

Compal Confidential

DAT20 Schematics Document

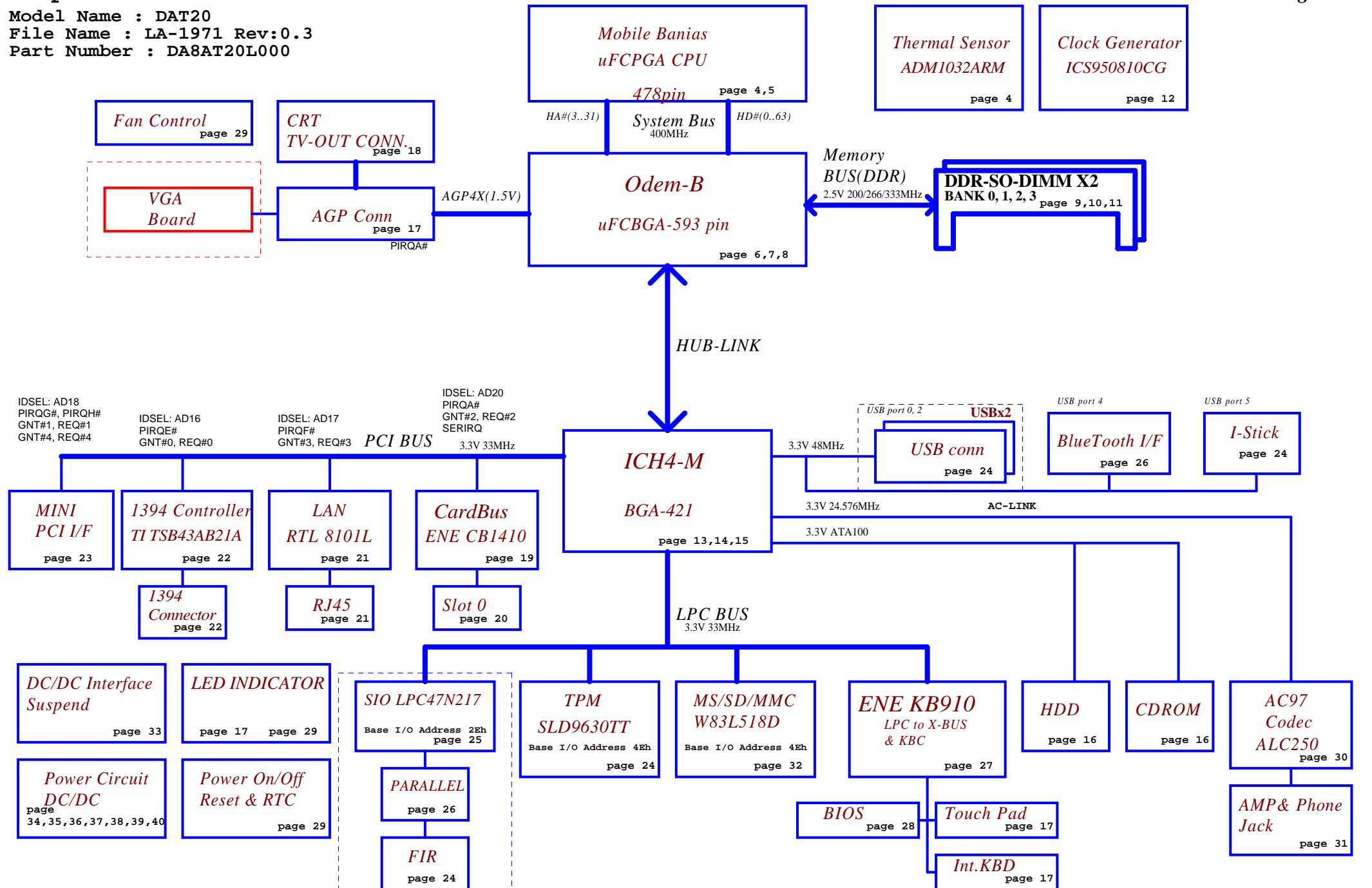
Banias uFCPGA Package with 855PM(Odem) + ICH4-M

2003-09-25

REV: 0.3

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Title			
Cover Sheet			
Size	Document Number	Rev	
Custom	DAT20 LA-1971	0.3	
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Compal Electronics, Inc.		
Title	Block Diagram	
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Voltage Rails

Power Plane	Description	S0-S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit.	N/A	N/A	N/A
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+VCCP	1.05V rail for Processor I/O	ON	OFF	OFF
+1.2VS	1.2VS switched power rail for MCH	ON	OFF	OFF
+1.25VS	1.25V switched power rail	ON	OFF	OFF
+1.5VALW	1.5V power rail	ON	ON	ON
+1.5VS	AGP 4X	ON	OFF	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+2.5V	2.5V power rail	ON	ON	OFF
+2.5VS	2.5V switched power rail	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+3V	3.3V power rail	ON	ON	OFF
+3VS	3.3V switched power rail	ON	OFF	OFF
+5VALW	5V always on power rail	ON	ON	ON*
+5V	5V power rail	ON	ON	OFF
+5VS	5V switched power rail	ON	OFF	OFF
+12VALW	12V always on power rail	ON	ON	ON*
+RTCVCC	RTC power	ON	ON	ON

Note : ON* means that this power plane is ON only with AC power available, otherwise it is OFF.

External PCI Devices

Device	IDSEL#	REQ#/GNT#	Interrupts
VGA			PIRQA
CardBus	AD20	2	PIRQA
LAN	AD17	3	PIRQF
Mini-PCI	AD18,AD22	1/4	PIRQG/PIRQH
1394	AD16	0	PIRQE

EC SM Bus1 address

Device	Address	Device	Address
Smart Battery	0001 011X b	ADM1032	1001 110X b
EEPROM(24C16/02)	1010 000X b		
(24C04)	1011 000Xb		

EC SM Bus2 address

ICH4-M SM Bus address

Device	Address
Clock Generator (ICS950810CG)	1101 001Xb
DDR DIMM0	1010 000Xb
DDR DIMM1	1010 001Xb

Board ID Table for AD channel

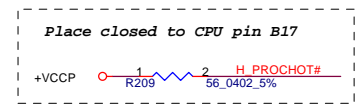
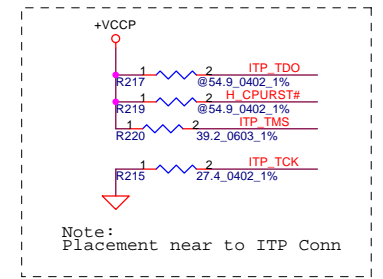
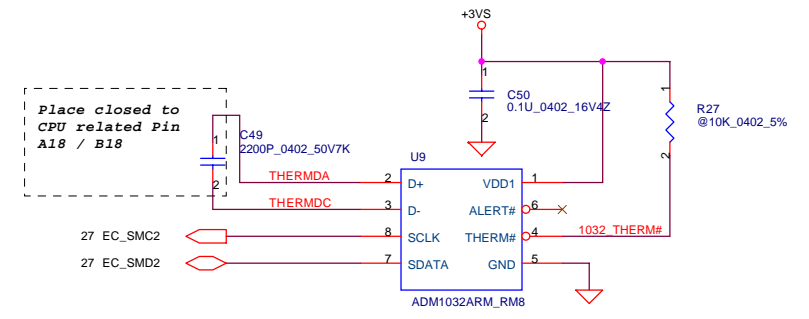
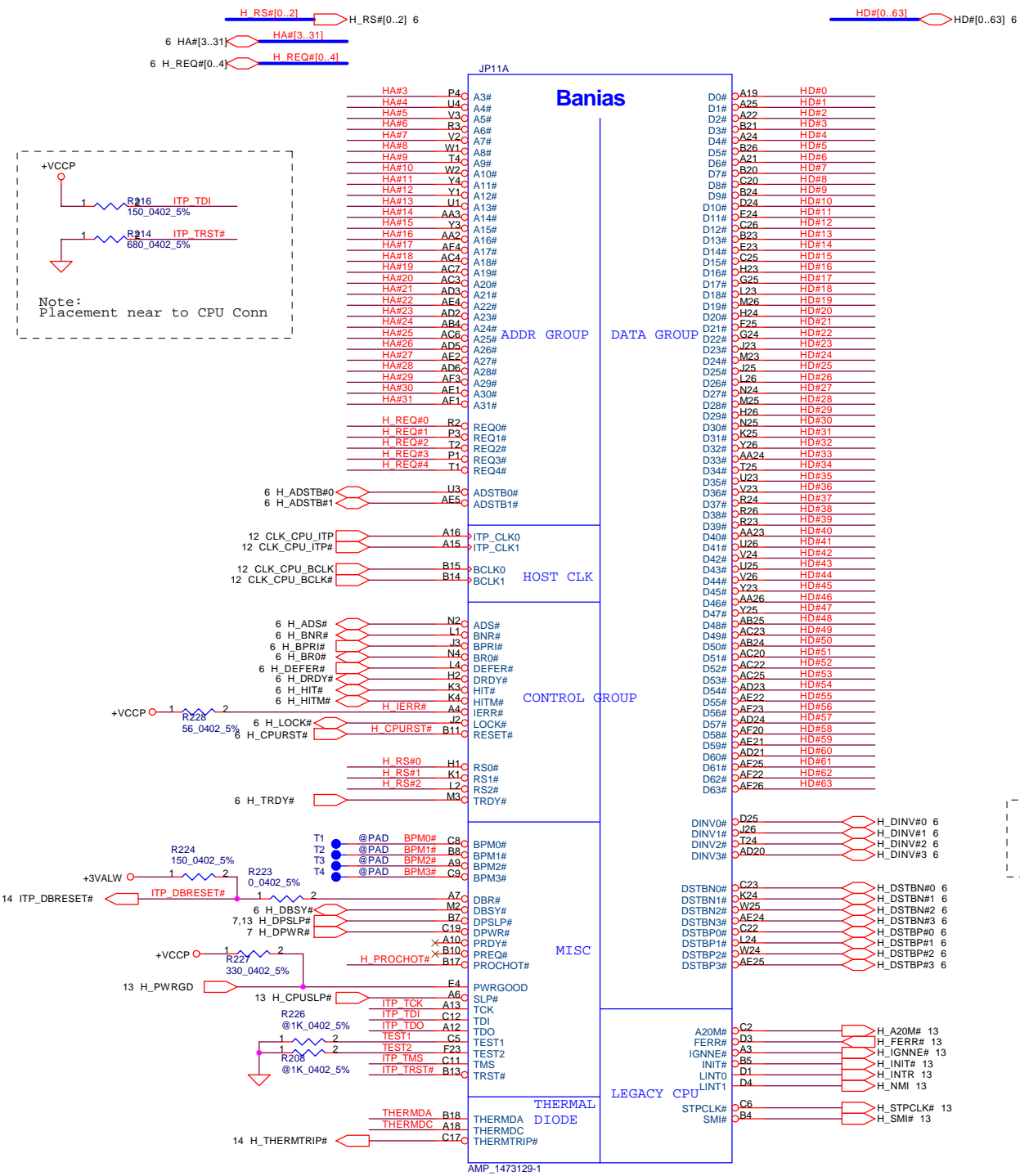
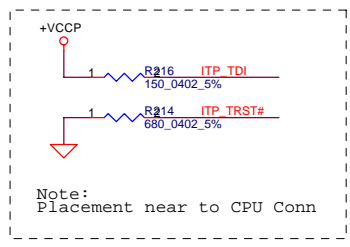
Vcc	3.3V +/- 5%			
Ra	100K +/- 5%			
Board ID	Rb	V _{AD_BID min}	V _{AD_BID typ}	V _{AD_BID max}
0	0	0 V	0 V	0 V
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V
2	18K +/- 5%	0.436 V	0.503 V	0.538 V
3	33K +/- 5%	0.712 V	0.819 V	0.875 V
4	56K +/- 5%	1.036 V	1.185 V	1.264 V
5	100K +/- 5%	1.453 V	1.650 V	1.759 V
6	200K +/- 5%	1.935 V	2.200 V	2.341 V
7	NC	2.500 V	3.300 V	3.300 V

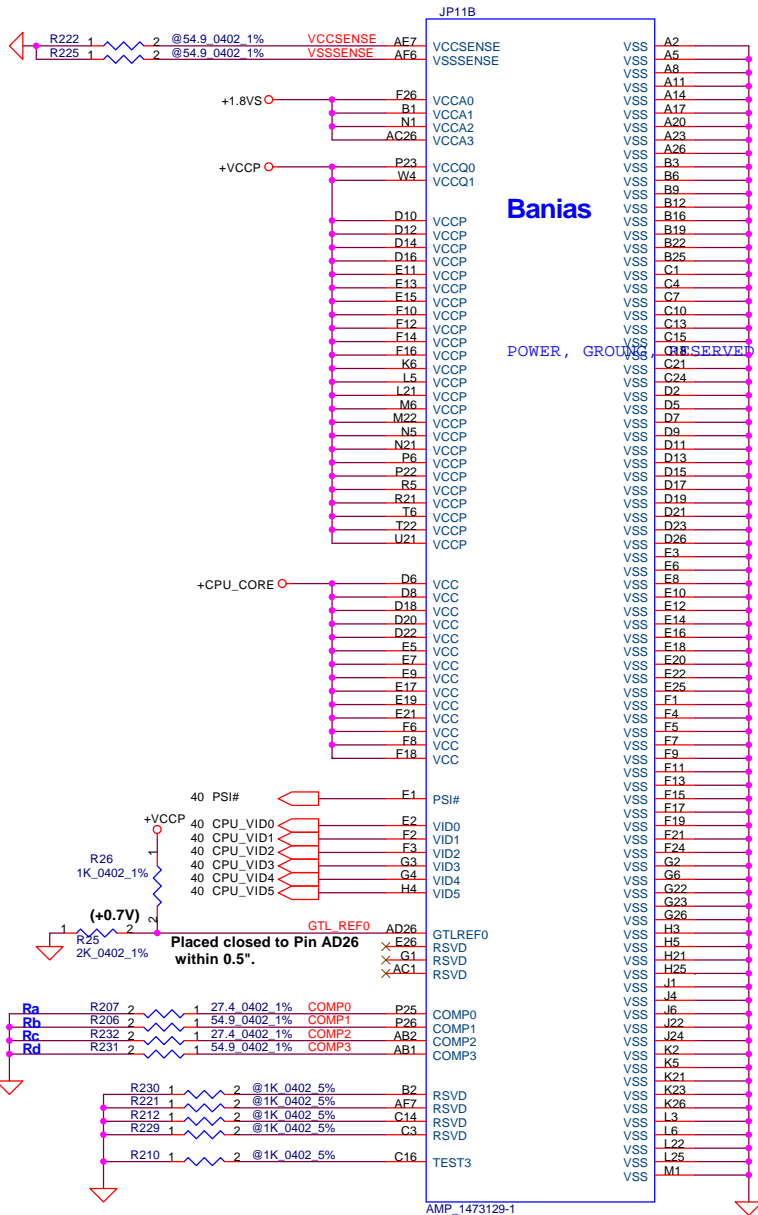
Board ID	PCB Revision
0	0.1
* 1	0.2
2	0.3
3	0.4
4	
5	
6	
7	

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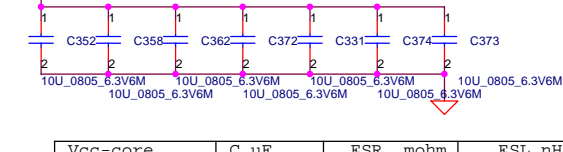
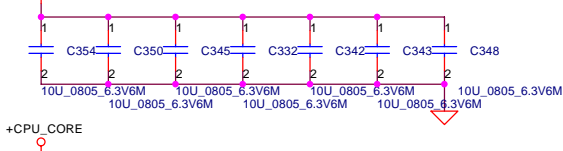
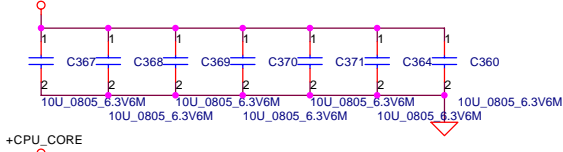
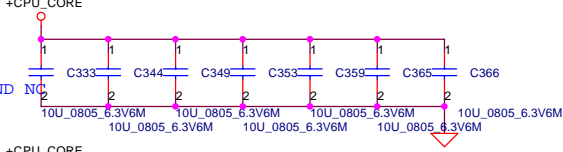
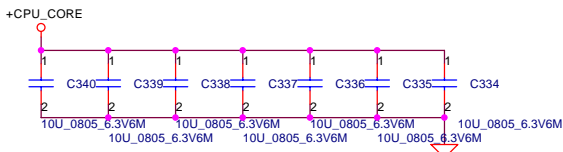
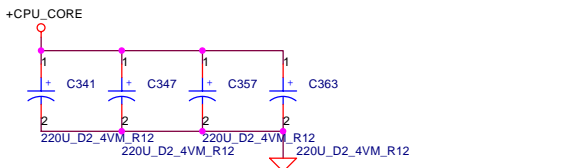




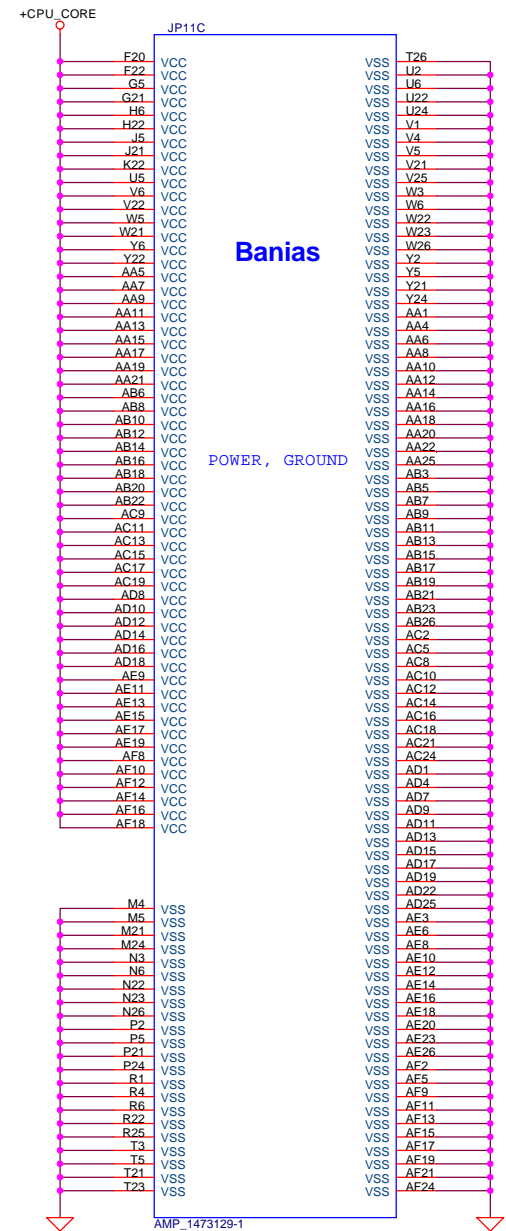
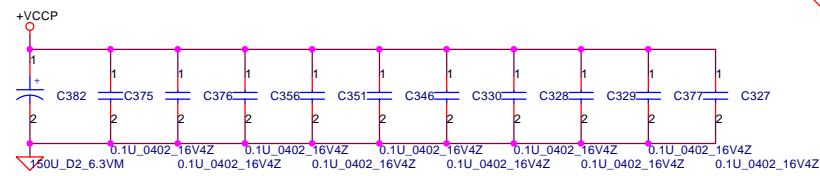
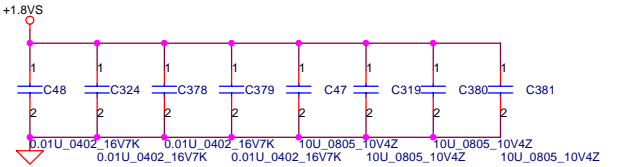
Ra, Rb, Rc, Rd placed close to related pin within 0.5".
 COMP0/1/2/3 Trace should 25mil away from any other toggling signal.

Banias

POWER, GROUND OBSERVED SIGNALS AND NC



Vcc-core Decoupling	C, uF	ESR, mohm	ESL, nH
SPCAP, Polymer	4X220uF	12m ohm/4	3.5nH/4
MLCC 0805 X5R	35X10uF	5m ohm/35	0.6nH/35



Banias

POWER, GROUND

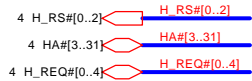
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Title: **Banias Processor in mFCPGA479 (2/2)**

Size: Custom Document Number: **DAT20 LA-1971** Rev: 0.3

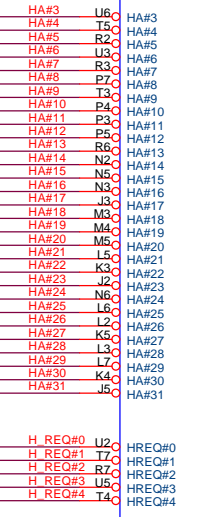
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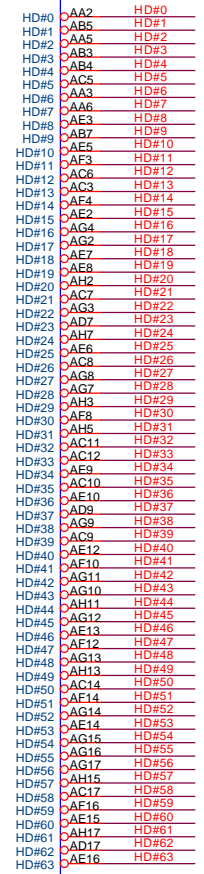
U8A

U8B



Odem

HOST

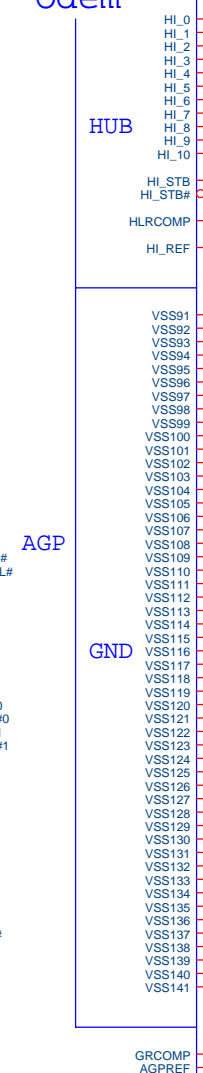
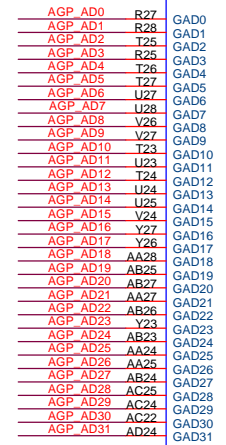
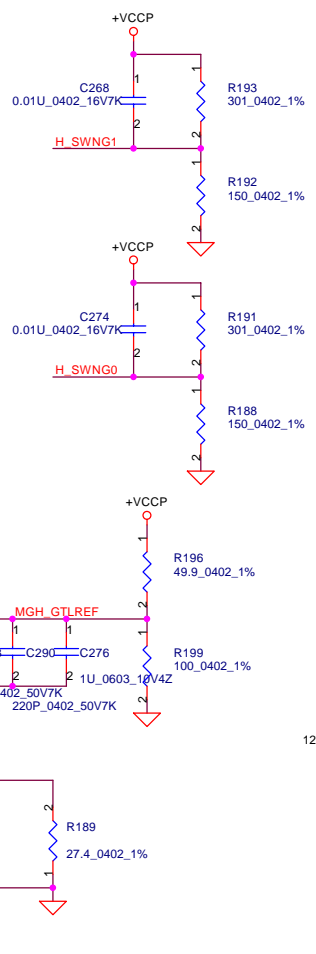


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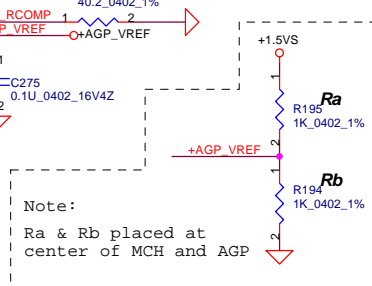
HUB

AGP

GND



ST1	ST2	MCH	STRAP
X	1	DDR	
0	X	TEST MODE	
1	X	400 Mhz	PSB



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DDR_SMA[0..12] DDR_SMA[0..12] 9
 9 DDR_SDQ[0..63] DDR_SDQ[0..63]
 9 DDR_SDQS[0..8] DDR_SDQS[0..8]
 9 DDR_CB[0..7] DDR_CB[0..7]

U8C

Odem

MEMORY

DDR SMA0 E12 SMA0
 DDR SMA1 E17 SMA1
 DDR SMA2 E16 SMA2
 DDR SMA3 G17 SMA3
 DDR SMA4 G18 SMA4
 DDR SMA5 E18 SMA5
 DDR SMA6 F19 SMA6
 DDR SMA7 G20 SMA7
 DDR SMA8 G19 SMA8
 DDR SMA9 F21 SMA9
 DDR SMA10 E13 SMA10
 DDR SMA11 E20 SMA11
 DDR SMA12 G21 SMA12
 XG22 RSV22

DDR SDQS0 F26 SDQS0
 DDR SDQS1 C26 SDQS1
 DDR SDQS2 C23 SDQS2
 DDR SDQS3 B19 SDQS3
 DDR SDQS4 D12 SDQS4
 DDR SDQS5 C8 SDQS5
 DDR SDQS6 C5 SDQS6
 DDR SDQS7 E3 SDQS7
 DDR SDQS8 E15 SDQS8

9 DDR_SWE#
 9 DDR_SRAS#
 9 DDR_SCAS#

9 DDR_CLK0
 9 DDR_CLK0#
 9 DDR_CLK1
 9 DDR_CLK1#
 9 DDR_CLK2
 9 DDR_CLK2#
 10 DDR_CLK3
 10 DDR_CLK3#
 10 DDR_CLK4
 10 DDR_CLK4#
 10 DDR_CLK5
 10 DDR_CLK5#

9,10 DDR_CKE0
 9,10 DDR_CKE1
 10 DDR_CKE2
 10 DDR_CKE3

9,10 DDR_SCS#0
 9,10 DDR_SCS#1
 10 DDR_SCS#2
 10 DDR_SCS#3

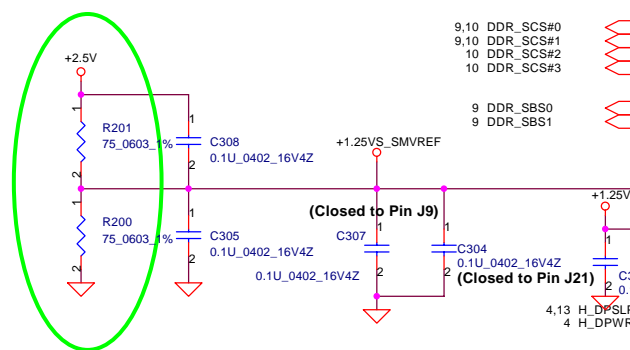
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 9 DDR_SBS1

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 G8 SCAS#
 J25 SCK0
 K23 SCK#0
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 F5 SCK#1
 G24 SCK2
 E24 SCK#2
 G25 SCK3
 J24 SCK#3
 G6 SCK4
 G7 SCK#4
 K23 SCK5
 J23 SCK#5
 G23 SCKE0
 E22 SCKE1
 H23 SCKE2
 F23 SCKE3
 E9 SCS#0
 F7 SCS#1
 F9 SCS#2
 E7 SCS#3
 G12 SBS0
 G13 SBS1

SDQ0 G28 DDR_SDO0
 SDQ1 E27 DDR_SDO1
 SDQ2 C28 DDR_SDO2
 SDQ3 E28 DDR_SDO3
 SDQ4 H25 DDR_SDO4
 SDQ5 G27 DDR_SDO5
 SDQ6 F25 DDR_SDO6
 SDQ7 B28 DDR_SDO7
 SDQ8 E27 DDR_SDO8
 SDQ9 C27 DDR_SDO9
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 SDQ18 E21 DDR_SDO18
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 SDQ20 B23 DDR_SDO20
 SDQ21 D22 DDR_SDO21
 SDQ22 B21 DDR_SDO22
 SDQ23 C21 DDR_SDO23
 SDQ24 D20 DDR_SDO24
 SDQ25 C19 DDR_SDO25
 SDQ26 D18 DDR_SDO26
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 SDQ35 B13 DDR_SDO35
 SDQ36 C13 DDR_SDO36
 SDQ37 C11 DDR_SDO37
 SDQ38 D10 DDR_SDO38
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 SDQ42 E8 DDR_SDO42
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 SDQ49 D4 DDR_SDO49
 SDQ50 B3 DDR_SDO50
 SDQ51 E6 DDR_SDO51
 SDQ52 B5 DDR_SDO52
 SDQ53 C4 DDR_SDO53
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 SDQ65 B15 DDR_CB2
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 SDQ70 D14 DDR_CB7
 SDQ71

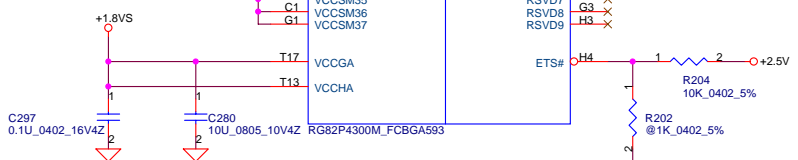
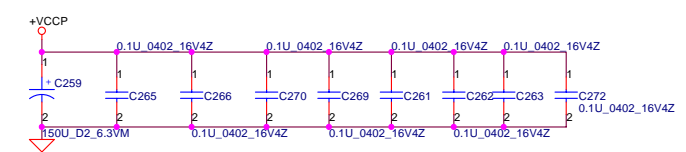
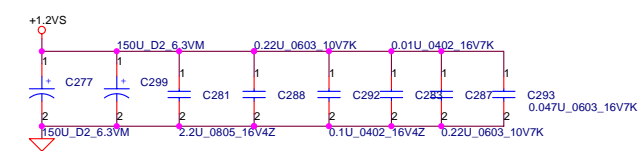
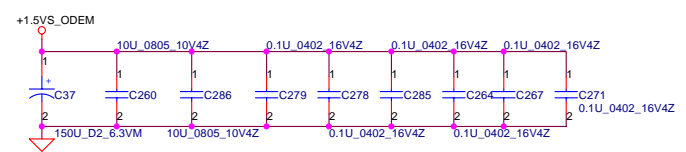
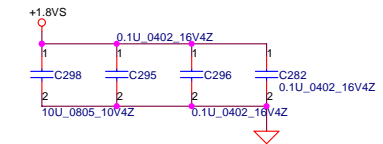
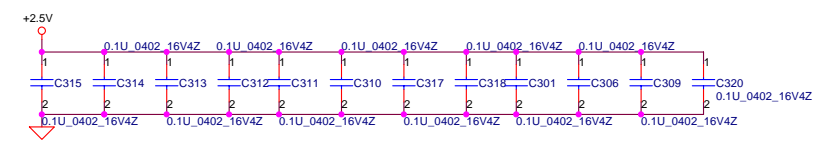
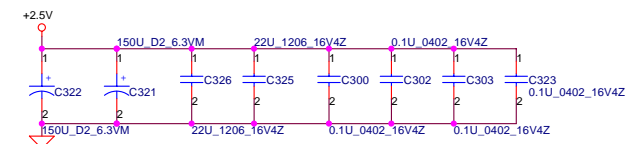
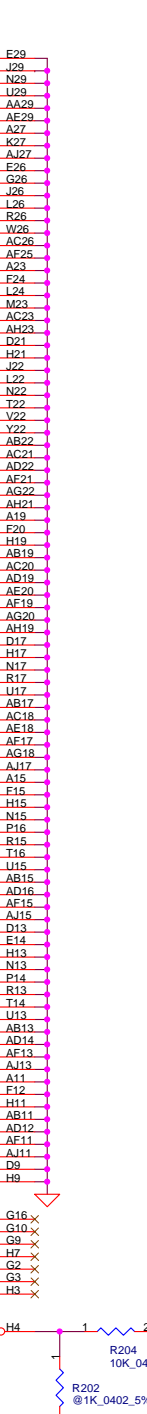
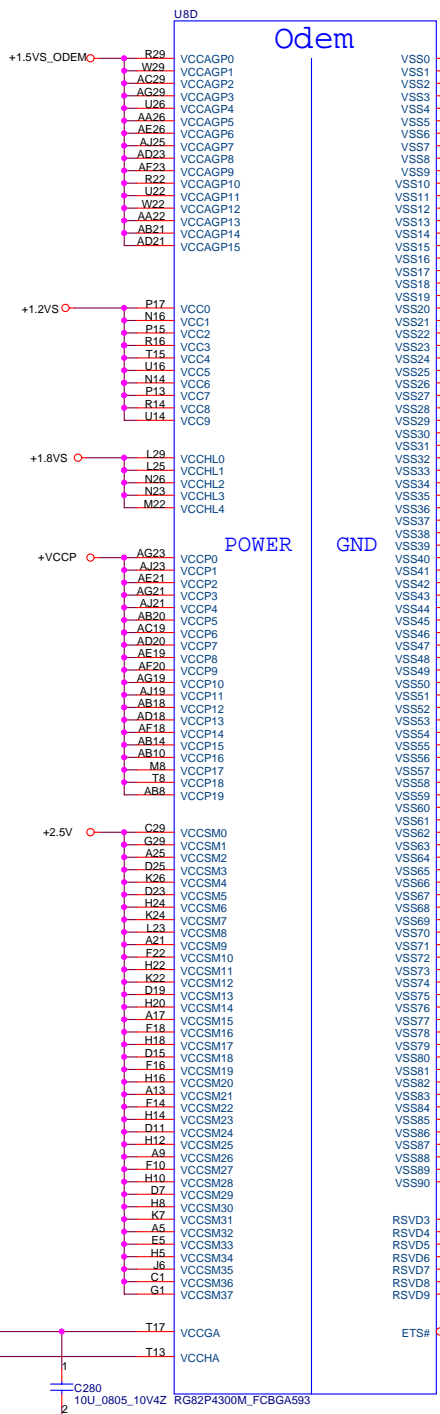
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 R205 @4.7K_0402_5% +1.5VS

RG82P4300M_FCBGA593



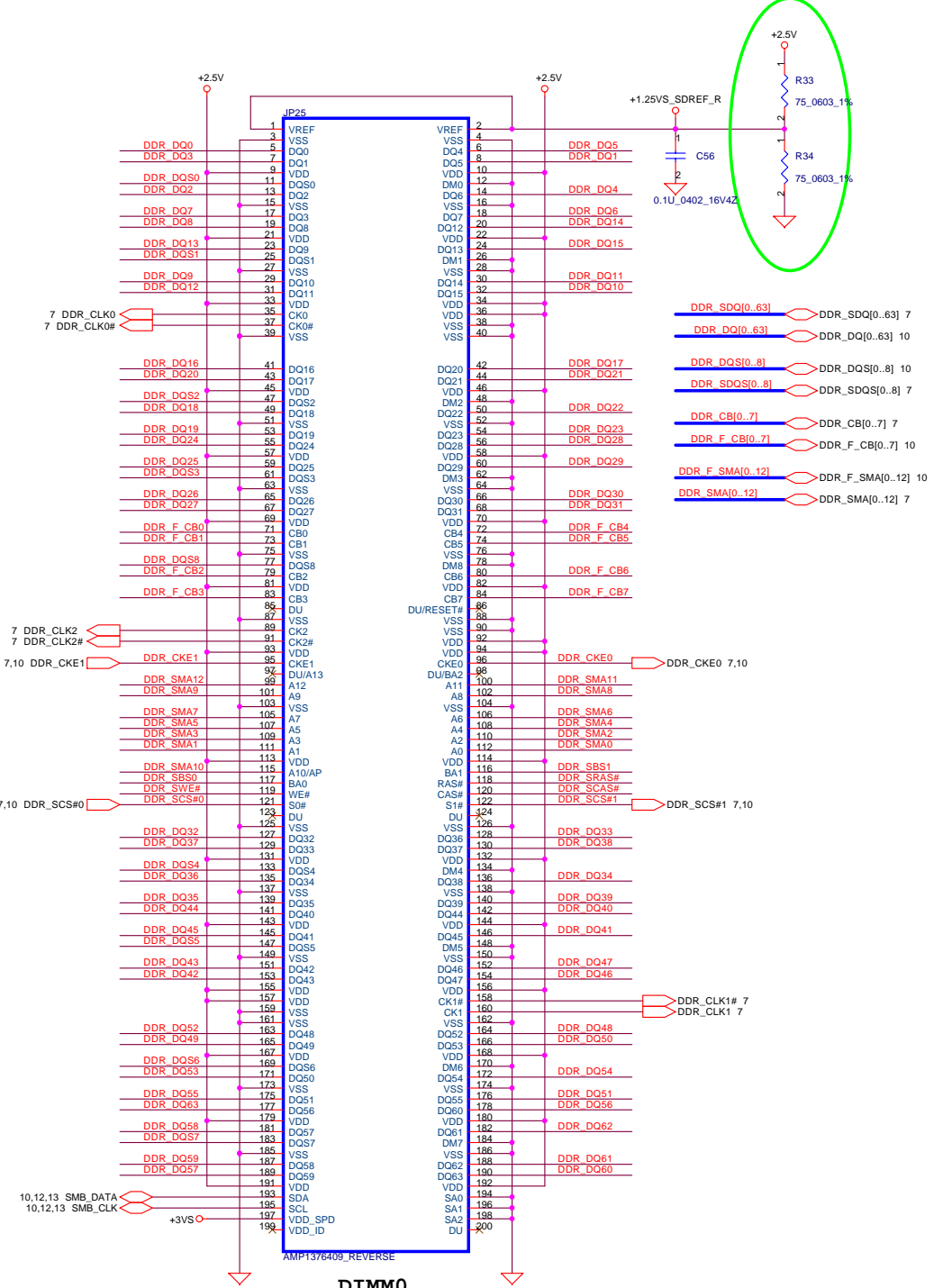
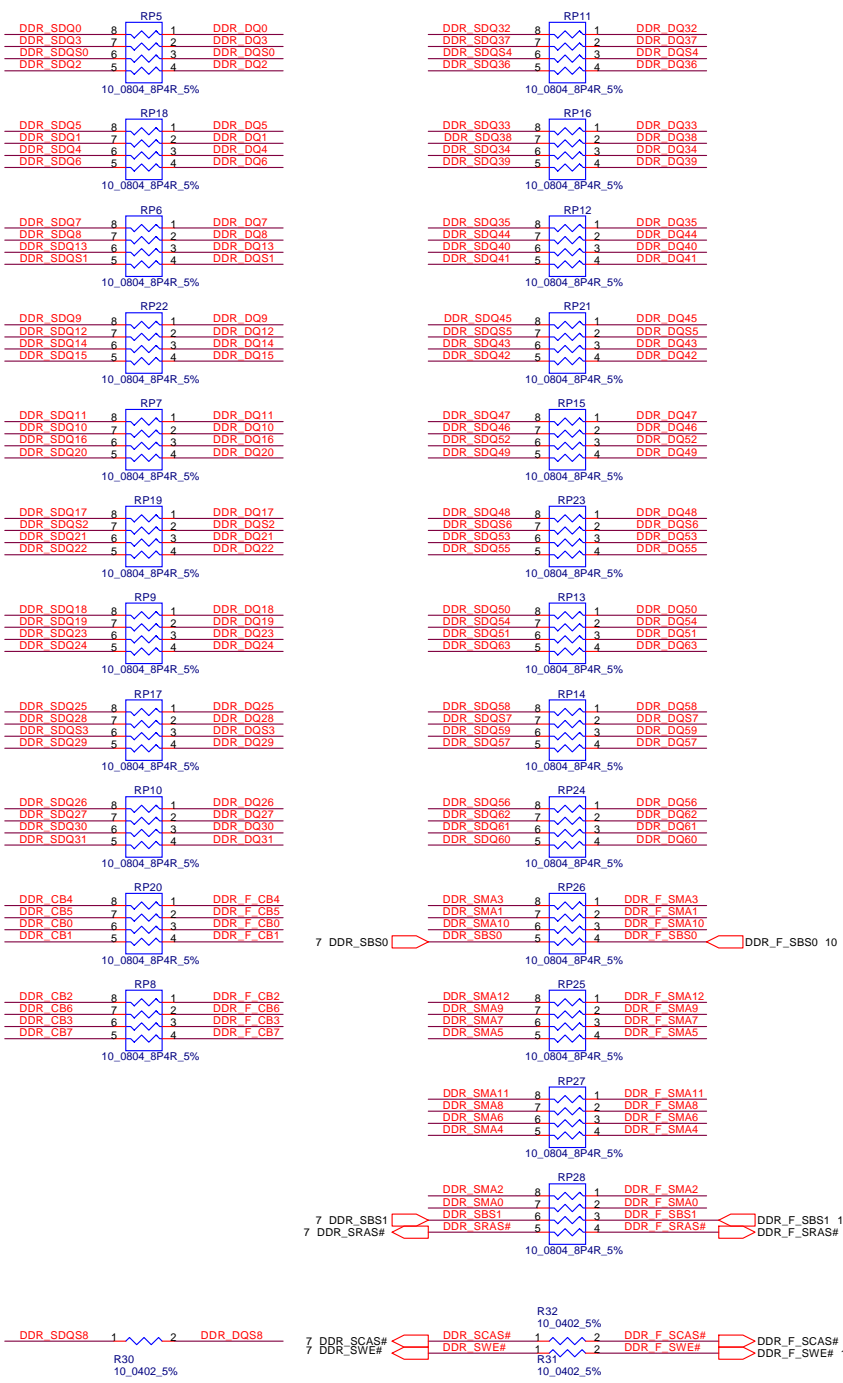
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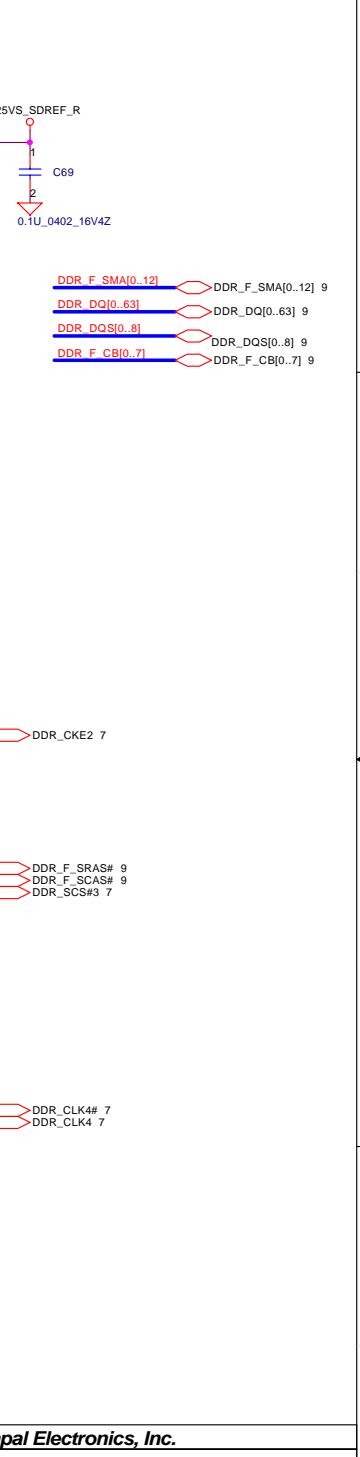
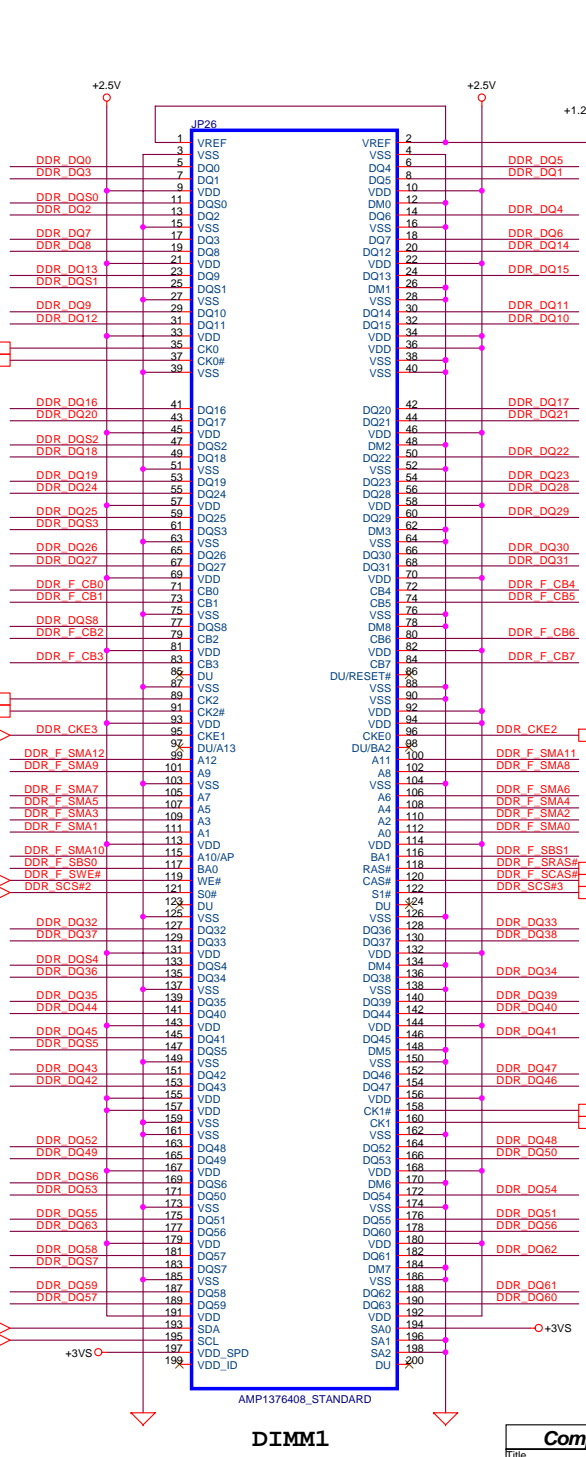
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DIMM0

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DDR-SODIMM SLOT0			
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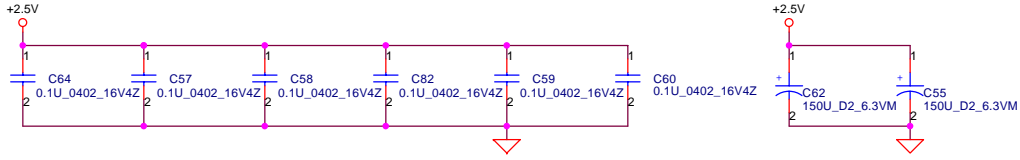
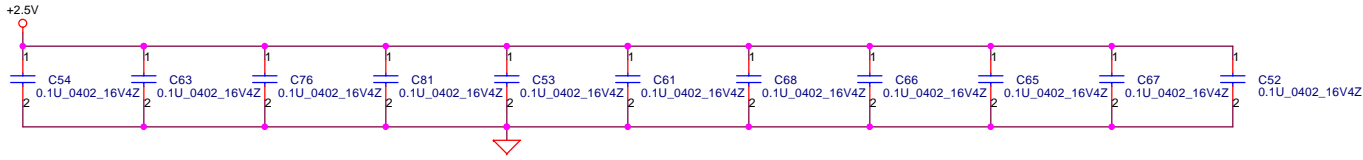


DIMM1

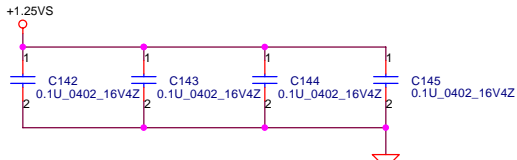
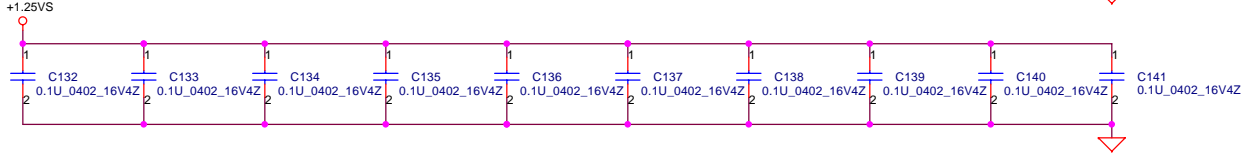
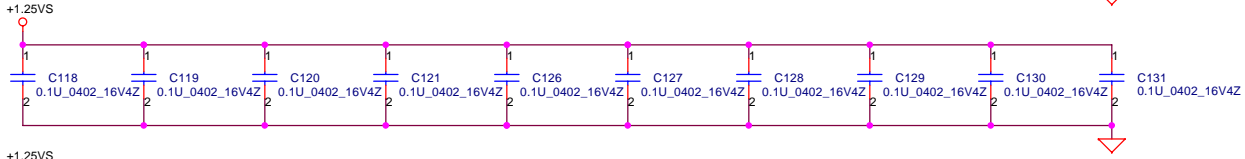
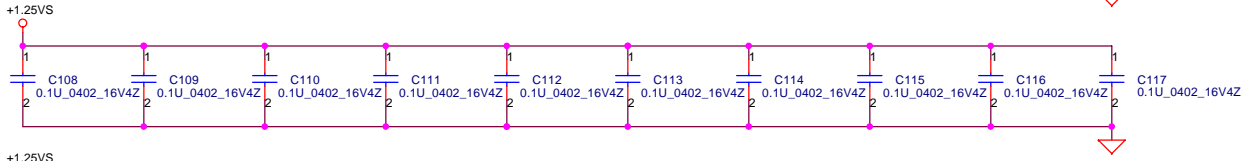
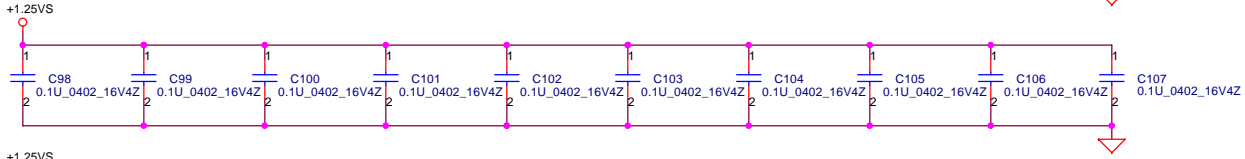
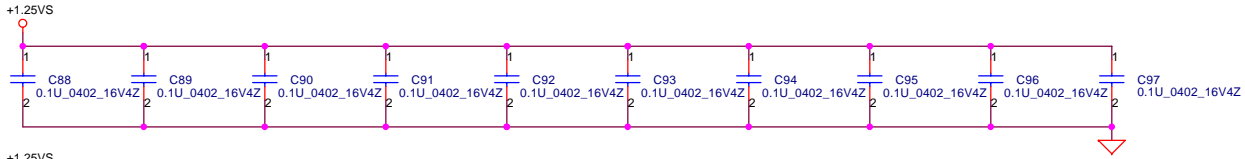
Compal Electronics, Inc.			
DDR-SODIMM SLOT1			
Title			
Size	Document Number	Rev	
Custom	DAT20 LA-1971		0.3
Date:	Friday, September 26, 2003	Sheet	10 of 42

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Layout note :
Distribute as close as possible to DDR-SODIMM.



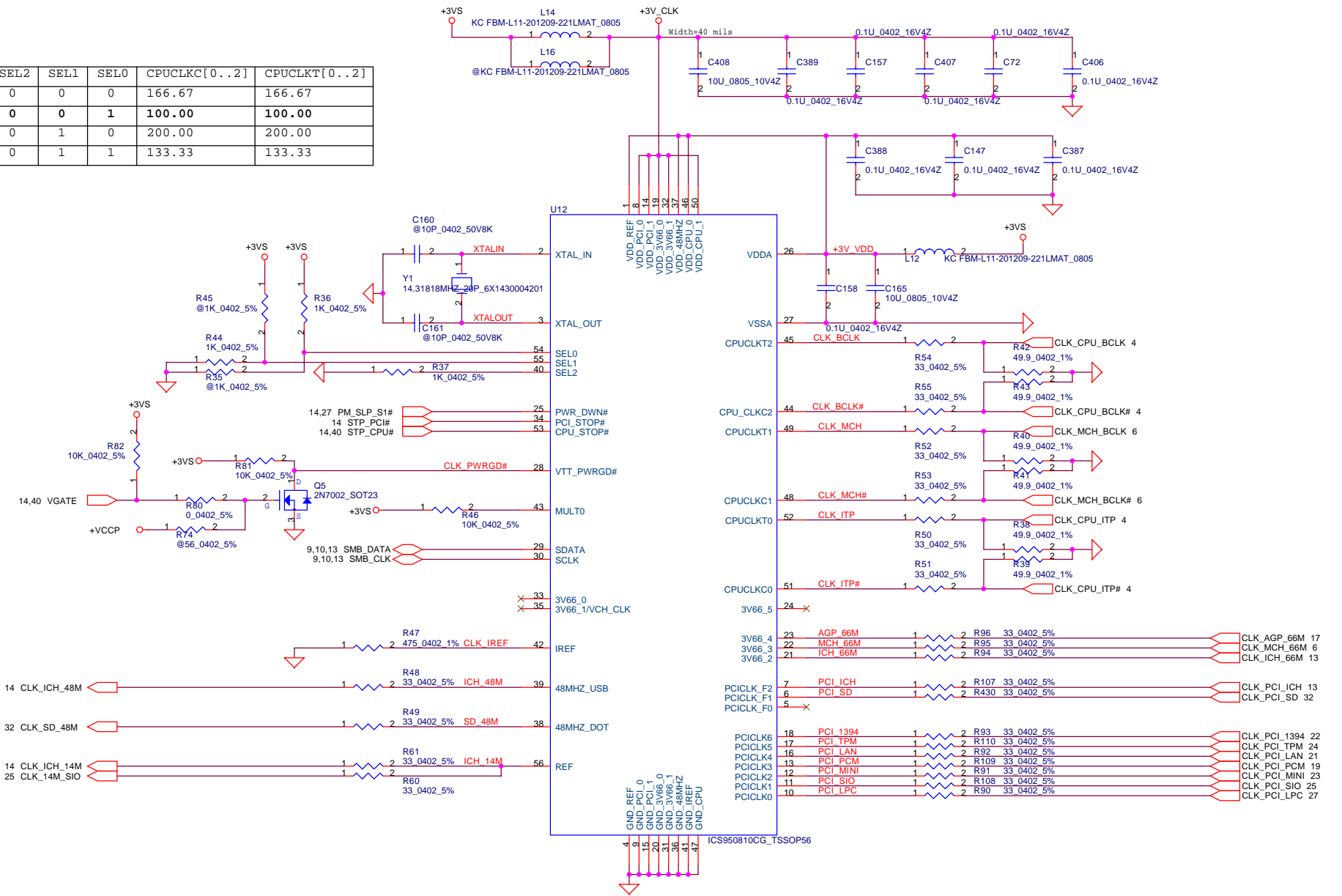
Layout note :
Place one cap close to every 2 pull up resistors termination to +1.25V

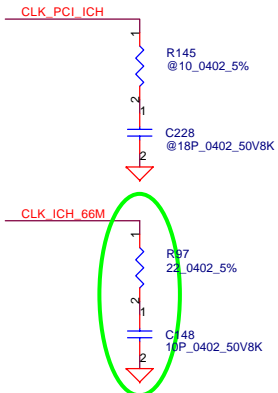


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Compal Electronics, Inc.			
DDR SODIMM Decoupling			
Title	Document Number		
Size	Custom	DAT20 LA-1971	Rev 0.3
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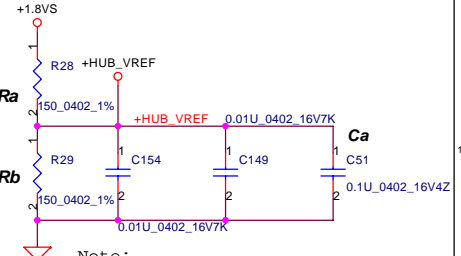
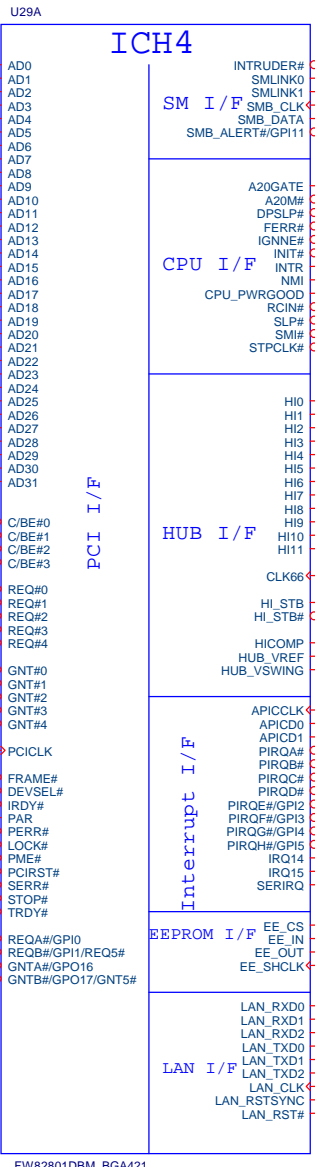
SEL2	SEL1	SEL0	CPUCLKC[0..2]	CPUCLKT[0..2]
0	0	0	166.67	166.67
0	0	1	100.00	100.00
0	1	0	200.00	200.00
0	1	1	133.33	133.33



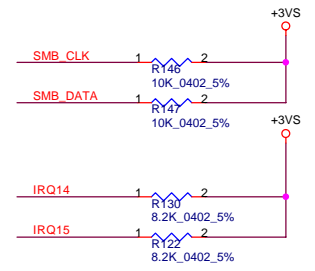


19.21,22,23 PCI_AD[0..31] \diamond PCI_AD[0..31]

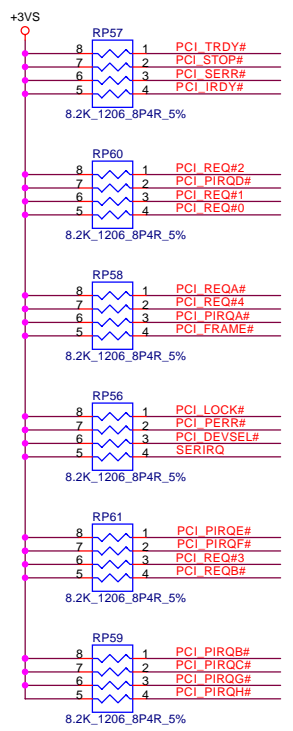
PCI AD0	H5	AD0
PCI AD1	J3	AD1
PCI AD2	H3	AD2
PCI AD3	K1	AD3
PCI AD4	G5	AD4
PCI AD6	H4	AD6
PCI AD7	J5	AD7
PCI AD8	K2	AD8
PCI AD9	G2	AD9
PCI AD10	L1	AD10
PCI AD11	G4	AD11
PCI AD12	L2	AD12
PCI AD13	H2	AD13
PCI AD14	L3	AD14
PCI AD15	F5	AD15
PCI AD16	F4	AD16
PCI AD17	N1	AD17
PCI AD18	E5	AD18
PCI AD19	N2	AD19
PCI AD20	E3	AD20
PCI AD21	N3	AD21
PCI AD22	E4	AD22
PCI AD23	M5	AD23
PCI AD24	E2	AD24
PCI AD25	P1	AD25
PCI AD26	E1	AD26
PCI AD27	P2	AD27
PCI AD28	D3	AD28
PCI AD29	R1	AD29
PCI AD30	D2	AD30
PCI AD31	P4	AD31



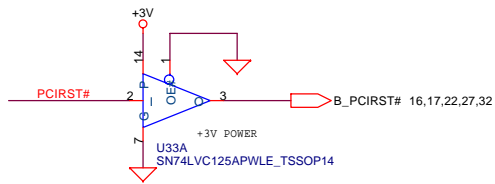
Note: Ra, Rb, Ca placement center of MCH and ICH4M



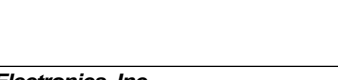
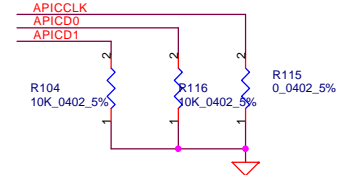
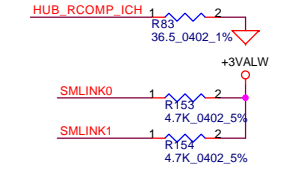
PCI Pullups



19.21,22,23	PCI_C/BE#0	C/BE#0
19.21,22,23	PCI_C/BE#1	C/BE#1
19.21,22,23	PCI_C/BE#2	C/BE#2
19.21,22,23	PCI_C/BE#3	C/BE#3
22	PCI_REQ#0	REQ#0
23	PCI_REQ#1	REQ#1
19	PCI_REQ#2	REQ#2
21	PCI_REQ#3	REQ#3
23	PCI_REQ#4	REQ#4
22	PCI_GNT#0	GNT#0
23	PCI_GNT#1	GNT#1
19	PCI_GNT#2	GNT#2
21	PCI_GNT#3	GNT#3
23	PCI_GNT#4	GNT#4
12	CLK_PCI_ICH	PCICLK
19.21,22,23	PCI_FRAME#	FRAME#
19.21,22,23	PCI_DEVSEL#	DEVSEL#
19.21,22,23	PCI_IRDY#	IRDY#
19.21,22,23	PCI_PAR	PAR
19.21,22,23	PCI_PERR#	PERR#
19.21,22,23	PCI_LOCK#	LOCK#
7,19,20,21,23,24,25	PCIRST#	PCIRST#
19.21,22,23	PCI_SERR#	SERR#
19.21,22,23	PCI_STOP#	STOP#
19.21,22,23	PCI_TRDY#	TRDY#
16	SIDERST#	SIDERST#



Place closed to Pin AA21



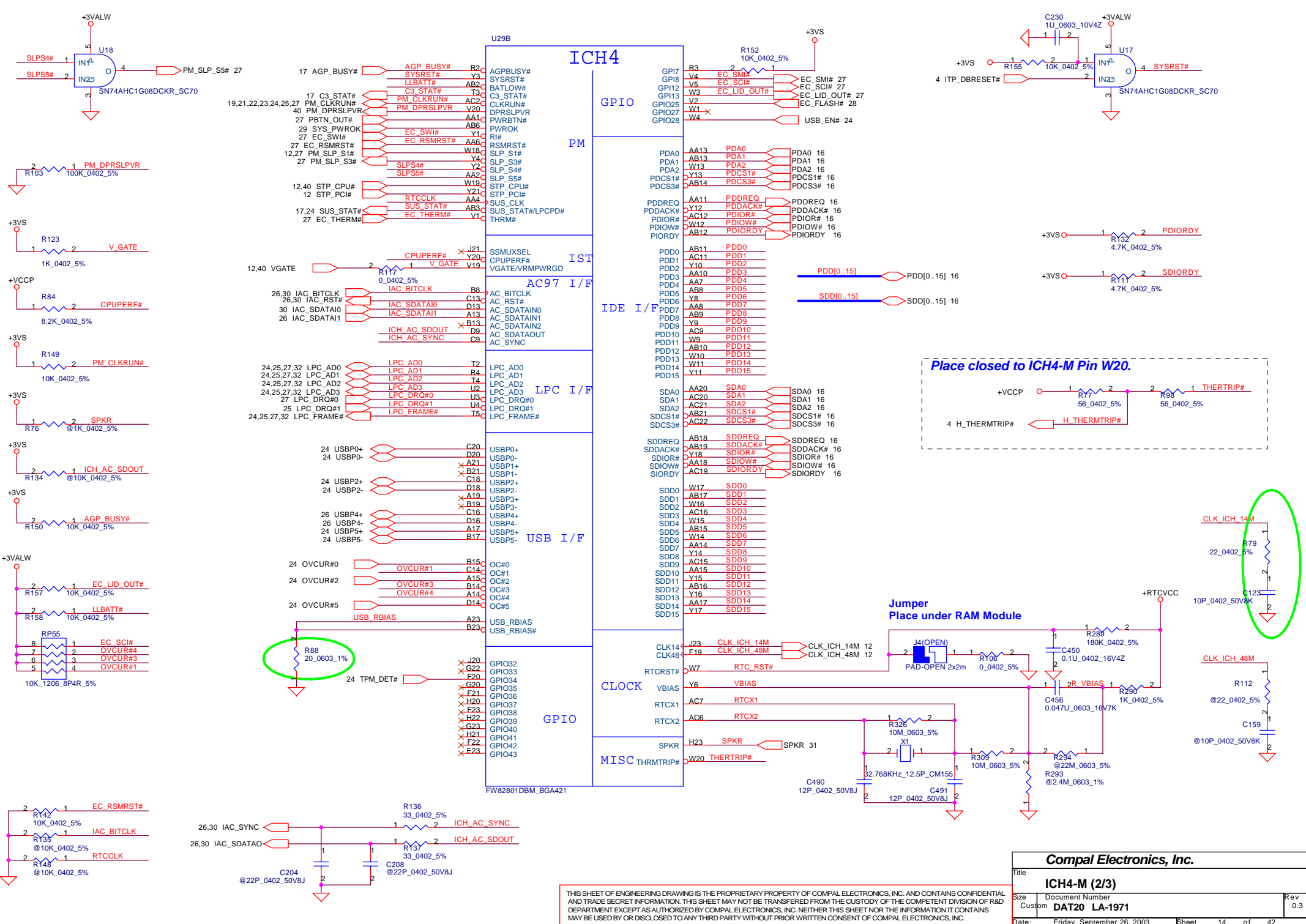
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Title: **ICH4-M (1/3)**

Size: Custom Document Number: **DAT20 LA-1971** Rev: 0.3

Date: Friday, September 26, 2003 Sheet: 13 of 42

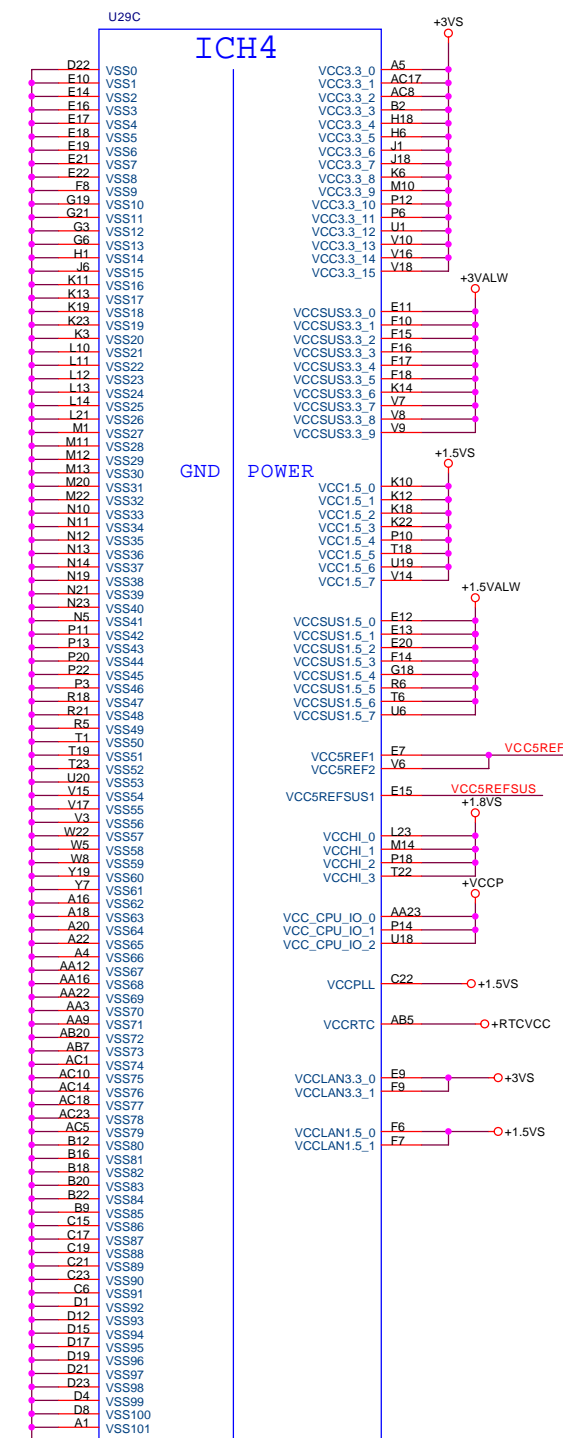


Place closed to ICH4-M Pin W20.

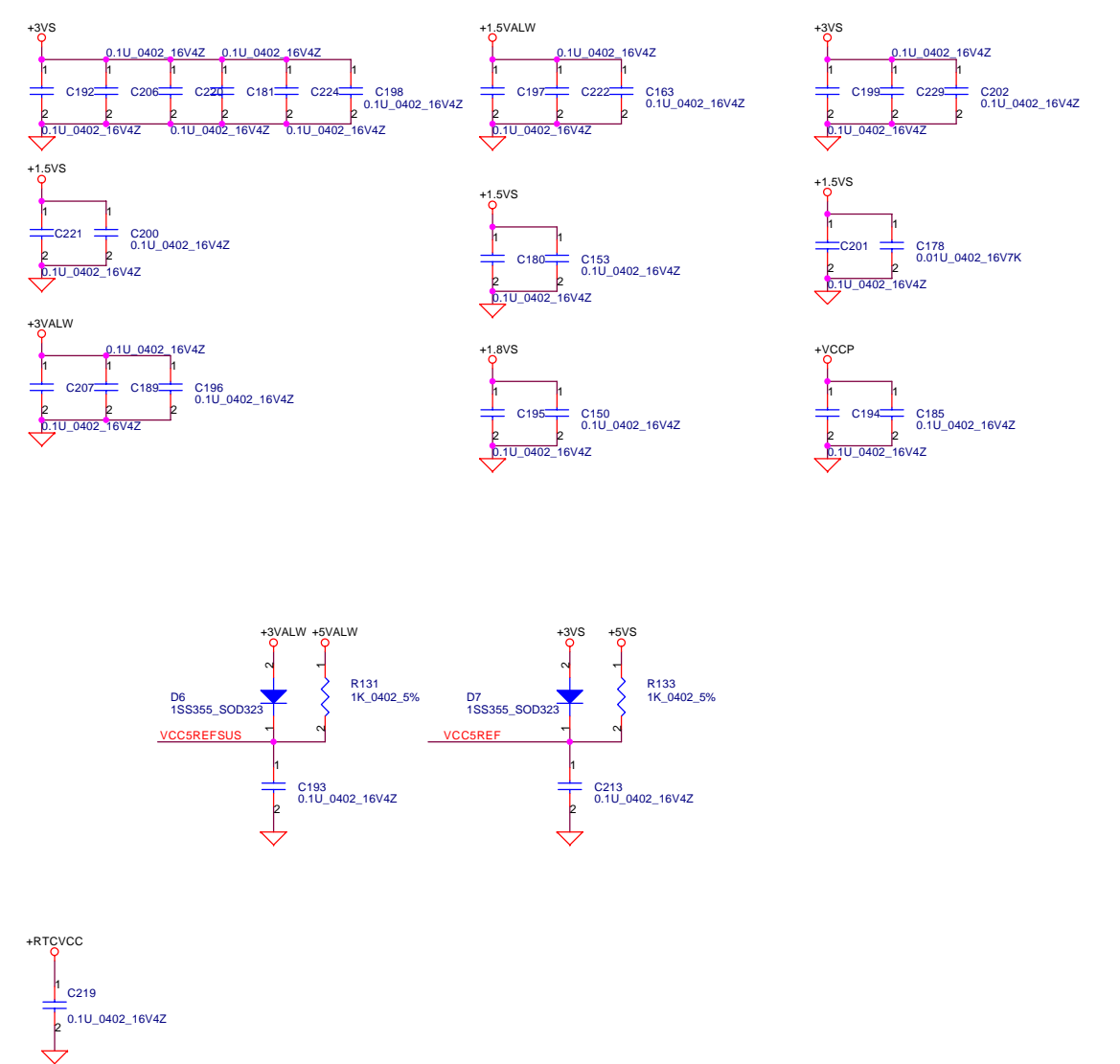
Jumper Place under RAM Module

Compal Electronics, Inc.		
Title ICH4-M (2/3)		
Size Custom	Document Number DAT20 LA-1971	Rev 0.3
Date: Friday, September 26, 2003	Sheet 14	of 42

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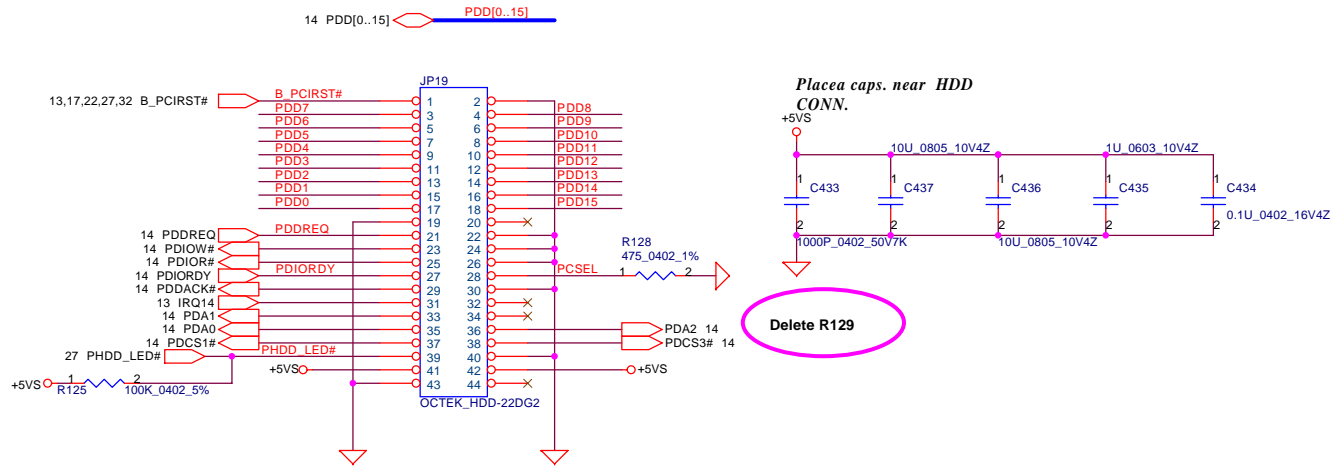
FW82801DBM_BGA421



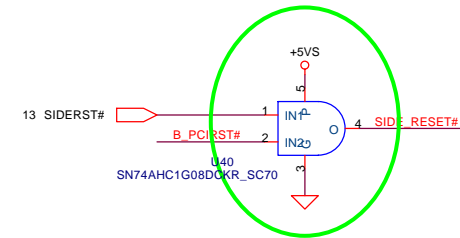
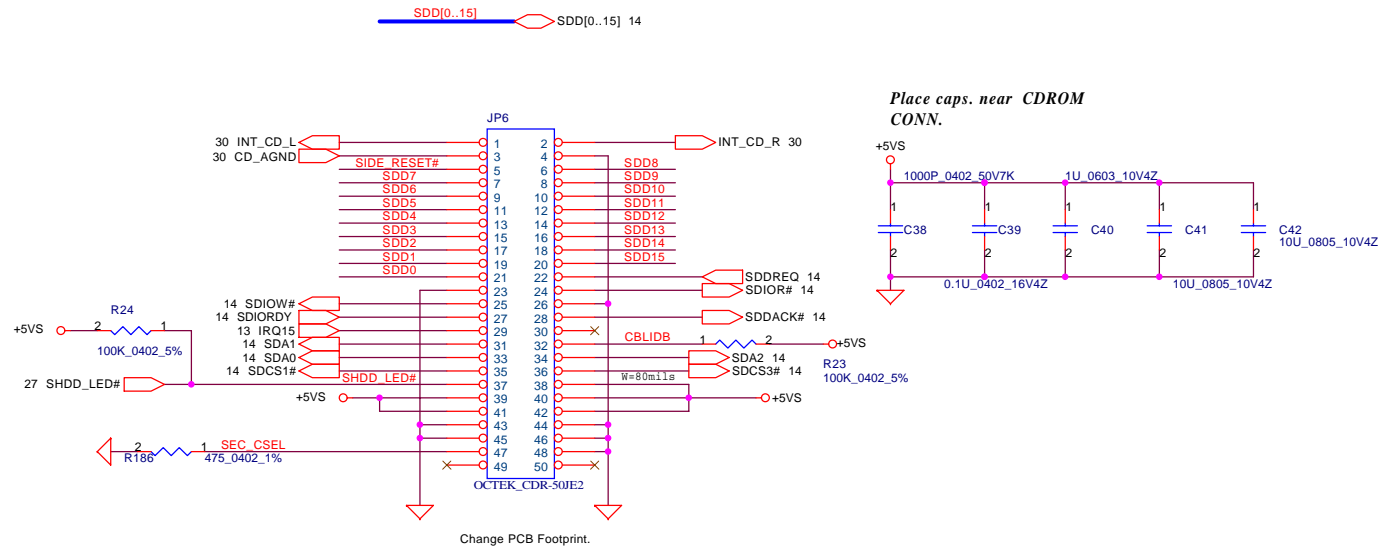
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Compal Electronics, Inc.		
Title		
ICH4-M (3/3)		
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HDD Connector



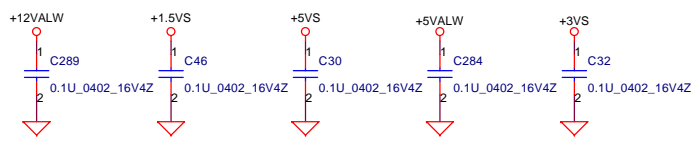
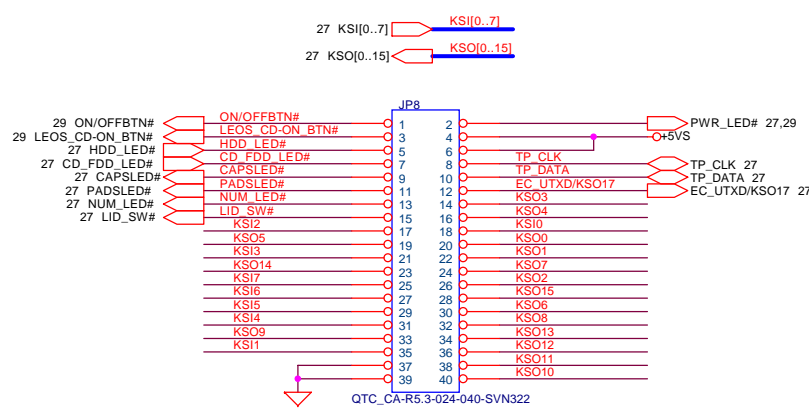
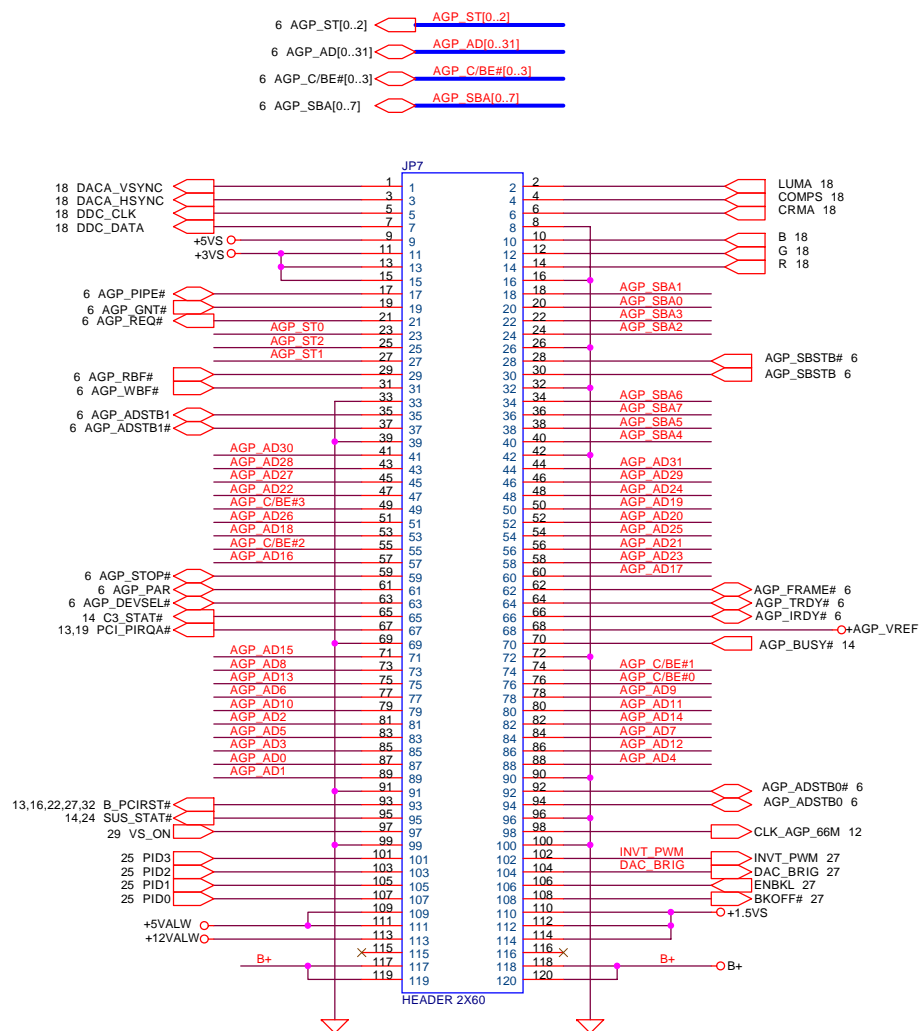
CD-ROM Connector



Compal Electronics, Inc.

Title	IDE/CD-ROM Module	
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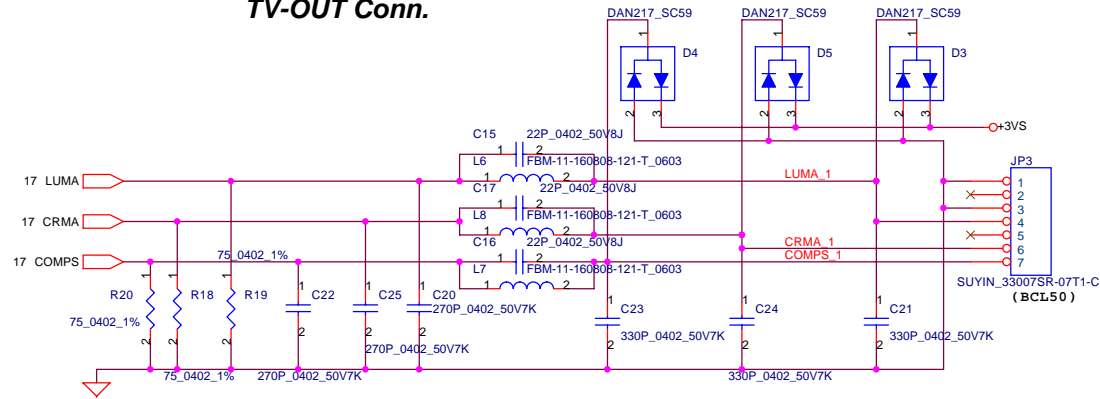
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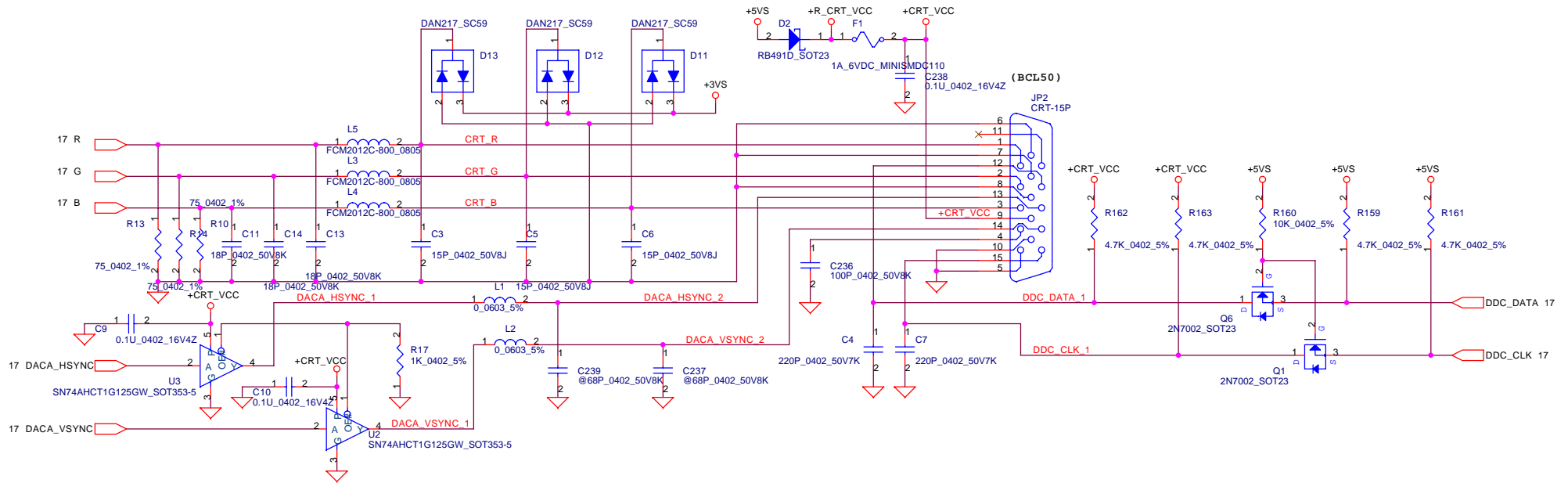
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Compal Electronics, Inc.		
AGP Connector		
Title	Document Number	
Size	Custom	Rev
Date:	Friday, September 26, 2003	0.3
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TV-OUT Conn.

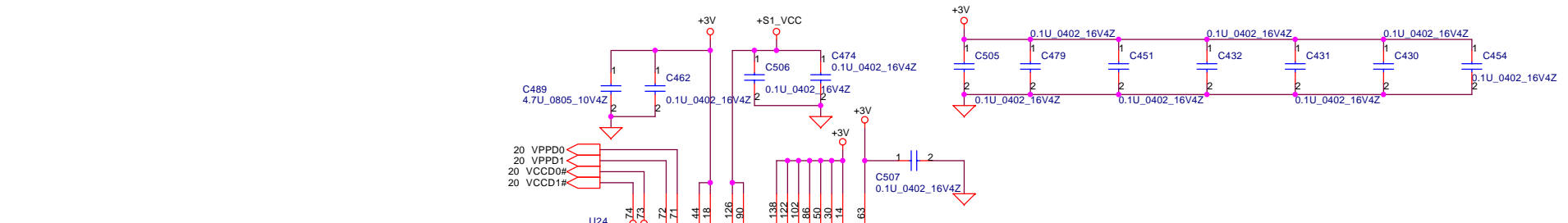


CRT Conn.



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Compal Electronics, Inc.		
Title	CRT,TV-OUT CONNECTOR	
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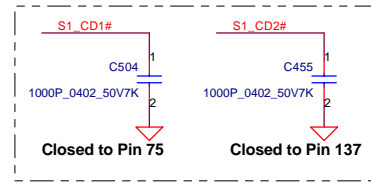
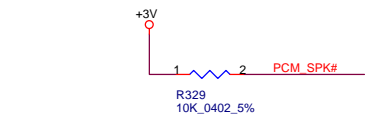
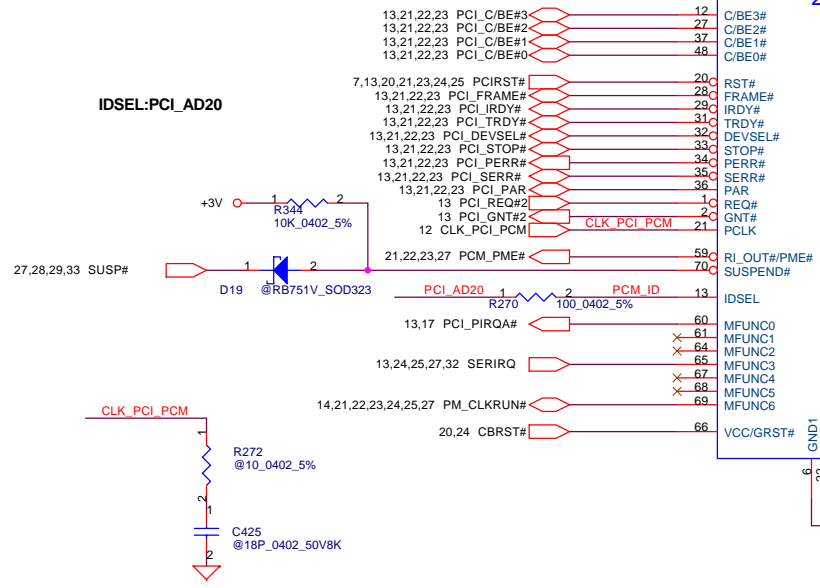
13,21,22,23 PCI_AD[0..31] PCI_AD[0..31]

PCI_AD31	3	AD31	CAD31/D10	144	S1_D10
PCI_AD30	4	AD30	CAD30/D9	142	S1_D9
PCI_AD29	5	AD29	CAD29/D1	141	S1_D1
PCI_AD28	7	AD28	CAD28/D8	140	S1_D8
PCI_AD27	8	AD27	CAD27/D0	139	S1_D0
PCI_AD26	9	AD26	CAD26/A0	129	S1_A0
PCI_AD25	10	AD25	CAD25/A1	128	S1_A1
PCI_AD24	11	AD24	CAD24/A2	127	S1_A2
PCI_AD23	15	AD23	CAD24/A2	124	S1_A3
PCI_AD22	16	AD22	CAD23/A3	121	S1_A4
PCI_AD21	17	AD21	CAD22/A4	120	S1_A5
PCI_AD20	19	AD20	CAD21/A5	118	S1_A6
PCI_AD19	23	AD19	CAD20/A6	116	S1_A25
PCI_AD18	24	AD18	CAD19/A25	115	S1_A7
PCI_AD17	25	AD17	CAD18/A7	113	S1_A24
PCI_AD16	26	AD16	CAD17/A24	98	S1_A17
PCI_AD15	38	AD15	CAD16/A17	96	S1_IOWR#
PCI_AD14	39	AD14	CAD15/IOWR#	97	S1_A9
PCI_AD13	40	AD13	CAD14/A9	93	S1_IORD#
PCI_AD12	41	AD12	CAD13/IORD#	95	S1_A11
PCI_AD11	43	AD11	CAD12/A11	92	S1_OE#
PCI_AD10	45	AD10	CAD11/OE#	91	S1_CE2#
PCI_AD9	46	AD9	CAD10/CE2#	89	S1_A10
PCI_AD8	47	AD8	CAD9/A10	87	S1_D15
PCI_AD7	49	AD7	CAD8/D15	85	S1_D7
PCI_AD6	51	AD6	CAD7/D7	82	S1_D13
PCI_AD5	52	AD5	CAD6/D13	83	S1_D6
PCI_AD4	53	AD4	CAD5/D6	80	S1_D12
PCI_AD3	54	AD3	CAD4/D12	81	S1_D5
PCI_AD2	55	AD2	CAD3/D5	77	S1_D11
PCI_AD1	56	AD1	CAD2/D11	79	S1_D4
PCI_AD0	57	AD0	CAD1/D4	76	S1_D3

PQFP 144
22.2 X 22.2 X 1.60

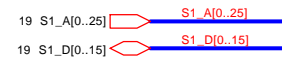
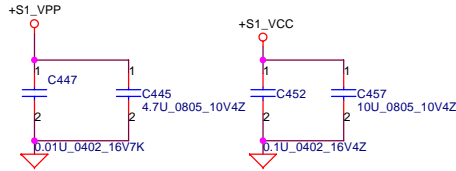
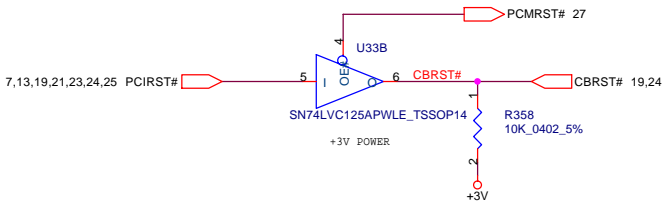
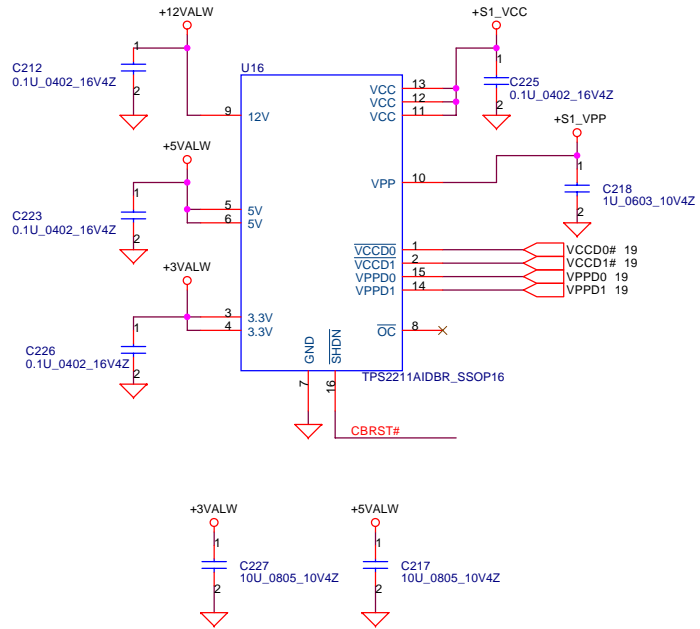
S1_A[0..25] S1_A[0..25] 20
S1_D[0..15] S1_D[0..15] 20

IDSEL:PCI_AD20

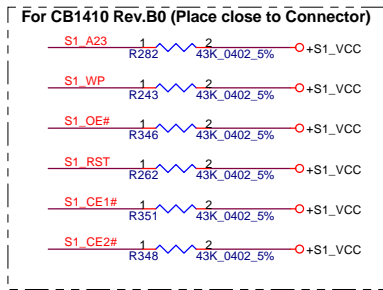
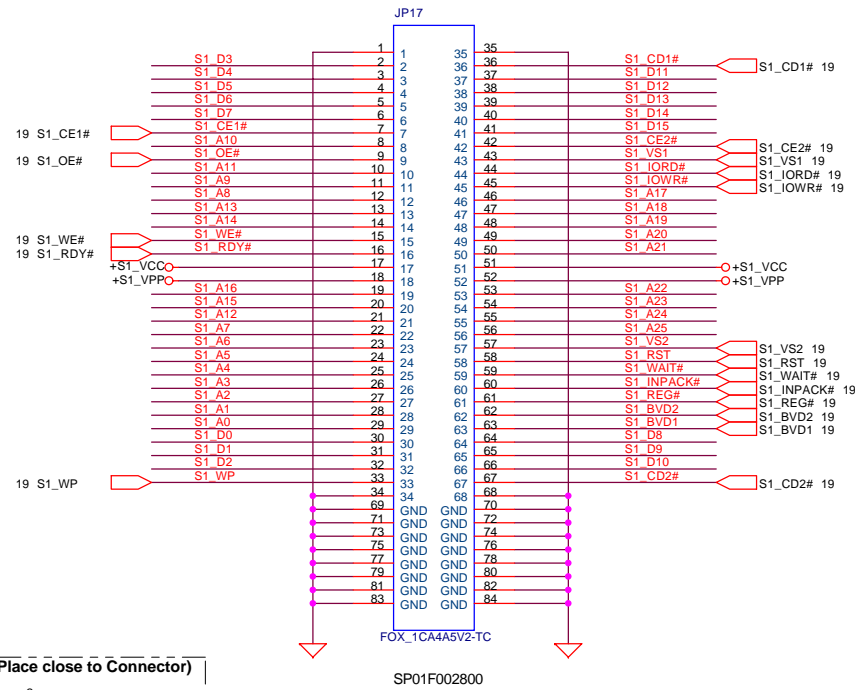


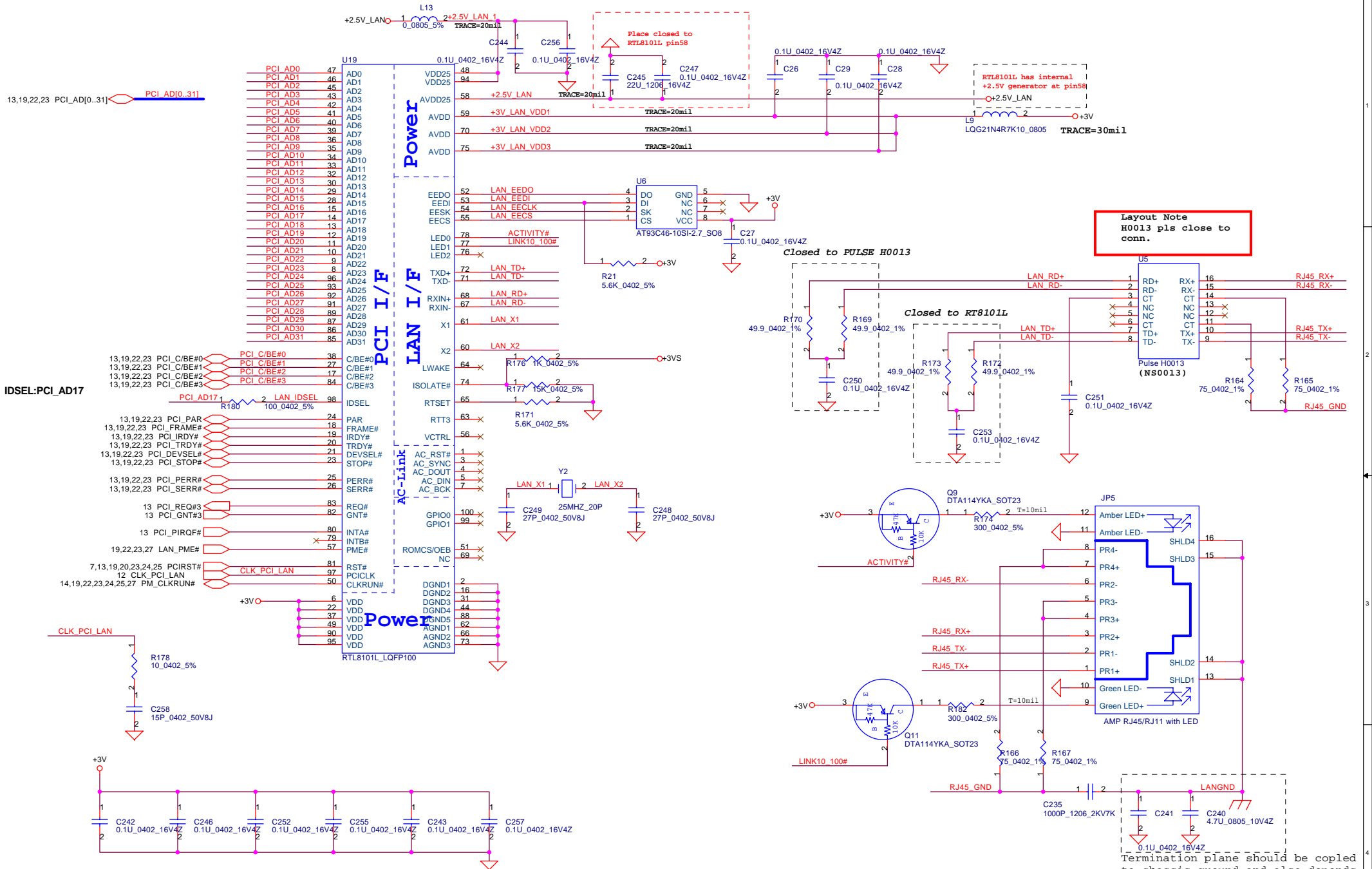
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PCMCIA Power Controller



CardBus Socket





13,19,22,23 PCI_AD[0..31] PCI_AD[0..31]

IDSEL:PCI_AD17

PCI_AD0	47	AD0	VDD25
PCI_AD1	46	AD1	VDD25
PCI_AD2	45	AD2	AVDD25
PCI_AD3	43	AD3	AVDD
PCI_AD4	42	AD4	AVDD
PCI_AD5	41	AD5	AVDD
PCI_AD6	40	AD6	AVDD
PCI_AD7	39	AD7	AVDD
PCI_AD8	36	AD8	AVDD
PCI_AD9	35	AD9	AVDD
PCI_AD10	34	AD10	AVDD
PCI_AD11	33	AD11	AVDD
PCI_AD12	32	AD12	AVDD
PCI_AD13	30	AD13	AVDD
PCI_AD14	29	AD14	AVDD
PCI_AD15	28	AD15	AVDD
PCI_AD16	15	AD16	AVDD
PCI_AD17	14	AD17	AVDD
PCI_AD18	13	AD18	AVDD
PCI_AD19	11	AD19	AVDD
PCI_AD20	10	AD20	AVDD
PCI_AD21	9	AD21	AVDD
PCI_AD22	8	AD22	AVDD
PCI_AD23	8	AD23	AVDD
PCI_AD24	93	AD24	AVDD
PCI_AD25	92	AD25	AVDD
PCI_AD26	92	AD26	AVDD
PCI_AD27	91	AD27	AVDD
PCI_AD28	89	AD28	AVDD
PCI_AD29	87	AD29	AVDD
PCI_AD30	86	AD30	AVDD
PCI_AD31	85	AD31	AVDD

13,19,22,23	PCI_C/BE#0	PCI_C/BE#0	38
13,19,22,23	PCI_C/BE#1	PCI_C/BE#1	27
13,19,22,23	PCI_C/BE#2	PCI_C/BE#2	17
13,19,22,23	PCI_C/BE#3	PCI_C/BE#3	84

13,19,22,23	PCI_PAR	24
13,19,22,23	PCI_FRAME#	18
13,19,22,23	PCI_IRDY#	19
13,19,22,23	PCI_TRDY#	20
13,19,22,23	PCI_DEVSEL#	21
13,19,22,23	PCI_STOP#	23

13,19,22,23	PCI_PERR#	25
13,19,22,23	PCI_SERR#	26

13	PCI_REQ#3	83
13	PCI_GNT#3	82

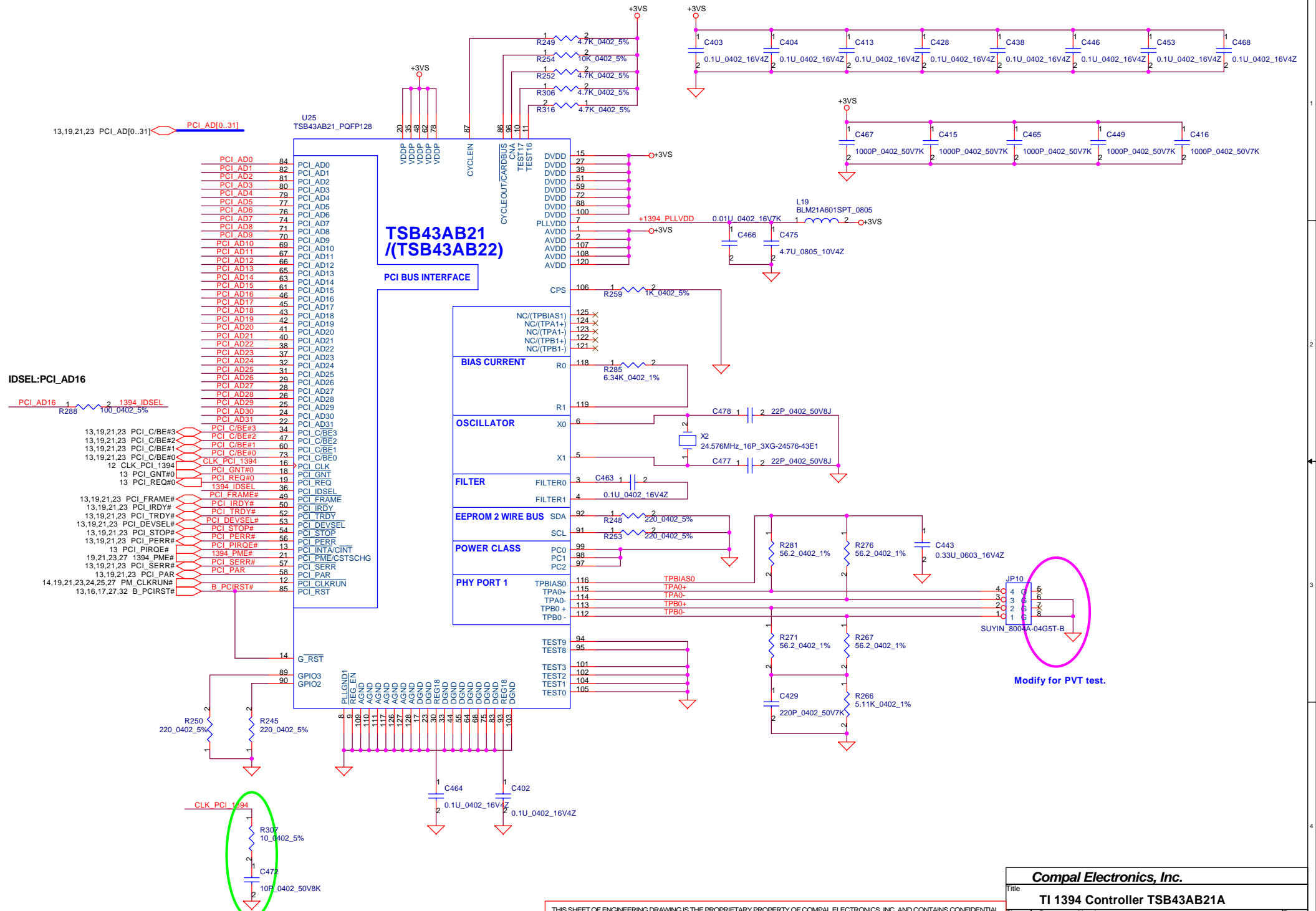
13	PCI_PIRQF#	80
19,22,23,27	LAN_PME#	57

7,13,19,20,23,24,25	PCIRST#	81
12	CLK_PCI_LAN	97
14,19,22,23,24,25,27	PM_CLKRUN#	50

24	PAR	FRAME#	VCTRL
21	TRDY#	DEVSEL#	STOP#
25	PERR#	AC_RST#	AC_SYNC
26	SERR#	AC_DOUT	AC_DIN
83	REQ#	GPIO0	GPIO1
82	GNT#	GPIO0	GPIO1
80	INTA#	GPIO0	GPIO1
79	INTB#	GPIO0	GPIO1
57	PME#	ROMCS/OEB	NC
81	RST#	AC_RST#	AC_SYNC
97	PCICLK	AC_DOUT	AC_DIN
50	CLKRUN#	AC_DIN	AC_DOUT

2	DGND1	16	DGND2
31	DGND3	44	DGND4
88	DGND5	62	DGND6
66	AGND1	73	AGND2
73	AGND3		

Compal Electronics, Inc.			
Title	LAN REALTEK RTL8101L		
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- 13,19,21,23 PCI_AD[0..31]
- ISSEL:PCI_AD16
- 13,19,21,23 PCI_C/BE#3
- 13,19,21,23 PCI_C/BE#2
- 13,19,21,23 PCI_C/BE#1
- 13,19,21,23 PCI_C/BE#0
- 12 CLK_PCI_1394
- 13 PCI_GNT#0
- 13 PCI_REQ#0
- 13,19,21,23 PCI_FRAME#
- 13,19,21,23 PCI_IRDY#
- 13,19,21,23 PCI_TRDY#
- 13,19,21,23 PCI_DEVSEL#
- 13,19,21,23 PCI_STOP#
- 13,19,21,23 PCI_PERR#
- 13 PCI_PIRQE#
- 19,21,23,27 1394 PME#
- 13,19,21,23 PCI_SERR#
- 13,19,21,23 PCI_PAR#
- 14,19,21,23,24,25,27 PM_CLKRUN#
- 13,16,17,27,32 B_PCIRST#

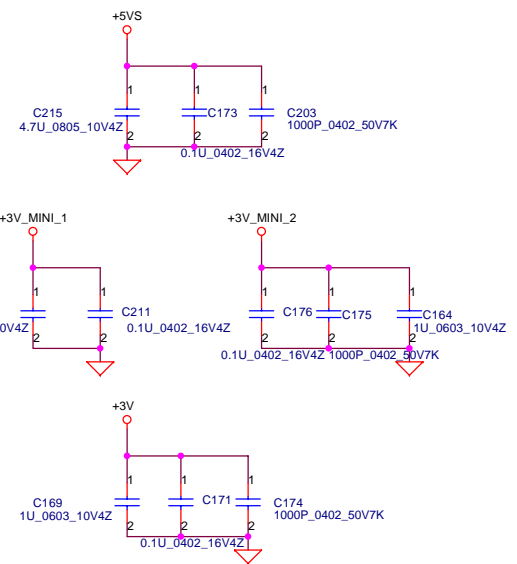
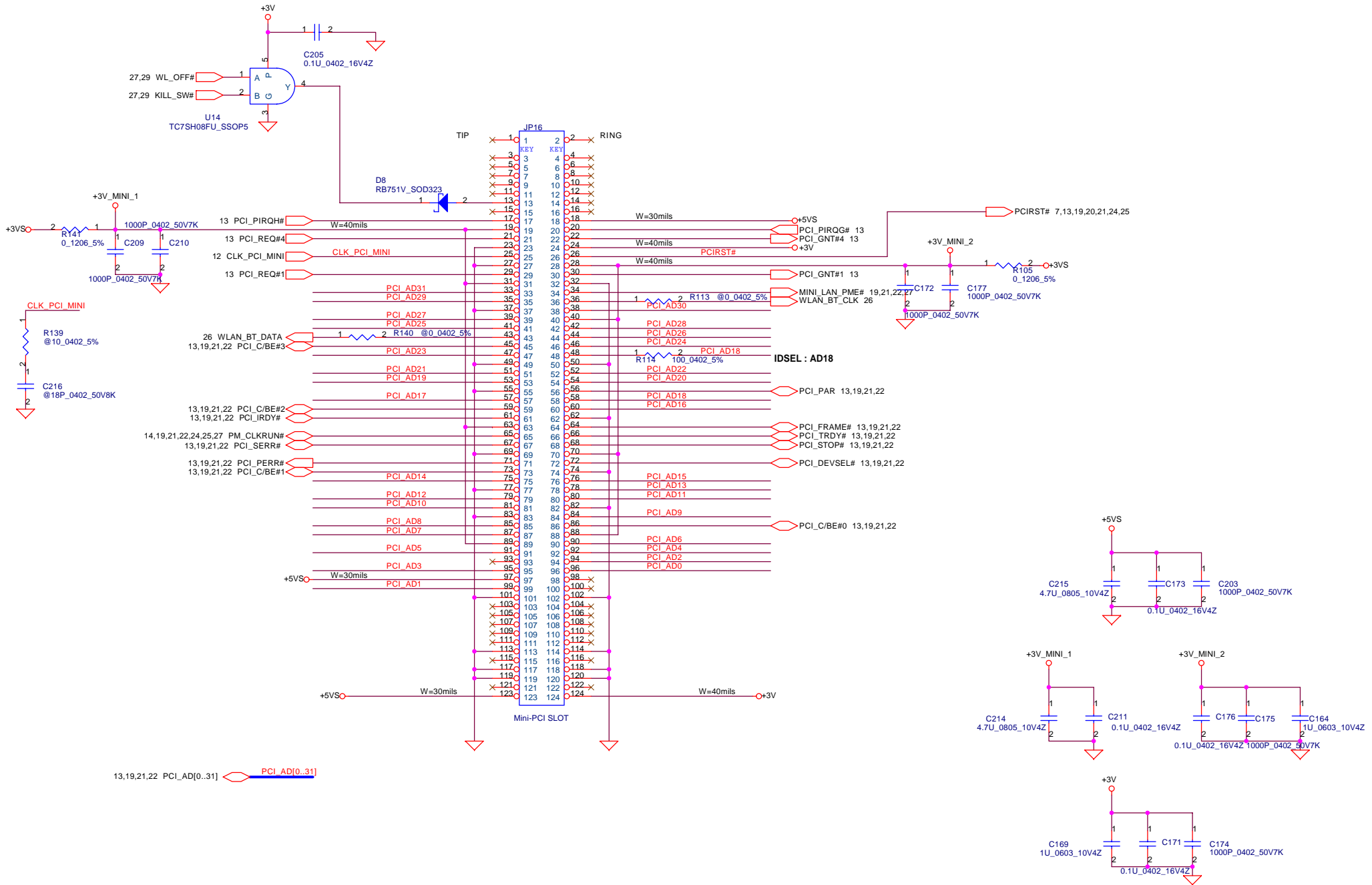
U25 TSB43AB21_PQFP128

PCI_AD0	84	PCI_AD0	15
PCI_AD1	82	PCI_AD1	27
PCI_AD2	81	PCI_AD2	39
PCI_AD3	80	PCI_AD3	51
PCI_AD4	79	PCI_AD4	59
PCI_AD5	77	PCI_AD5	72
PCI_AD6	76	PCI_AD6	88
PCI_AD7	74	PCI_AD7	100
PCI_AD8	71	PCI_AD8	7
PCI_AD9	70	PCI_AD9	2
PCI_AD10	69	PCI_AD10	107
PCI_AD11	67	PCI_AD11	108
PCI_AD12	66	PCI_AD12	120
PCI_AD13	65	PCI_AD13	
PCI_AD14	63	PCI_AD14	
PCI_AD15	61	PCI_AD15	
PCI_AD16	46	PCI_AD16	
PCI_AD17	45	PCI_AD17	
PCI_AD18	43	PCI_AD18	
PCI_AD19	42	PCI_AD19	
PCI_AD20	41	PCI_AD20	
PCI_AD21	40	PCI_AD21	
PCI_AD22	38	PCI_AD22	
PCI_AD23	37	PCI_AD23	
PCI_AD24	32	PCI_AD24	
PCI_AD25	31	PCI_AD25	
PCI_AD26	29	PCI_AD26	
PCI_AD27	28	PCI_AD27	
PCI_AD28	28	PCI_AD28	
PCI_AD29	25	PCI_AD29	
PCI_AD30	24	PCI_AD30	
PCI_AD31	22	PCI_AD31	
PCI_C/BE#3	34	PCI_C/BE3	
PCI_C/BE#2	47	PCI_C/BE2	
PCI_C/BE#1	60	PCI_C/BE1	
PCI_C/BE#0	73	PCI_C/BE0	
CLK_PCI_1394	16	PCI_CLK	
PCI_GNT#0	18	PCI_GNT	
PCI_REQ#0	19	PCI_REQ	
1394 ISSEL	36	PCI_IDSEL	
PCI_FRAME#	49	PCI_FRAME	
PCI_IRDY#	50	PCI_IRDY	
PCI_TRDY#	52	PCI_TRDY	
PCI_DEVSEL#	53	PCI_DEVSEL	
PCI_STOP#	54	PCI_STOP	
PCI_PERR#	56	PCI_PERR	
PCI_PIRQE#	13	PCI_INTA/CINT	
1394 PME#	21	PCI_PME/CSTSCSCHG	
PCI_SERR#	57	PCI_SERR	
PCI_PAR#	58	PCI_PAR	
PCI_CLKRUN#	12	PCI_CLKRUN	
PCI_RST	85	PCI_RST	

- BIAS CURRENT
- OSCILLATOR
- FILTER
- EEPROM 2 WIRE BUS
- POWER CLASS
- PHY PORT 1
- TEST9
- TEST8
- TEST3
- TEST2
- TEST1
- TEST0

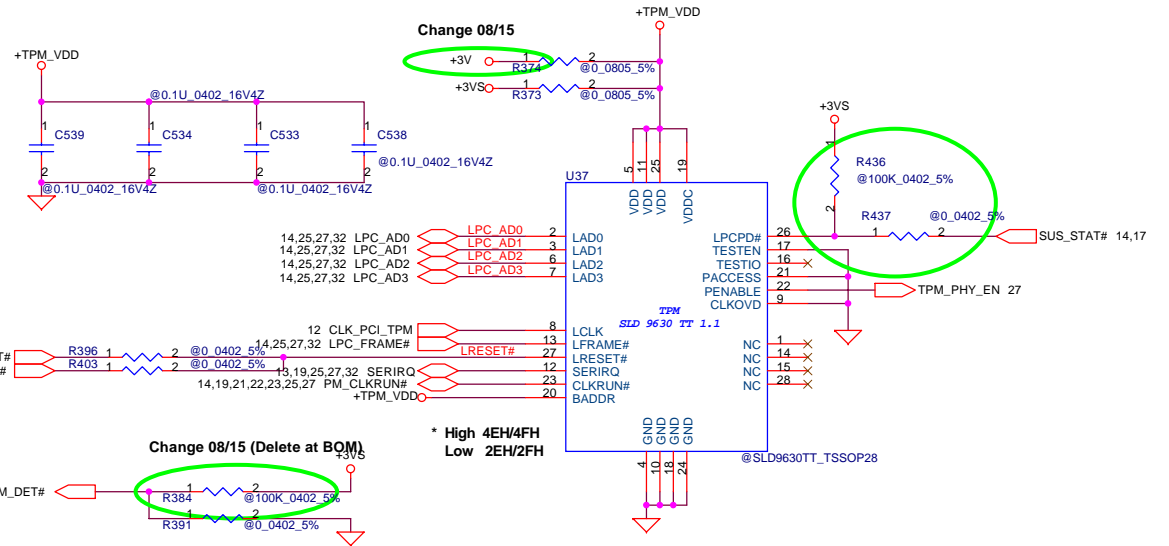
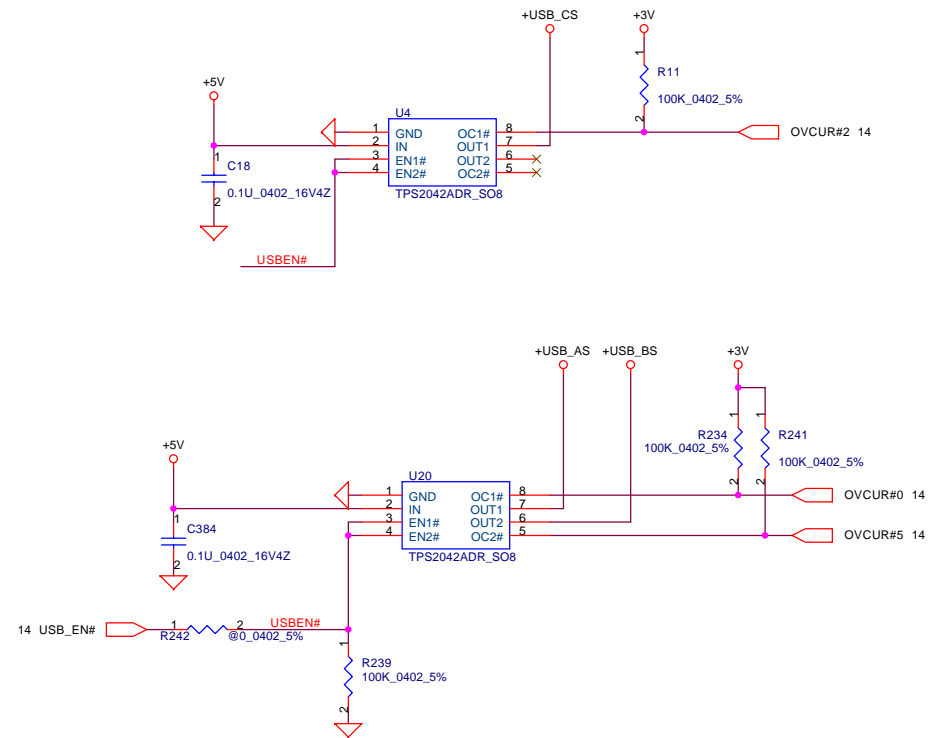
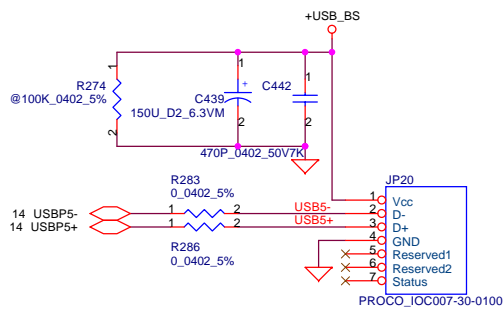
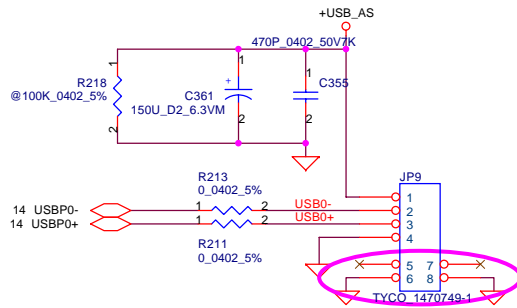
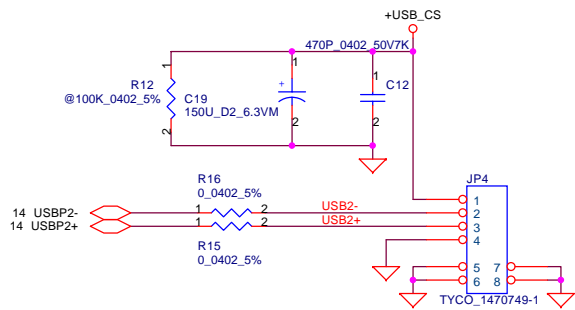
Compal Electronics, Inc.			
Title	TI 1394 Controller TSB43AB21A		
Size	Document Number	Rev	0.3
Custom	DAT20 LA-1971		
Date:	Friday, September 26, 2003	Sheet	22 of 42

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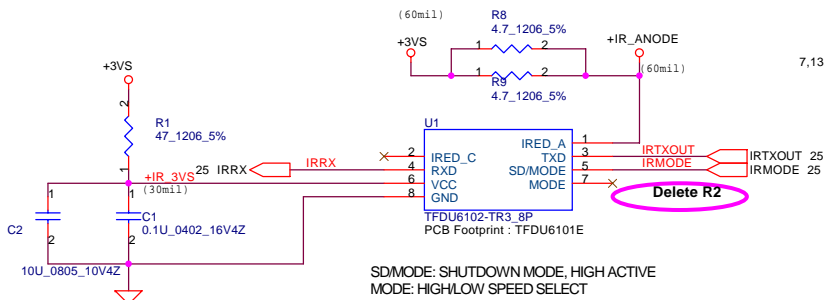


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Compal Electronics, Inc. Mini PCI Slot		
Title	Mini PCI Slot	
Size	Document Number	Rev
Custom	DAT20 LA-1971	0.3
Date:	Friday, September 26, 2003	Sheet 23 of 42



FIR Module

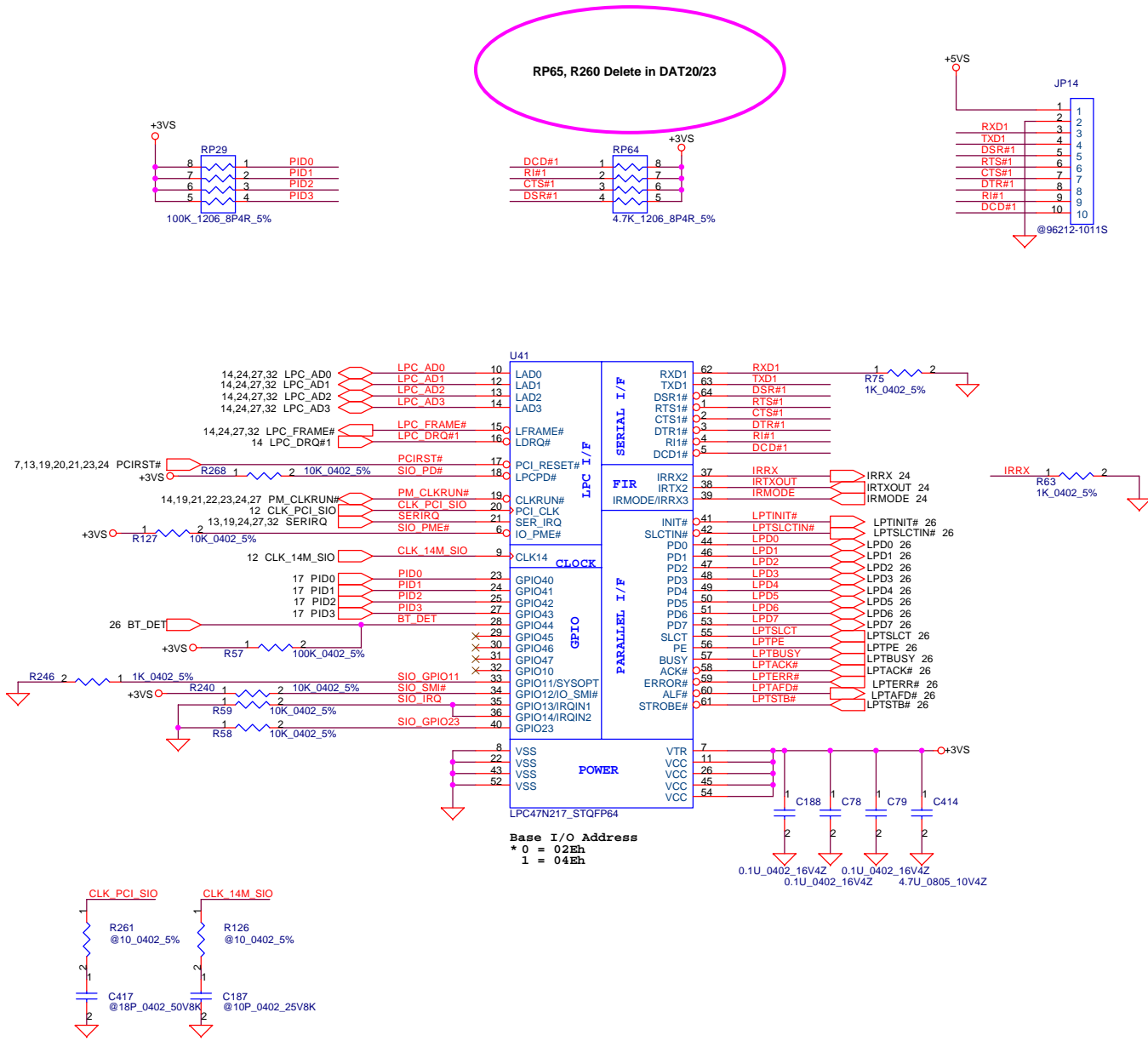


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Compal Electronics, Inc.		
USB / FIR / TPM		
Size	Document Number	Rev
Custom	DAT20 LA-1971	0.3
Date:	Friday, September 26, 2003	Sheet 24 of 42

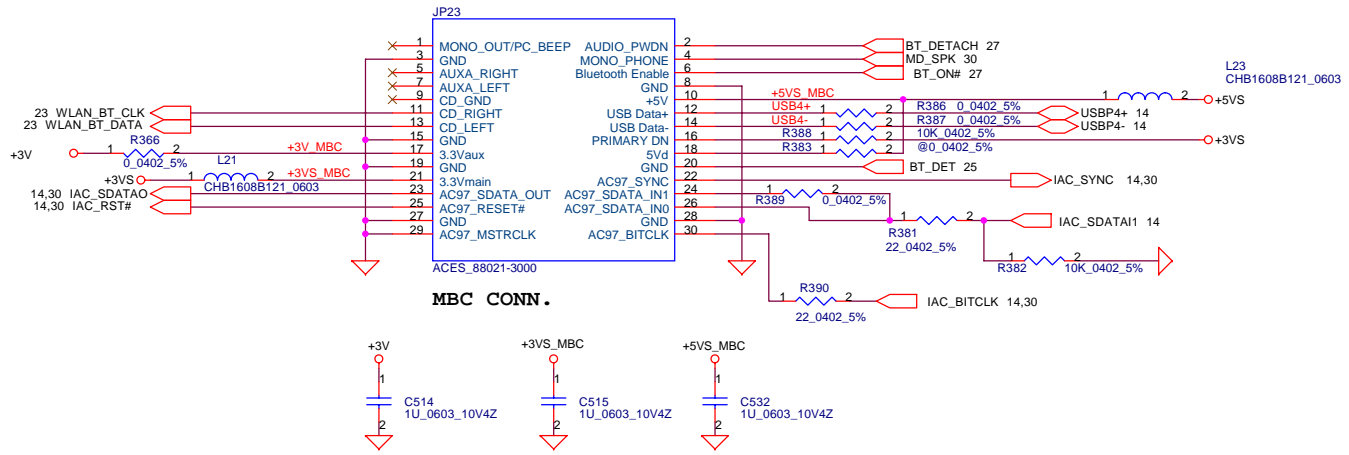
SUPER I/O SMC LPC47N217

RP65, R260 Delete in DAT20/23

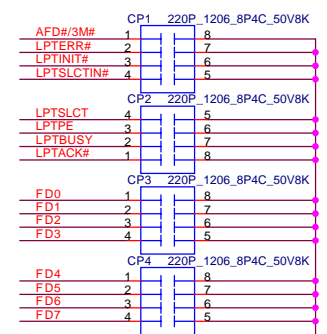
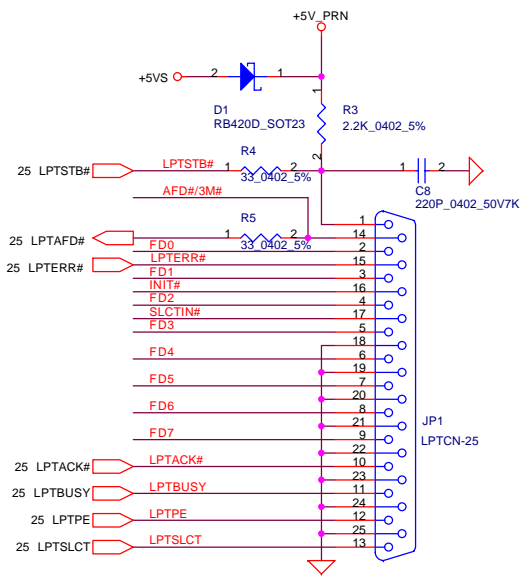
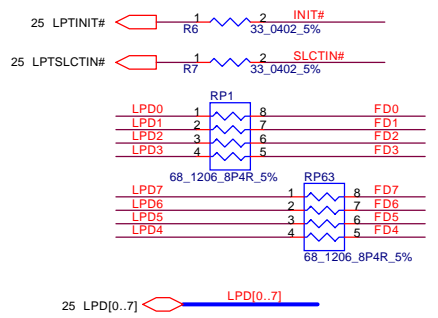
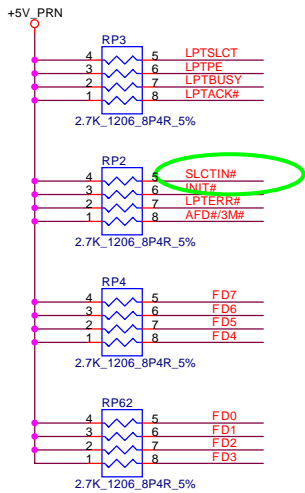


Compal Electronics, Inc.		
Title SUPER I/O LPC47N217		
Size Custom	Document Number DAT20 LA-1971	Rev 0.3
Date: Friday, September 26, 2003	Sheet 25	of 42

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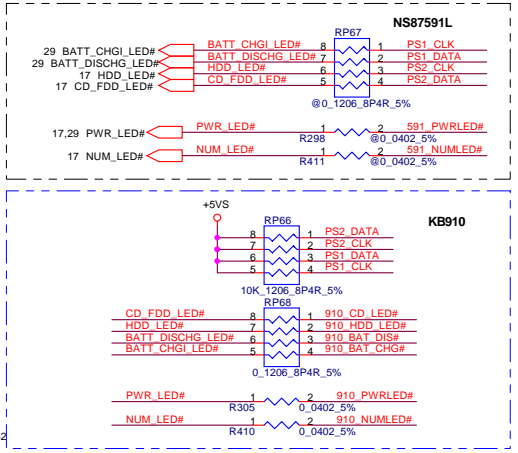
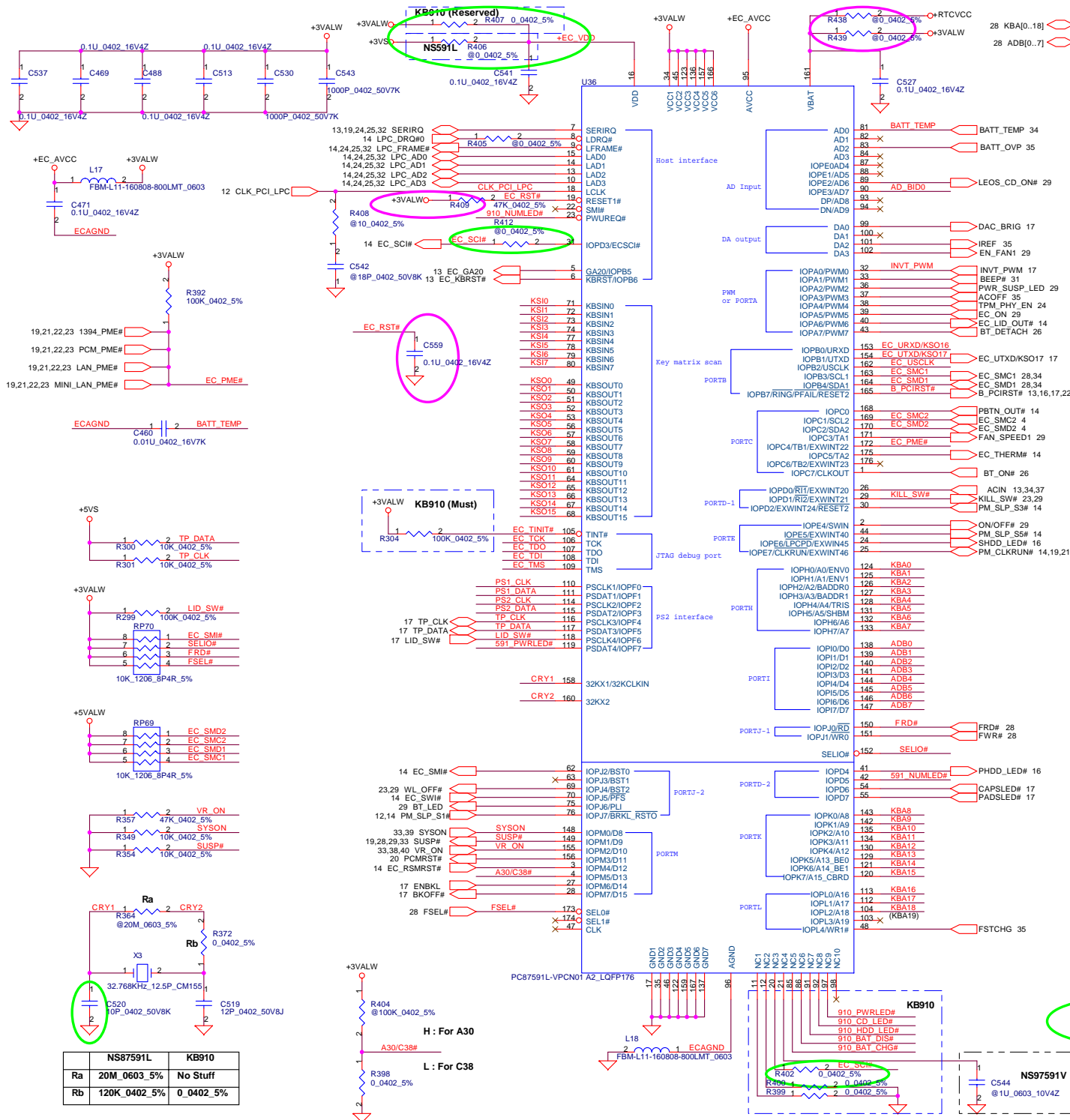


PARALLEL PORT



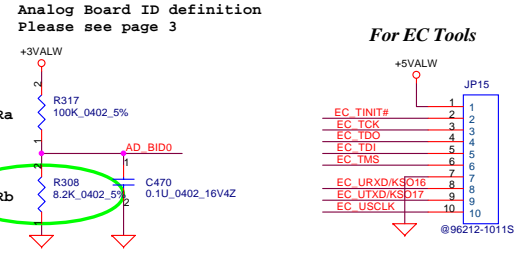
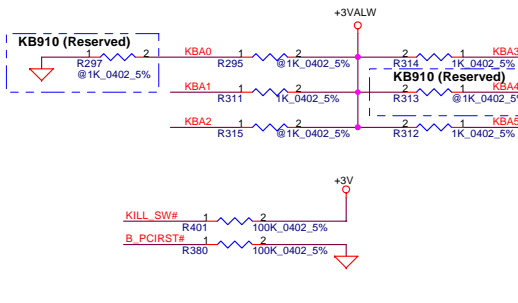
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Compal Electronics, Inc. Title: PARALLEL / MDC PORT		
Size: Custom	Document Number: DAT20 LA-1971	Rev: 0.3
Date: Friday, September 26, 2003	Sheet: 26	of 42



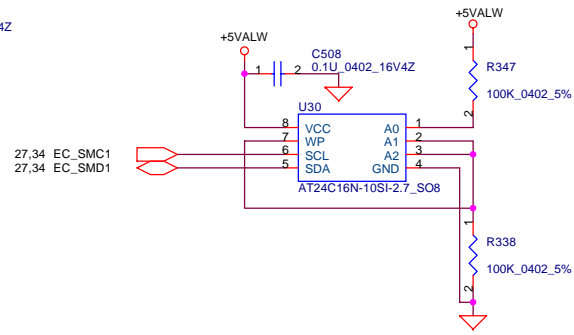
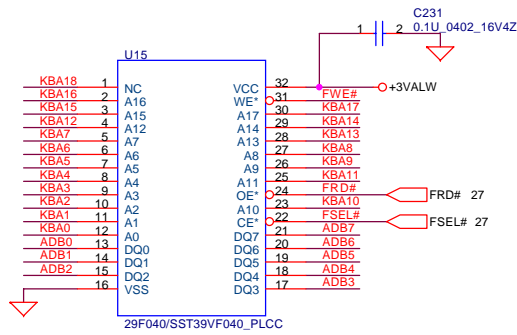
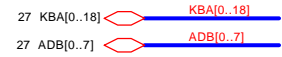
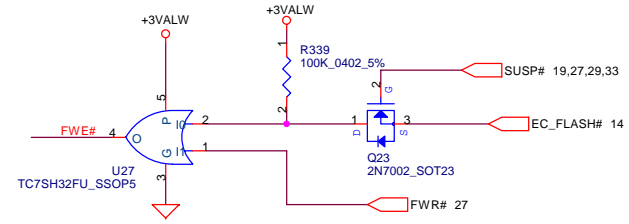
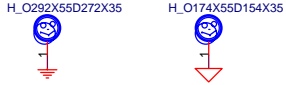
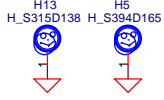
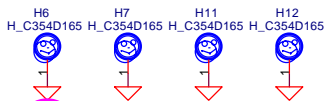
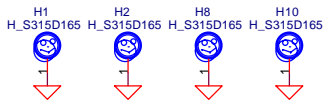
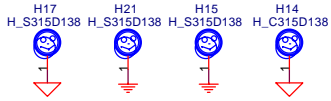
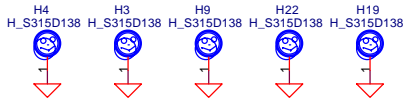
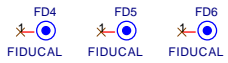
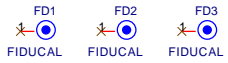
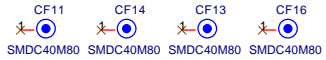
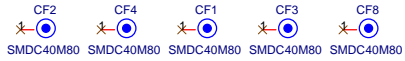
I/O Address			
BADDR1 (KBA3)	BADDR0 (KBA2)	Index	Data
0	0	2E	2F
0	1	4E	4F
* 1	0	(HCFGBAH, HCFGBAL)	(HCFGBAH, HCFGBAL)+1
Reserved			
ENV0 (KBA0) ENV1 (KBA1) TRIS (KBA4)			
IRE	0	0	0
OBDD	0	1	0
DEVY	1	0	0
PROG	1	1	0

SBHM(KBA5)=1: Enable shared memory with host BIOS
 TRIS(KBA4)=1: While in IRE and OBD, float all the signals for clip-on ISE use



	NS87591L	KB910
Ra	20M_0603_5%	No Stuff
Rb	120K_0402_5%	0_0402_5%

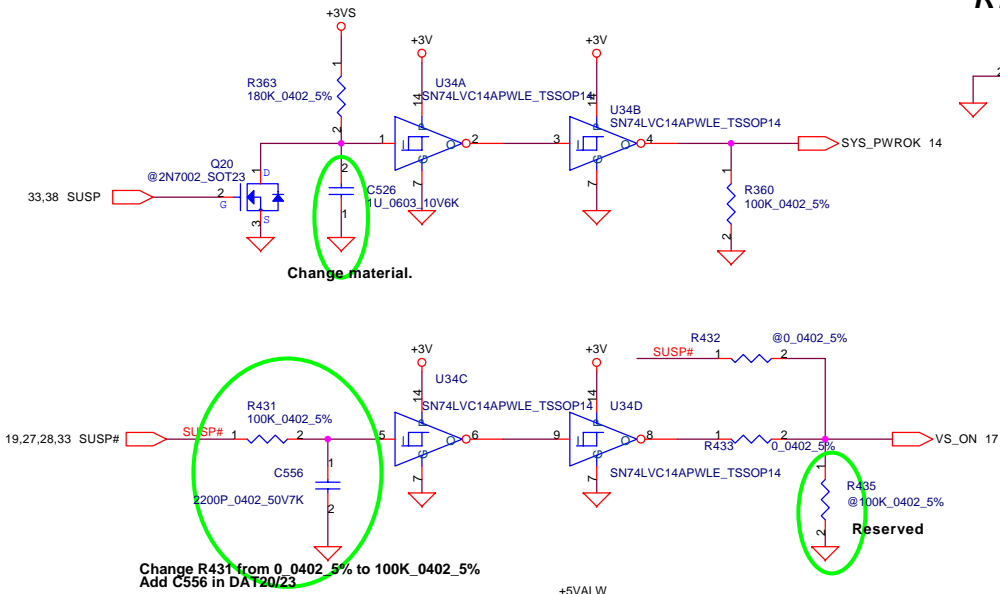
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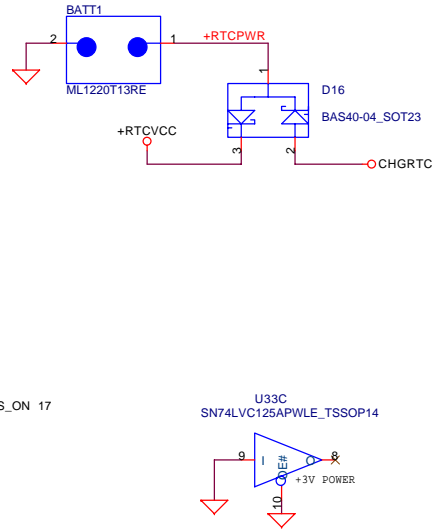
Compal Electronics, Inc.		
Title BIOS & EXT. I/O PORT		
Size Custom	Document Number DAT20 LA-1971	Rev 0.3
Date: Friday, September 26, 2003	Sheet 28	of 42

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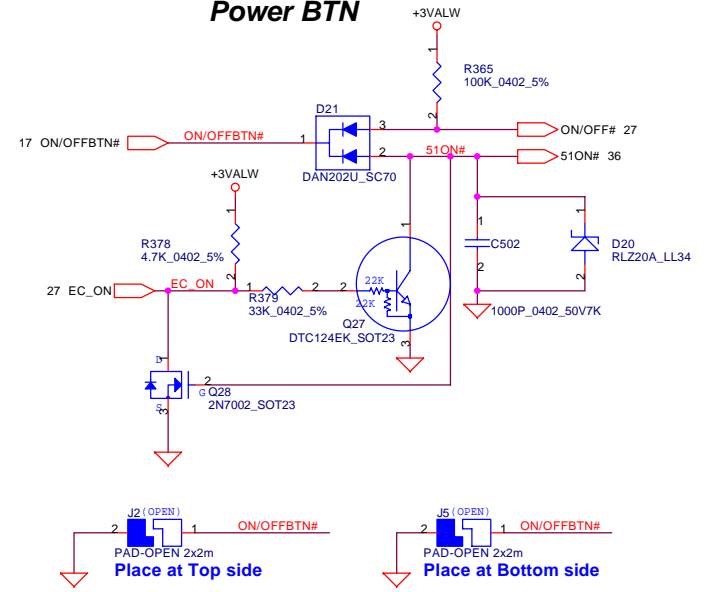
Power ON Circuit



RTC Battery

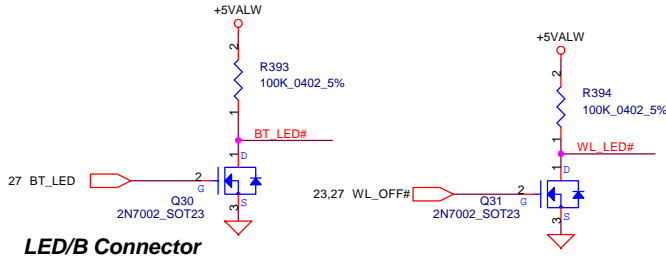


Power BTN

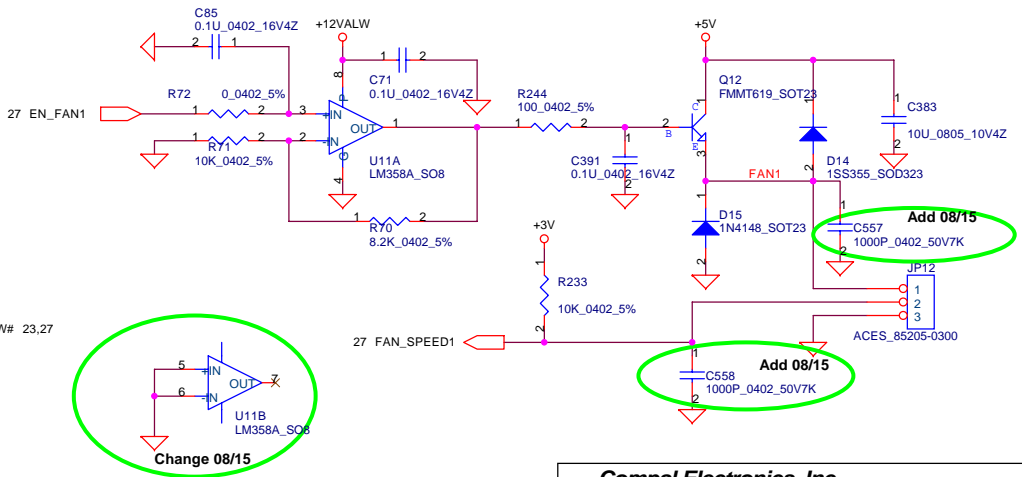


LED INDICATOR	C38	30
PWR	Blue	Green
PWR_SUSP	AMB	AMB
BATT_CHGI	Blue	Green
BATT_DISCHG	AMB	AMB
WL_LED	Blue	Green
BT_LED	AMB	AMB
SD_LED	None	Green

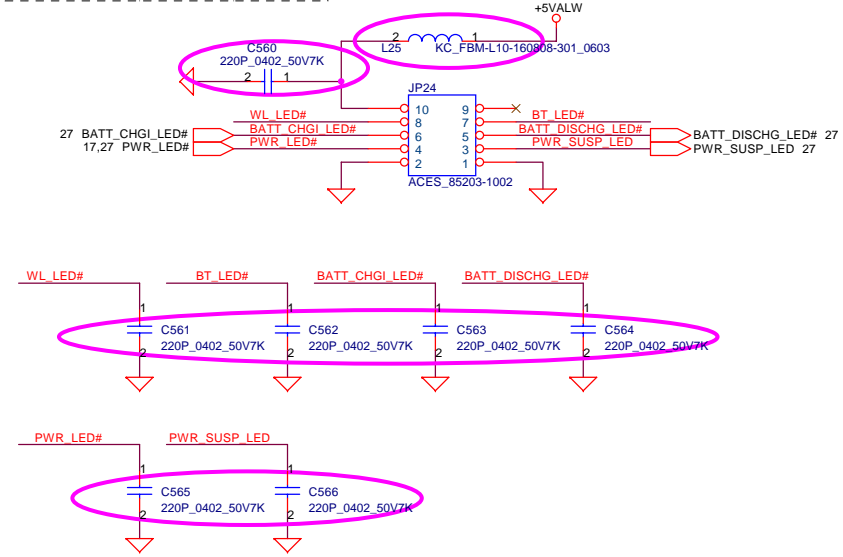
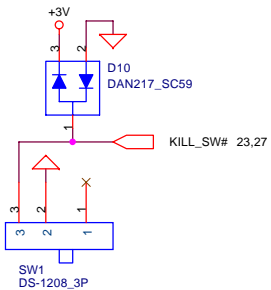
LED/B Connector



Fan Control circuit



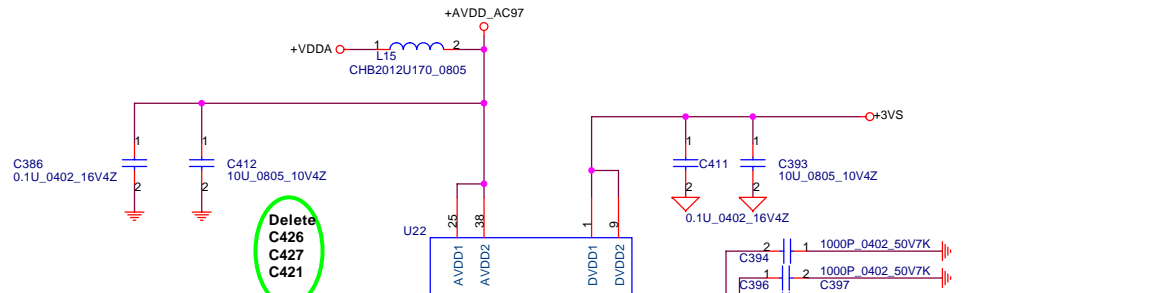
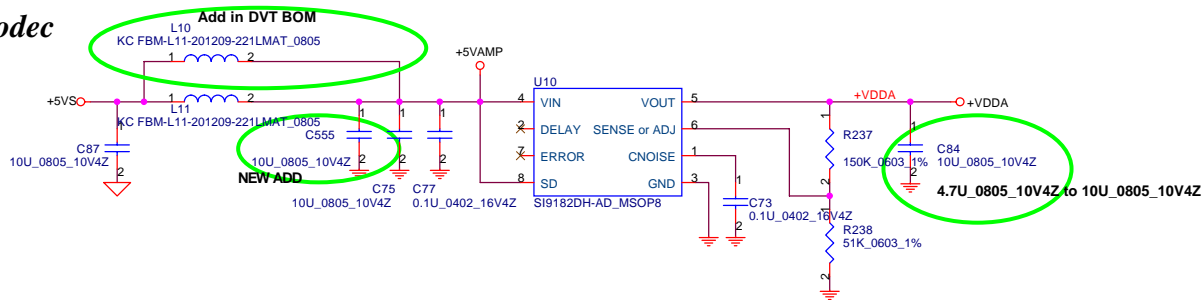
KILL_Switch



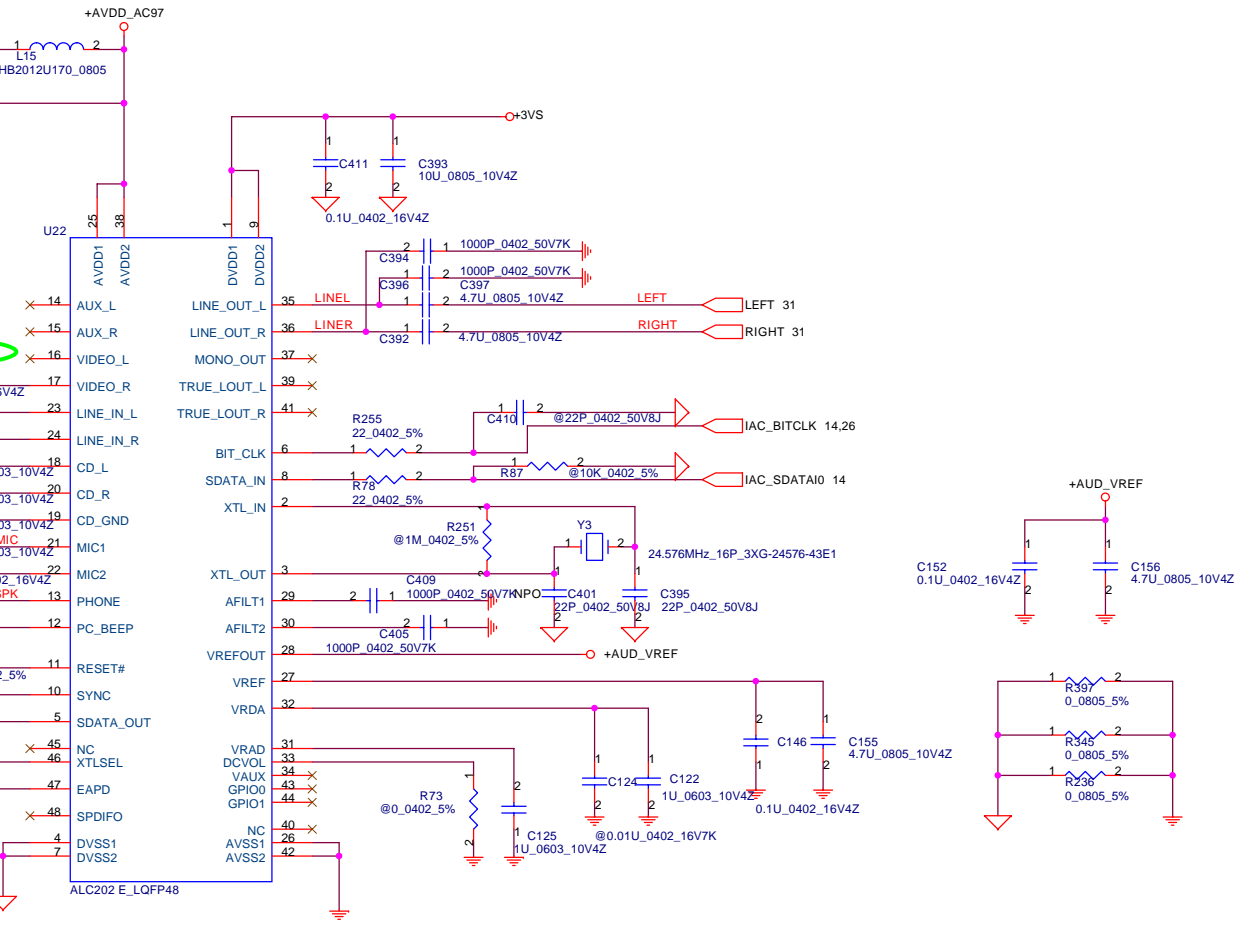
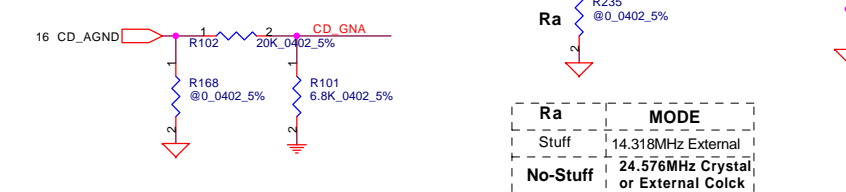
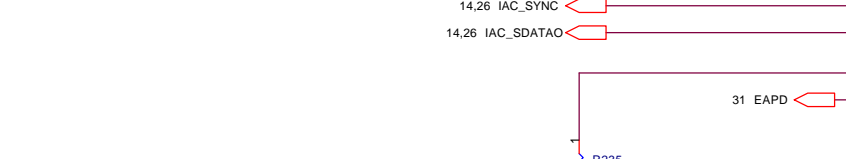
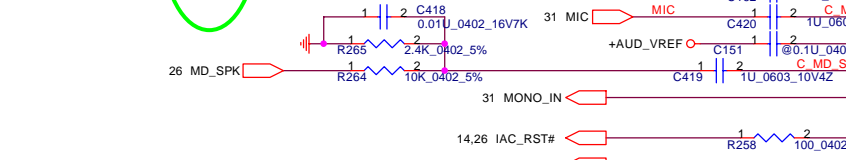
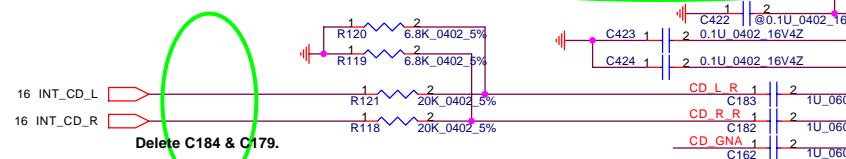
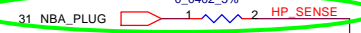
Compal Electronics, Inc.		
Title	Power OK/Reset/RTC battery	
Size	Document Number	Rev
Custom	DAT20 LA-1971	0.3
Date:	Friday, September 26, 2003	Sheet 29 of 42

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AC97 Codec

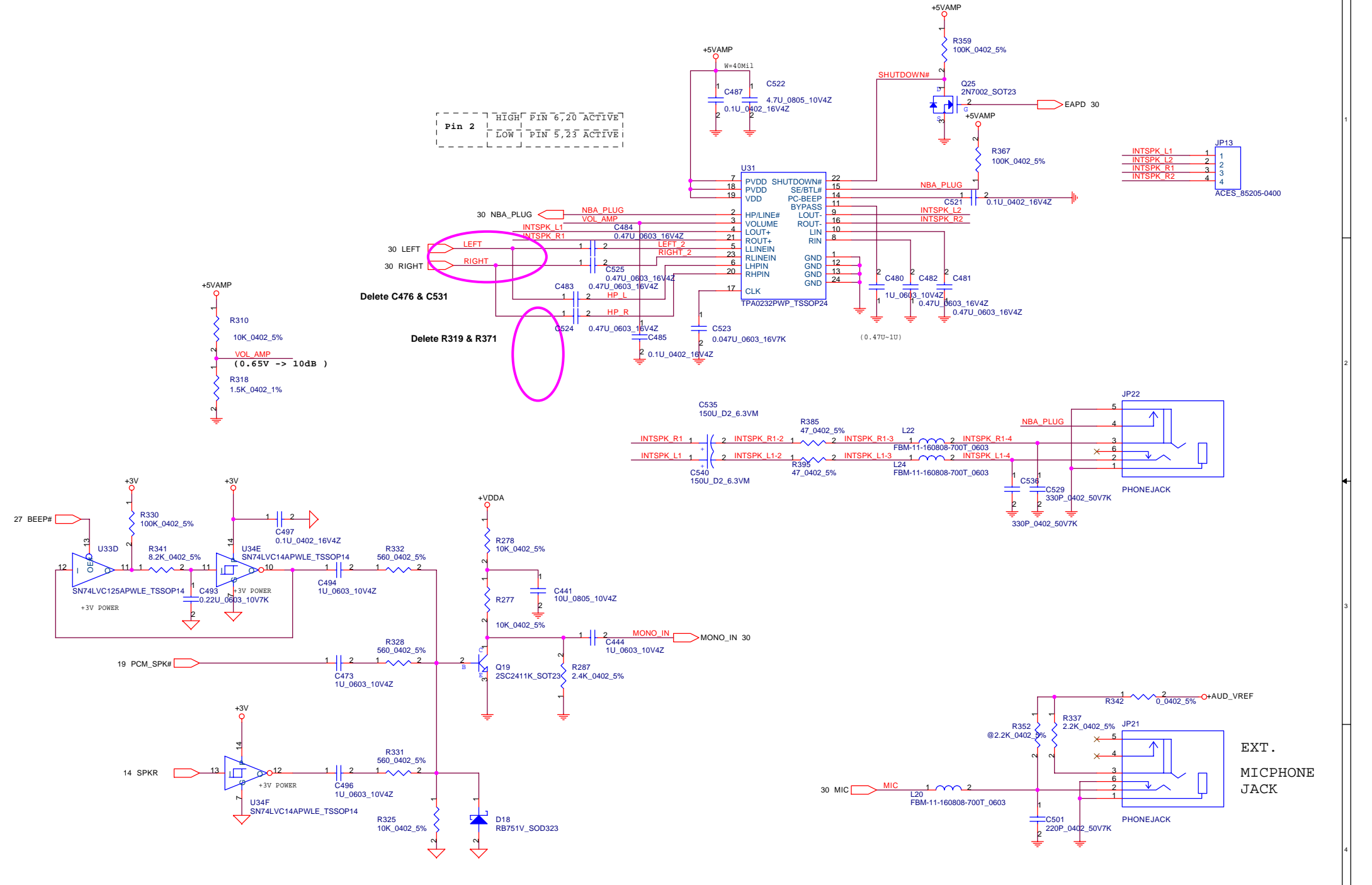


Reserved for ALC250 disable HW EQ when Headphone plug. **NEW ADD**



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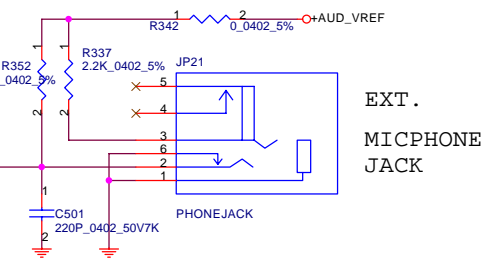
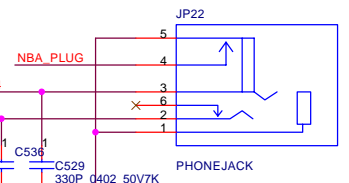
Pin 2 HIGH PIN 6, 20 ACTIVE
LOW PIN 5, 23 ACTIVE



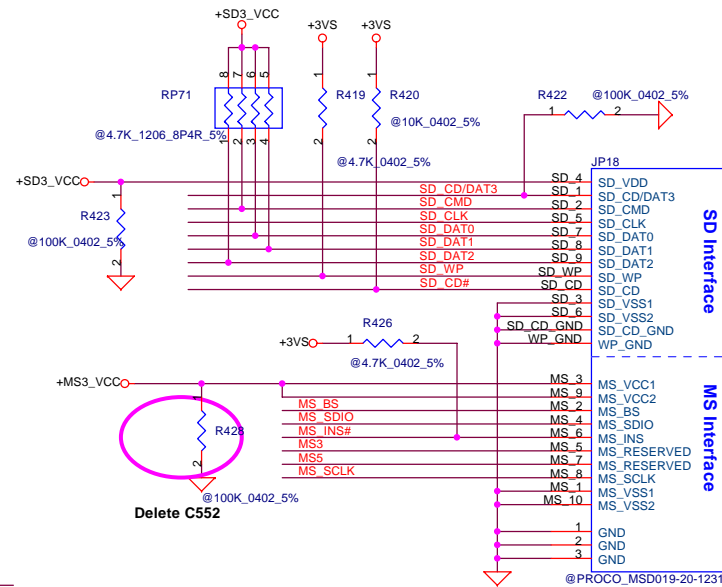
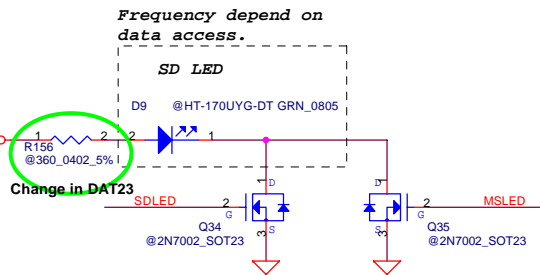
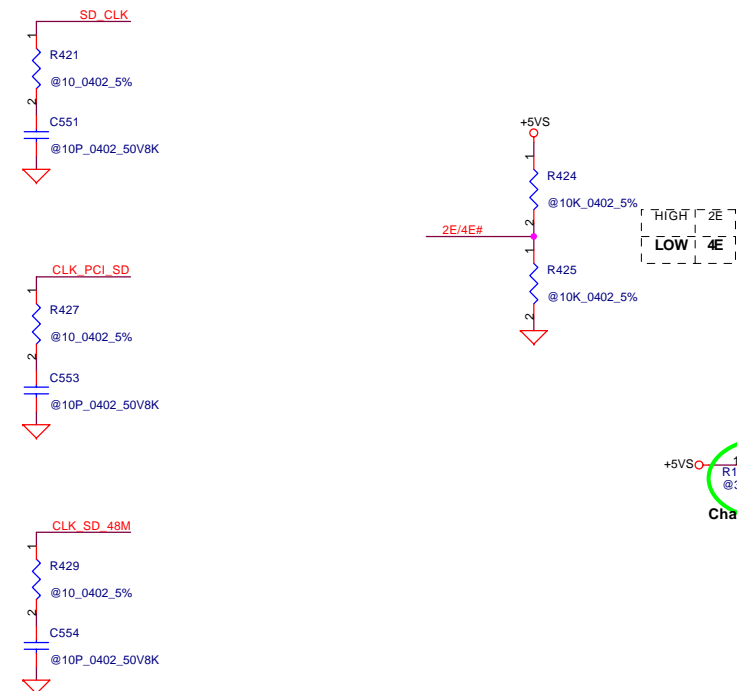
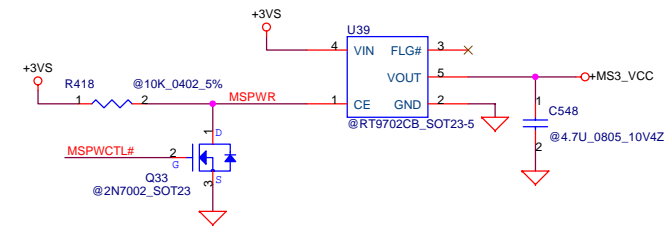
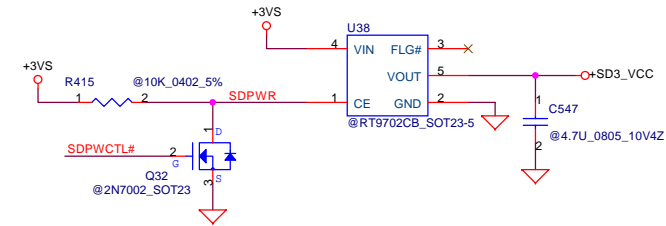
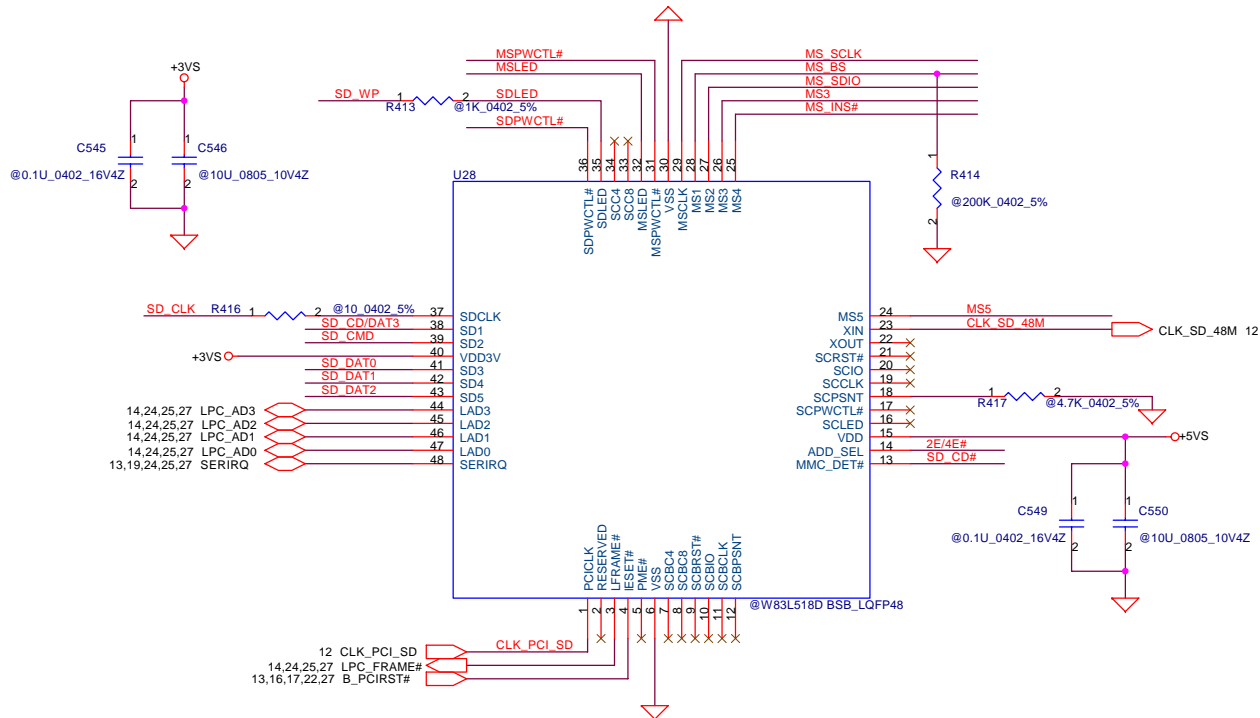
JP13

INTSPK L1	1	1
INTSPK L2	2	2
INTSPK R1	3	3
INTSPK R2	4	4

ACES_85205-0400



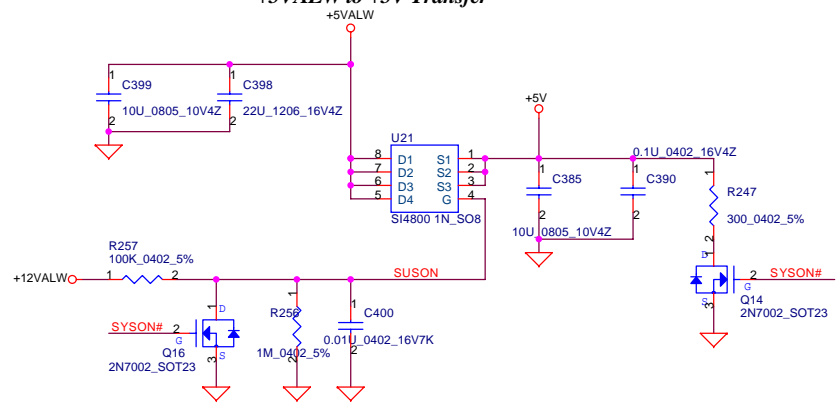
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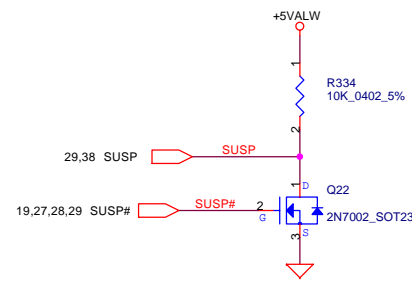
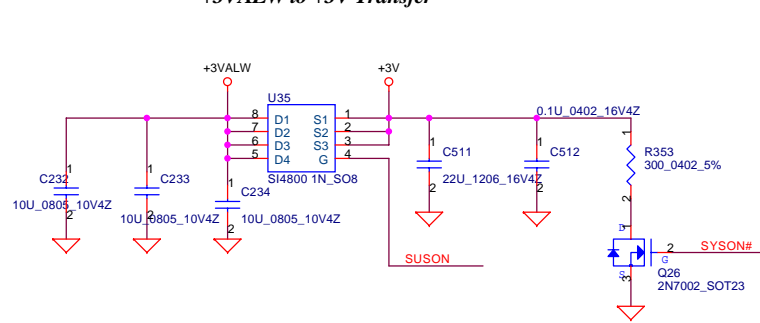
Compal Electronics, Inc.			
Title MS/SD/MMC Winbond W83L518D			
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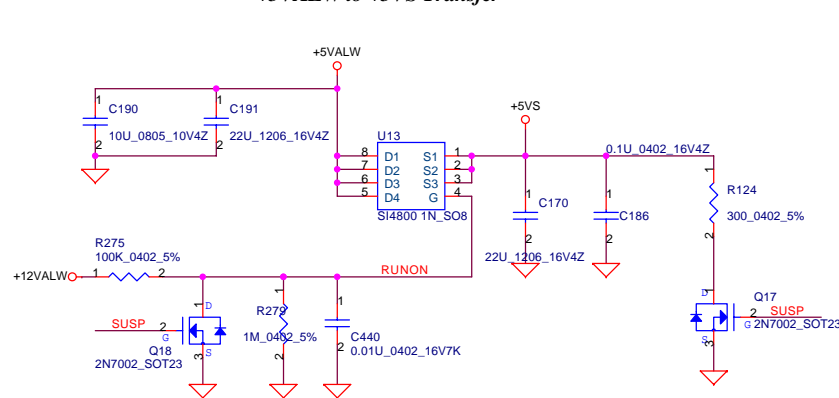
+5VALW to +5V Transfer



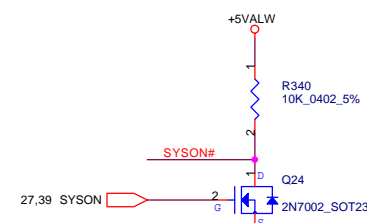
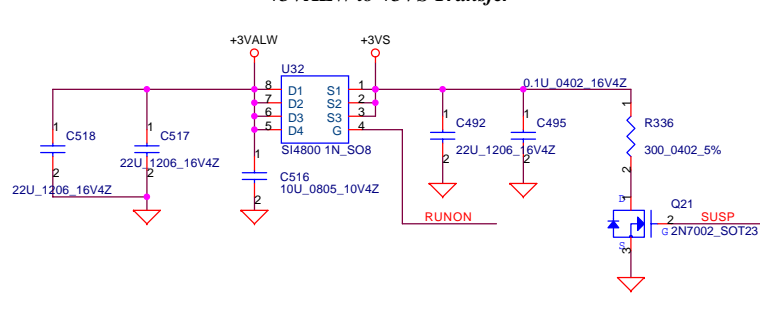
+3VALW to +3V Transfer



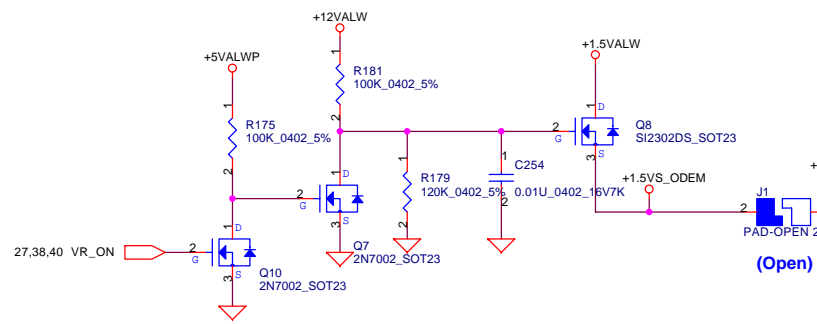
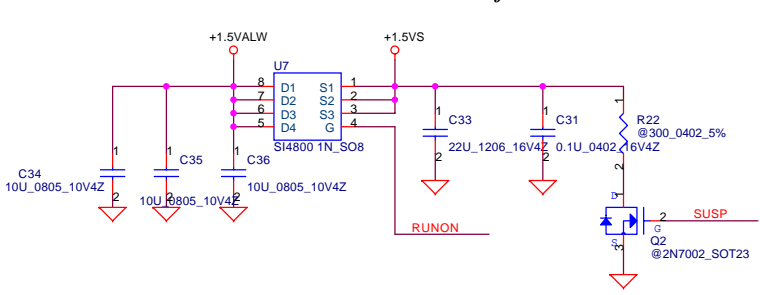
+5VALW to +5VS Transfer



+3VALW to +3VS Transfer



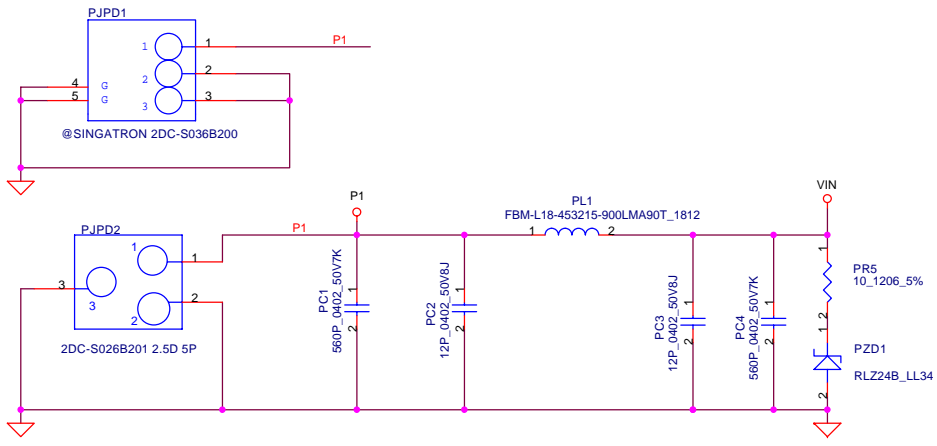
+1.5VALW to +1.5VS Transfer



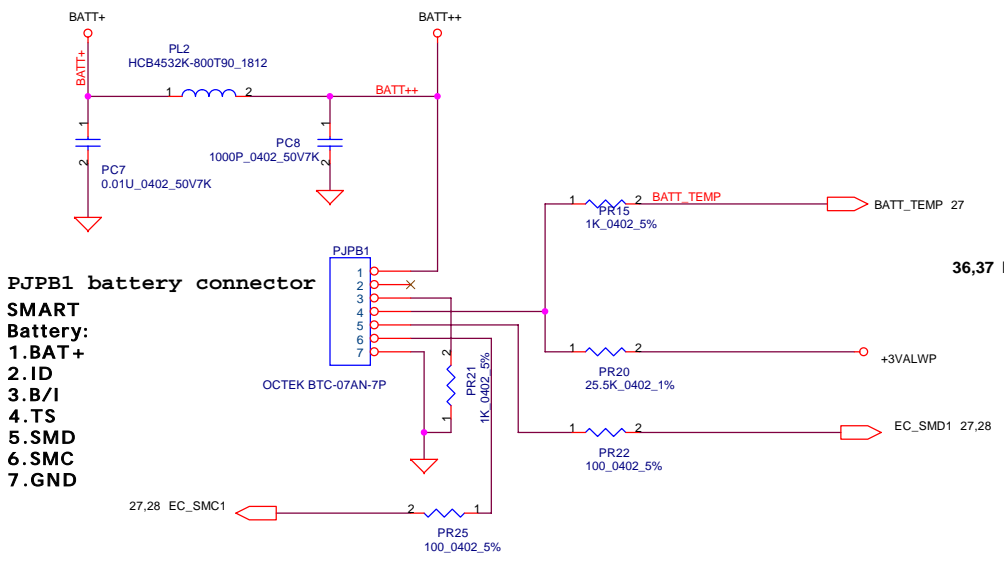
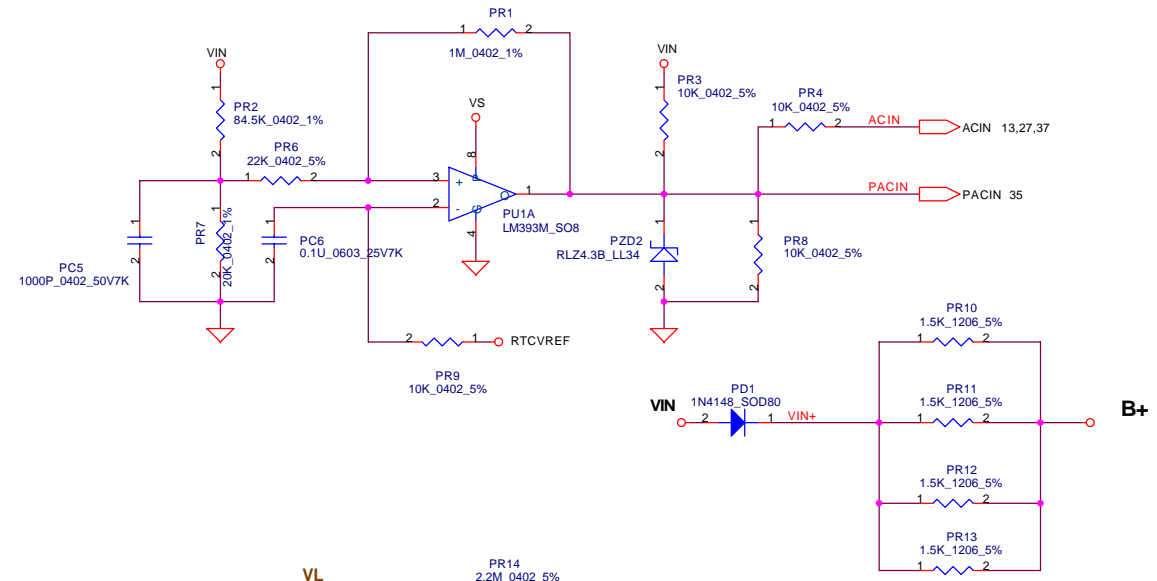
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Compal Electronics, Inc.		
Title	DC/DC Circuit Interface	
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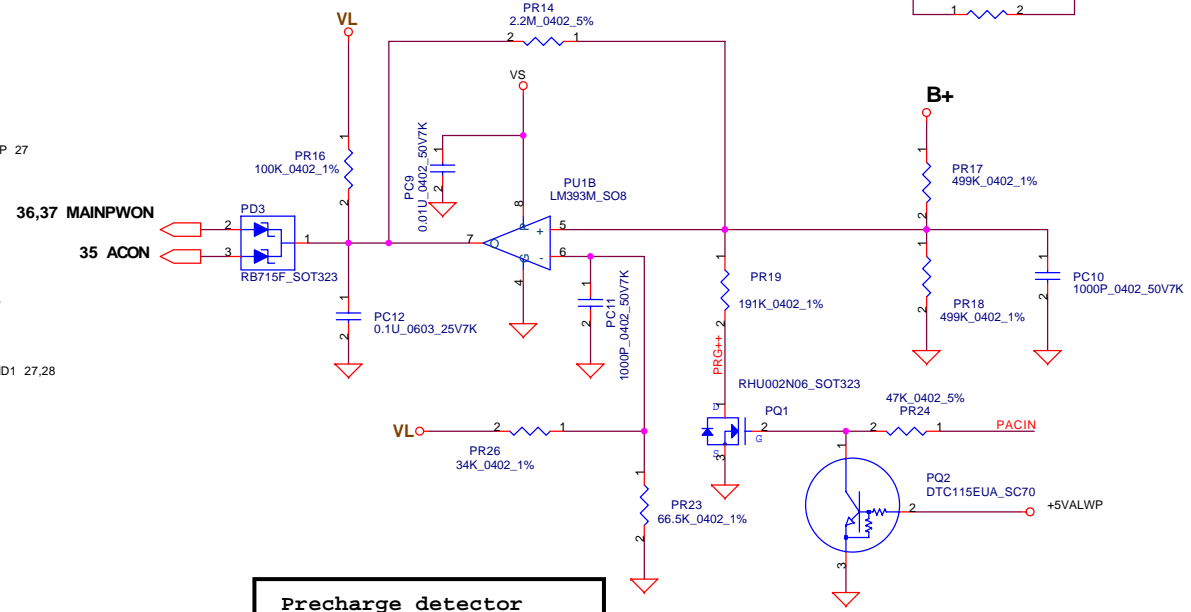
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**Vin Detector
17.90V/17.24V**

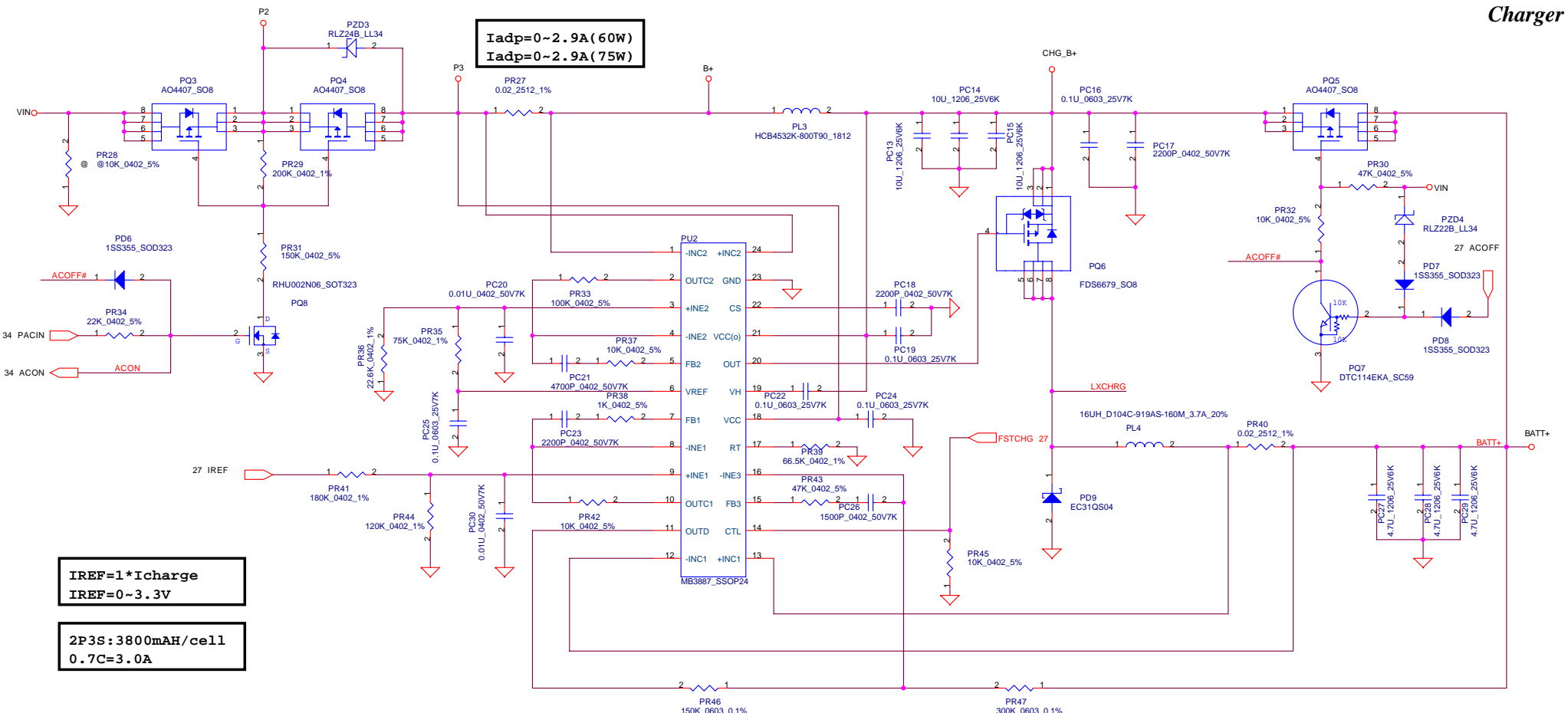


PJPB1 battery connector
SMART Battery:
 1. BATT+
 2. ID
 3. B/I
 4. TS
 5. SMD
 6. SMC
 7. GND



**Precharge detector
15.97V/14.84V For ADAPTOR**

I_{adp}=0~2.9A (60W)
I_{adp}=0~2.9A (75W)



I_{REF}=1*I_{charge}
I_{REF}=0~3.3V

2P3S:3800mAh/cell
0.7C=3.0A

OVP voltage :
LI-3S :12.9V---BATT-OVP=2.84V
BATT-OVP=0.2206*BATT+

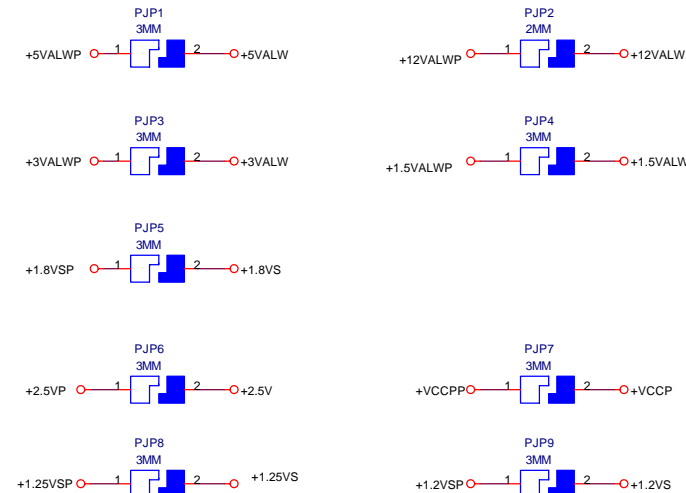
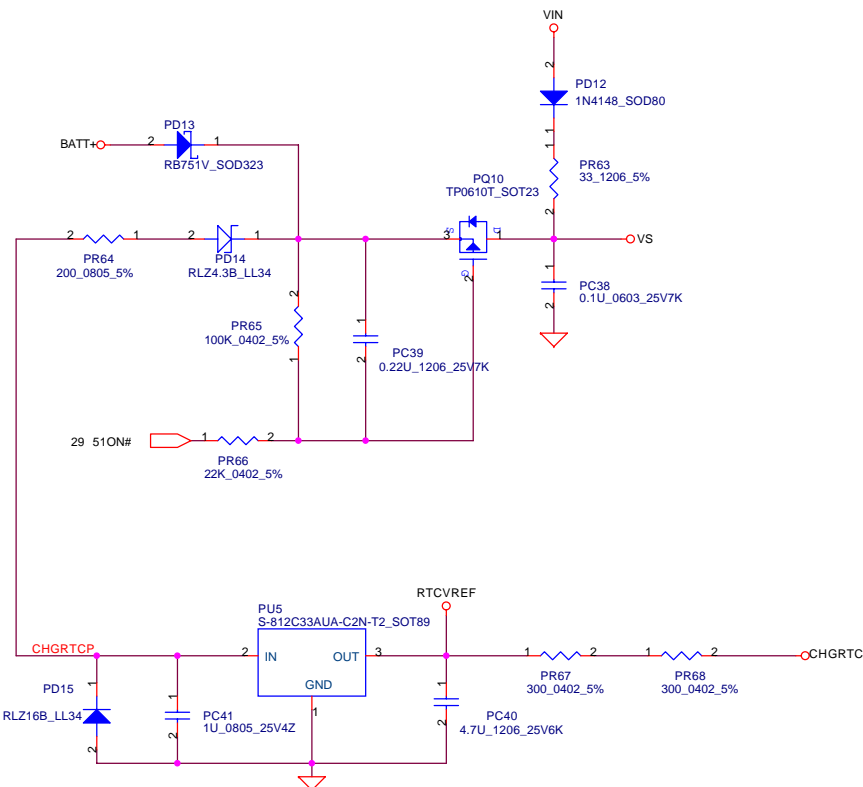
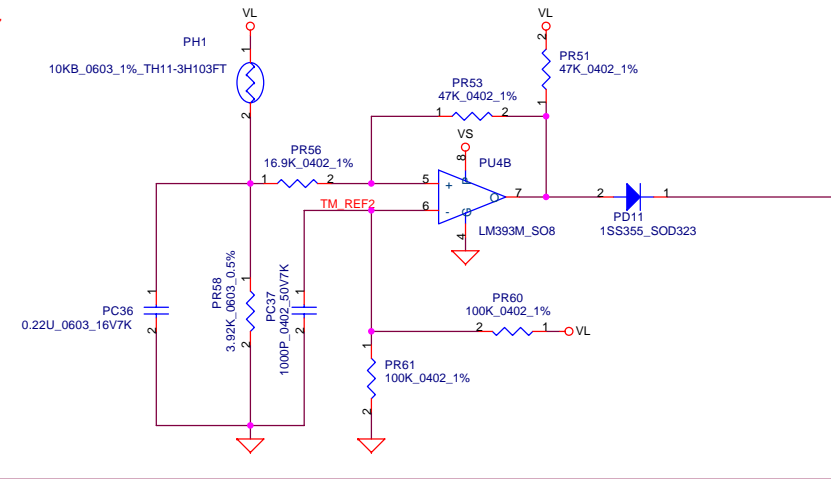
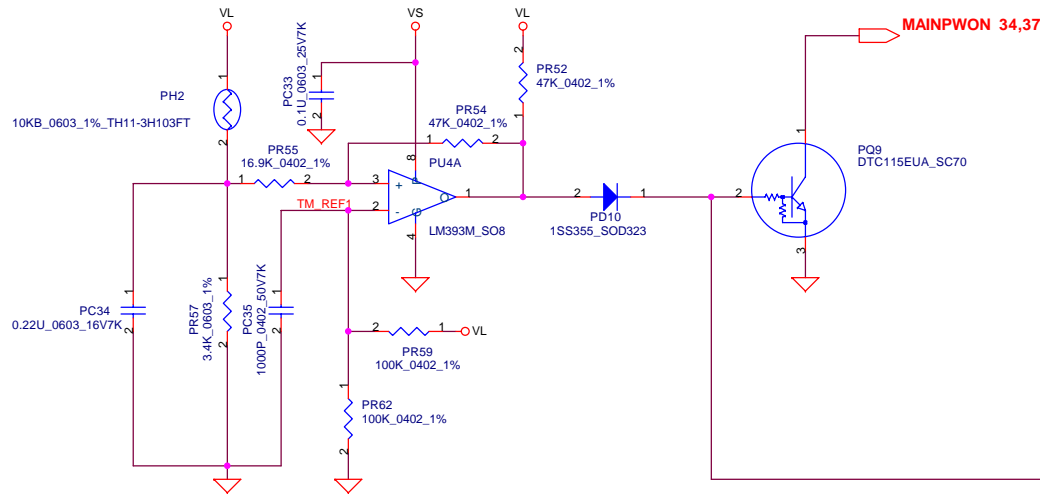
Charge voltage
3S CC-CV MODE : 12.6V

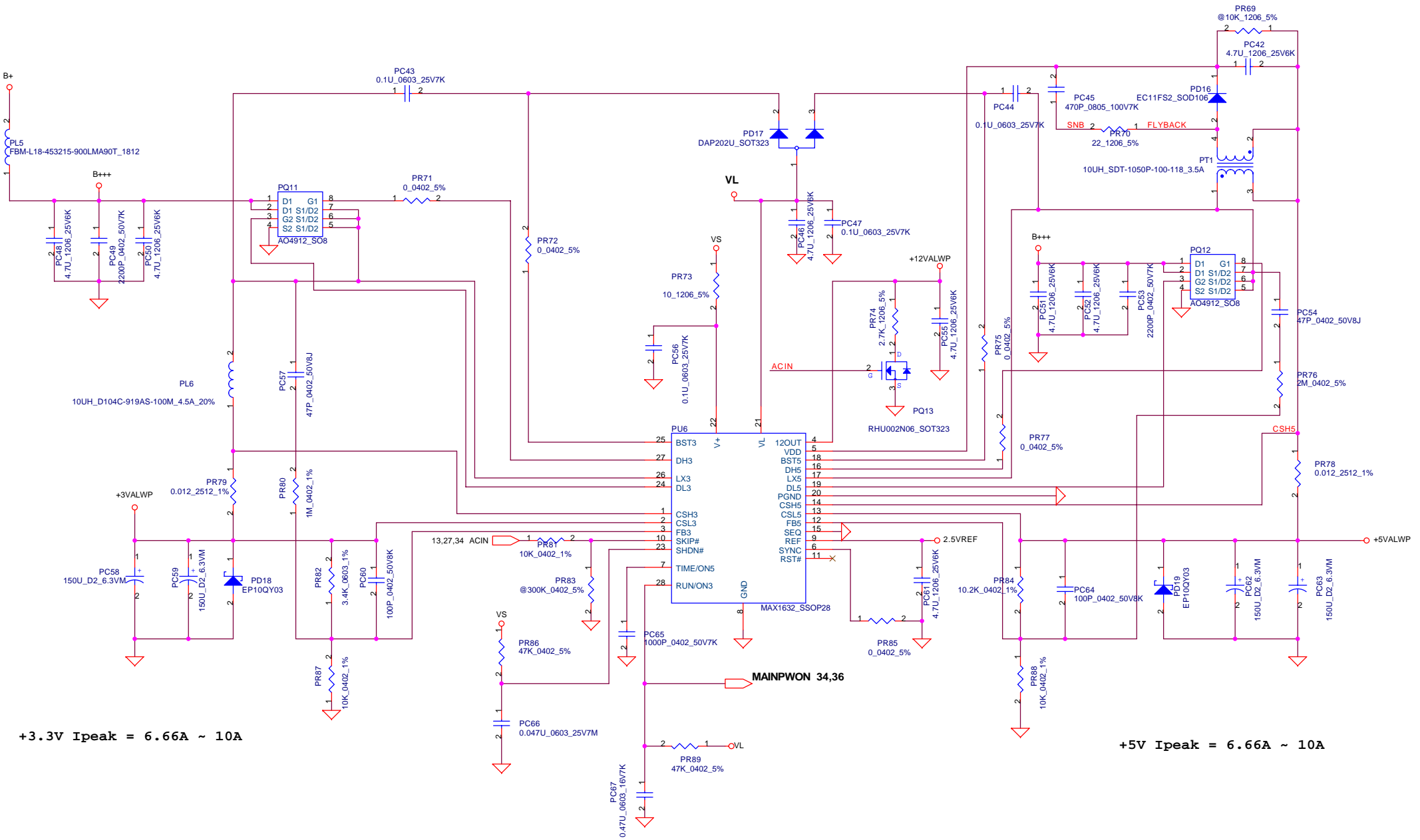
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Title		
Charger		
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PH1 under CPU botten side :
 CPU thermal protection at 85 degree C
 Recovery at 44(45) degree C

PH2 near main Battery CONN :
 BAT. thermal protection at 78 degree C
 Recovery at 39(40) degree C



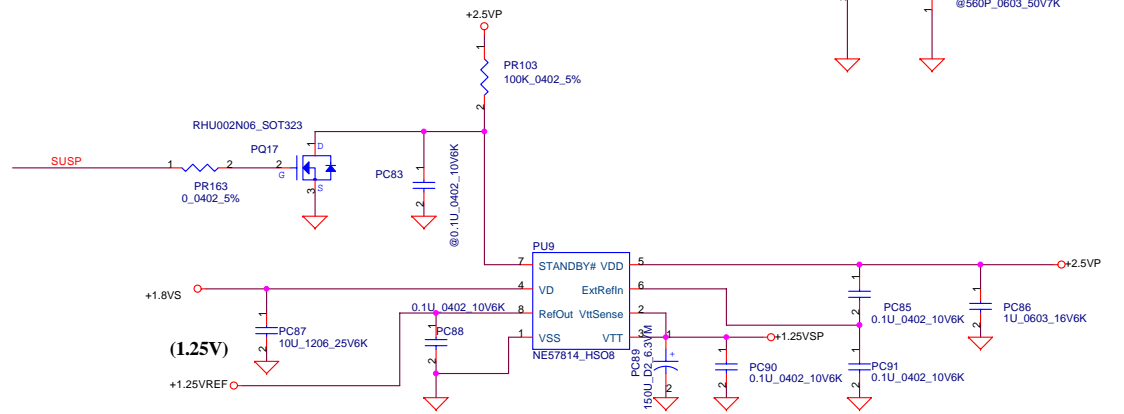
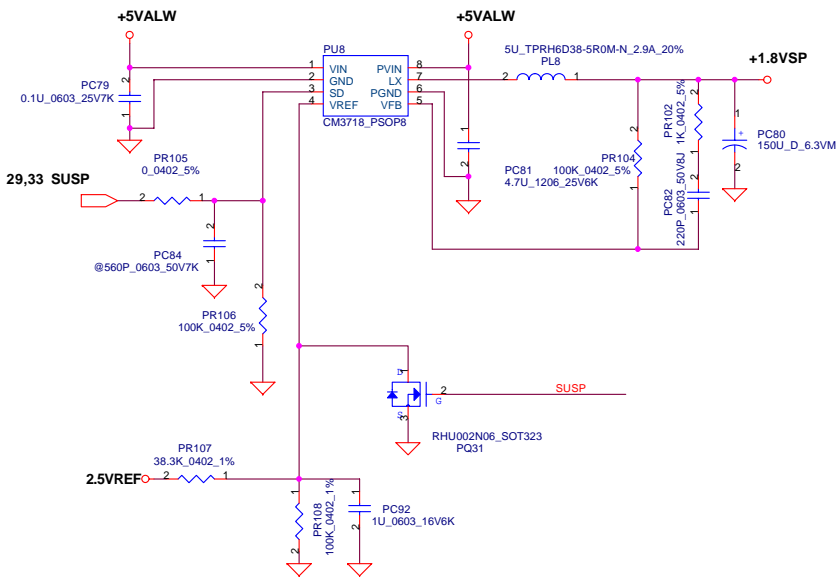
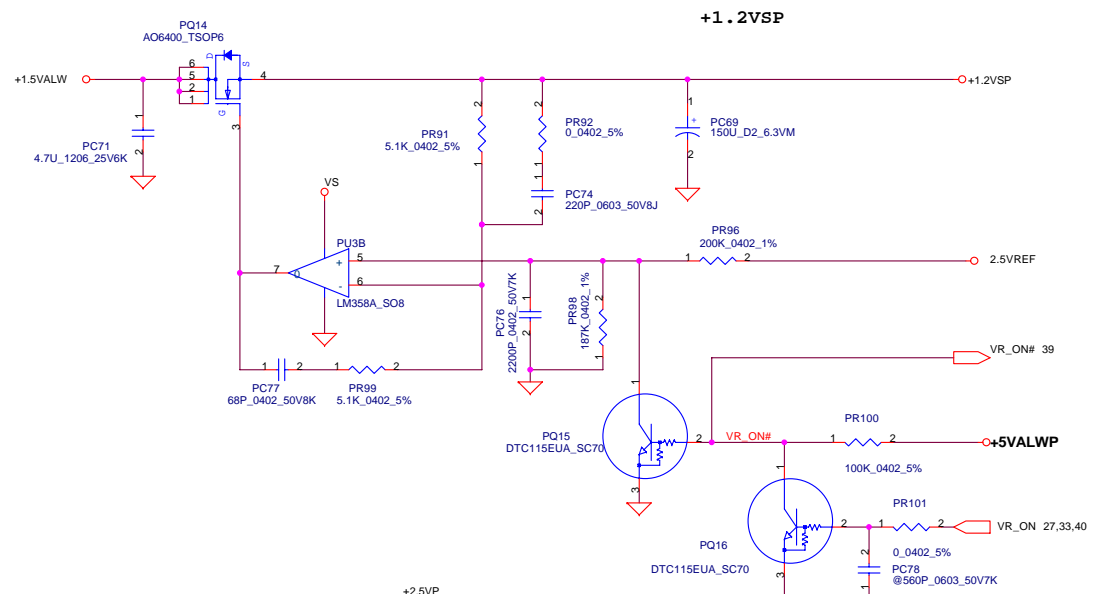
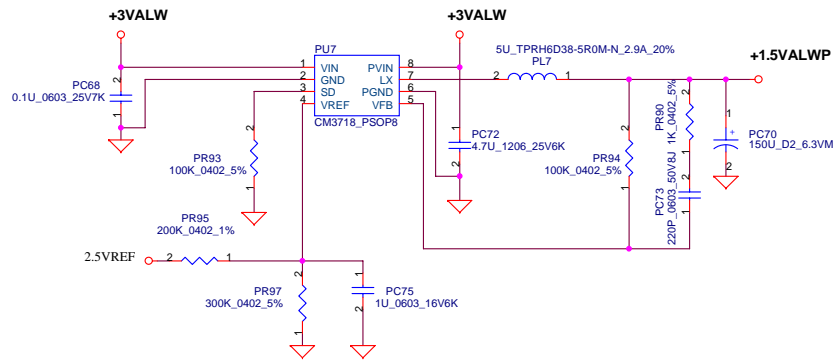


+3.3V Ipeak = 6.66A ~ 10A

+5V Ipeak = 6.66A ~ 10A

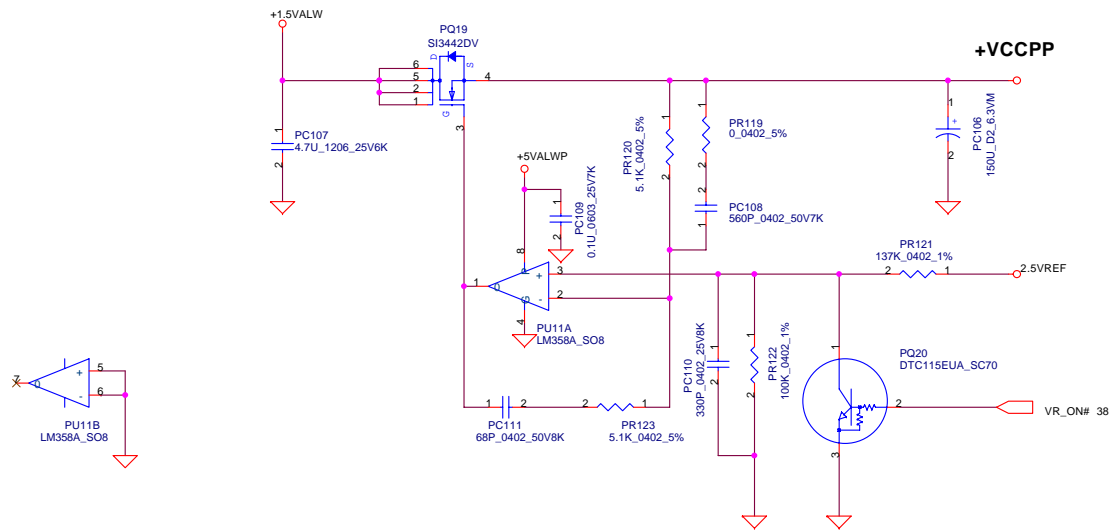
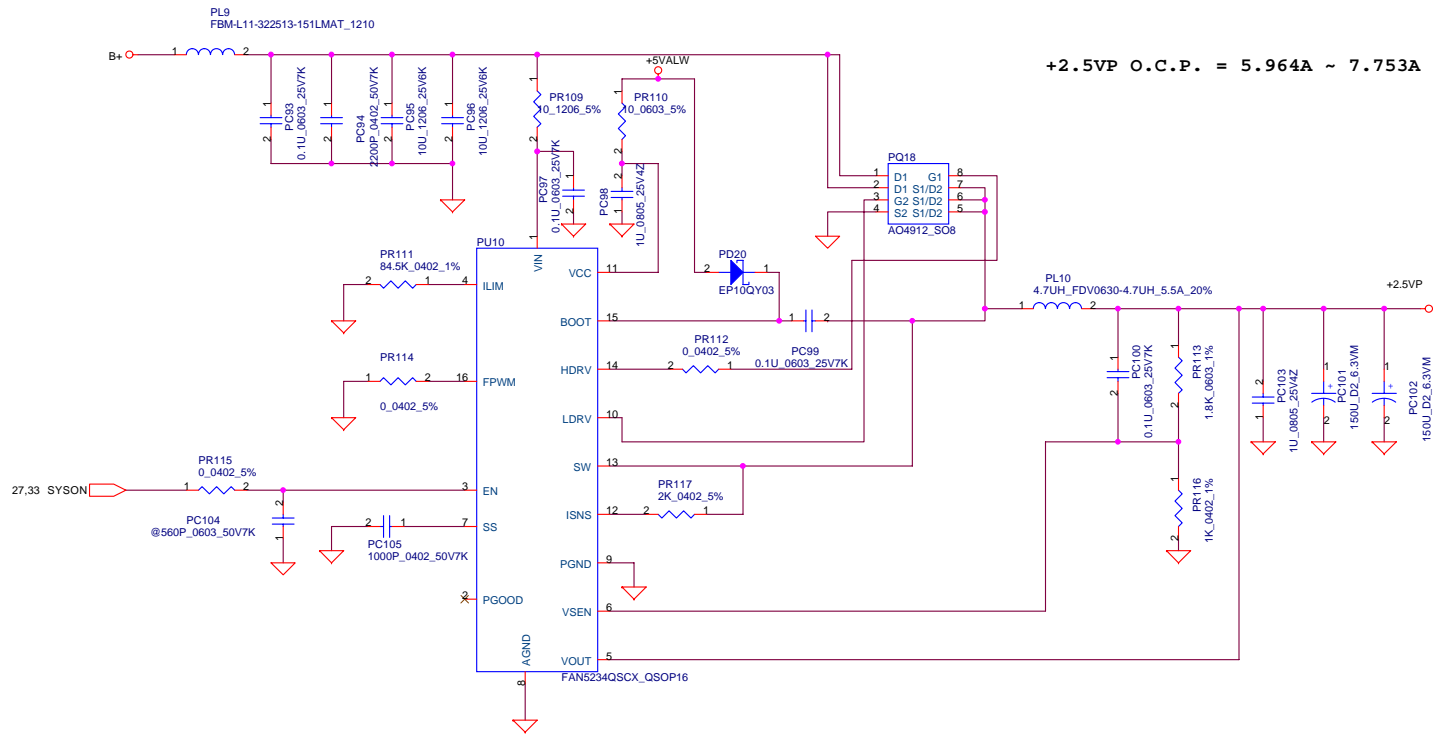
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Compal Electronics, Inc.			
Title			
+5VALWP / +3VALWP / +12VALWP			
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Compal Electronics, Inc.			
+1.8VSP & +1.25VSP & 1.5VALWP & +1.2VSP			
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Compal Electronics, Inc.

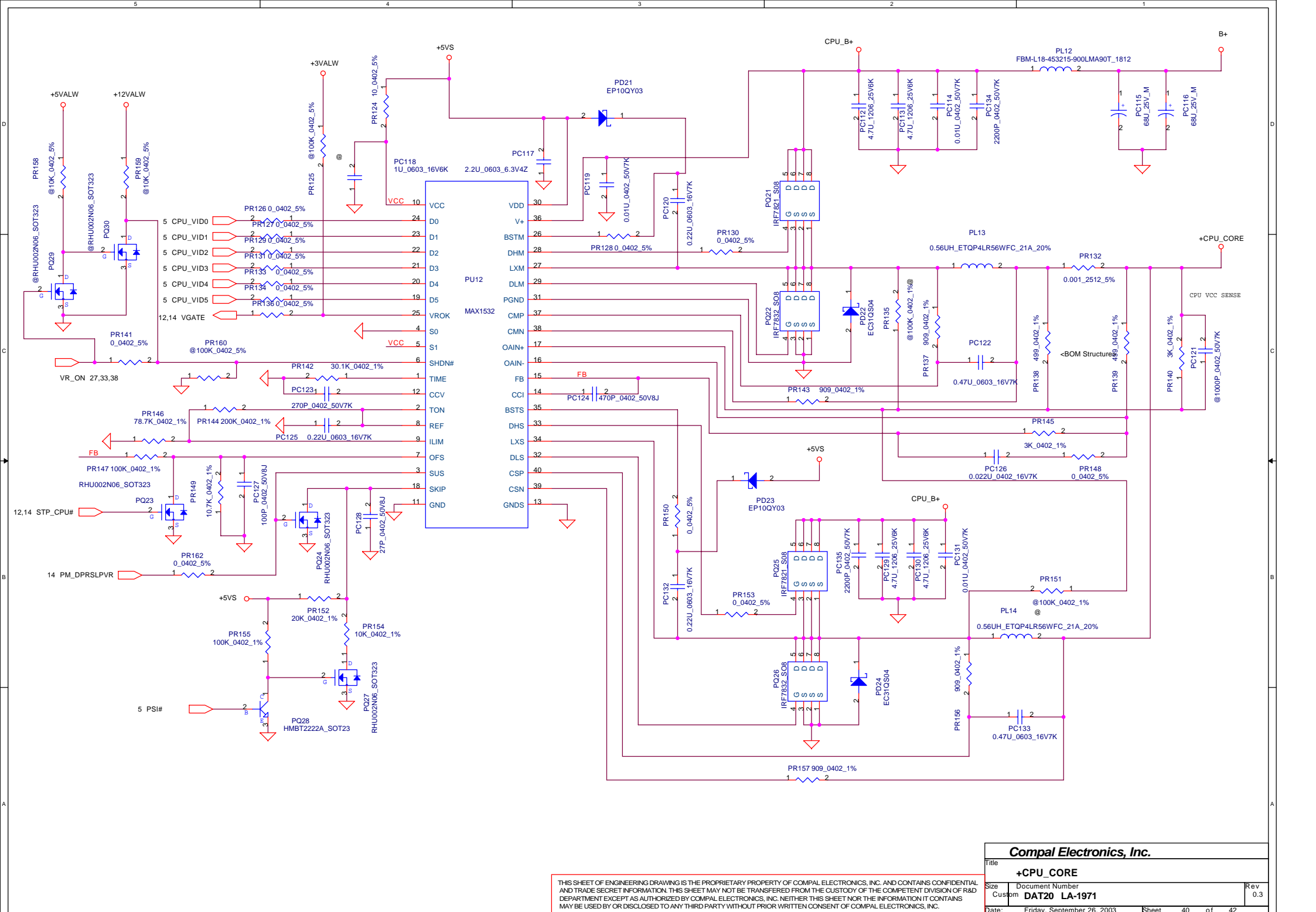
File: **DDR +2.5VP & VCCPP**

Size: Custom **DAT20 LA-1971**

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Compal Electronics, Inc.		
Title	+CPU_CORE	
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DAT20 PIR LIST

HW PIR LIST

EVT -> DVT

[Page 7 & 9] Change Material R33, R34, R200, R201 (75_0603_1%)

[Page 14] Change Material R38 (20_0603_1%)

[Page 16] Change Material U40

[Page 24] Modify R374 connected from +3VALW to +3V & delete R384 (Remove TPM detect function)

[Page 25] Delete RP65 & R260 which reserved for LPC47N227

[Page 26] Change SLCTIN# connection.

[Page 27] Change R308 from 0_0402_5% to 8.2K_0402_5% for DVT test AD_BID0

[Page 29] Change material for C526 from 1U_0603_10V4Z to 1U_0603_10V6K

Add C556 2200P_0402_50V7K

Add C557, C558 1000P_0402_50V7K

[Page 30] Add L10

Change C84 from 4.7U_0805_10V4Z to 10U_0805_10V4Z

Add C555 10U_0805_10V4Z

Delete C184, C179 1U_0603_10V4Z

[Page 32] R156 from 390_0402_5% to 360_0402_5%

[Page 27] R409 from 10K_0402_5% to 47K_0402_5% & add C559 0.1U_0402_16V4Z

DVT -> PVT

[Page 12] Delete C70, C80, C166, C167, C168

[Page 24] Delete R2 (Reserved for FIR)

[Page 31] Delete C476, C531, R319, R371 AudioHigh pass filter.

Compal Electronics, Inc.

Title
DAT20 PIR LIST

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Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	B.Ver#	Phase
1	M/B cannot power on.	RC delay time is not enough of Max1632 on3 pin.	0.2	34	1.Change PC67 from 0.047U_0805_10V6K to 0.47U_16V K X7R 0603.	0.2	DVT
2	Layout symbol error.	Layout symbol error.	0.2	37	1.Change PR26 PCB footprint from R_0603 to R_0402.	0.2	DVT
3	Layout symbol error.	Layout symbol error.	0.2	40	1.Change PD22 from EP10QY03 to EP31QS04.	0.2	DVT
4	System cannot re-start and Windows fail when into C4.	The CPU cannot into skip mode,happen the OVP when C4.	0.2	40	Swap the PR154 and PR155.	0.2	DVT
5	Rating not enough.	Rating not enough.	0.2	34	1.Change PC66 from 0.047U_00603_16V7K to 0.047U_00603_25V7M.	0.2	DVT
6.	Rating is not enough.	Surge power rating concerned.	0.2	39	1.Change PR109 from 10_0603 to 10_1206.	0.2	DVT
7.	Change size.	Change size.	0.2		1.Change PR149,PR44,PR48,PR82,PR36,PR107,PR39,PR121, PR140,PR145 and PR146 from 0603 to 0402.	0.2	DVT
8.	Change size.	Change size.	0.2		1.Change PC114,PC131,PC49,PC21,PC53,PC128,PC126,PC124,PC31, PC7 and PC9 from 0603 to 0402.	0.2	DVT
9.	Change size.	Change size.	0.2		1.Change PC56,PC24,0C38,PC100,PC16 and PC19 from 0805 to 0603.	0.2	DVT
10.	Choke rating is not enough.	Charge current power rating concerned.	0.2	35	1.Change PL4 from 22UH to 16UH.	0.2	DVT
11.	Application of CM3718 has overshoot issue during system on.	Charge control signal SHDN# to reference.	0.2	38	1.Add PQ31.	0.2	DVT
12.	EMI issue of charger.	EMI issue of charger.	0.3	35	1.Change PQ6 from AO4407 to FDS6679. Add the PR164 on GATE pin of PQ6.	0.3	PVT
13.	EMI issue of CPU_CORE.	EMI issue of CPU_CORE.	0.3	40	1.Change PQ21 and PQ25 from IRF7821 to IRF7811A. Add the 2200P on PC134 and PC135.	0.3	PVT
14.							

Compal Electronics, Inc.		
Title PWR-PIR		
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