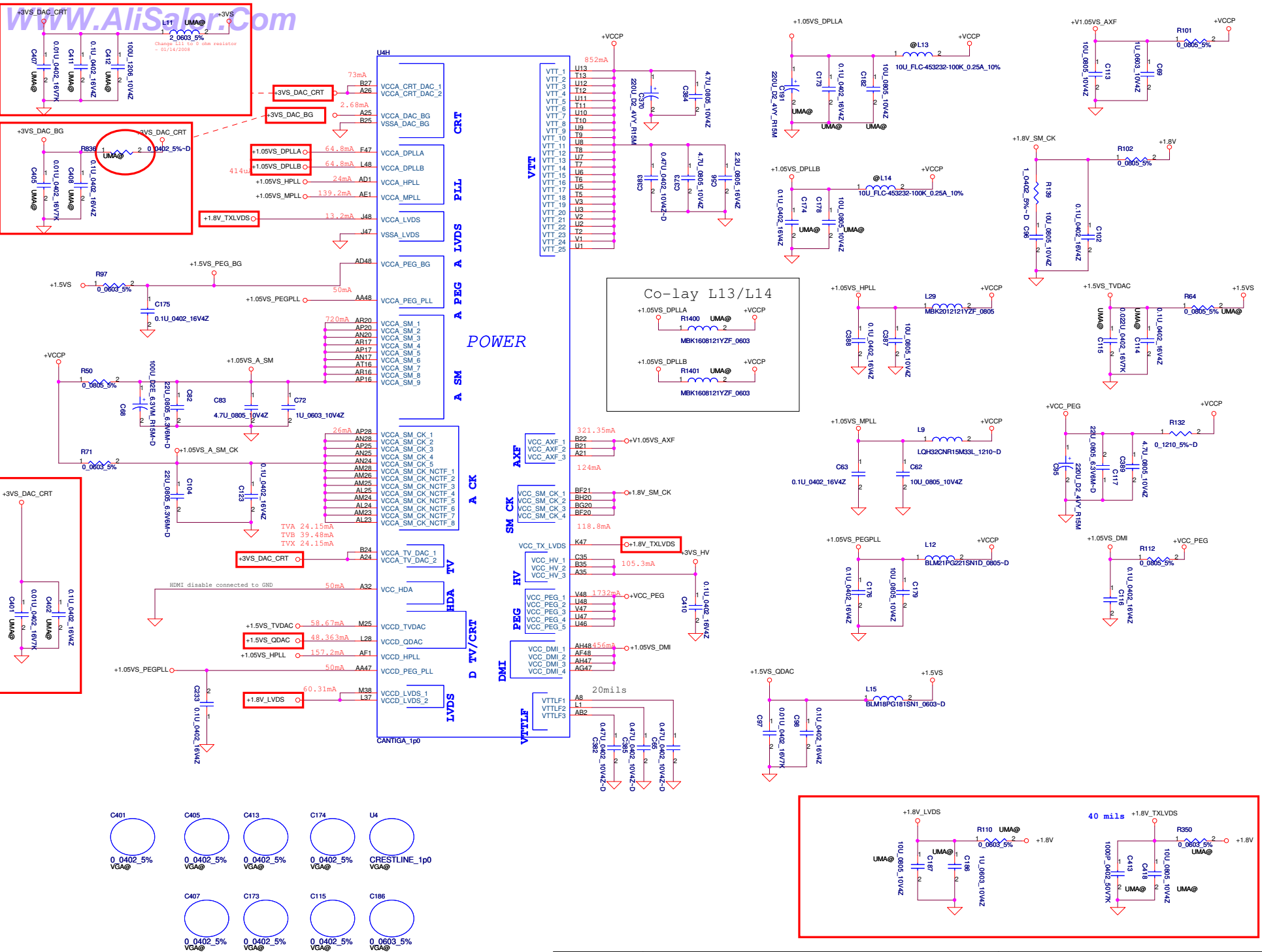
CFG16 @ R70 1 2 2.21K 0.402 1%-D

CFG[5:16] have internal pullup

CFG19 @ R72 1 2 0.402K 0.402 1%-D

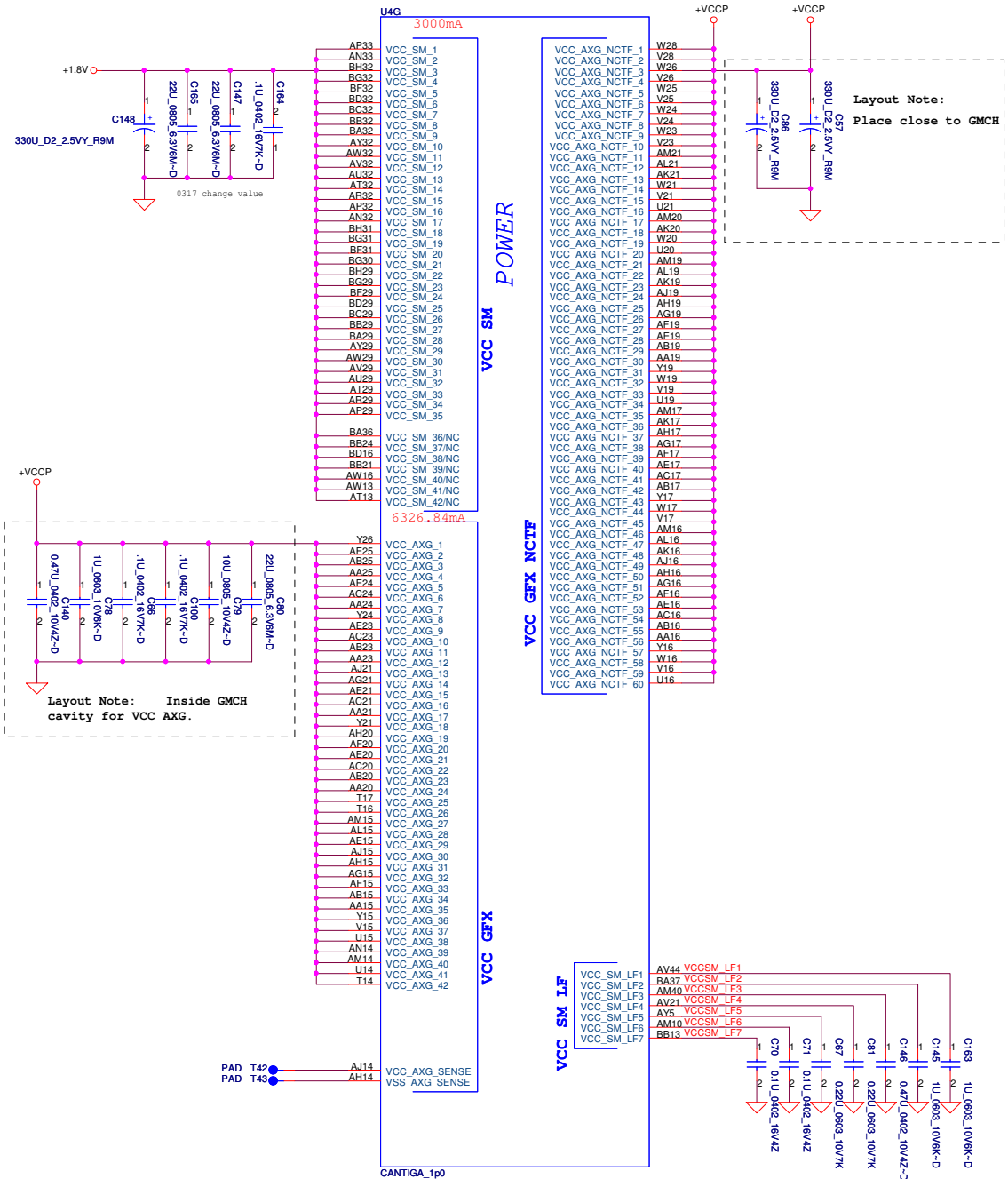
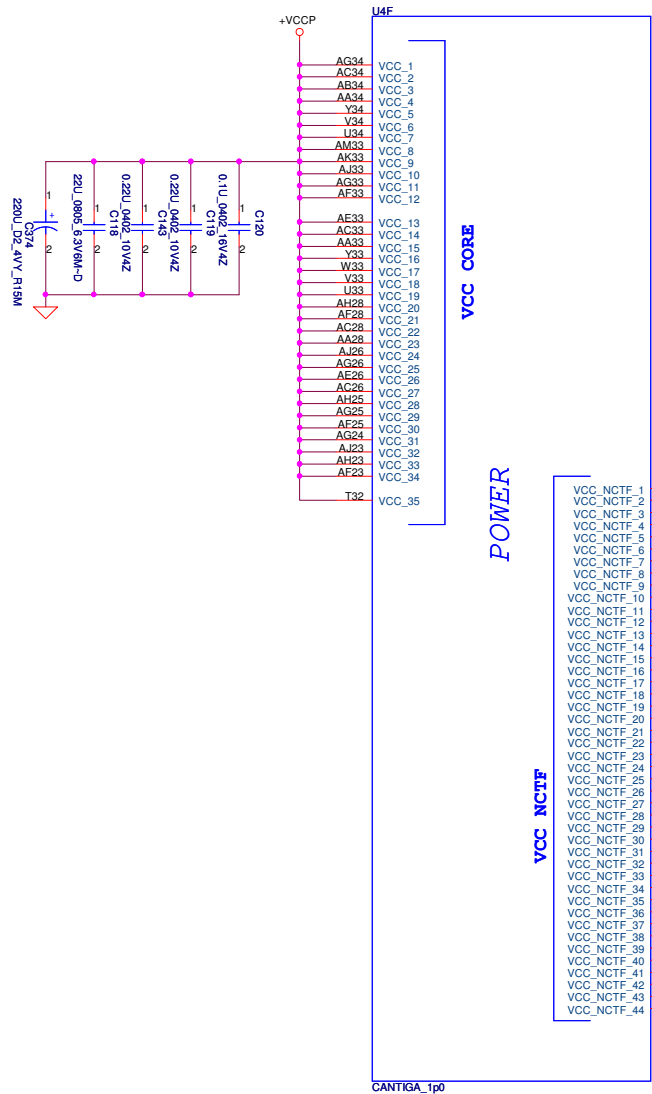
CFG20 @ R73 1 2 0.402K 0.402 1%-D

CFG[19:20] have internal pulldown



Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2006/02/13	Deciphered Date	2008/6/05	Title	Cantiga(4/6)-PWR	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MUST NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D TO ANY OTHER DEPARTMENT OR DIVISION OF COMPAL ELECTRONICS, INC. WITHOUT THE WRITTEN PERMISSION OF THE DIVISION OF R&D. ANY INFORMATION DISCLOSED TO ANY OTHER PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-4671P	Rev 1.0
Date: Friday, February 20, 2009				Sheet	10 of 53	

Extnal Graphic: 1210.34mA
integrated Graphic: 1930.4mA



Security Classification		Compal Secret Data		Compal Electronics, Inc.						
Issued Date		2006/02/13	Deciphered Date		2008/6/05	Title				
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS ARE TO BE LOANED, COPIED, REPRODUCED, OR IN ANY MANNER DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.						Cantiga(5/6)-PWR/GND				
						Size	Document Number			Rev
						Date	LA-4671P			
Date: Friday, February 20, 2009						Sheet 11 of 53				

U41		
AU48	VSS_1	AM36
AR48	VSS_2	AE36
AL48	VSS_3	P36
BB47	VSS_4	L36
AW47	VSS_5	J36
AN47	VSS_6	F36
AU47	VSS_7	B36
AF47	VSS_8	AH35
AD47	VSS_9	AA35
AB47	VSS_10	Y35
U47	VSS_11	U35
T47	VSS_12	T35
N47	VSS_13	BF34
L47	VSS_14	AM34
G47	VSS_15	AJ34
BD46	VSS_16	AE34
BA46	VSS_17	AJ34
AY46	VSS_18	W34
AV46	VSS_19	B34
AT46	VSS_20	A34
AM46	VSS_21	BG33
Y46	VSS_22	VSS_120
R46	VSS_23	BC33
F46	VSS_24	BA33
H46	VSS_25	AV33
F46	VSS_26	AR33
BF44	VSS_27	AL33
AH44	VSS_28	AH33
AD44	VSS_29	AB33
AA44	VSS_30	P33
Y44	VSS_31	L33
U44	VSS_32	H33
T44	VSS_33	N32
M44	VSS_34	K32
F44	VSS_35	F32
BC43	VSS_36	C32
AV43	VSS_37	A31
AU43	VSS_38	VSS_135
AM43	VSS_39	AN29
A43	VSS_40	T29
C43	VSS_41	N29
BG42	VSS_42	K29
AY42	VSS_43	H29
AT42	VSS_44	F29
AN42	VSS_45	VSS_141
AJ42	VSS_46	A29
AE42	VSS_47	BC28
N42	VSS_48	BD28
L42	VSS_49	BA28
BD41	VSS_50	AV28
AU41	VSS_51	AT28
AM41	VSS_52	AF28
AD41	VSS_53	AJ28
AA41	VSS_54	AG28
Y41	VSS_55	AE28
U41	VSS_56	AB28
T41	VSS_57	Y28
M41	VSS_58	VSS_153
G41	VSS_59	VSS_154
B41	VSS_60	P28
BC40	VSS_61	K28
BB40	VSS_62	H28
AV40	VSS_63	AE13
AN40	VSS_64	N13
AH40	VSS_65	L13
E40	VSS_66	VSS_259
AT39	VSS_67	G13
AM39	VSS_68	E13
AJ39	VSS_69	BF12
AE39	VSS_70	AV12
N39	VSS_71	AT12
L39	VSS_72	AM12
BH38	VSS_73	AA12
BC38	VSS_74	J12
BA38	VSS_75	BD11
AA38	VSS_76	BB11
Y38	VSS_77	AV11
U38	VSS_78	AY11
T38	VSS_79	AN11
J38	VSS_80	AH11
F38	VSS_81	Y11
C38	VSS_82	N11
BF37	VSS_83	C11
BB37	VSS_84	BG10
AW37	VSS_85	AV10
AT37	VSS_86	AT10
AJ37	VSS_87	AJ10
H37	VSS_88	AE10
C37	VSS_89	AA10
BC36	VSS_90	M10
BD36	VSS_91	BF9
AK15	VSS_92	BC9
AU36	VSS_93	AN9
	VSS_94	AM9
	VSS_95	AD9
	VSS_96	G9
	VSS_97	B9
	VSS_98	BH8
	VSS_99	BB8
		AV8
		AT8

CANTIGA_1p0

U4J		
BG21	VSS_199	AH8
L12	VSS_200	Y8
AW21	VSS_201	L8
AU21	VSS_202	E8
AP21	VSS_203	B8
AN21	VSS_204	AY7
AH21	VSS_205	AU7
AF21	VSS_206	AN7
AB21	VSS_207	AJ7
R21	VSS_208	AE7
M21	VSS_209	AA7
J21	VSS_210	N7
G21	VSS_211	U7
BC20	VSS_212	BG6
BA20	VSS_213	BD6
AW20	VSS_214	AV6
AT20	VSS_215	AT6
AJ20	VSS_216	AM6
AG20	VSS_217	M6
Y20	VSS_218	C6
N20	VSS_219	BA5
K20	VSS_220	AH5
F20	VSS_221	AD5
C20	VSS_222	Y5
A20	VSS_223	VSS_321
BG19	VSS_224	J5
BC17	VSS_225	H5
AW17	VSS_226	F5
AT17	VSS_227	BE4
R17	VSS_228	BC3
M17	VSS_229	AV3
H17	VSS_230	AL3
C17	VSS_231	R3
	VSS_232	P3
	VSS_233	VSS_331
		VSS_332
		VSS_333
BA16	VSS_235	BA2
A31		AW2
AU16	VSS_237	AU2
AN16	VSS_238	AR2
N16	VSS_239	AP2
K16	VSS_240	AJ2
G16	VSS_241	AH2
E16	VSS_242	AF2
BG15	VSS_243	AE2
AC15	VSS_244	AD2
W15	VSS_245	AC2
A15	VSS_246	Y2
BG14	VSS_247	M2
AA14	VSS_248	K2
AF28	VSS_249	AM1
CG14	VSS_250	AA1
BG13	VSS_251	P1
BC13	VSS_252	H1
BA13	VSS_252	
		VSS_351
		VSS_352
		VSS_353
		VSS_354
AN13	VSS_255	
AJ13	VSS_256	
AE13	VSS_257	
N13	VSS_258	
L13	VSS_259	
G13	VSS_260	
E13	VSS_261	
BF12	VSS_262	
AV12	VSS_263	
AT12	VSS_264	
AM12	VSS_265	
AA12	VSS_266	
J12	VSS_267	
BD11	VSS_268	
BB11	VSS_269	
AV11	VSS_270	
AY11	VSS_271	
AN11	VSS_272	
AH11	VSS_273	
Y11	VSS_275	
N11	VSS_276	
C11	VSS_277	
BG10	VSS_278	
AV10	VSS_279	
AT10	VSS_280	
AJ10	VSS_281	
AE10	VSS_282	
AA10	VSS_283	
M10	VSS_284	
BF9	VSS_285	
BC9	VSS_286	
AN9	VSS_287	
AM9	VSS_288	
AD9	VSS_289	
G9	VSS_290	
B9	VSS_291	
BH8	VSS_292	
BB8	VSS_293	
AV8	VSS_294	
AT8	VSS_295	
	VSS_296	

VSS

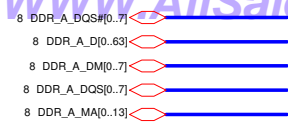
VSS NCTF

VSS SCB

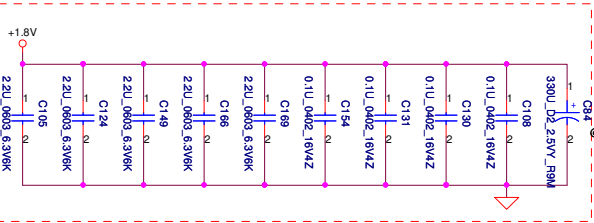
NC

VSS NCTF_1	AF32
VSS NCTF_2	AB32
VSS NCTF_3	V32
VSS NCTF_4	AJ30
VSS NCTF_5	AM29
VSS NCTF_6	AF29
VSS NCTF_7	AB29
VSS NCTF_8	U26
VSS NCTF_9	U23
VSS NCTF_10	U20
VSS NCTF_11	AC19
VSS NCTF_12	AL17
VSS NCTF_13	AJ17
VSS NCTF_14	AA17
VSS NCTF_15	U17
VSS NCTF_16	
VSS SCB_1	BH48
VSS SCB_2	BH1
VSS SCB_3	A48
VSS SCB_4	C1
VSS SCB_5	A3
NC_26	E1
NC_27	D2
NC_28	C3
NC_29	B4
NC_30	A5
NC_31	A6
NC_32	A43
NC_33	A44
NC_34	B45
NC_35	C46
NC_36	D47
NC_37	B47
NC_38	A46
NC_39	F48
NC_40	E48
NC_41	C48
NC_42	B48

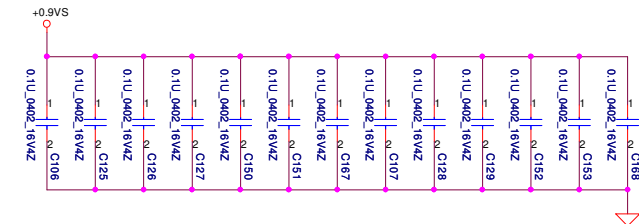
Security Classification	Compal Secret Data		Title	
Issued Date	2006/02/13	Deciphered Date	2008/6/05	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS IS TO BE USED BY ANY OTHER PERSON OR ANY OTHER PARTY WITHOUT THEIR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom
				Document Number LA-4671P
				Rev 1.0
				Date: Friday, February 20, 2009
				Sheet 12 of 53



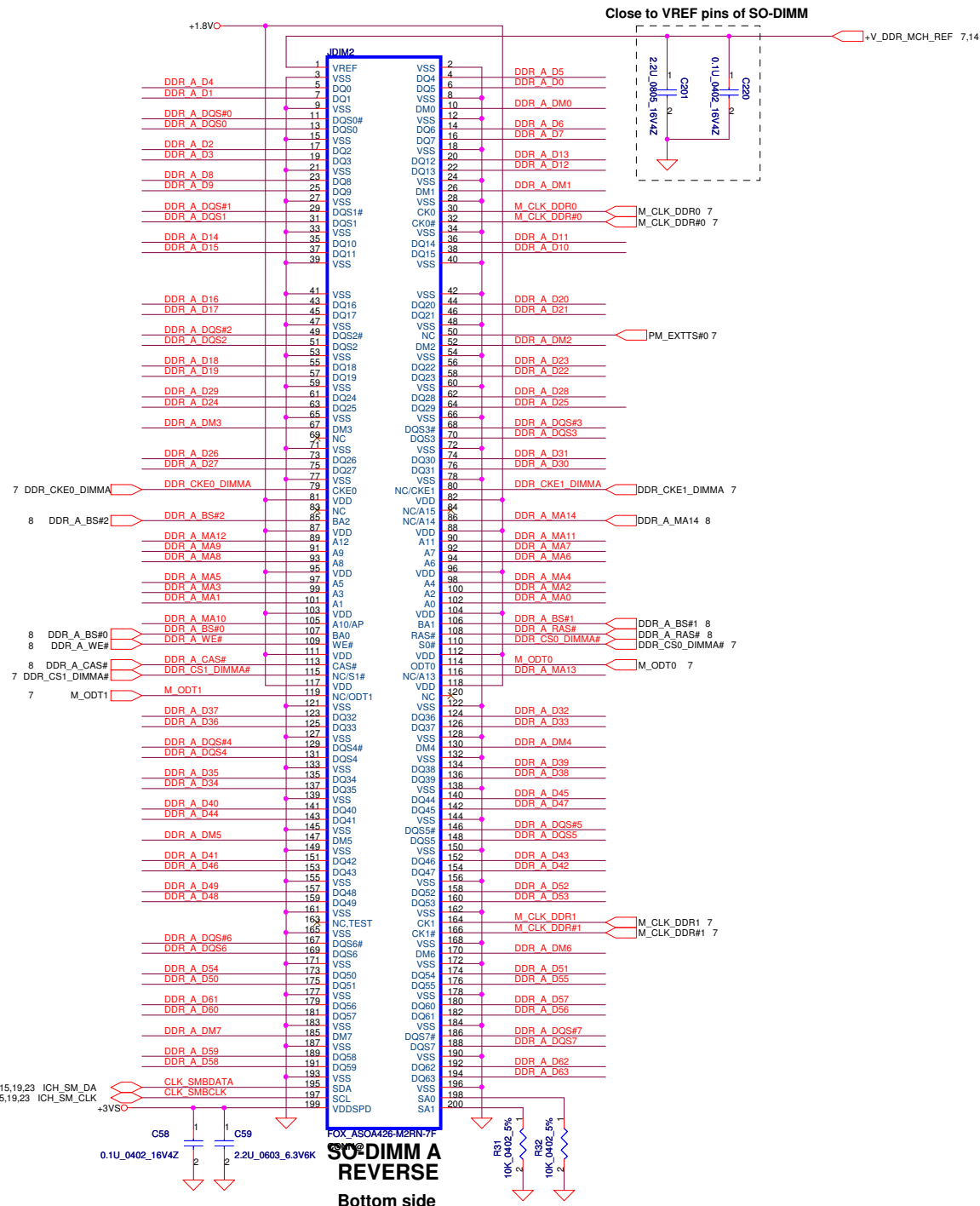
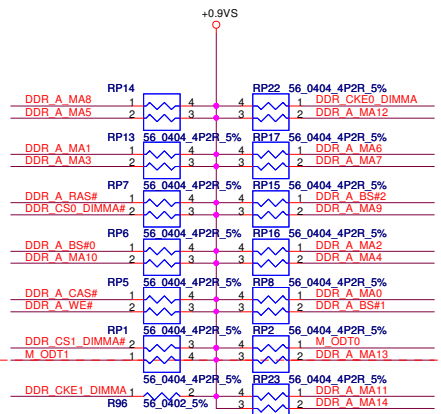
Layout Note:
Place near JDIM2



Layout Note:
Place one cap close to every 2 pullup resistors terminated to +0.9V

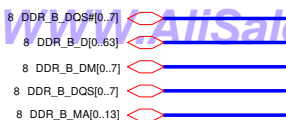


Layout Note:
Place these resistor closely JDIM2, all trace length Max=1.5"

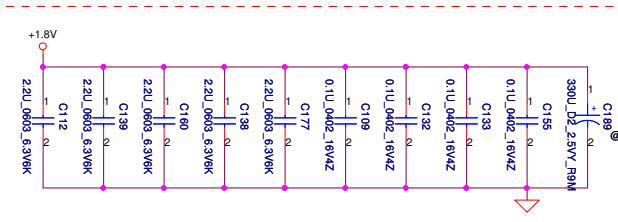


SO-DIMM A
REVERSE
Bottom side

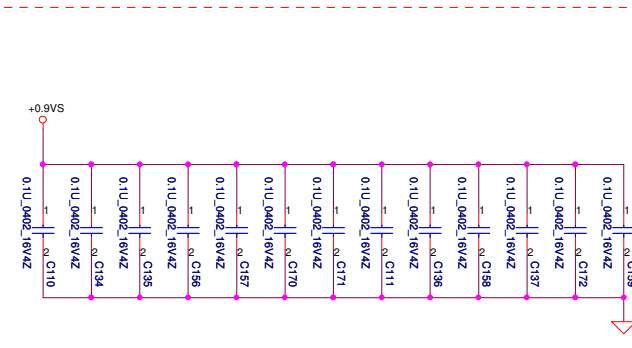
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2007/1/15				Deciphered Date			
								2008/6/05			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.								Title			
								DDR2 SO-DIMM I			
								Size			
								LA-4671P			
								Rev			
								1.0			
								Date			
								Friday, February 20, 2009			
								Sheet 13 of 53			



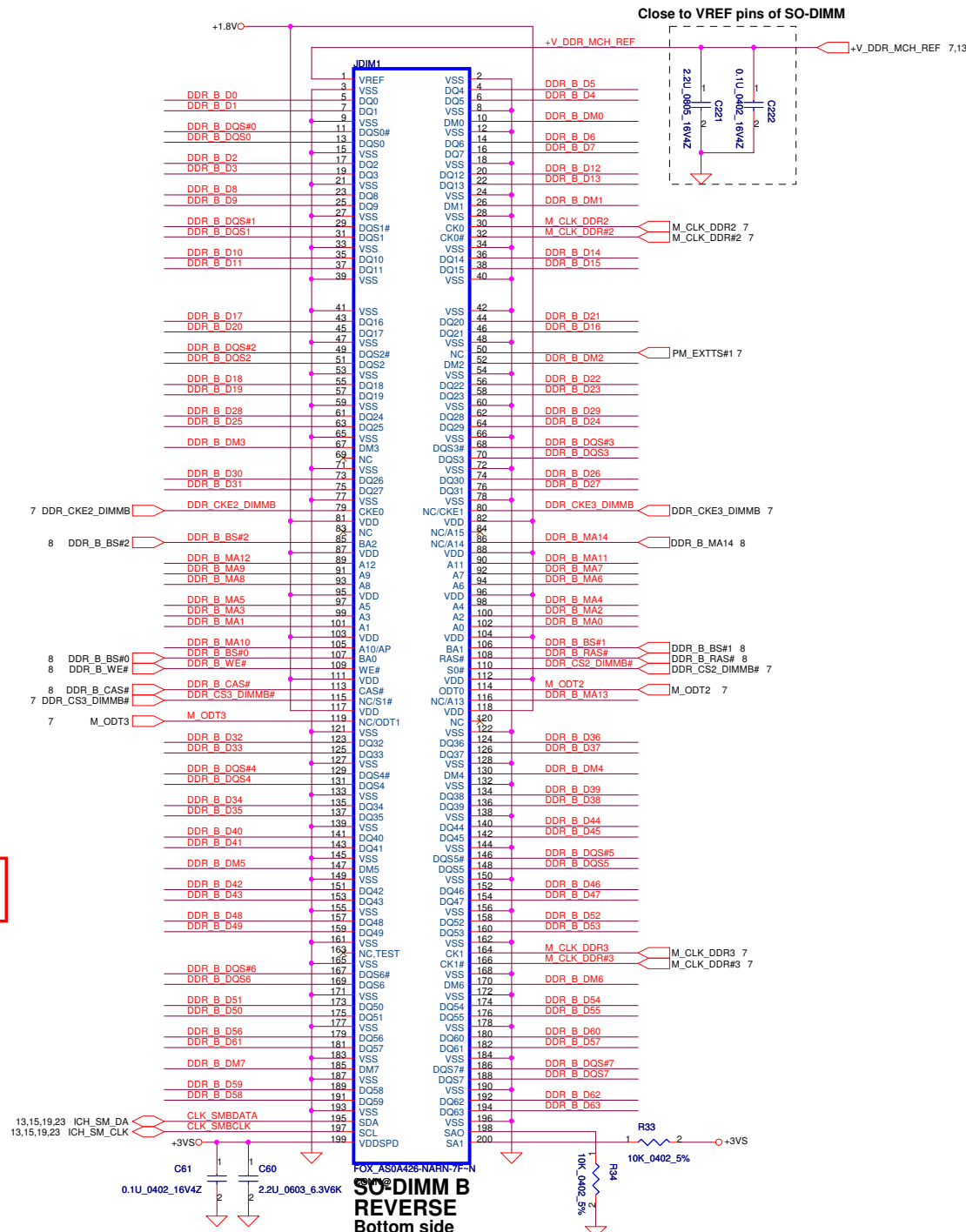
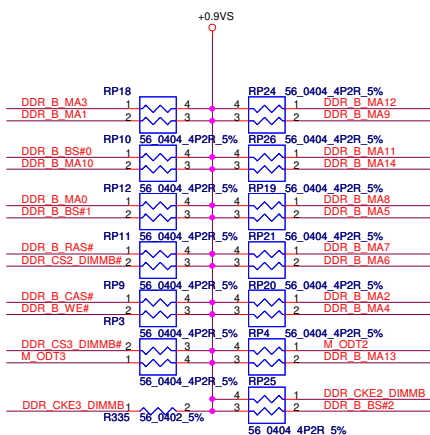
Layout Note:
Place near JDIM1



Layout Note:
Place one cap close to every 2 pullup resistors terminated to +0.9VS

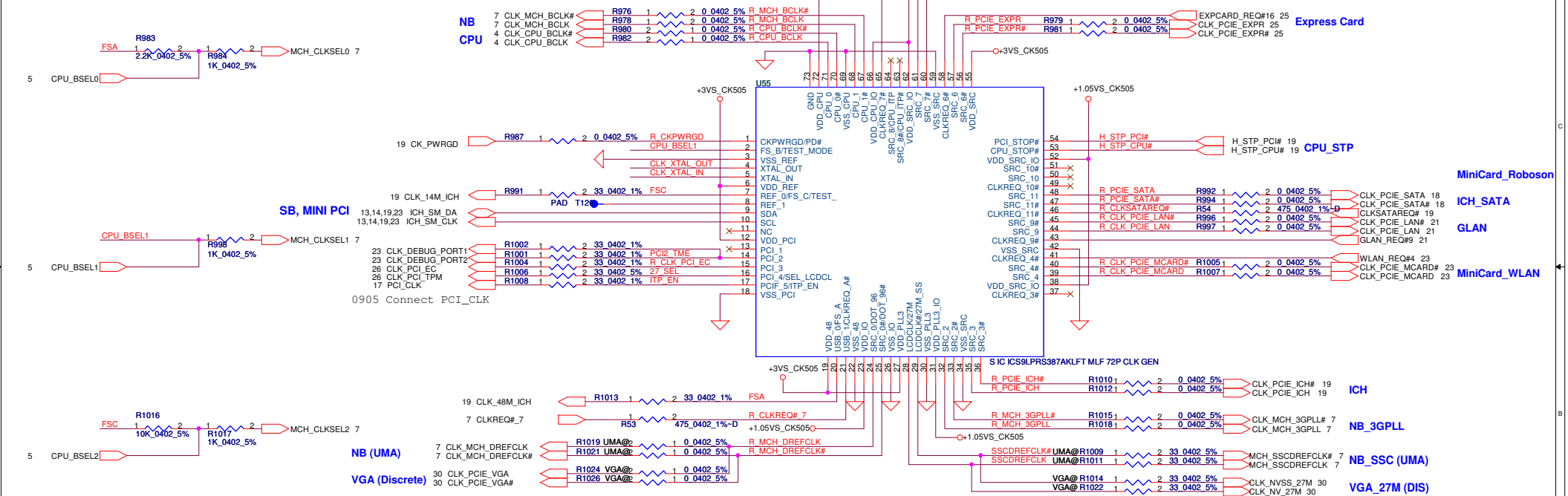
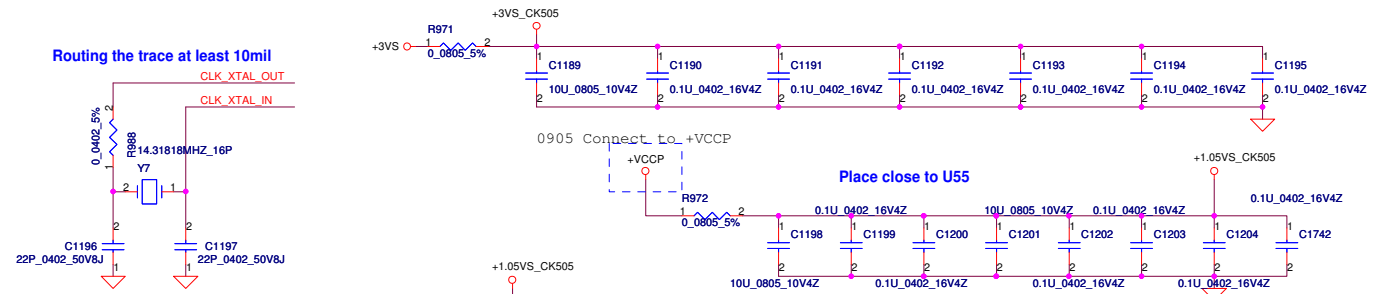


Layout Note:
Place these resistor
closely JDIM1,all
trace length Max=1.5

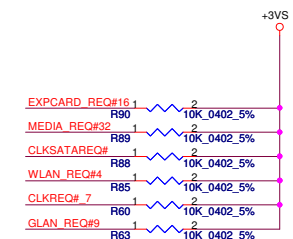
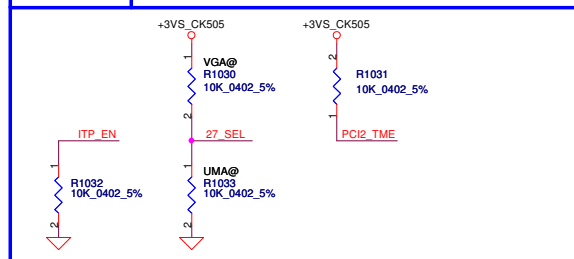


Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2007/1/15	Deciphered Date	2008/6/05	Title	DDR2 SO-DIMM II	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT THE PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				Custom	LA-4671P	1.0
Date:				Friday, February 20, 2009	Sheet	14 of 53

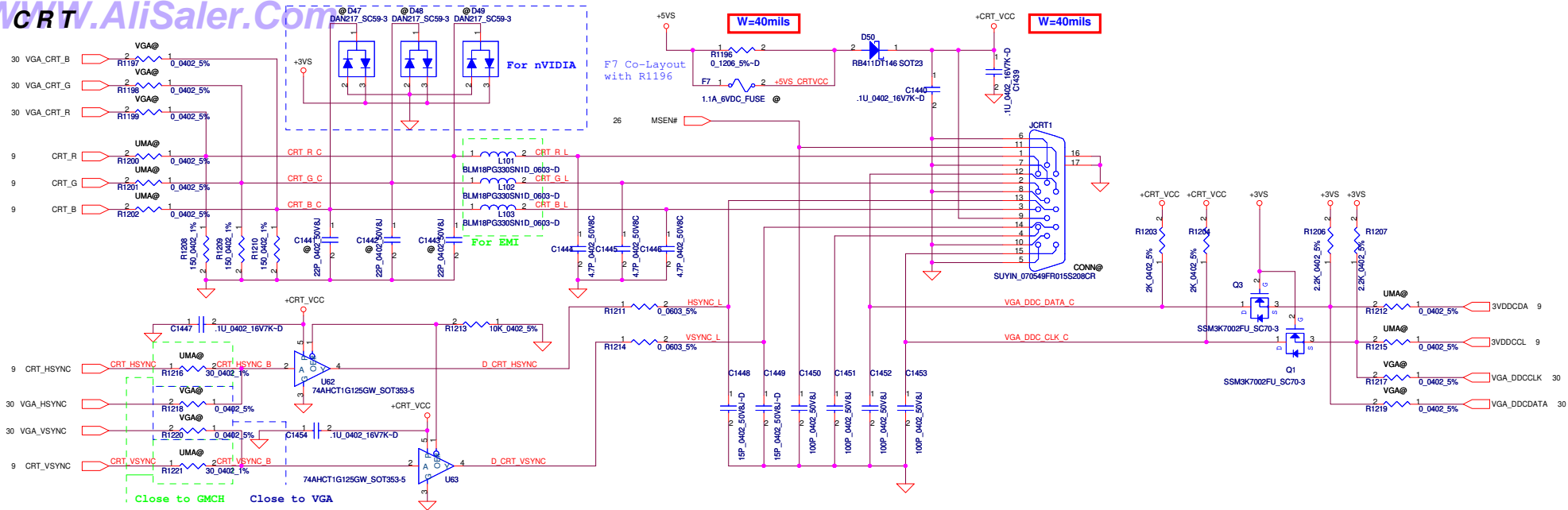
FSC CLKSEL2	FSB CLKSEL1	FSA CLKSEL0	CPU MHz	SRC MHz	PCI MHz	REF MHz	DOT_96 MHz	USB MHz
0	0	0	266	100	33.3	14.318	96.0	48.0
0	0	1	133	100	33.3	14.318	96.0	48.0
0	1	0	200	100	33.3	14.318	96.0	48.0
0	1	1	166	100	33.3	14.318	96.0	48.0
1	0	0	333	100	33.3	14.318	96.0	48.0
1	0	1	100	100	33.3	14.318	96.0	48.0
1	1	0	400	100	33.3	14.318	96.0	48.0
1	1	1	Reserved					



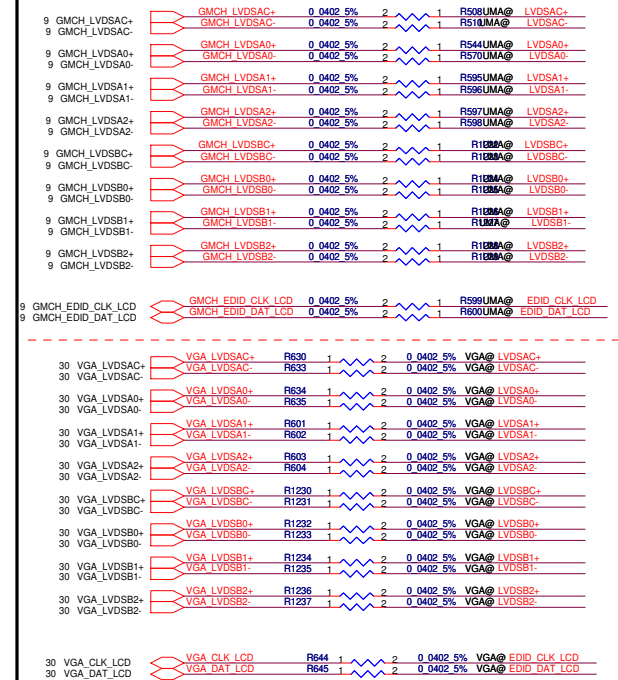
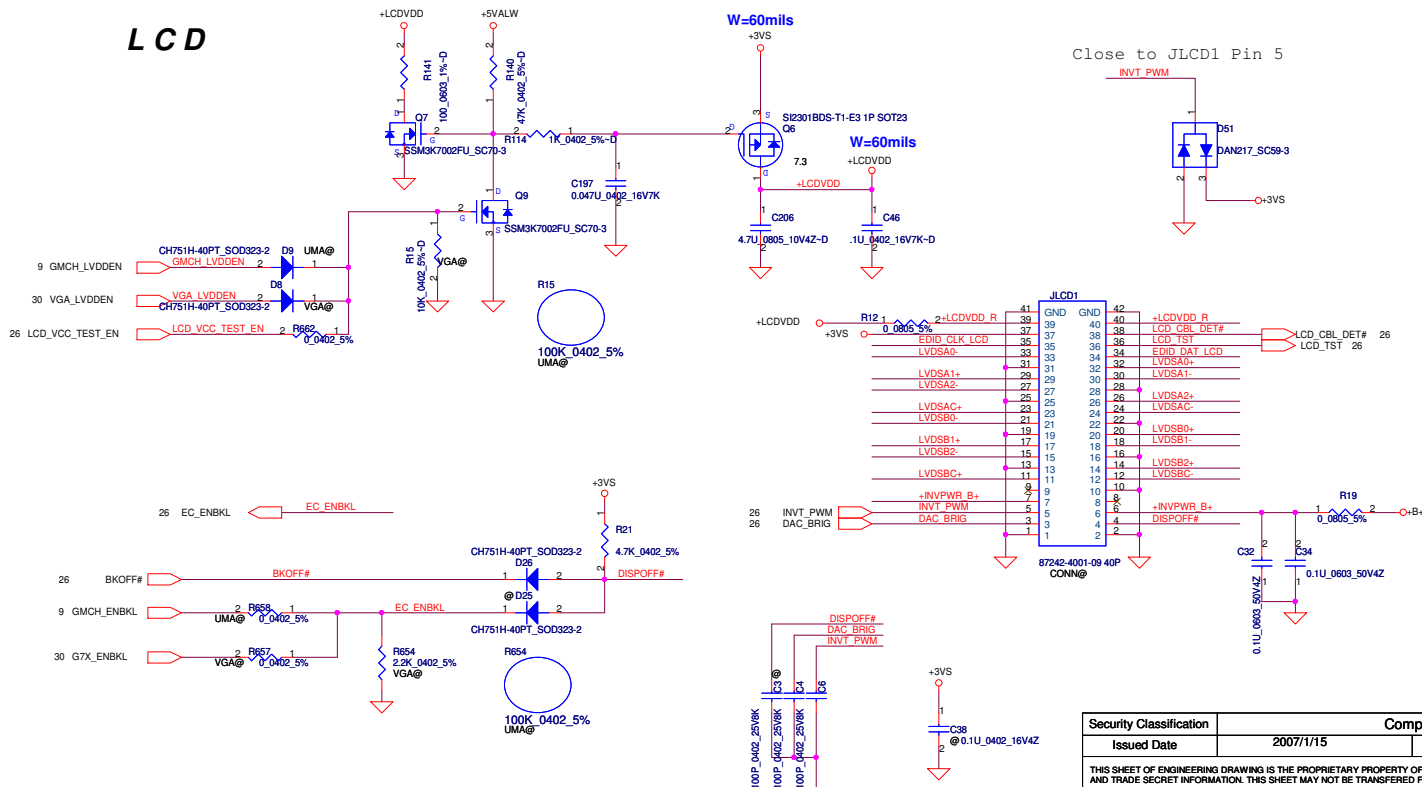
ITP_EN	0 = SRC8/SRC8# 1 = ITP/ITP#
27_SEL	0 = Enable DOT96 & SRC1 (UMA) 1 = Enable SRC0 & 27MHz (DIS)
PCI2_TME	0 = Overclocking of CPU and SRC Allowed 1 = Overclocking of CPU and SRC NOT allowed



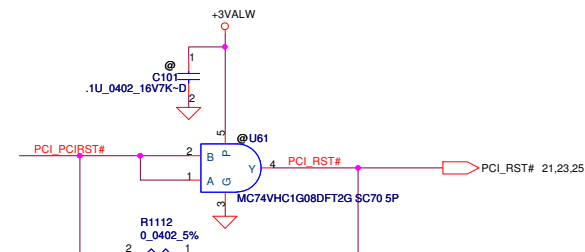
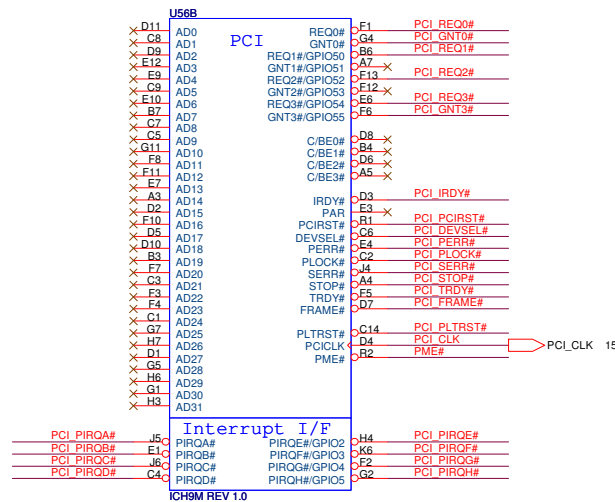
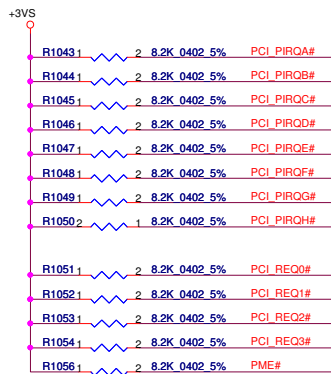
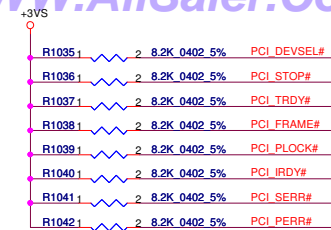
Security Classification		Compal Secret Data		Compal Electronics, Inc. Clock Generator CK505	
Issued Date	2006/02/13	Deciphered Date	2008/6/05	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE LOANED, REPRODUCED, COPIED, OR IN ANY MANNER DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number LA-4671P
					Rev 1.0
				Date:	Friday, February 20, 2009
				Sheet	15 of 53



LCD



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/1/15	Deciphered Date	2008/6/05	Title	CRT CONN/LCD CONN
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Size	Document Number	Rev	0
		Date	Friday, February 20, 2009	Sheet	16 of 53

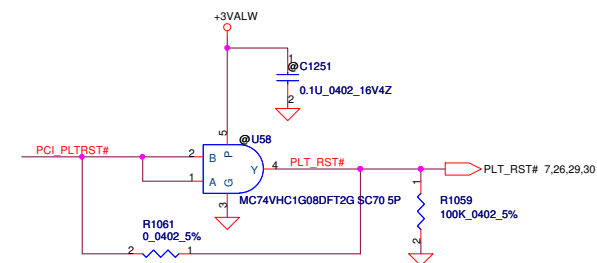


A16 swap override Strap

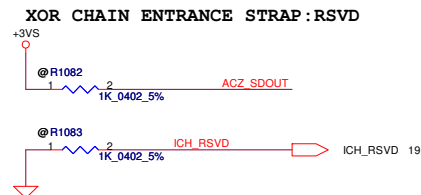
PCI_GNT3#	Low= A16 swap override Enble High= Default*
-----------	------------------------------------------------

Boot BIOS Strap

PCI_GNT0#	SPI_CS#1	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC *

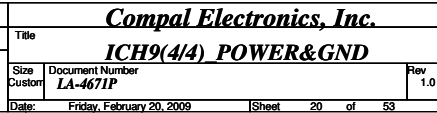


Security Classification		Compal Secret Data		Compal Electronics, Inc.					
Issued Date		2006/02/13		Deciphered Date		2008/6/05		Title	
								ICH9(1/4)-PCI/INT	
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</p>		Size		Document Number				Rev	
				LA-4671P				1.0	
				Date:		Friday, February 20, 2009		Sheet 17 of 53	

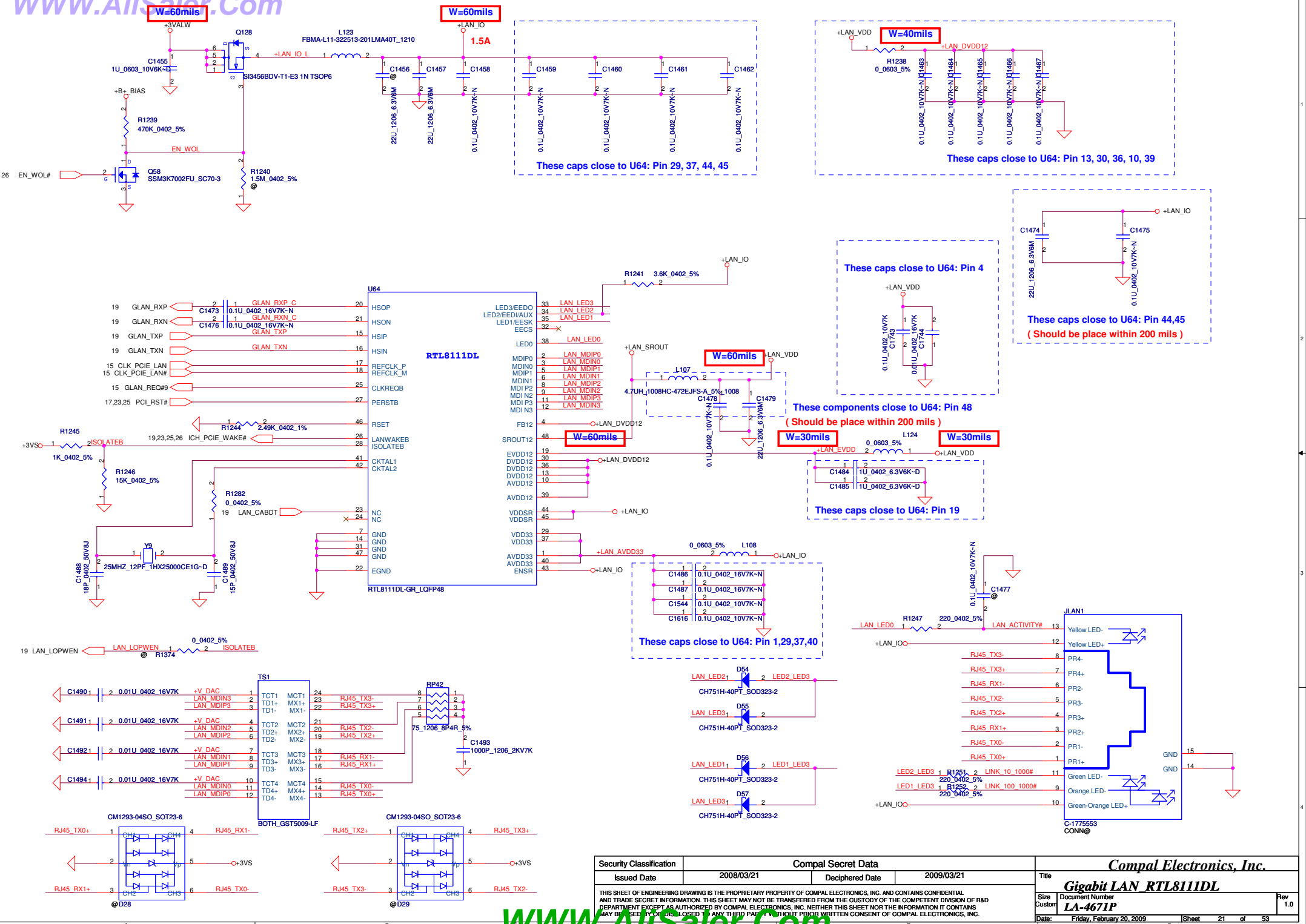


DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAQ ELECTRONICS, INC. NEITHER THIS SHEET
NOR ITS CONTENTS ARE TO BE LOANED, REPRODUCED, COPIED, OR IN ANY MANNER DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAQ ELECTRONICS, INC.

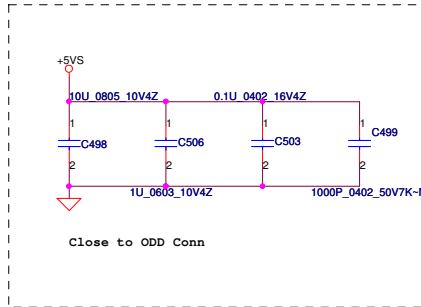
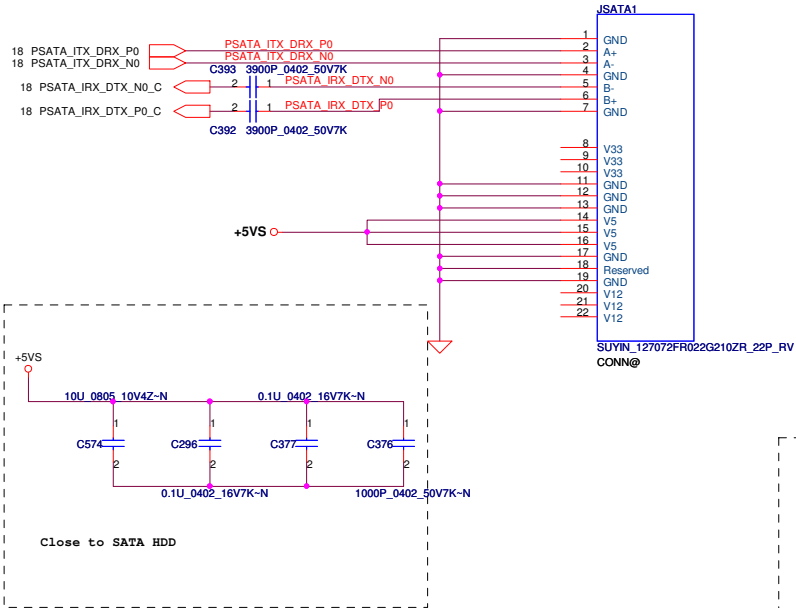
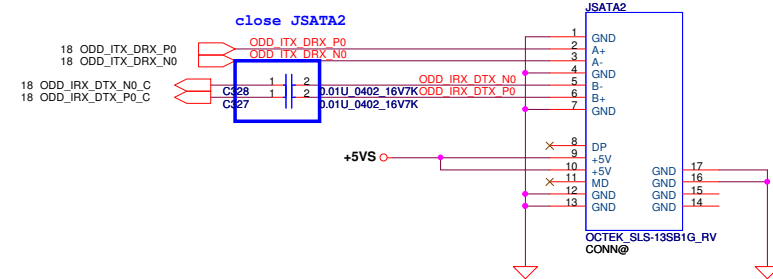




Security Classification	Compal Secret Data		
Issued Date	2006/02/13	Deciphered Date	2008/6/05
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE LOANED, REPRODUCED, COPIED, OR IN ANY MANNER DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</p>			

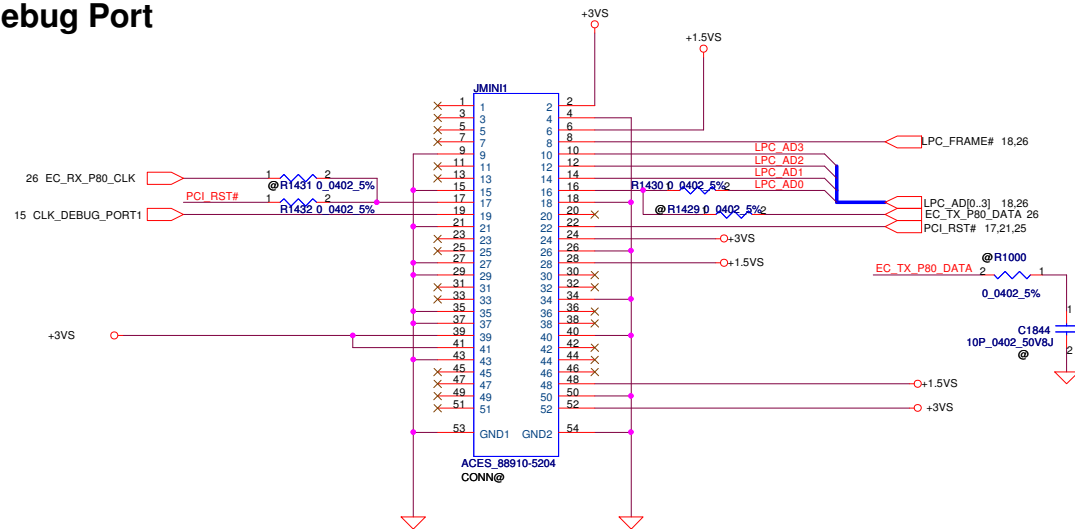


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/03/21	Deciphered Date	2009/03/21	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Gigabit LAN RTL8111DL	
Size	Custom	Document Number	LA-4671P	Rev	1.0
Date:	Friday, February 20, 2009	Sheet	21	of	53

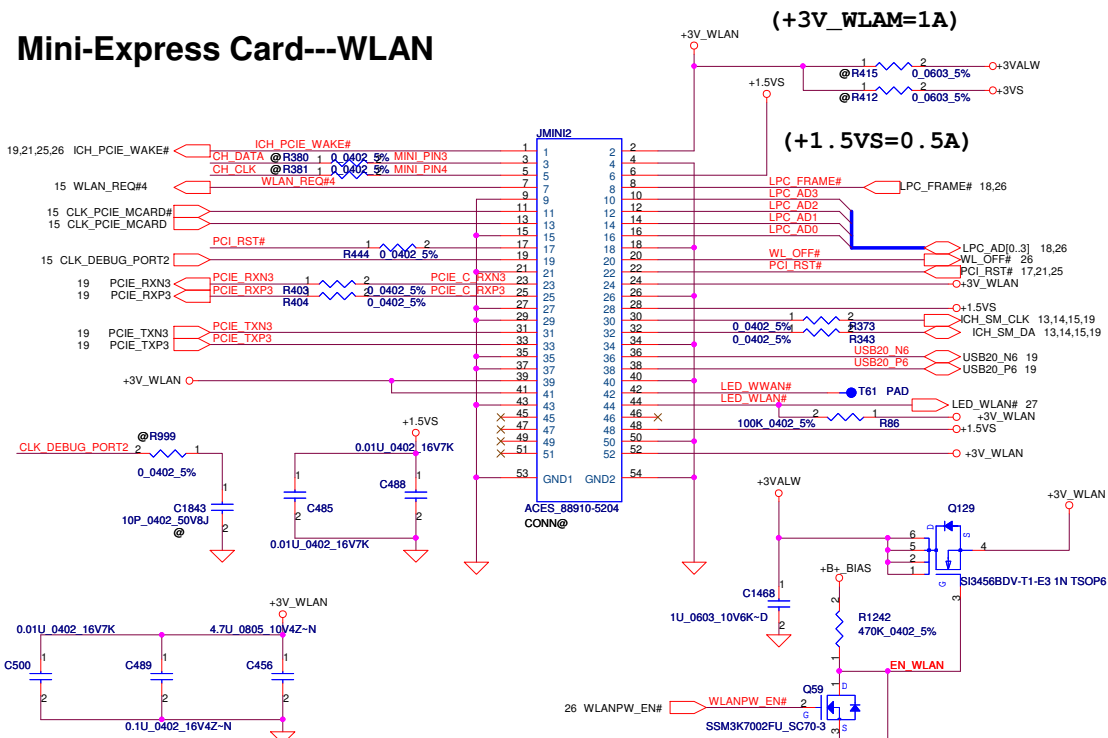
**SATA ODD CONN**

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/1/15	Deciphered Date	2008/6/05	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED, REPRODUCED, COPIED, OR IN ANY MANNER DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				HDD/CDROM	
				Size	Rev
				Document Number LA-4671P	1.0
Date:	Friday, February 20, 2009	Sheet	22	of	53

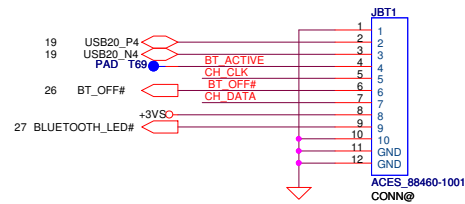
Debug Port



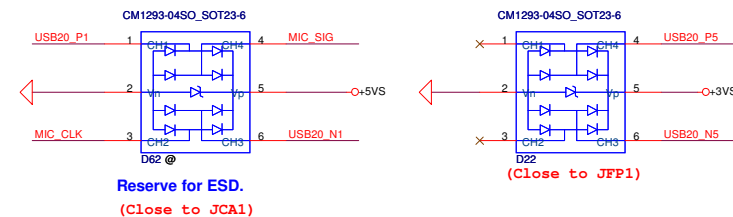
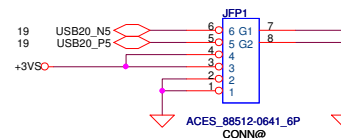
Mini-Express Card---WLAN



Bluetooth

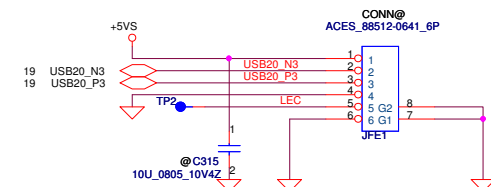


Fingerprint

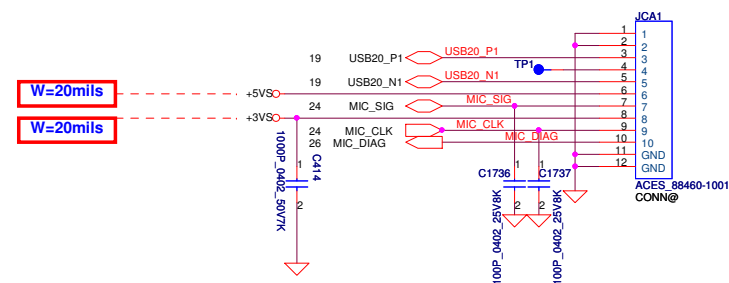


Felica

Felica Conn

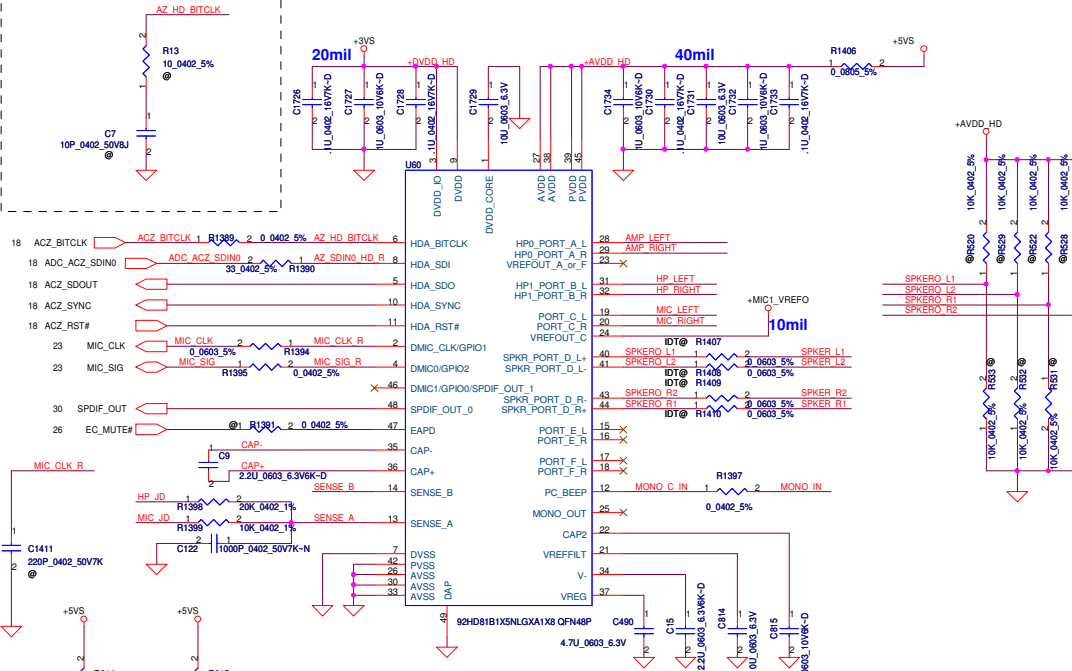


Camera Conn

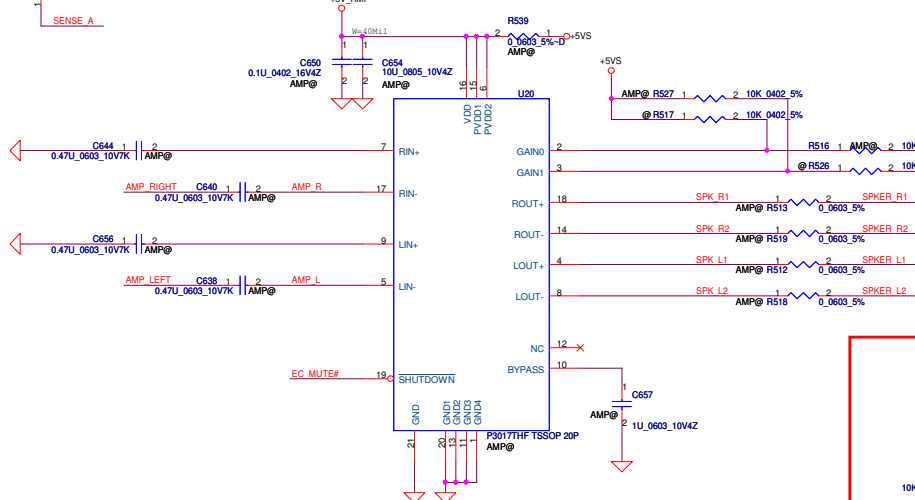


Security Classification				Compal Secret Data				Compal Electronics, Inc.					
Issued Date		2007/1/15		Deciphered Date		2008/6/05		Title					
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE DISCLOSED BY ANY EMPLOYEE OF COMPAL ELECTRONICS, INC. TO ANY THIRD PARTY WITHOUT THE PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.								WLAN/BT/FP					
								Size Custom		Document Number		Rev	
								LA-4671P				1.0	
Date: Friday, February 20, 2009				Sheet		23		of		53			

Place close to codec

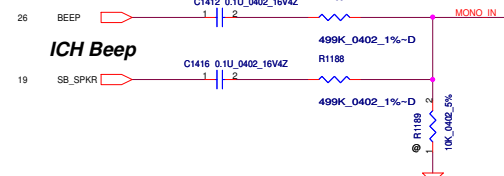


Vref and CAP2 components need close to codec

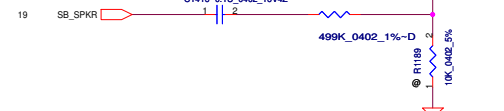


GAIN0	GAIN1	GAIN
0	0	6dB
0	1	10dB
1	0	15.6dB
1	1	21.6dB

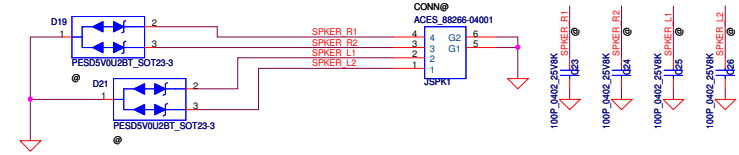
EC Beep



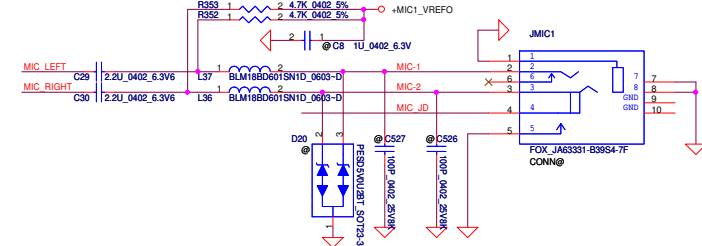
ICH Beep



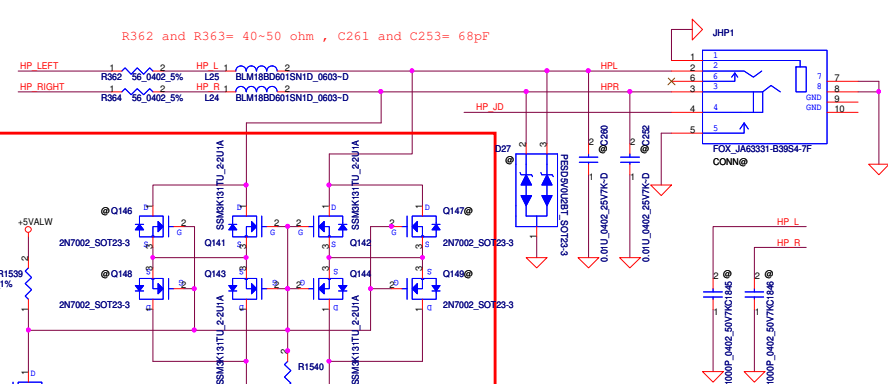
Speaker Connector



MICROPHONE IN JACK



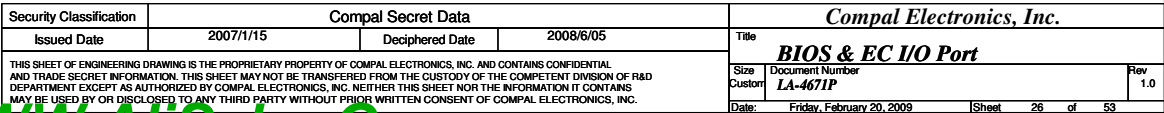
HEADPHONE OUT JACK

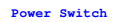


For pop/click noise from S3/S4/cold boot/warm boot

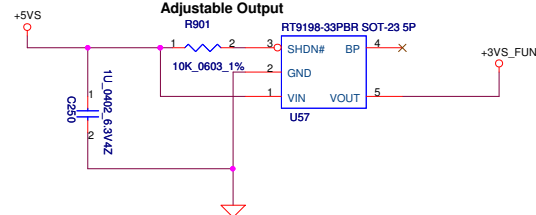
Q141-Q144 Co-Layout with Q146-Q149

Security Classification	Compal Secret Data	Compal Electronics, Inc.
Issued Date	2008/05/07	Deciphered Date
2008/05/07	2008/05/07	2008/05/07
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS IS TO BE USED FOR ANY PURPOSES OTHER THAN THAT AUTHORIZED BY COMPAL ELECTRONICS, INC. WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		
Size	Document Number	Rev
LA-4671P	LA-4671P	1.0
Date	Friday, February 20, 2009	Sheet 24 of 53

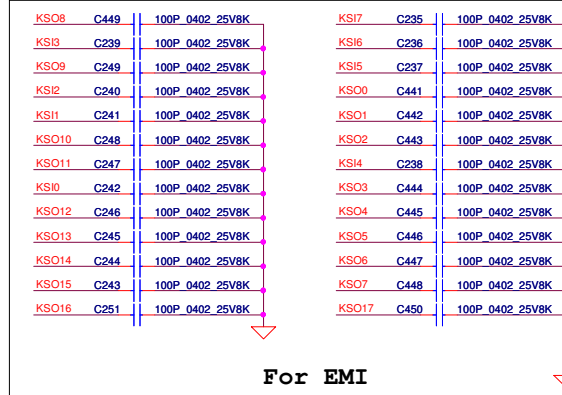




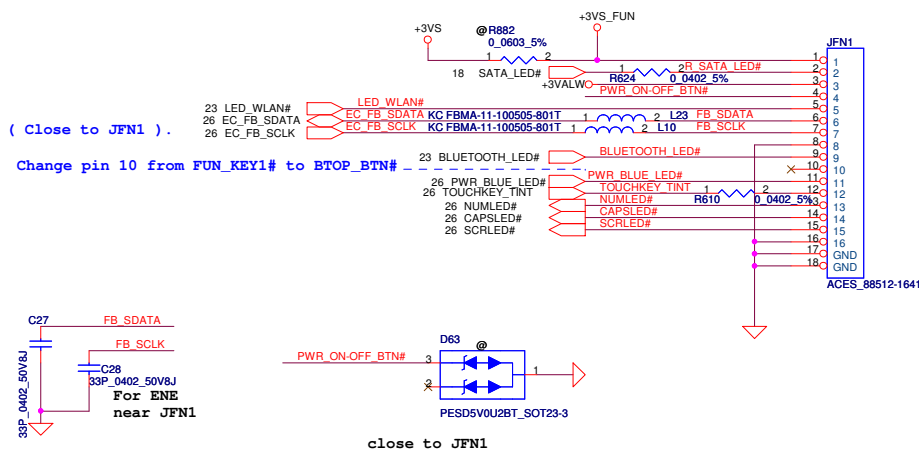
Adjustable Output



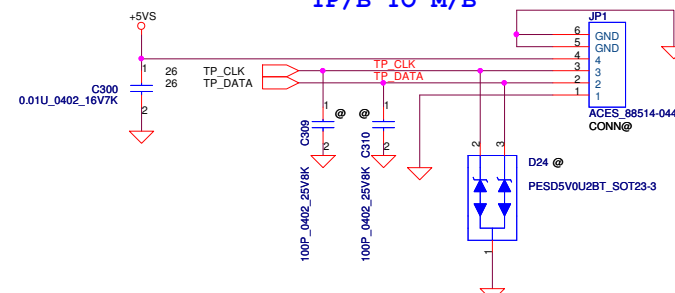
	JKB1
KS00	1
KS01	2
KS02	3
KS03	4
KS04	5
KS05	6
KS06	7
KS07	8
KS08	9
KS09	10
KS010	11
KS011	12
KS012	13
KS013	14
KS014	15
KS015	16
KS016	17
KS017	18
KS10	19
KS11	20
KS12	21
KS13	22
KS14	23
KS15	24
KS16	25
KS17	26
	27
	28
	G1
	G2



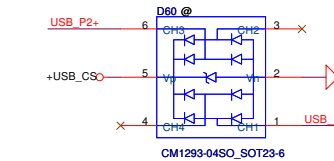
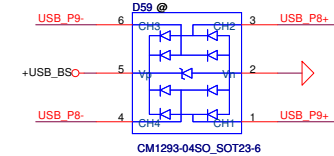
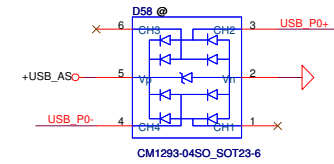
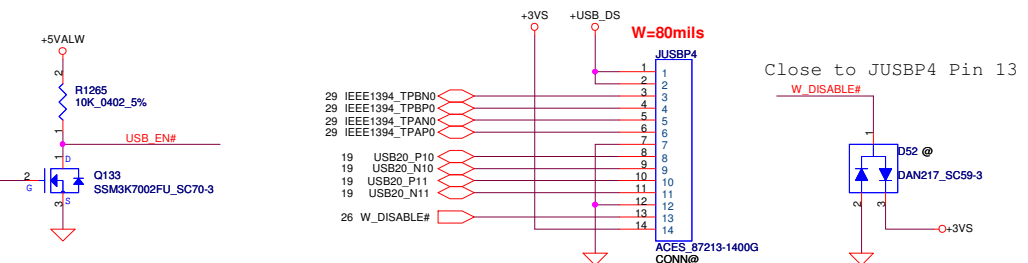
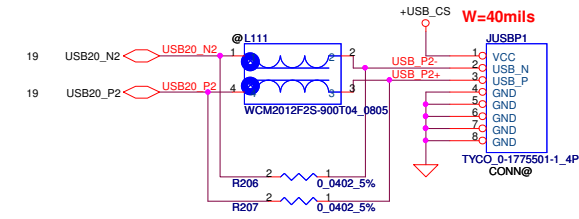
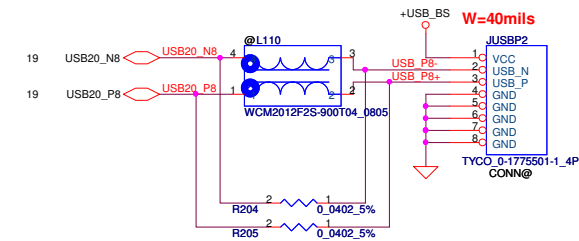
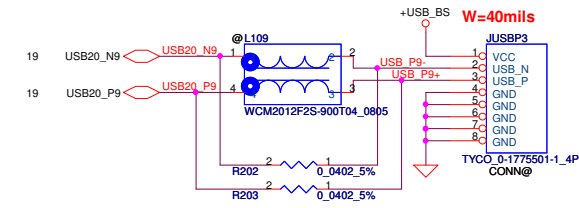
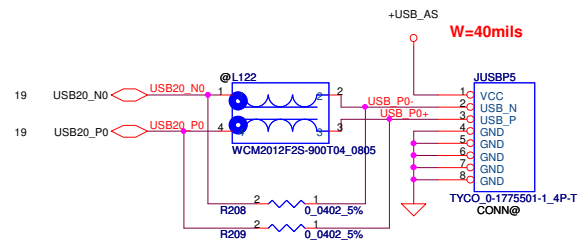
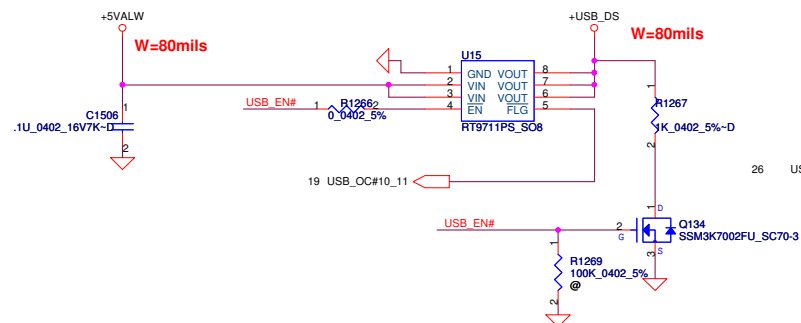
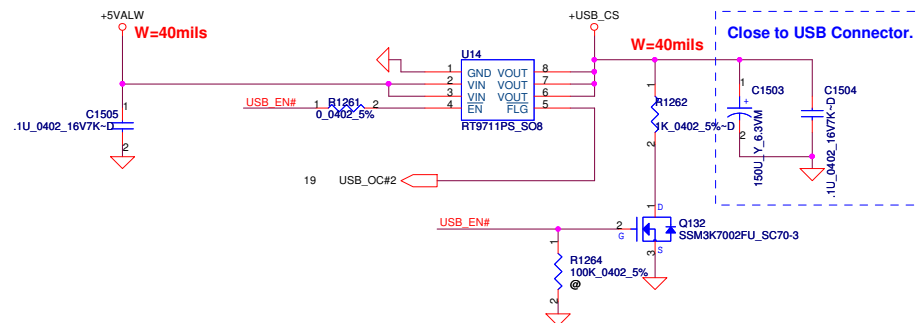
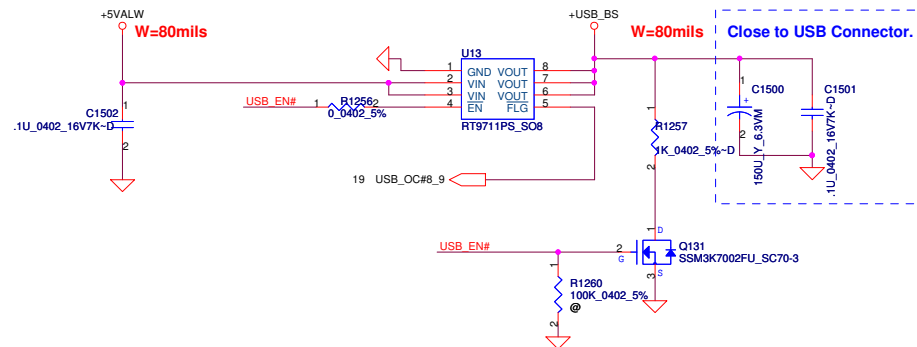
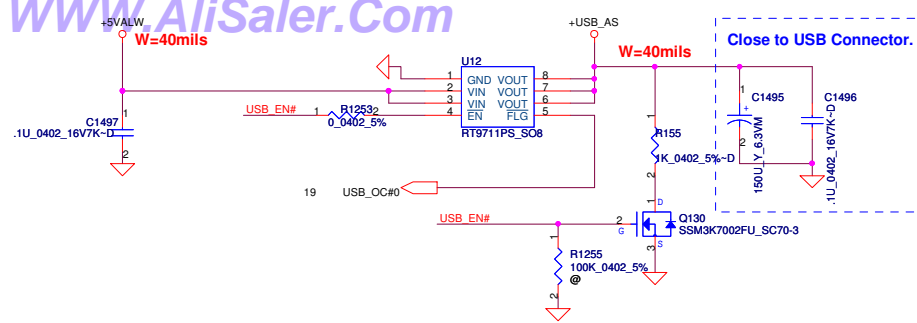
For ENE (Close to JFN1).



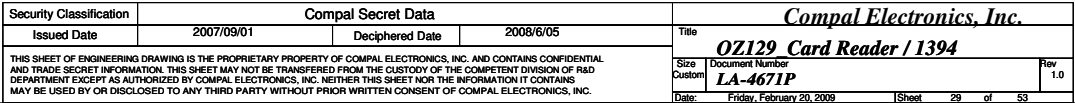
TP/B TO M/B

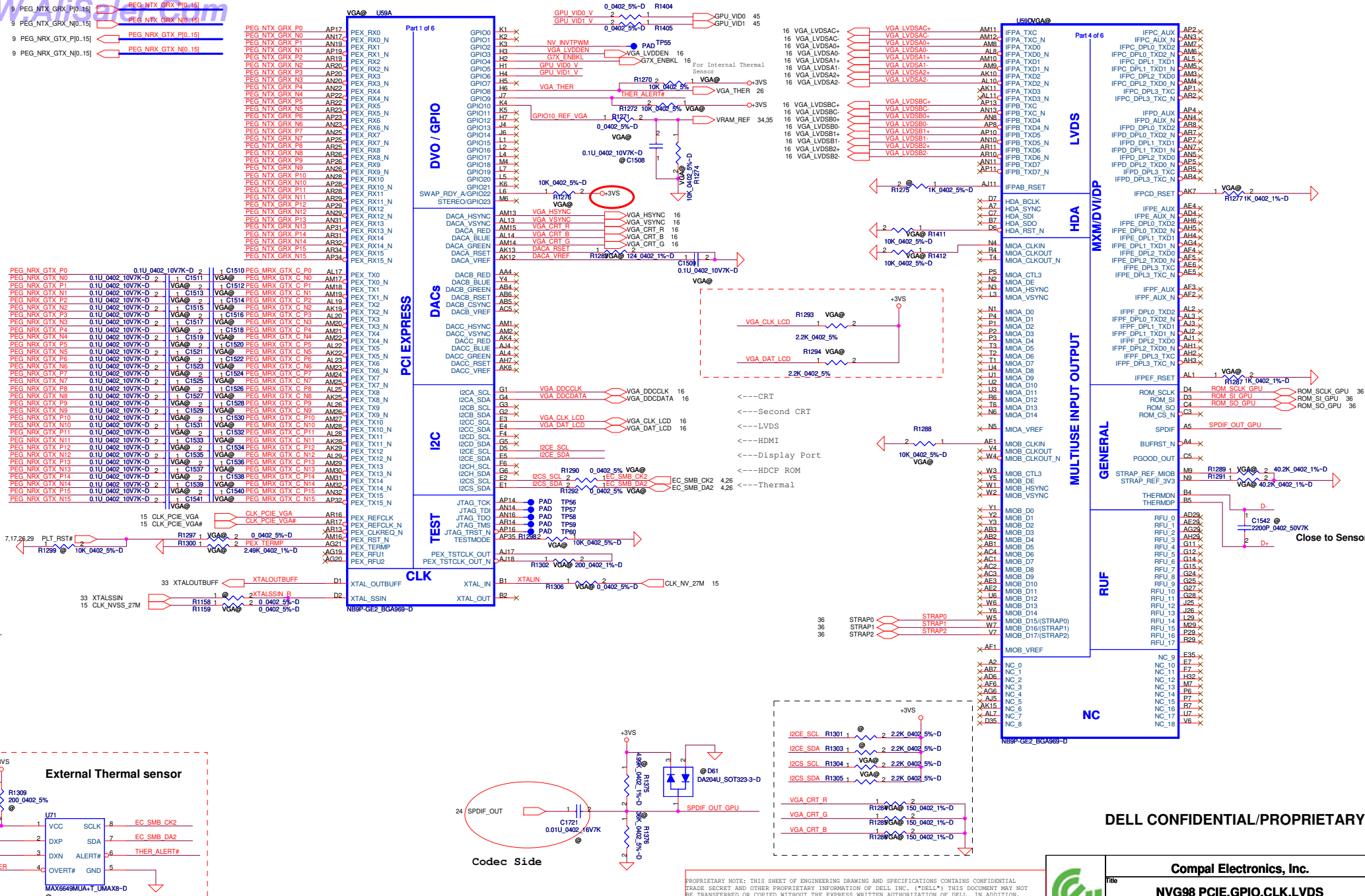


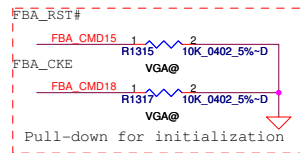
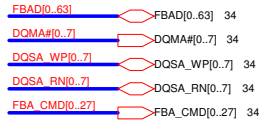
Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2007/1/15	Deciphered Date	2008/6/05	Title	PWR OK/BTN/TP	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE REPRODUCED OR USED BY ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-4671P	Rev 1.0
				Date:	Friday, February 20, 2009	Sheet 27 of 53



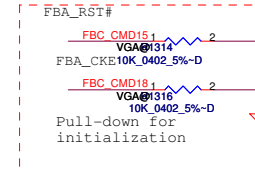
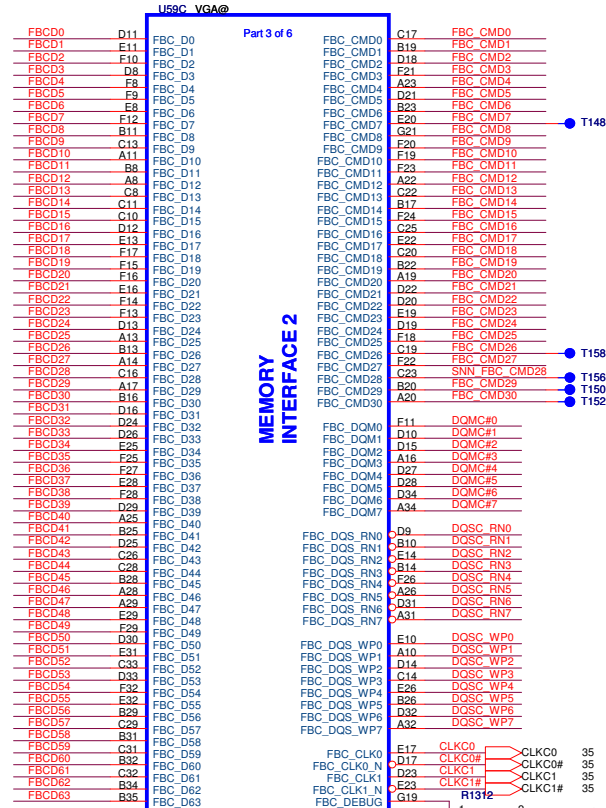
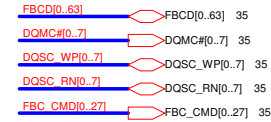
Security Classification	Compal Secret Data			<i>Compal Electronics, Inc.</i>		
Issued Date	2007/1/15	Deciphered Date	2008/6/05	Title USB/ESATA/1394 CONN		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				Custom	LA-4671P	1.0
Date:	Friday, February 20, 2009			Sheet	28	of 53







	0..31	32..63
FBA_CMD0	A4	
FBA_CMD1	RAS#	RAS#
FBA_CMD2	A5	
FBA_CMD3	BA1	BA1
FBA_CMD4		A2
FBA_CMD5		A4
FBA_CMD6		A3
FBA_CMD7	CS1#	CS1#
FBA_CMD8	CS0#	CS0#
FBA_CMD9	A11	A11
FBA_CMD10	CAS#	CAS#
FBA_CMD11	WE#	WE#
FBA_CMD12	BA0	BA0
FBA_CMD13		A5
FBA_CMD14	A12	A12
FBA_CMD15	RST/ODT	RST/ODT
FBA_CMD16	A7	A7
FBA_CMD17	A10	A10
FBA_CMD18	CKE	CKE
FBA_CMD19	A0	A0
FBA_CMD20	A9	A9
FBA_CMD21	A6	A6
FBA_CMD22	A2	A2
FBA_CMD23	A8	A8
FBA_CMD24	A3	A3
FBA_CMD25	A1	A1
FBA_CMD26	A13	A13
FBA_CMD27	BA2	BA2
FBA_CMD28	RFU0	RFU0
FBA_CMD29	RFU1	RFU1
FBA_CMD30	RFU2	RFU2

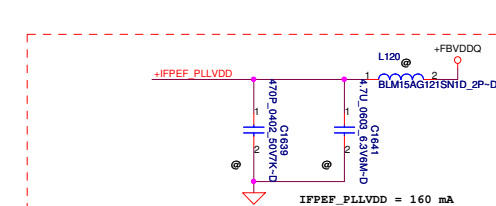
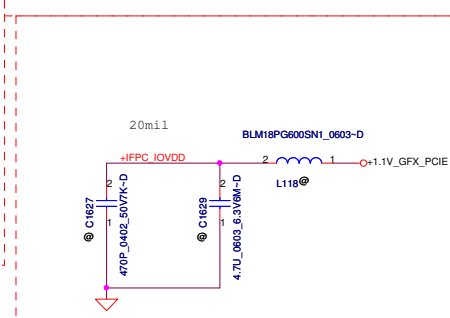
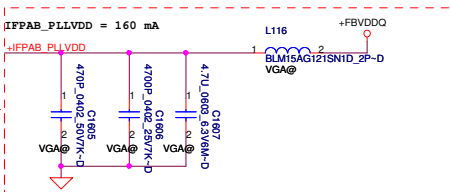
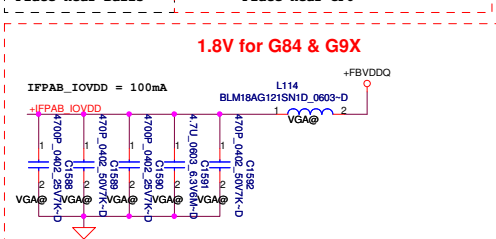
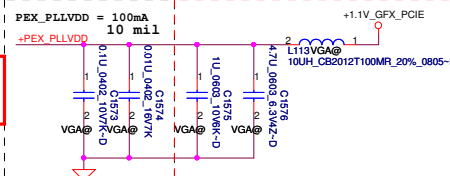
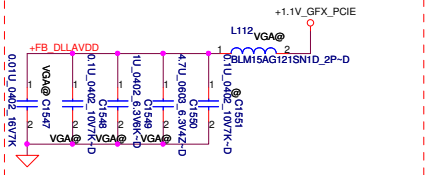
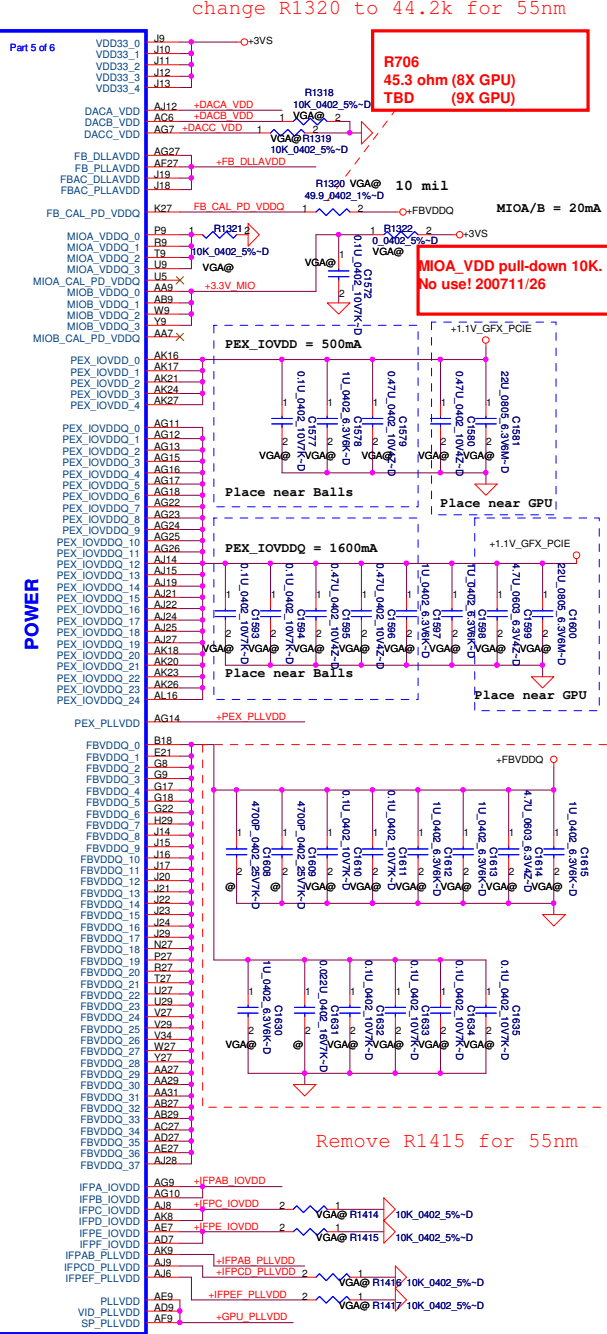
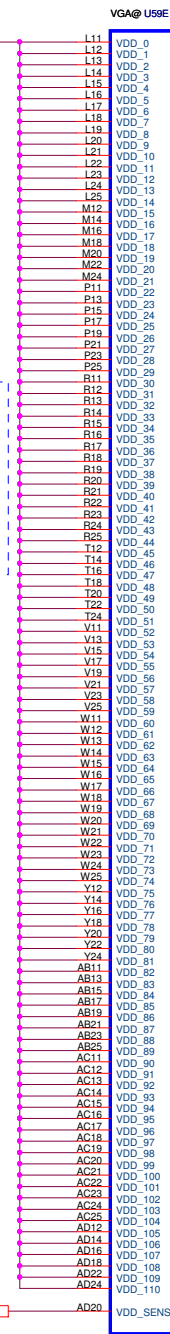
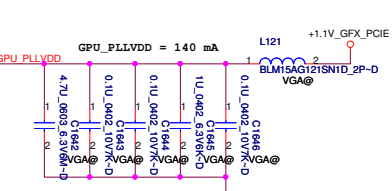
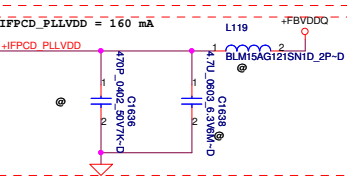
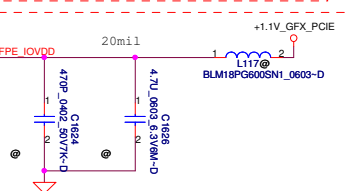
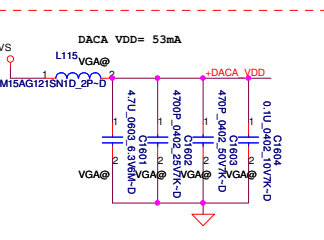
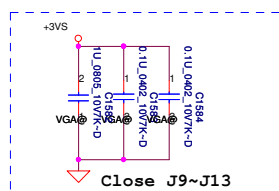
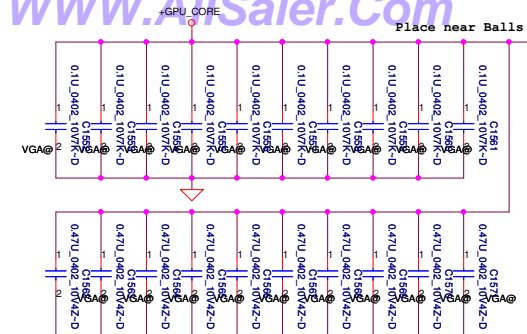


DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title			
NVG98 Memory Interface			
Size	Document Number	Rev	
	LA-4671P	1.0	
Date:	Friday, February 20, 2009	Sheet	31 of 53

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL"). THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

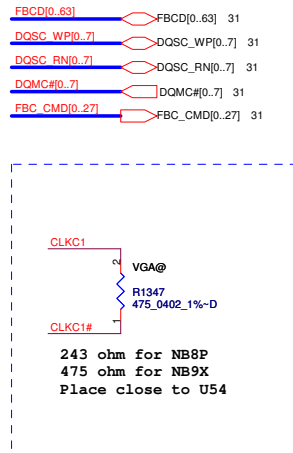
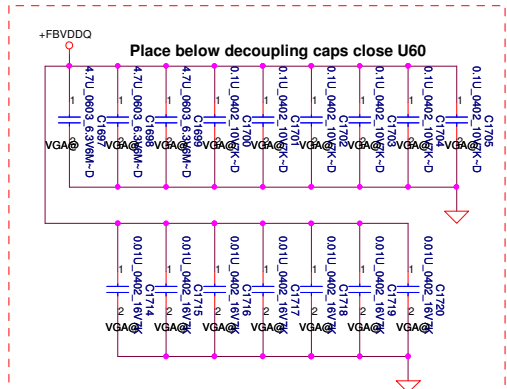
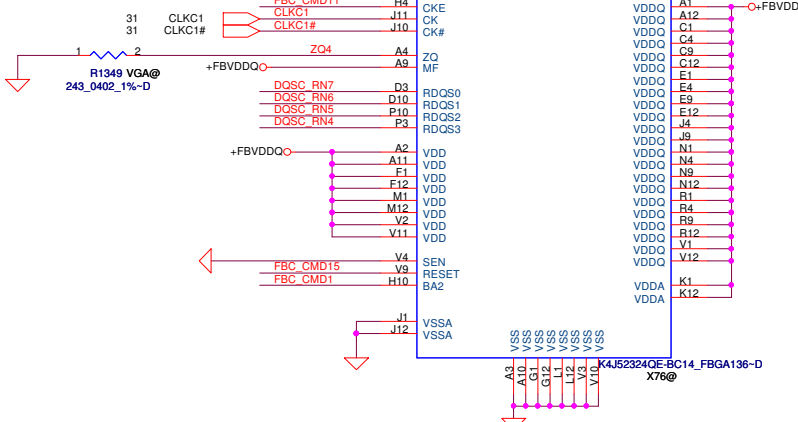
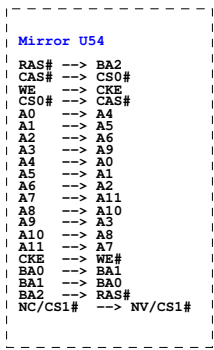
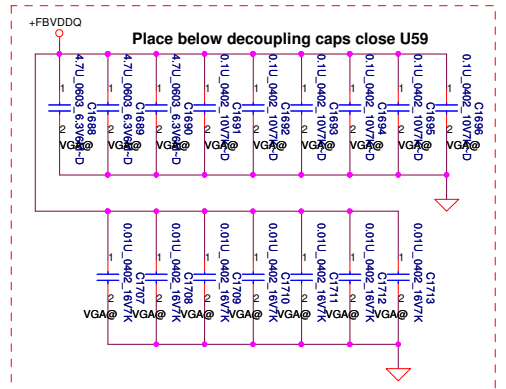
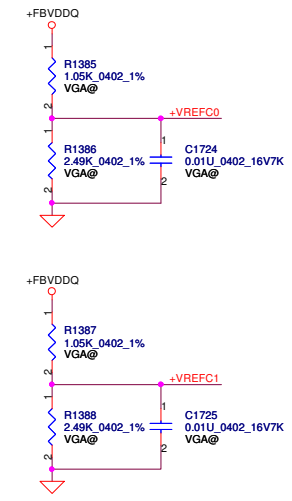
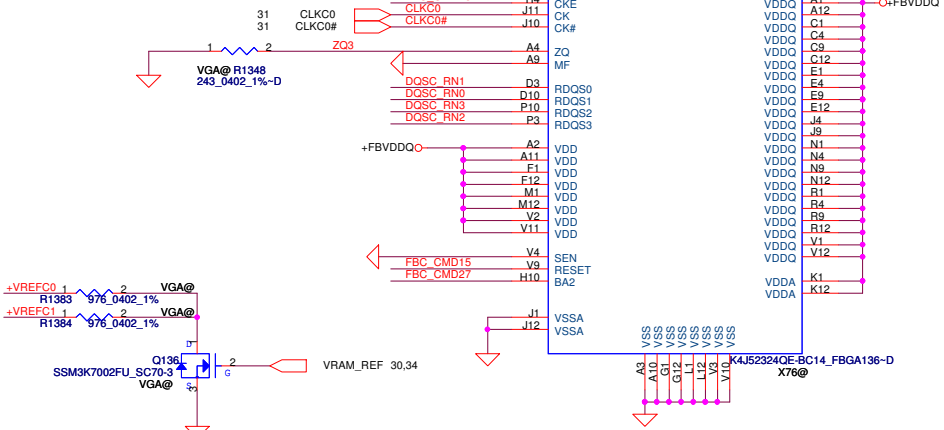
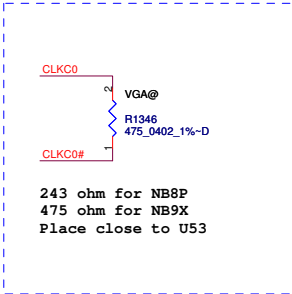


DELL CONFIDENTIAL/PROPRIETARY



WWW.AliSaler.Com

32Mx32 GDDR3



32Mx32 GDDR3

U54 is Mirror

DELL CONFIDENTIAL/PROPRIETARY

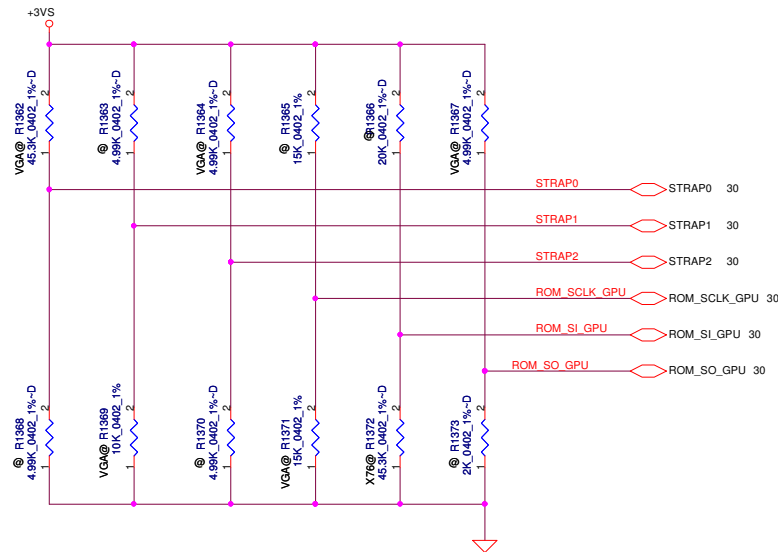
Compal Electronics, Inc.

NVG94 External GDDR3-B

LA-4671P

Date: Friday, February 20, 2009 Sheet 35 of 53

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL"). THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



STRAP0	Pull up 45K
STRAP1	Pull down 10K
STRAP2	Pull up 5K
ROM_SCLK_GPU	Pull down 15K
ROM_SI_GPU	
ROM_SO_GPU	Pull up 5K

All GDDR3

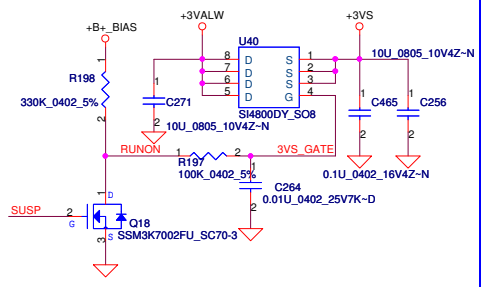
ROM_SI_GPU	Pull down
Q:16x32	10K_1%
H:16x32	15K_1%
S:16x32	20K_1%
Q:32x32	30K_1%
H:32x32	35K_1%
S:32x32	45.3K_1%

	R1364	R1365	
17"	24.9K	15K	NB9P-???

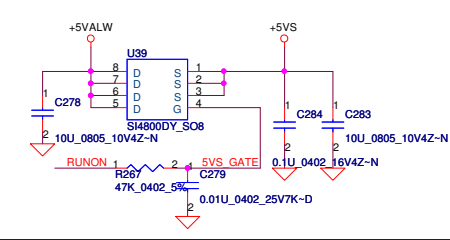


Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2008/03/21	Deciphered Date	2008/6/05	Title	NB8P-SE Straps
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-4671P
				Date	Friday, February 20, 2009
				Sheet	36 of 53
				Rev	1.0

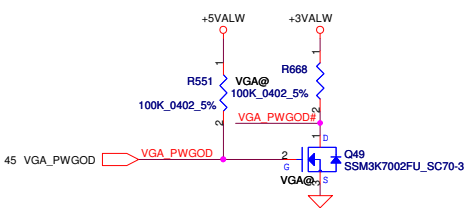
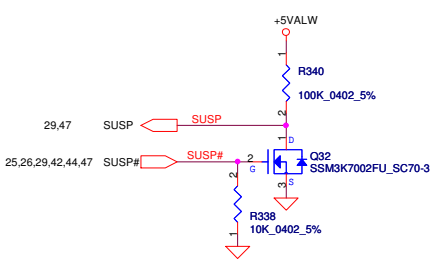
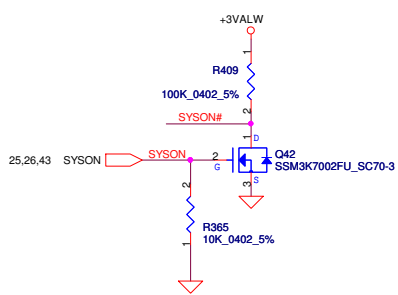
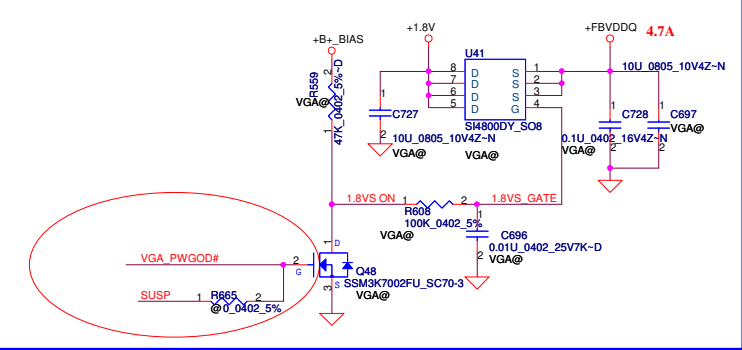
+3VALW to +3VS Transfer



+5VALW to +5VS Transfer

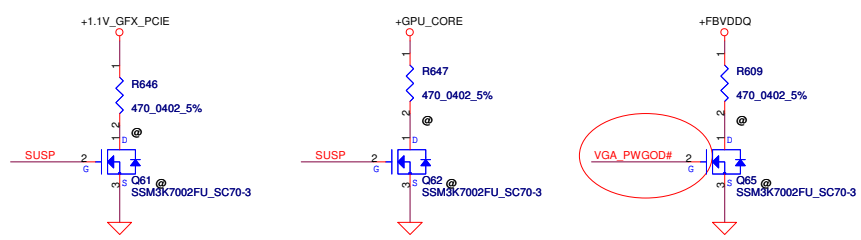


+1.8V to +1.8VS Transfer

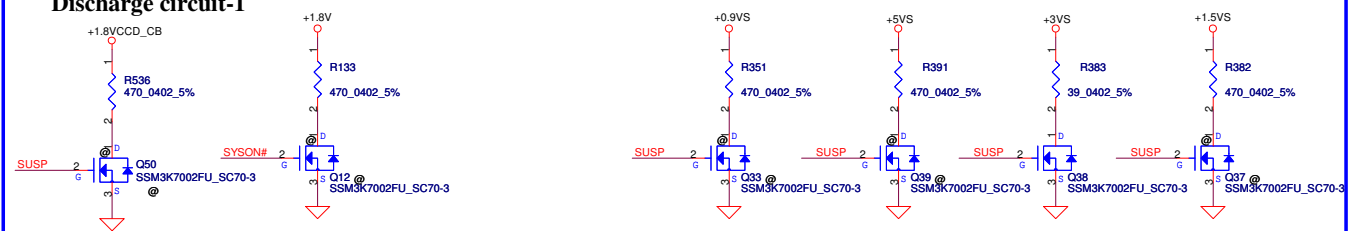


SYSON -> SUSP# -> VGA_ON->VGA_PWGOD

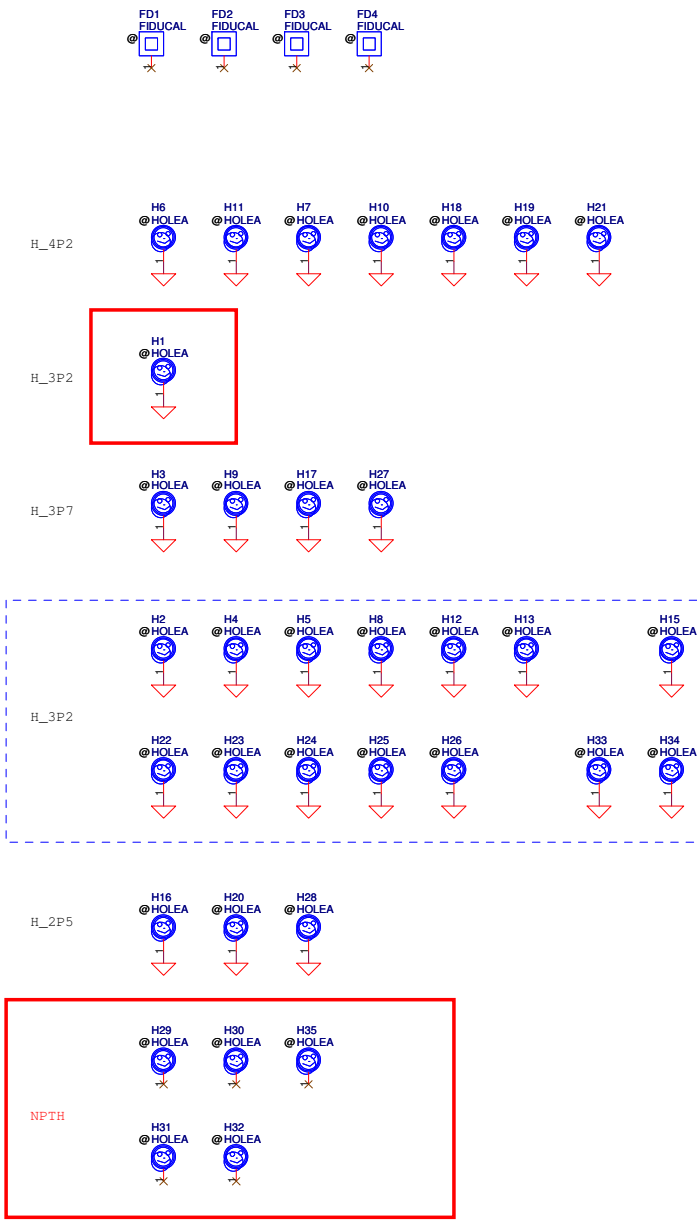
VGA Discharge circuit



Discharge circuit-1



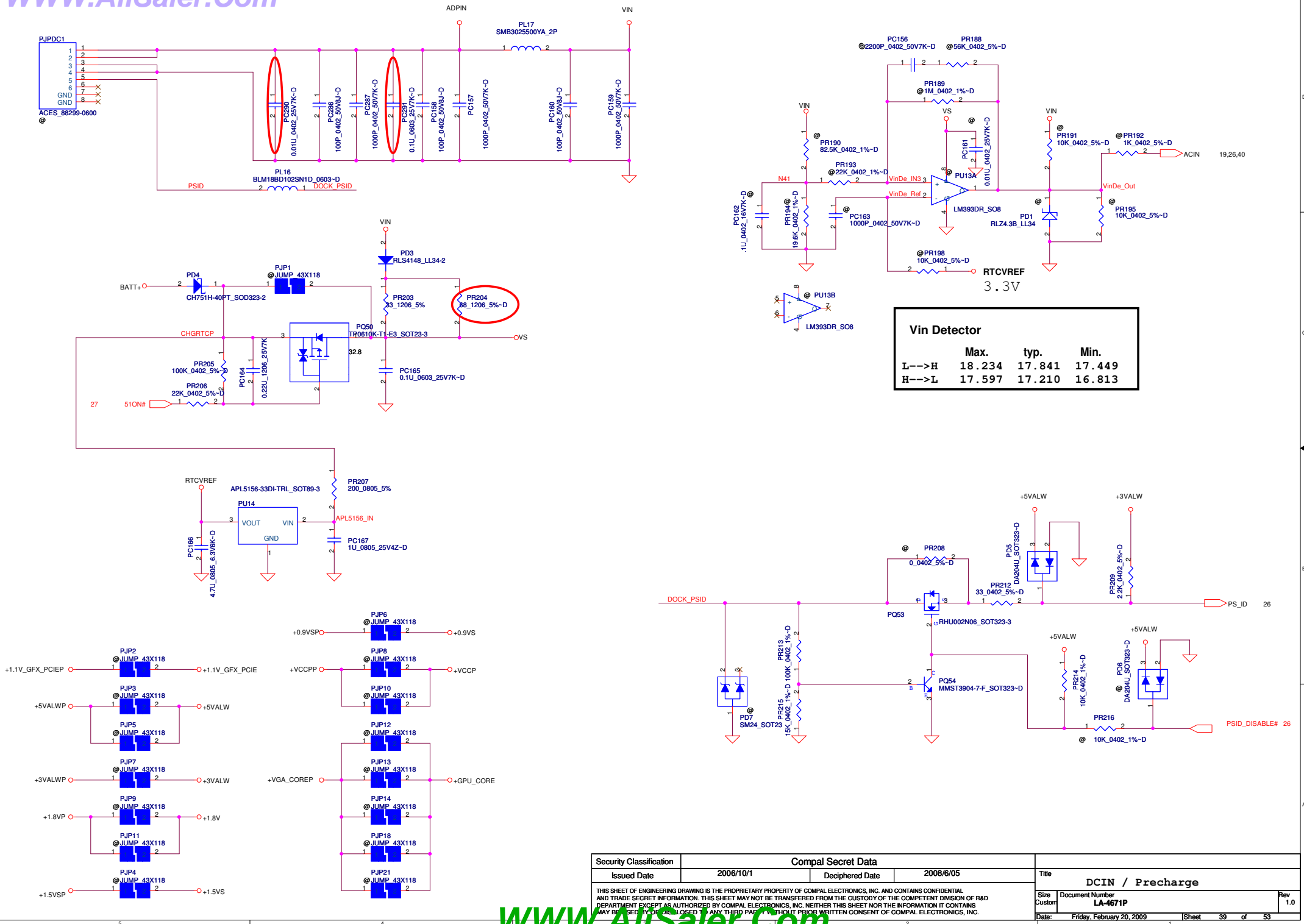
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2007/1/15				Deciphered Date			
				2008/6/05				Title			
								DC/DC Circuits			
								Size			
								Document Number			
								LA-4671P			
								Rev			
								1.0			
								Date			
								Friday, February 20, 2009			
								Sheet			
								37 of 53			



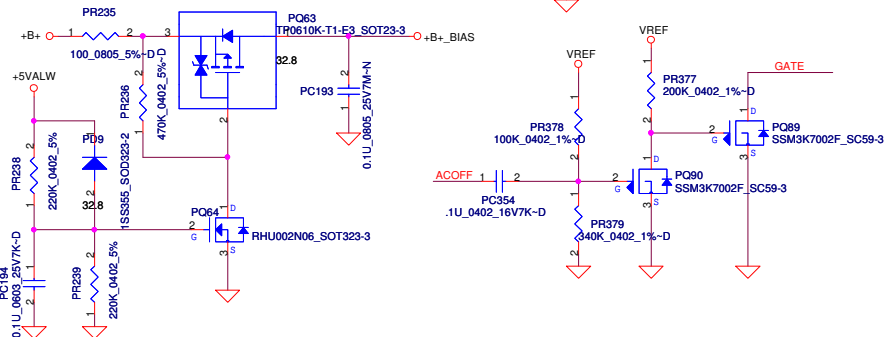
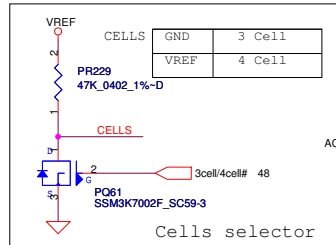
Change Location H5 (3P2), H17 (3P7)
Add H27 (3P2)
(2008-10-31 update)

Add H34 (3P2)
(2008-11-11 update)

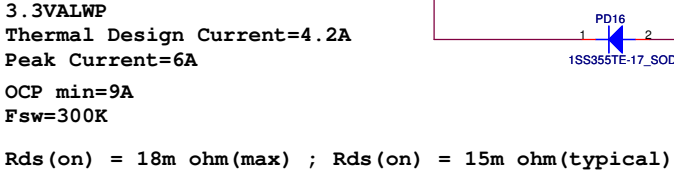
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2007/1/15	Deciphered Date	2008/6/05	Title Screws	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-4671P
				Date Friday, February 20, 2009	Rev 1.0
				Sheet 38	of 53



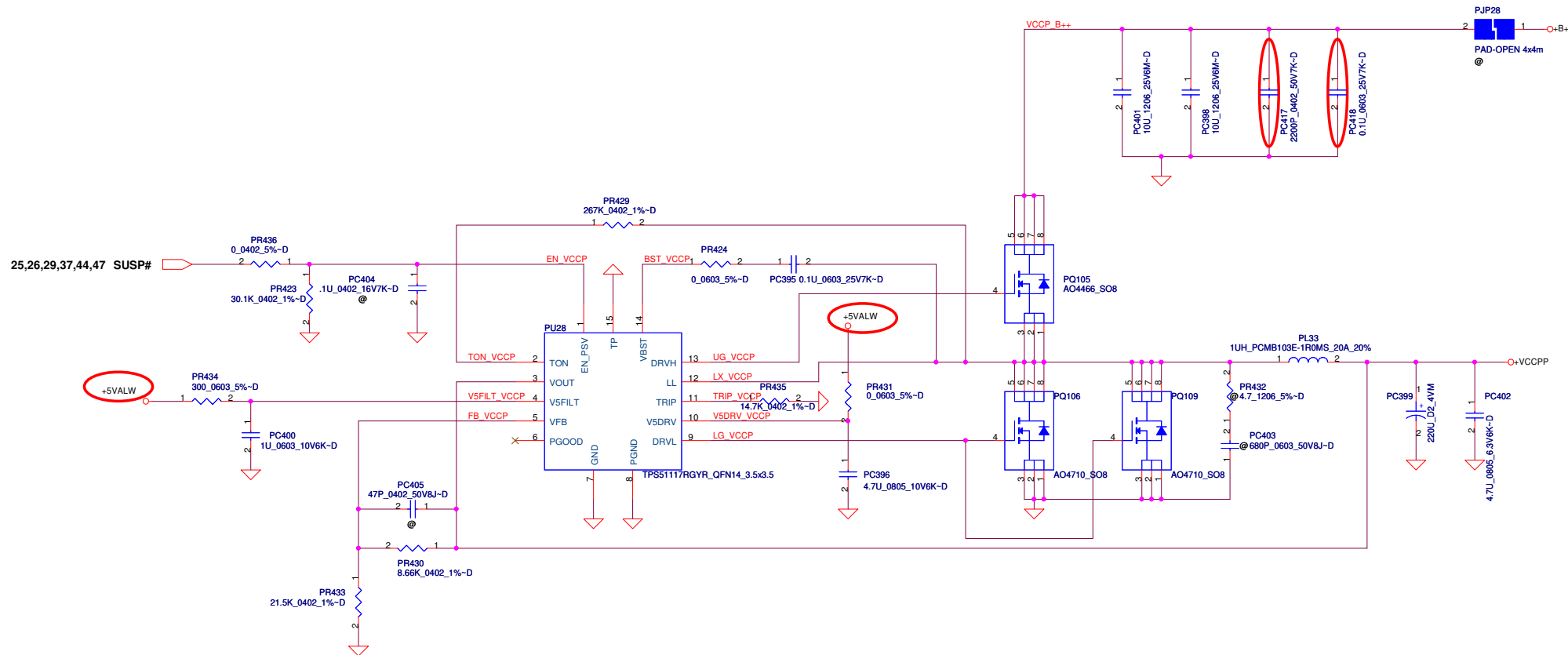
90W adapter
 $I_{charge} = (V_{srset}/V_{vdac}) * (0.1/PR222) = 3.3A$
 $I_{adapter} = (V_{acset}/V_{vdac}) * (0.1/PR217) = 4.4A$
 Input OVP : 22.3V
 Input UVP : 16.98V
 Fsw : 300KHz



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/10/1	Deciphered Date	2008/6/05	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Charger	
Size B		Document Number		Rev 1.0	
Date: Friday, February 20, 2009		Sheet 40 of 53			

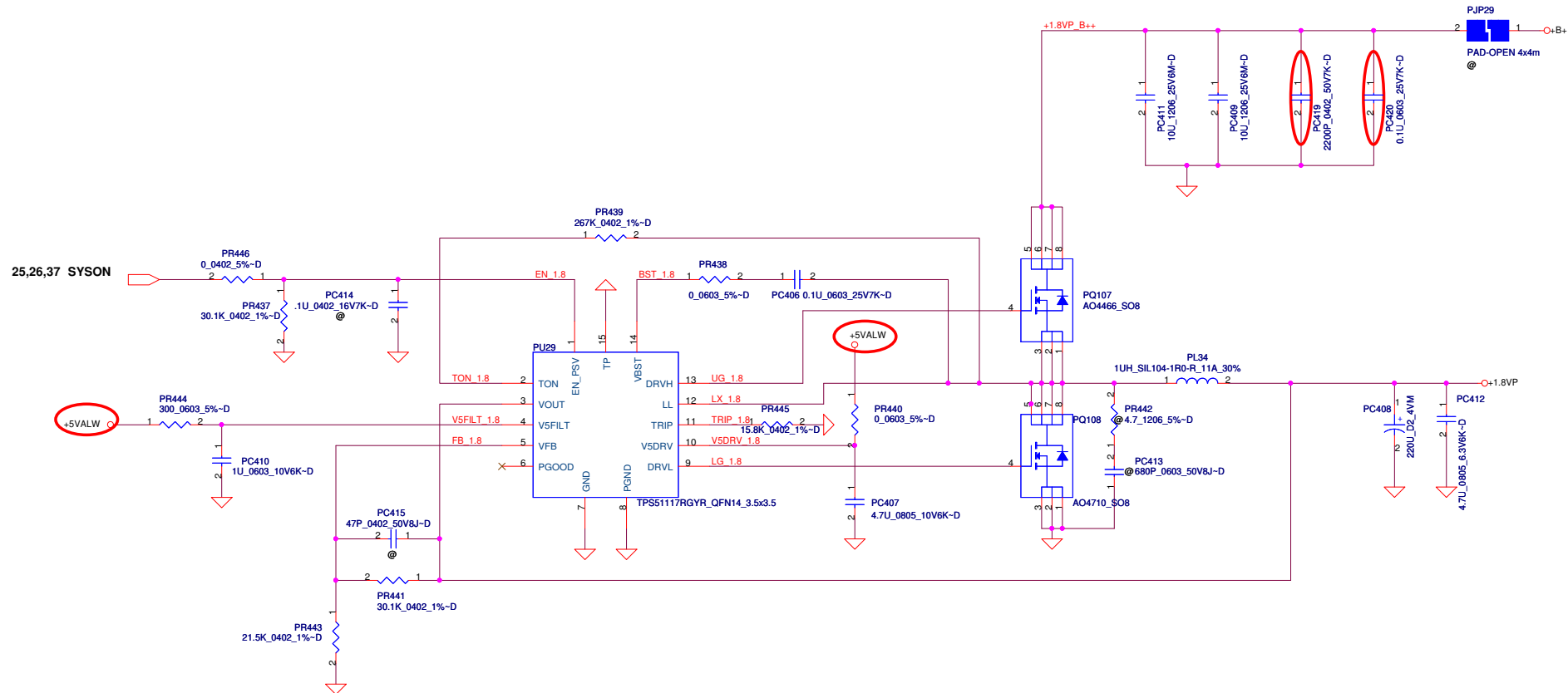


Security Classification		Compal Secret Data		Compal Electronics, Inc.			
Issued Date	2006/10/1	Deciphered Date	2008/6/05	Title	+3VALWP, +5VALWP		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE DISCLOSED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev	
				Custom	LA-4671P	1.0	
				Date:	Friday, February 20, 2009	Sheet 41 of 53	



VCCP
Thermal Desig Current=11.6A
Peak Current=14A
OCP min=17A
Fsw=298KHz
<Vo=1.05V> VFB=0.75V
Vo=VFB*(1+PR430/PR433)=0.75*(1+8.66K/21.5K)=1.052V

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/2/5	Deciphered Date	2008/6/05	Title	+VCCP
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET SHALL NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D, OR FROM THE CUSTODY OF ANY OTHER DIVISION, WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.				Size	Custom
WWW.AliSaler.Com				Document Number	LA-4671P
				Rev	1.0
				Date:	Friday, February 20, 2009
				Sheet	42 of 53



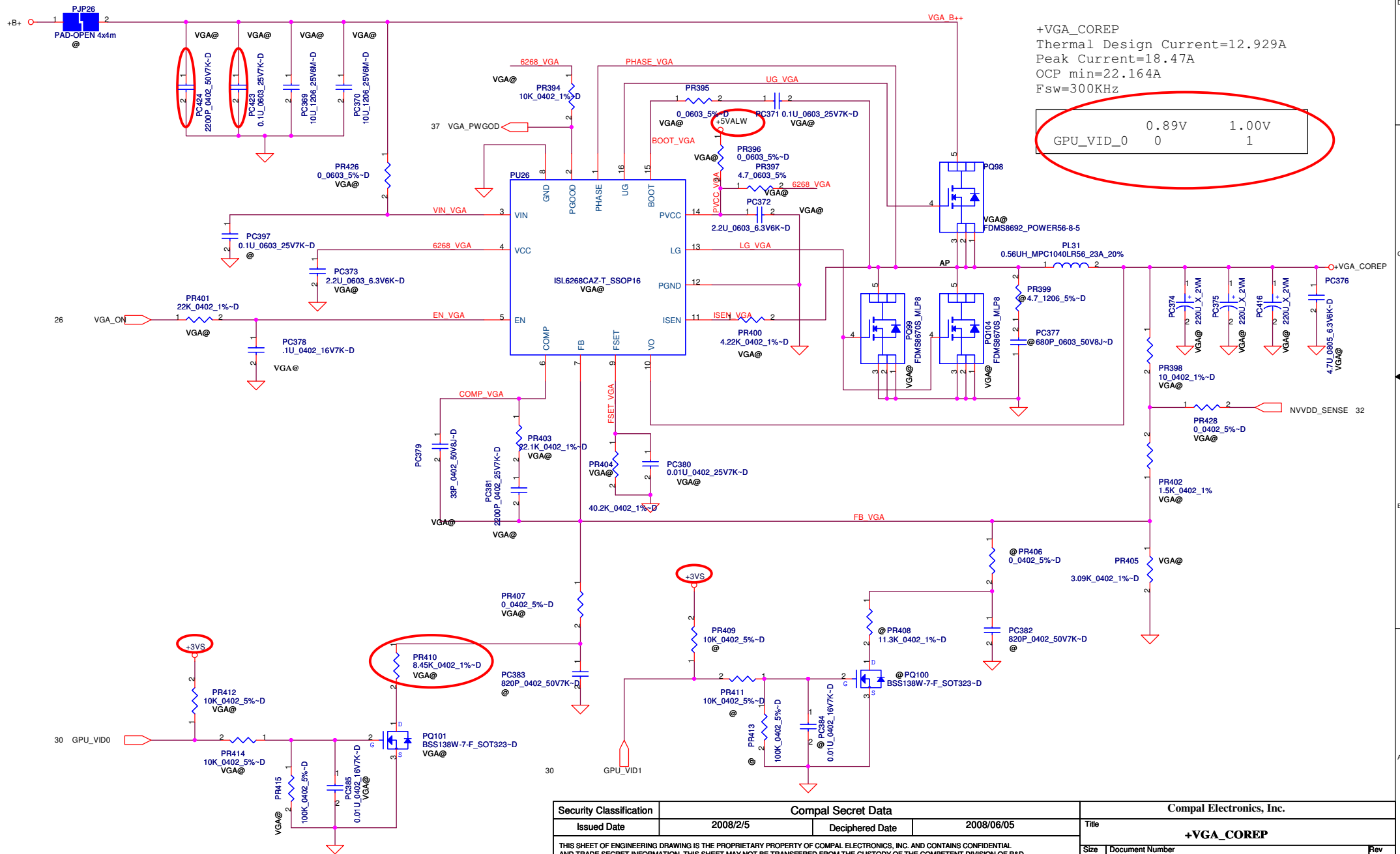
1.8V
Thermal Design Current=6.3A
Peak Currnet=9A
OCP_min=12A
Fsw=297KHz

<Vo=1.8V> VFB=0.75V
 $V_o = V_{FB} * (1 + PR441 / PR443) = 0.75 * (1 + 30.1K / 21.5K) = 1.8V$
Fsw=297KHz

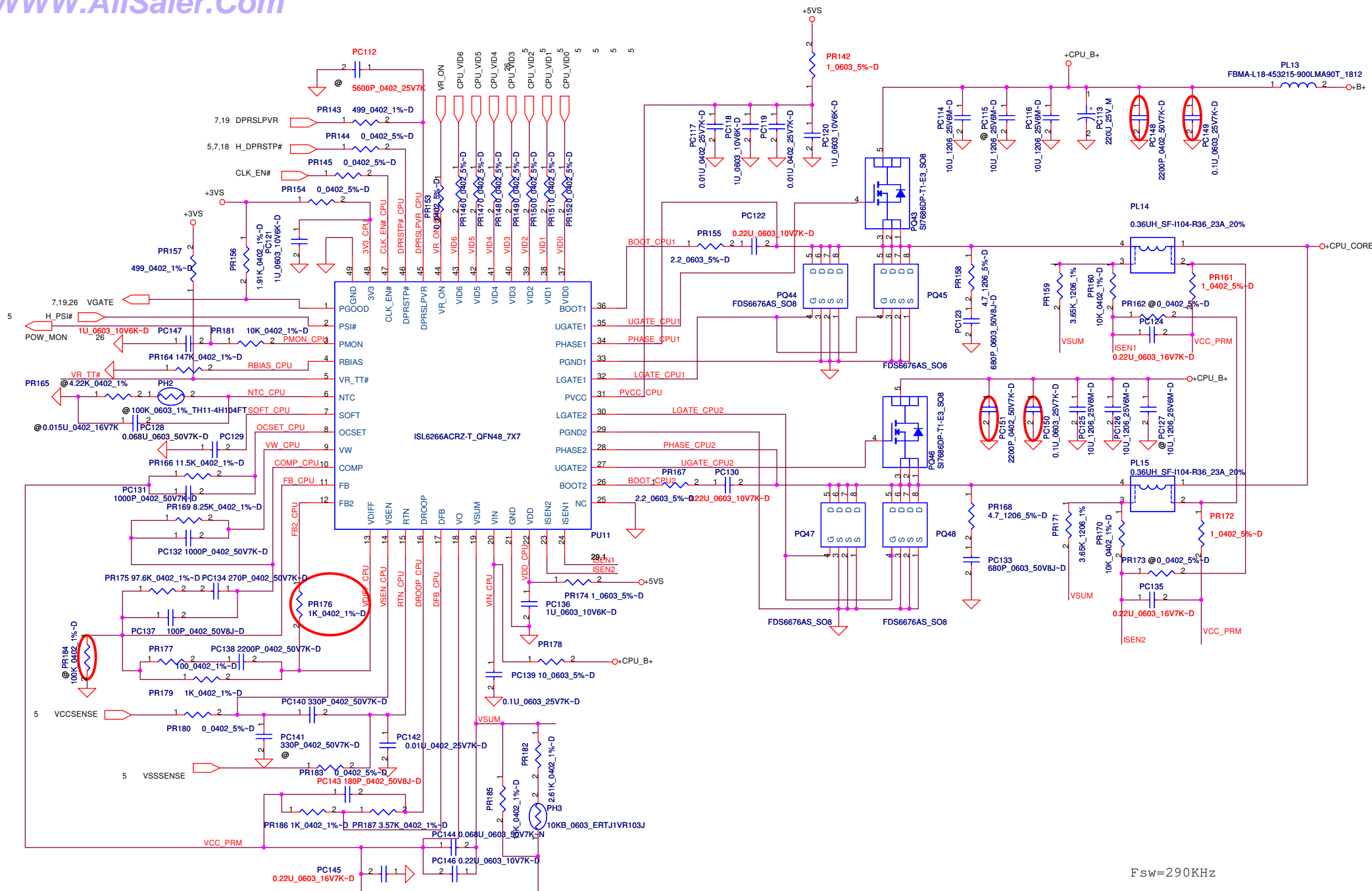
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/2/5	Deciphered Date	2008/6/05	Title	+1.8VP
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.				Size	Custom
				Document Number	LA-4671P
				Rev	1.0
				Date:	Friday, February 20, 2009
				Sheet	43 of 53



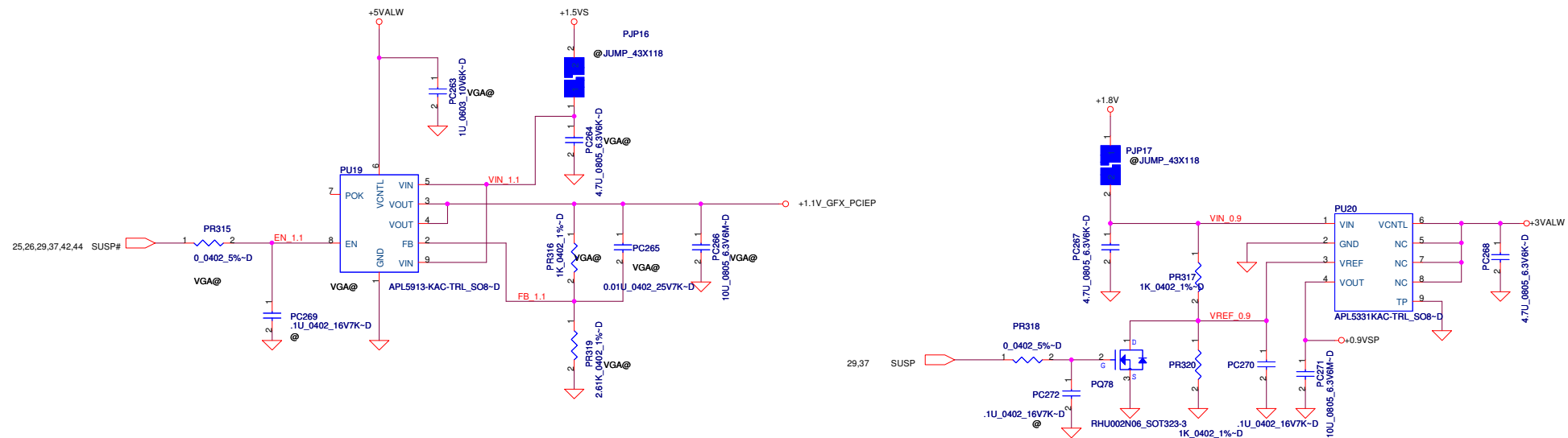
Compal Electronics, Inc.				
Title		+1.5VSP		
Size Custom	Document Number LA-4671P			Rev 1.1
Date:	Friday, February 20, 2009	Sheet	44 of	53



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/2/5	Deciphered Date	2008/06/05	Title	+VGA_COREP
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				LA-4671P	
				Date	Friday, February 20, 2009
				Sheet	45 of 53
				Rev	1.0



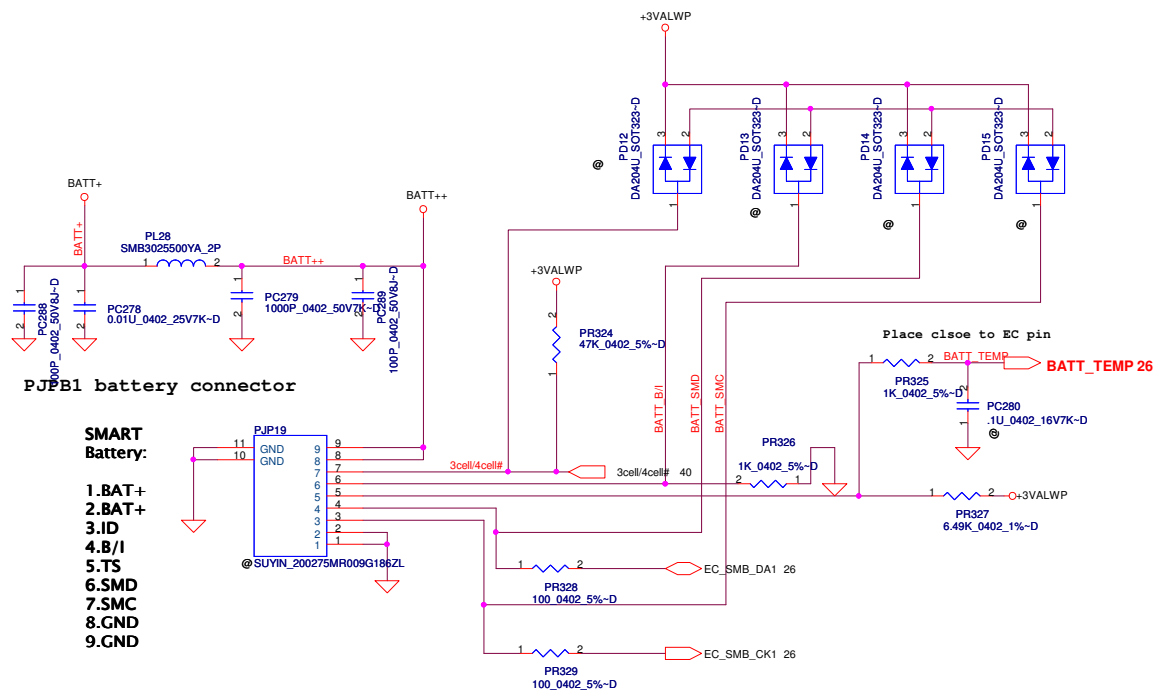
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/1/15	Deciphered Date	2008/6/05	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				+CPU CORE	
Size	Custom	Document Number	LA-4671P	Rev	
Date	Friday, February 20, 2009	Sheet	46	of 53	



1.1V_GFX_PCIEP
Thermal Design Current=1.61A
Peak Currnet=2.3A
OCP min=2.76A

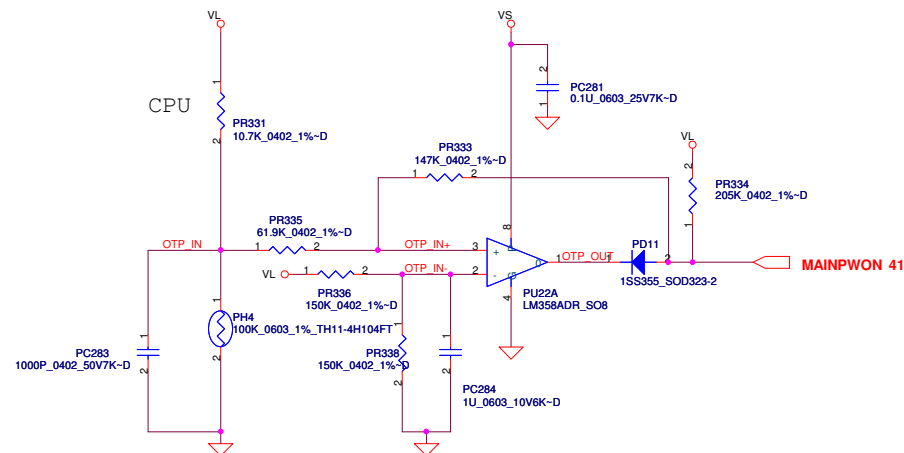
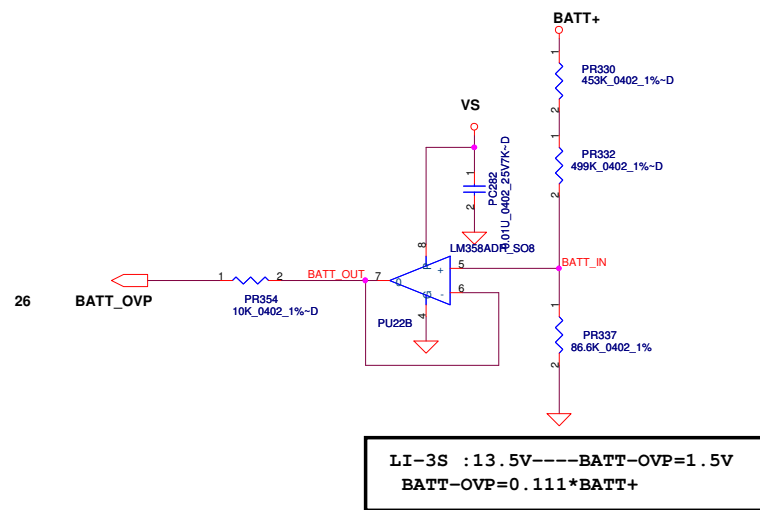
0.9VSP
Thermal Design Current=0.7A
Peak Currnet=1A
OCP min=1.2A

Security Classification		Compal Secret Data		Compal Electronics, Inc.					
Issued Date		2005/10/1		Deciphered Date		2008/6/05			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.							Title	+0.9VSP/ +1.1V_GFX_PCIEP	
Size		Document Number				Rev			
Custom		LA-4671P				1.0			
Date:		Friday, February 20, 2009		Sheet		47 of 53			



CPU

PH4 under CPU bottom side :
 CPU thermal protection at 90 +-3 degree C
 Recovery at 50 +-3 degree C



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2005/10/1	Deciphered Date	2008/6/05	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				BATTERY CONN	
Size	Custom	Document Number	LA-4671P	Rev	1.0
Date:	Friday, February 20, 2009	Sheet	48	of	53

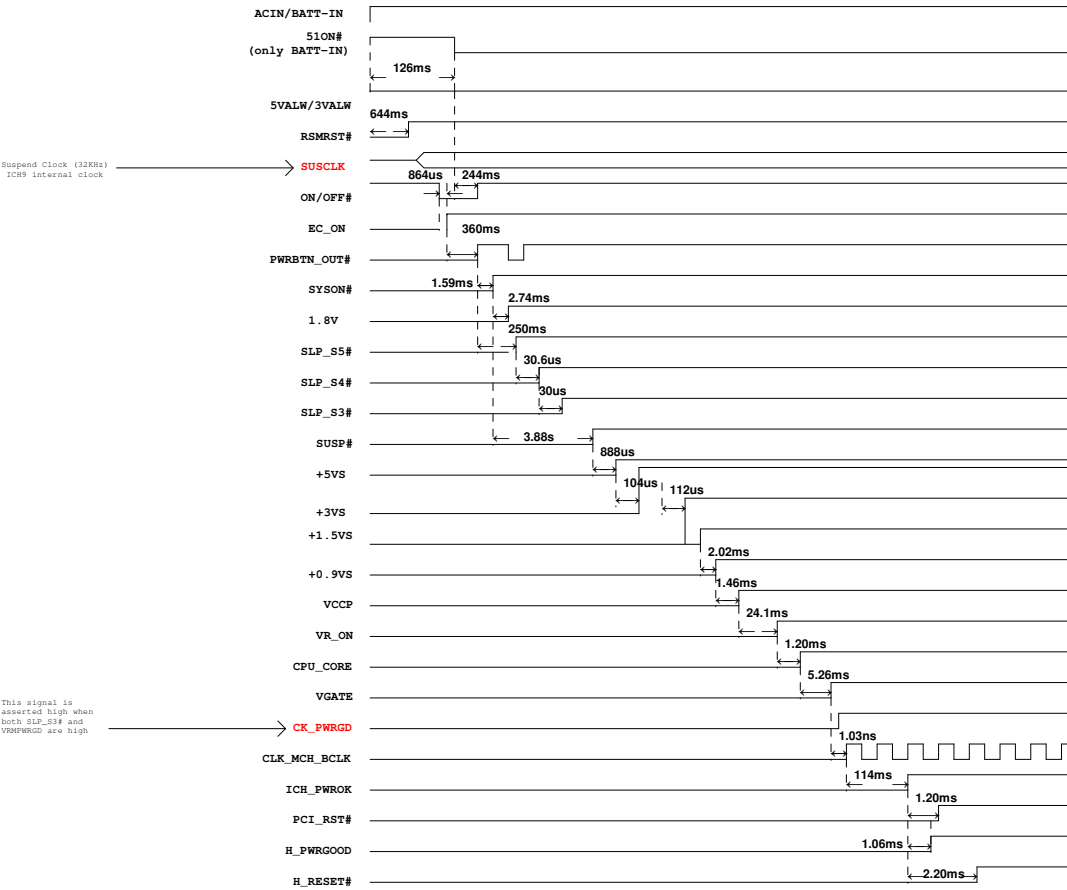
Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	40	DCIN/Precharge	08/12/17	COMPAL	Common circuit design modify	add PC290,PC291 between ADPIN and GND	
2			08/12/17	COMPAL	Common circuit design modify	add PR204 between VS and PD3.1	
3	41	Charger	08/12/17	COMPAL	Common circuit design modify	add PR262 between +3VALW and PU15.11	
4			08/12/17	COMPAL	Common circuit design modify	reserve PR261 between PU15.10 and PU15.11	
5			08/12/17	COMPAL	Common circuit design modify	change PR224.1 POWER source from VREF into +3VALW	
6	42	+3VALWP,+5VALWP	08/12/17	COMPAL	Common circuit design modify	add PC216,PC217 between TP551427+B+ and GND	
7			08/12/17	COMPAL	Wrong net name issue	change PU16.1 net name from 2VREF_1SL6237 to 2VREF_TP551427	
8	44	+1.8VP	08/12/17	COMPAL	+1.8V no power issue in S3 mode	change PR440.1,PR444.1 POWER source from +5VS to +5VALW	
9			08/12/17	COMPAL	Common circuit design modify	add PC419,PC420 between +1.8VP_B++ and GND	
10	46	+VGA_COREP	08/12/17	COMPAL	Common circuit design modify	add PC423,PC424 between VGA_B++ and GND	
11			08/12/17	COMPAL	Change VID require	change PR410 to 5.62K ohm	
12			08/12/17	COMPAL	Change VID require	reserve PQ100,PR406,PC382,PR408,PC384,PR413,PR411,PR409	
13			08/12/17	COMPAL	Common circuit design modify	change PR409.2,PR412.2 POWER source from +5VS to +3VS	
14			08/12/17	COMPAL	Common circuit design modify	change 396.1 POWER source from +5VS to +5ALW	
15	43	+VCCP	08/12/17	COMPAL	Common circuit design modify	add PC417,PC418 between VCCP_B++ and GND	
16			08/12/17	COMPAL	Common circuit design modify	change PR434.1,PR431.1 POWER source from +5VS to +5ALW	
17	45	+1.5VSP	08/12/17	COMPAL	Common circuit design modify	add PC421,PC422 between +1.5VSP_B++ and GND	
18			08/12/17	COMPAL	Common circuit design modify	change PR427.1,PR418.1 POWER source from +5VS to +5ALW	
19	47	+CPU_CORE	08/12/17	COMPAL	Common circuit design modify	add PC148,PC149,PC150,PC151 between +CPU_B+ and GND	
20			08/12/17	COMPAL	Common circuit design modify	add PR176 between PU11.12 and PU11.13	
21			08/12/17	COMPAL	Common circuit design modify	reserve PR184 between PU11.11 and GND	
22	48	+VGA_COREP	08/12/22	COMPAL	Change VID require	change PR410 to 8.45K ohm	
23			08/12/22	COMPAL	Relink data base	Relink data base for PQ98	
24							
25							

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2007/1/15	Deciphered Date	2008/6/05	Title	PW PIR-1	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-4671P	Rev 1.0
				Date:	Friday, February 20, 2009	Sheet 49 of 53

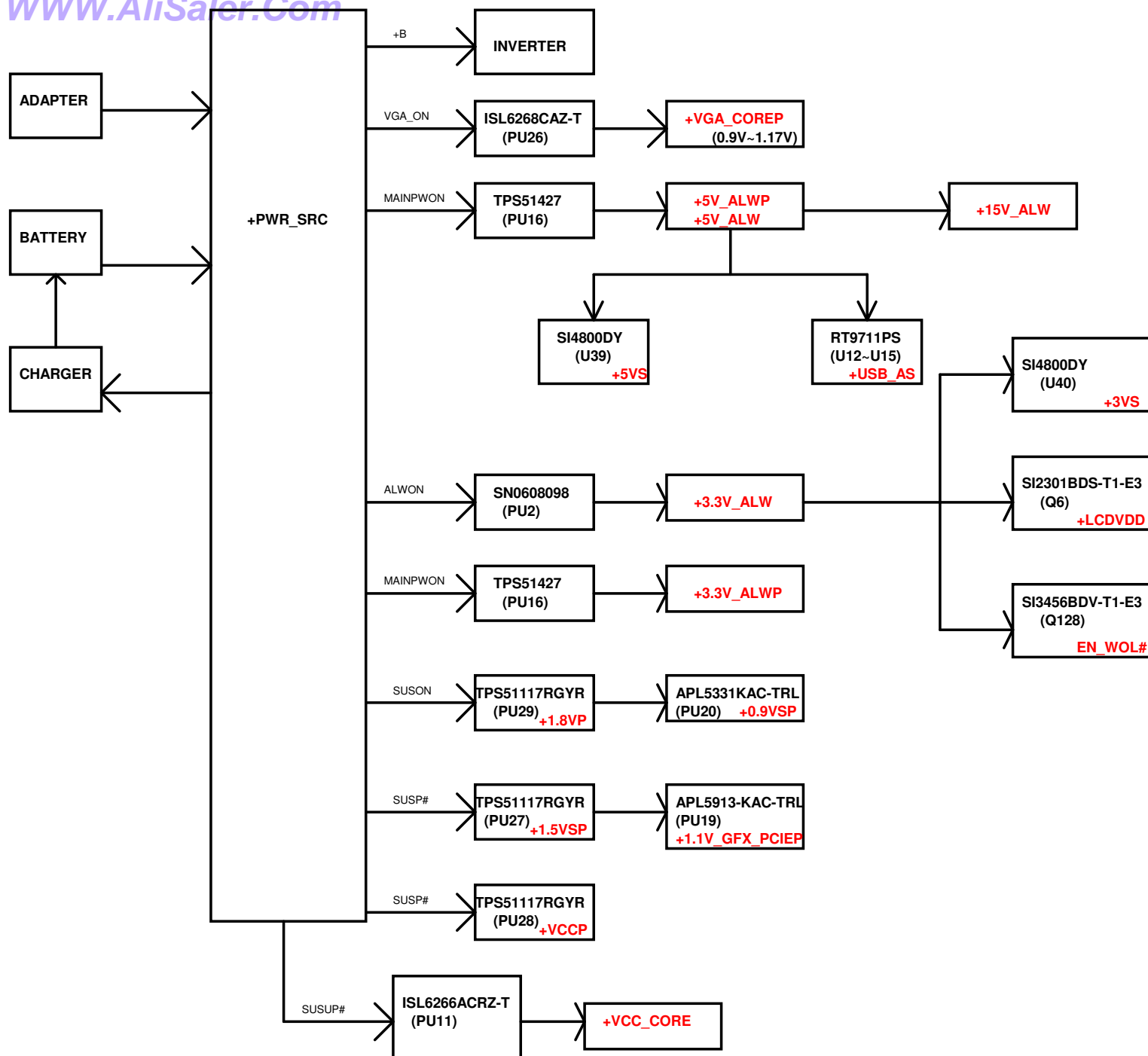
Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	P10	Cantiga(4/6)-PWR	12/15/2008	EE	DIS can not boot issue	a. change L13 L14 BOM structure from "UMA#" to "g" b. change R1400 R1401 BOM structure to "UMA#"	X02
2	P17	ICH9(1/4)-PCI/INT	12/15/2008	EE	PCI reset and PLT reset connect error	change R1112 pin 1 net name from PLT_RST# to PCI_RST#	X02
3	P24	Codec 92HD81B	12/15/2008	EE	Internal MIC no function issue	add a 2.49K ohm pull high resistor (R315) to +5VS at SENSE_A	X02
4	P27	PWR_OK/BTN/TP	12/15/2008	EE	CAP sensor no function issue	SWAP JFN1 pin 6 and pin 7 signals	X02
5	P27	PWR_OK/BTN/TP	12/15/2008	EE	Battery only can not boot issue	The breakdown voltage of D63 is too low now. Change D63 back to old part.	X02
6	P19	ICH9(3/4)_DMI,USB,GPIO,PCIE	12/15/2008	EE	part change to consistent with 13" and 15"	Change Q106 to SSM3K7002FU_SC70-3 and add Q107	X02
7	P26	BIOS & EC I/O Port	12/15/2008	EE	Add wake on LAN feature	change PCIE wake up signal connection to support wake up on LAN/WLAN feature.	X02
8	P23	WLAN/BT/FP	12/16/2008	EE	WLAN card S3/S4 resume fail issue and add wake on LAN function	Add Q129 and net WLANPW_DIS# to switch +3V_WLAN power from +3VALW unpop R412, R415	X02
9	P10	Cantiga(4/6)-PWR	12/16/2008	EE	follow 13"/15" design	change R101 from 0603 to 0805 size	X02
10	P26	BIOS & EC I/O Port	12/16/2008	EE	follow 13"/15" design	unpop R77 R78	X02
11	P21	Gigabit LAN_RTL8111DL	12/16/2008	EE	follow 13"/15" design	Change C1484, C1485 from 0.1uF to 1uF	X02
12	P10	Cantiga(4/6)-PWR	12/16/2008	EE		change R69 to L15	X02
13	P24	Codec 92HD81B	12/16/2008	EE	vendor (IDT) request	unpop C260 C262	X02
14	P22	HDD/CDROM	12/17/2008	ME	For ODD CONN SMT issue	Change part of JSATA2	X02
15	P34 P35	NVG94 External GDDR3	12/17/2008	EE		Change Q135 Q136 to SSM3K7002FU_SC70-3	X02
16	P29	OZ129_Card Reader / 1394	12/19/2008	EE	For Card Reader / 1394 issue	add a LDO (U65) for +1.8VS_CB	X02
17	P16	CRT CONN/LCD CONN	12/19/2008	EE	U29 pin 21 (INVT_PWM) broken issue	add a ESD diode(D51) to INVT_PWM close to JLCD1	X02
18	P29	OZ129_Card Reader / 1394	12/19/2008	EE	crystal vendor suggestion	change X3 bypass CAP. C1781 C1785 from 15pF to 18pF	X02
19	P21	Gigabit LAN_RTL8111DL	12/19/2008	EE	crystal vendor suggestion	change Y9 from CL=20pF to CL=12pF change C1488=18pF, C1489=15pF	X02
20	P7	Cantiga(1/6)-AGTL/DMI/DDR	12/22/2008	EE	13"/15" system hang with some special CPUs issue	Reserve 0.1uF Cap. C141 at H_DPRSTP# close to MCH	X02
21	P38	Screws	12/22/2008	ME	ME change ODD connector and change screw holes	remove H14	X02
22	P07~P12	GMCH	12/22/2008	EE	GMCH revision change	change GMCH from A1 version to B3	X02
23	P18	ICH9(2/4)_LAN,HD,IDE,LPC	12/23/2008	EE	crystal vendor suggestion	change C1211 from 15pF to 12pF	X02
24	P23	WLAN/BT/FP	12/23/2008	EE	ESD team request	change D22, D62 to SC300000000	X02
25	P24	Codec 92HD81B	12/23/2008	EE	ESD team request	change D19, D20, D21, D27 to SCA00000T00	X02
26	P27	PWR_OK/BTN/TP	12/23/2008	EE	ESD team request	change D63 D24 to SC3000000000	X02
27	P28	USB/ESATA/1394 CONN	12/23/2008	EE	ESD team request	change D58 D59 D60 to SC3000000000	X02
28	P27	PWR_OK/BTN/TP	12/23/2008	EE	ESD team request	change L10, L23 from 301T to 801T pop C27, C28	X02
29	P23	WLAN/BT/FP	12/23/2008	EE	ESD team request	add a 1000pF cap C414 at +3VS close to JCA1	X02
30	P28	USB/ESATA/1394 CONN	12/24/2008	EE	follow 13"/15" schematic	change R155 R1257 R1262 R1267 from 30K to 470 ohm un-pop R1255 R1260 R1264 R1269	X02
31	P29	OZ129_Card Reader / 1394	01/05/2009	EE	customer suggestion	change LDO output to 1.95V	X02
32							

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2007/1/15	Deciphered Date	2008/6/05	Title	EE PIR-1	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS IS TO BE DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-4671P	Rev 1.0
				Date	Friday, February 20, 2009	Sheet 50 of 53

KAL60 POWER UP SEQUENCE



Rev	1.0
Power Sequence	
LA-467	
Rev	1.0
Rev	1.0



PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL"). THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

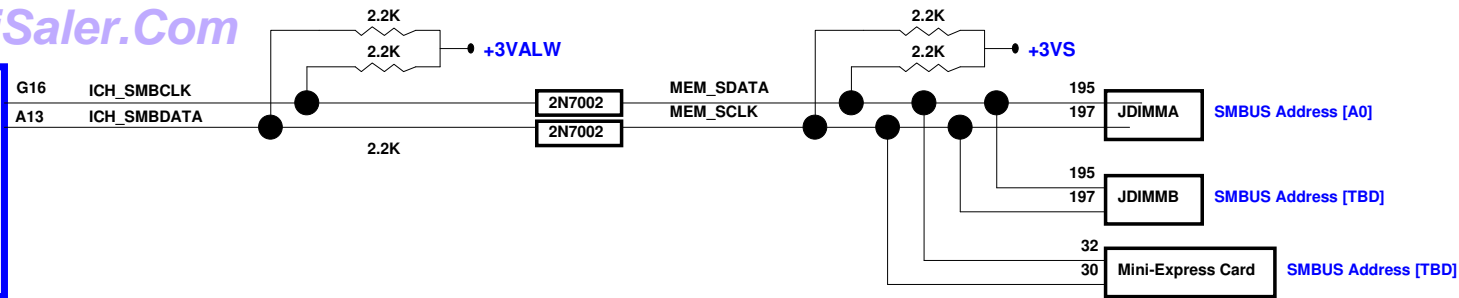


DELL CONFIDENTIAL/PROPRIETARY

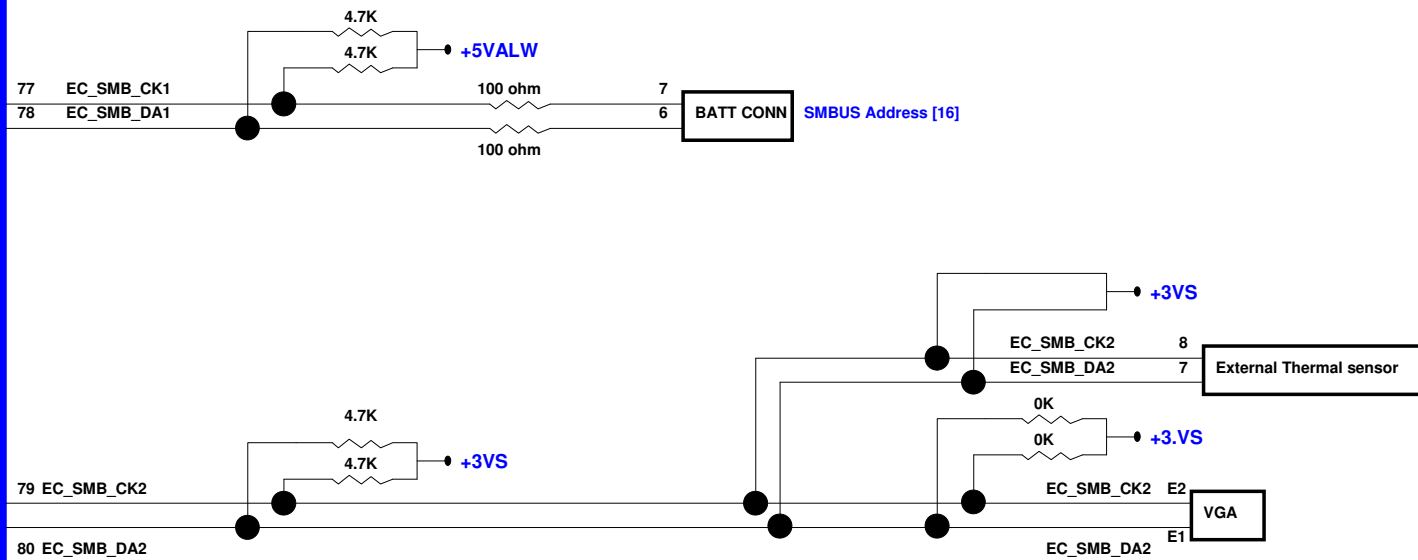
Compal Electronics, Inc.

Power Rails			
Title	Power Rails		
Size	Document Number	Rev	
	LA-4671P	1.0	
Date:	Friday, February 20, 2009	Sheet	52 of 53

ICH9-M



KBC
KB926



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.			
Title			
SMBus Topology			
Size	Document Number	Rev	
	LA-4671P	1.0	
Date:	Friday, February 20, 2009	Sheet	53 of 53