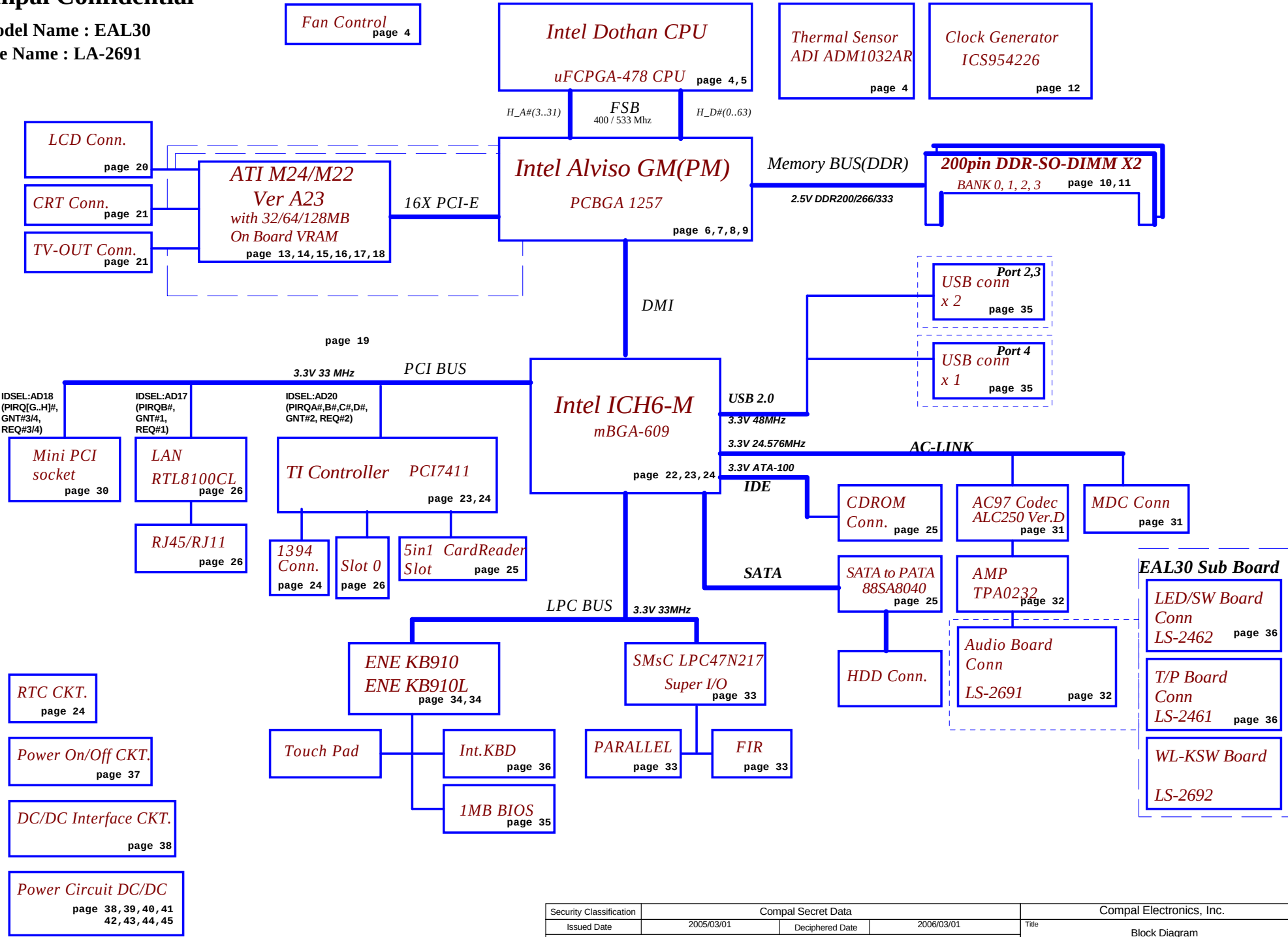


Compal Confidential

Model Name : EAL30
File Name : LA-2691



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Fortworth Alviso

EAL30 LA-2691 Schematic

uFC-PGA Dothan / 915 PM/GM/910GML
ATI M24/M24C/M22 Ver A23 with 64M/128M VRAM / ICH6-M

2005 - 03 - 01

REV:1.0

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				Size Custom	Rev 1.0
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Voltage Rails

Power Plane	Description	S0-S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit	N/A	N/A	N/A
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+1.05VS	1.05V rail for Processor I/O	ON	OFF	OFF
+1.25VS	1.25V switched power rail for DDR Vtt	ON	OFF	OFF
+VGA_CORE	1.2V/1.0V switched power rail for VGA core power	ON	OFF	OFF
+1.2VS	1.2V for VGA PCIE power	ON	OFF	OFF
+1.5VALW	1.5V always on power rail	ON	ON	ON*
+1.5VS	1.5V switched power rail	ON	OFF	OFF
+1.8VS	1.8V switched power rail for VGA frame buffer	ON	OFF	OFF
+2.5V	2.5V power rail for system DDR	ON	ON	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+3V	3.3V switched power rail	ON	ON	OFF
+3VS	3.3V switched power rail	ON	OFF	OFF
+5VALW	5V always on power rail	ON	ON	ON*
+5VS	5V switched power rail	ON	OFF	OFF
+12VALW	12V always on power rail	ON	ON	ON*
RTCVCC	RTC power	ON	ON	ON*

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

ICH6-M I2C / SMBUS ADDRESSING

DEVICE	HEX	ADDRESS
DDR SO-DIMM 0	A0	1 0 1 0 0 0 0 X
DDR SO-DIMM 1	A2	1 0 1 0 0 0 1 X
CLOCK GENERATOR (EXT.)	D2	1 1 0 1 0 0 1 X

KB910 I2C / SMBUS ADDRESSING

DEVICE	HEX	ADDRESS
SM1 24C16	A0H	1 0 1 0 0 0 0 X b
SM1 SMART BATTERY	16H	0 0 0 1 0 1 1 X b
SM2 ADM0132 CPU THERMAL MONITOR	98H	1 0 0 1 1 0 0 X b
SM2 ALC250 codec	00H	0 0 0 0 0 0 0 X b

External PCI Devices

DEVICE	PCI Device ID	IDSEL #	REQ/GNT #	PIRQ
1394	D0	AD20	2	A,B,C,D
LAN	D1	AD17	3	F
CARD BUS	D4	AD20	2	A,B,C,D
SIN1	D4	AD20	2	A,B,C,D
Mini-PCI	D2	AD18	1	G,H

Symbol note:



:means digital ground.



:means analog ground.



:means reserved.

Fortworth Alviso Comparison Table

Item	* Descrite	UMA	Page
VGA	ATi M22P/24P	UMA	15 ~ 18
VRAM	128MB/64MB	N/A	19 ~ 20

Board ID Table for AD channel

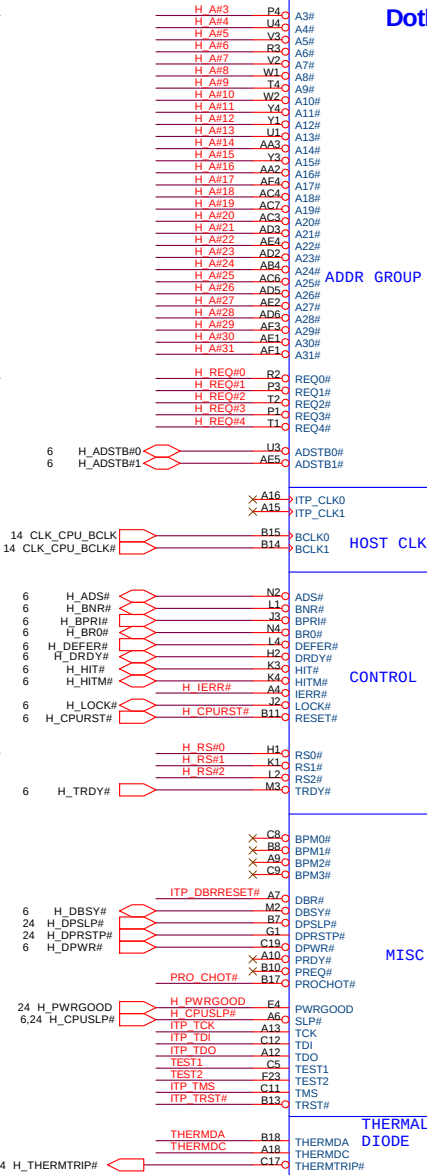
Vcc	3.3V +/- 5%			
Ra	10K +/- 5%			
BID/PID	Rb/Rc	VAD_BID min	VAD_BID typ	VAD_BID max
0	0	0 V	0 V	0.1 V
1	8.2K +/- 5%	1.412 V	1.486 V	1.560 V
2	18K +/- 5%	2.015 V	2.121 V	2.227 V
3	33K +/- 5%	2.406 V	2.533 V	2.659 V
4	56K +/- 5%	2.660 V	2.800 V	2.940 V
5	NC	3.135 V	3.300 V	3.465 V

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

6 H_A# [3..31] H_A# [3..31]

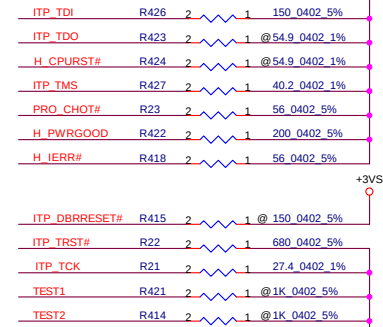
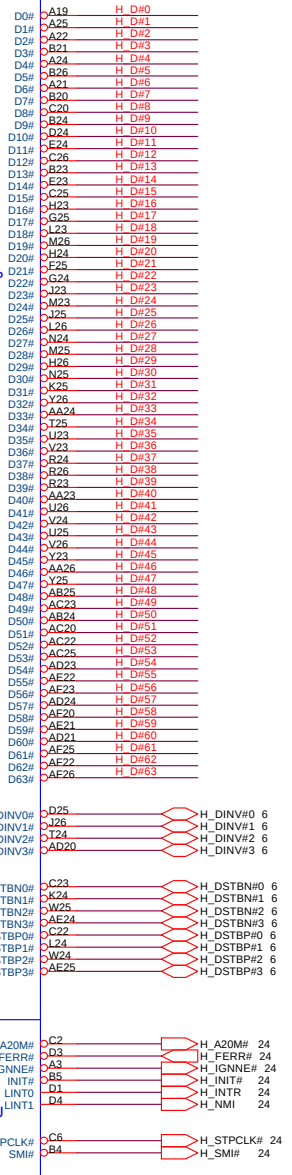
6 H_REQ# [0..4] H_REQ# [0..4]

6 H_RS# [0..2] H_RS# [0..2]

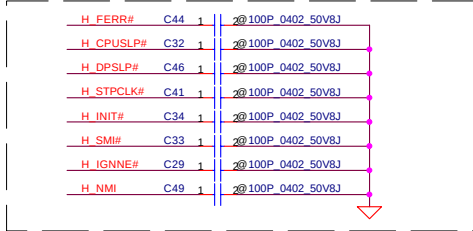


THERMDA & THERMDC Trace / Space = 10 / 10 mil

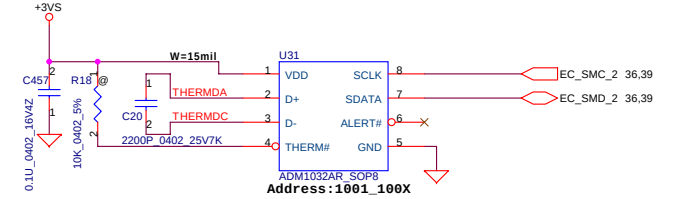
H_D# [0..63] H_D# [0..63] 6



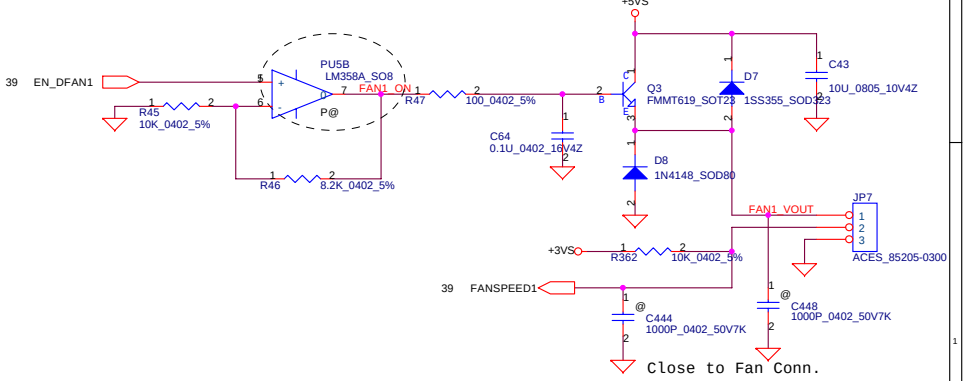
Reserve For Testability



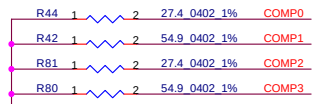
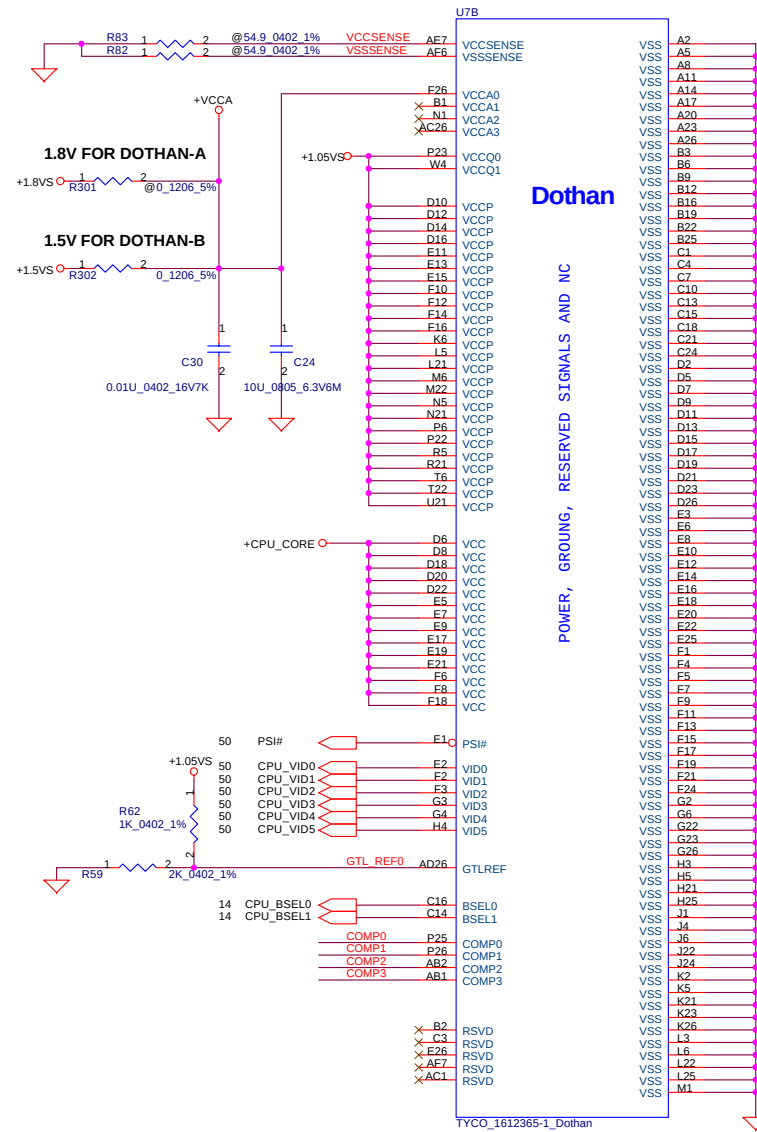
Thermal Sensor ADI ADM1032AR



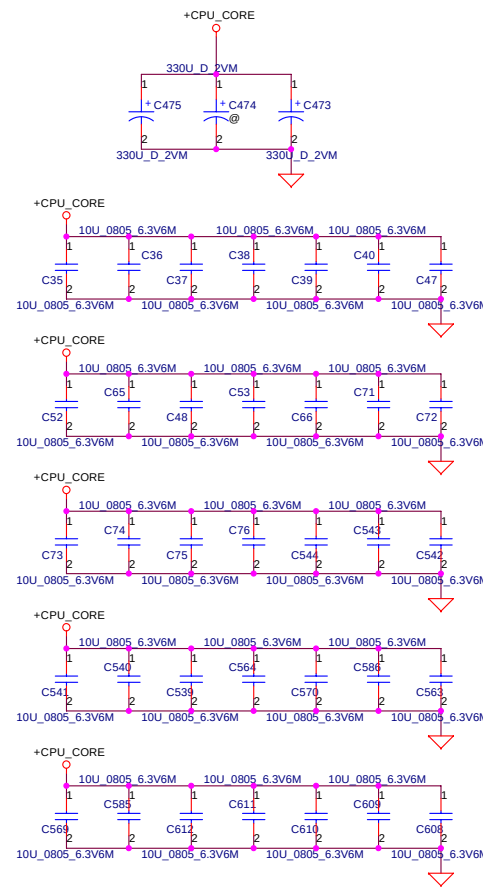
Fan Control circuit



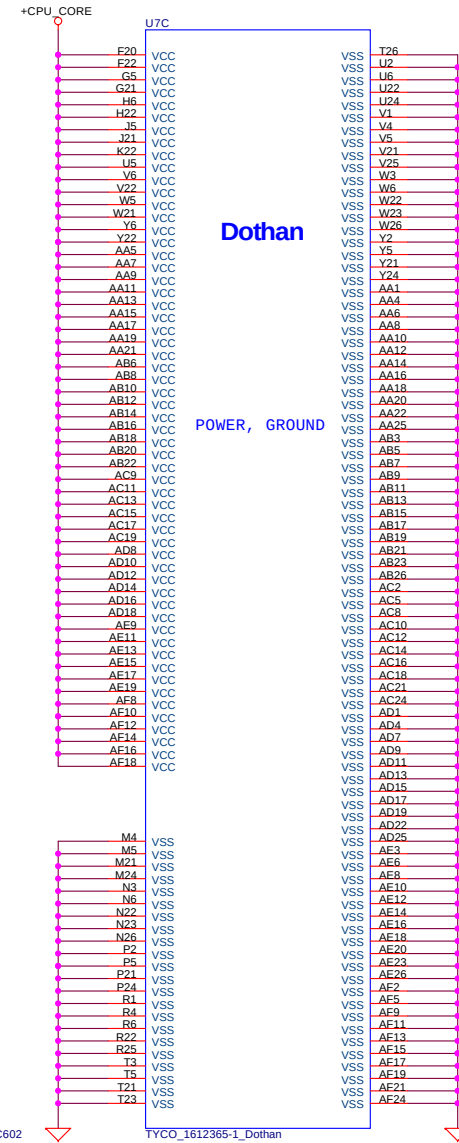
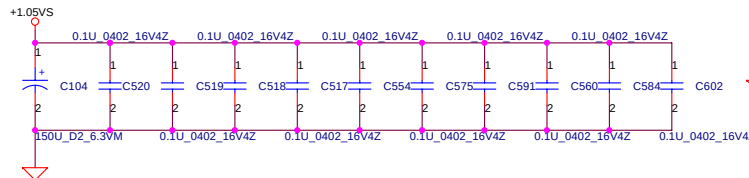
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TRACE CLOSELY CPU < 0.5'
COMP0, COMP2 layout : Width 18mils and Space 25mils
COMP1, COMP3 layout : Space 25mils



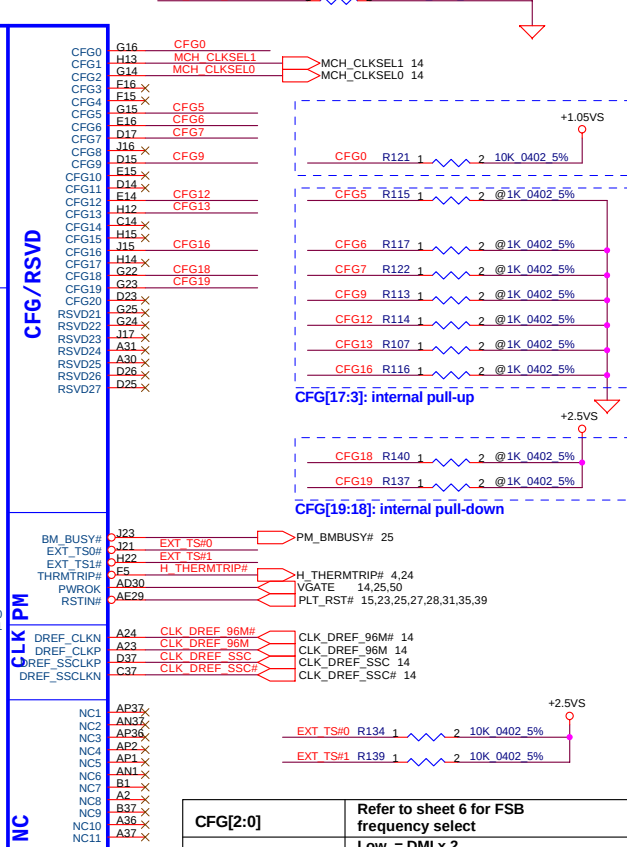
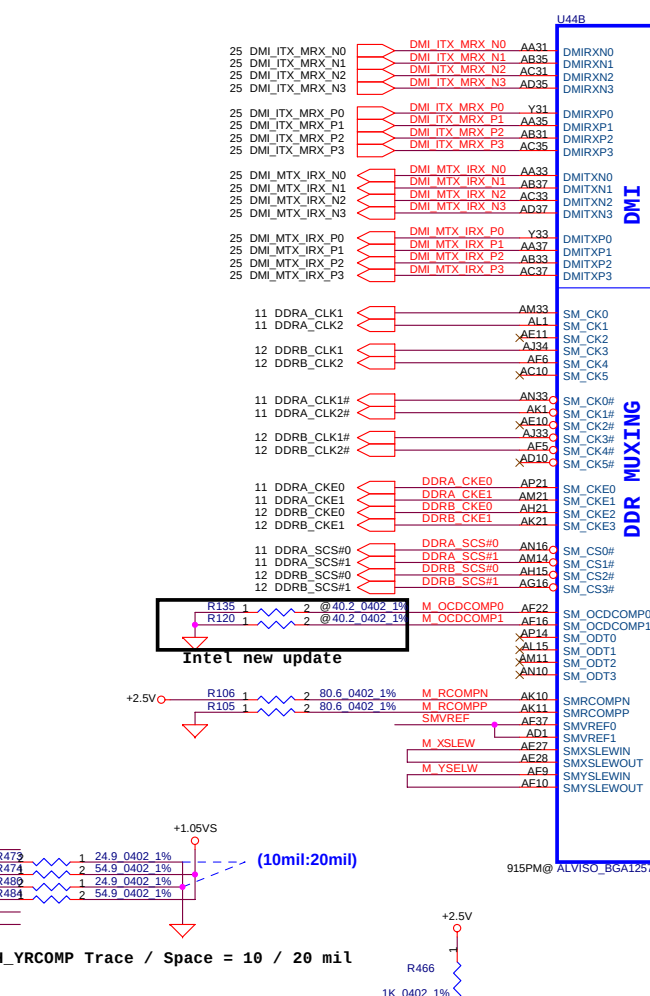
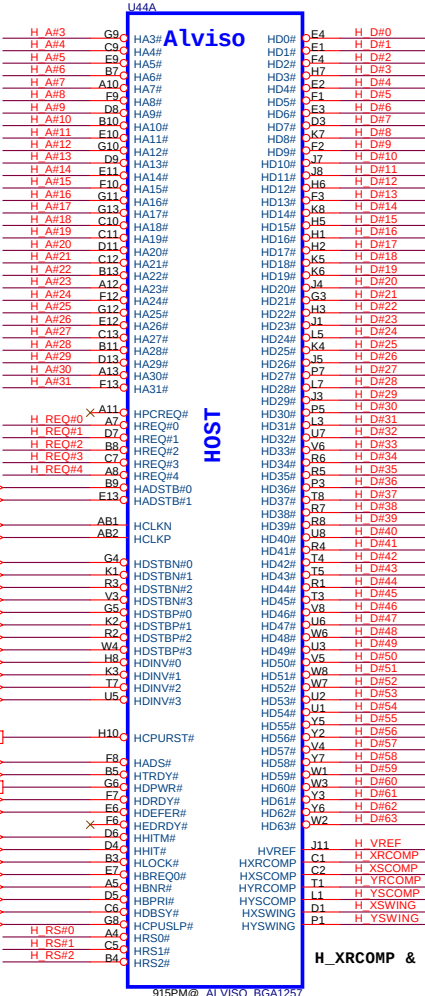
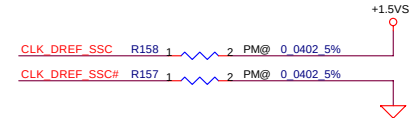
Vcc-core Decoupling	C, uF	ESR, mohm	ESL, nH
SPCAP, Polymer	3X330uF	9m ohm/3	3.5nH/4
MLCC 0805 X5R	35X10uF	5m ohm/35	0.6nH/35



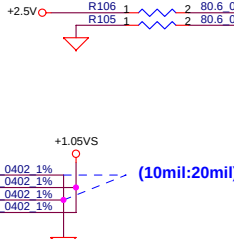
Dothan

POWER, GROUND

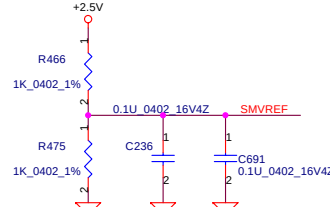
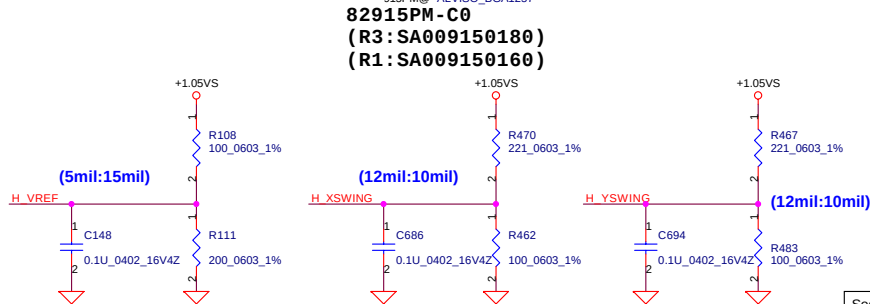
TYCO_1612365-1 Dothan



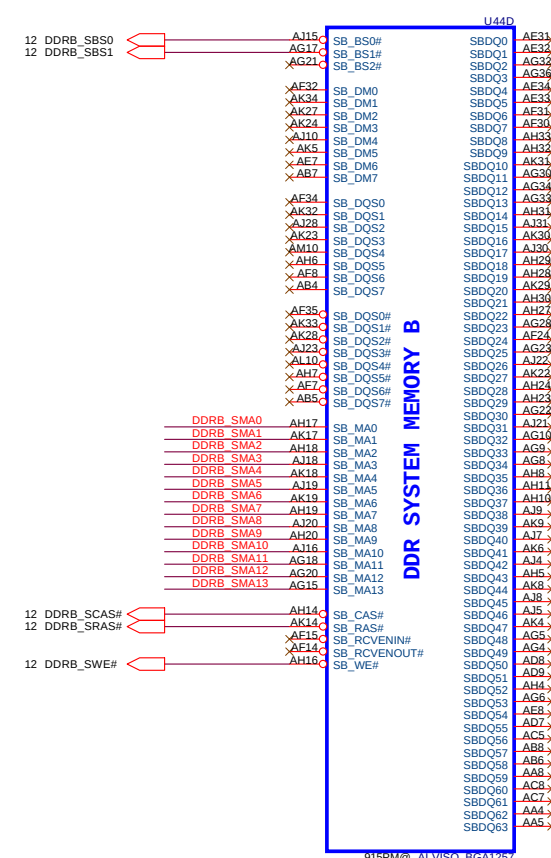
Intel new update

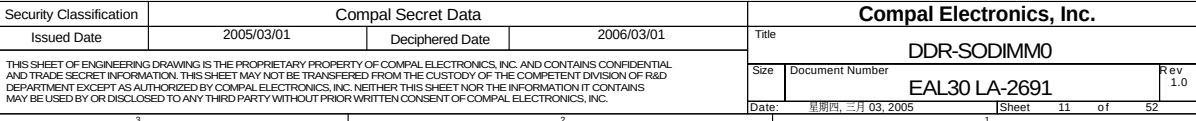


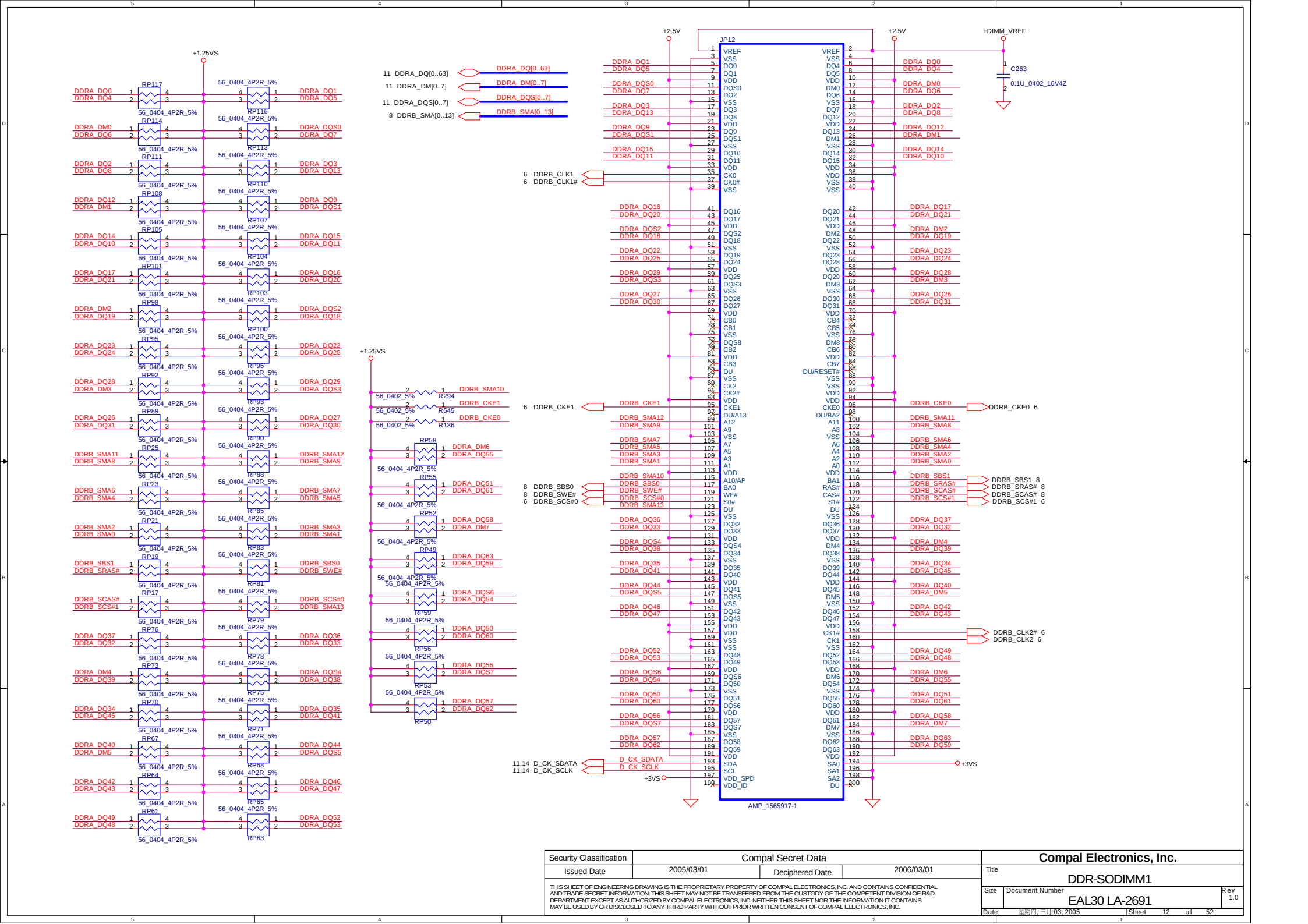
H_XRCOMP & H_YRCOMP Trace / Space = 10 / 20 mil



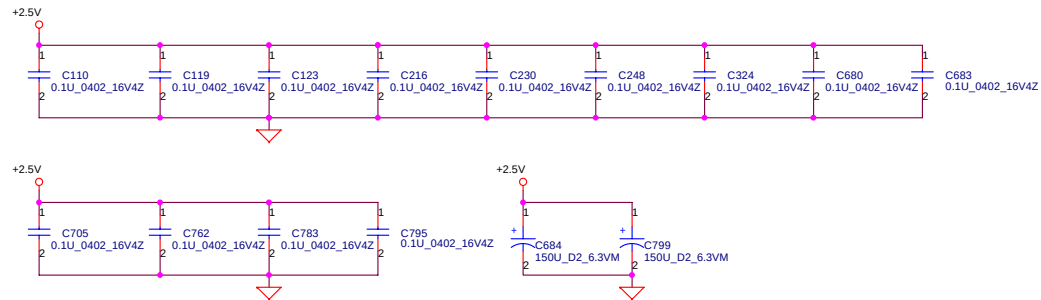
CFG[2:0]	Refer to sheet 6 for FSB frequency select
CFG5	Low = DMI x 2 High = DMI x 4 *
CFG6	Low = DDR-II High = DDR-I *
CFG7	Low = DT/Transportable CPU High = Mobile CPU *
CFG9	Low = Reverse Lane High = Normal Operation *
CFG[13:12]	00 = Reserved 01 = XOR Mode Enabled 10 = All Z Mode Enabled 11 = Normal Operation (Default) *
CFG16 (FSB Dynamic ODT)	Low = Disabled High = Enabled *
CFG18 (VCC Select)	Low = 1.05V (Default) * High = 1.5V
CFG19 (VTT Select)	Low = 1.05V (Default) * High = 1.2V



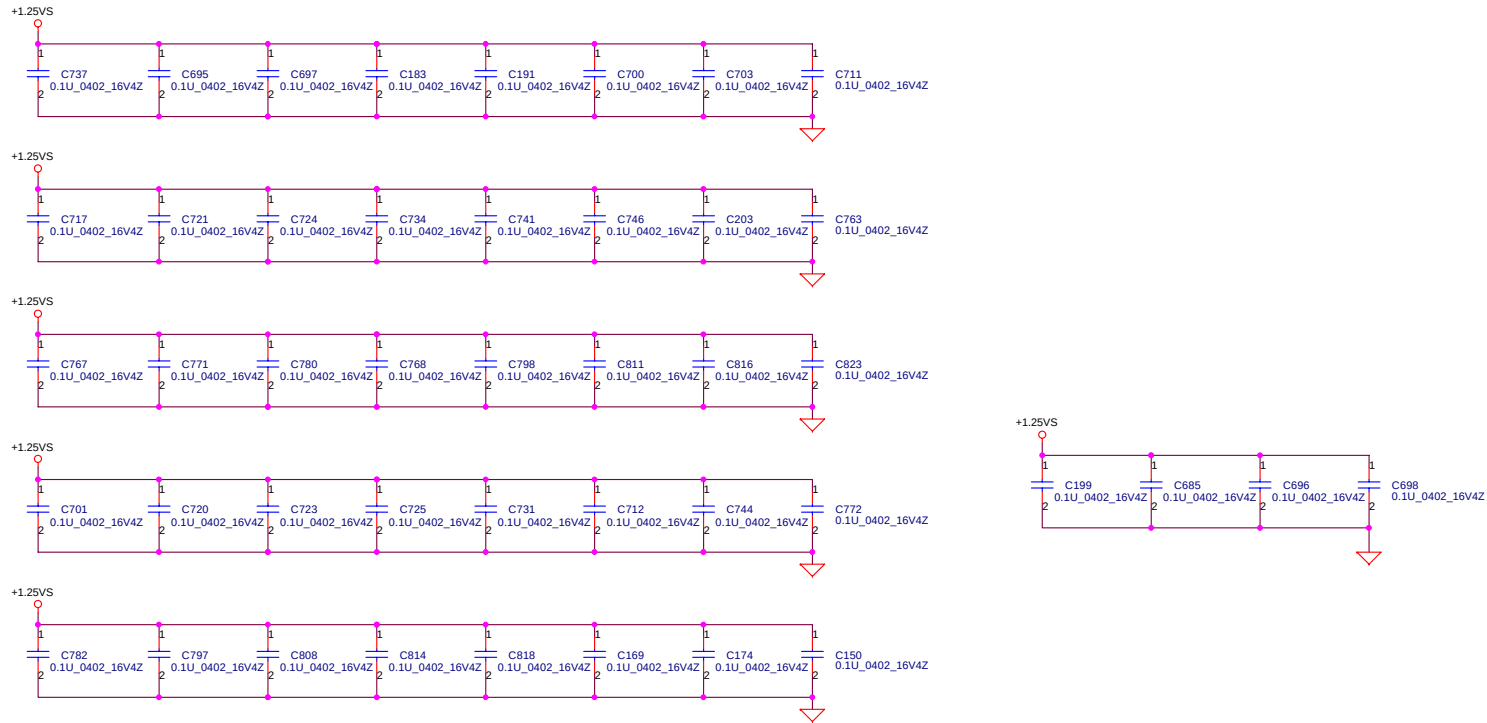




Layout note :
Distribute as close as possible
to DDR-SODIMM.

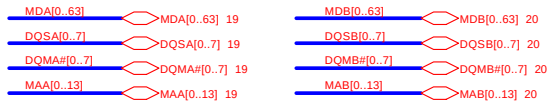


Layout note :
Place one cap close to every 2 pull up resistors termination to
+1.25V



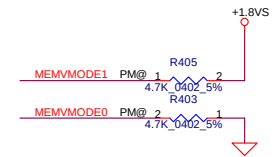


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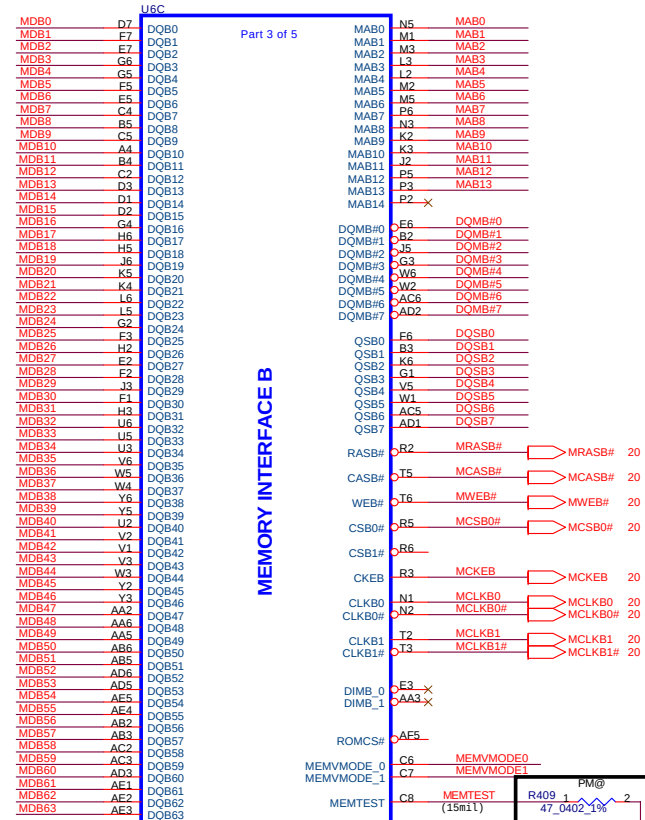
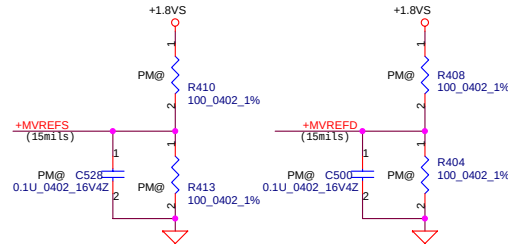


Memory speed MAX200MHZ

	MEMVMODE0	MEMVMODE1
M22/24(1.8V VRAM)	Pull-low	Pull-high
M26(1.8V VRAM)	NC	NC



M24P_BGA708
M24@

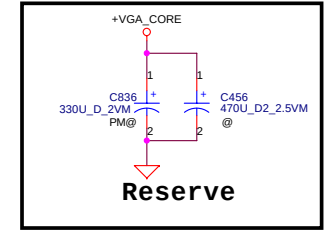
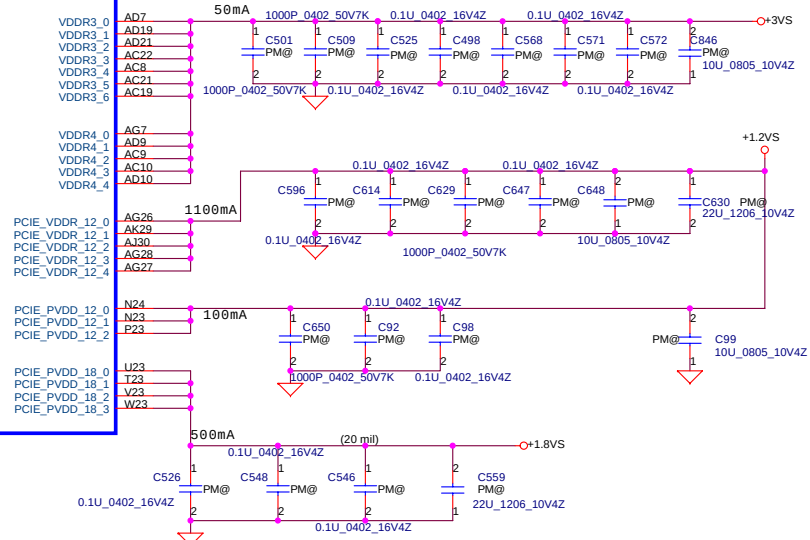
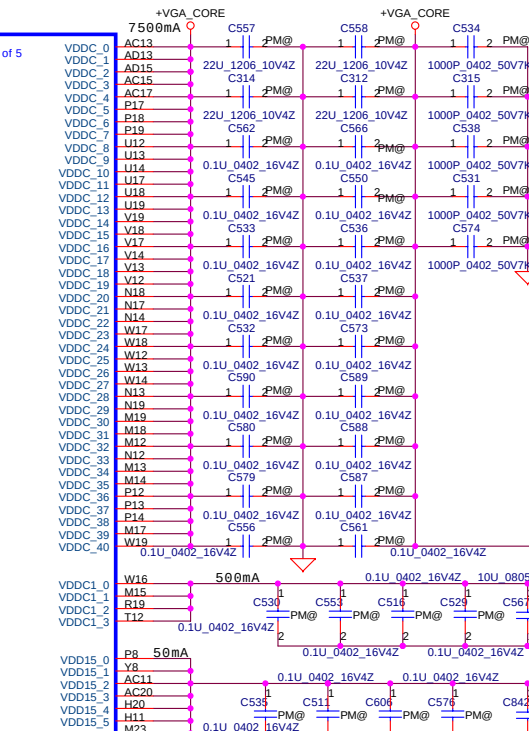
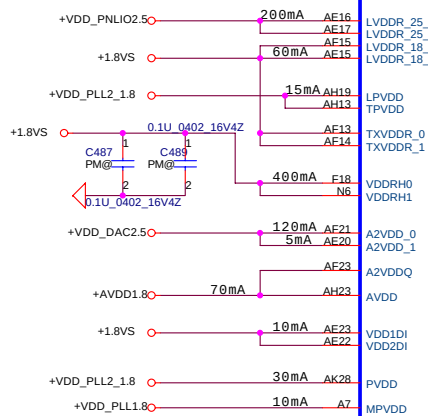
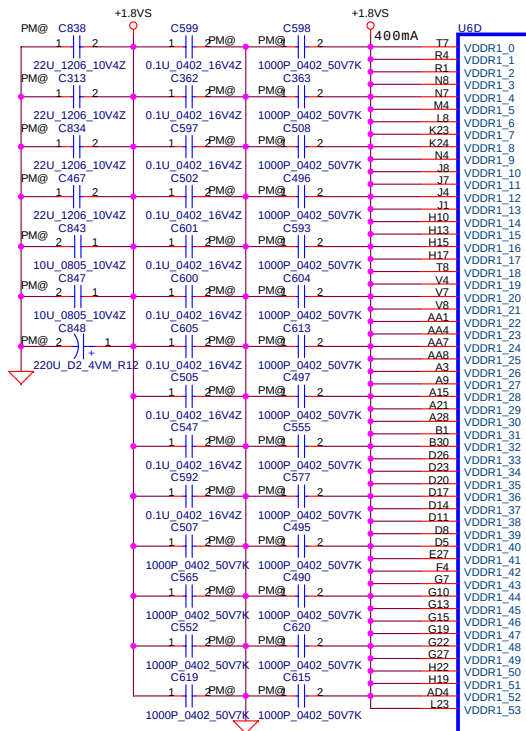
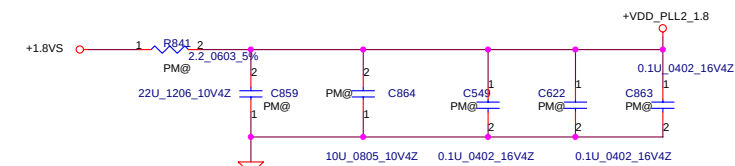
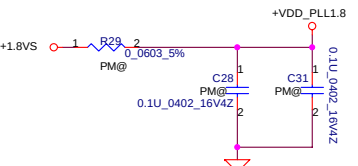
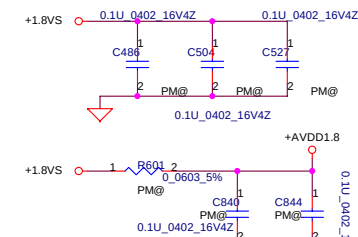
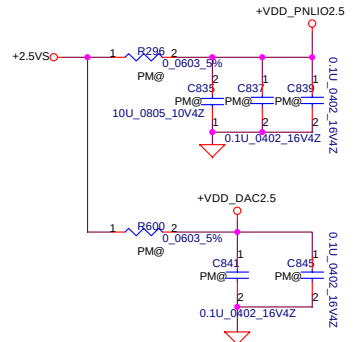


MEMORY INTERFACE B

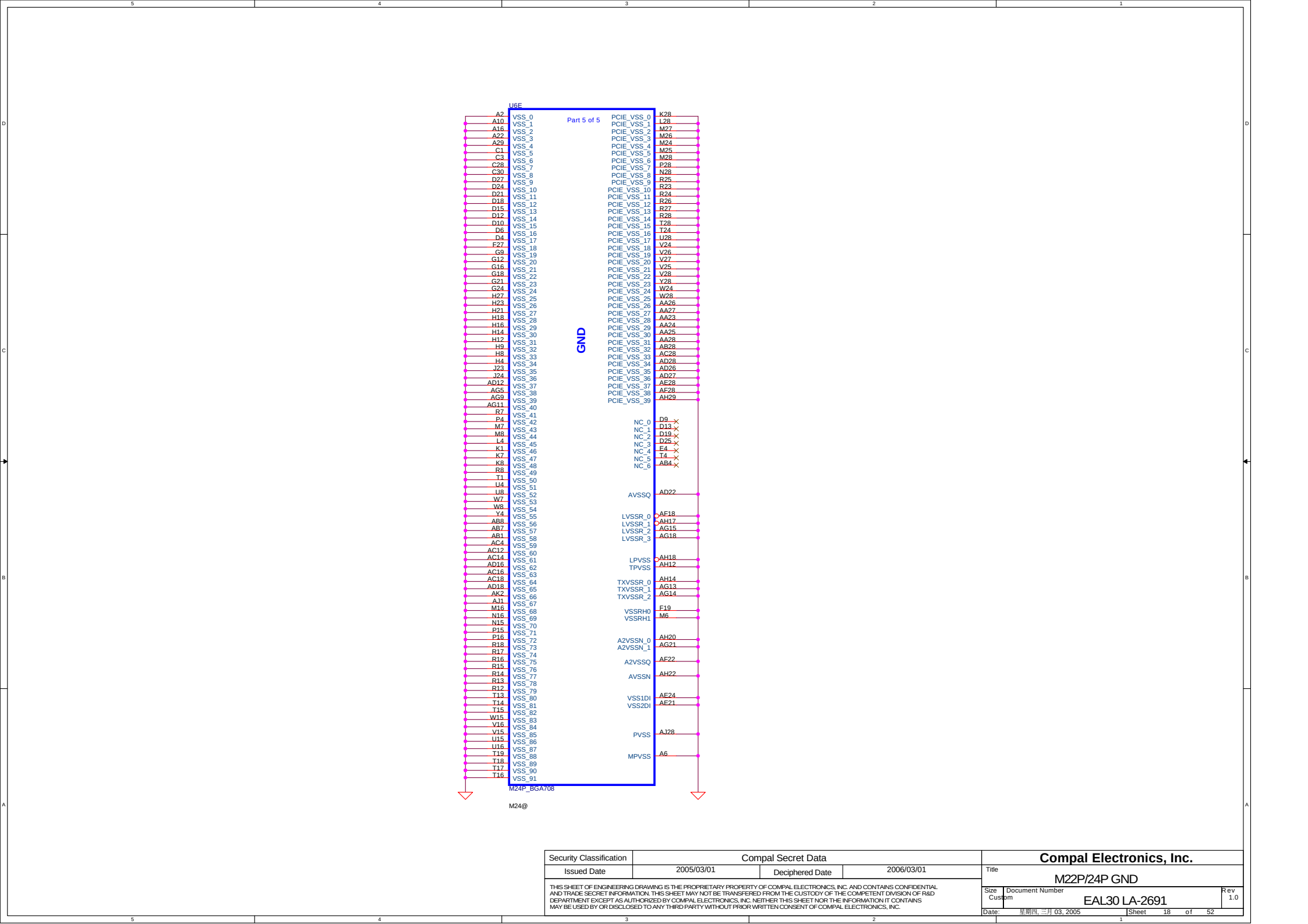
change to 240 ohm when use M26

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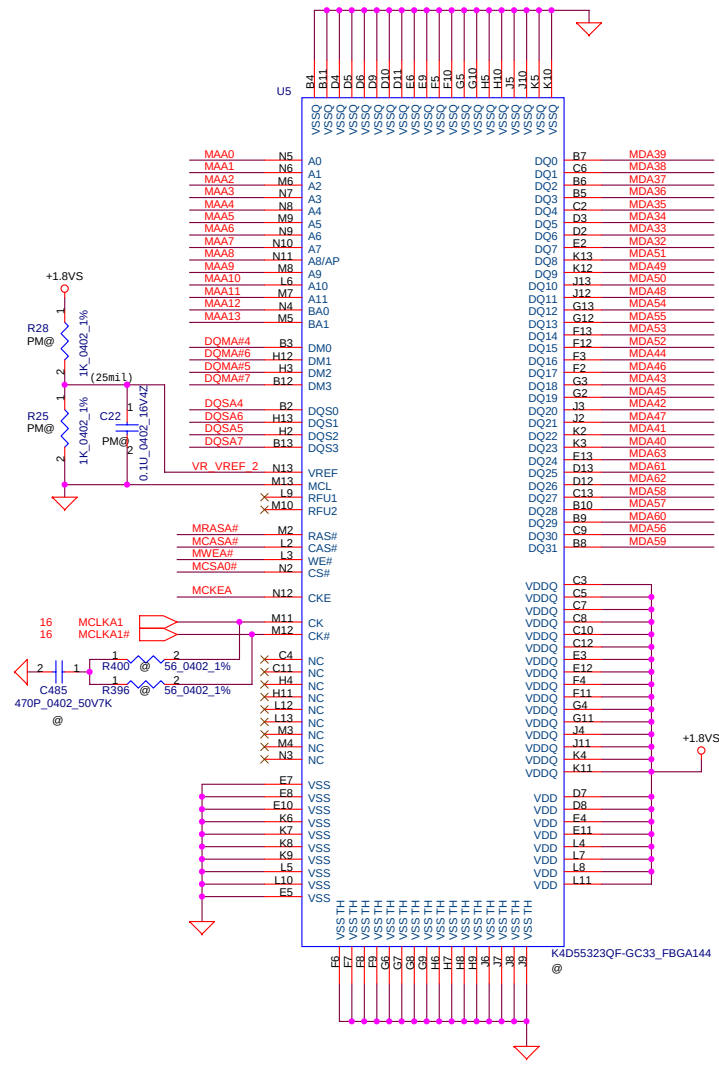
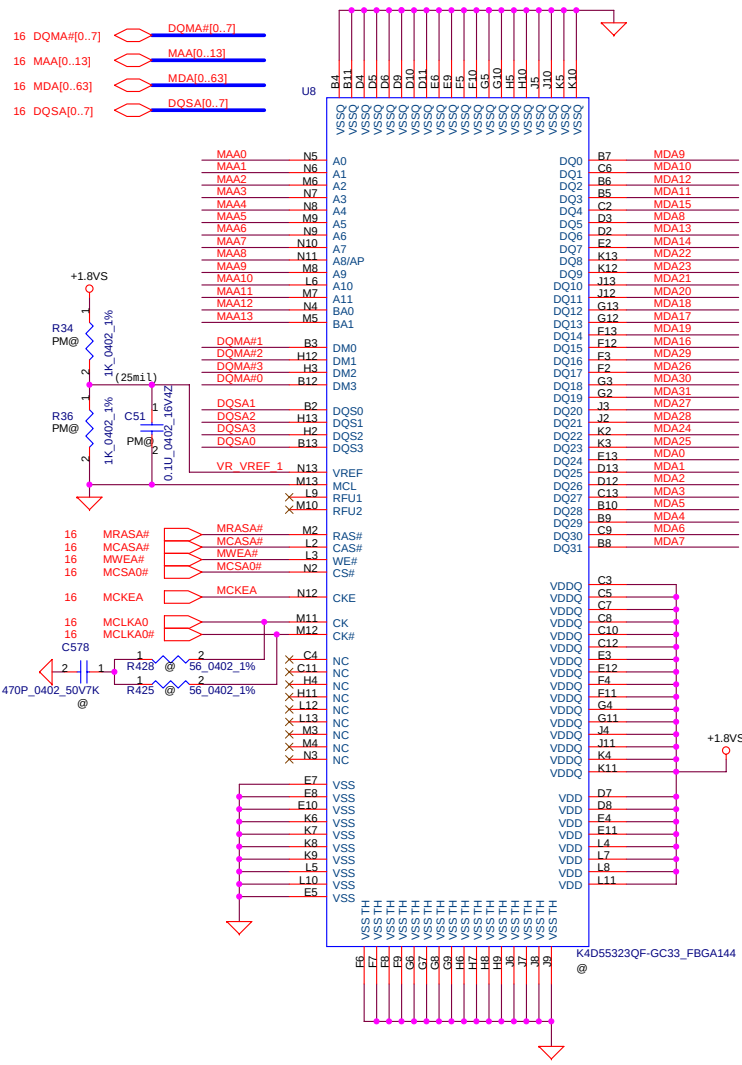
SA052050010(MIC5205-2.8BM5), max:150mA



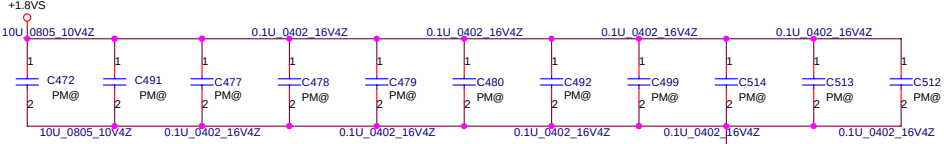
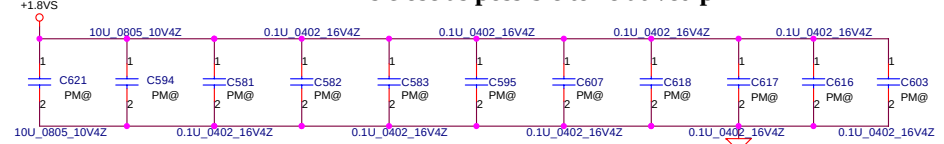
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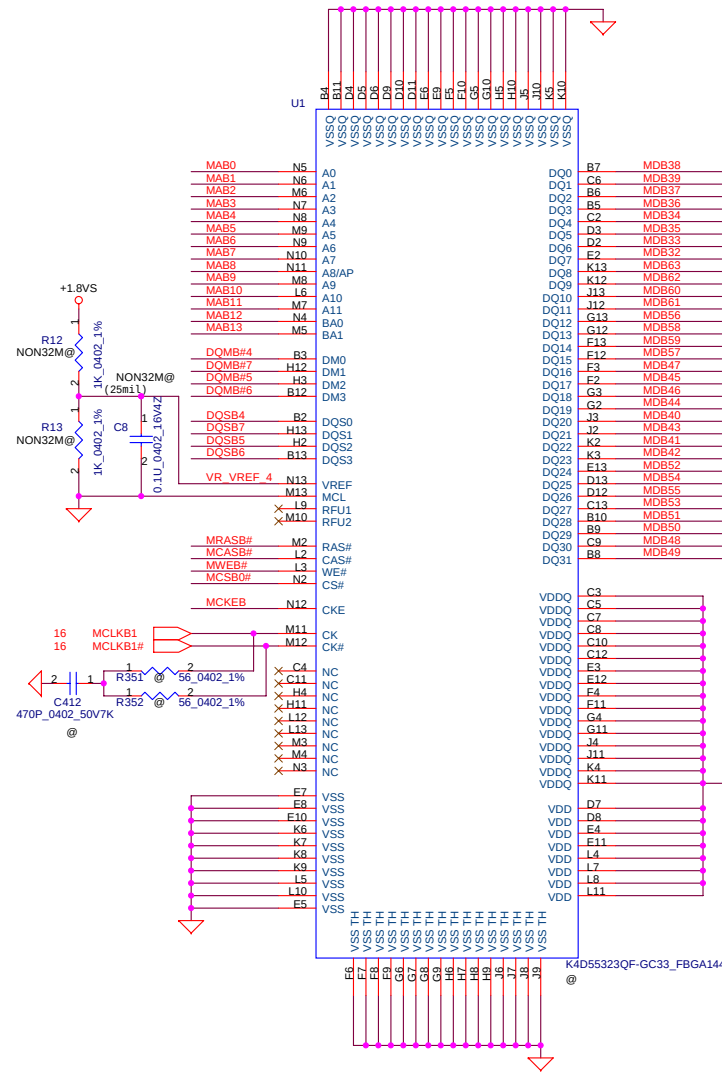
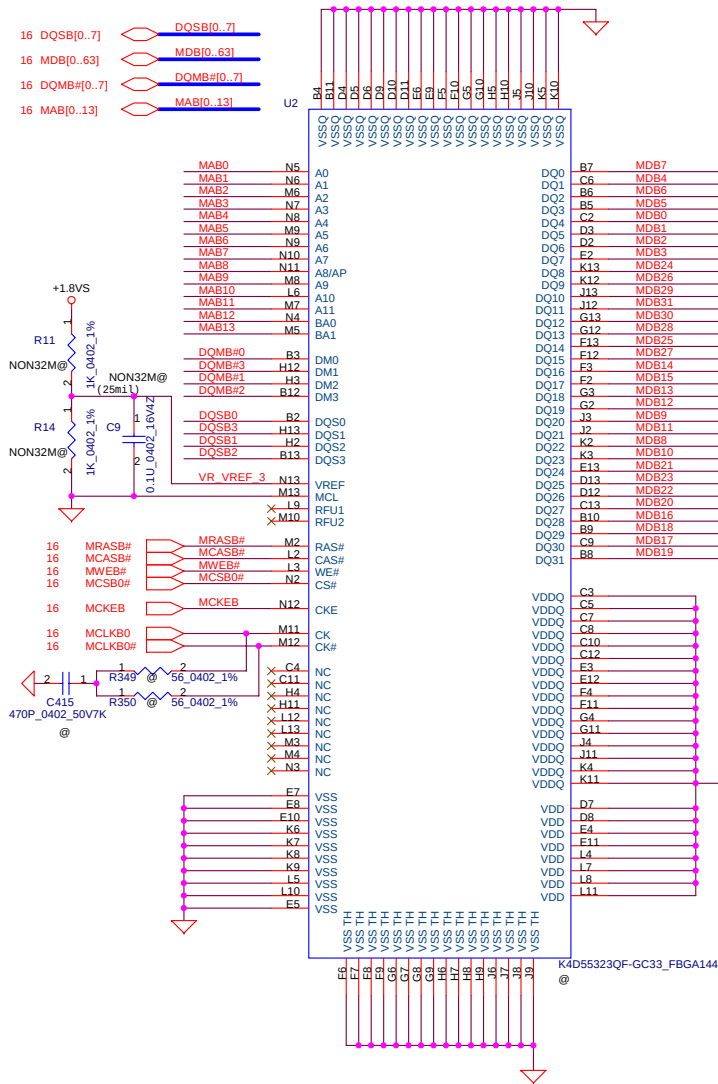
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						Size	Document Number	Rev
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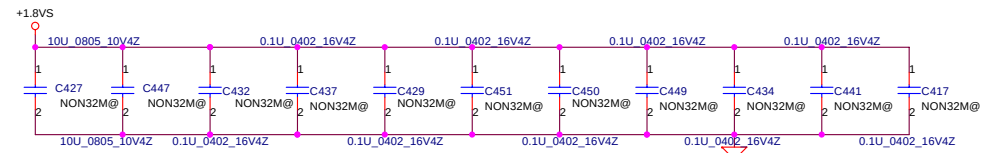
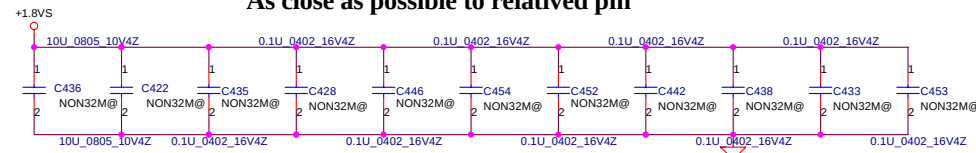
As close as possible to related pin



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Size		Document Number		Rev
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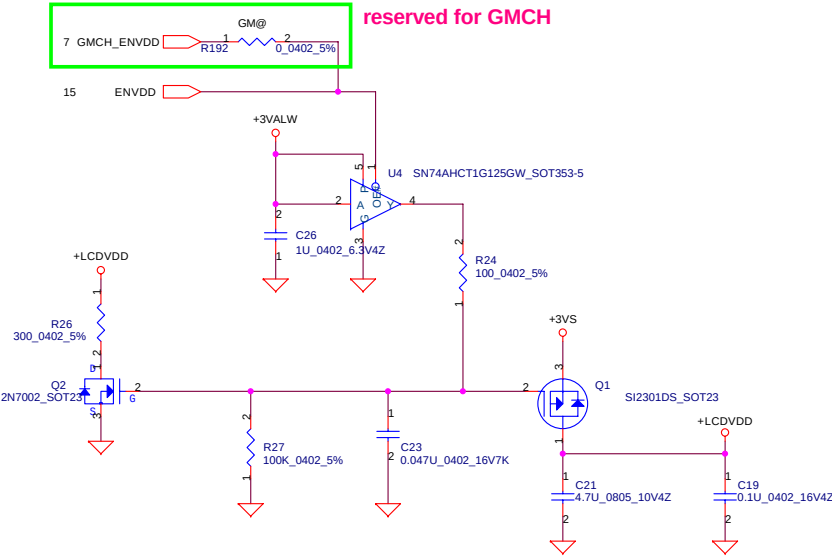


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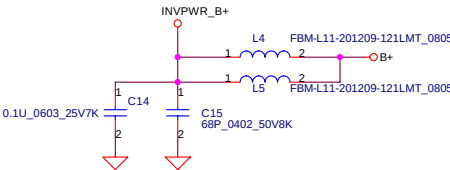
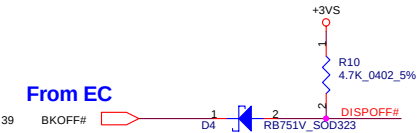


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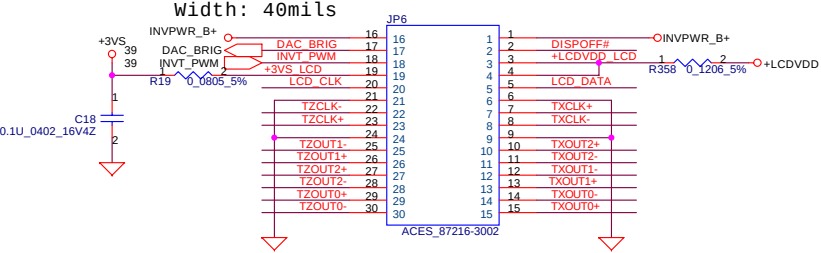
LCD POWER CIRCUIT



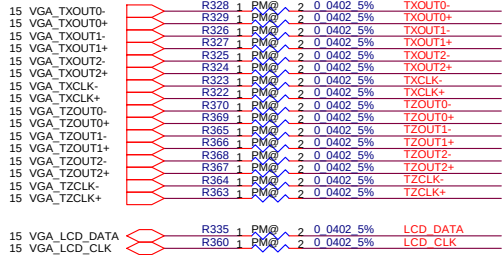
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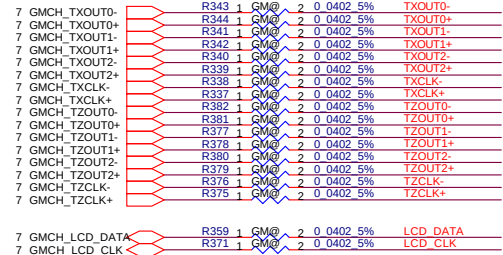
LCD CONN.



For ATI M24

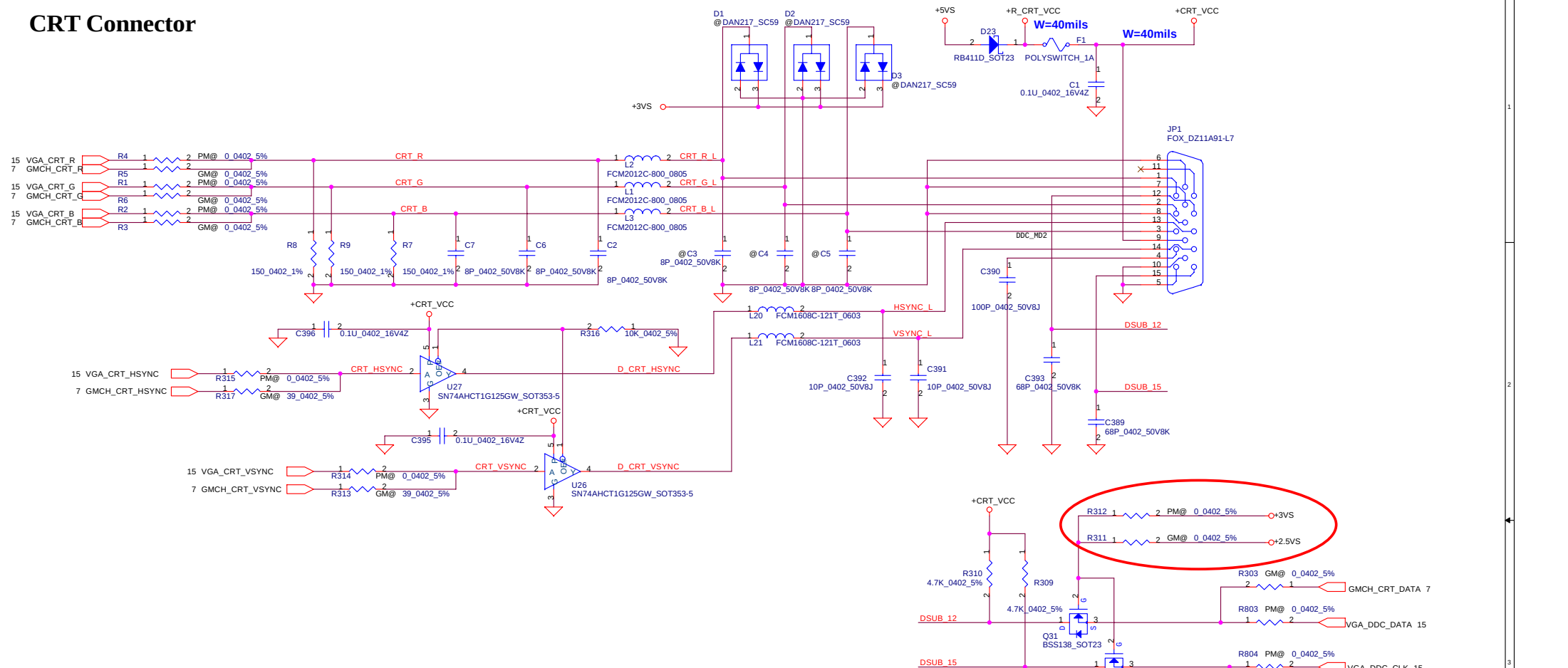


For GMCH

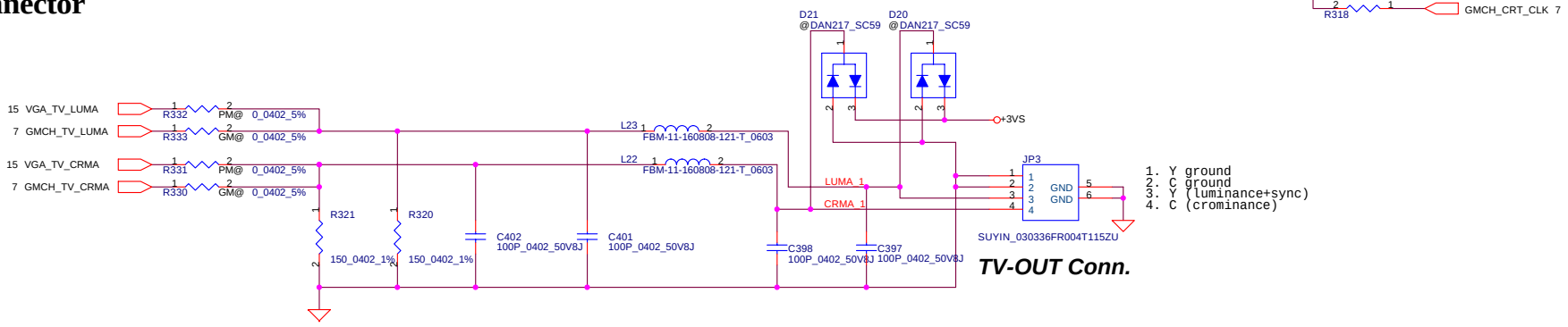


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								Size		Document Number		Rev	
								Custom		EAL30 LA-2691		1.0	
								Date:		星期四, 三月 03, 2005		Sheet 21 of 52	

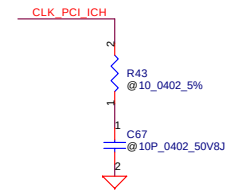
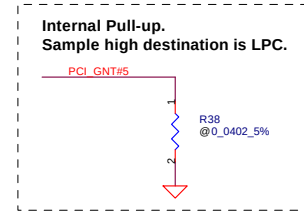
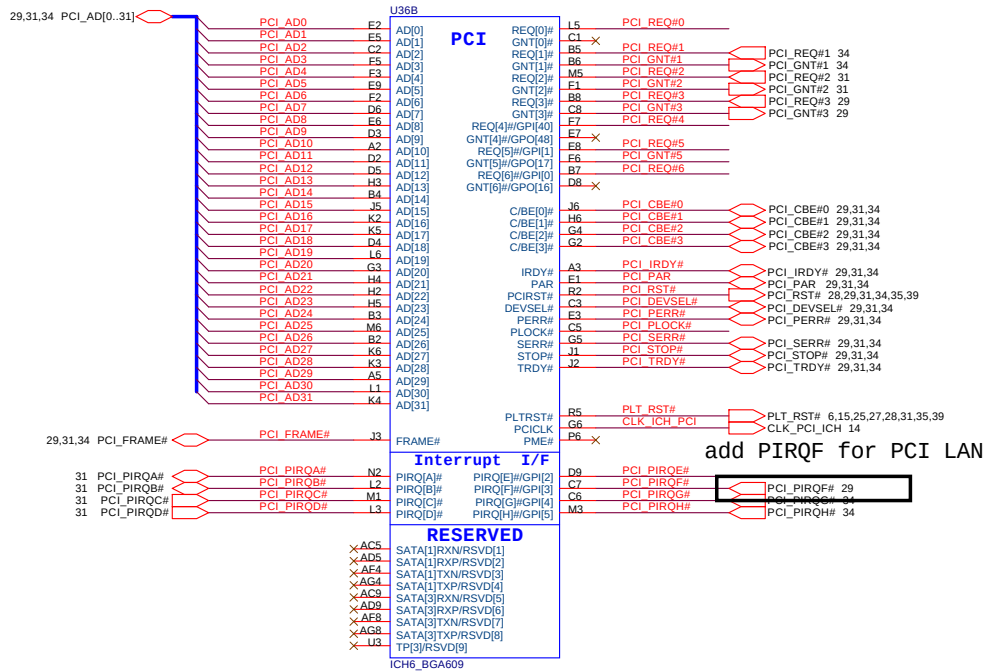
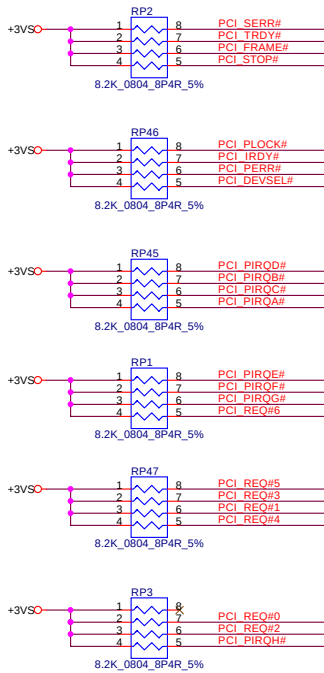
CRT Connector



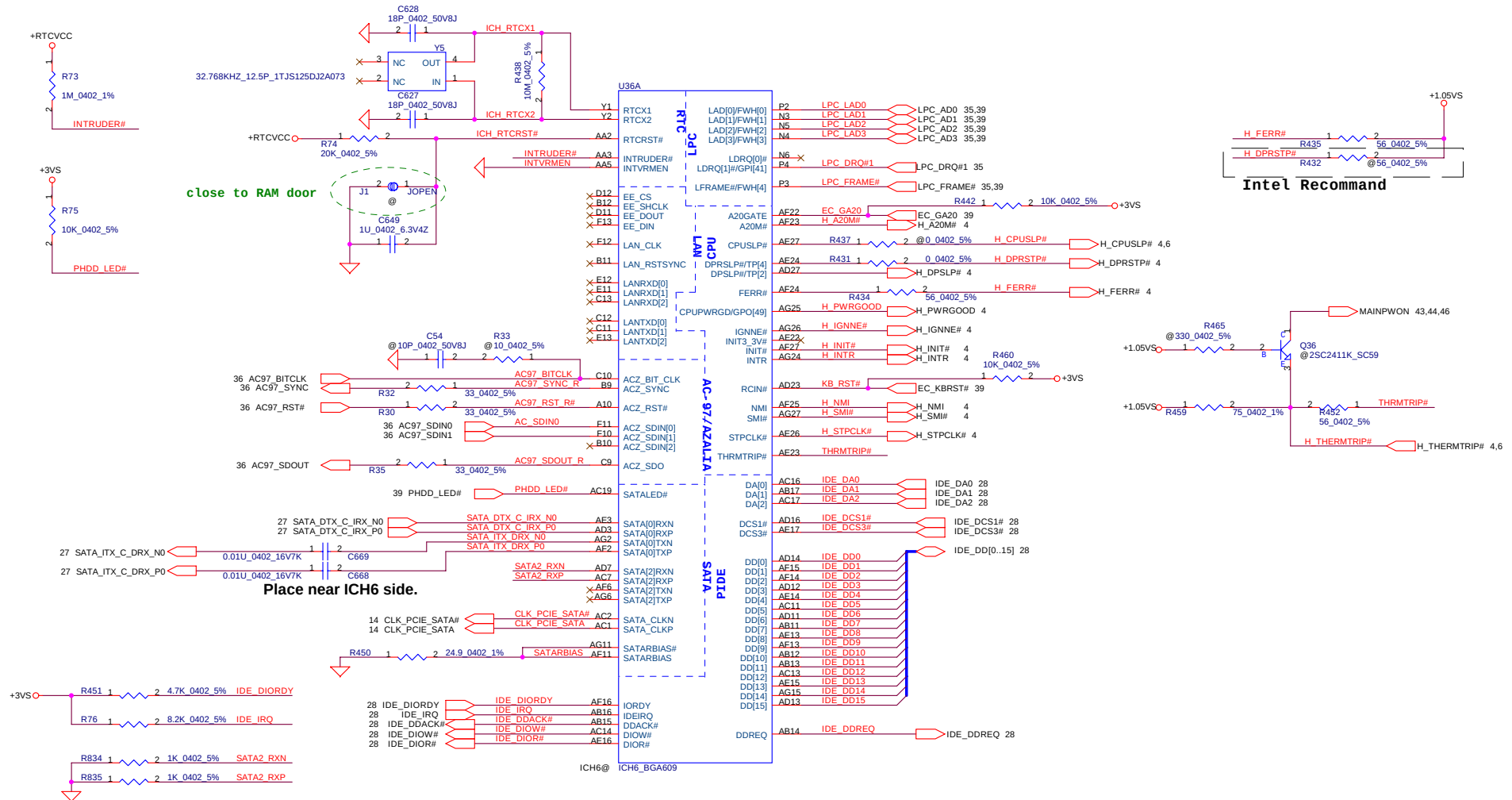
TV-Out Connector



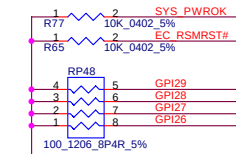
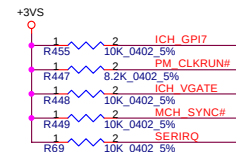
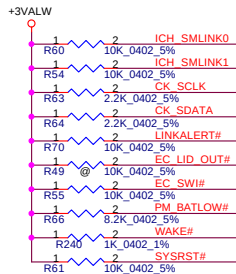
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Intel new update

Intel new update

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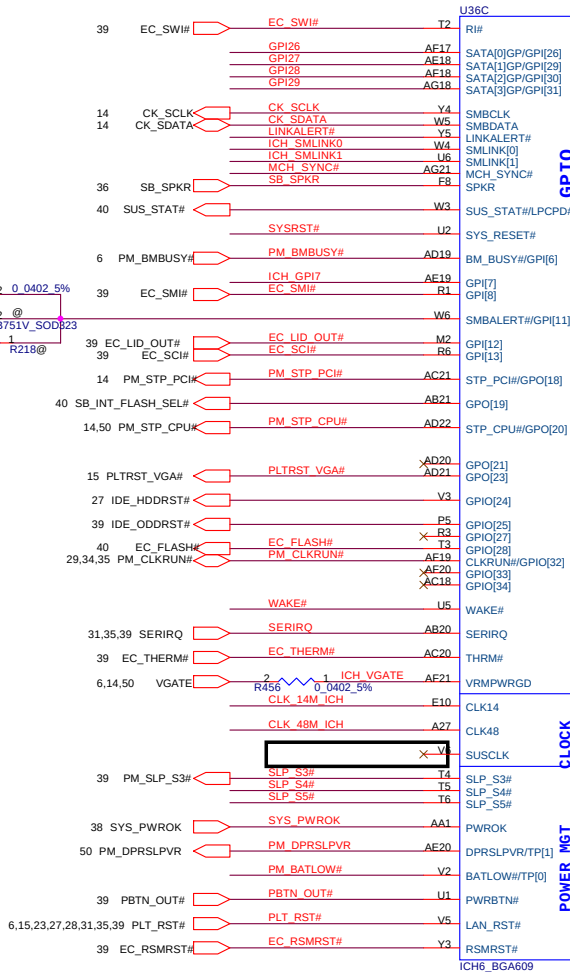
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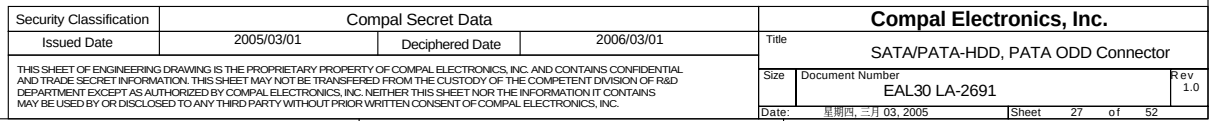
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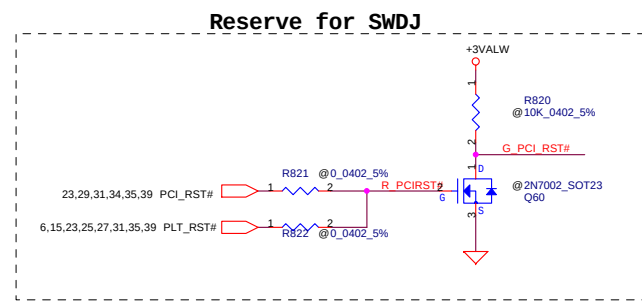
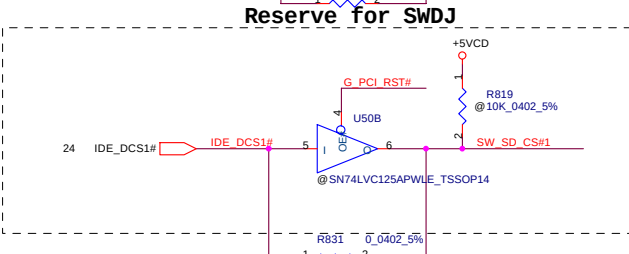
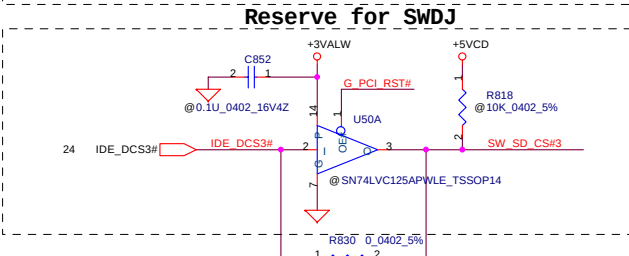
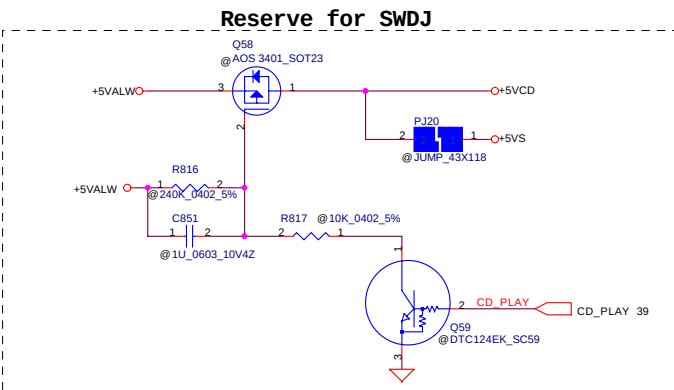
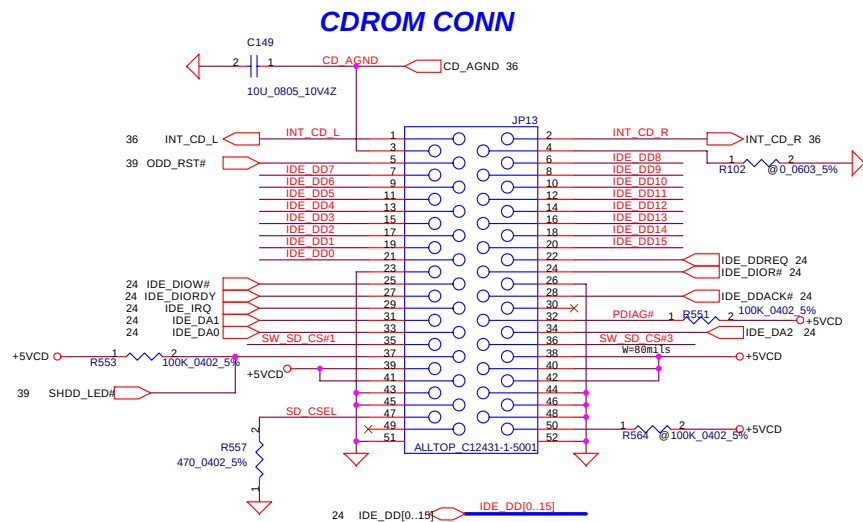
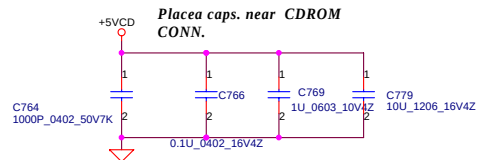
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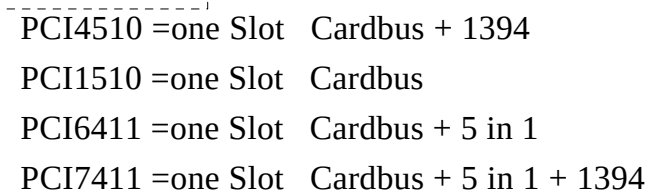
Intel new update



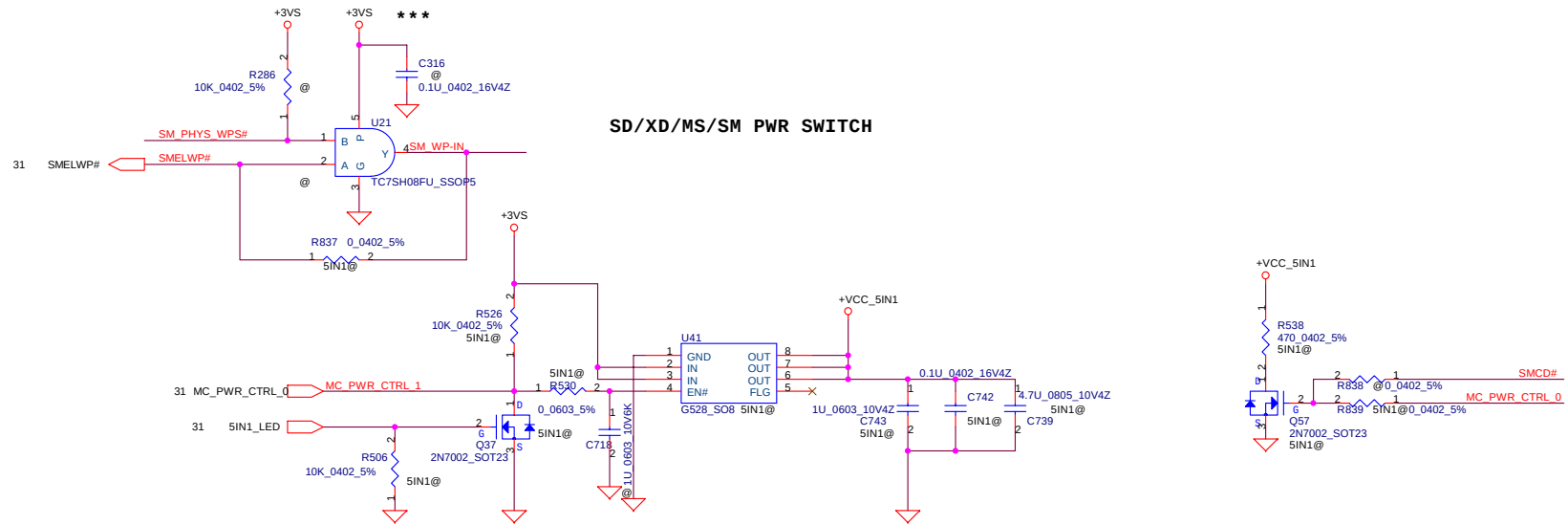
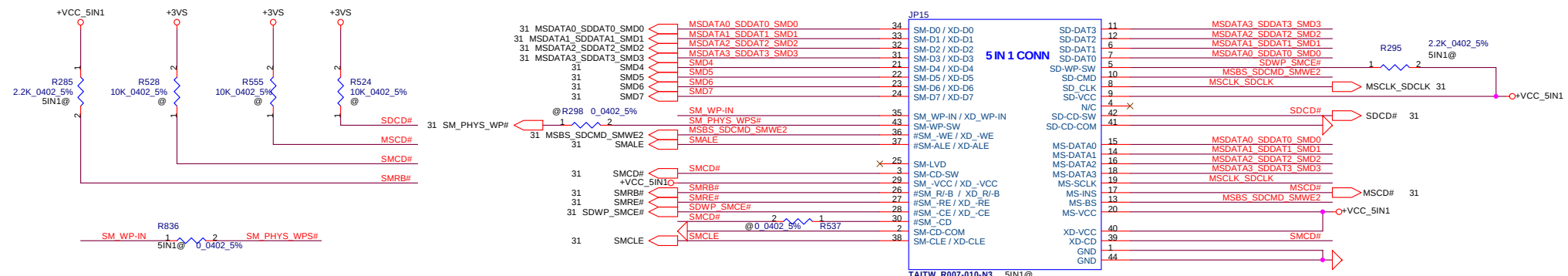




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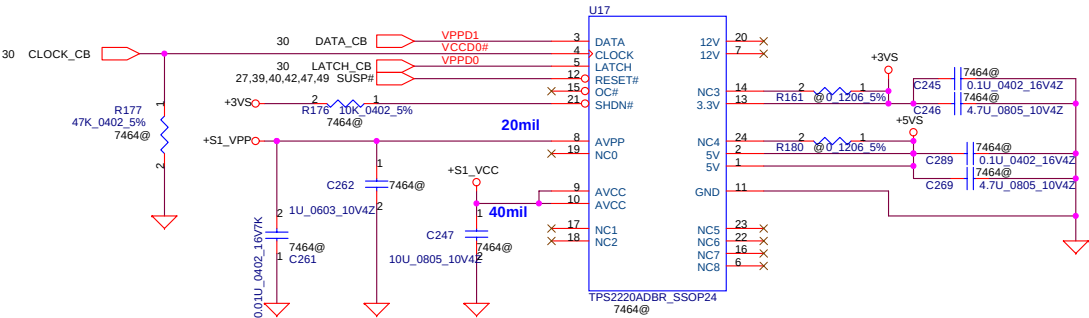


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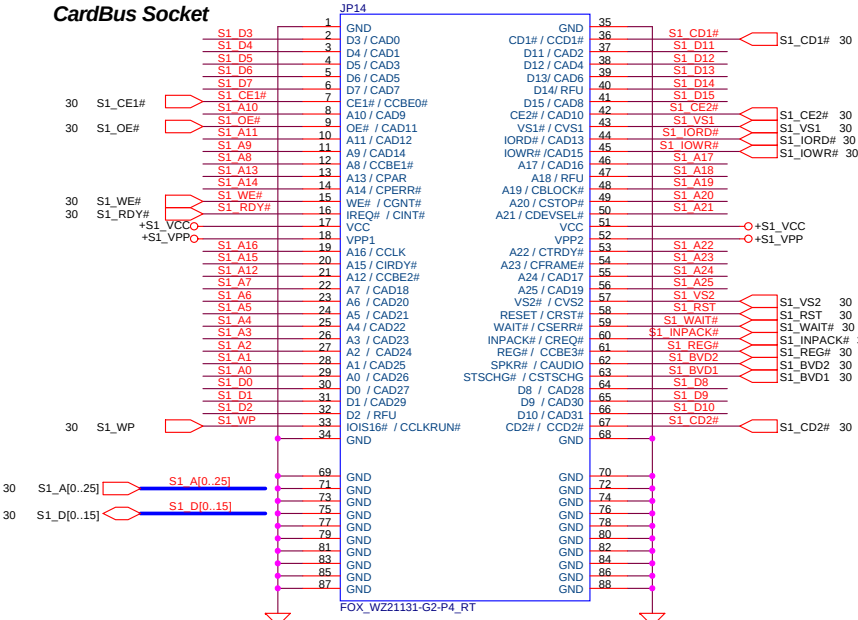


Power Switch for PCMCIA

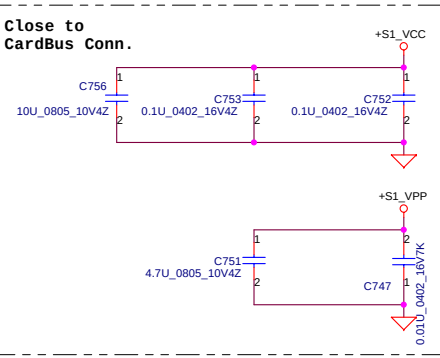
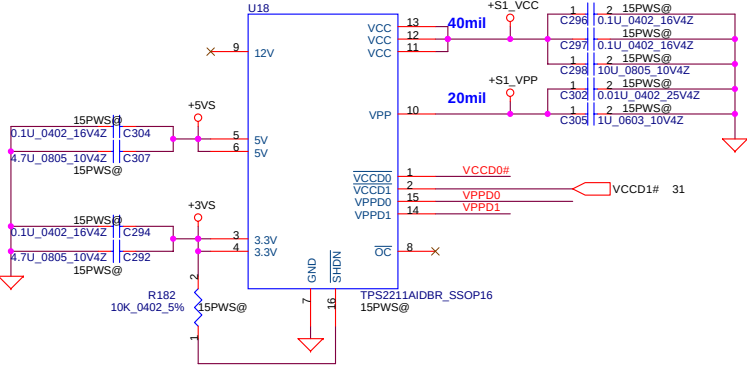
Power Switch for PCMCIA (PCI7411 & PCI6411 only)

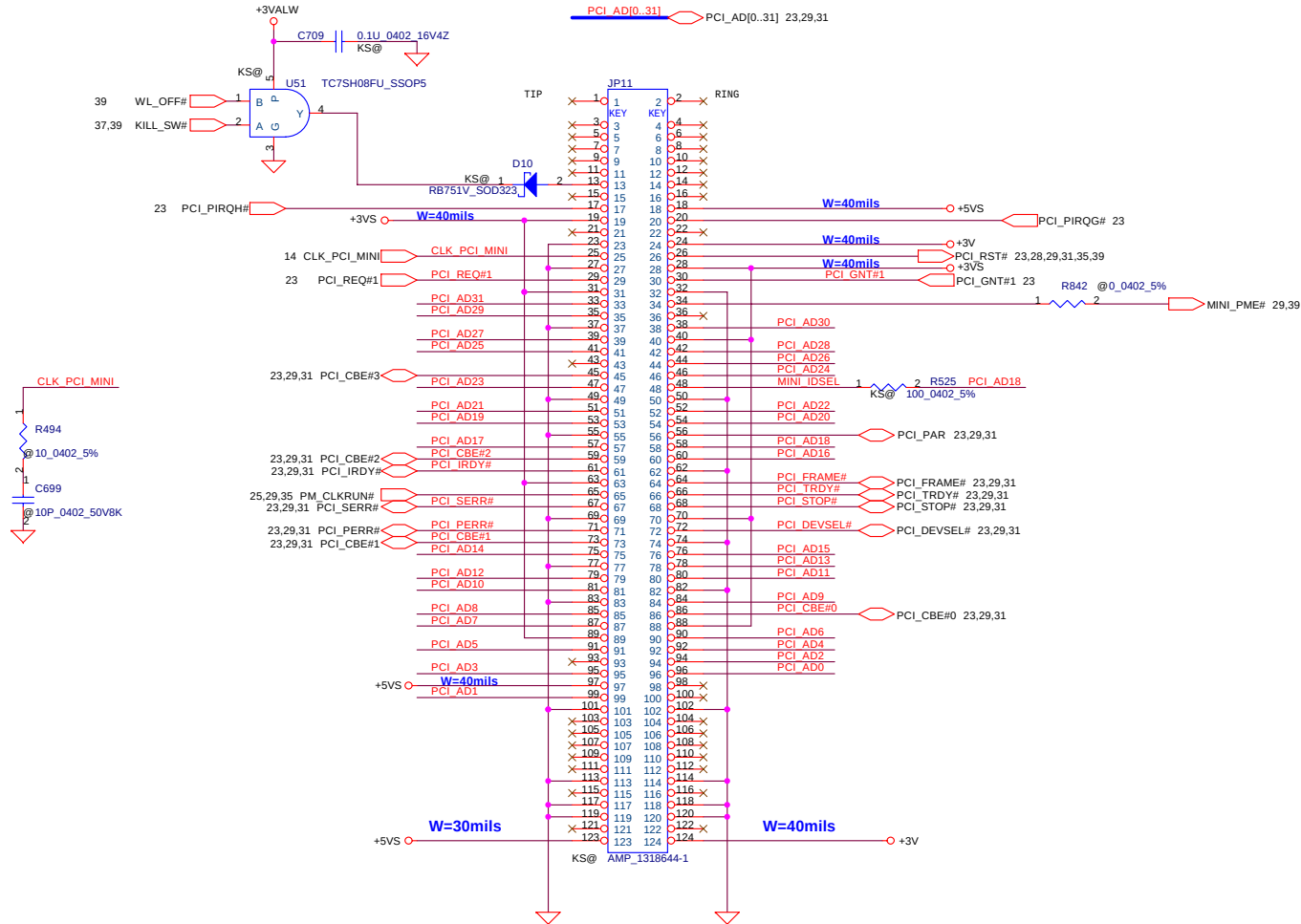
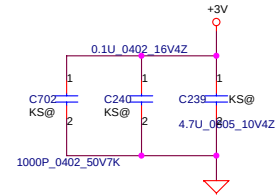
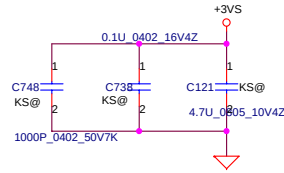
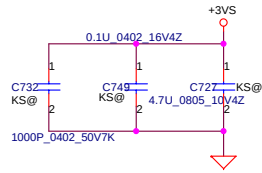
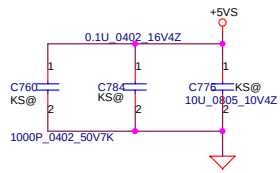


CardBus Socket



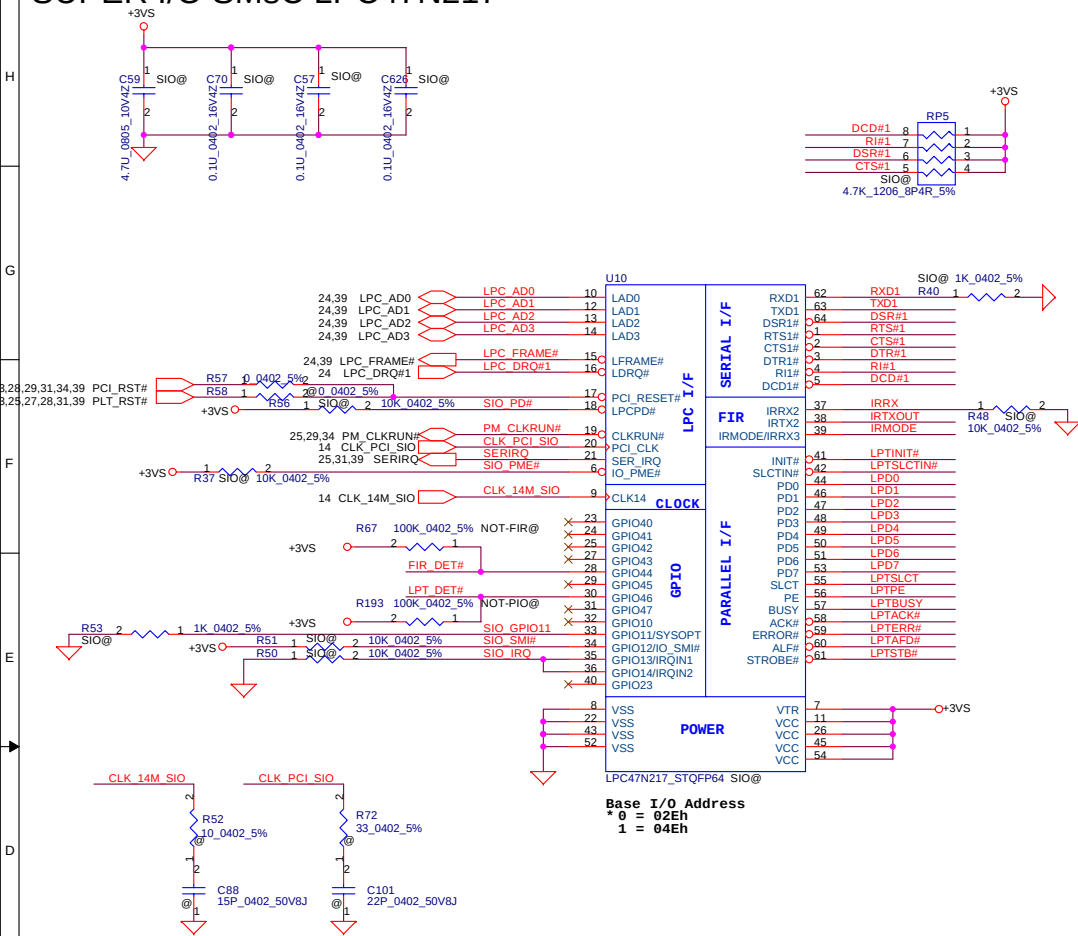
Power Switch for PCMCIA (PCI1510 & PCI4510 only)



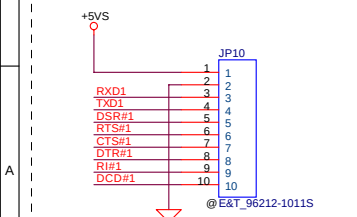


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SUPER I/O SMsC LPC47N217

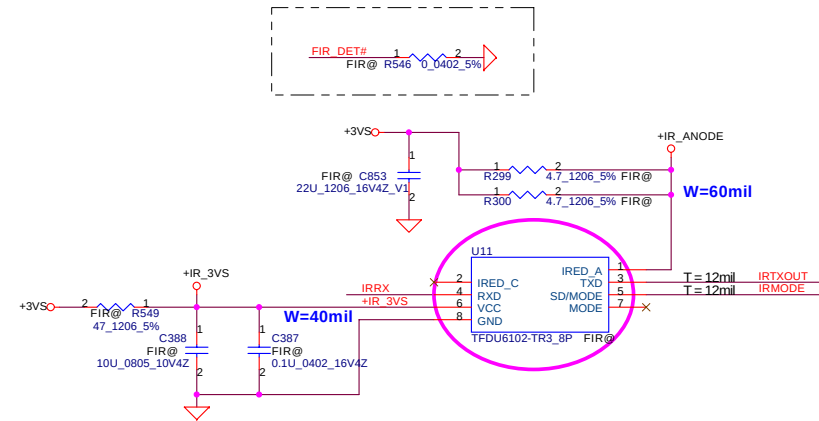


Place on the TOP side(Under MDC conn.)

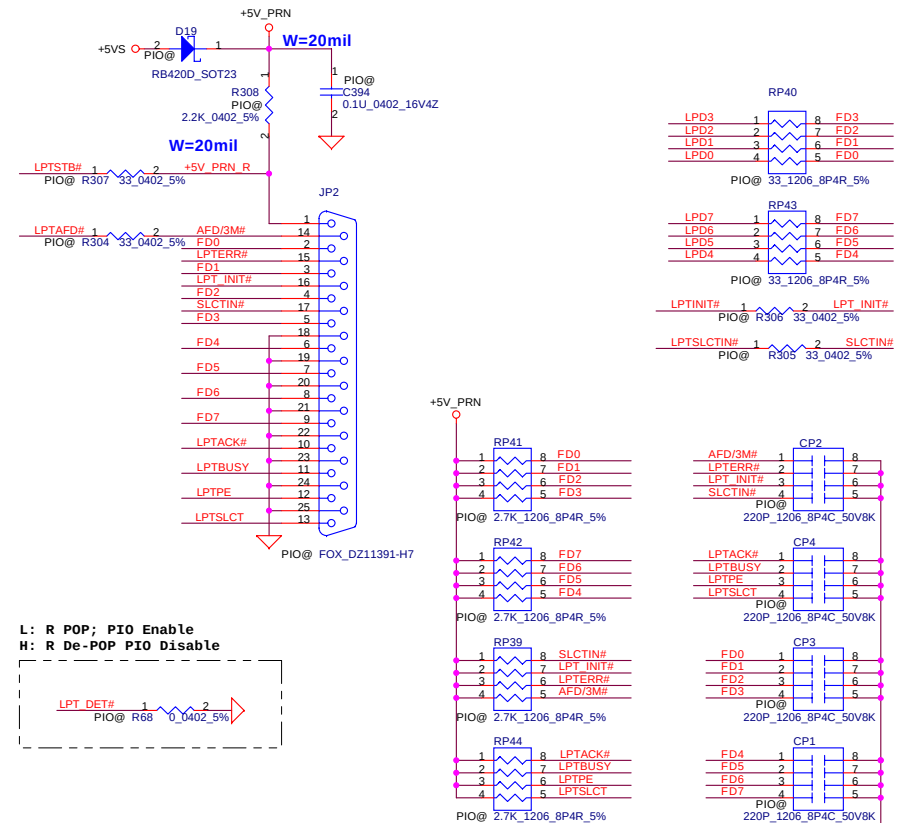


FIR Module

L: R POP; FIR Enable
H: R De-POPFIR Disable

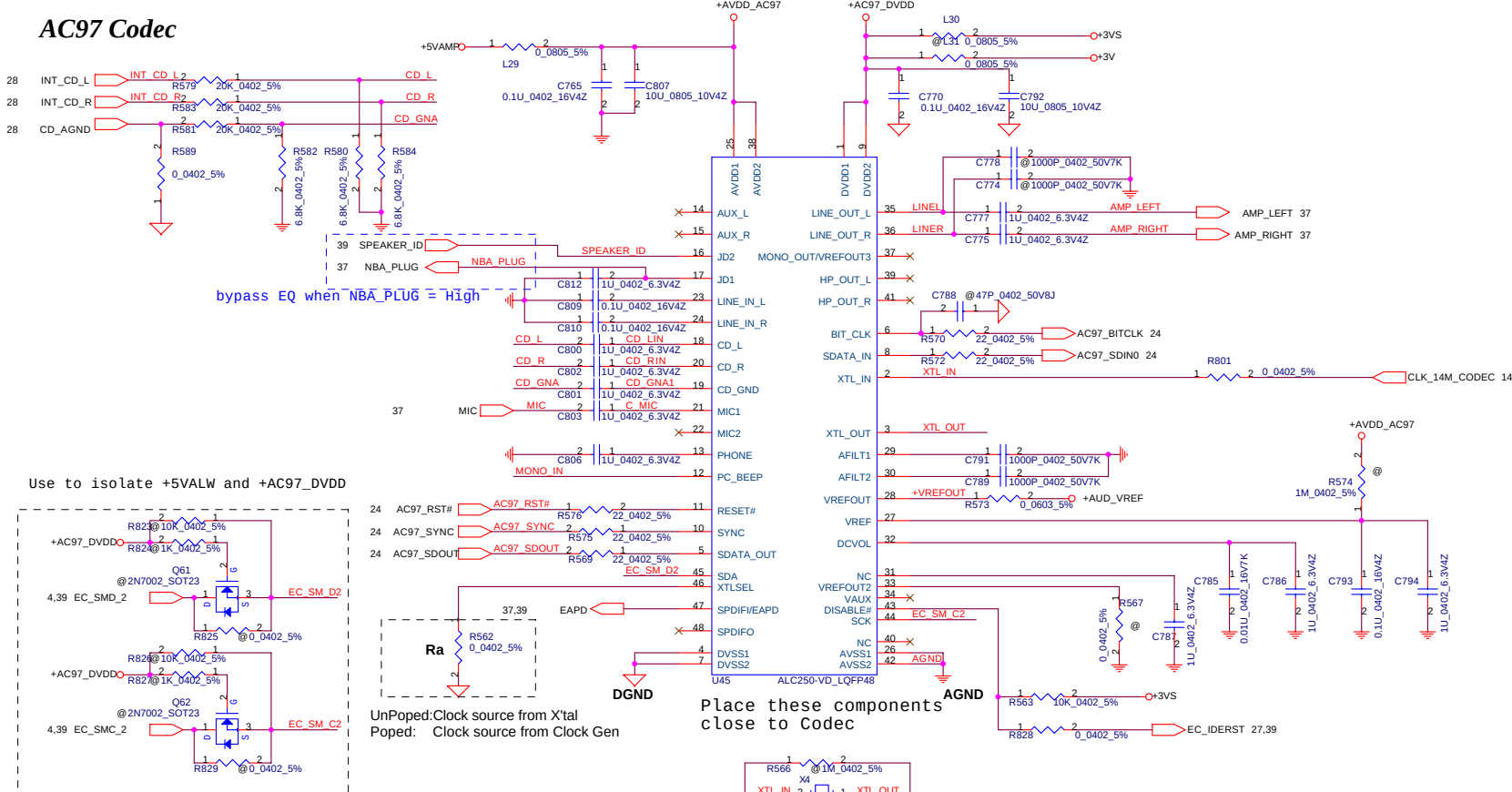


Parallel Port

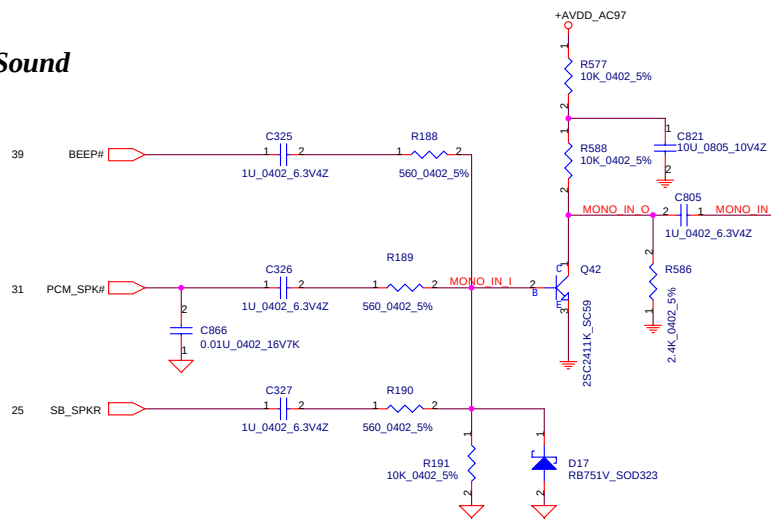


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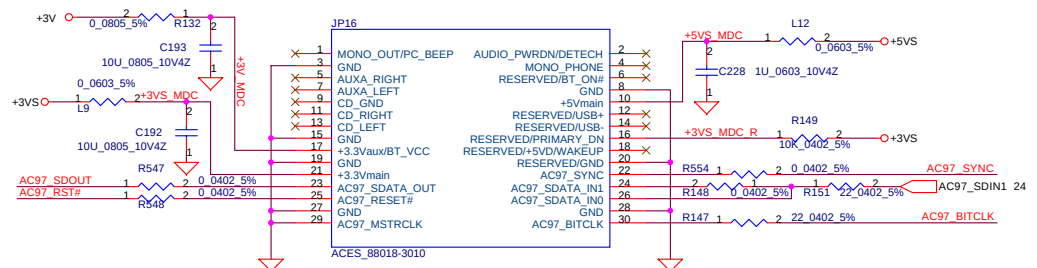
AC97 Codec



System Sound

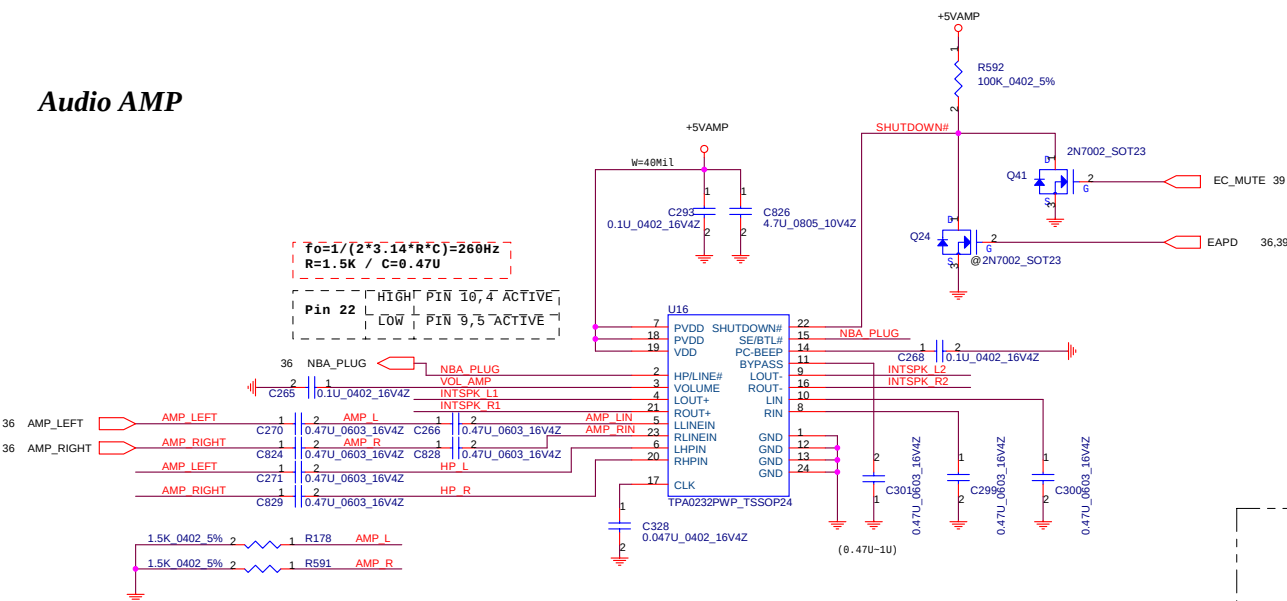


MDC Connector

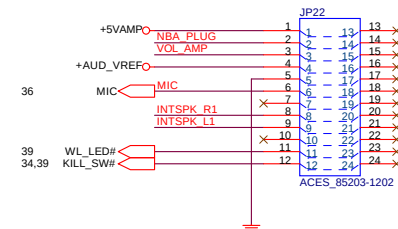


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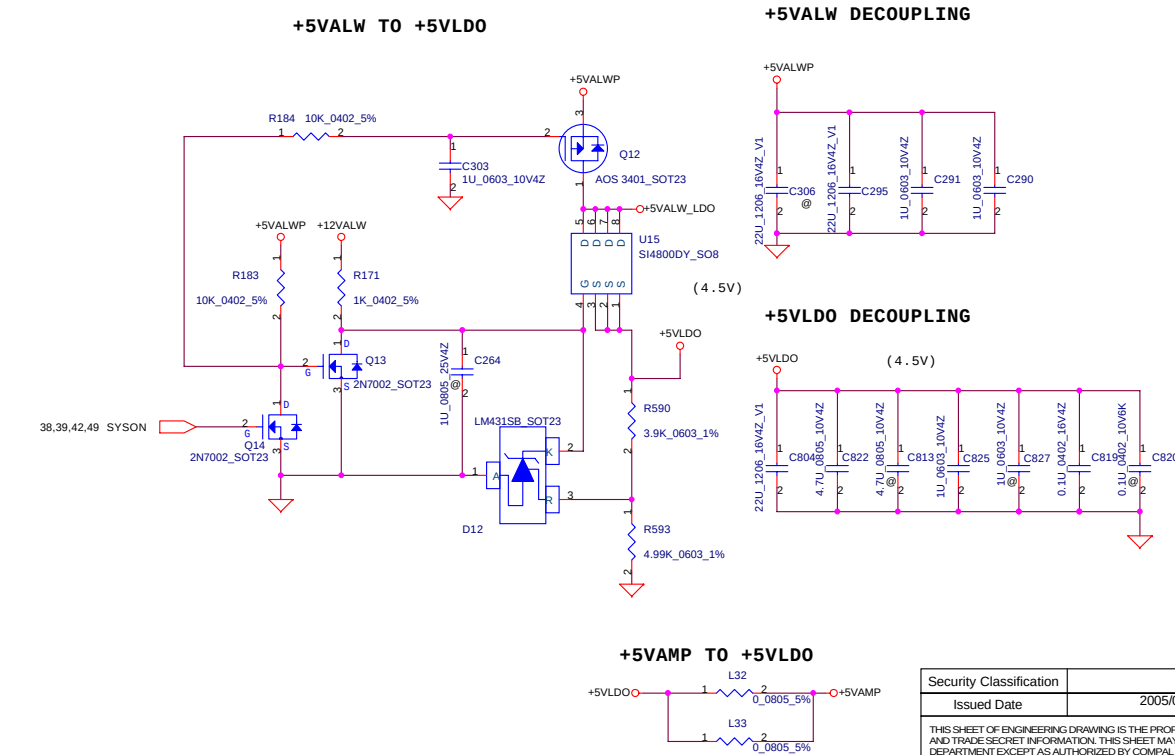
Audio AMP



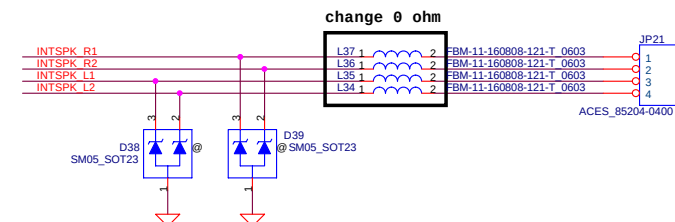
Audio Board Connector



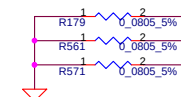
Regulator for AMP



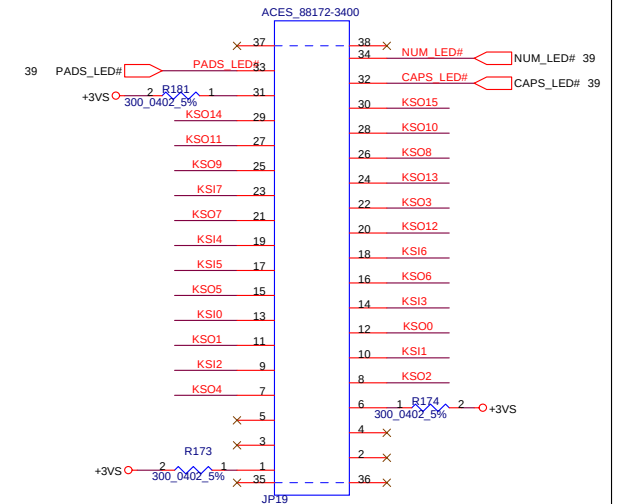
Speaker Connector



Moat Bridge



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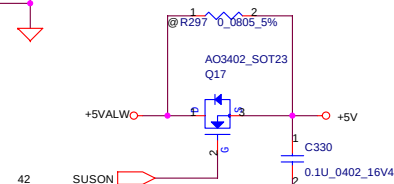
Signal	Pin	Function
MODE_LED#	C867	@70P_0402_50V7K
LED_HDD_LED#	C868	@70P_0402_50V7K
PWR_LED#	C869	@70P_0402_50V7K
PWR_SUSP_LED	C870	@70P_0402_50V7K
EC_STOPBTN#	C871	@70P_0402_50V7K
EC_PLAYBTN#	C872	@70P_0402_50V7K
EC_FRDBTN#	C873	@70P_0402_50V7K
EC_RESETBTN#	C874	@70P_0402_50V7K
EC_UTXDKSOI17	C875	@70P_0402_50V7K
MUL_KEY_ESD#	C876	@70P_0402_50V7K
ON/OFF	C877	@70P_0402_50V7K
	C878	@70P_0402_50V7K

Pin Pad Connector

ACES_85203-1202

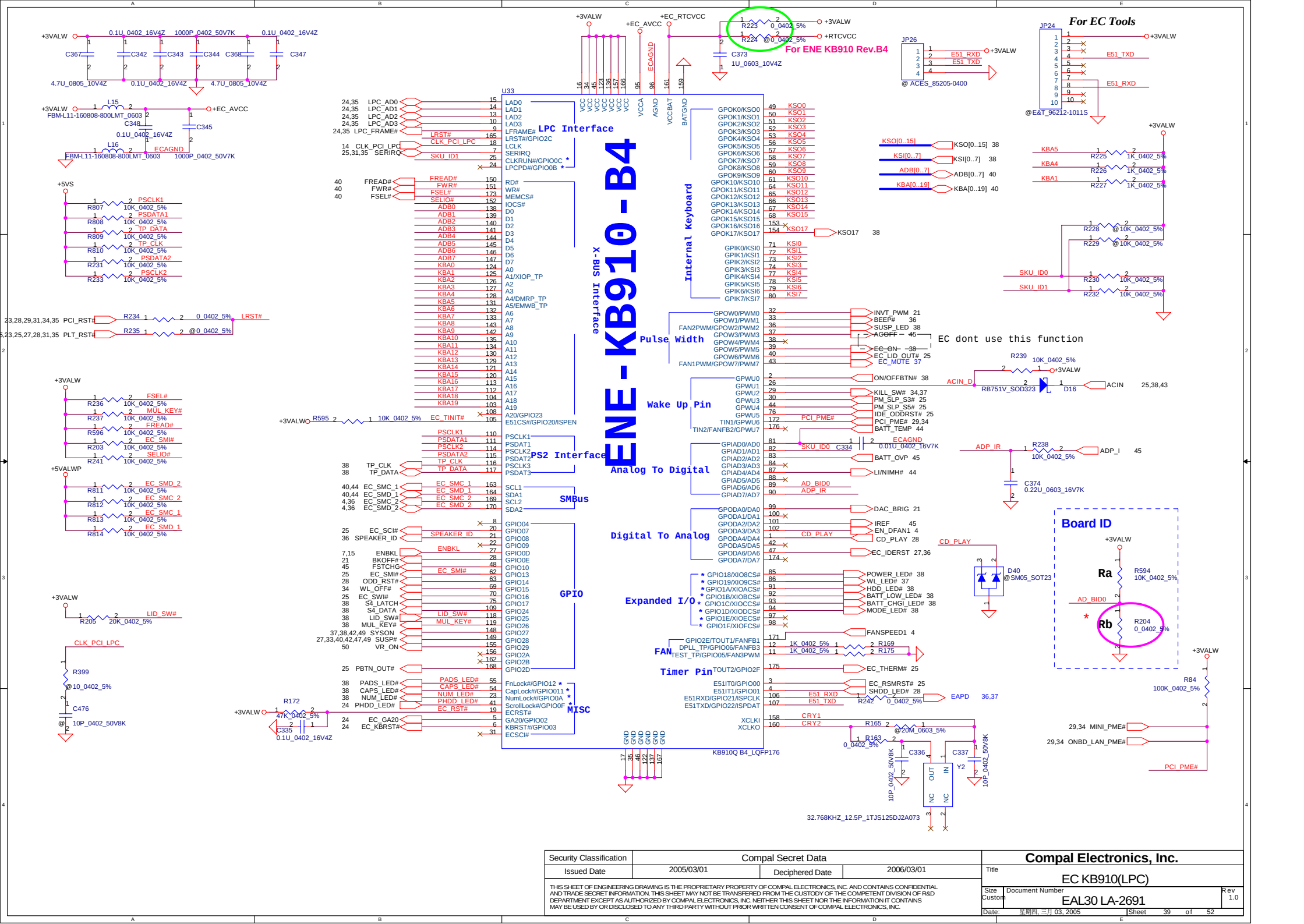
Pin	Signal	Notes
24	12	
23	11	
22	10	TP_CLK 39
21	9	TP_DATA 39
20	8	+5VS
19	7	+5V
18	6	+5VALW
17	5	ACIN 25,39,43
16	4	POWER_LED# 39
15	3	SUSP_LED 39
14	2	BATT_CHG_LED# 39
13	1	BATT_LOW_LED# 39

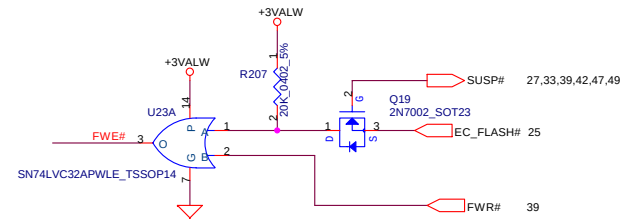
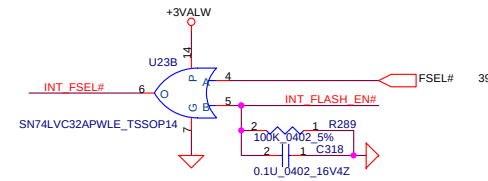
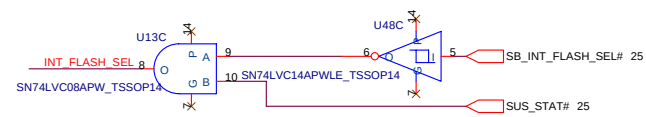
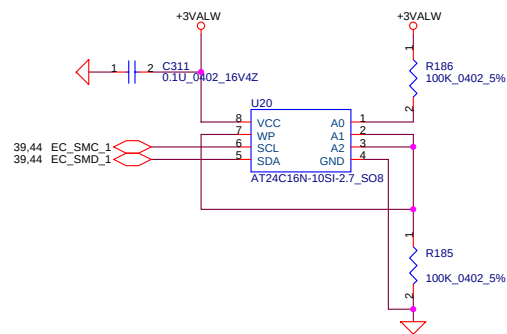
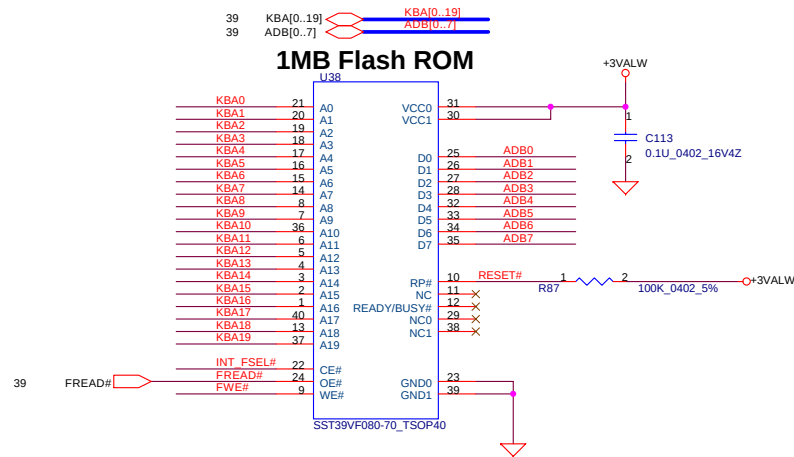
JPT8



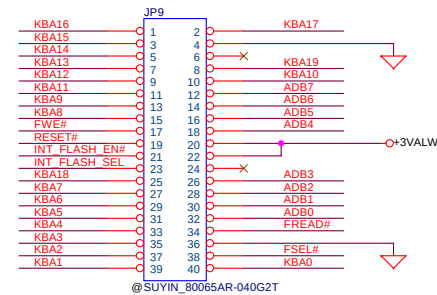
The diagram illustrates the SYS_PWROK signal path. It starts with a +3VS input connected to a 330K resistor (R199), which then connects to the non-inverting input of a buffer (U48A). The output of U48A is connected to the non-inverting input of a second buffer (U48B). The output of U48B is connected to the SYS_PWROK signal line. A pull-down resistor (R222, 100K) is connected to the SYS_PWROK signal line to ground. The diagram also shows a +3VALW input connected to the non-inverting input of U48B. A capacitor (C364, 1uF) is connected to the +3VS input. A capacitor (C332, 0.1uF) is connected to the +3VALW input. A note indicates 'Pull Low at SB'.

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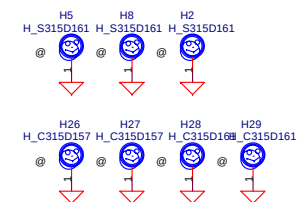
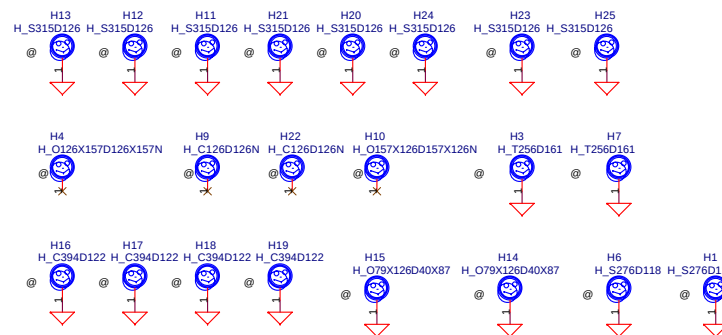
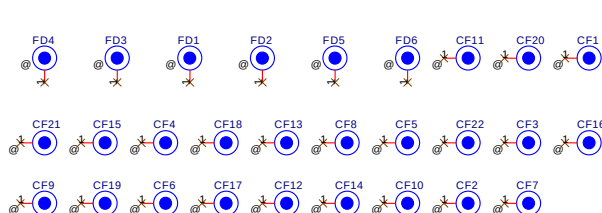
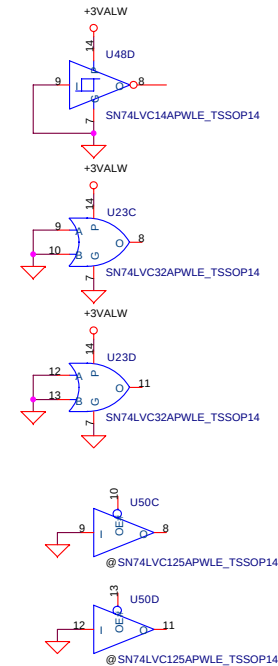
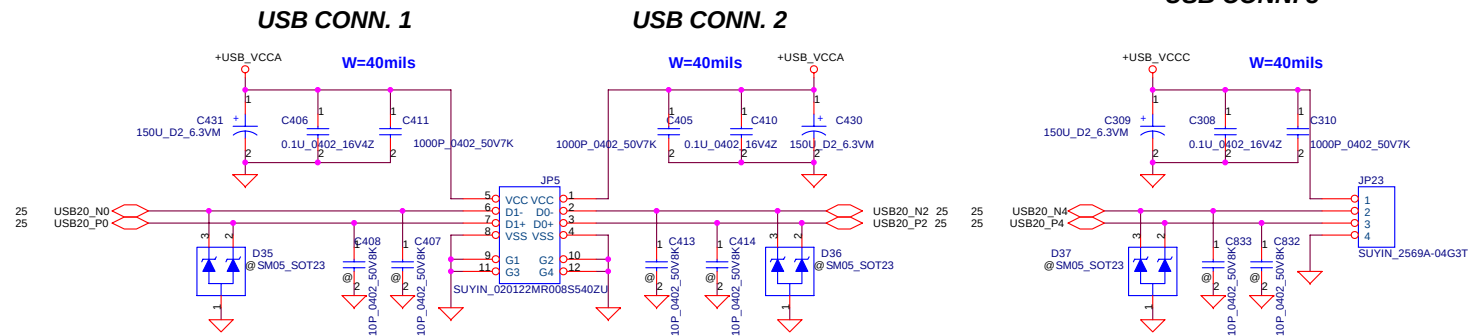
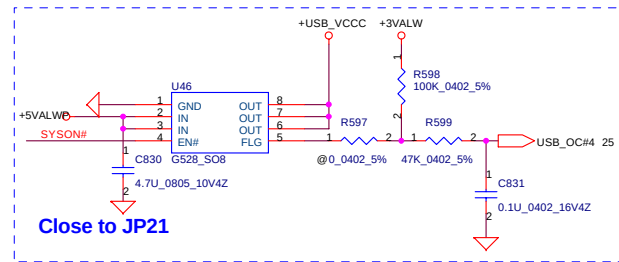
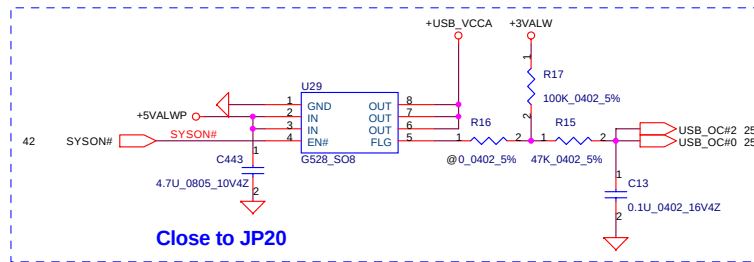




1MB ROM Socket

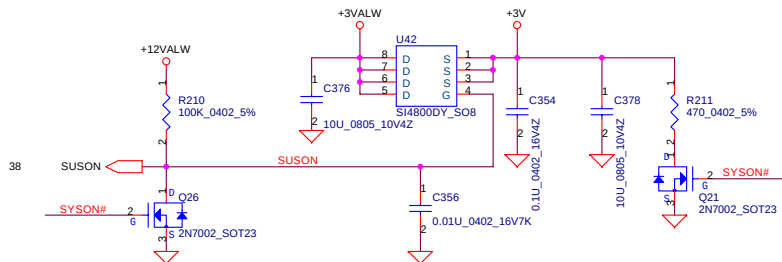


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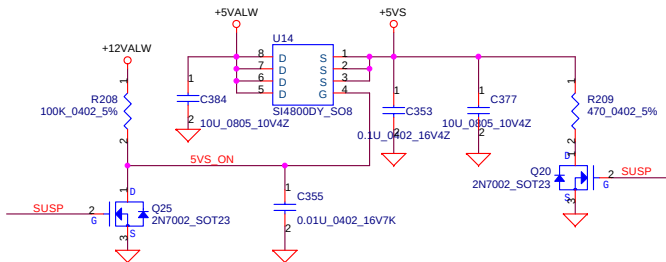


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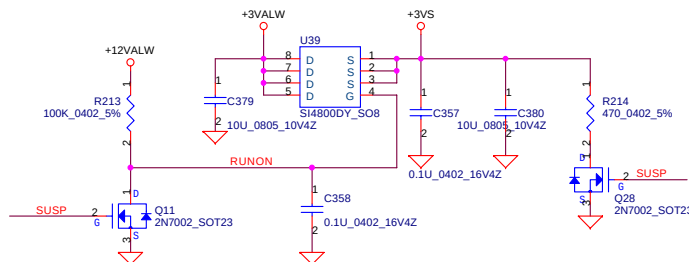
+3VALW to +3V Transfer



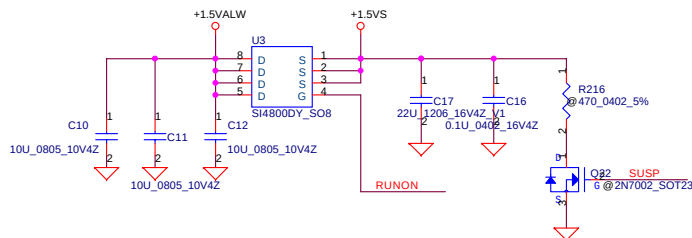
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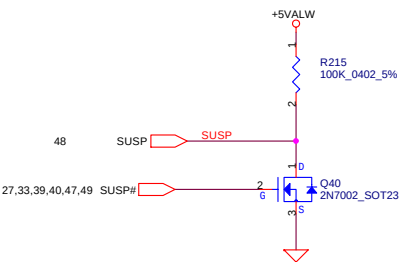
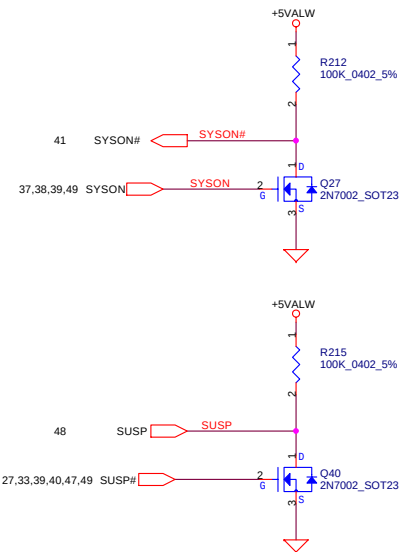
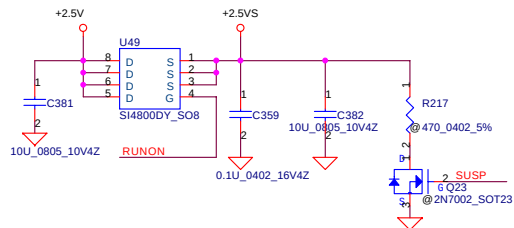
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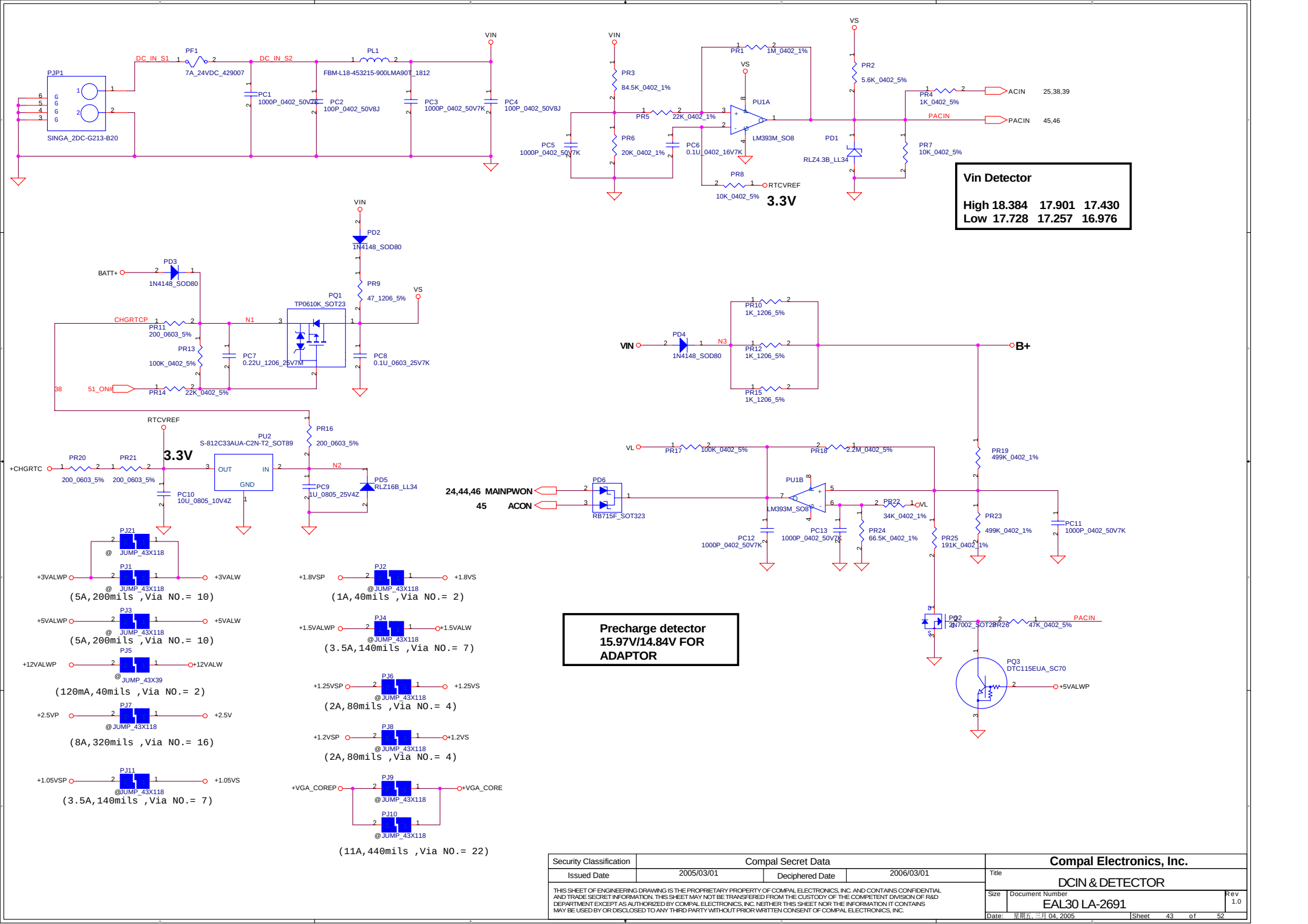
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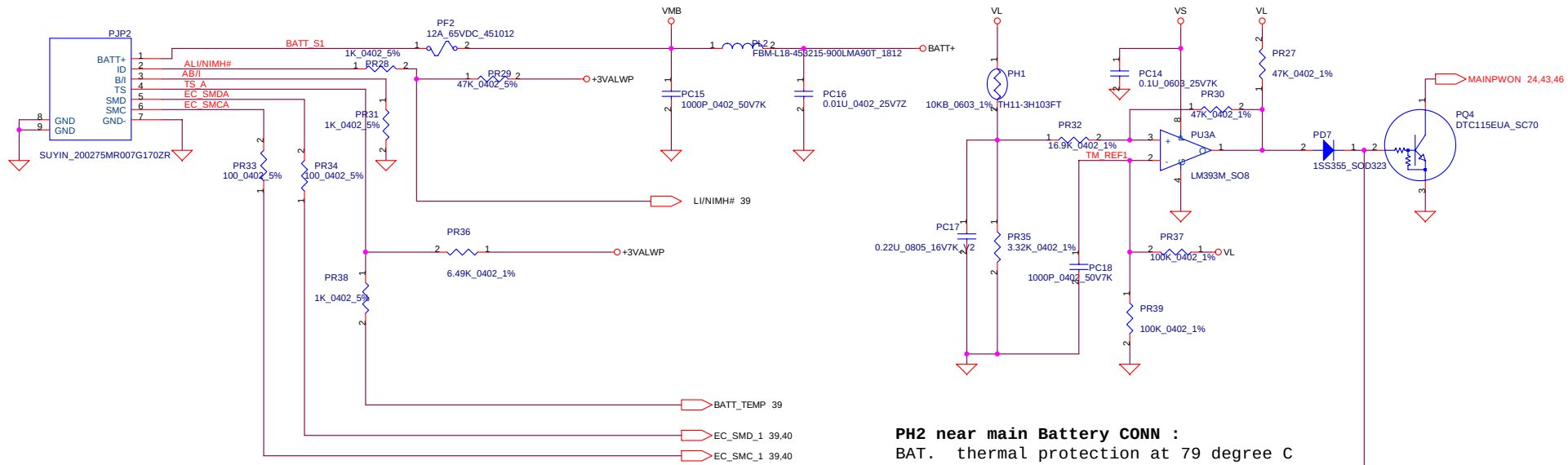
+2.5V to +2.5VS Transfer



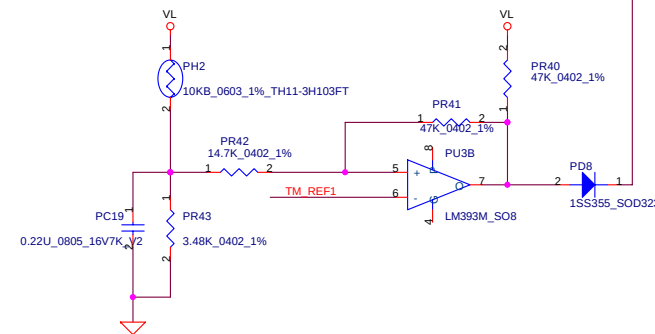
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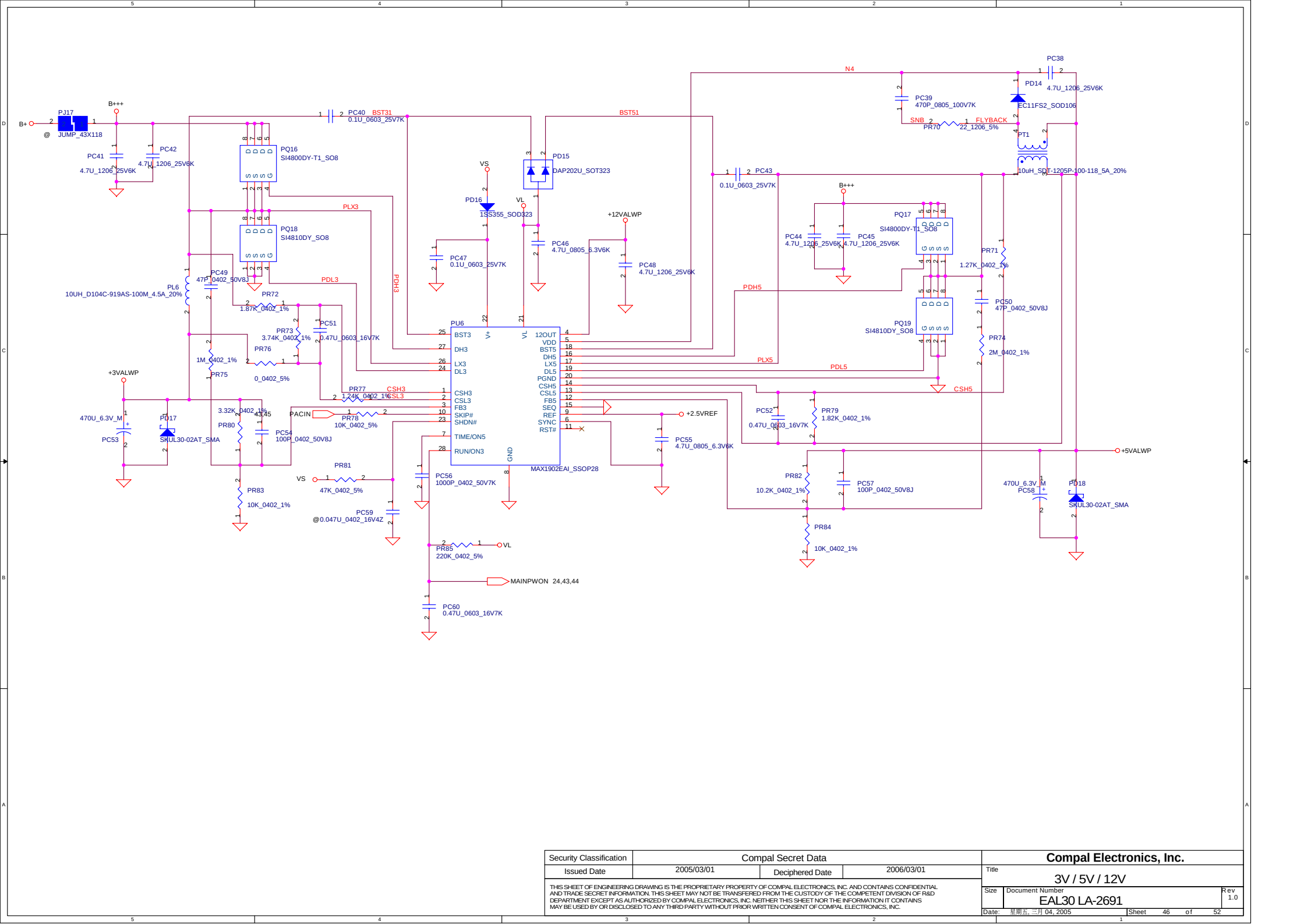


PH1 under CPU botten side :
 CPU thermal protection at 84 degree C
 Recovery at 45 degree C



PH2 near main Battery CONN :
 BAT. thermal protection at 79 degree C
 Recovery at 45 degree C





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Size	Document Number	EAL30 LA-2691		Rev	1.0
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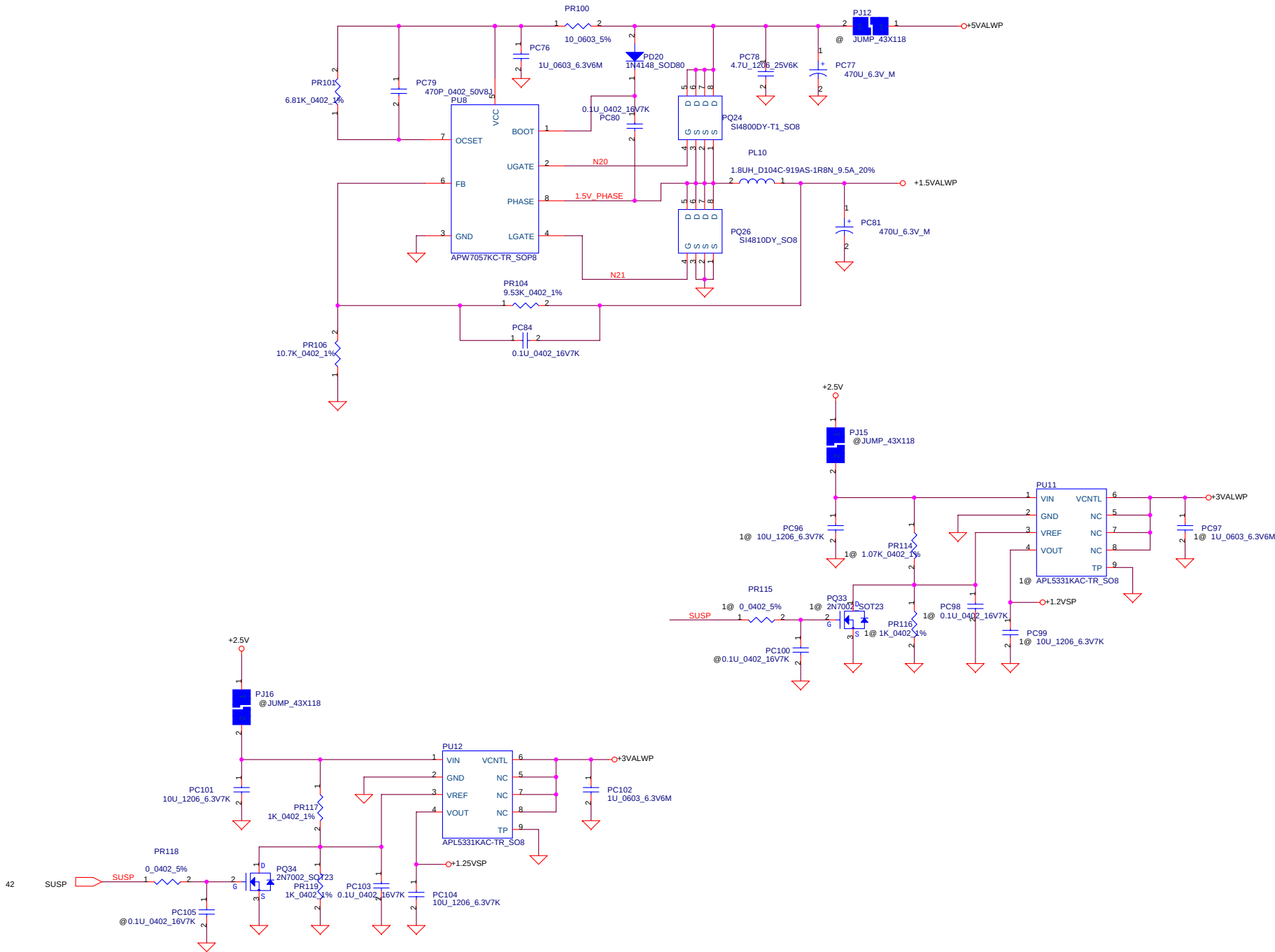
+1.8V

+1.2V/+1.0V

with selector	without selector fix 1.2V
PR105=10K	unpop PR105
PR96=20K	PR96=6.49K

15 POWER_SEL
Low:1.2V
High:1.0V

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+1.05V

+2.5V

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	5	4	3	2	1																											
D	REV 0.2																															
	Date	Page	Location	Description																												
	12/06	P.38	Add ESD diode D34	for ESD protection																												
	12/06	P.37	Delete C267	For sound volume change slow issue																												
	12/06	P.32	ADD C854	To solve PCI 4510 1394 issue																												
	12/06	P.21	Change L4,L5 to FBM-L11-201209-121LMT	To solve EMI issue																												
	12/26	P.22	Change C398,C397 from 270P to 100P C401,C402 from 330P to 100P	For customer request																												
	12/26	P.22	Change R320,R321,R7,R8,R9 from 150_0402_5% to 150_0402_1%	For customer request																												
	12/26	P.07	Change R124,R127,R119,R531,R532 from 150_0402_5% to 150_0402_1%	For customer request																												
	12/26	P.15	Change R273,R274,R267,R270,R271 from 150_0402_5% to 150_0402_1%	For customer request																												
C	12/26	P.32	Change 5in1 SMWP design ,Add R836,R837	follow EAT10 design																												
	REV 0.3																															
	Date	Page	Location	Description																												
	2/06	P.09	Change R160 size to 0805 0 ohm	Add rating current																												
	2/06	P.24	Add C859,C864 change R841 to 2.2 ohm	For TV-out wave issue																												
	2/06	P.32	Add R838,R839	Change 5in1 card reader discharge control from card detect to card power enable .																												
	2/06	P.27	Reserve R840,C862,X5	Reserve for chip issue																												
	REV 1.0																															
	Date	Page	Location	Description																												
	2/14	P.34	ADD R842	Reserve for CyberTan issue																												
B	2/26	P.36	Add C866	Add for solve modem card noise																												
	2/26	P.24	Add C865	Add for solve 3Dmark low performace issue																												
	2/26	P.24	Add R842	Reserve for New Wireless Lan Card																												
A																																
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5	4	3	2	1																												

