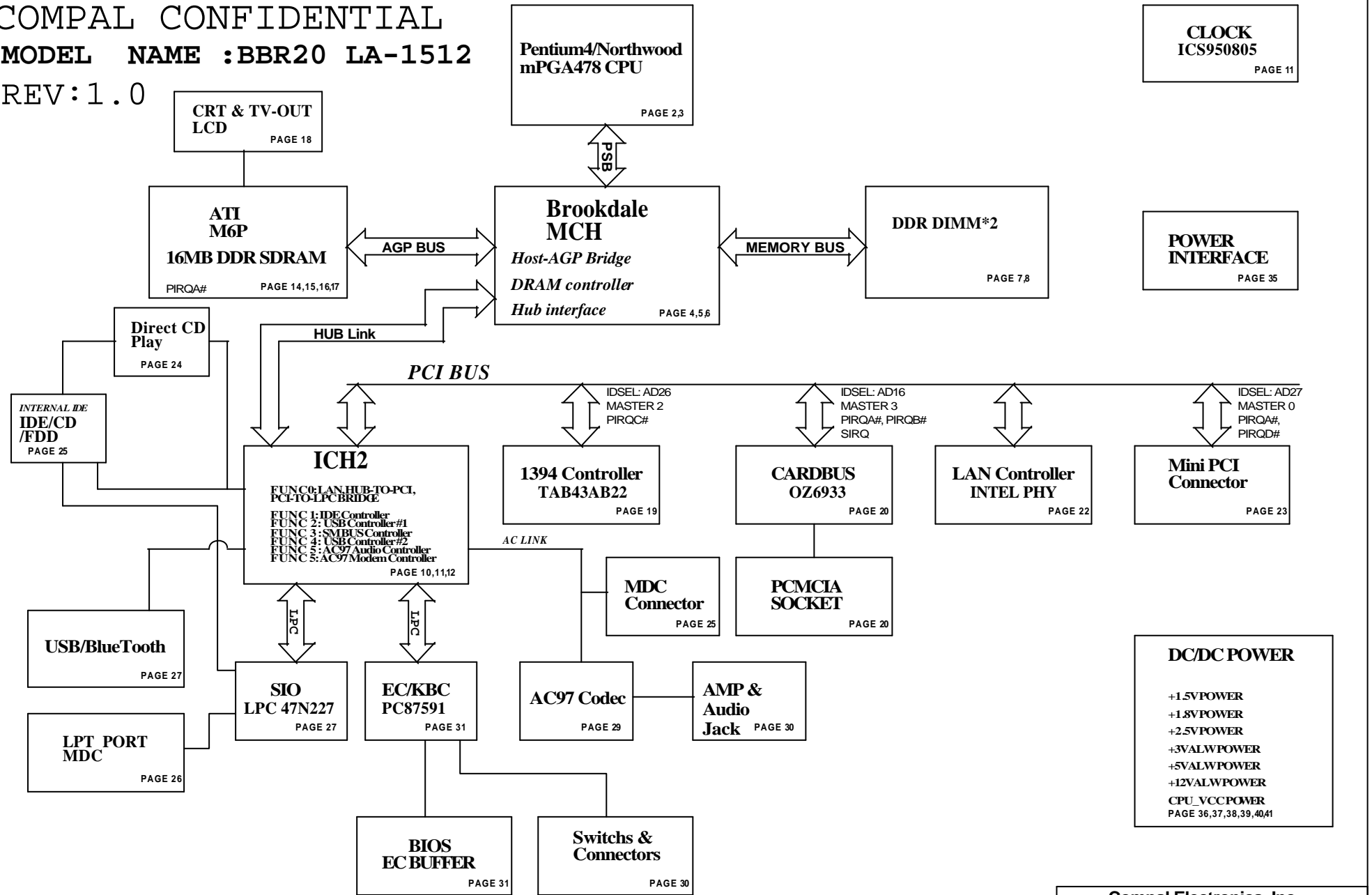
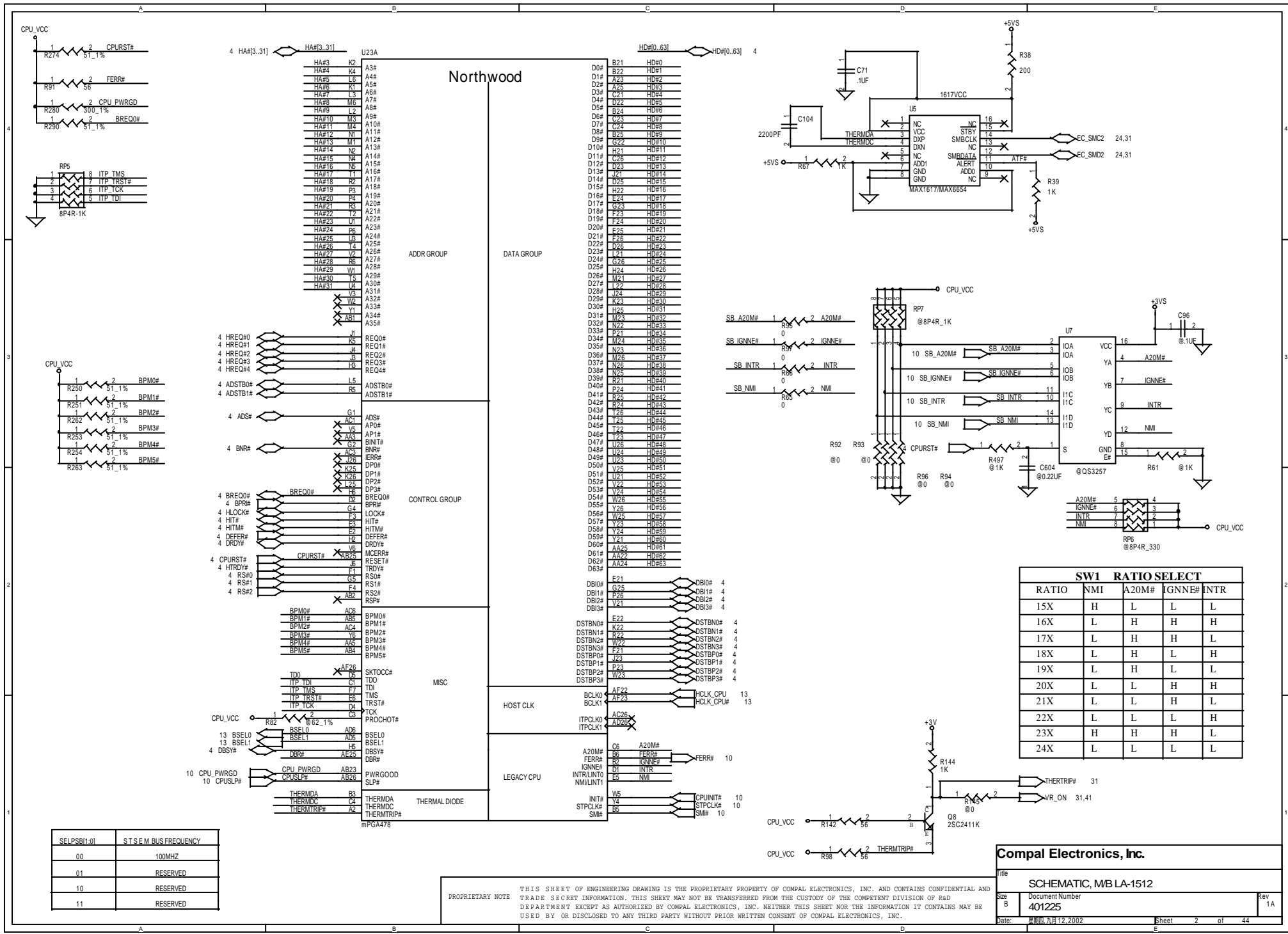


COMPAL CONFIDENTIAL
 MODEL NAME : BBR20 LA-1512
 REV: 1.0



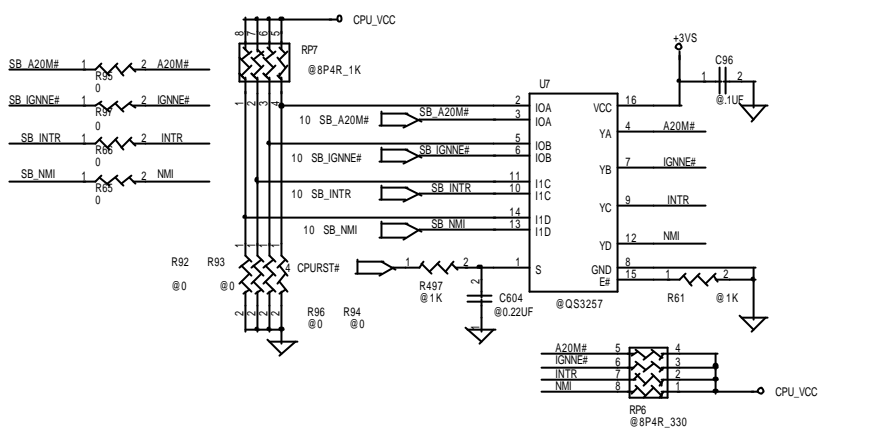
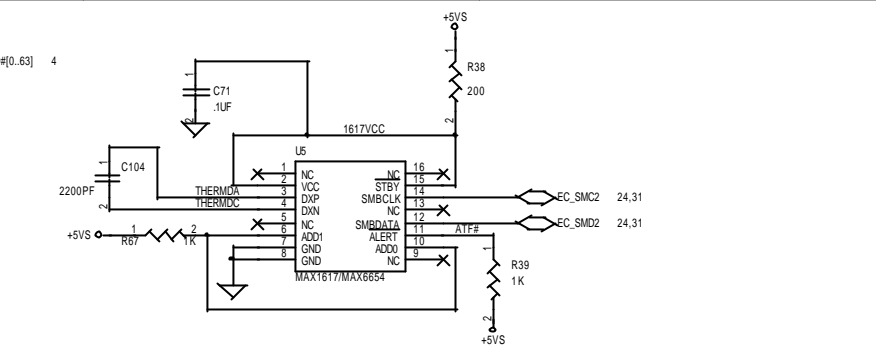
Compal Electronics, Inc.		
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Size	Document Number	REV
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Northwood

4 HA#[3..31] HA#[3..31]		U23A		HD#[0..63] HD#[0..63]	
HA#3	K2	A3#	B21	HD#0	
HA#4	K4	A4#	B22	HD#1	
HA#5	L6	A5#	A23	HD#2	
HA#6	K1	A6#	A25	HD#3	
HA#7	L3	A7#	C21	HD#4	
HA#8	M8	A7#	D22	HD#5	
HA#9	L2	A8#	B24	HD#6	
HA#10	M3	A9#	C23	HD#7	
HA#11	M4	A10#	C24	HD#8	
HA#12	N1	A11#	D26	HD#9	
HA#13	M1	A12#	G22	HD#10	
HA#14	N2	A13#	H21	HD#11	
HA#15	N4	A14#	C26	HD#12	
HA#16	M5	A15#	D23	HD#13	
HA#17	L1	A16#	I21	HD#14	
HA#18	R2	A17#	D25	HD#15	
HA#19	P3	A18#	H22	HD#16	
HA#20	P4	A19#	E24	HD#17	
HA#21	R3	A20#	G23	HD#18	
HA#22	V2	A21#	F23	HD#19	
HA#23	U1	A22#	F24	HD#20	
HA#24	R6	A23#	E25	HD#21	
HA#25	U8	A24#	F26	HD#22	
HA#26	V4	A25#	D28	HD#23	
HA#27	V2	A26#	L21	HD#24	
HA#28	R6	A27#	G26	HD#25	
HA#29	W1	A28#	H24	HD#26	
HA#30	V5	A29#	M21	HD#27	
HA#31	U4	A30#	L22	HD#28	
HA#31#	U4	A31#	J24	HD#29	
HA#31#	U4	A32#	K23	HD#30	
HA#31#	U4	A33#	M23	HD#31	
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HA#31#	U4	A35#	P21	HD#33	
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REQ3#	H8	REQ3#	N26	HD#37	
REQ4#	R5	REQ4#	N26	HD#38	
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ADSTB1#	R5	ADSTB1#	R21	HD#40	
ADSB#	G1	ADSB#	R24	HD#41	
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AP1#	V5	AP1#	R26	HD#43	
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AP98#	V5	AP98#	V22	HD#140	
AP99#	G2	AP99#	V22	HD#141	
AP100#	A3	AP100#	V22	HD#142	



SW1 RATIO SELECT				
RATIO	NMI	A20M#	IGNNE#	INTR
15X	H	L	L	L
16X	L	H	H	H
17X	L	H	H	L
18X	L	H	L	H
19X	L	H	L	L
20X	L	L	H	H
21X	L	L	H	L
22X	L	L	L	H
23X	H	H	H	L
24X	L	L	L	L

SELPSB1[0]	STSEMBUSFREQUENCY
00	100MHZ
01	RESERVED
10	RESERVED
11	RESERVED

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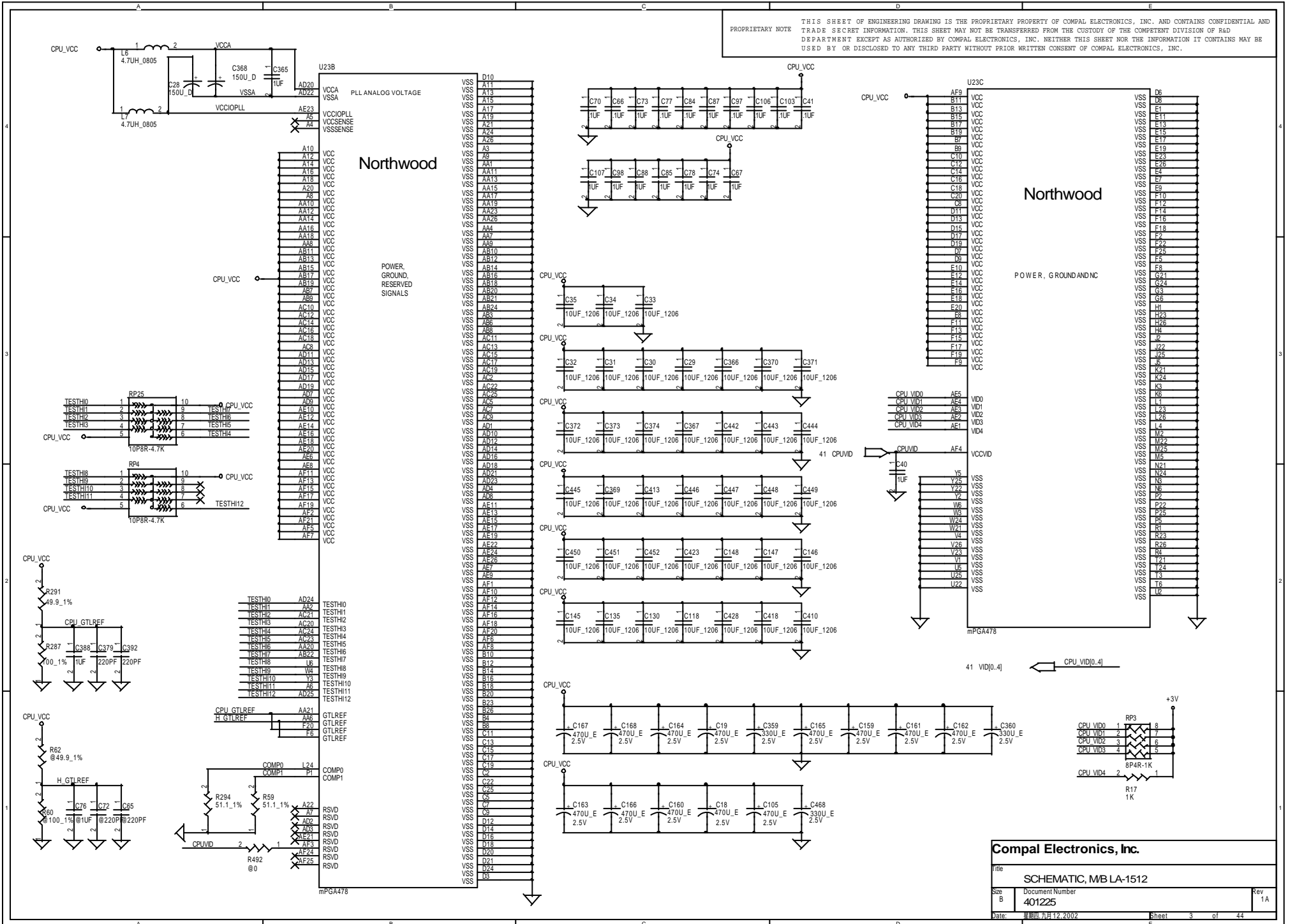
Title: SCHEMATIC, MB LA-1512

Doc Number: 401225

Date: 2002年12月12日

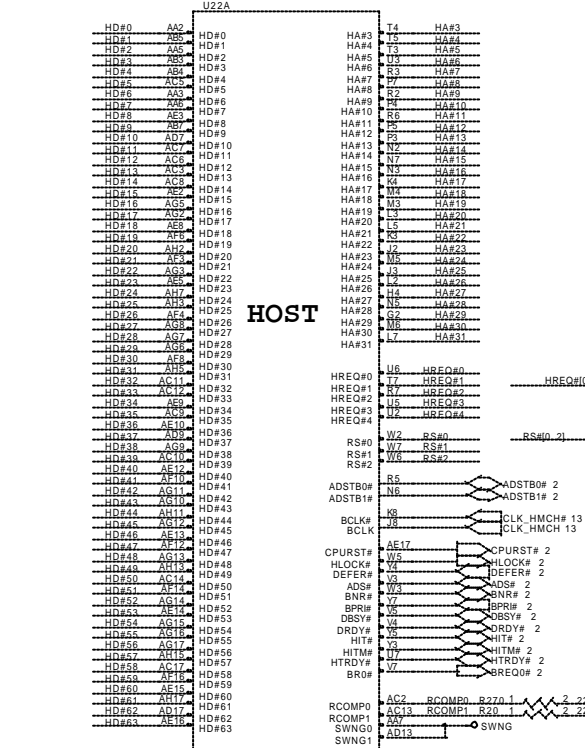
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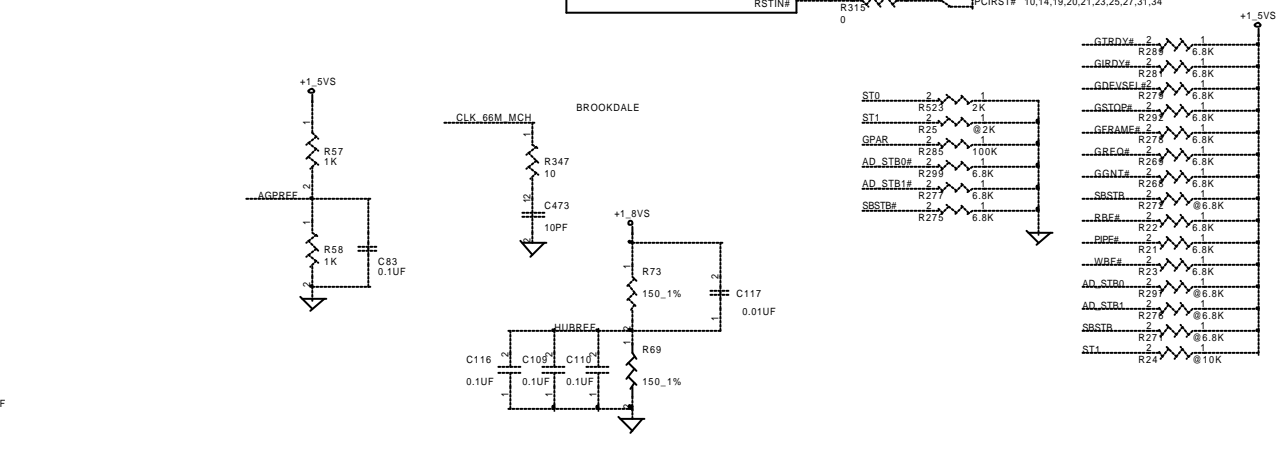
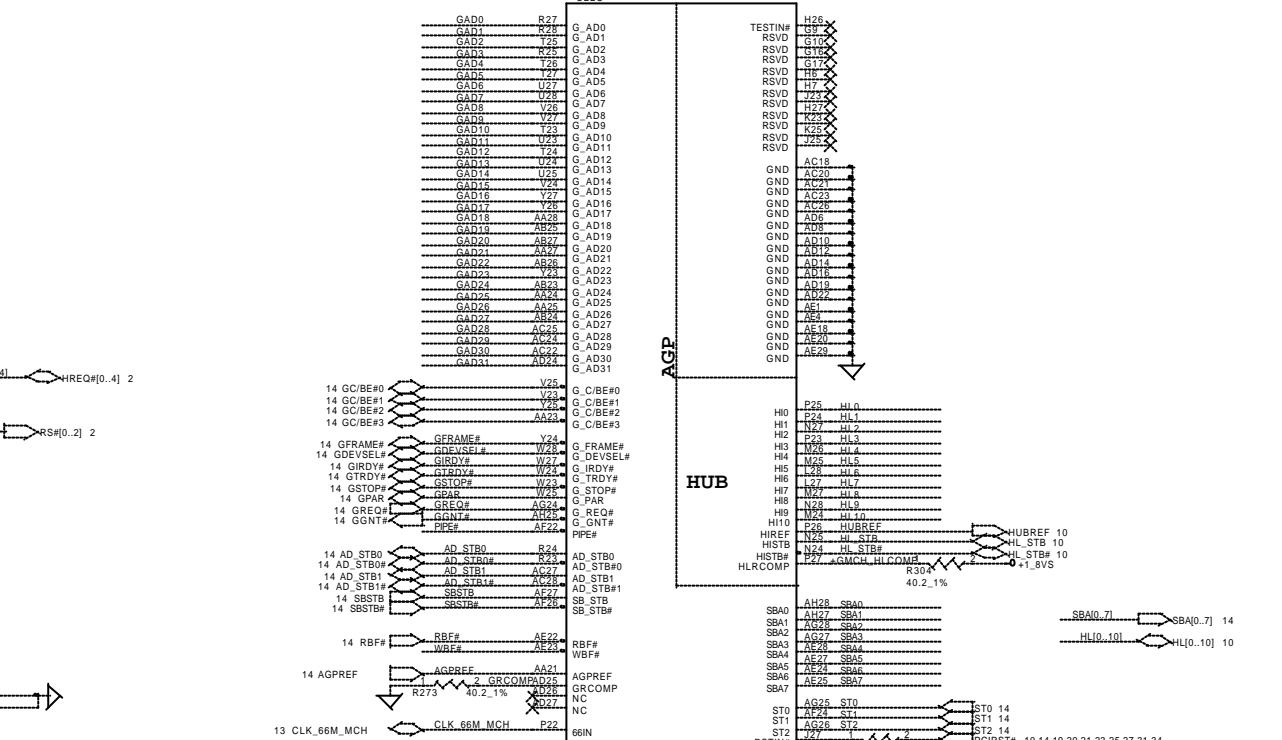
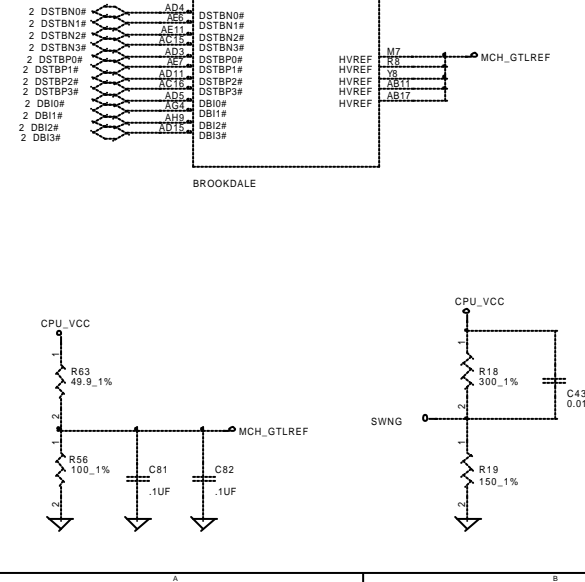
MC-1/3(GTL+,AGP,HUB)



HOST

AGP

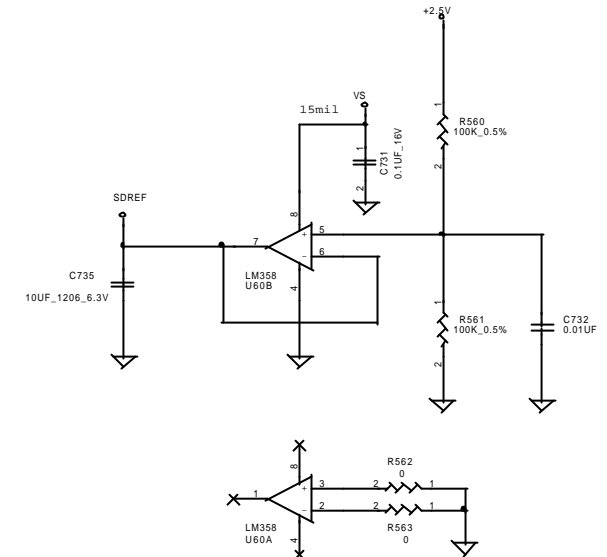
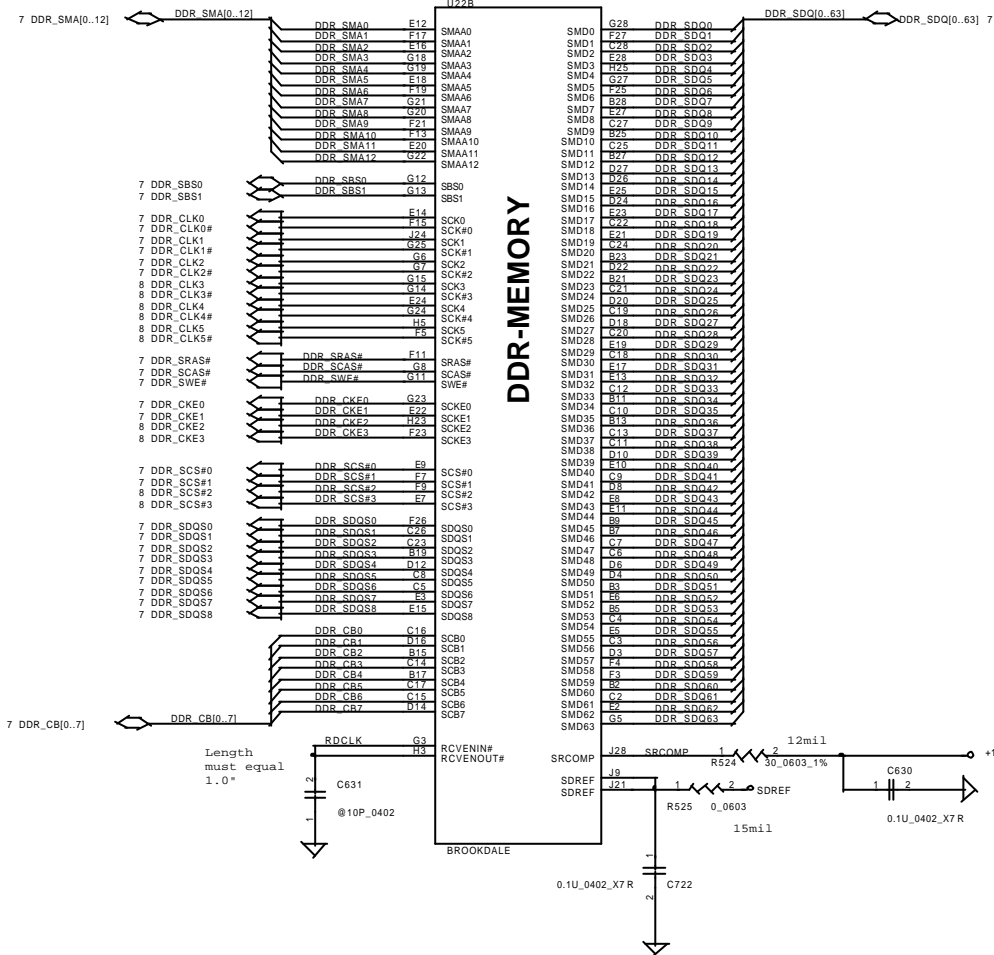
HUB



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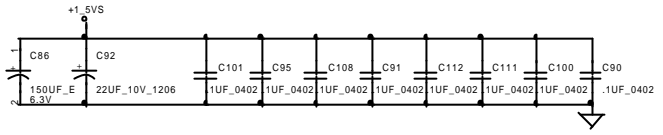
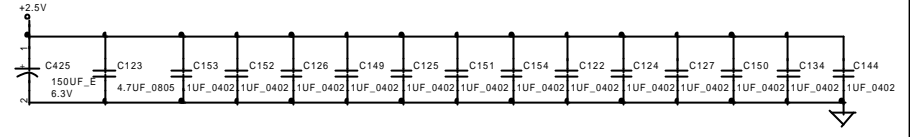
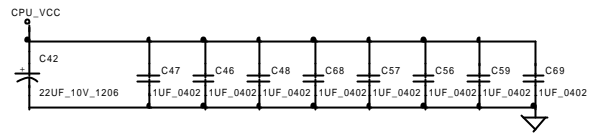
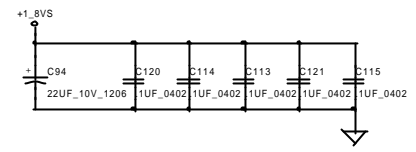
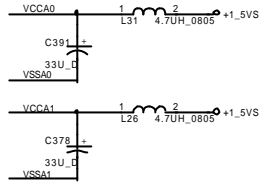
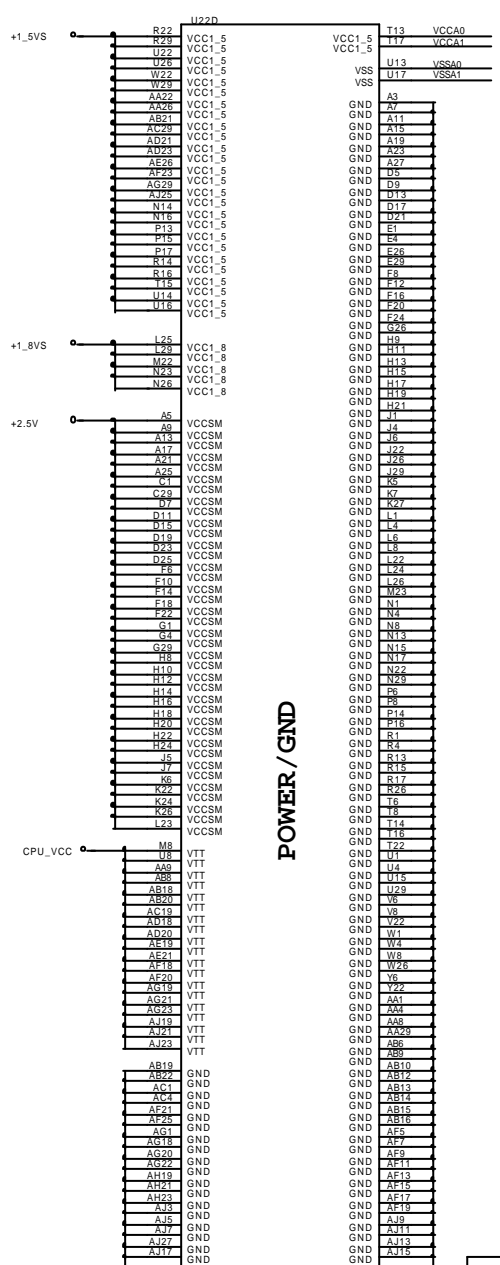
MCH-2/3(SDRAM)



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MCH-3/3(Power)



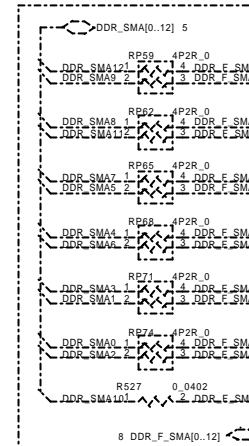
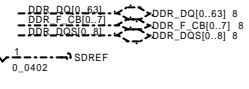
POWER / GND

BROOKDALE

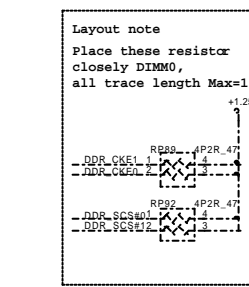
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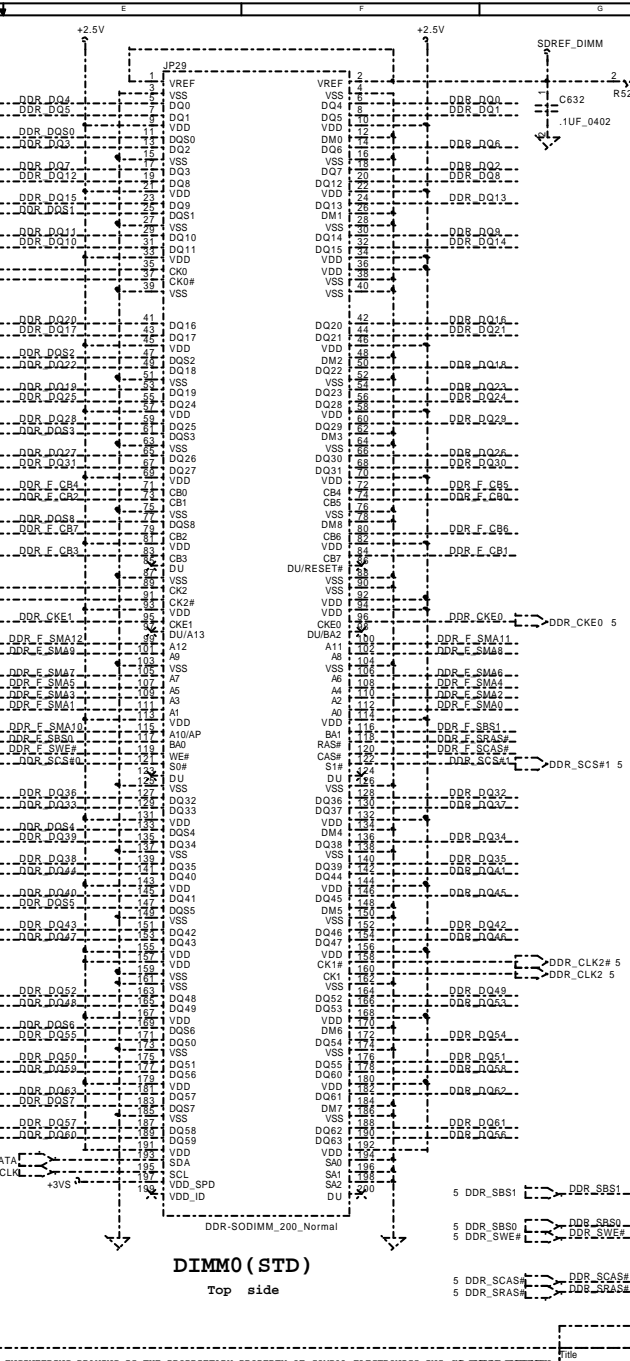
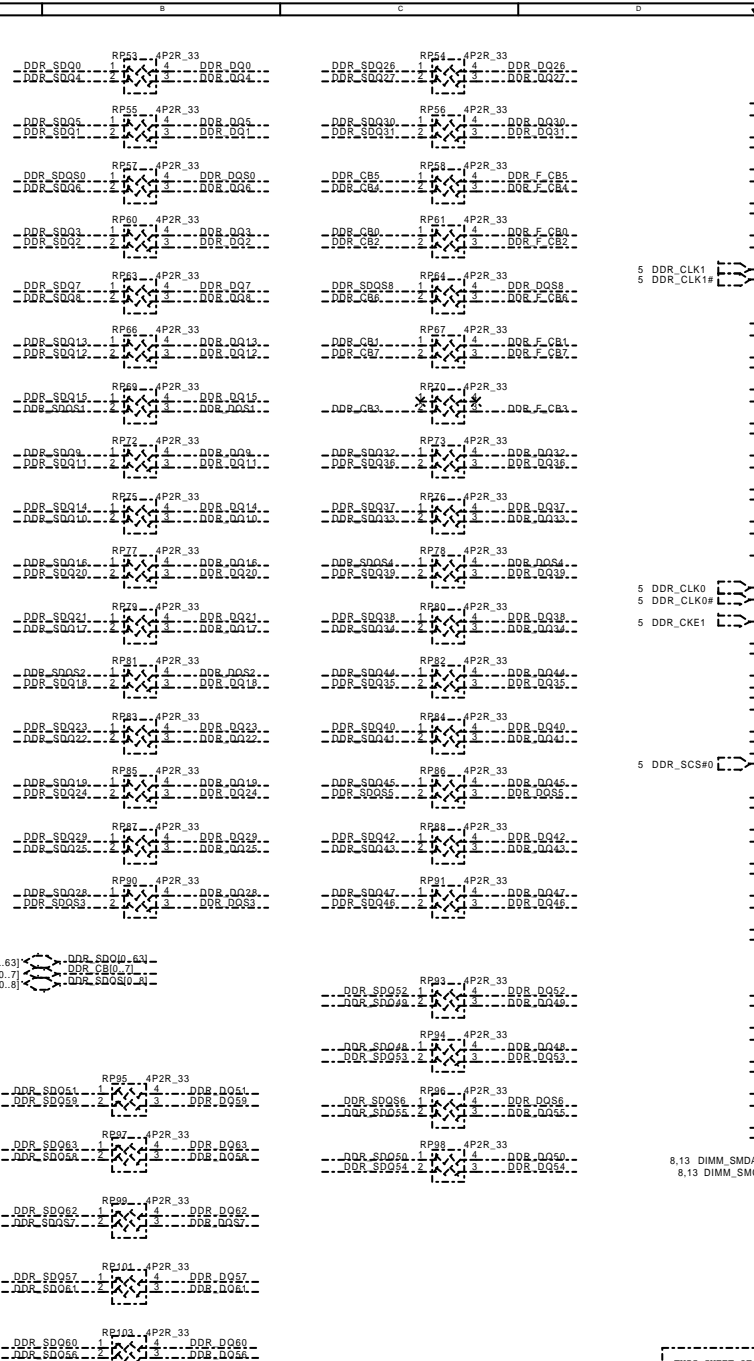
Layout note
Place these resistor closely DIMMO, all trace length < 750mil



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

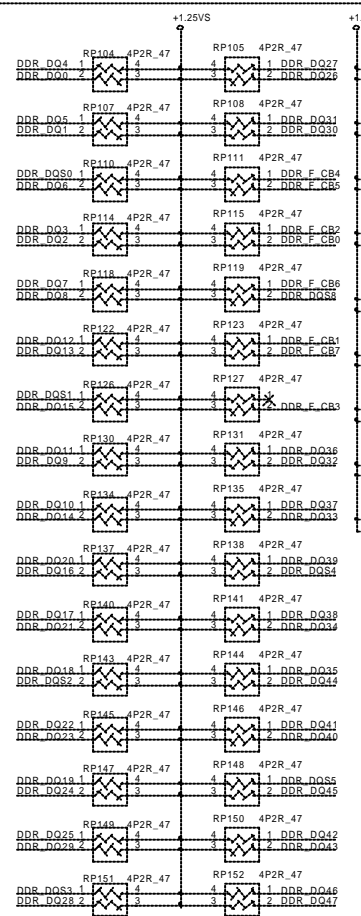


Layout note
Place these resistor closely DIMMO, all trace length < 750mil

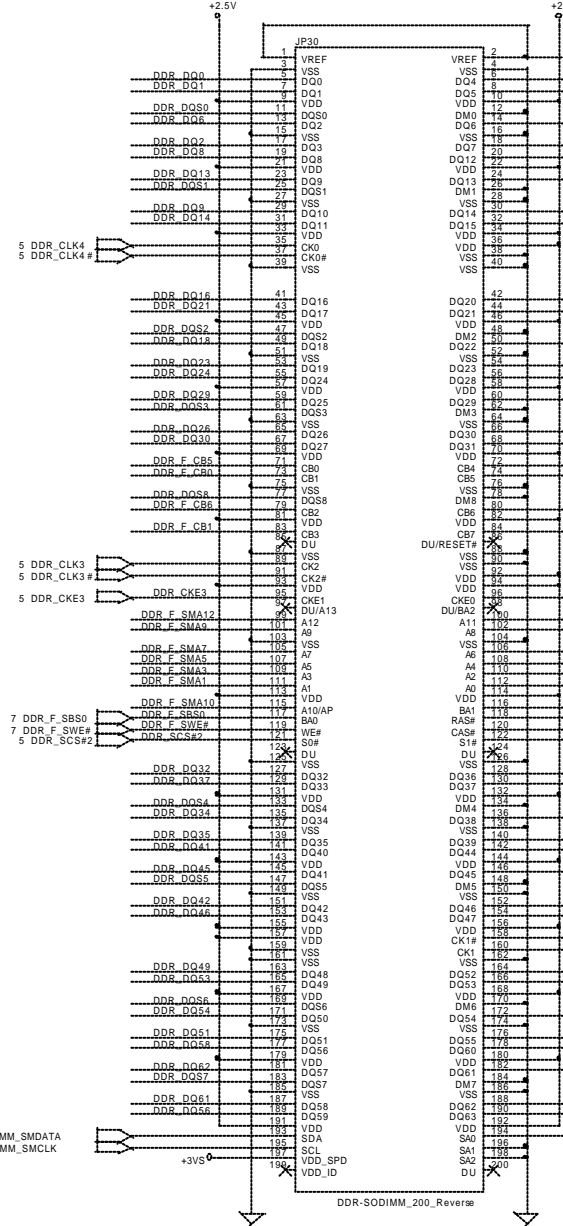
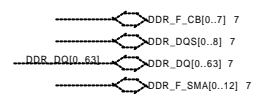


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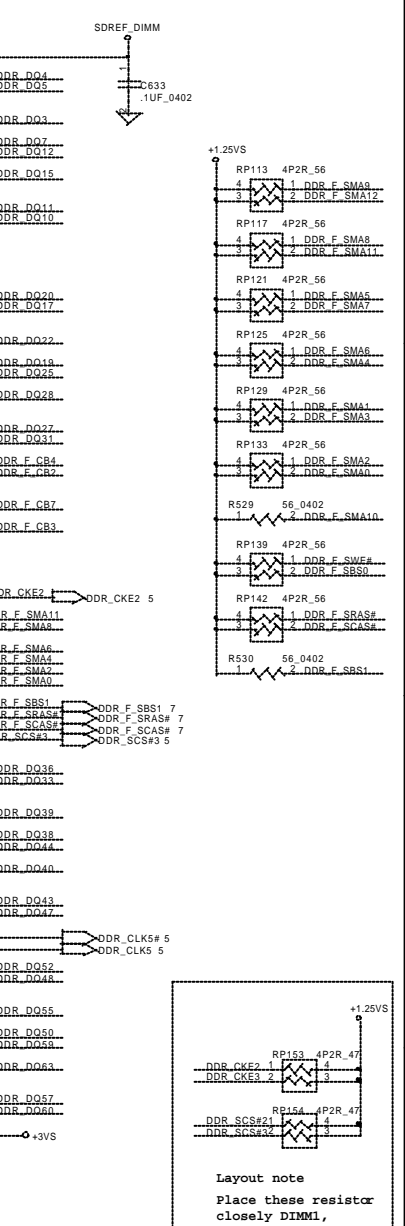
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Schematic, M/B LA-1512	
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Layout note
Place these resistor
closely DIMM1,
all trace
length<=800mil



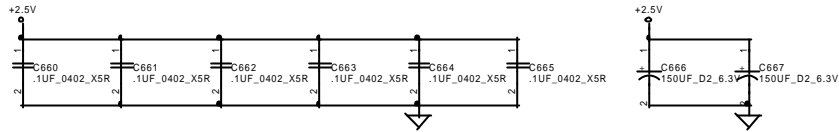
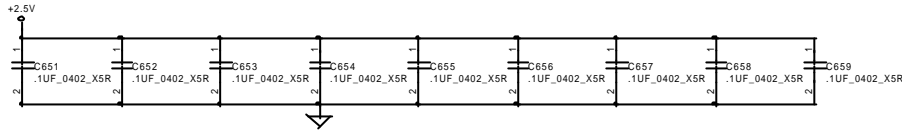
7,13 DIMM_SMDATA
7,13 DIMM_SMCLK



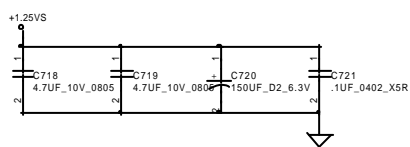
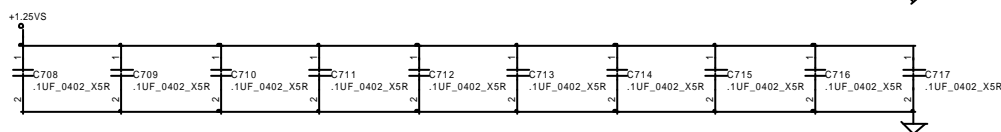
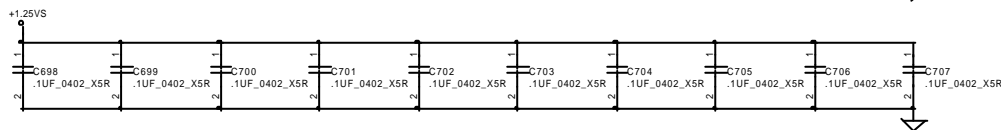
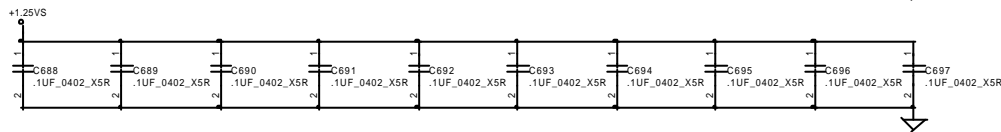
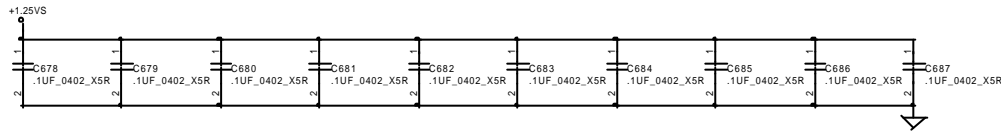
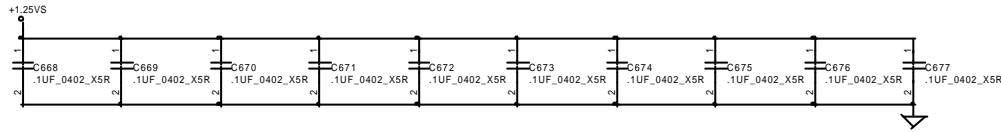
Layout note
Place these resistor
closely DIMM1,
all trace length
Max=1.3"

DIMM1 (REV)
Bottom side

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



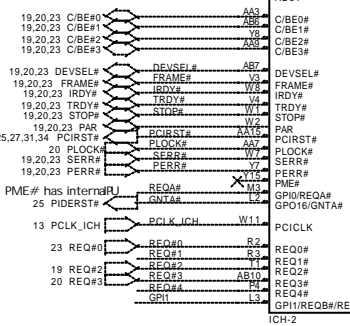
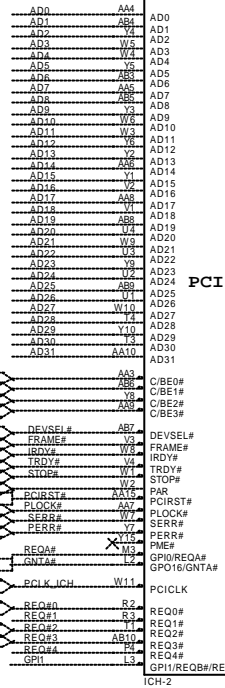
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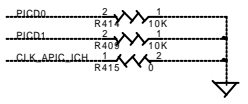
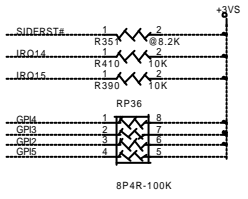
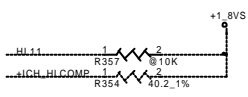
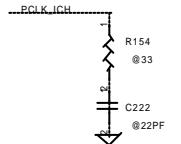
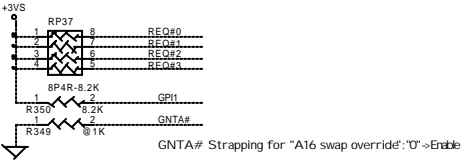
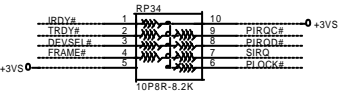
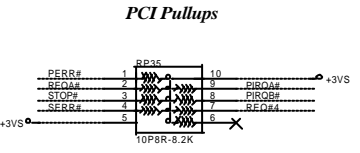
ICH-2

19.20.23 AD[0..31] AD[0..31]

U332A (FW82801BA)



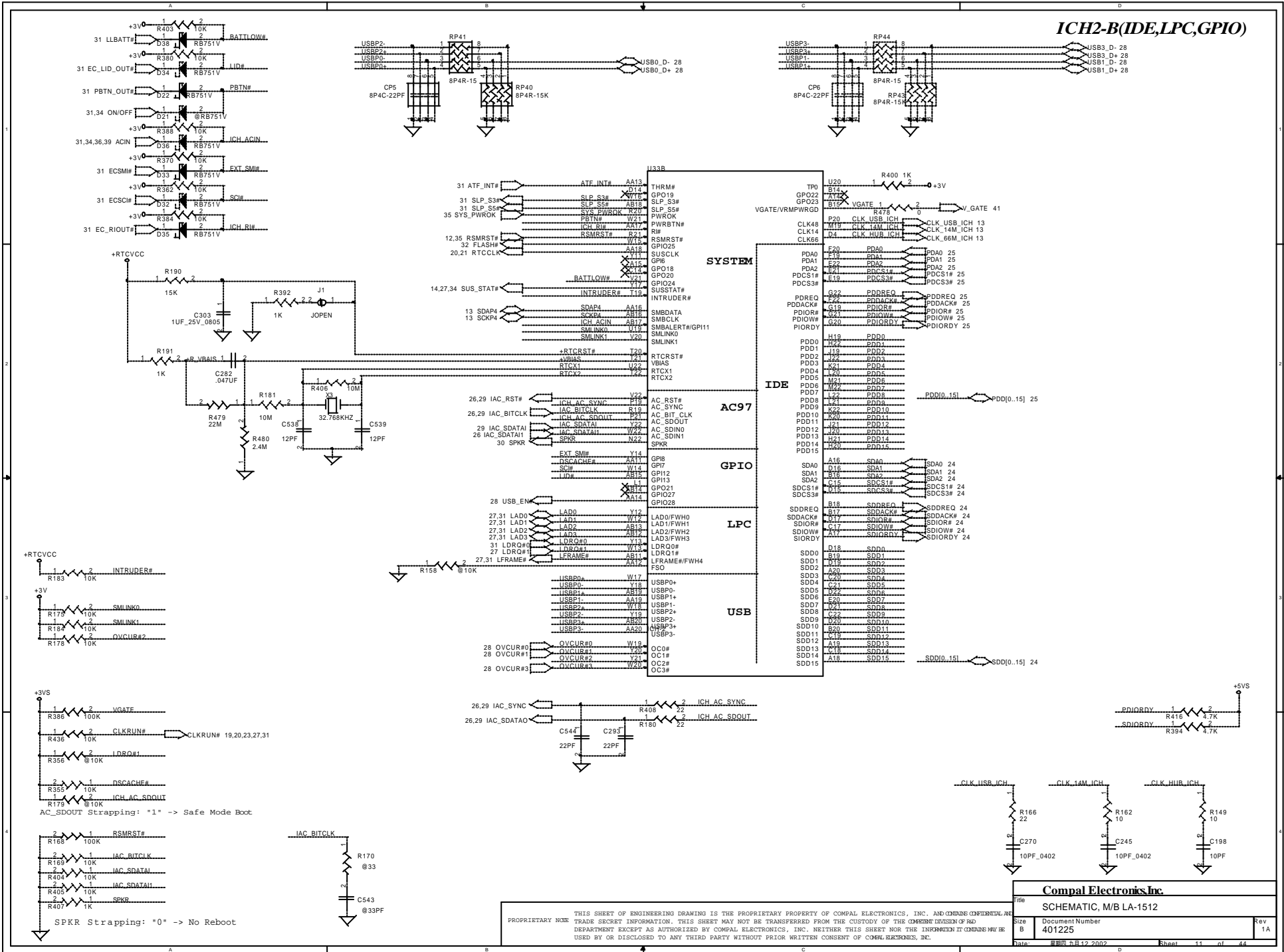
PCI REQ ASSIGNMENT	
REQ#0	WLAN
REQ#1	NC
REQ#2	1394
REQ#3	PCMCIA CONTROLLER
REQ#4	NC



Compal Electronics Inc.			
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ICH2-B(IDE,LPC,GPIO)



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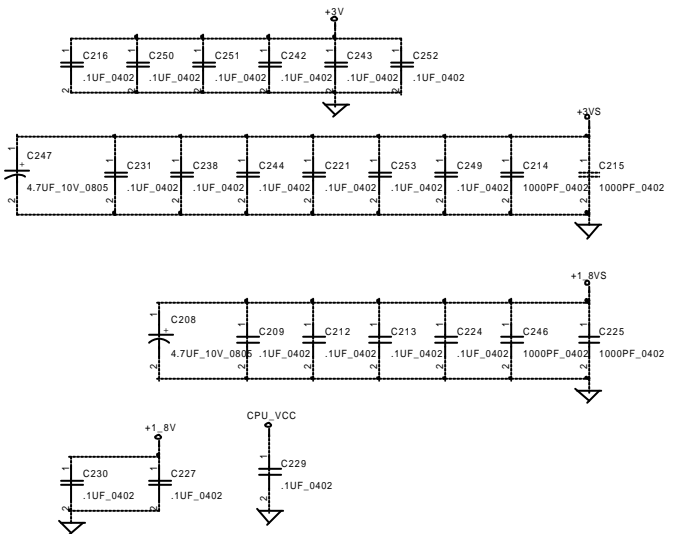
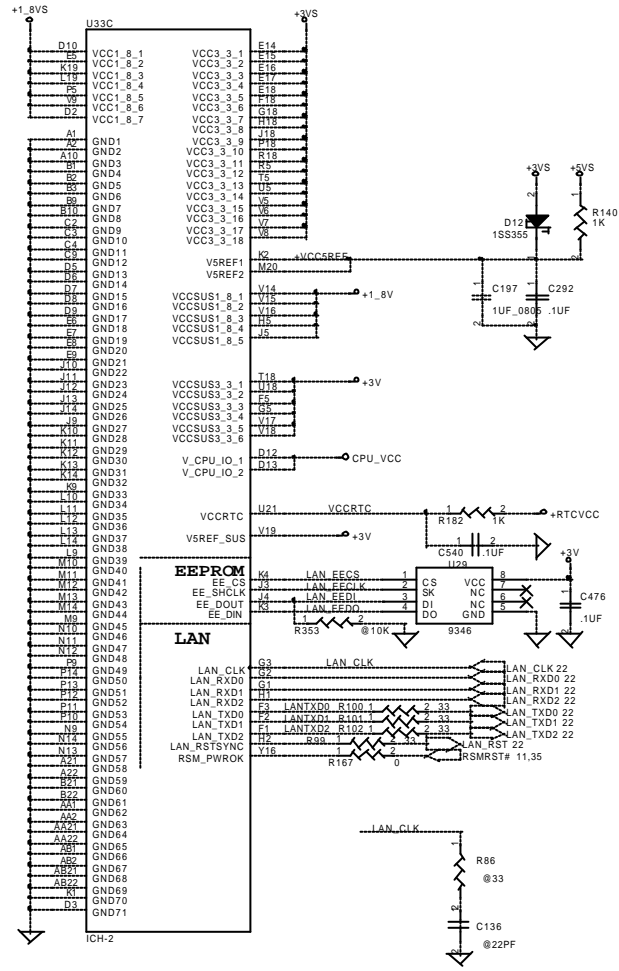
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ICH2-C(LAN,Power)

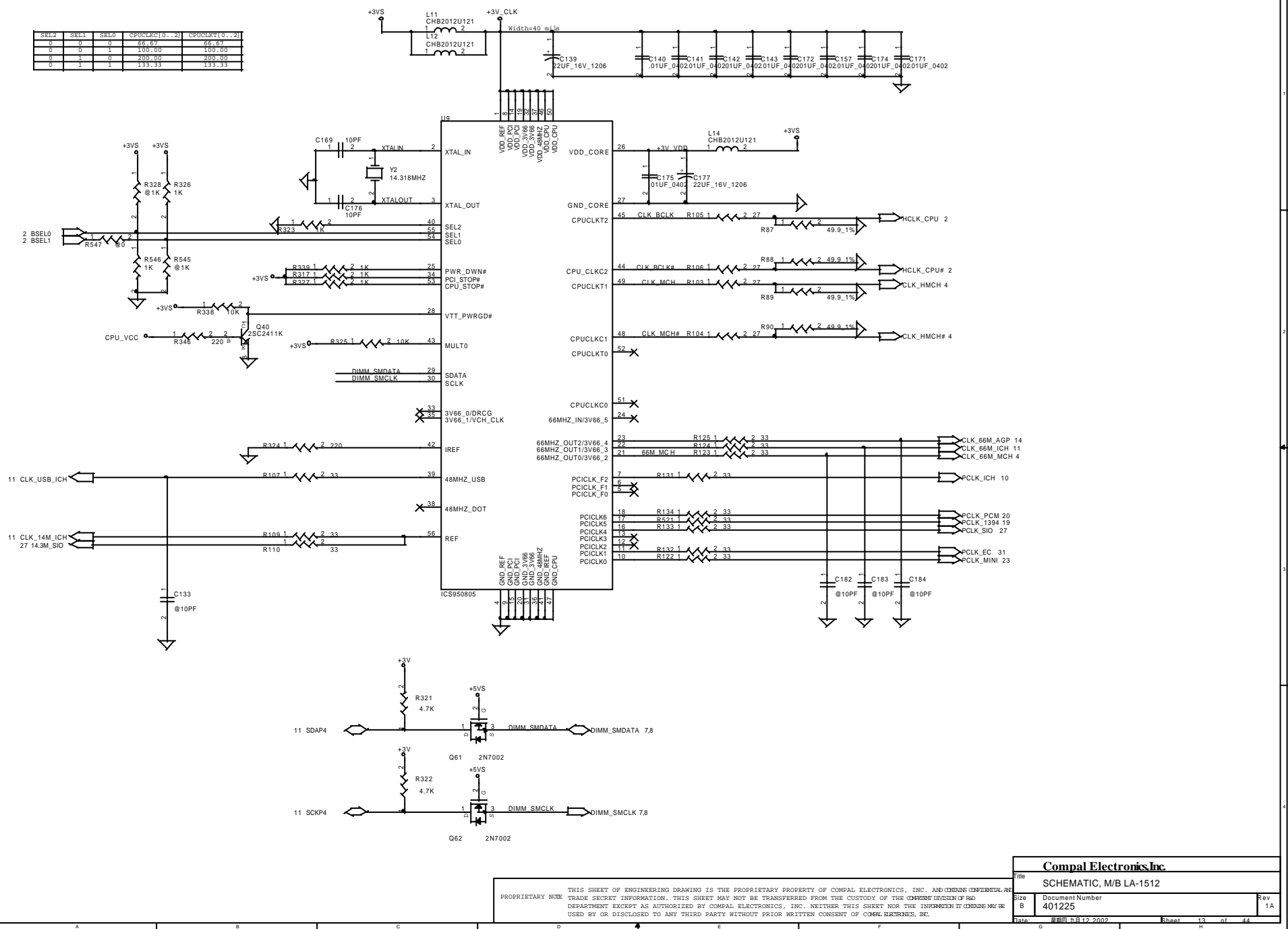


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Clock Generator

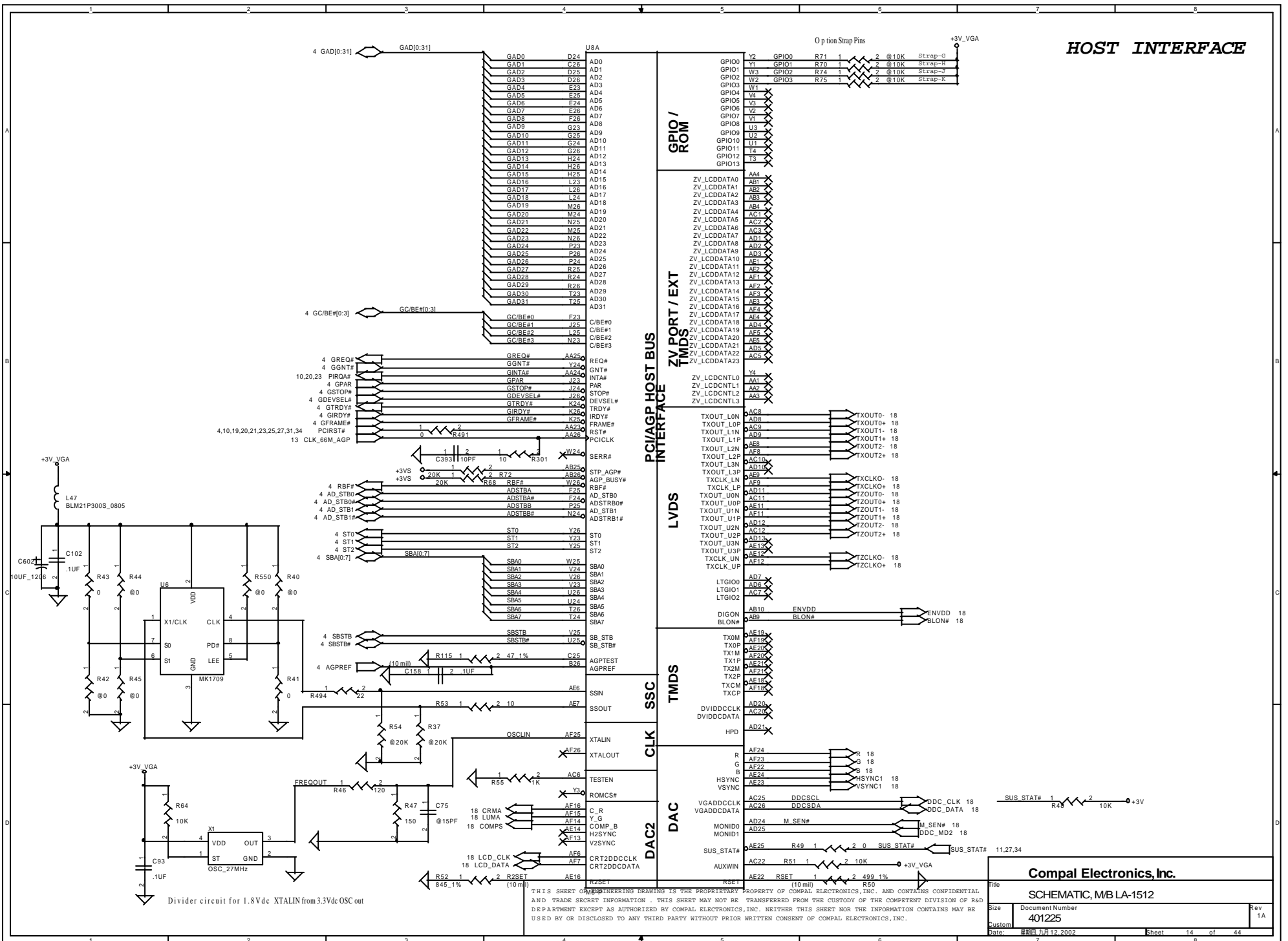
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0	0	0	66.67	66.67
0	0	1	100.00	100.00
0	1	0	200.00	200.00
0	1	1	133.33	133.33



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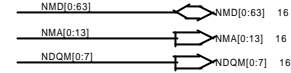
HOST INTERFACE



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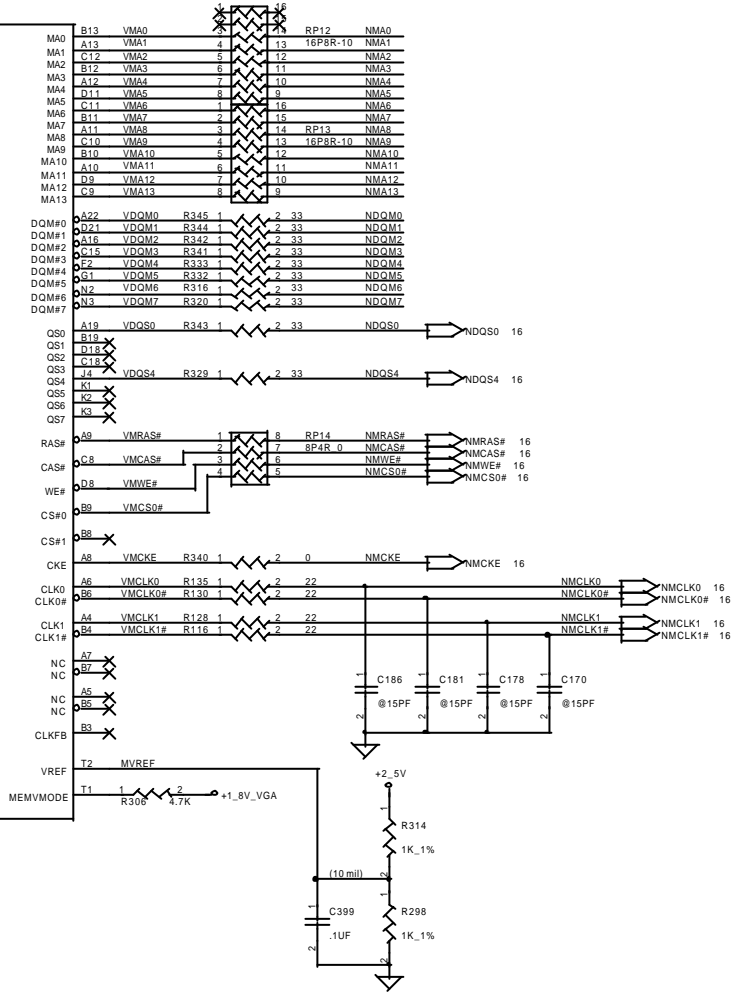
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Schematic, M/B LA-1512		
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MEMORY INTERFACE



NMD0	8	9	VMD0	A26	U8B	
NMD1	7	10	RP15	VMD1	B25	DO0
NMD2	6	11	16PBR-33	VMD2	A25	DO1
NMD3	5	12	VMD3	A24	DO3	
NMD4	4	13	VMD4	B24	DO4	
NMD5	3	14	VMD5	B23	DO5	
NMD6	2	15	VMD6	C22	DO6	
NMD7	1	16	VMD7	B22	DO7	
NMD8	8	9	VMD8	C21	DO8	
NMD9	7	10	RP16	VMD9	B21	DO9
NMD10	6	11	16PBR-33	VMD10	A21	DO10
NMD11	5	12	VMD11	D20	DO11	
NMD12	4	13	VMD12	C20	DO12	
NMD13	3	14	VMD13	B20	DO13	
NMD14	2	15	VMD14	A20	DO14	
NMD15	1	16	VMD15	C19	DO15	
NMD16	8	9	VMD16	B18	DO16	
NMD17	7	10	RP17	VMD17	A18	DO17
NMD18	6	11	16PBR-33	VMD18	C17	DO18
NMD19	5	12	VMD19	B17	DO19	
NMD20	4	13	VMD20	A17	DO20	
NMD21	3	14	VMD21	D16	DO21	
NMD22	2	15	VMD22	C16	DO22	
NMD23	1	16	VMD23	B16	DO23	
NMD24	8	9	VMD24	B15	DO24	
NMD25	7	10	VMD25	A15	DO25	
NMD26	6	11	RP18	VMD26	D14	DO26
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NMD30	2	15	VMD30	D13	DO30	
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NMD39	1	16	VMD39	F1	DO39	
NMD40	8	9	VMD40	G2	DO40	
NMD41	7	10	VMD41	G3	DO41	
NMD42	6	11	RP10	VMD42	H1	DO42
NMD43	5	12	16PBR-33	VMD43	H2	DO43
NMD44	4	13	VMD44	H3	DO44	
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NMD47	1	16	VMD47	J3	DO47	
NMD48	8	9	VMD48	L1	DO48	
NMD49	7	10	VMD49	L2	DO49	
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NMD52	4	13	VMD52	M2	DO52	
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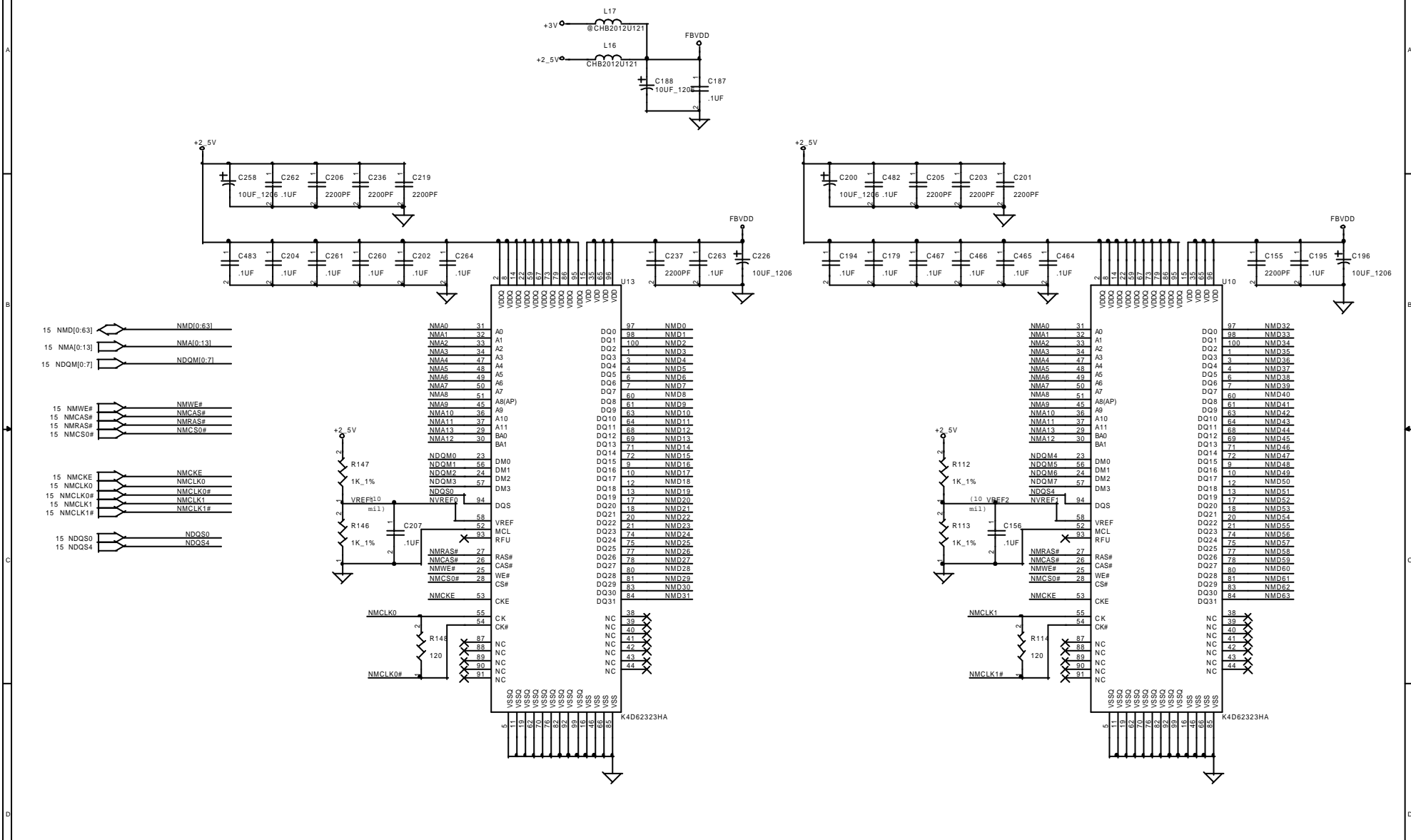
MEMORY INTERFACE



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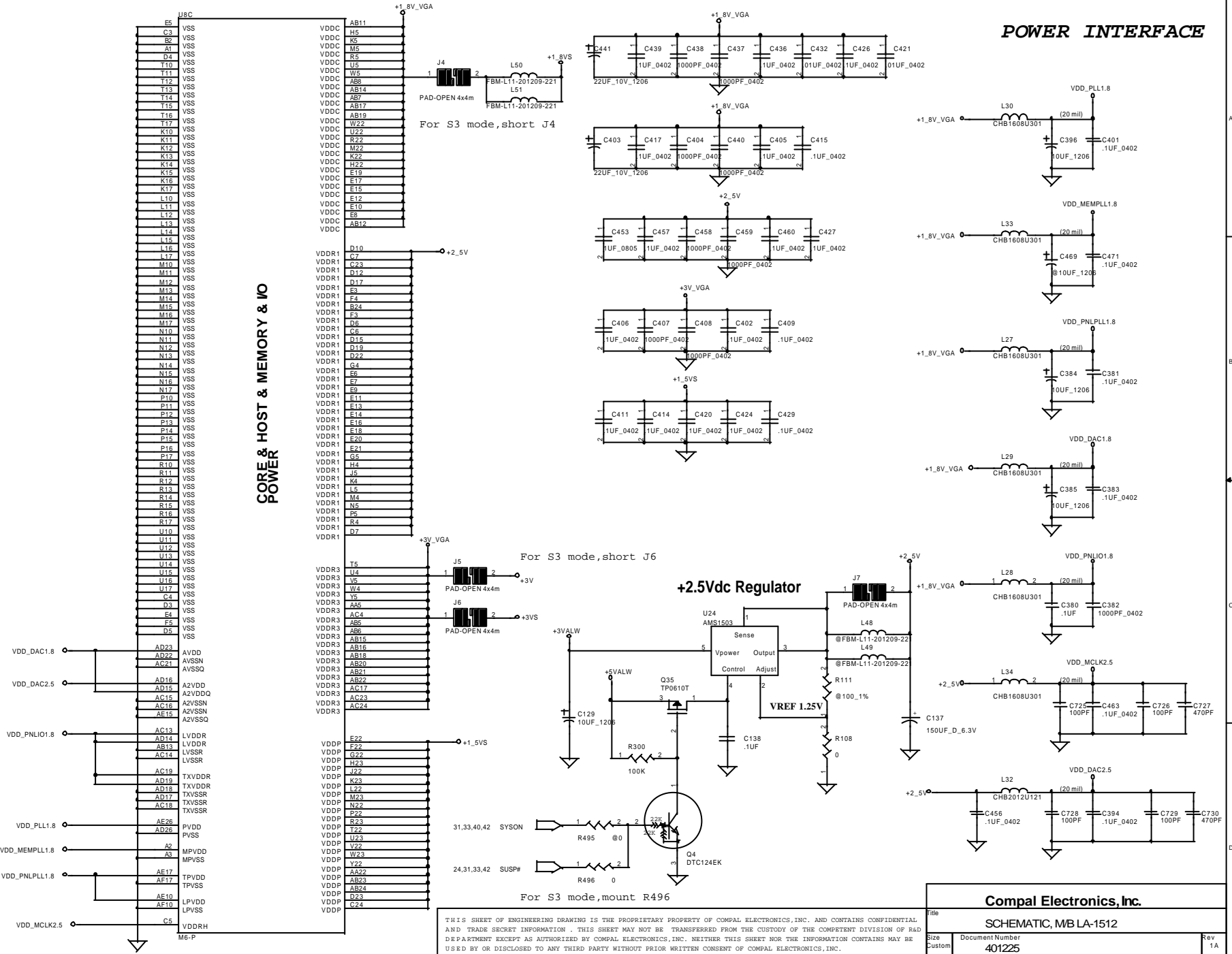
DDR SDRAM



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CORE & HOST & MEMORY & I/O POWER



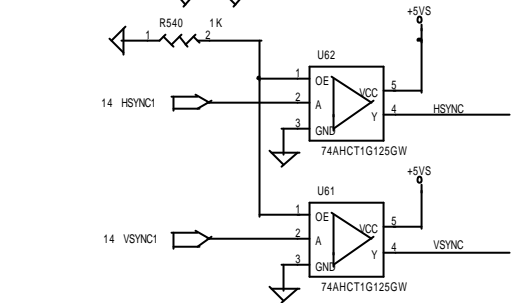
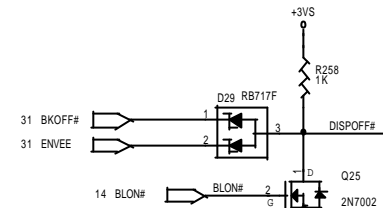
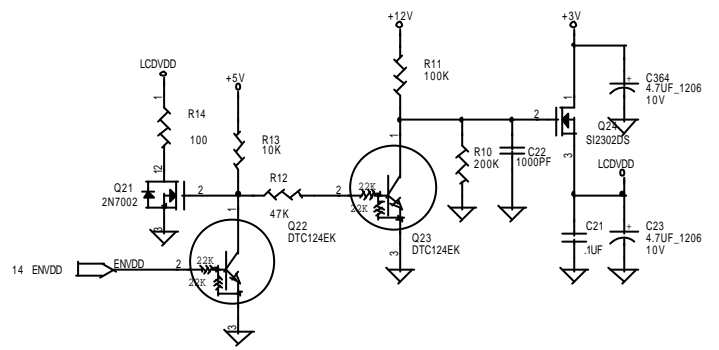
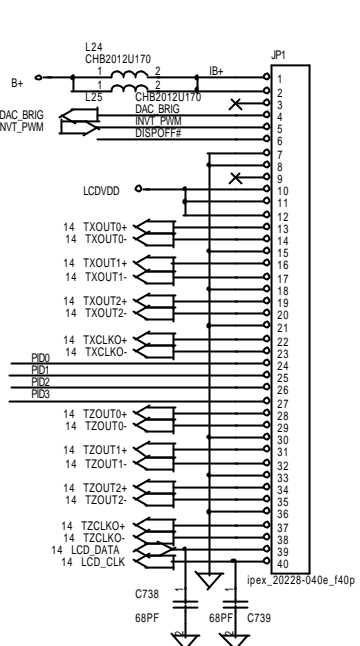
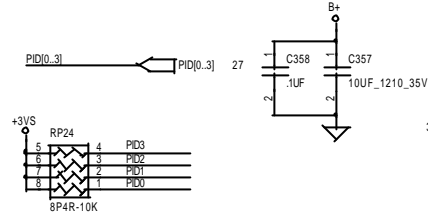
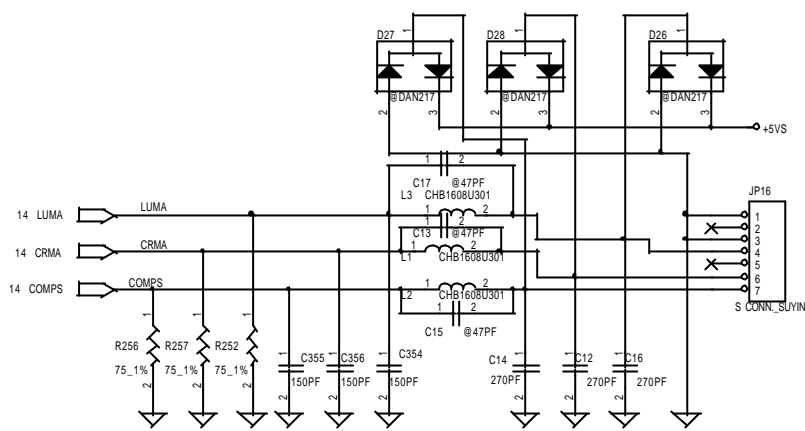
POWER INTERFACE

+2.5Vdc Regulator

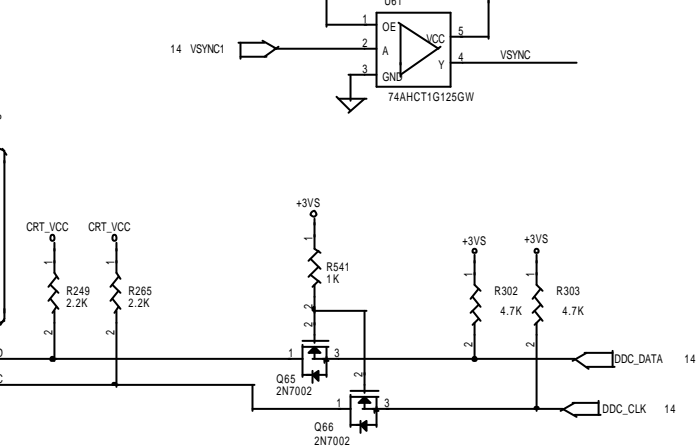
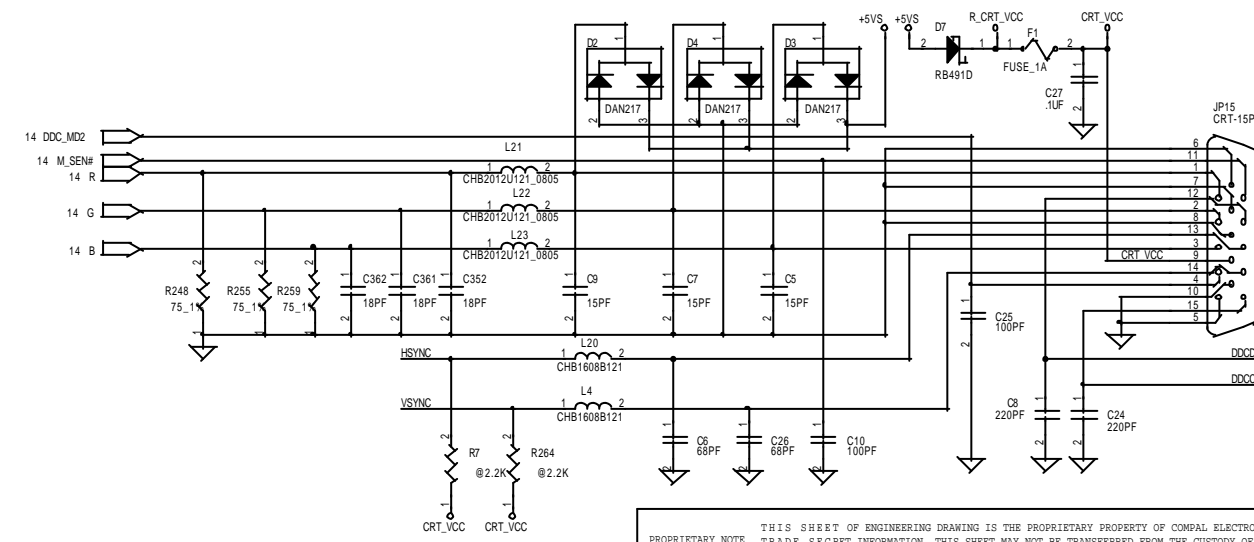
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CRT Connector



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TSB43AB22

PCI BUS INTE RFACE

PHY PORT 2

BIAS CURRENT

OSCILLATOR

FILTER

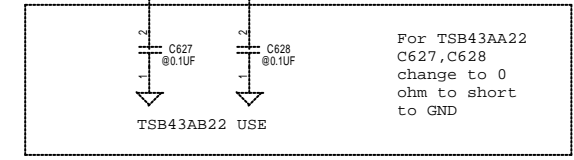
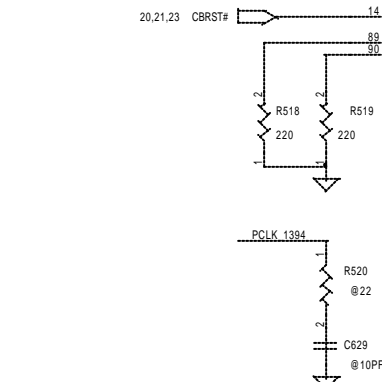
EEPROM 2 WIREBUS

POWER CLASS

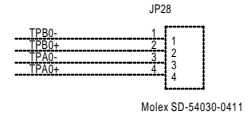
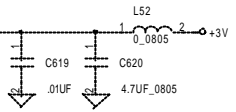
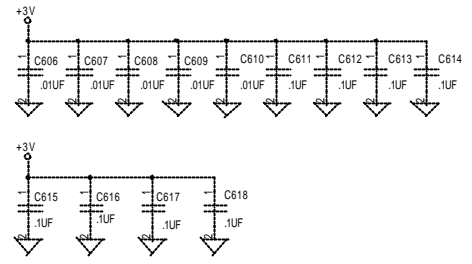
PHY PORT 1

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AD28	26	PCI AD28
AD27	28	PCI AD27
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AD25	31	PCI AD25
AD24	32	PCI AD24
AD23	33	PCI AD23
AD22	38	PCI AD22
AD21	40	PCI AD21
AD20	41	PCI AD20
AD19	42	PCI AD19
AD18	43	PCI AD18
AD17	45	PCI AD17
AD16	46	PCI AD16
AD15	61	PCI AD15
AD14	63	PCI AD14
AD13	65	PCI AD13
AD12	66	PCI AD12
AD11	67	PCI AD11
AD10	68	PCI AD10
AD9	71	PCI AD9
AD8	74	PCI AD8
AD7	75	PCI AD7
AD6	77	PCI AD6
AD5	79	PCI AD5
AD4	80	PCI AD4
AD3	81	PCI AD3
AD2	81	PCI AD2
AD1	84	PCI AD1
AD0	84	PCI AD0
C/BE#3	34	PCI C/BE#3
C/BE#2	37	PCI C/BE#2
C/BE#1	50	PCI C/BE#1
C/BE#0	73	PCI C/BE#0
PCLK 1394	16	PCI PCLK
GNT#2	18	PCI GNT#2
REQ#2	19	PCI REQ#2
1394 IOSEL	36	PCI IOSEL
RDY#	50	PCI RDY#
TRDY#	52	PCI TRDY#
DEVSEL#	53	PCI DEVSEL#
STOP#	54	PCI STOP#
PERR#	56	PCI PERR#
PROCH#	13	PCI PROCH#
1394 PME#	21	PCI PME#
SERR#	37	PCI SERR#
PAR	38	PCI PAR
11,20,23,27,31 CLRUN#	12	PCI CLRUN#
10,14,20,21,23,25,27,31,34 PCIRST#	85	PCI PCIRST#

AD26 1 2 1394 IOSEL
R504 100



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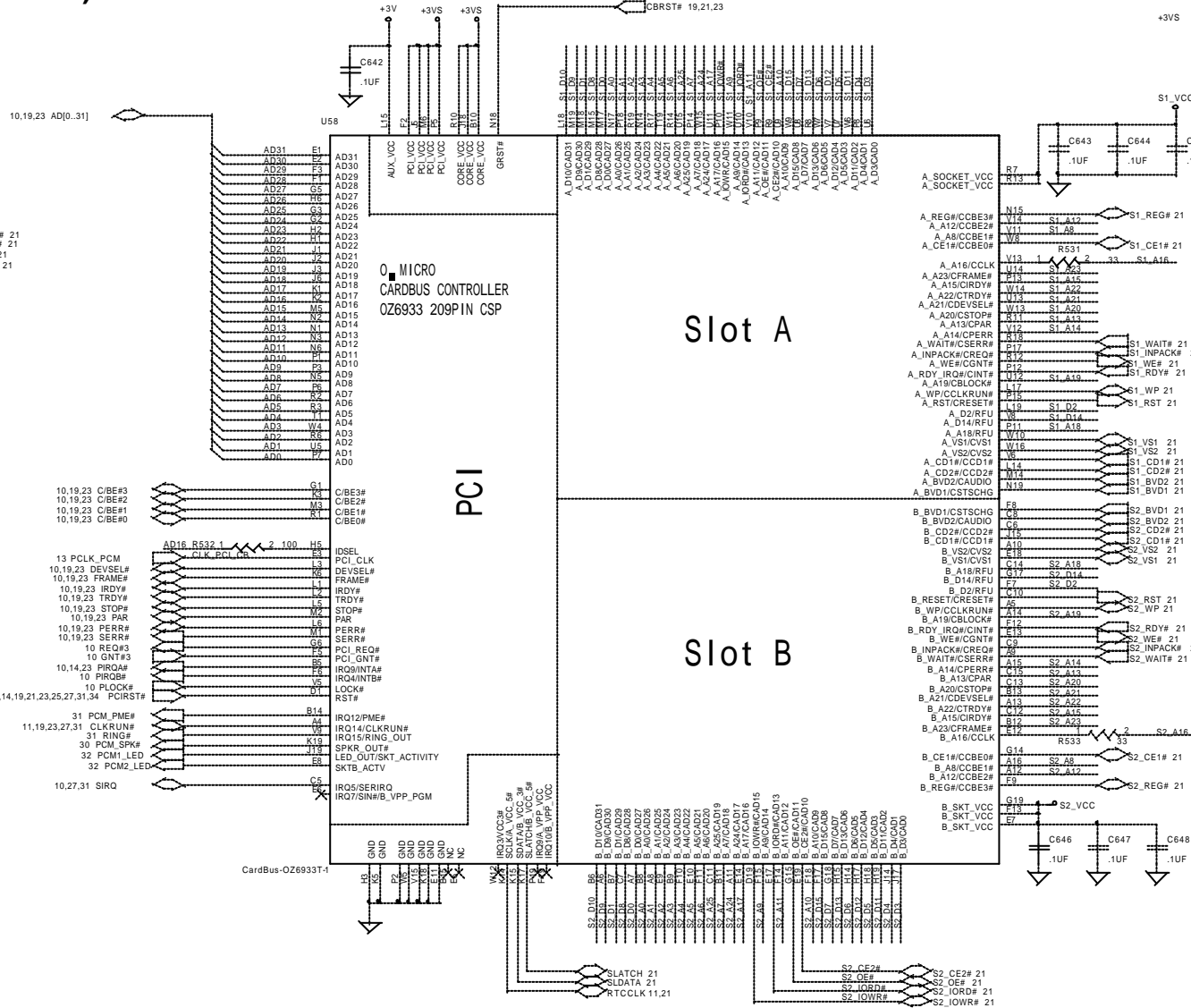
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Rev 1A

CardBus Controller OZ6933T (uBGA)

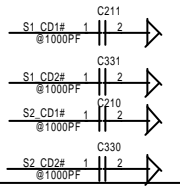
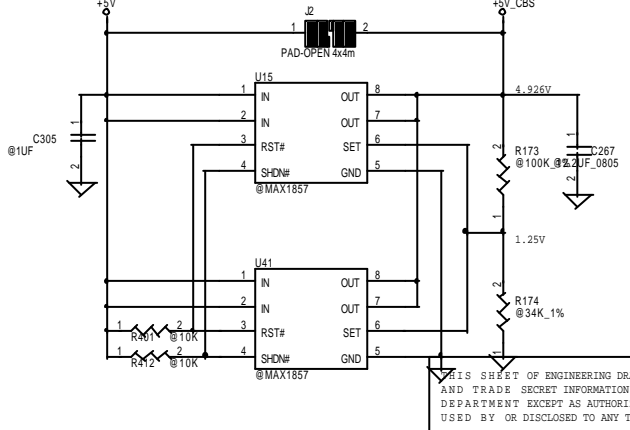
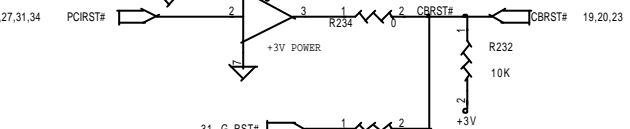
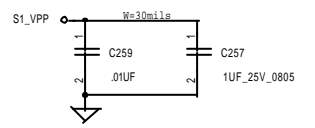
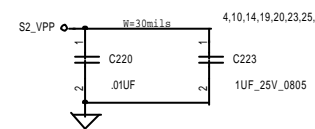
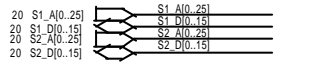
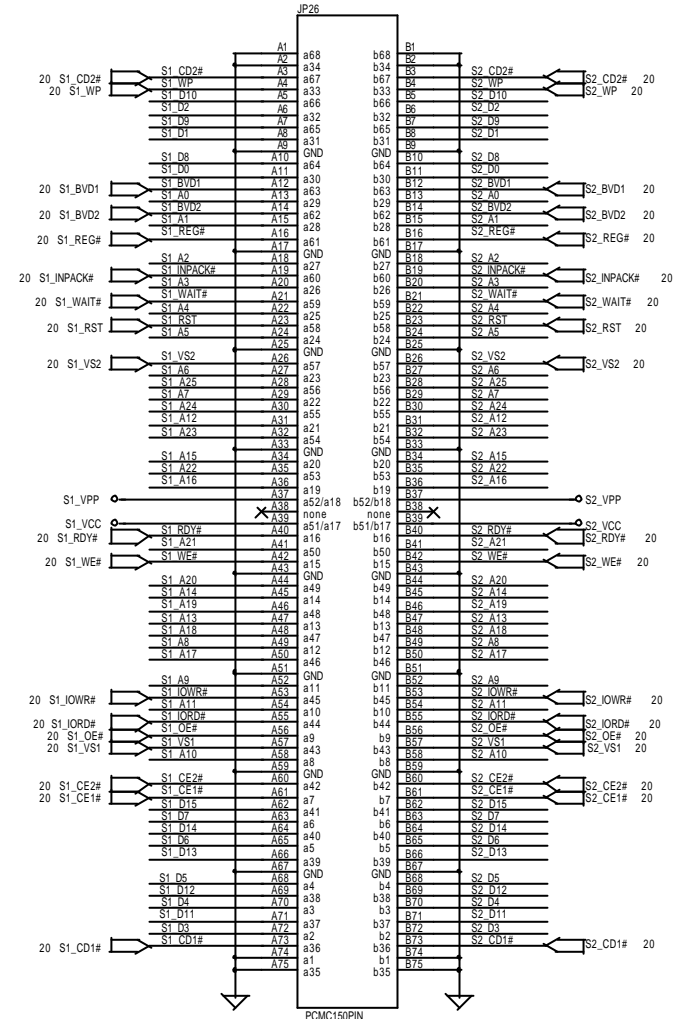
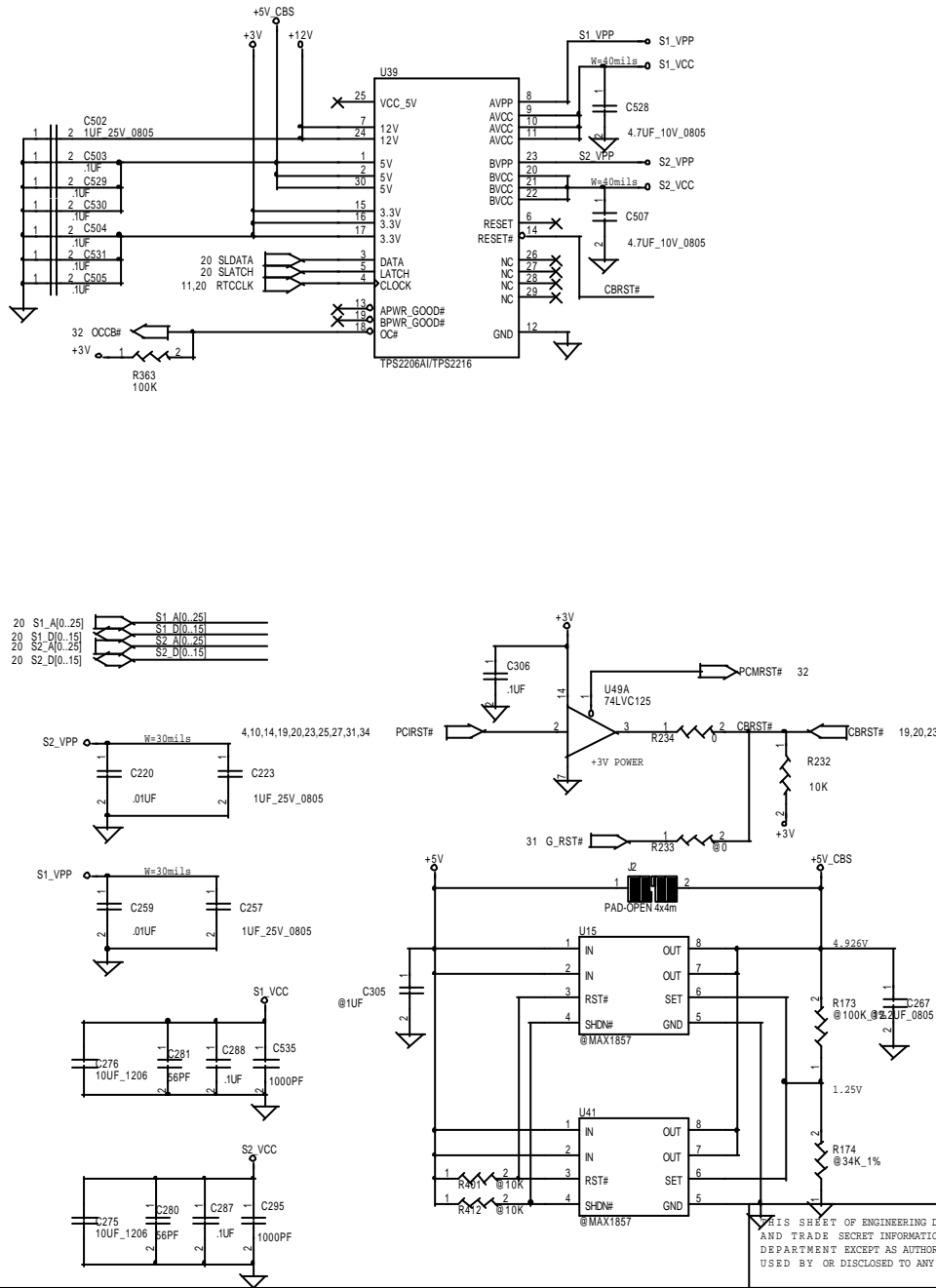


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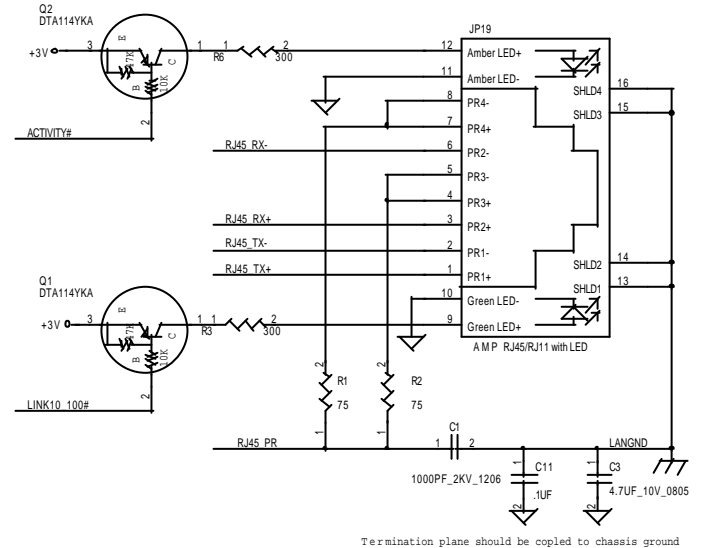
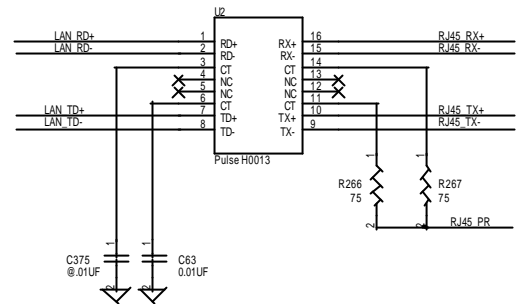
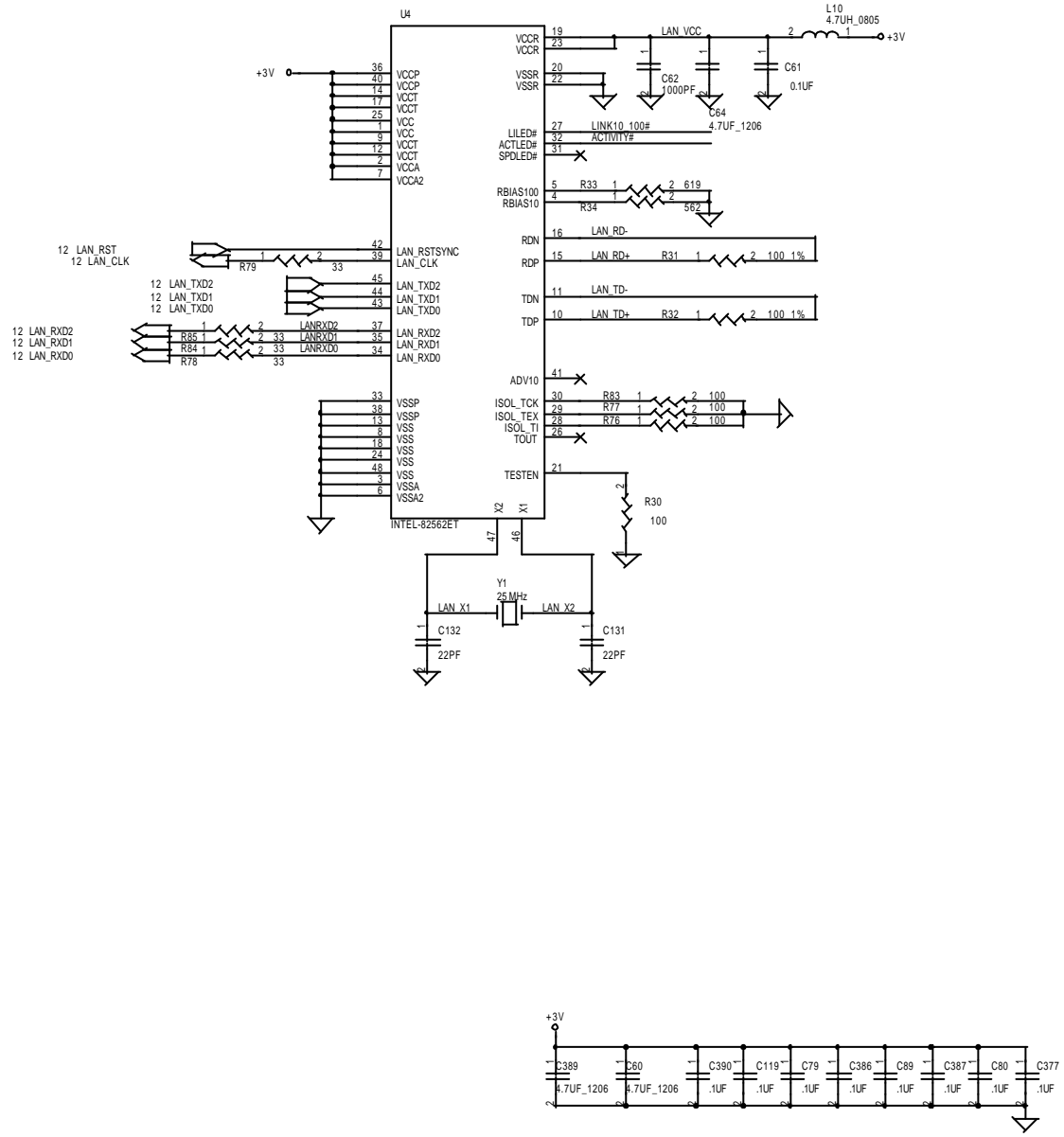
PCMCIA POWER CTRL.

CARDBUS SOCKET



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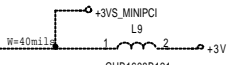
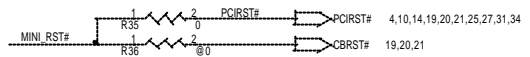
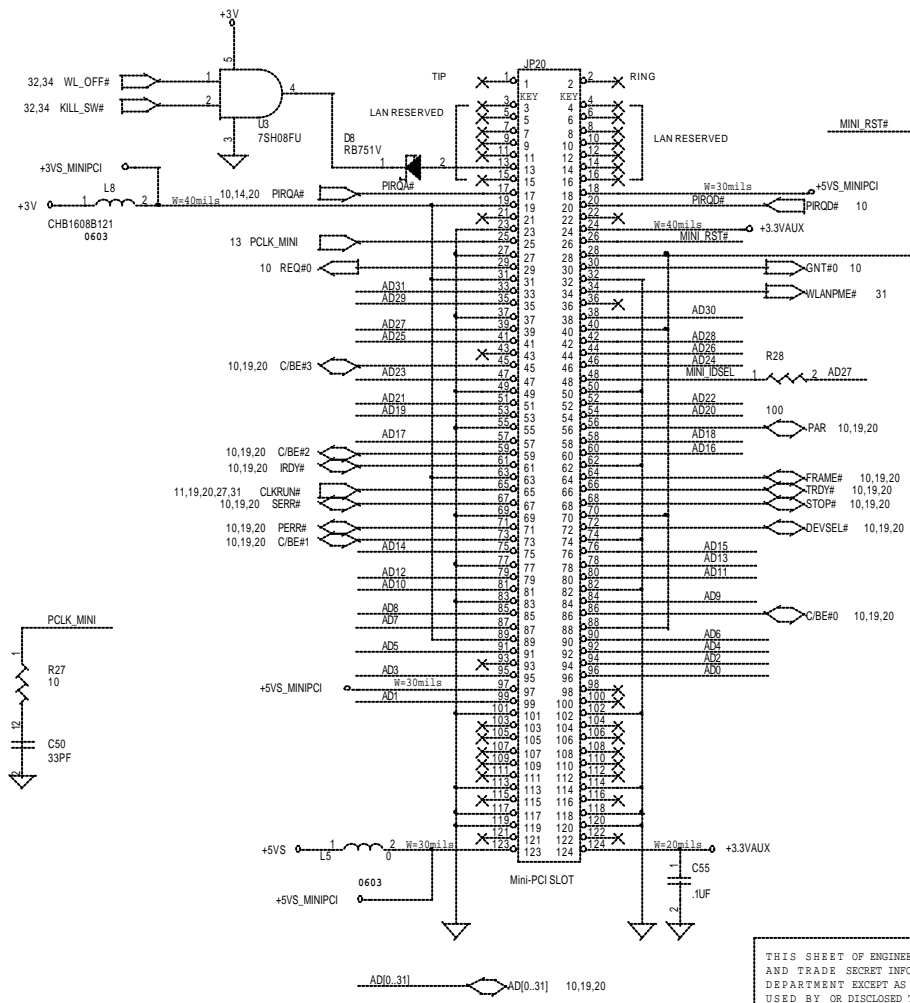
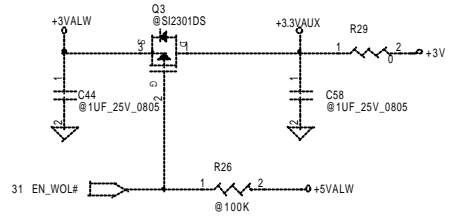
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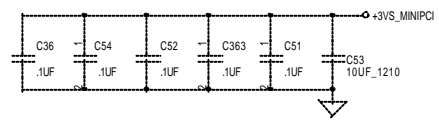
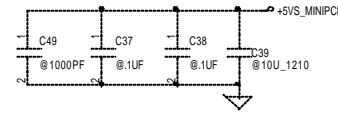
Termination plane should be copled to chassis ground

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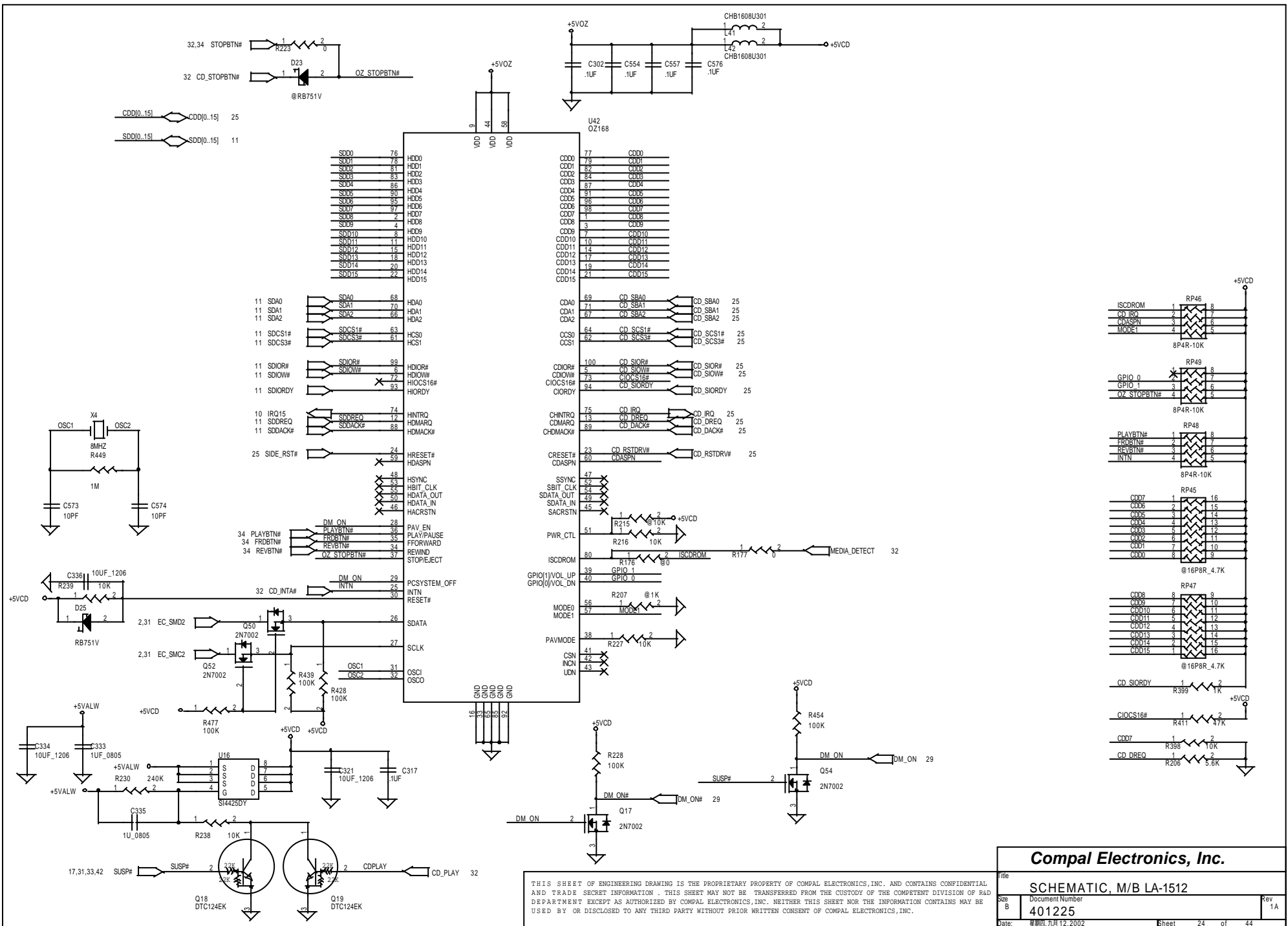


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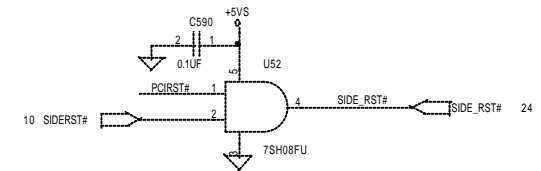
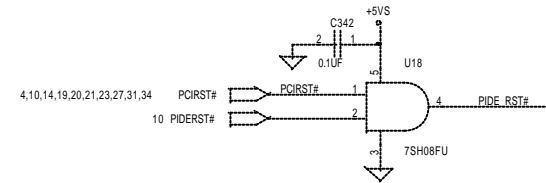
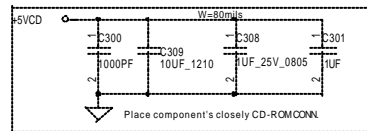
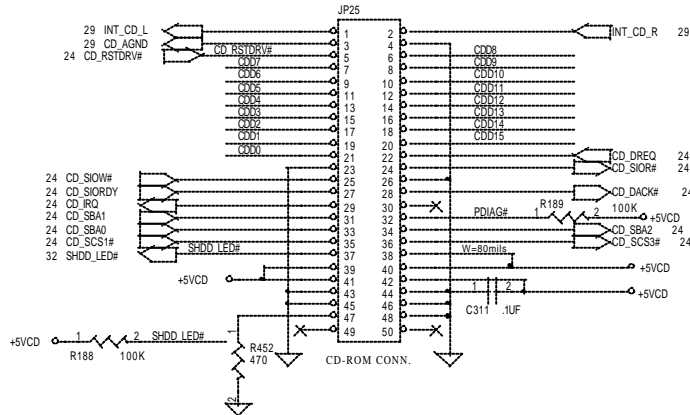
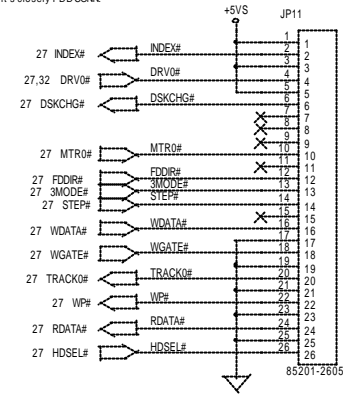
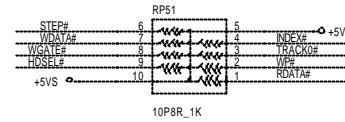
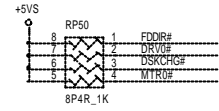
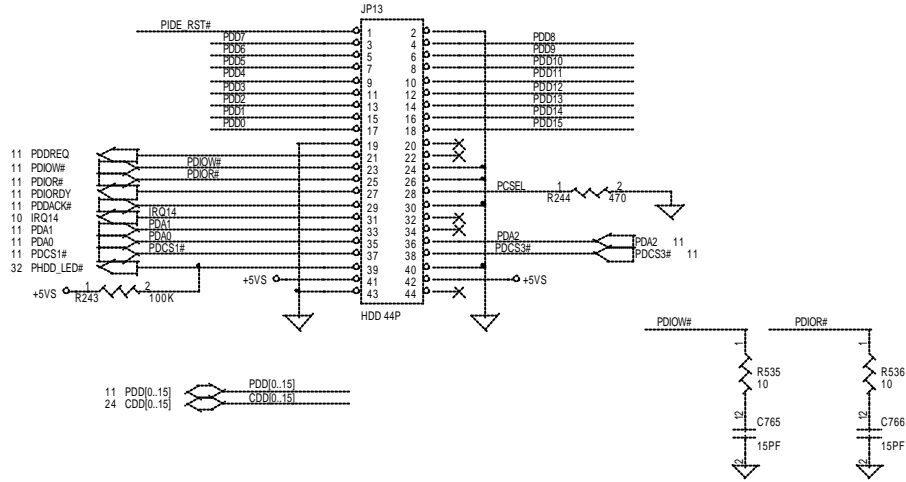
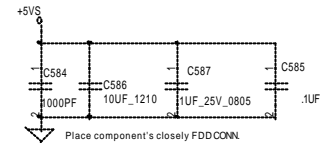
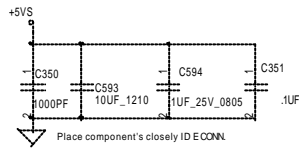


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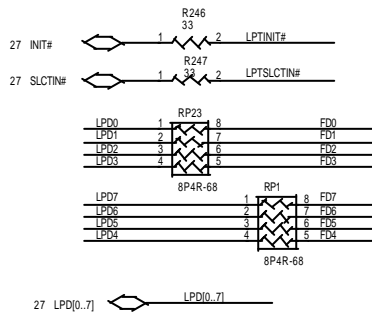
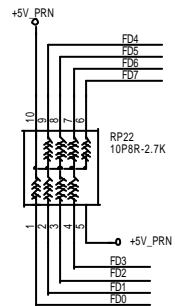
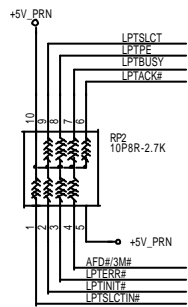
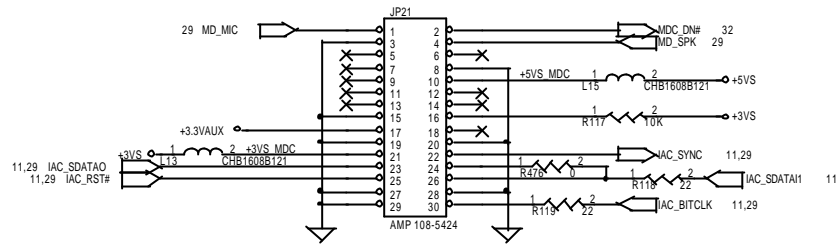
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IDE,CD-ROM Module CONN.

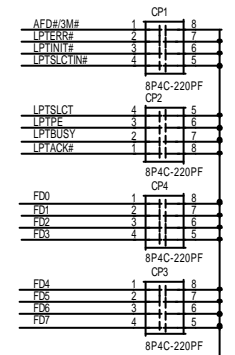
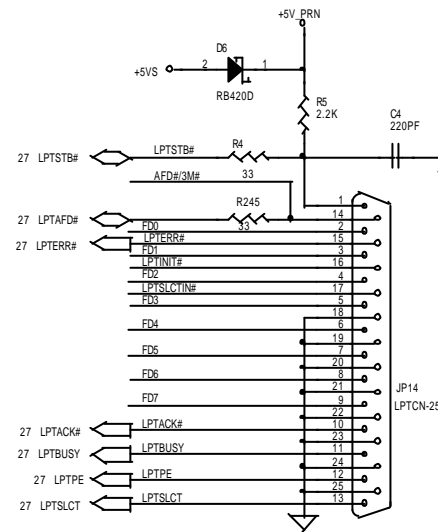


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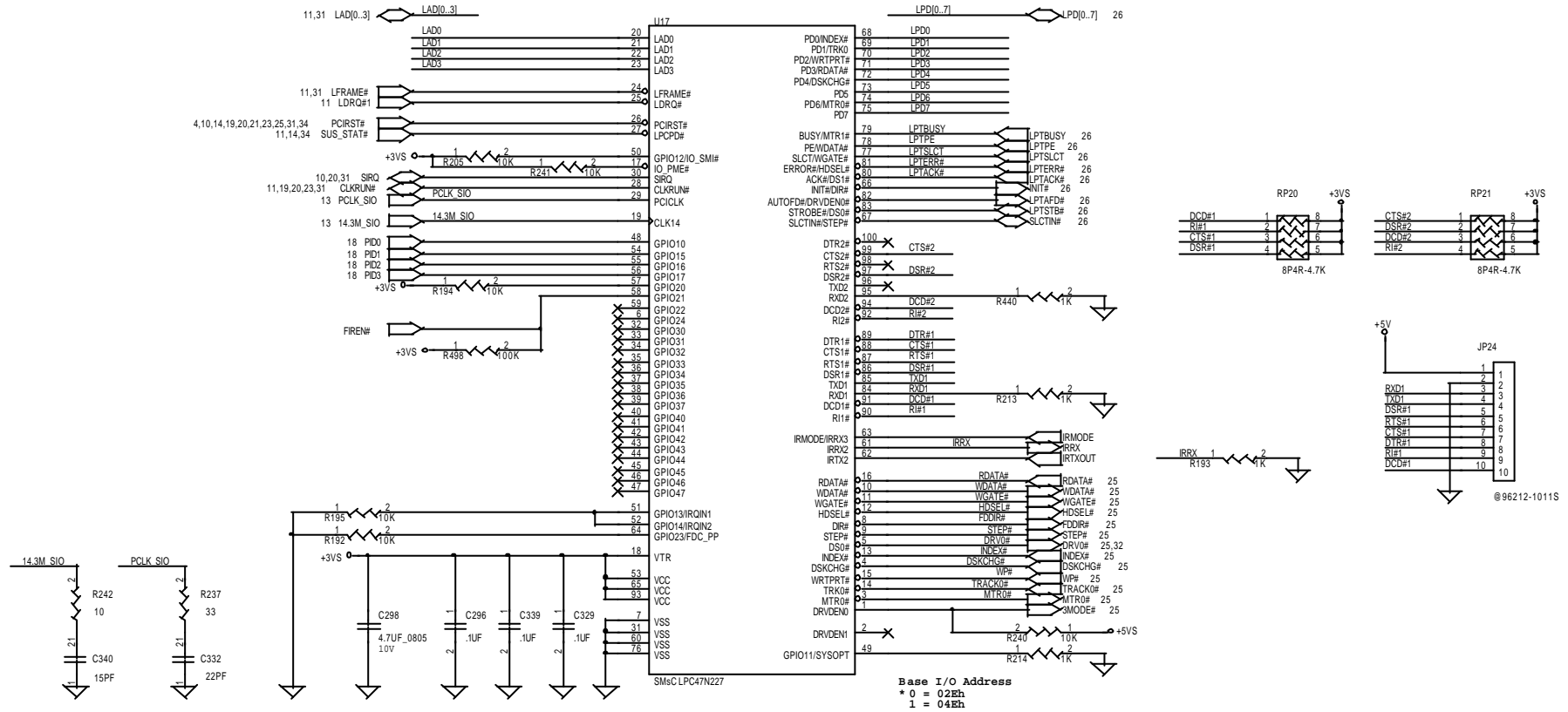
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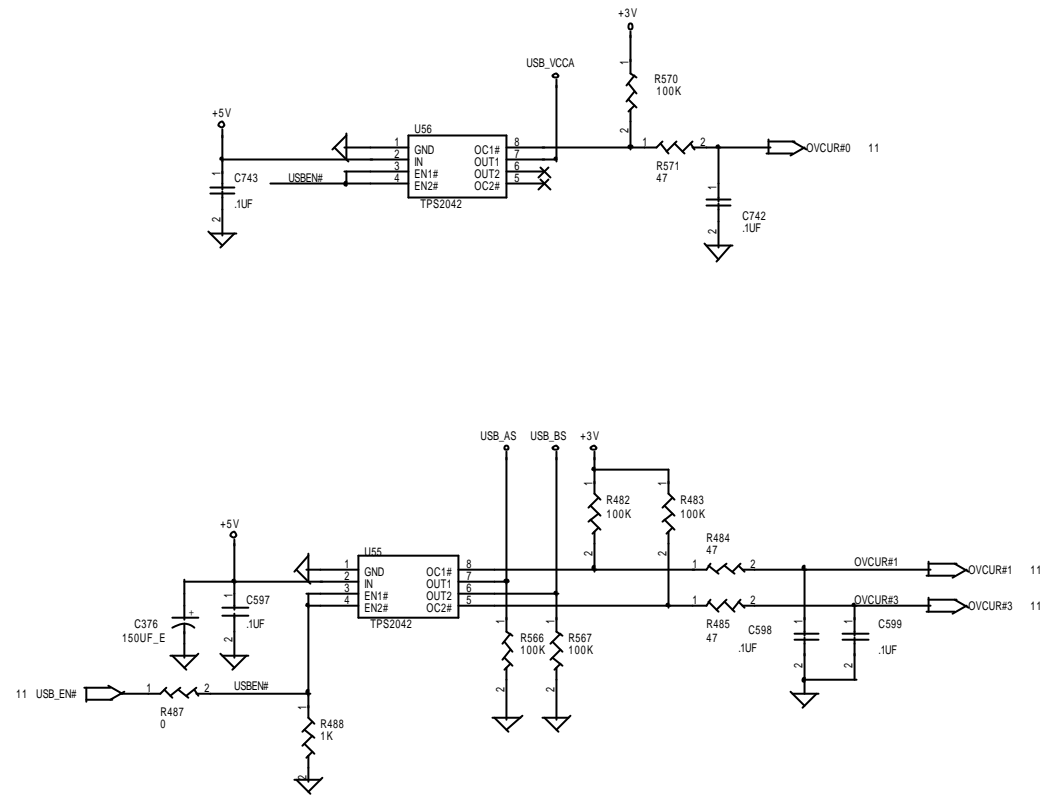
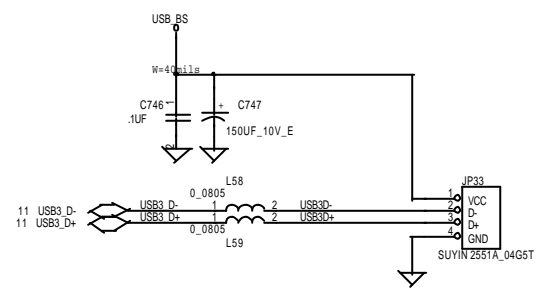
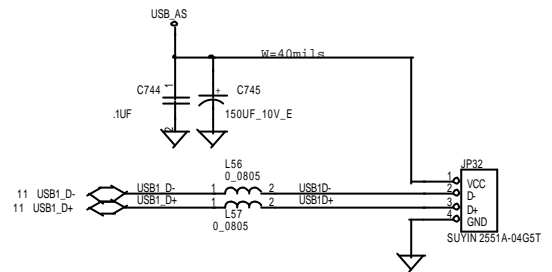
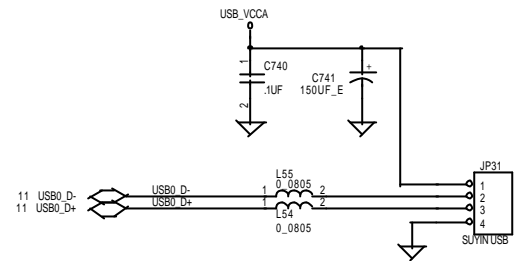
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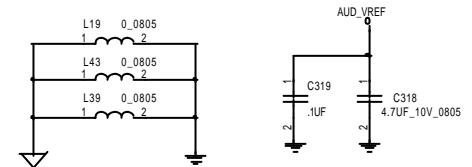
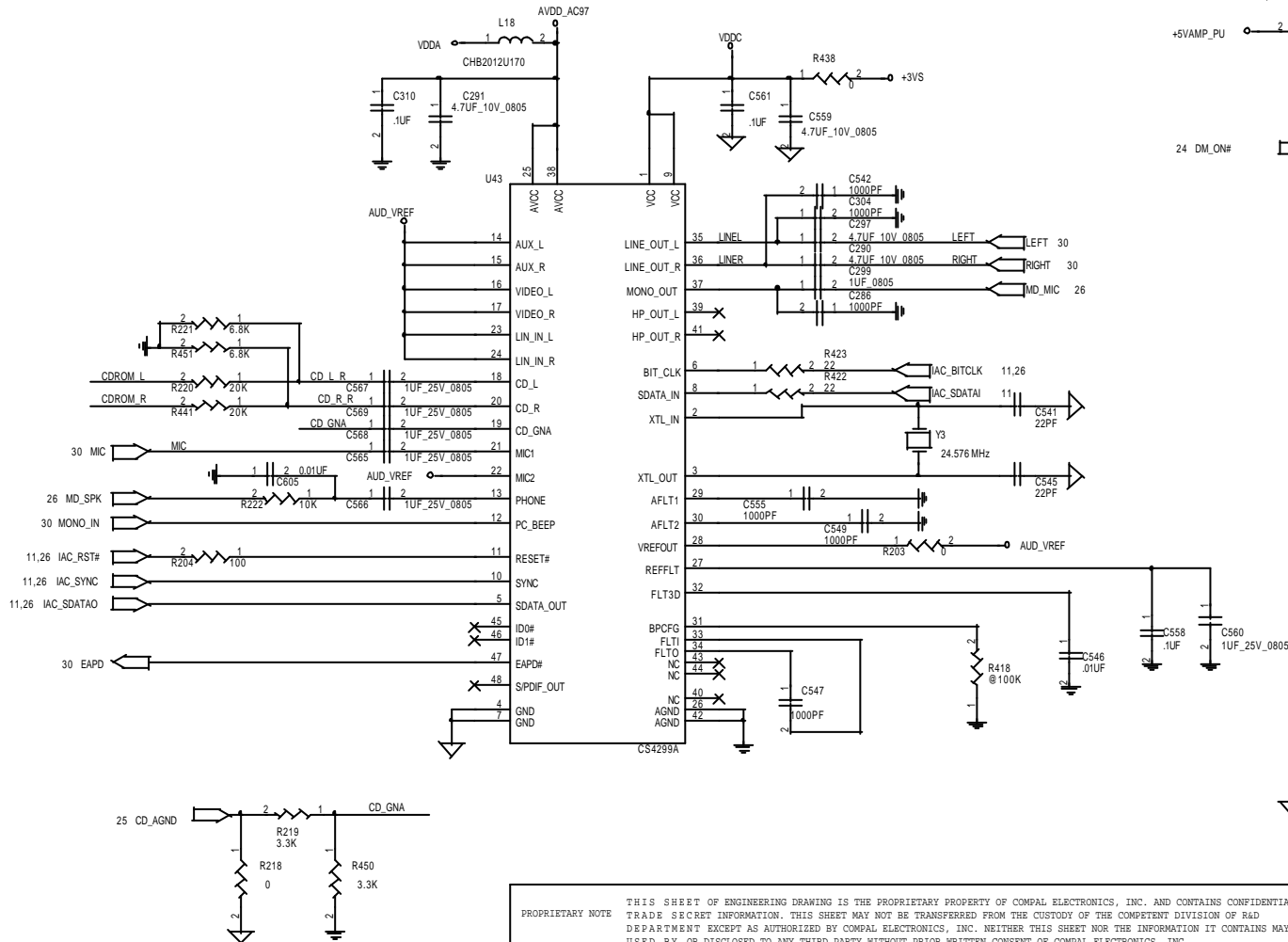
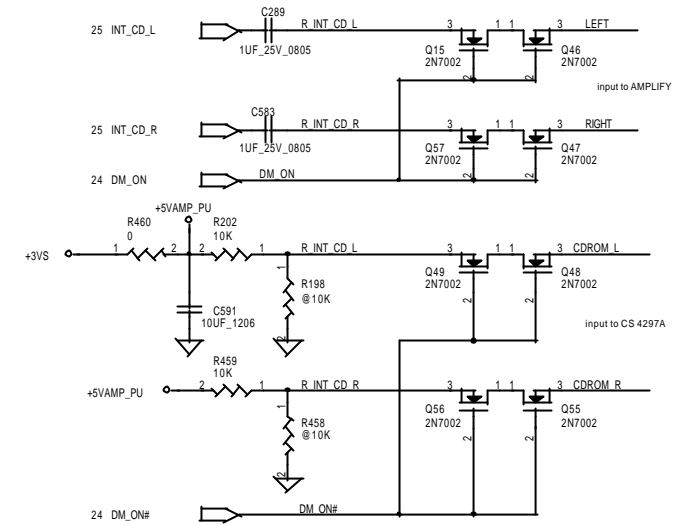
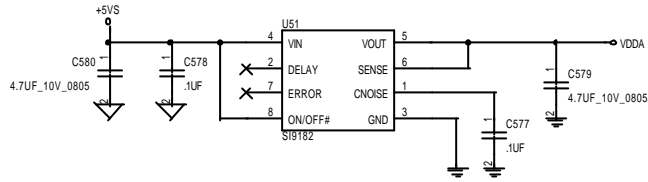
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AC97 Codec



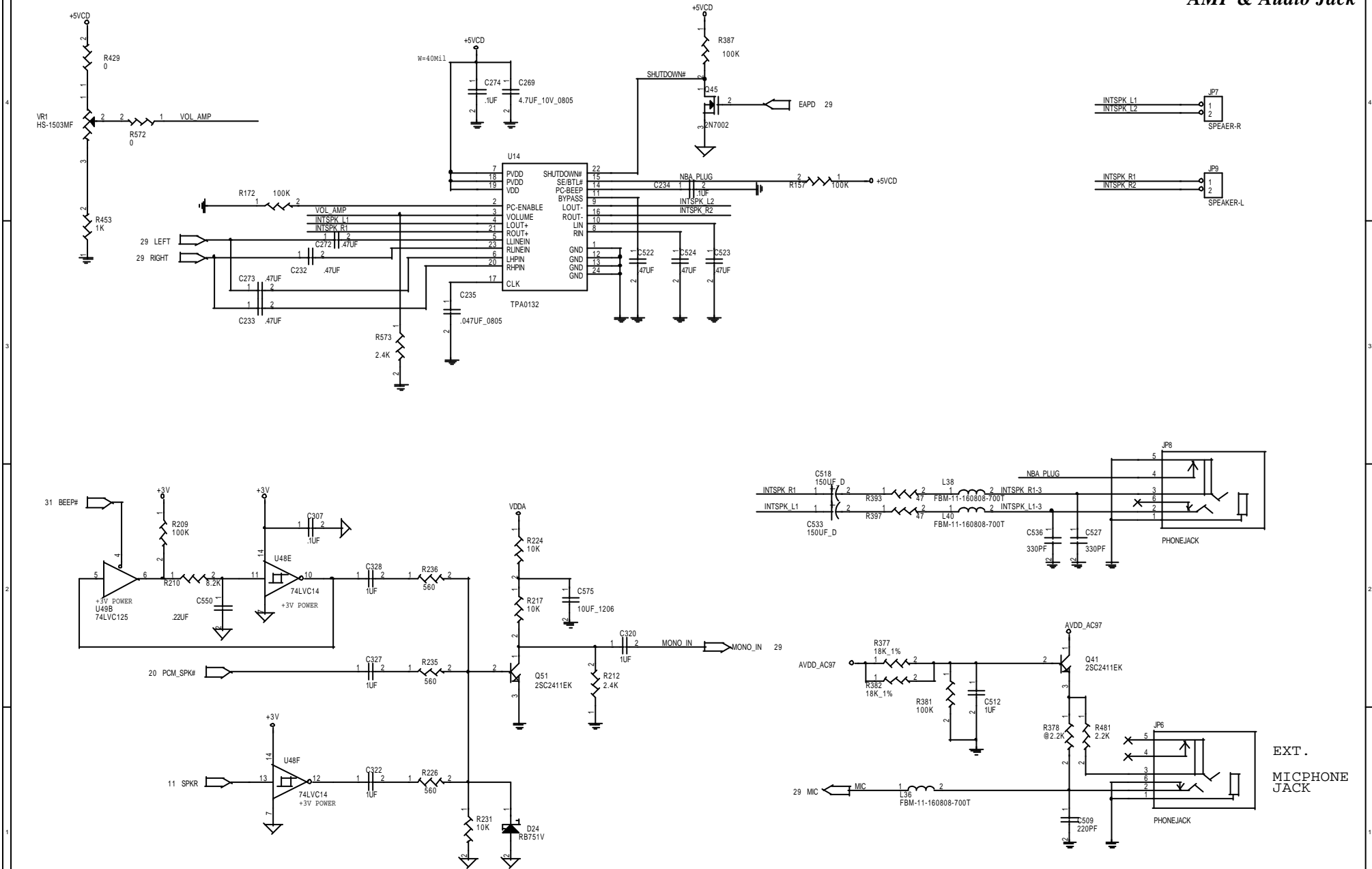
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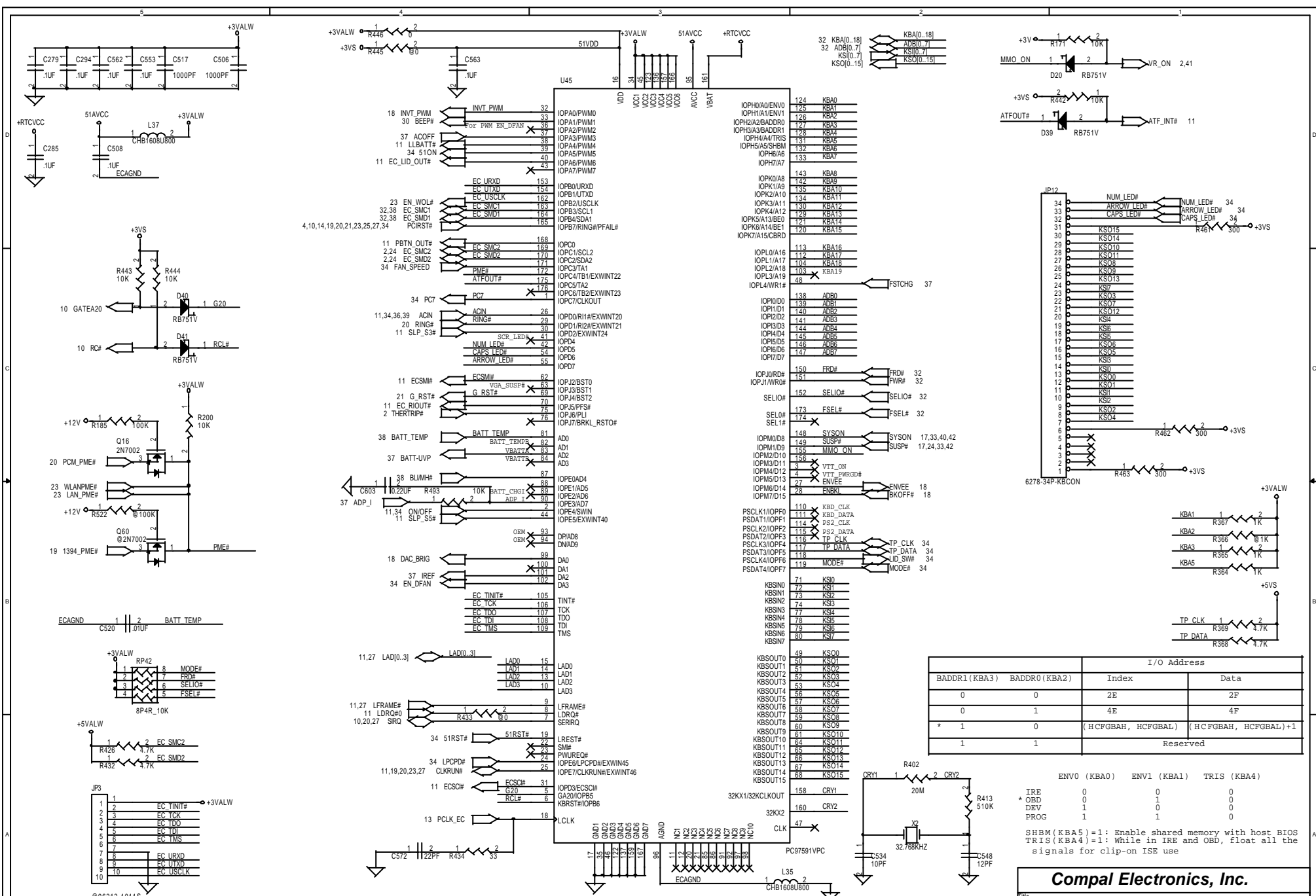
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AMP & Audio Jack



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I/O Address			
BADDR1 (KBA3)	BADDR0 (KBA2)	Index	Data
0	0	2E	2F
0	1	4E	4F
*	1	0	(HCFGBAH, HCFGBAL) (HCFGBAH, HCFGBAL)+1
1	1	Reserved	

	ENV0 (KBA0)	ENV1 (KBA1)	TRIS (KBA4)
IRE	0	0	0
*OBD	0	1	0
DEV	1	0	0
PROG	1	1	0

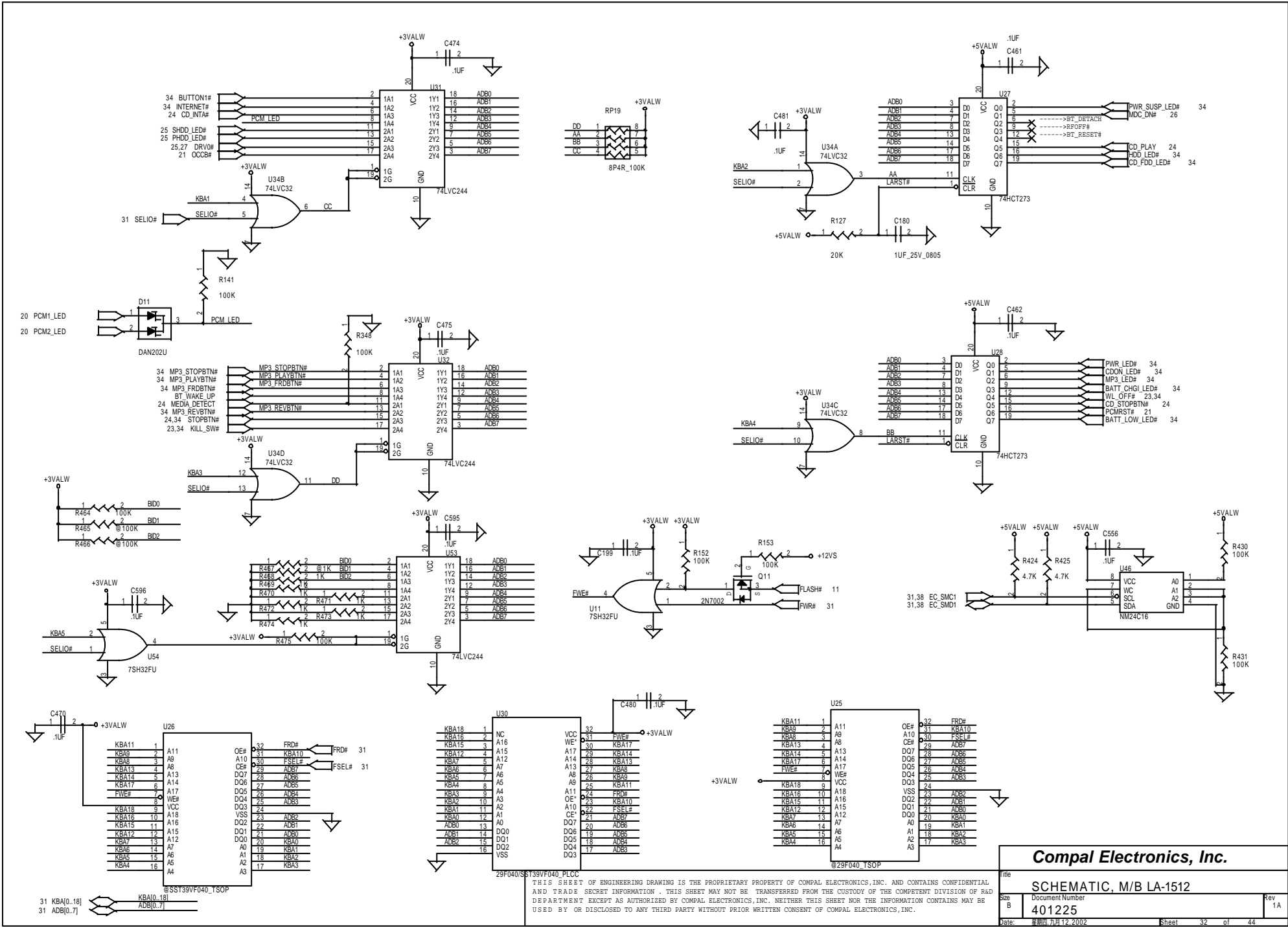
SHBM (KBA5)=1: Enable shared memory with host BIOS
 TRIS (KBA4)=1: While in IRE and OBD, float all the signals for clip-on ISE use

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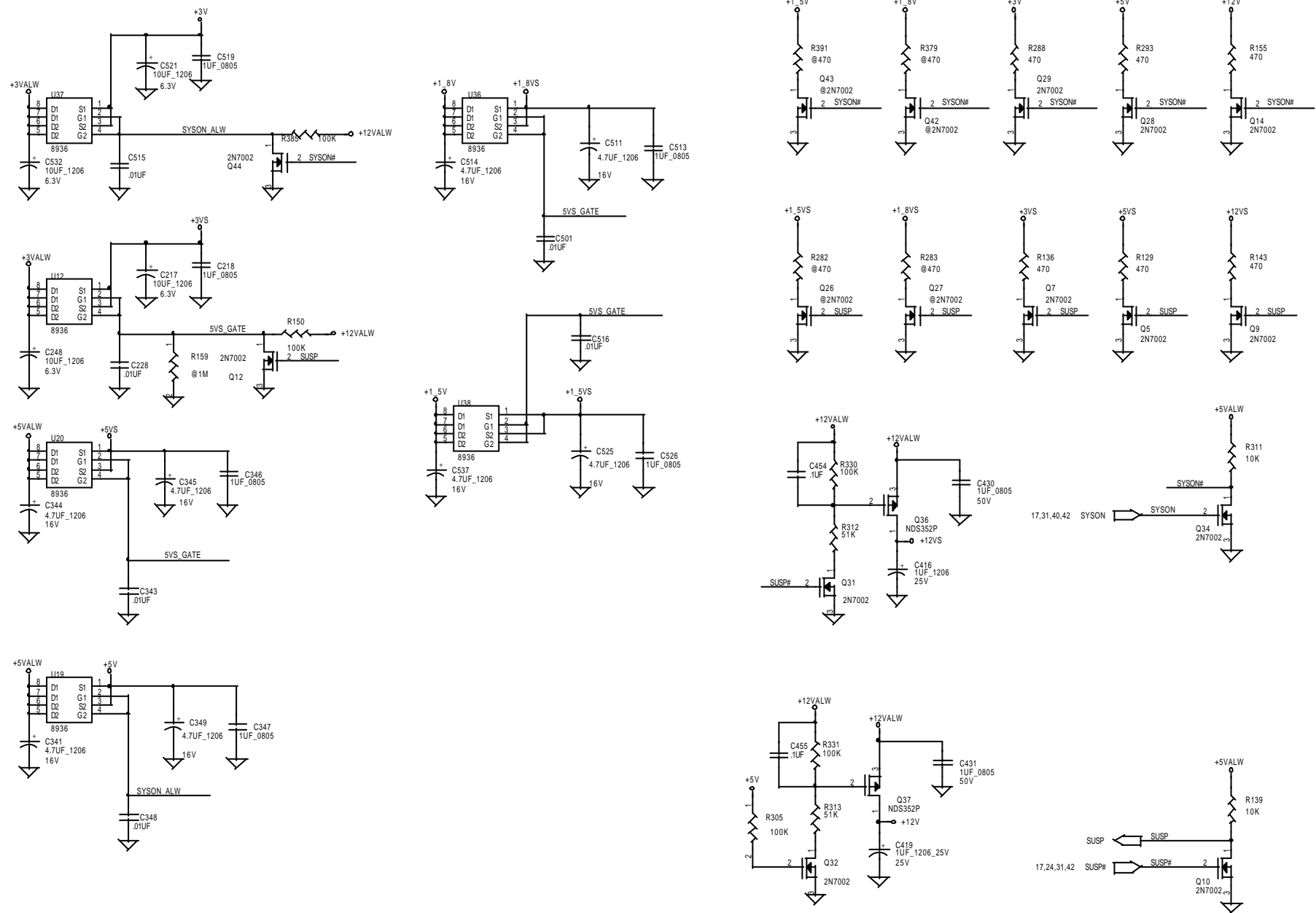
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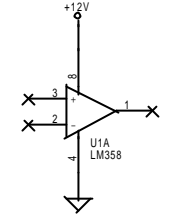
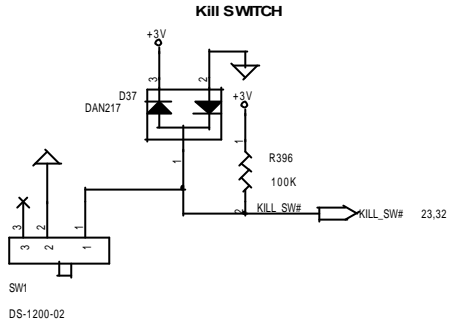
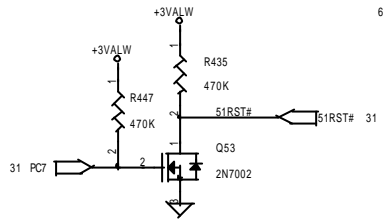
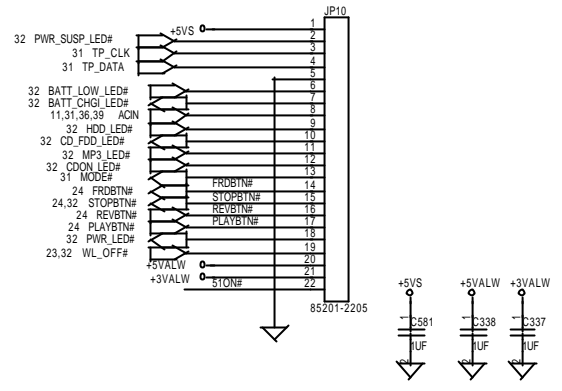
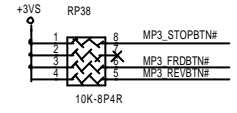
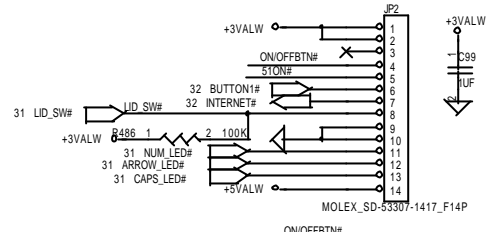
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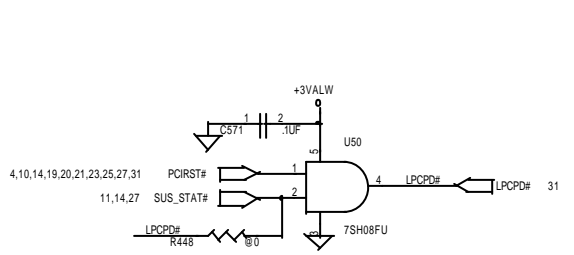
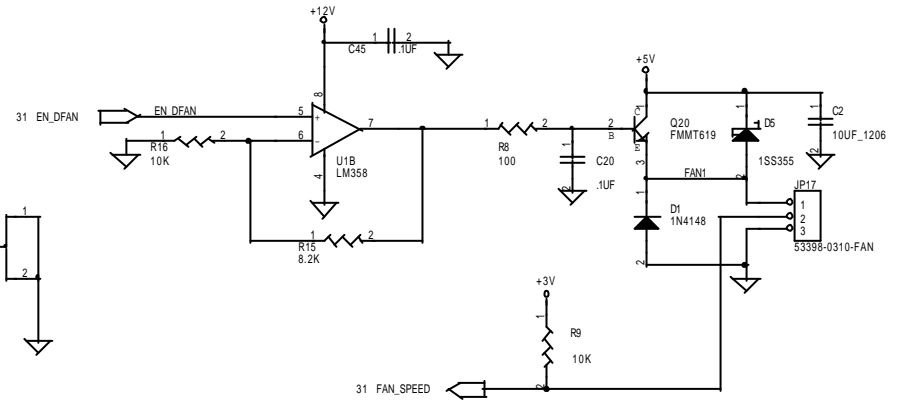
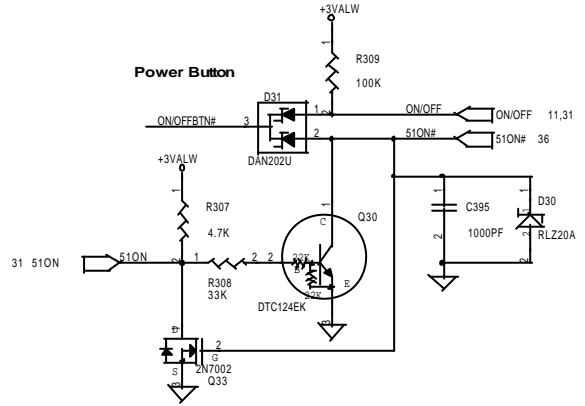
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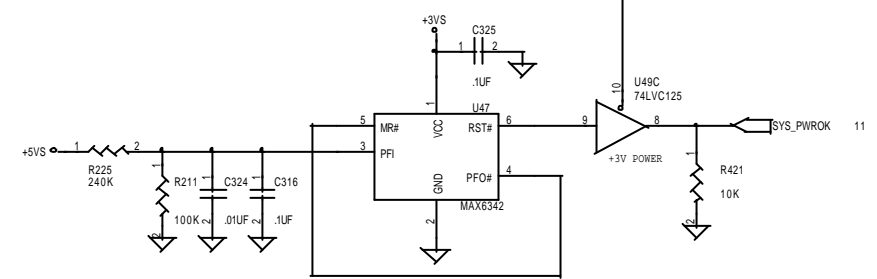
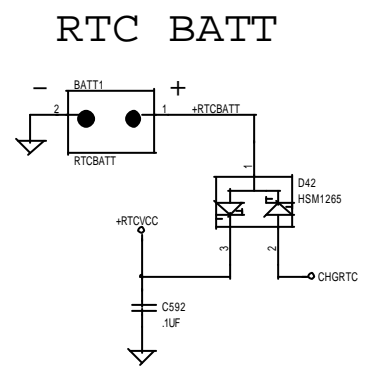
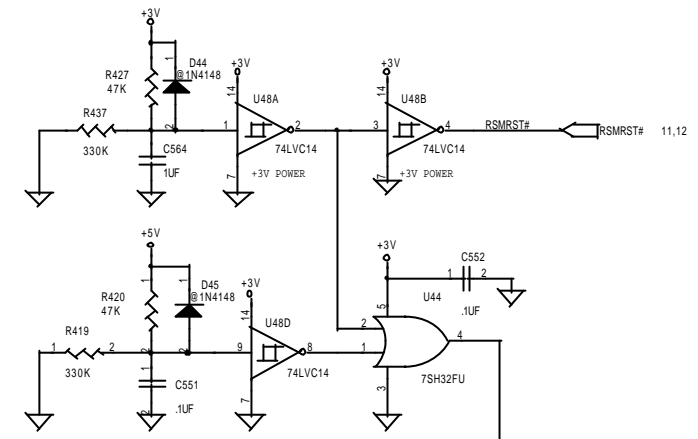
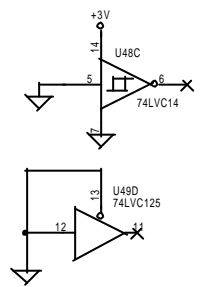
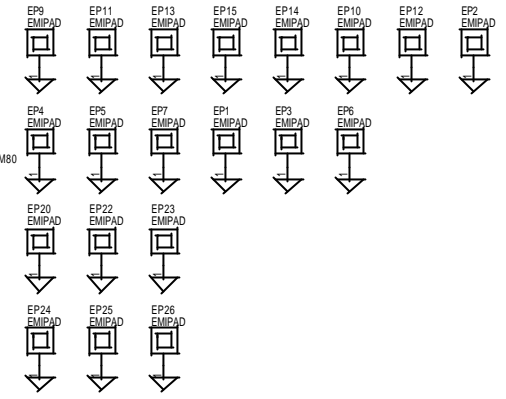
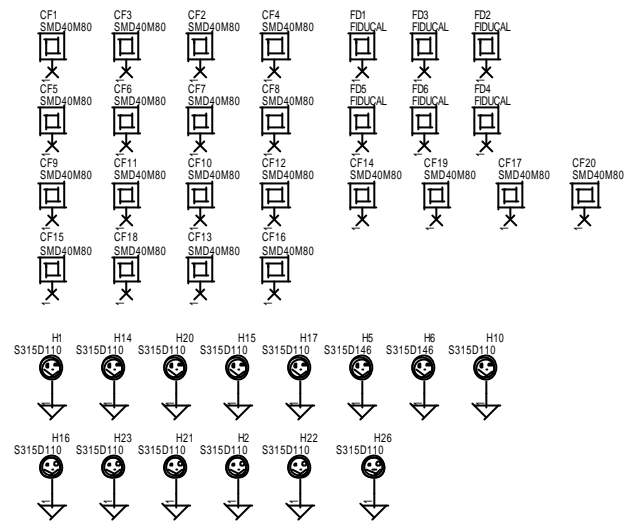
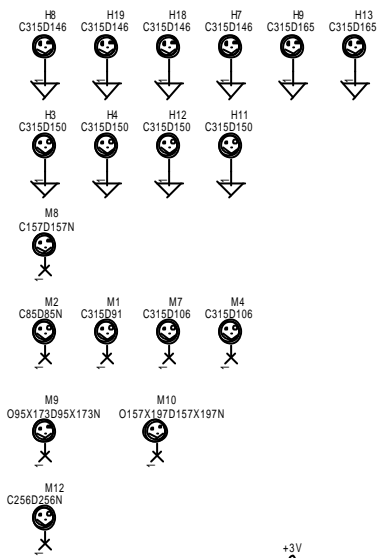
Power Button



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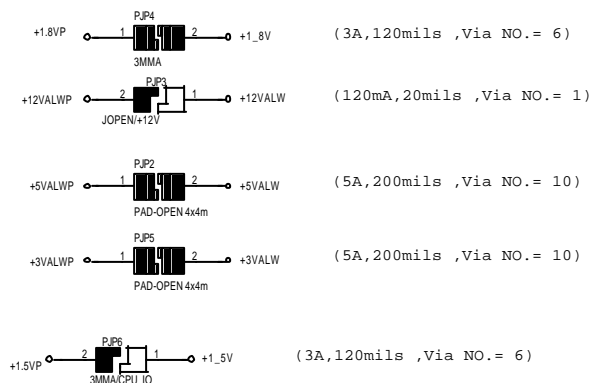
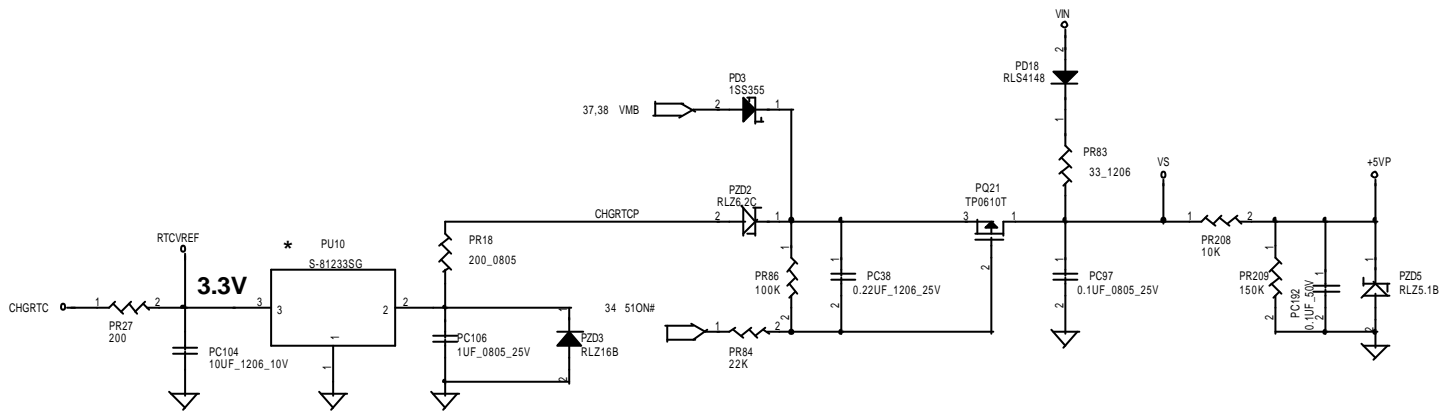
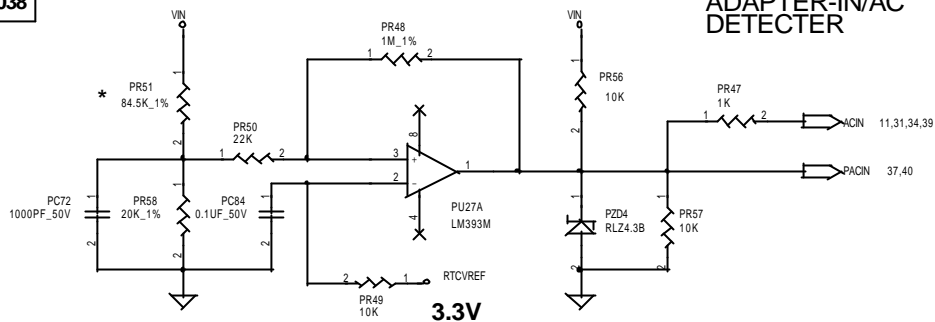
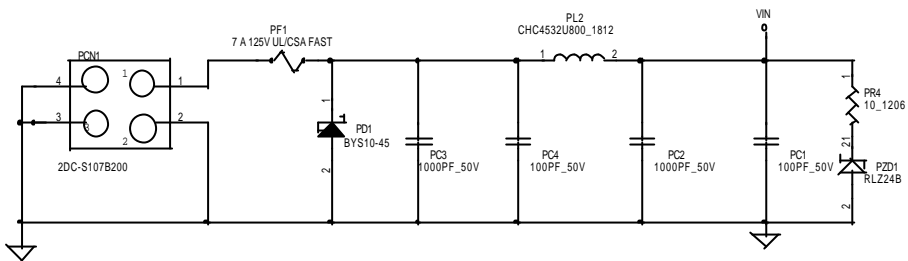


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Vin Detector

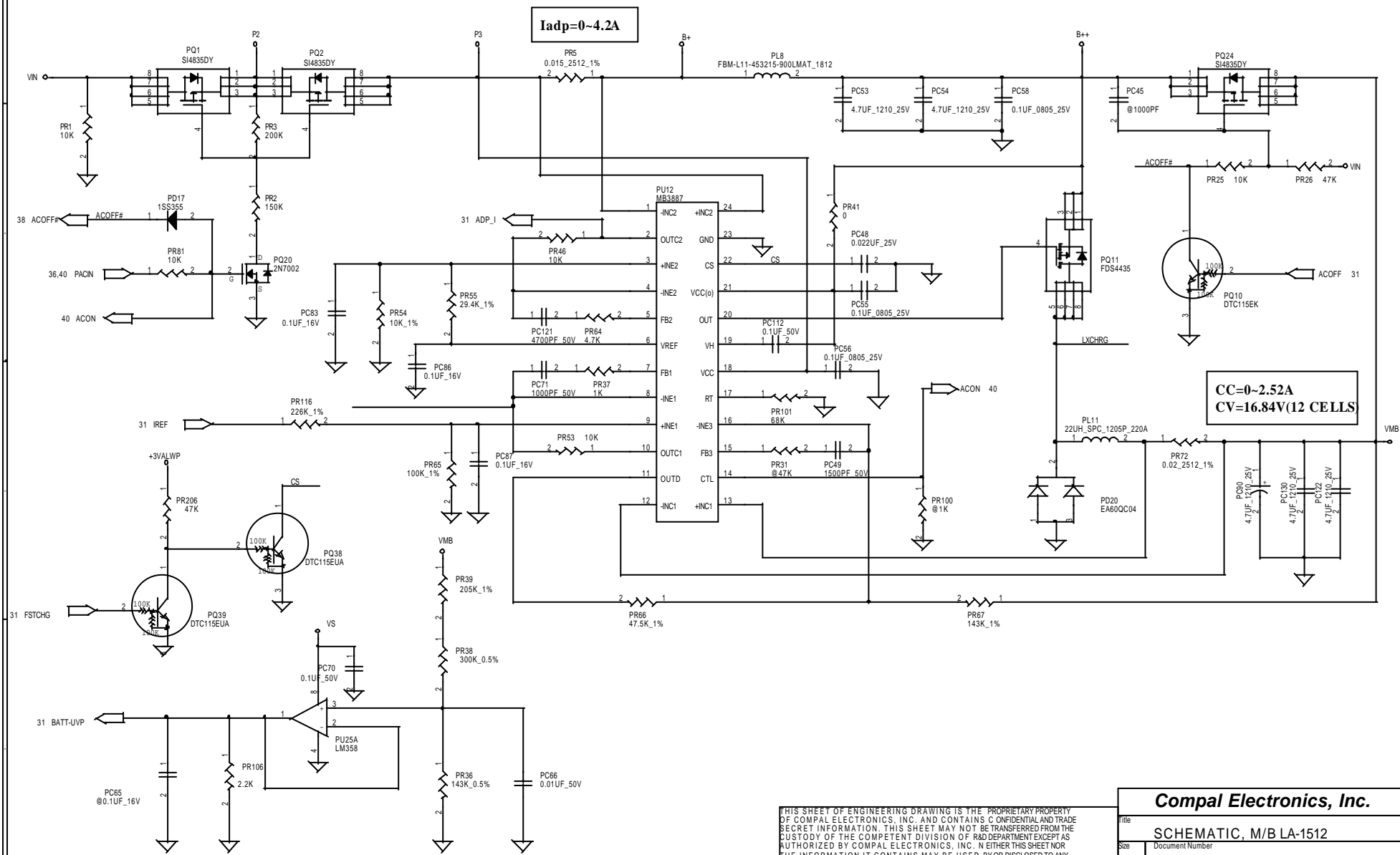
High 18.764 17.901 17.063
Low 17.745 16.903 16.038



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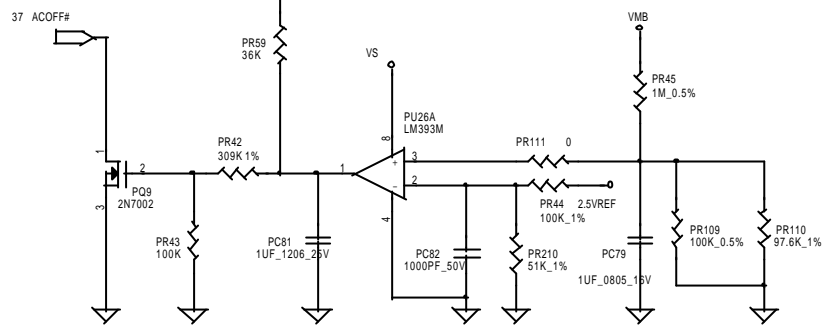
CHARGER



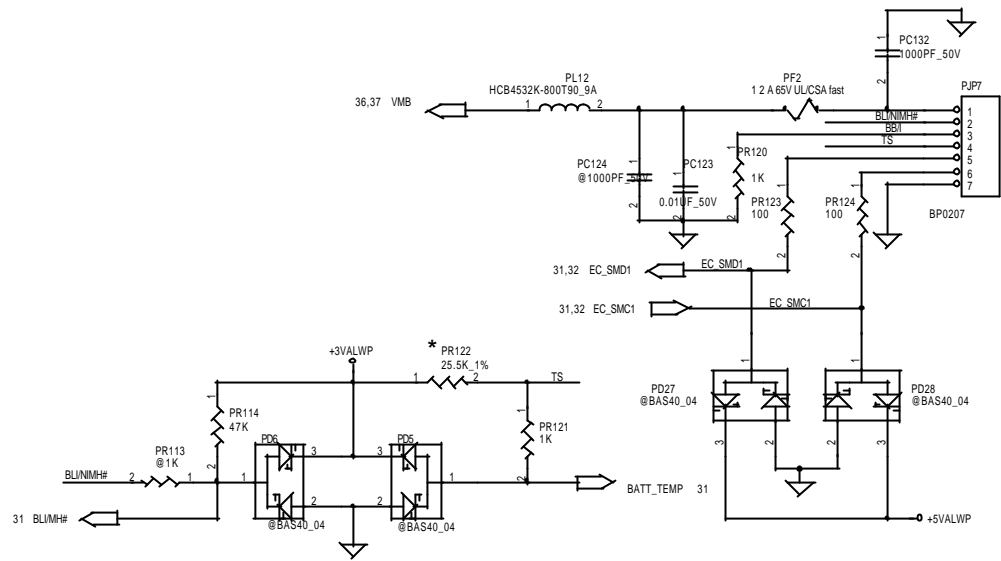
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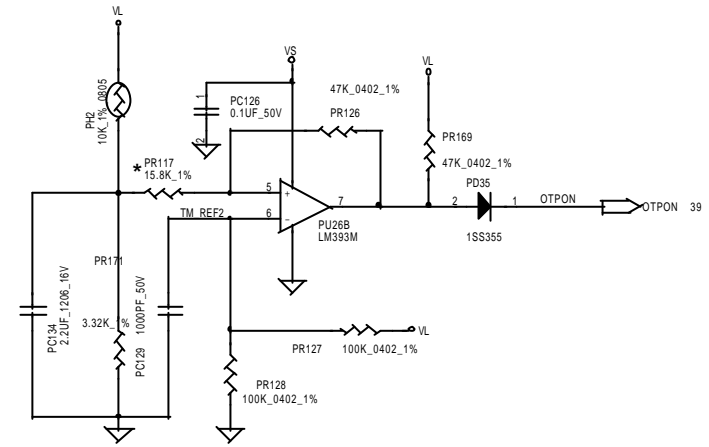
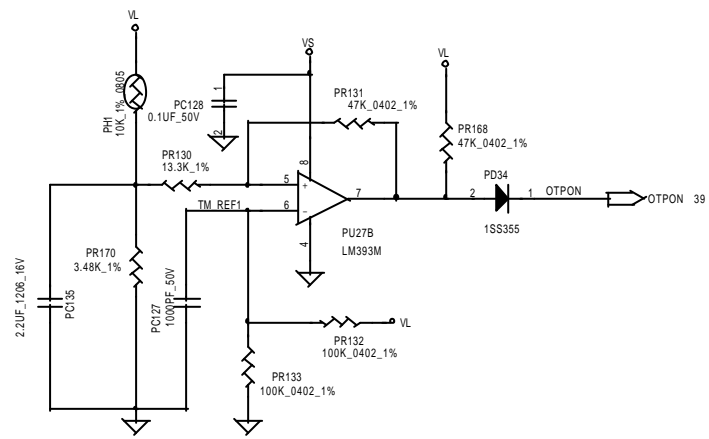
12 Cells Charger OVP : 18.059V



PH1 under CPU bottom side :
 CPU thermal protection at 76 degree C
 Recovery at 45 degree C



PH2 near main Battery CONN :
 BAT. thermal protection at 82 degree C
 Recovery at 45 degree C

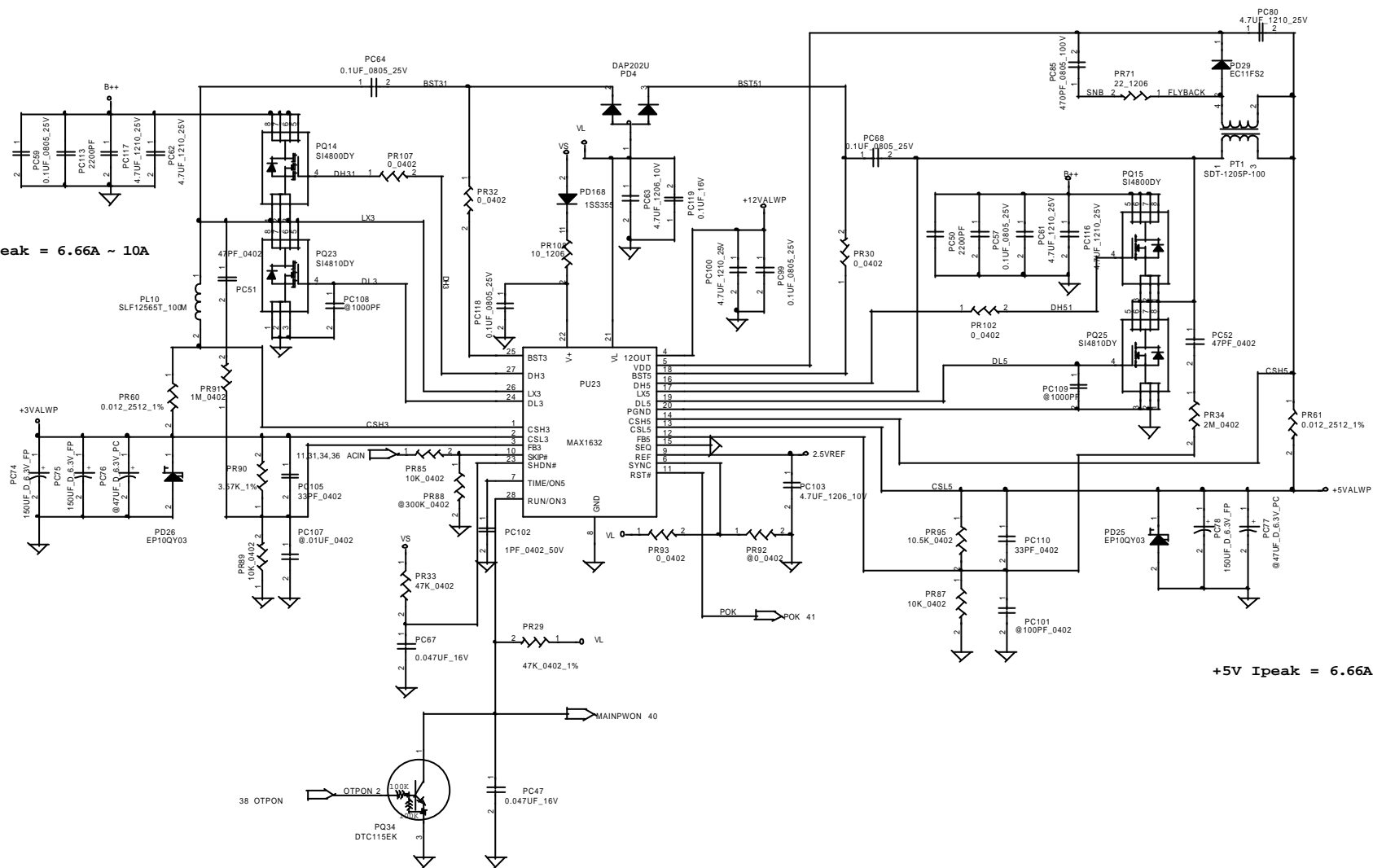


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+3.3V Ipeak = 6.66A ~ 10A

+5V Ipeak = 6.66A ~ 10A

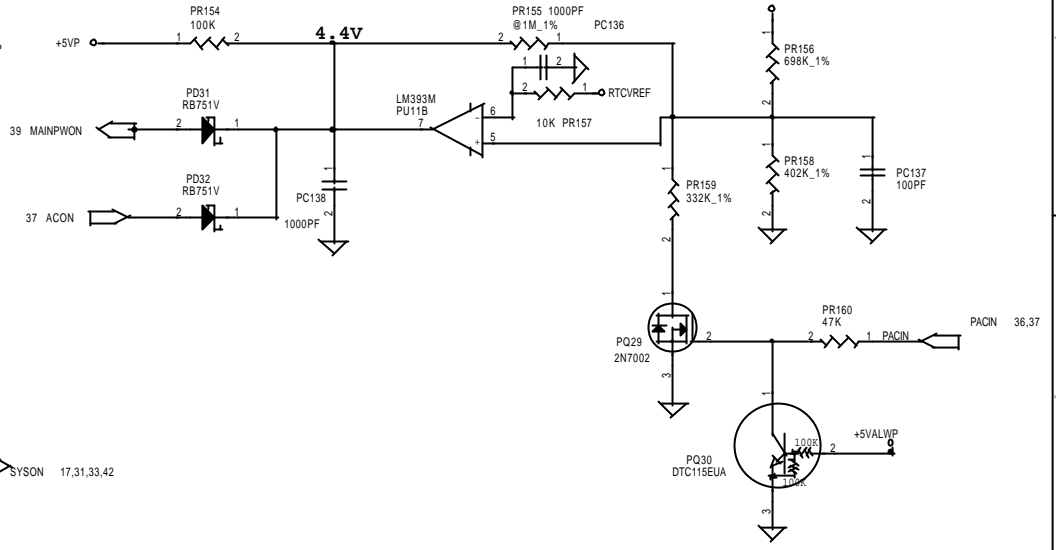
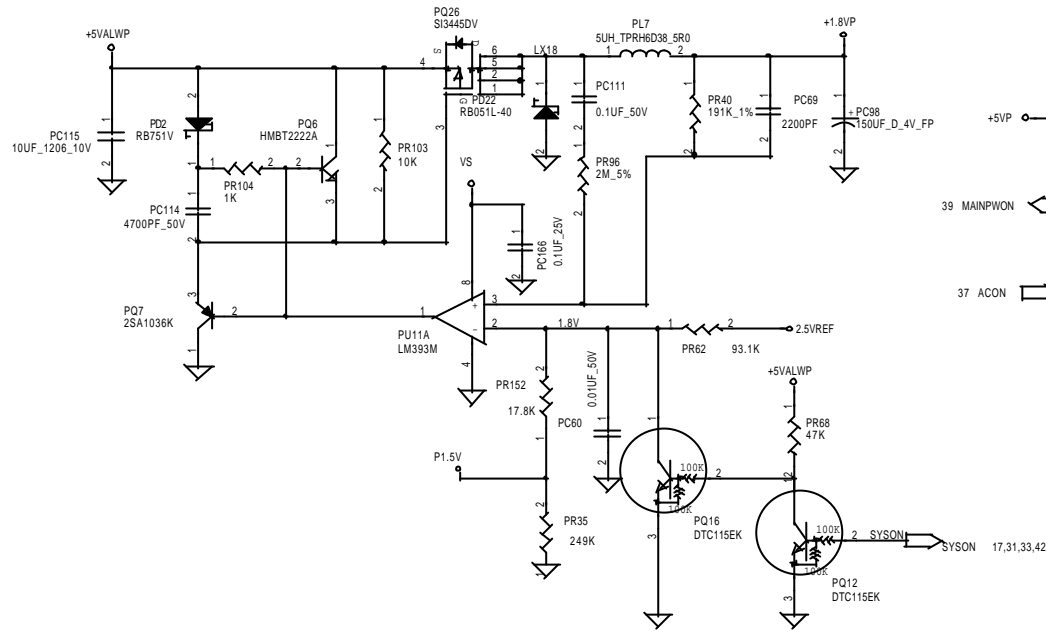


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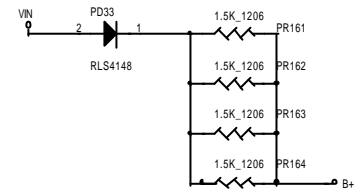
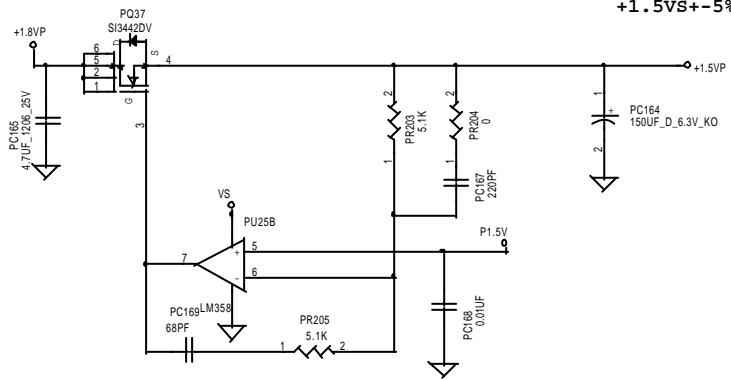
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1.8V/1.5V

+1.8VP+-5%



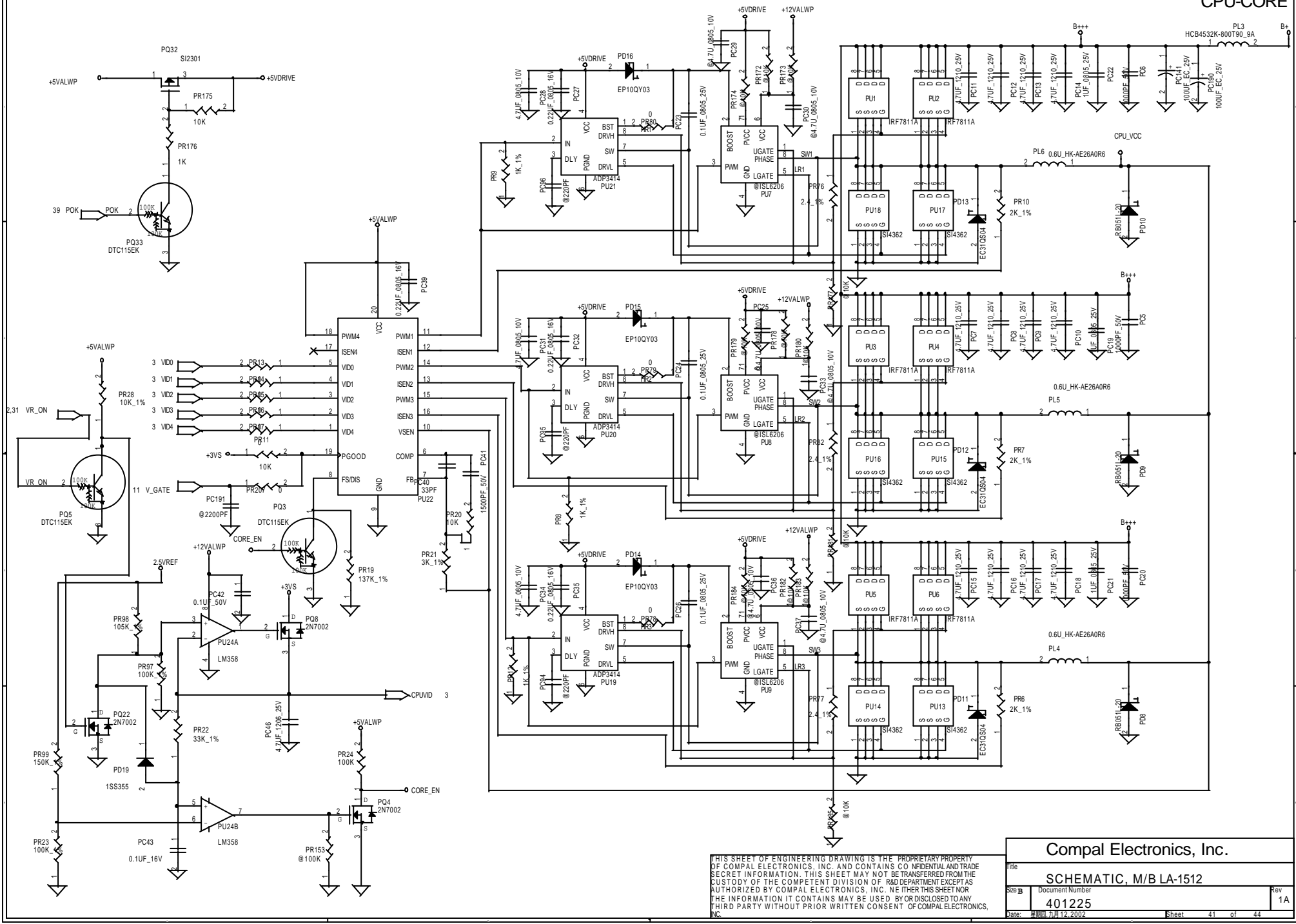
+1.5VS+-5%



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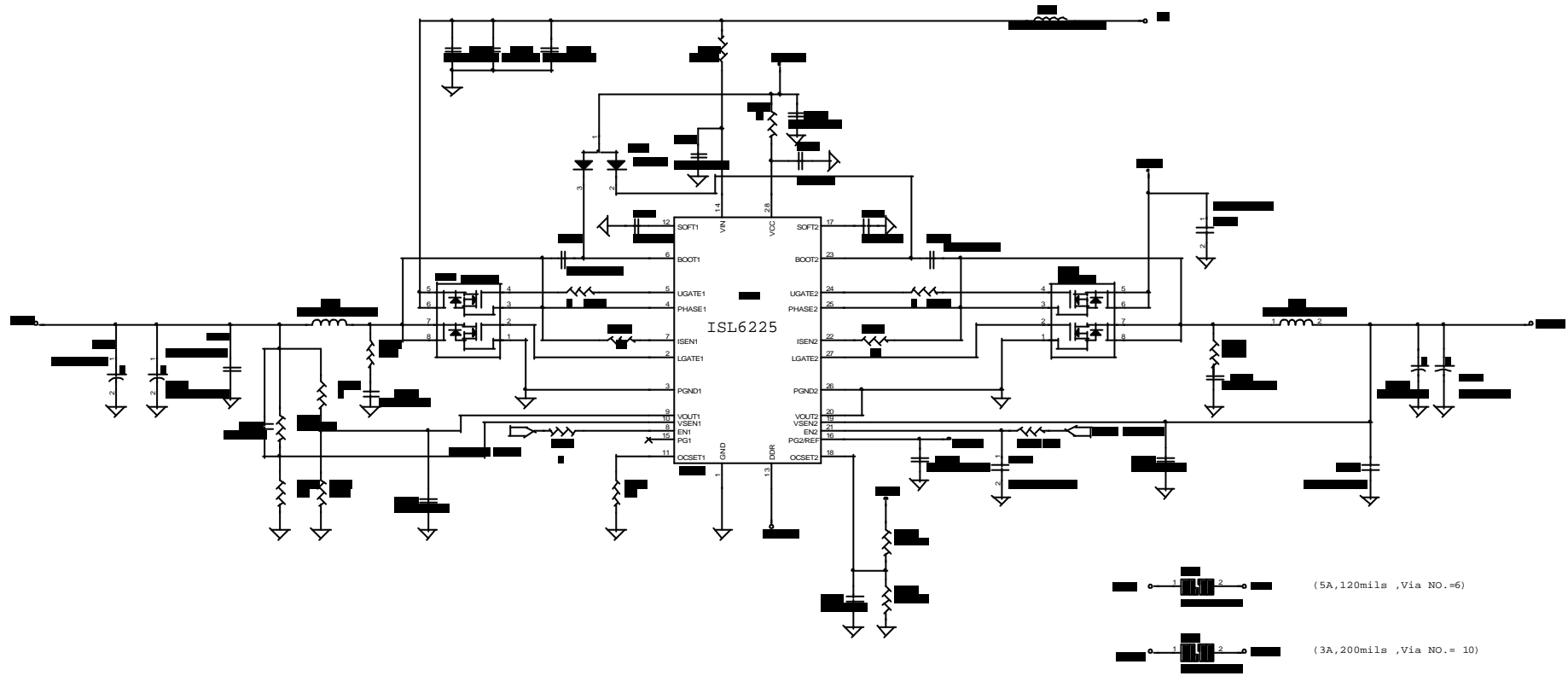
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+2.5V/+1.25V



(5A, 120mOhms, Via NO.=6)

(3A, 200mOhms, Via NO.= 10)

ATR11 PIR LIST

HW PIR LIST

ATEST 9/6-			
1	+2.5V LEVEL ERROR	Remove R111 100ohm Change R108 from 100 to 0 ohm	P15
2	SDRAM BANK select error	Change CLK_SDRAM3 from U22.F3 to U22.E3 Change CLK_SDRAM5 from U22.H5 to U22.G5 Change RRAS#3 from U22.H7 to U22.F7 Change RRAS#5 from U22.G6 to U22.H6	P5
3	Add CPU VCCVID pin	Add R492 connect to U23.AF3	P3
4	TV OUT output error	Change CRMA from U8.AF15 to U8.AF16 Change LUMA from U8.AF16 to U8.AF15	P12
5	Add MK1707 output terminate Add low pass filter for	Add R494 22 ohm	P12
6	MK1707 power pin	Add L47	P12
7	Change VGA option resistor to jumper	Change R284 to J3 Change R286 to J4 Change R295 to J5 Change R296 to J6	P15
8	Reserve +2.5V option control	Add R495 for SYSON control Add R496 for SUSP control	P15
9	Change LCD connector type	Change JP1	P16
10	Add TI TPS2042 for USB protect circuit	Add U56(TPS2042)	P25

BTEST			

PWR PIR LIST

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Version change list (P.I.R. List)

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	B.Ver#	Phase
1		Creat +5VP power		36	Add PC192: 0.1UF; PZD5: RLZ5.1B PR208: 10K; PR209: 150K		DVT
2		Meet spec. of ISL6225 DDR2.5V Vsense voltage 0.89V		42	Change PR195 from 17.8K to 18.2K		DVT
3		For CP mode		37	Change PR64 from 10K to 4.7K PC121 from 4700PF to 1000PF		DVT
4		For DDR 1.25V ripple voltage		42	Change PC153, PC154 from 150uF/6.3V to 220uF/2V		DVT
5		For DDR 2.5V voltage		42	Add PC156: 220uF/2V; delete PC155: 220uF/2V		DVT
6		For cost downe		42 40	Change PL15 from 1.5uH SPC_06703 to 1.5UH TPRH6D38 Change PL7 from 5uH SPC_06703 to 5UH TPRH6D38		DVT
7		For DDR 1.25V voltage sense		42	Change PR191 from 6.8K_1% to 2K_1%		DVT
8		For transient response of DDR 2.5V 1.25V		42	Add PC195 PC194 4.7uF/6.3V; de-pop PC153 Change PC193 from 1000pF to 4700pF; PR186 from 10 to 51Ohm		PVT
9		For reduce CP mode noise		37	Change PC121 from 4700PF to 1000PF		PVT
10		Increase voltage margin on CTL of MB1887		37	.De-pop PR100		PVT
11		Change 1.8V to 1.85V P1.5V to 1.73V requested from H/W		40	Change PR62 from 100K to 93.1K PR152 from 43K to 17.8K PR35 from 215K to 249K		PVT

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