

# Compal confidential

## Schematics Document

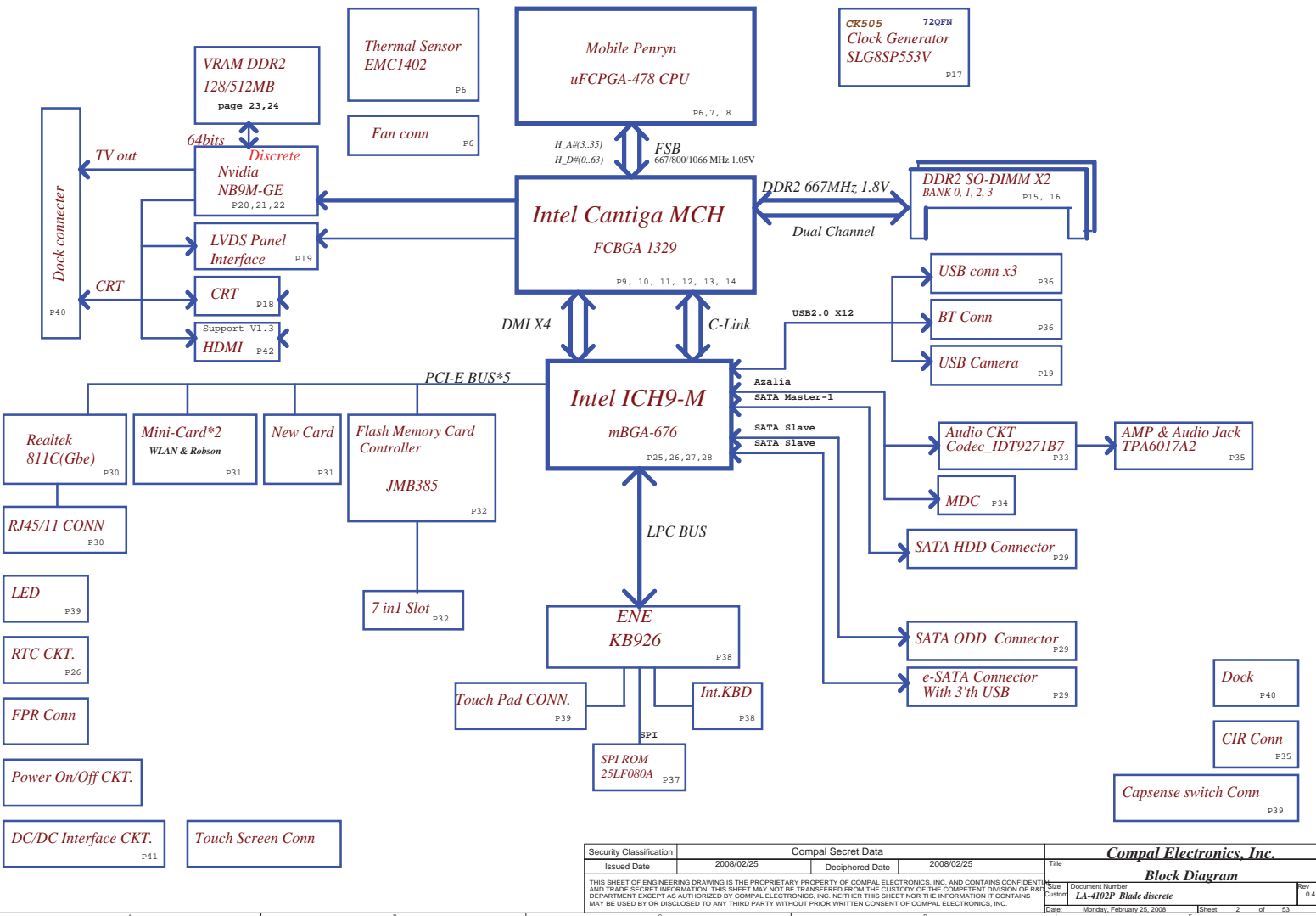
Mobile Penryn uFCPGA with Intel  
Cantiga\_PM+ICH9-M core logic

2008-02-25



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				Custom	LA-4102P Blade discrete
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**Voltage Rails**      O MEANS ON      X MEANS OFF

power plane / State	+B	+5VALW +3VALW	+1.8V	+5VS +3VS +1.5VS +0.9V +VCCP +CPU_CORE +2.5VS +1.8VS +NVVDD +PCIE
S0	O	O	O	O
S1	O	O	O	O
S3	O	O	O	X
S5 S4/AC	O	O	X	X
S5 S4/ Battery only	O	X	X	X
S5 S4/AC & Battery don't exist	X	X	X	X

**Symbol Note :**

 : means Digital Ground

 : means Analog Ground

@ : means just reserve , no build  
DEBUG@ : means just reserve for debug.

**USB assignment:**

- USB-0 Right side
- USB-1 Right side
- USB-2 Left side(with ESATA)
- USB-3 Dock
- USB-4 Camera
- USB-5 WLAN
- USB-6 Bluetooth
- USB-7 Finger Printer
- USB-8 MiniCard(WWAN/TV)
- USB-9 Express card
- USB-10 X
- USB-11 X

**PCIe assignment:**

- PCIe-1 TV tuner/WWAN/Robeson
- PCIe-2 X
- PCIe-3 WLAN
- PCIe-4 GLAN (Marvell)
- PCIe-5 Card reader
- PCIe-6 New Card

**SMBUS Control Table**

	SOURCE	INVERTER	BATT	SERIAL EEPROM	Thermal Sensor	SODIMM	CLK CHIF	MINI CARD	Sensor board	NB9M Thermal Sensor	NB9M	G-sensor
SMB_EC_CK1 SMB_EC_DA1	KB926	X	V	V	X	X	X	X	V	X	X	X
SMB_EC_CK2 SMB_EC_DA2	KB926	X	X	X	V	X	X	X	X	V	V	X
ICH_SMBCLK ICH_SMBDATA	ICH9	X	X	X	X	V	V	V	X	X	X	V

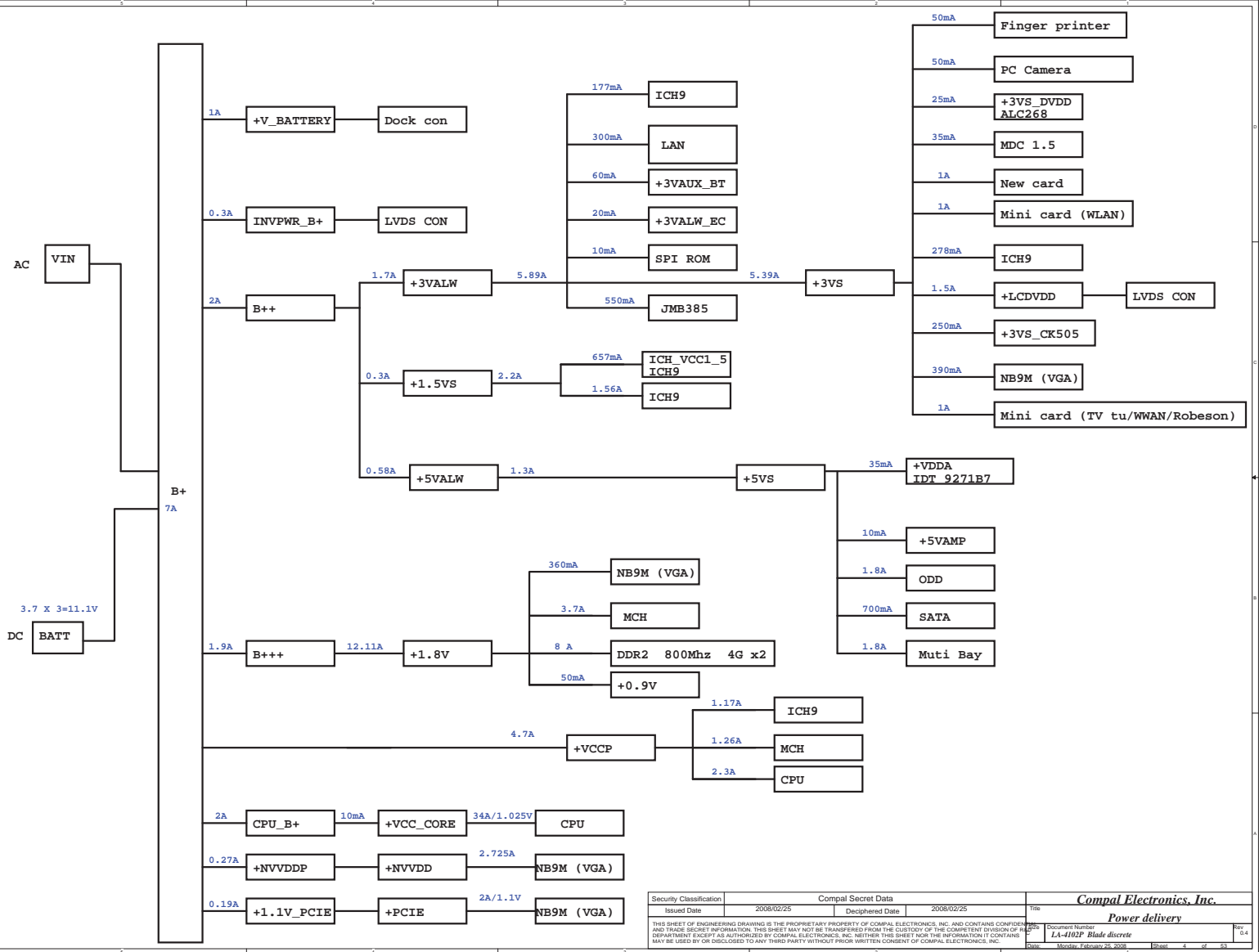
**NB9M SMBUS Control Table**

	SOURCE	LVDS	CRT	HDMI
DDC2_DATA DDC2_CLK	NB9M	V	X	X
3VDDCDA 3VDDCCL	NB9M	X	V	X
HDMIDAT_VGA HDMICLK_VGA	NB9M	X	X	V

**I2C / SMBUS ADDRESSING**

DEVICE	HEX	ADDRESS
DDR SO-DIMM 0	A0	1 0 1 0 0 0 0 0
DDR SO-DIMM 1	A4	1 0 1 0 0 1 0 0
CLOCK GENERATOR (EXT.)	D2	1 1 0 1 0 0 1 0

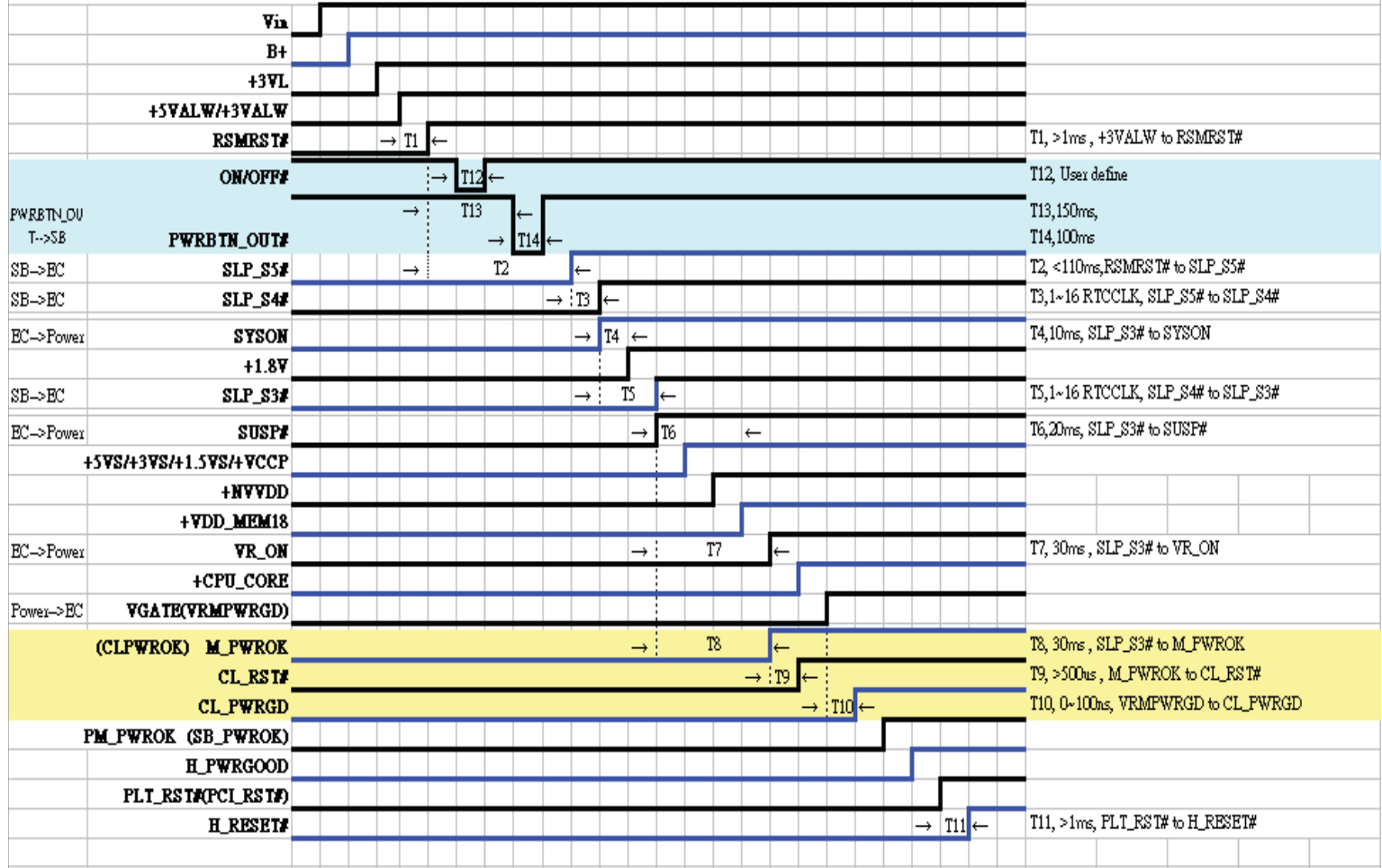
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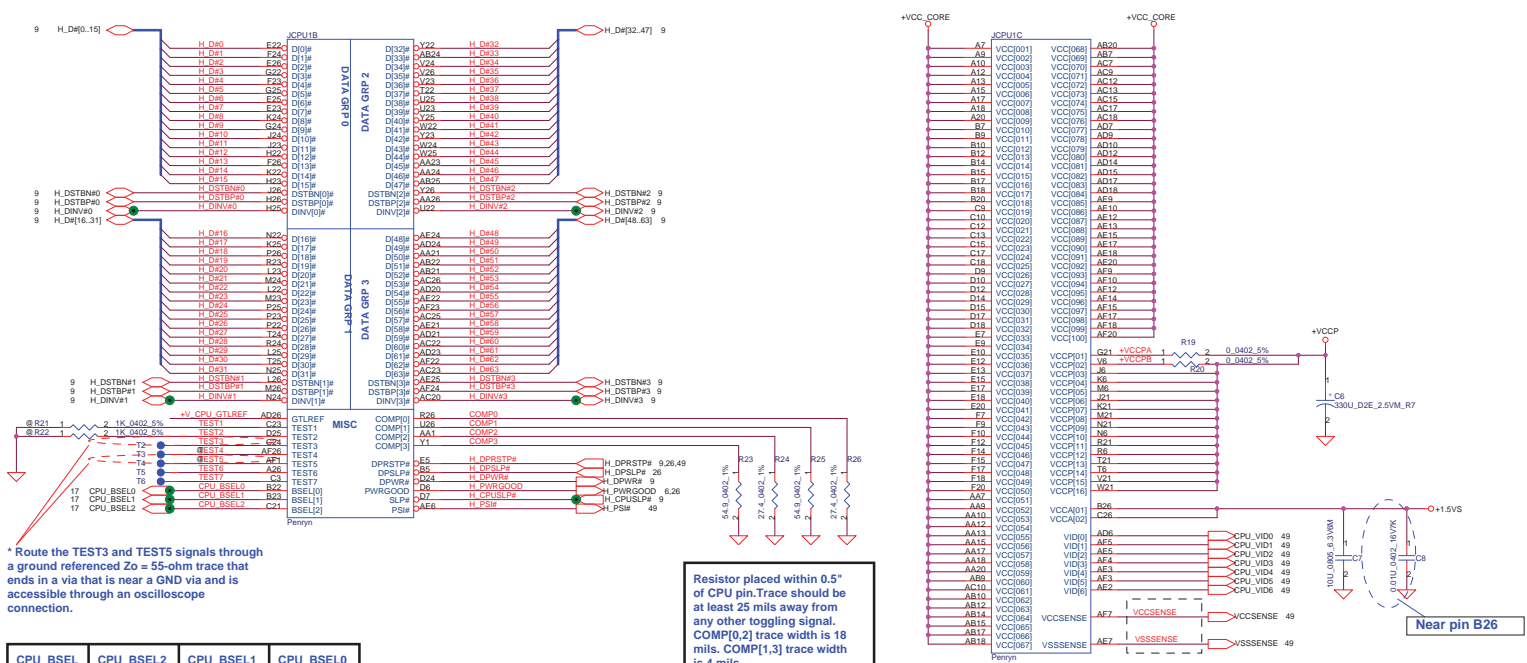
# JAL50 Discrete power sequence AC mode



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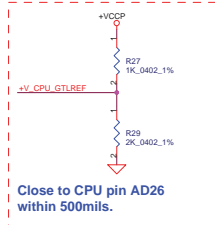




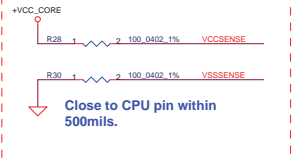
\* Route the TEST3 and TEST5 signals through a ground referenced Zo = 55-ohm trace that ends in a via that is near a GND via and is accessible through an oscilloscope connection.

CPU_BSEL	CPU_BSEL2	CPU_BSEL1	CPU_BSEL0
166	0	1	1
200	0	1	0
266	0	0	0

Resistor placed within 0.5" of CPU pin. Trace should be at least 25 mils away from any other toggling signal. COMP[0,2] trace width is 18 mils. COMP[1,3] trace width is 4 mils.



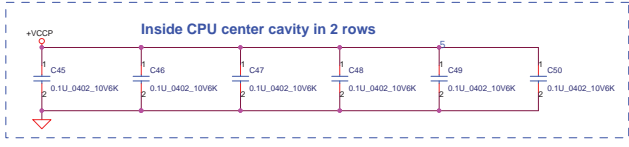
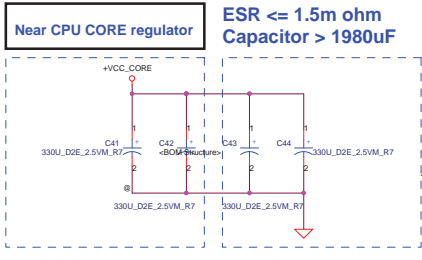
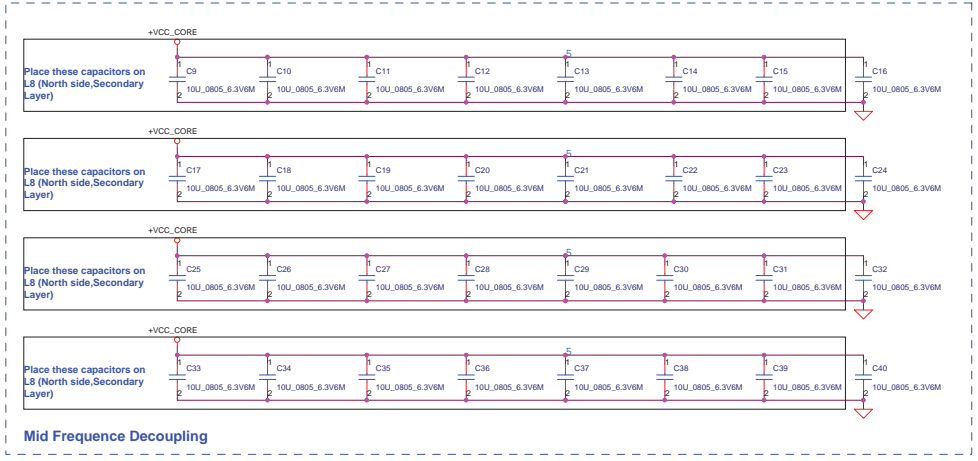
Length match within 25 mils. The trace width/space/other is 207/725.



Near pin B26

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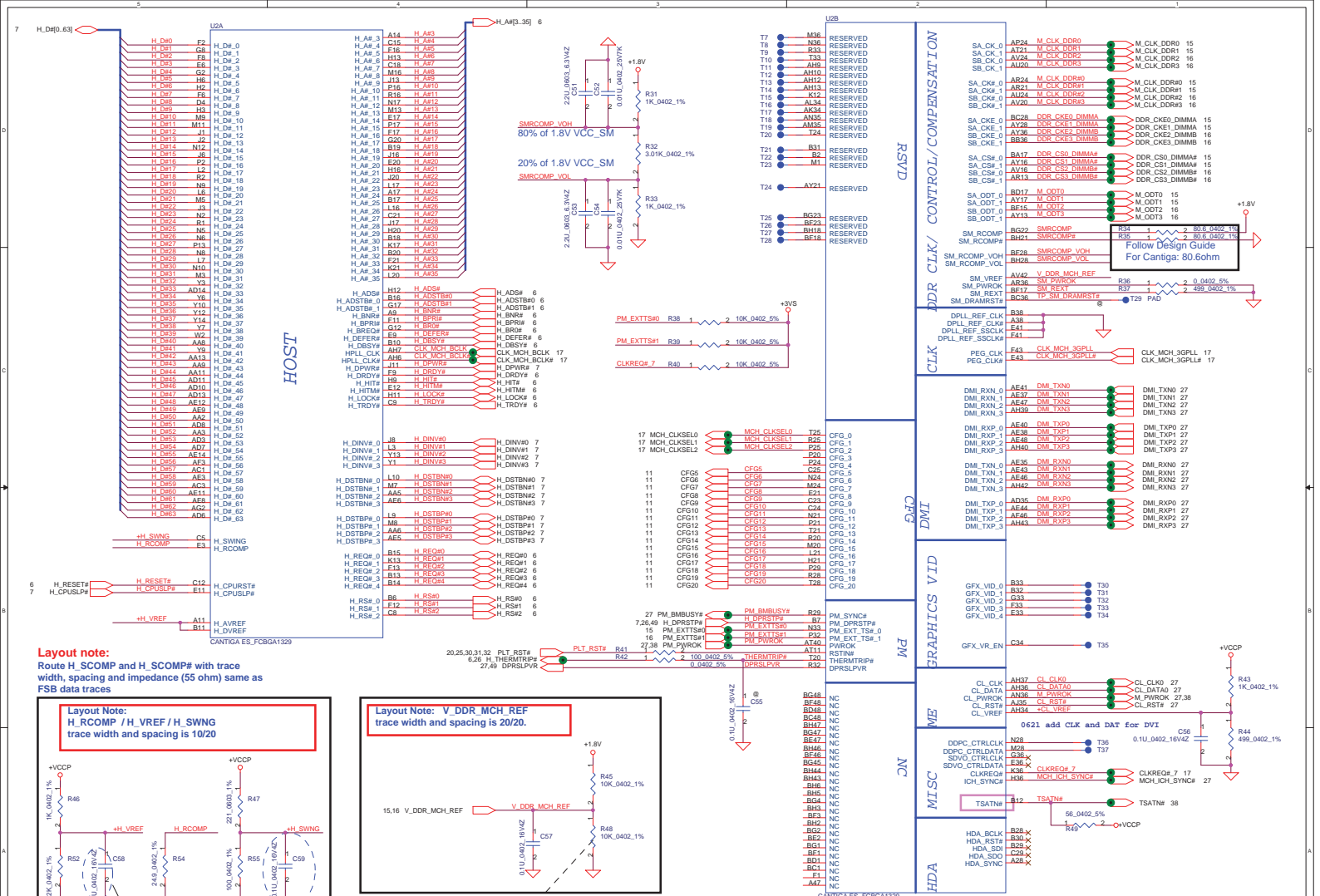
ICPUID		
A4	VSS001	P6
A4	VSS002	P21
A11	VSS003	P24
A14	VSS004	R2
A16	VSS005	R5
A19	VSS006	R22
A23	VSS007	R22
AF2	VSS008	T1
B6	VSS009	VSS009
B8	VSS010	T26
B11	VSS011	T26
B14	VSS012	T3
B16	VSS013	U8
B19	VSS014	VSS014
B21	VSS015	Y2
B24	VSS016	Y2
C5	VSS017	V5
C8	VSS018	V22
C11	VSS019	V22
C14	VSS020	W1
C16	VSS021	W4
C19	VSS022	W2
C2	VSS023	Y3
C22	VSS024	Y3
C25	VSS025	Y2
D11	VSS026	Y2
D4	VSS027	Y2
D8	VSS028	Y2
D11	VSS029	Y2
D16	VSS030	JA8
D19	VSS031	JA11
D23	VSS032	JA15
D26	VSS033	JA15
D28	VSS034	JA15
E4	VSS035	JA2
E6	VSS036	JA22
E11	VSS037	JA8
E14	VSS038	JA8
E16	VSS039	JA11
E19	VSS040	JA11
E24	VSS041	JA12
E27	VSS042	JA12
F2	VSS043	JA12
F4	VSS044	JA12
F8	VSS045	JA26
F11	VSS046	JA26
F13	VSS047	JA26
F16	VSS048	JA26
F19	VSS049	AC11
F2	VSS050	AC14
F22	VSS051	AC14
F25	VSS052	AC19
G4	VSS053	AC24
G11	VSS054	AD2
G23	VSS055	AD5
G26	VSS056	AD5
H3	VSS057	AD8
H6	VSS058	AD8
H21	VSS059	AD13
H24	VSS060	AD16
J2	VSS061	AD19
J5	VSS062	AD22
J22	VSS063	AE1
J25	VSS064	AE1
K1	VSS065	AE4
K4	VSS066	AE8
K23	VSS067	AE11
K26	VSS068	AE14
L3	VSS069	AE16
L6	VSS070	AE19
L21	VSS071	AE22
L24	VSS072	AE26
M2	VSS073	AF2
M6	VSS074	AF6
M22	VSS075	AF8
M25	VSS076	AF11
N1	VSS077	AF13
N4	VSS078	AF16
N23	VSS079	AF22
N26	VSS080	AF26
P3	VSS081	AF26
	VSS163	AF26



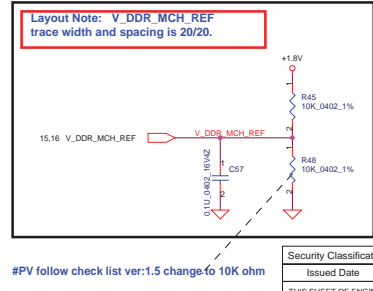
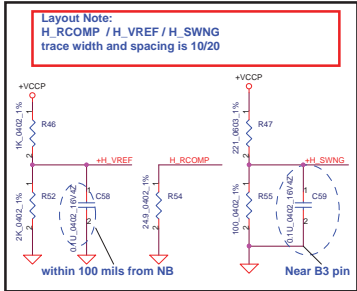
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**Layout note:**  
Route H\_SCOMP and H\_SCOMP# with trace width, spacing and impedance (55 ohm) same as FSB data traces



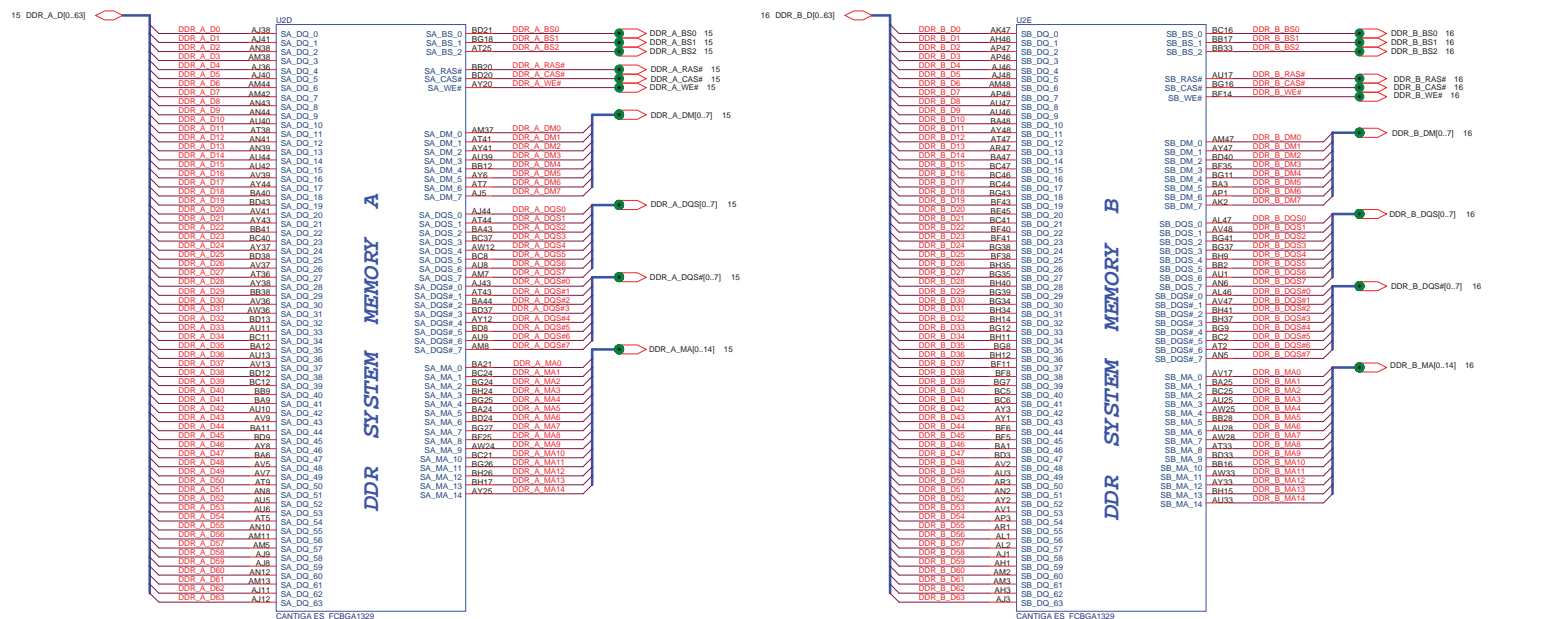
#PV follow check list ver:1.5 change to 10K ohm

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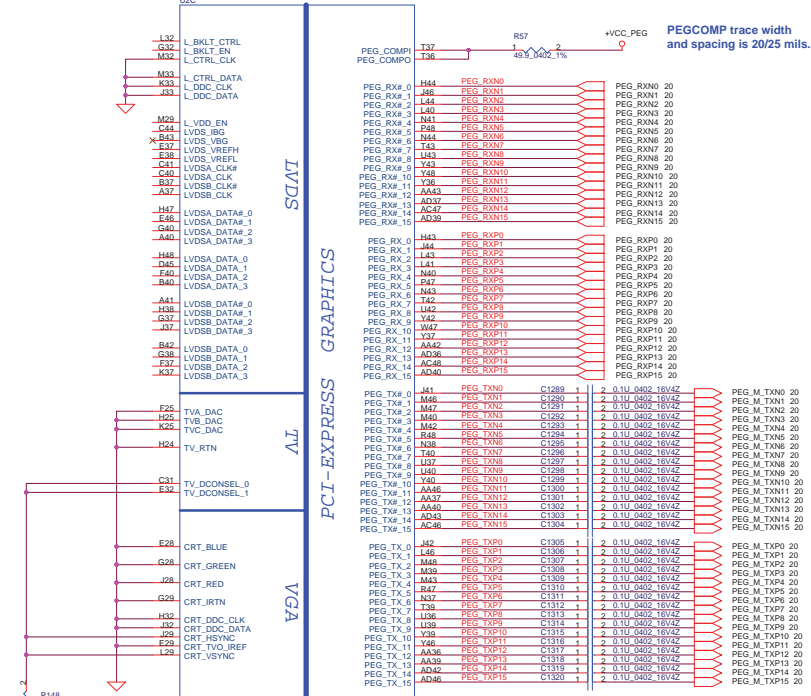


CANTIGA ES\_FCBGA1329

CANTIGA ES\_FCBGA1329

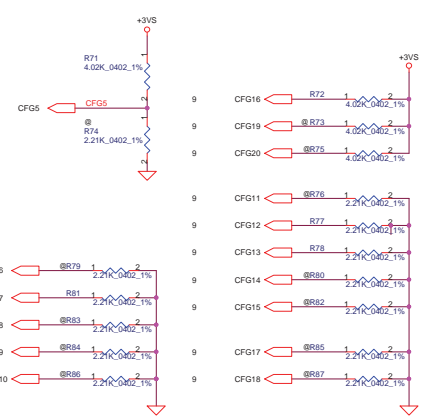
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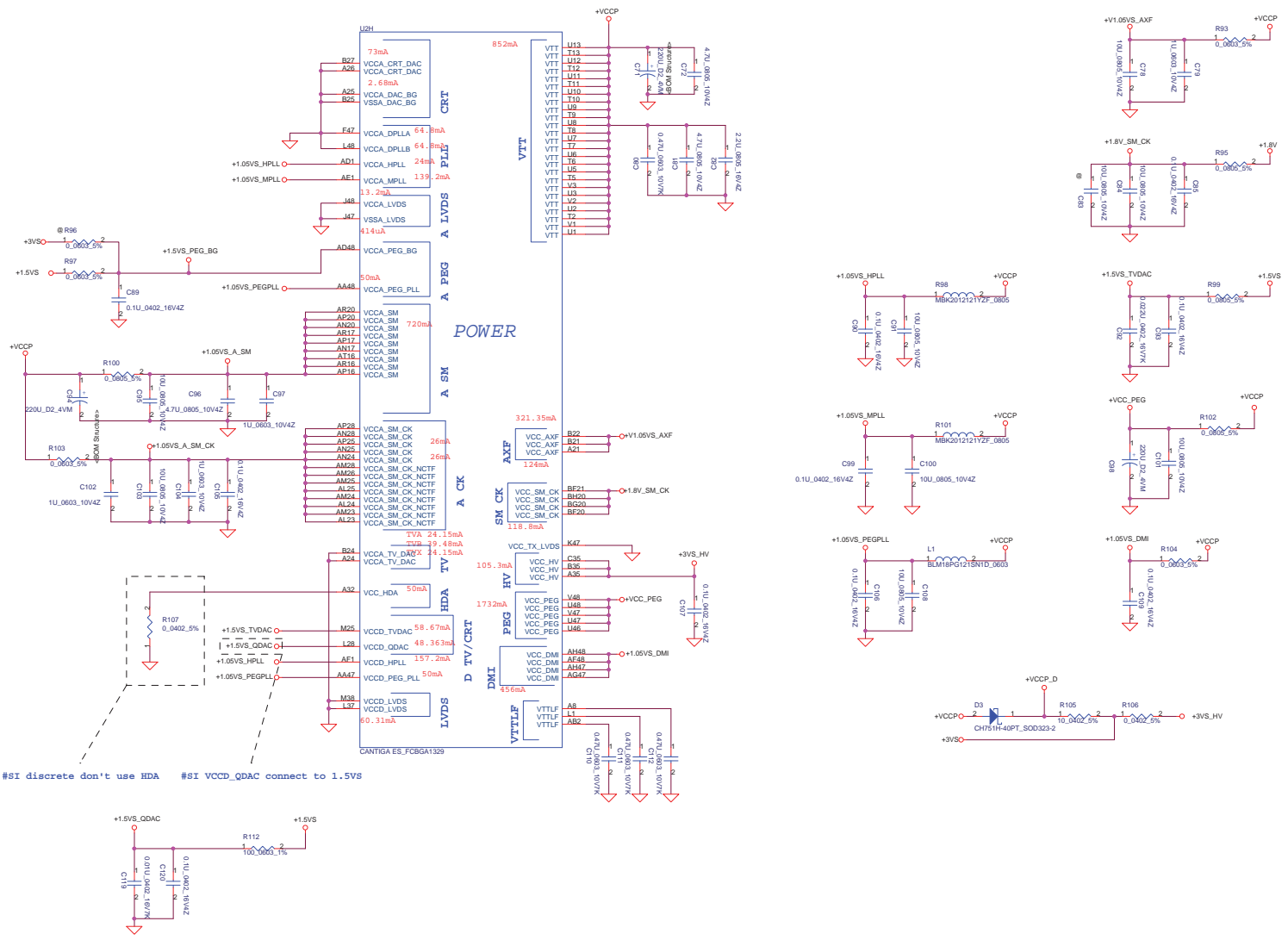
### Strap Pin Table

CFG[2:0] FSB Freq select	000 = FSB 1066MHz 010 = FSB 800MHz 011 = FSB 667MHz Others = Reserved
CFG[4:3]	Reserved
CFG5 (DMI select)	0 = DMI x 2 1 = DMI x 4 *
CFG6	0 = The ITPM Host Interface is enable 1 = The ITPM Host Interface is disable *
CFG7 (Intel Management Engine Crypto strap)	0 = (TLS)chipser suite with no confidentiality 1 = (TLS)chipser suite with confidentiality *
CFG8	Reserved
CFG9 (PCIe Graphics Lane Reversal)	0 = Reverse Lane,15->0, 14->1 1 = Normal Operation,Lane Number in order
CFG10 (PCIe Lookback enable)	0 = Enable 1 = Disable *
CFG11	Reserved
CFG[13:12] (XOR/ALLZ)	00 = Reserved 01 = XOR Mode Enabled 10 = All Z Mode Enabled 11 = Normal Operation (Default) *
CFG[15:14]	Reserved
CFG16 (FSB Dynamic ODT)	0 = Disabled 1 = Enabled *
CFG[18:17]	Reserved
CFG19 (DMI Lane Reversal)	0 = Normal Operation (Lane number in Order) * 1 = Reverse Lane
CFG20 (PCIe/SDVO concurrent)	0 = Only PCIe or SDVO is operational. * 1 = PCIe/SDVO are operating simul. *



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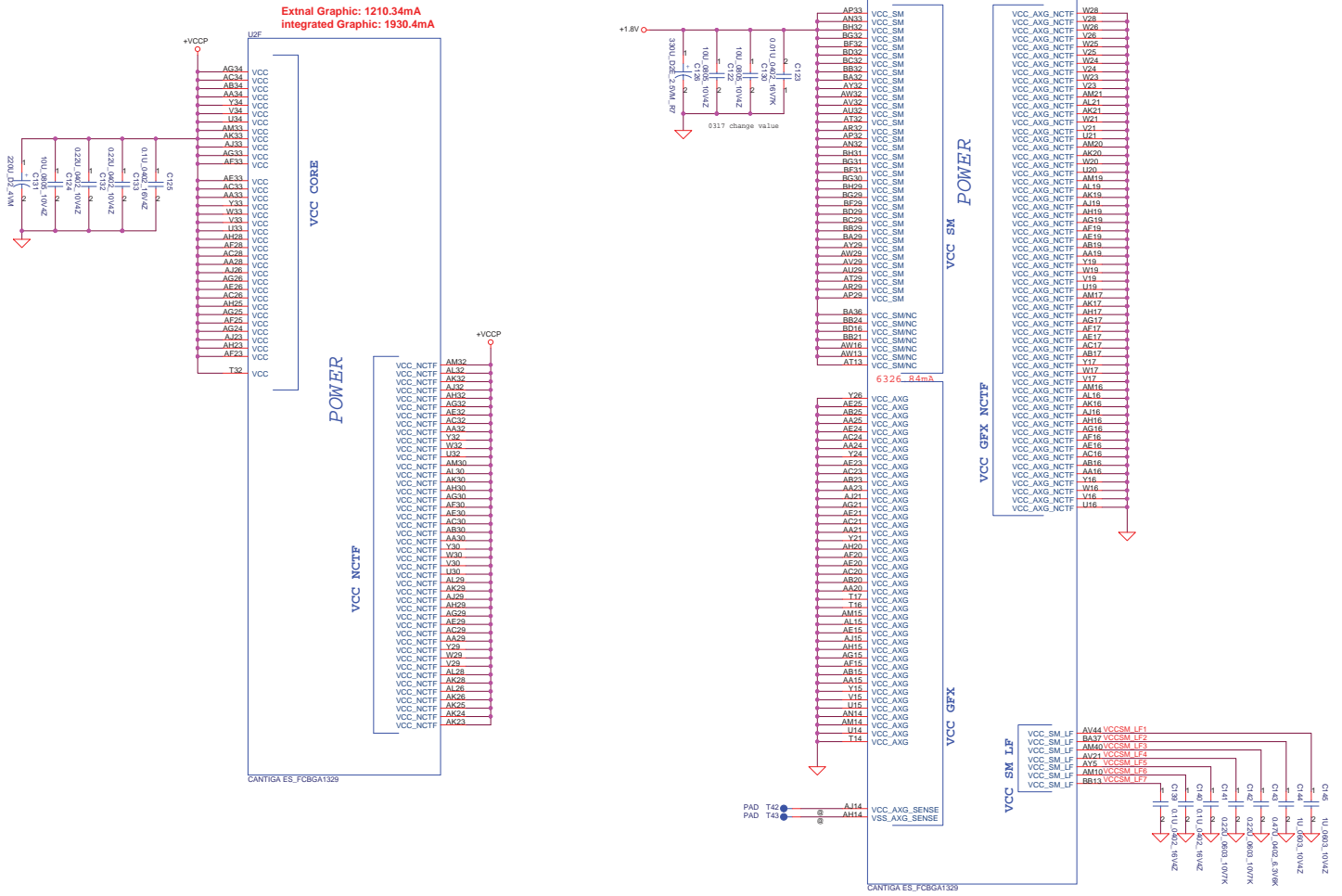
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#SI discrete don't use HDA #SI VCCD\_QDAC connect to 1.5VS

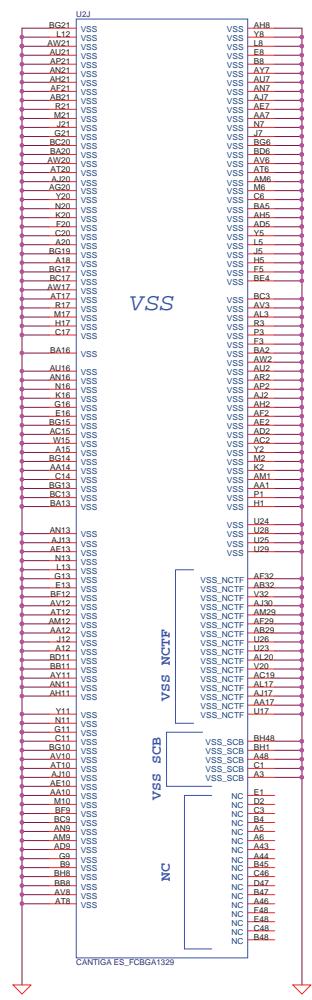
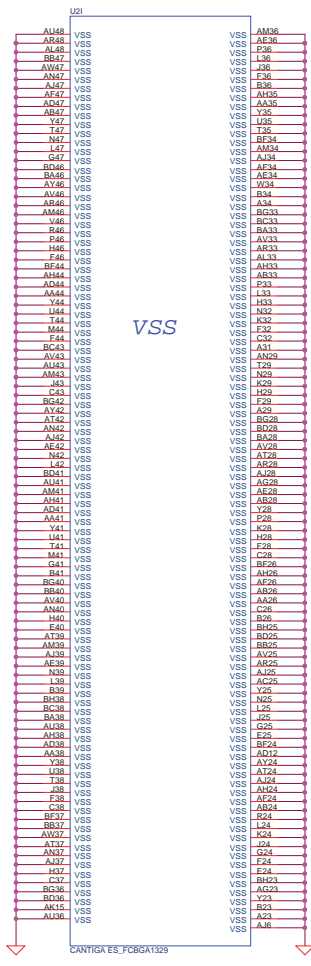
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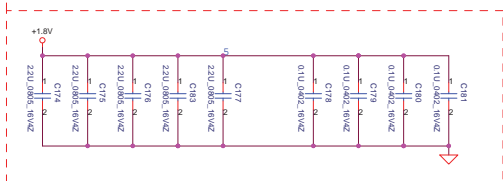
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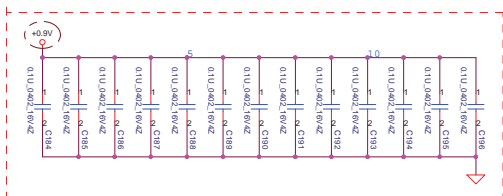


- 10 DDR\_B\_D0S#(0..7)
- 10 DDR\_B\_D0{.E3}
- 10 DDR\_B\_DM(0..7)
- 10 DDR\_B\_DQS(0..7)
- 10 DDR\_B\_MA(0..14)

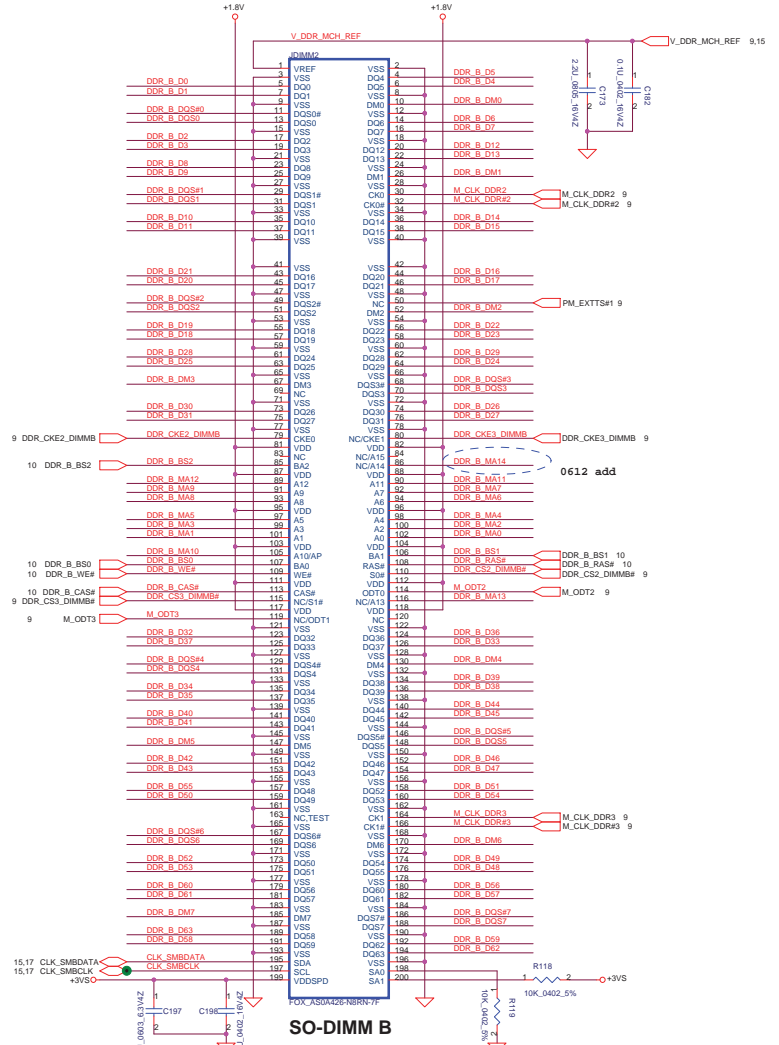
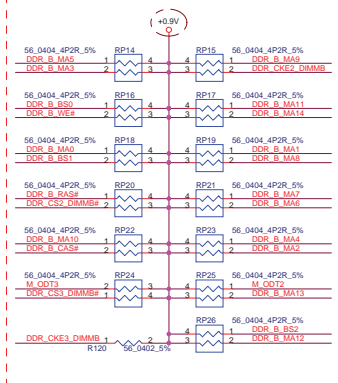
Layout Note:  
Place near JP40



Layout Note:  
Place one cap close to every 2 pullup resistors terminated to +0.9VS



Layout Note:  
Place these resistor closely JP3, all trace length Max=1.5"

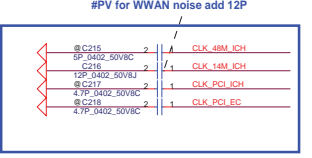
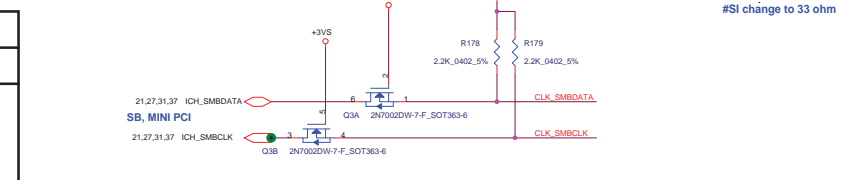
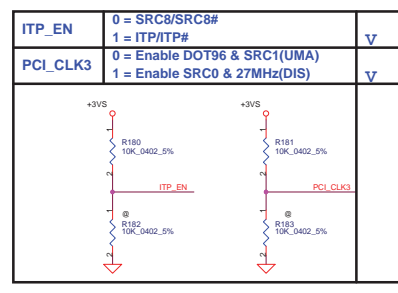
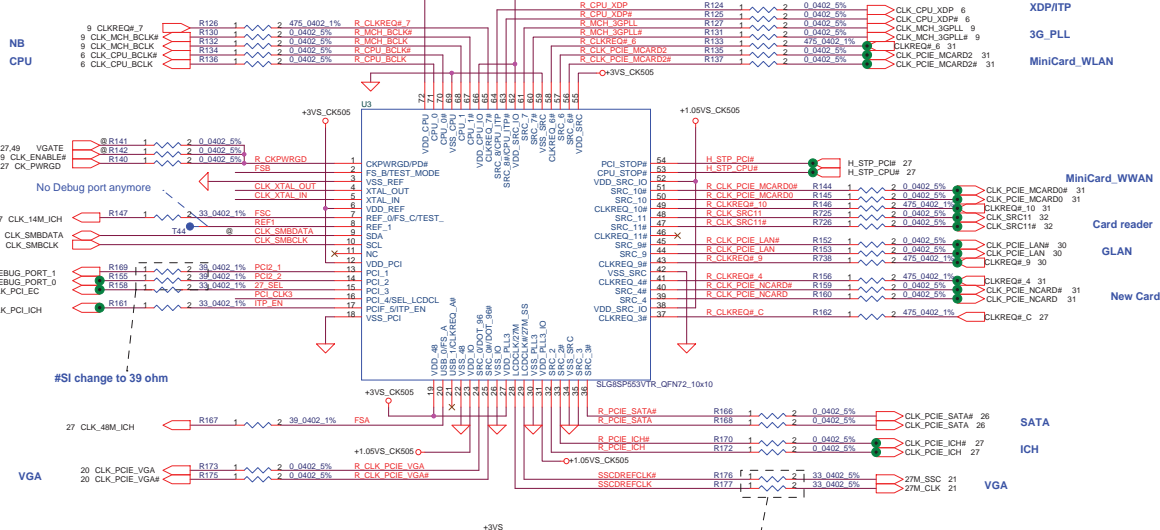
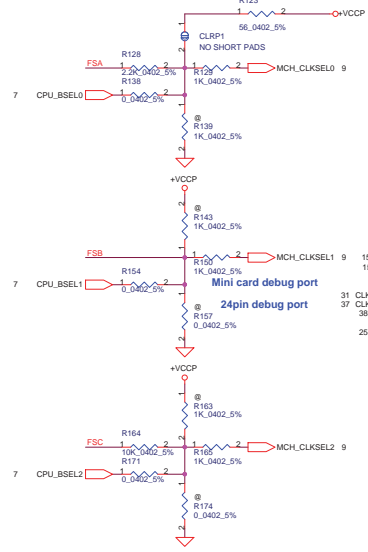
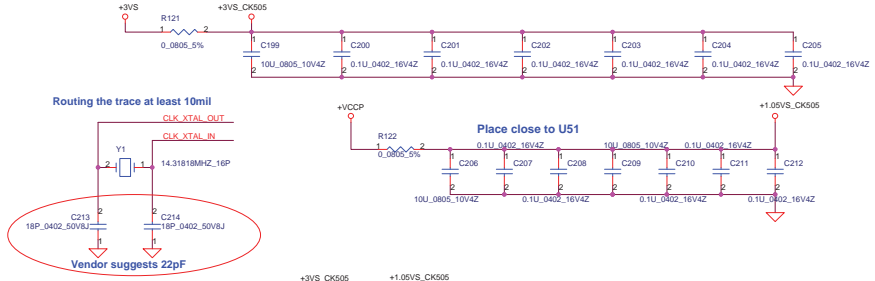


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				16K	LA-4102P Blade discrete	0.4
				Date	Monday, February 25, 2008	Sheet 16 of 53



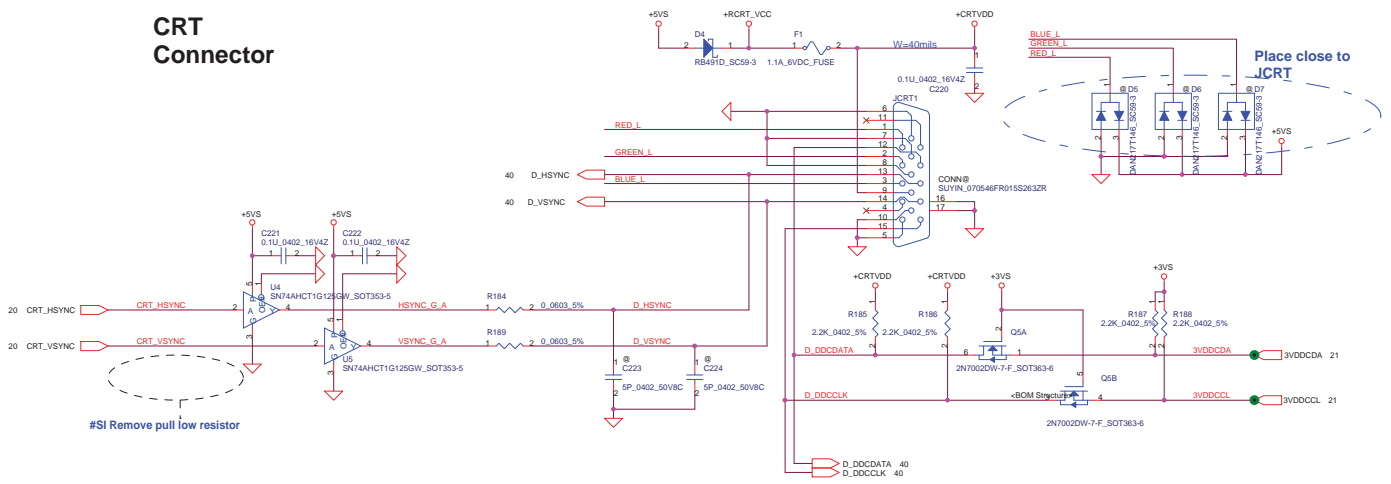
FSC	FBS	FSA	CPU	SRCH	PCI	REF	DOT_96	USB
CLKSEL2	CLKSEL	CLKSEL0	MHz	MHz	MHz	MHz	MHz	MHz
0	0	0	266	100	33.3	14.318	96.0	48.0
0	0	1	133	100	33.3	14.318	96.0	48.0
0	1	0	200	100	33.3	14.318	96.0	48.0
0	1	1	166	100	33.3	14.318	96.0	48.0
1	0	0	333	100	33.3	14.318	96.0	48.0
1	0	1	100	100	33.3	14.318	96.0	48.0
1	1	0	400	100	33.3	14.318	96.0	48.0
1	1	1						

Reserved

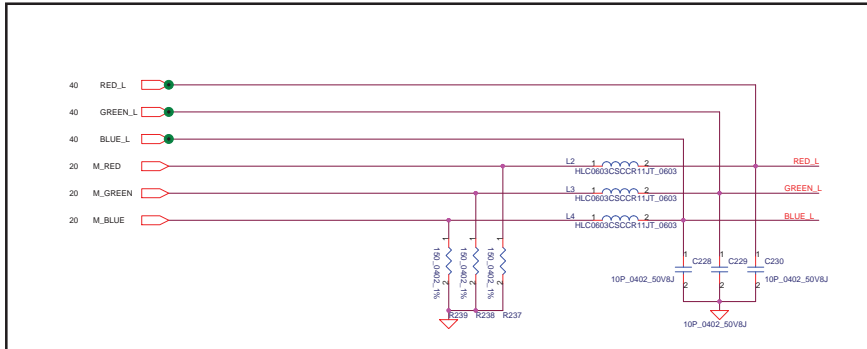


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Date	Monday, February 25, 2008	Sheet	17 of 53

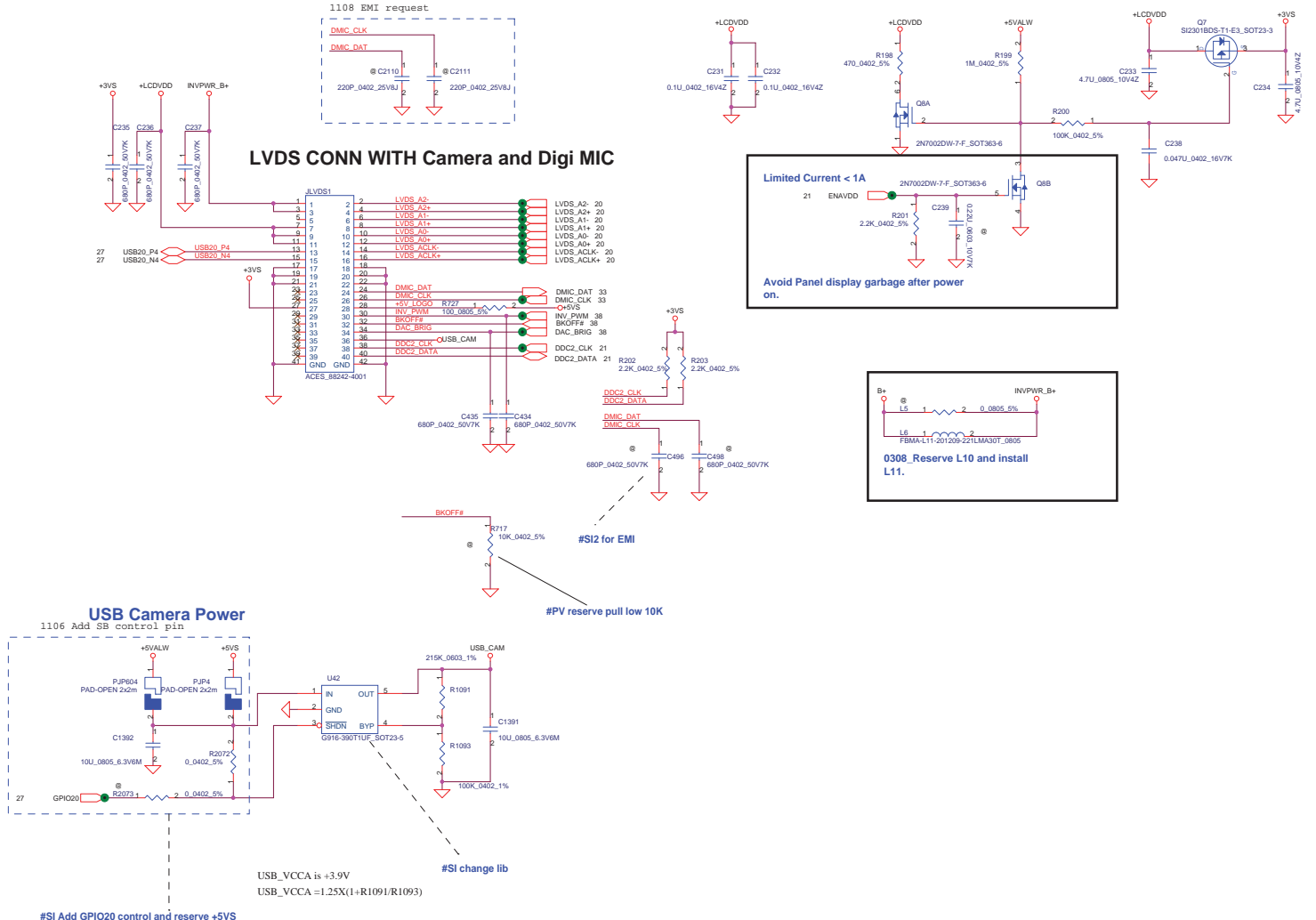
# CRT Connector



#SI Remove pull low resistor



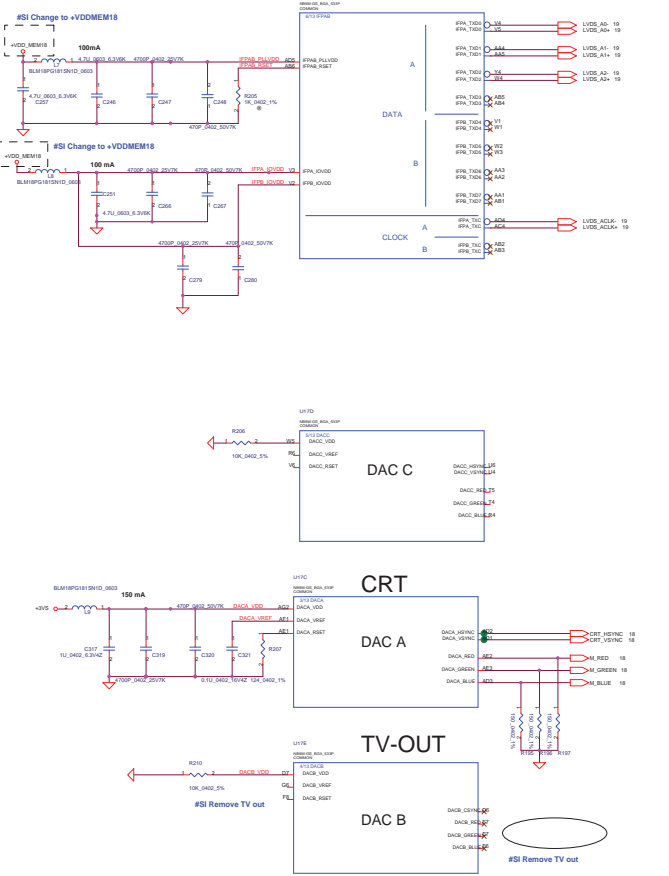
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Issued Date	2008/02/25	Deciphered Date	2009/02/25	Title
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				LA-4102P Blade discrete
				Rev 0.4
				Date: Monday, February 25, 2008 Sheet 18 of 53



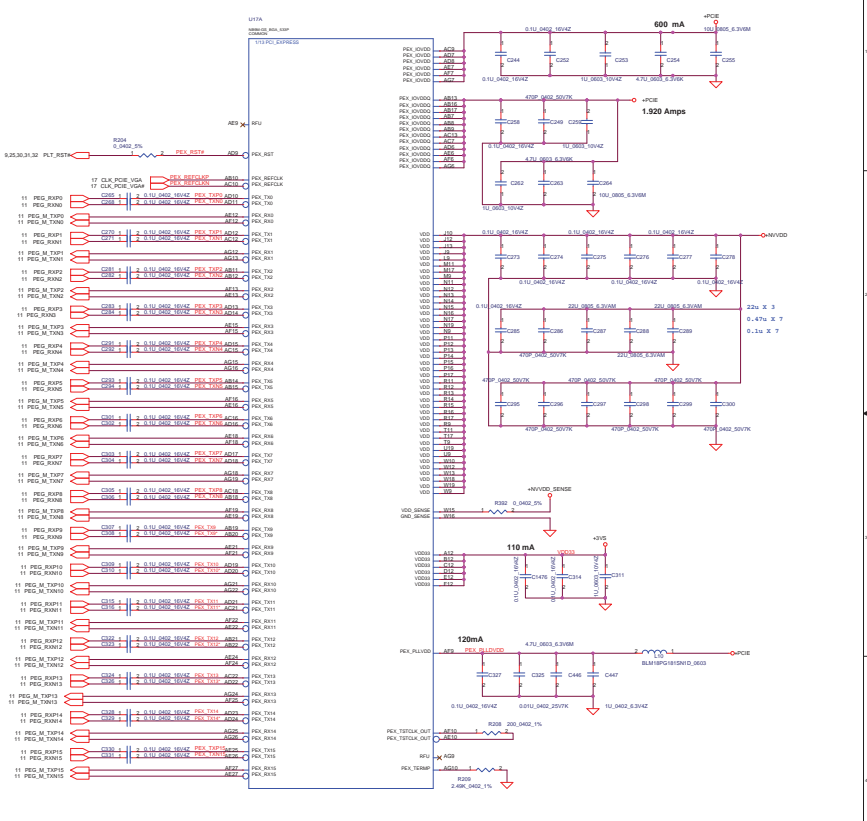
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### LVDS & DAC Interface



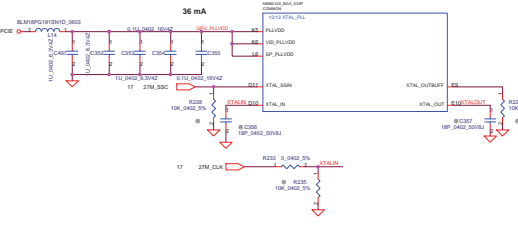
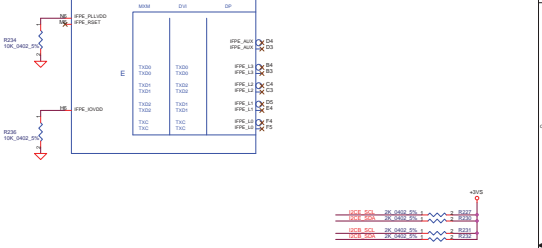
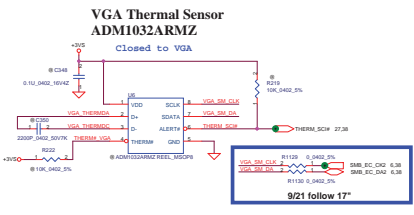
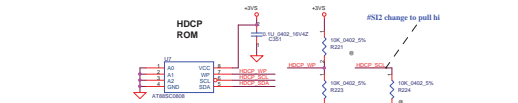
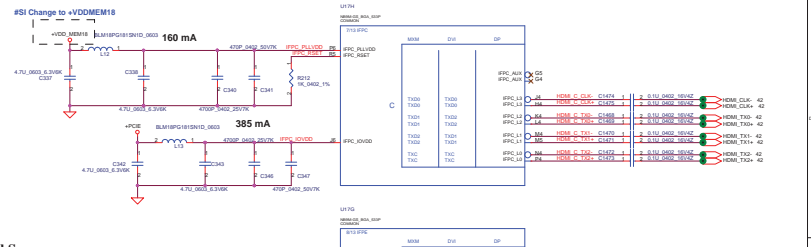
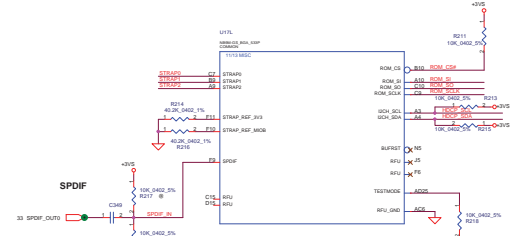
### PEG Interface



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		2008/02/25	2008/02/25	1.0	PEG & LVDS & DAC

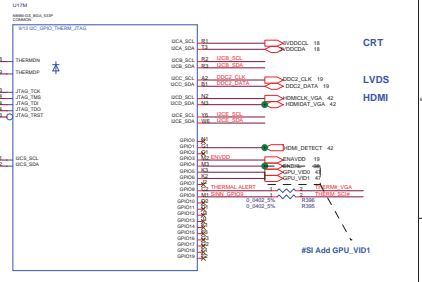
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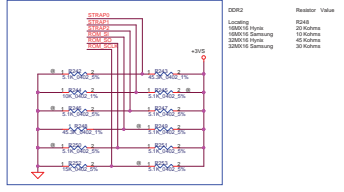


GPIO	I/O	ACTIVE	USAGE
GPIO0	IN	N/A	Primary DVI Hot-plug
GPIO1	IN	N/A	2nd DVI Hot-plug
GPIO2	OUT	H	Panel Back-Light PWM
GPIO3	OUT	H	Panel Power Enable
GPIO4	OUT	H	Panel Back-Light Enable
GPIO5	OUT	N/A	NVDD VID0
GPIO6	OUT	N/A	NVDD VID1
GPIO7	OUT	N/A	FBVDD VID0
GPIO8	IN	L	Thermal Alert
GPIO9	OUT	L	FAN PWM
GPIO10	OUT	N/A	FBVref Select
GPIO11	OUT	N/A	SLI SYNC0
GPIO12	IN	N/A	AC Detect
GPIO13	OUT	L	PS Control or HDMI_CEC
GPIO14	OUT	H	PS Control

GPU_VID1	GPU_VID0	+NVVDD
0	0	0.3V
0	1	1.09V
1	0	unused



**Straps**  
MULTI LEVEL STRAPS

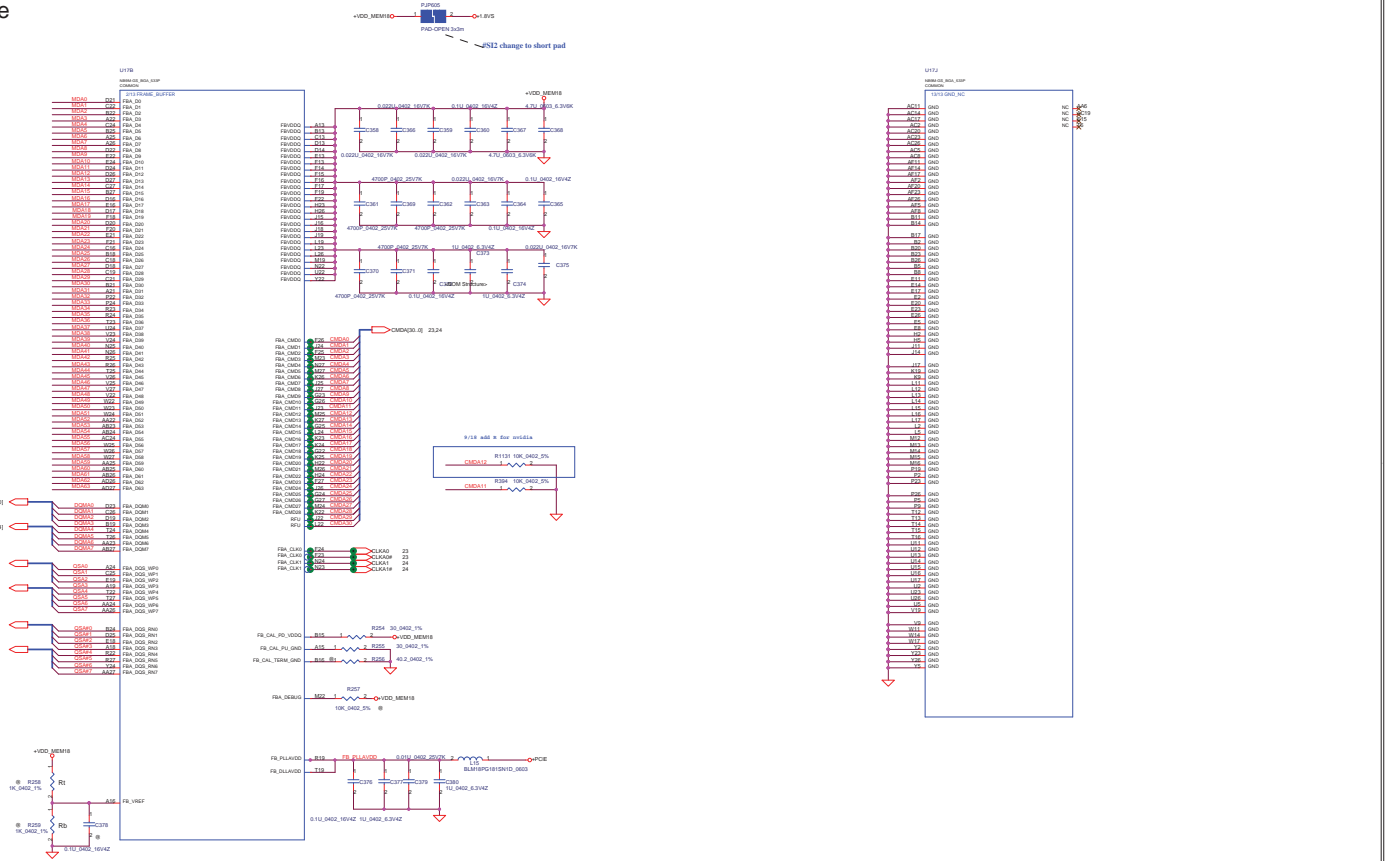


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		<b>Straps &amp; HDMI</b>
		TA-4149P Rev. 0/0/0

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# VRAM Interface

- 23 MDV15\_01 → MDV15\_01
- 23 MDV15\_10 → MDV15\_10
- 24 MDV17\_32 → MDV17\_32
- 24 MDV15\_40 → MDV15\_40



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				LA-4102P Board drawing	
				Sheet 22 of 53	

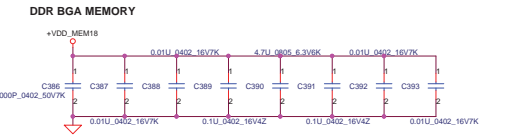
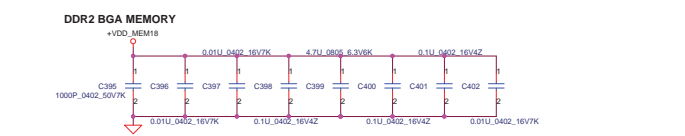
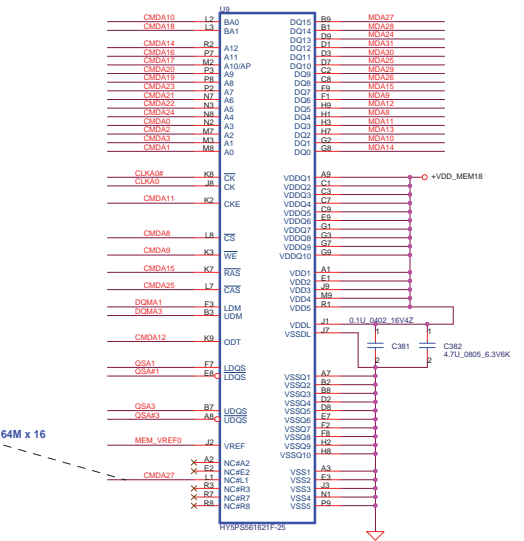
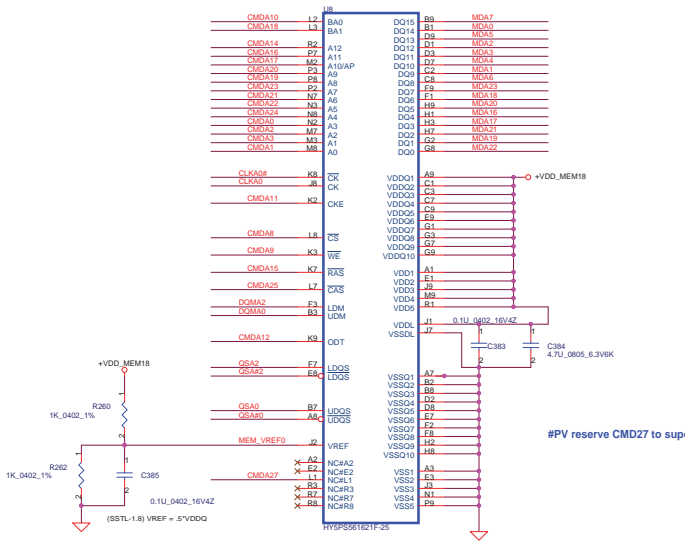
# VRAM DDR2 chips (256MB & 512MB)

32Mx16 DDR2 400MHz \*4==>256MB

64Mx16 DDR2 400MHz\*4==>512MB

- 22.24 GSA7[7..0] OS47\_01
- 22.24 GSA4[7..0] OS47\_01
- 22.24 DQMA7[7..0] DQMA7\_01
- 22.24 MDA[63..0] MDA[63..0]
- 22.24 CMDA[30..0] CMDA[30..0]

	DATA Bus	
Address	0..31	32..63
CMD0	A3	
CMD1	A0	A0
CMD2	A2	
CMD3	A1	A1
CMD4		A3
CMD5		A4
CMD6		A5
CMD7		
CMD8	CAS#	CAS#
CMD9	WE#	WE#
CMD10	BA0	BA0
CMD11	CKE	CKE
CMD12	ODT	ODT
CMD13		
CMD14	A12	A12
CMD15	RAS#	RAS#
CMD16	A10	A10
CMD17	A11	A11
CMD18	BA1	BA1
CMD19	A8	A8
CMD20	A9	A9
CMD21	A6	A6
CMD22	A5	
CMD23	A7	A7
CMD24	A4	
CMD25	CAS#	CAS#
CMD26	A13	A13
CMD27	BA2	BA2
CMD28		
CMD29		
CMD30		



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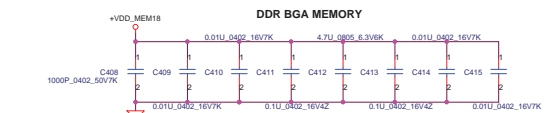
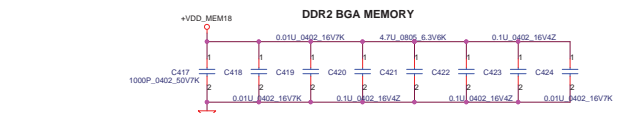
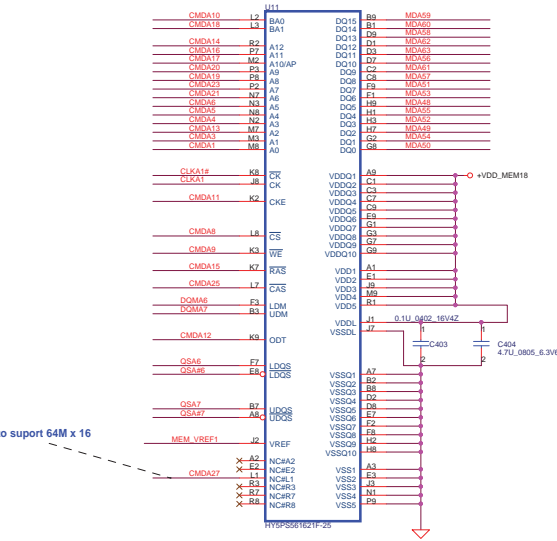
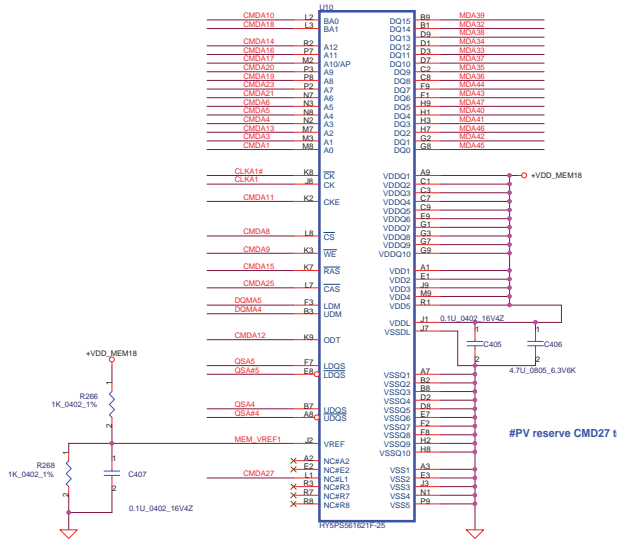
# VRAM DDR2 chips (256MB & 512MB)

32Mx16 DDR2 400MHz \*4==>256MB

64Mx16 DDR2 400MHz\*4==>512MB

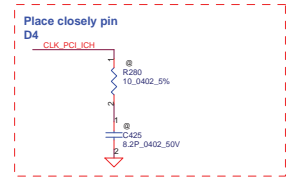
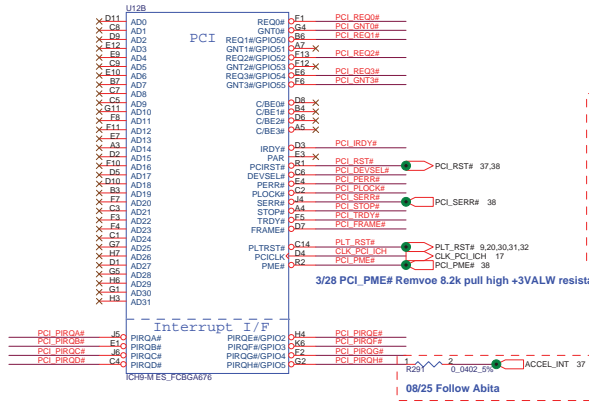
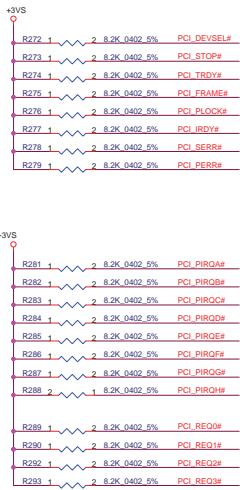
- 22.23 DQMA[7..0] <-> DQMA[7..0]
- 22.23 CMDA[30..0] <-> CMDA[30..0]
- 22.23 QSA[7..0] <-> QSA[7..0]
- 22.23 QSA[7..0] <-> QSA[7..0]
- 22.23 MDA[63..0] <-> MDA[63..0]

Address	0...31	32...63
CMD0	A3	
CMD1	A0	A0
CMD2	A2	
CMD3	A1	A1
CMD4		A3
CMD5		A4
CMD6		A5
CMD7		
CMD8	CS#	CS#
CMD9	WE#	WE#
CMD10	BA0	BA0
CMD11	CKE	CKE
CMD12	ODT	ODT
CMD13		
CMD14	A12	A12
CMD15	RAS#	RAS#
CMD16	A11	A11
CMD17	A10	A10
CMD18	BA1	BA1
CMD19	A8	A8
CMD20	A9	A9
CMD21	A6	A6
CMD22	A5	
CMD23	A7	A7
CMD24	A4	
CMD25	CAS#	CAS#
CMD26	A13	A13
CMD27	BA2	BA2
CMD28		
CMD29		
CMD30		



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			Date	Monday, February 25, 2008
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### A16 swap override Strap

PCI_GNT3#	Low= A16 swap override Enable	High= Default *

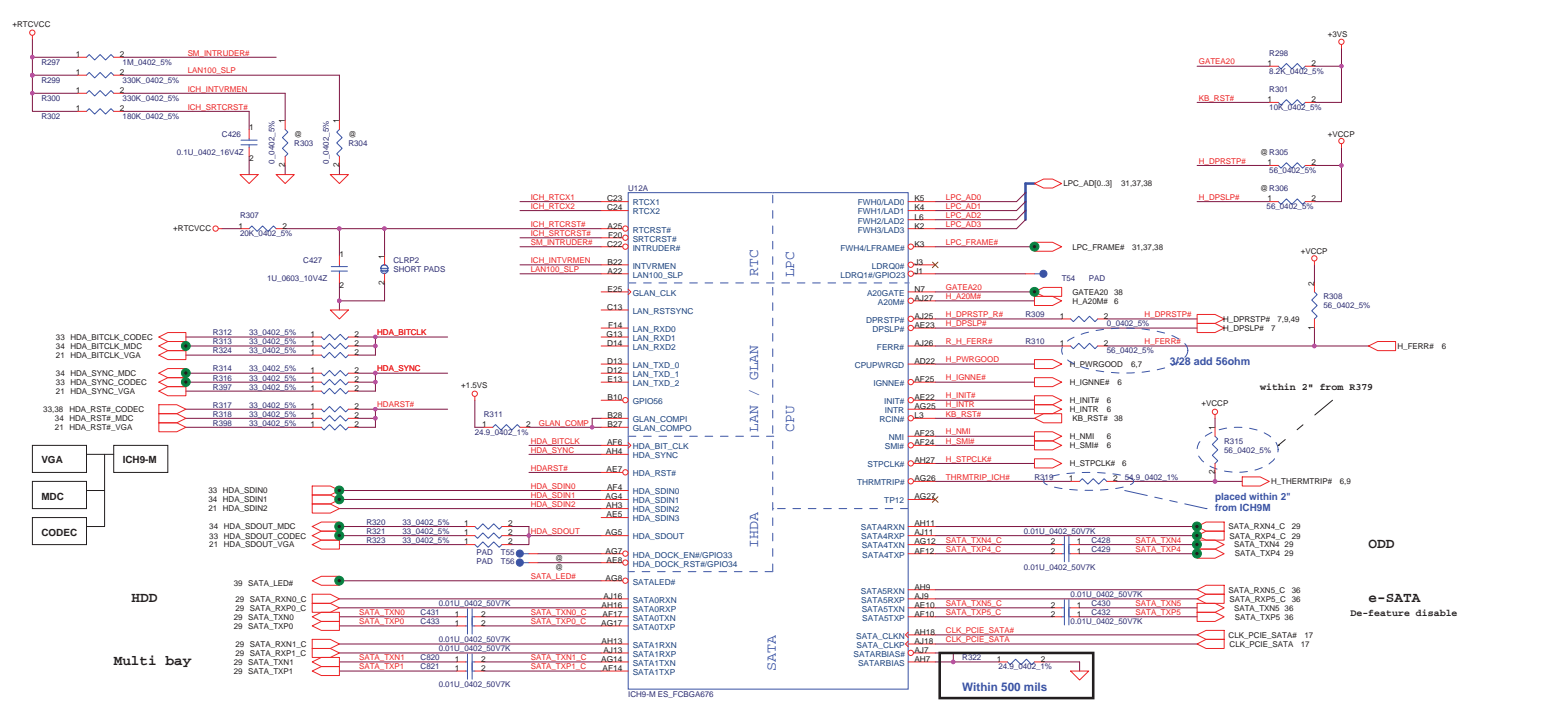
### Boot BIOS Strap

PCI_GNT0#	SPI_CS#1	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC *

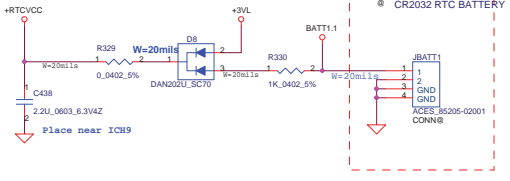
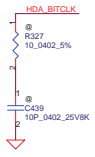
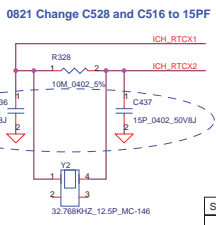
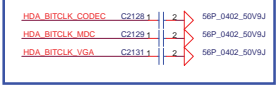
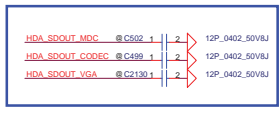
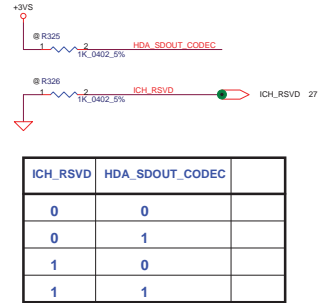
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				LA-4102P Blade discrete	Rev 0.4
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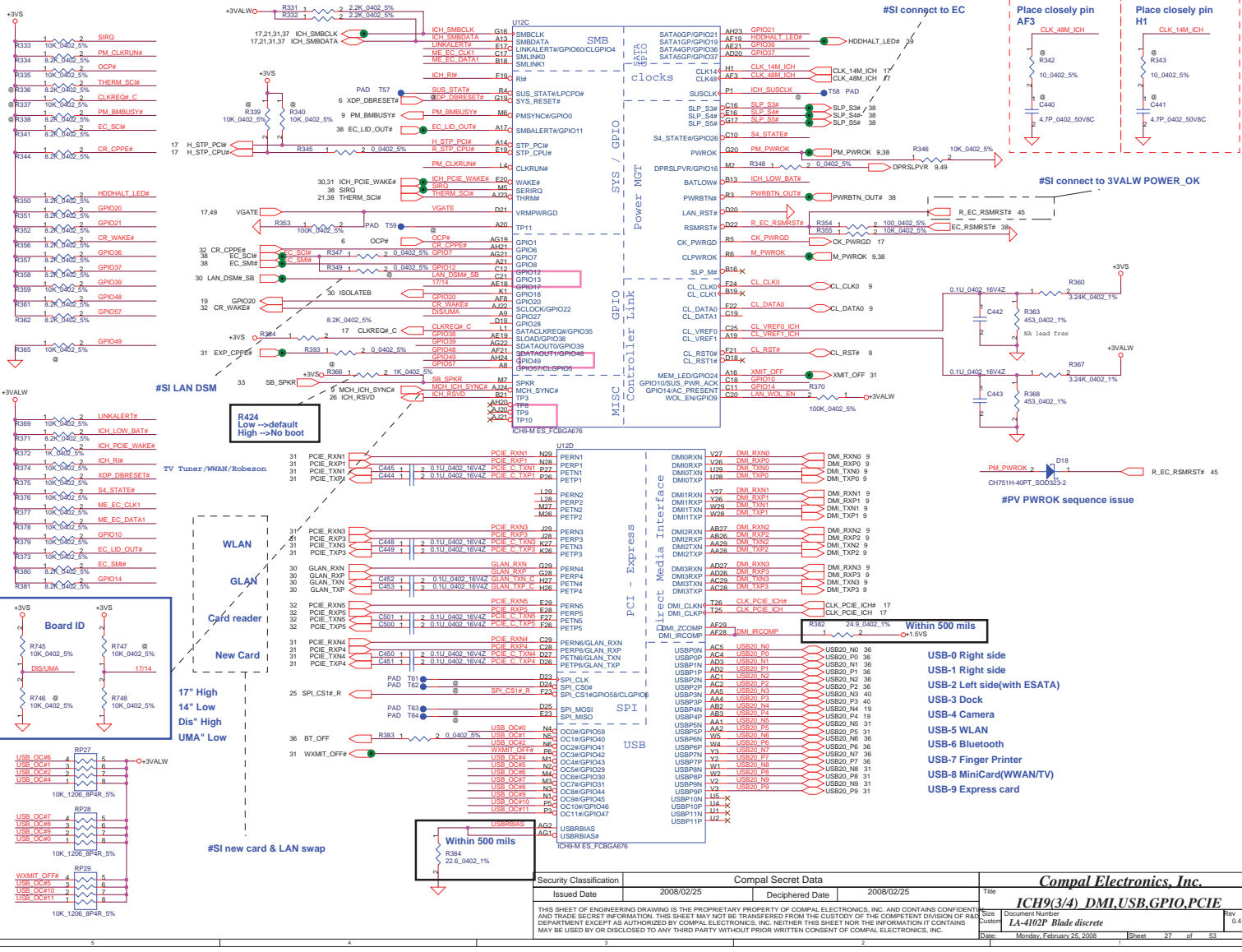
**XOR CHAIN ENTRANCE STRAP:RSVD**



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		<b>Deciphered Date</b>	2008/02/25

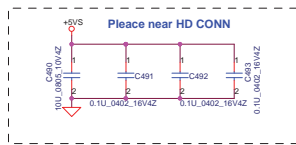
  

<b>Compal Electronics, Inc.</b>	
<b>ICH9(2/4) LAN,HD,IDE,LPC</b>	
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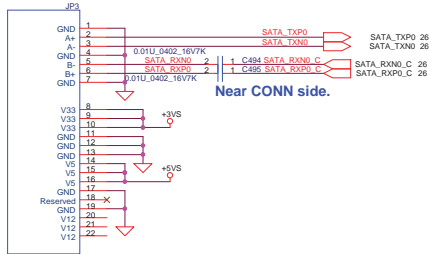


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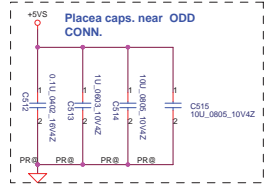




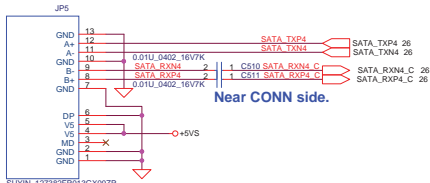
### HDD Connector



SUYIN\_127072FR02GS23\_RV  
CONN#

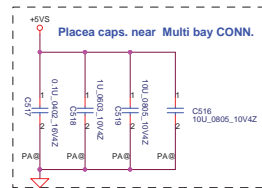
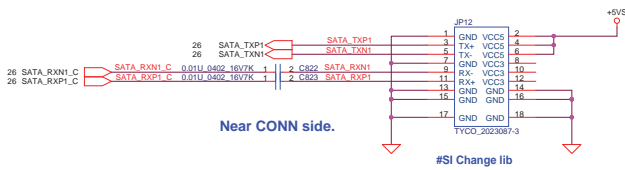


### CD-ROM Connector



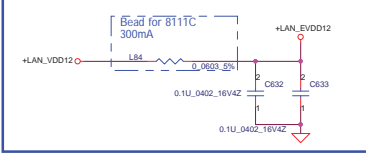
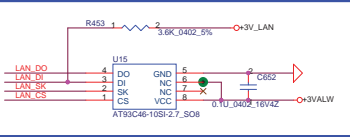
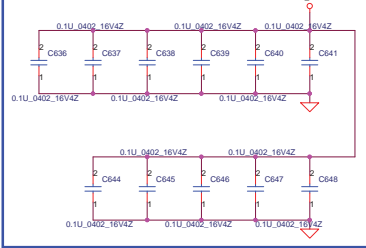
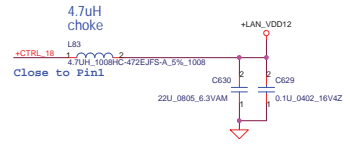
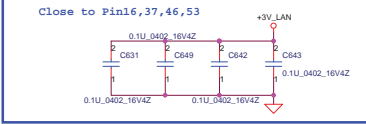
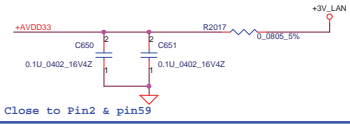
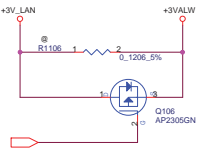
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CONN#

### Multi Bay Connector

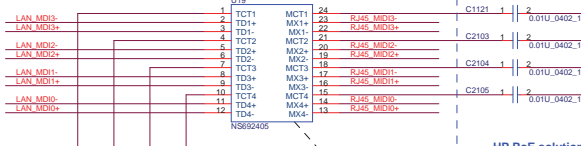
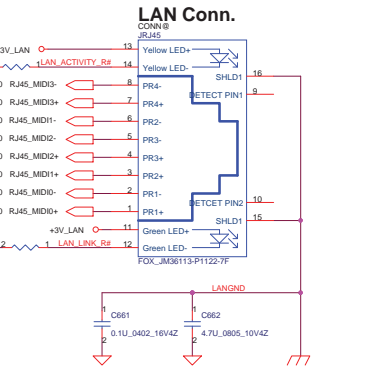
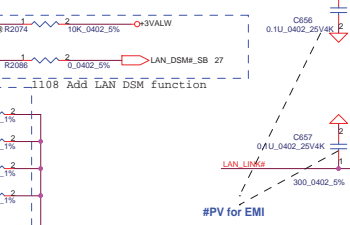
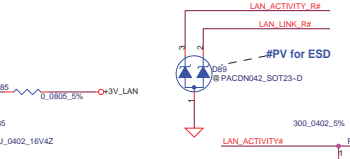
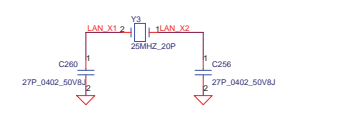
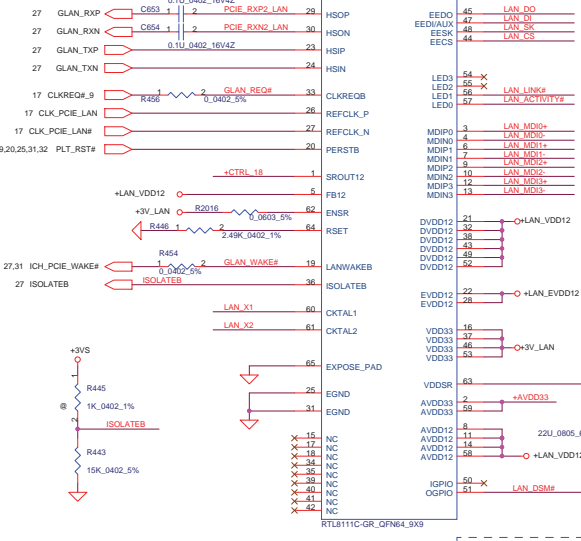


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**1025 add to meet HP request**



**Place Close to Chip**

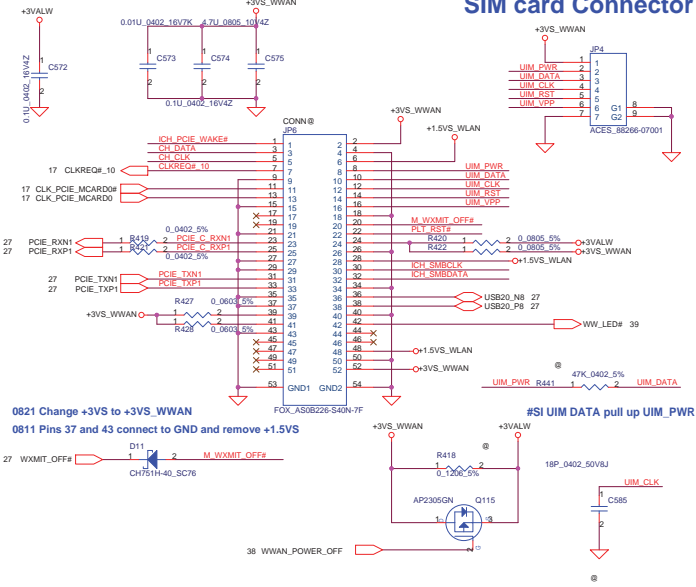


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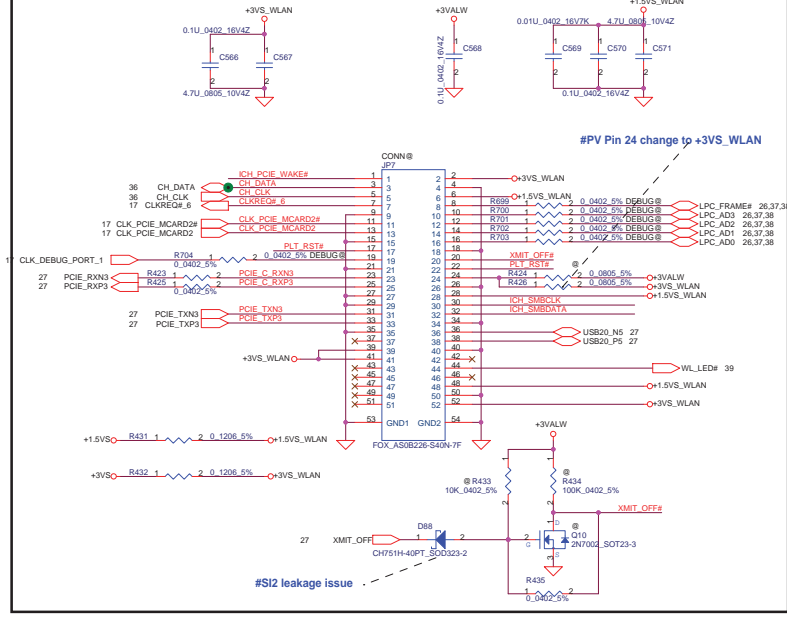
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# Mini Card 0--TV tuner/WWAN/Robson

## SIM card Connector

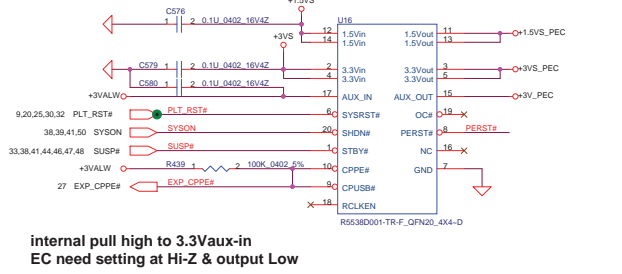


# Mini Card 2---WLAN

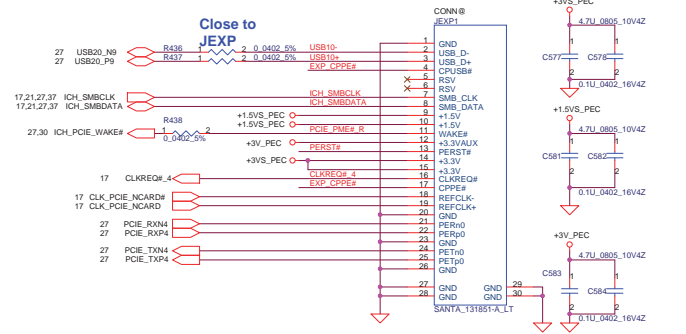


# New Card

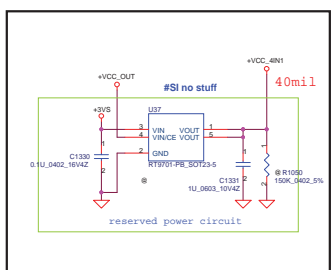
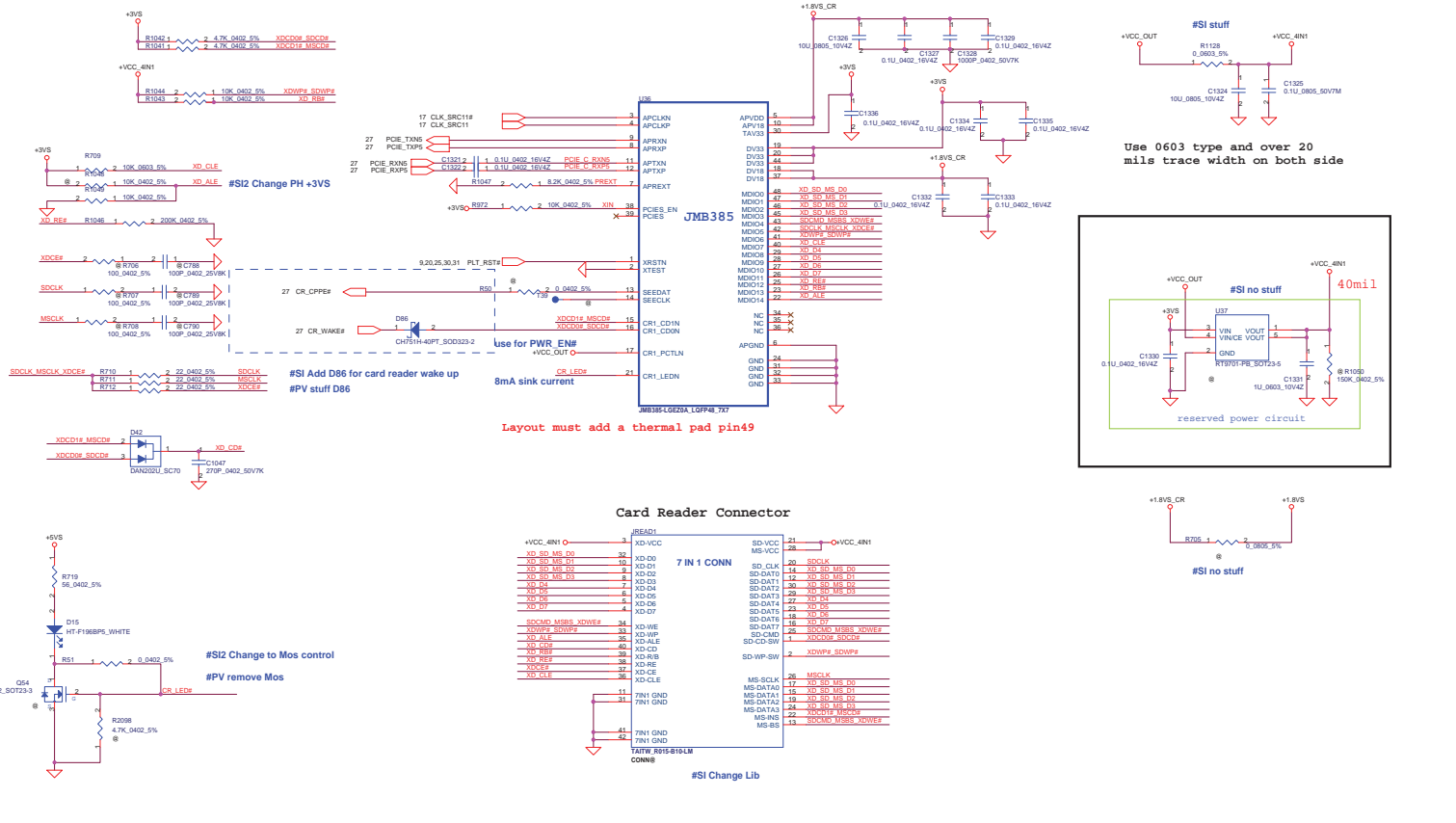
## Express Card Power Switch



## Near to Express Card slot.



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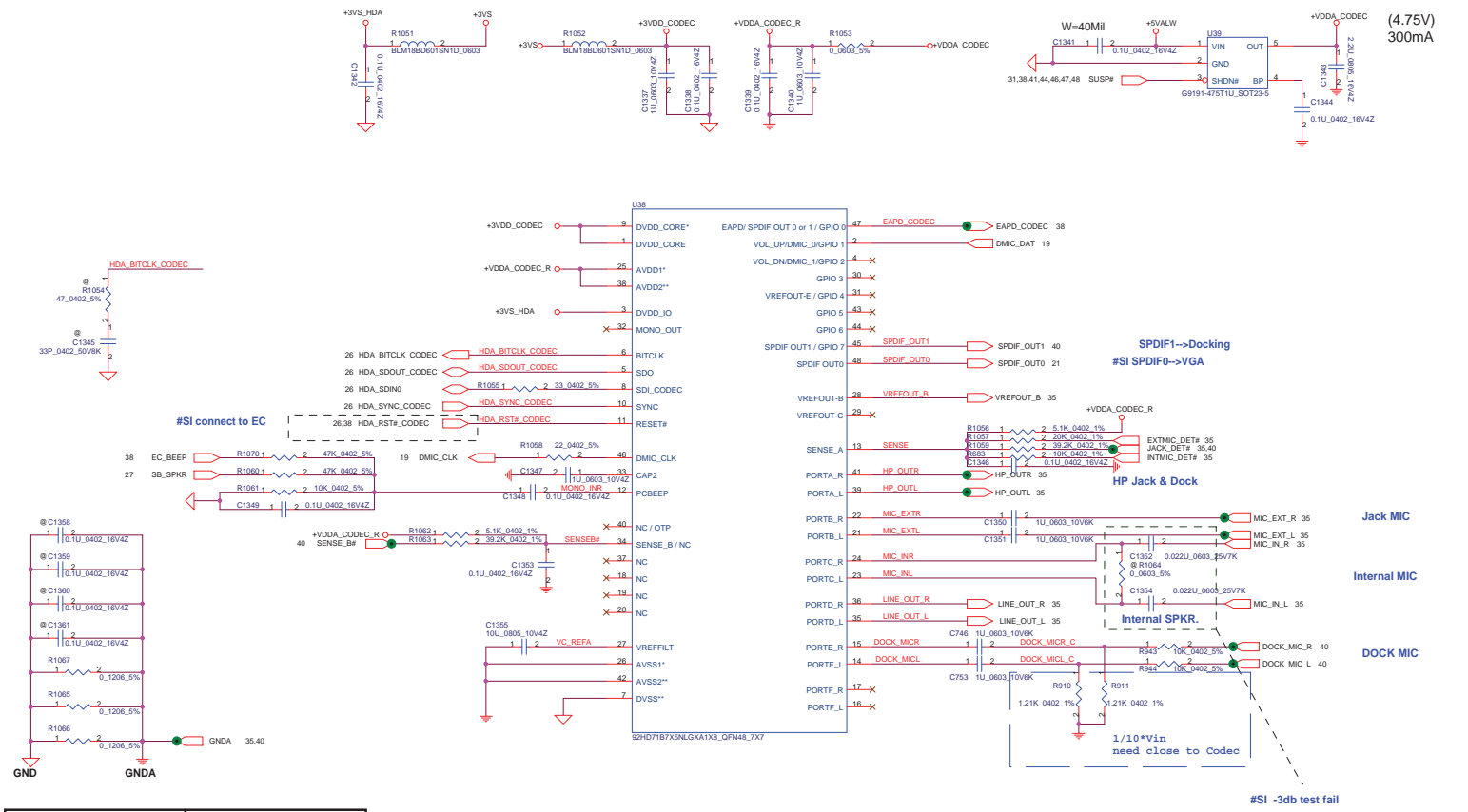
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**CODEC POWER**

(4.75V)  
300mA

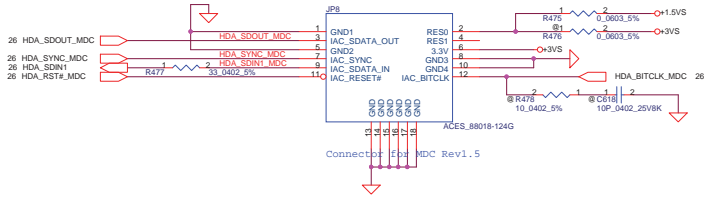


SENSE A		SENSE B	
Port	Resistor	Port	Resistor
A	39.2K	E	39.2K
B	20K	F	20K
C	10K	G	10K
D	5.11K	H	5.11K

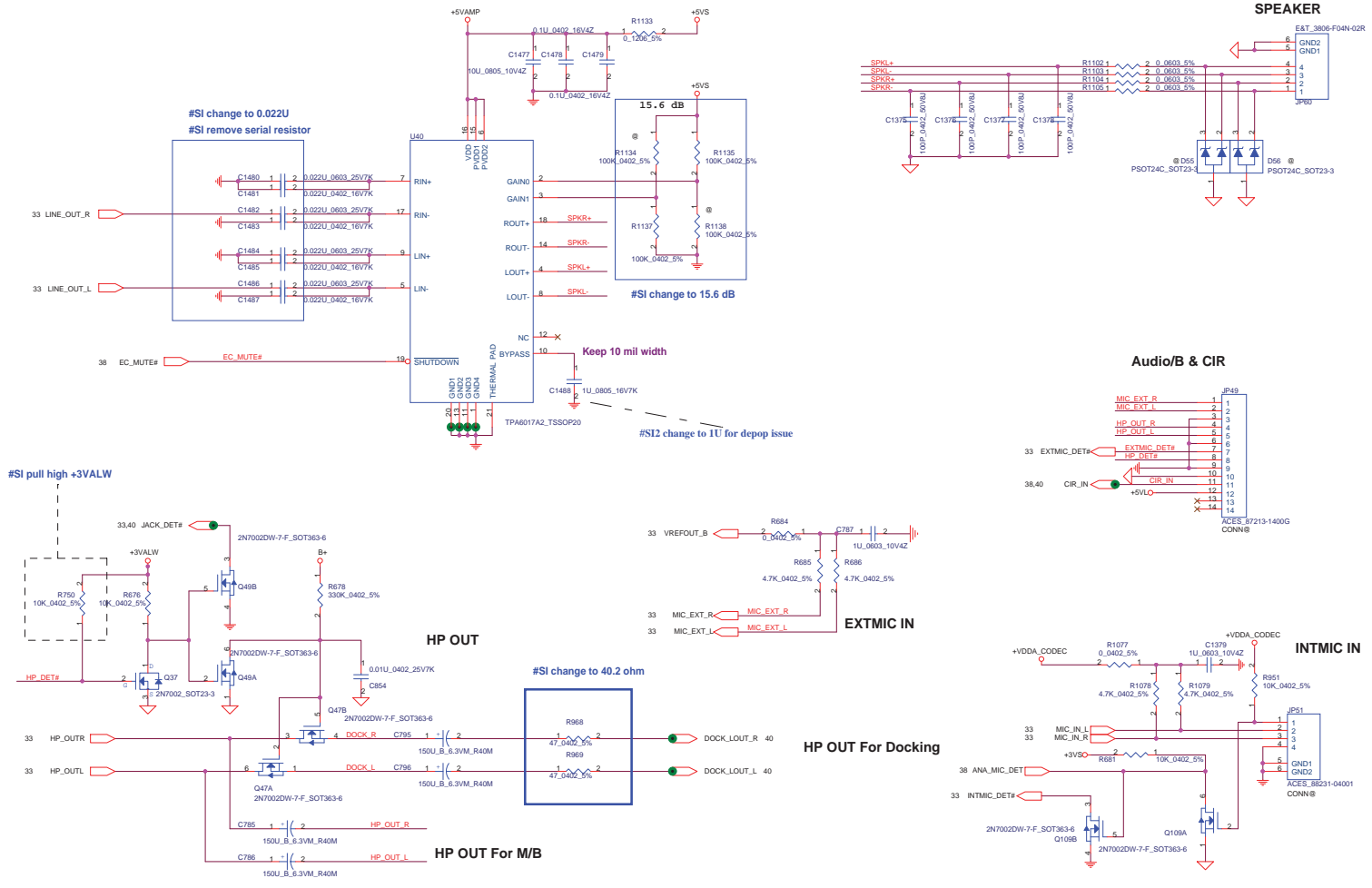
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### MDC 1.5 Conn.

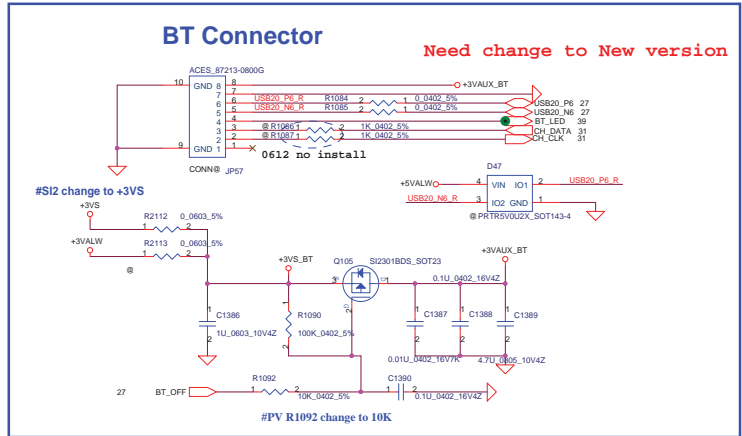
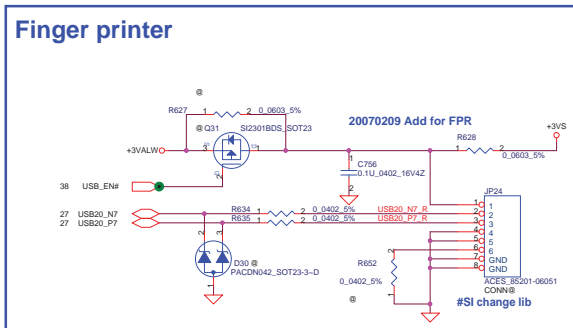
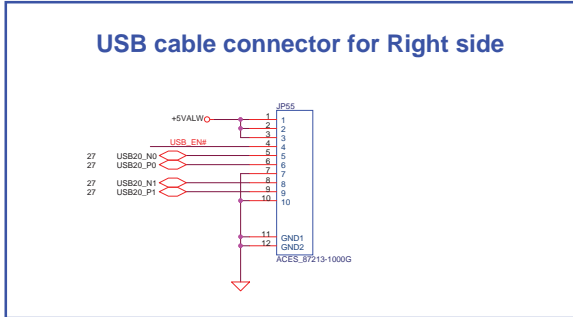
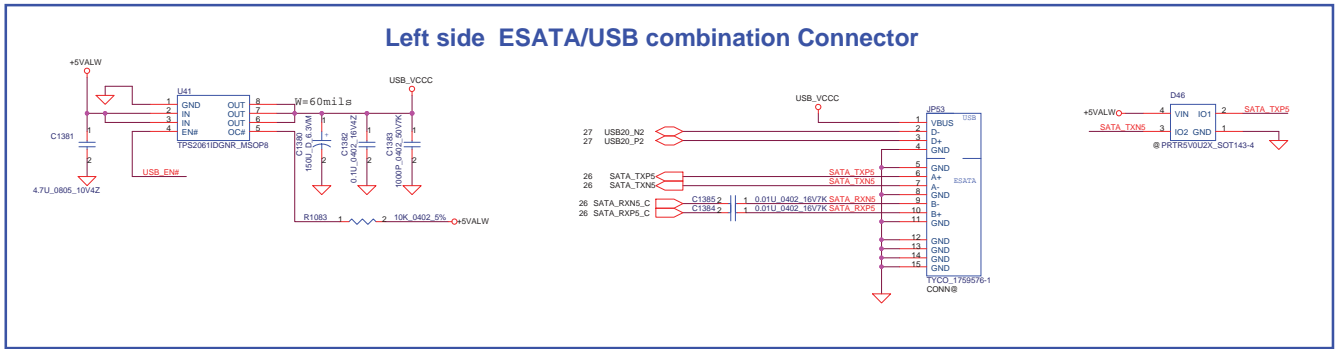


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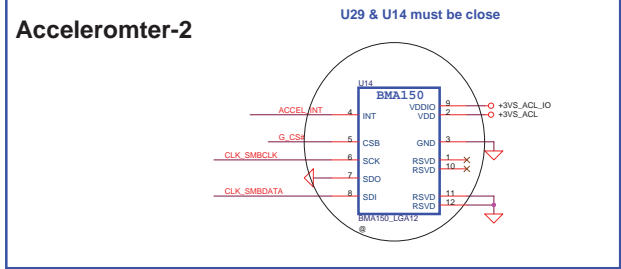
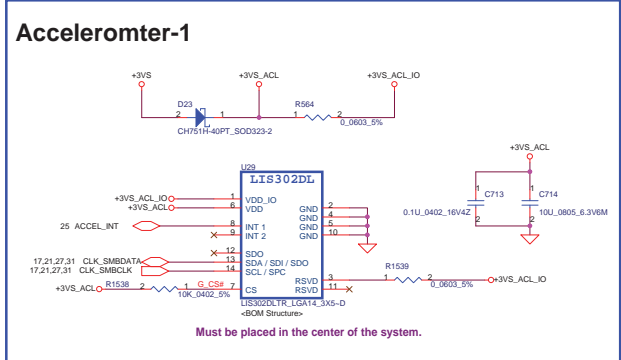
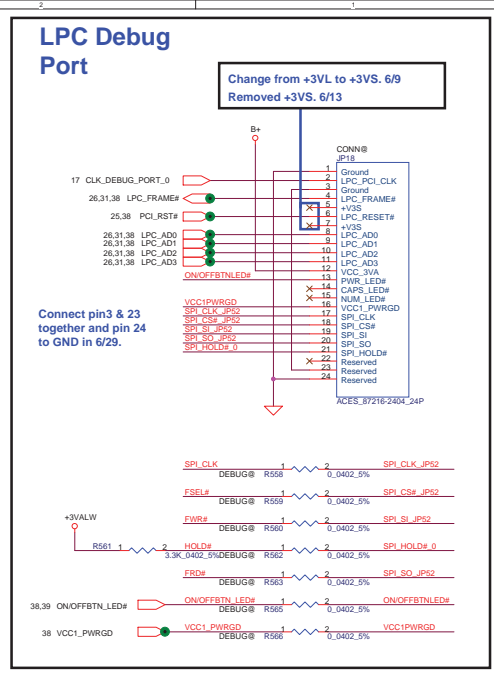
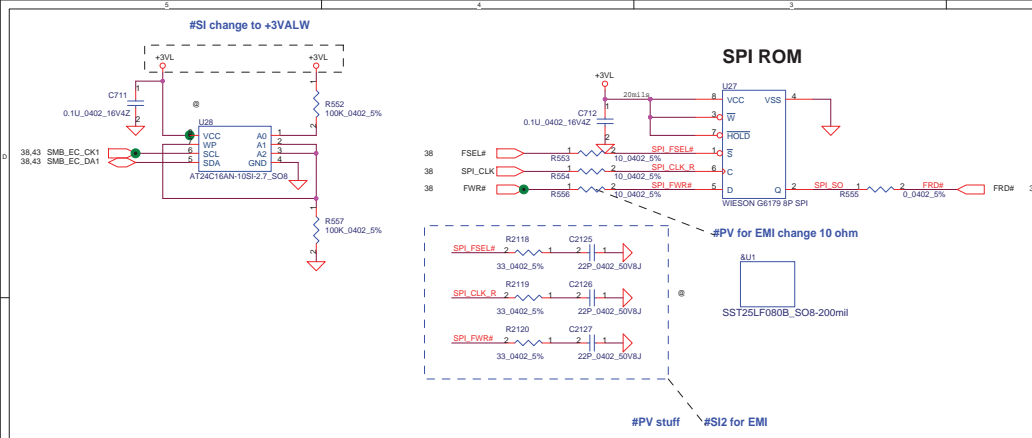


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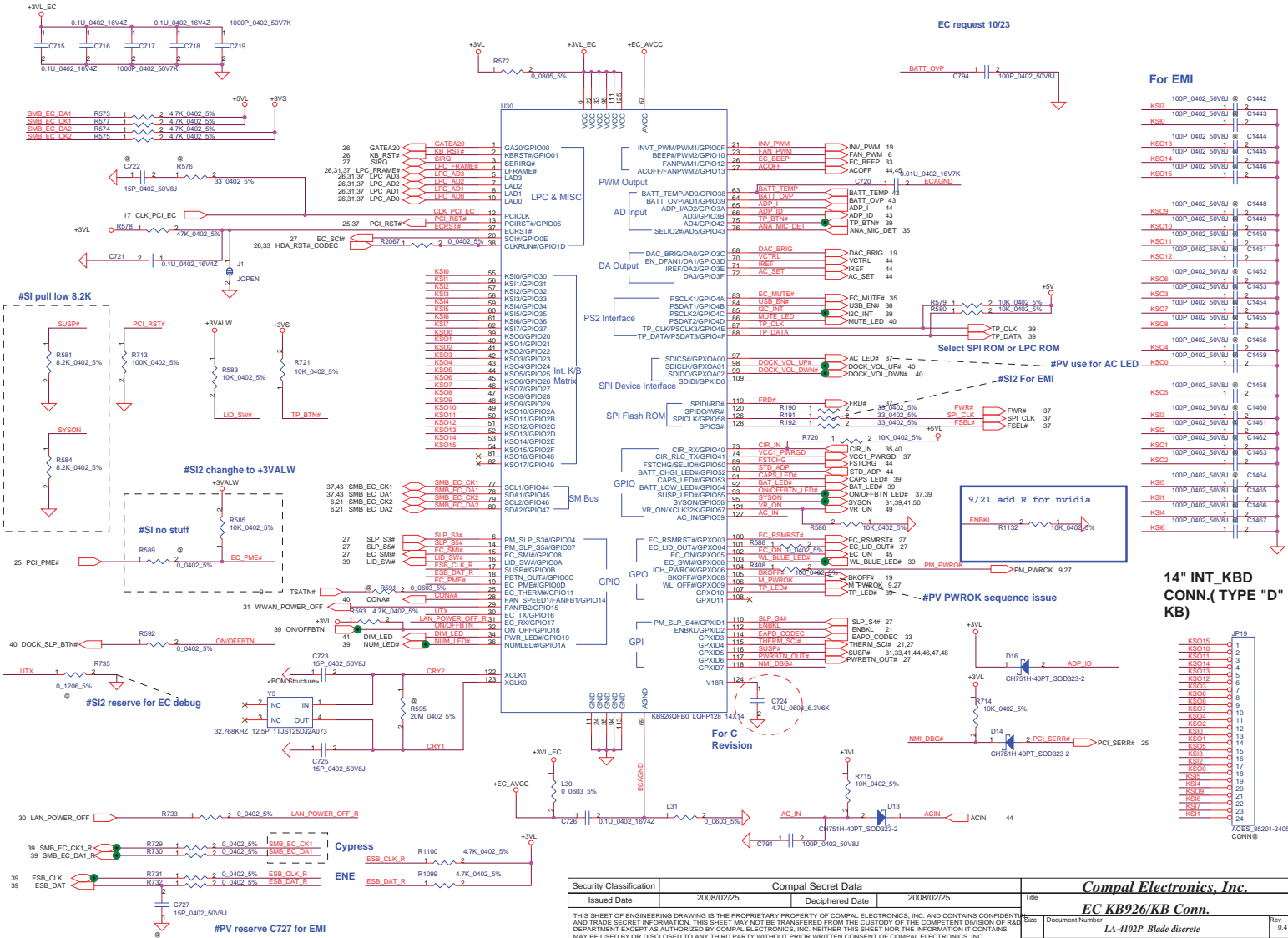


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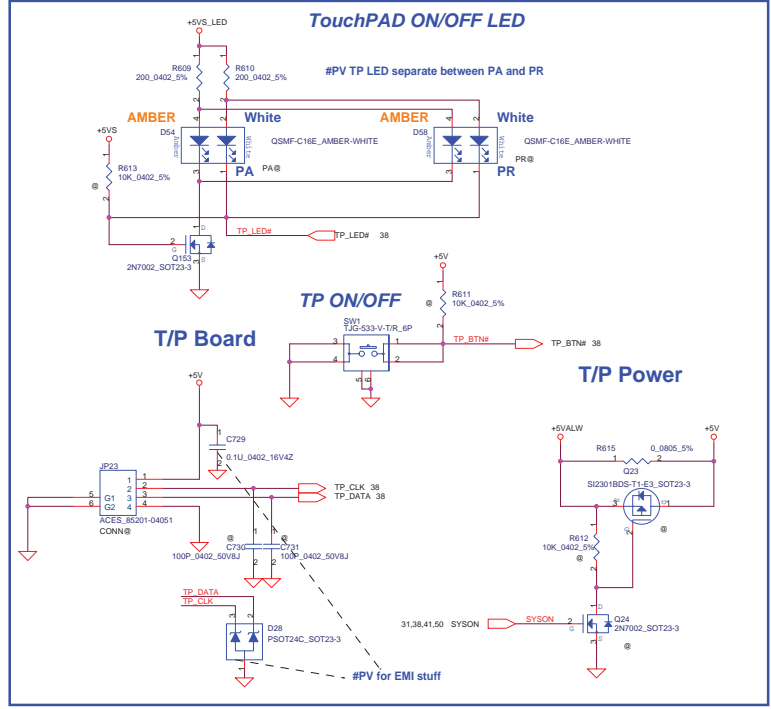
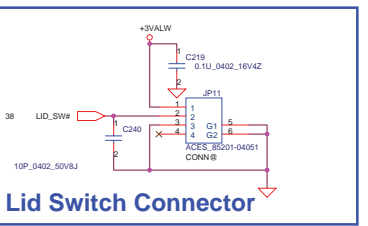
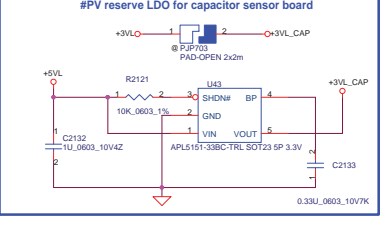
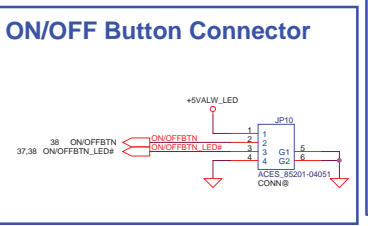
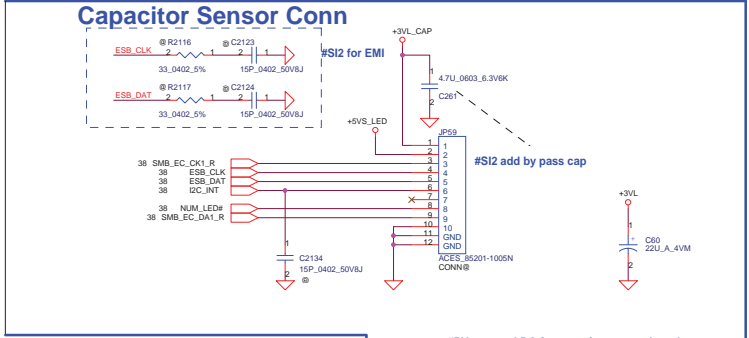
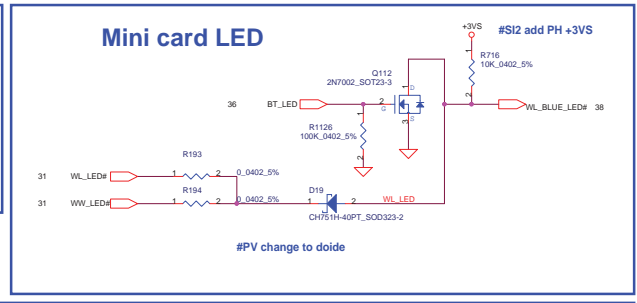
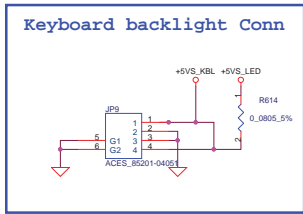
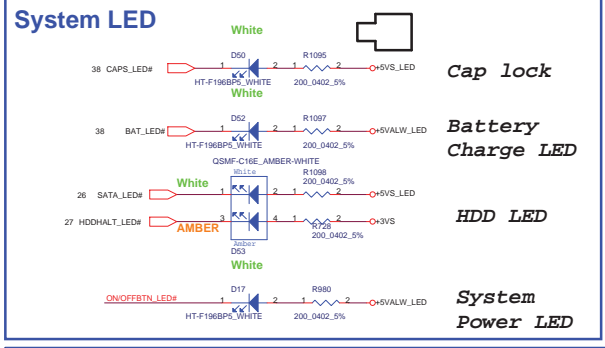


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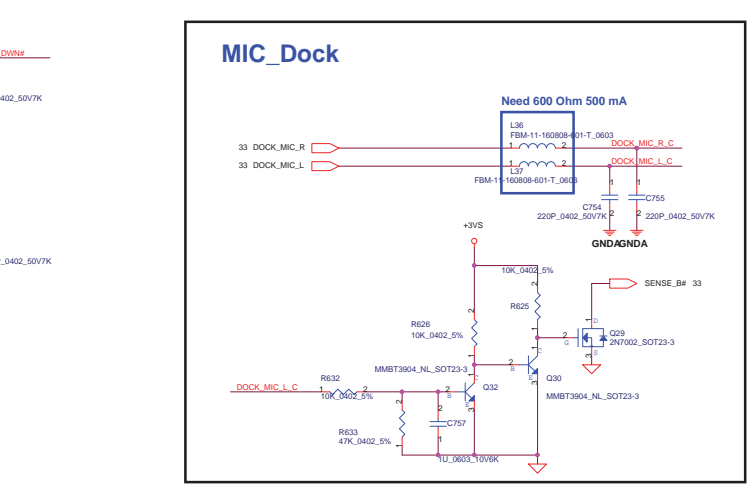
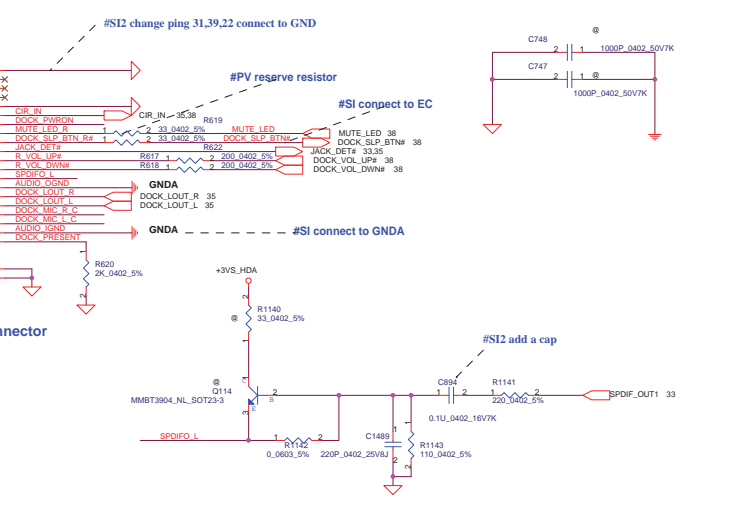
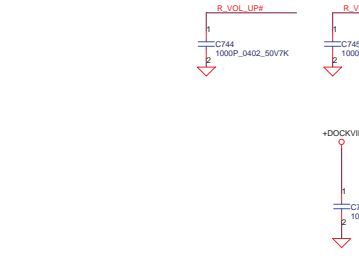
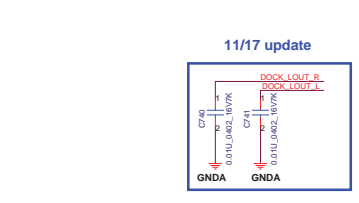
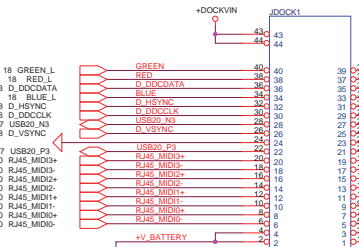
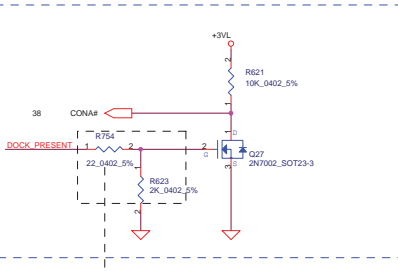
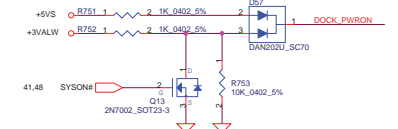


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# Atlas/ Saturn Dock

**DOCK\_PWR\_ON Spec**  
 0V = Notebook S4/S5, Dock off  
 2.5V = Notebook S3, Dock on  
 4V = Notebook S0, Dock on



need change to reverse type connector

11/17 update

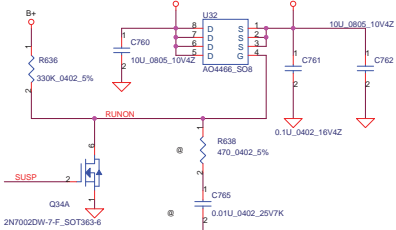
#SI2 change to 22 ohm

#SI2 Add pull up

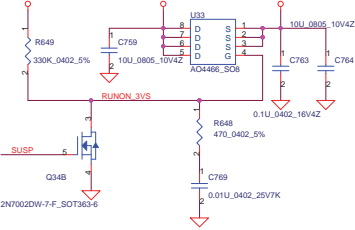
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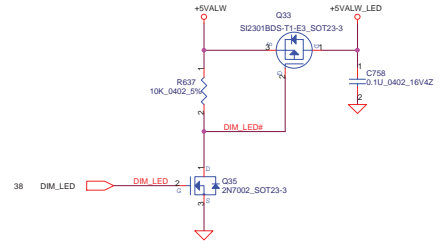
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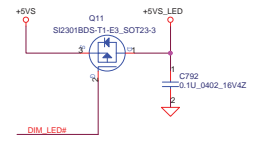
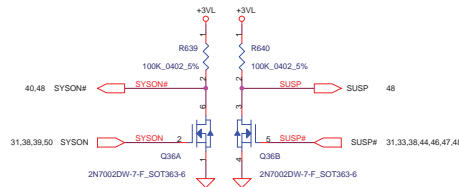
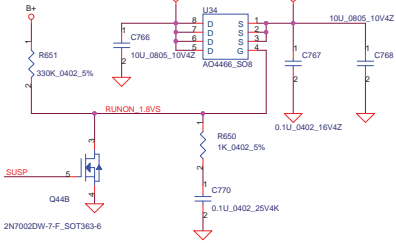
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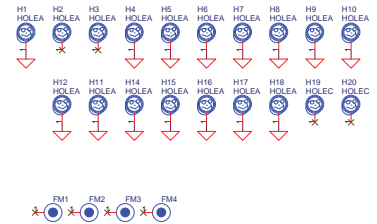
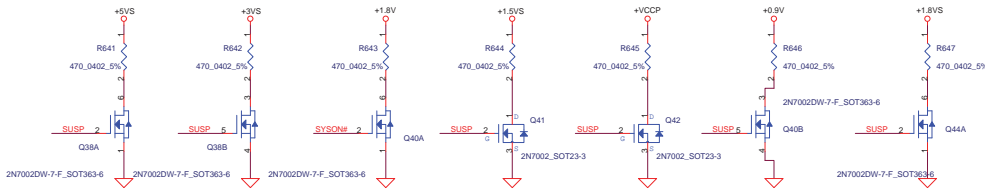
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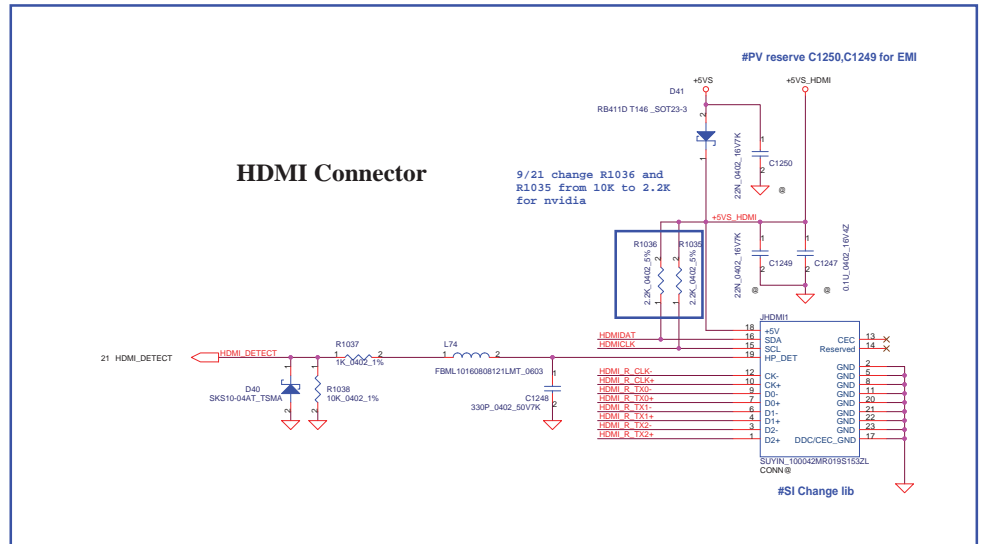
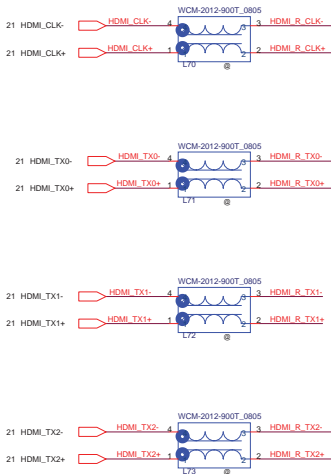
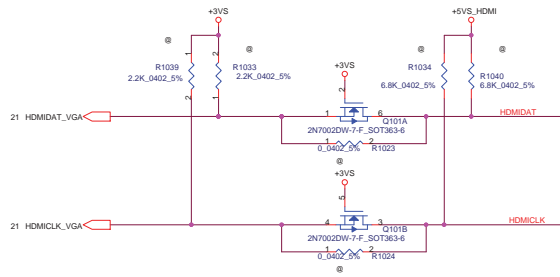
### +1.8V to +1.8VS Transfer



### Discharge circuit

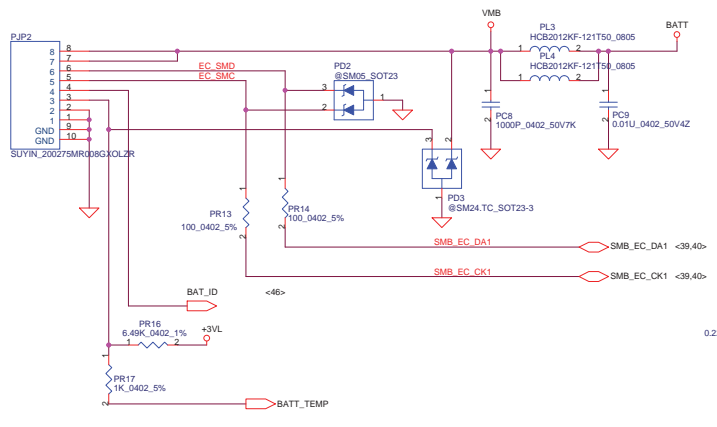
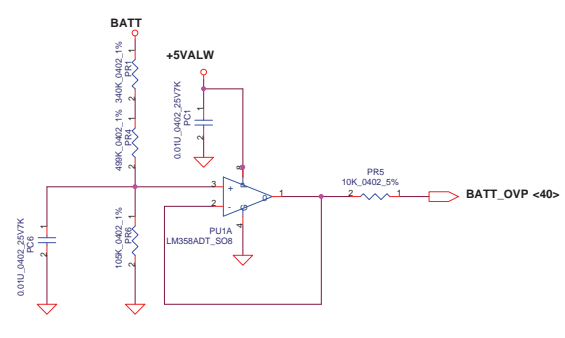
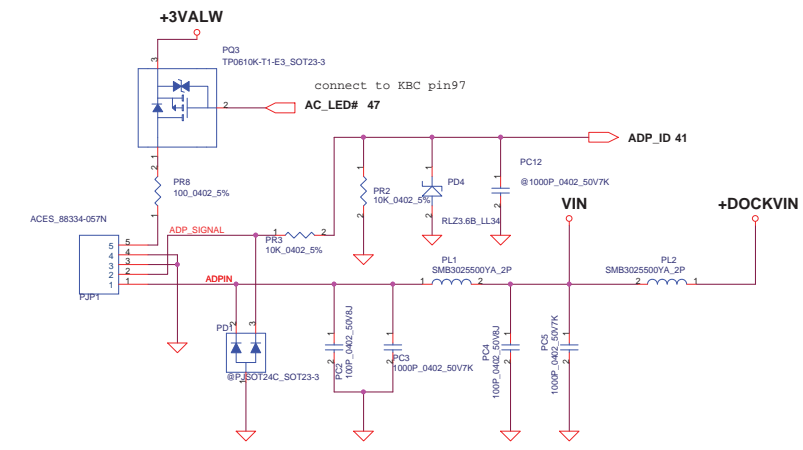


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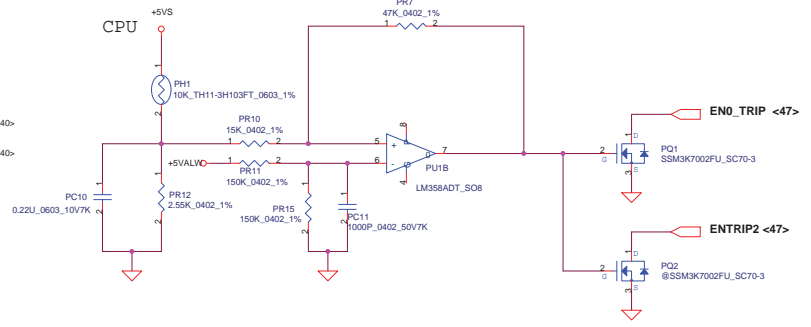


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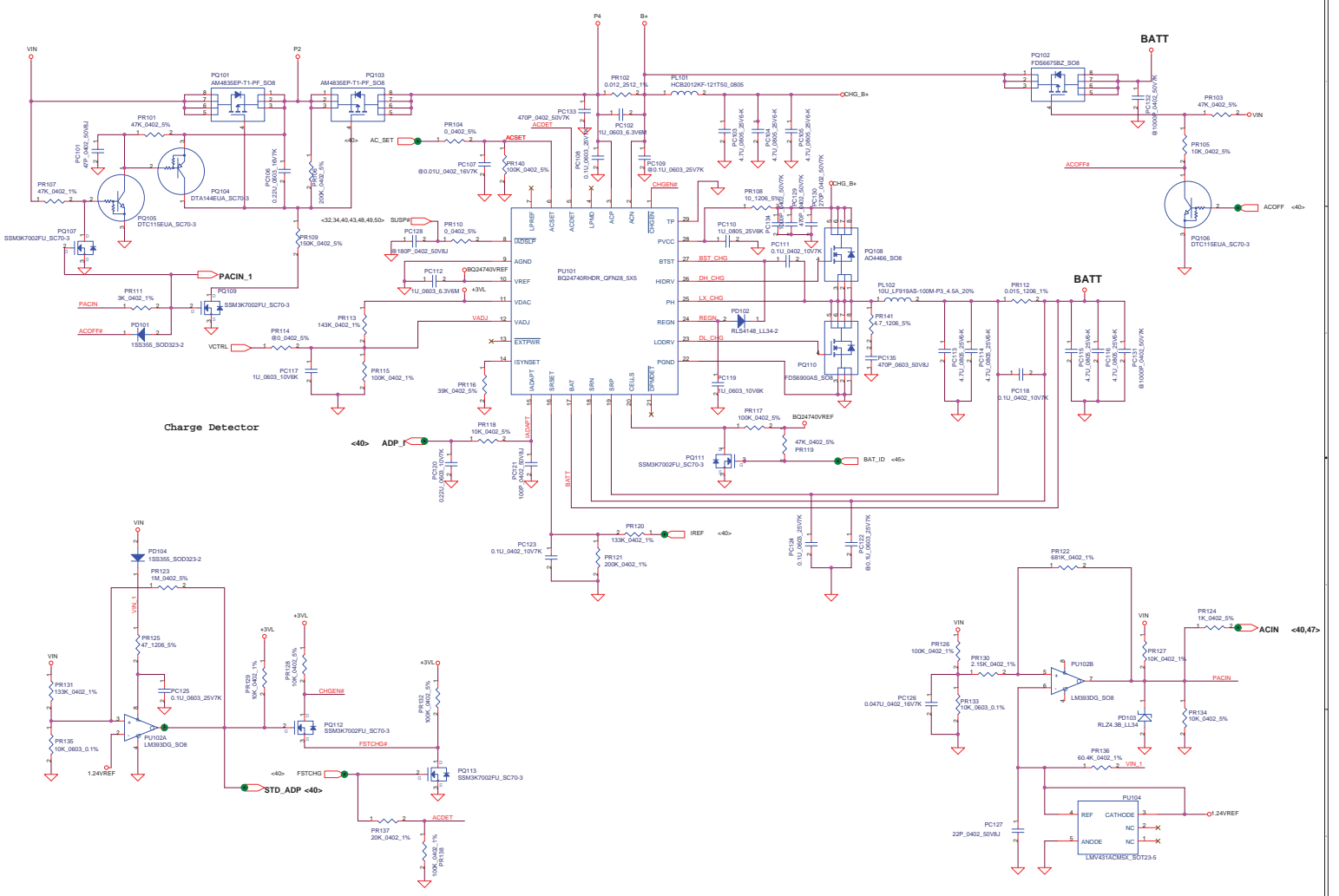
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PH1 under CPU bottom side :  
 CPU thermal protection at 90 +/-3 degree C  
 Recovery at 47 +/-3 degree C

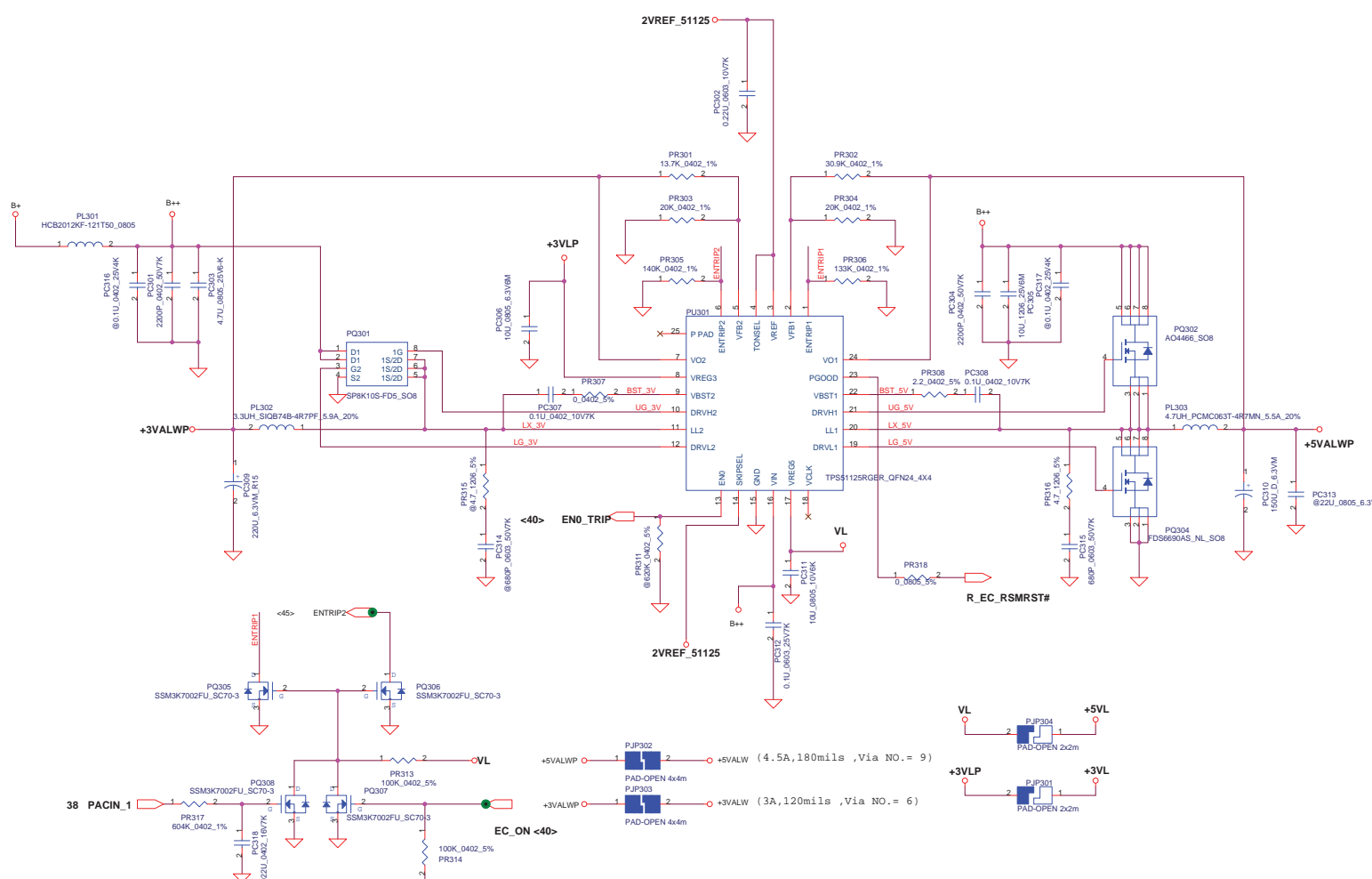


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Issued Date	2008/02/25	Deciphered Date	2008/02/25	DC Connector/CPU_OTP	
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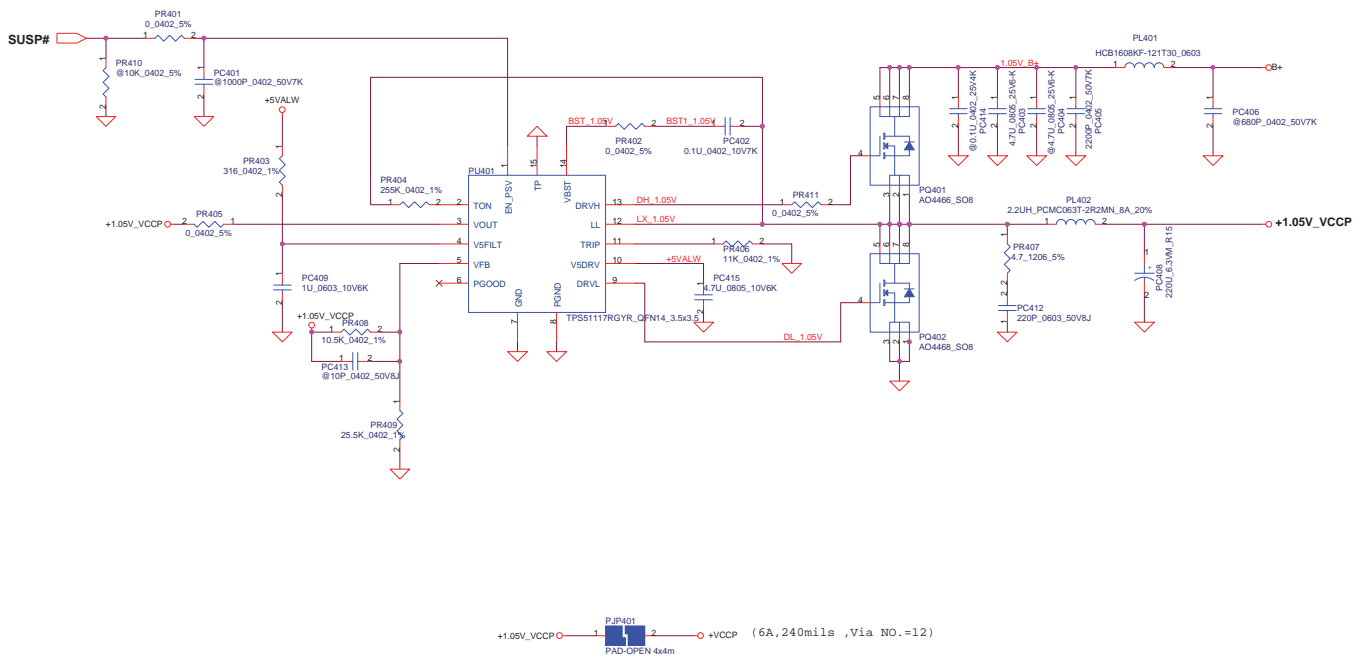
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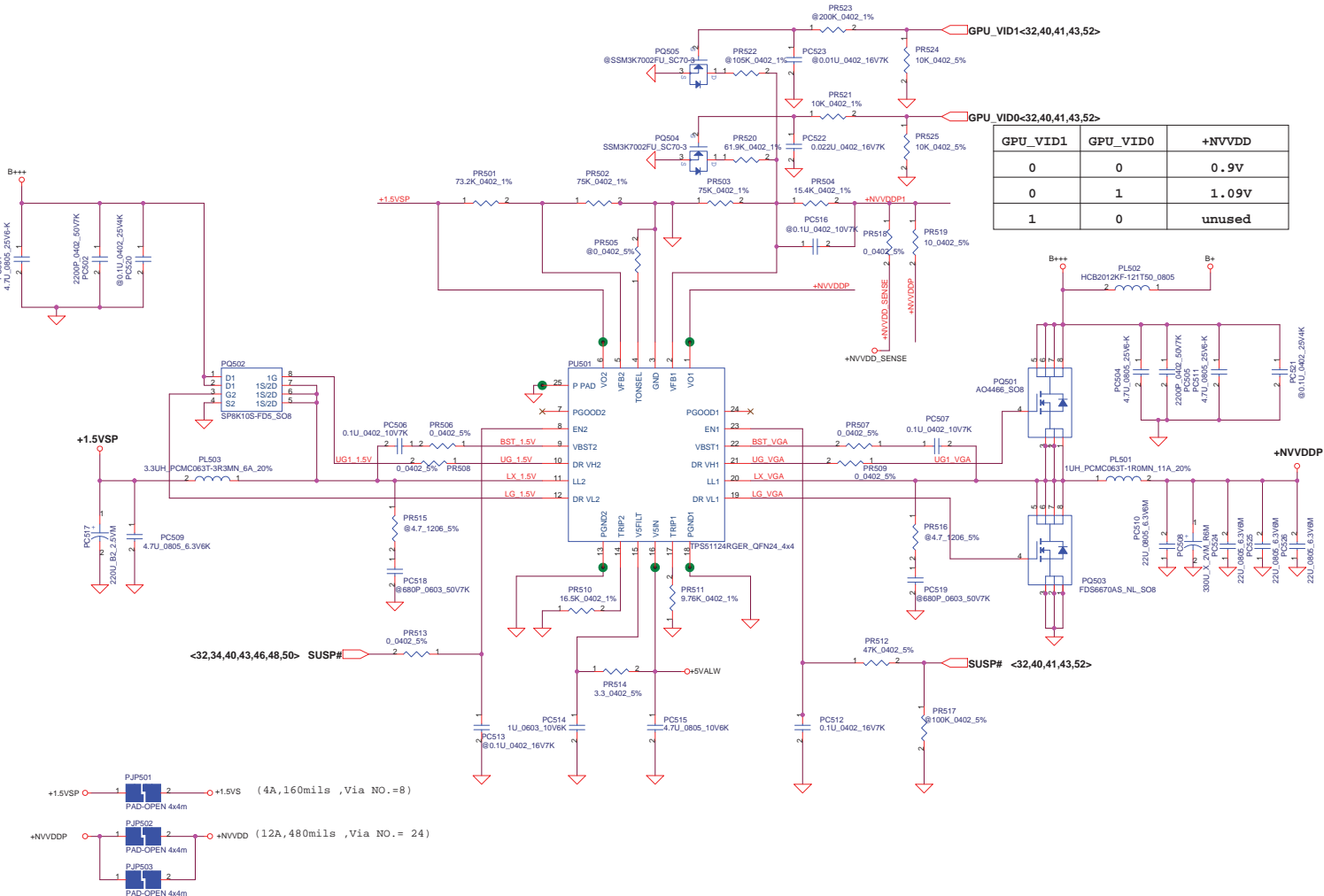
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Issued Date	2008/02/25	Deciphered Date	2008/02/25	3.3VALWP/5VALWP
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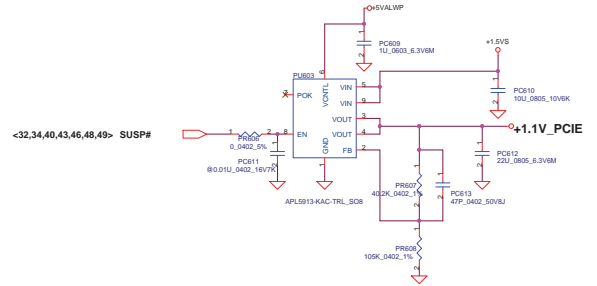
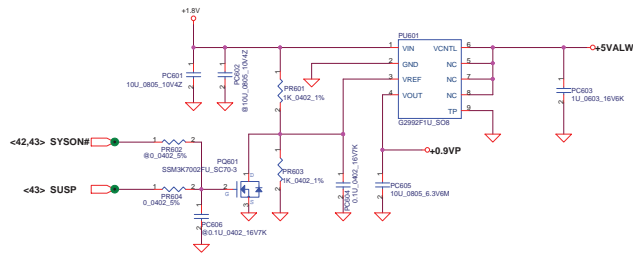
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GPU_VID1	GPU_VID0	+NVVDD
0	0	0.9V
0	1	1.09V
1	0	unused

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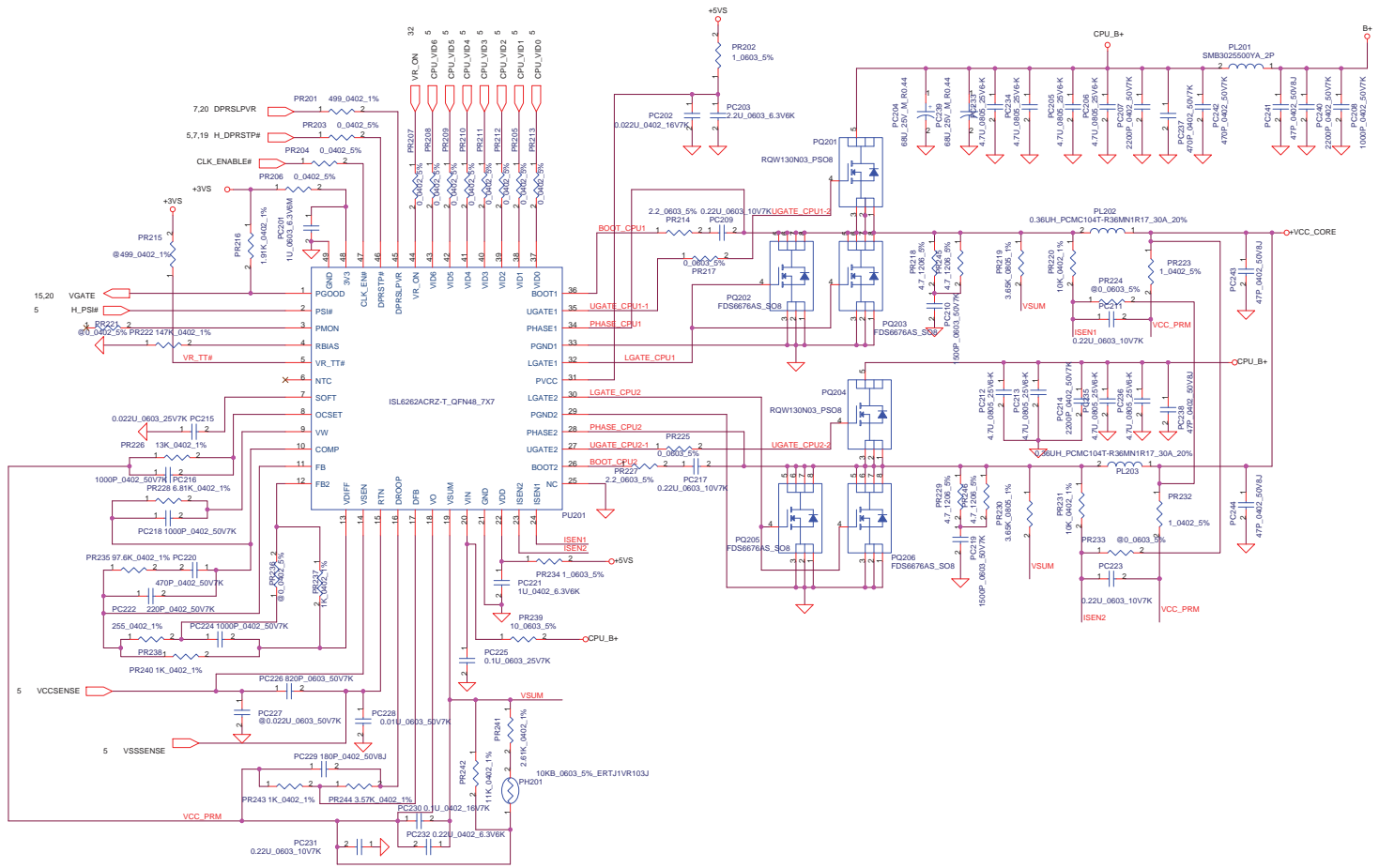
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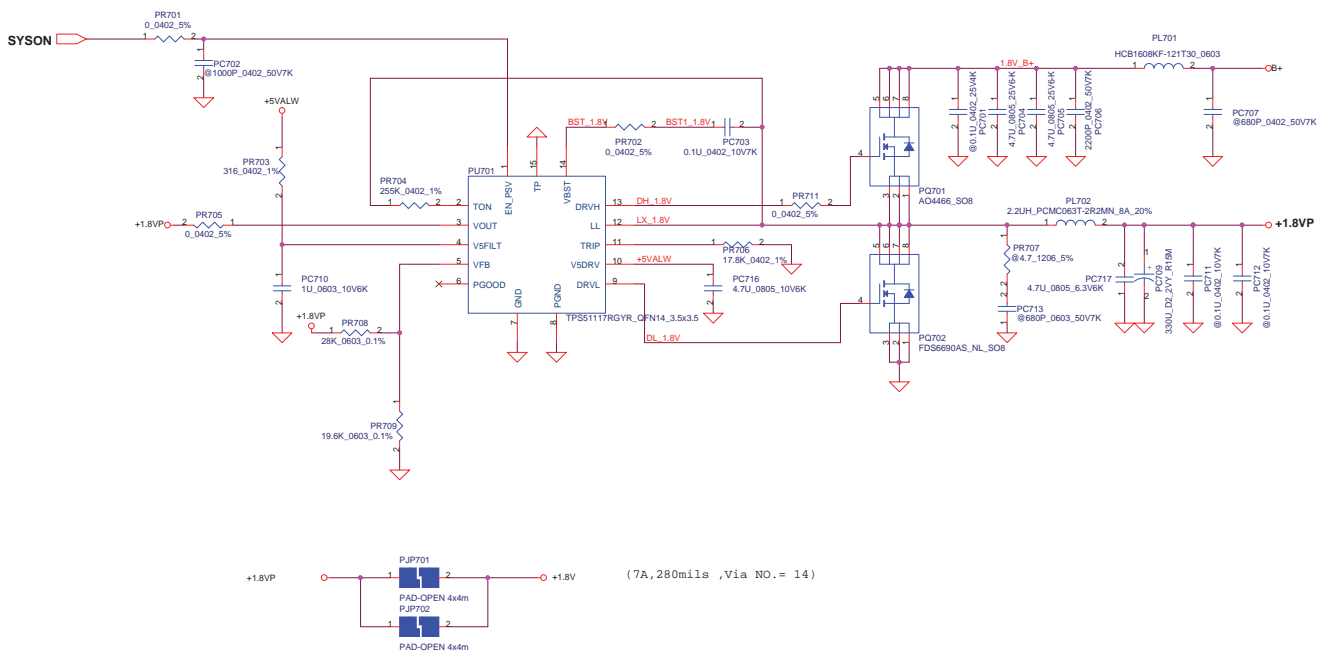




<b>Compal Electronics, Inc.</b>	
<b>+CPU CORE</b>	
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# Version Change List ( P. I. R. List ) for Power Circuit

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	43	DC Connector /CPU_OTP	11/06	Compal	Add PD4 & PC12	Add PD4 & PC12	
2	45	3.3VALWP/5VALWP	11/06	Compal	for Layout	Change PQ301, cancel PQ303.	
3	44	Charger	11/06	Compal	EMI solution	Add PC128	
4	49	CPU_CORE	11/06	Compal	EMI solution	Add PC240	
5	47	1.5VSP/VGA_CORE	11/06	Compal	for VGA voltage steps	Add PQ505, PR523, PR524, PR525	
6	45	3.3VALWP/5VALWP	12/31	Compal	PWR request	Add PU302, control signal changed to ACOFF	
7	44	Charger	12/31	Compal	EMI solution	Add PC129, PC130, PC131, PC132, PC133	
8	49	+CPU_CORE	12/31	Compal	EMI solution	Add PC242	
9	47	+1.5VSP/VGA COREP	01/02	Compal	HW request	Change PR513 to 0_ohm	
10	44	Charger	01/02	Compal	EMI solution	Add PC135 and PR141	
11	49	+CPU_CORE	02/15	Compal	Change high-side MOS for WWAN	Change PQ201 and PQ204 to powerpak	
12	43	DC Connector /CPU_OTP	02/15	Compal	AC LED change to KBC control	ACLEd# connect to EC pin 97	
13	43	DC Connector /CPU_OTP	02/19	Compal	WWAM issue	add PC241 47pF	
14	49	+CPU_CORE	02/19	Compal	WWAM issue	add PC243 PC244 47pF	

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Item	Fixed Issue (Reason for change)	PAGE	Modify List	Date	Phase
1	Transation Fail	08	C41、C42、C43、C44 Change ESR=7m ohm	11/21	DB
2	Disable TV out function from Docking	20	TV signal unconnected,DACB_VDD pull low 10K (R948).	11/07	DB
3	Update Connetor Library		CRT(JCRT1)、HDMI(JHDMI1)、ESATA(JP53)、Finger print(JJP24)、FAN(JP2)、Speaker(JP60)、Multi bay(JP12)、Dual LED(D53、D54	11/17	DB
4	Delete LVDS B channel	19,20	Schematic Delete	11/17	DB
5	USB camera Footprint error	19	Change U42 to G916-390T1UF SOT23, it adjustable mode, R1091=215K、R1093=100K,Add GPIO 20 to turn off power	11/07	DB
6	Reserve Card reader D3E function	27,32	GPIO6= CR_CPPE#、GPIO22=CR_WAKE#	11/17	DB
7	Swap PCIE LAN and New card	27	Swap PCIE4 and PICE6	11/17	DB
8	Change GPU 1.8VS power	20、21	Change 1.8VS to +VDD_MEM18	11/17	DB
9	Change G sensor control from SB、LED drive by +5VS	27、39	Change G sensor control from SB	11/17	DB
10	Avoid Battery mode can't boot issue	38、45	Add +3VALW GD to EC_RSMRST# to fix Battery mode can't boot issue	11/17	DB
11	Add G sensor ST and Bosch	37	Add G sensor ST and Bosch	11/17	DB
12	Change LAN solution (Marvell to Realtek)	30	Change LAN solution (Marvell to Realtek)	11/17	DB
13	LAN transformer interfere	30	U19 Change to correct transformer type	11/17	DB
14	Cardreader schematic review,add D3E function	32	R709-->10K、R1047-->8.2K、R1128-->Stuff、R705-->@、U37-->@、Cardreader LED-->+5VS、add D3E function	11/17	DB
15	Jack can't detect normal	33	R1059 change from 39.2 to 39.2K	11/17	DB
16	Docking can not power on	40	Add power on circuit D57,Q13R751,R752,R753	11/17	DB
17	HP audio team recommend	33、35	C1480-C1487、C1352、C1354 change to 0.022U、Amp output setup to 15.6 dB、Reserve C747、C748 for GNDA and GND	11/17	DB
18	Audio jack can't detect normal	35	Add Pull up resistor R750 to +3VALW	11/17	DB
19	Docking HP audio test fail	35	Add C795、C796 to avoid DC level, and add R968、R969 to reduce HP out level	11/17	DB
20	Leakage problem	38	Correct direction prectek leakage	11/07	DB
21	EC pin define update	38	Delete EC_PME#、SYSON_PU、SUSP#_PU、LID_SW# change to +3VALW、Delete CLKRUN#、R582->@ for C0 chip、CIR_PU+5VL、add 100P to BATT_OVP(EC recommend)	11/07	DB
22	Can't Hibernation(SLP_S4#)	38	Connect SLP_S4# to SB	11/17	DB
23	EC can't receive docking present	40	CONA# change +3VL	11/12	DB
24	Reserve capacitor on digital MIC for EMI request	19	Add C496,C498	11/07	DB
25	Add 2N7002 to GND on HDMI to avoid leakage.	21	Add Q74	01/04	SI
26	+VDD_MEM18 to +1.8VS, change to jummpers	22	Delete R1124,R1125 add PJP605	01/04	SI
27	HDCP ROM fail. HDCP_SCL need pull high.	22	R224 no stuff. R213 stuff.	01/04	SI
28	Reserve capacitor on digital MIC for SED. WWAN noise	26	Add C499,C502	01/04	SI

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Item	Fixed Issue (Reason for change)	PAGE	Modify List	Date	Phase
1	Change transformer vendor	30	change U19 library	01/04	SI
2	XMIT_OFF add a diode to avoid leakage.	31	Add D88	01/04	SI
3	Card reader recommend	32	XD_ALE need pull +3VS not pull low.	01/04	SI
4	change Q54 from transistor to MOS for cardreader LED.	32	Change Q54	01/04	SI
5	speaker pop issue	35	Change C1488 to 1U	01/04	SI
6	Reserve capacitor on SPL_FSEL#,CLK#,FER for EMI request	36	Add C2125,C2126,C2127	01/04	SI
7	Change EC_PME pull high from +3VL to +3VALW	38	R585 stuff	01/04	SI
8	Reserve damping resistor on SPL_CLK for EMI request	38	Add R191	01/04	SI
9	WLAN LED issue,WL_BLUE_LED# pull +3VS	39	Add R716	01/04	SI
10	Add bypass capacitance on sensor bottom	39	Add C261(4.7U)	01/04	SI
11	EC can't detect DOCK_PRESENT.	40	change R754 to 22 Ohm,R623 to 2K	01/04	SI
12	Add DOCK_VOL_UP#,DOCK_VOL_Down# pull +3VS	40	Add R594,R596	01/04	SI
13	SPDIF issue	40	follow Vader	01/04	SI
14	Docking CRT blurred	40	Change ping 31,39,22 connect to GND	01/04	SI
15	Change R650 and C770 to modify the power sequence	41	change R650 to 1K, C770 to 0.1u	01/04	SI
16	Add 12P on CLK_14M_ICh for WWAN noise	17	Add 12P on CLK_14M_ICh	02/15	PV
17	BKOFF# reserve pull low 10K	19	reserve R717	02/15	PV
18	Reserve CMD27 to support 64M X16	7,8	Reserve CMD27 to support 64M X16	02/15	PV
19	Reserve cap on HDA_BITCLK for WWAN noise issue	26	Reserve cap on HDA_BITCLK	02/15	PV
20	Reserve to prevent ESD issue	30	Reserve ESD diode on LAN LED pin	02/15	PV
21	Change WLAN and WWAN 0402 resistor to 0805	31	Change WLAN and WWAN 0402 resistor to 0805, and WLAN change to +3VS power plane	02/15	PV
22	Direct drive LED, and add D3E function diode	32	Direct drive LED and XD_ALE Pull L, and add D86 for D3E function	02/15	PV
23	Change R1092 value on BT power switch Gate	36	Change R1092 to 10K	02/15	PV
24	Correct AC_LED control by EC	38	AC_LED Change controll by EC	02/15	PV
25	Change all LED limit current resistor to 200 ohm	39	Change all LED limit current resistor to 200 ohm and add Touch pad LED for PR	02/15	PV
26	Add 33 ohm for MUTE_LED and DOCK_SLP_BTN#	40	Add 33 ohm for MUTE_LED and DOCK_SLP_BTN#	02/15	PV
27	follow check list ver:1.5	6	change R13 to 56 ohm;change R2-R8 to 51 ohm;change R11 to 0ohm	02/20	PV
28	Reserve Cap for EMI	42	add C1250,C1249	02/20	PV

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Item	Fixed Issue (Reason for change)	PAGE	Modify List	Date	Phase
1	follow check list Ver:1.5	17	reserve R148	02/15	PV
2	follow check list Ver:1.5	9	change R45,R48 to 10K	02/15	PV
3	boot code "88" power sequence fail	27	add Diode from PWROK to RSMRST	02/15	PV
4	Change BT,LAN,DOCK,Multibay connect for DFX			02/15	PV
5	Change WWAN and WLAN LED	39		02/15	PV
6	For EMI	37	SPL_CLK add R2118 , R2119 , R2120 => 33ohm add C2125 , C2126 , C2127 => 22pF;R553, 554, 556 =>10ohm	02/15	PV
7	For EMI	30	LAN add C656 and C657 => 0.1uF	02/15	PV
8	For EMI	39	T/P add D28 and C729	02/15	PV
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