

MODEL NAME: *NAP10*
PCB NAME: *LA-5812P MB*
COMPAL P/N:

Dell/Compal confidential

Schematics Document

Phantom Calpella

Arrandale ULV BGA + Ibex PCH

DISCRETE VGA N11P-GS1 (Switchable Graphics)

2010-04-19

Rev: 1.0

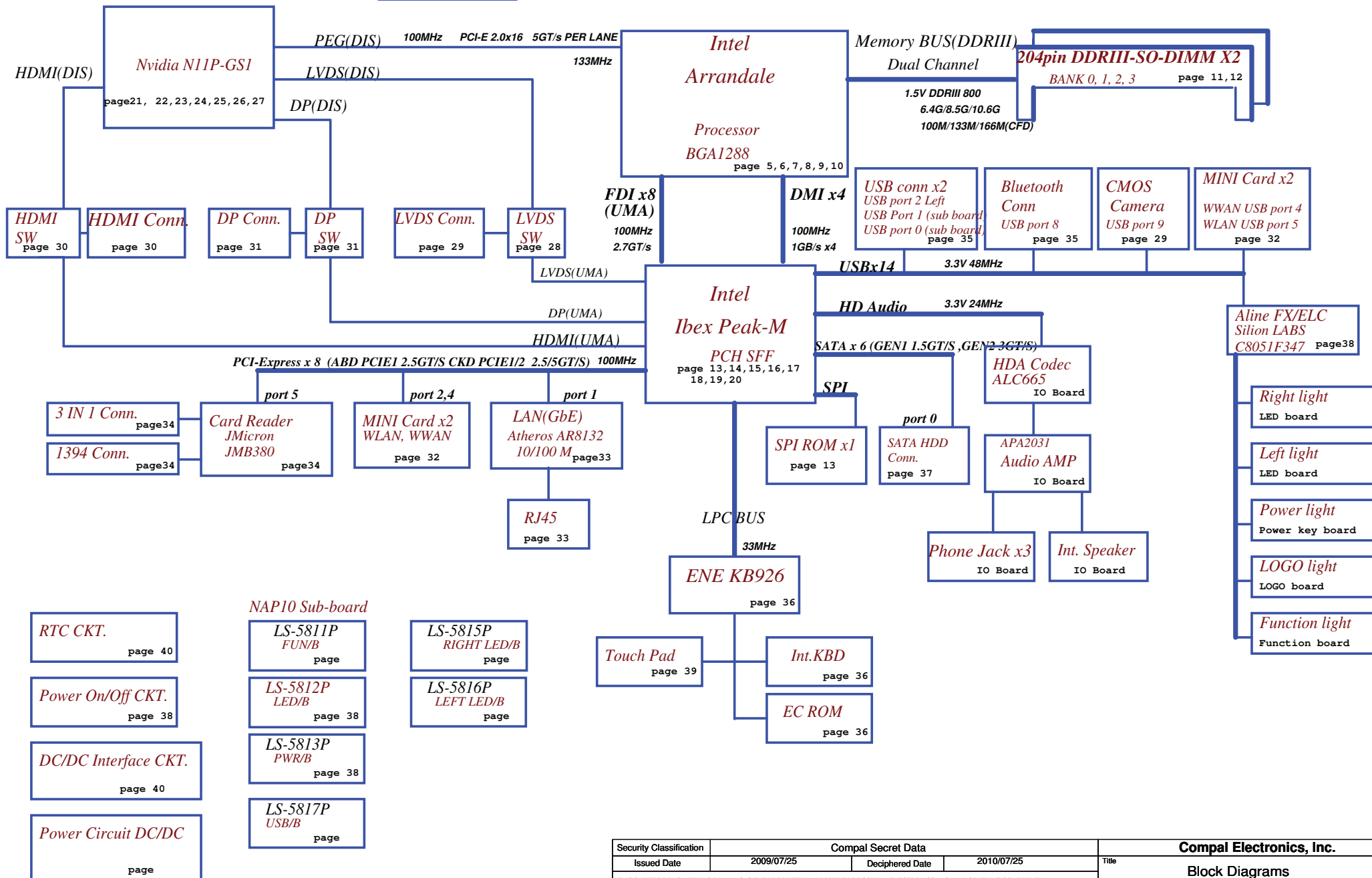
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Model Name NAP10

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Fan Control
page 37

Clock Generator
IDT: 9LRS3199AKLFT
SILEGO: SLG8SP587
133/120/100/96/14.318MHZ to PCH
27MHZ to N11P
page 4



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power plane State	B+	+5VALW +3VALW VL	+1.5V	+5VS +3VS +0.75VS +1.05VS +1.05VS_VTT +VCC_CORE +VCC_GFXCORE +1.5V_CPU_VDDQ +1.8VS +3VS_DELAY +1.8VSDGPU +1.05VSDGPU +1.5VSDGPU +VGA_CORE
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 :

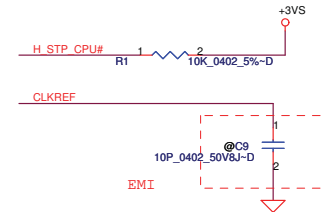
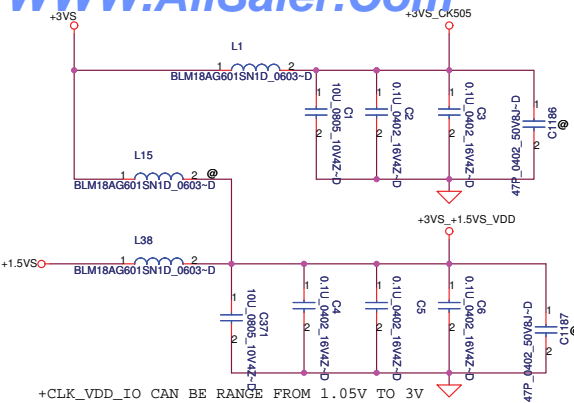
 : means Digital Ground

 : means Analog Ground

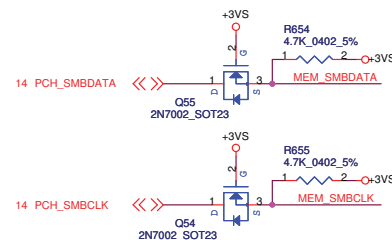
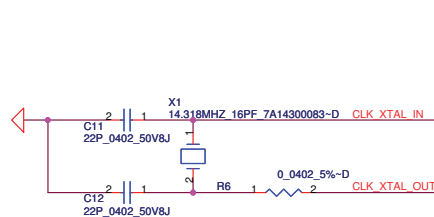
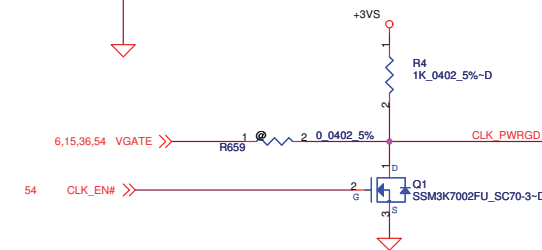
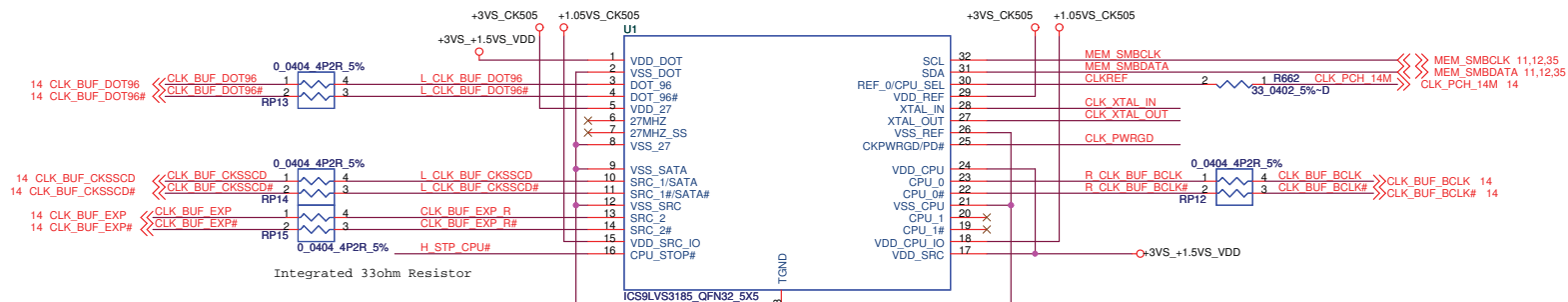
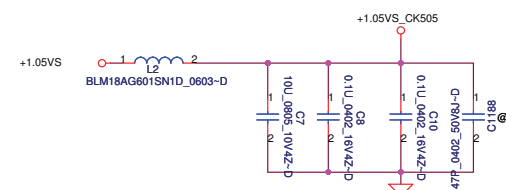
@ : means just reserve , no build
CONN@ : means ME part.
45@ : means install after SMT.

I2C / SMBUS ADDRESSING

DEVICE	HEX	ADDRESS
EC_SMB_CK1 EC_SMB_DA1 Battery	16	00010110
EC_SMB_CK2 EC_SMB_DA2 CPU THERMAL SENSOR (EMC1412A-1-ACZL)	F8	11111000
CPU(PCH)INTERNAL THERMAL SENSOR	96	10010110
CPU(PCH)INTERNAL THERMAL SENSOR	98	10011000
{PCH_SML1BCLK} {PCH_SML1DATA} GPU THERMAL SENSOR (ADM1032ARMZ)	9A	10011010
GPU INTERNAL THERMAL SENSOR	9E	10011110
WWAN WLAN		
PCH_SMBCLK PCH_SMBDATA CLOCK GENERATOR (EXT.)	D2	11010010
DDR Memory		
Free Fall sensor	38	00111000



PIN	30	CPU0	CPU1
1(0.7~1.5v)	100MHz	100MHz	
0 (DEFAULT)	133MHz	133MHz	

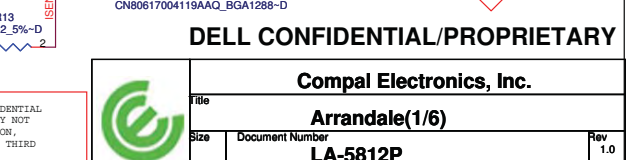
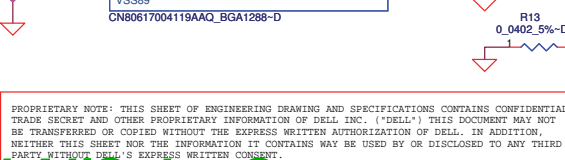
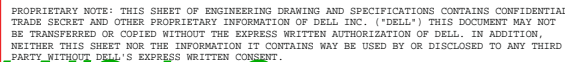


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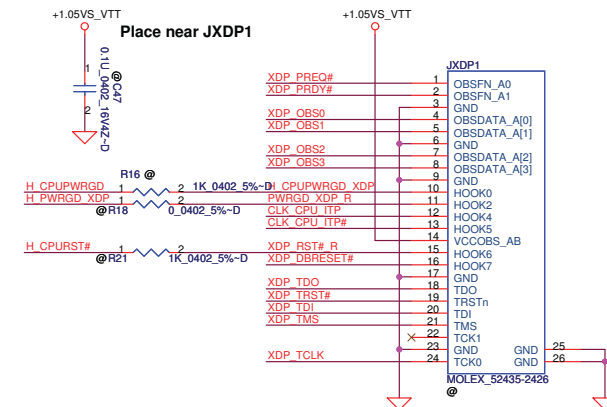
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Clock Generator			
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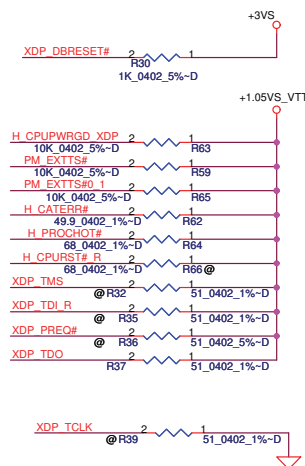
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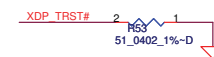
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Place near JXDP1



For ESD concern, please put
near CPU

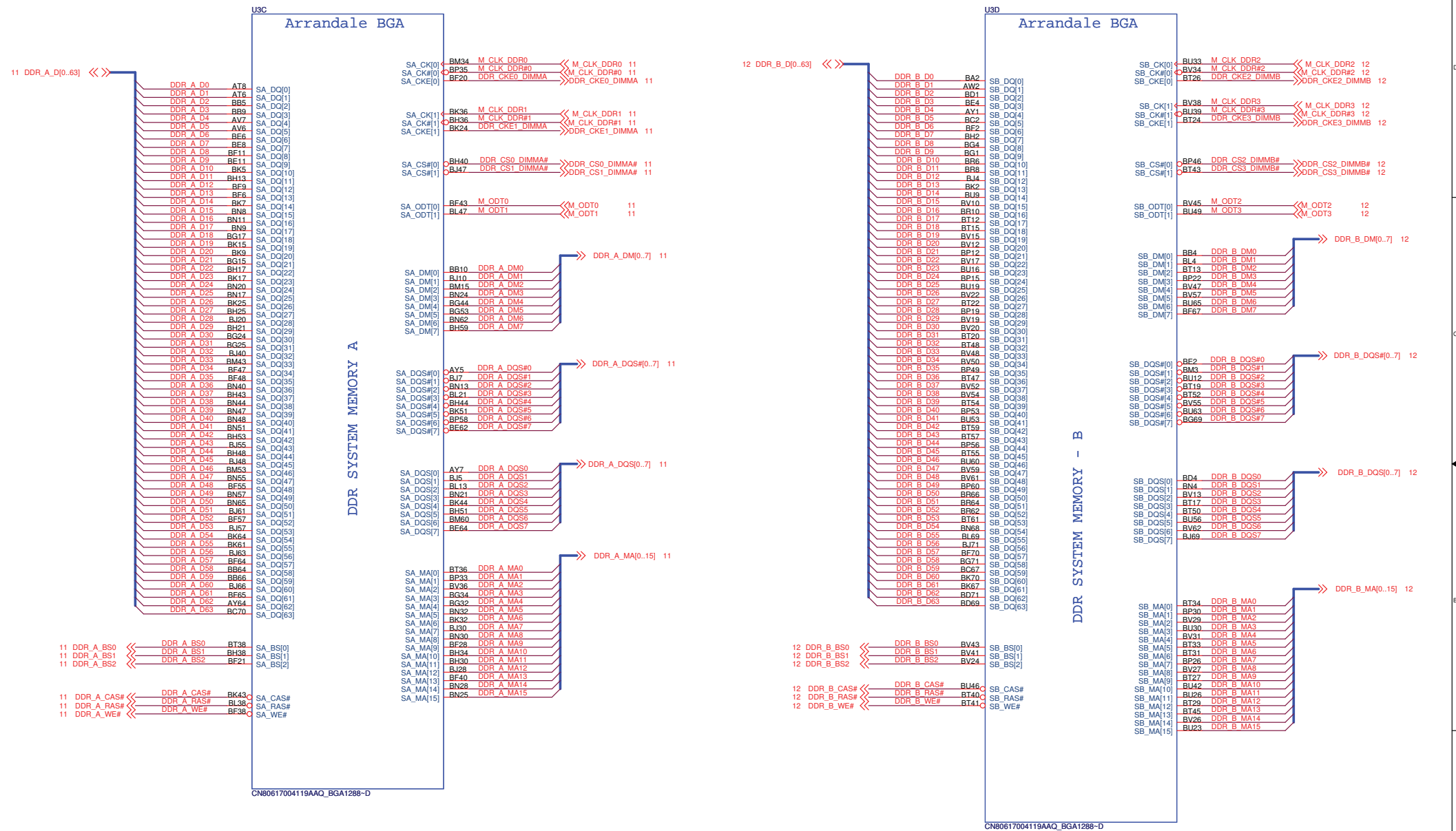
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CN80617004119AAQ_BGA1288-D

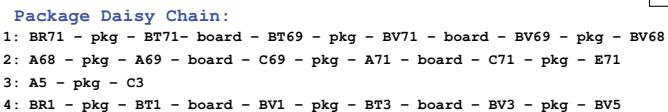
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Place under CPU

100P_0402_50V8K-D
@ C271

1 2

1 2 3

MMBT3904WT1G_SC70-3-D
Q9

1 2

2200P_0402_50V7K C1035

Place C271 close to the Q9 as possible
Place C1035, close to the U7 pins as possible

+3VS

0.1U_0402_16V4Z C1034

1 2

H_THERMDA

H_THERMDC

THERM#

+3VS

4.7K_0402_5%-D R306

1 2

10K_0402_5% R305

+3VS

U7

1 VDD

2 DP

3 DN

4 THERM#

8 SMCLK

7 SMDATA

6 ALERT#

5 GND

EMC1412-A-ACZL-TR MSOP 8P

Address: 111 1100

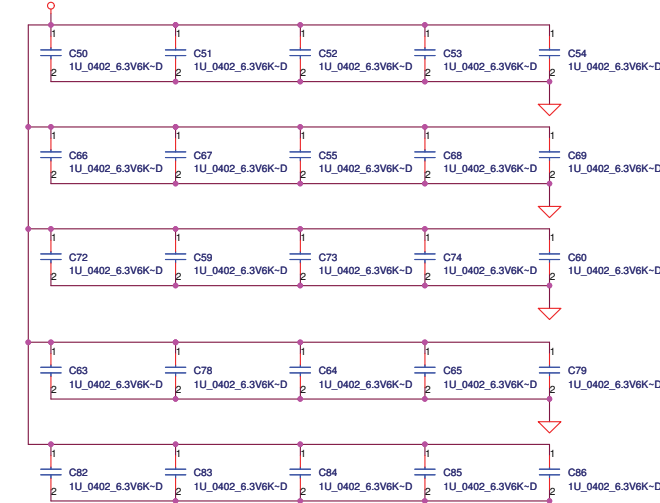
EC_SMB_CLK2 14 21,32,36

EC_SMB_DA2 14 21,32,36

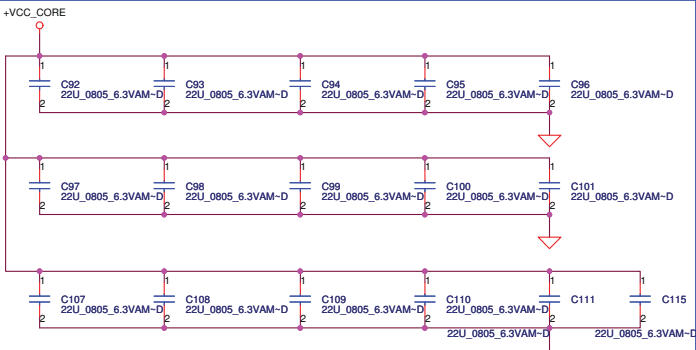
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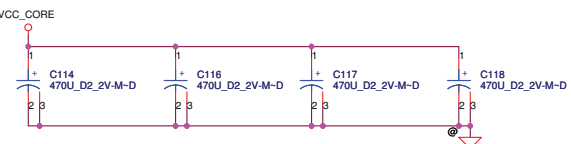




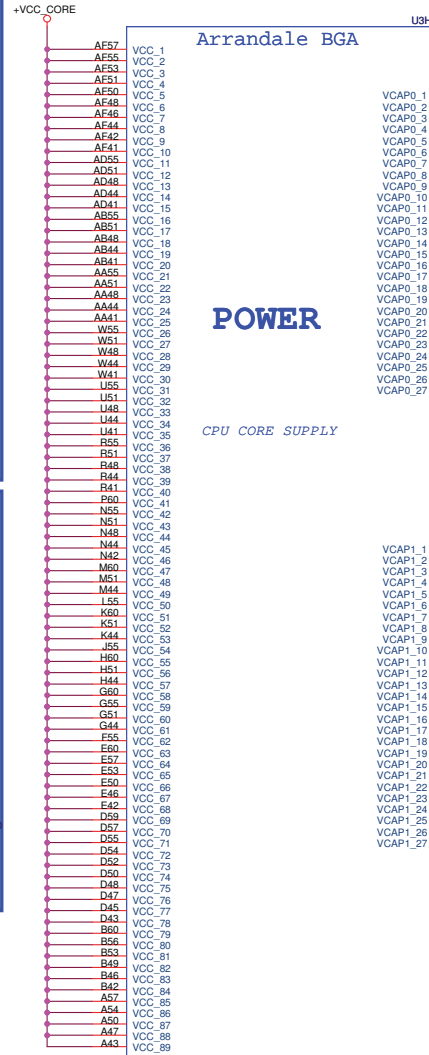
High-Frequency Decoupling 25x on Top Side



Mid-Frequency Decoupling 15x on Bottom Side between inductors and package



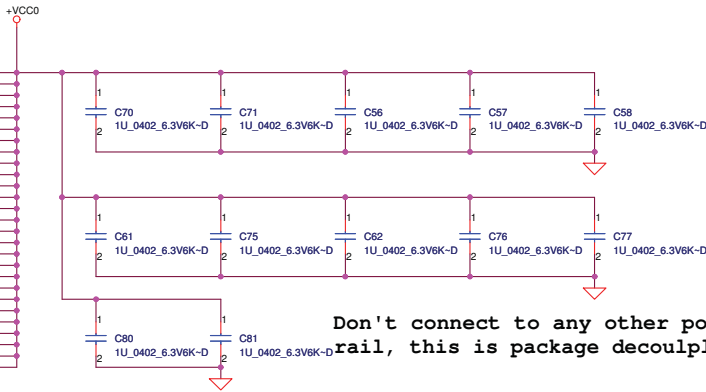
Current =48A



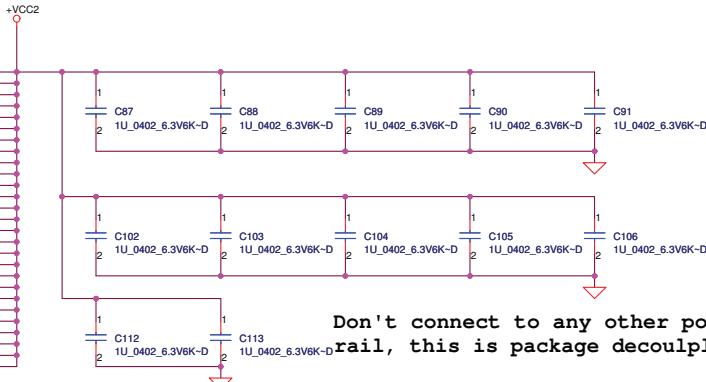
CN80617004119AAQ_BGA1288-D

POWER

CPU CORE SUPPLY



Don't connect to any other power rail, this is package decoupling



Don't connect to any other power rail, this is package decoupling

PROCESSOR Power Rail Table (EDS V1.0)		
Voltage Rail	Voltage	S0 Iccmax Current (A)
VXNG	1.5	22
VccPLL	1.8	1.35
VCORE	0.75	48
VDDR	1.5	3
VTT	1.05	18

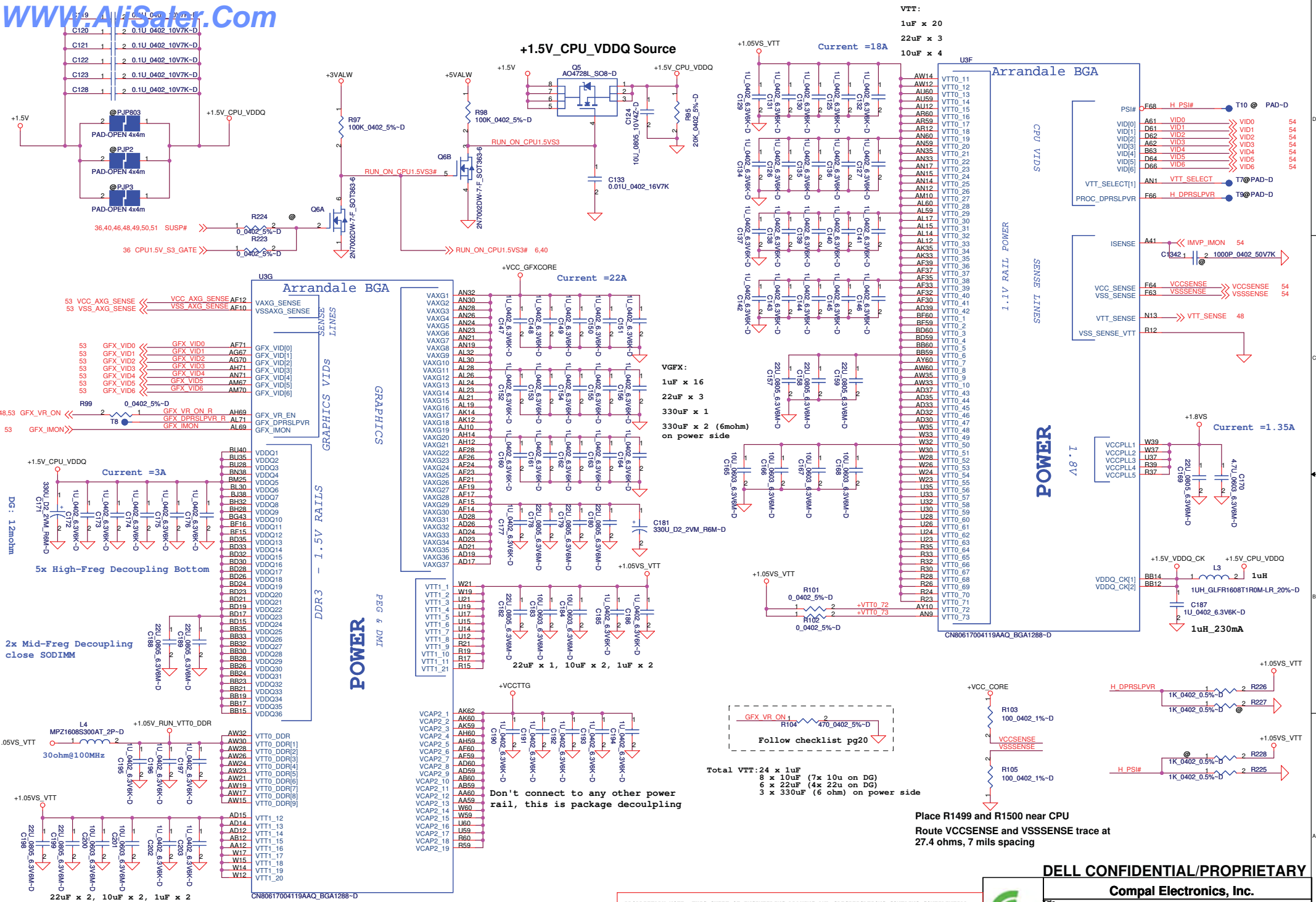
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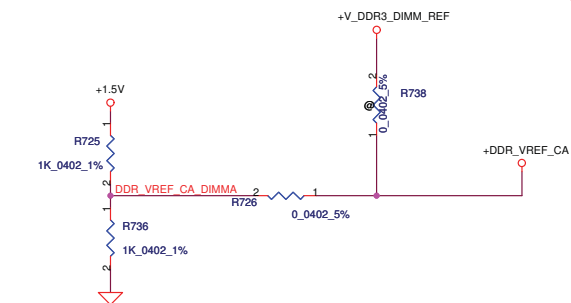
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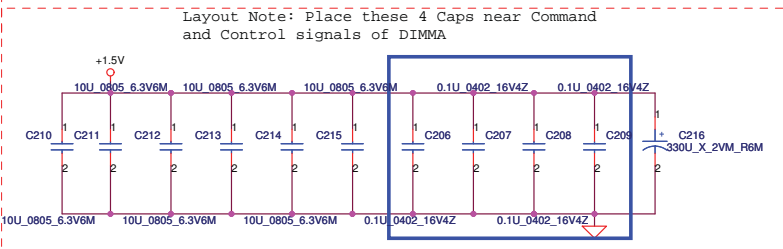
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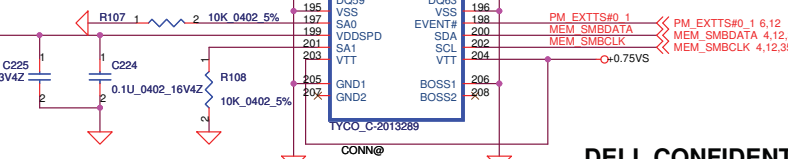
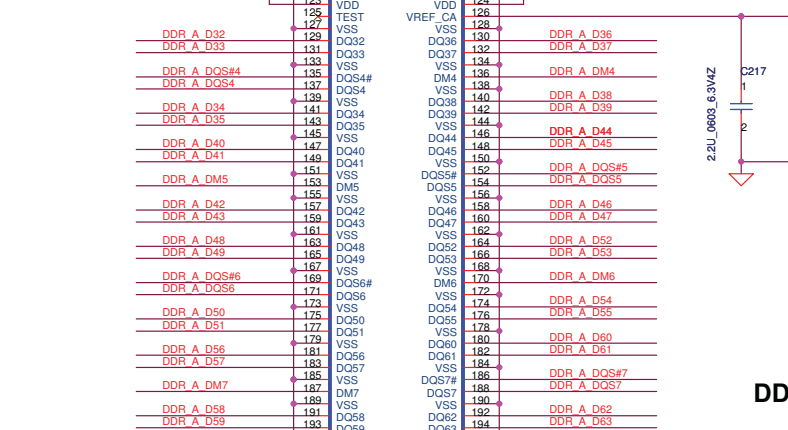
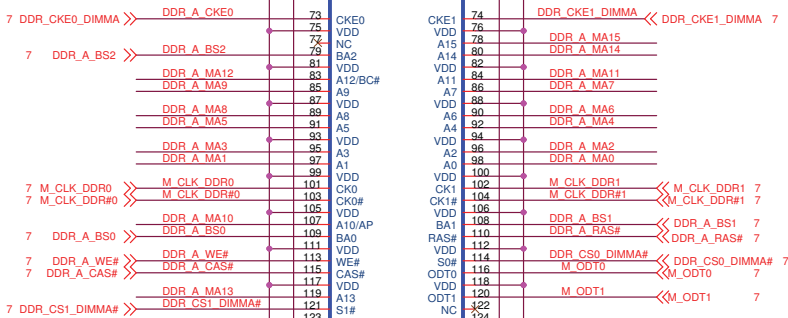
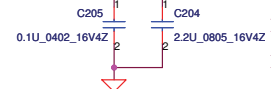
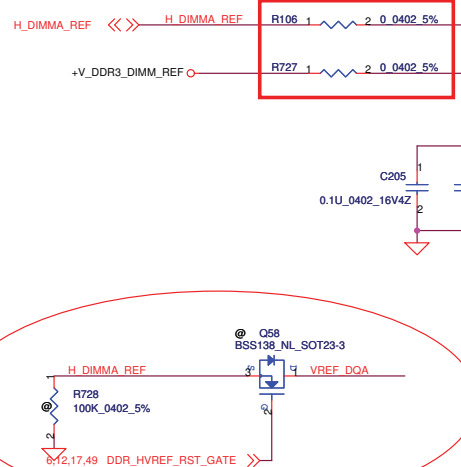
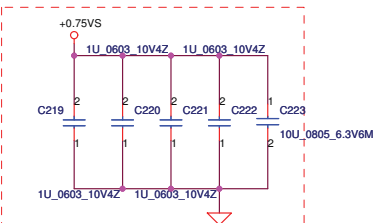
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Layout Note:
Place near JDIMM1



Layout Note:
Place near JDIMM1.203 & JDIMM1.204



DDR3 SO-DIMM A

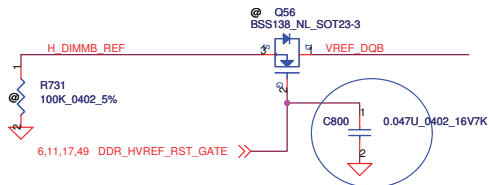
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7 DDR_B_DQS#[0..7] <<>>
7 DDR_B_DQ[0..63] <<>>
7 DDR_B_DM[0..7] <<>>
7 DDR_B_DQS[0..7] <<>>
7 DDR_B_MA[0..15] <<>>

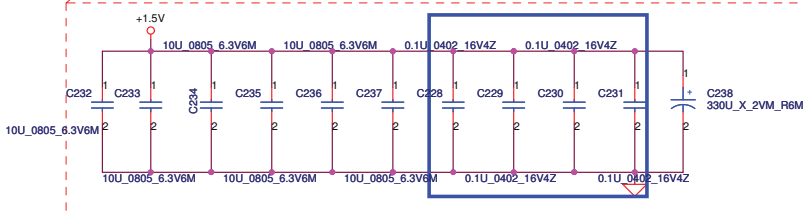
2008/9/8 #400755
Calpella Clarksfield
DDR3 SO-DIMM
VREFDQ Platform
Design Guide Change Details

2009/04/13
For Arrandale ,it should be use M1 Circuit (pop R328)
For Clarksfield ,it should be use M3 Circuit (pop R327)
DG V1.52

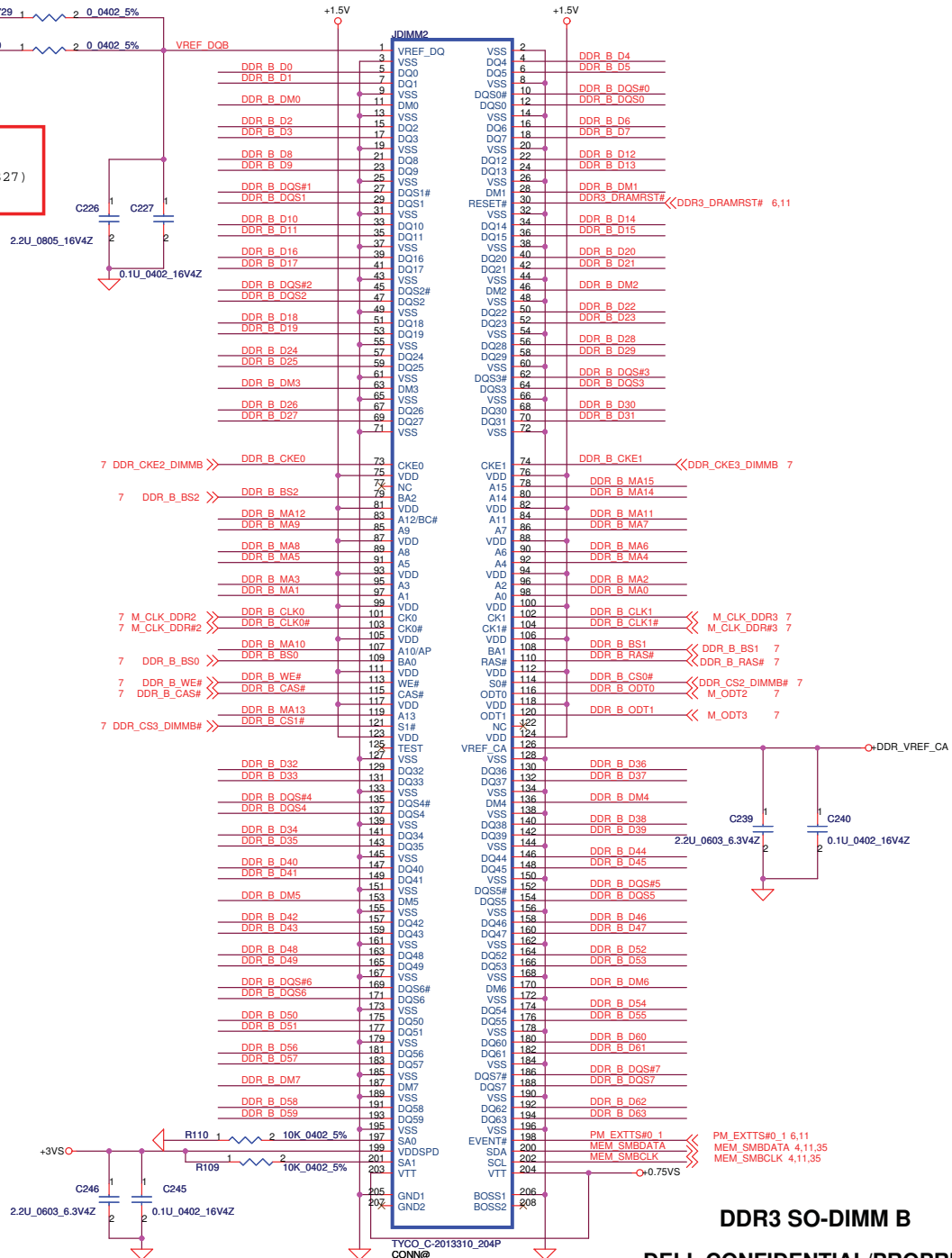
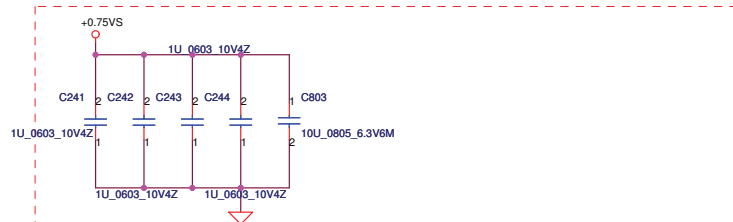


Layout Note:
Place near JDIMM2

Layout Note: Place these 4 Caps near Command
and Control signals of DIMMA



Layout Note:
Place near JDIMM2.203 & JDIMM2.204



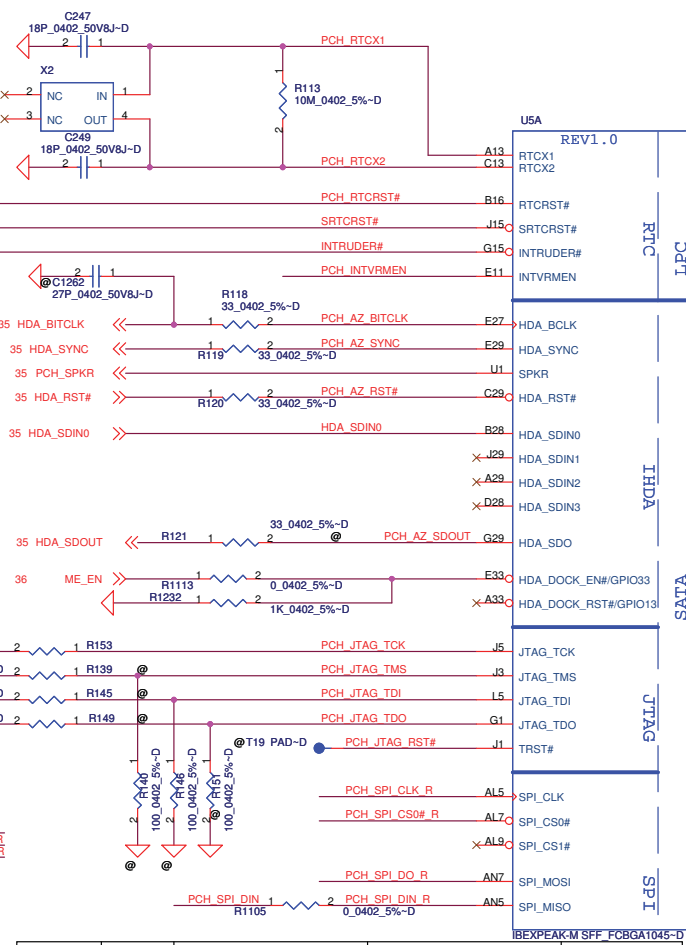
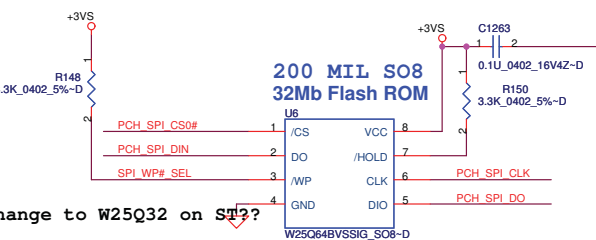
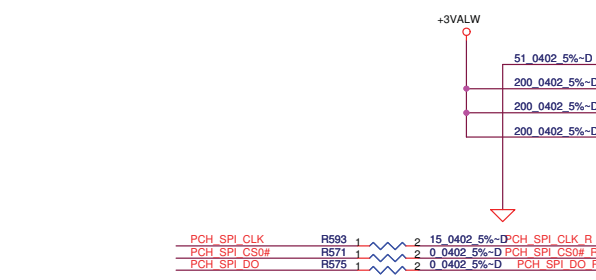
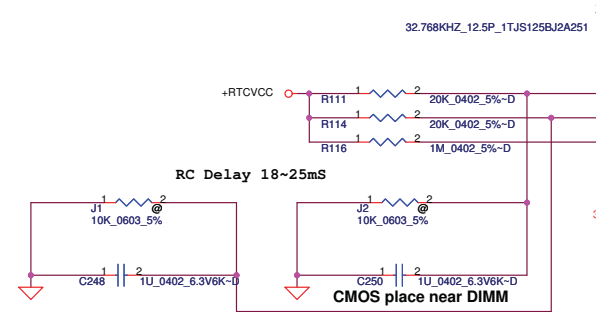
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ME CLR1	TPM setting
Shunt	Clear ME RTC Registers
Open	Keep ME RTC Registers

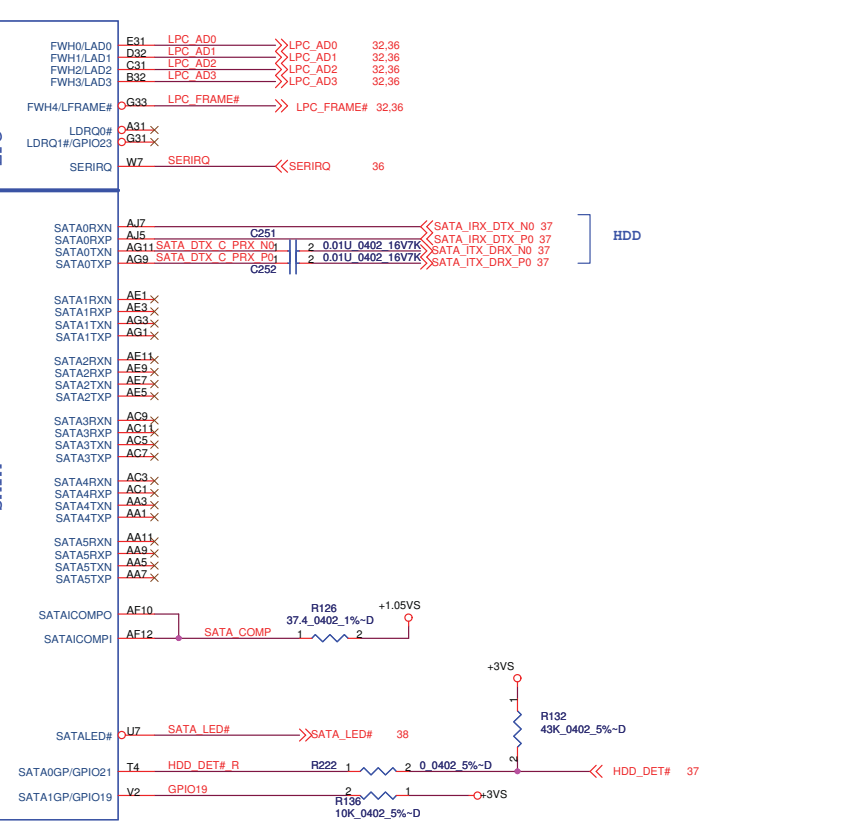


INTVRMEN- Integrated SUS
1.1V VRM Enable
High - Enable Internal VRs

On Die PLL VR is supplied by
1.5V when sampled high, 1.8 V
when sampled low



PCH Pin	Ref.	PCH JTAG Enable		PCH JTAG Disable		Production
		ES1	ES2	ES1	ES2	
TDO	R149	No Stuff	200 ohm	No Stuff	No Stuff	51 ohm
TMS	R151	No Stuff	100 ohm	No Stuff	No Stuff	No Stuff
TDI	R139	200 ohm	200 ohm	No Stuff	No Stuff	51 ohm
TDO	R140	100 ohm	100 ohm	No Stuff	No Stuff	No Stuff
TDI	R145	200 ohm	200 ohm	20K ohm	No Stuff	51 ohm
TCK	R153	51 ohm	51 ohm	51 ohm	51 ohm	51 ohm
TRST#		20K ohm	20K ohm	No Stuff	No Stuff	No Stuff
		10K ohm	10K ohm	No Stuff	No Stuff	No Stuff

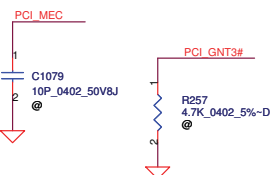
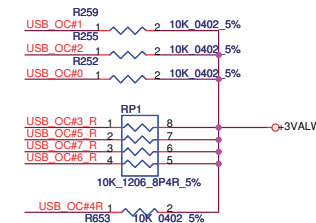
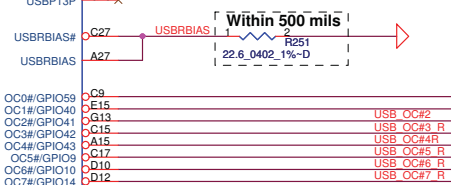
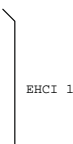
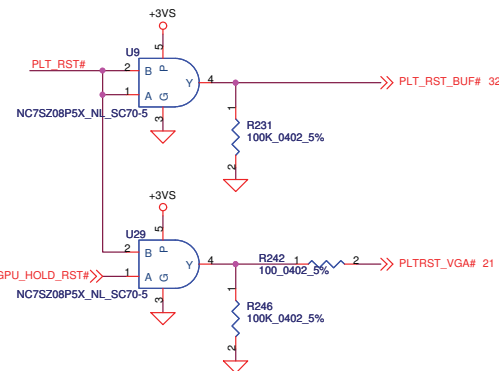
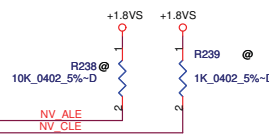
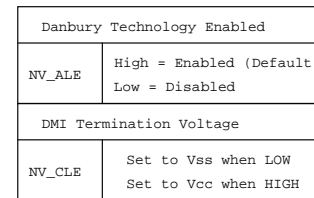
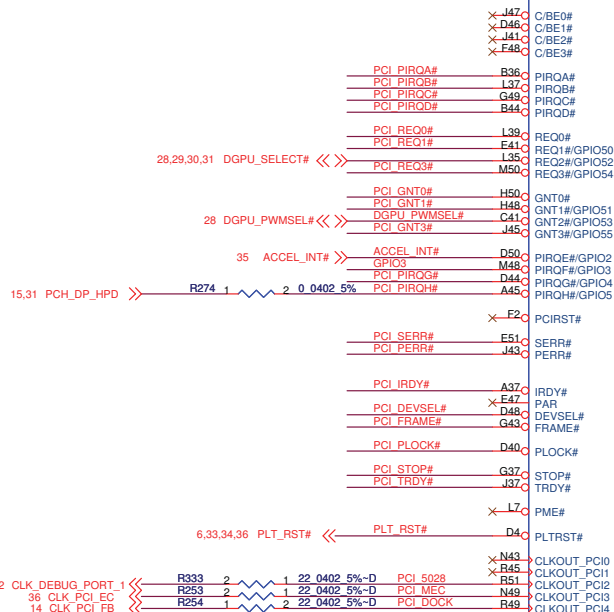
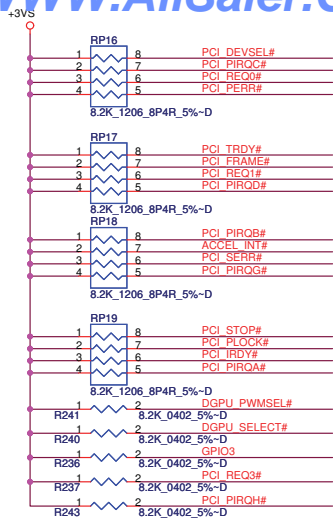


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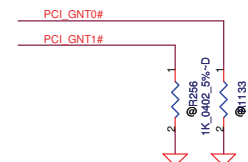
Rev	1.0
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A16 swap override Strap/Top-Block Swap Override jumper	
PCI_GNT#3	Low = A16 swap High = Default

Boot BIOS Strap		
PCI_GNT#1	PCI_GNT#0	Boot BIOS Location
0	0	LPC
0	1	Reserved (NAND)
1	0	PCI
1	1	SPI



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1.0

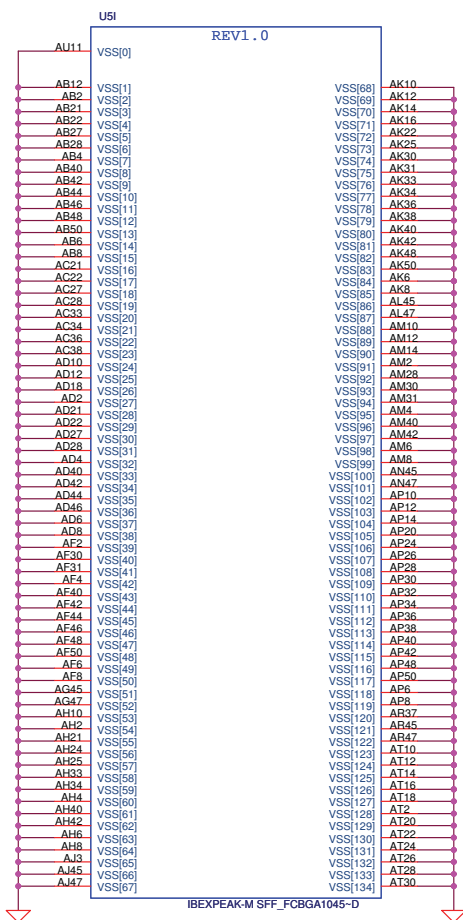


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Date:	Monday, May 10, 2010	Sheet 18 of 55

PCH Power Rail Table		
Voltage Rail	Voltage	S0 Iccmax Current (A)
V_CPU_IO	1.1/1.05	< 1 (mA)
V5REF	5	< 1 (mA)
V5REF_Sus	5	< 1 (mA)
Vcc3_3	3.3	0.357
VccAC1k	1.1	0.052
VccADAC	3.3	0.069
VccADPLLA	1.1	0.068
VccADPLLB	1.1	0.069
Vccap11EXP	1.1	0.04
VccCore	1.1	1.432
VccDMI	1.1	0.058
VccDMI	1.1	0.061
VccFDIPLL	1.1	0.037
VccIO	1.1	3.062
VccLAN	1.1	0.32
VccME	1.1	1.849
VccME3_3	3.3	0.085
VccpNAND	1.8	0.156
VccRTC	3.3	2 (mA)
VccSATAPIL	1.1	0.031
VccSus3_3	3.3	0.163
VccSusHDA	3.3	0.006
VccVRM	1.8 / 1.5	0.196
VccVRM	11	< 1 (mA)
VccALVDS	3.3	< 1 (mA)
VccTX_LVDS	1.8	0.059

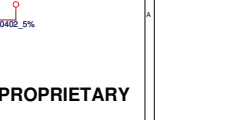
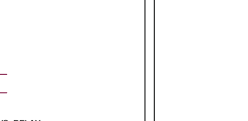
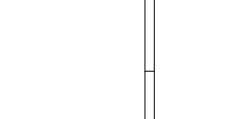
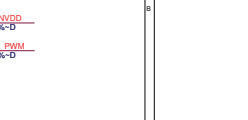
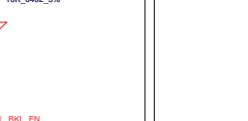
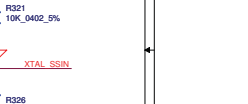
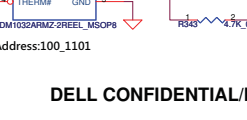
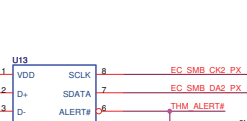
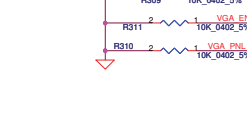
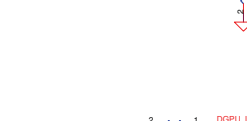
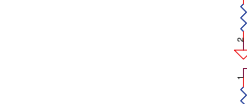
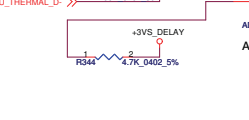
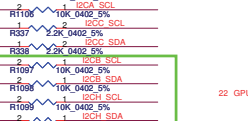
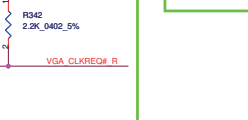
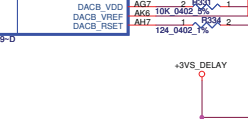
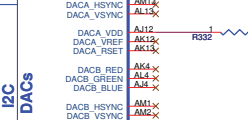
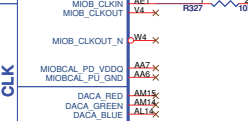
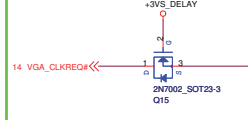
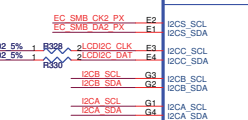
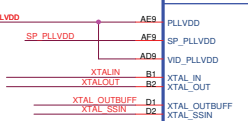
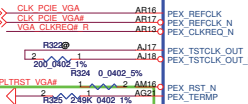
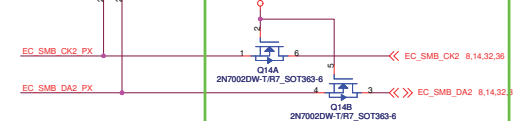
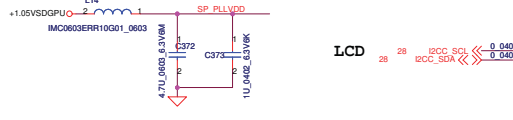
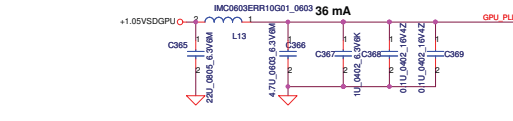


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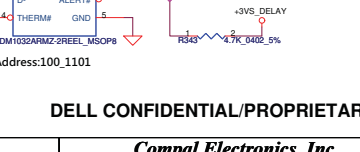
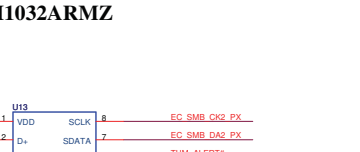
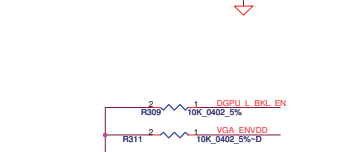
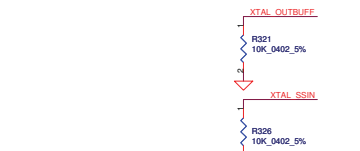
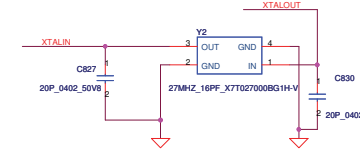


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PEG GTX_C_HRX_N0	C331	1	2	0.1U 0402 16V7K	PEG GTX_HRX_N0	A117	PEG TX0
PEG GTX_C_HRX_P1	C332	1	2	0.1U 0402 16V7K	PEG GTX_HRX_P1	A118	PEG TX1
PEG GTX_C_HRX_N1	C333	1	2	0.1U 0402 16V7K	PEG GTX_HRX_N1	A118	PEG TX1
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GPIO	I/O	ACTIVE	USAGE
GPIO0	IN	H	N/A
GPIO1	IN	H	HDMI Hot-plug
GPIO2	OUT	H	VGA_PNL_PWM
GPIO3	OUT	H	ENVDD
GPIO4	OUT	H	VGA_BKL_EN
GPIO5	OUT	N/A	NVVDD VDD0
GPIO6	OUT	N/A	NVVDD VDD1
GPIO7	IN	L	N/A
GPIO8	IN	L	N/A
GPIO9	IN	L	THM_ALERT#
GPIO10	OUT	N/A	N/A
GPIO11	OUT	N/A	N/A
GPIO12	IN	N/A	N/A
GPIO13	OUT	N/A	N/A
GPIO14	OUT	N/A	N/A
GPIO15	IN	H	DP Hot-plug

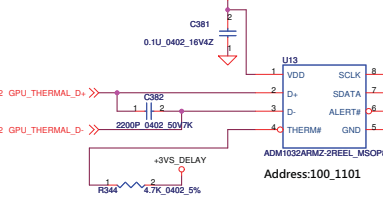


GPIO6	GPIO5
GPU_VDD1	GPU_VDD0
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0	1
1	1

N11P-GS1

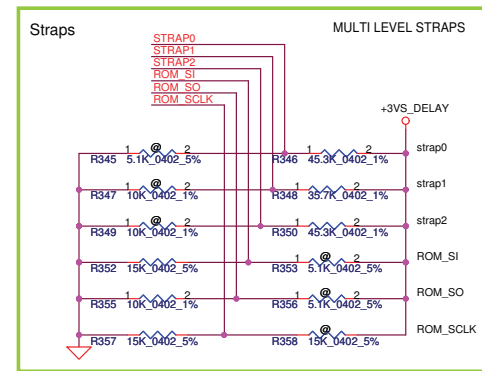
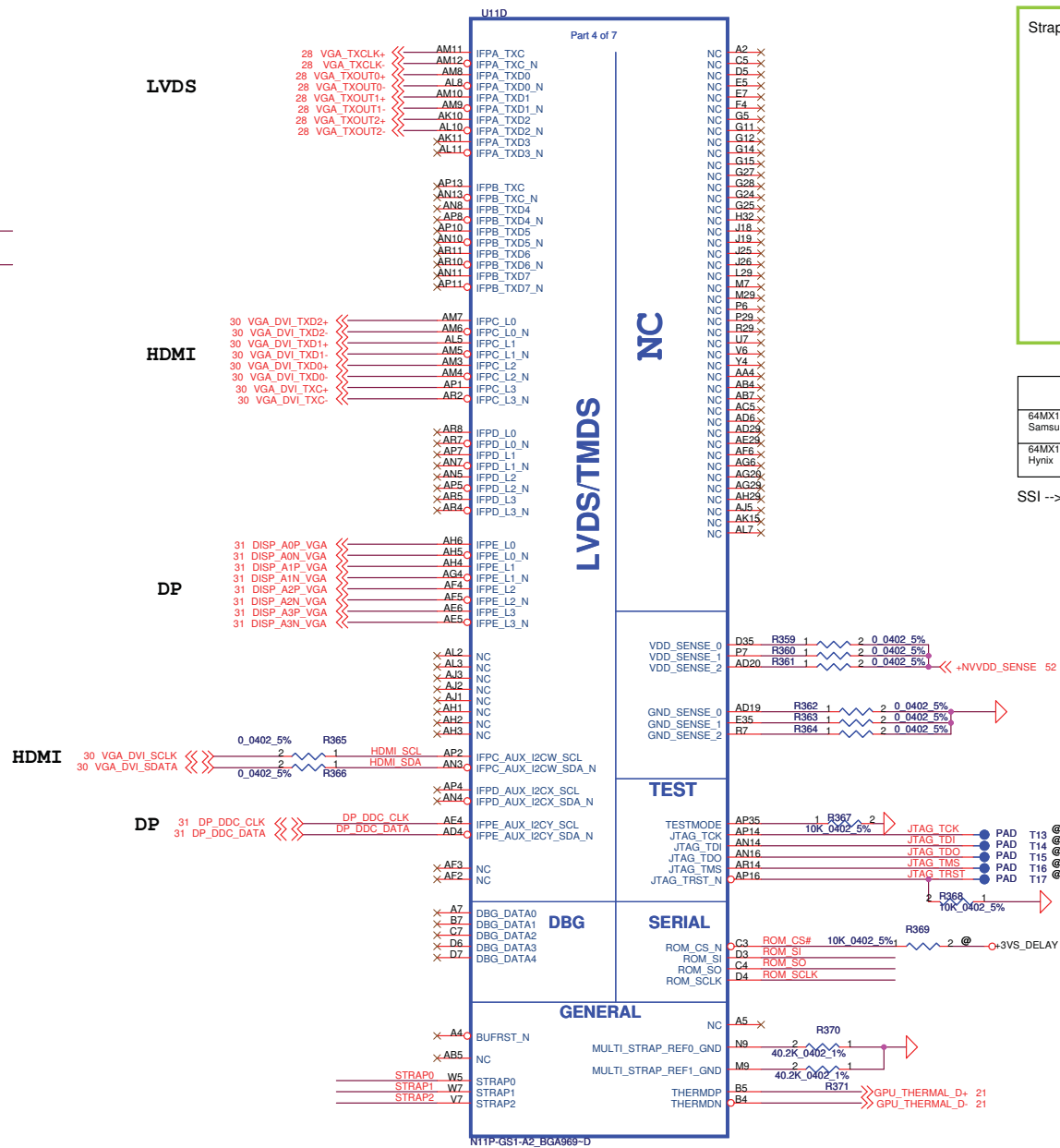
VGA Thermal Sensor ADM1032ARMZ

Closed to GPU



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		N11P-GS1(1/5)PCIE/STRAPS/THERM
		Site
		LA-5812P
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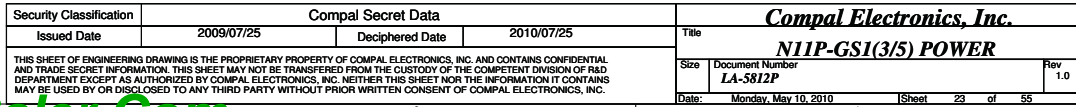


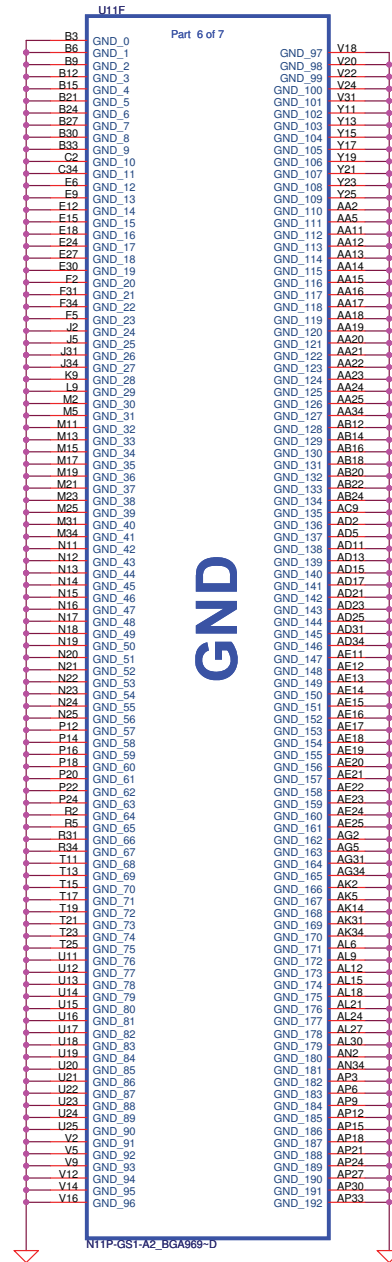
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64MX16 Samsung	H 45K	H 35K	L 30K	L 20K	L 10K	H 15K
64MX16 Hynix	H 45K	H 35K	H 45.3K	L 15K	L 10K	H 15K

SSI --> Hynix

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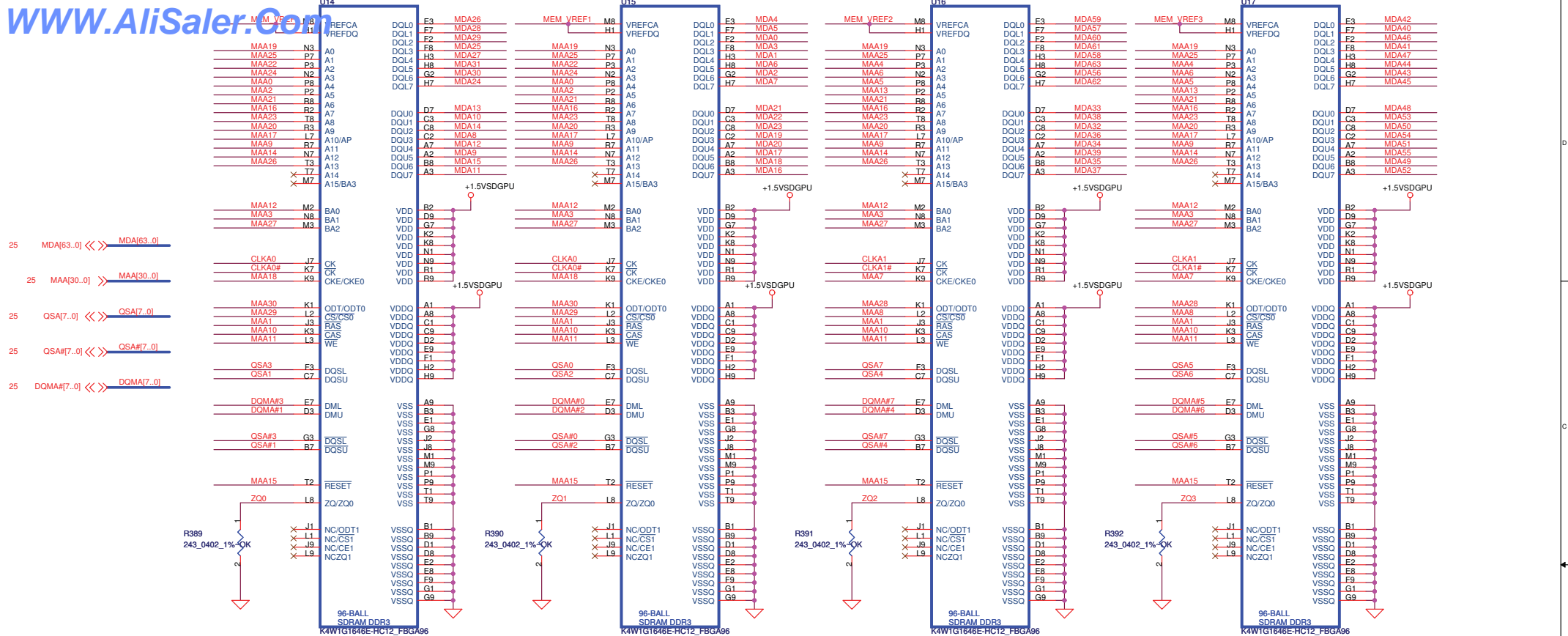


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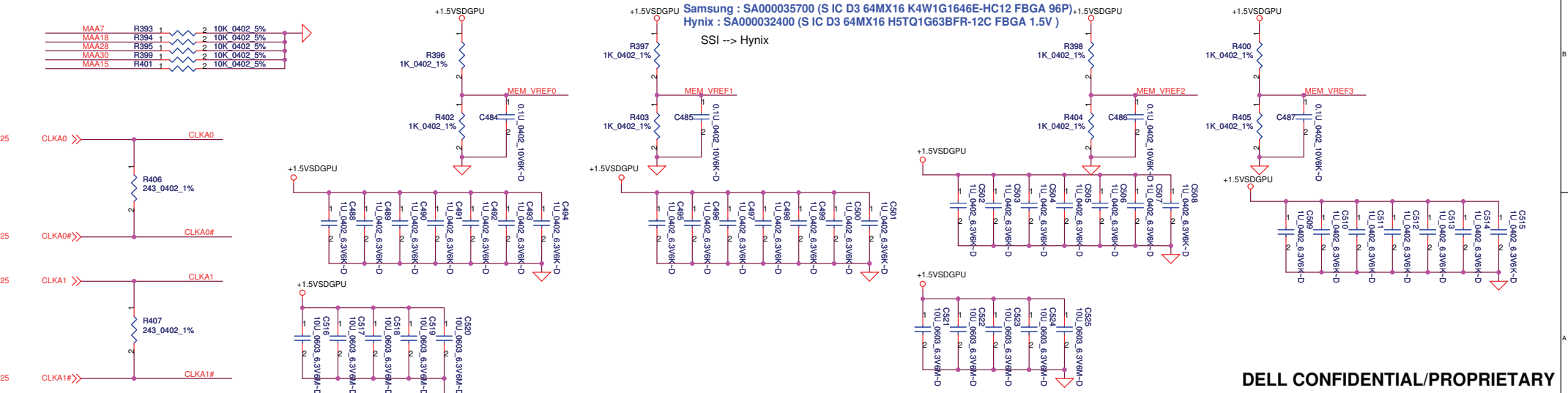
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				Date:	Monday, May 10, 2010	Sheet 25 of 55



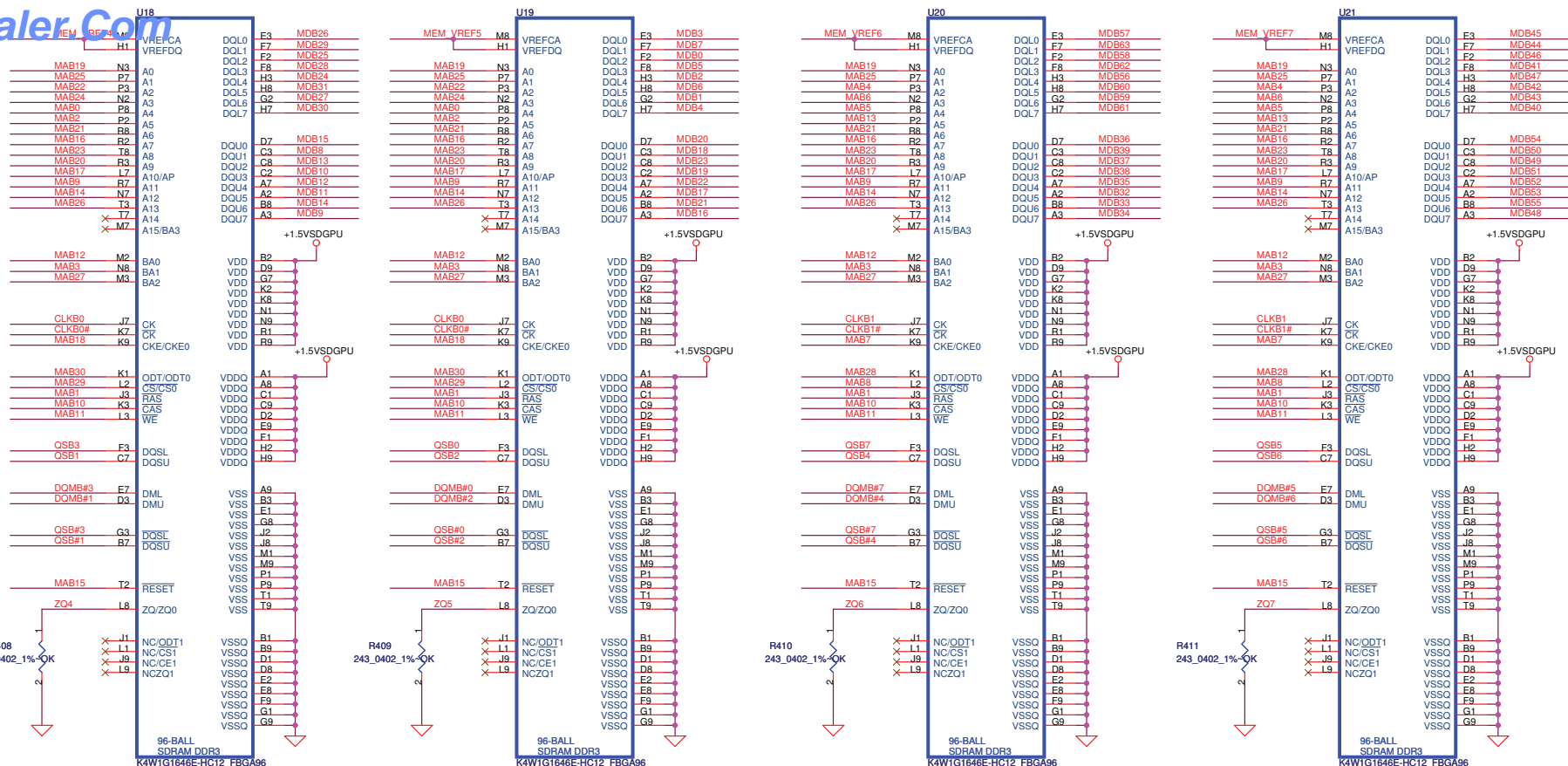
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Hynix : SA000032400 (S IC D3 64MX16 H5TG1G63BFR-12C FBGA 1.5V)

SSI --> Hynix

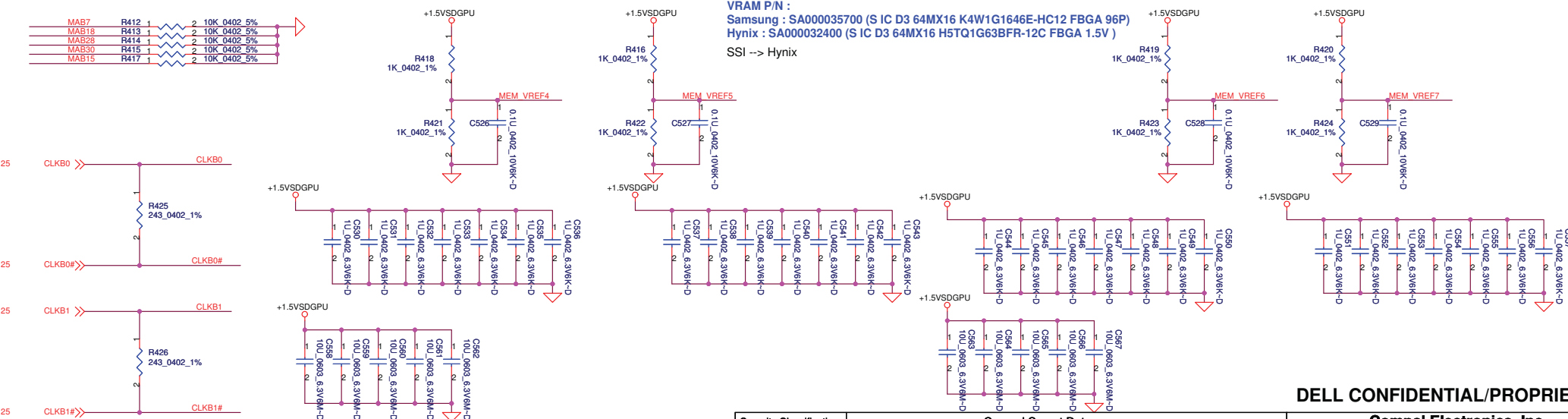


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Title		Compal Electronics, Inc.	
Size		VRAM DDR3 / Channel A	
Date		Monday, May 10, 2010	
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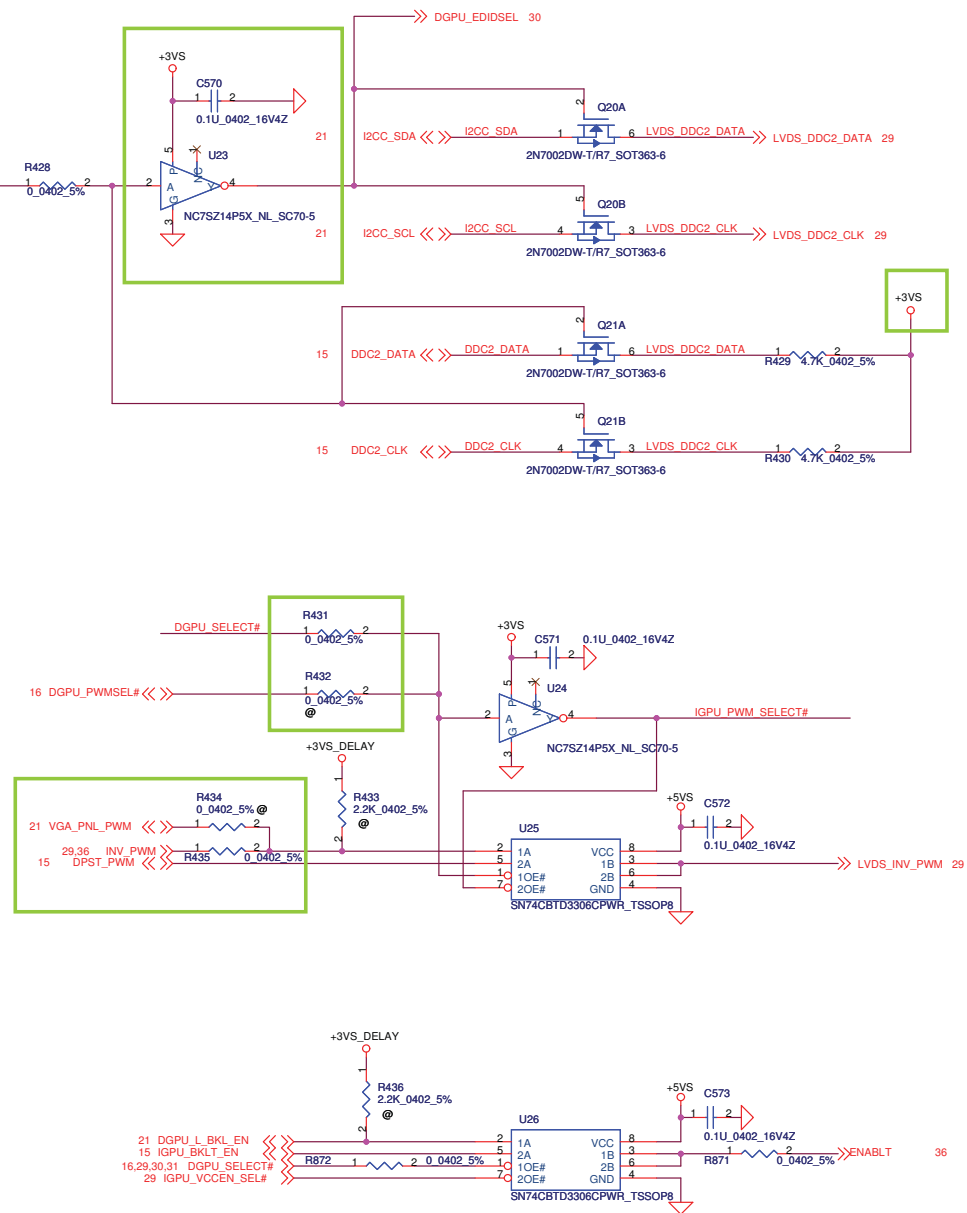


VRAM P/N :
 Samsung : SA000035700 (S IC D3 64MX16 K4W1G1646E-HC12 FBGA 96
 Hynix : SA000032400 (S IC D3 64MX16 H5TQ1G63BFR-12C FBGA 1.5V)
 SSI --> Hynix



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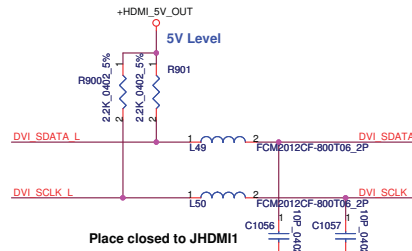
Compal Electronics, Inc.

LVDS Switch

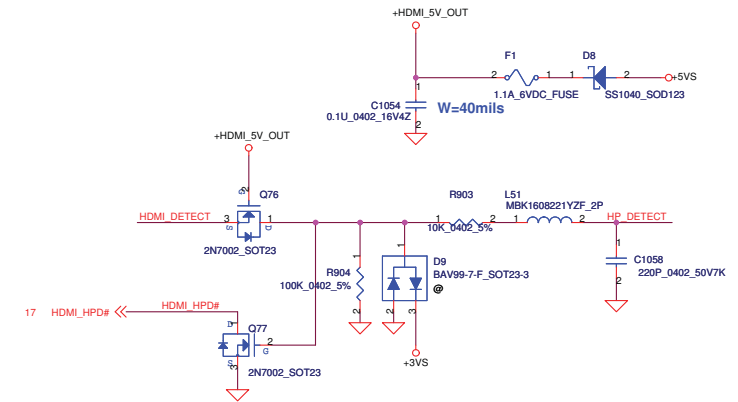
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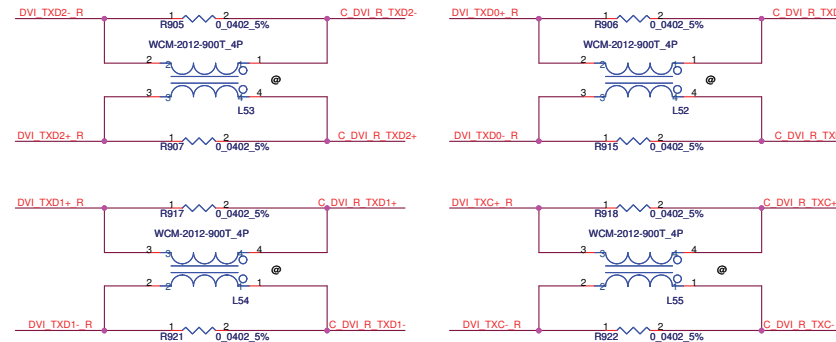
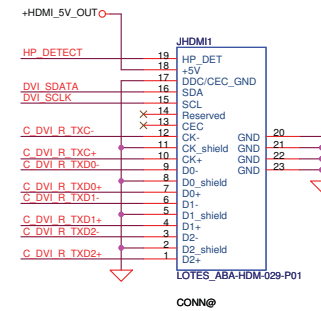
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22	VGA_DVI_TXD1-	VGA_DVI_TXD1-	C1061	2	1	0.1U_0402_16V7K	HDMI C TX1-
22	VGA_DVI_TXD1+	VGA_DVI_TXD1+	C1062	2	1	0.1U_0402_16V7K	HDMI C TX1+
22	VGA_DVI_TXD0-	VGA_DVI_TXD0-	C1063	2	1	0.1U_0402_16V7K	HDMI C TX0-
22	VGA_DVI_TXD0+	VGA_DVI_TXD0+	C1064	2	1	0.1U_0402_16V7K	HDMI C TX0+
22	VGA_DVI_TXC-	VGA_DVI_TXC-	C1065	2	1	0.1U_0402_16V7K	HDMI C CLK-
22	VGA_DVI_TXC+	VGA_DVI_TXC+	C1066	2	1	0.1U_0402_16V7K	HDMI C CLK+



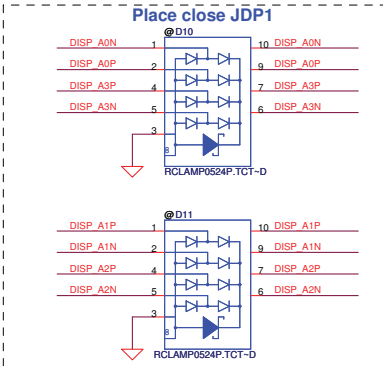
Place closed to JHDMI1



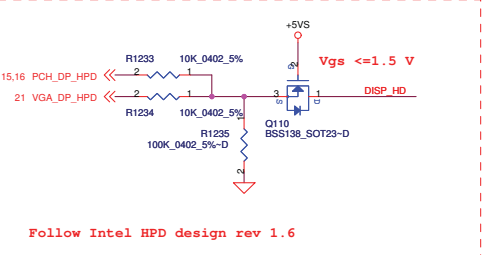
HDMI Connector



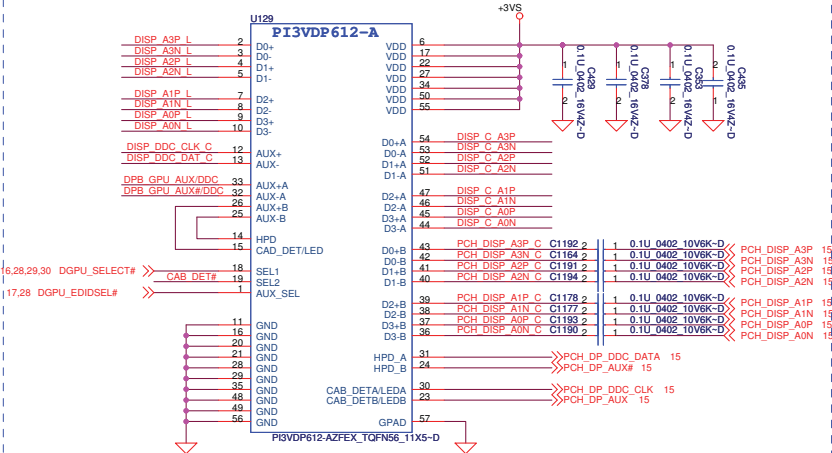
Dongle



Normal



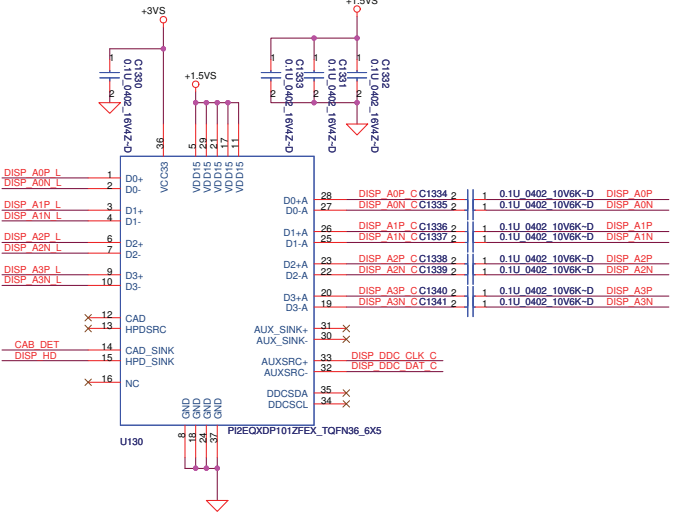
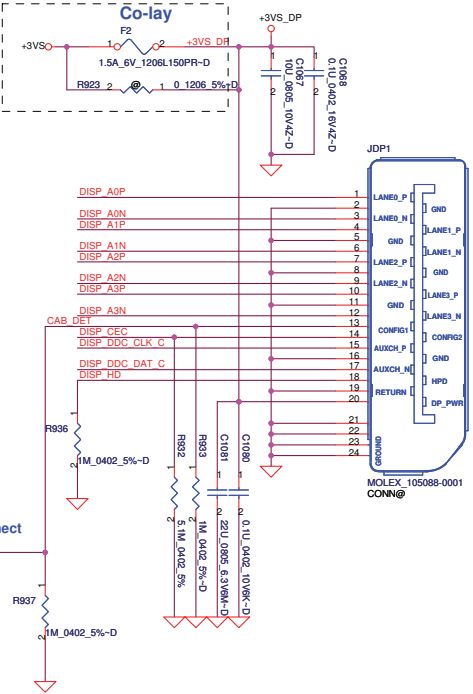
PCH/GPU AUX&LANE SW for DPB



Truth Table (SEL control)

Function	SEL 1/SEL2/AUX_SEL
Port A is active	L
Port B is active	H

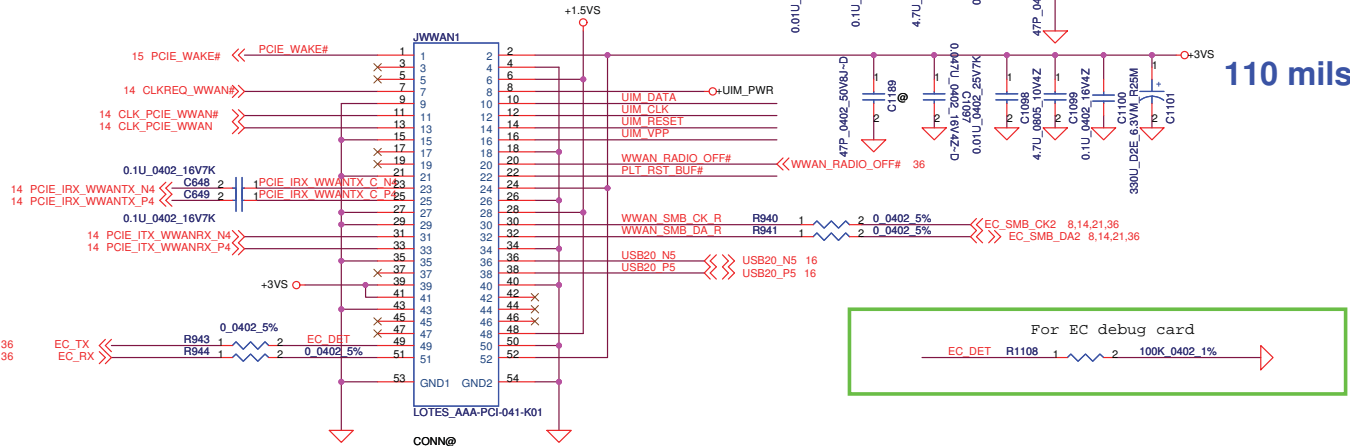
Notes:
SEL1 is only for DP lanes
SEL2 is only for HPD/CAB_DET signals
AUX_SEL is only for AUX path



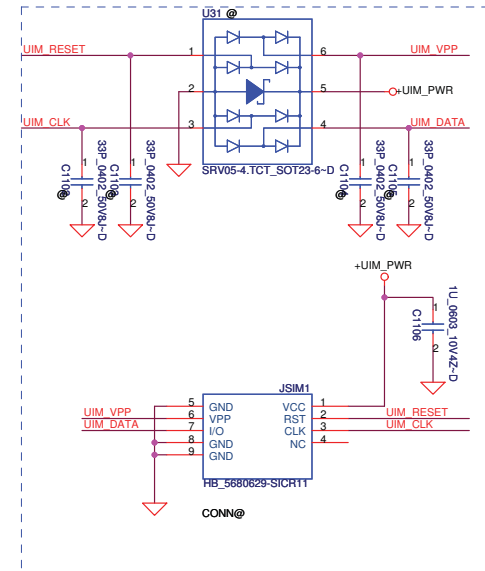
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Issued Date	2009/07/25	Compal Electronics, Inc.	
Deciphered Date	2010/07/25	DP/FAN/HDD	
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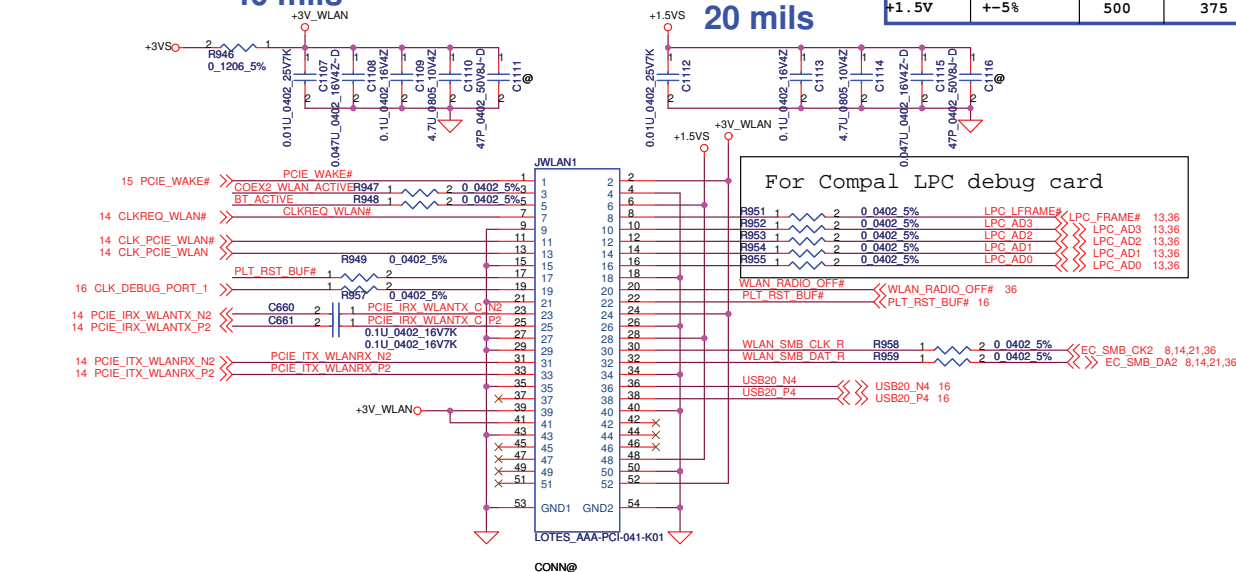
WWAN PCIE MiniCard



SIM Card

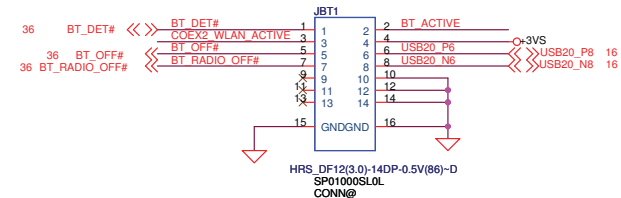


WLAN/WIMAX PCIE Mini Card



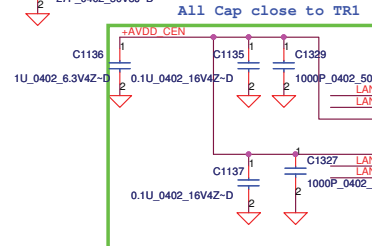
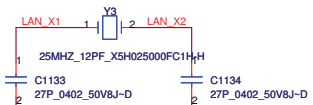
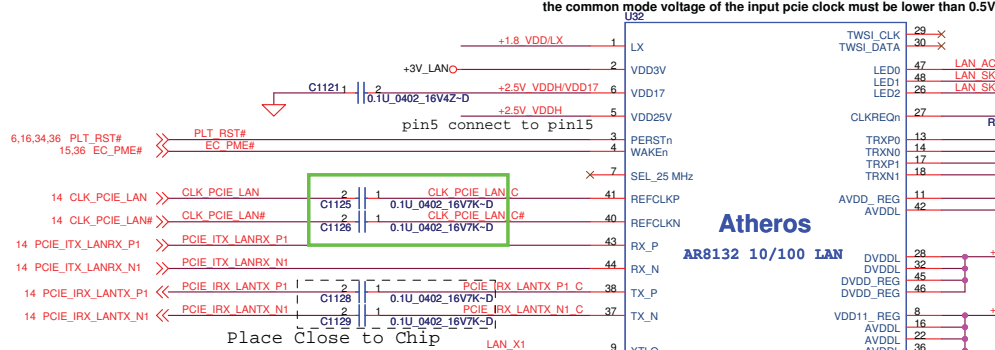
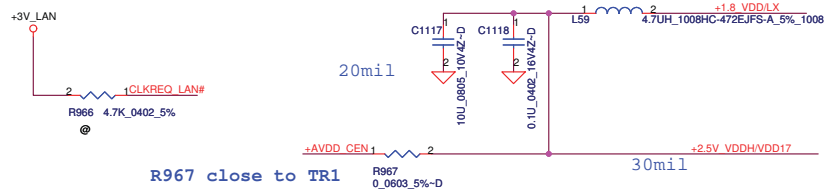
PWR Rail	Voltage Tolerance	Primary Power		Aux Power
		Peak	Normal	Normal
+3.3V	+/-9%	1000	750	
+3.3Vaux	+/-9%	330	250	250 (Wake enable) 5 (Not wake enable)
+1.5V	+/-5%	500	375	NA

Bluetooth

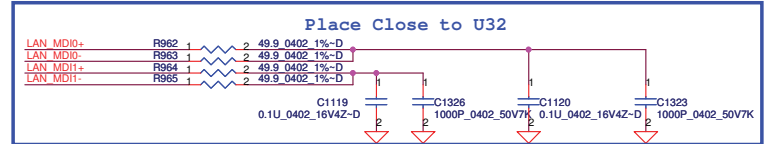
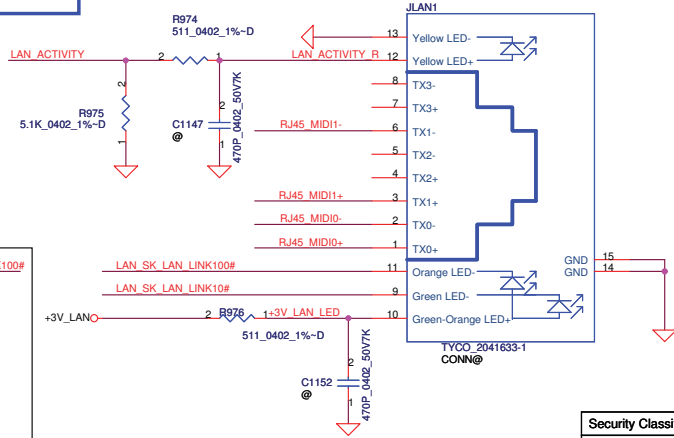
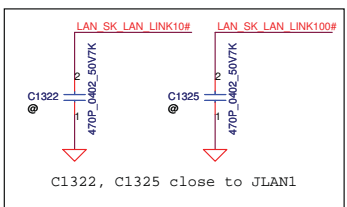


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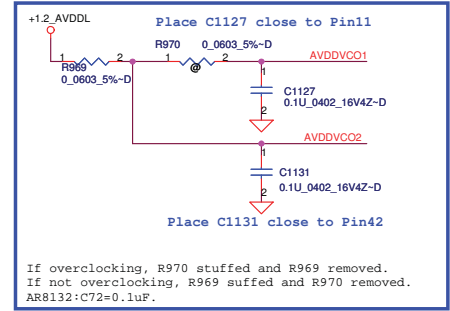
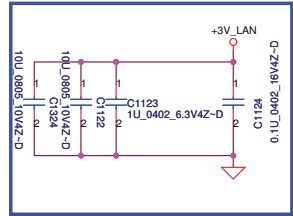
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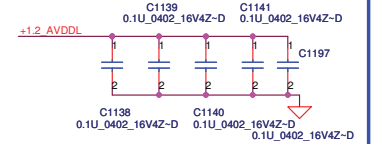
Pull down circuit:
more power saving in no-overclocking mode
vendor suggestion



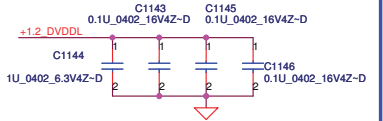
Layout Notice : Place as close
c hip U32 PIN5



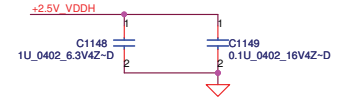
Place C1138 close to Pin8. C1139,C1141,C1140,C1197close to Pin16, Pin36, Pin39,Pin22



Place C1144 close to Pin46. C1143,C1145,C1146 close to Pin45, Pin28, Pin32



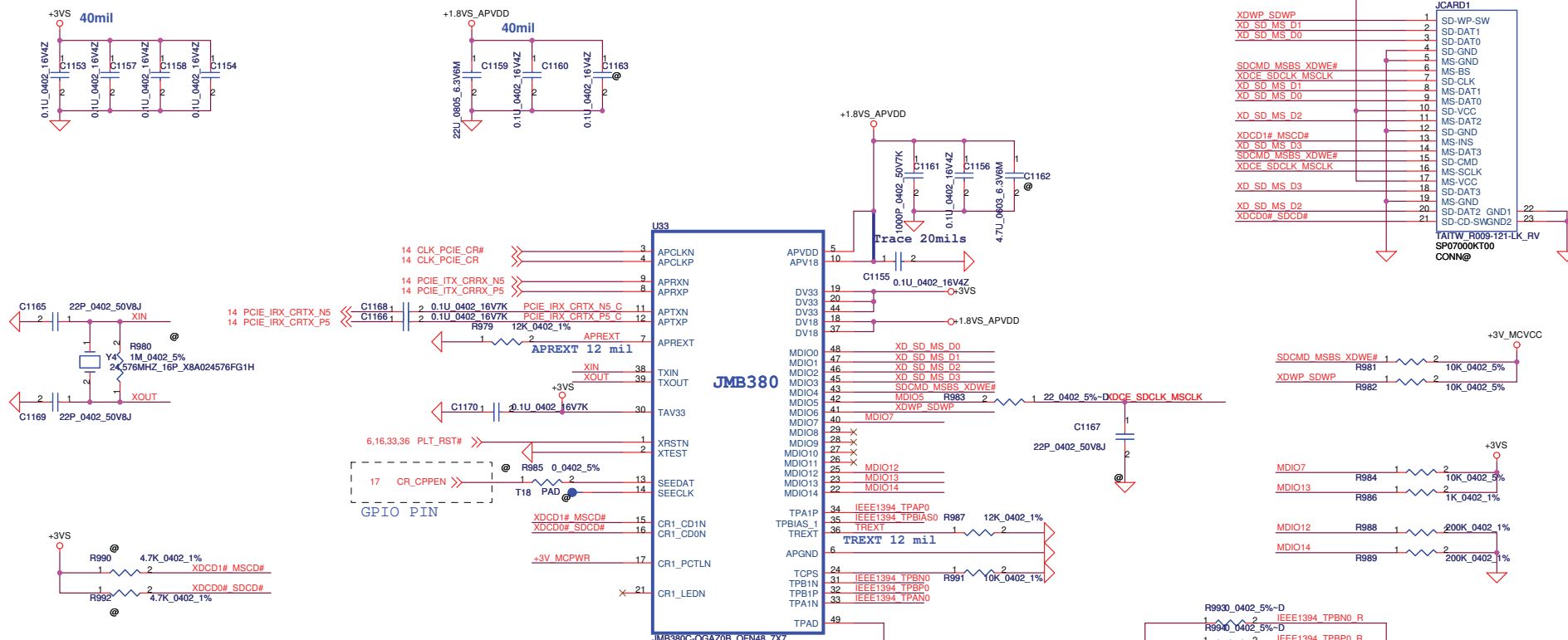
Place C1148 close to Pin15, C1149 close to Pin25



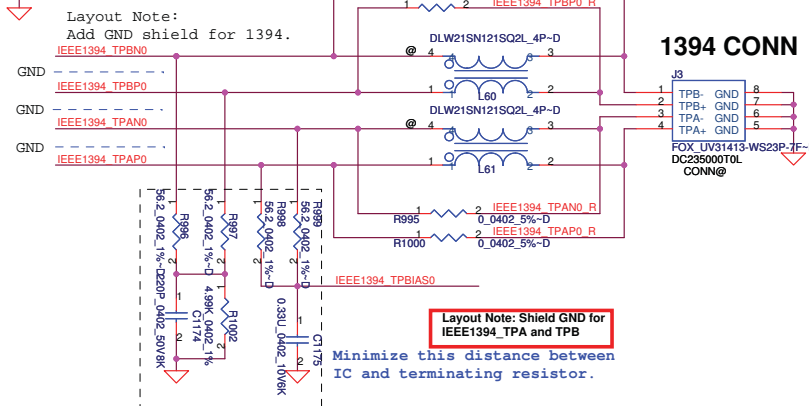
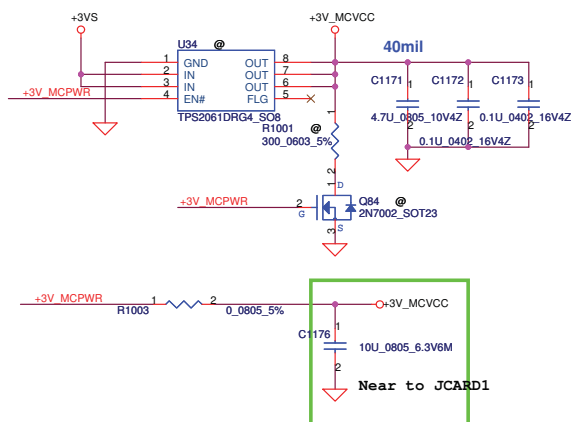
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3 in 1 Card Reader CONN



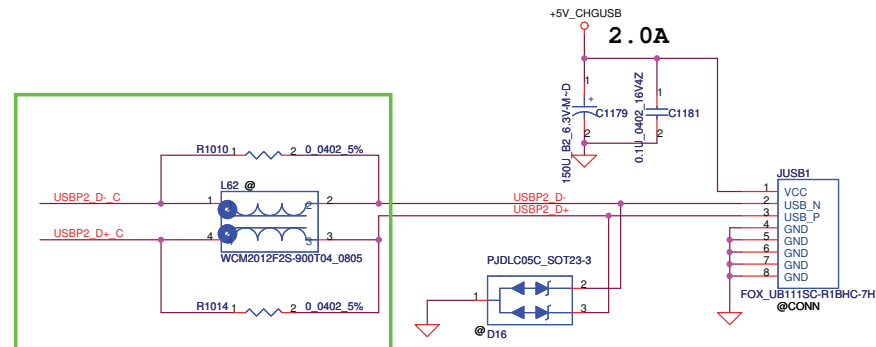
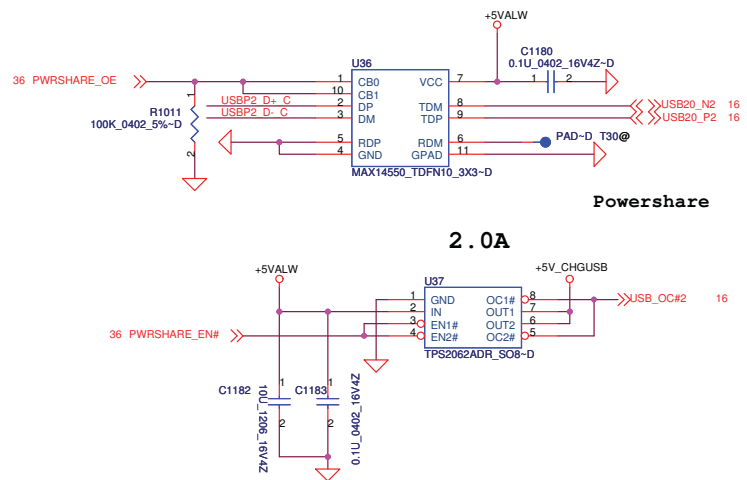
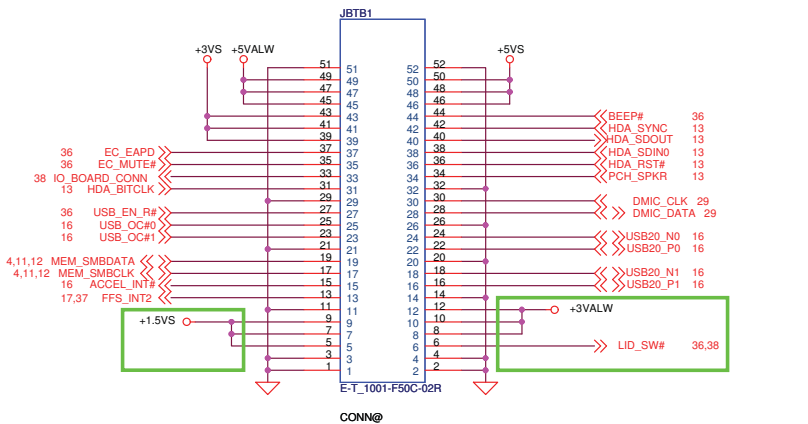
Memory Card Power Switch



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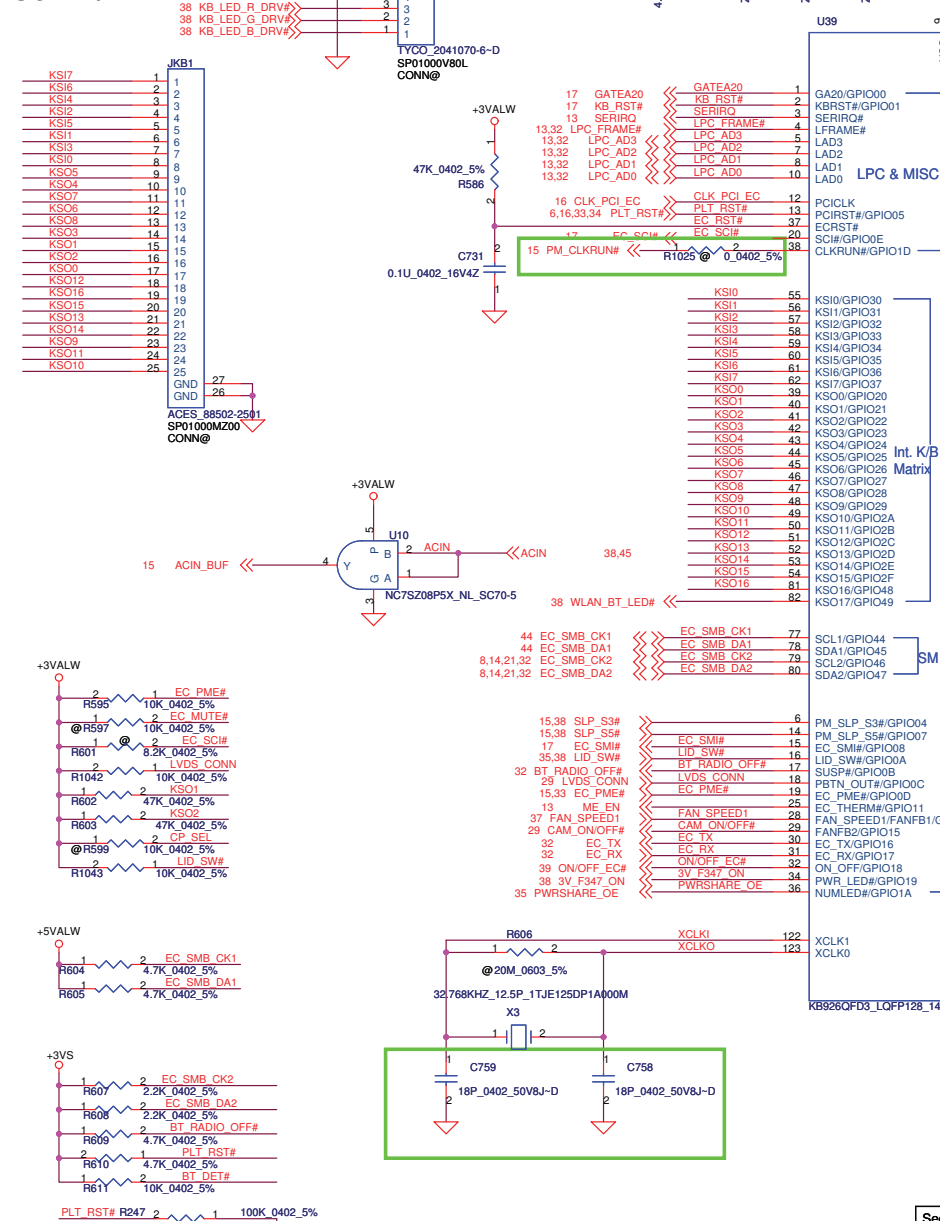
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Issued Date	2009/07/25	Deciphered Date	2010/07/25	CARD READER/1394	
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				Size	
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				LA-5812P	
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10 Board CONN

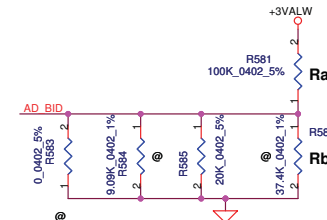


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KEYBOARD CONN.



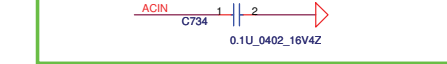
Board ID



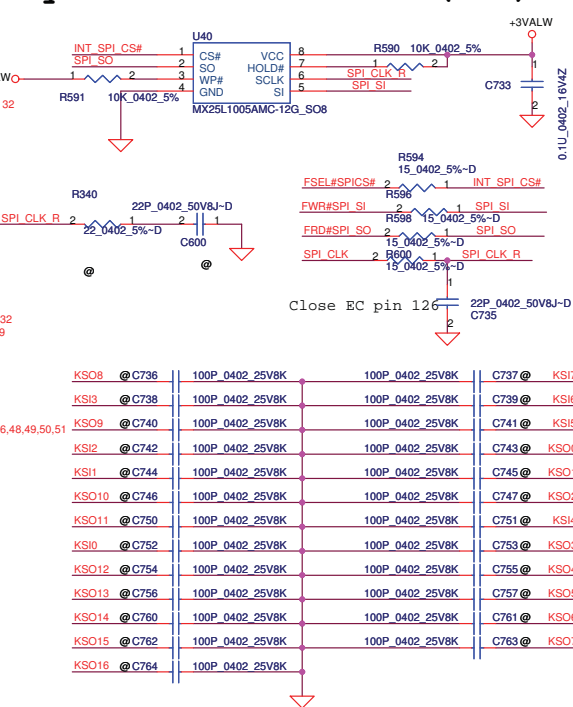
BOARD ID Table

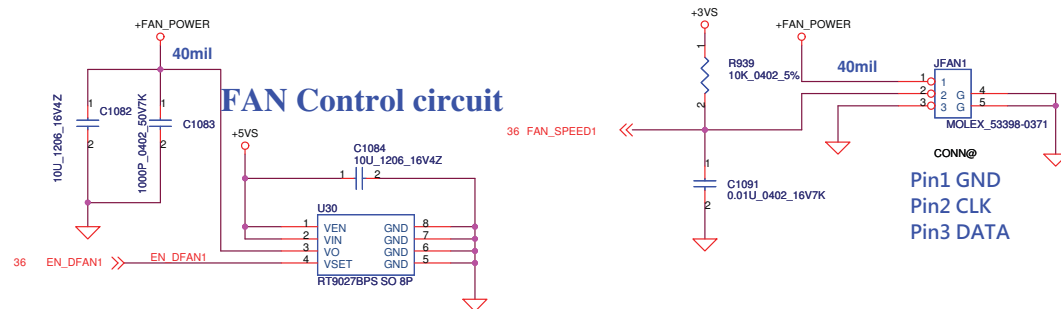
ID	BOARD ID	Ra	Rb	Vab
0	0.1(X00)	NC	0	0V
1	0.2(X01)	100K	9.09K	0.25V
2	0.3(X02)	100K	20K	0.50V
3	1.0(A00)	100K	37.4K	0.82V

EC Team request



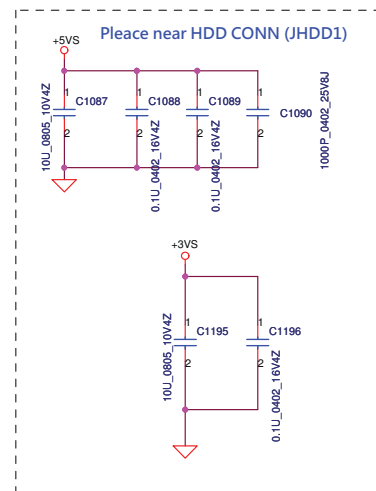
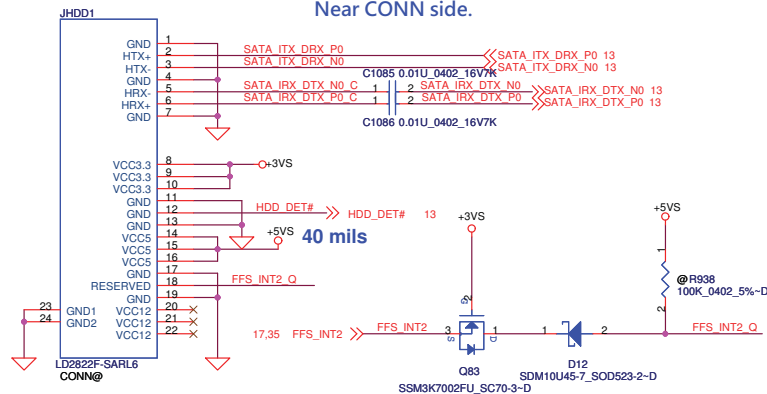
System SPI Flash ROM (1Mb)





HDD Connector

Near CONN side.

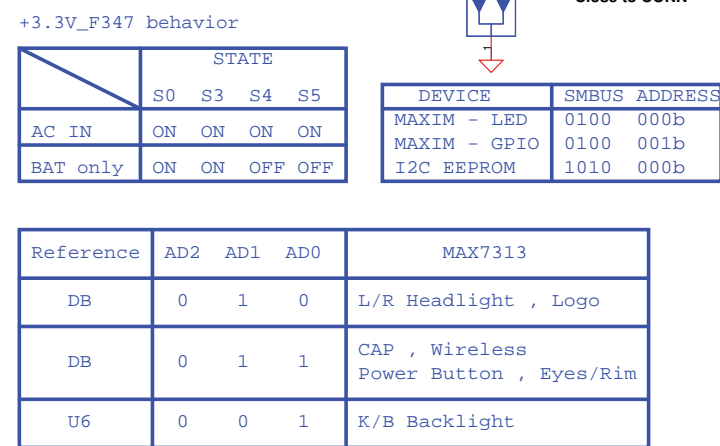


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Compal Electronics, Inc.

Title			
FAN & Thermal Sensor			
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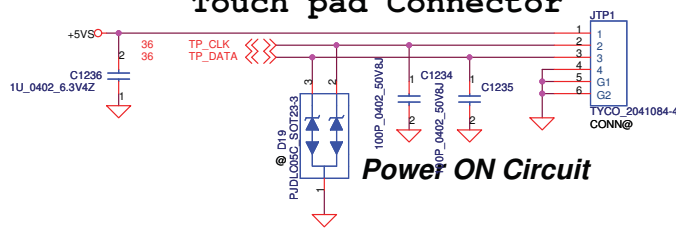


	STATE			
	S0	S3	S4	S5
AC IN	ON	ON	ON	ON
BAT only	ON	ON	OFF	OFF

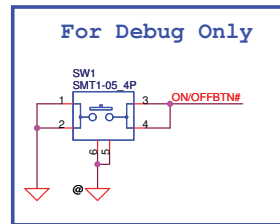
DEVICE	SMBUS ADDRESS
MAXIM - LED	0100 000b
MAXIM - GPIO	0100 001b
I2C EEPROM	1010 000b

Reference	AD2	AD1	AD0	MAX7313
DB	0	1	0	L/R Headlight , Logo
DB	0	1	1	CAP , Wireless Power Button , Eyes/Rim
U6	0	0	1	K/B Backlight

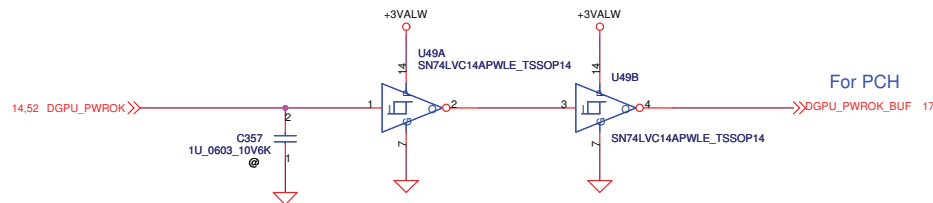
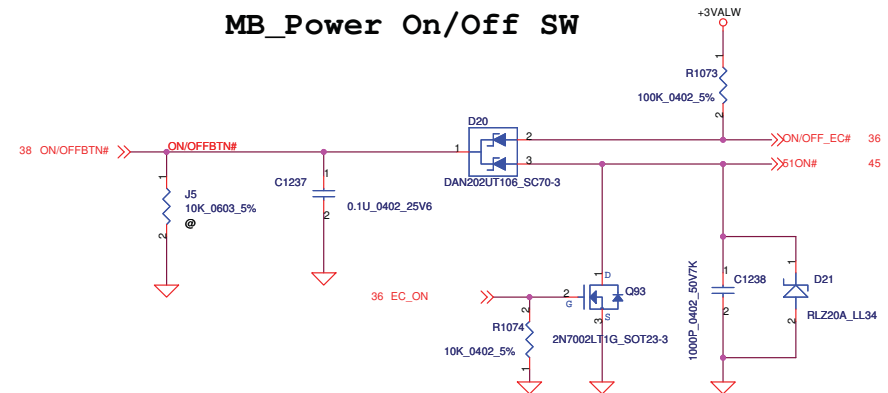
Touch pad Connector



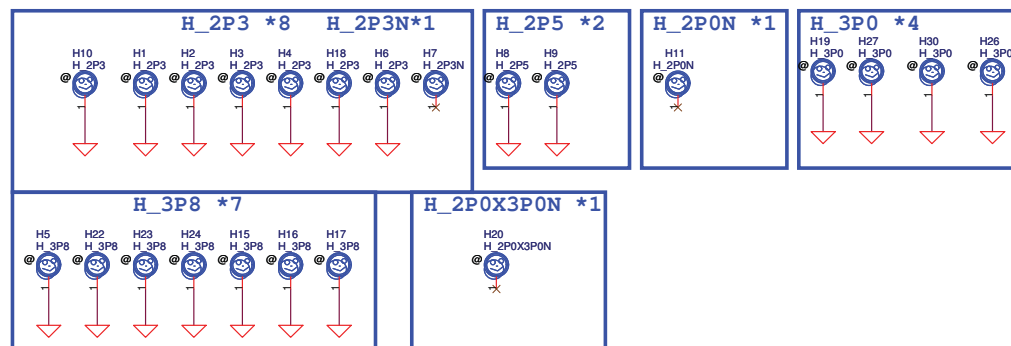
Power ON Circuit



MB_Power On/Off SW

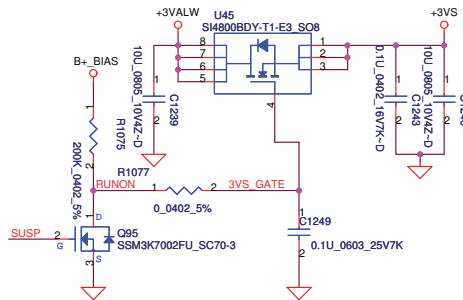


For PCH

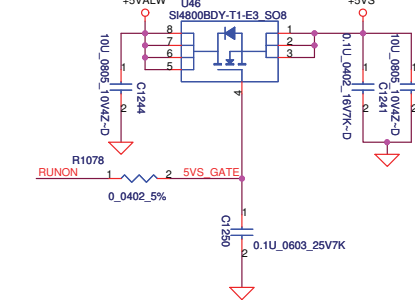


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Size	Document Number	Rev		Date	
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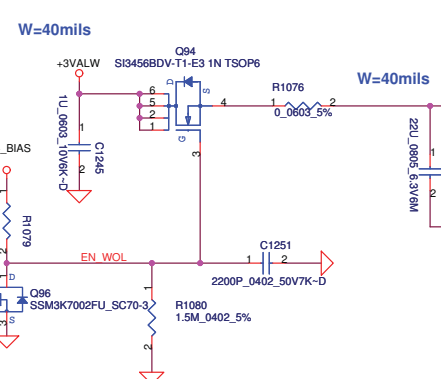
+3VALW to +3VS Transfer



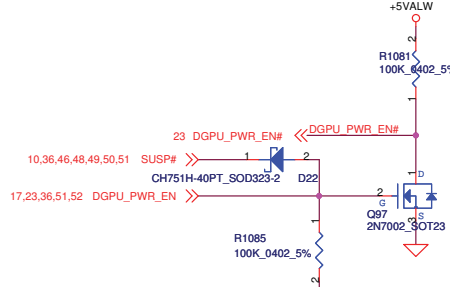
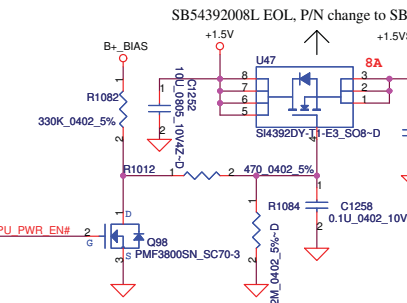
+5VALW to +5VS Transfer



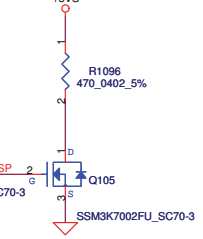
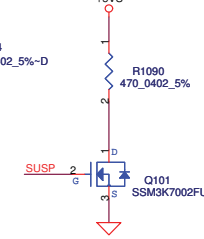
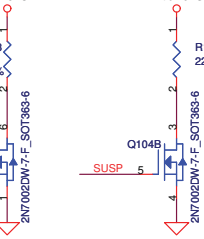
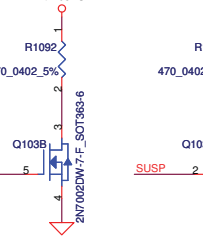
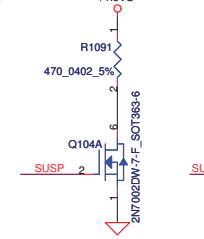
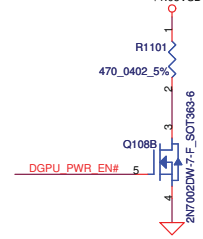
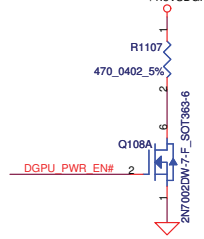
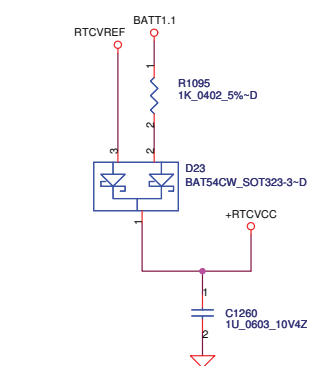
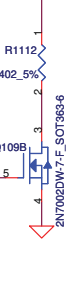
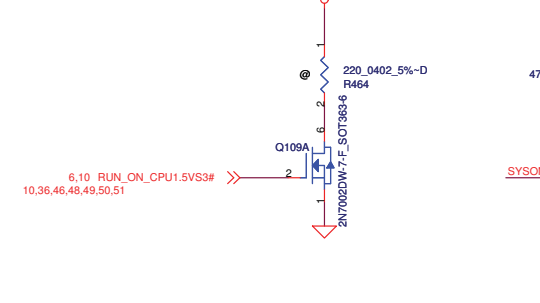
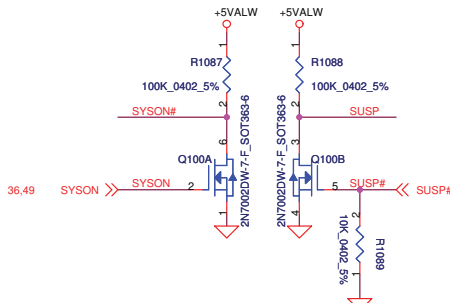
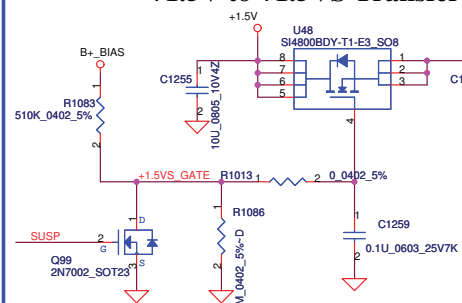
+3VALW to +3LAN Transfer



+1.5V to +1.5VSDGPU Transfer



+1.5V to +1.5VS Transfer



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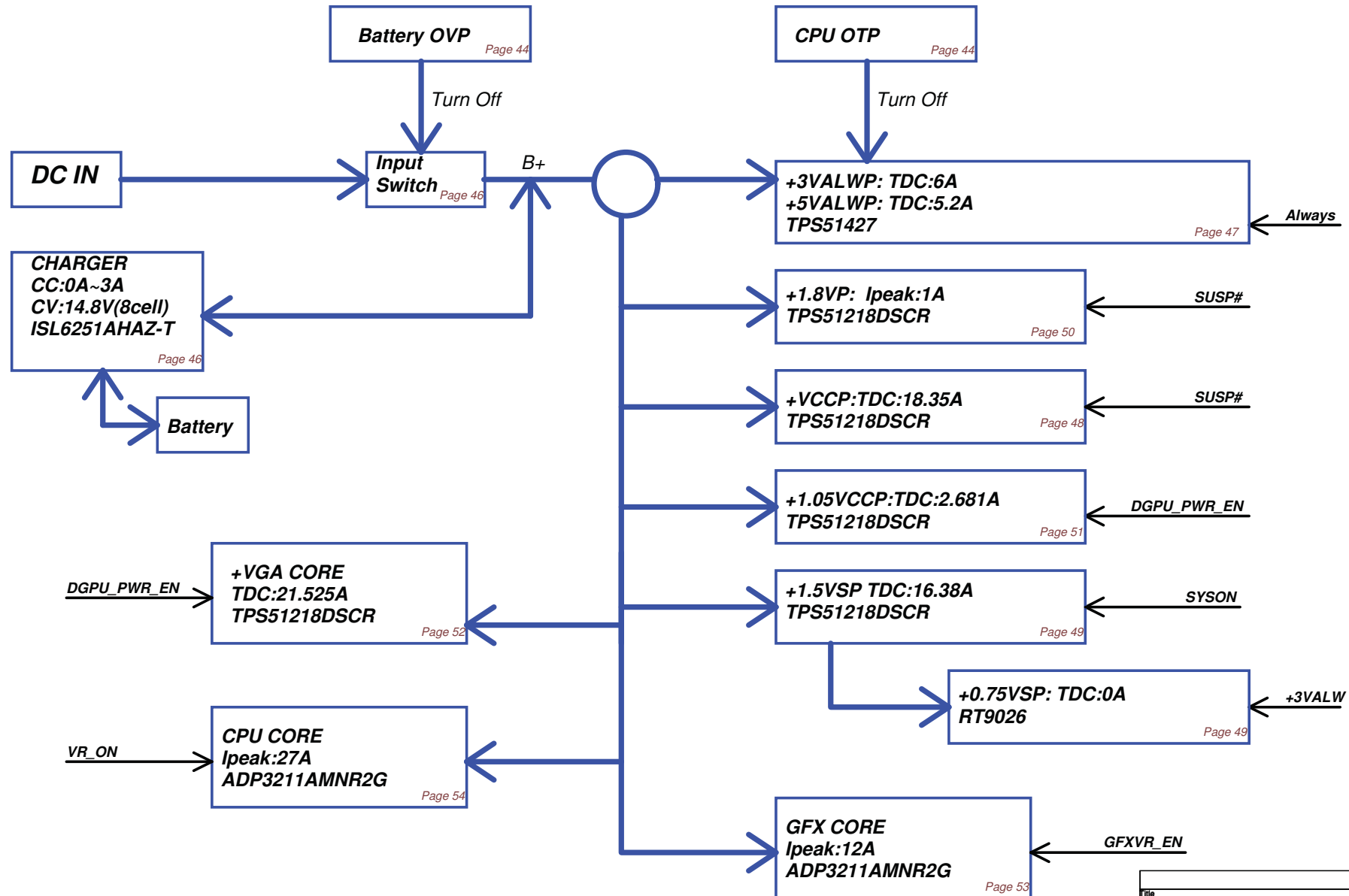
Item	Reason for change	PG#	Modify List	Date	Phase
1	The S3 status power +3VS leakage	17	Change C1151 to +3VS	2009/12/17	PT
2	The NV vender request	23	Add R472 to link +3VS_Delay and U11 pin AA9,AB9,W9,Y9	2009/12/17	PT
3	The NV vender request	23	Add C443	2009/12/17	PT
4	The power +VCC_CORE can't up	10	Add R226,R227 H_DPRS_LPVR Pull up,Pull down	2009/12/17	PT
5	The power +VCC_CORE can't up	10	Add R225,R228 H_PSI# Pull up,Pull down	2009/12/17	PT
6	The EA LVDS part	29	Change BOM R439 from 330ohm to 110ohm	2009/12/21	PT
7	The DGPU_PWR_EN signal to PCH	36	Add R614 to U39	2009/12/21	PT
8	WLAN can't detect	14	Change BOM R186 from 10kohm to reserve	2009/12/21	PT
9	Audio can't detect	19	Add R1184,R1183	2009/12/21	PT
10	Signal GFX_VR_ON spike noise	10	Change BOM R104 from 10kohm to 470ohm	2009/12/21	PT
11	The power request MAINPWON del EC control	36	Del MAINPWON FOR EC Command	2009/12/21	PT
12	Add CP_SEL Function decter for 65W or 90W adapter	36	Add CP_SEL link to U39	2009/12/21	PT
13	Intel request 10uf need to 16 pice	9	Add C115	2009/12/21	PT
14	SUS_PWR_ACK signal double Pull high	15	Del R195	2009/12/21	PT
15	DP power change +3vs_delay	31	Change +3vs_delay to R469 pin1 ,U82 Pin14	2009/12/21	PT
16	Intel request PCH check list need to pull high	15	ADD R218 for PCH_DP_DDC_CLK Signal,	2009/12/24	PT
17	Intel request PCH check list need to pull high	15	ADD R219 for DDC2_CLK signal	2009/12/24	PT
18	Intel request PCH check list DP solution	15	Change R467 to +3vs ,R468 to GND	2009/12/24	PT
19	PCH Check list TPM_ID0,TPM_ID1 pull high to +3ALW -->+3VS	17	Change R1147 pin 2 ,R1157 to +3VS	2009/12/24	PT
20	Modify screw H5,H10,H27,H30,H19,H26,H18,H25,H31,H32 for ME request	39	change H5,H10,H27,H30,H19,H26,H18,H25,H32,H31	2009/12/24	PT
21	The power +1.5V_CPU_VDDQ change to EC control	6	Change 0ohm from R223 to R224	2009/12/24	PT
22	The signal VGA_CLKREQ# double control	12	Change BOM R154,Q8 to reserve	2009/12/24	PT
23	The DP vendor request	31	Add R1236,R1237	2009/12/24	PT
24	The EC_SMI# signal double pull up	36	Del R599	2009/12/24	PT
25	The VGA_CLKREQ#_R signal double pull up	11	Del R339	2009/12/24	PT
26	The PCH_RSMRST# Signal double diod	15	Del D2 change to D26	2009/12/24	PT
27	The discharge +1.8VS and +1.5vs change	40	Change Q103A and Q104A location	2009/12/24	PT
28	The ACIN function leakage	36	Del R613,D3	2009/12/24	PT
29	The ACIN function leakage	36	Add Q10	2009/12/24	PT
30	The RF request	4	Add C1186,C1187,C1188 for 47PF to CLK power	2009/12/30	PT
31	The RF request	14	Add C1078 10PF to CLK_PCI_FB signal	2009/12/30	PT
32	The RF request	16	Add C1079 10PF to PCI_MRC(CLK_PCI_EC) signal	2009/12/30	PT
33	The RF request	32	Add C1189 for 47PF to +3VS_JWWANI,but notice to JWWANI connector space	2009/12/30	PT
34	The RF request	38	Add C1200,C1201 to U41 Dummy pin	2009/12/30	PT
35	The BIOS request	36	Add R1113 for PCH_GPI033 to EC pin25	2009/12/30	PT
36	The EA SPI Fail	13	Change R593 15ohm for PCH_SPI_CLK	2009/12/30	PT
37	The EMI request	29	Change R458,R459 to L5,L7 SM010017710	2009/12/30	PT
38	ADD R599 to CP_SEL signal pull high	36	ADD R599 to CP_SEL signal	2010/01/04	PT
39	The NV vender request	23	ADD R458 pull down	2010/01/04	PT
40	The NAP10 request	38	The ELC chip U41 pin8 select +5vs and +5VALW ADD R1185,R1186	2010/01/04	PT
41	The EC part need board ID	36	Change BOM R581 to 100Kohm	2010/01/04	PT
42	The EC part need board ID	36	Change BOM R584 to 9.09Kohm	2010/01/04	PT
43	The EC part need board ID	36	Change BOM R583 from 0ohm to reserve	2010/01/04	PT
44	The power +VCC_CORE add bulk for power request	10	Change BOM C117 add 470uF	2010/01/04	PT
45	The power +VCC_GFXCORE add bulk for power request	9	Change BOM C181 add 330uF	2010/01/04	PT
46	Audio S3/S4 resum fail	13	Change BOM C1262 from 27PF to reserve	2010/01/04	PT
47	H_VITTPWRGD_B Signal	6	add R88,Change R747 connection ,and R746,R747 Change BOM reserve	2010/01/24	PT
48	Leakage +3vs	33	Change BOM R966 to Reserve	2010/02/02	PT
49	The EC part need board ID	36	Change BOM R584 to Reserve	2010/02/05	PT
50	The EC part need board ID	36	Change BOM R585 to 20Kohm	2010/02/05	PT
51	Signal DGPU_PWR_EN two level	17	Change BOM R1148 to reserve	2010/02/10	ST
52	Signal EC_SCI# Pull high	36	Change BOM R601 to Reserve	2010/02/10	ST
53	Signal GPIO0 dual Pull high	17	Remove R1163	2010/02/10	ST
54	HDMI EA TEST	30	Change BOM D8 3CS00004000	2010/02/10	ST
				2010/02/22	ST

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					LA-5812P	1.0
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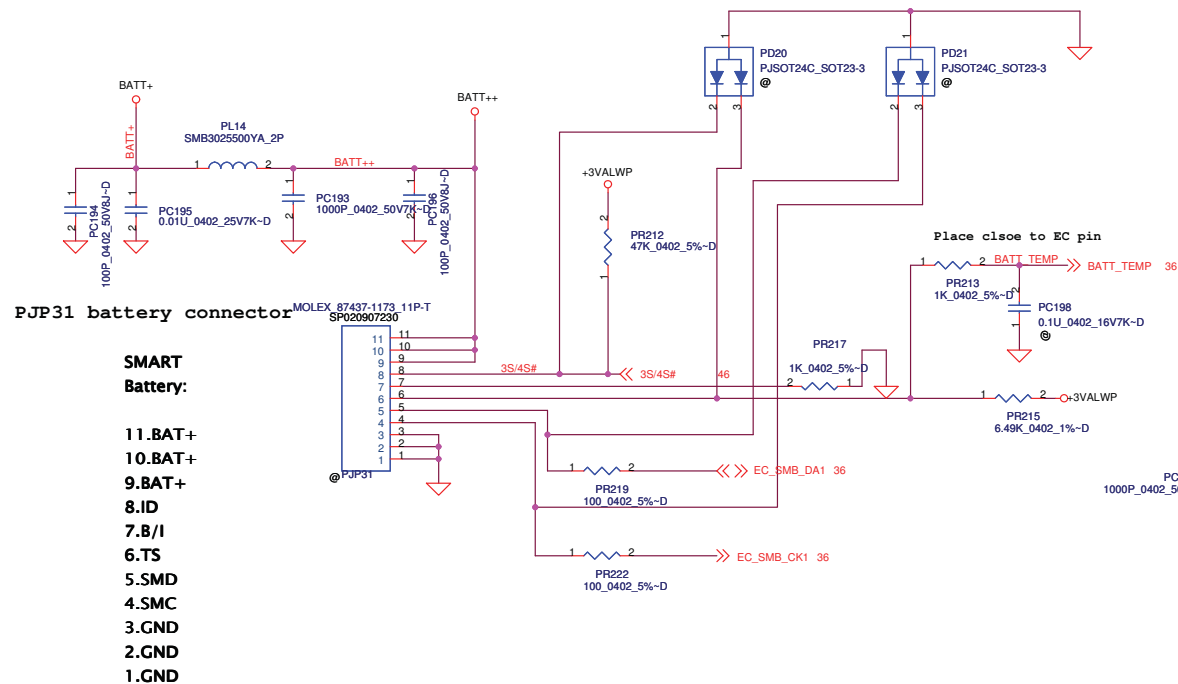
Item	Reason for change	PG#	Modify List	Date	Phase
55	HDMI detector low	17	Add R131 1Kohm	2010/02/22	ST
56	The 1394 and card reader function change to JMB380C	34	Change BOM U33 to SA000023A20	2010/02/23	ST
57	The 1394 and card reader function change to JMB380C	34	Change BOM R980, R990, R992 to reserve	2010/02/23	ST
58	The 1394 and card reader function change to JMB380C	34	Change BOM R979 from 8.2k to 12k	2010/02/23	ST
59	SMBUS Address conflict	8	Change BOM U7 to SA00003YA0L	2010/02/26	ST
60	SMBUS Address conflict	8	Change BOM R306 to 4.7Kohm	2010/02/26	ST
61	Add Power jump to open door	39	Add J5	2010/03/01	ST
62	Detect DP type	16	Add R274	2010/03/01	ST
63	Detect DP type	16	Change BOM 243 to reserve	2010/03/02	ST
64	FFS_INT2 pull up	17	Add R1158	2010/03/03	ST
65	Cost issue	33	Del C1150, C1151	2010/03/04	ST
66	Deep Green	14	Change BOM R186 to 10K	2010/03/09	ST
67	Change Q16 to SI7121DN for +3VS_DELAY 1380mA	23	Change Q16 from SB923010020 to SB00000KI00	2010/04/15	X-build
68	NV Timming	23	Change R380 from SD028000080 to SD028150280	2010/05/10	X-build
69	NV Timming	23	Change C477 to SE07010428L	2010/05/10	X-build
70	NV Timming	23	Change R612 from SD028100180 to SD028150280	2010/05/10	X-build

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Power block

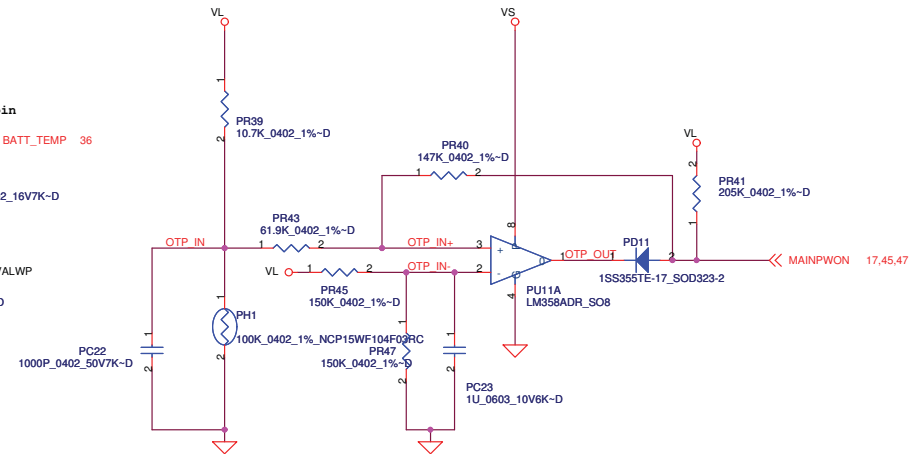


File		
POWER BLOCK DIAGRAM		
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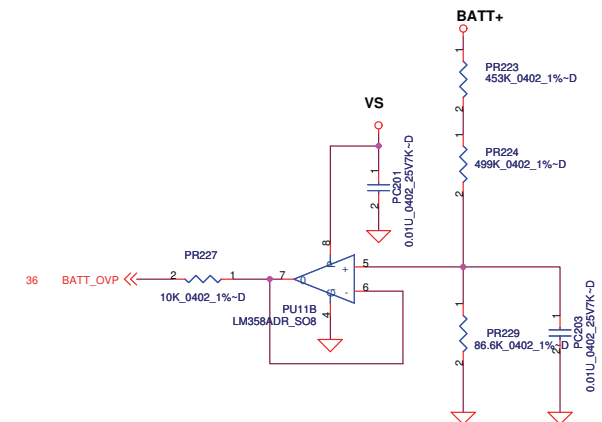
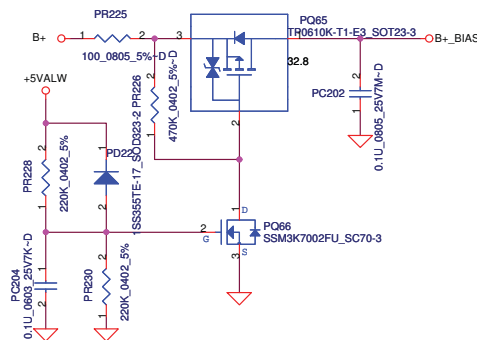
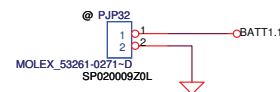


CPU OTP

PH1 under CPU botten side :
CPU thermal protection at 90 +-3 degree C
Recovery at 50 +-3 degree C

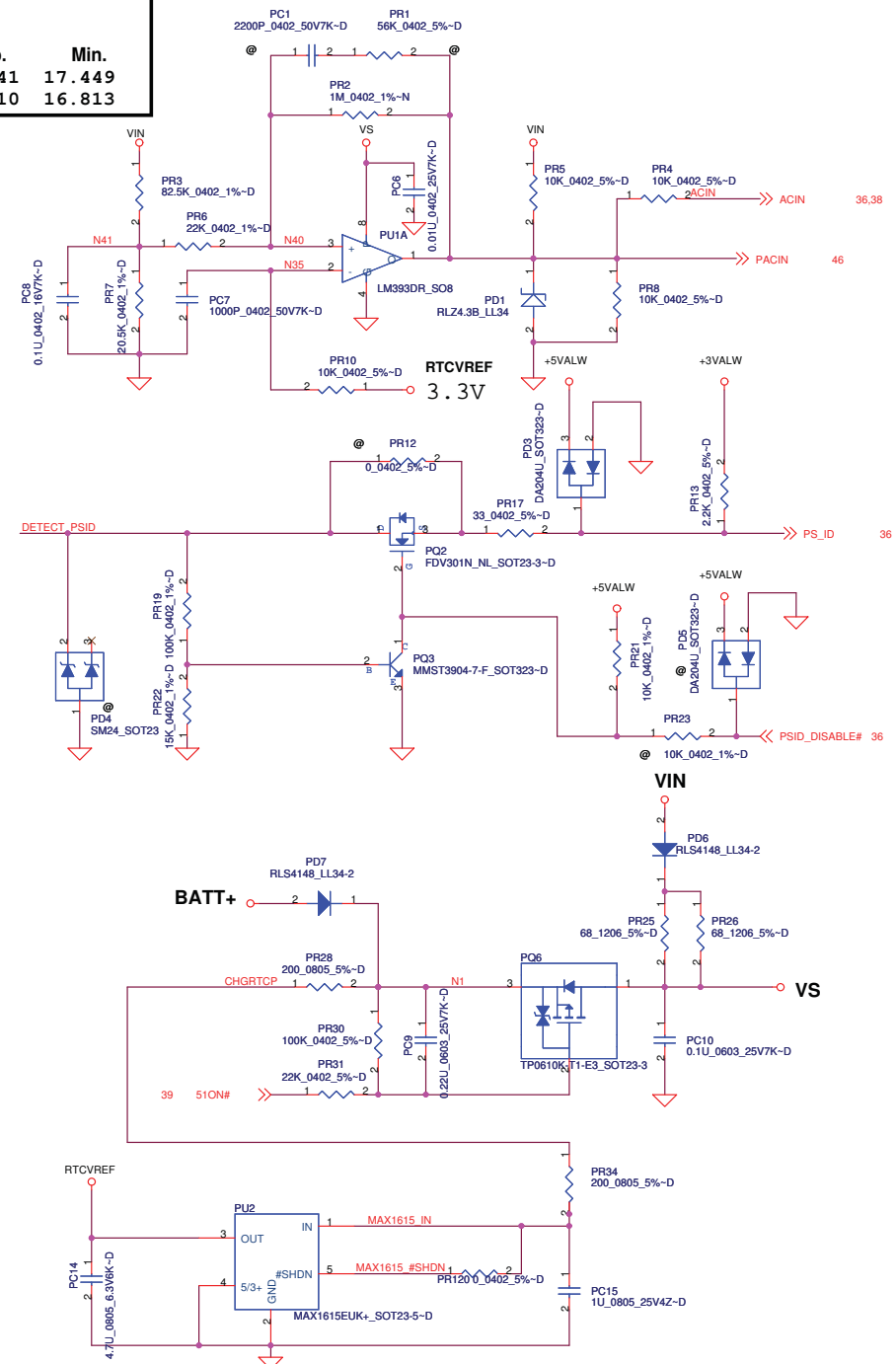
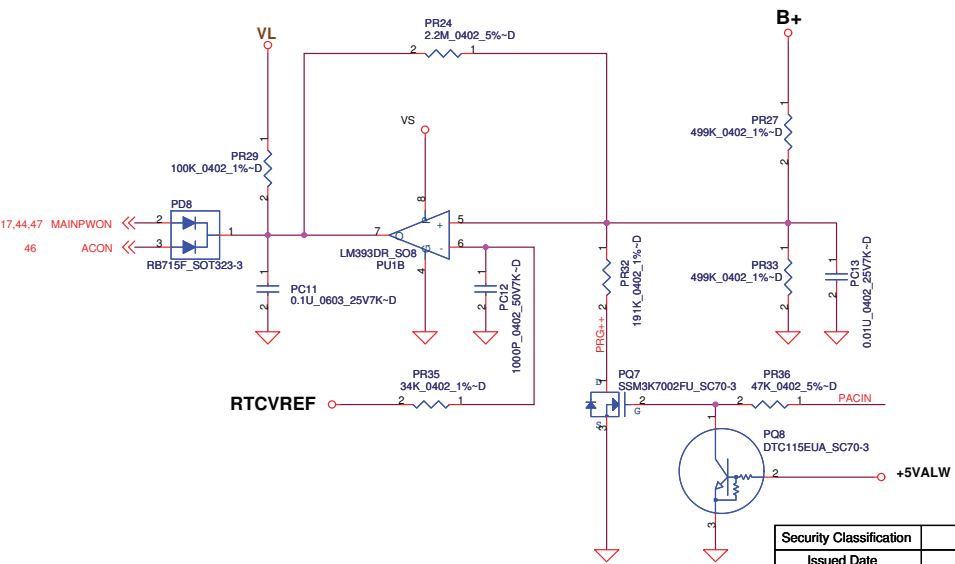
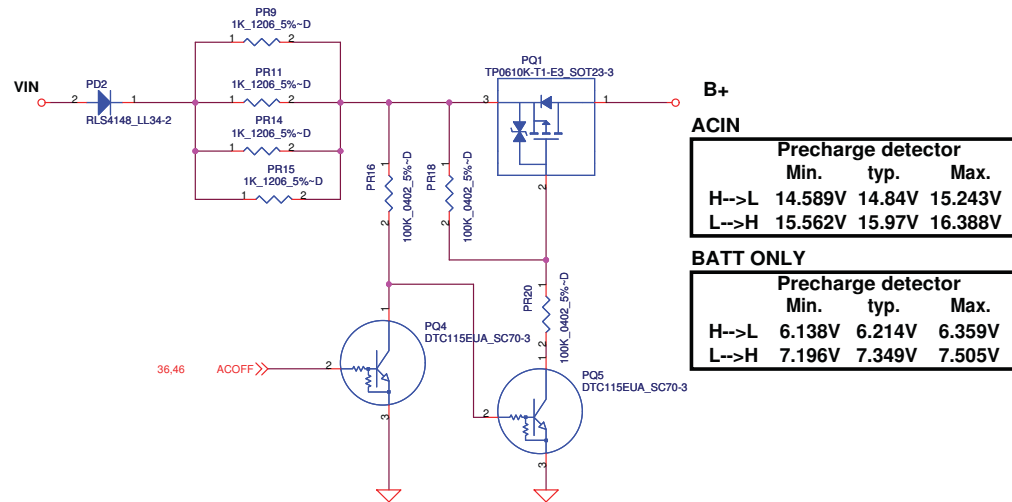
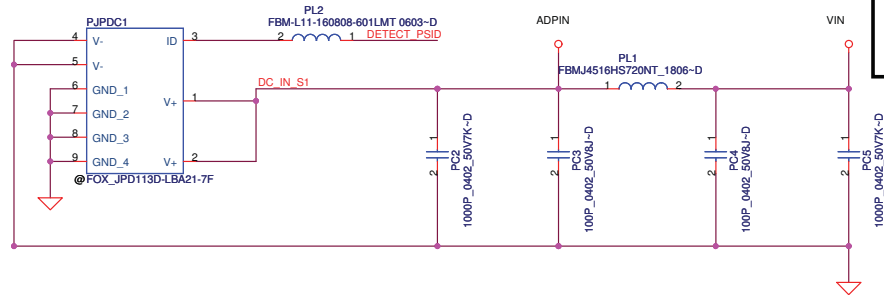


COIN RTC Battery



LI-3S :13.5V---BATT-OVP=1.126V
LI-4S :18V---BATT-OVP=1.5V
BATT-OVP=0.08338*BATT+

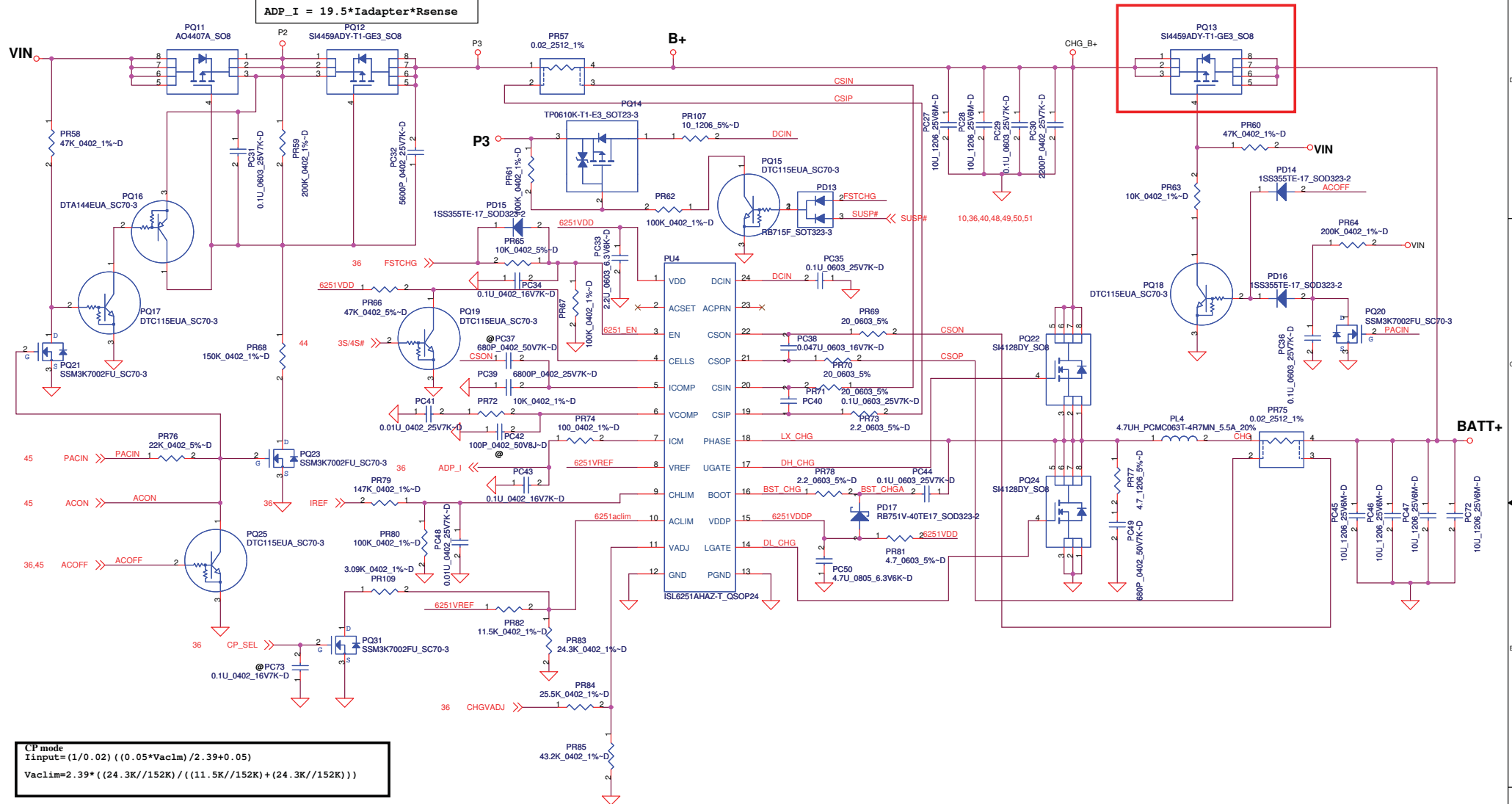
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Iada=0~4.62A (90W)

ADP_I = 19.5*Iadapter*Rsense

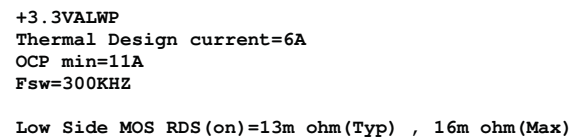


CP mode
 $I_{input} = (1/0.02) \cdot ((0.05 \cdot V_{acim}) / 2.39 + 0.05)$
 $V_{acim} = 2.39 \cdot ((24.3K / 152K) / ((11.5K / 152K) + (24.3K / 152K)))$

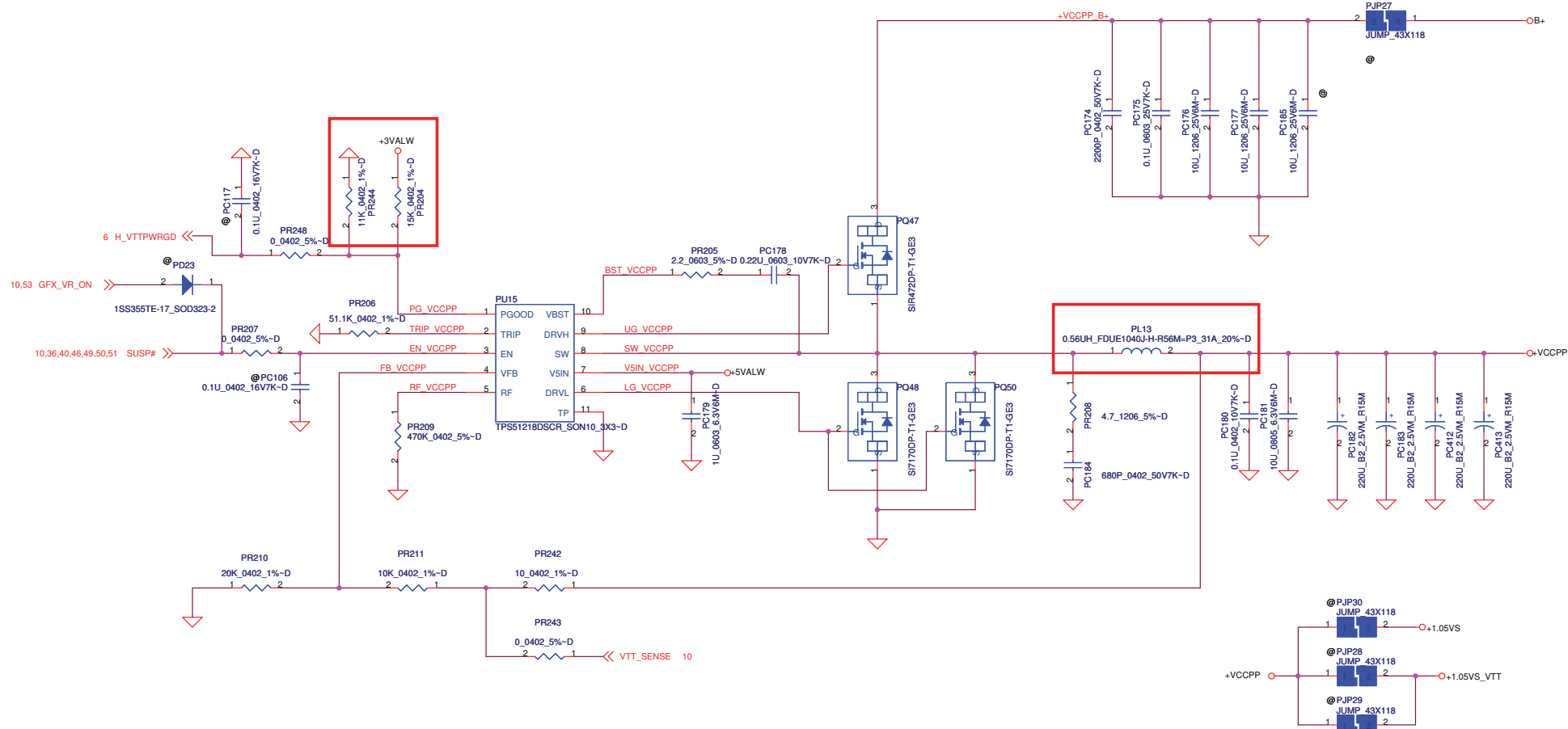
CC=3.3A
 IREF=1*Icharge
 IREF=0.25V~3.3V

CHGVADJ	CV mode
0V	3.99V per cell
1.93V	4.2V per cell
3.3V	4.35V per cell

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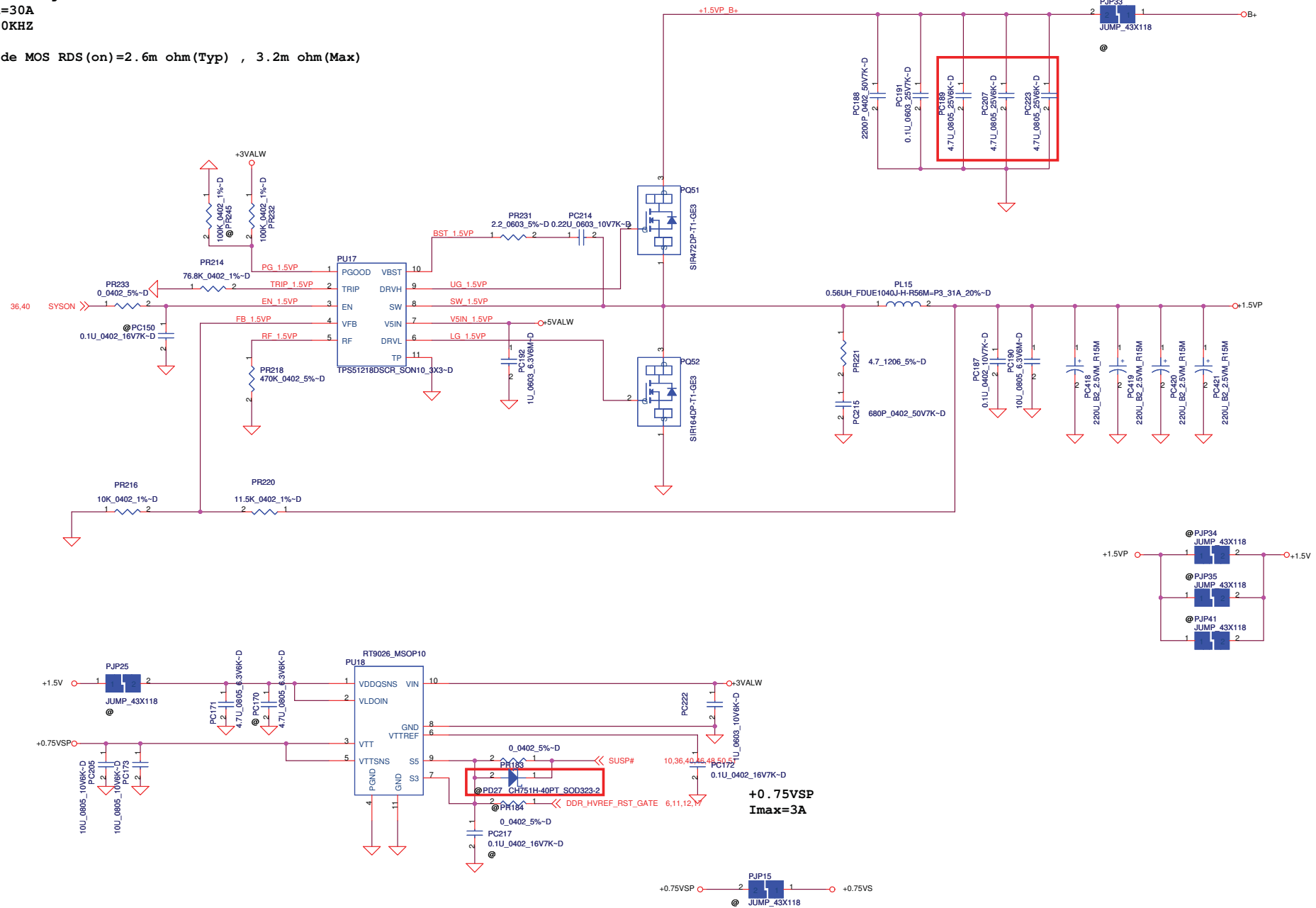


+VCCPP
 Thermal Design current=18.35A
 OCPmin=27.5A
 Fsw=290KHZ

Low Side MOS RDS(on)=1.8m ohm(Typ) , 2.25m ohm(Max)

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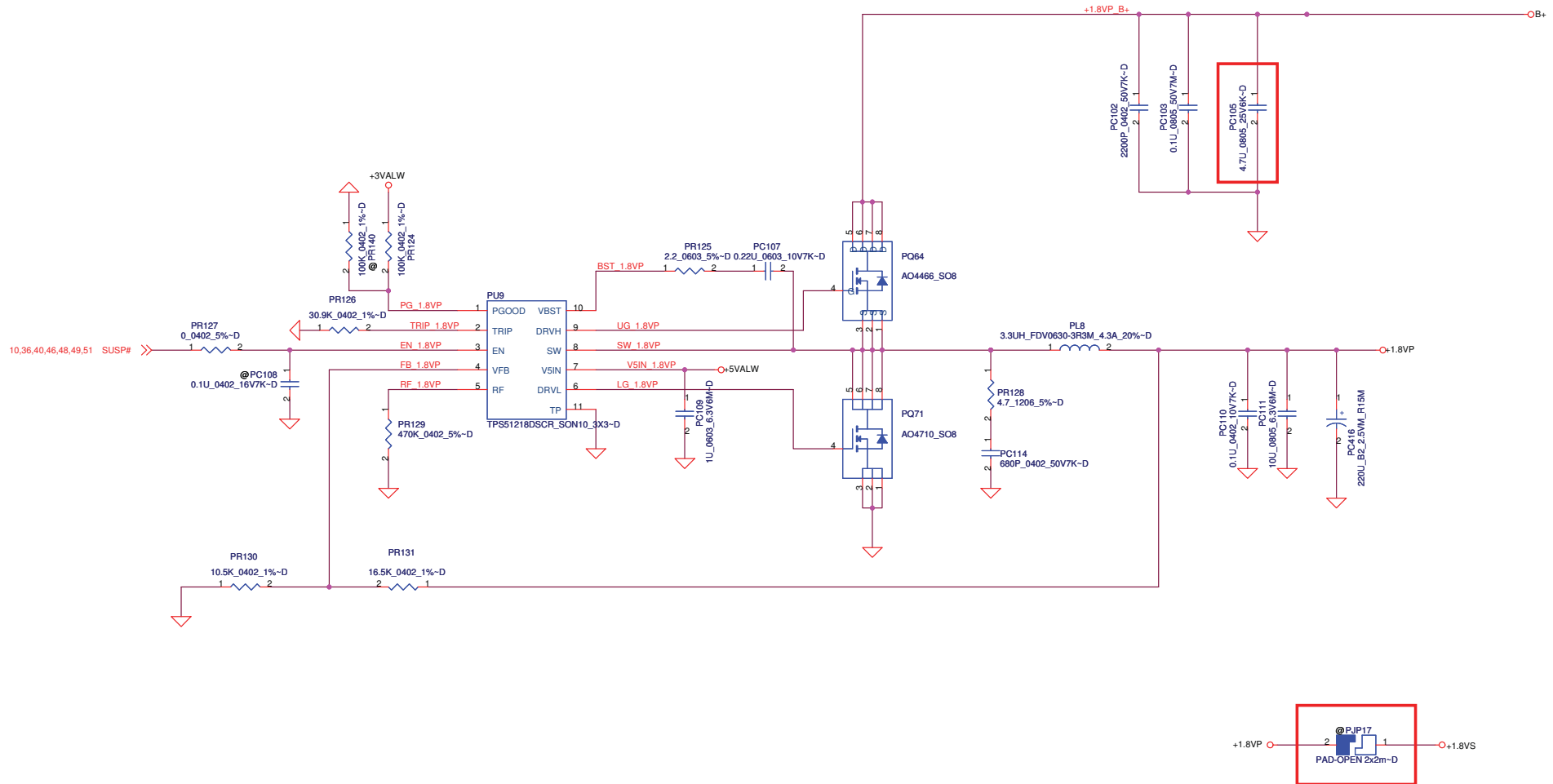
Low Side MOS RDS(on)=2.6m ohm(Typ) , 3.2m ohm(Max)



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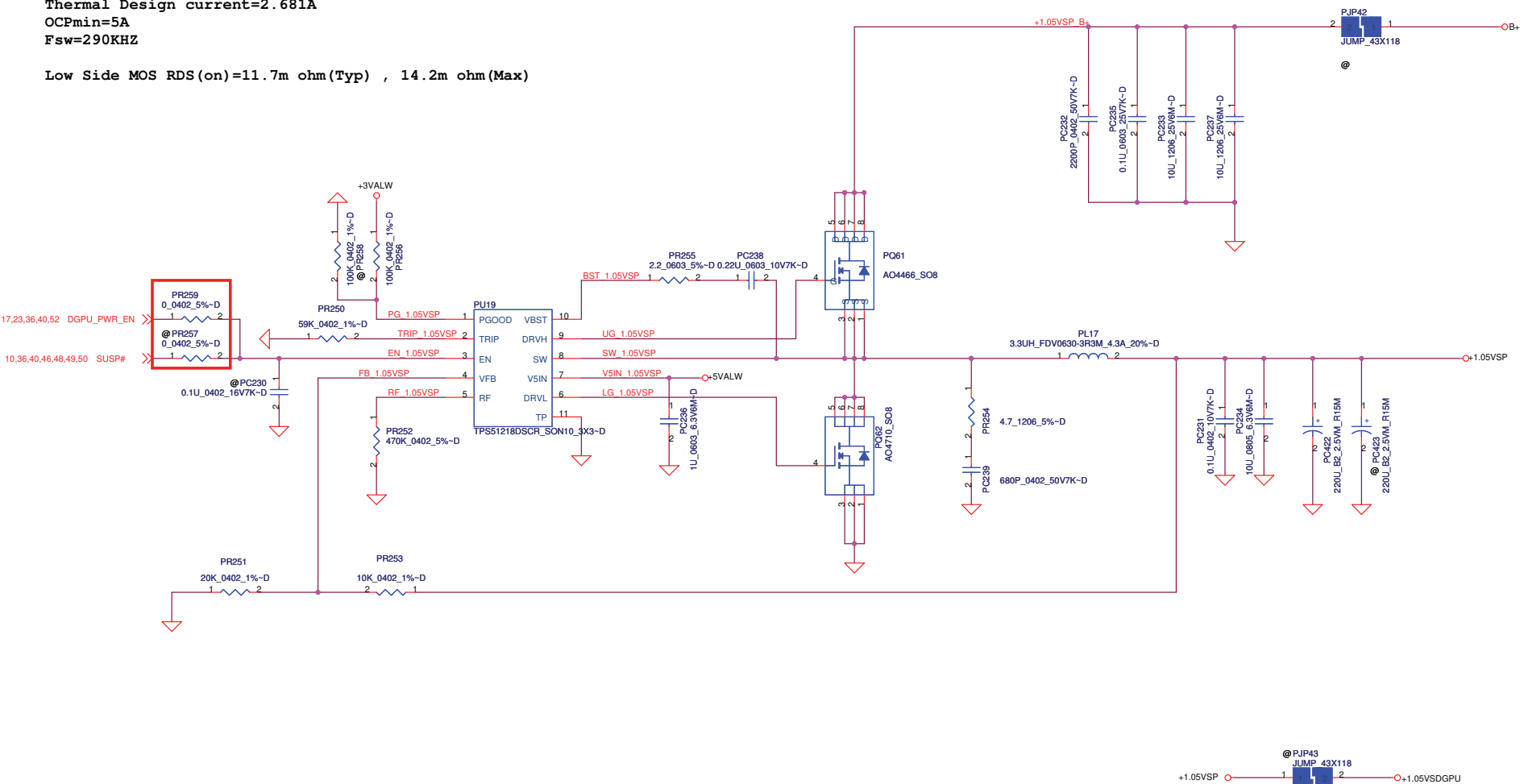
+1.8VP
Thermal Design current=1A
OCPmin=3A
Fsw=290KHZ

Low Side MOS RDS(on)=11.7m ohm(Typ) , 14.2m ohm(Max)



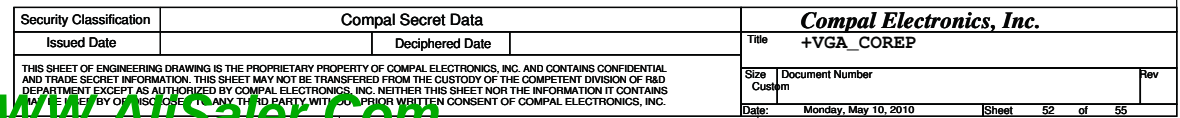
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Low Side MOS RDS(on)=11.7m ohm(Typ) , 14.2m ohm(Max)



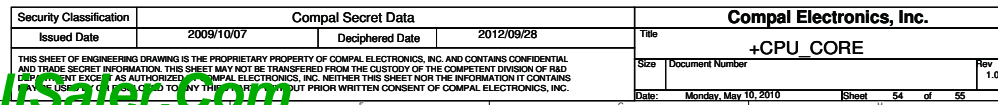
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+VGA_COREP	0.8V	0.85V	0.9V
GPU_VID0	0	1	1
GPU_VID1	0	0	1





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