

Compal confidential

Schematics Document

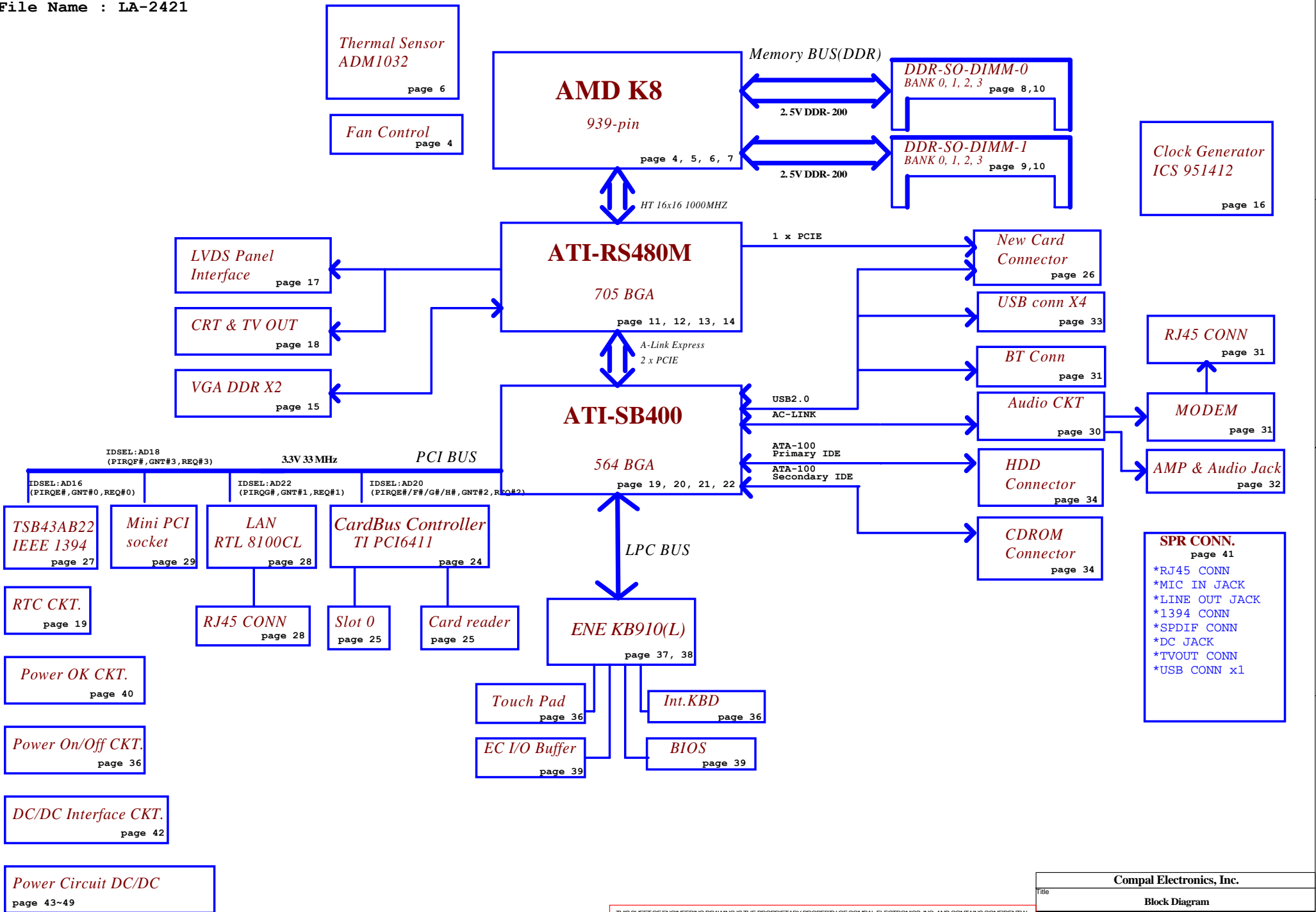
AMD K8 with ATI RS480M+ATI SB400

2005-01-04

REV: 0.6

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Title		
Cover Sheet		
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	LA-2421	0.6
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Voltage Rails

power plane State	+12VALW +5VALW +3VALW +1.8VALW	+5V +2.5V +1.25V	+5VS +3VS +2.5VS +1.8VS +1.5VS +2.5VDDA +CPU_CORE +1.2V_HT
S0	○	○	○
S1	○	○	○
S3	○	○	✗
S5 S4/AC	○	✗	✗
S5 S4/AC don't exist	✗	✗	✗

○ MEANS ON

✗ MEANS OFF

PCI Devices

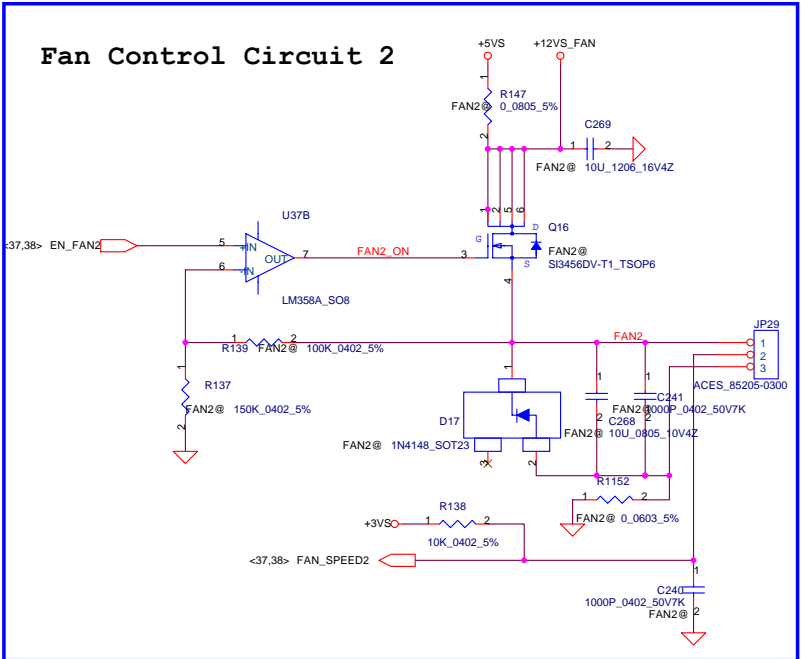
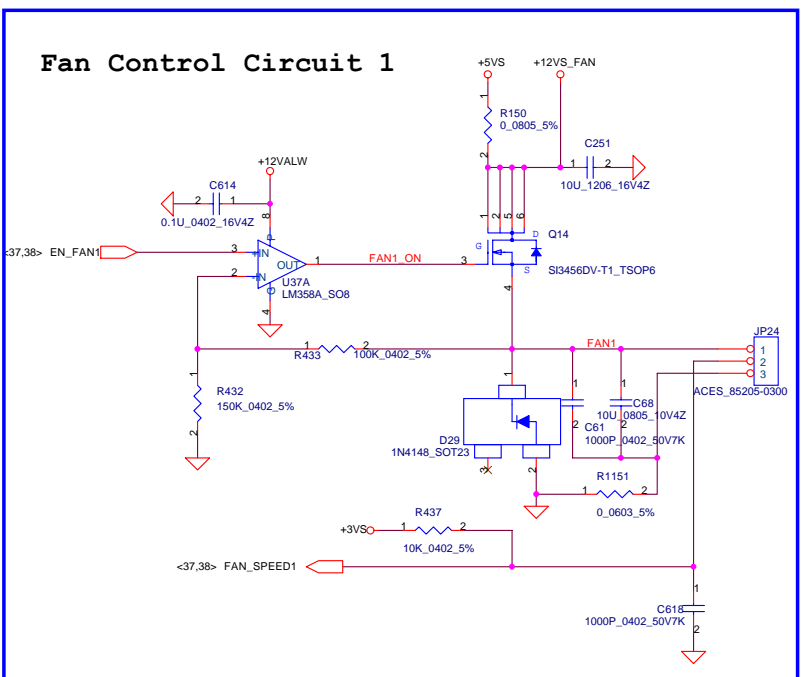
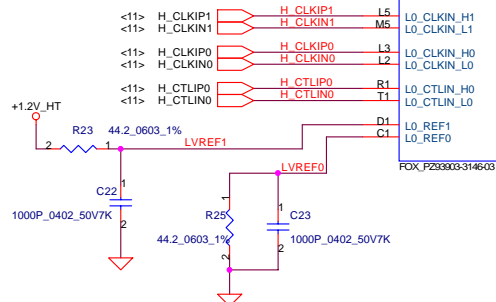
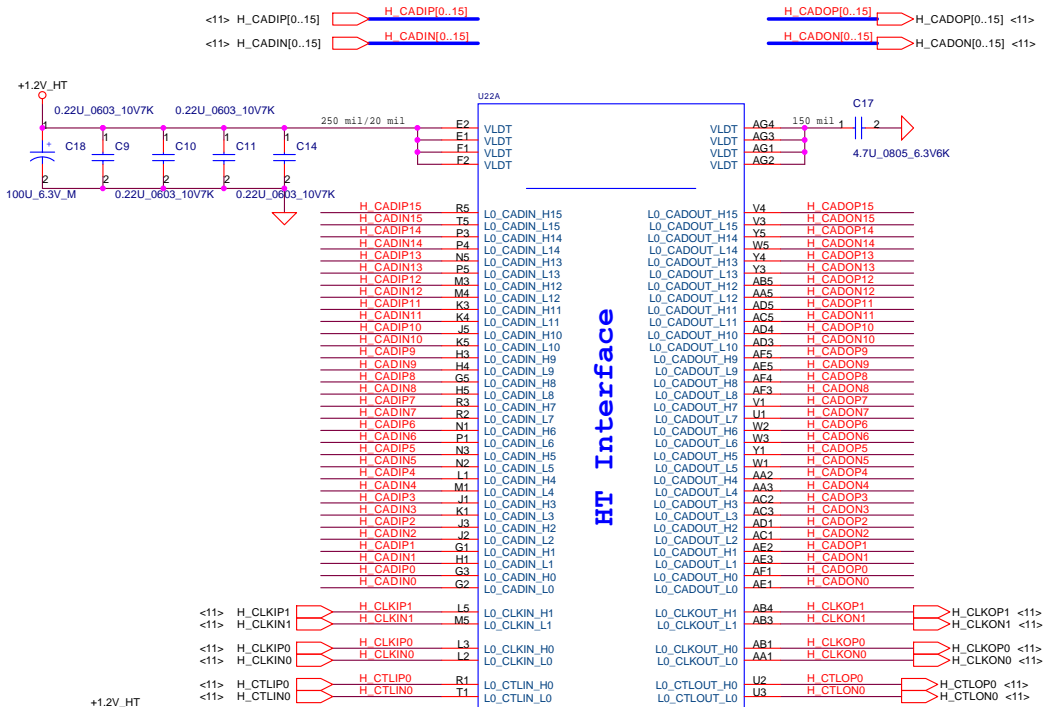
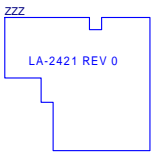
INTERNAL DEVICE	IDSEL #	REQ/GNT #	PIRQ
SMBUS			
IDE			A
LPC I/F			
PCI to PCI			
AC97 AUDIO			B
AC97 MODEM			B
OHCI#1 USB			D
OHCI#1 USB			D
EHCI USB			D
SATA#1			A
SATA#2			A

EXTERNAL			
1394	AD16	0	E
Wireless LAN	AD18	3	F
LAN	AD22	1	G
CARD BUS	AD20	2	E,F,G,H
Mini-PCI (no use)	AD19	4	F

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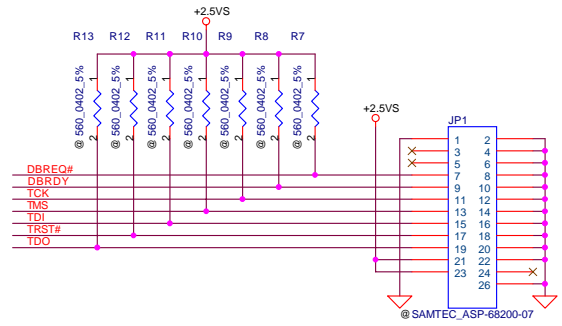
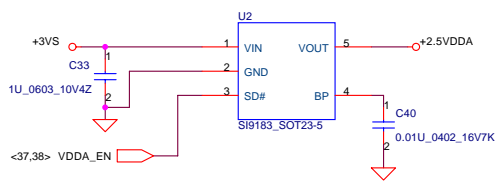
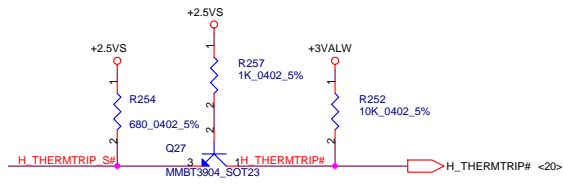
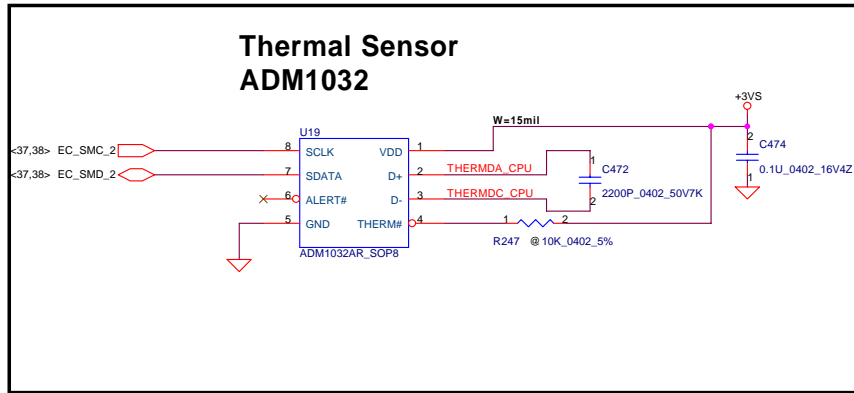
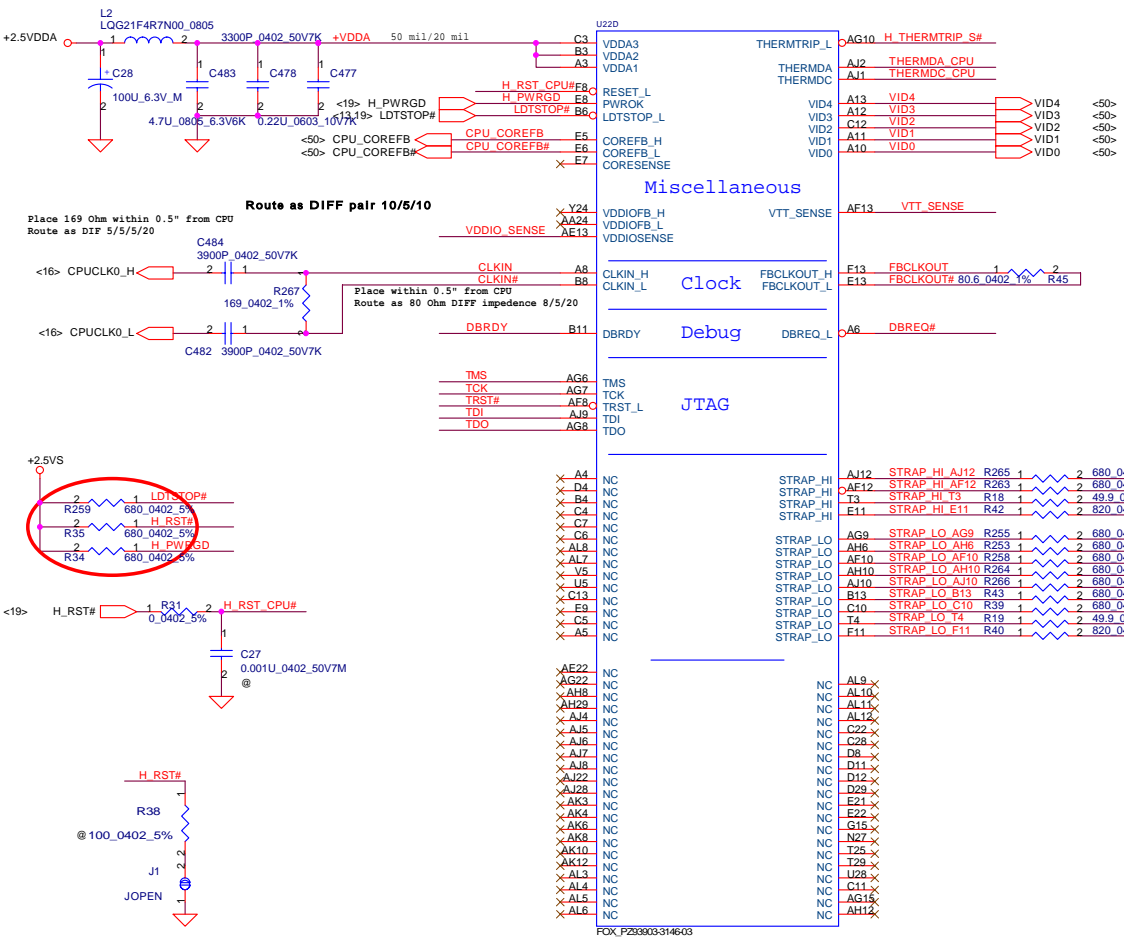
Notes List		
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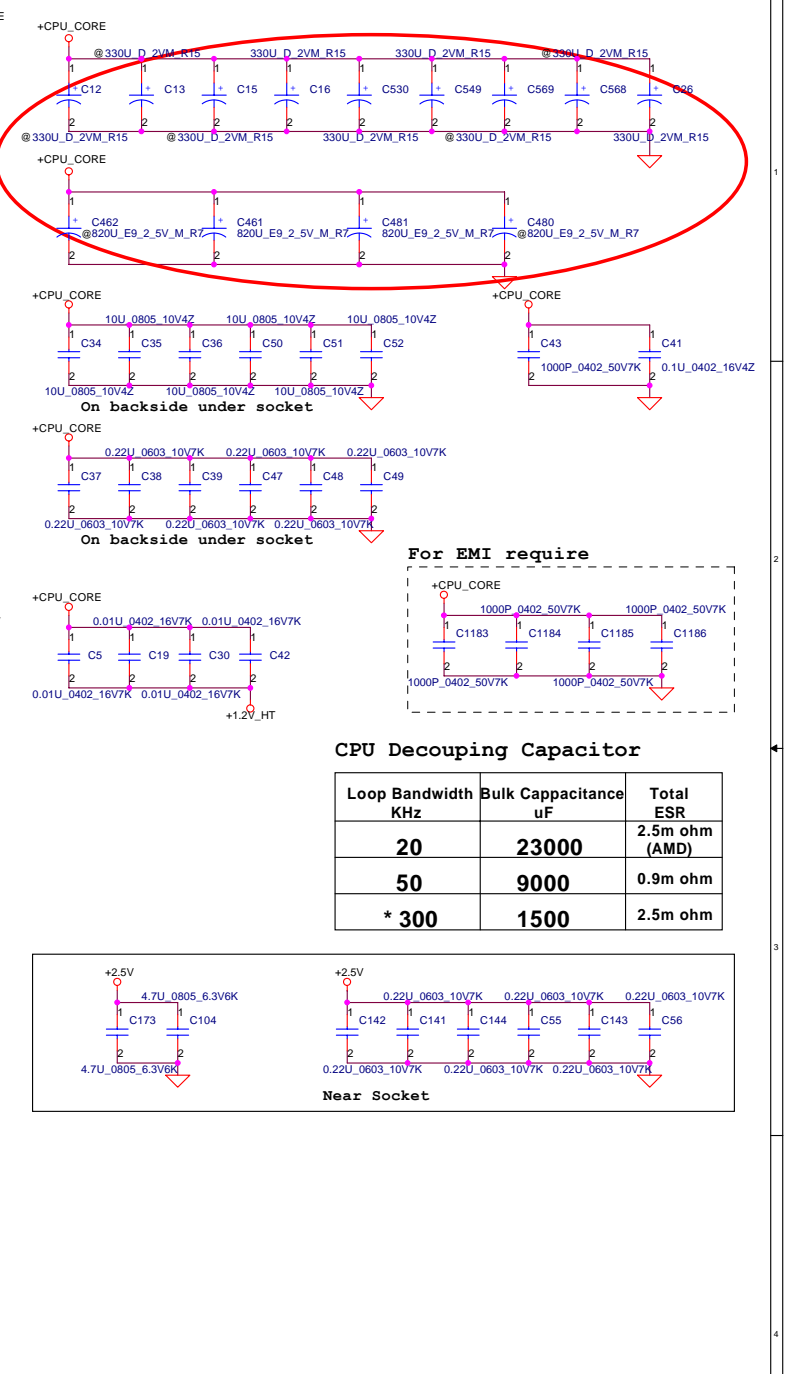
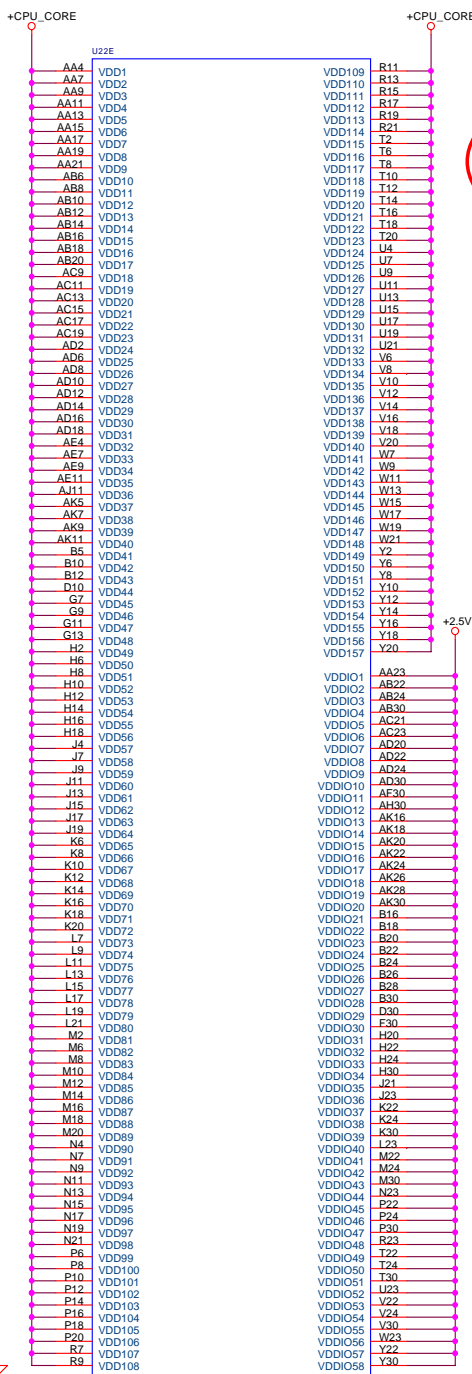
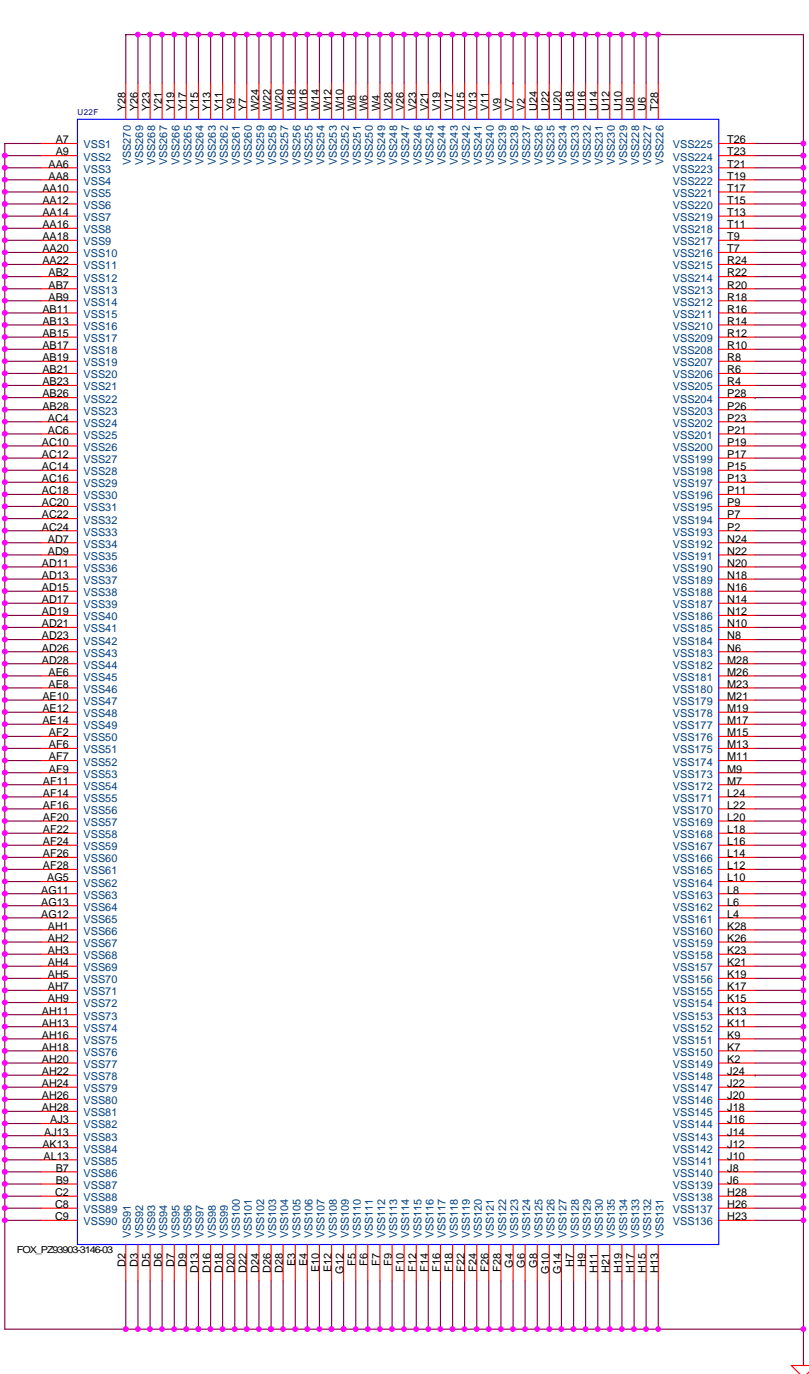
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Title			
Claw Hammer CPU (Host Bus)			
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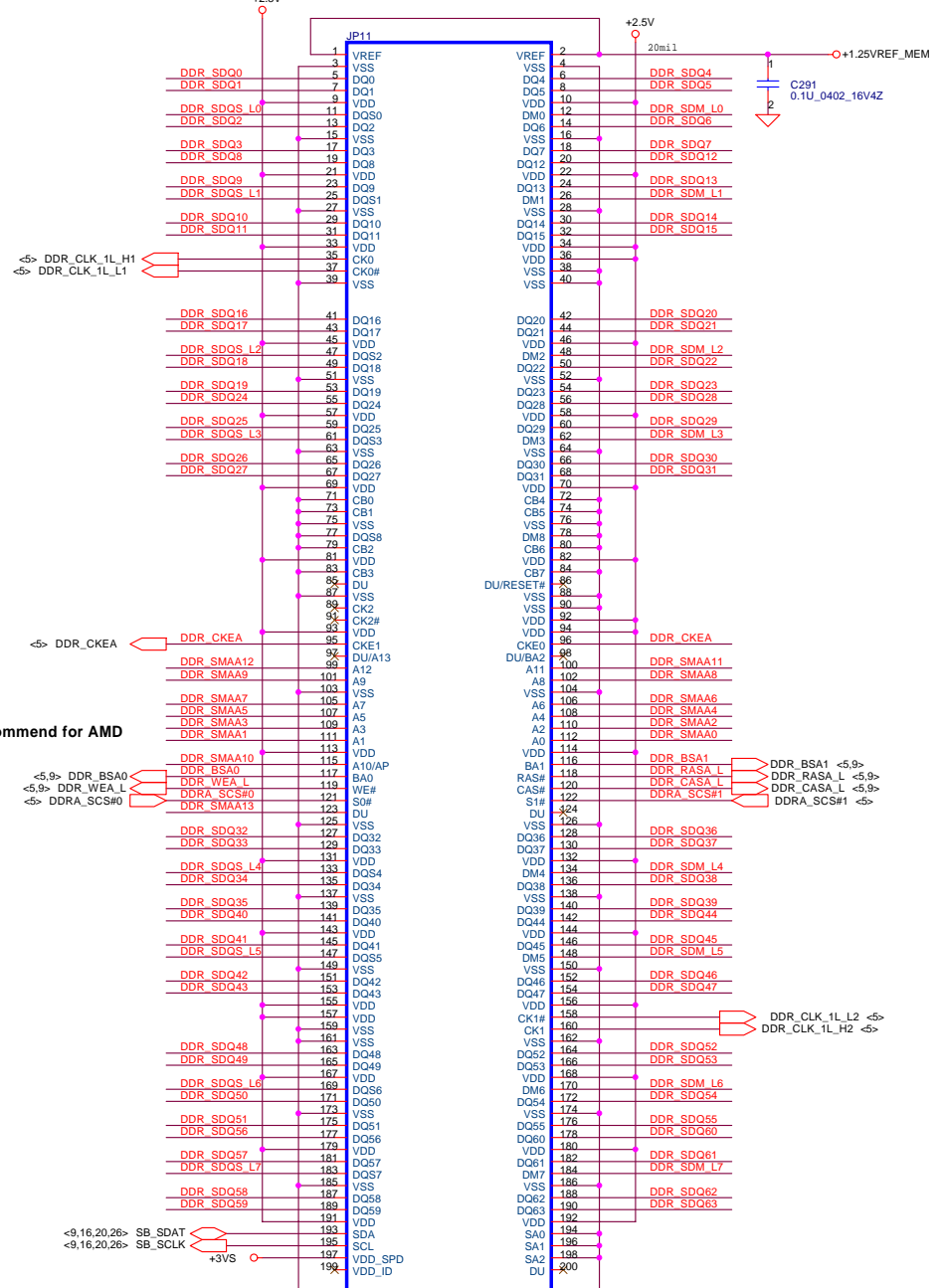
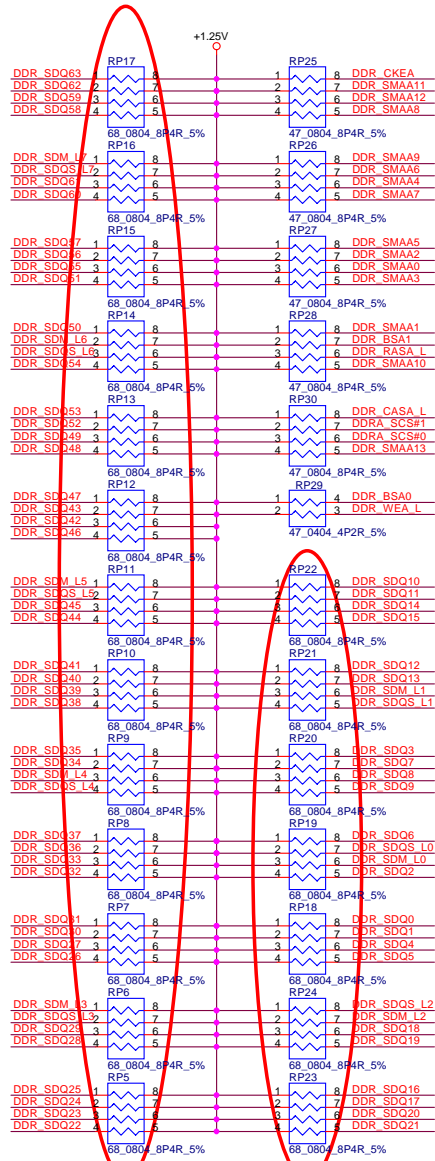
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ClawHammer (MISC)			
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Compal Electronics, Inc.
Claw Hammer (Power & Ground)

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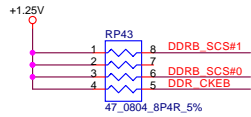
Note:
DDR_SMAA13 Recommend for AMD

- <5,9> DDR_SDQ[0..63]
- <5,9> DDR_SDQS_L[0..7]
- <5,9> DDR_SDM_L[0..7]
- <5,9> DDR_SMAA[0..13]

AMP_1565917-1
SO-DIMMO
Top Side

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DDR-SODIMM SLOT		
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<-5,8> DDR_CLK_2L_H1
<-5,8> DDR_CLK_2L_L1

Layout note

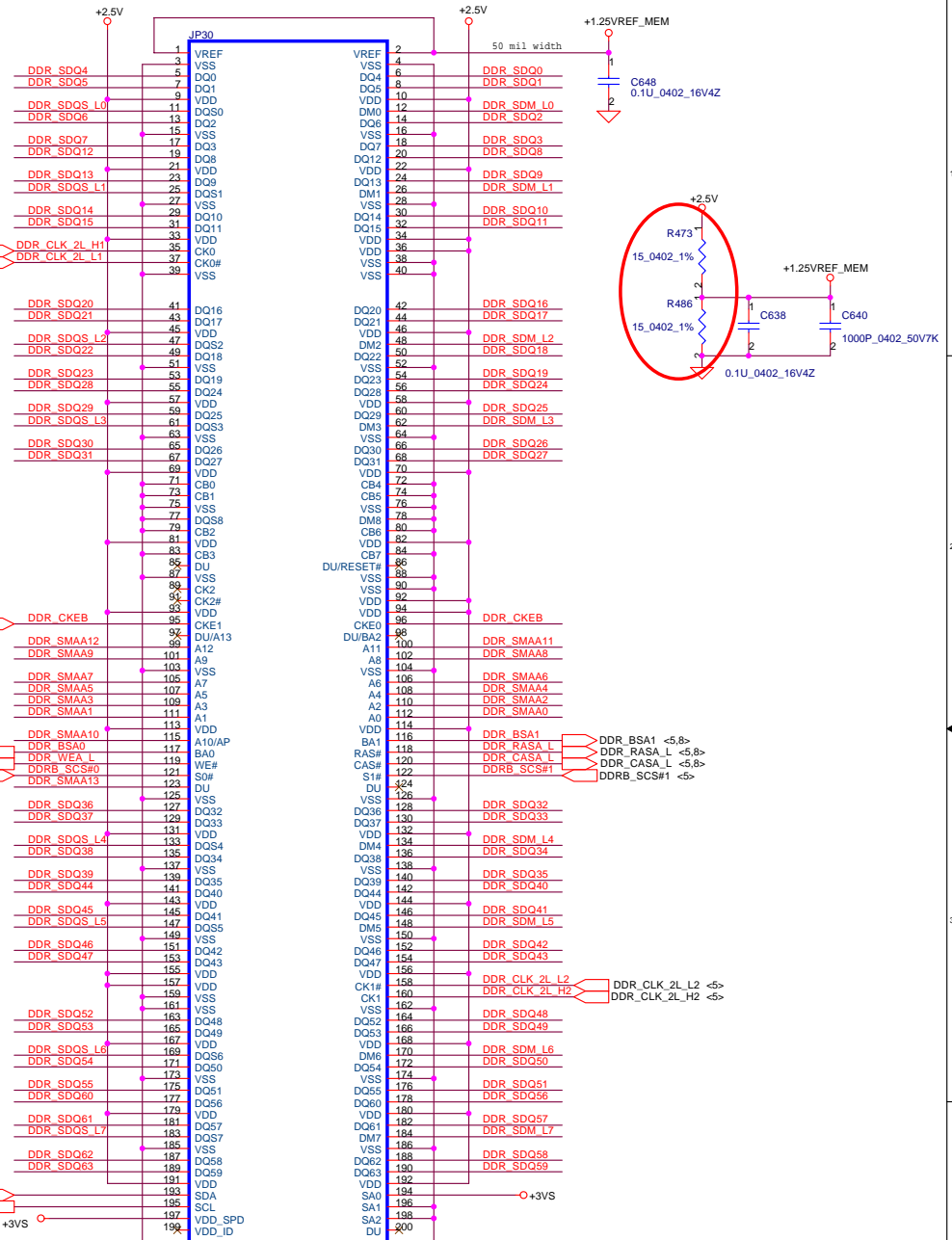
Note:
DDR_SMAA13 Recommend
for AMD.

<-5,8> DDR_BSA0
<-5,8> DDR_WEA_L
<-5,8> DDRB_SCS#0
<-5,8> DDRB_SCS#1

<-5,8> DDR_SDQS_L[0..7] DDR_SDQS_L[0..7]
<-5,8> DDR_SDM_L[0..7] DDR_SDM_L[0..7]
<-5,8> DDR_SMAA[0..13] DDR_SMAA[0..13]
<-5,8> DDR_SDQ[0..63] DDR_SDQ[0..63]

<-8,16,20,26> SB_SDAT
<-8,16,20,26> SB_SCLK

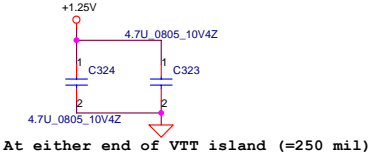
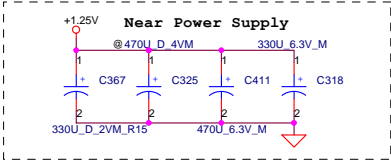
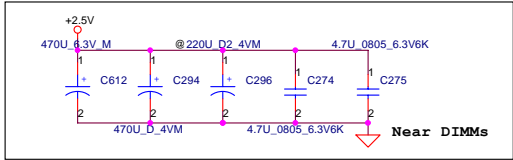
+3VS



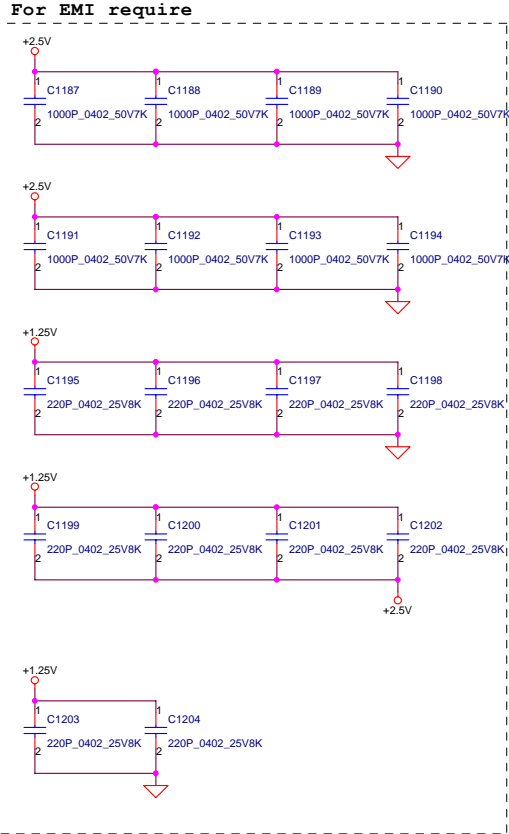
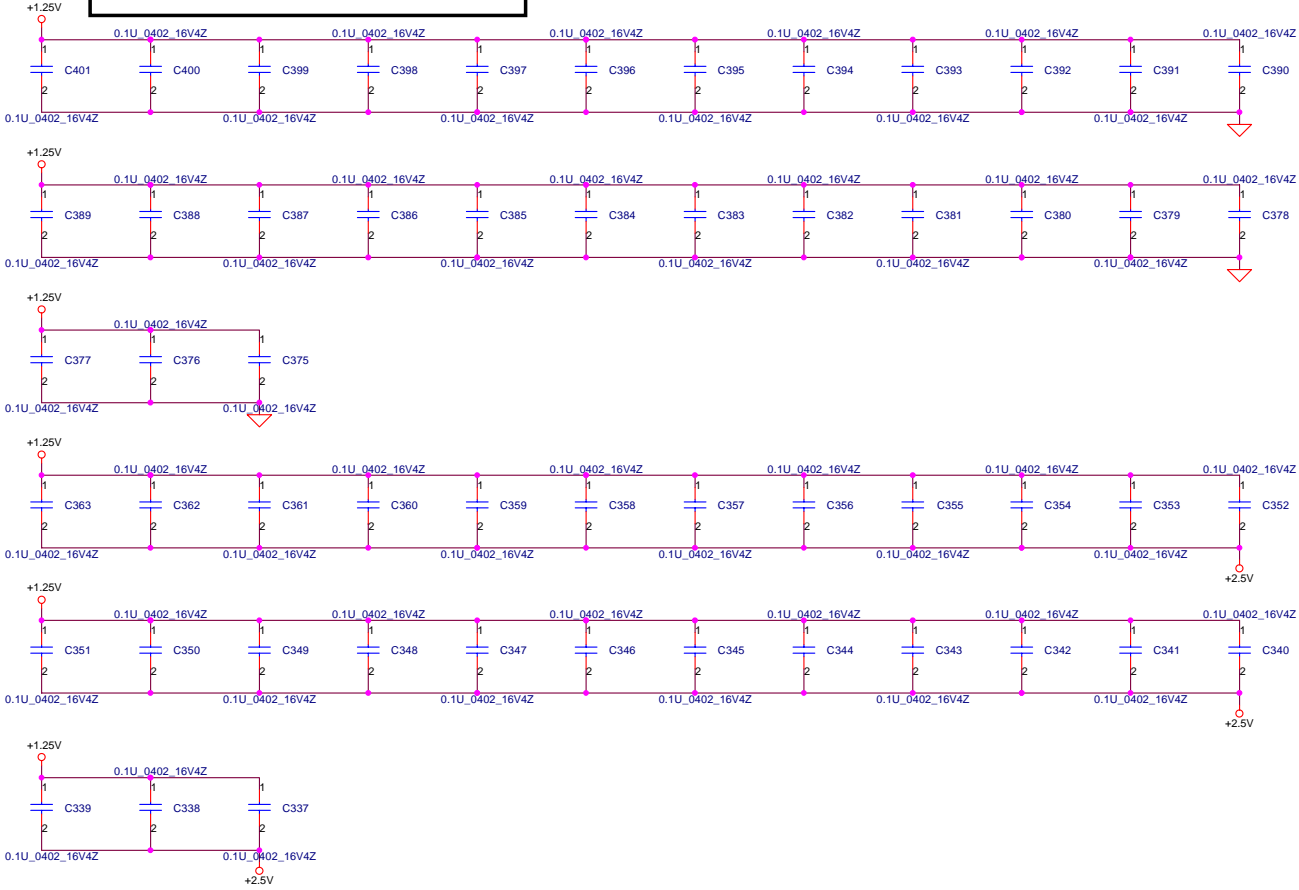
**DIMM1
Bottom Side**

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DDR-SODIMM SLOT1		
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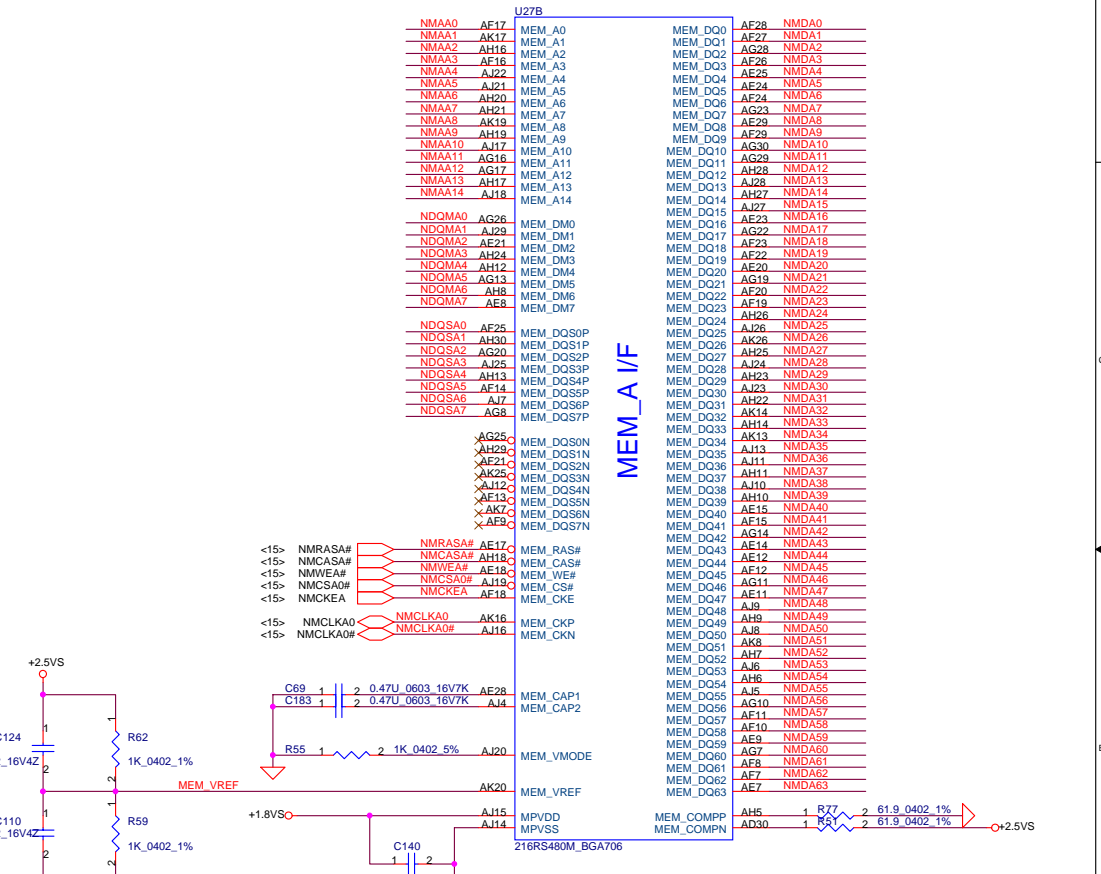
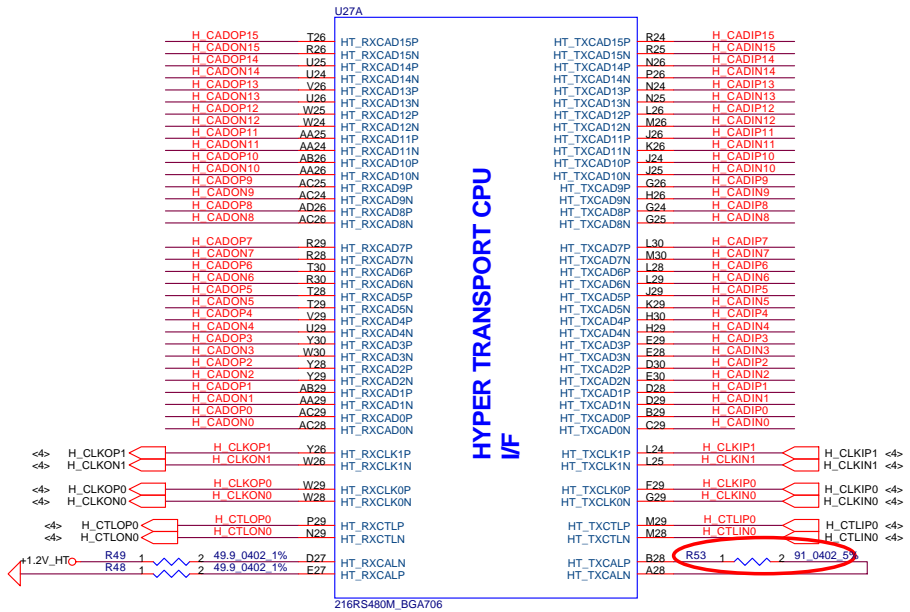
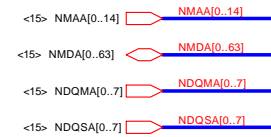
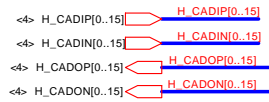


Layout note :
Place one cap close to every 2 pull up resistors termination to +1.25VS

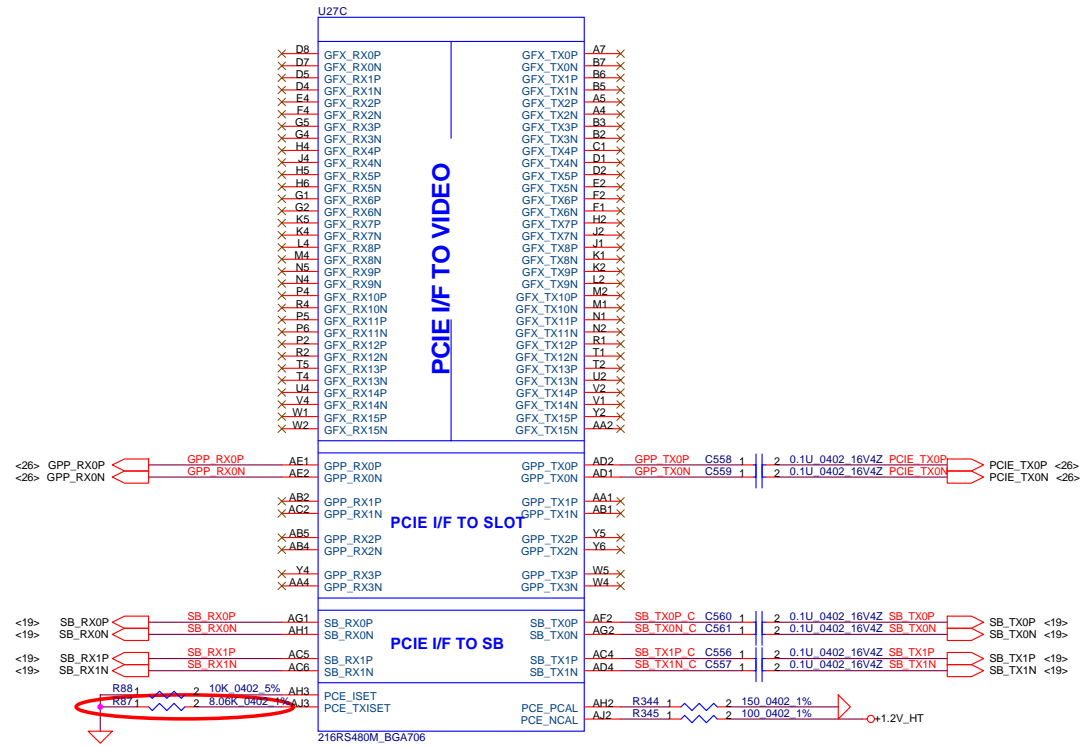


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Compal Electronics, Inc.			
DDR SODIMM Decoupling			
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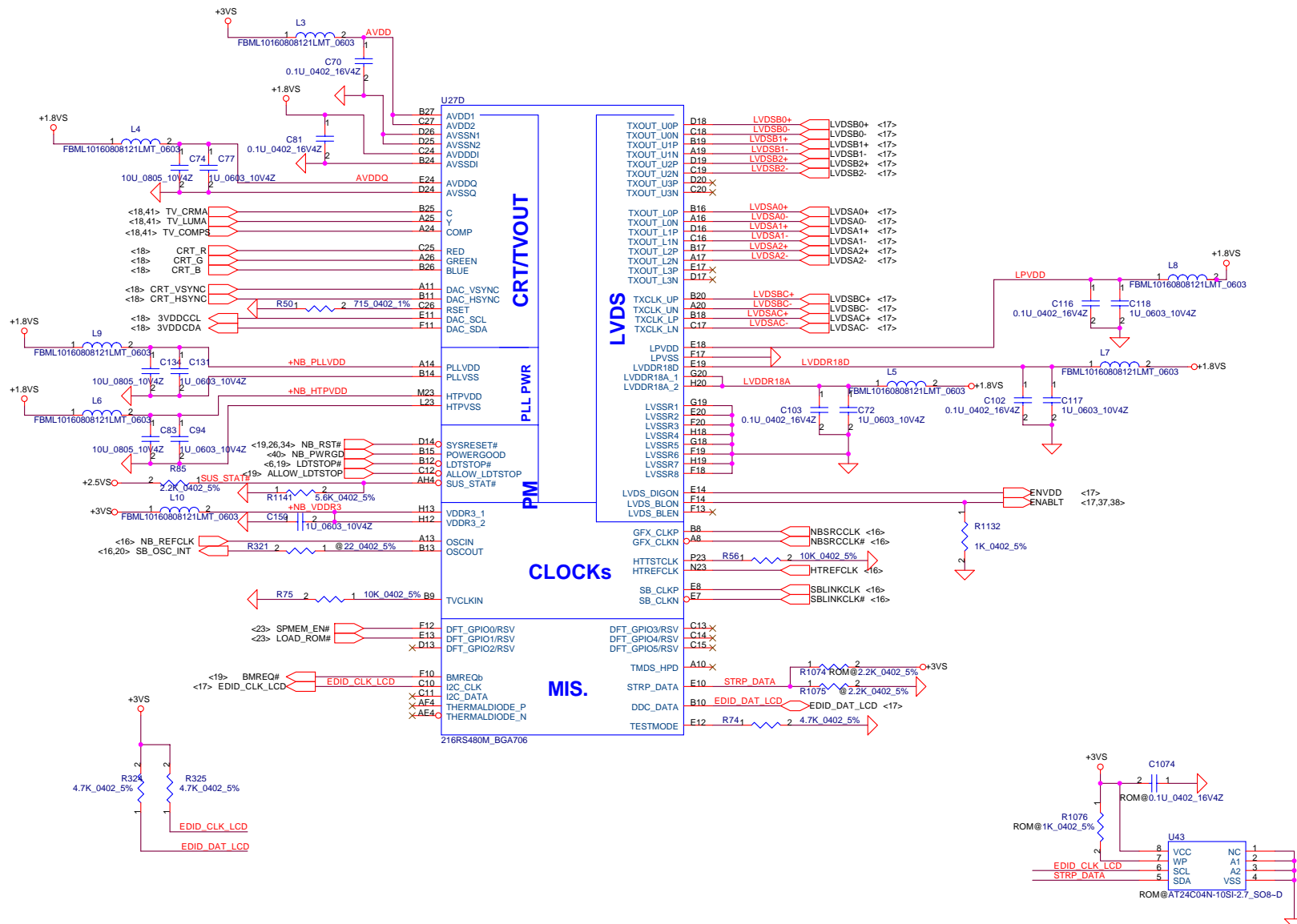


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Title PCIE			
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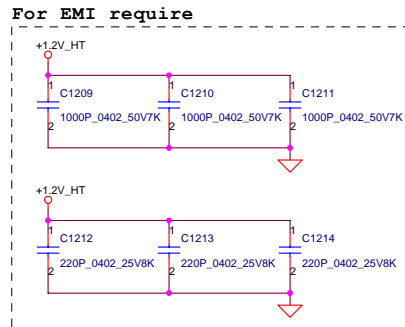
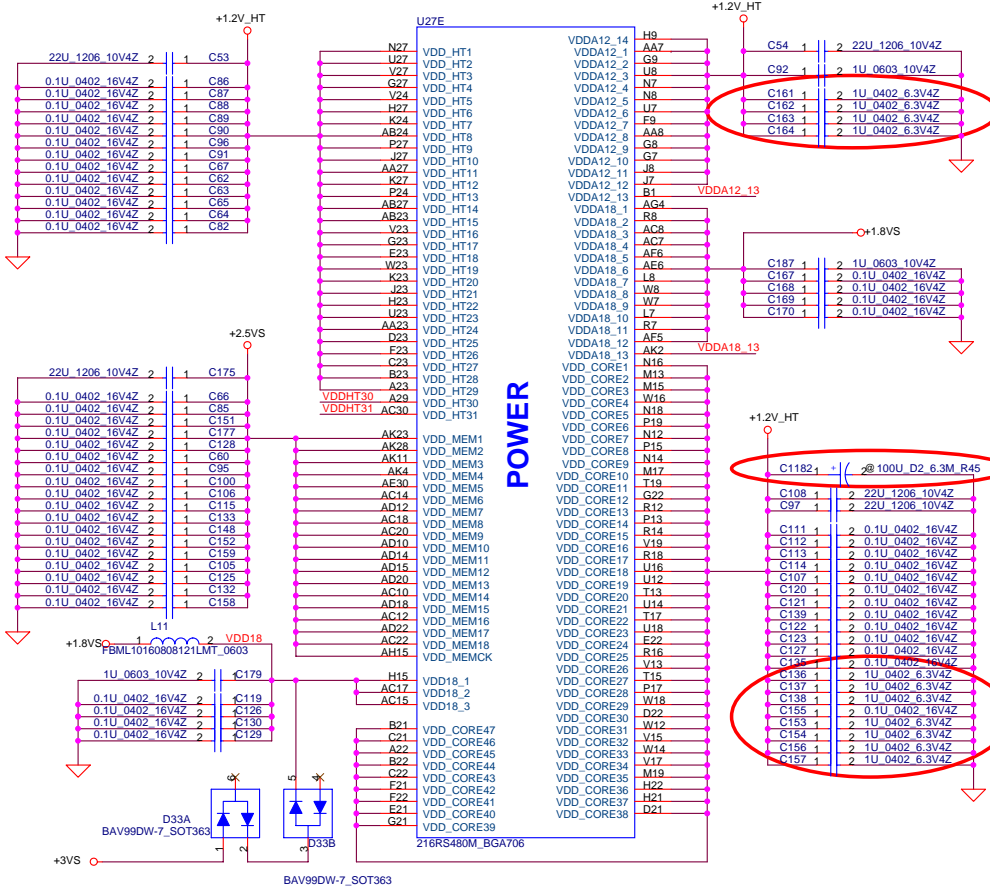
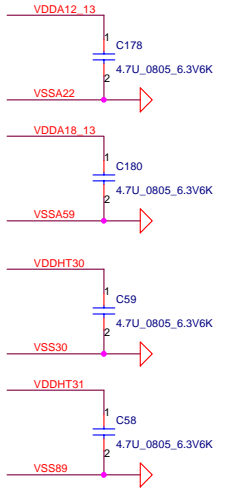


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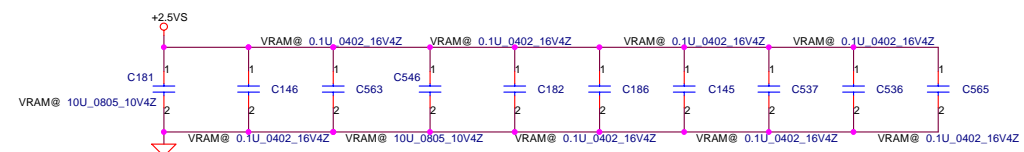
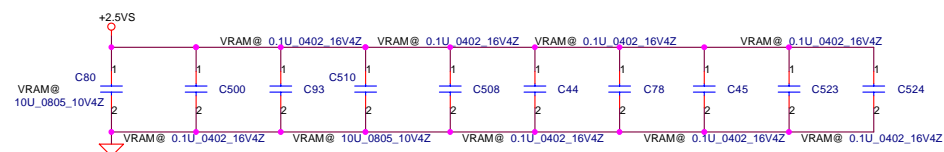
U27F		U27E	
G10	VSS1	VSSA1	R5
G12	VSS2	VSSA2	AE5
AD29	VSS3	VSSA3	V5
AD27	VSS4	VSSA4	N3
AC27	VSS5	VSSA5	N2
G15	VSS6	VSSA6	F5
G14	VSS7	VSSA7	R3
Y24	VSS8	VSSA8	AA6
G13	VSS9	VSSA9	T3
E9	VSS10	VSSA10	M6
D15	VSS11	VSSA11	C5
D9	VSS12	VSSA12	F7
AD9	VSS13	VSSA13	Y8
G11	VSS14	VSSA14	V3
F16	VSS15	VSSA15	C3
G30	VSS16	VSSA16	W3
AB28	VSS17	VSSA17	K8
AB25	VSS18	VSSA18	D3
D12	VSS19	VSSA19	C6
AD24	VSS20	VSSA20	AA3
AA28	VSS21	VSSA21	A2
G17	VSS22	VSSA22	AB3
Y23	VSS23	VSSA23	PA
AC9	VSS24	VSSA24	JA
R19	VSS25	VSSA25	CA
Y27	VSS26	VSSA26	AD3
C28	VSS27	VSSA27	V8
G16	VSS28	VSSA28	F3
B20	VSS29	VSSA29	AE3
VSS30	VSS30	VSSA30	AF3
T24	VSS31	VSSA31	U3
F26	VSS32	VSSA32	M5
W27	VSS33	VSSA33	AB7
D11	VSS34	VSSA34	CS3
H11	VSS35	VSSA35	B4
AD25	VSS36	VSSA36	P7
H17	VSS37	VSSA37	AA5
H10	VSS38	VSSA38	CS
H16	VSS39	VSSA39	C7
H14	VSS40	VSSA40	J5
F16	VSS41	VSSA41	R6
D10	VSS42	VSSA42	J3
E15	VSS43	VSSA43	AD5
F15	VSS44	VSSA44	D6
		VSSA45	C4
		VSSA46	AB8
		VSSA47	T7
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		VSSA50	KT
		VSSA51	H7
		VSSA52	M3
		VSSA53	V6
		VSSA54	HR
		VSSA55	C2
		VSSA56	AG3
		VSSA57	L6
		VSSA58	A11
		VSSA59	M7
		VSSA60	V7
		VSSA61	E6
		VSSA62	U6
		VSSA63	U5
		VSSA64	U6
		VSSA65	E5
		VSSA66	L5
		VSSA67	T8
		VSSA68	
		VSS113	F28
		VSS114	H28
		VSS115	J28
		VSS116	N19
		VSS117	K28
		VSS118	T23
		VSS119	L27
		VSS120	
		VSS122	M27
		VSS123	H24
		VSS124	N28
		VSS125	P25
		VSS126	P28
		VSS127	E26
		VSS128	K25
		VSS129	U28
		VSS130	V25
		VSS131	V28
		VSS132	R23
		VSS89	
		VSS90	
		VSS91	
		VSS92	
		VSS93	
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GROUND

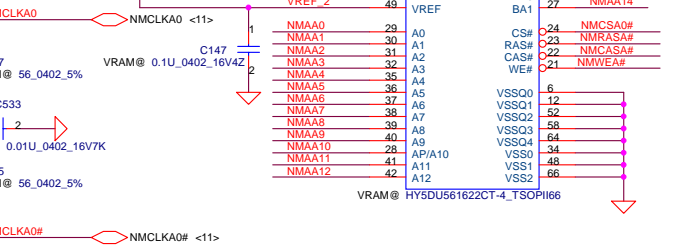
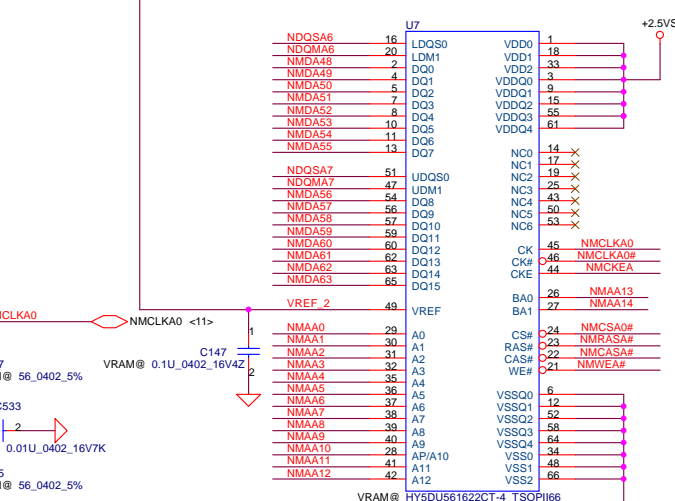
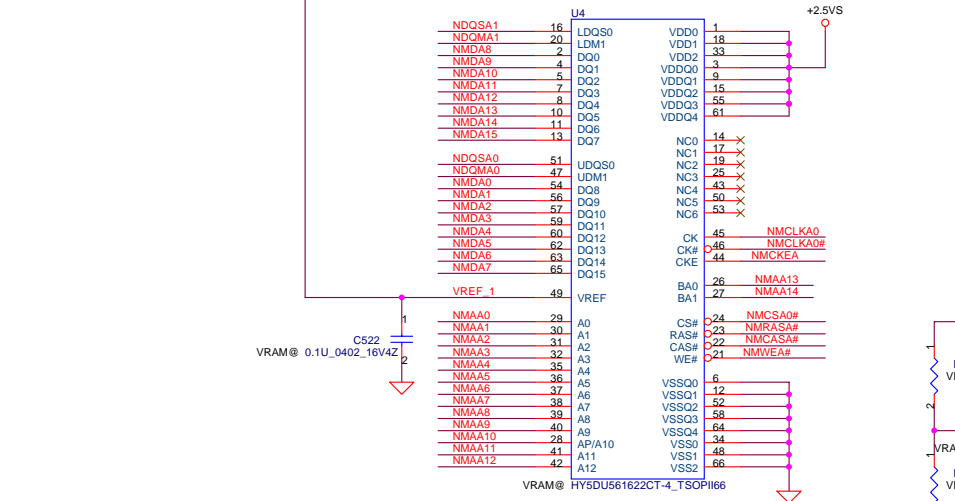
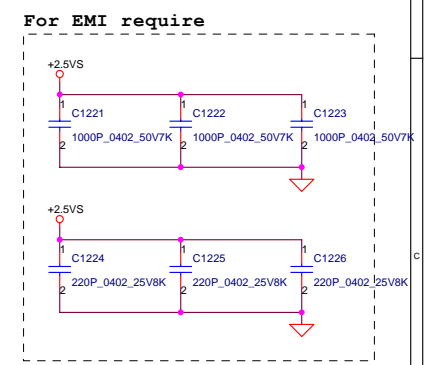
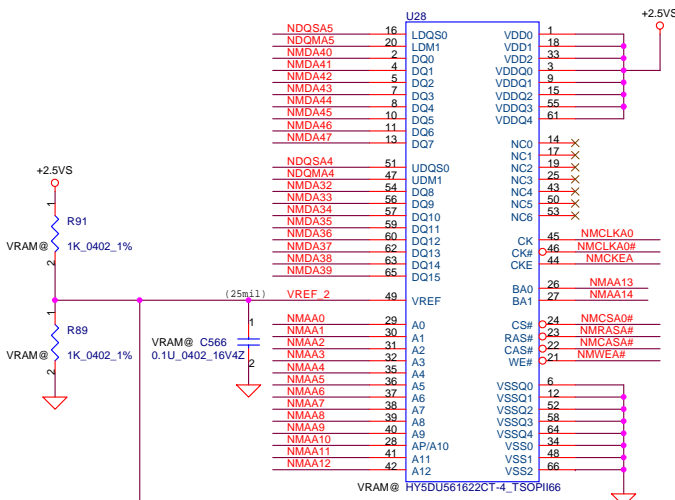
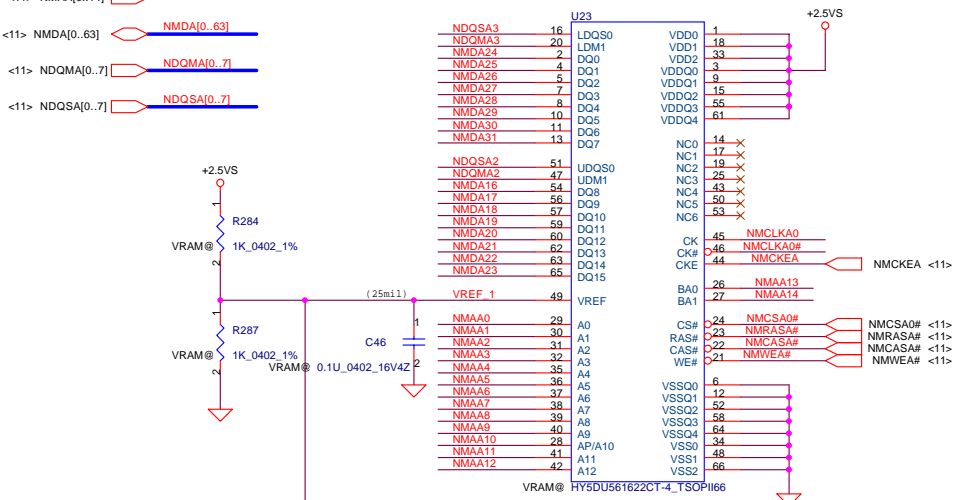


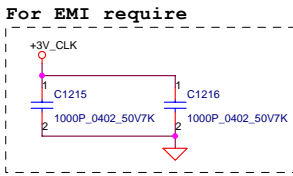
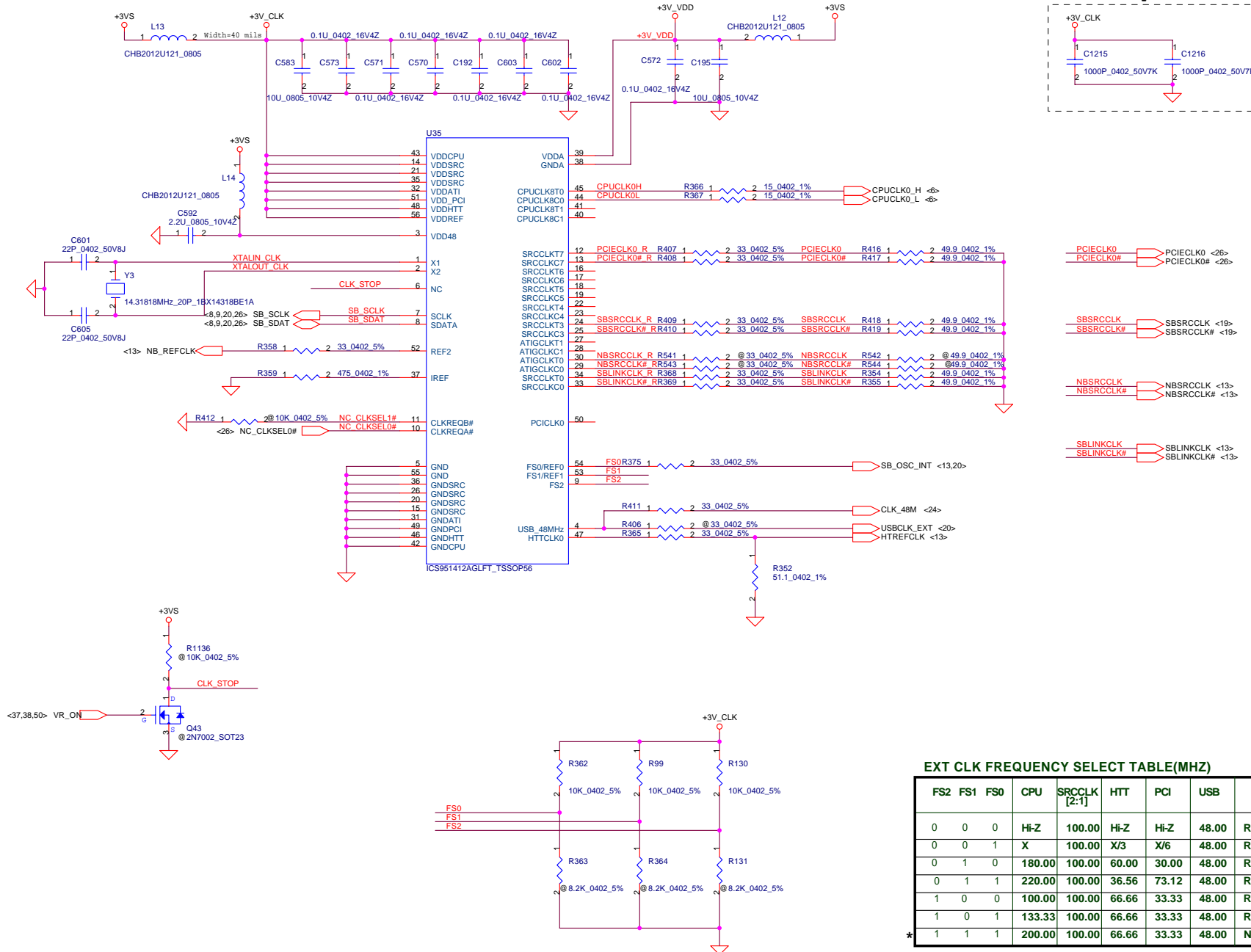
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Title		
RS480M Power/GND		
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- <11> NMAA[0..14] NMAA[0..14]
- <11> NMDA[0..63] NMDA[0..63]
- <11> NDQMA[0..7] NDQMA[0..7]
- <11> NDQSA[0..7] NDQSA[0..7]





EXT CLK FREQUENCY SELECT TABLE(MHZ)

FS2	FS1	FS0	CPU	SRCLK [2:1]	HTT	PCI	USB	COMMENT
0	0	0	Hi-Z	100.00	Hi-Z	Hi-Z	48.00	Reserved
0	0	1	X	100.00	X/3	X/6	48.00	Reserved
0	1	0	180.00	100.00	60.00	30.00	48.00	Reserved
0	1	1	220.00	100.00	36.56	73.12	48.00	Reserved
1	0	0	100.00	100.00	66.66	33.33	48.00	Reserved
1	0	1	133.33	100.00	66.66	33.33	48.00	Reserved
1	1	1	200.00	100.00	66.66	33.33	48.00	Normal HAMMER operation

Compal Electronics, Inc.

Clock Generator

Title: _____

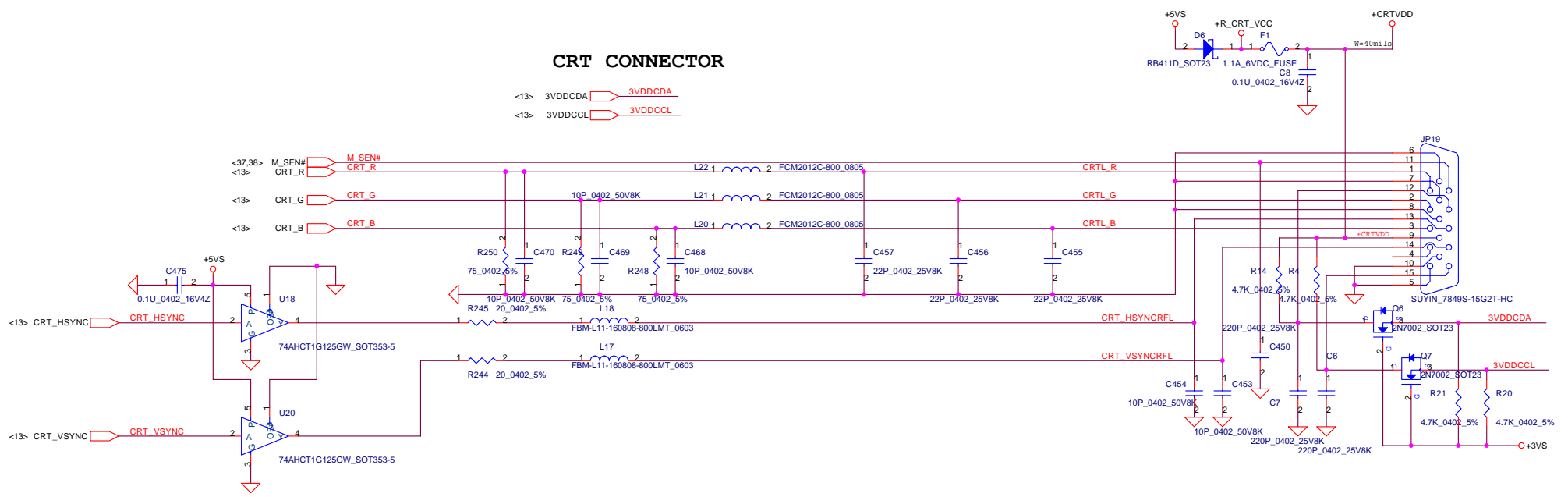
Size: Document Number **LA-2421** Rev 0.6

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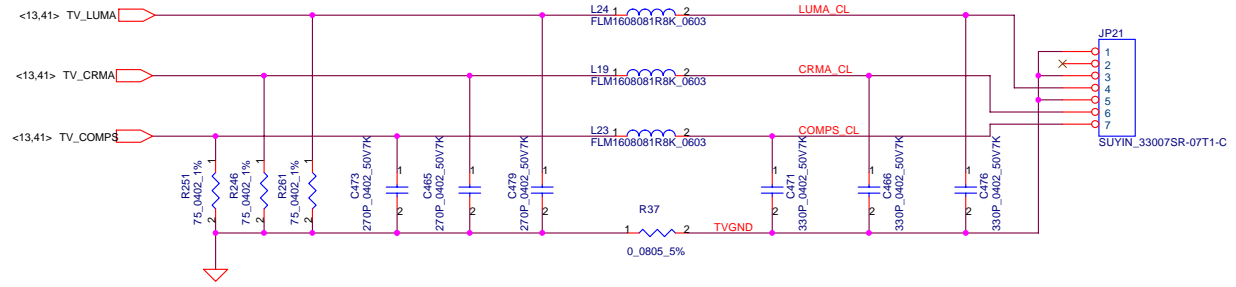
CRT CONNECTOR

<13> 3VDDCCA  3VDDCCA
 <13> 3VDDCCL  3VDDCCL



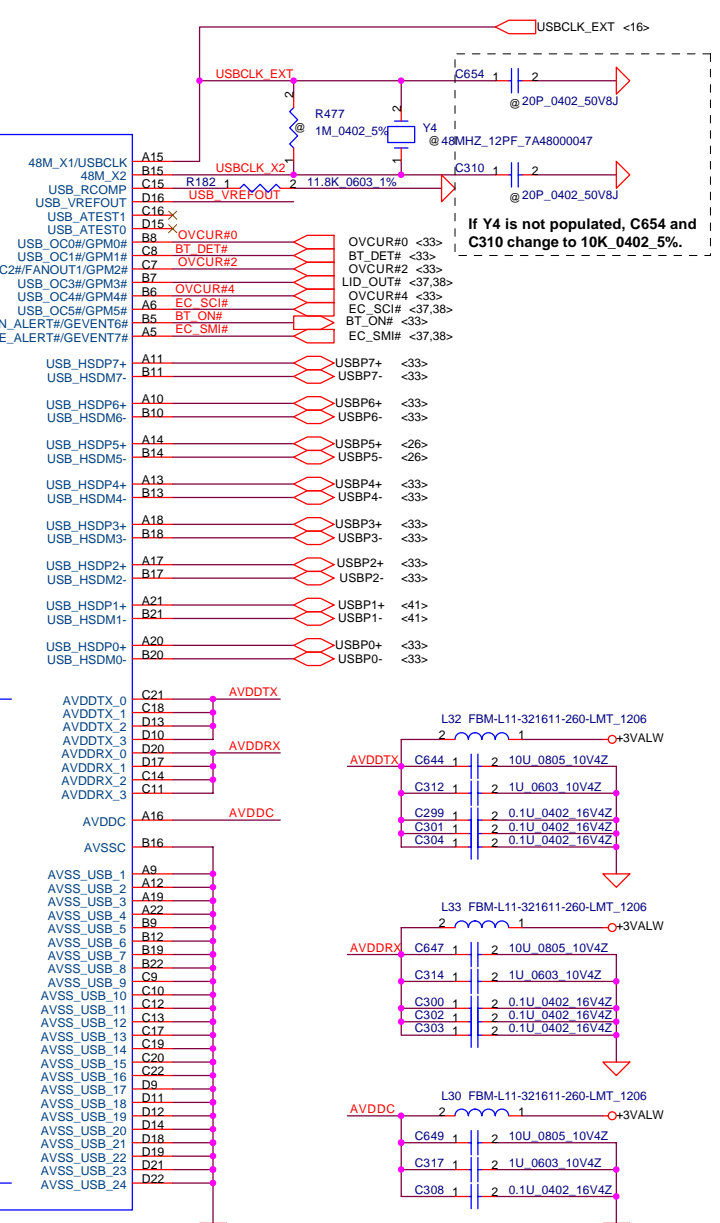
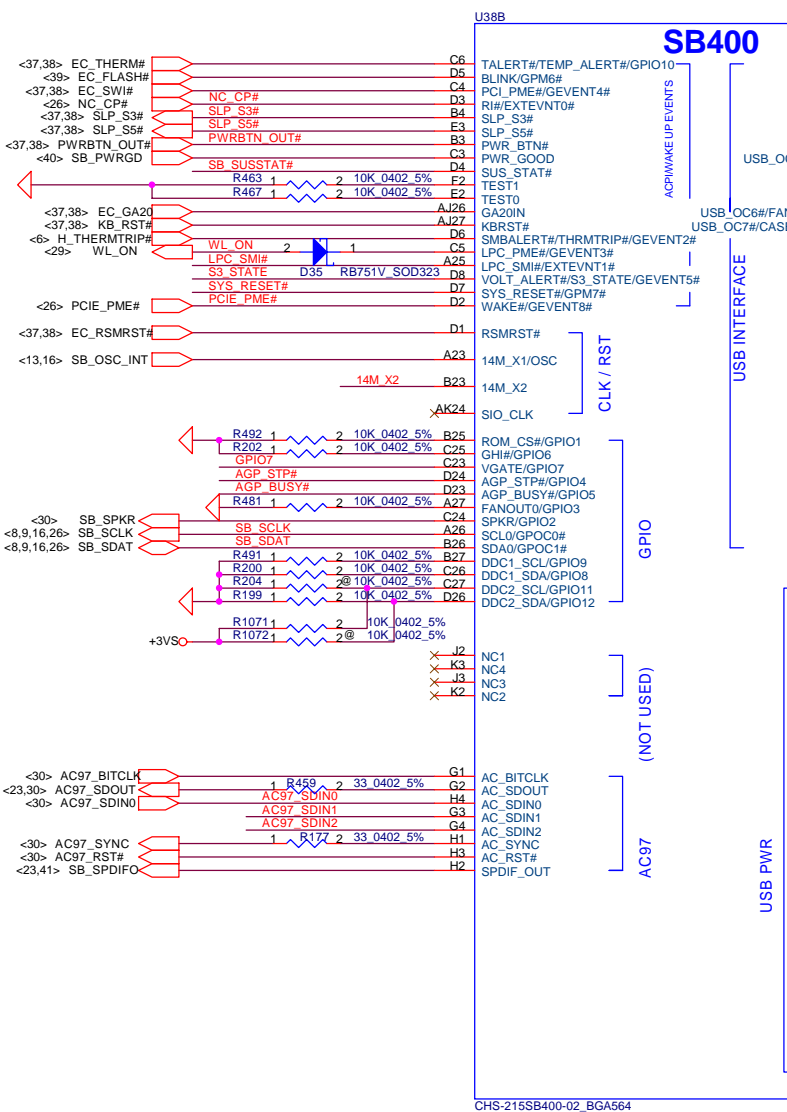
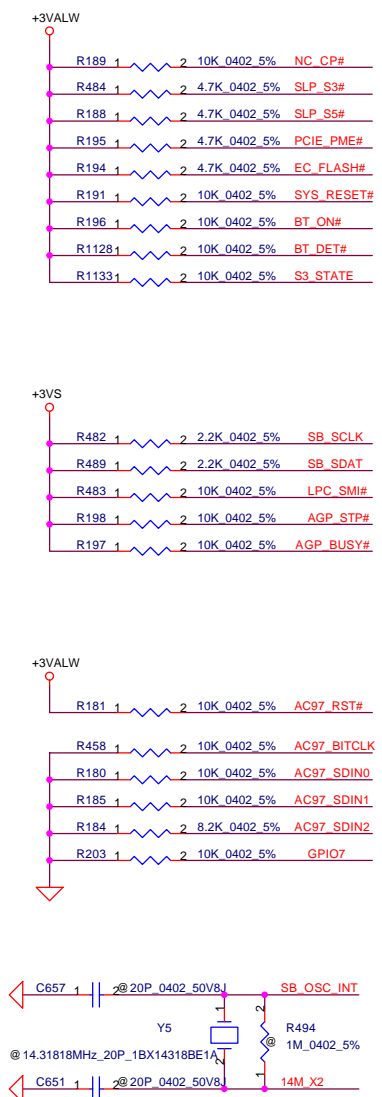
TV-Out Connector

S-Video



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Compal Electronics, Inc.			
Title CRT & TVout Connector			
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	GPIO12	GPIO11
HYNIX 128MB	0	1
SAMSUNG 128MB	1	1
No VRAM	0	0
Reserved	1	0

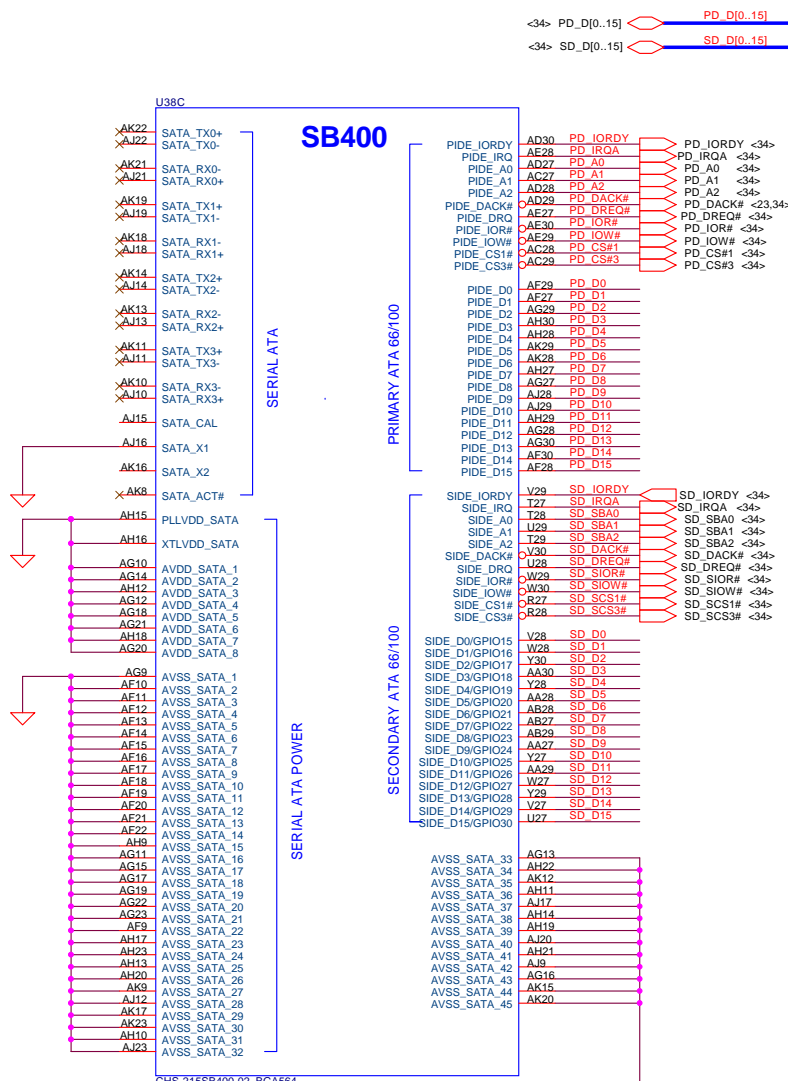
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Compal Electronics, Inc.

Title: **USB/LPC/AC97/MAC**

Size: Document Number **LA-2421** Rev: **0.6**

Date: Wednesday, January 05, 2005 Sheet 20 of 56



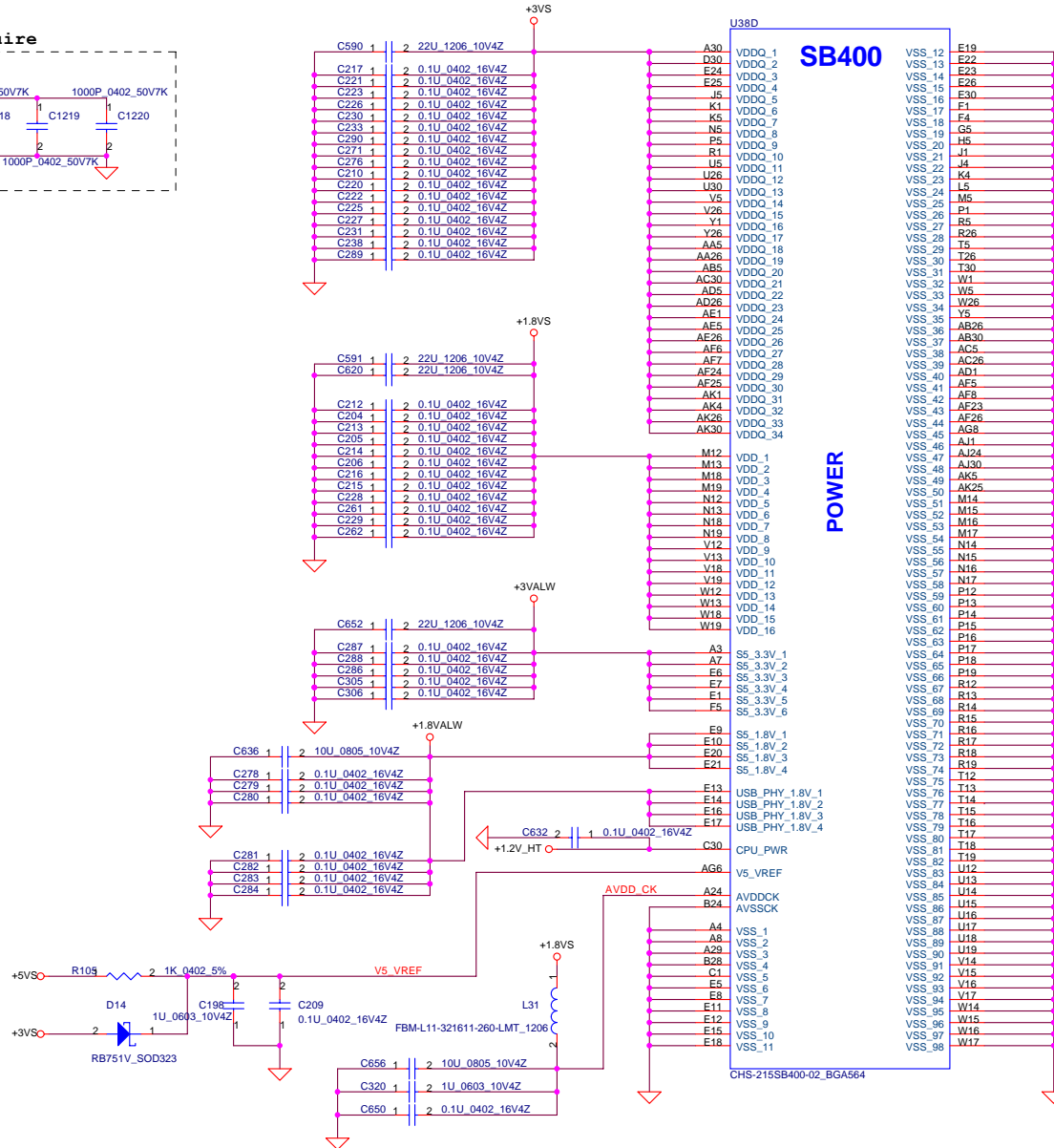
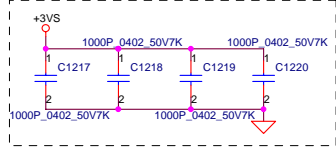
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 <34> SD_D[0..15] SD_D[0..15]

CHS-215SB400-02_BGA564

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Compal Electronics, Inc.			
Title IDE/SATA			
Size Custom	Document Number LA-2421	Rev 0.6	
Date:	Wednesday, January 05, 2005	Sheet	21 of 56

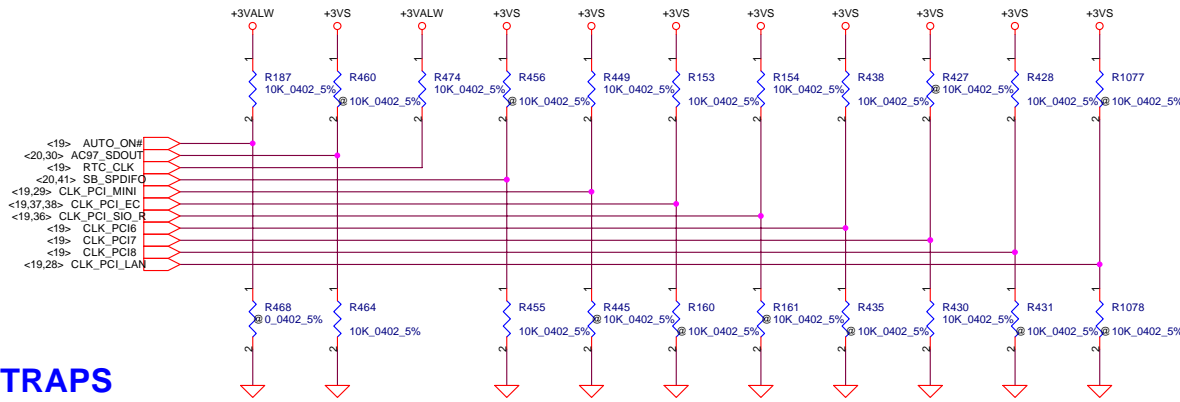
For EMI require



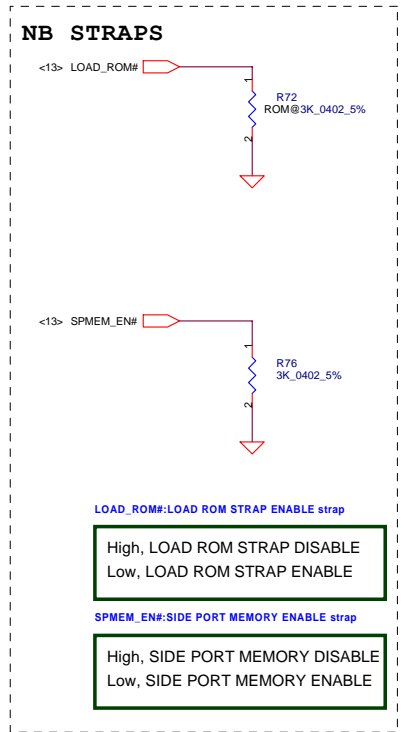
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Compal Electronics, Inc.		
Title Power/GND		
Size	Document Number LA-2421	Rev 0.6
Date:	Wednesday, January 05, 2005	Sheet 22 of 56

REQUIRED STRAPS



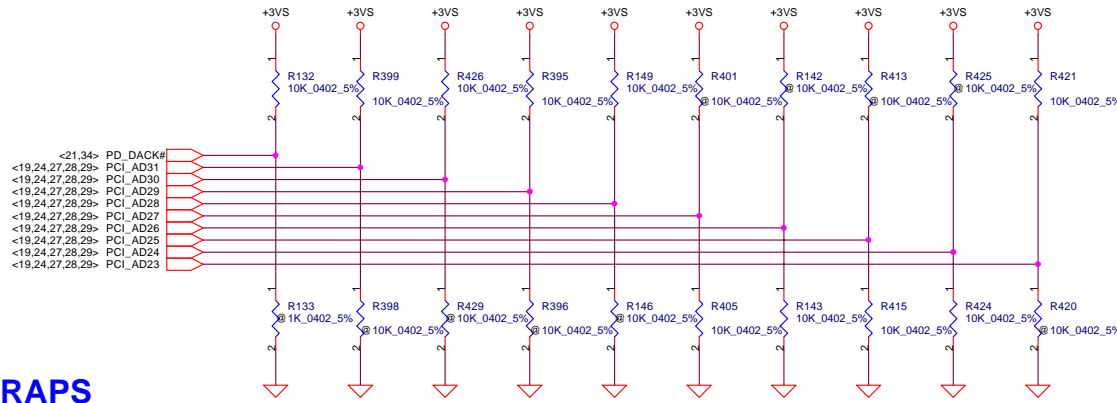
	AUTO_ON#	AC97_SDOOUT	RTC_CLK	SB_SPDIFO	CLK_PCI_LAN	CLK_PCI_MINI	CLK_PCI_EC	CLK_PCI_SIO	CLK_PCI6	CLK_PCI7	PCI_CLK8
PULL HIGH	MANUAL PWR ON DEFAULT	USE DEBUG STRAPS	INTERNAL RTC DEFAULT	SIO 24MHz	48MHz XTAL MODE	USB PHY PWRDOWN DISABLE DEFAULT	INTERNAL 48MHz DEFAULT	14MHz OSC MODE DEFAULT	CPU I/F = K8 DEFAULT	ROM TYPE H,H = PCI ROM H,L = PMC LPC ROM	
PULL LOW	AUTO PWR ON	IGNORE DEBUG STRAPS DEFAULT	EXTERNAL RTC (NOT SUPPORTED W/ IT8712)	SIO 48MHz DEFAULT	48MHz OSC MODE DEFAULT	USB PHY PWRDOWN ENABLE	EXTERNAL 48MHz	14MHz XTAL MODE	CPU I/F = P4	L,H = NORMAL LPC ROM L,L = FWH ROM DEFAULT	



LOAD_ROM#:LOAD ROM STRAP ENABLE strap
 High, LOAD ROM STRAP DISABLE
 Low, LOAD ROM STRAP ENABLE

SPMEM_EN#:SIDE PORT MEMORY ENABLE strap
 High, SIDE PORT MEMORY DISABLE
 Low, SIDE PORT MEMORY ENABLE

DEBUG STRAPS



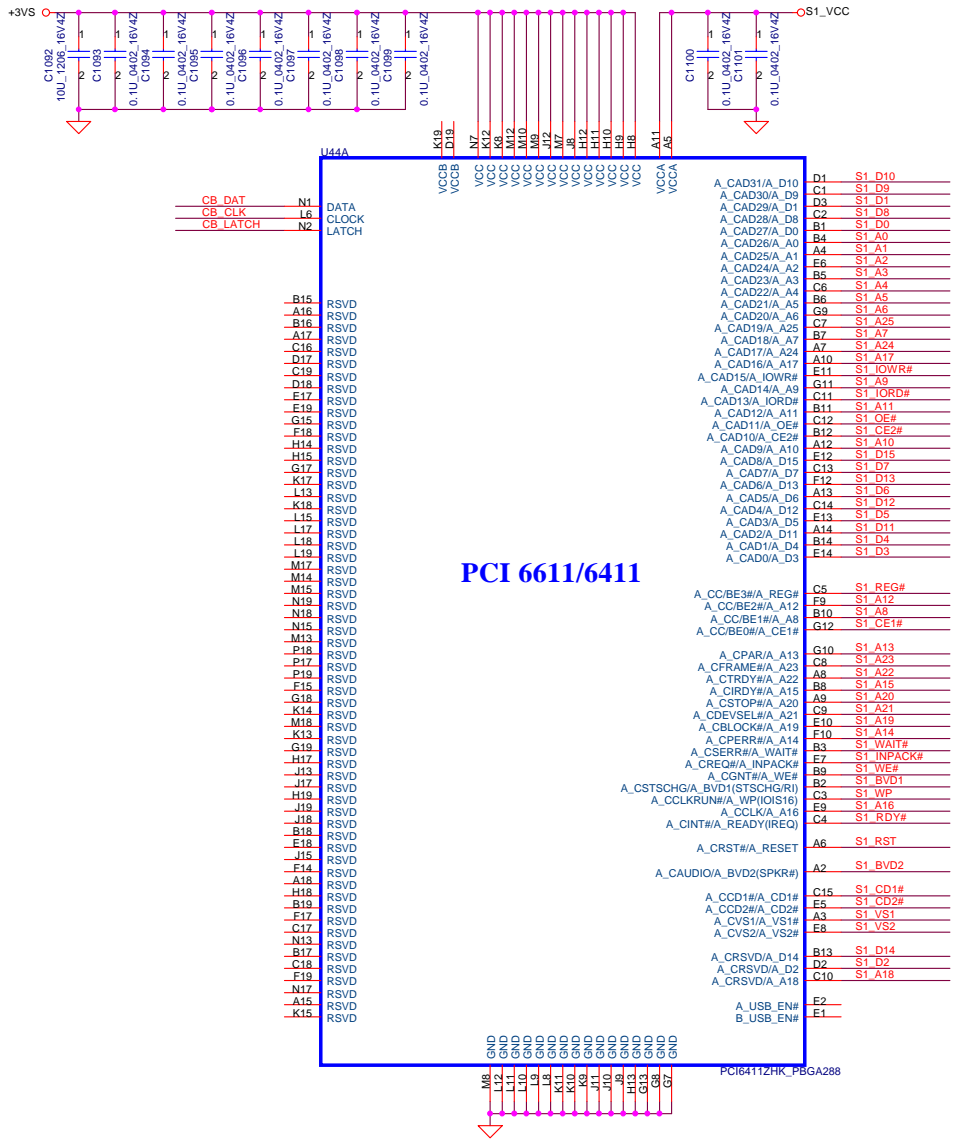
	PD_DACK#	PCI_AD31	PCI_AD30	PCI_AD29	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE LONG RESET DEFAULT	RESERVED	RESERVED	RESERVED	RESERVED	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	RESERVED
PULL LOW	USE SHORT RESET					USE PCI PLL DEFAULT	USE ACPI BCLK DEFAULT	USE IDE PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	

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Compal Electronics, Inc.

Hardware Strap

Title	Hardware Strap	
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Compal Electronics, Inc.

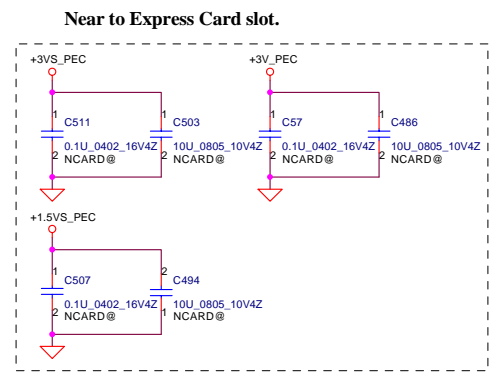
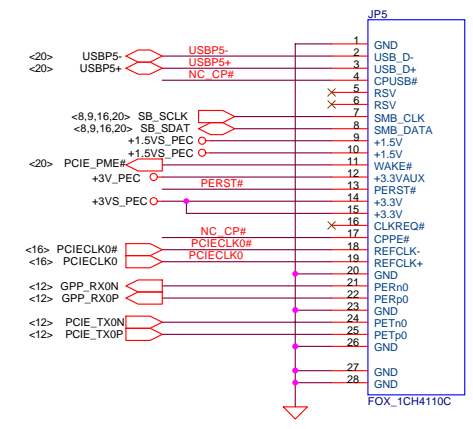
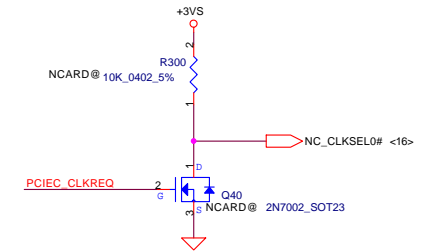
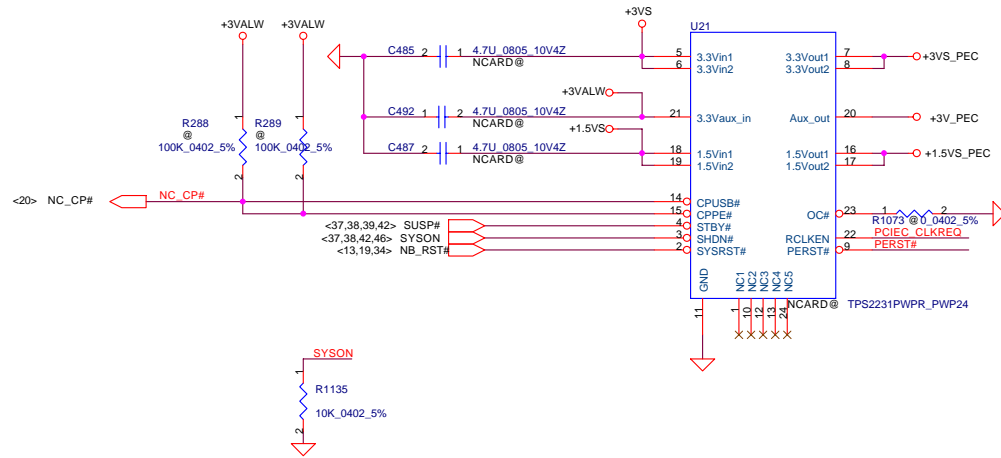
TLPCI6411 CB socket

Title

Size Document Number
Custom LA-2421

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Rev 0.6

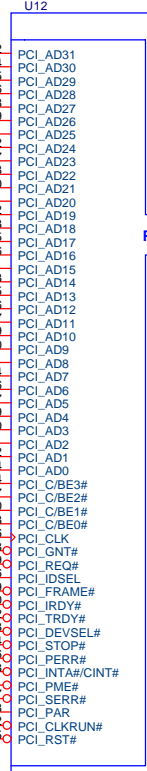


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Title		
Compal Electronics, Inc.		
Express Card socket		
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<19,23,24,28,29> PCI_AD[0..31]

- PCI_AD31 22
- PCI_AD30 24
- PCI_AD29 25
- PCI_AD28 26
- PCI_AD27 28
- PCI_AD26 29
- PCI_AD25 31
- PCI_AD24 32
- PCI_AD23 37
- PCI_AD22 40
- PCI_AD21 38
- PCI_AD20 41
- PCI_AD19 42
- PCI_AD18 43
- PCI_AD17 45
- PCI_AD16 46
- PCI_AD15 61
- PCI_AD14 63
- PCI_AD13 65
- PCI_AD12 66
- PCI_AD11 67
- PCI_AD10 69
- PCI_AD9 70
- PCI_AD8 71
- PCI_AD7 74
- PCI_AD6 76
- PCI_AD5 77
- PCI_AD4 79
- PCI_AD3 80
- PCI_AD2 81
- PCI_AD1 82
- PCI_AD0 84
- PCI_CBE#3 34
- PCI_CBE#2 47
- PCI_CBE#1 60
- PCI_CBE#0 73
- CLK_PCI_1394 16
- PCI_GNT#0 18
- PCI_REQ#0 19
- PCI_FRAME# 36
- PCI_IRDY# 49
- PCI_TRDY# 50
- PCI_IDSEL# 53
- PCI_DEVSEL# 54
- PCI_STOP# 56
- PCI_PERR# 13
- PCI_INTA#/CINT# 21
- PCI_SERR# 57
- PCI_PAR 58
- PCI_CLKRUN# 12
- PCI_RST# 85
- PCI_CBE#3 34
- PCI_CBE#2 47
- PCI_CBE#1 60
- PCI_CBE#0 73
- PCI_CLK 16
- PCI_GNT# 18
- PCI_REQ# 19
- PCI_FRAME# 36
- PCI_IRDY# 49
- PCI_TRDY# 50
- PCI_IDSEL# 53
- PCI_DEVSEL# 54
- PCI_STOP# 56
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- PCI_CLKRUN# 12
- PCI_RST# 85

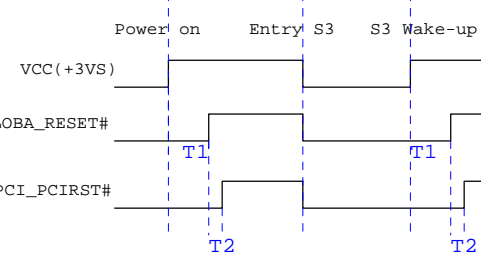
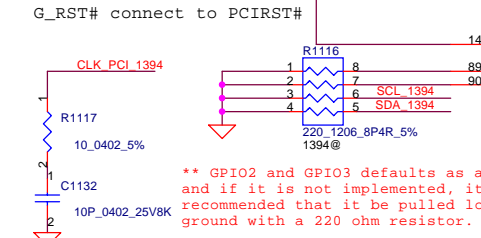
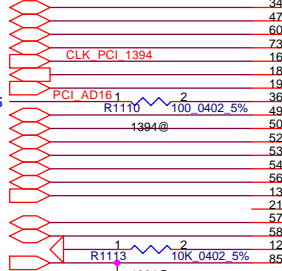


TSB43AB22

PCI BUS INTERFACE



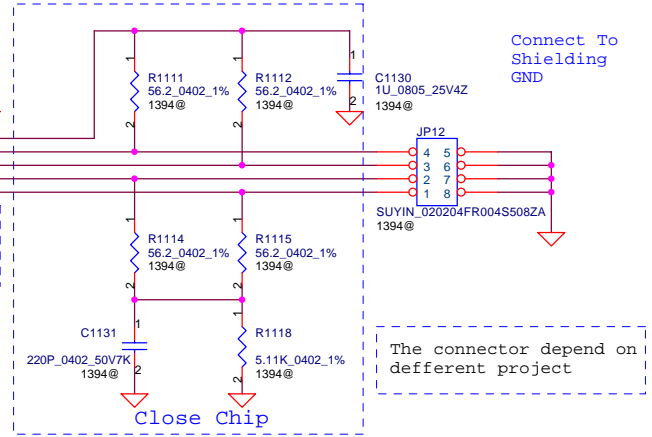
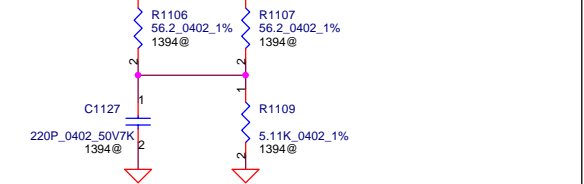
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- <19,24,28,29> PCI_CBE#2
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- <19> PCI_GNT#0
- <19> PCI_REQ#0
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- PCI_FRAME#
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- PCI_TRDY#
- PCI_DEVSEL#
- PCI_STOP#
- PCI_PERR#
- PCI_PIRQ#
- PCI_SERR#
- PCI_PAR
- PCI_RST#



T1: >2ms
T2: >=0
Note: GLOBAL_RESET#
Can Connect to
PCI_PCIRST#

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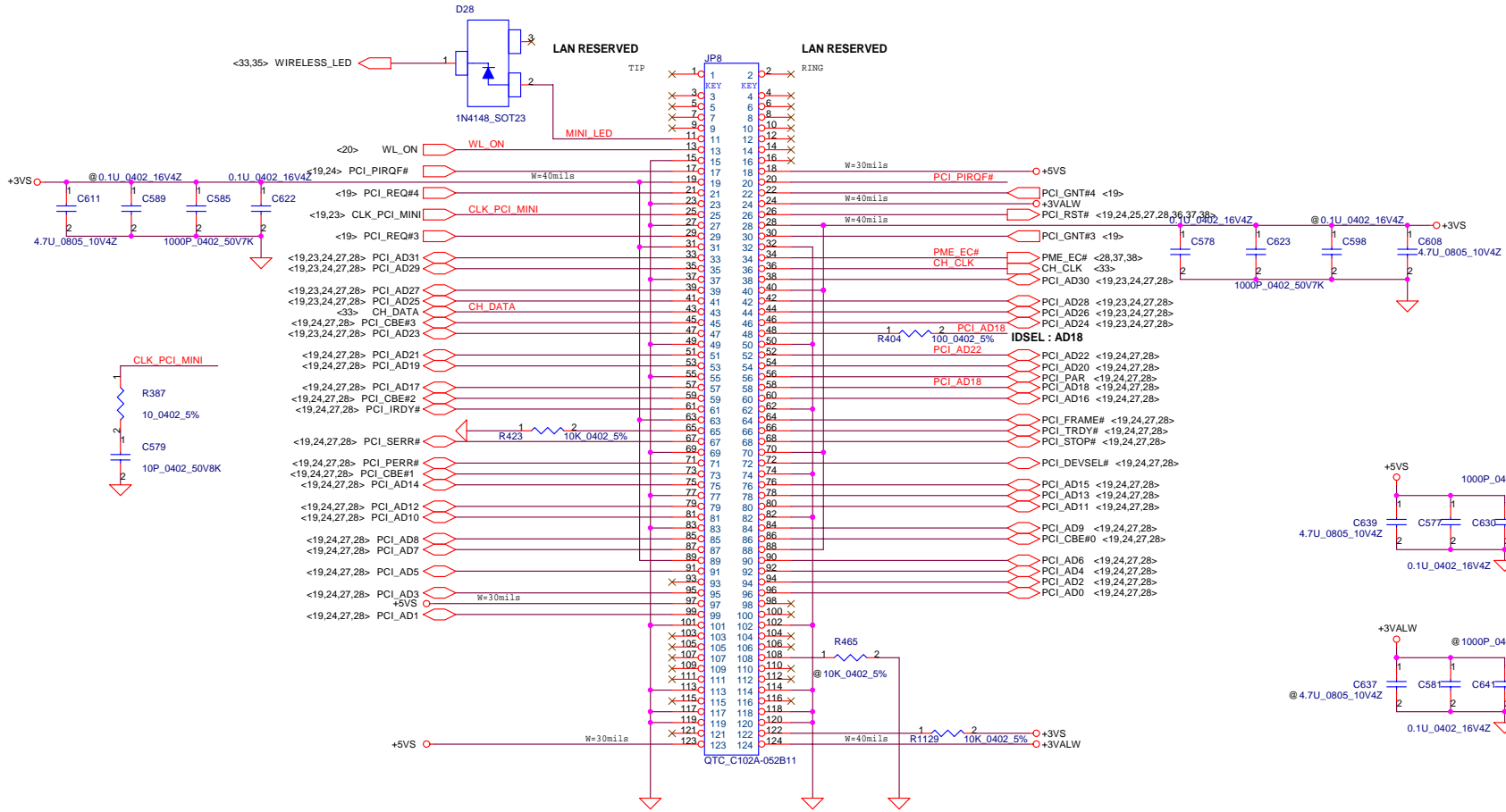
Compal Electronics, Inc.		
Title		
IEEE 1394 CONTROLLER		
Size	Document Number	Rev
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EEPROM cancel
need System
Support

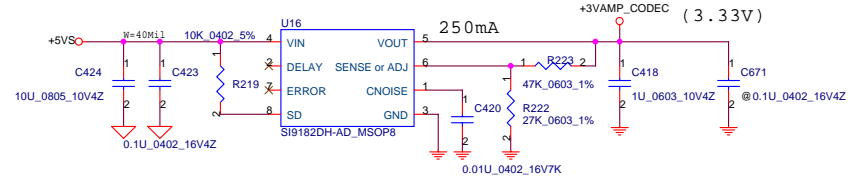
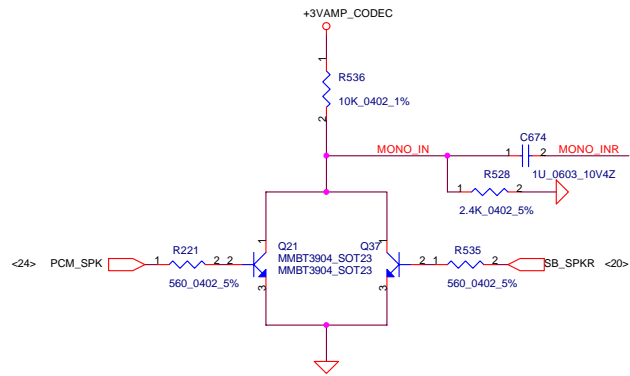
Close Chip

The connector depend on
defferent project

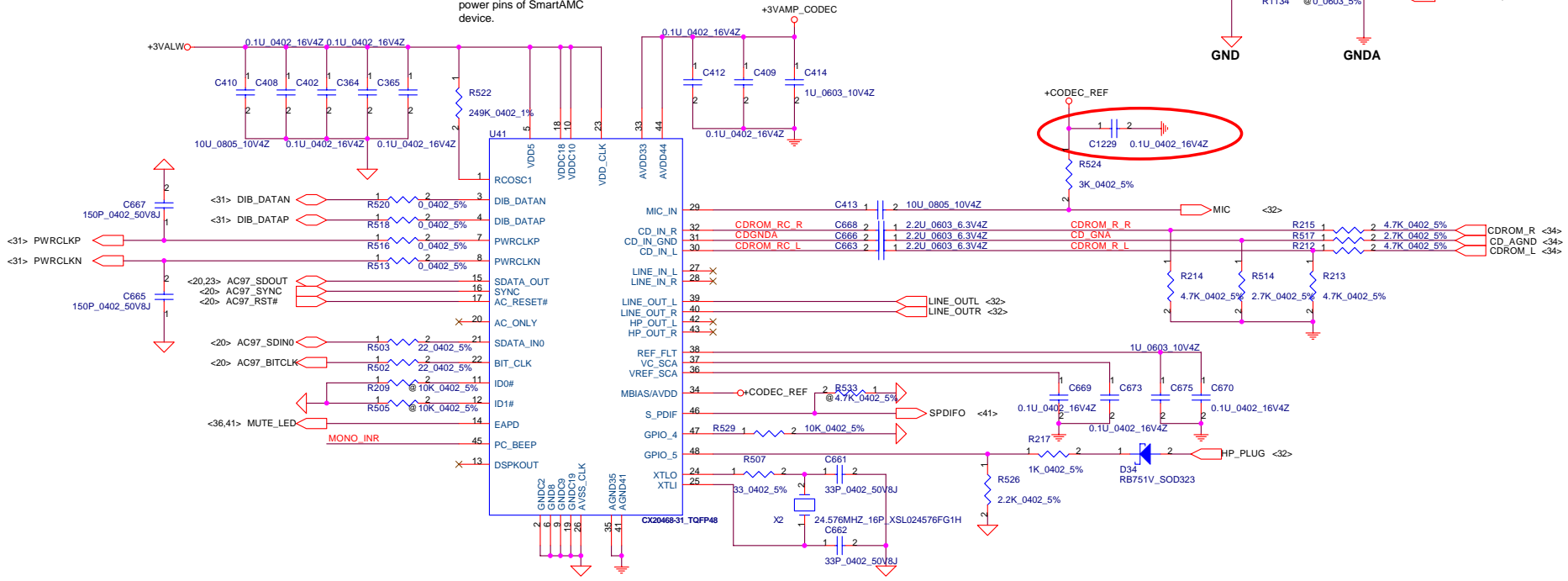


Compal Electronics, Inc.		
Title Mini PCI Slot		
Size	Document Number LA-2421	Rev 0.6
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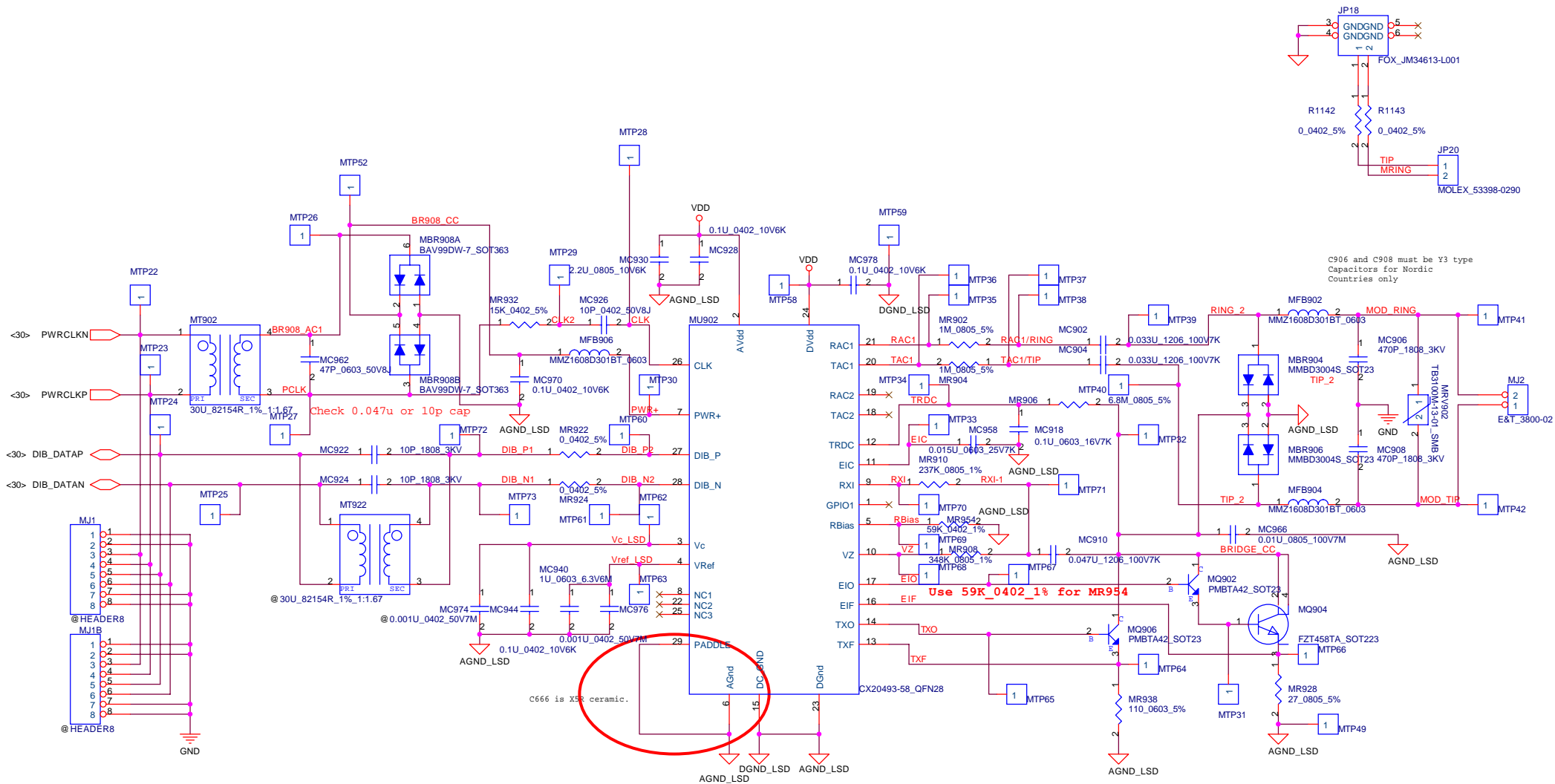
For Layout:
Place decoupling caps near the power pins of SmartAMC device.



Compal Electronics, Inc.		
Title Codec CX20468-31		
Size	Document Number LA-2421	Rev 0.6
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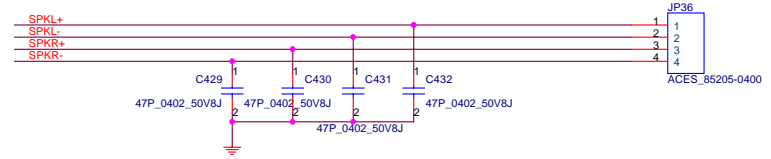
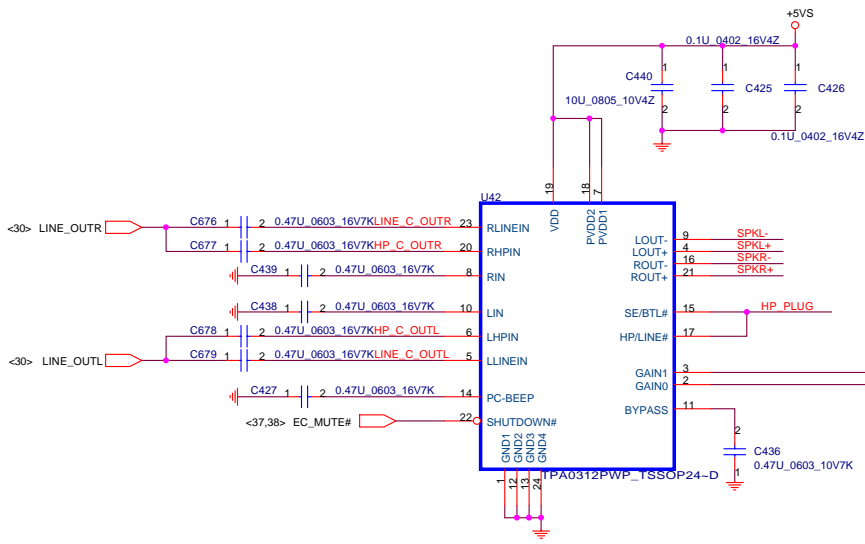
RJ11 CONN.



C906 and C908 must be Y3 type Capacitors for Nordic Countries only

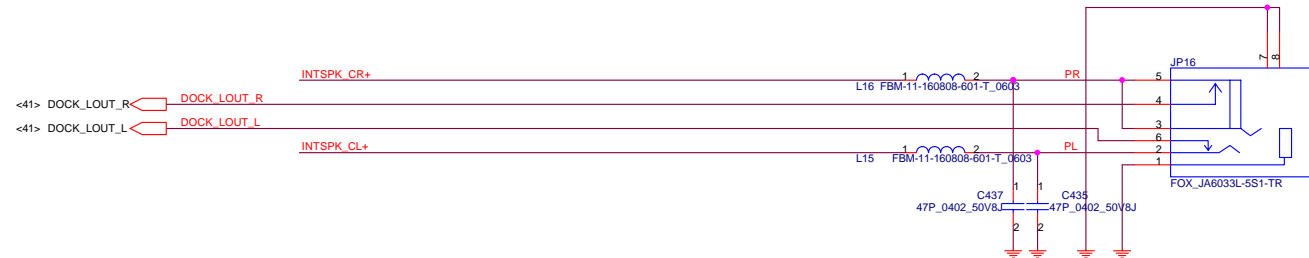
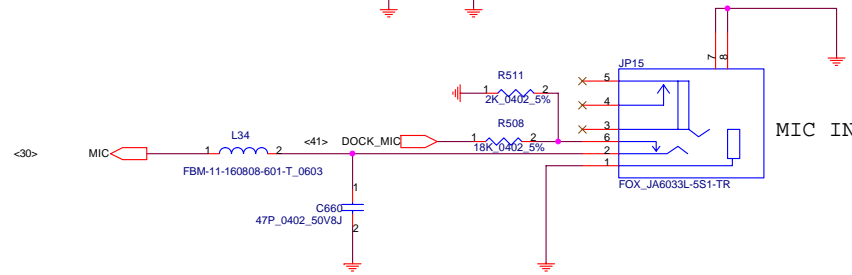
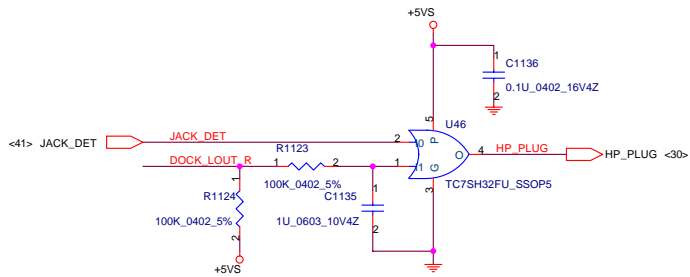
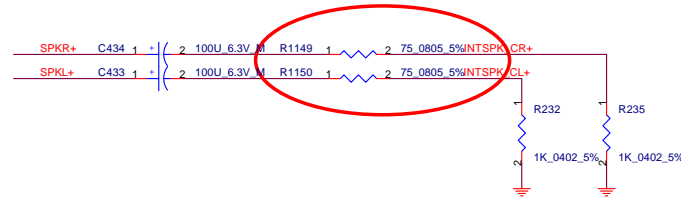
Compal Electronics, Inc.		
Title AMOM_modem		
Size	Document Number LA-2421	Rev 0.6
Date:	Wednesday, January 05, 2005	Sheet 31 of 56

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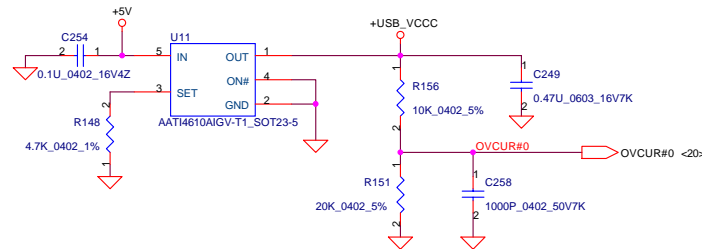
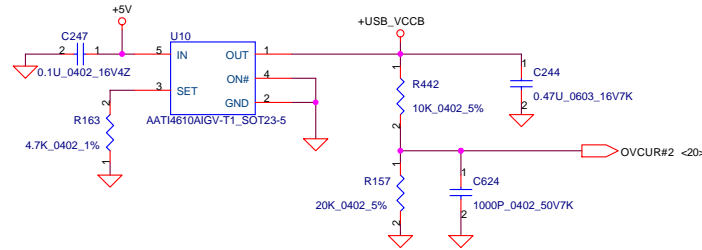
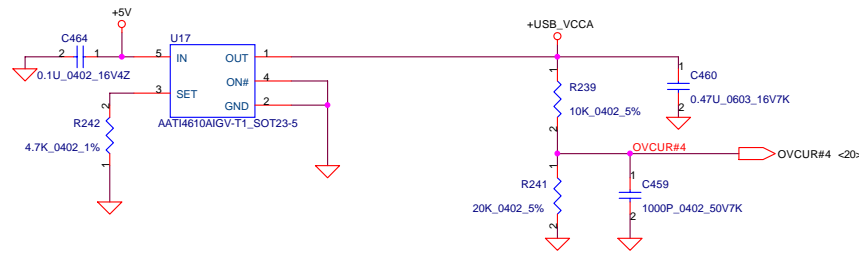
Gain Settings			
GAIN0	GAIN1	SE/BTL#	Av (inv)
0	0	0	6 dB
0	1	0	* 10 dB
1	0	0	15.6 dB
1	1	0	21.6 dB
X	X	1	4.1 dB

HEADPHONE OUT/LINE OUT

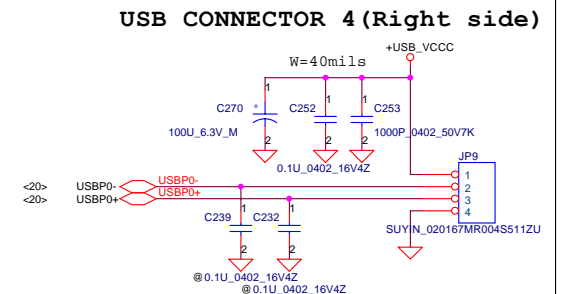
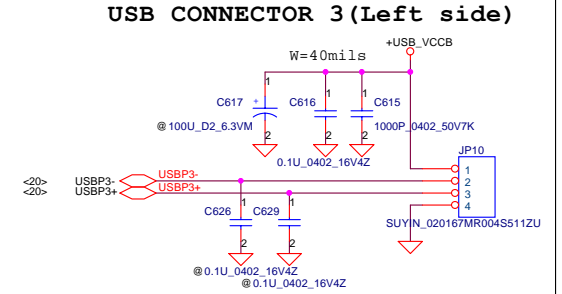
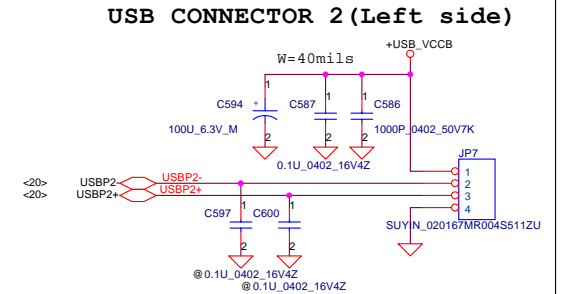
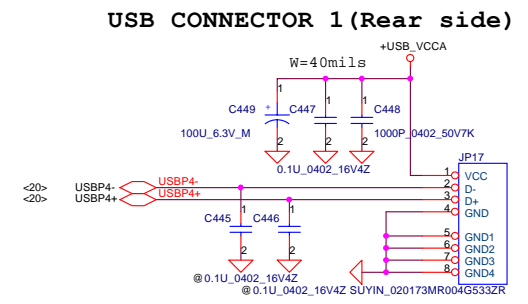


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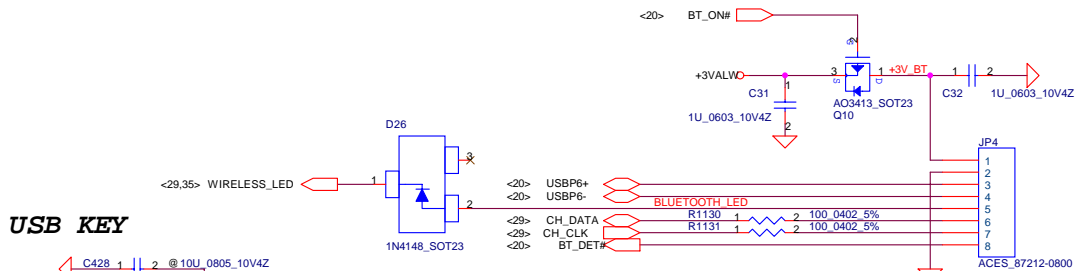
Compal Electronics, Inc.		
AMP & Audio Jack		
Title		
Size	Document Number	Rev
Custom	LA-2421	0.6
Date:	Wednesday, January 05, 2005	Sheet 32 of 56



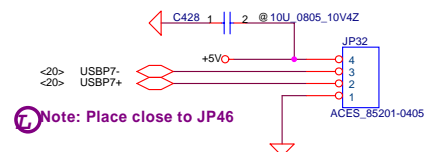
Note: PLACE CLOSE TO EACH USB PORT



BT CONNECTOR



USB KEY



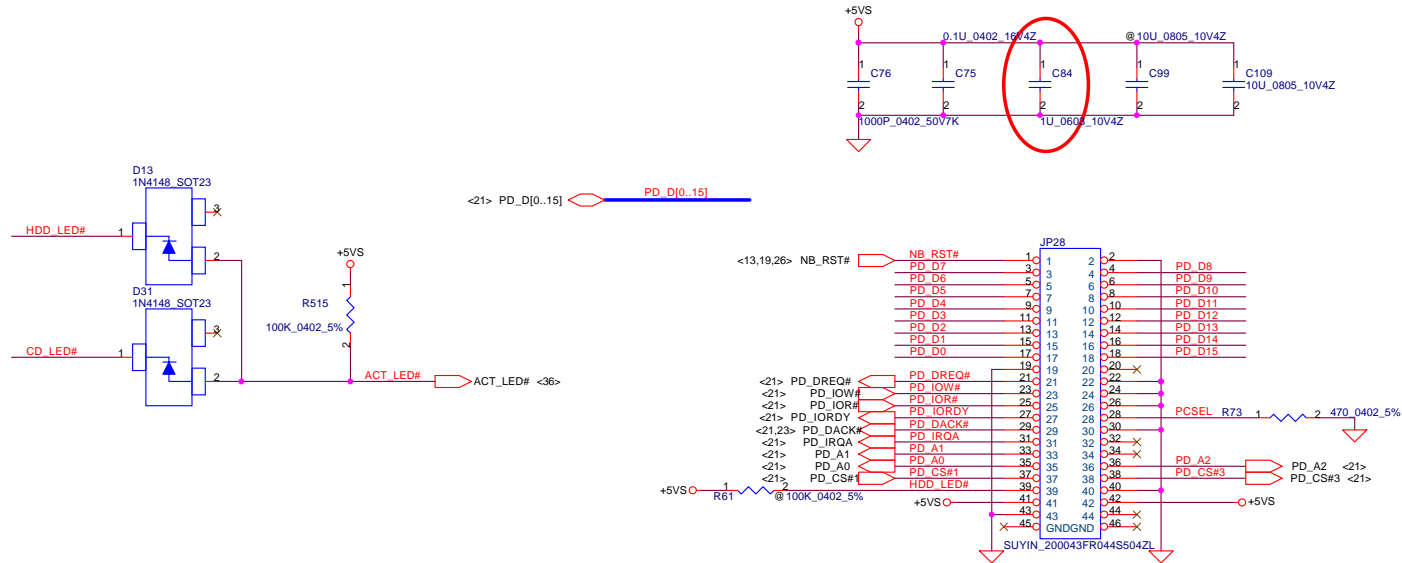
Note: Place close to JP46

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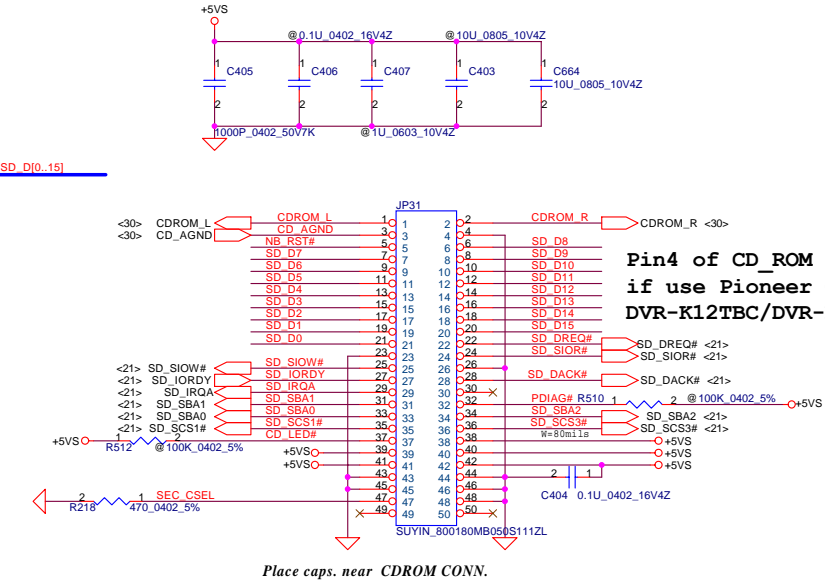
Compal Electronics, Inc.		
Title Bluetooth & USB CONN.		
Size	Document Number LA-2421	Rev 0.6
Date	Wednesday, January 05, 2005	Sheet 33 of 56

HDD/CD-ROM Module

Place caps. near HDD CONN.



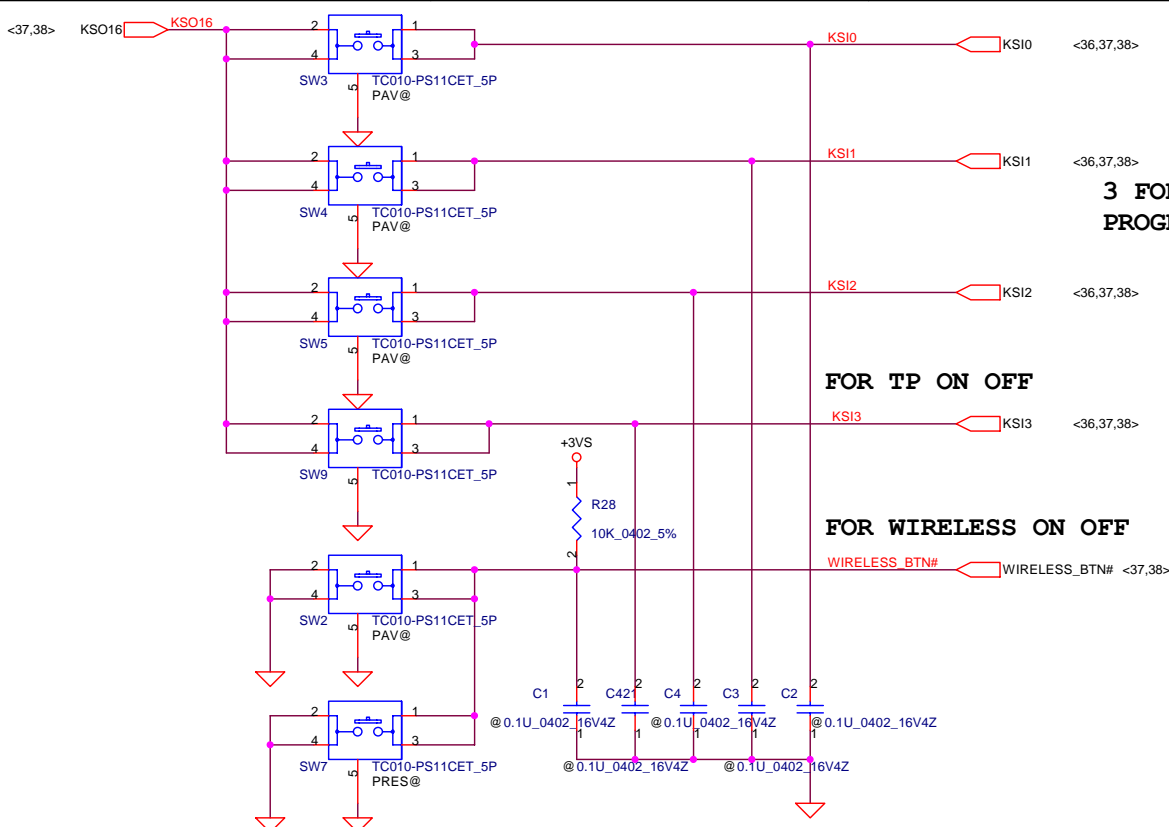
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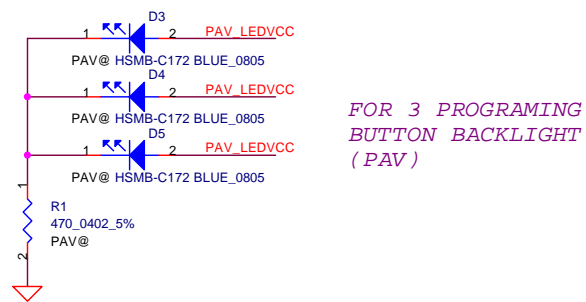
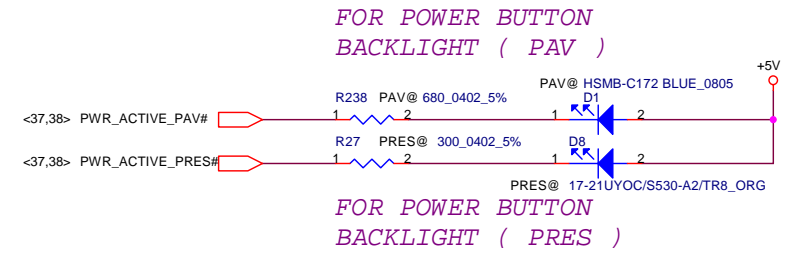
Place caps. near CDROM CONN.

Compal Electronics, Inc.		
HDD & CDROM Connector		
Title		
Size	Document Number	Rev
	LA-2421	0.6
Date:	Wednesday, January 05, 2005	Sheet 34 of 56

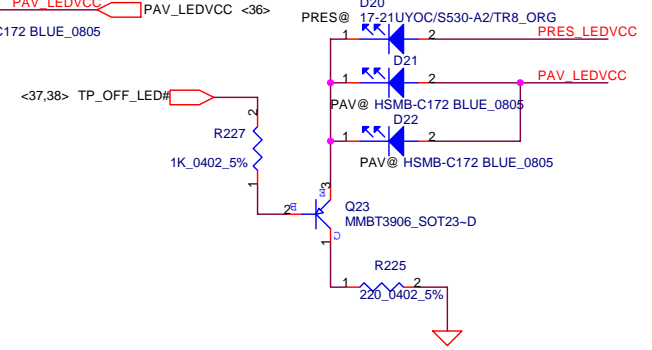
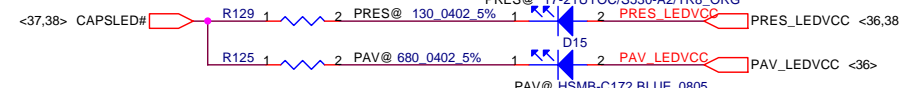
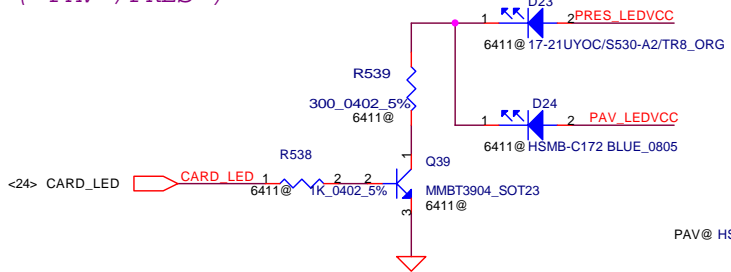
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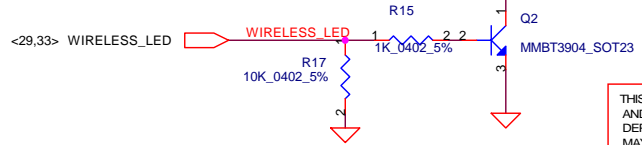
3 FOR PROGRAMING



FOR CARDREADER INDICATOR (PAV /PRES)



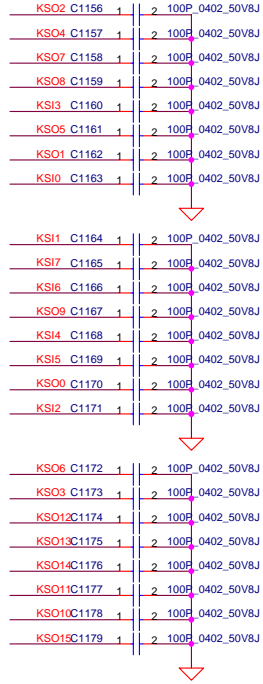
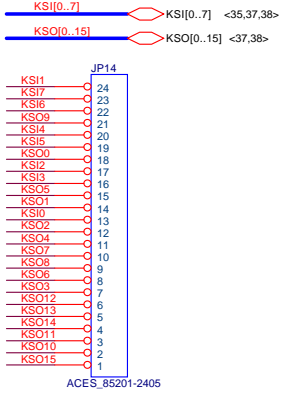
FOR WIRLESS LED



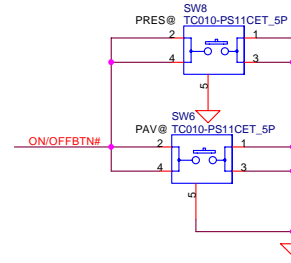
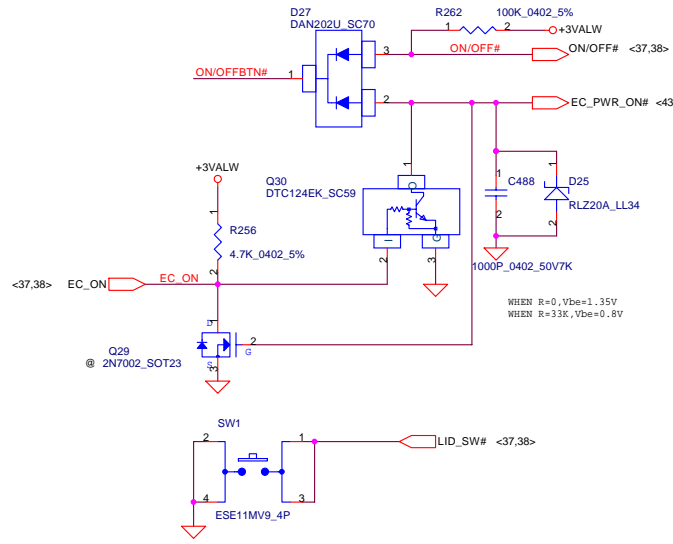
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Compal Electronics, Inc.		
LED INDICATOR		
Title		
Size B	Document Number LA-2421	Rev 0.6
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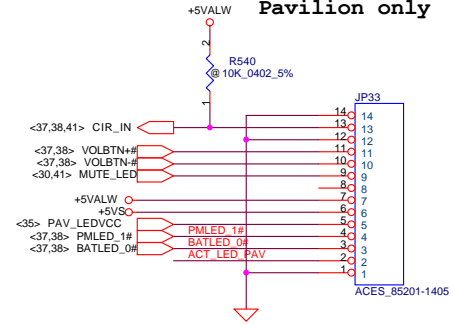
INT_KBD CONN.



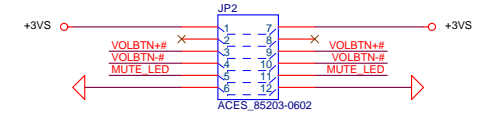
Power BTN



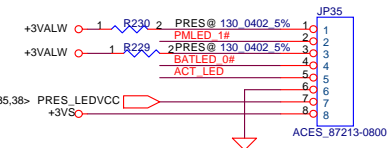
Front Board CONNECTOR
Pavilion only



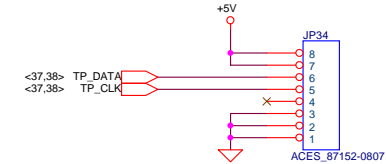
PRESARIO only



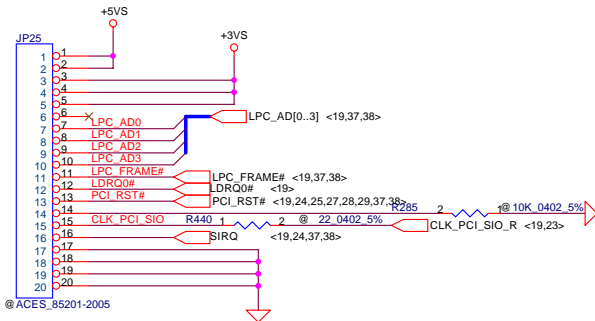
PRESARIO only



TP CONNECTOR

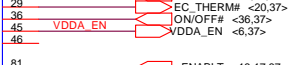
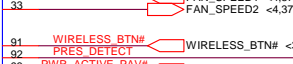
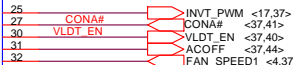
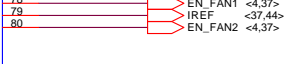
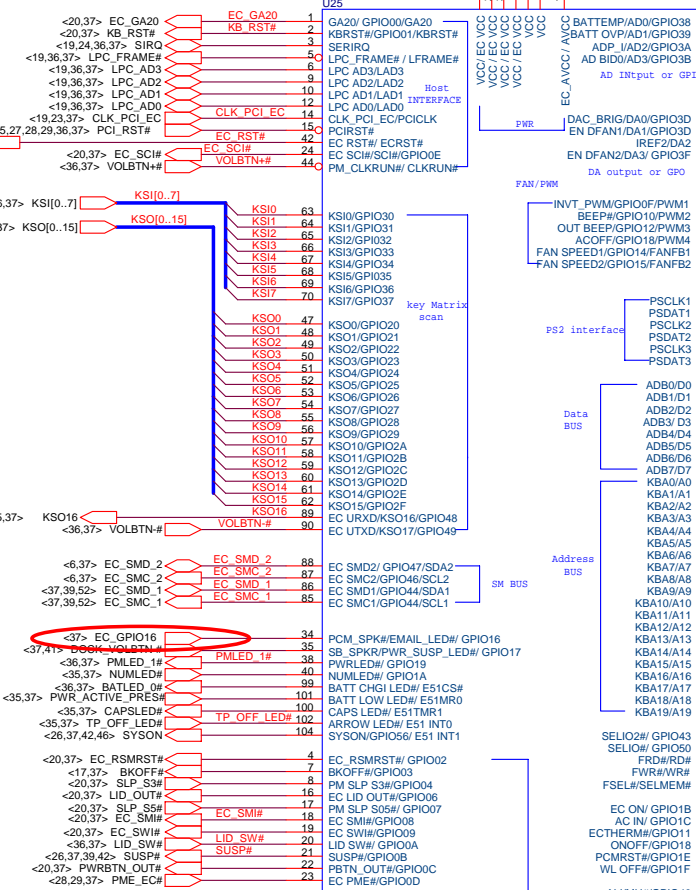
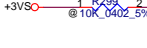
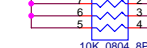
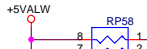
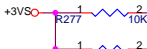
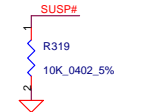
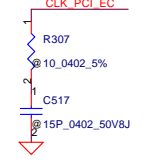
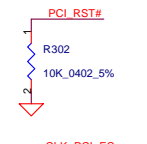
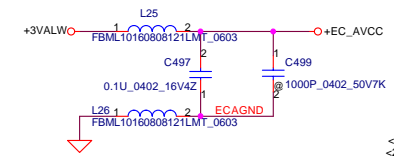
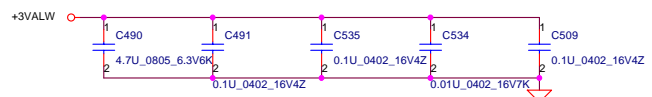


FOR LPC SIO DEBUG PORT





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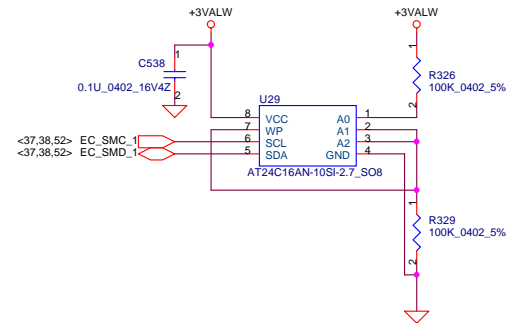
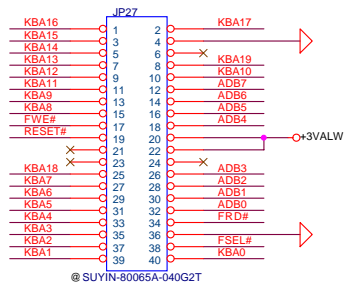
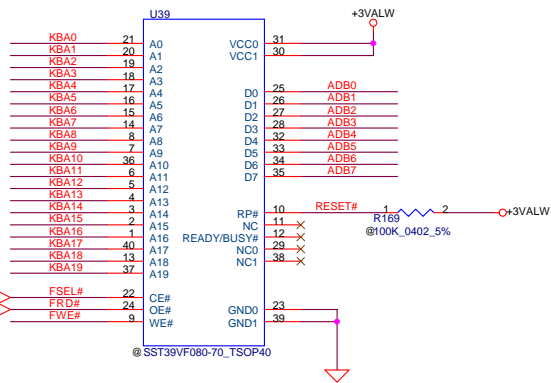
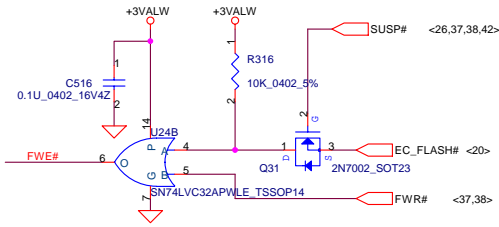
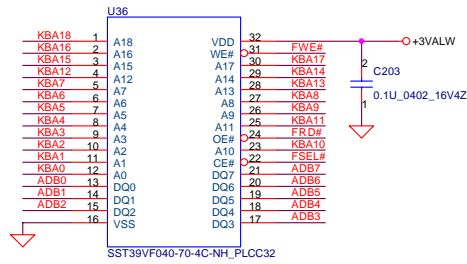
Compal Electronics, Inc.		
Title KBD,ON/OFF,I/P,LED/B		
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Check ENE

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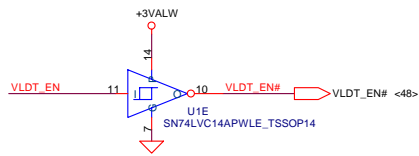
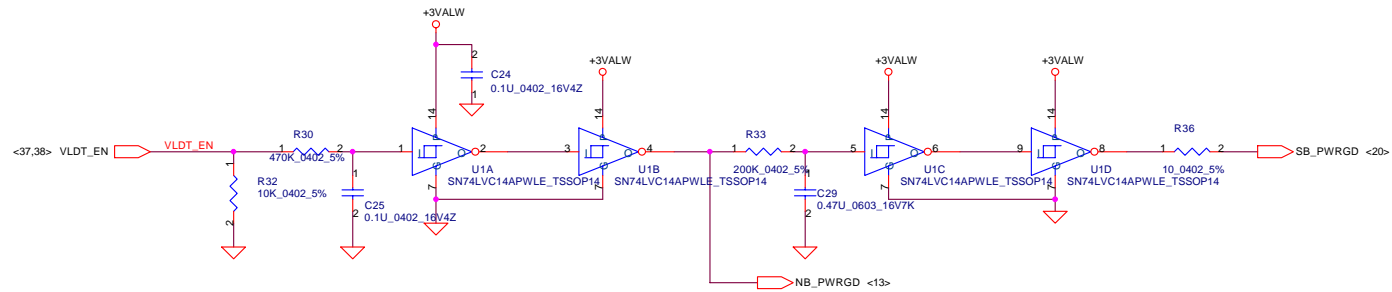
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 <37,38> KBA[0..19]  KBA[0..19]



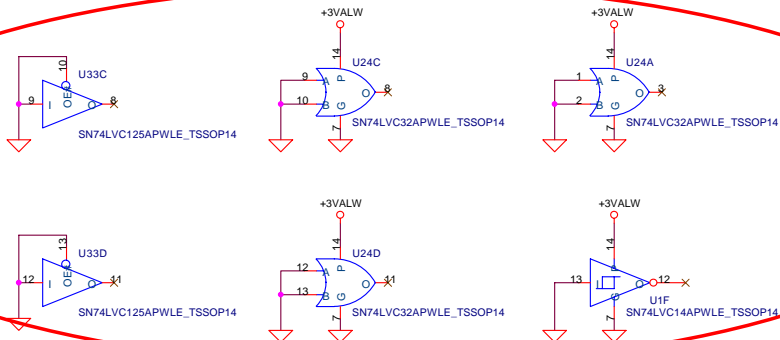
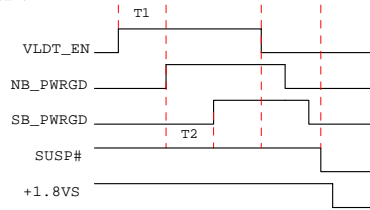
Compal Electronics, Inc.

Title		
BIOS & EC I/O Port		
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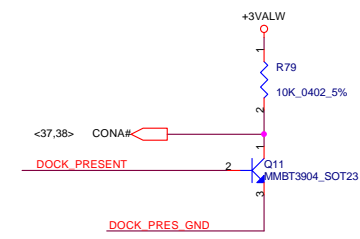
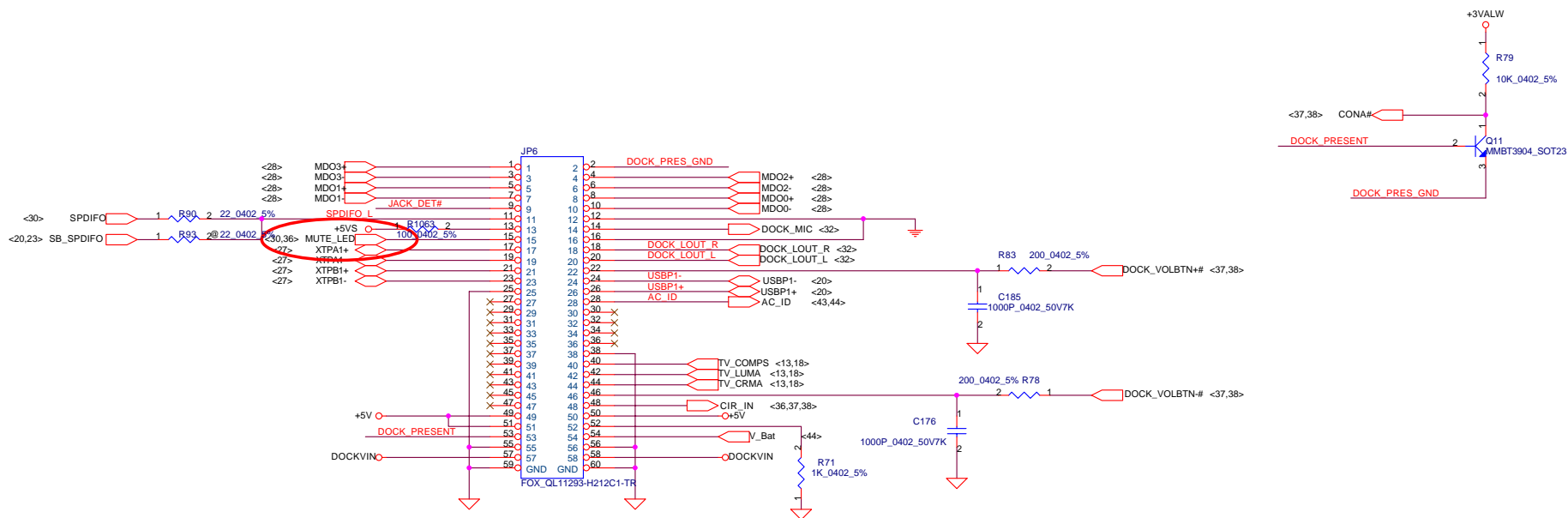


note:T1 minimum 15ms,T2 minimum 33ms/maximum 500ms,
 SUSP# goes to low after SB_PWRGD goes to low for power
 down.

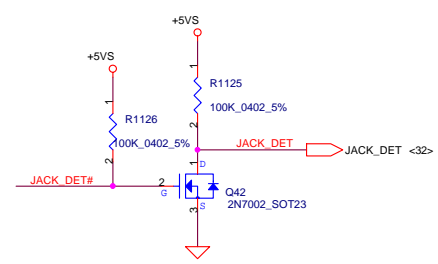
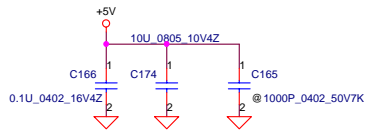
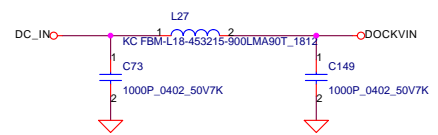


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Compal Electronics, Inc.		
Title Power OK/Reset Conn.& MUTE Switch		
Size	Document Number	Rev
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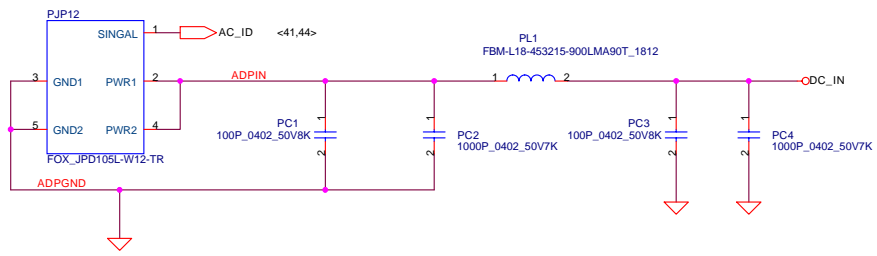


Note: PLACE CLOSE TO SPR PORT (JP33)

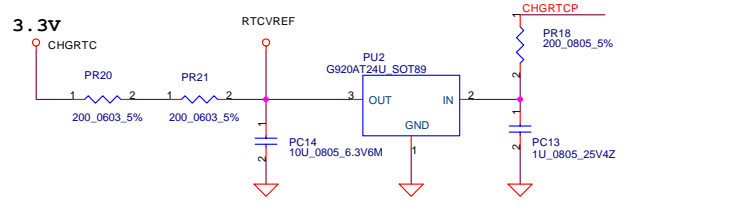
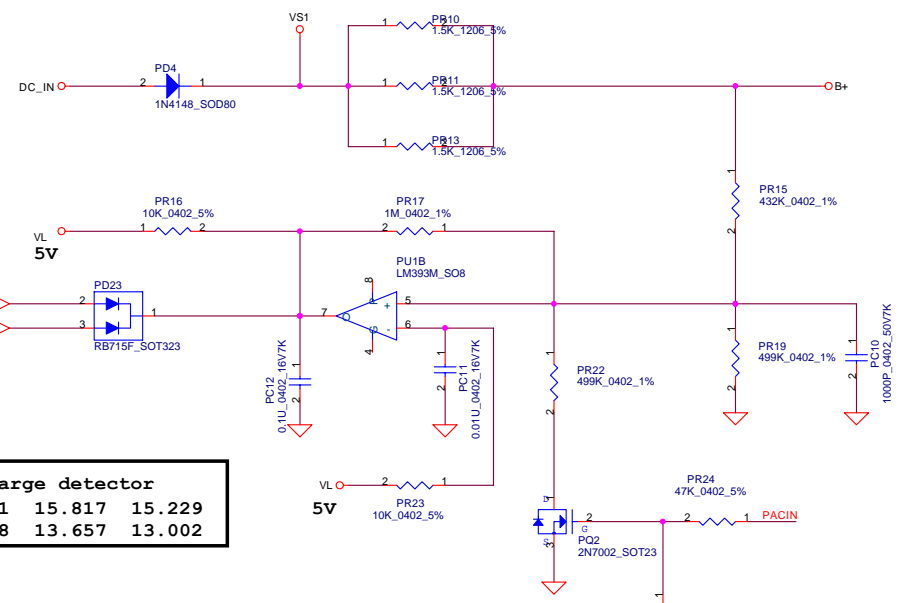
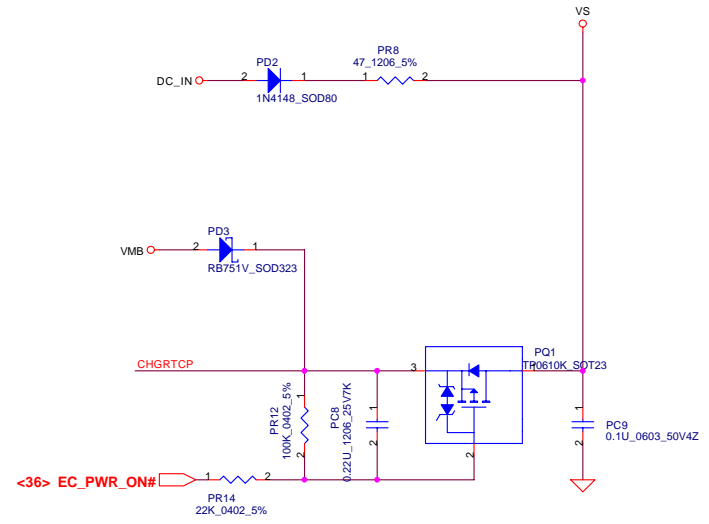
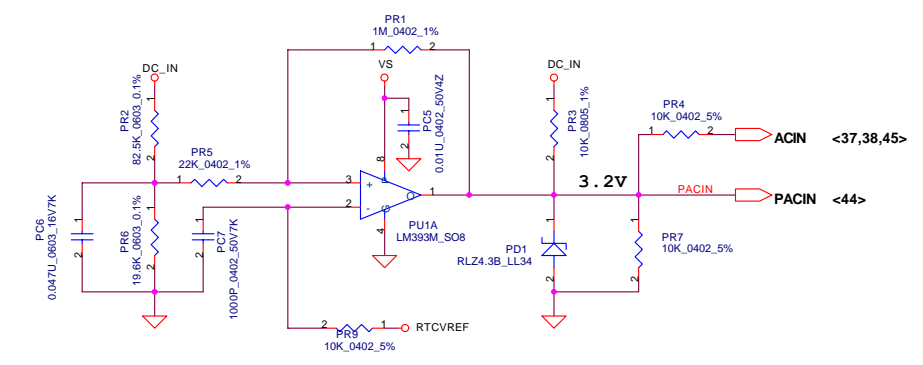


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Compal Electronics, Inc.		
SPR Connector		
Title	Document Number	Rev
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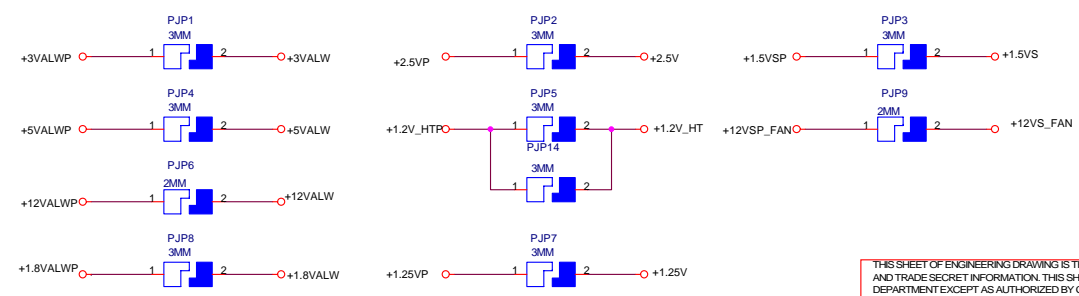


Vin Detector		
18.202	17.841	17.481
17.568	17.210	16.858



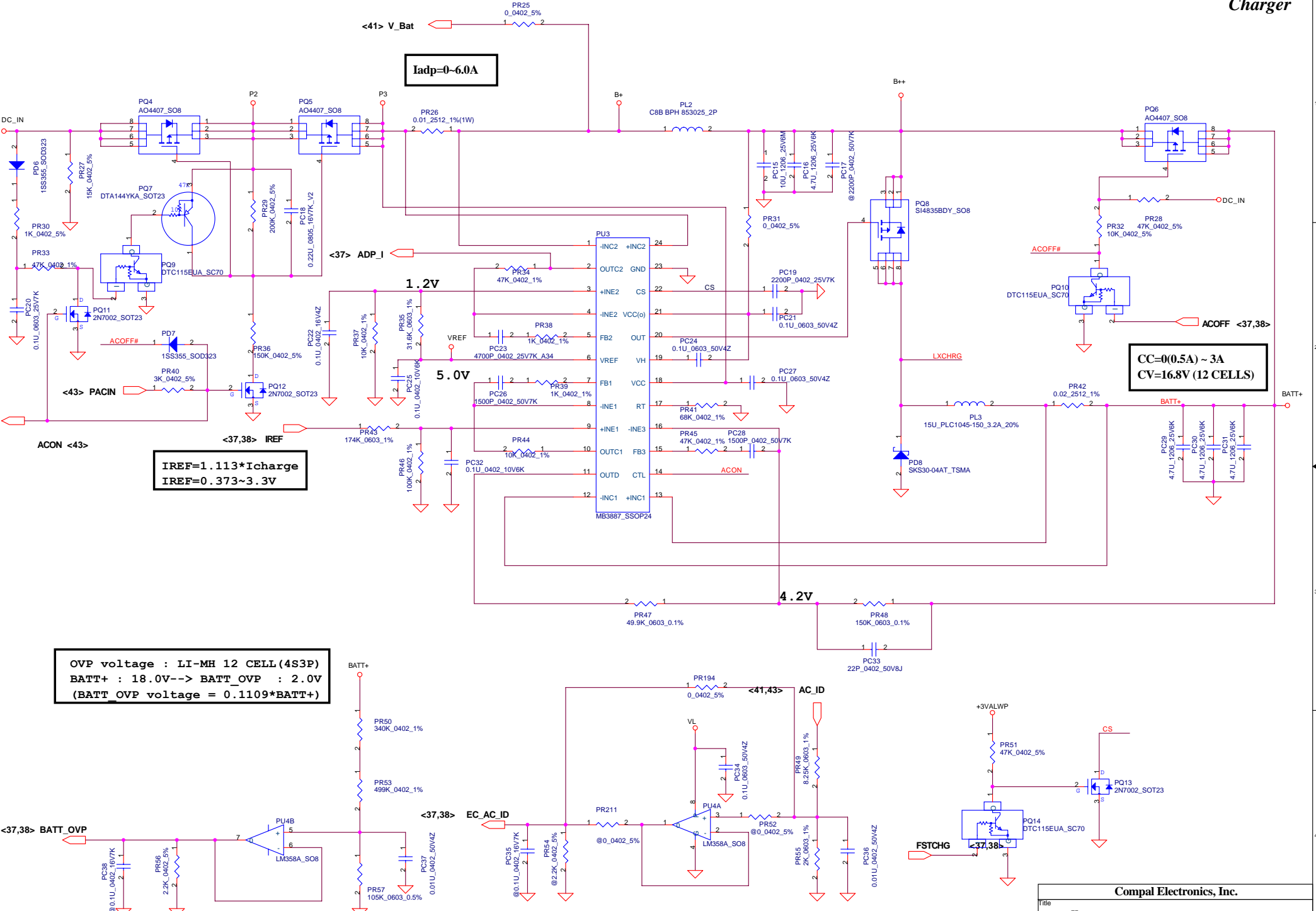
<45,52> MAINPWON		
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ACIN		
16.421	15.817	15.229
14.108	13.657	13.002



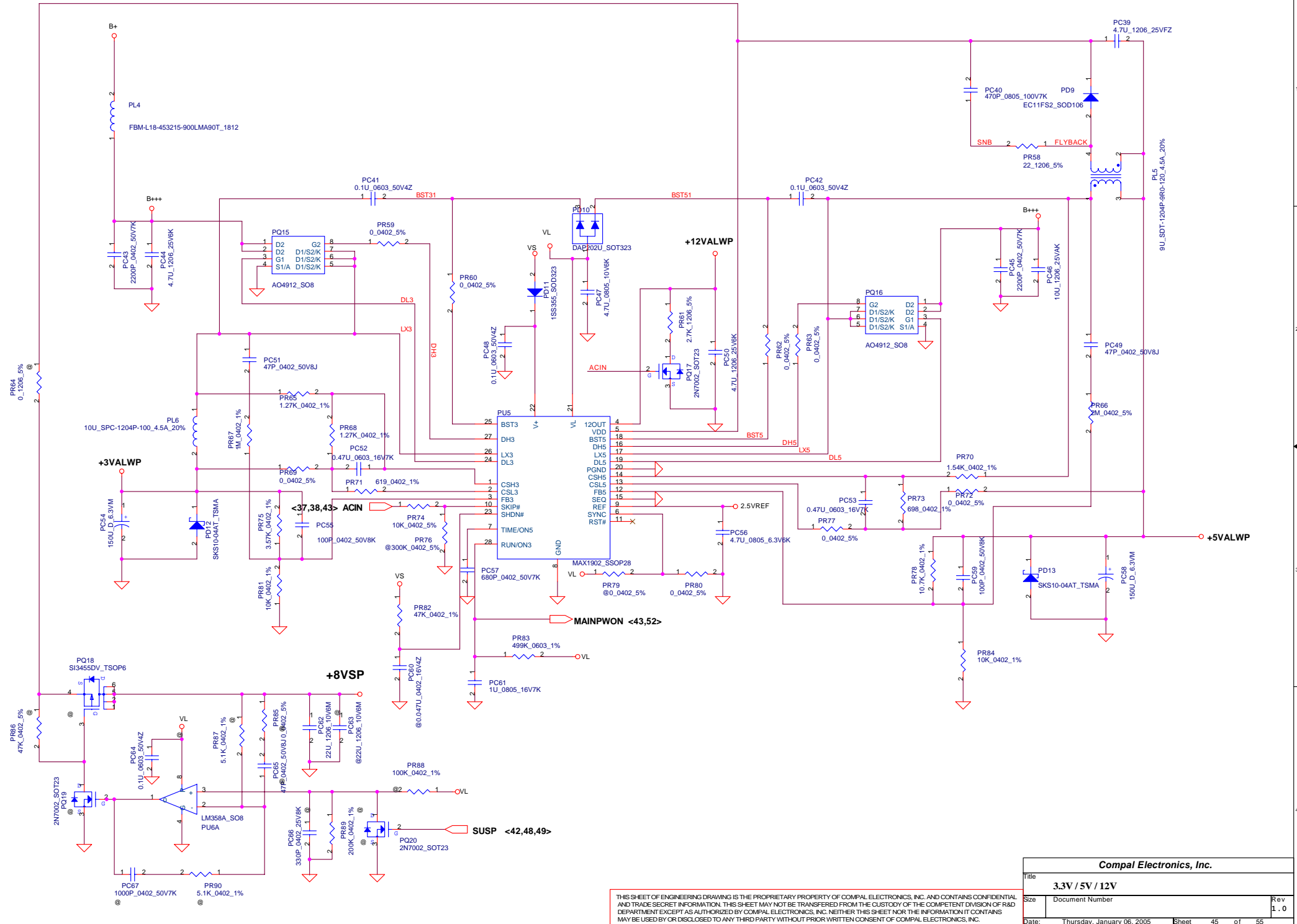
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Compal Electronics, Inc.			
File			
Detector			
Size	Document Number	Rev	
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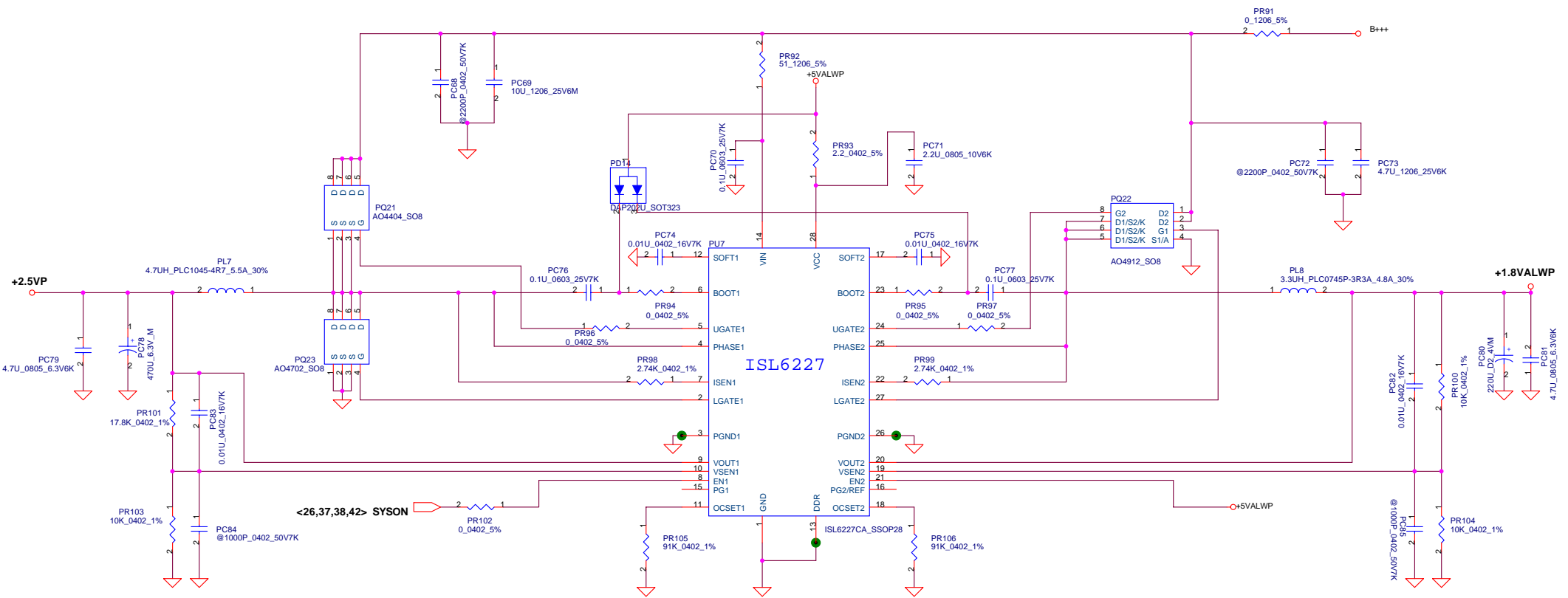
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Compal Electronics, Inc.		
Title Charger		
Size	Document Number	Rev
Date:	Wednesday, January 05, 2005	Sheet 44 of 55



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Compal Electronics, Inc.		
Title 3.3V / 5V / 12V		
Size	Document Number	Rev
Date:	Thursday, January 06, 2005	Sheet 45 of 55

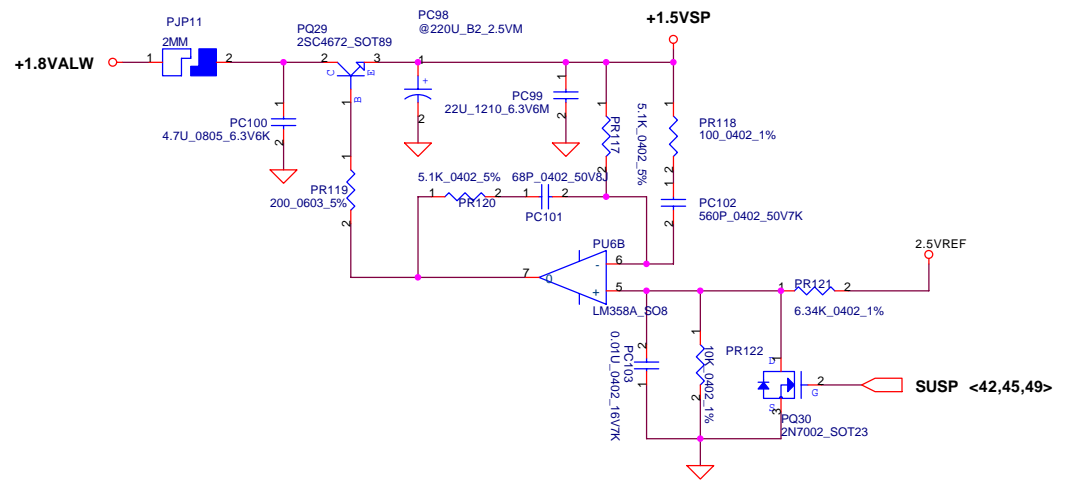
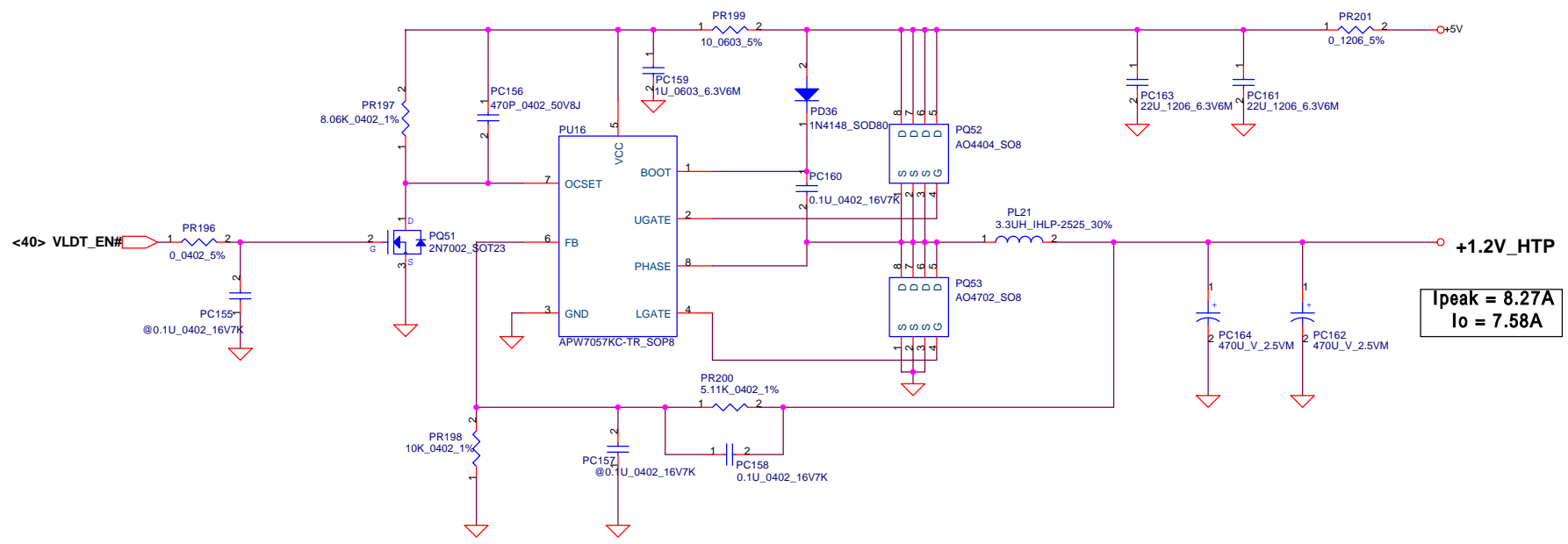


$I_{limit} = 10.3 / R_{ILIM} * (140 + R_{sense}) / R_{ds(on)}$
 $R_{sense} = 1K, R_{ILIM} = 51K, R_{ds(on)} tpy. = 19.7m\Omega, Max = 24m\Omega.$
 $I_{limit Min} = 9.6 / 51K * (100 + 1K) / (24m\Omega * 1.3) = 6.636A$
 $I_{limit Max} = 9.6 / 51K * (100 + 1K) / 19.7m\Omega = 10.897A$
 $+VCCP O.C.P. = 6.636A \sim 10.897A$

$I_{limit} = 9.6 / R_{ILIM} * (100 + R_{sense}) / R_{ds(on)}$
 $R_{sense} = 2K, R_{ILIM} = 107K, R_{ds(on)} tpy. = 19.7m\Omega, Max = 24m\Omega.$
 $I_{limit Min} = 9.6 / 107K * (100 + 2K) / (24m\Omega * 1.3) = 6.0388A$
 $I_{limit Max} = 9.6 / 107K * (100 + 2K) / 19.7m\Omega = 9.564A$
 $+VCCP O.C.P. = 6.038A \sim 9.564A$

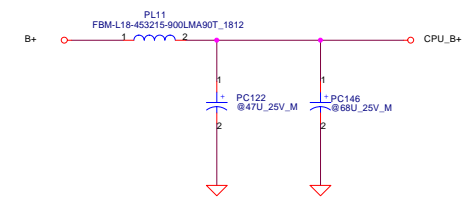
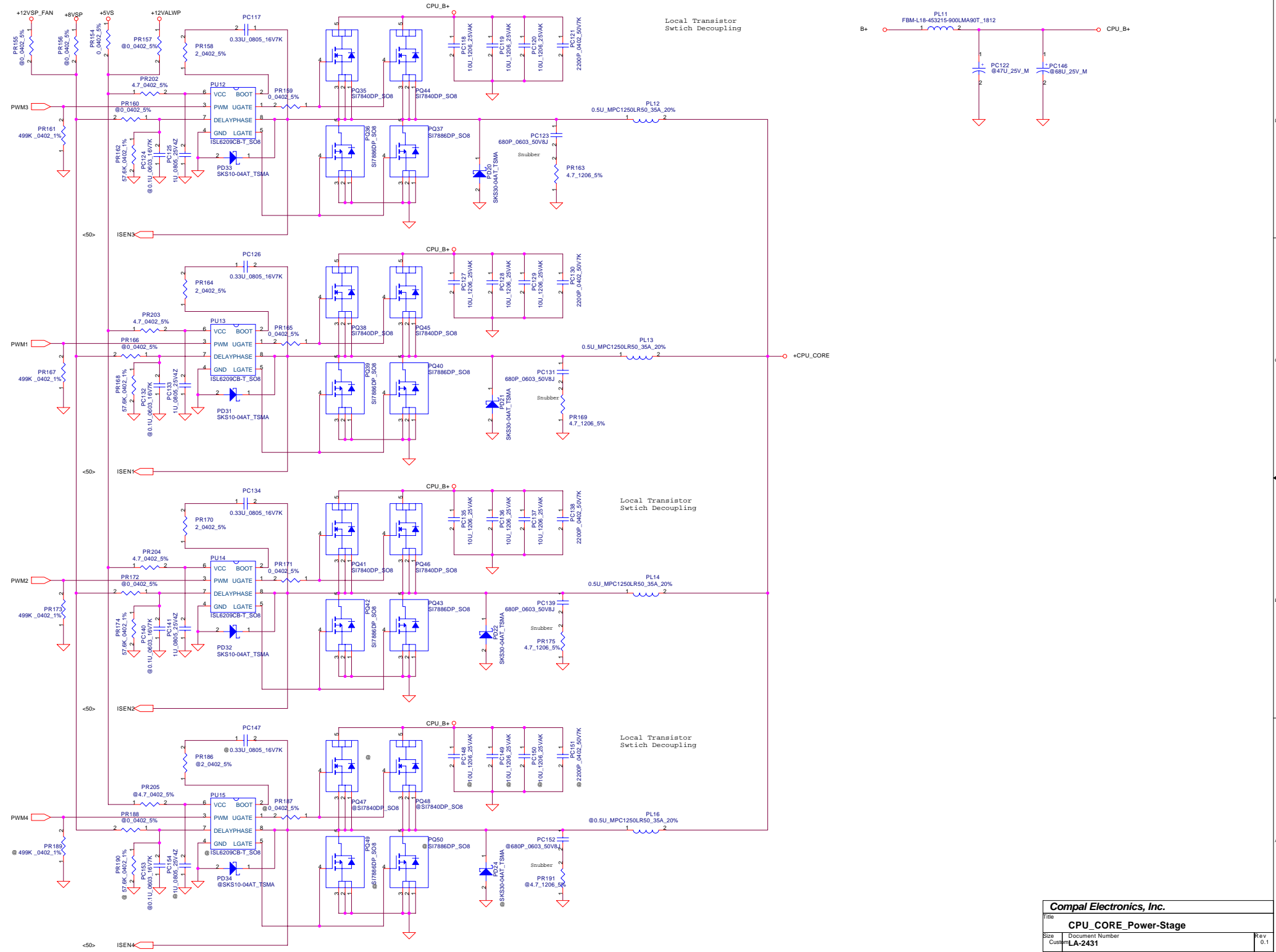
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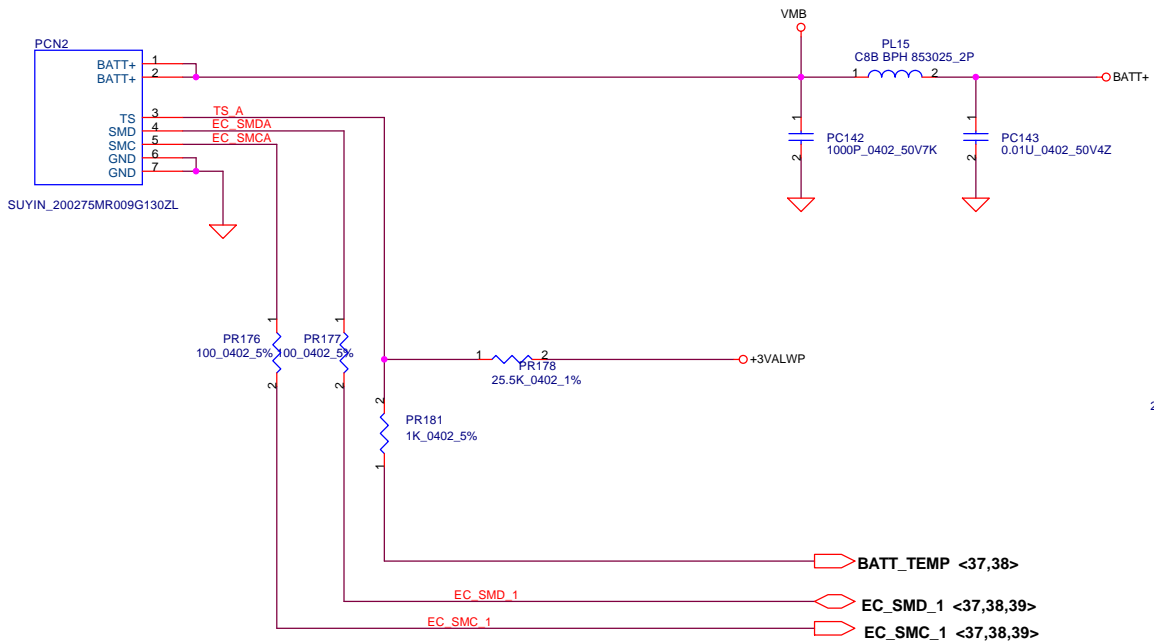
COMPAL ELECTRONICS, INC		
Title DDR POWER 2.5VP & +1.8VALWP		
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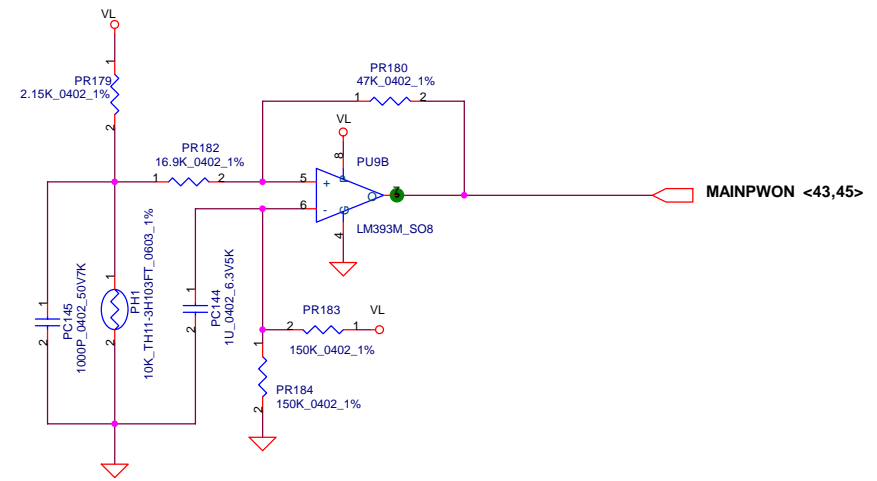
COMPAL ELECTRONICS, INC		
Title 1.2V_HTP / +1.5VSP		
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PH2 near main Battery CONN :
 BAT. thermal protection at 84 degree C
 Recovery at 45 degree C



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BATTERY CONN / OTP		
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POWER PIR LIST

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PIR LIST

Pre-DB

2004/6/05

- 1.page16 add R541/R542/R543/R544 and net NBSRCCLK_R/ NBSRCCLK/ NBSRCCLK#_R/ NBSRCCLK#.
- 2.page13 add net NBSRCCLK/NBSRCCLK#.
- 3.page13 change R85 pin2 from +2.5VS to +2.5V.
- 4.page14 add D33.
- 5.page19 del D18 and remove C265 to U38 pinA2.

2004/6/08

- 1.page13 del R82 change net name from SUS_STAT# to NB_SUSSTAT#.

2004/6/19

- 1.page19 Change U32,C584,R389 to @.
- 2.page23 Change R460 to @ and Add R464.

2004/6/25

- 1.page40 Change R30 from 10K_0402 to 340K_0402_1%.
- 2.Page4/6 change C18, C28 to SF10001M100 ELE CAP 100U 6.3V M B (6.3X6.0) CV-AX.
- 3.Page19 Add JP37, del BATT1

2004/6/28

- 1.Page26 Change U2 from R5535 to TPS2231.
- 2.Page26 Change C485/C487 to 4.8U_0805,change C486 to 10U_0805.
- 3.Page26 Change C503/C494 to 10U_0805,C492 to 4.7U_0805.
- 4.Page26 Del R268,Add Q40 2N7002.

Update for DB2

- 1.page34 change IDE Resistor from 0402 to 8P4R.
- 4.page27 change DOCK@ to 1394@.
- 5.ME update connector check and sub-board connector change to hot bar.
- 6.change 470U placement for +1.25V.
- 7.page40 change R33 from 0603 to 0402 type and R30 to 470k_0402_5%.
8. change C18, C28 to SF10001M100 ELE CAP 100U 6.3V M B (6.3X6.0) CV-AX.
9. change C318 to bottom side SF33001M100 ELE CAP 330U 6.3V M B (6.3X7.7) CV-AX
10. change C411 to bottom side SF47001M000 ELE CAP 470U 6.3V M B (10X10.5) CV-EX
11. change C325 to SGA19471D20.
13. change BATT1 to SP07S00080L(socket) + GC20323MX00(battery) (Page 19)
14. change new card power switch from RICOH to TI.
15. Remove PME_EC# from SB and pin C4 wire to EC_SWI#
16. Disconnect UTXD from U26.154
17. Page 23 update hardware strap for SB400 A21 (PA_IXP400AD1 & 105-A27800-00C R1.1)
18. Page 13 add EEPROM for NB to solve boot up intermittently
19. Page 23 strap select 14 MHz OSC mode, it is generated from NB to SB and delete 14 MHz crystal at SB
20. 1394 controller change to TI
21. Update PIRQ routing
22. X2 change size.
23. Cardbus controller change to TI
24. Fan circuit change to MOS
25. Change AMP to TPA0312 and add TC7SH32FU to solve HP_PLUG issue
26. Implement HP wireless/bluetooth control requirement. Change host to SB. (Page 20)
27. Change CRT connector JP19 (Page18)
28. Modify KB910L debug pin RXD=pin#35 & TXD=pin#34
29. No need PWR_BACK# from EC controller
30. DFX review: Change blue LED footprint to be same as amber LED footprint.
31. AC97 primary codec SDATA_IN0 should connect to SB's AC97_SDIN0 (Page 30)
32. R182 change to 11.8 k (Page 20)
33. Reserve D36, D37, and R1127 for XD detect issue. (Page24)
34. PCIE_PME# change to pin #D2 of SB. (Page 20)

35. WL_ON connect to pin #C5 of SB/ BT_ON# connect to pin #B5/ BT_DET# connect to pin #C8. (Page 20)
36. Add R1132 to ensure ENABL is low during power up.(Page 13)
37. AGP_BUSY# and AGP_STP# pull up to solve shut down issue. (Page 20)
38. Delete R159 (OVCUR#3) and LID_OUT# change to GPM3# and add R1133 pull up S3_STATE to +3VALW (Page20)
39. Change all blue LED's footprint to LED_17-21UYOC-S530-A2-TR8_2P
40. Change R532 to 0603 size and add R1134 (Page 30)
41. Add AC-caps for PCI and LPC bus turn path. (Page 42)
42. Delete R541, R542, R543 and R544. (Page 16)

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LAN RealTech8100BL		
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Update for SI

1. Applying CLK_STOP of ICS951418. (Page 16)
2. R176 change to 4.12k 1% (page 19)
3. Add pull down resistor for SYSON (R1135) and SUSP# (R319), due to TPS2231 internal pull-up when +3VALW present, EC can not control at the first 10 ms.
4. Reverse JP33 and JP34
5. TI CardReader workaround: add Q44, R1137, D38, and D39 to prevent signal output earlier than power up (page 24)
7. MU902's pin29 connect to AGND_LSD (page 31)
9. Change C621, C619, C628, and C625 to 0.01U from 0.1U (page 19)
10. DDR change to single channel from dual channel.
11. Swap pin40 and 44 of docking connector (JP6) for TV-out signal. (page 41)
12. Update from ATi AP note of SB, unused SATA pins connect to GND. (page21).
13. Reserve R1138 for XD_WP# pin at socket side. (page 24)
14. Reserve U47 to generate independent +1.9VS to PCIE_PVDD and PCIE_VDDR. (page 19)
15. For KB910L, pin #94 is for DOCK_VOLBTN+# and pin #34 is for EC_GPIO16. (page 38)
16. Add R1141 on SUS_STAT# per ATI recommend. (page 13)
17. PR110 connect to +5V due to +3VS too dirty that will cause TV display garbage. (page 48)
18. Update PCIE connector (JP5) pin defined of #7, #8, and #9 and reserve backward compatible due to there are two different version of NewCard spec. (page 26)
19. GPP_RX0N/P connect to JP5.21/22 and PCIE_TX0N/P connect to JP5.24/25 (page 26)
20. Reserve D40 and D41 for NewCard hot-plug detected. (page 26)
21. Adjust AMP output to 10 dB: Add R237/R233, delete R236/R234. (page 32)
22. Change CP1 ~ CP6 to C1156 ~ C1179 due to cost saving. (page 36)
23. Add C1180 and C1181 for EMI requirement. (page 42)
24. Add C160 due to +3VS unstable. (page 42)
25. R1121 change to 0_0402_5% per TI recommend (page 24)

Update for SI-R (Rev 0.4)

1. DDR_SDM_L2 length mismatch (page 9)
2. Add U48 (TPS2211A) for PCI1510RGVF (page 25)
3. NC_CP# connects to U38.D3 for New Card hot-plug (page 20)
4. R51 and R77 change from 49.9_0402_1% to 61.9_0402_1% (page 11)
5. Change C621, C619, C628, and C625 to 0.1U from 0.01U --- ATI final decision for SB A22 RPO3 and future (page 19)
6. Q25 change from MMBT3906 to PDTA114EK and R228 change to 0_0402_5% due to Hitach HDD LED will not be turn off light. (page 36)

Update for SI-2 (Rev 0.4B)

1. Remove C27 due to Sempron CPU intermittent boot-up issue. (page 6)
2. Change Q39 to MMBT3904 due to CARD_LED is high active signal. (page 35)
3. D40 and D41 replace by R1146 and R1148 due to TPS2231 truth table treat both CPUUSB# andCPPE# as the same. (page 26)
4. R87 change to 8.06k_1% due to New Card eye-diagram issue. (page 12)

Update for PV (Rev 0.5)

1. Add R1149 and R1150 for headphone gain degrading. (page 32)
2. Modify AVDDTX and AVDDR layout to improve USB signal quality.
3. Change wireless LED power from +5V to +5VS (page 35)
4. Follow TI layout guideline.
5. Change R1099 and R1100 to 2.2k per TI recommend for XD certification. (page 24)
6. Change LAN LED indicator color, Green is for link and Amber is for activity. (page 28)
7. Change R34, R35 and R259 from 1k to 680 base on AMD design guide. (page 6)
8. Change R286, R290, R473, and R486 from 100 to 15 base on AMD recommendation. (page 5/ 9)
9. Reserve C1182 at NB VDD_CORE and change C161 ~ C164, C136 ~C138, C153, C154, C156, C157 from 0.1uF to 1uF due to +1.2V_HT is not stable and clean. (page 14)
10. Delete R1083 due to SM card detect issue (quick or slow). (page 24)
11. Add C1183 ~ C1220, 1000pF or 220pF, on +2.5V, +1.25V, +CPU_CORE, +3V_CLK, +3VS, and +1.2V_HT for EMI require. (page 7/ 10/ 14/ 16/ 22)
12. Change R155, R162, R441, R444, and R448 from 22 ohm to 33 ohm due to EMI require. (page 19)
13. Wire MUTE_LED to JP6.15 due to HP docking spec V0.8 update (page 41)
14. Add C1151 and C1152 to isolate GND and change C61 and C241 from 0.1uF to 1000pF for EMI. (page 4)
15. Add C1221 ~ C1226 on +2.5VS for EMI (page 15)
16. Reserve C1227 and C1228 on EDID_CLK/DAT for EMI. (page 17)
17. Remove R64, R65, R69, and R70 due to EMI. (page 5)
18. RTC battery change to CR2025 (165mAh) due to power consumption less than 5uA. (page 19)

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Update for PV-2 (Rev 0.6)

1. Delect R1138, wire WP# pins of XD and SM together (SM_EL_WP#) and series 3.3k ohm (R1082) to CLK per HP recommendation. (page 24)
2. Tie un-used inputs of U24 and U33 to GND. (page 40)
3. Delect all reserve 0 ohm resistors. (page 34)
4. Add C1229 for power (+CODEC_REF) stable on MIC_IN. (page 30)
5. R53 change to 91_0402_5% due to HT output from RS480 need to improve rising and falling time. (page 11)
6. Reserve R1153 ~ R1157 for SanDisk 256MB SD card overshoot and undershoot issue. (page 24)
7. De-feature mother board populate R274, and full-feature mother board populate R269 for 90W adapter protection. (page 37)

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