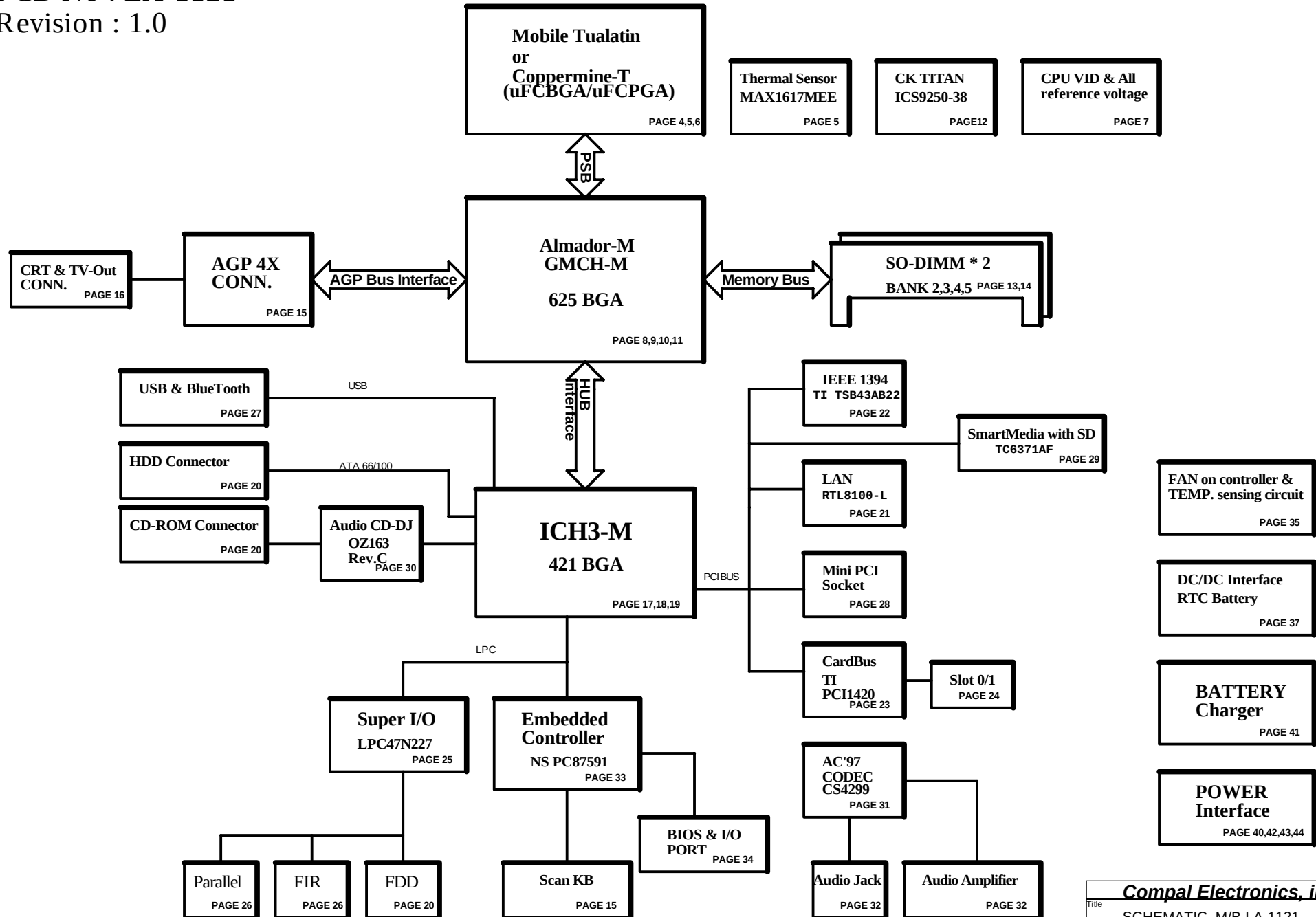


Model Name : 888M3
PCB No : LA-1121
Revision : 1.0

BLOCK DIAGRAM

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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
+VCC_H_CORE	Core voltage for CPU	ON	OFF	OFF
+VTT	1.2V switched power rail for CPU AGTL Bus	ON	OFF	OFF
+1.5V	1.5V power rail	ON	ON	OFF
+1.5VS	AGP 4X	ON	OFF	OFF
+1.8V	1.8V power rail	ON	ON	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+2.5V	2.5V power rail	ON	ON	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*
+12VS	12V switched power rail	ON	OFF	OFF
RTCVC	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
AGP 4X CONN.			PIRQA
IEEE 1394	AD16	0	PIRQA
CardBus	AD20	2	PIRQA/PIRQB
LAN	AD17	3	PIRQB
Mini-PCI	AD18	1/4	PIRQC/PIRQD
SD/SM	AD22		PIRQC/PIRQD

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

ICH3-M SM Bus address

Device	Address
Clock Generator (ICS9238-50)	1101 0000
SDRAM Select (74HC4052)	1010 0000
CPU Voltage VID select (F3565)	0110 111Xb

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PIR

REV 0.2

Date	Page	Description
5/8	29	Modification toshiba SM+SD function
5/8	32	Modification audio volume control function
5/8	42	ADD system thermal protection
5/14	33	DEL R244 ,Add D44

REV 0.3

Date	Page	Description
5/23	5	U8 Vcc plane modify to +5VALW
5/23	18	DEL R90,R89,R281
5/23	32	R448 change gnd to +5VCD, R479 change +5VCD to gnd.
5/23	37	U2.4 link to U20.8
5/23	30	Add R519.
5/23	5	U9.AF19 add R517 link to +1.5VS
5/23	25	Modify LPC_RST# timing. Add U55,D45,R518.
5/31	27	JP15.8 connector to U29.57
5/31	25	ADD R520, Add net name BT_DET# to U29.57
5/31	34	Modify net name ANT_SW to WL_OFF#, ADD R221
5/31	28	Modify net name RFOFF# to WL_OFF#
5/31	35	DEL R19

REV 0.4

Date	Page	Description
7/3	16	Del L23,R14,R12,R10,R6,R8
7/3	27	ADD C720,C721,C722,C723,C724,C725
7/3	29	IDSEL0 change to PCI_AD26, INTA#/INTB# change to PIRQC#/PIRQD#
7/10	24	Add U58,U59,R531,R532,R533,R534,C718,C719
7/17	29	Del SD function
7/18	29	Change IDSEL to PCI_AD22
7/23	21	DEL C15

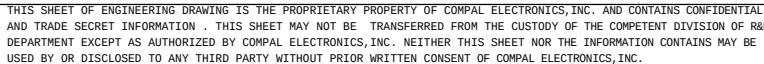
REV 0.5

Date	Page	Description
8/13	15	Add R544 reserve for sus_stat# and stp_agg#
8/13	29	Add R545 pull-up signal SM_LED to SMC_VCC,Add@ in U62,C729,R486
8/13	35	Change R543 pull-up form SMC_VCC to +5VS
8/13	29	Add R546,R547 signal PCIRST#,CBRST#
8/13	37	Del U2,Q4,R330
8/16	10	Add Signal TV_out_DDC2CCLK,TV_out_DDC2DATA ,VCH_I2CCLK,VCH_I2CDATA,AGP_DDCCLK,AGP_DDCDATA
8/16	10	Add R551,R552. DEL R225,R235
8/16	15	Add RP38,RP39
8/16	16	Add R553,R554,R555
8/17	34	Del R29, Add R557, R558
8/17	20	Add R556

REV 1.0	Date	Page	Description
8/31	5		Q6 RESERVE

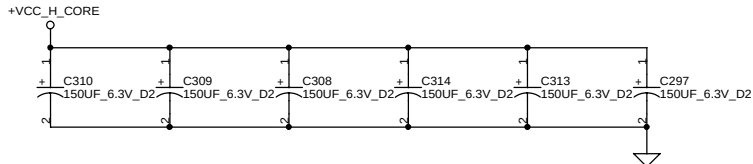
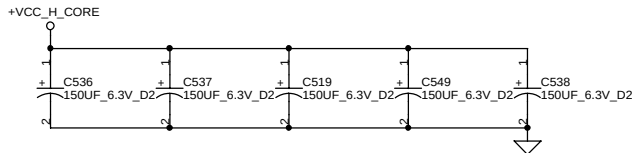
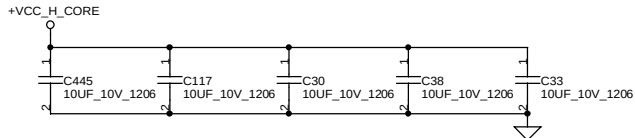
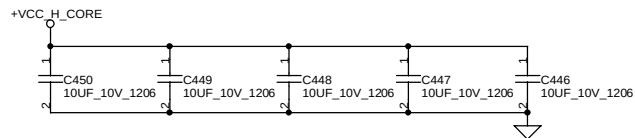
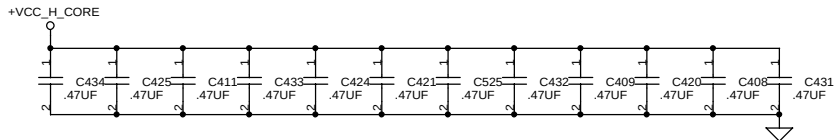
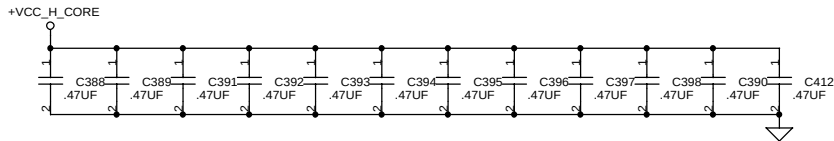
REV 1.A	Date	Page	Description
9/6	12		Add D47 and R562

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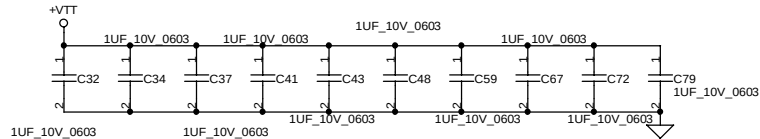
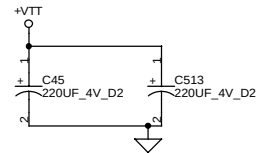
Layout note :

Place close to CPU, Use 2~3 vias per PAD.
Place .47uF caps underneath balls on solder side.
Place 10uF caps on the peripheral near balls.
Use 2~3 vias per PAD.



Layout note :

Place close to CPU,
Use 2 vias per PAD.

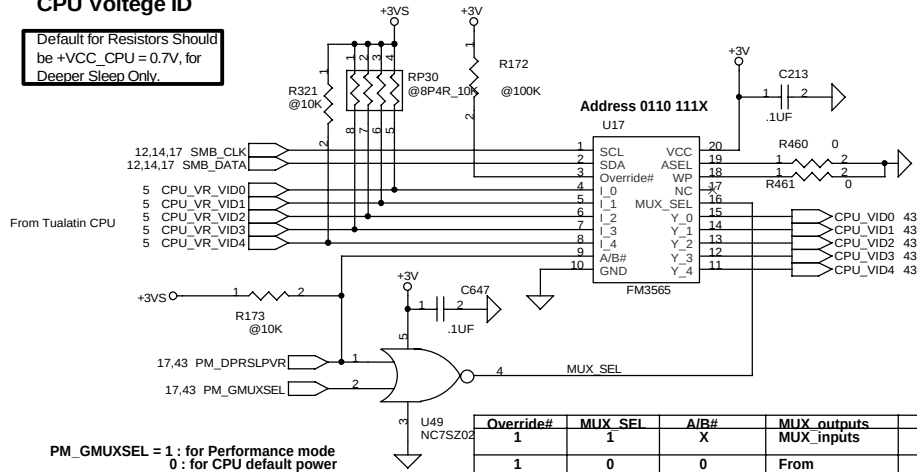


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CPU Voltage ID

Default for Resistors Should be +VCC_CPU = 0.7V, for Deeper Sleep Only.



PM_GMUXSEL = 1 : for Performance mode
0 : for CPU default power

PM_DPRSLPVR = 1 : for Deeper Sleep mode
0 : for Performance mode

Tualatin

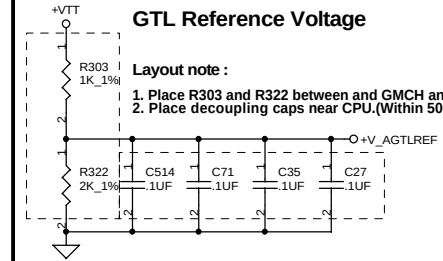
D4	D3	D2	D1	D0	CPU_Core(V)	ES(before MP)
0	0	1	0	1	1.50V (Performance)	
0	1	1	0	0	1.15V (Battery)	
1	0	1	0	1	0.85V (Deeper Sleep)	

D4	D3	D2	D1	D0	CPU_Core(V)	QS(MP)
0	0	1	1	1	1.40V (Performance)	
0	1	1	0	0	1.15V (Battery)	
1	0	1	0	1	0.85V (Deeper Sleep)	

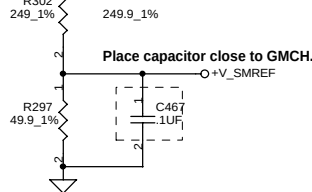
GTL Reference Voltage

Layout note :

1. Place R303 and R322 between and GMCH and CPU.
2. Place decoupling caps near CPU.(Within 500mils)



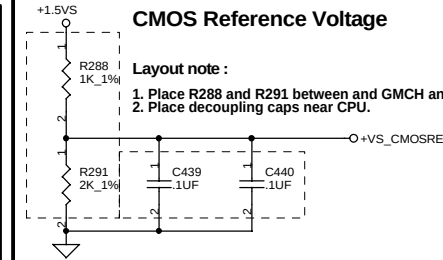
System Memory Reference



CMOS Reference Voltage

Layout note :

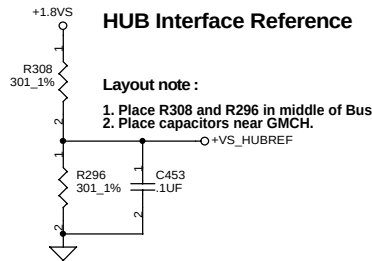
1. Place R288 and R291 between and GMCH and CPU.
2. Place decoupling caps near CPU.



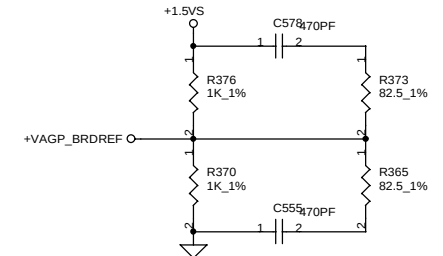
HUB Interface Reference

Layout note :

1. Place R308 and R296 in middle of Bus.
2. Place capacitors near GMCH.

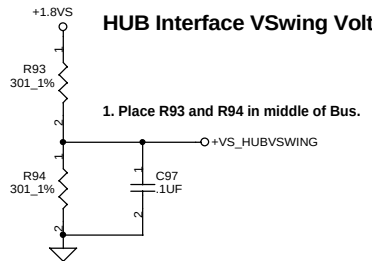


Place Reference Circuit near GMCH

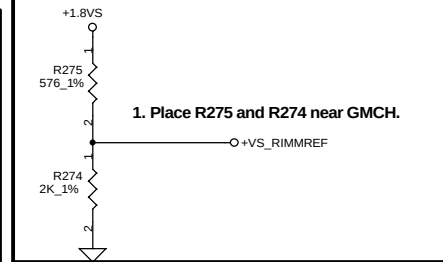


HUB Interface VSwing Voltage

1. Place R93 and R94 in middle of Bus.



1. Place R275 and R274 near GMCH.

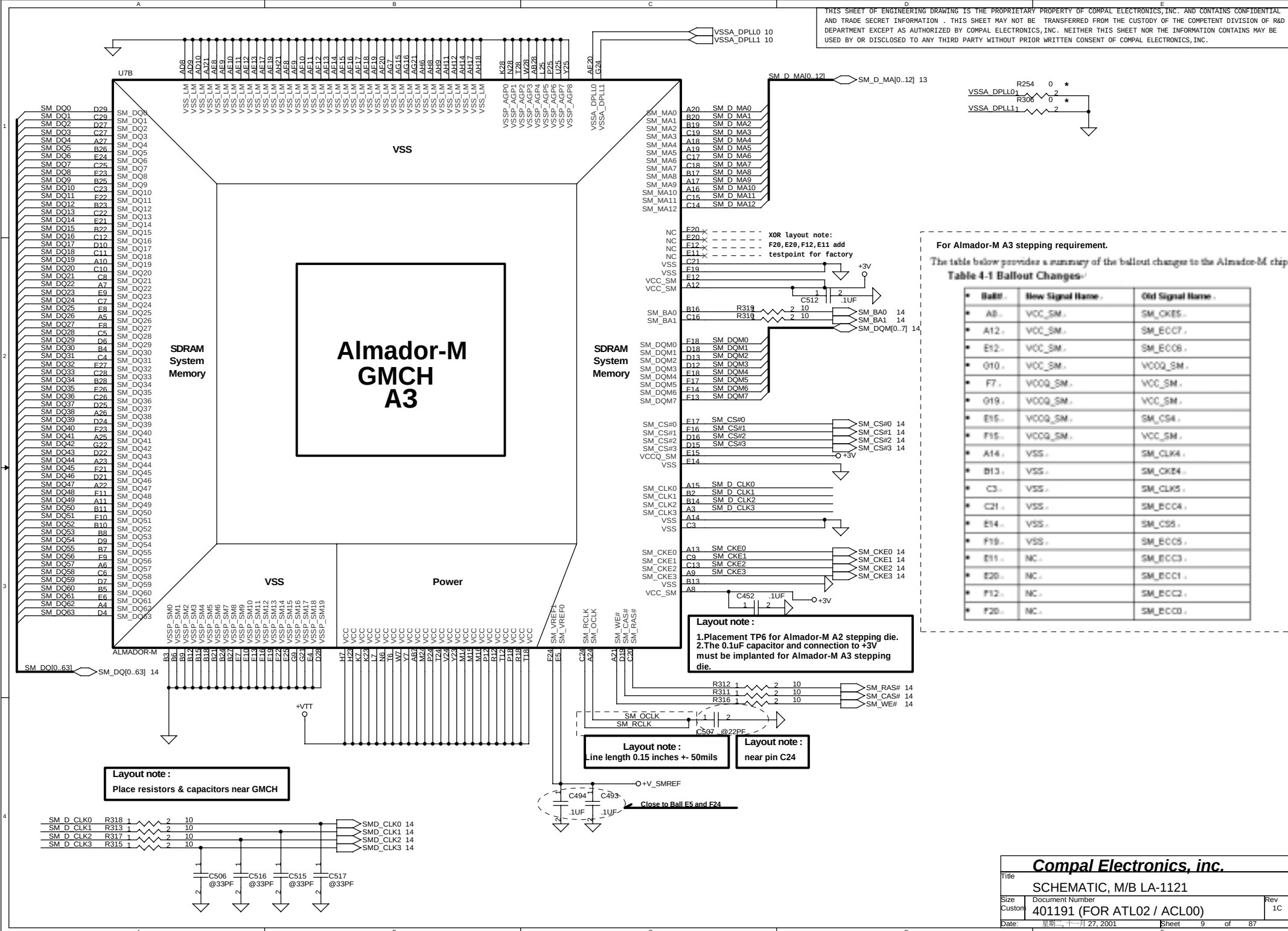


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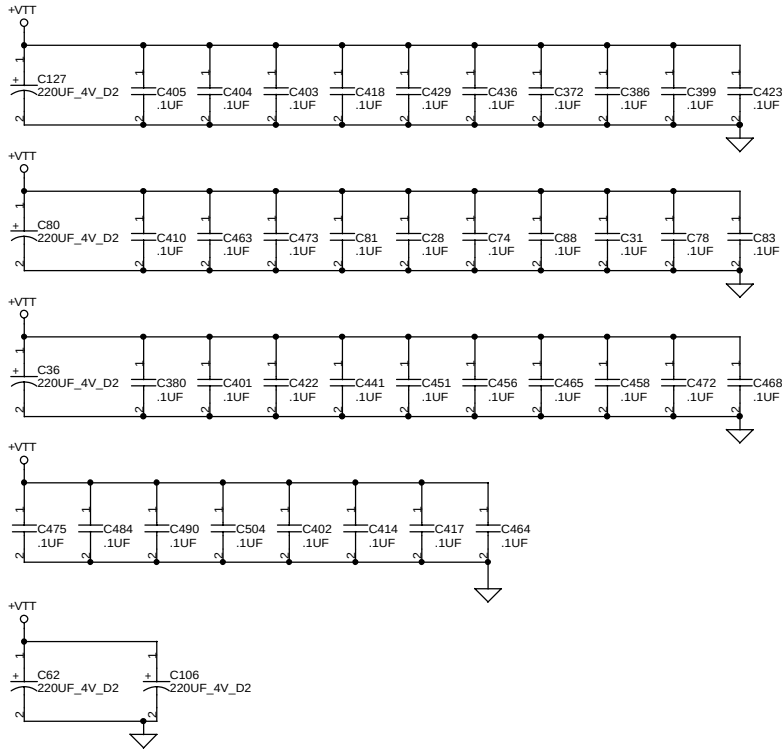
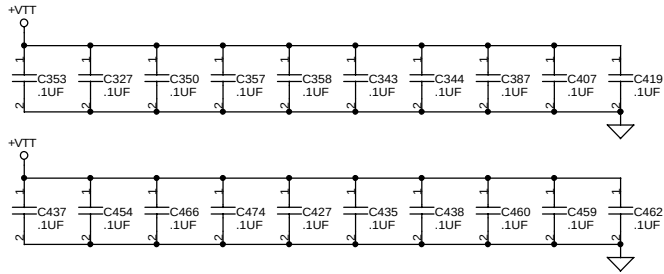
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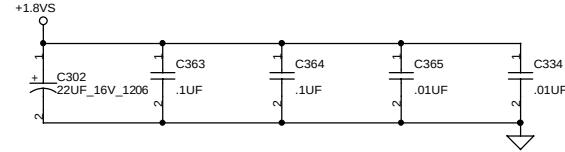
Layout note :

Distribute as close as possible
to GMCH Processor Quadrant .



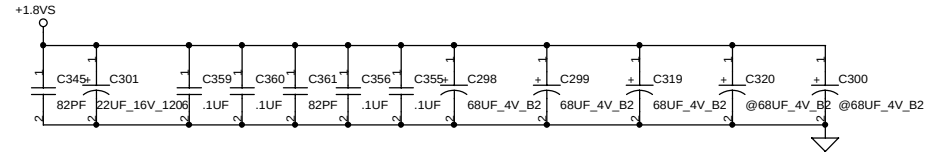
Layout note :

Distribute as close as possible
to VCCPCMOS_LM .



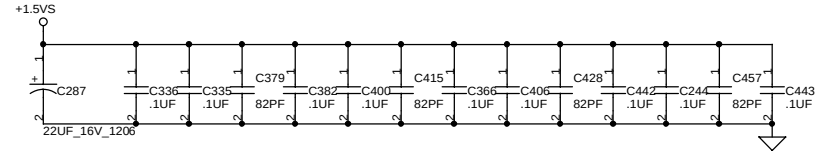
Layout note :

Distribute as close as possible
to GMCH Local Memory Quadrant .



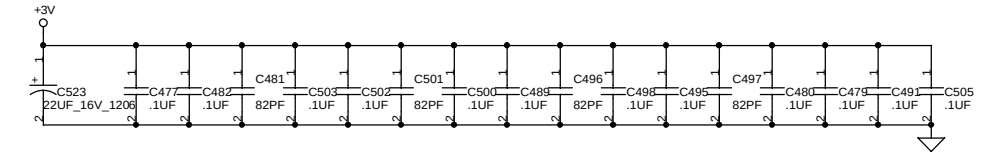
Layout note :

Distribute as close as possible
to GMCH AGP/DVO Quadrant .



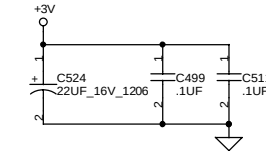
Layout note :

Distribute as close as possible
to GMCH System Memory Quadrant .



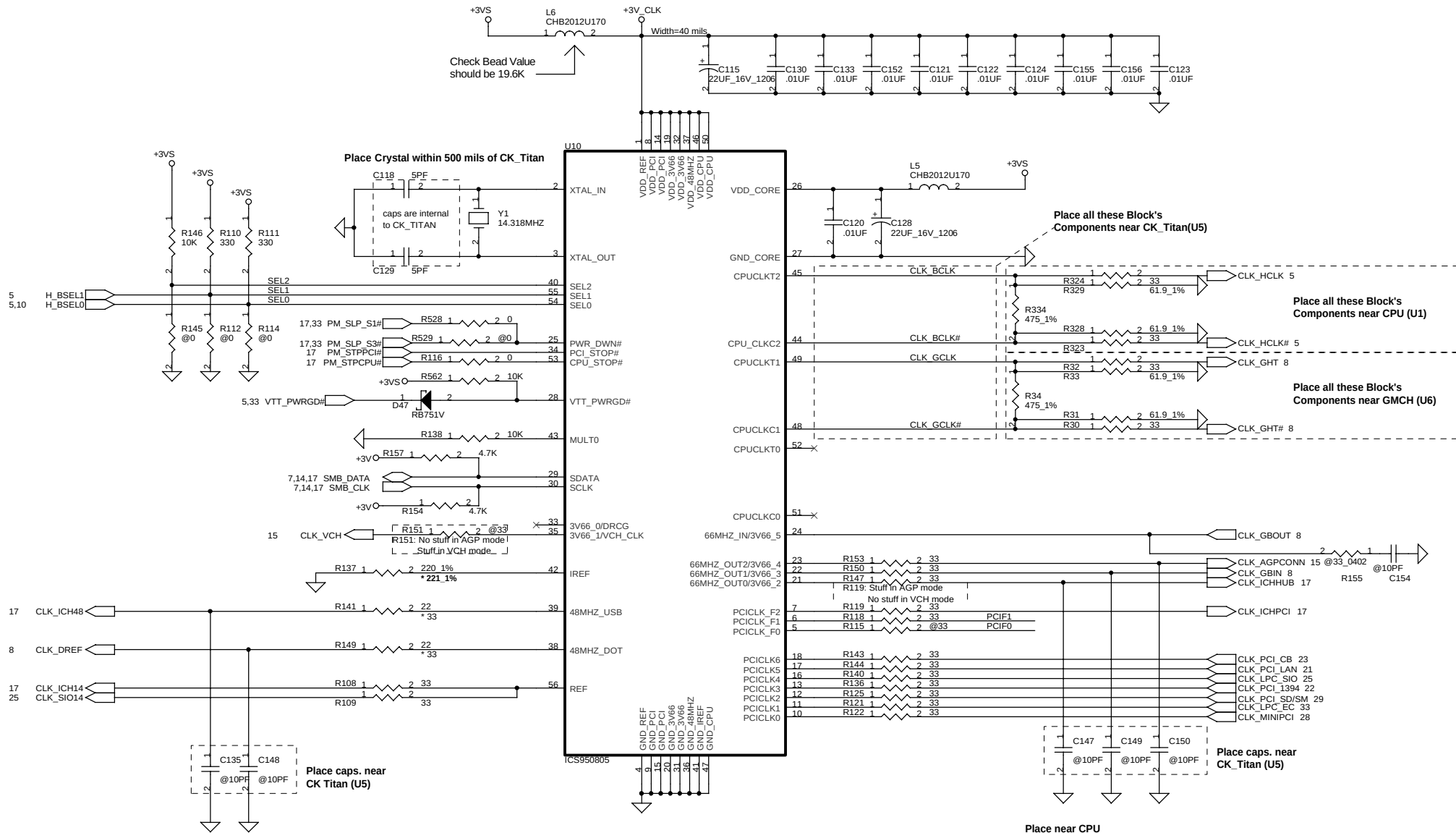
Layout note :

Distribute as close as possible
to IO Quadrant .



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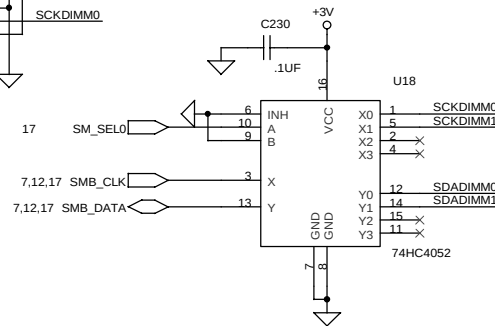
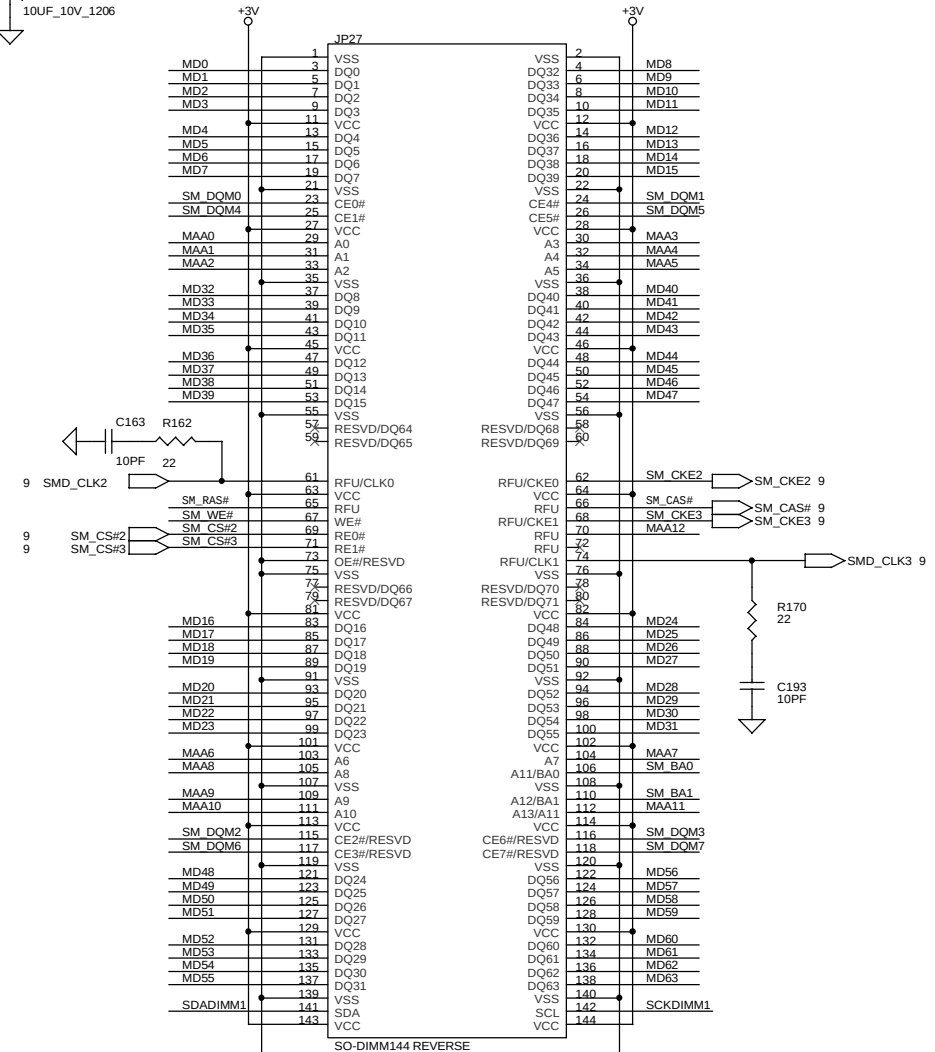


SEL2	SEL1	SEL0	CPUCLKC0[0..2]	CPUCLKT0[0..2]
1	0	0	66.67	66.67
1	0	1	100.00	100.00
1	1	0	200.00	200.00
1	1	1	133.33	133.33

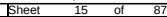
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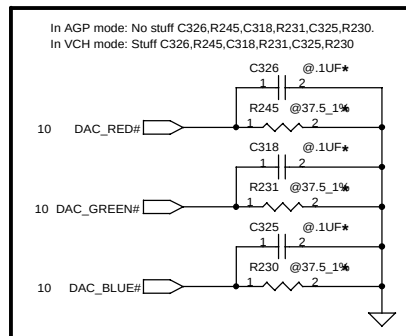
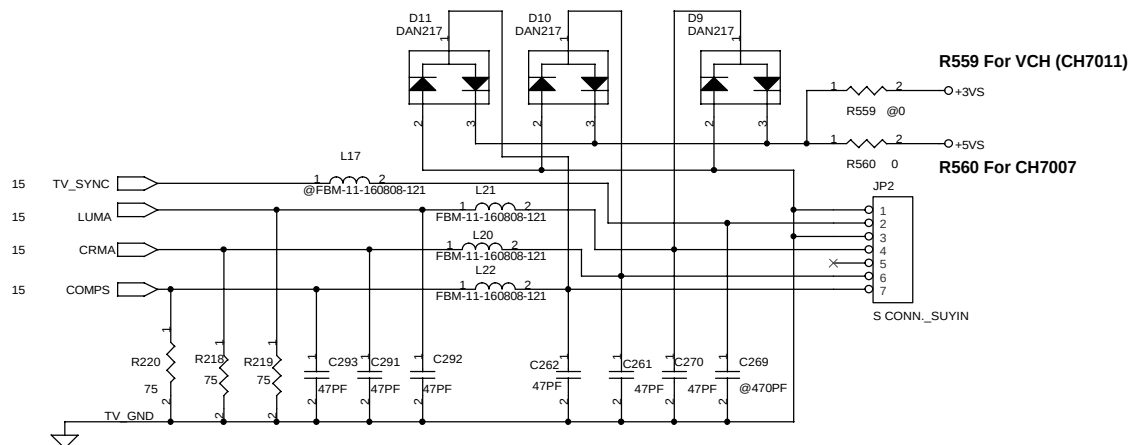
BANK 0/1



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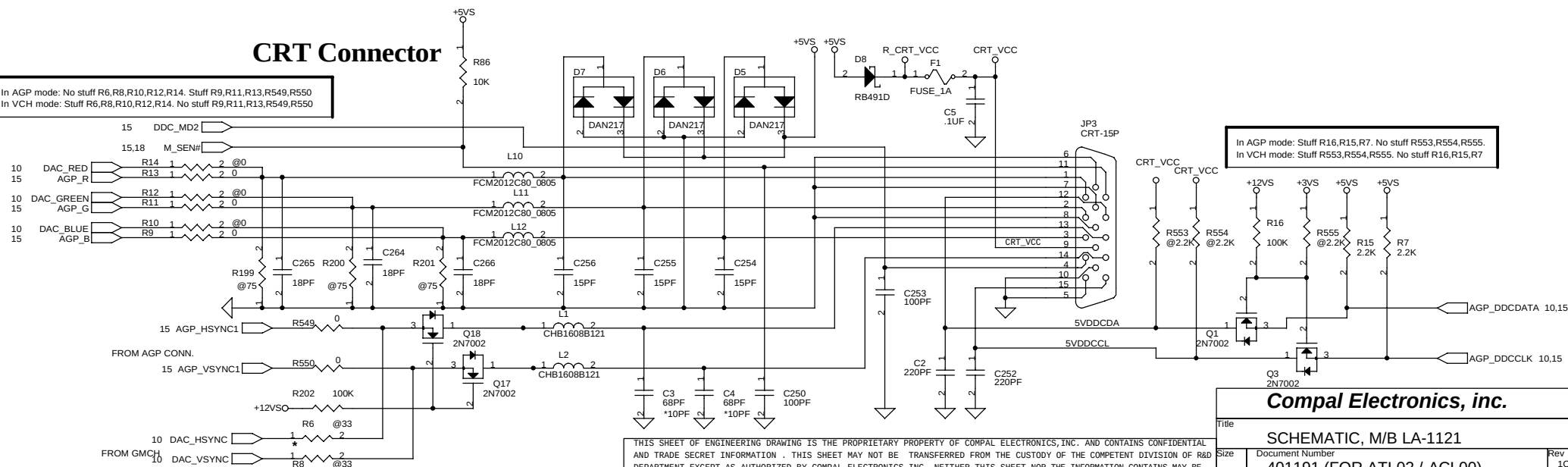


TV_OUT CONN.



CRT Connector

In AGP mode: No stuff R6,R8,R10,R12,R14. Stuff R9,R11,R13,R549,R550
In VCH mode: Stuff R6,R8,R10,R12,R14. No stuff R9,R11,R13,R549,R550



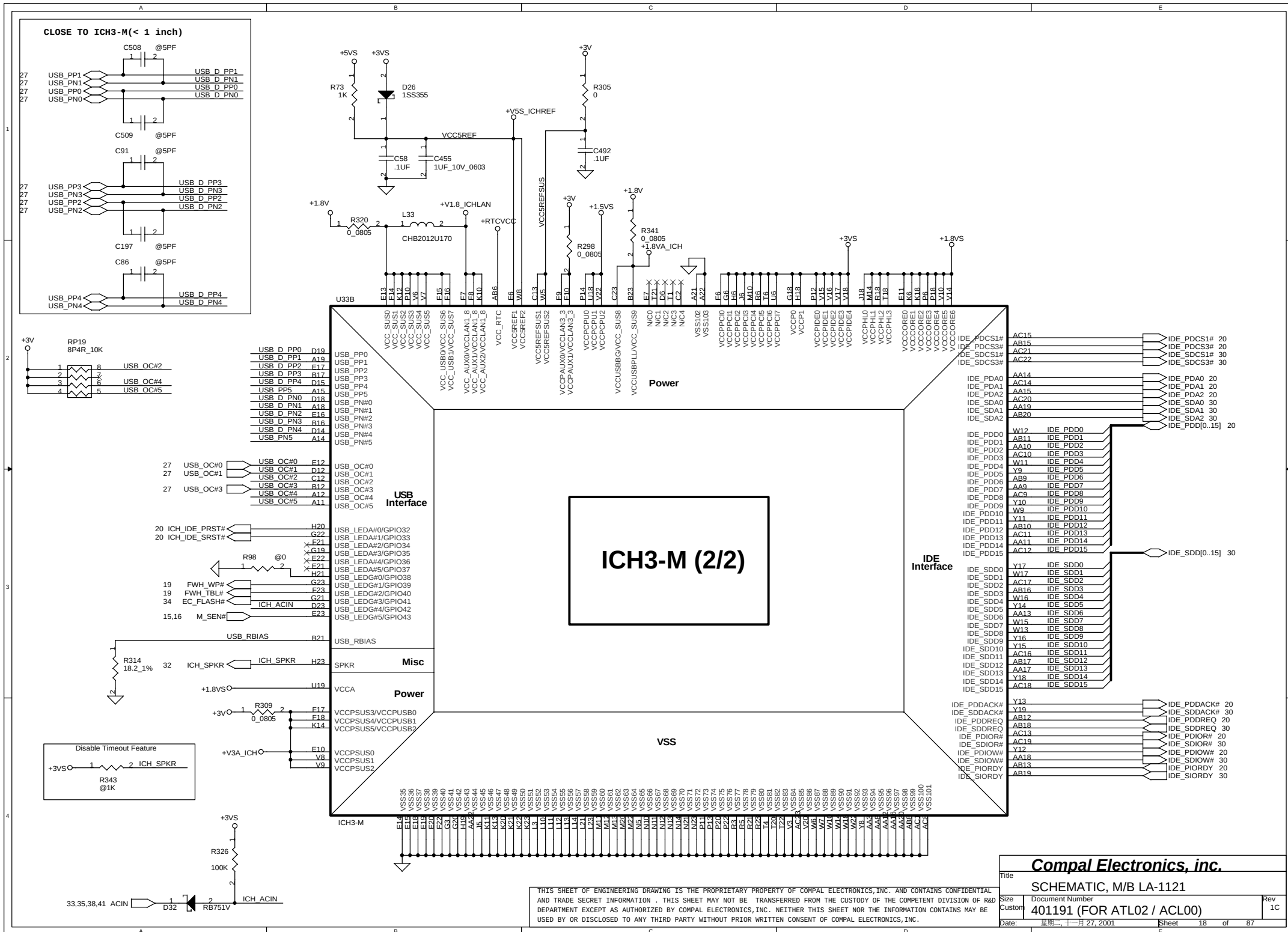
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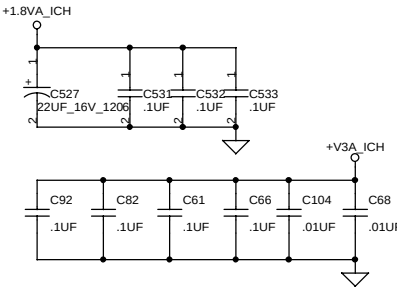
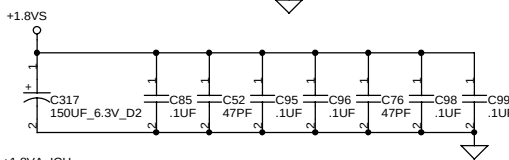
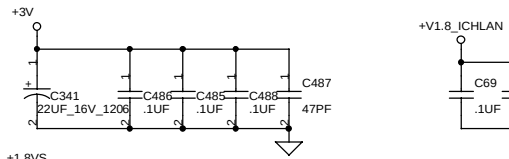
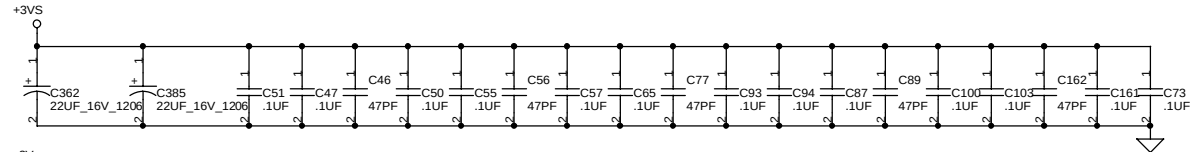
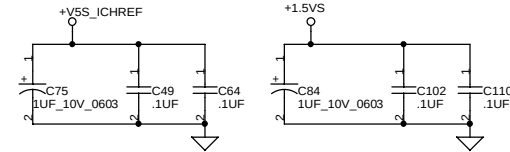
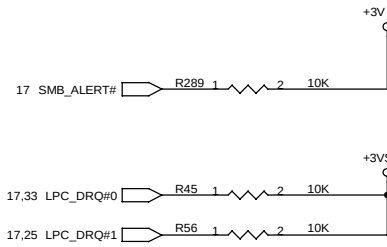
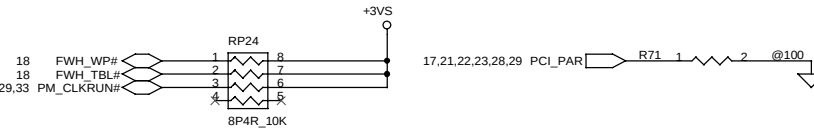
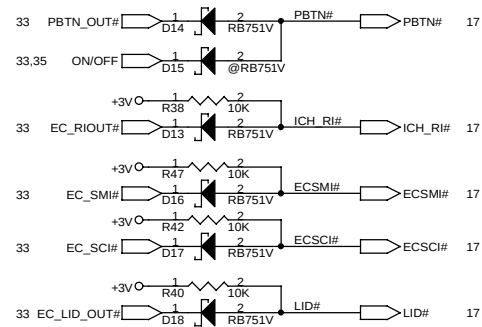
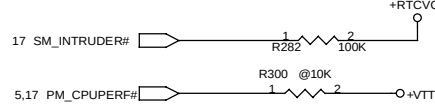
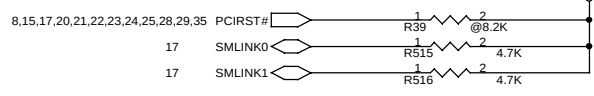
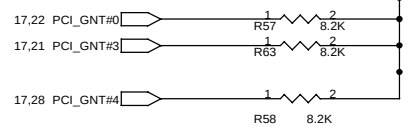
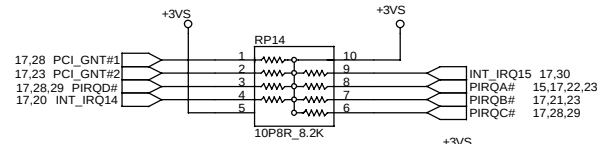
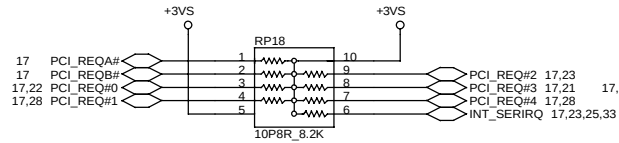
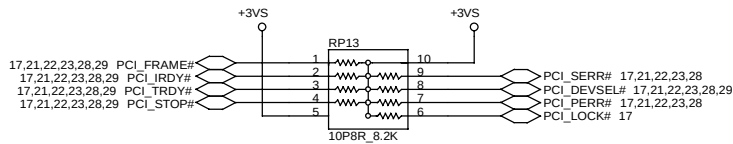
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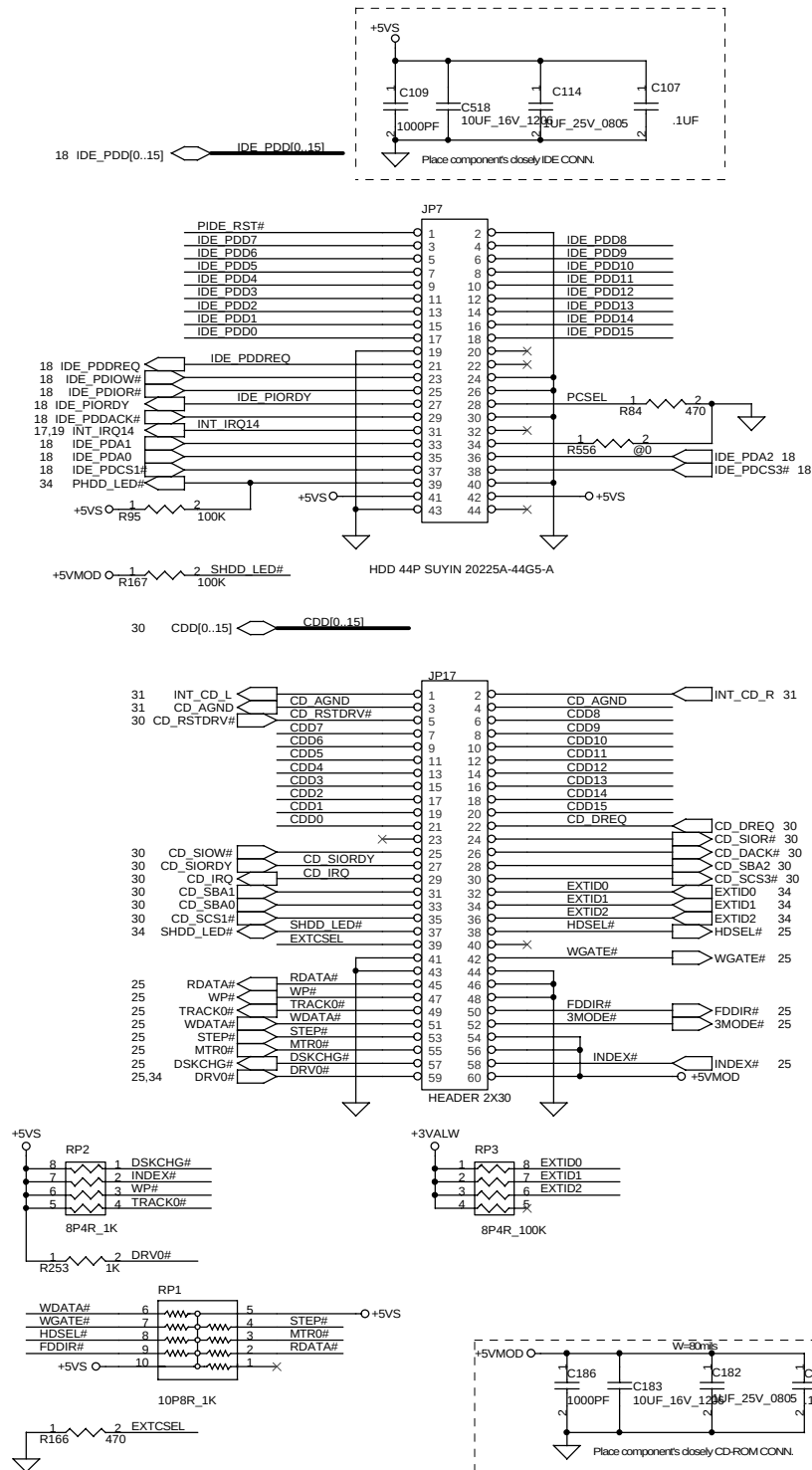
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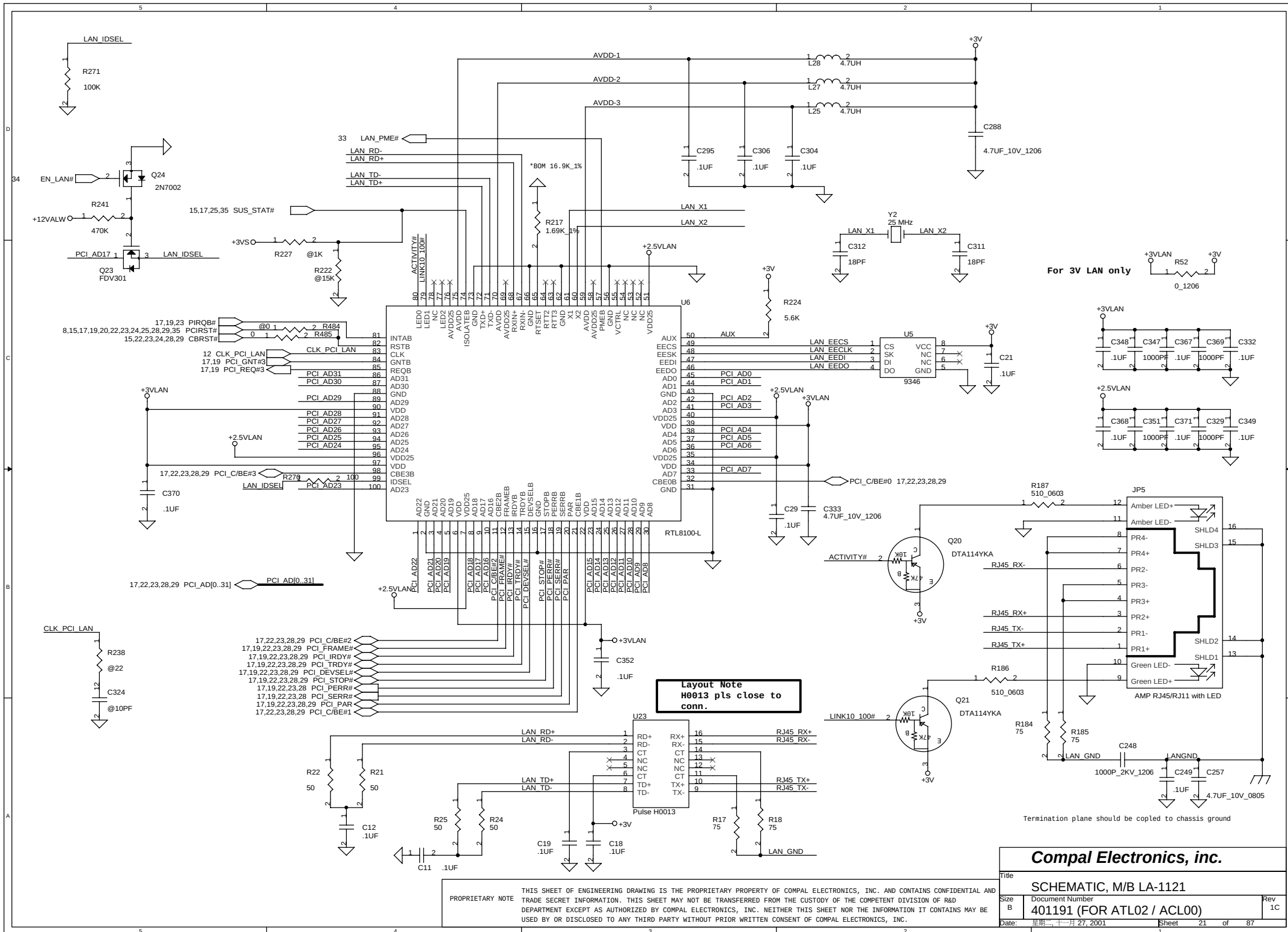


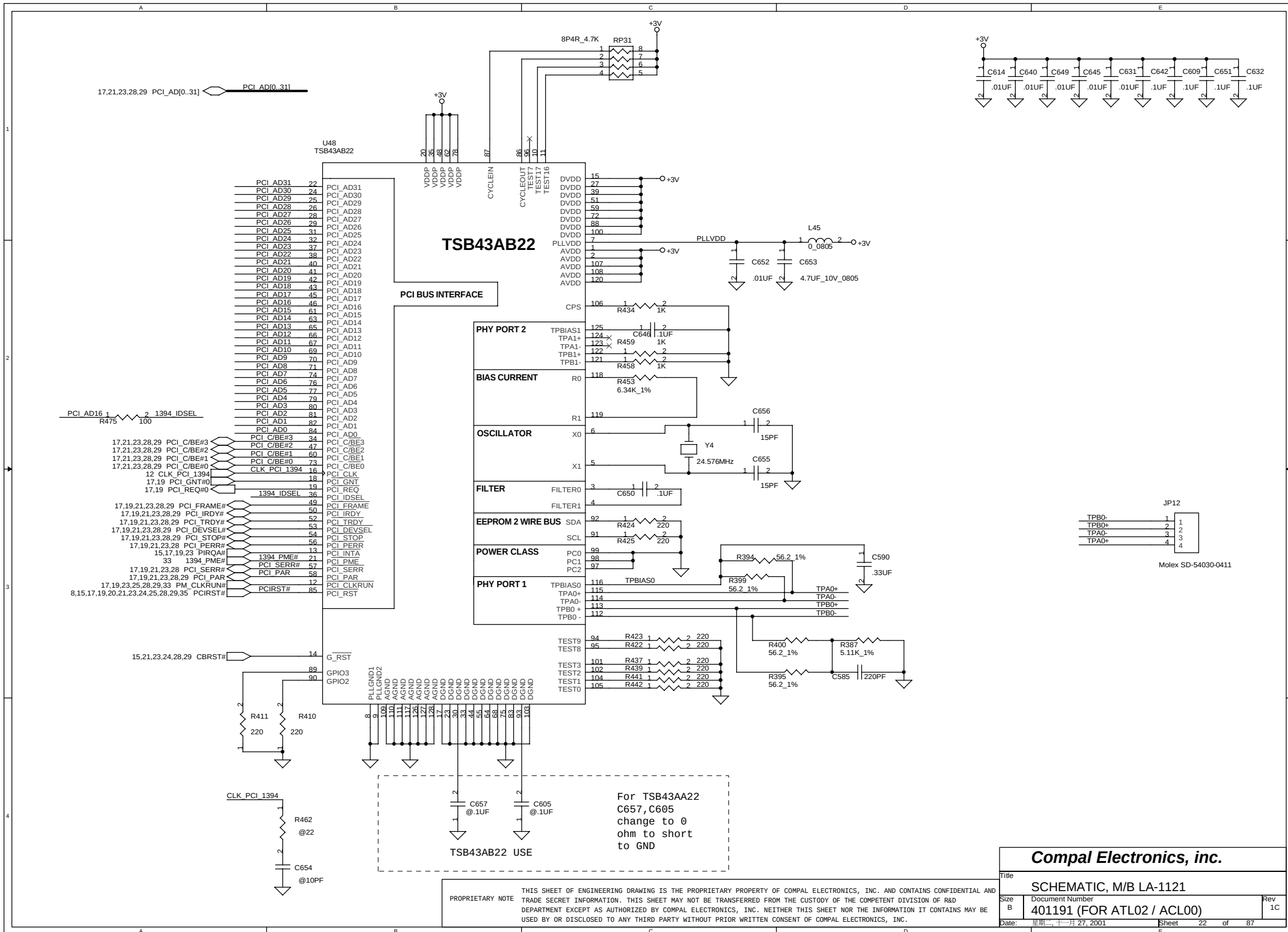
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SCHEMATIC, M/B LA-1121			
Size Custom	Document Number		Rev 1C
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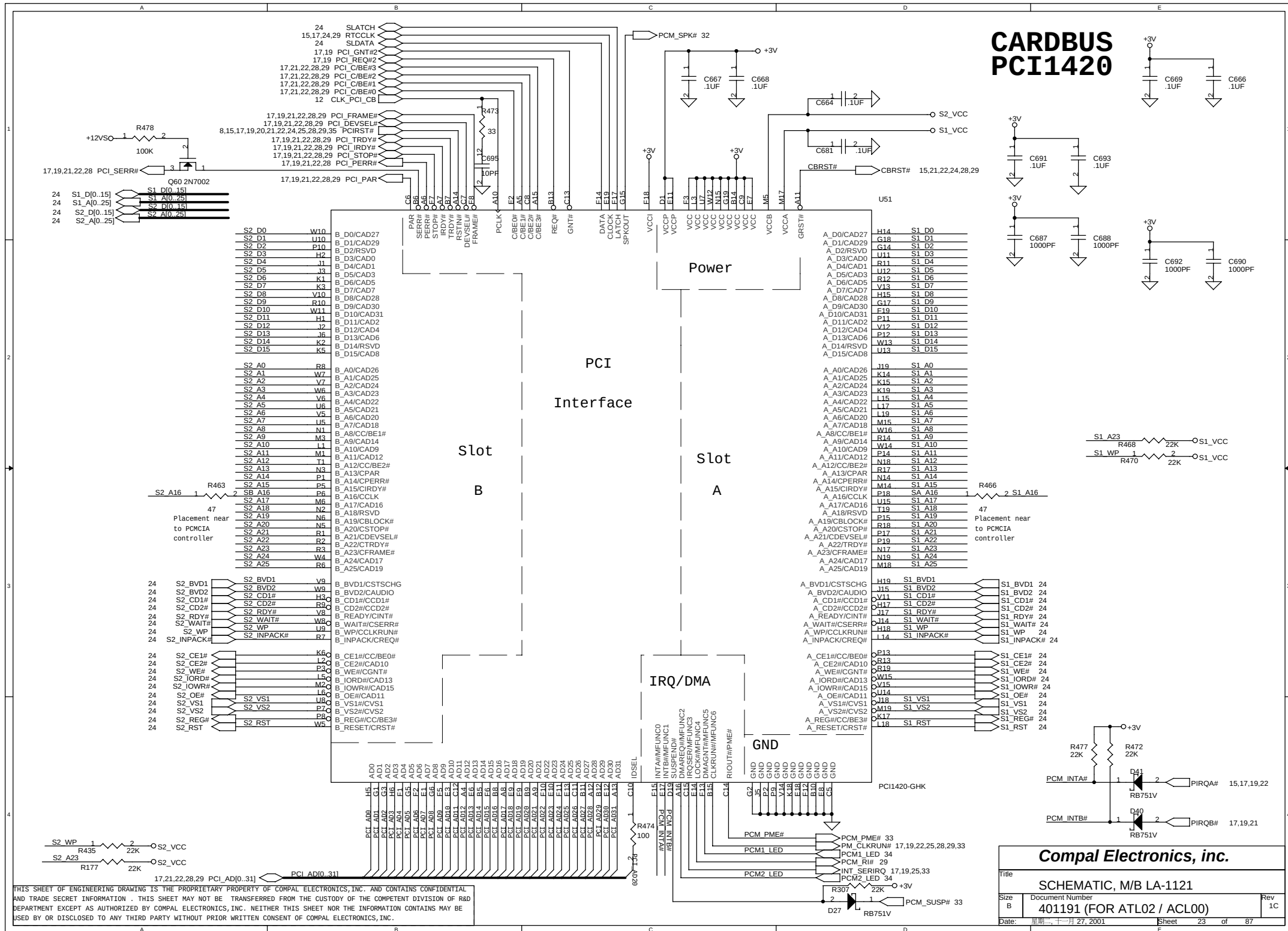
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IDE,CD-ROM Module CONN.









CARDBUS PCI1420

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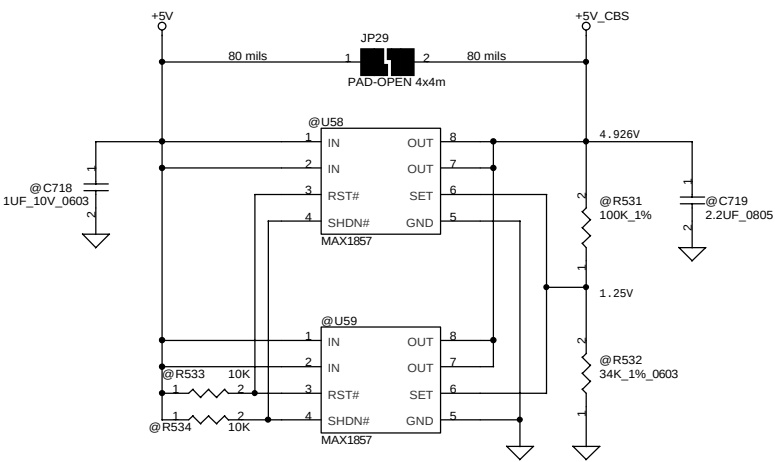
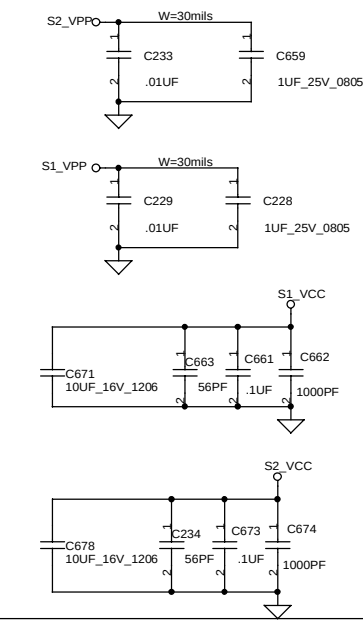
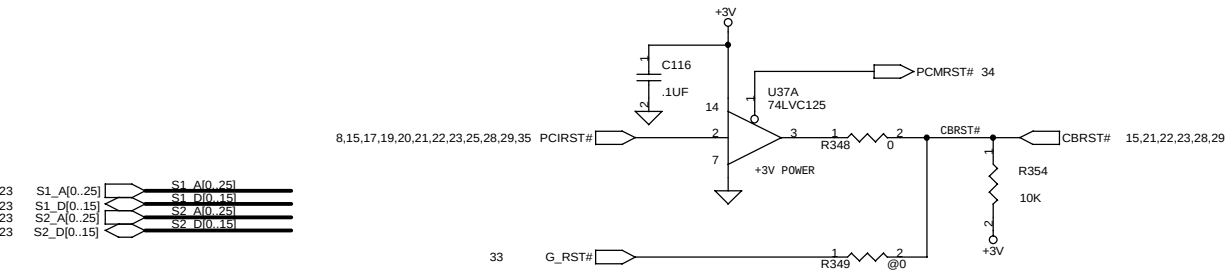
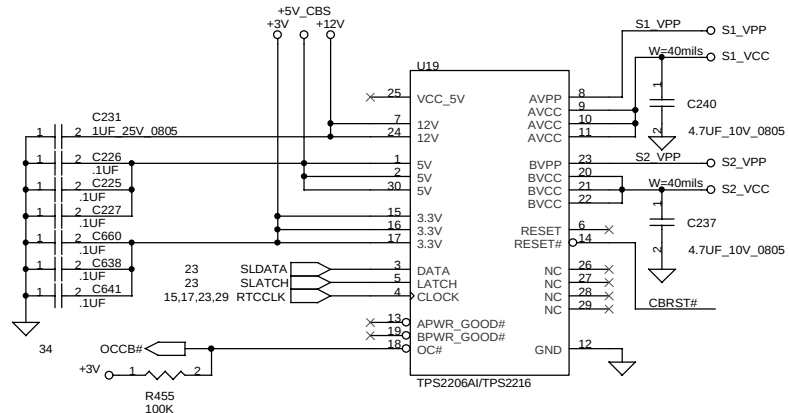
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401191 (FOR ATL02 / ACL00)

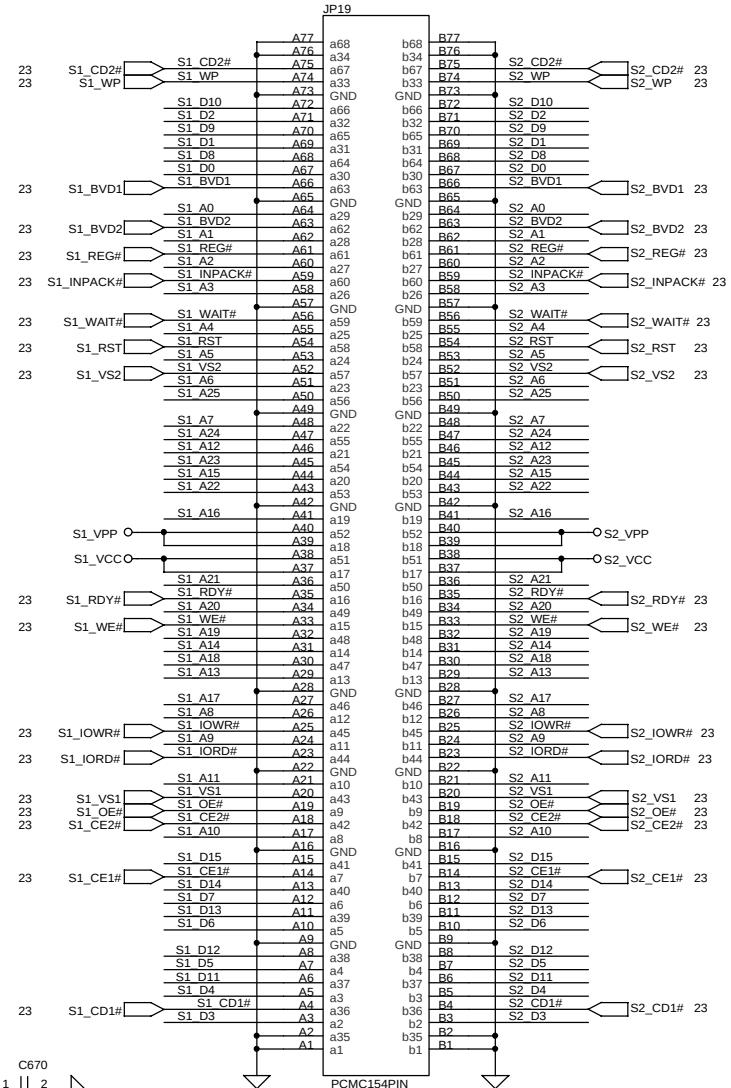
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PCMCIA POWER CTRL.



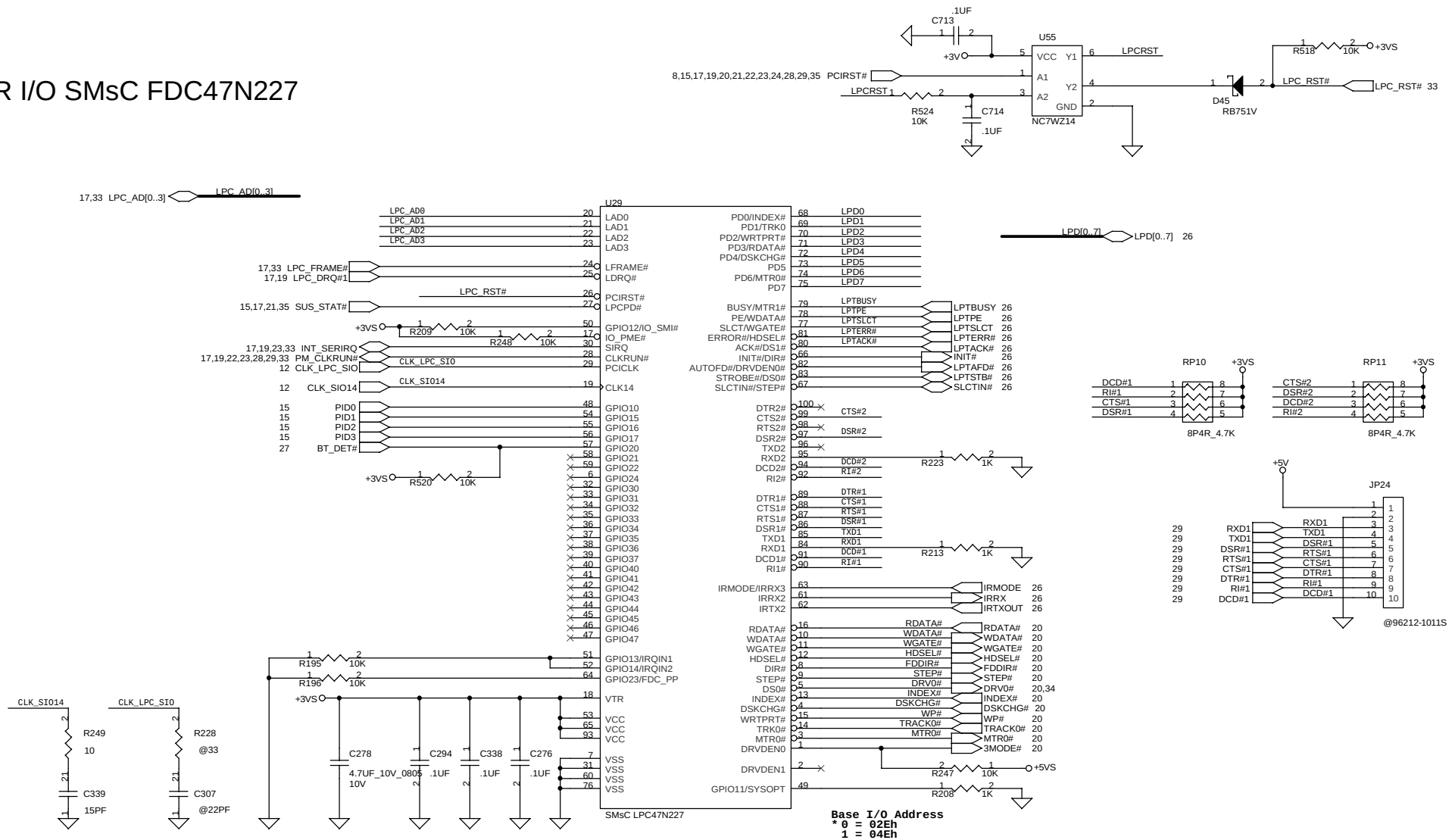
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SOCKET



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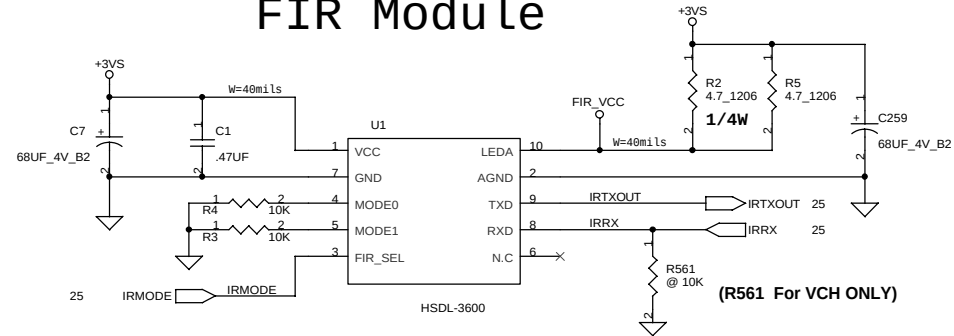
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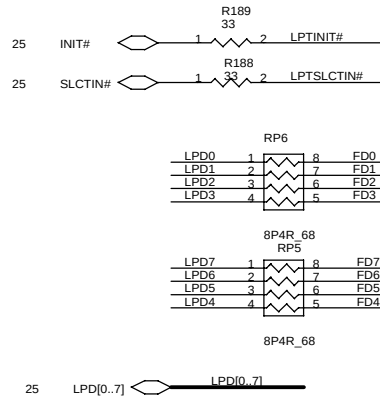
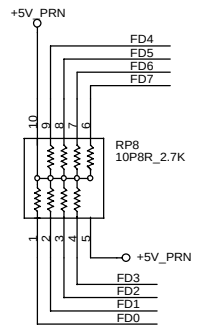
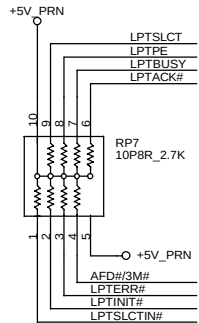
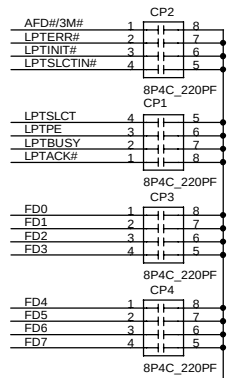
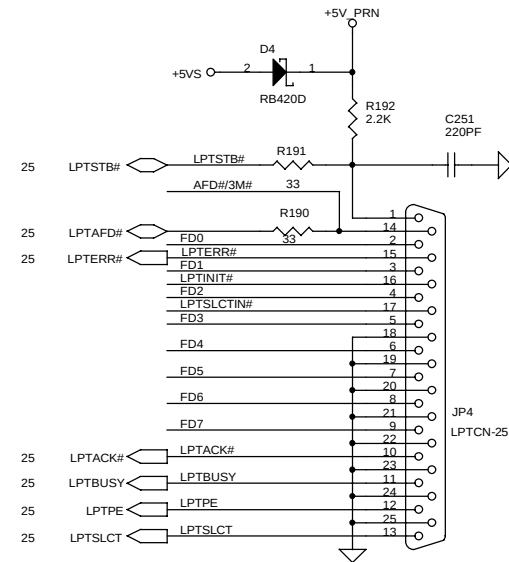
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FIR Module



The component's most place
cloely IRDA MODULE.

PARALLEL PORT

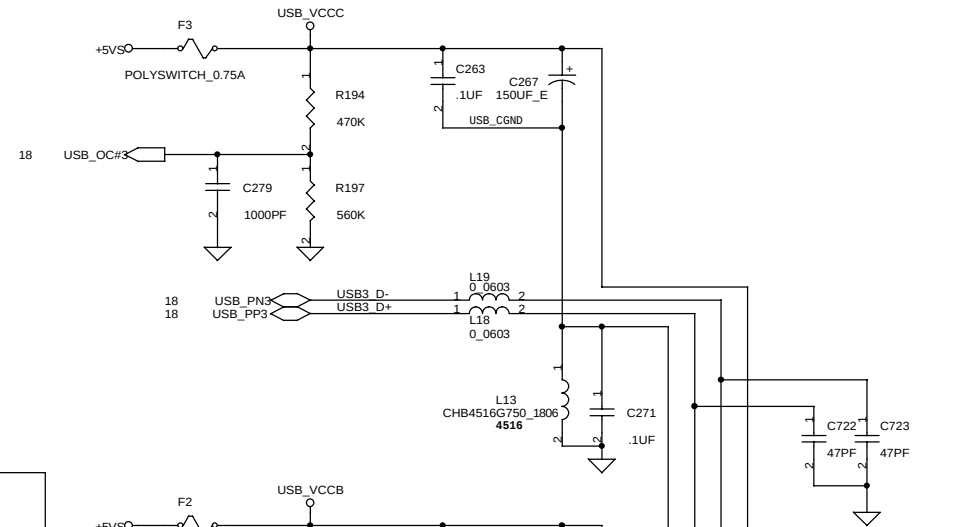
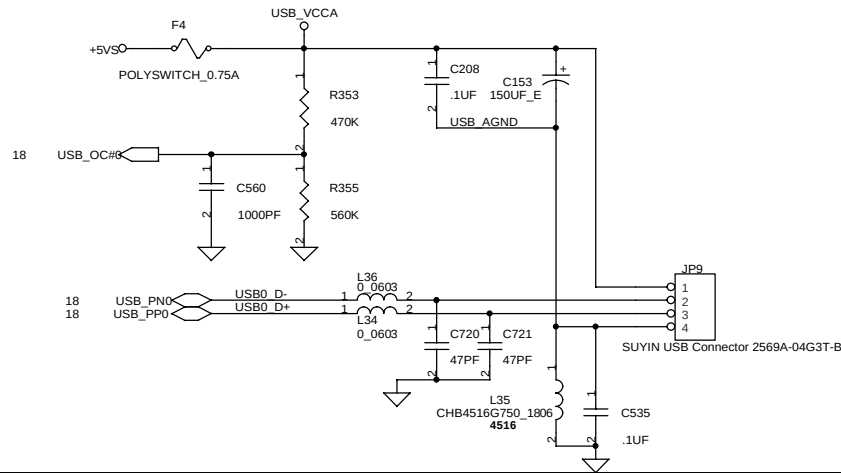


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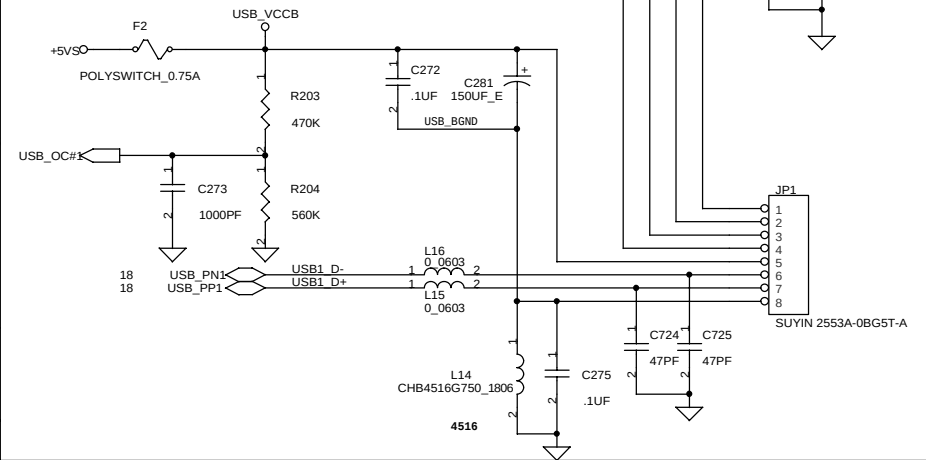
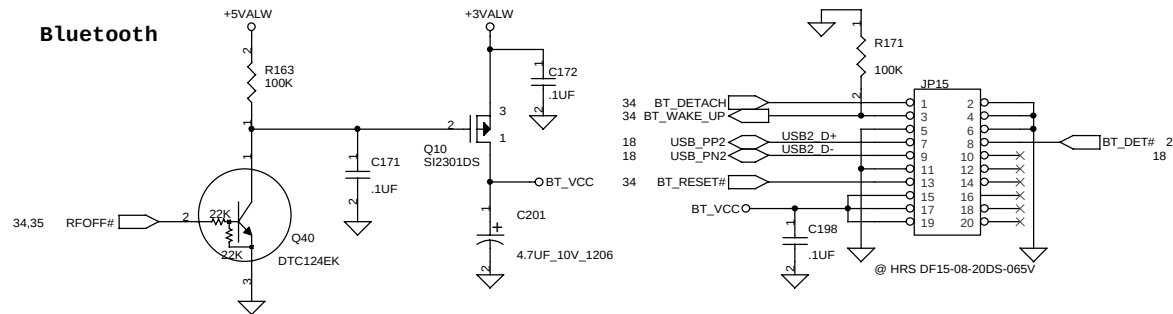
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USB PORT



Bluetooth

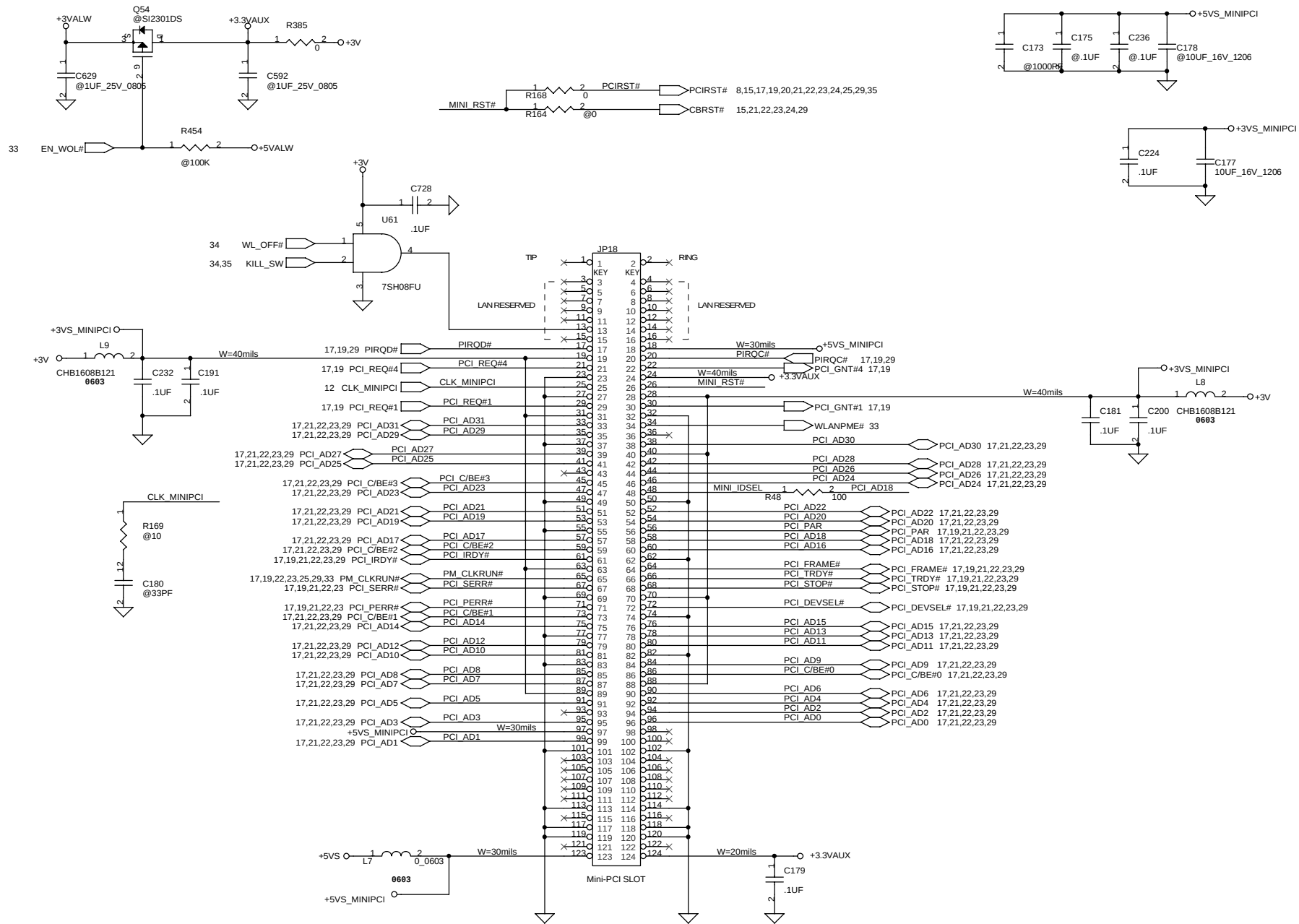


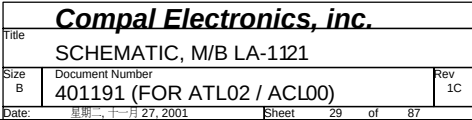
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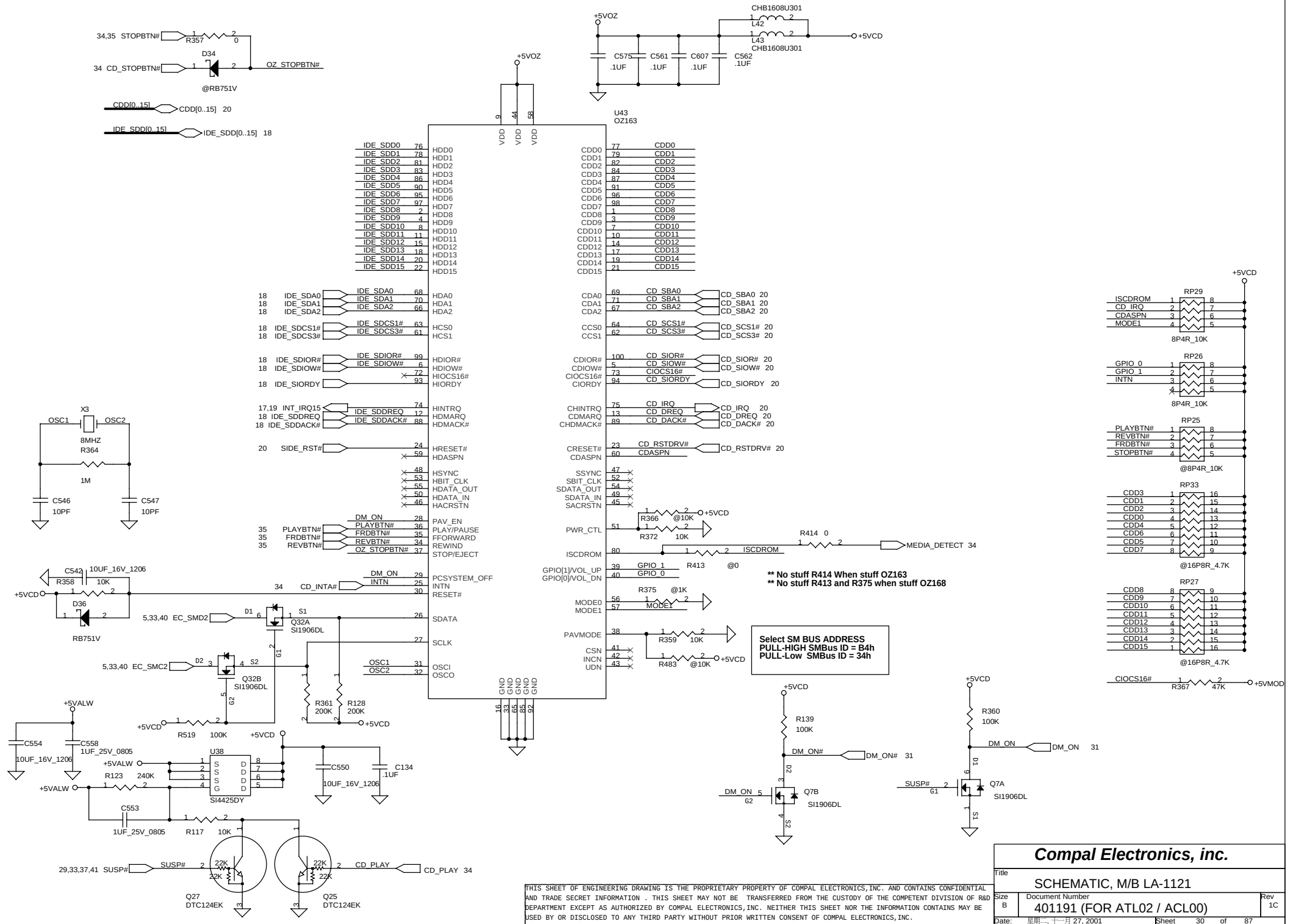
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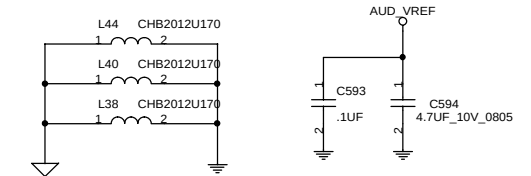
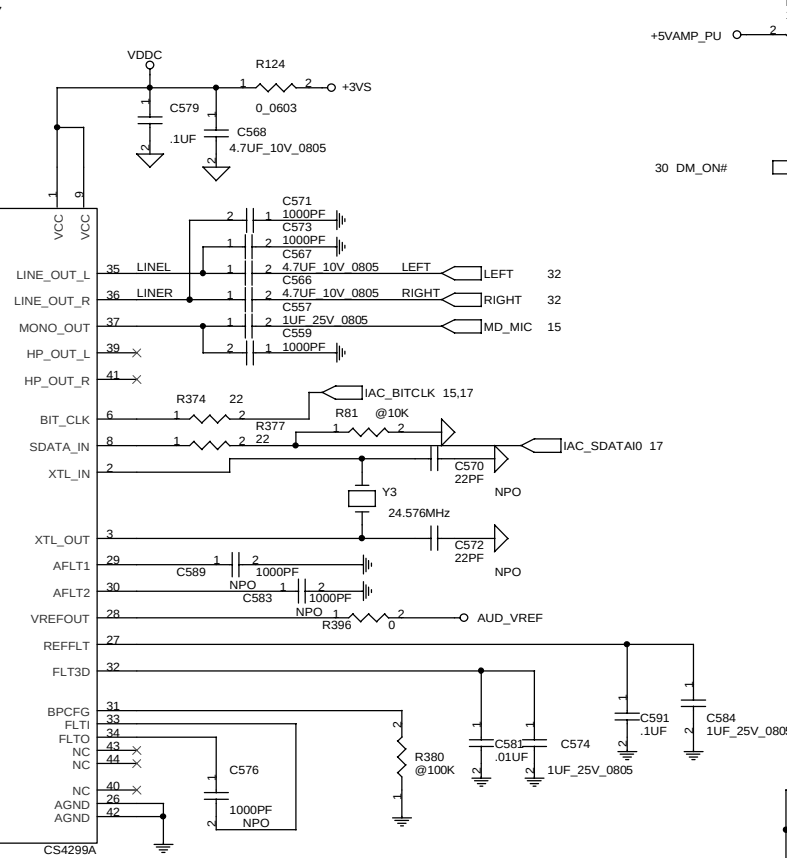
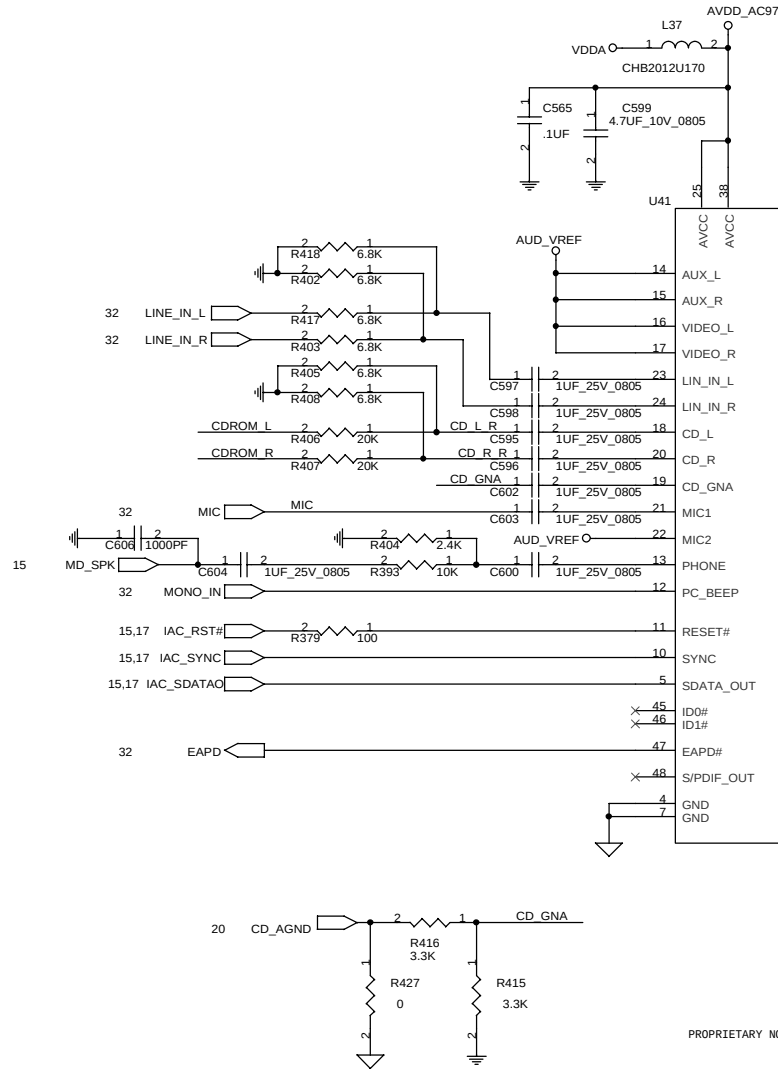
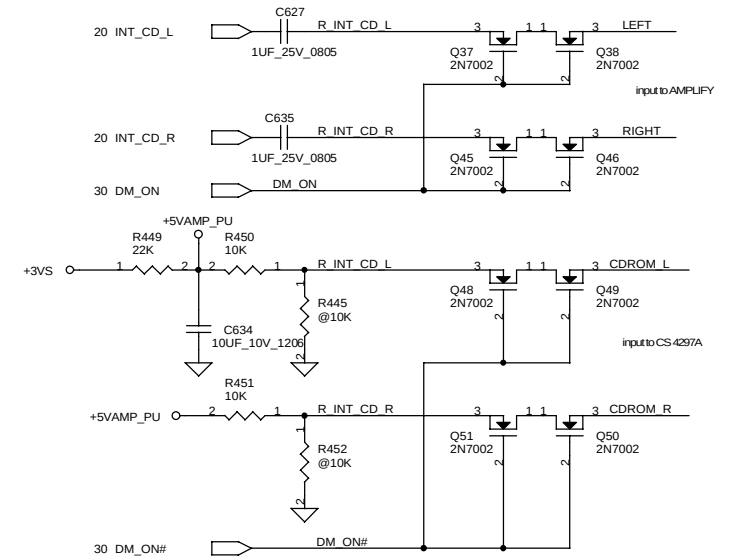
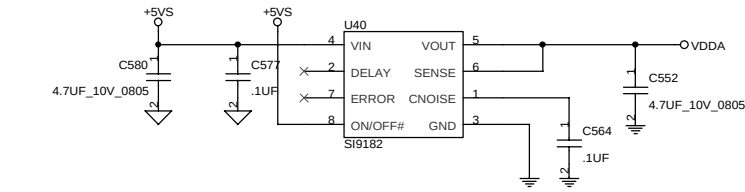
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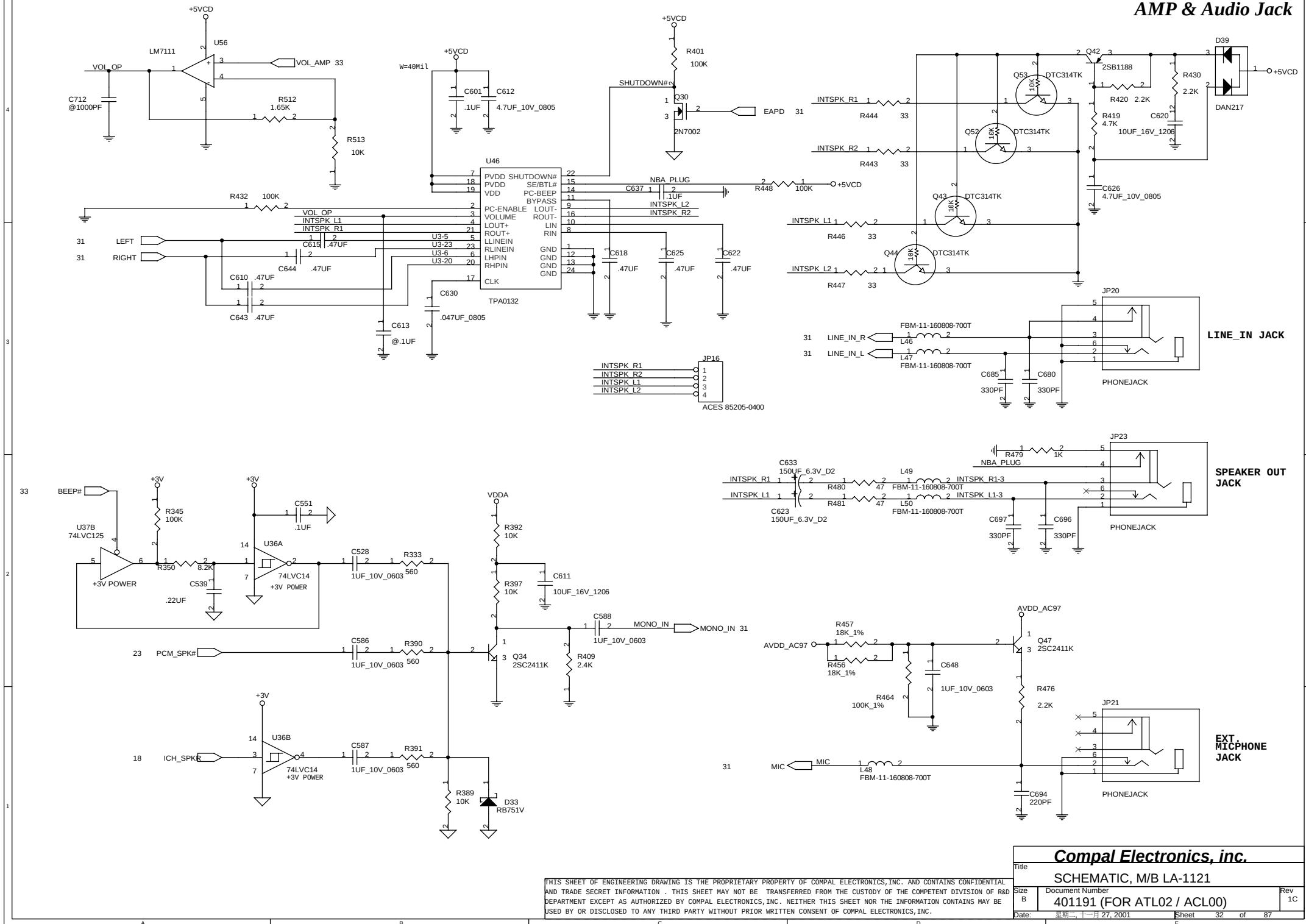


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AMP & Audio Jack



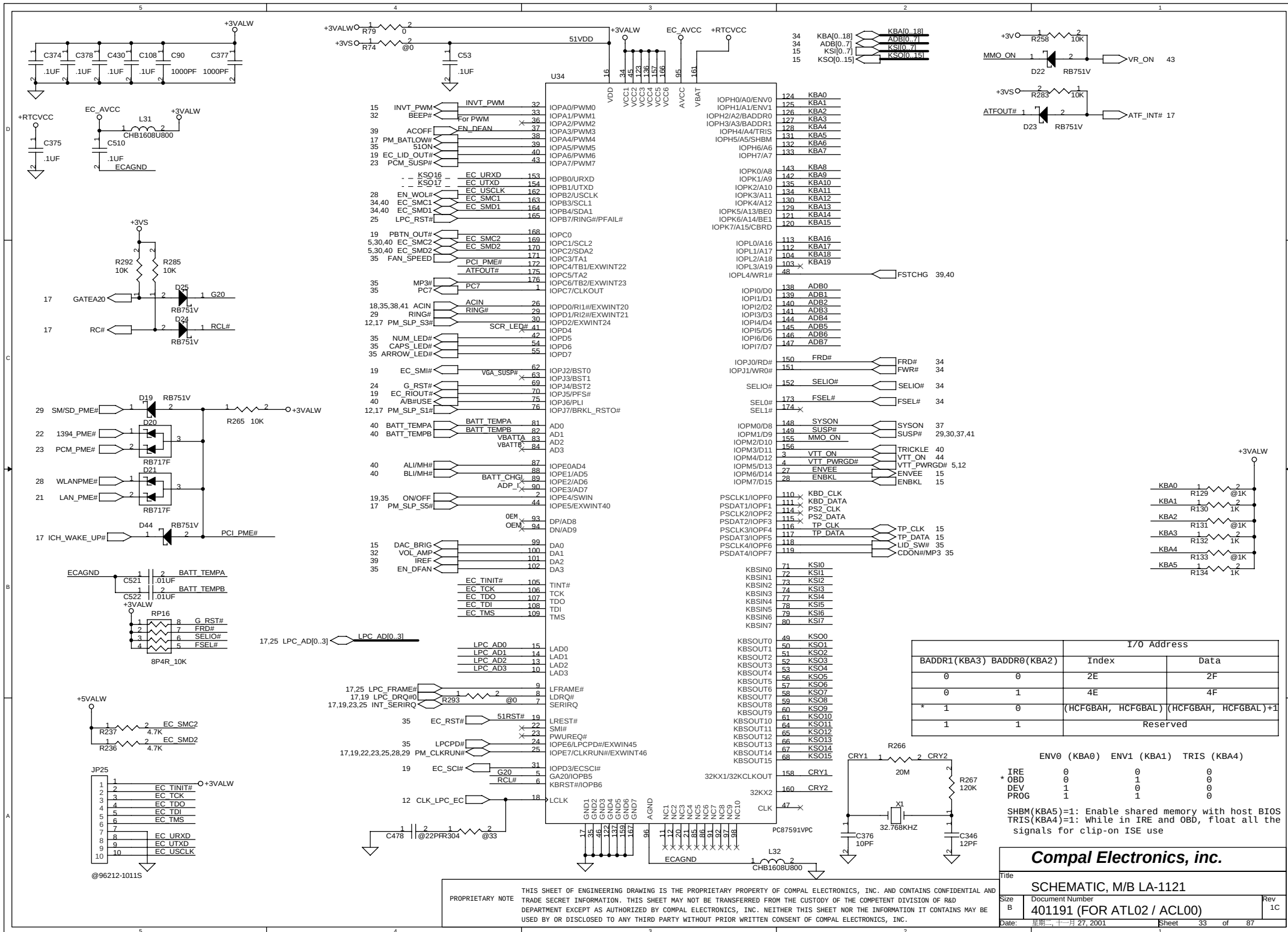
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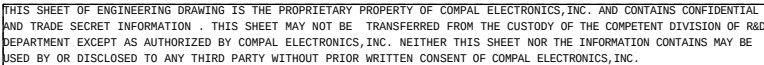
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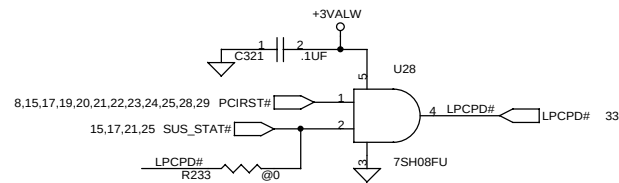
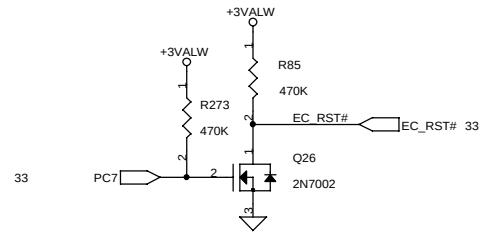
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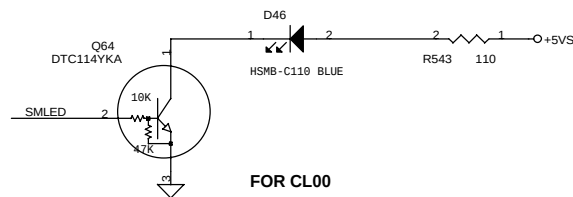
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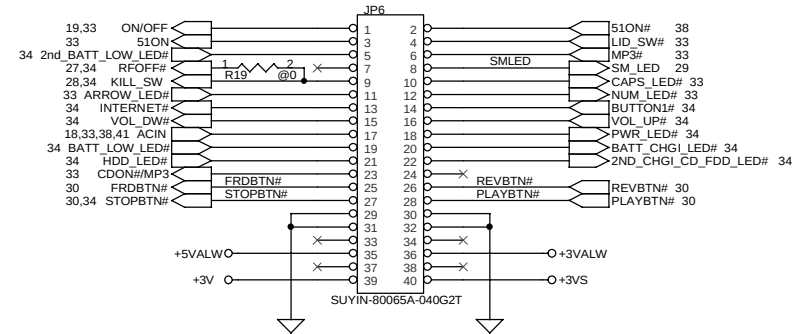
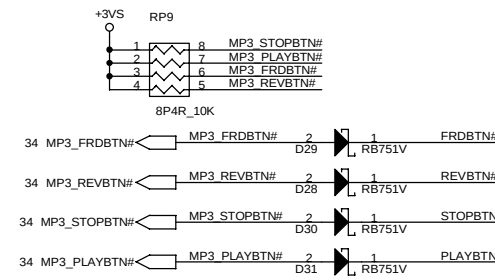




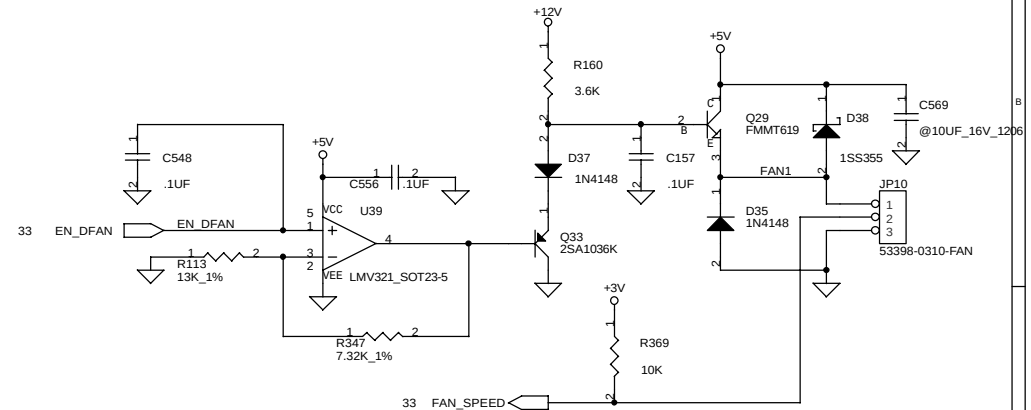
For PC87591 REV 0.A Only



FOR CL00



FAN CONN.



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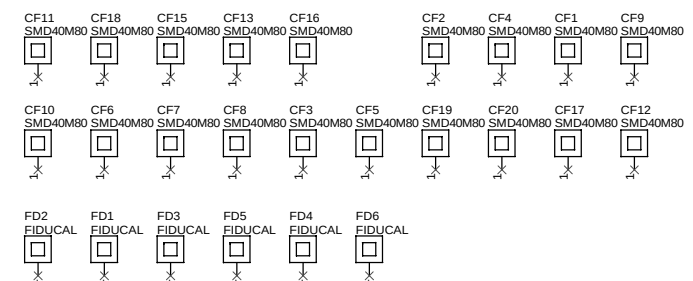
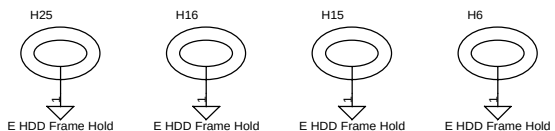
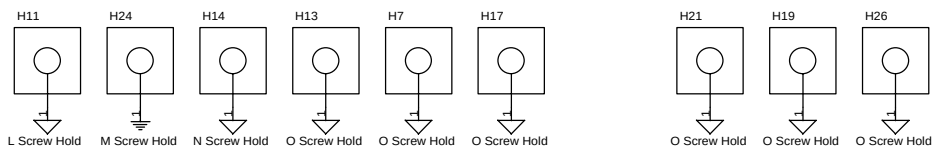
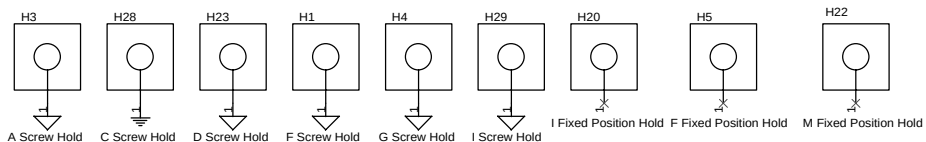
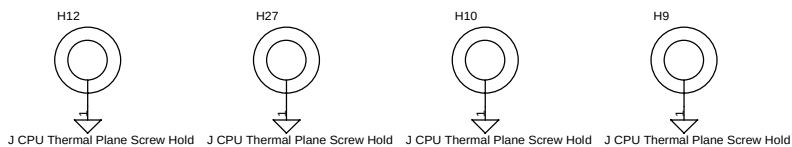
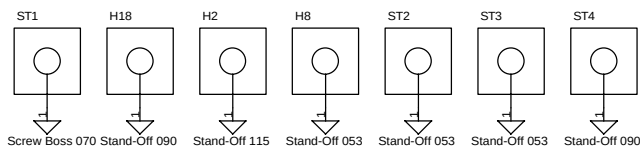
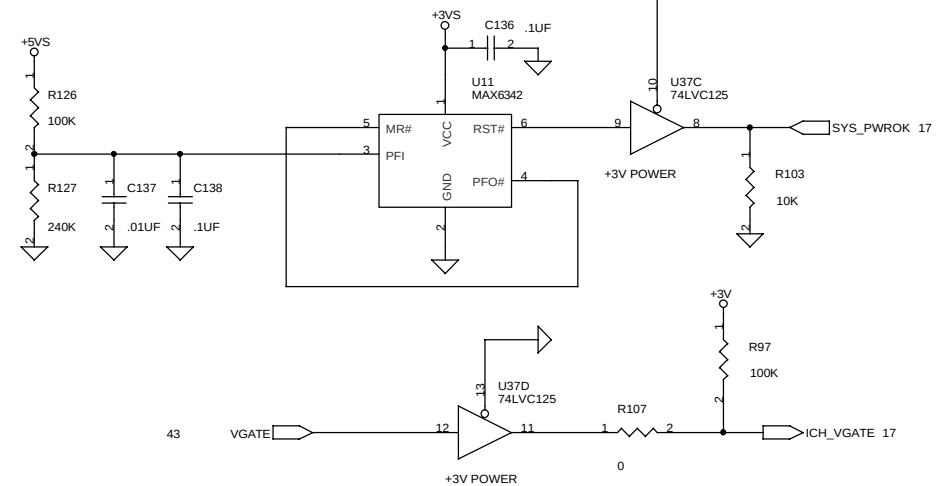
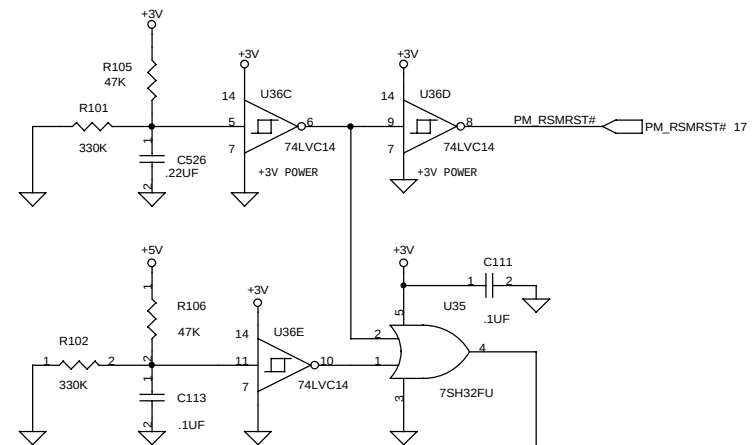
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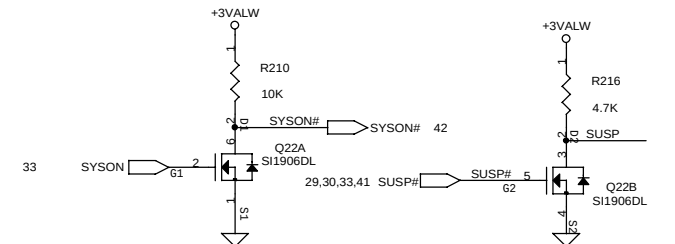
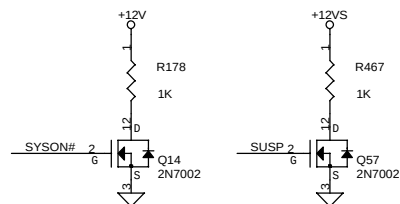
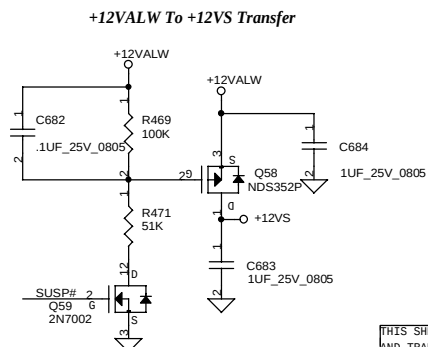
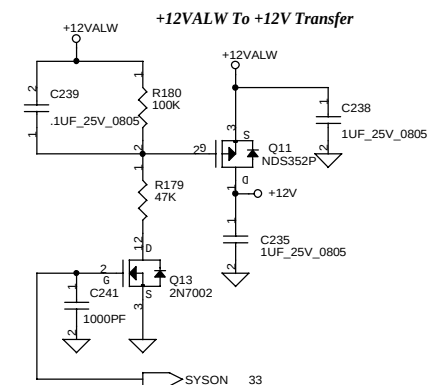
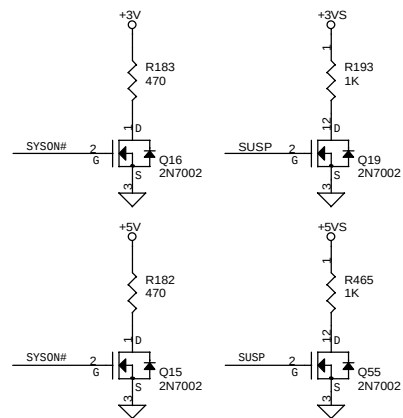
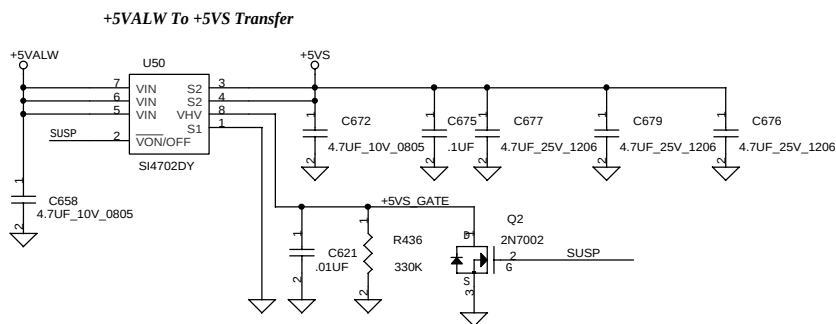
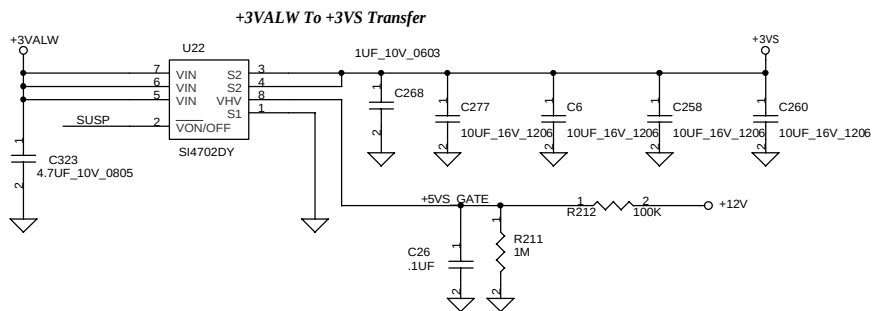
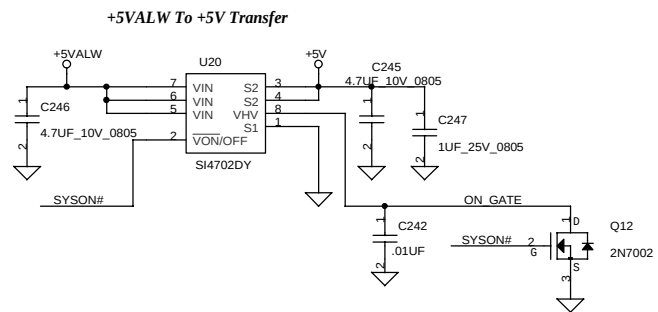
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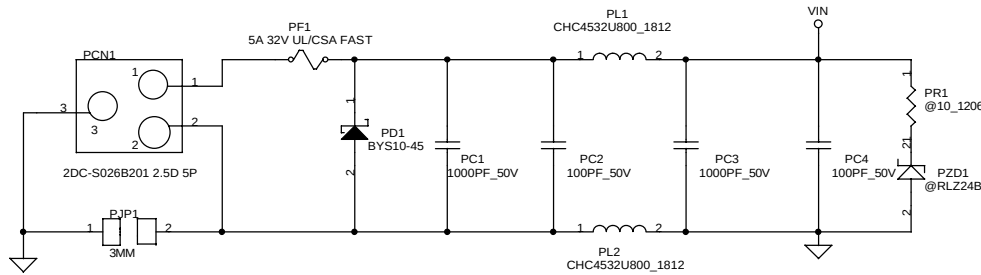
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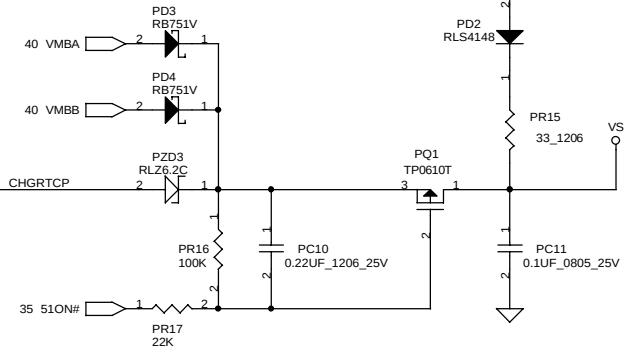
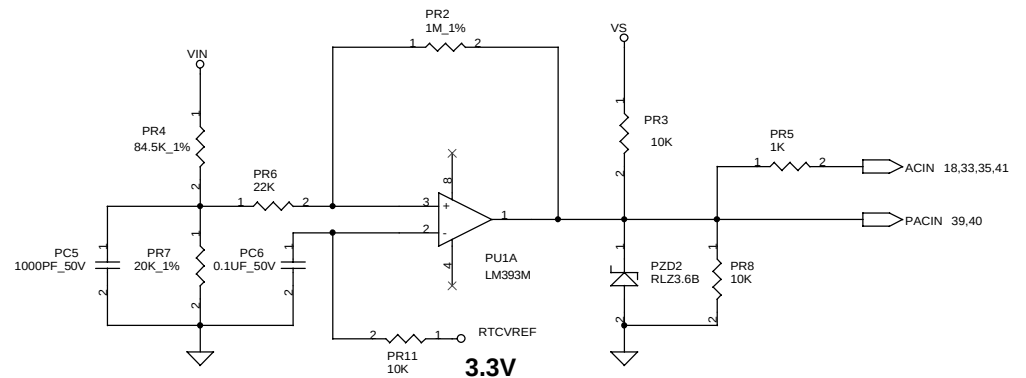
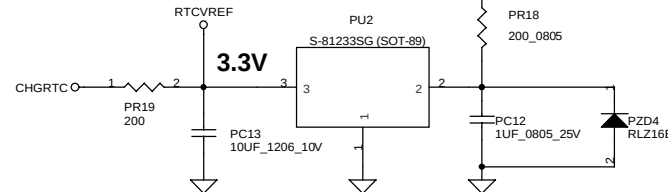
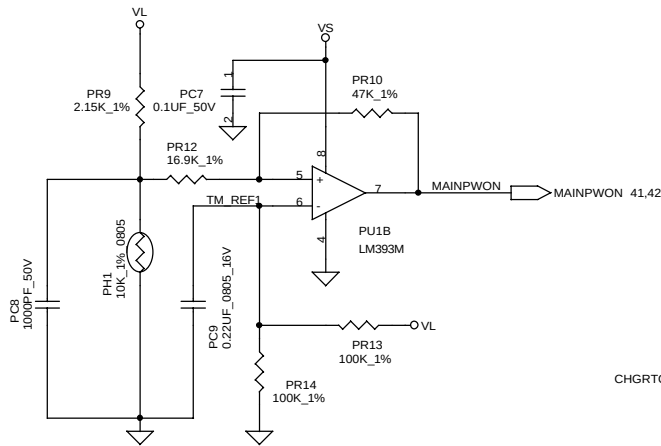
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Vin Detector

High 18.764 17.901 17.063
Low 17.745 16.903 16.038



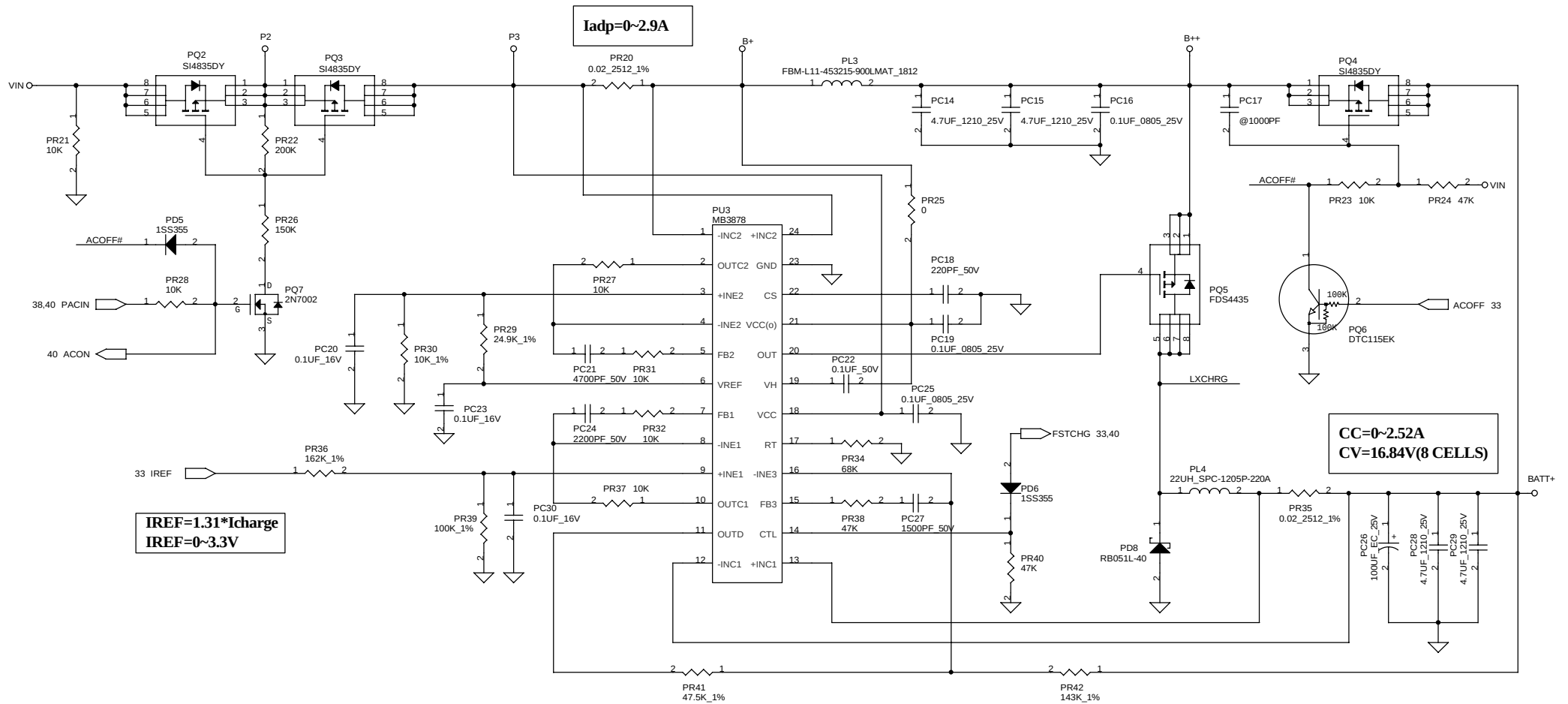
PH1 under CPU botten side :
CPU thermal protection at 81(82) degree C
Recovery at 50(51) degree C



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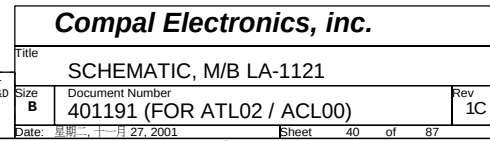
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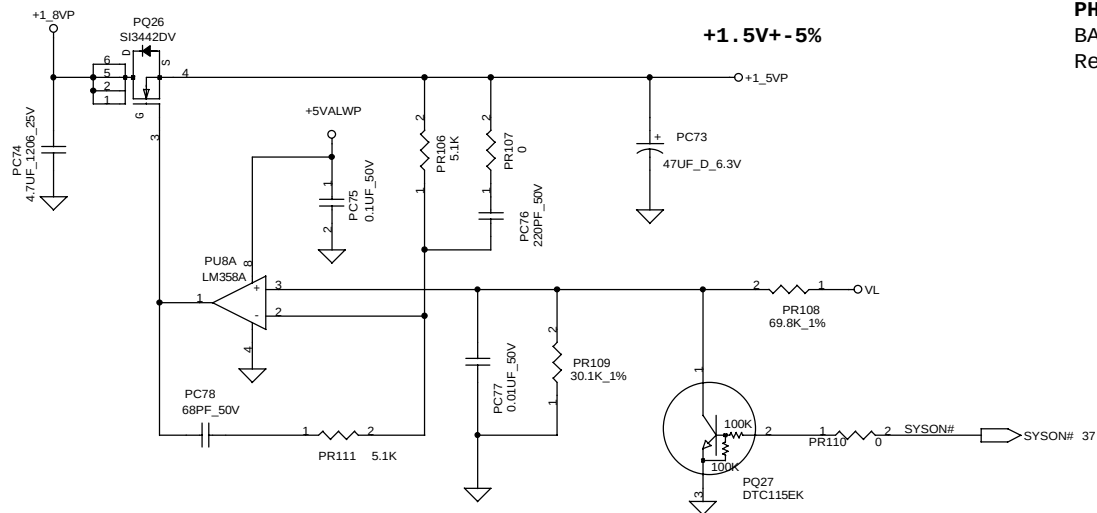


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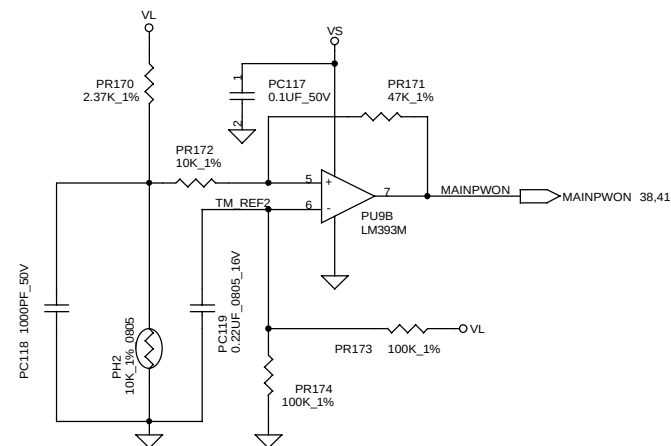
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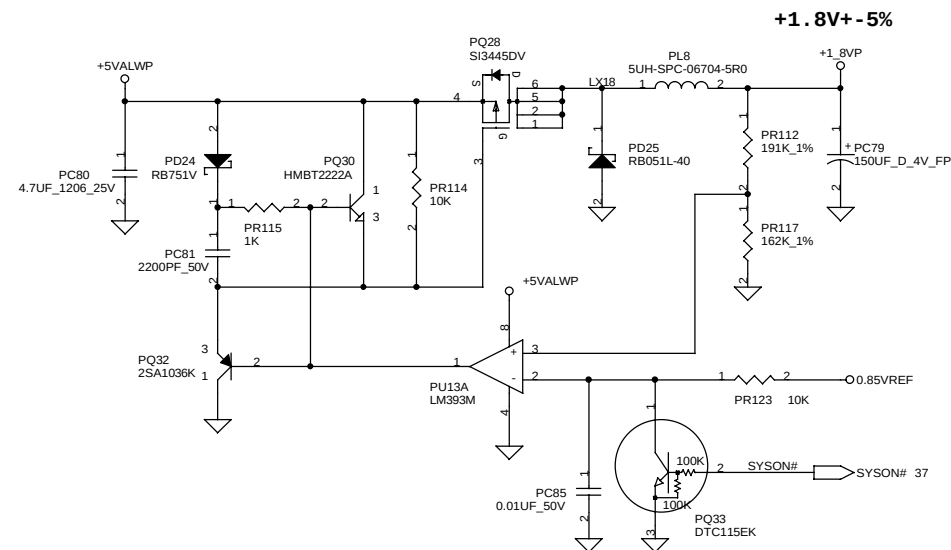
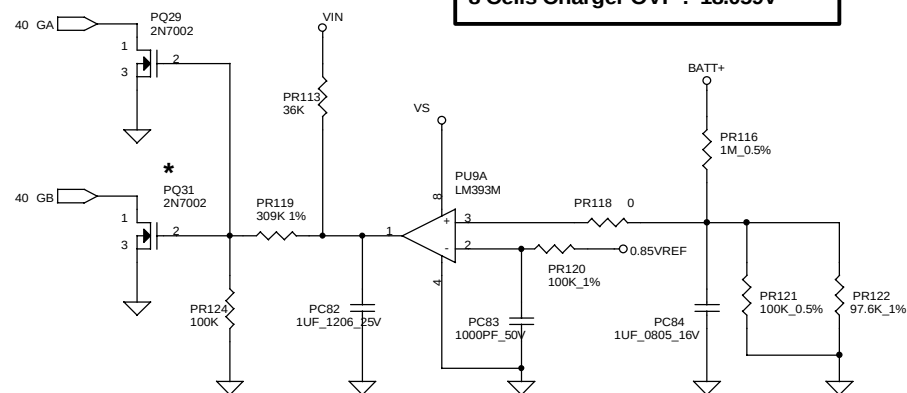


PH2 near main Battery CONN :
 BAT. thermal protection at 73(74) degree C
 Recovery at 50(51) degree C



The * is DEL item only for ACL00

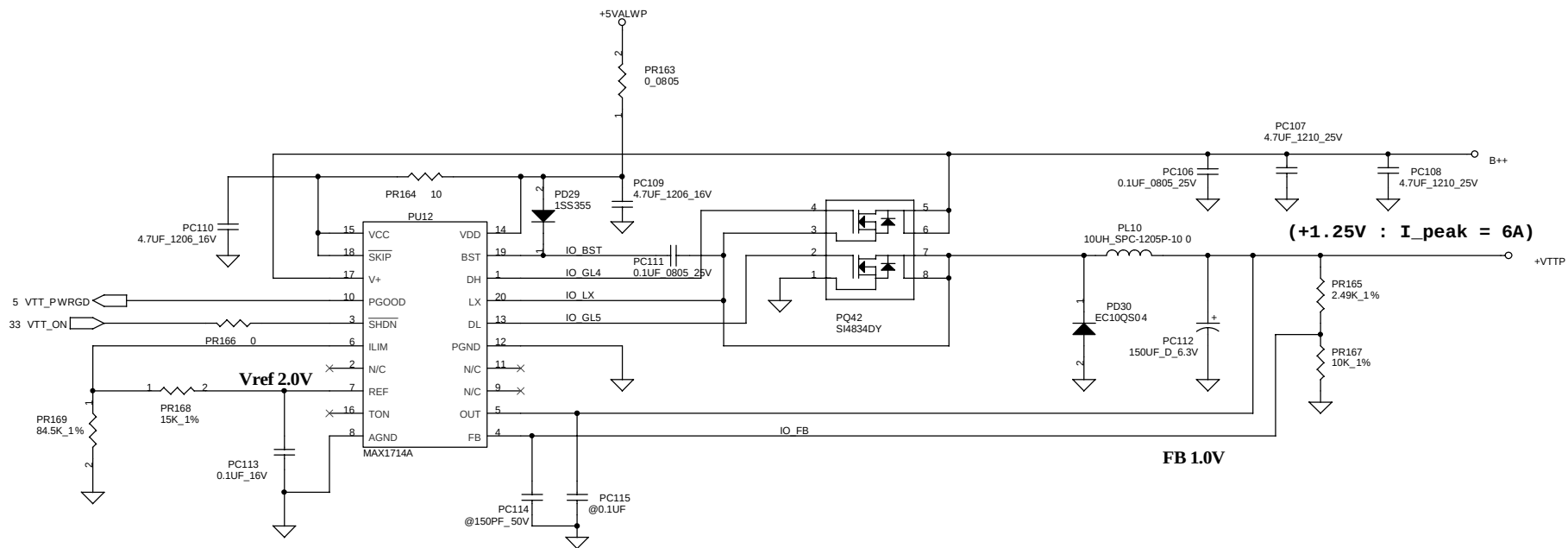
8 Cells Charger OVP : 18.059V



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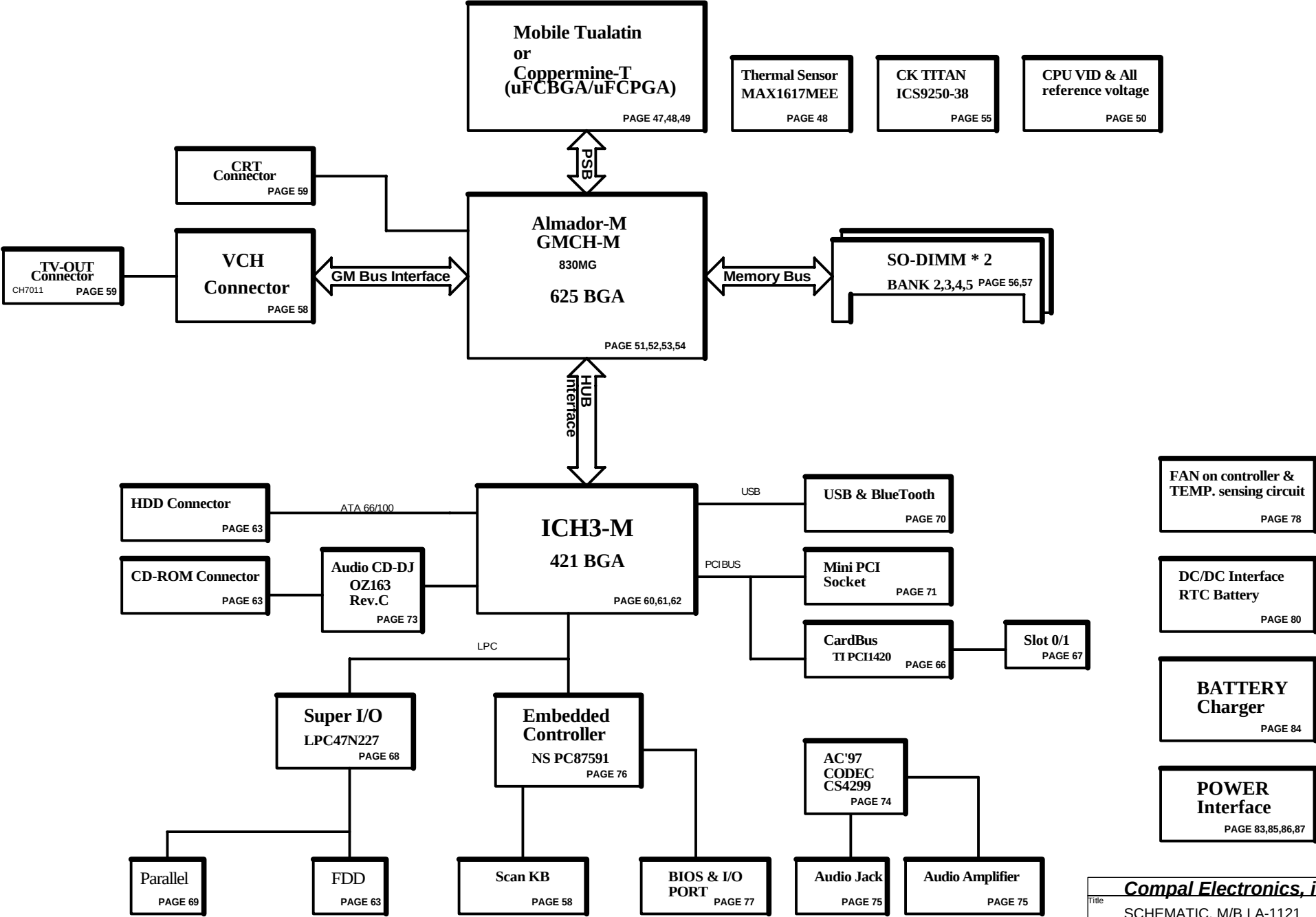
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Model Name : ATW01

BLOCK DIAGRAM

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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
+VCC_H_CORE	Core voltage for CPU	ON	OFF	OFF
+VTT	1.2V switched power rail for CPU AGTL Bus	ON	OFF	OFF
+1.5V	1.5V power rail	ON	ON	OFF
+1.5VS	AGP 4X	ON	OFF	OFF
+1.8V	1.8V power rail	ON	ON	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+2.5V	2.5V power rail	ON	ON	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*
+12VS	12V switched power rail	ON	OFF	OFF
RTC VCC	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
CardBus	AD20	2	PIRQA/PIRQB
Mini-PCI	AD18	1/4	PIRQC/PIRQD

EC SM Bus1 address

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

EC SM Bus2 address

Device	Address
MAX1617MEE	1001 110X b
OZ163	0011 0100 b
Smart Battery	0001 011X b
Docking	0011 011X b
DOT Board	XXXX XXXXb

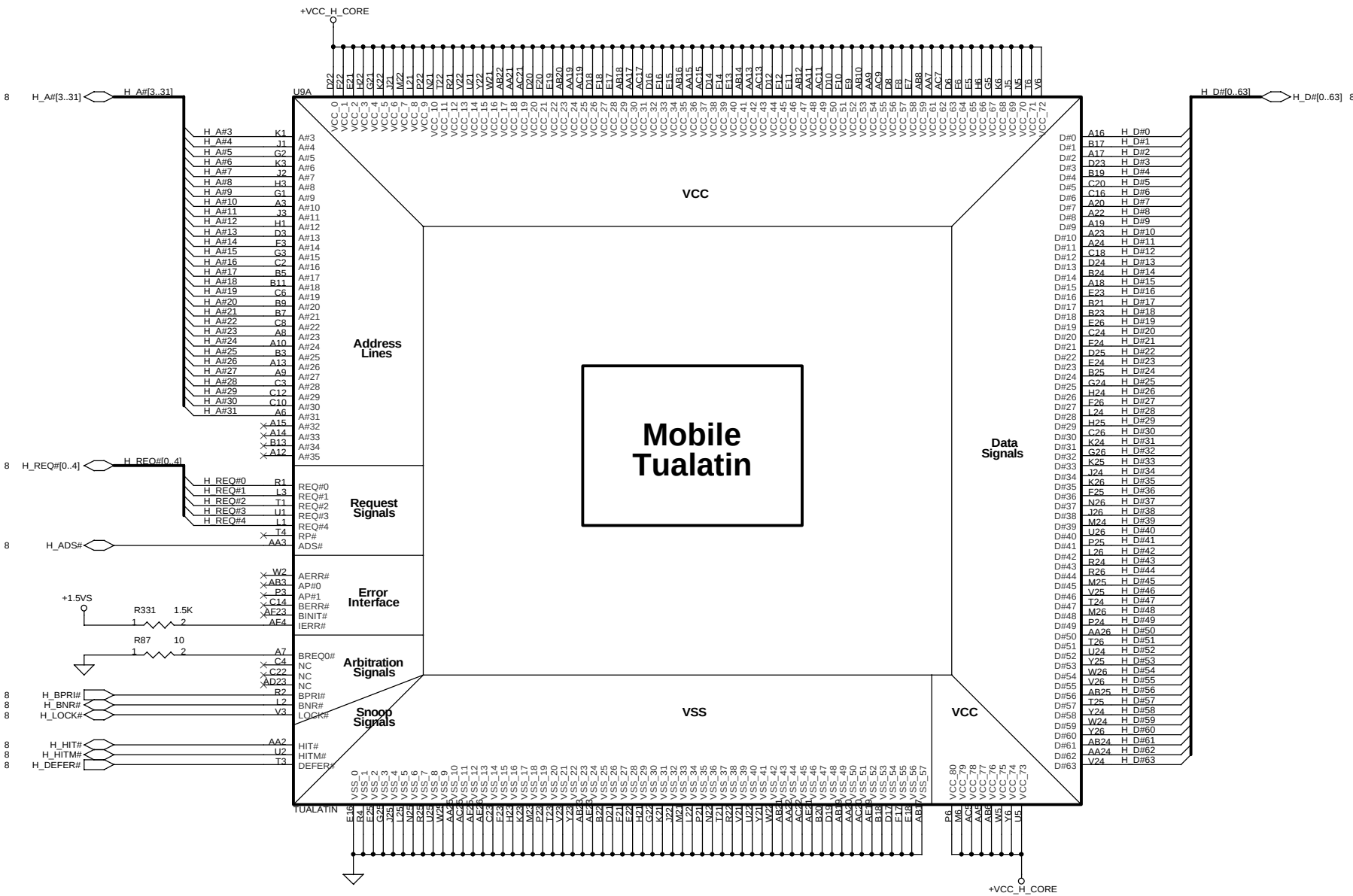
ICH3-M SM Bus address

Device	Address
Clock Generator (ICS9238-50)	1101 0000
SDRAM Select (74HC4052)	1010 0000
CPU Voltage VID select (F3565)	0110 111Xb

PIR

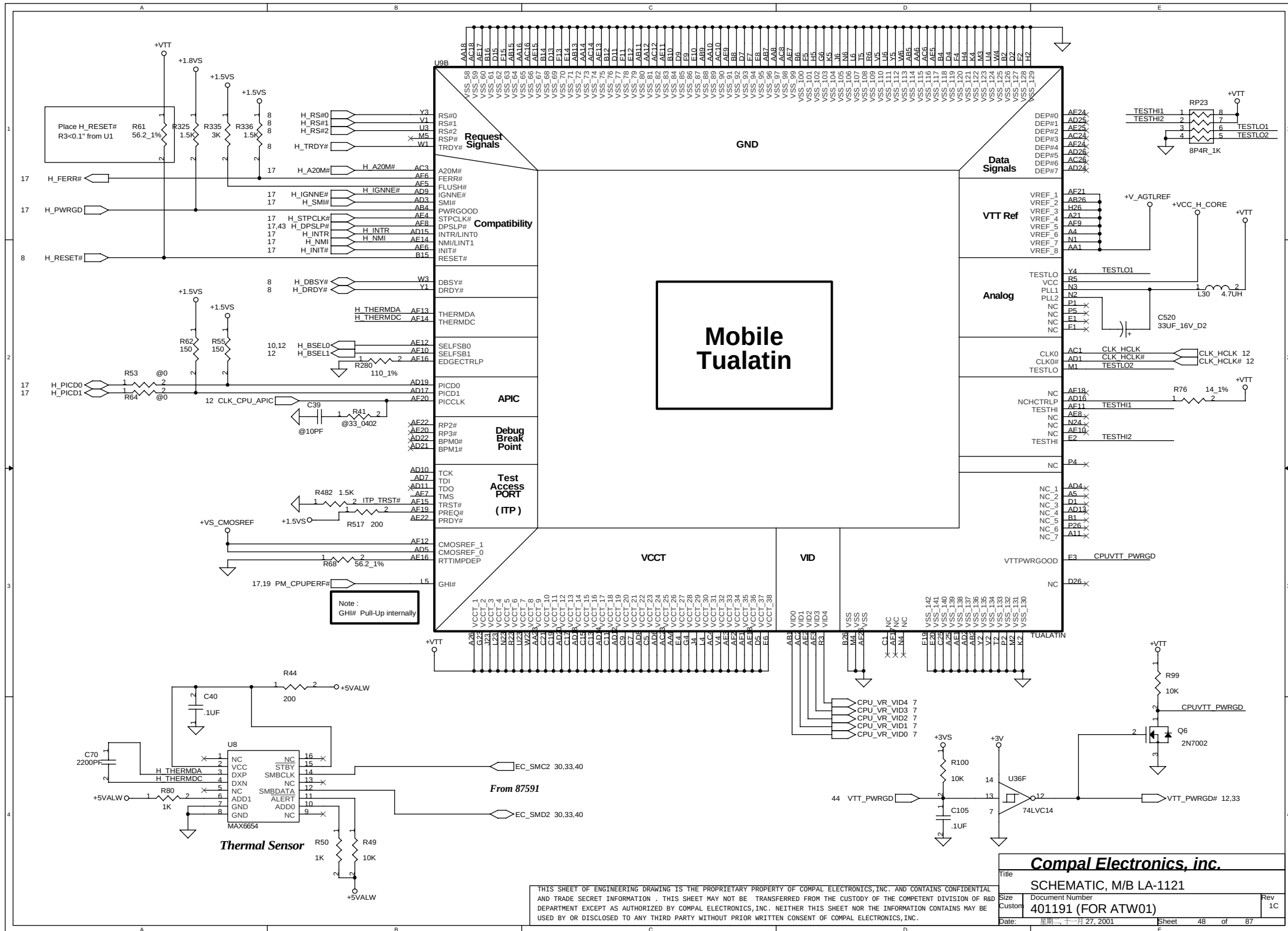
REV 0.2

Date	Page	Description
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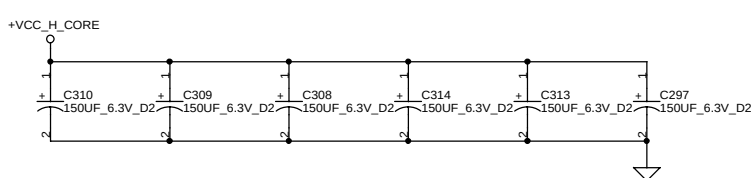
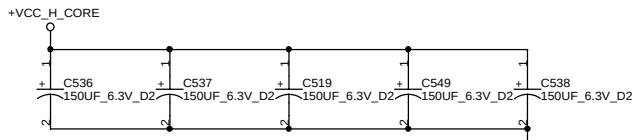
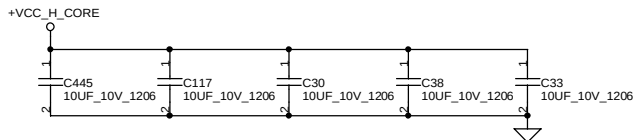
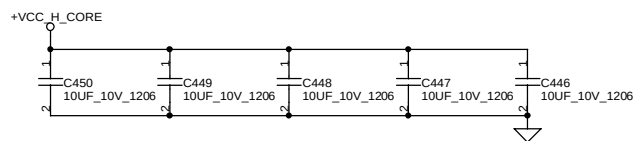
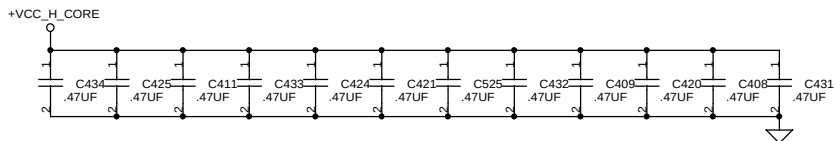
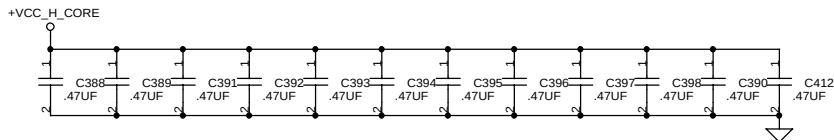
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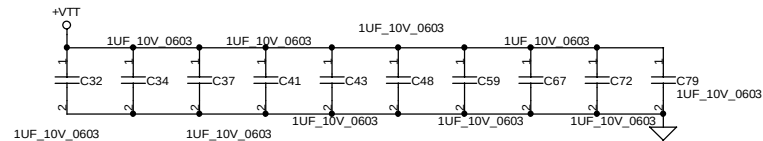
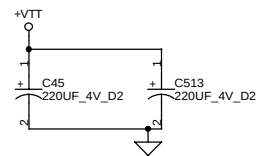
Layout note :

Place close to CPU, Use 2~3 vias per PAD.
Place .47uF caps underneath balls on solder side.
Place 10uF caps on the peripheral near balls.
Use 2~3 vias per PAD.



Layout note :

Place close to CPU,
Use 2 vias per PAD.

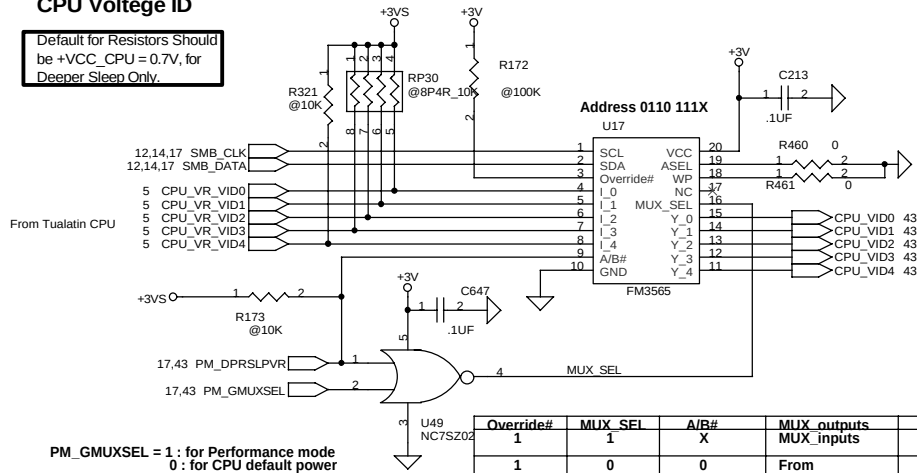


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CPU Voltage ID

Default for Resistors Should be +VCC_CPU = 0.7V, for Deeper Sleep Only.



PM_GMUXSEL = 1 : for Performance mode
0 : for CPU default power

PM_DPRSLPVR = 1 : for Deeper Sleep mode
0 : for Performance mode

Override#	MUX_SEL	A/B#	MUX_outputs MUX_inputs	Mode Battery
1	1	X		
1	0	0	From Non-volatile register(SOPRB)	Performance
1	0	1	From Non-volatile register(SOPRA)	Deeper sleep

Tualatin

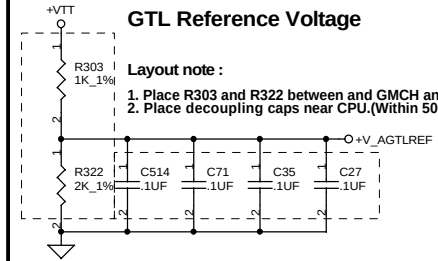
D4	D3	D2	D1	D0	CPU_Core(V)	ES(before MP)
0	0	1	0	1	1.50V (Performance)	
0	1	1	0	0	1.15V (Battery)	
1	0	1	0	1	0.85V (Deeper Sleep)	

D4	D3	D2	D1	D0	CPU_Core(V)	QS(MP)
0	0	1	1	1	1.40V (Performance)	
0	1	1	0	0	1.15V (Battery)	
1	0	1	0	1	0.85V (Deeper Sleep)	

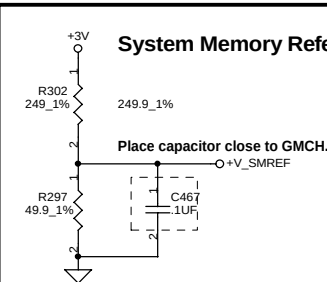
GTL Reference Voltage

Layout note :

1. Place R303 and R322 between and GMCH and CPU.
2. Place decoupling caps near CPU.(Within 500mils)



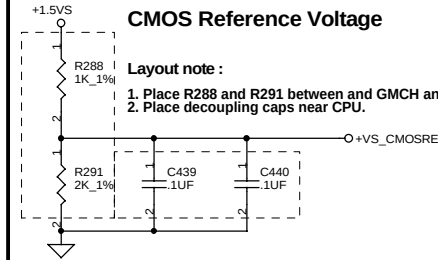
System Memory Reference



CMOS Reference Voltage

Layout note :

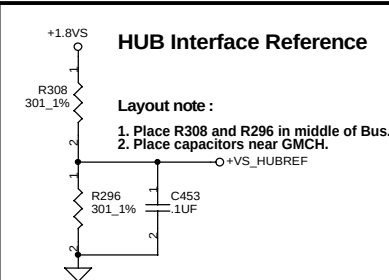
1. Place R288 and R291 between and GMCH and CPU.
2. Place decoupling caps near CPU.



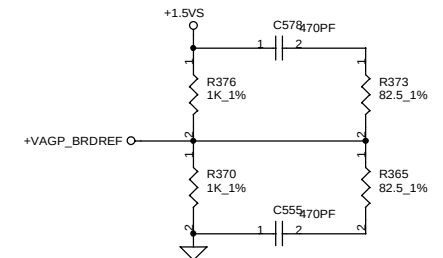
HUB Interface Reference

Layout note :

1. Place R308 and R296 in middle of Bus.
2. Place capacitors near GMCH.

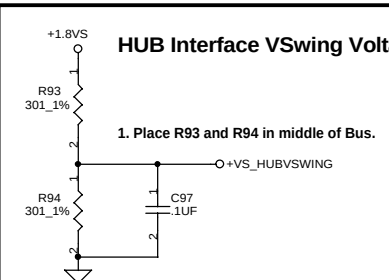


Place Reference Circuit near GMCH

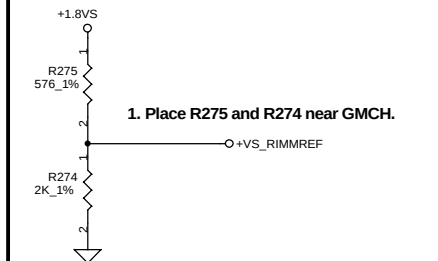


HUB Interface VSwing Voltage

1. Place R93 and R94 in middle of Bus.



1. Place R275 and R274 near GMCH.



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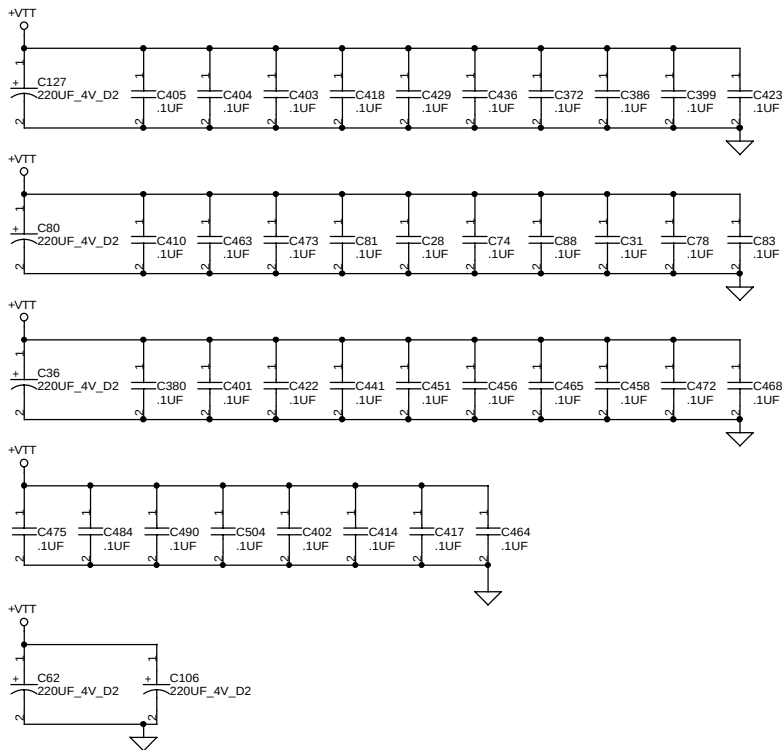
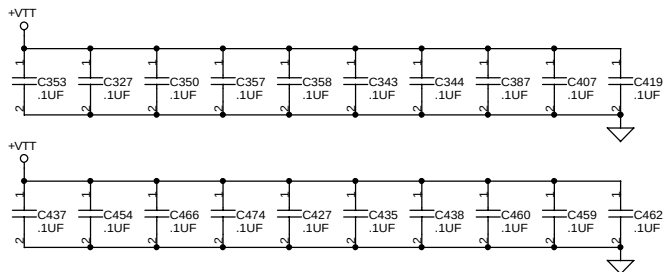
Ball#	New Signal Name	Old Signal Name
A8	VCC_SM	SM_OKES
A12	VCC_SM	SM_ECC7
E12	VCC_SM	SM_ECC8
G10	VCC_SM	VCCQ_SM
F7	VCCQ_SM	VCC_SM
G19	VCCQ_SM	VCC_SM
E15	VCCQ_SM	SM_CS4
F15	VCCQ_SM	VCC_SM
A14	VSS	SM_CLK6
B13	VSS	SM_OKB4
C3	VSS	SM_CLK5
C21	VSS	SM_ECC4
E14	VSS	SM_CS5
F19	VSS	SM_ECC5
E11	NC	SM_ECC3
E20	NC	SM_ECC1
F12	NC	SM_ECC2
F20	NC	SM_ECC0

1.Placement TP6 for Almador-M A2 stepping die.
2.The 0.1uF capacitor and connection to +3V must be implanted for Almador-M A3 stepping die.

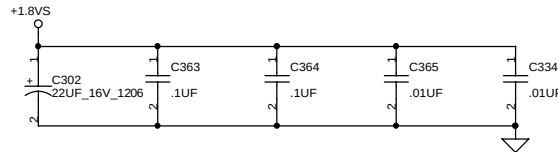
near pin C24

Place resistors & capacitors near GMCH

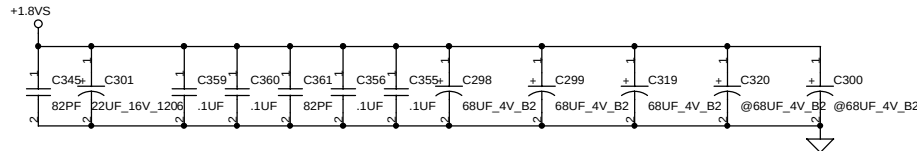
Layout note :
Distribute as close as possible
to GMCH Processor Quadrant .



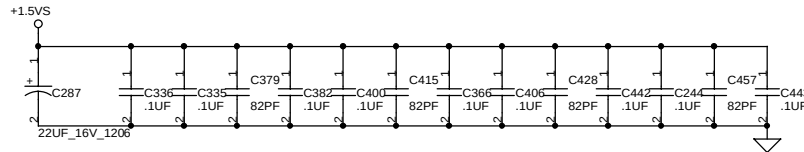
Layout note :
Distribute as close as possible
to VCCPCMOS_LM .



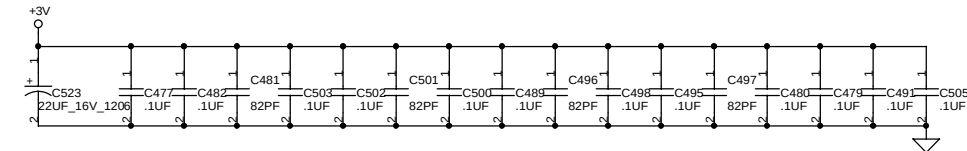
Layout note :
Distribute as close as possible
to GMCH Local Memory Quadrant .



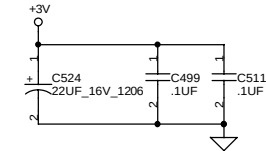
Layout note :
Distribute as close as possible
to GMCH AGP/DVO Quadrant .



Layout note :
Distribute as close as possible
to GMCH System Memory Quadrant .

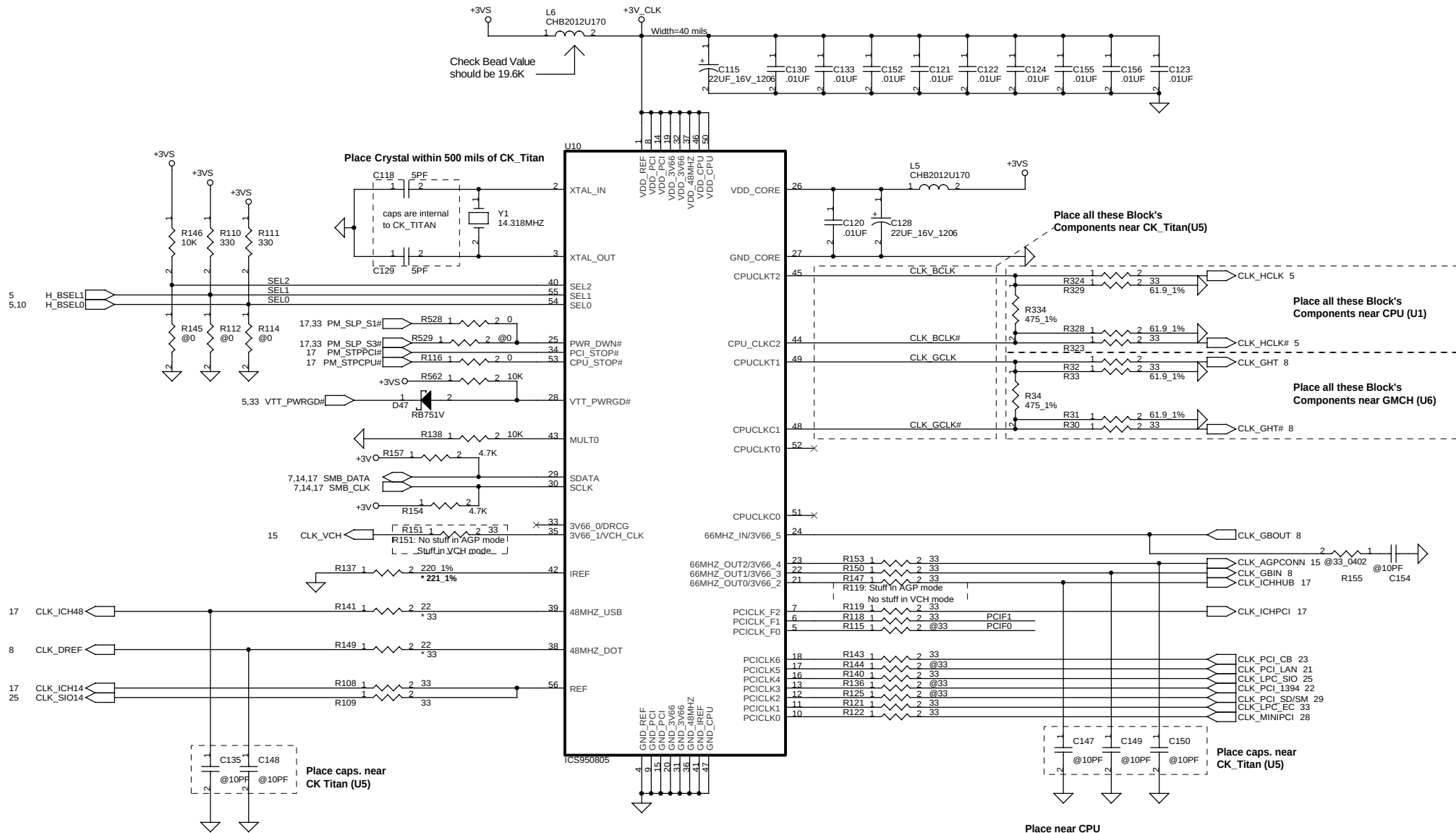


Layout note :
Distribute as close as possible
to IO Quadrant .



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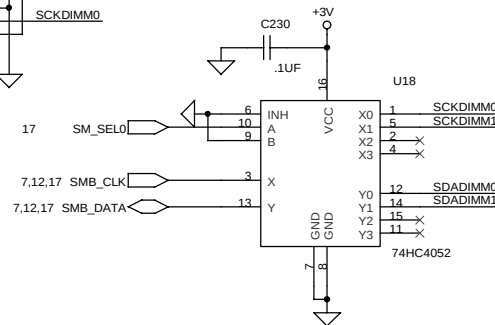
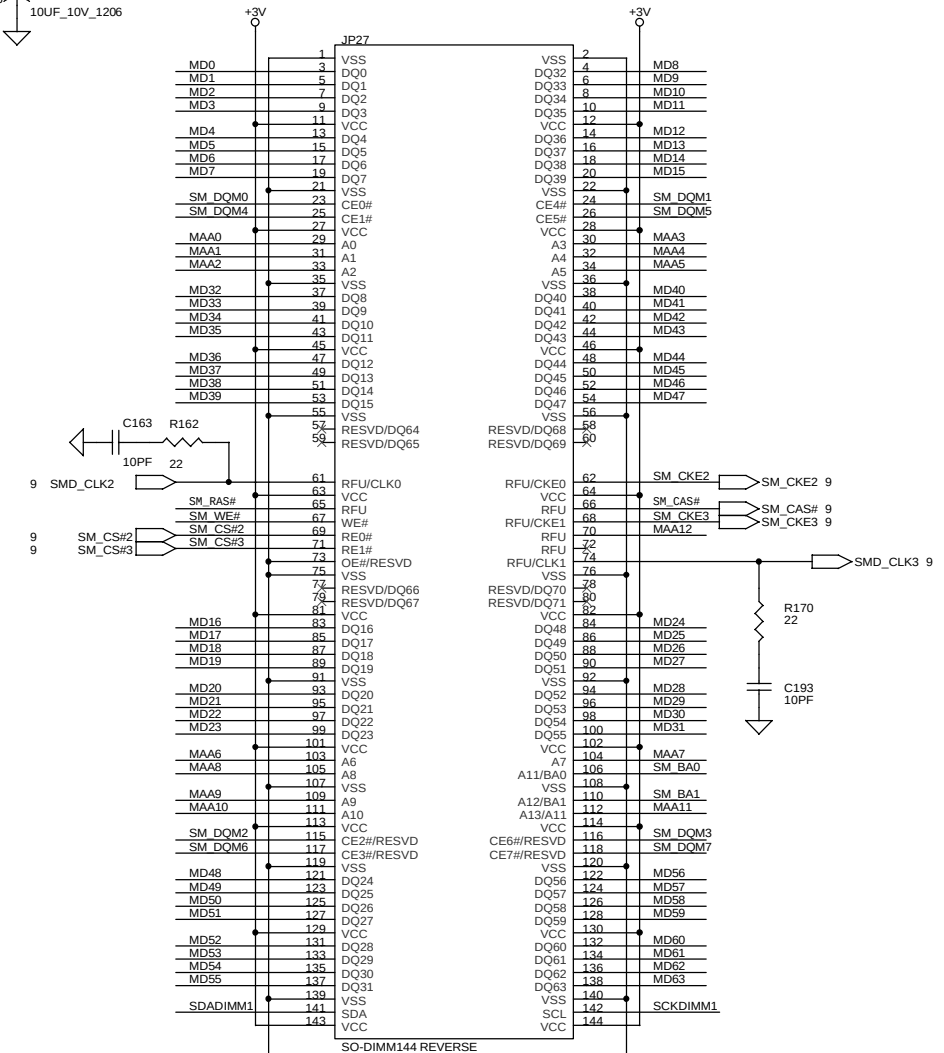


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BANK 0/1

BANK 2/3



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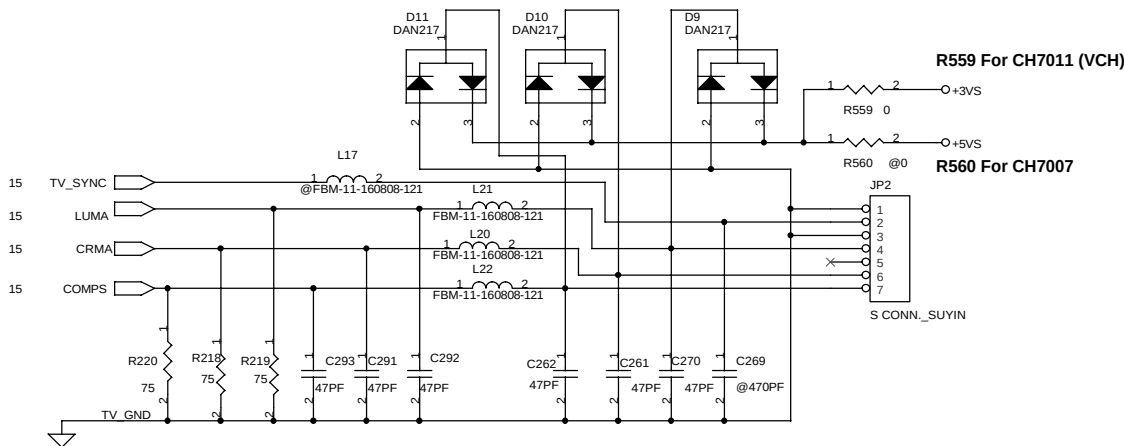
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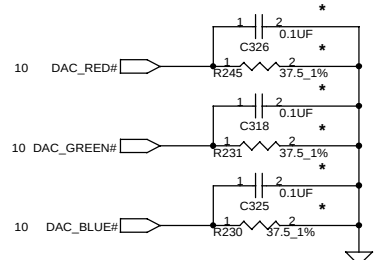
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TV OUT CONN.

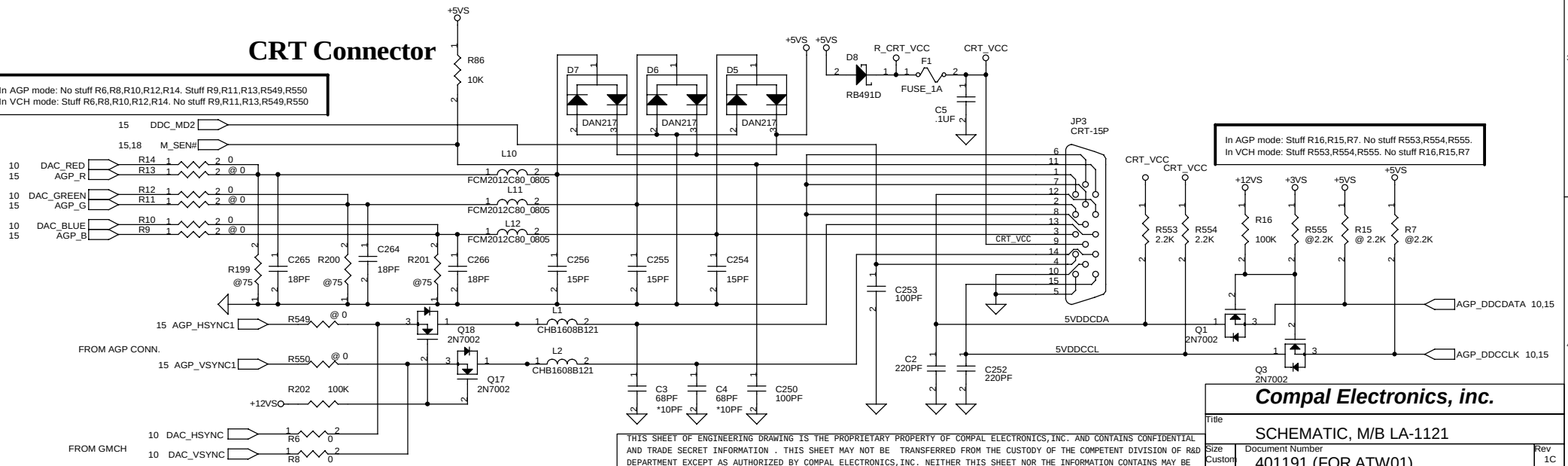


In AGP mode: No stuff C326,R245,C318,R231,C325,R230.
In VCH mode: Stuff C326,R245,C318,R231,C325,R230



CRT Connector

In AGP mode: No stuff R6,R8,R10,R12,R14. Stuff R9,R11,R13,R549,R550
In VCH mode: Stuff R6,R8,R10,R12,R14. No stuff R9,R11,R13,R549,R550



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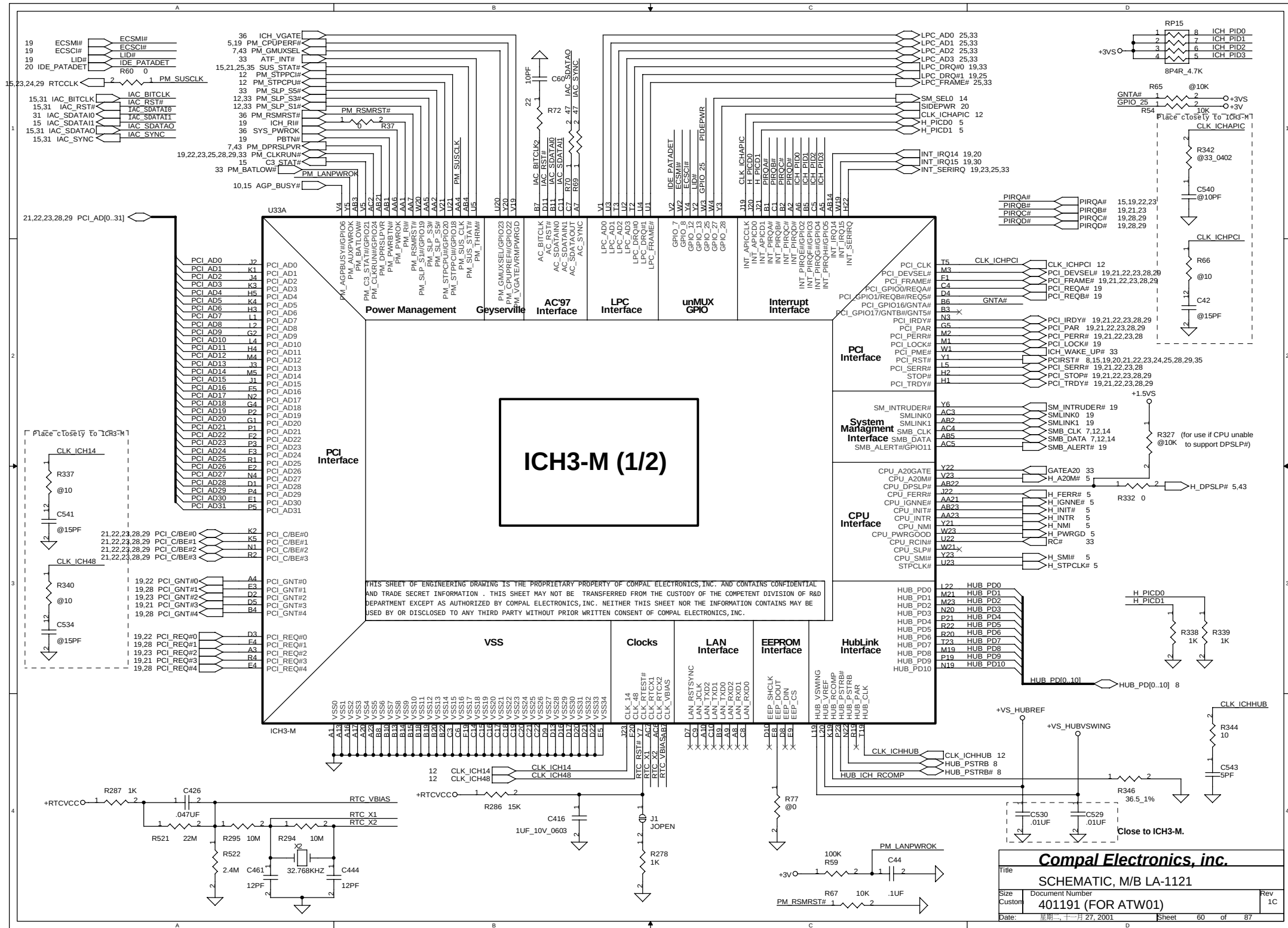
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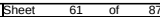
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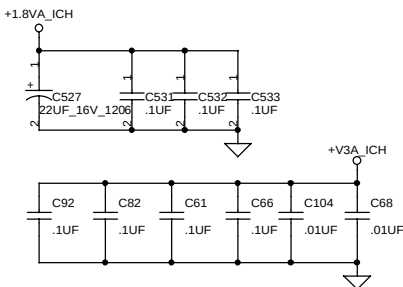
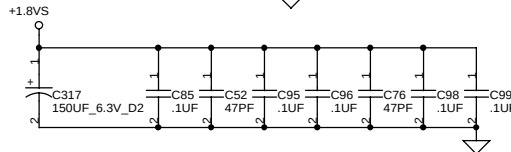
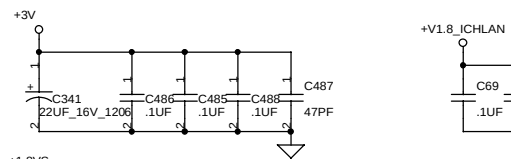
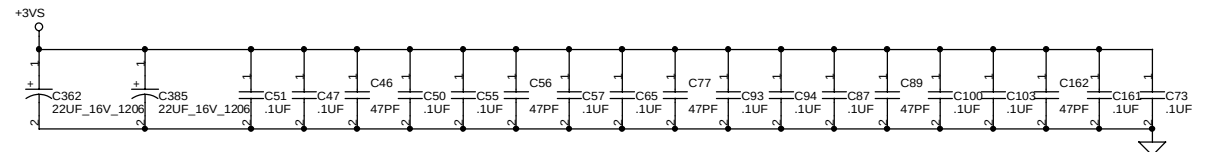
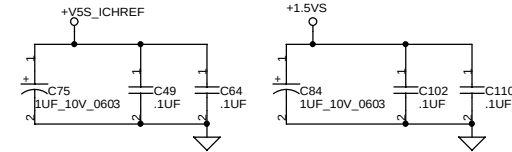
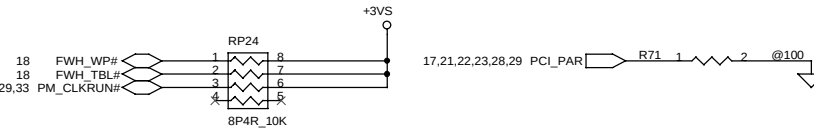
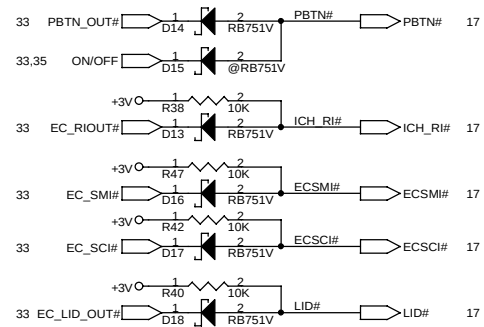
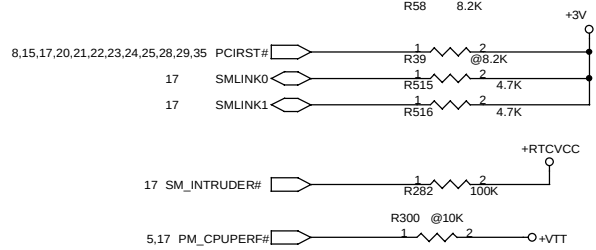
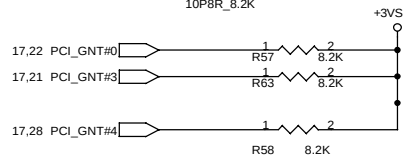
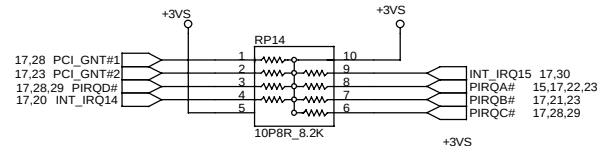
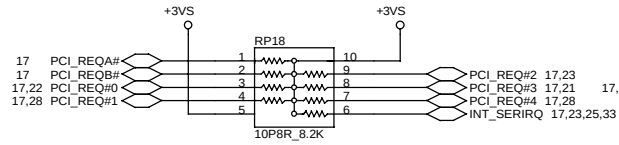
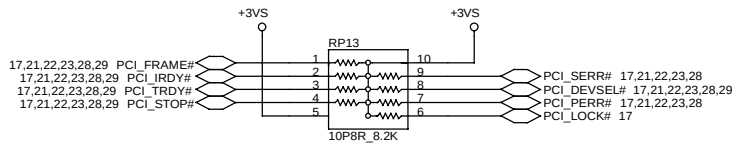
Date: 星期二, 十一月 27, 2001

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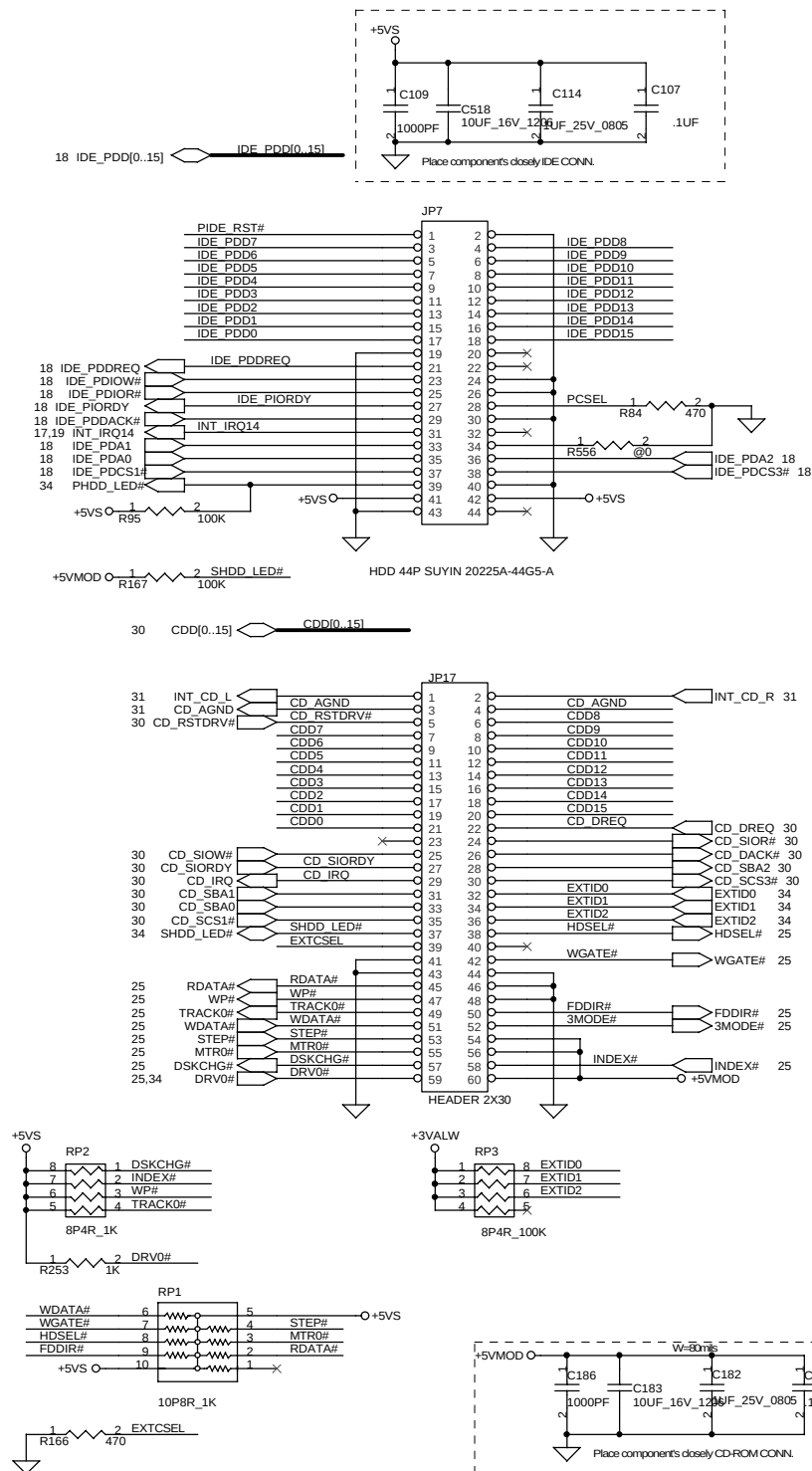
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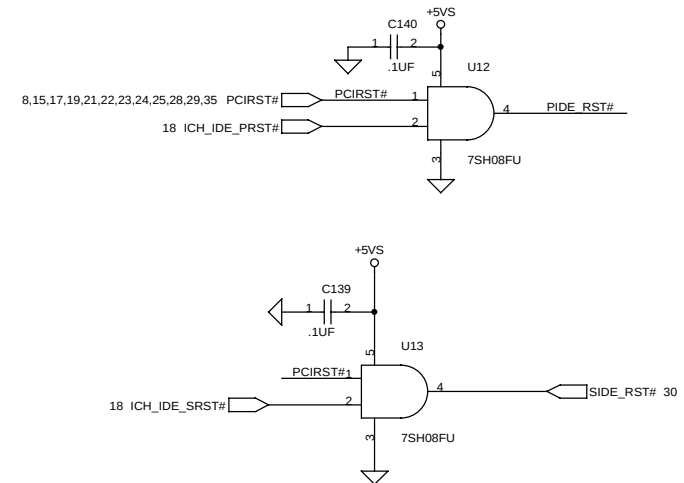
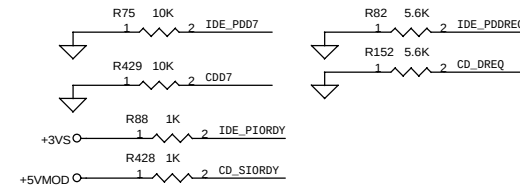
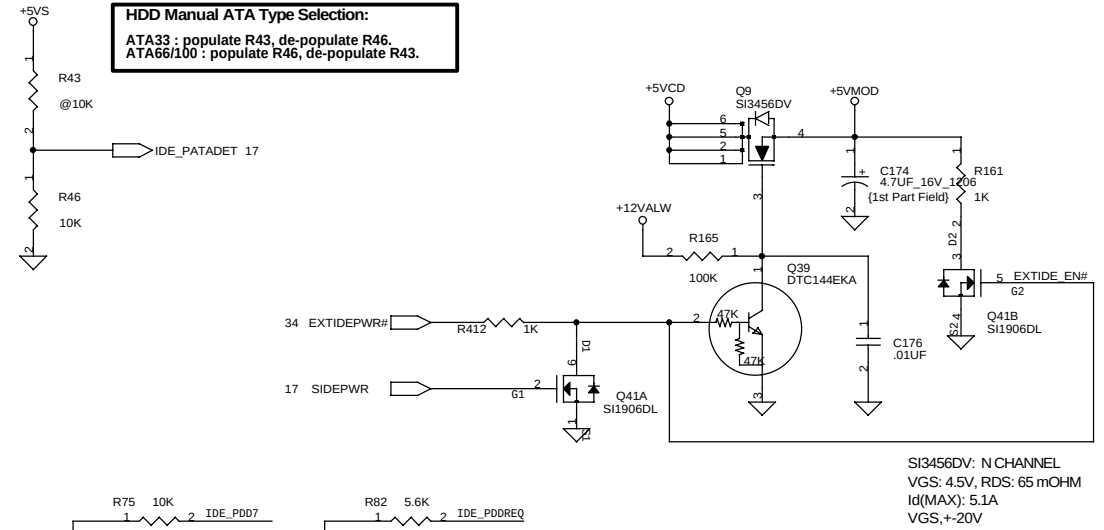
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IDE,CD-ROM Module CONN.



HDD Manual ATA Type Selection:

ATA33 : populate R43, de-populate R46.
ATA66/100 : populate R46, de-populate R43.



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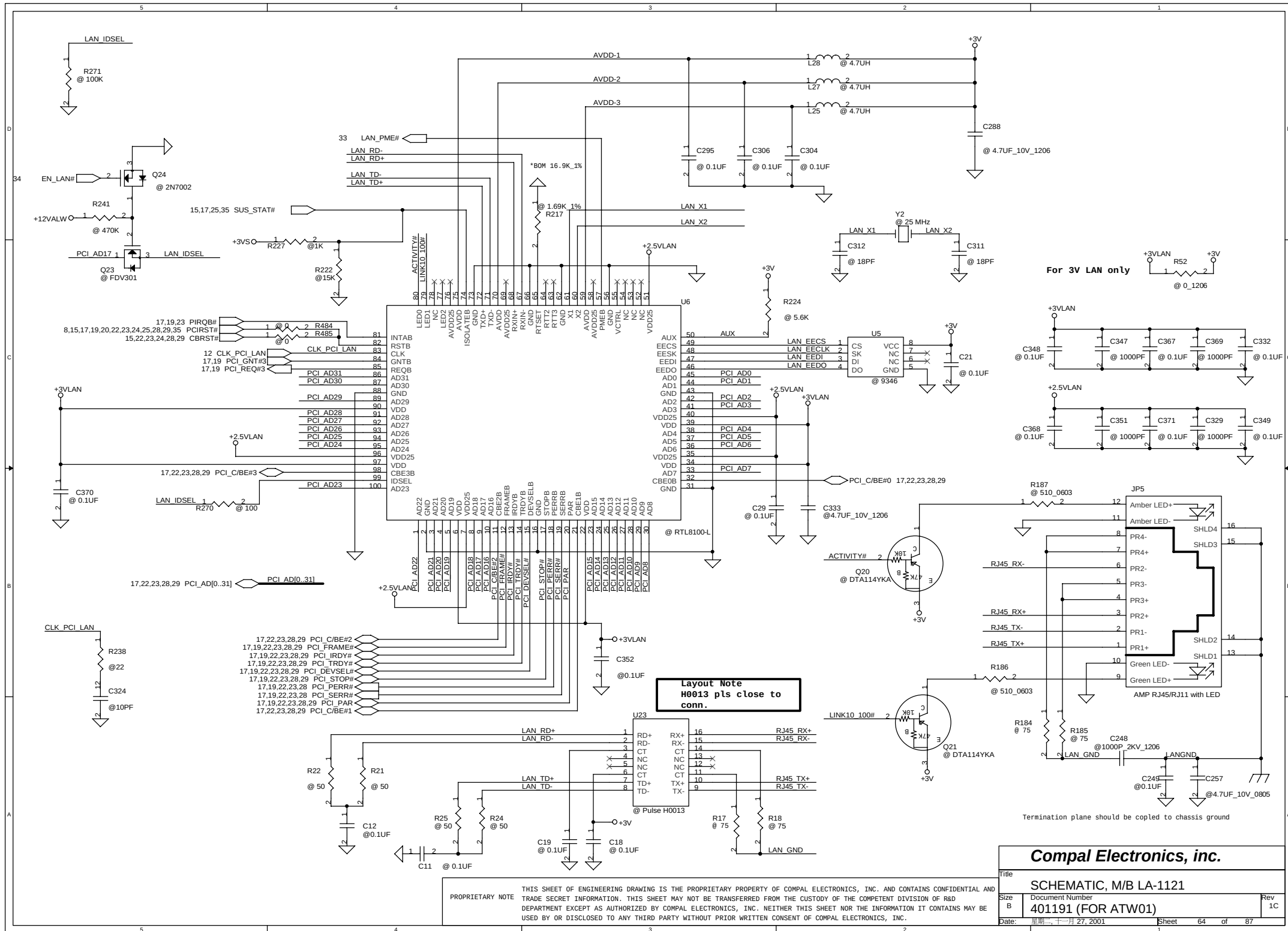
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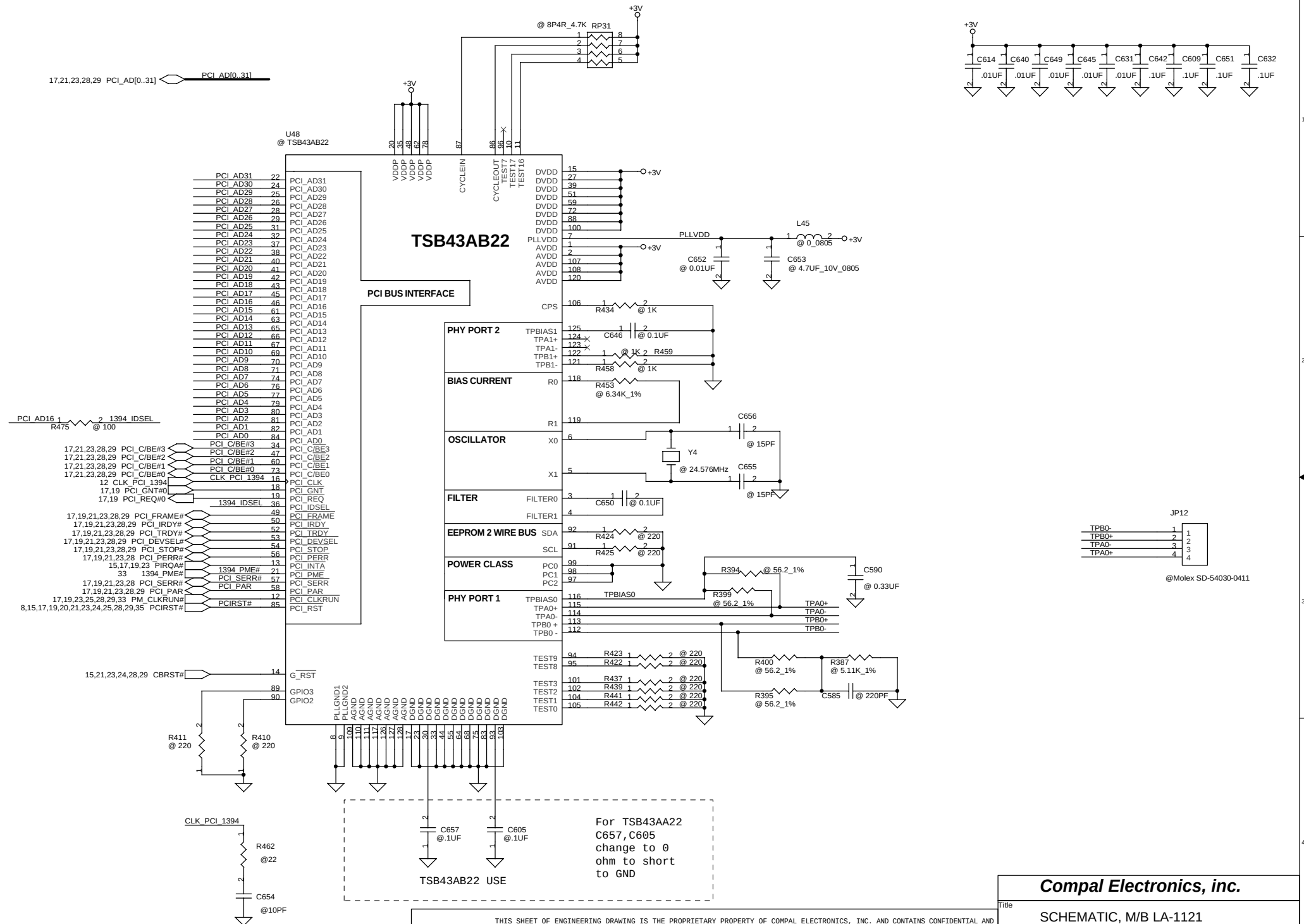
For 3V LAN only

Layout Note
H0013 pls close to
conn.

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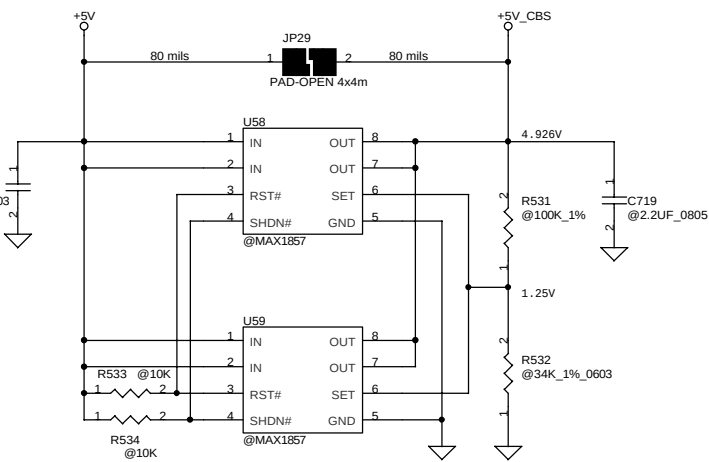
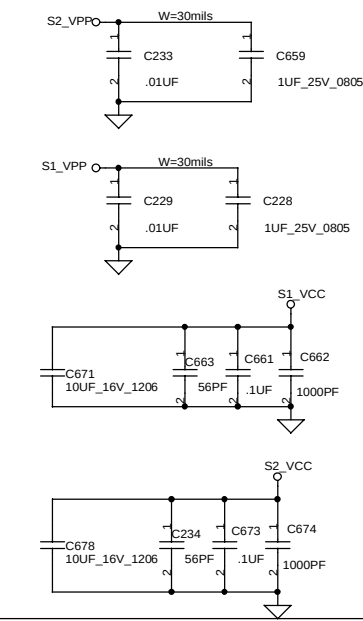
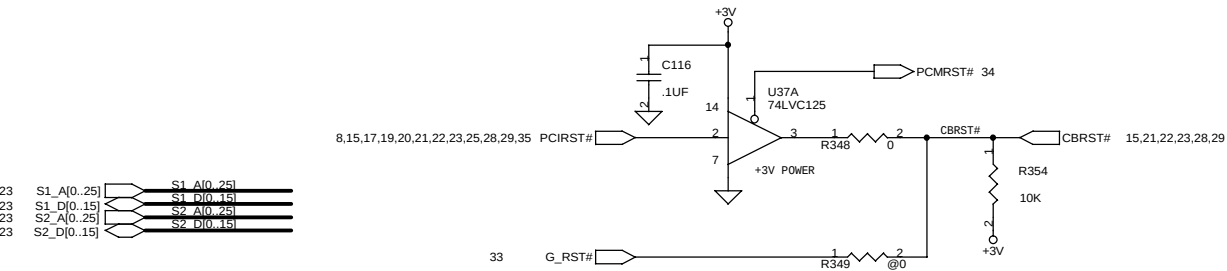
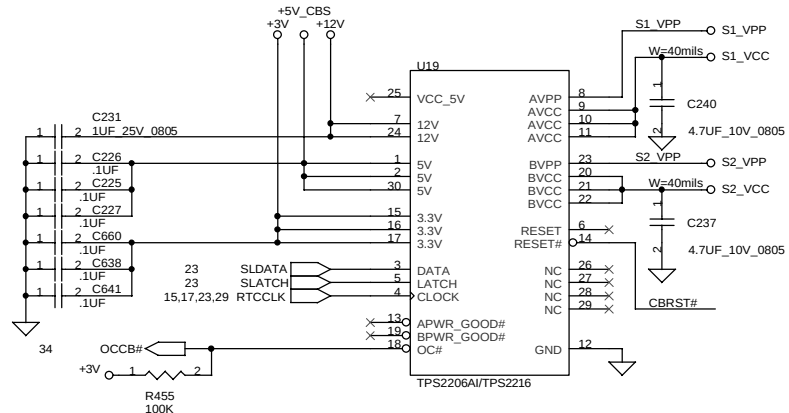
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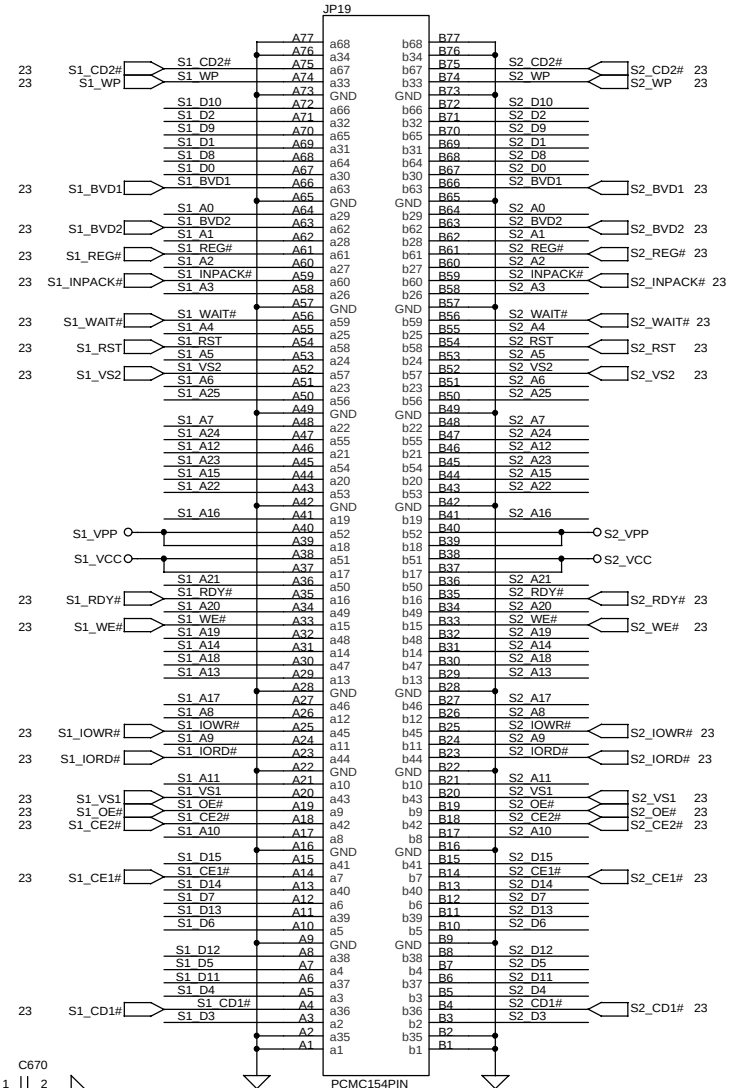
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PCMCIA POWER CTRL.



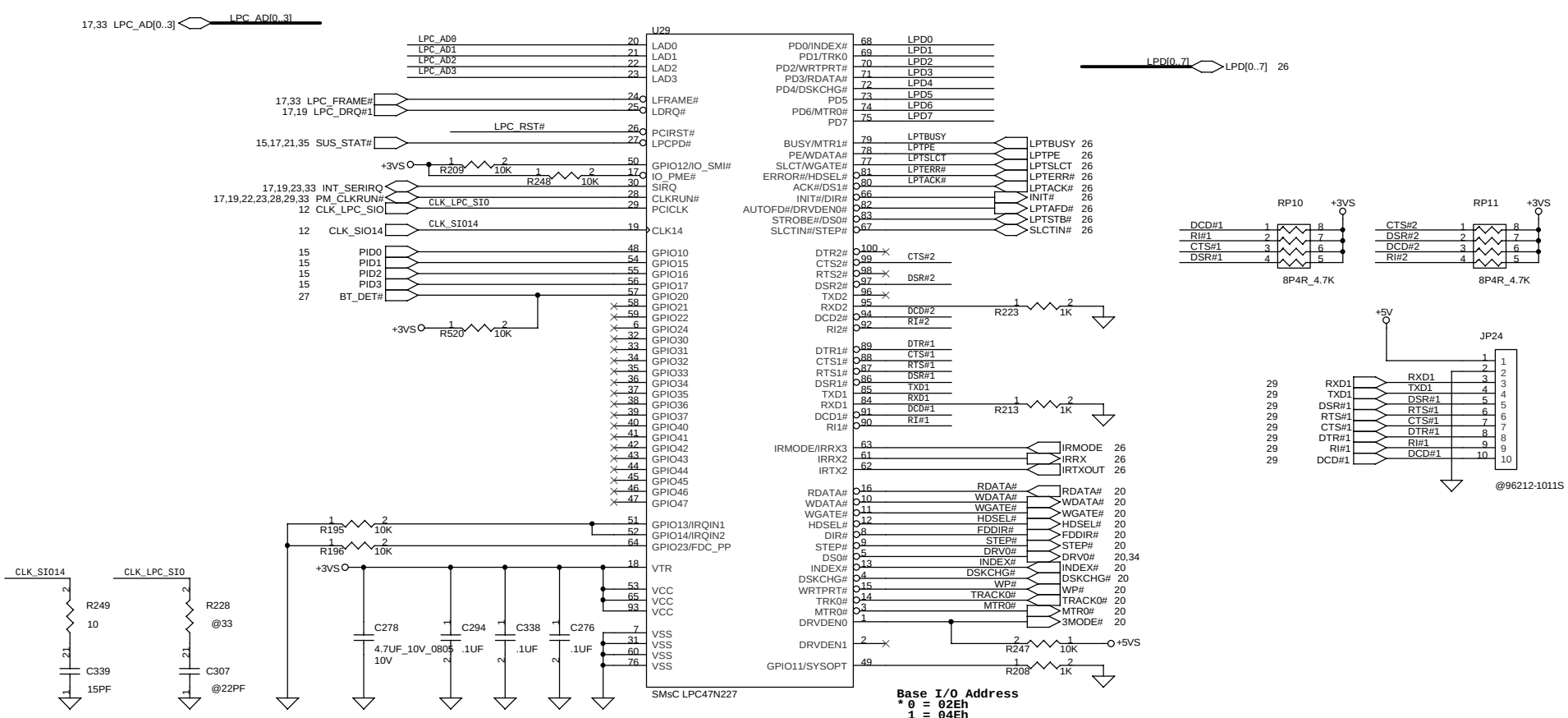
CARDBUS
SOCKET



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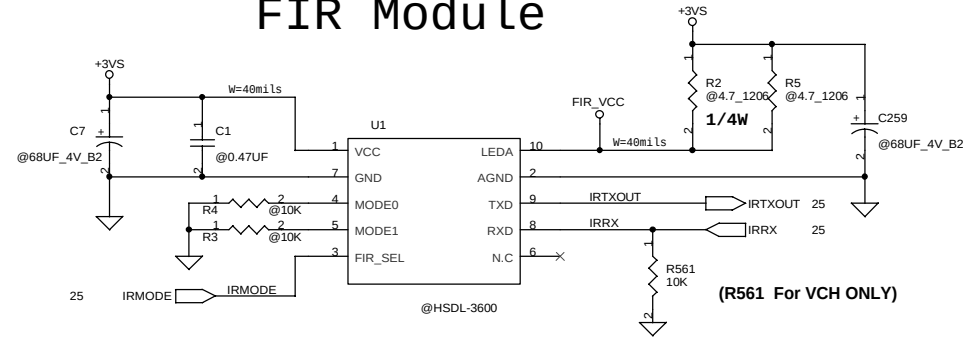
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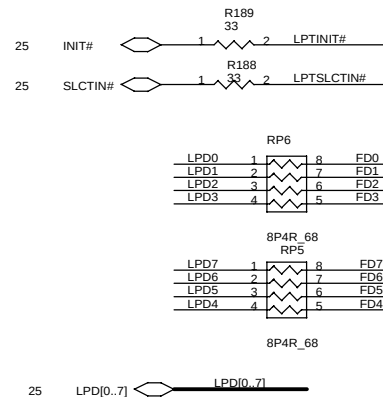
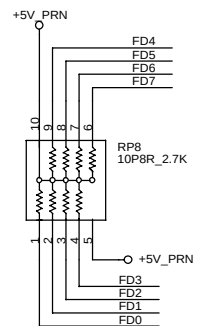
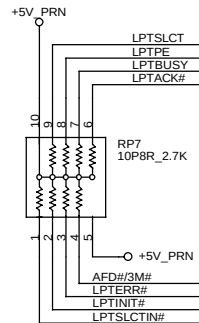
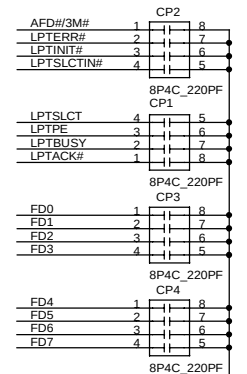
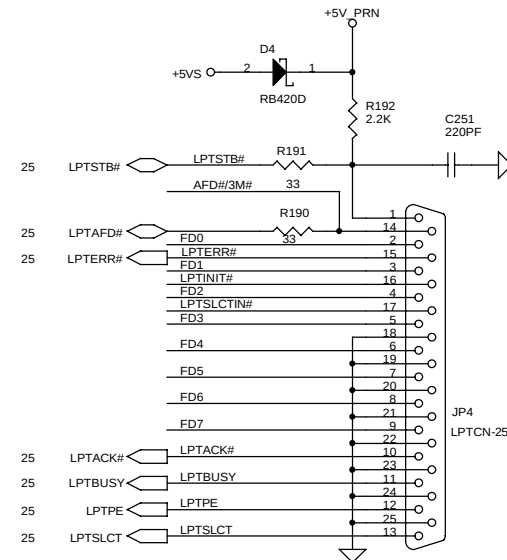
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FIR Module



The component's most place
cloely IRDA MODULE.

PARALLEL PORT

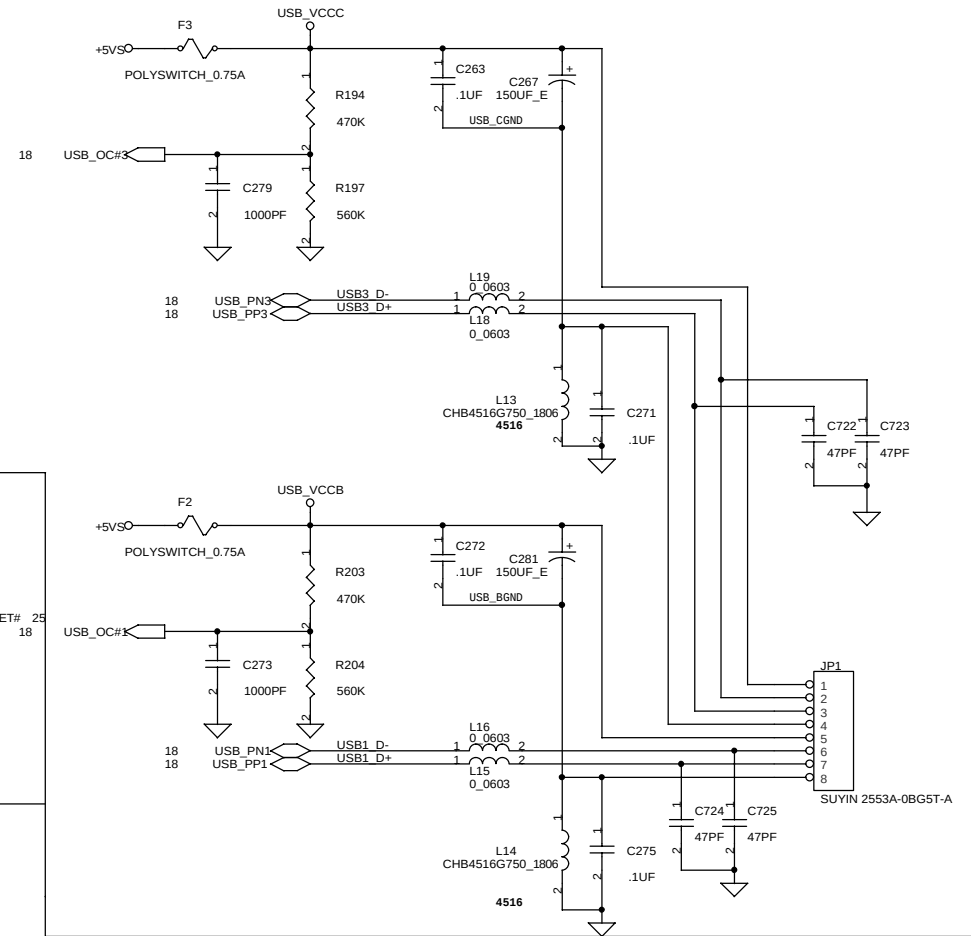
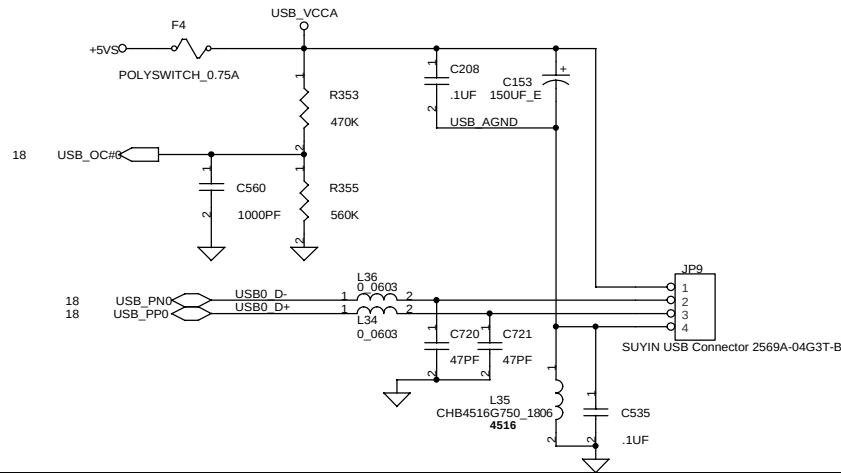


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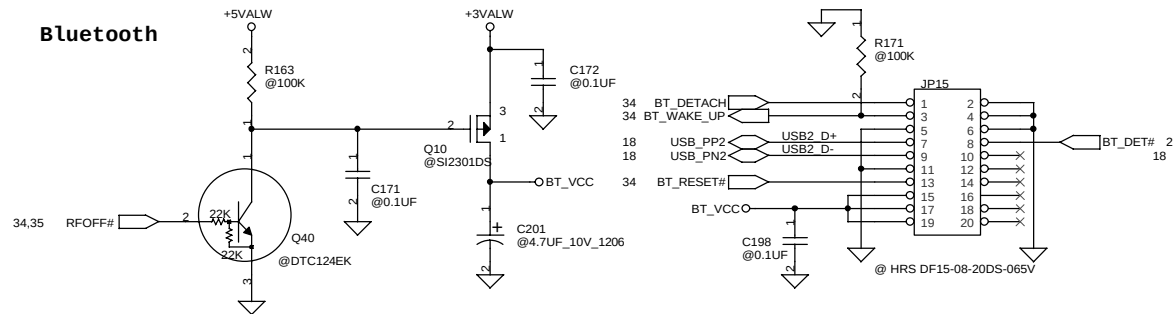
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USB PORT



Bluetooth

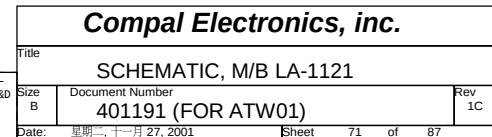


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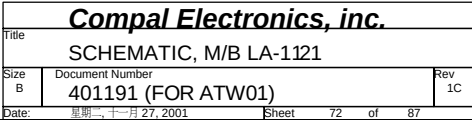
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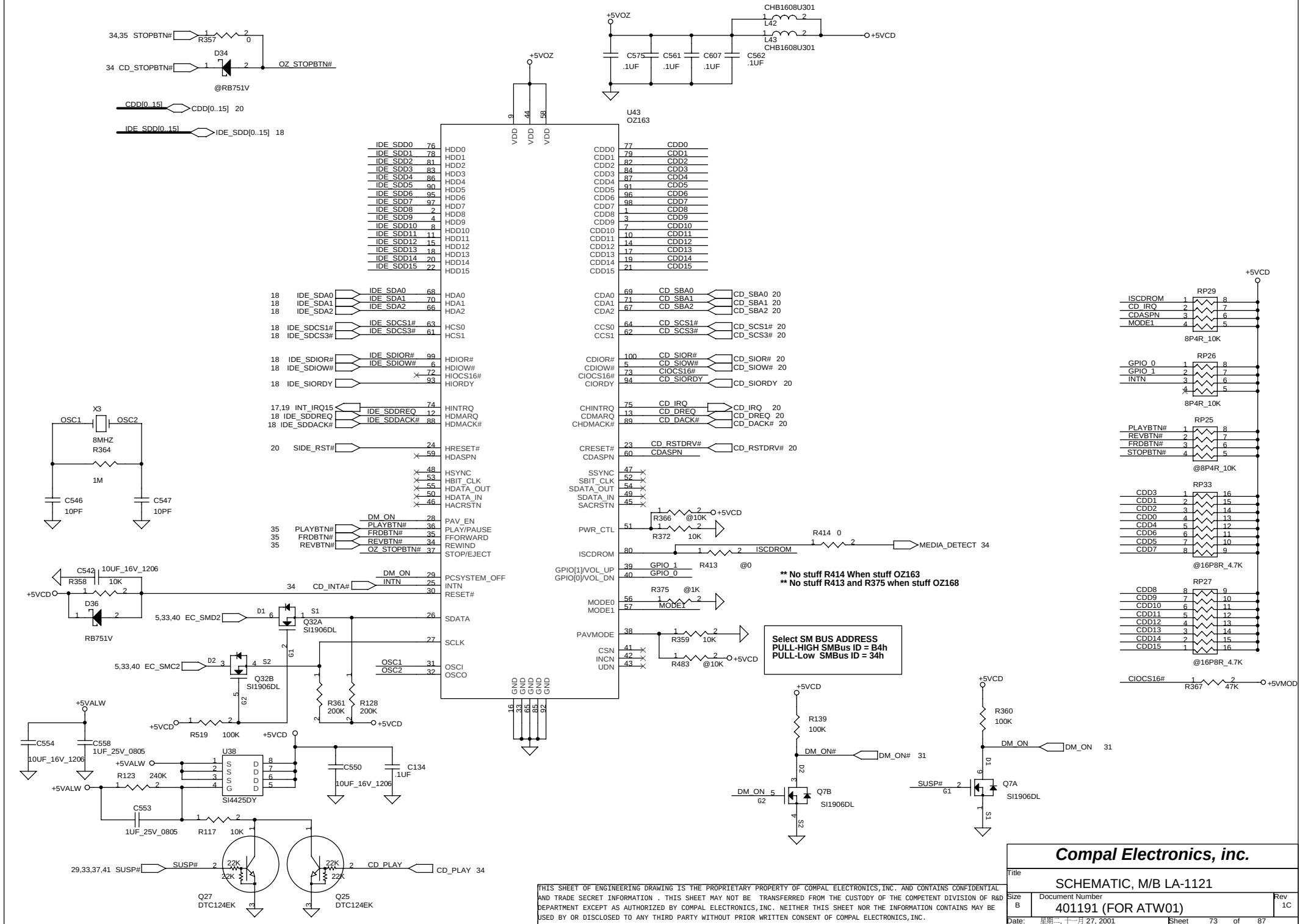
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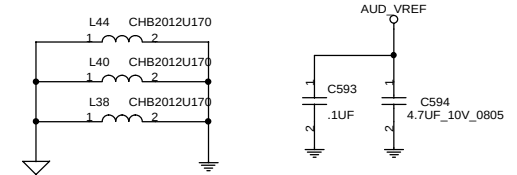
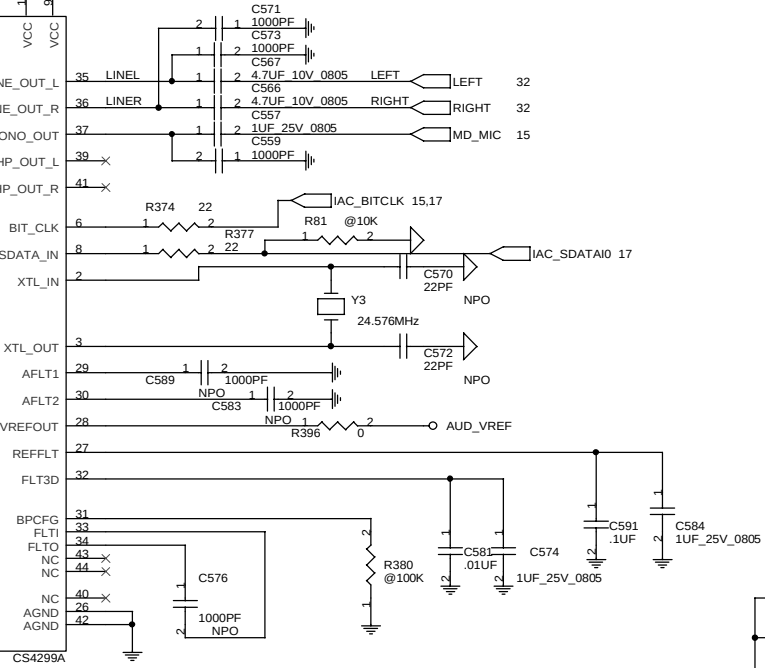
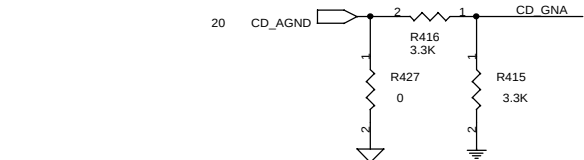
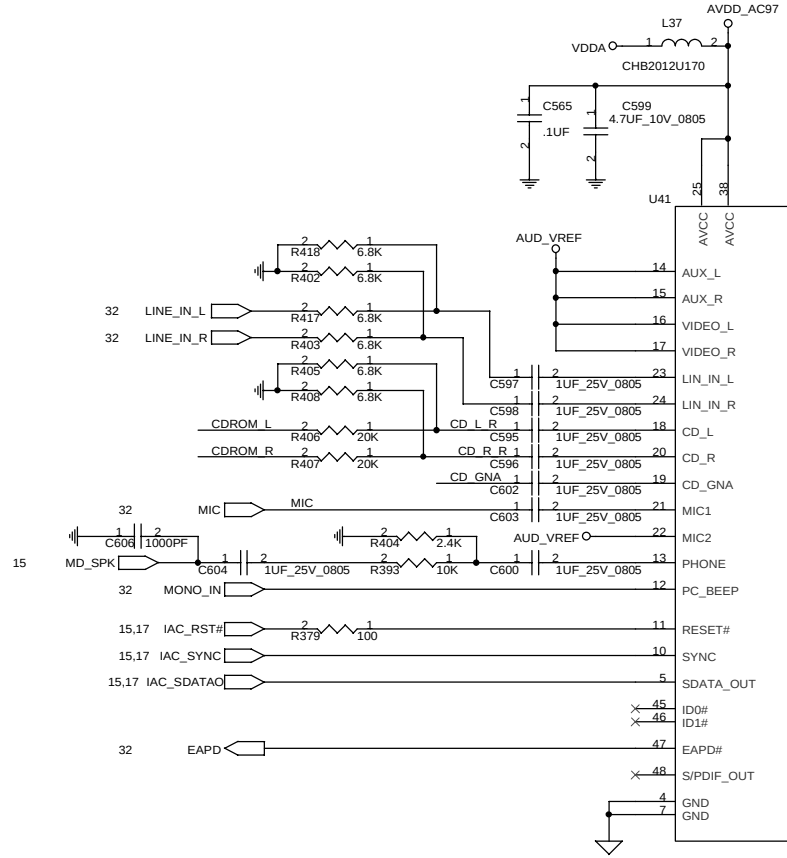
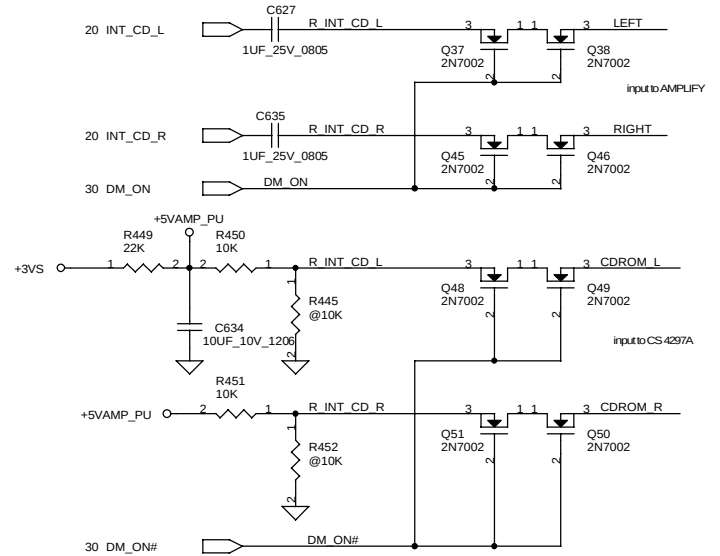
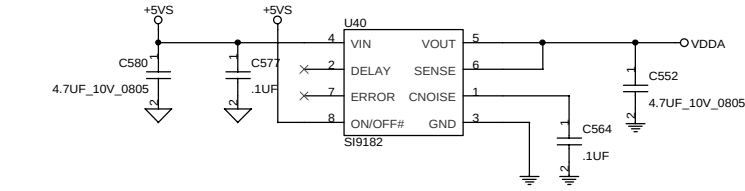


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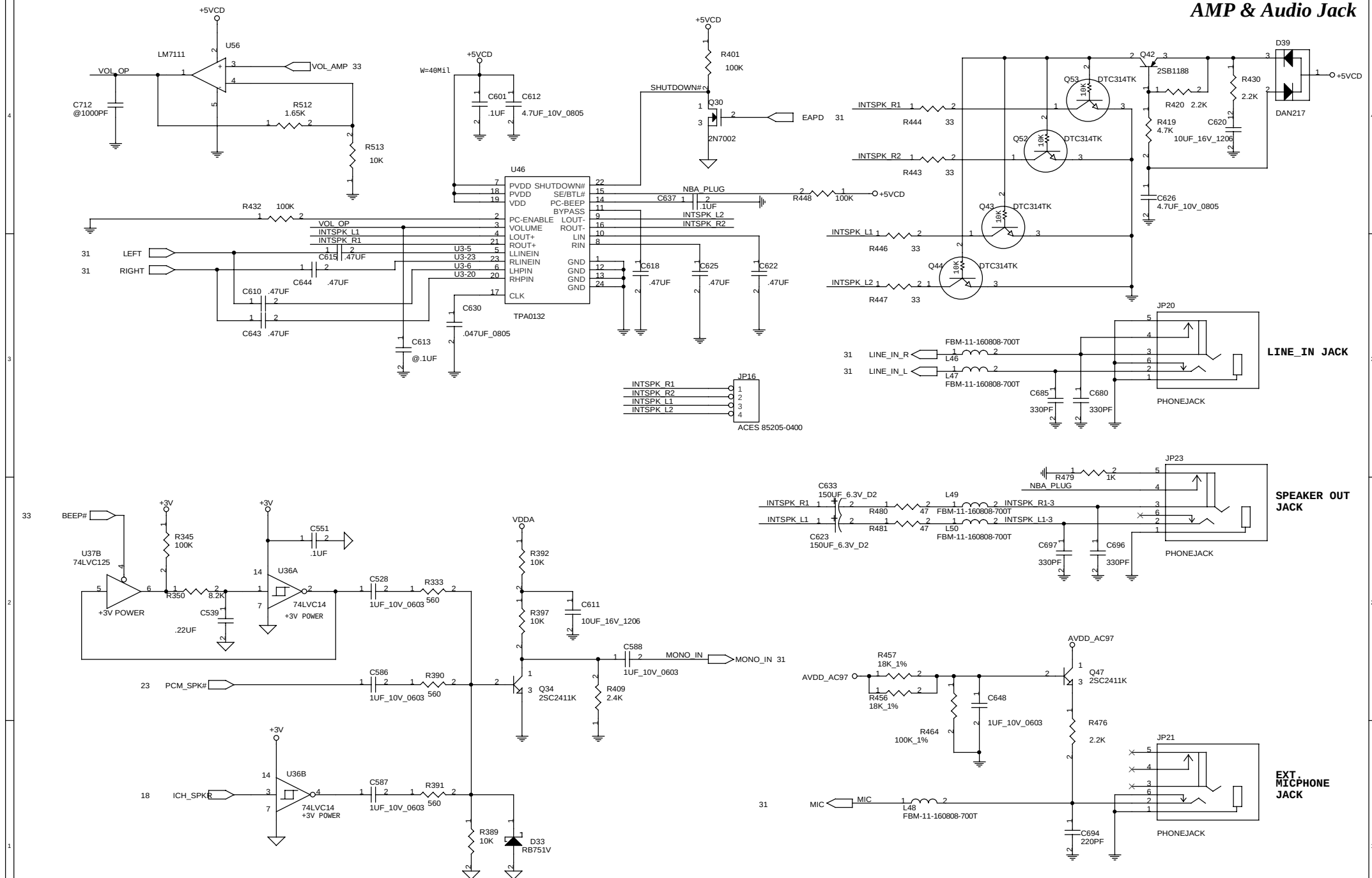
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AMP & Audio Jack



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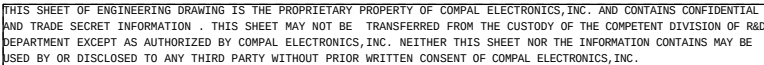
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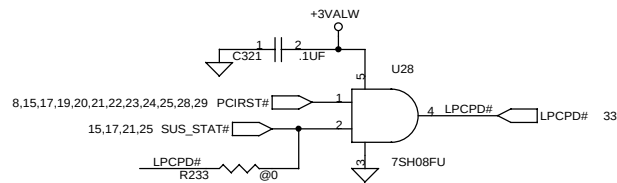
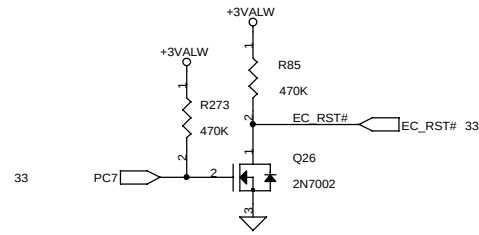
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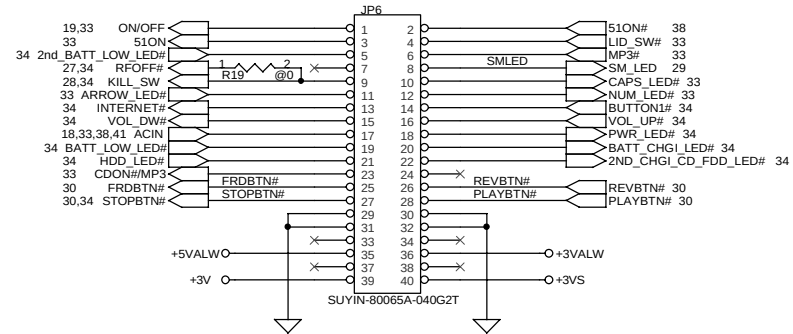
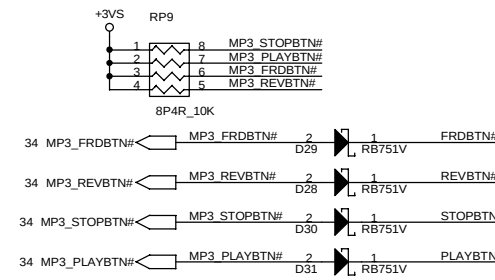
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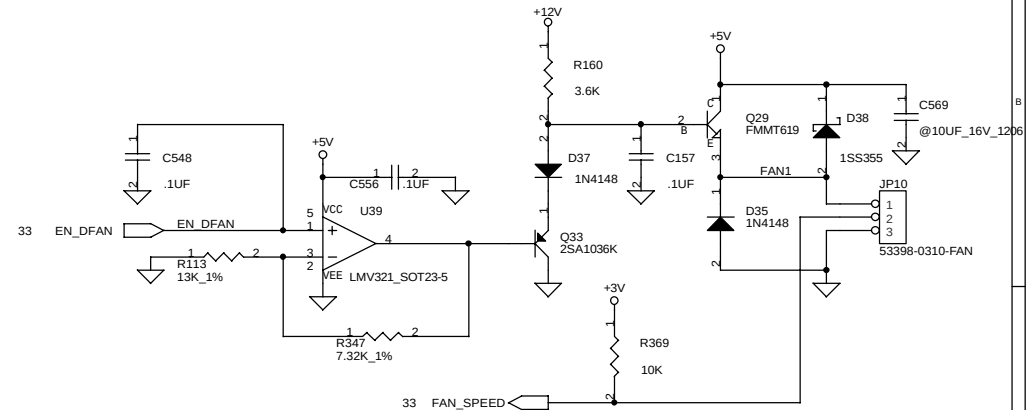




For PC87591 REV 0.A Only



FAN CONN.



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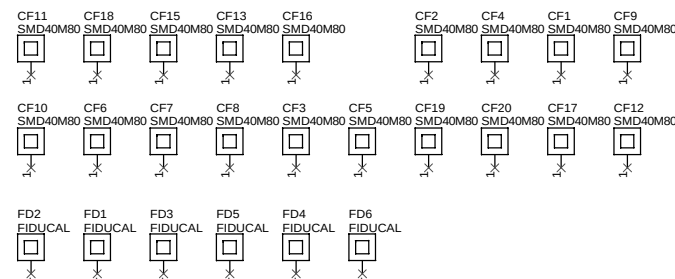
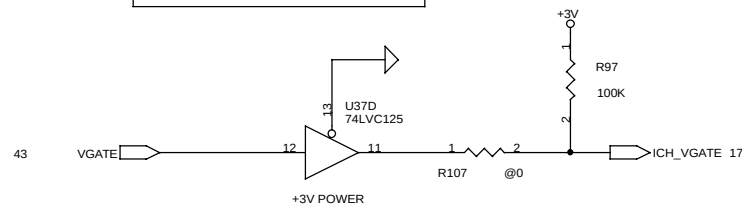
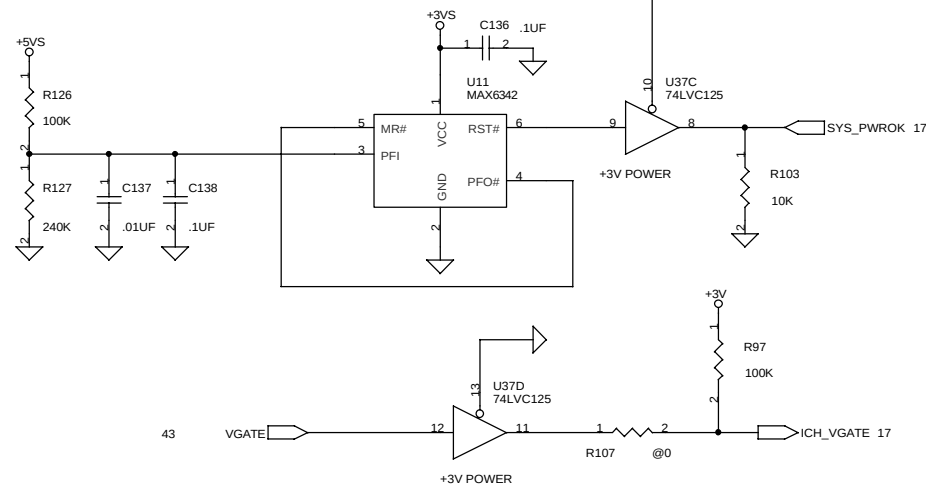
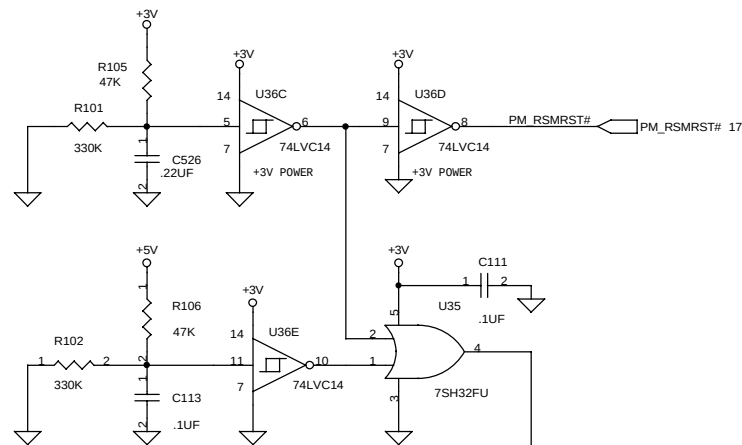
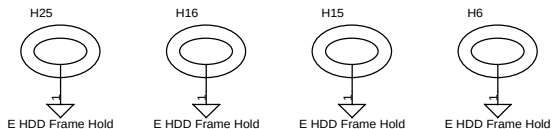
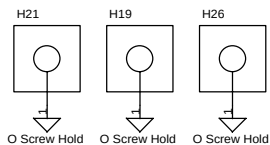
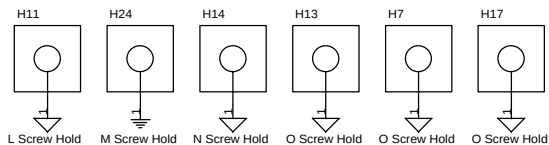
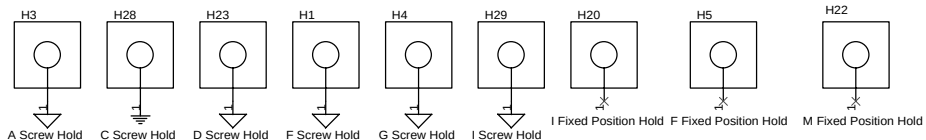
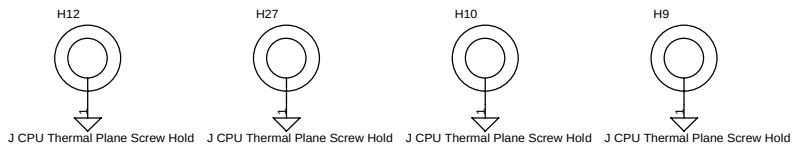
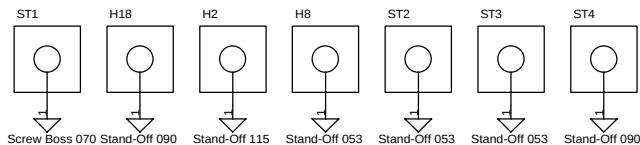
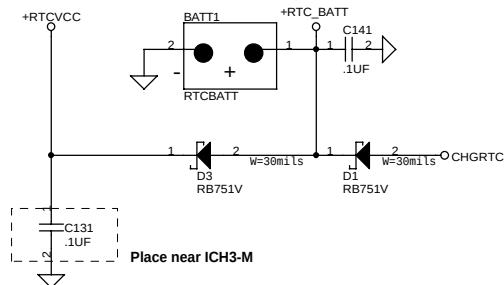
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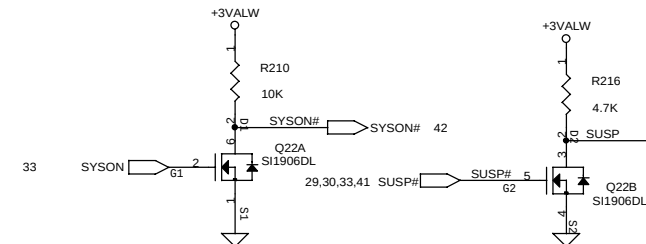
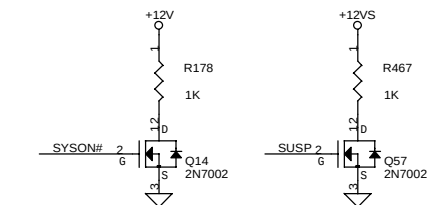
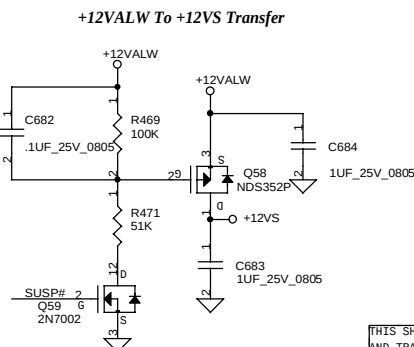
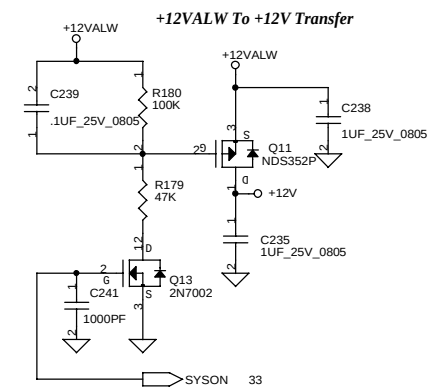
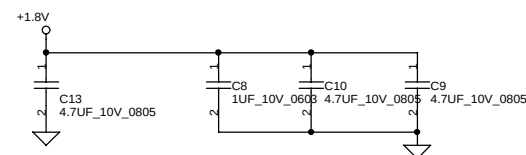
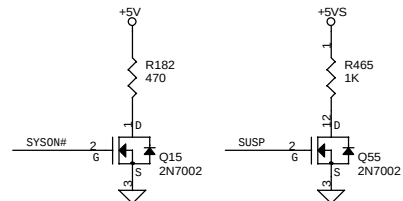
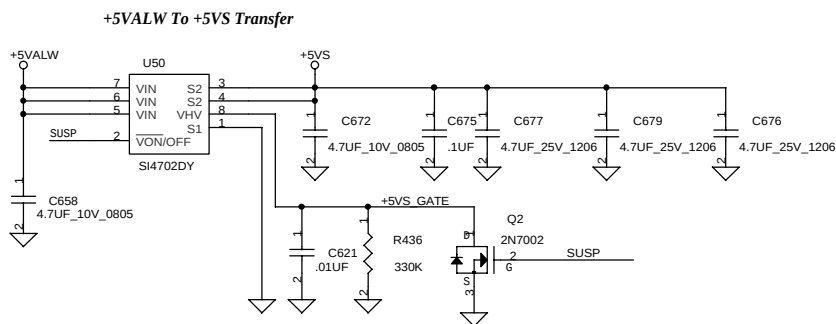
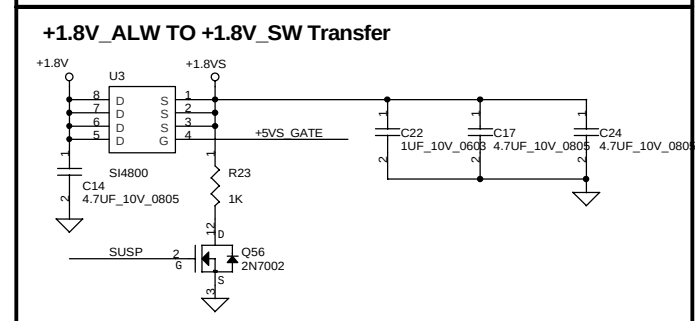
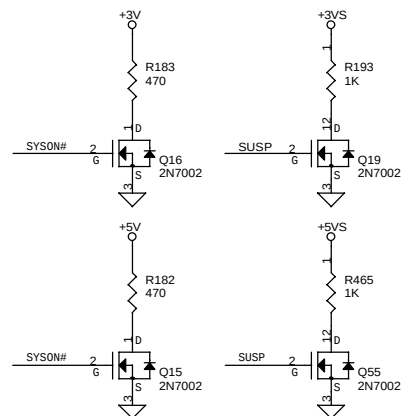
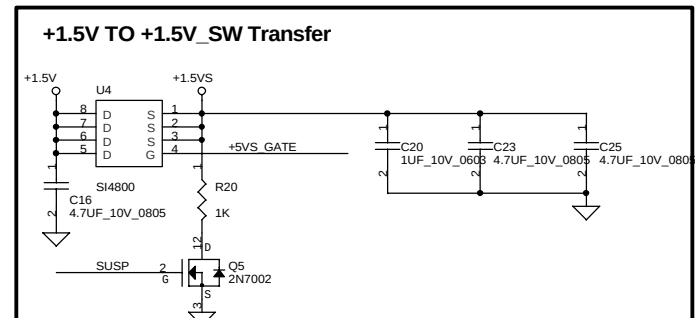
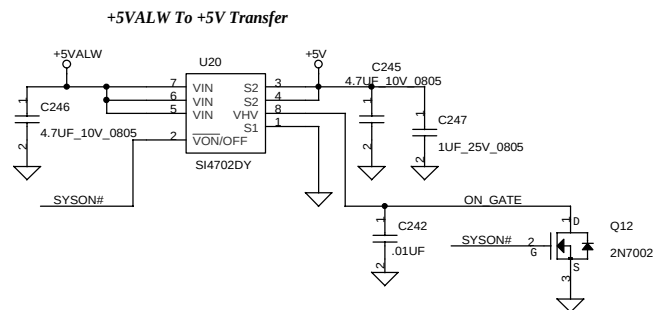
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RTC Batt. Connector



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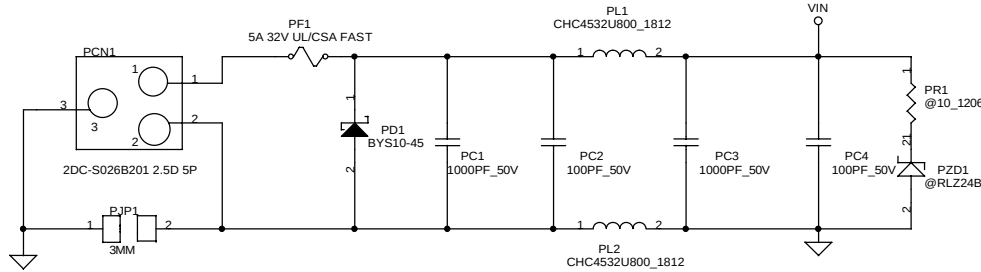
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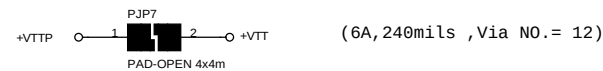
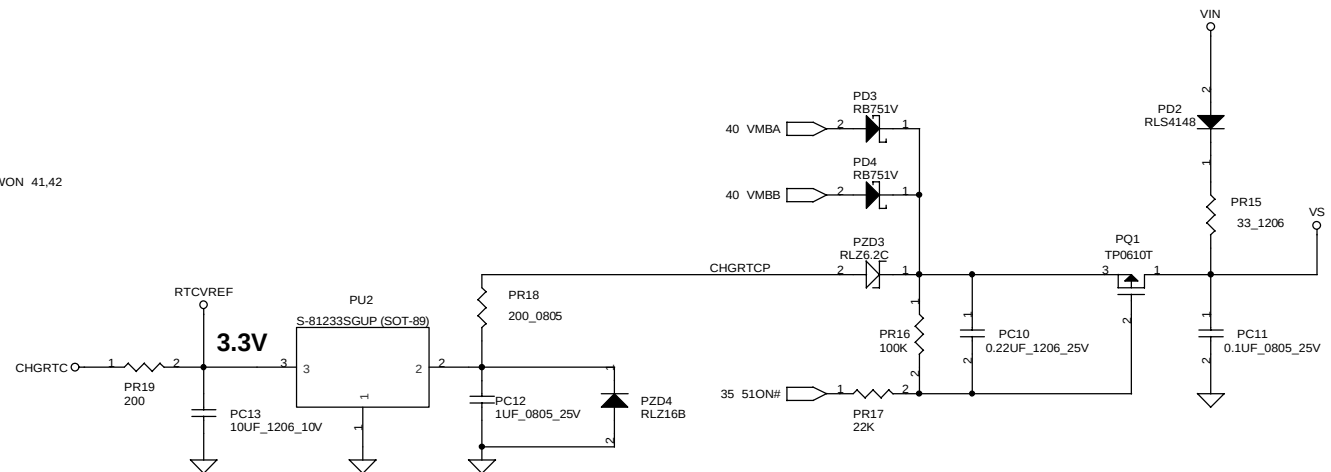
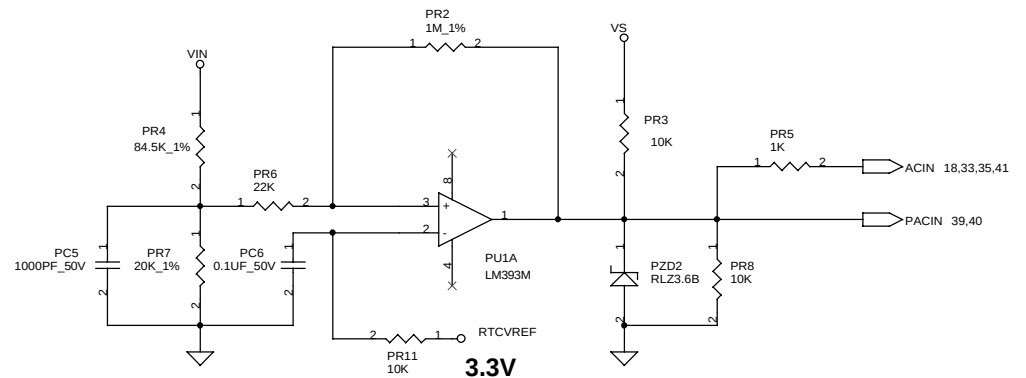
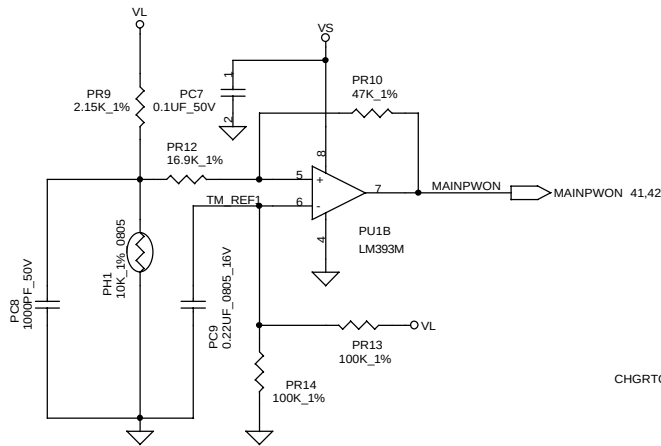
Rev
1C

Vin Detector

High 18.764 17.901 17.063
Low 17.745 16.903 16.038



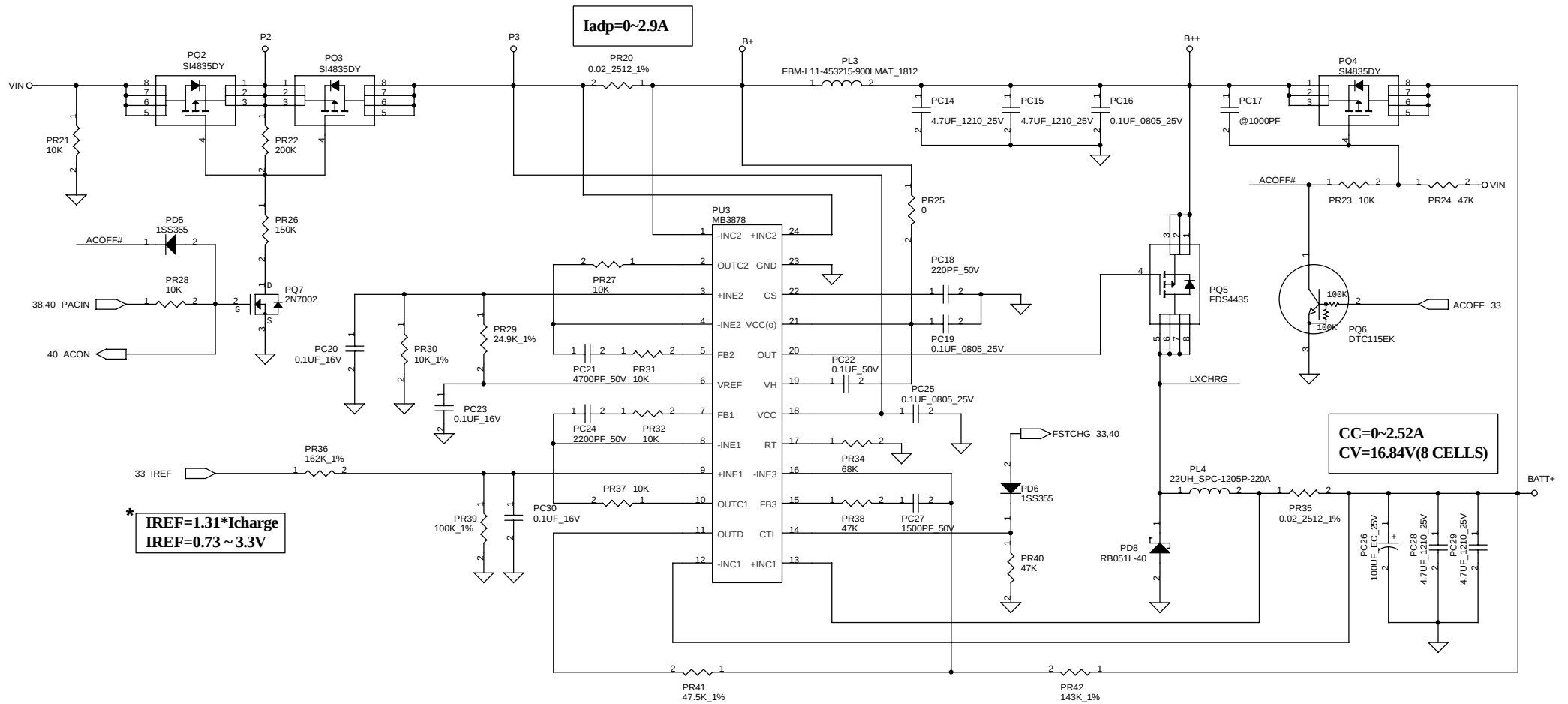
PH1 under CPU botten side :
CPU thermal protection at 82 degree C
Recovery at 50(51) degree C



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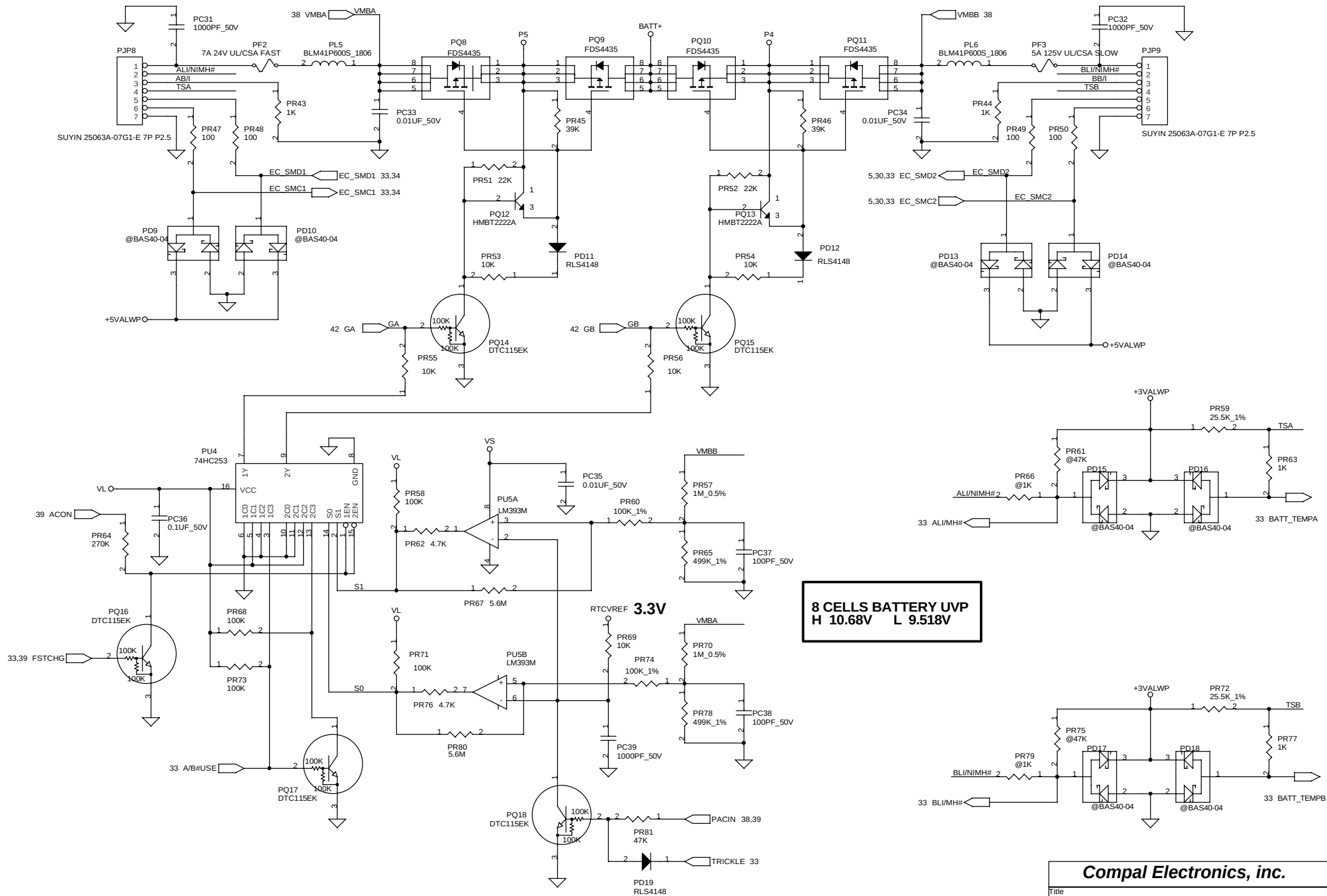
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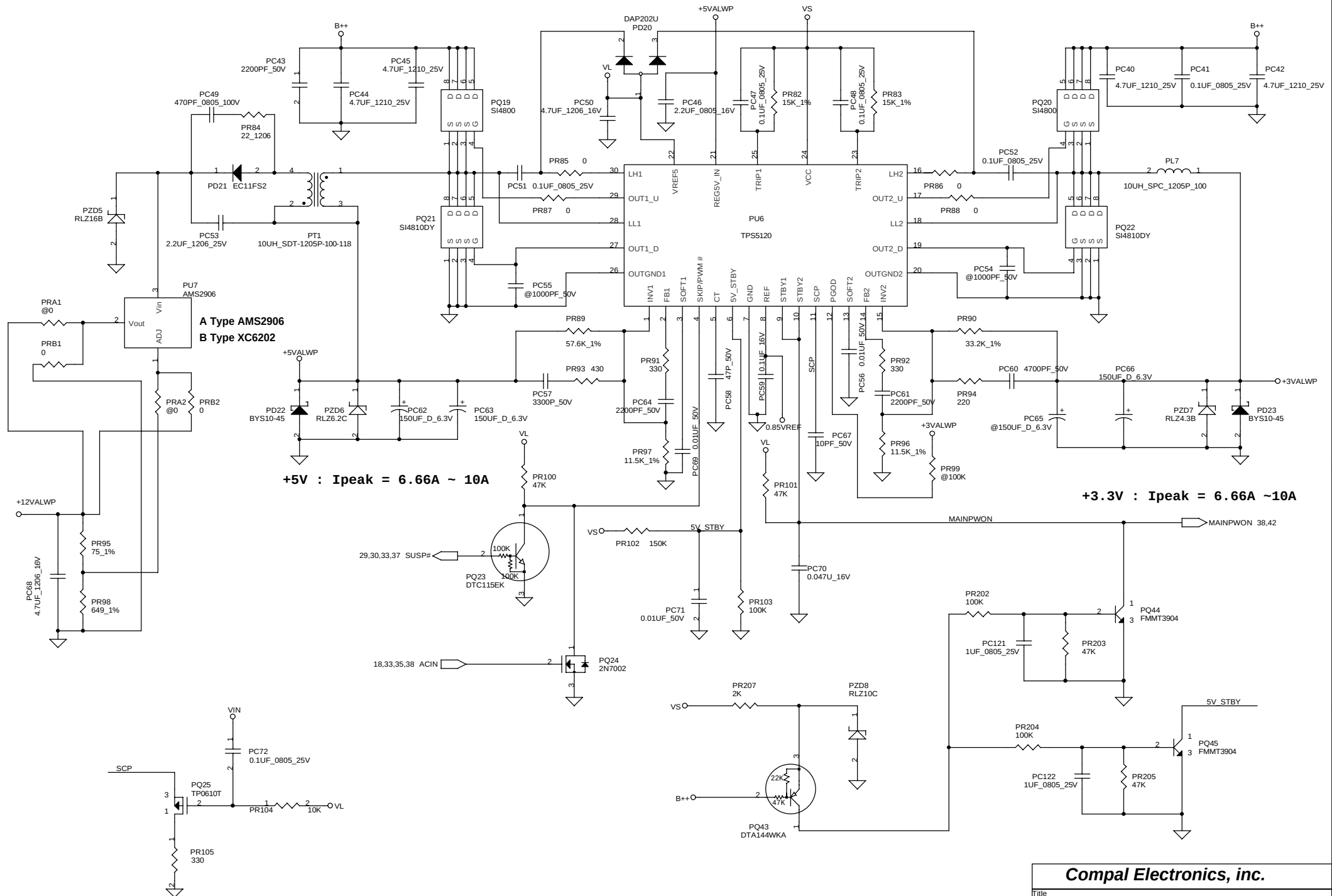
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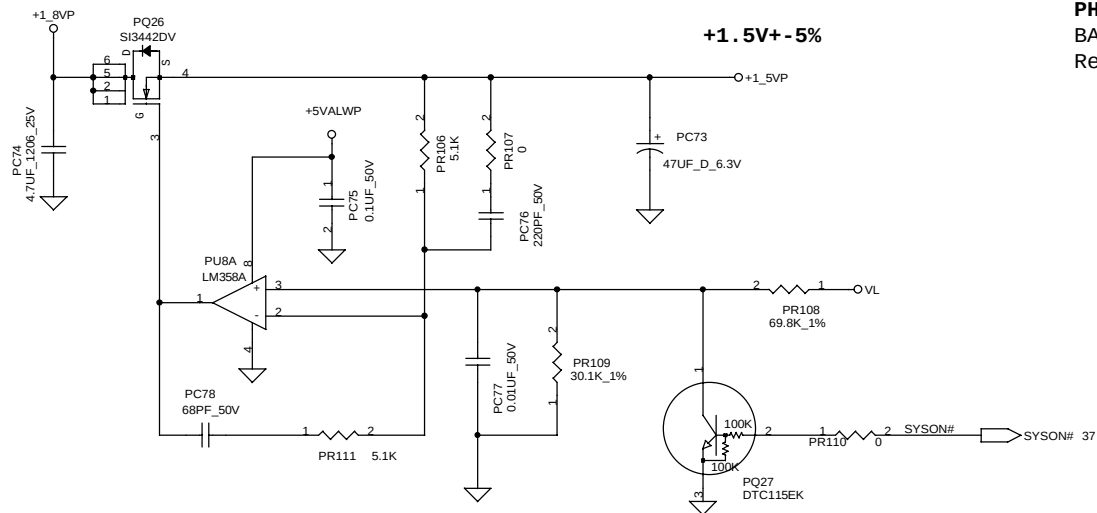
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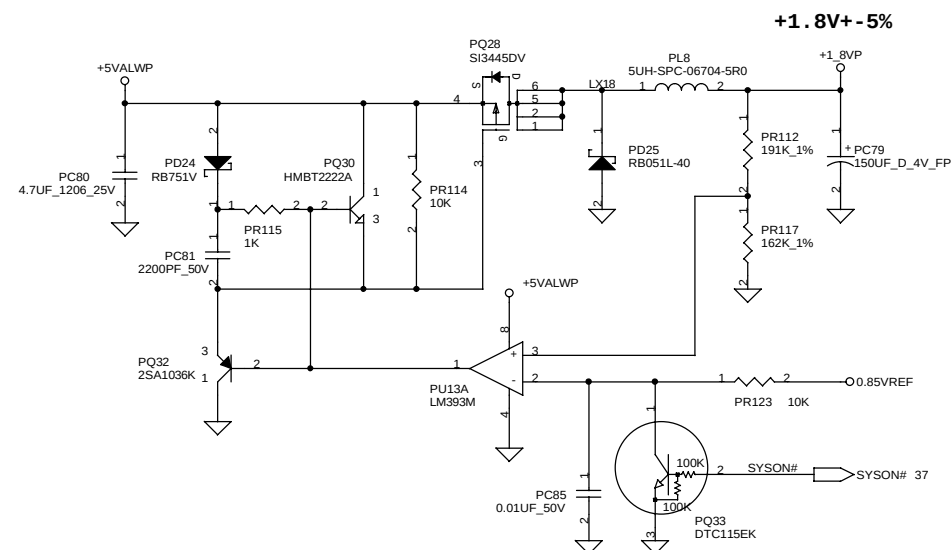
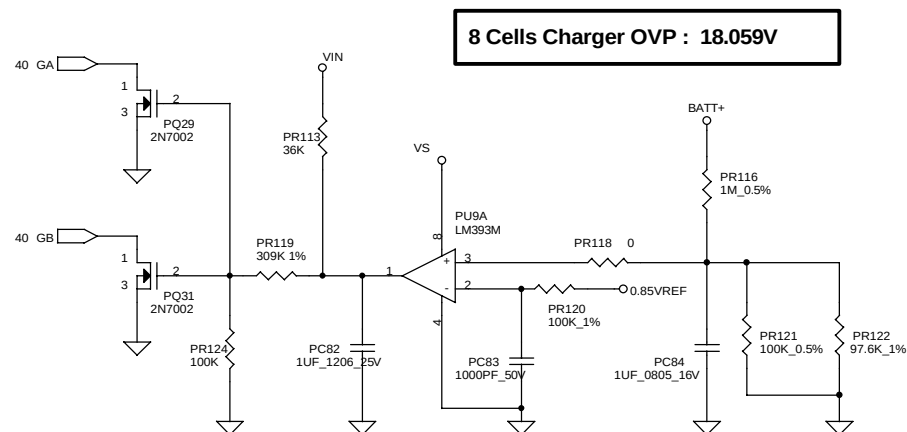
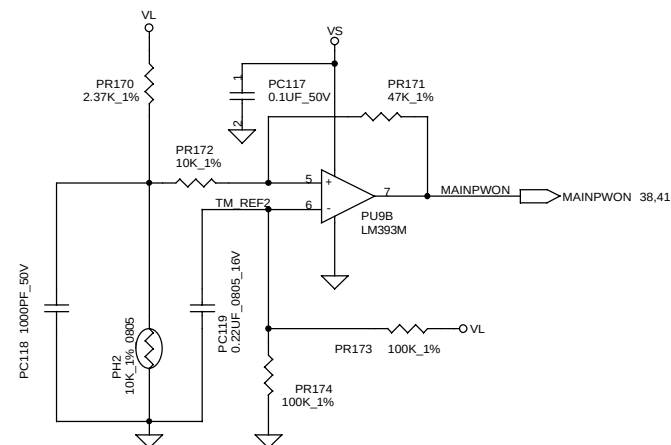


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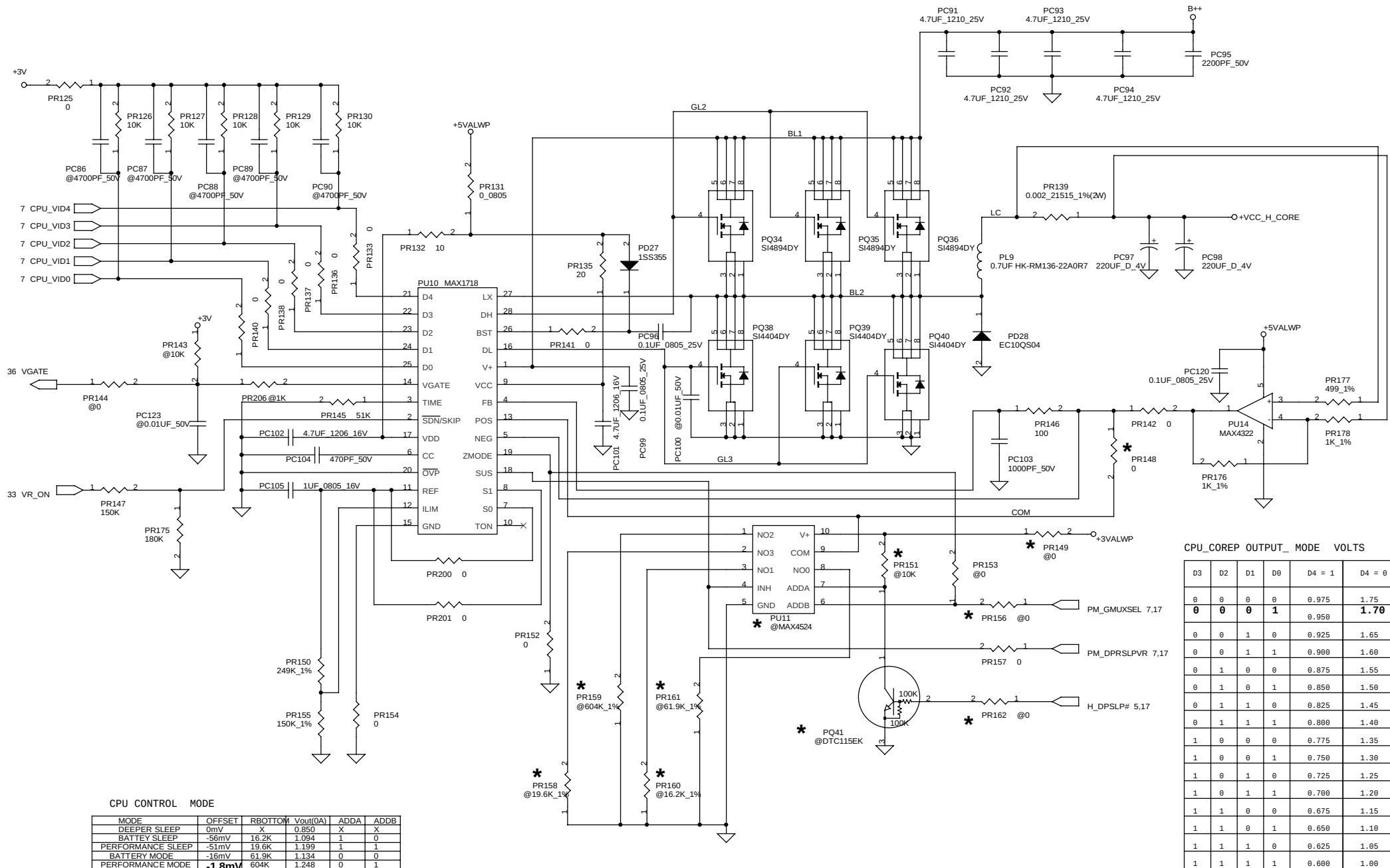
PH2 near main Battery CONN :
BAT. thermal protection at 73 degree C
Recovery at 50(51) degree C



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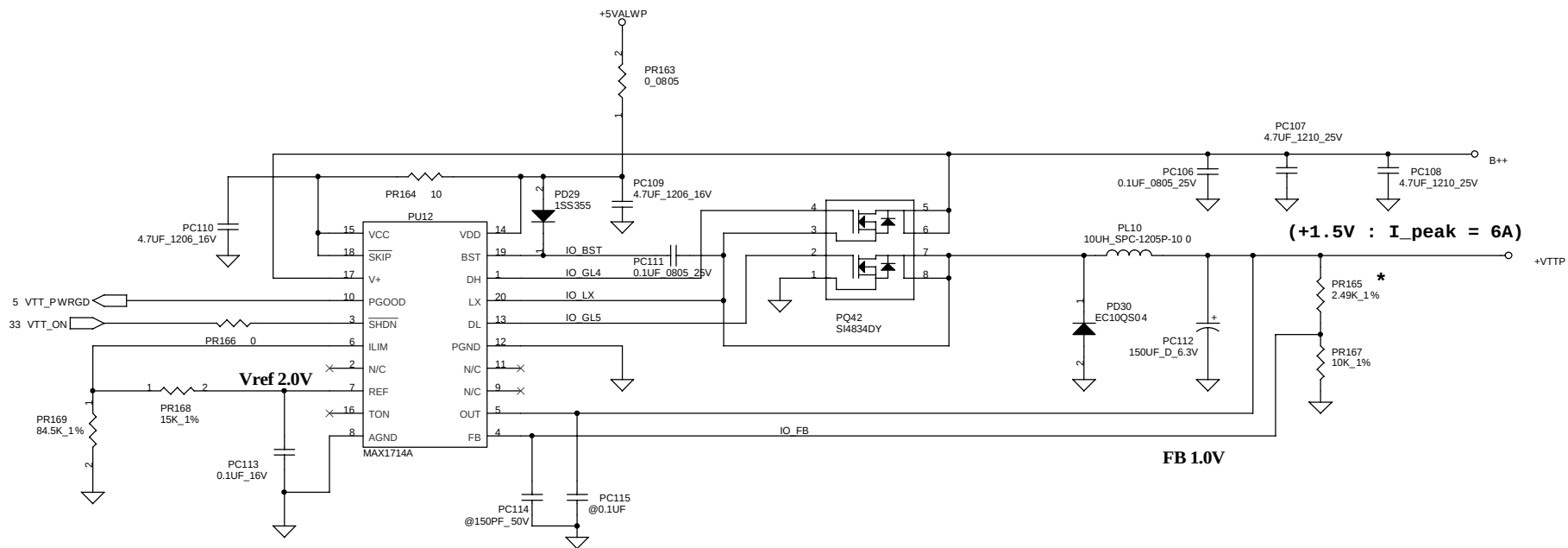
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