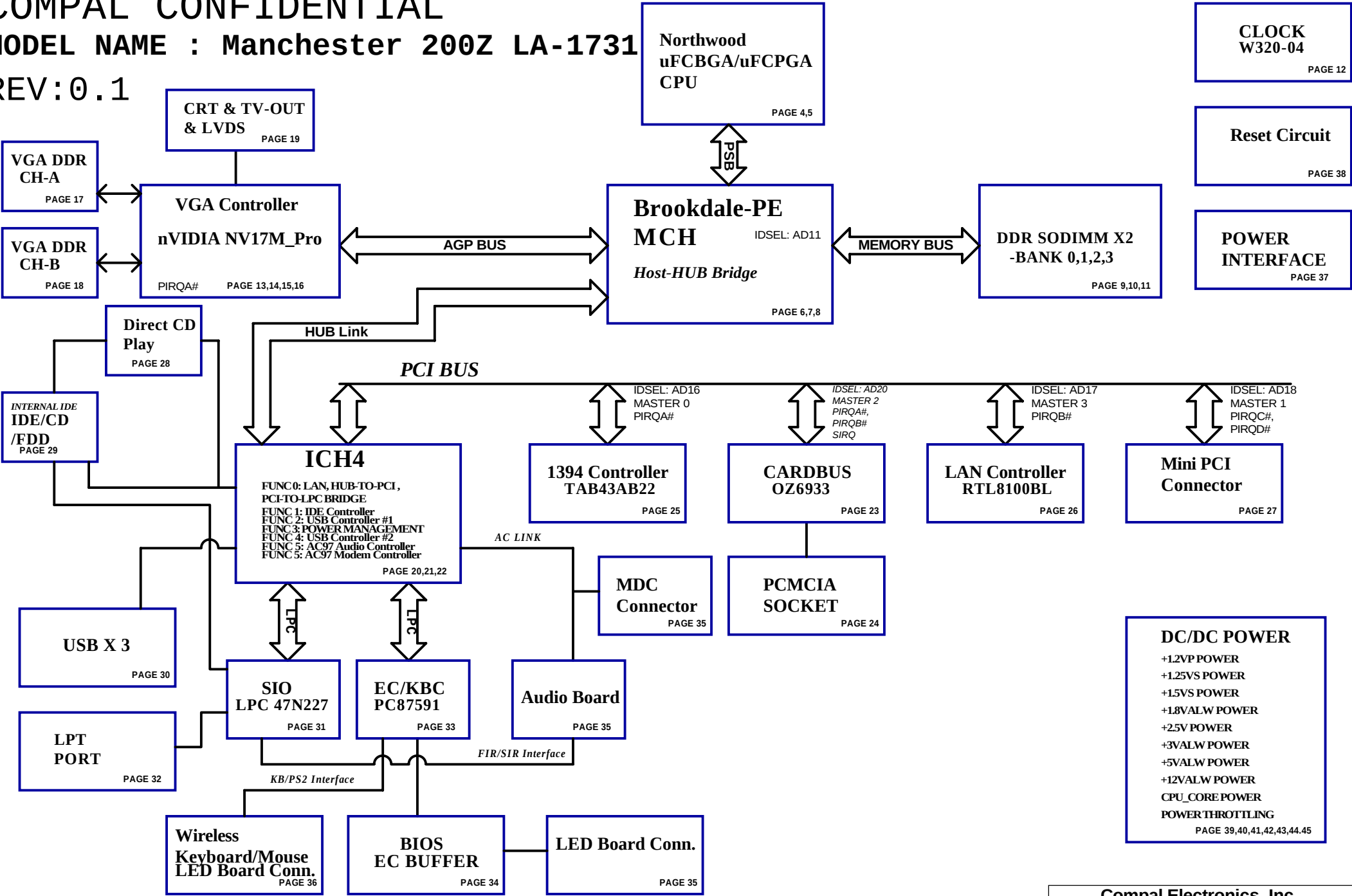


Manchester 200Z LA-1731 REV 1.0 ***Schematics Document***

**Intel Pentium 4 Processor it the 478-pin Package
with 845PE / ICH4 chipset**

Compal Electronics, Ltd.			
Title			
Cover Sheet			
Size	Document Number		Rev
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COMPAL CONFIDENTIAL
MODEL NAME : Manchester 200Z LA-1731
REV:0.1



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Title			
ATR80 COVER SHEET			
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Voltage Rails

Power Plane	Description	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_VCC	Core voltage for CPU	ON	OFF	OFF
+1.2VP	1.2V switched power rail for CPU AGTL Bus	ON	OFF	OFF
+1.25VS	1.25V switched power rail	ON	OFF	OFF
+1.5VS	AGP 4X	ON	OFF	OFF
+1.8VALW	1.8V power rail	ON	ON	ON*
+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
		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/PIRQB
LAN	AD17	3	PIRQB
Mini-PCI	AD18	1/4	PIRQC/PIRQD
1394	AD16	0	PIRQA

EC SM Bus1 address

Device	Address	Device	Address
Smart Battery	0001 011X b	MAX1617MEE	1001 110X b
EEPROM(24C16/02)	1010 000X b	OZ163	0011 0100 b
(24C04)	1011 000Xb	Smart Battery	0001 011X b
		Docking	0011 011X b
		DOT Board	XXXX XXXXb

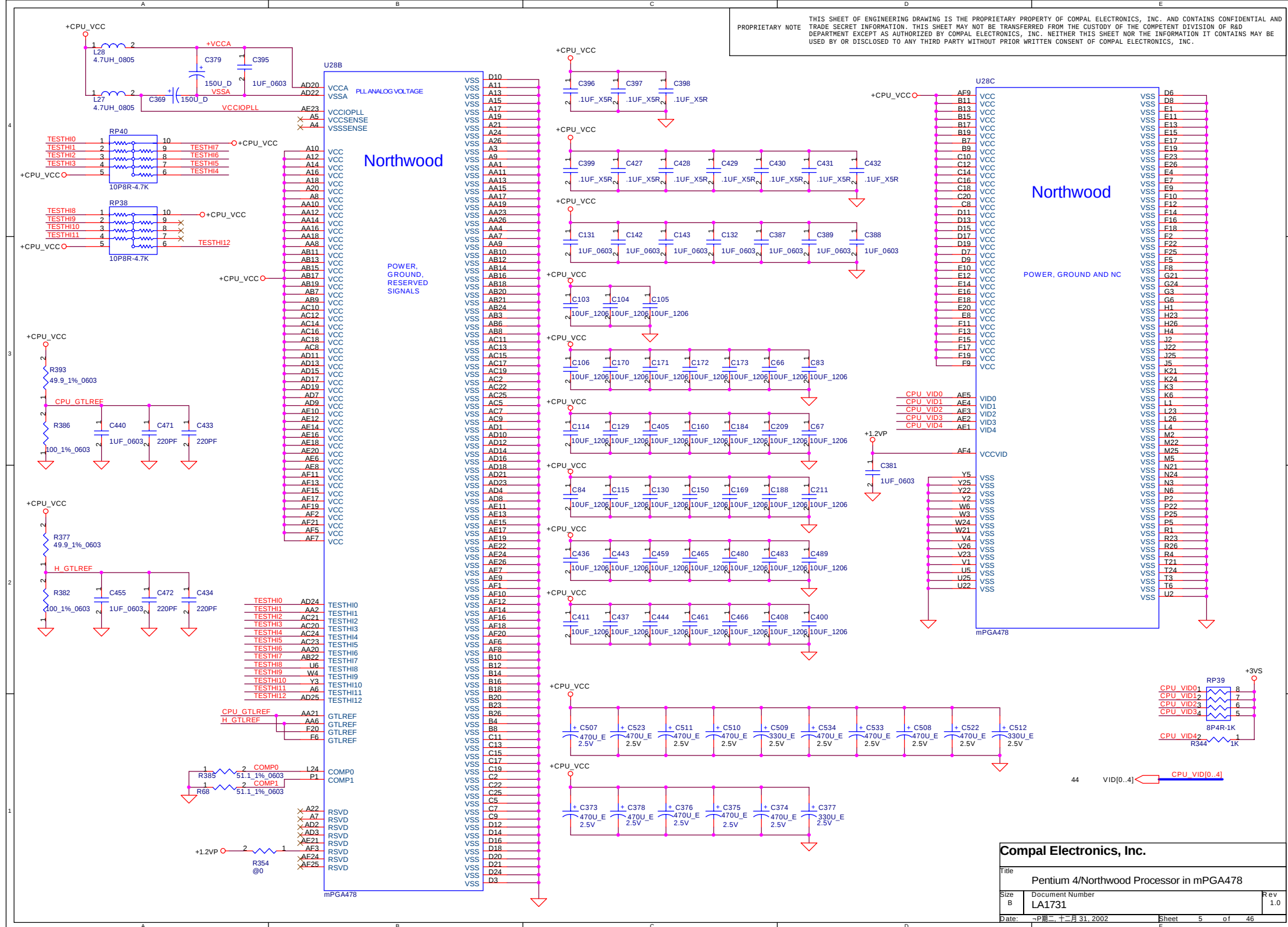
ICH4 SM Bus address

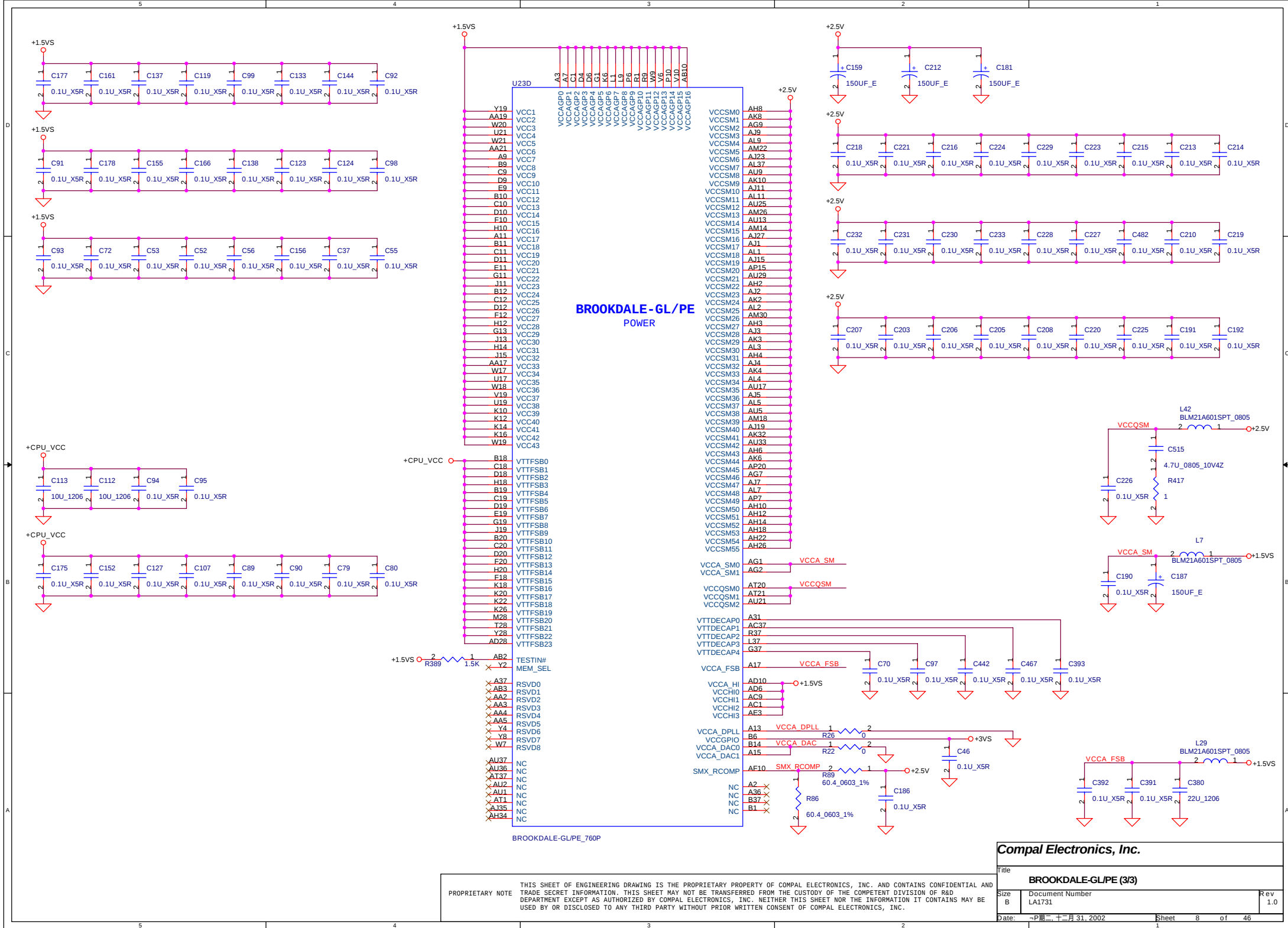
Device	Address
Clock Generator (ICS9508-10)	1101 001X

Board ID Table for AD channel

Vcc	3.3V +/- 5%			
Ra	100K +/- 5%			
Board ID	Rb	VAD_BID min	VAD_BID typ	VAD_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

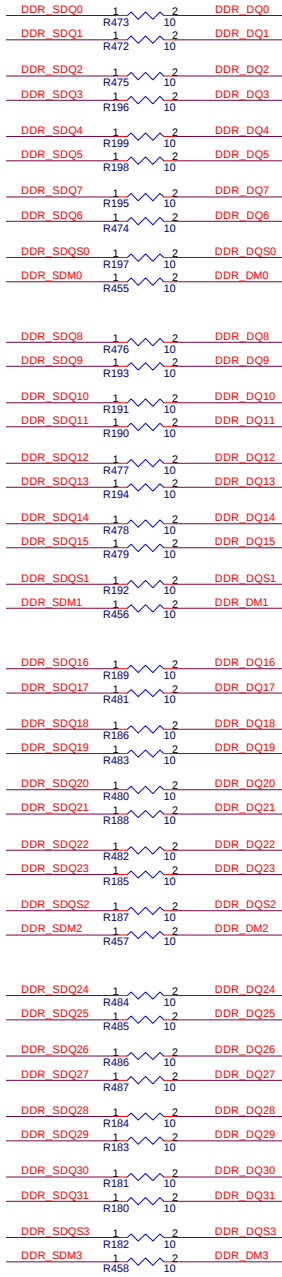
Board ID	PCB Revision
0	0.1
1	1.0
2	
3	
4	
5	
6	
7	



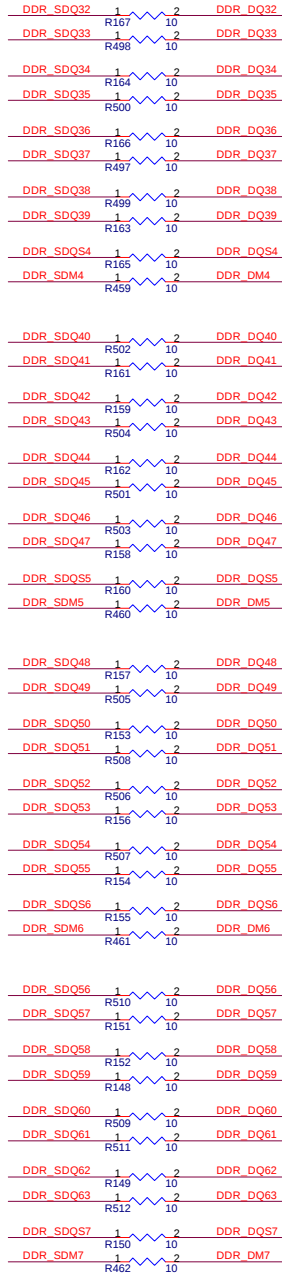


Layout note

Place these resistor
closely DIMM0,
all trace length<750mil



6 DDR_SDQ[0..63] < DDR_SDQ[0..63]
6 DDR_SDQS[0..8] < DDR_SDQS[0..8]
6 DDR_SDM[0..7] < DDR_SDM[0..7]



DDR_DQ[0..63] < DDR_DQ[0..63] 10
DDR_DM[0..7] < DDR_DM[0..7] 10
DDR_DQS[0..8] < DDR_DQS[0..8] 10

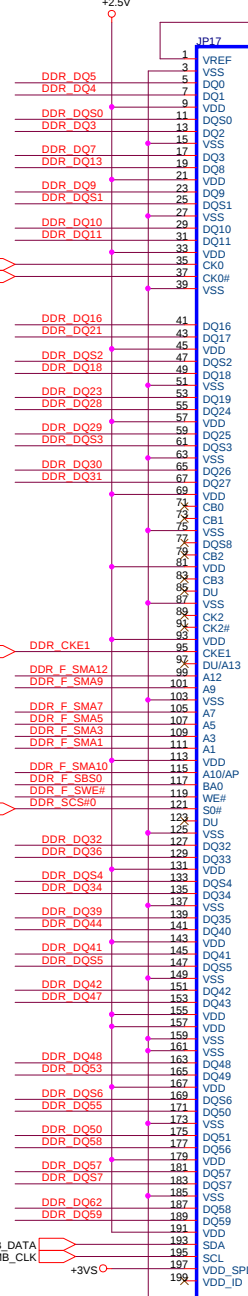
6 DDR_CLK1
6 DDR_CLK#1

6,10 DDR_CKE1
DDR_CKE1

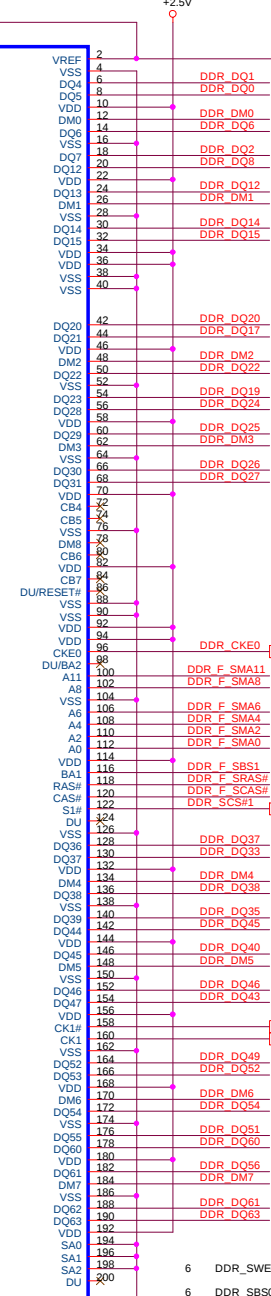
6 DDR_SCS#0
DDR_SCS#0

10,12,20 SMB_DATA
10,12,20 SMB_CLK

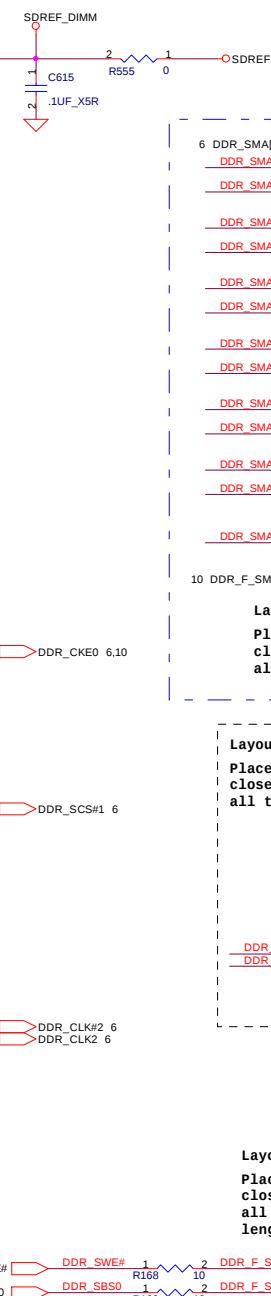
+3VS



DIMM0
Bottom side
Reverse

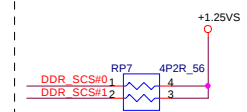


6 DDR_SWE# < DDR_SWE# 1 < DDR_F_SWE# 10
6 DDR_SBS0 < DDR_SBS0 1 < DDR_F_SBS0 10
6 DDR_SCAS# < DDR_SCAS# 1 < DDR_F_SCAS# 10
6 DDR_SRAS# < DDR_SRAS# 1 < DDR_F_SRAS# 10
6 DDR_SBS1 < DDR_SBS1 1 < DDR_F_SBS1 10



Layout note
Place these resistor
closely DIMM0,
all trace length<750mil

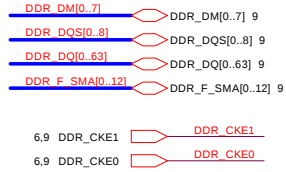
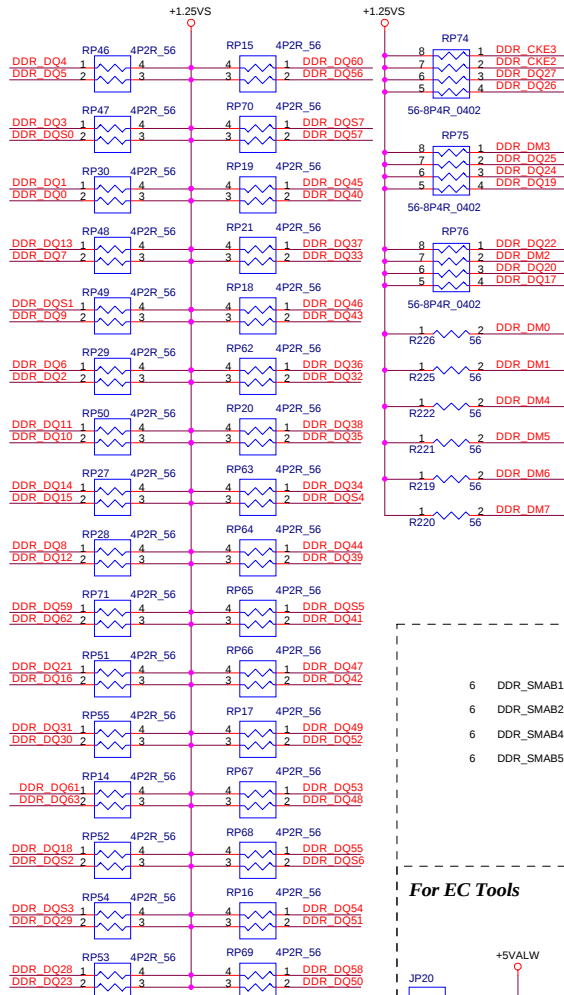
Layout note
Place these resistor
closely DIMM0,
all trace length Max=1.3"



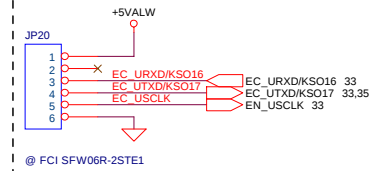
Layout note
Place these resistor
closely DIMM0,
all trace
length<750mil

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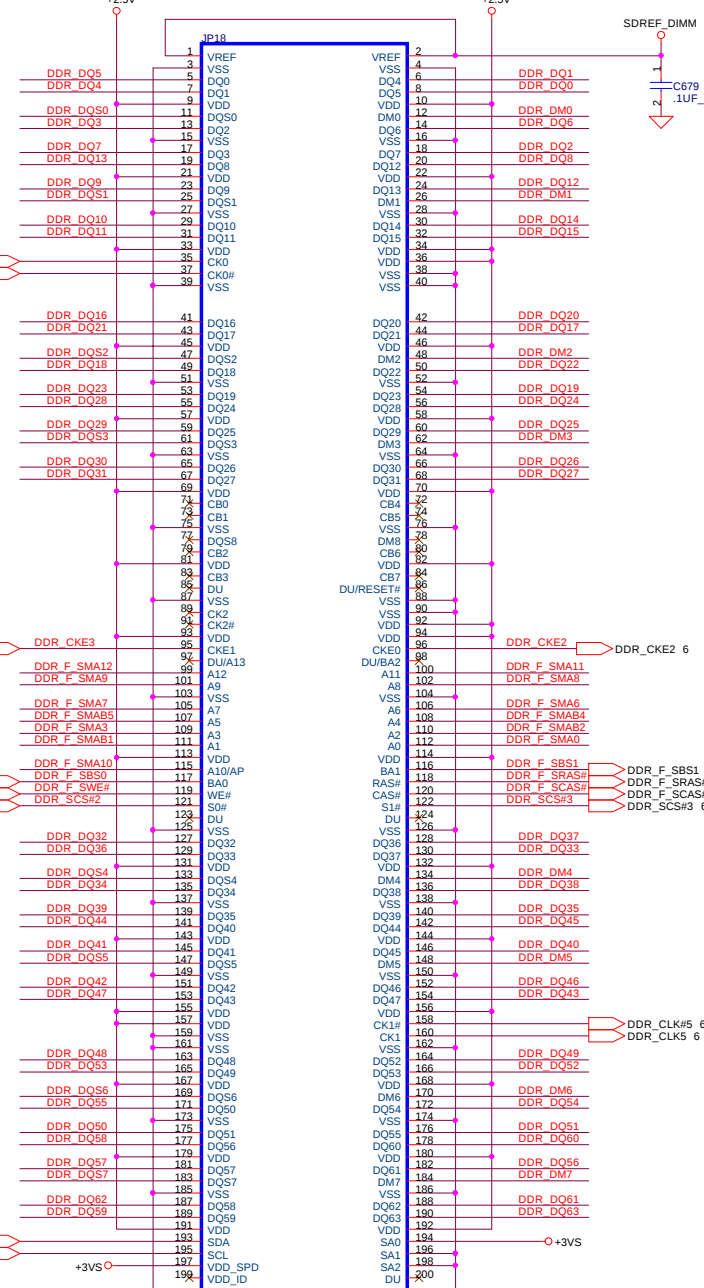
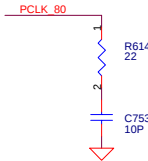
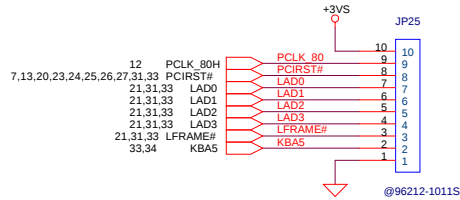
Compal Electronics, Inc.			
DDR-SODIMM SLOT1			
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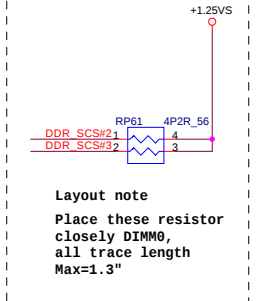
For EC Tools



Layout note
Place these resistor
closely DIMM1,
all trace
length<=800mil



DIMM1
Top side



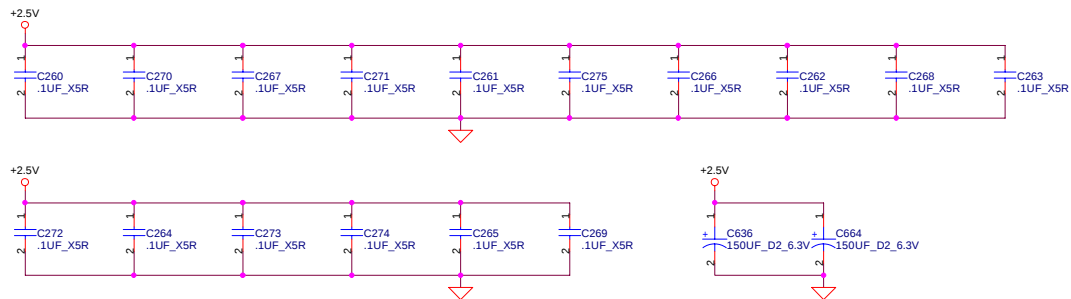
Compal Electronics, Inc.

DDR-SODIMM SLOT1

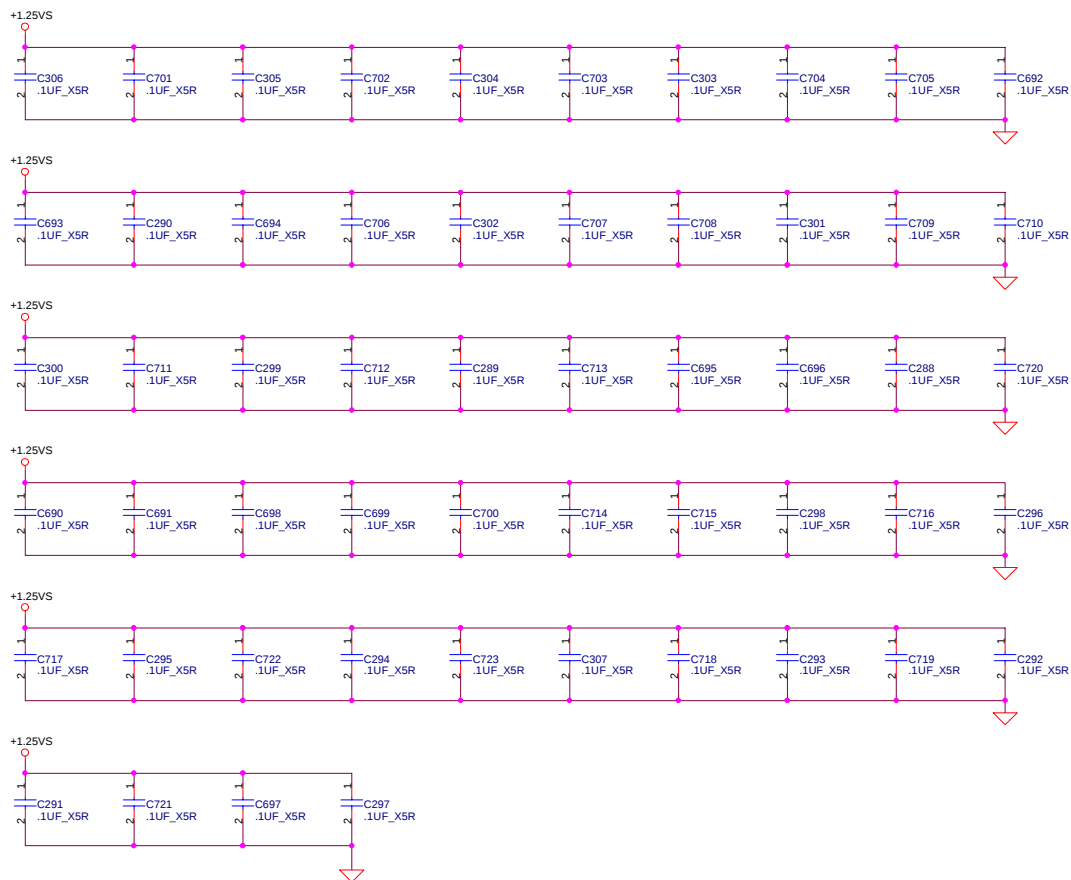
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Layout note :
Distribute as close as possible
to DDR-SODIMM.

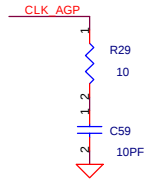
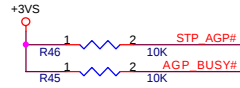
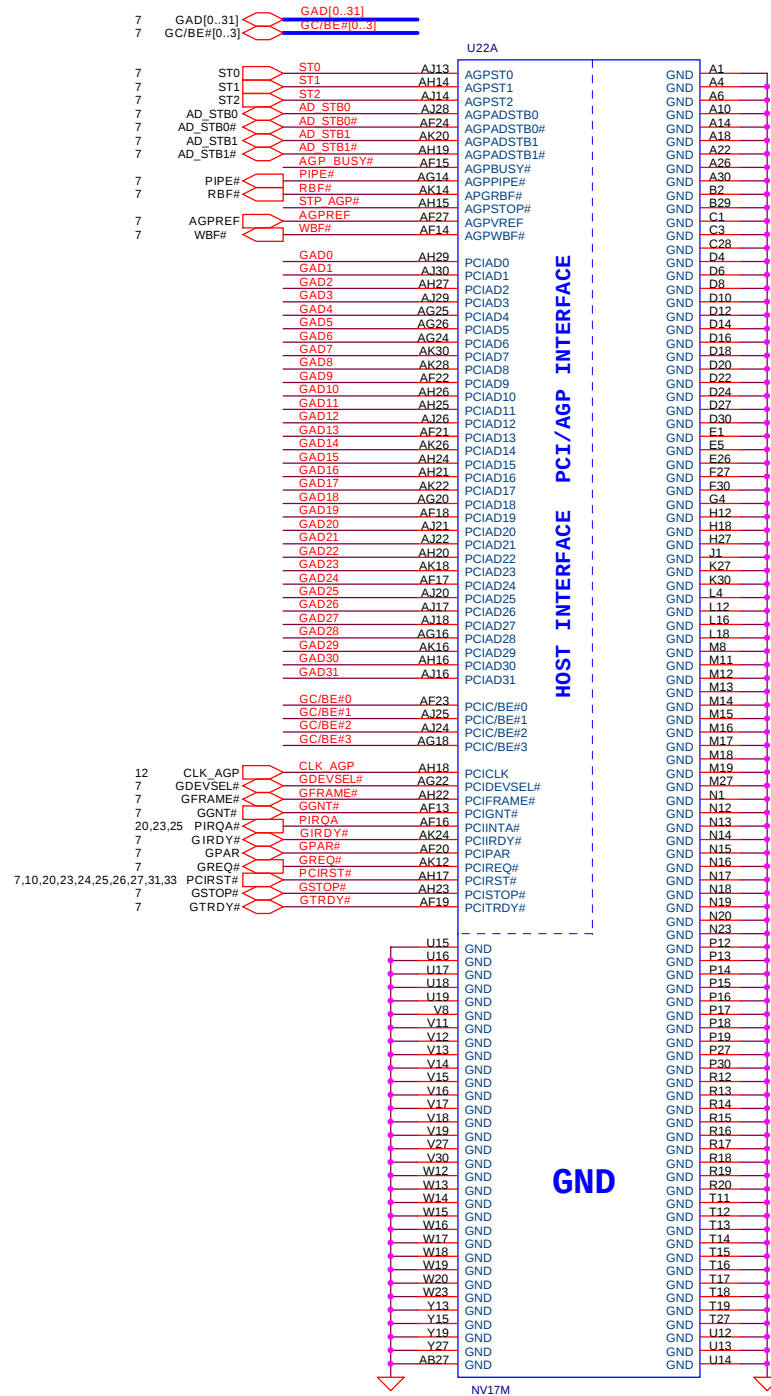


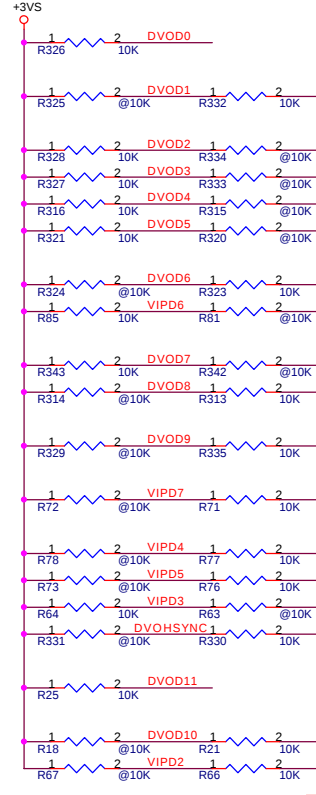
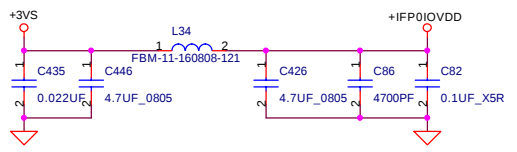
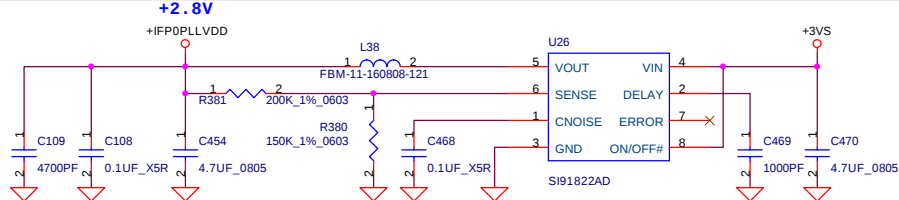
Layout note :
Place one cap close to every 2 pull up resistors termination to
+1.25V



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Title			
DDR SODIMM Decoupling			
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PCI AD SWAP
0: REVERSED
1: NORMAL DEFAULT

SUB_VENDOR
0: system BIOS
1: adapter BIOS DEFAULT

RAM_CFG[3:0]
1111: 4MX32 DDR, DQS per word, high drive strength
1101: 4MX32 DDR, DQS per byte, low drive strength
1001: 2MX32 DDR, DQS per word, high drive strength
1000: 2MX32 DDR, DQS per word, low drive strength
0111: 2MX32 DDR, DQS per byte, low drive strength

CRYSTAL[1:0]
00: 13.5MHz
01: 14.318MHz
02: 27MHz SQ17/NV17 DEFAULT, NV11 DEFAULT
11: unknown

TVMODE[1:0]
00: SECAM
01: NTSC DEFAULT
10: PAL
11: VGA

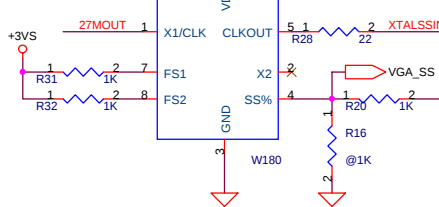
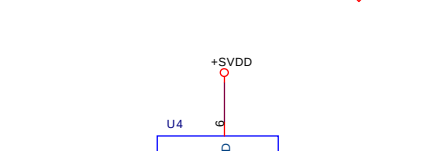
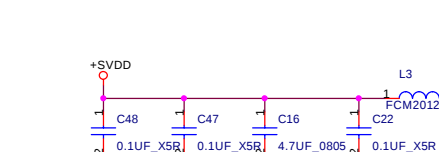
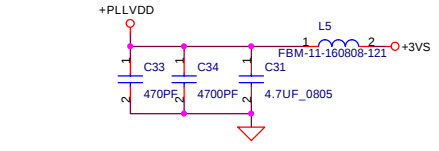
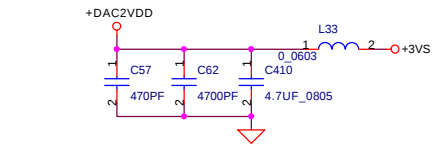
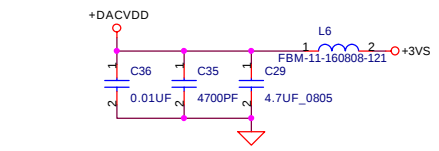
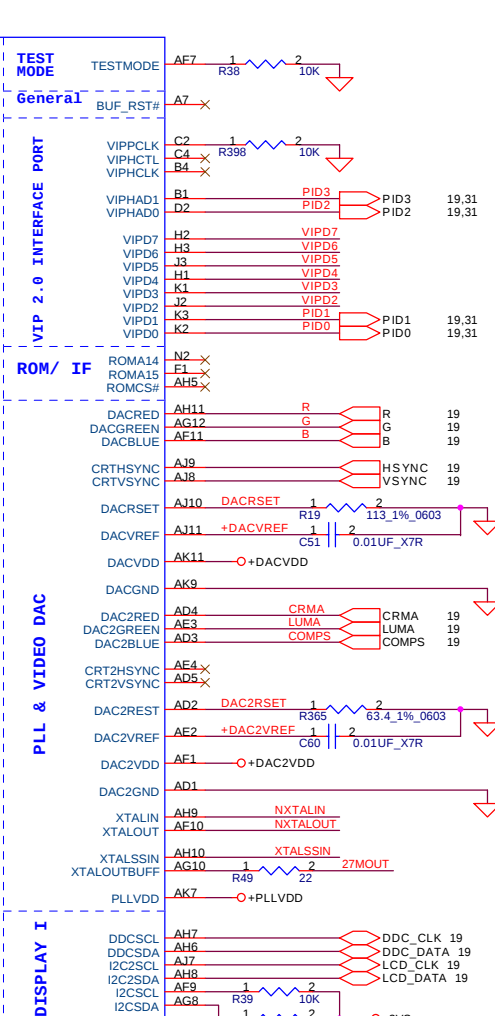
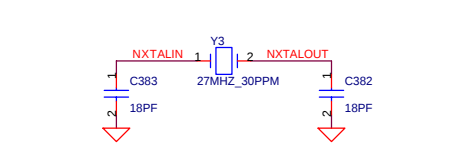
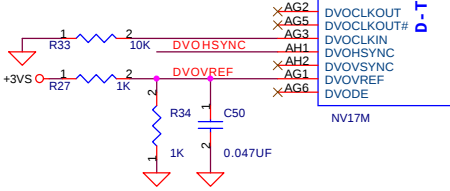
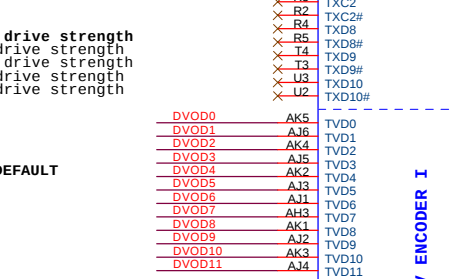
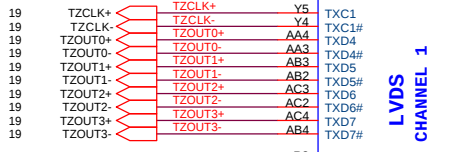
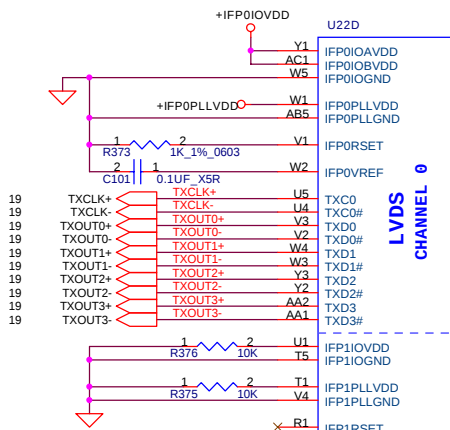
AGP4X
0: Enabled DEFAULT
1: disabled

AGP_FW
0: Enabled DEFAULT
1: disabled

PCI_DEVID[0:3]
0100: NV17M
0101: NV17SQUISH
0111: NV17M_Pro

BUS_TYPE
0: PCI
1: AGP DEFAULT

ROMTYPE[1:0]
00: Parallel DEFAULT
01: serial AT25F
10: serial SST45V
11: serial future



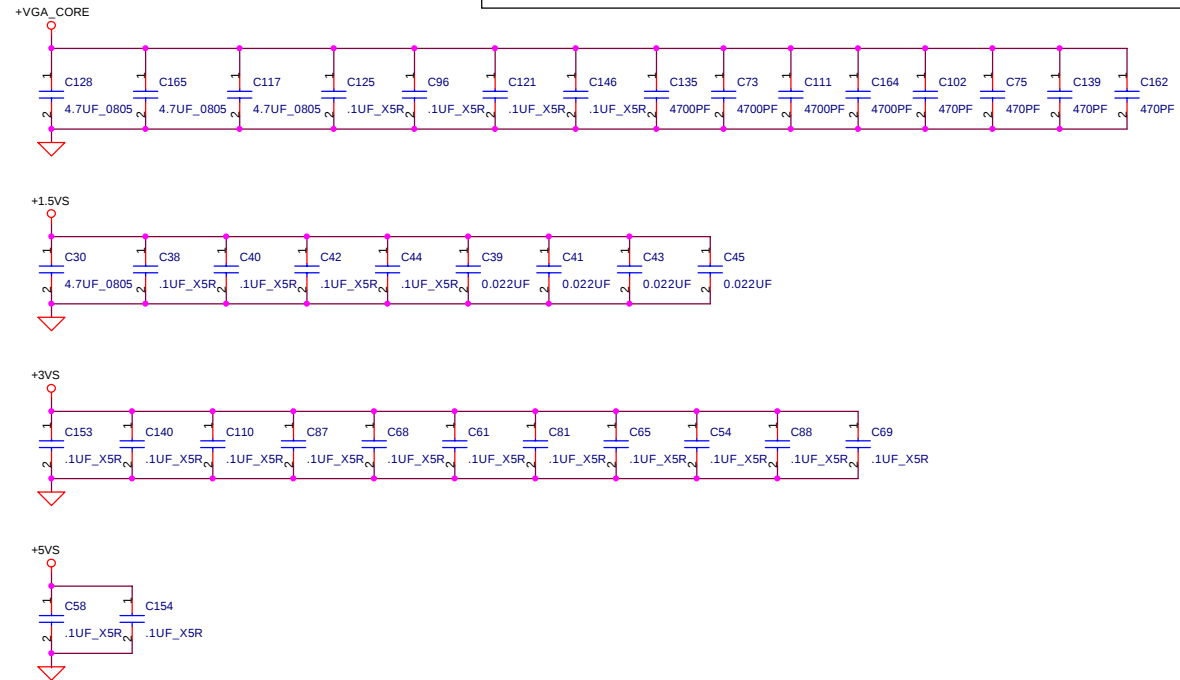
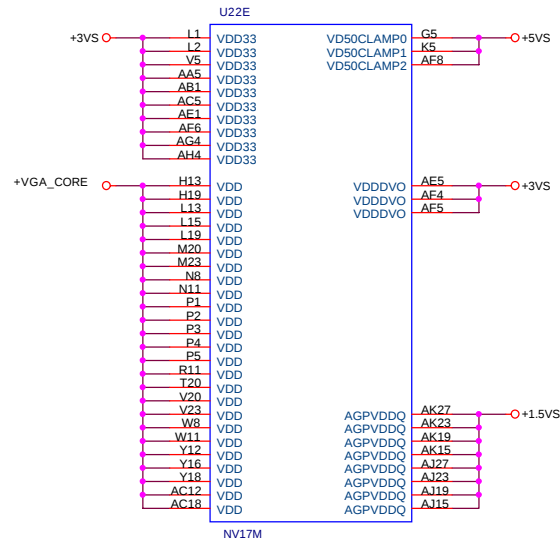
W180-01

Modulation Width Selection

SS%	Fin	Fout	Fin-1.25%
0	0	1	15
1	0	18	15
1	1	28	18

Freq Range Selection

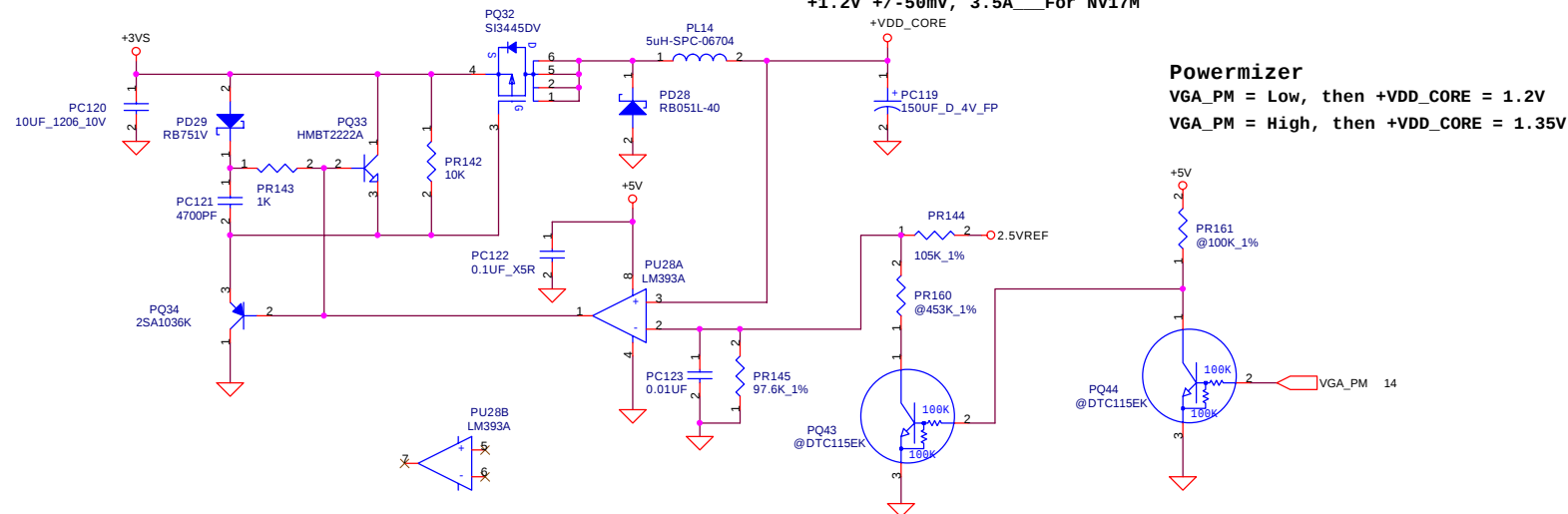
FS1	FS0	10	Fin	8
0	0	1	15	10
1	0	18	15	
1	1	28	18	



As close as ppossible to related pin

+1.35V +/-50mV, 3.5A____For NV17M_Pro

+1.2V +/-50mV, 3.5A____For NV17M



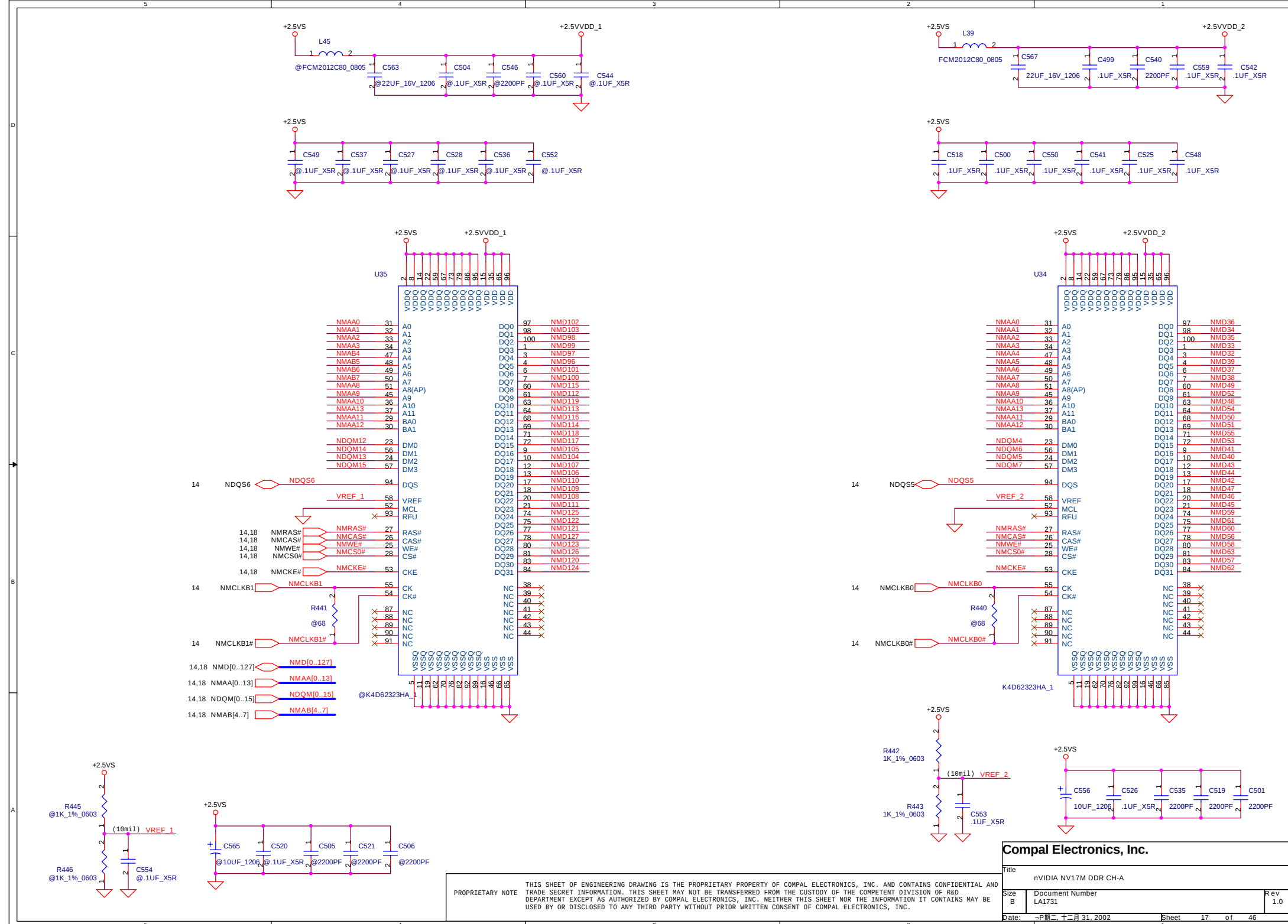
Powermizer

VGA_PM = Low, then +VDD_CORE = 1.2V

VGA_PM = High, then +VDD_CORE = 1.35V

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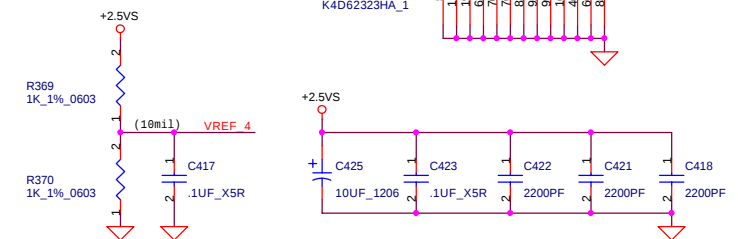
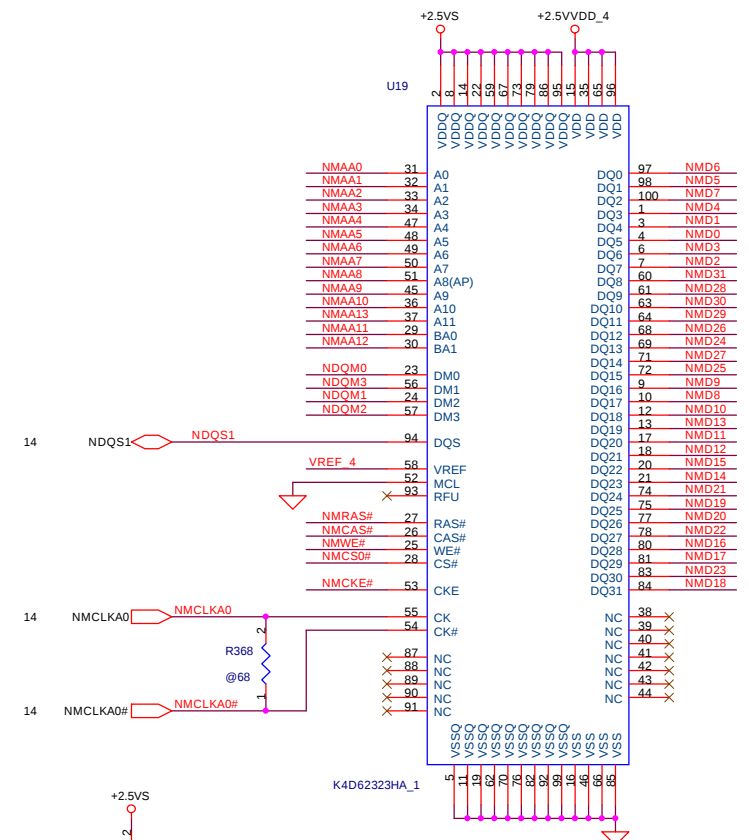
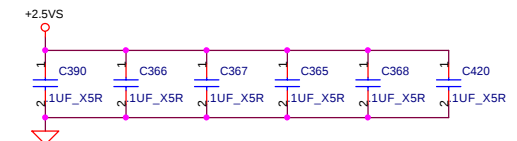
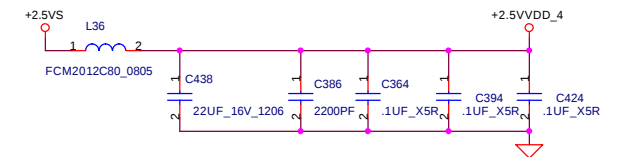
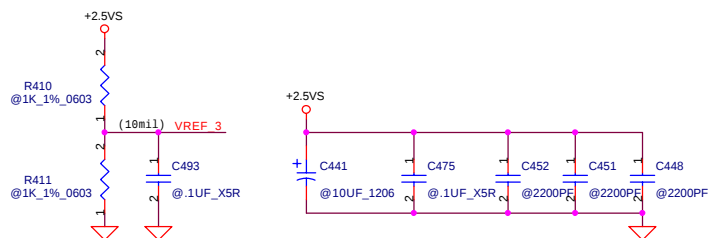
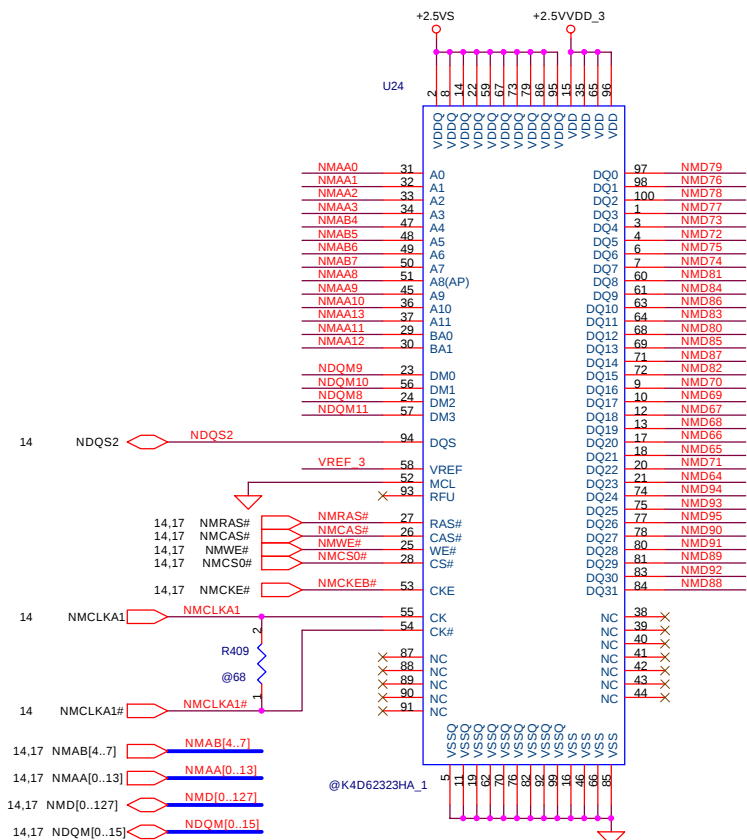
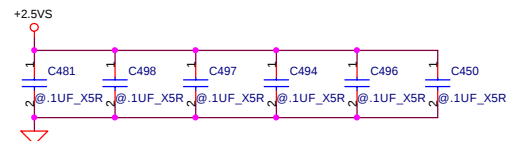
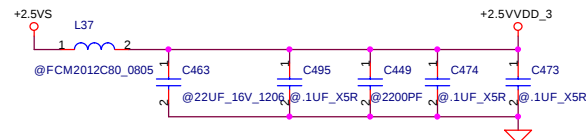
Title		
nVIDIA NV17M (Power)		
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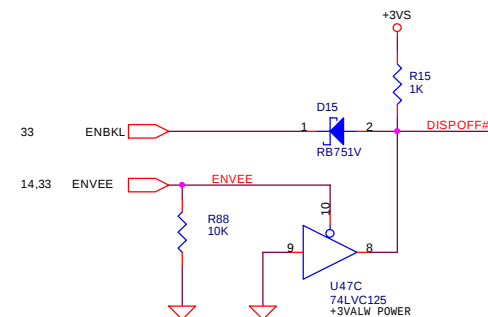
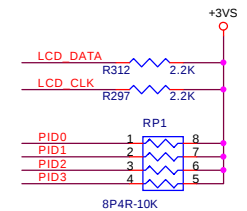
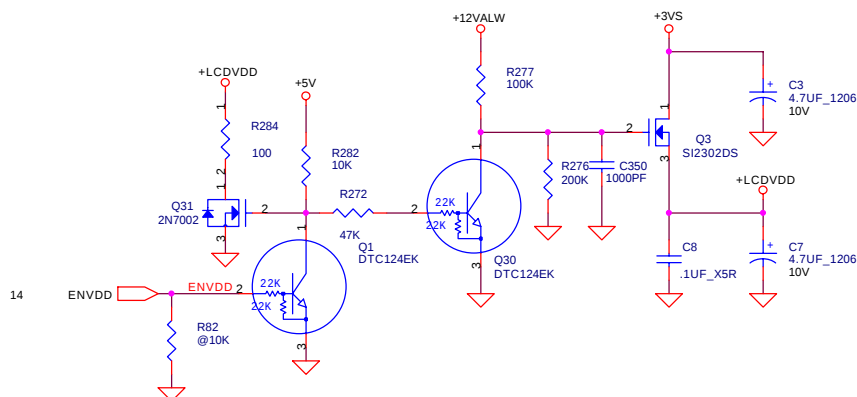
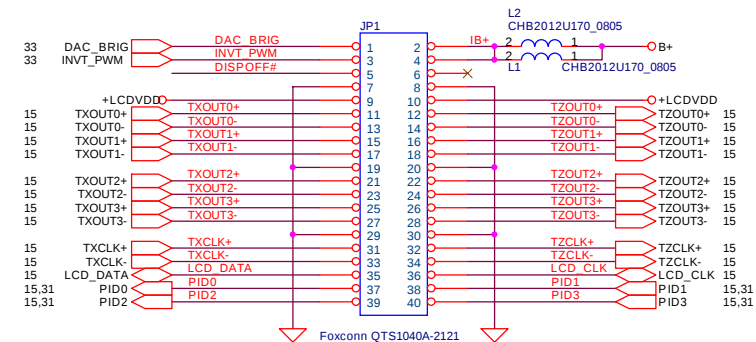
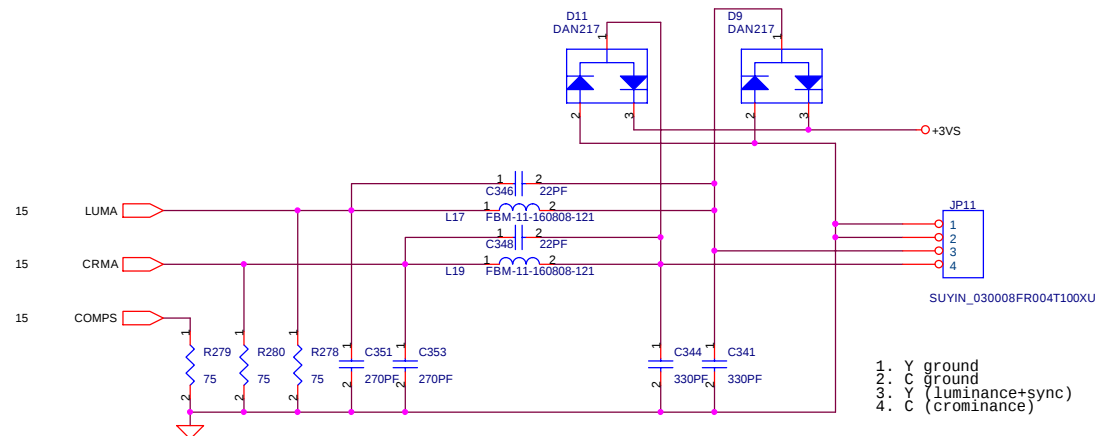
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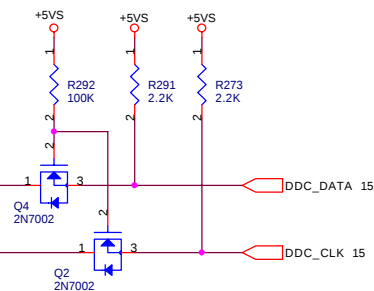
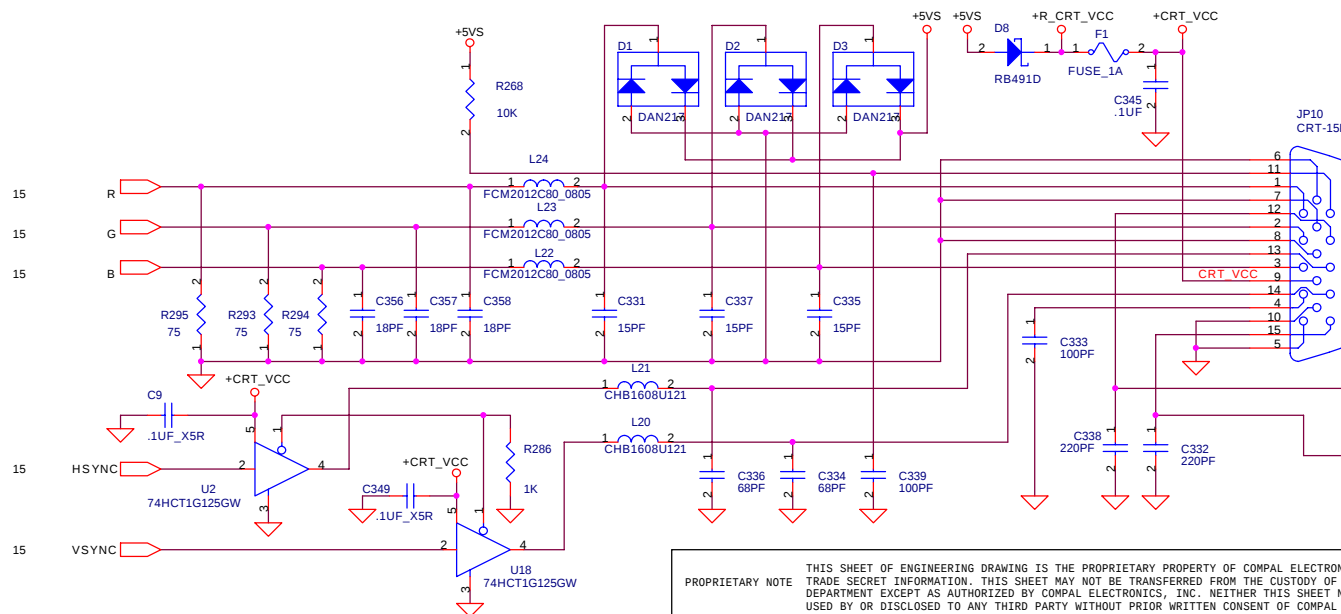
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AND E:	Title		
	nVIDIA NV17M DDR CH-B		
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CRT Connector

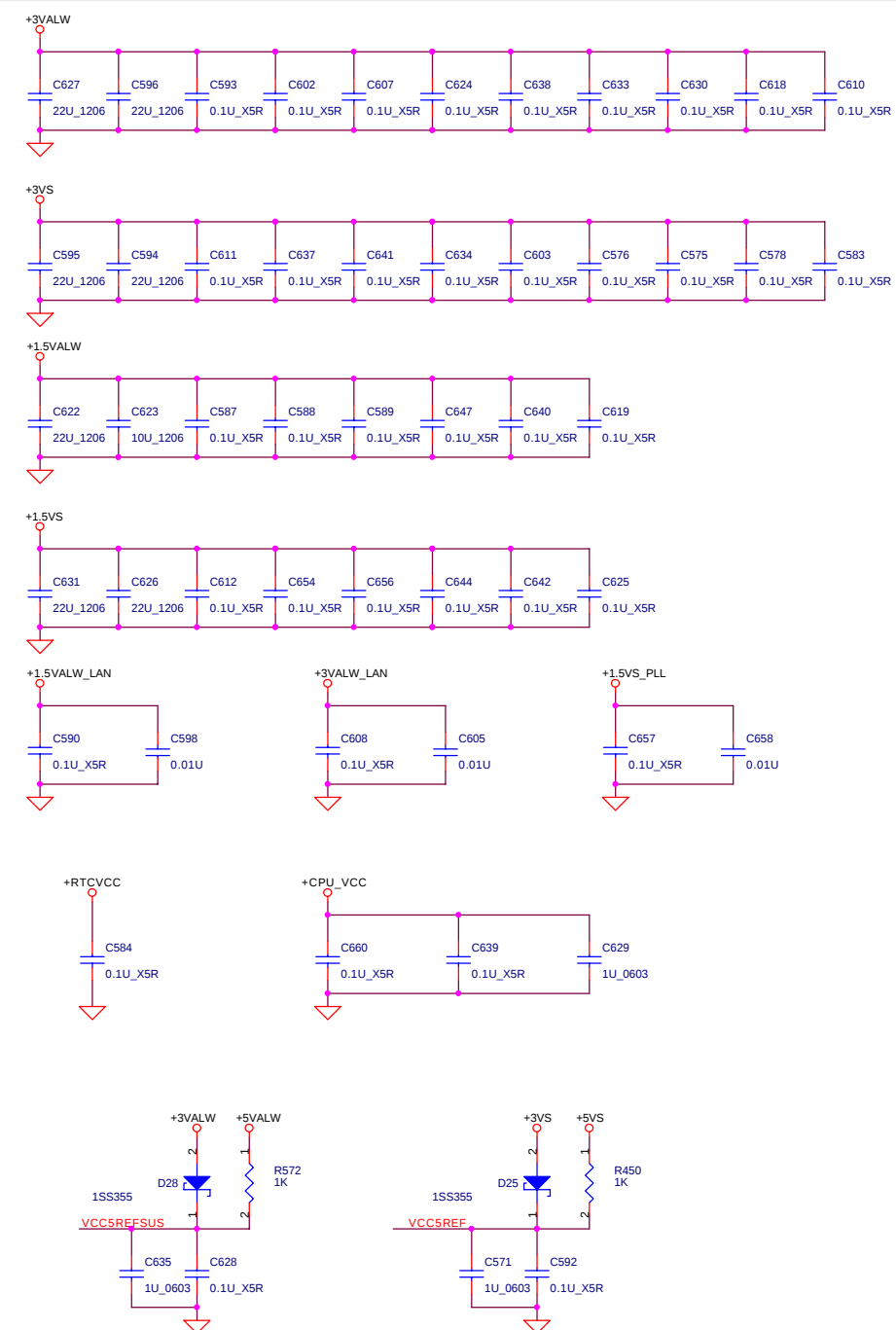
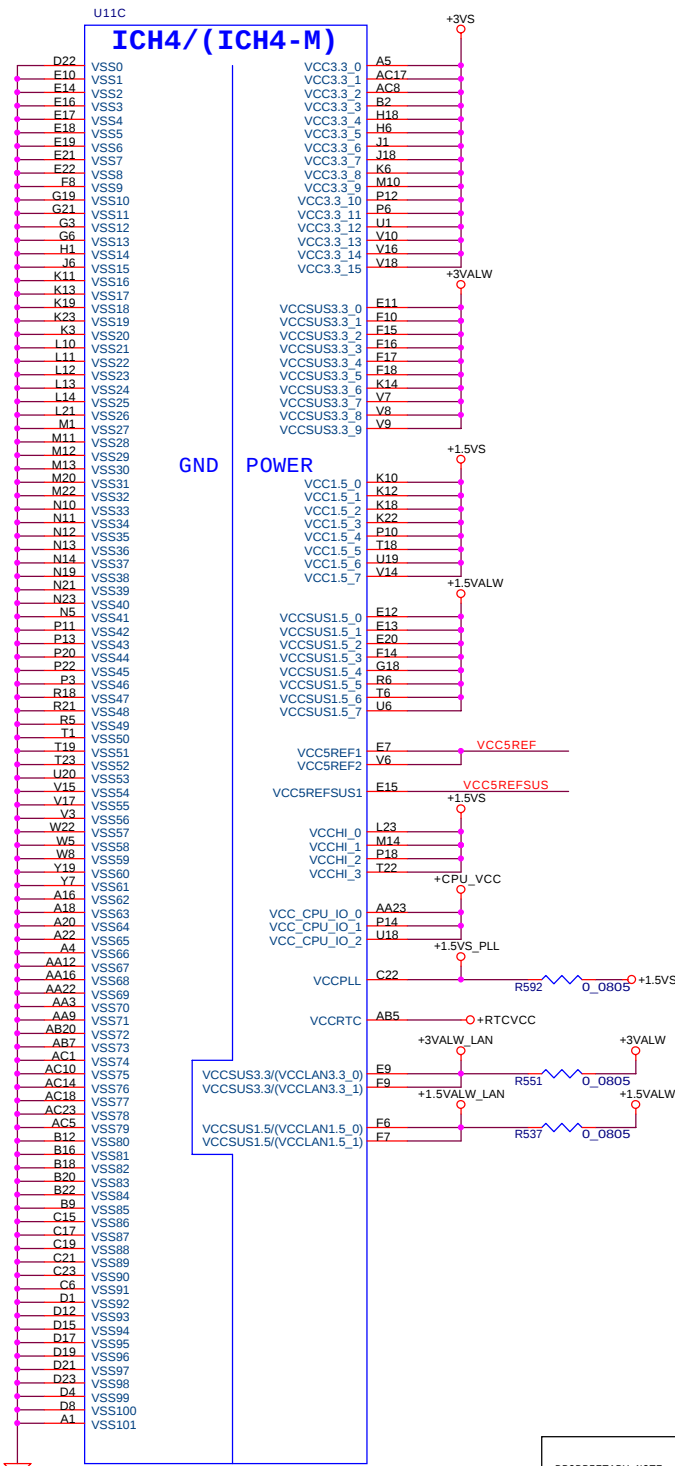


Compal Electronics, Inc.

Title	CRT&TV-OUT Connector
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Size	Document Number
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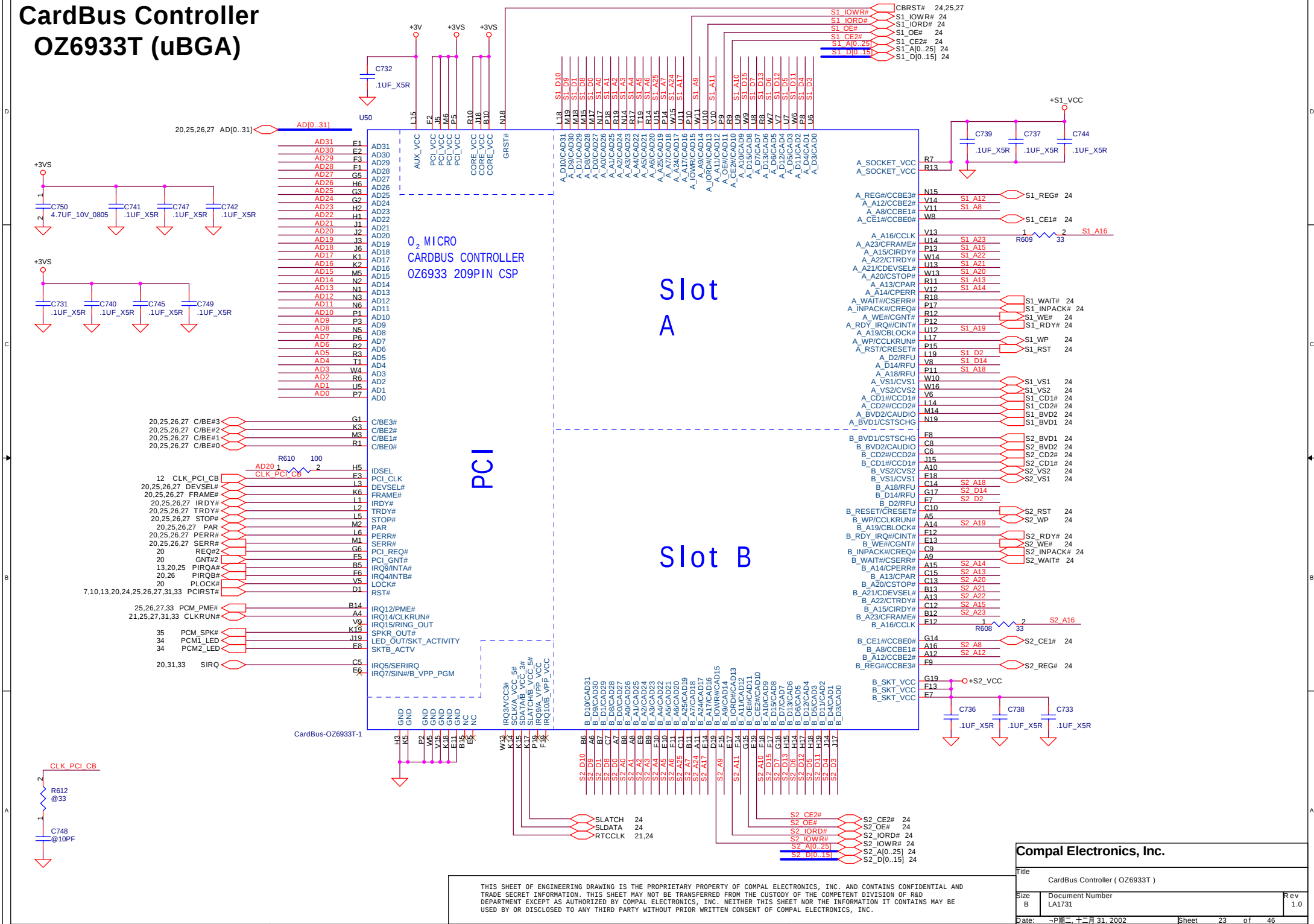
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CardBus Controller

OZ6933T (uBGA)

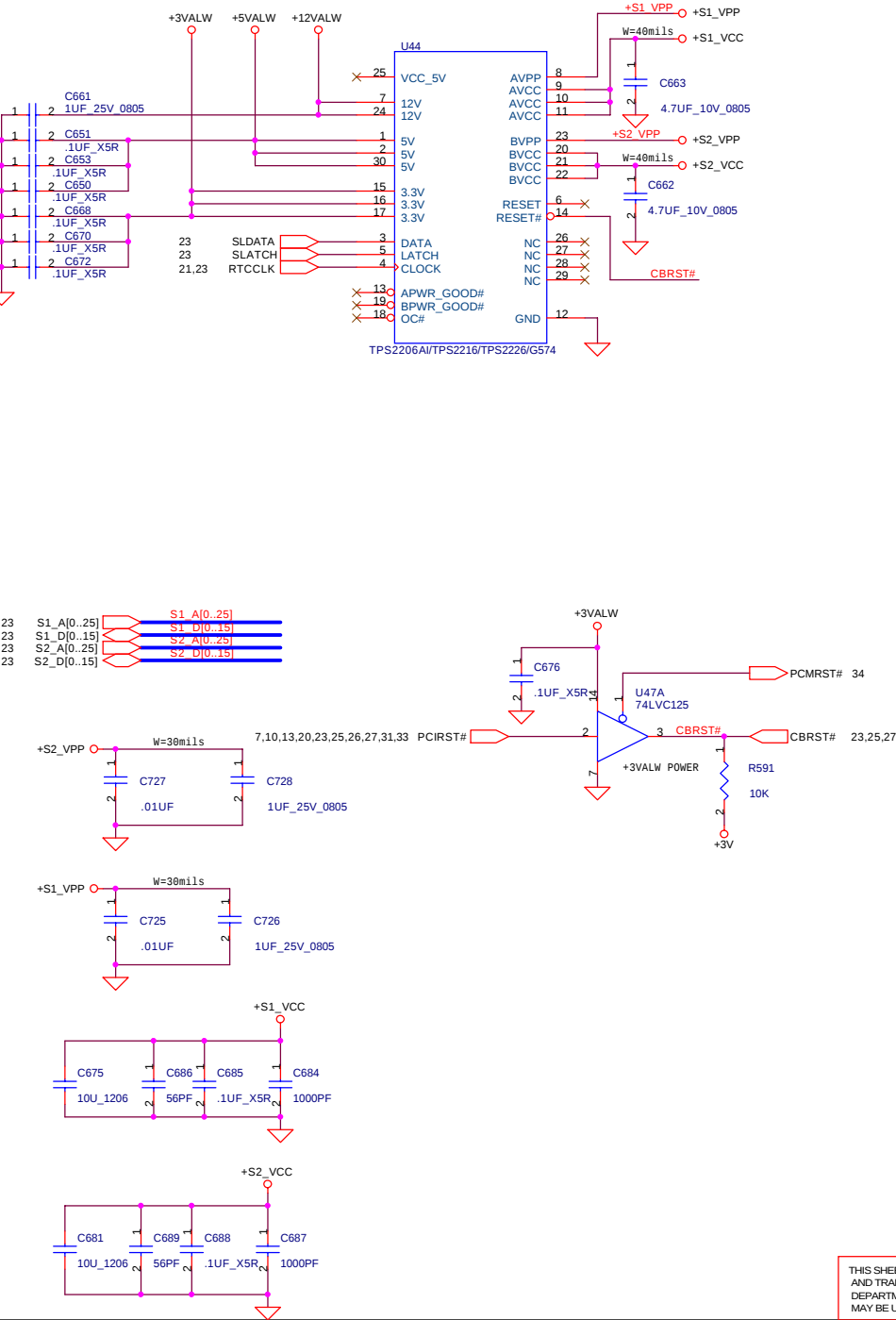


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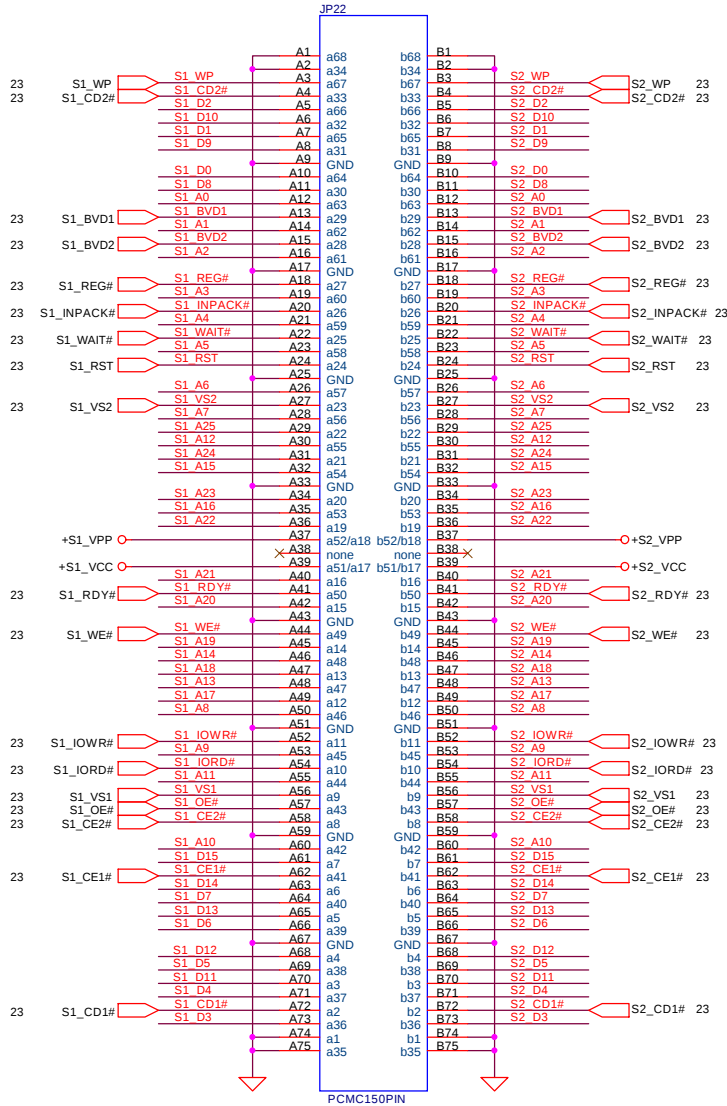
Compal Electronics, Inc.

Title			
CardBus Controller (OZ6933T)			
Size B	Document Number LA1731		Rev 1.0
Date:	~P期二, 十二月 31, 2002	Sheet	23 of 46

PCMCIA POWER CTRL.



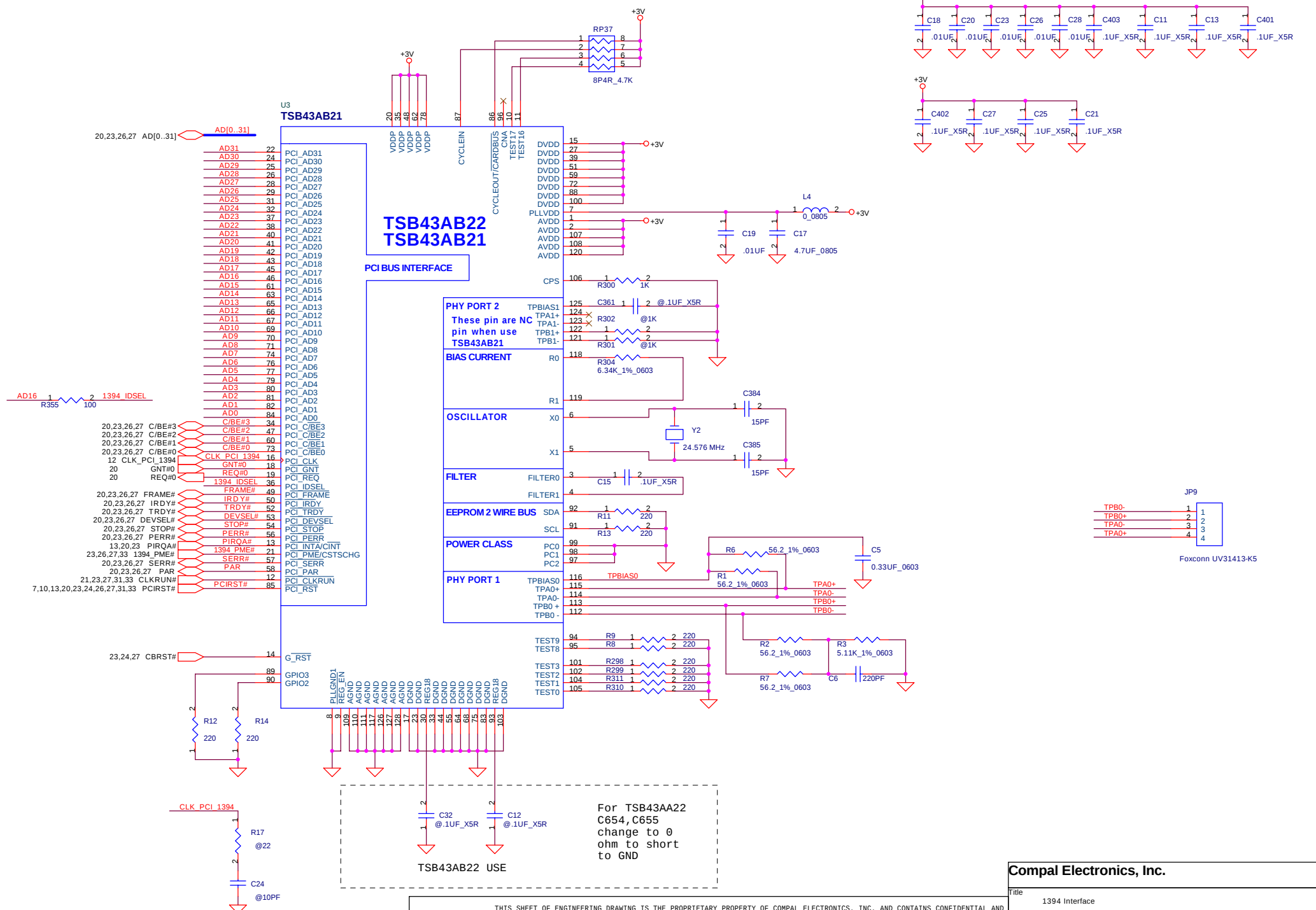
CARDBUS
SOCKET



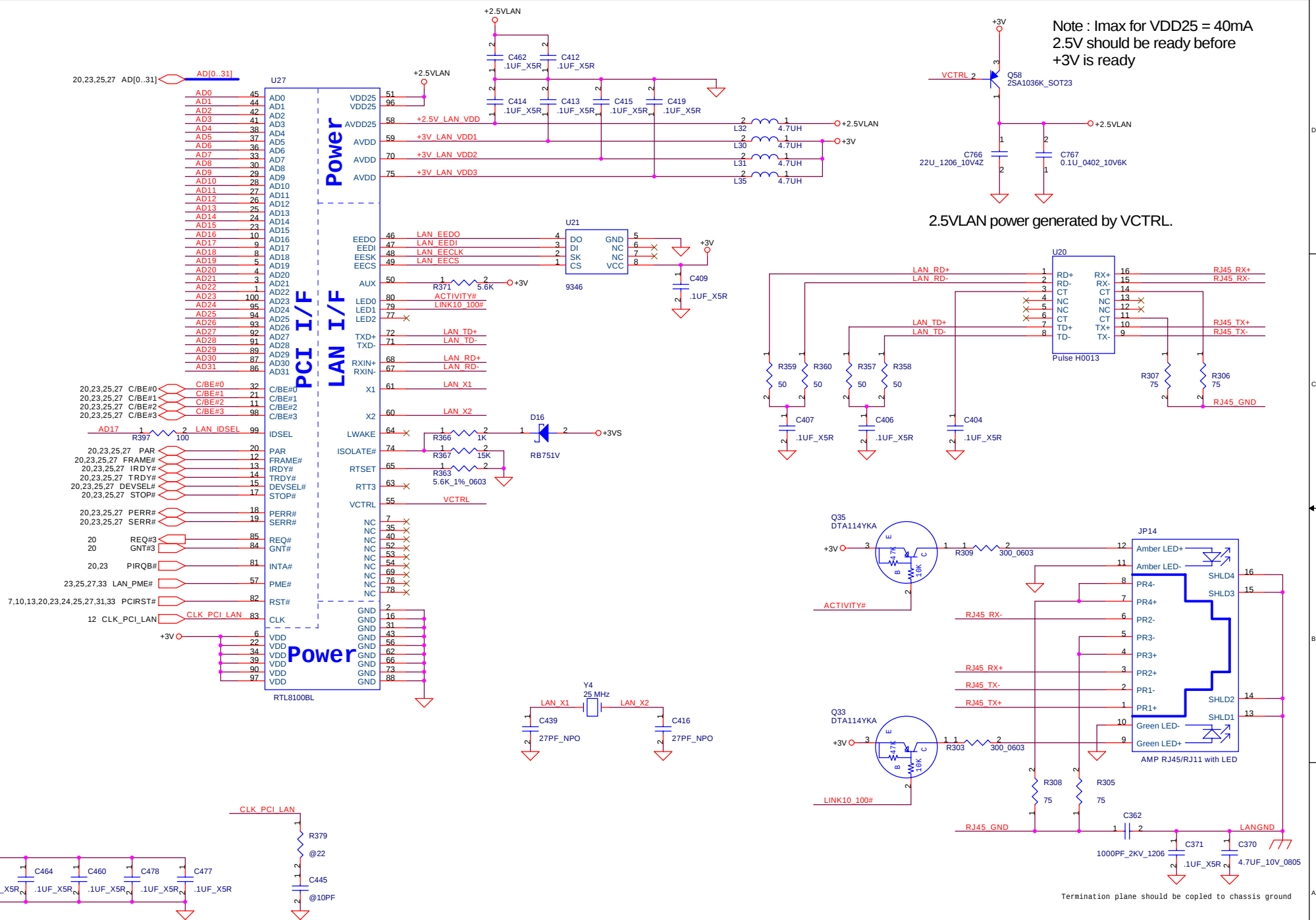
Compal Electronics, Inc

Title			
FCI PCMCIA SOCKET			
Size	Document Number		Rev
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Date:	~P期二, 十二月 31, 2002		Sheet 24 of 46

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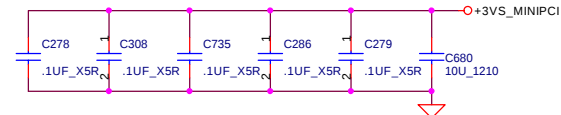


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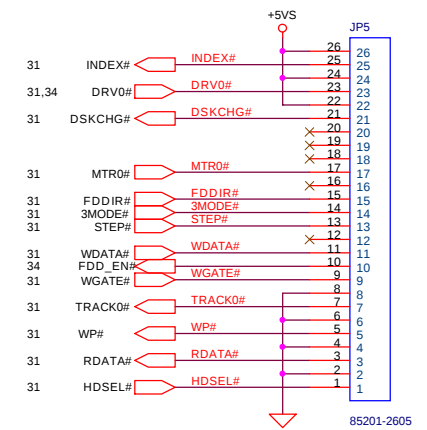
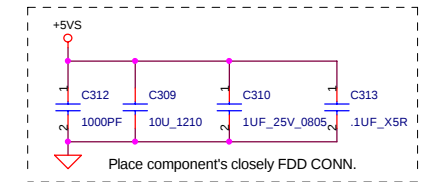
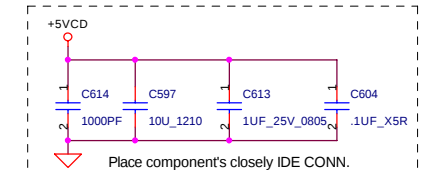
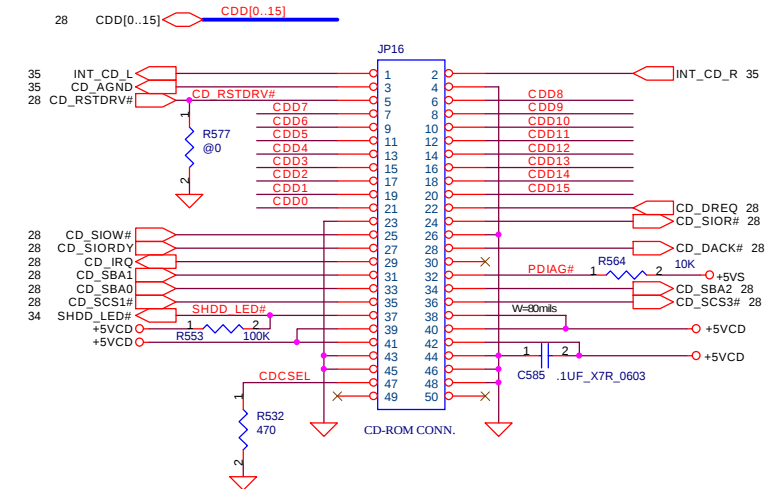
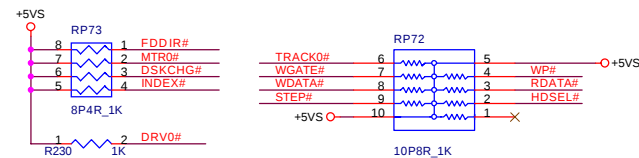
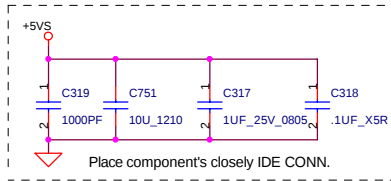
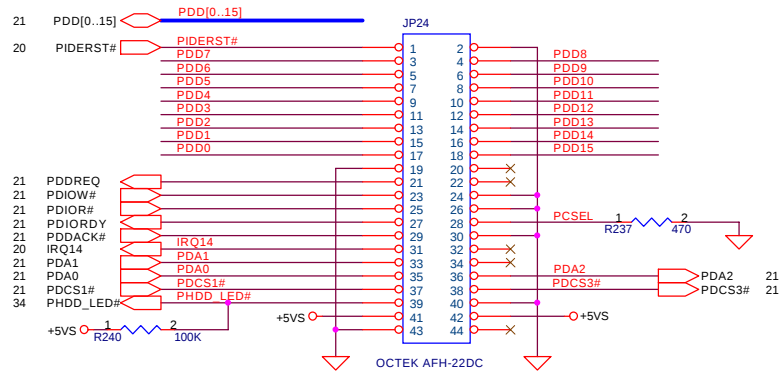


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Title LAN REALTEK RTL8100BL			
Size B	Document Number LA1731	Rev 1.0	
Date: ~P期二, 十二月 31, 2002	Sheet 26	of 46	

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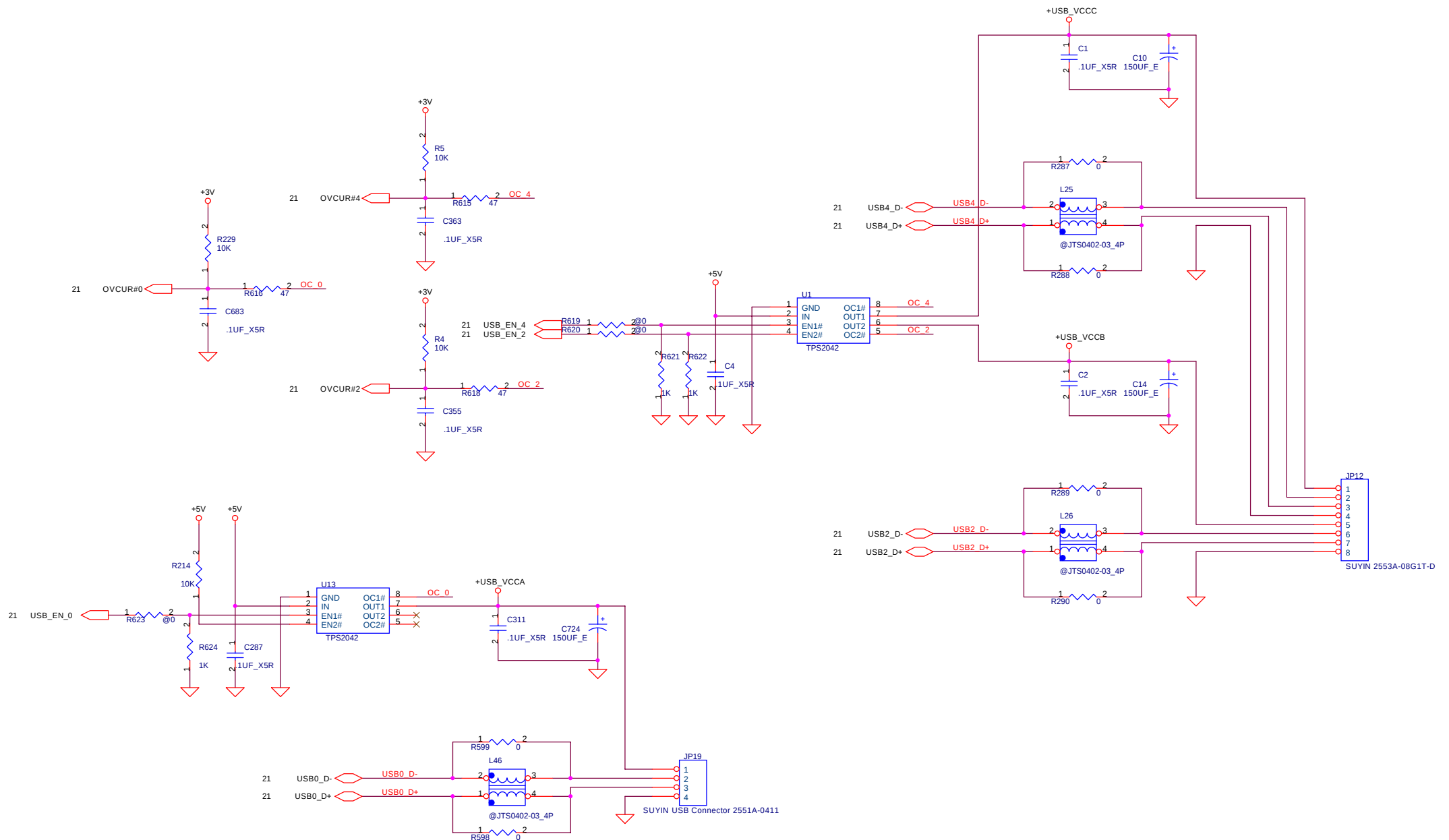


IDE,CD-ROM Module CONN.



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Compal Electronics, Inc			
Title IDE/ FDD MODULE CONN.			
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Compal Electronics, Inc

Title
USB & FIR

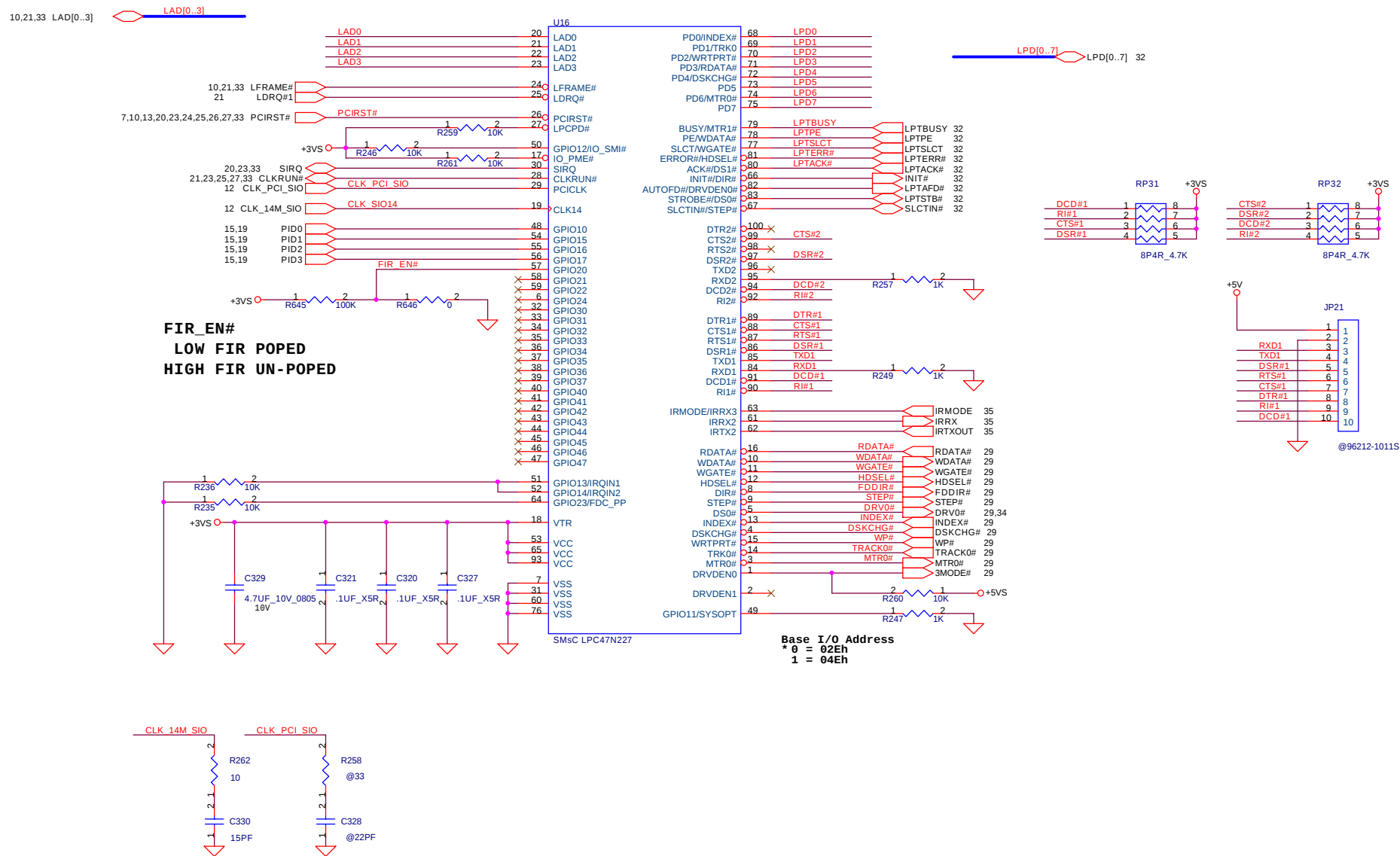
Size B Document Number
LA1731

Rev
1.0

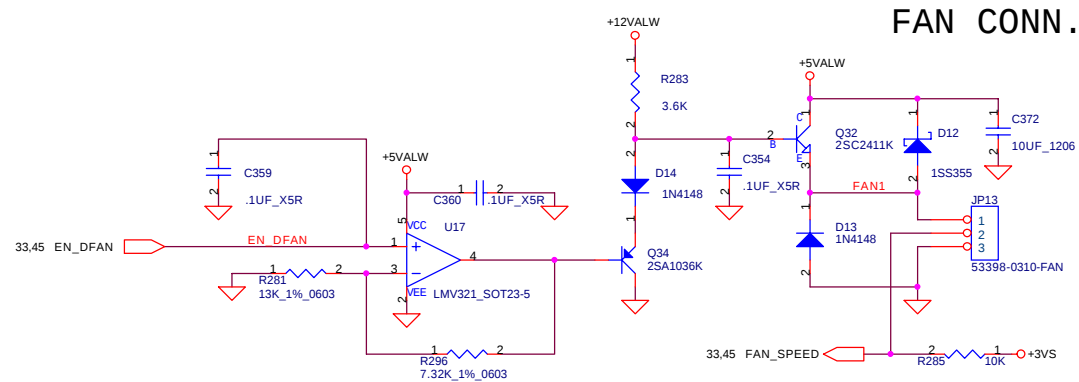
Date: ~P期二, 十二月 31, 2002

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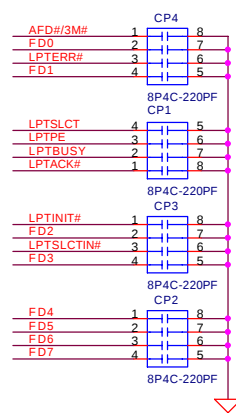
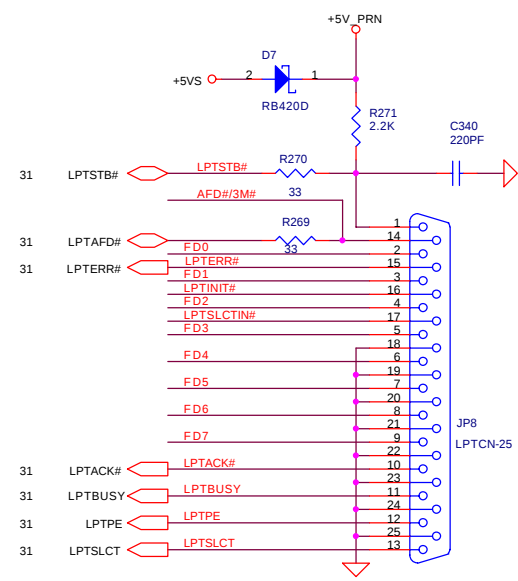
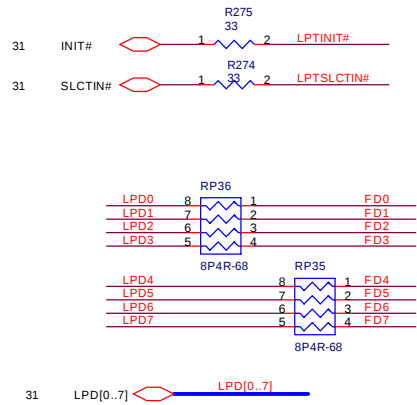
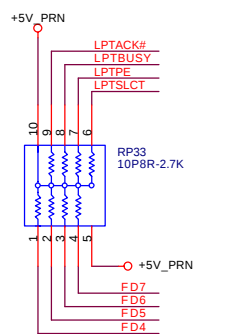
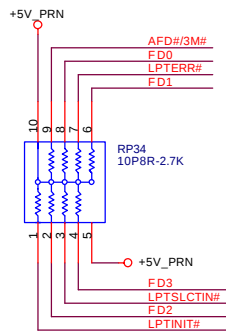
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FAN CONN.

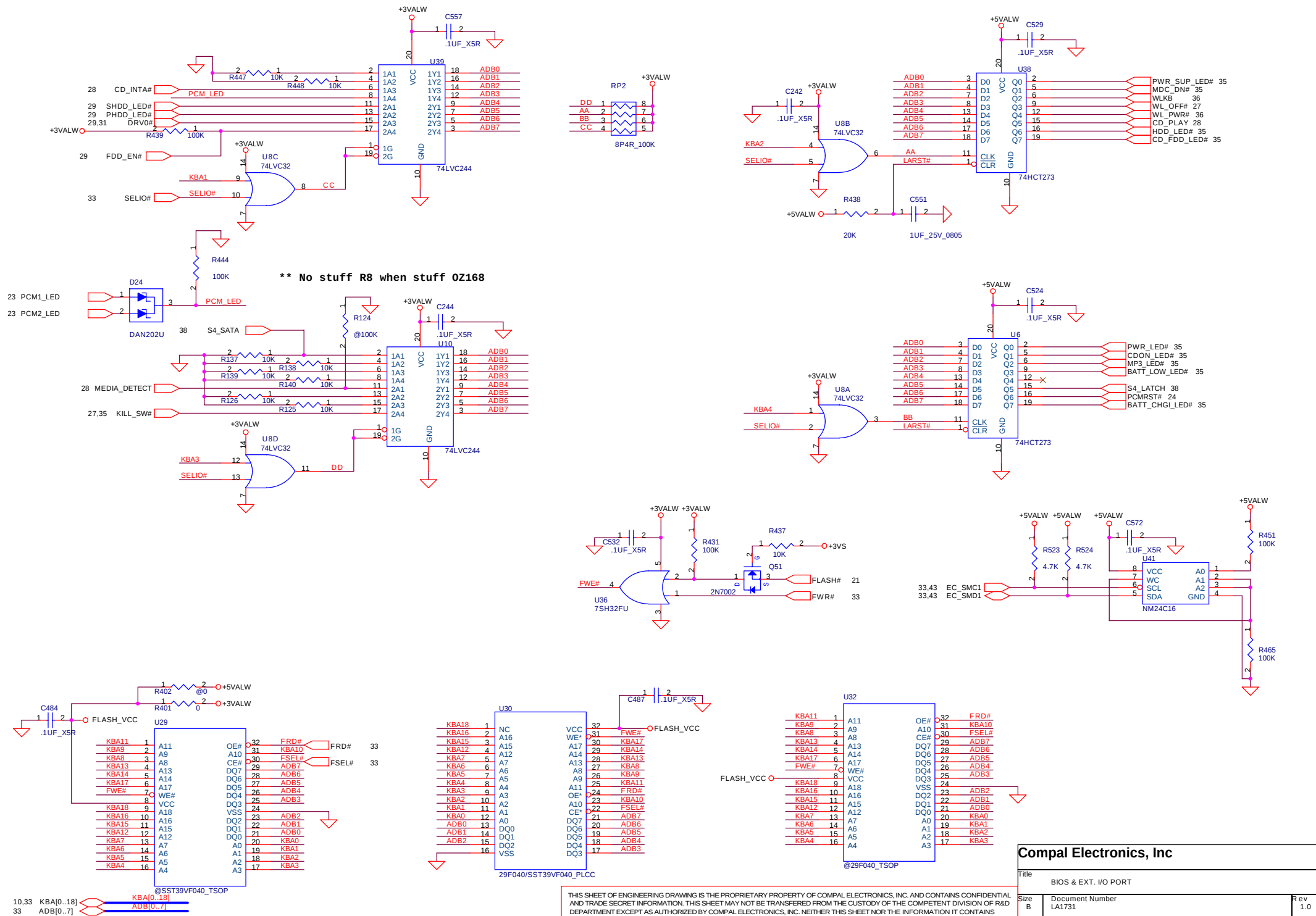


PARALLEL PORT



Compal Electronics, Inc.			
Title PARALLEL PORT			
Size B	Document Number LA1731	Rev 1.0	
Date: ~P 周二, 十二月 31, 2002	Sheet 32	of 46	

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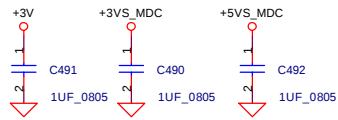
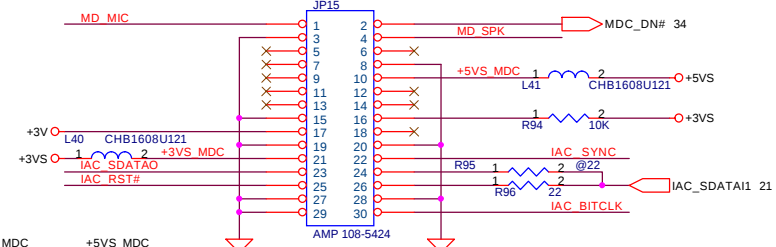
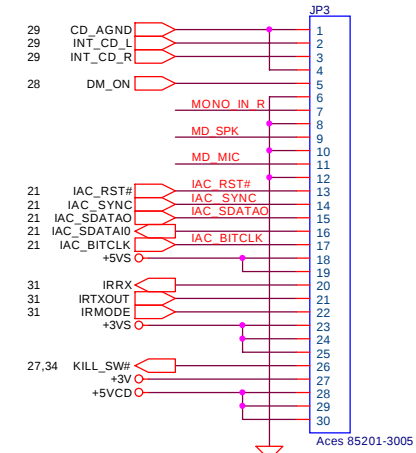
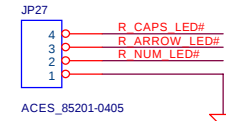
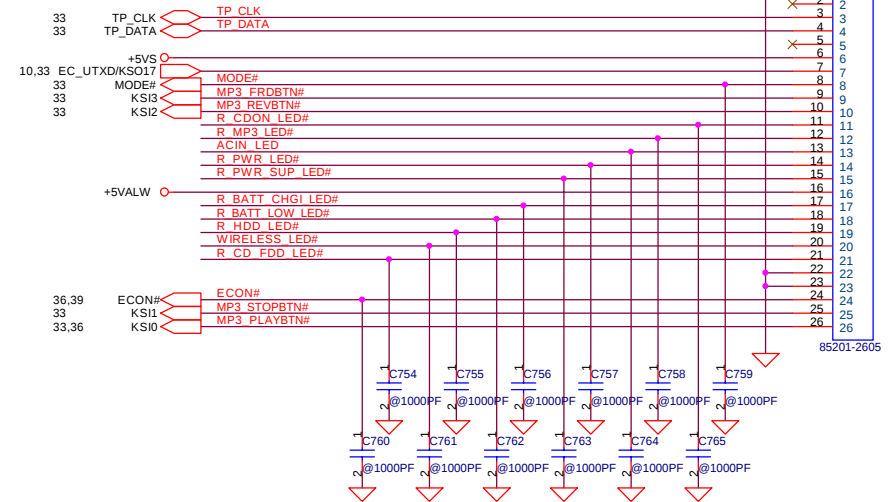
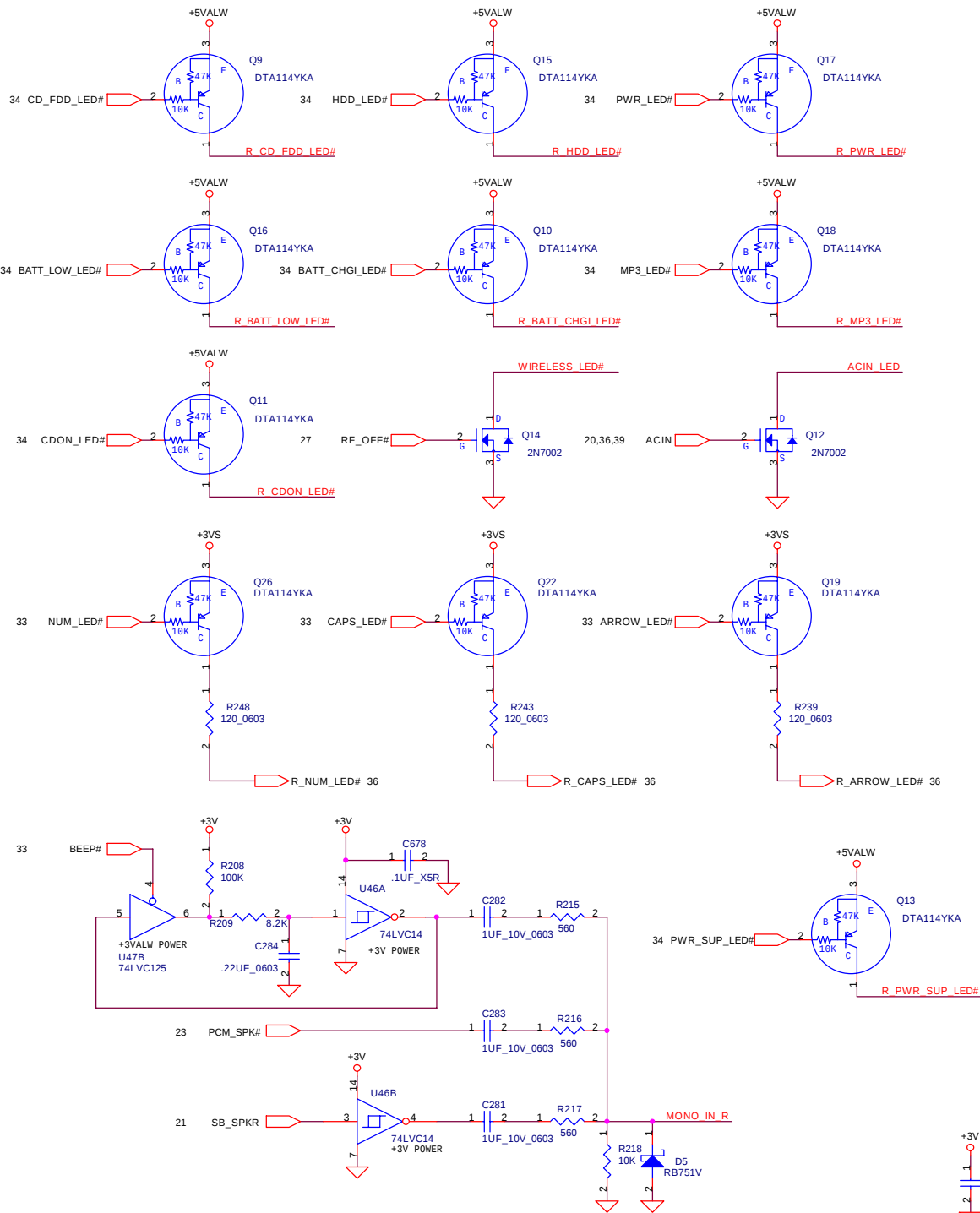
Compal Electronics, Inc

Title BIOS & EXT. I/O PORT

Size B Document Number LA1731 Rev 1.0

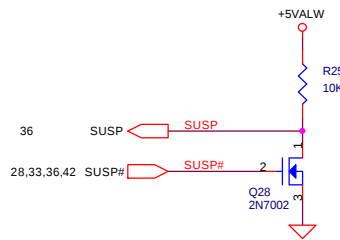
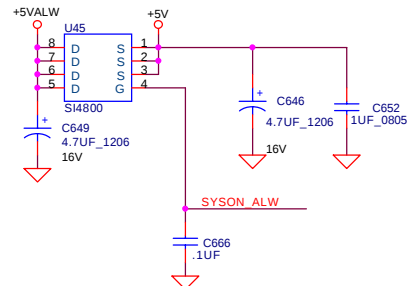
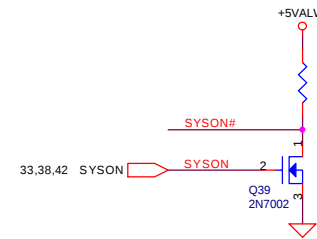
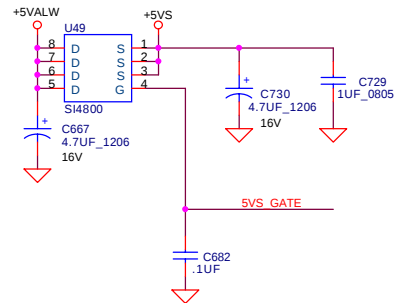
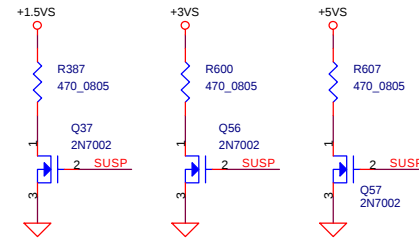
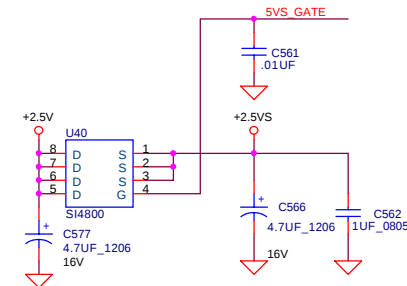
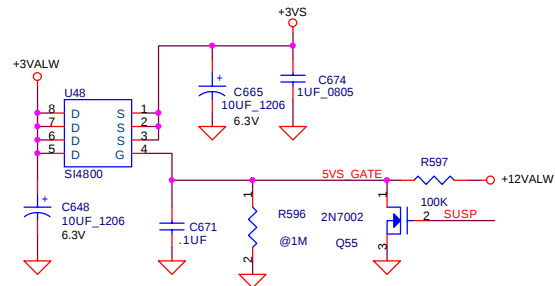
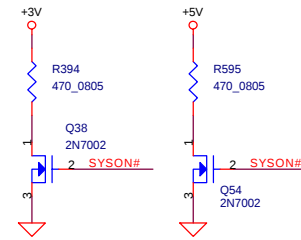
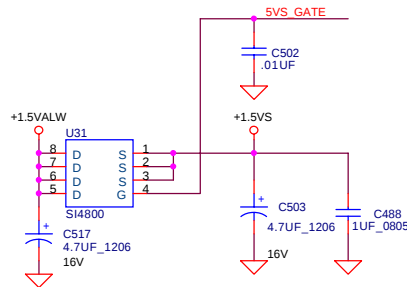
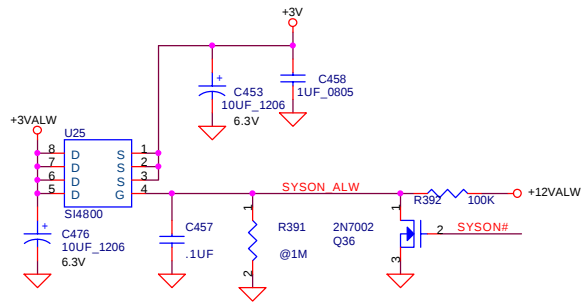
Date: ~P期二, 十二月 31, 2002 Sheet 34 of 46

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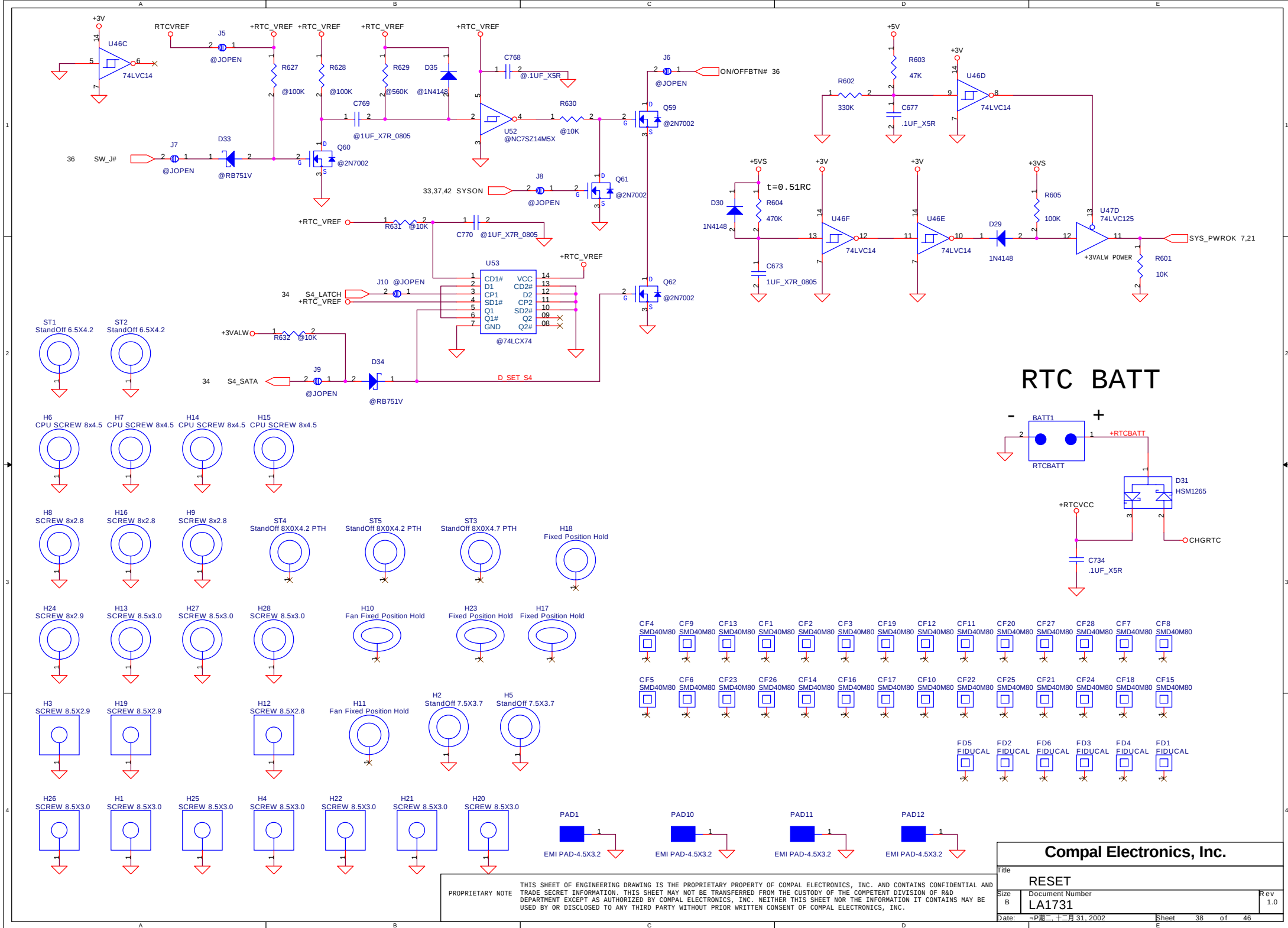
Compal Electronics, Inc.			
Title Switches & Connectors			
Size B	Document Number LA1731	Rev 1.0	
Date: ~P期二,十二月31,2002	Sheet 35	of 46	

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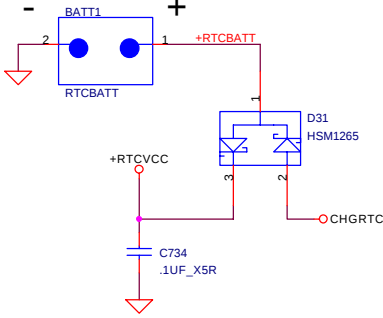


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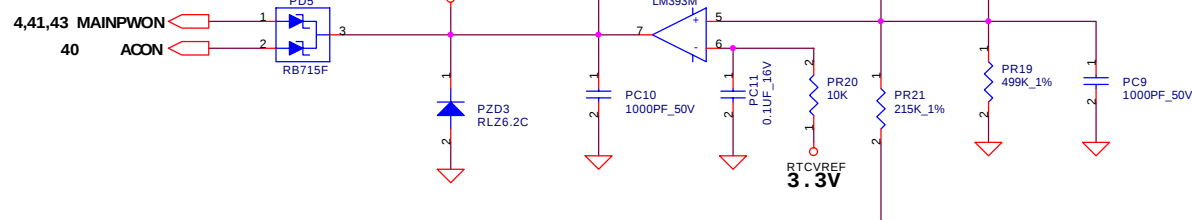
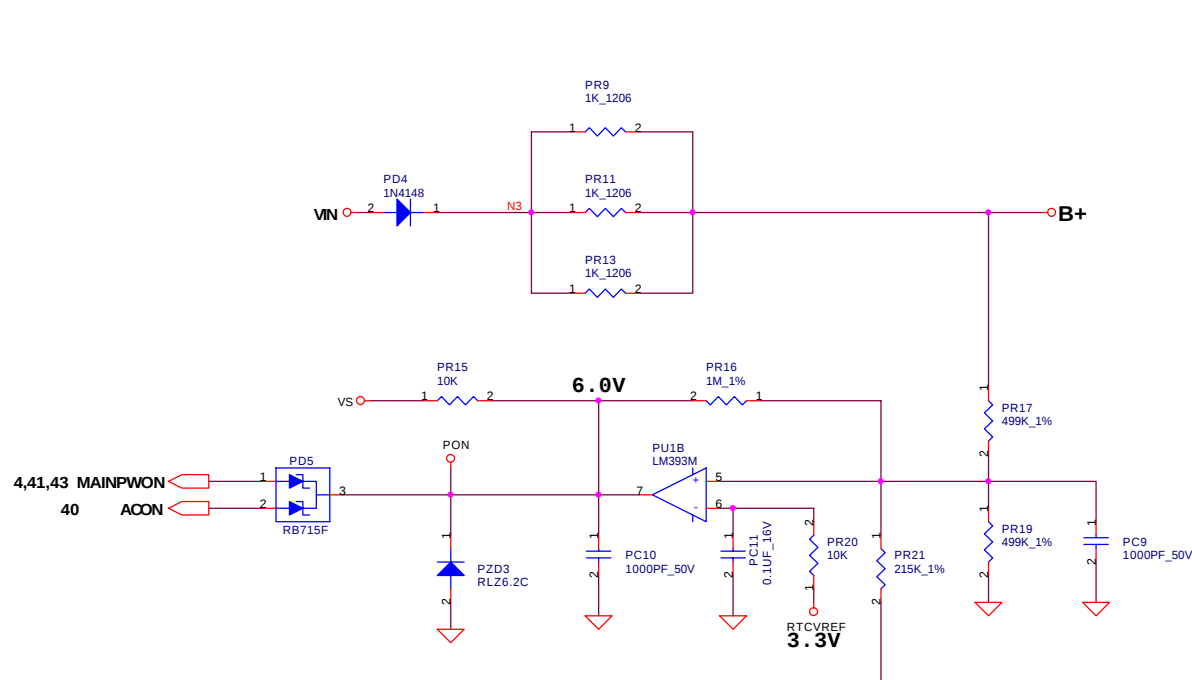
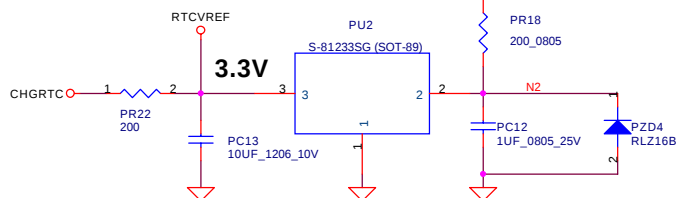
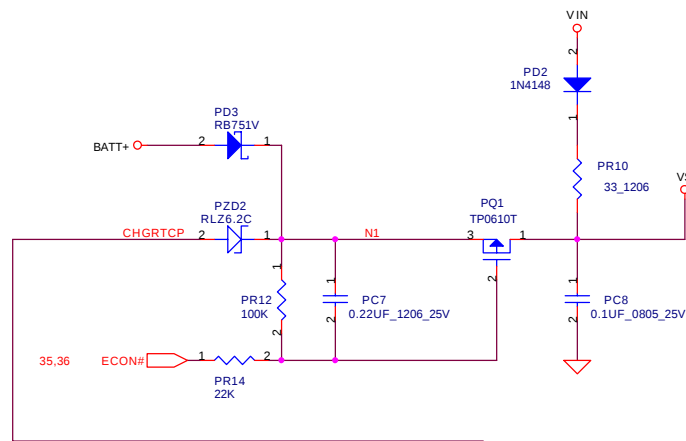
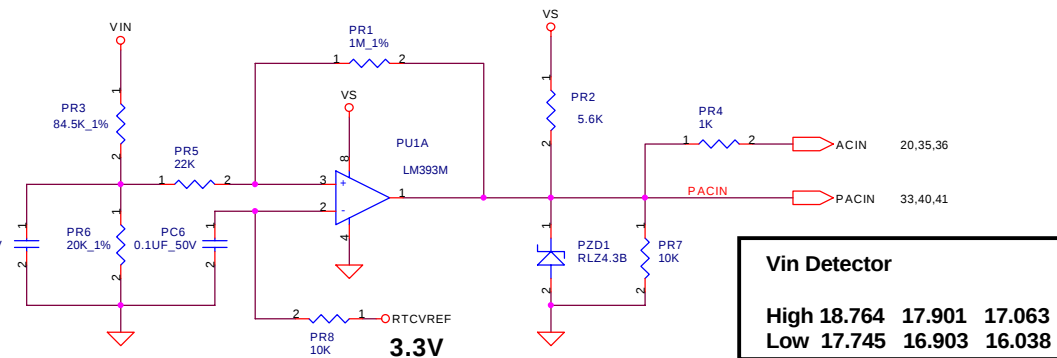
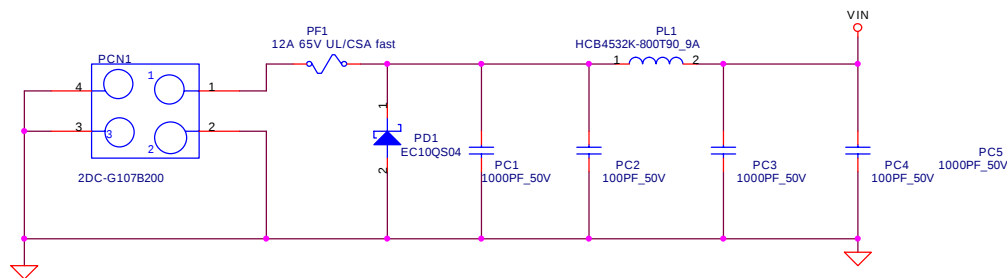
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Title	POWER CONTROL CKT		
Size	Document Number	Rev	
B	LA1731	1.0	
Date:	~P期四, 一月 02, 2003	Sheet	37 of 46



RTC BATT



Compal Electronics, Inc.			
Title	RESET		
Size	Document Number	Rev	
B	LA1731	1.0	
Date:	2002.12.31	Sheet	38 of 46



+2.5VP 1 PJP1 2 +2.5V (6A,240mils ,Via NO.= 12)

+1.5VIN 2 PJP3 1 +1.5VALW (3A,120mils ,Via NO.= 6)

+1.2VPP 2 PJP6 1 +1.2VP (300mA,40mils ,Via NO.= 2)

+12VALWP 2 PJP5 1 +12VALW (120mA,20mils ,Via NO.= 1)

+5VALWP 1 PJP7 2 +5VALW (5A,200mils ,Via NO.= 10)

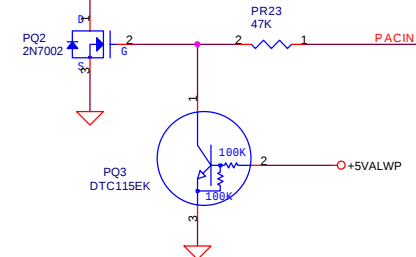
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+1.25VSP 1 PJP2 2 +1.25VS (3A,120mils ,Via NO.= 6)

+12VP_FAN 1 PJP10 2 +VP_FAN (1.5A,60mils ,Via NO.= 3)

+VDD_CORE 1 PJP11 2 +VGA_CORE (4A,160mils ,Via NO.= 8)

Precharge detector			
15.34	15.90	16.48	
13.13	13.71	14.20	

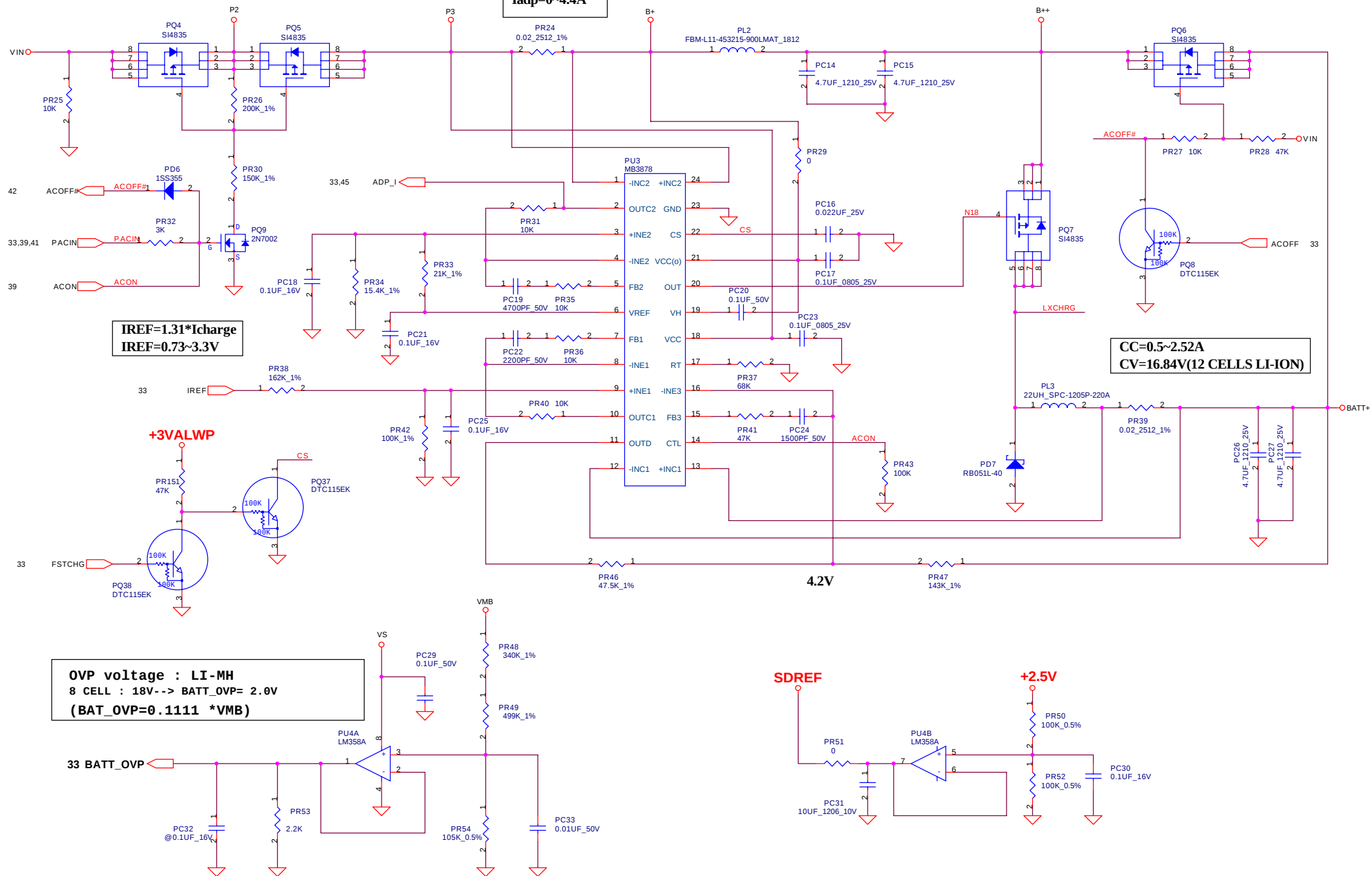


Compal Electronics, Inc.

Title			
DCIN & DETECTOR			
Size	Document Number		Rev
B	LA1611		1.0
Date: P圖二,十二月31,2002			
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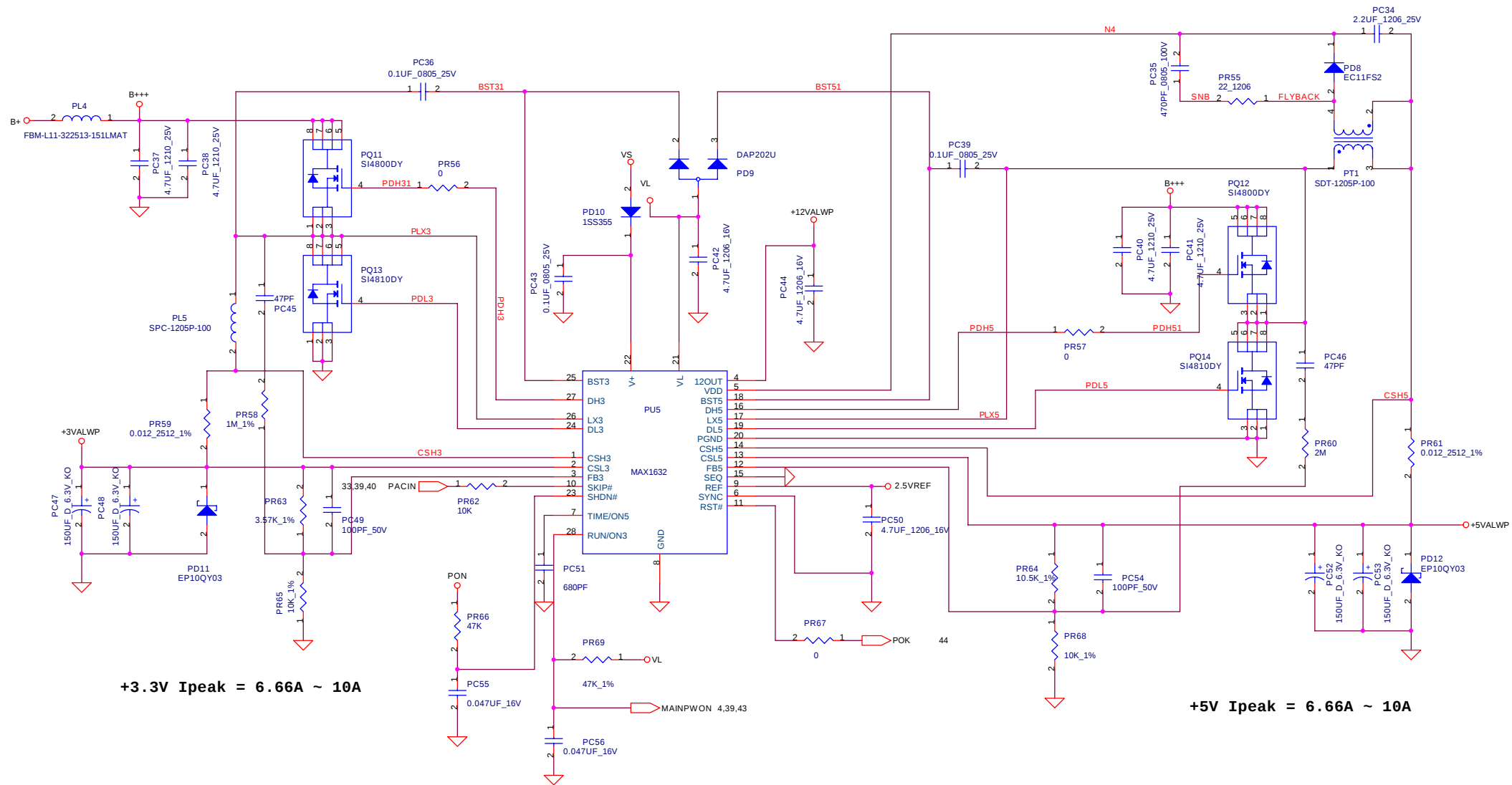
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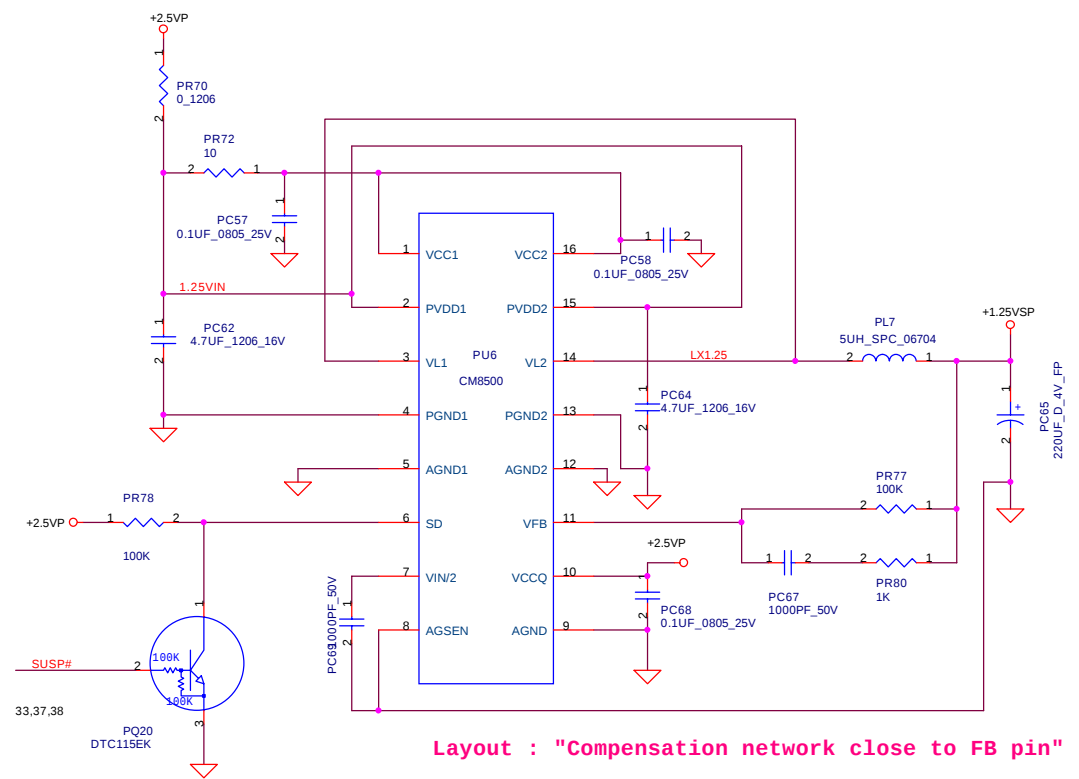
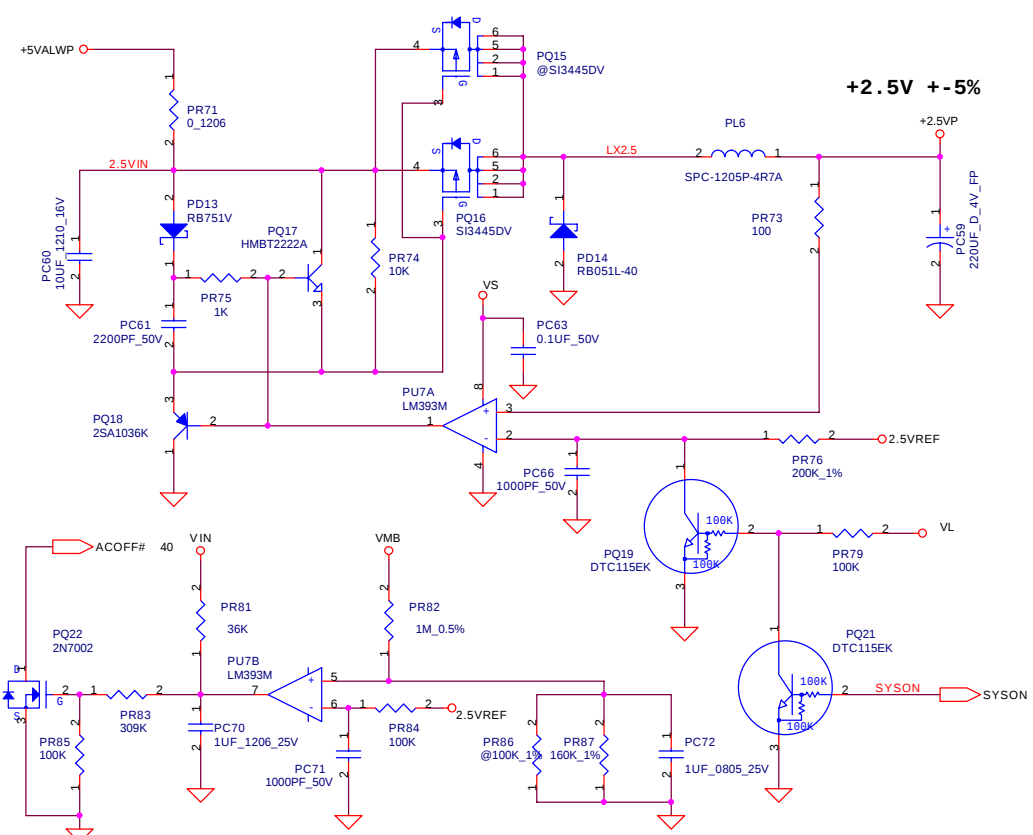
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Compal Electronics, Inc.			
Title	CHARGER		
Size	Document Number	LA1611	
B			Rev 1.0
Date:	~P 周二, 十二月 31, 2002	Sheet	40 of 46

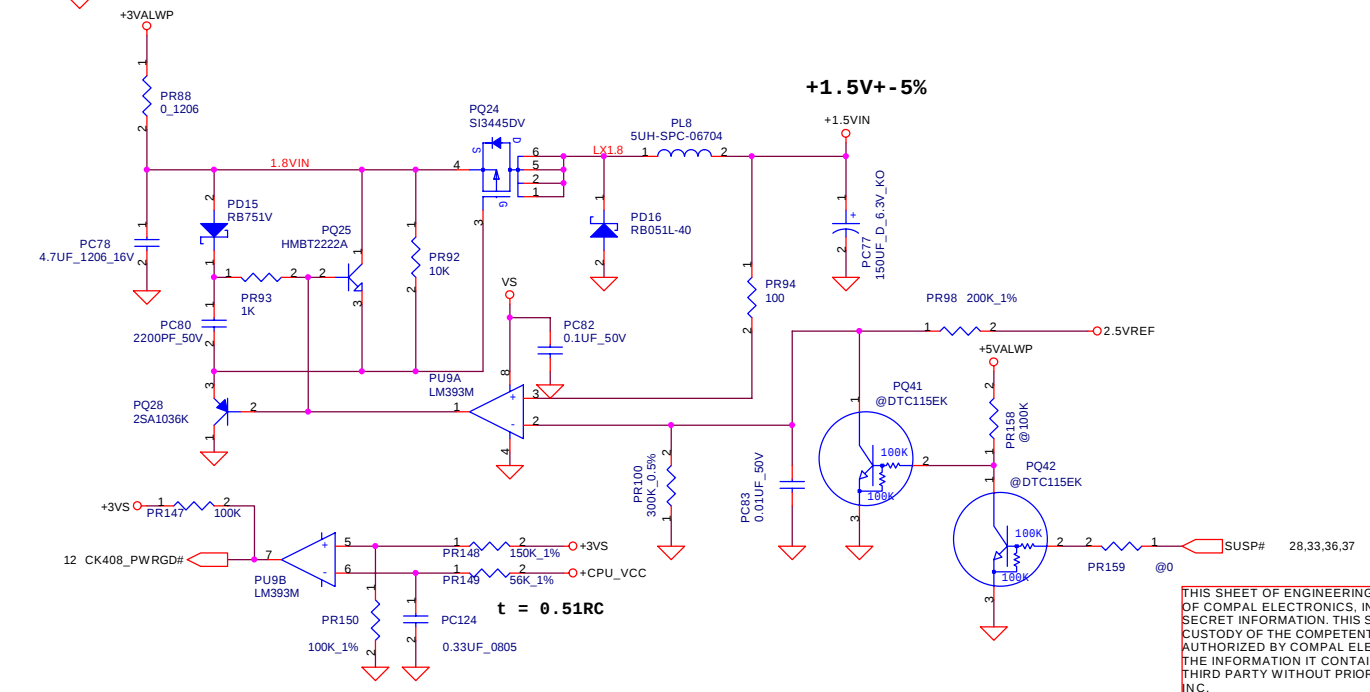


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Compal Electronics, Inc.			
Title	5V/3.3V/12V		
Size	Document Number	Rev	
B	LA1611	1.0	
Date:	2002.12.31	Sheet	41 of 46

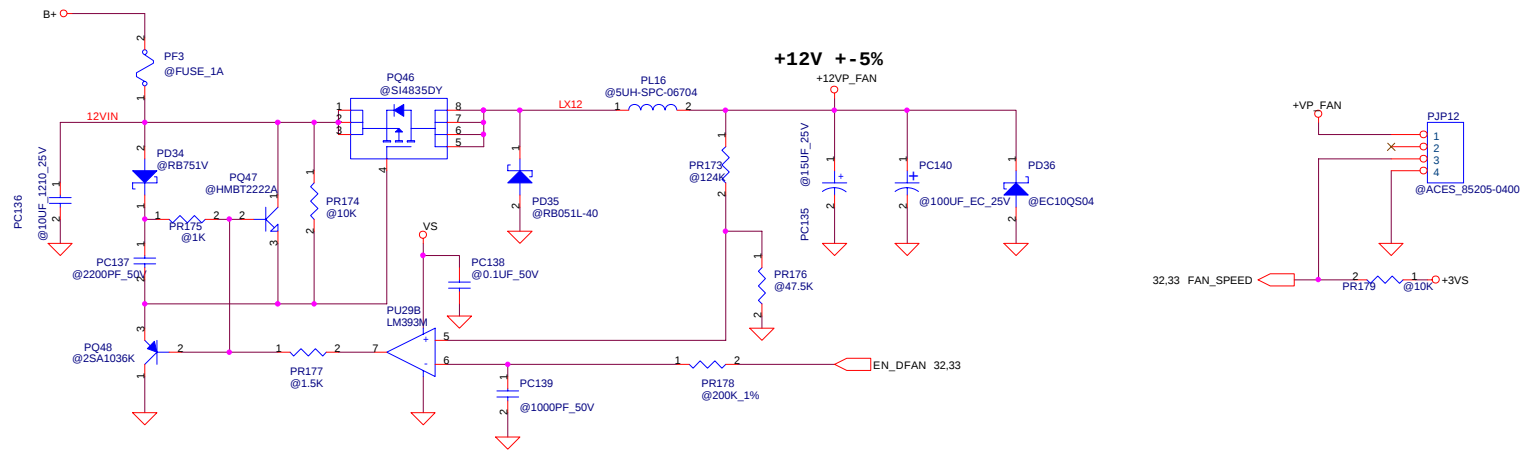
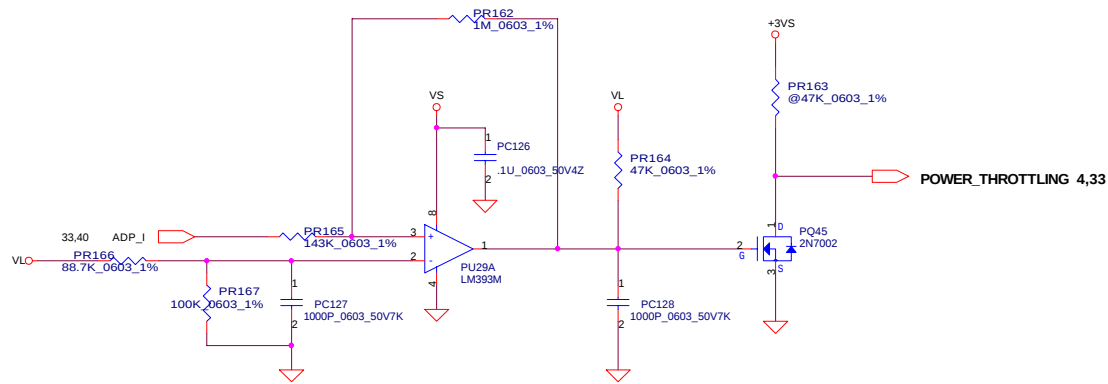


Layout : "Compensation network close to FB pin"



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Manchester 200Z PIR LIST

***** Rev0.1 PIR List *****

12/16/02 P.16 PR145 124K Change to 97.6K
12/16/02 P.39 PCN1 Change to 20C-G107B200
12/16/02 P.44 PR169 Change to @0
12/16/02 P.45 PR162, PR164, PR165, PR166, PR167, PC126, PC127, PC128, PQ45, PU29A Remove @

12/17/02 P.33

12/19/02 P.4 R92 Remove @

12/31/02 P.37 C682, C457, C666, C671 Change to 0.1u // for Panel Flash When AC-IN

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