

COMPAL CONFIDENTIAL

MODEL NAME : NAL22/23/24

PCB NO : LA-5573P (DAA00001G00)

BOM P/N : 43177531LXX

M10 Margaux DIS/ASICS
rPGA Auburndale/Clarksville
+FCBGA PCH IBEXPEAK-M
+ N10M-NS-B/N10P-GLM/N10P-GLM4

2010-01-21
REV : 1.0(A00)

@ : Nopop Component
7@ : N10P-GLM VID
8@ : N10M-NS-B & N10P-GLM4 VID
9@ : N10P-GLM4 only

MB Type	BOM P/N	Asics DIS N10P	Margaux DIS N10M	TCM		TPM		BOM CONFIG
		1@	2@	W(3@)	W/O(4@)	W(5@)	W/O(6@)	
Margaux DIS, TPM EN,TCM DIS	43177531L01		*		*	*		2@, 4@, 5@, 8@
Margaux DIS, TCM EN,TPM DIS	43177531L02		*	*			*	2@, 3@, 6@, 8@
Margaux DIS, ALL TPM DISABLE	43177531L03		*		*		*	2@, 4@, 6@, 8@
Asics GLM, TPM EN,TCM DIS	43177531L11	*			*	*		1@, 4@, 5@, 7@
Asics GLM, TCM EN,TPM DIS	43177531L12	*		*			*	1@, 3@, 6@, 7@
Asics GLM, ALL TPM DISABLE	43177531L13	*			*		*	1@, 4@, 6@, 7@
Asics GLM4, TPM EN,TCM DIS	43177531L21	*			*	*		1@, 4@, 5@, 8@, 9@
Asics GLM4, TCM EN,TPM DIS	43177531L22	*		*			*	1@, 3@, 6@, 8@, 9@
Asics GLM4, ALL TPM DISABLE	43177531L23	*			*		*	1@, 4@, 6@, 8@, 9@

MB PCB	
Part Number	Description
DAA00001G00	PCB 0AH LA-5573P REV0 M/B DIS

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Title

Cover Sheet

Size

Document Number

LA-5573P

Rev

0.1

Date

Thursday, January 21, 2010

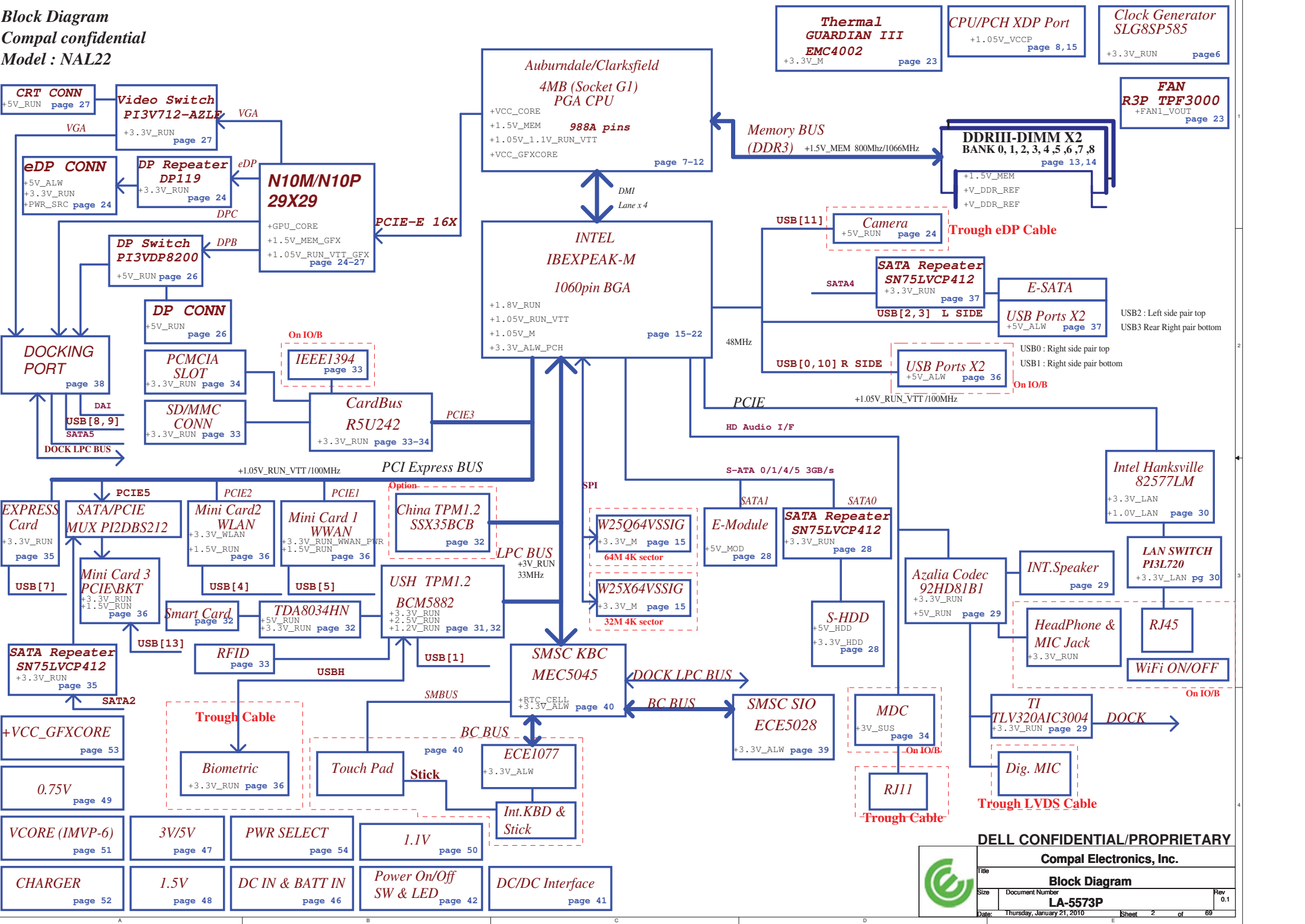
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Block Diagram
Compal confidential
Model : NAL22



POWER STATES

Signal State	SLP S3#	SLP S4#	SLP S5#	S4 STATE#	SLP M#	ALWAYS PLANE	M PLANE	SUS PLANE	RUN PLANE	CLOCKS
S0 (Full ON) / M0	HIGH	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON	ON
S3 (Suspend to RAM) / M1	LOW	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	OFF	OFF
S4 (Suspend to DISK) / M1	LOW	LOW	HIGH	LOW	HIGH	ON	ON	OFF	OFF	OFF
S5 (SOFT OFF) / M1	LOW	LOW	LOW	LOW	HIGH	ON	ON	OFF	OFF	OFF
S3 (Suspend to RAM) / M-OFF	LOW	HIGH	HIGH	HIGH	LOW	ON	OFF	ON	OFF	OFF
S4 (Suspend to DISK) / M-OFF	LOW	LOW	HIGH	LOW	LOW	ON	OFF	OFF	OFF	OFF
S5 (SOFT OFF) / M-OFF	LOW	LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF	OFF

PM TABLE

power plane State	+15V_ALW +5V_ALW +3.3V_ALW_PCH +3.3V_RTC_LDO	+3.3V_SUS +1.5V_MEM	+5V_RUN +3.3V_RUN +1.8V_RUN +1.5V_RUN +0.75V_DDR_VTT +VCC_CORE +1.05V_RUN_VTT +1.05V_RUN	+3.3V_M +1.05V_M	+3.3V_M +1.05V_M (M-OFF)
S0	ON	ON	ON	ON	ON
S3	ON	ON	OFF	ON	OFF
S5 S4/AC	ON	OFF	OFF	ON	OFF
S5 S4/AC don't exist	OFF	OFF	OFF	OFF	OFF

PCH	USB PORT#	DESTINATION
	0	JUSB1 (Ext Right Side Bottom)
	1	JUSB1 (Ext Right Side Top)
	2	JESA1 (Ext Left Side Top)
	3	JESA1 (Ext Left Side Bottom)
	4	WLAN
	5	WWAN
	6	Bluetooth
	7	USH->BIO
	8	DOCKING
	9	DOCKING
	10	Express card
	11	Camera
	12	NA
	13	WPAN/NVMHCI

PCI EXPRESS	DESTINATION
Lane 1	MINI CARD-1 WWAN
Lane 2	MINI CARD-2 WLAN
Lane 3	Card Bus
Lane 4	EXPRESS CARD
Lane 5	MINI CARD-3 PCIE/BKT
Lane 6	10/100/1G LAN
Lane 7	None
Lane 8	None

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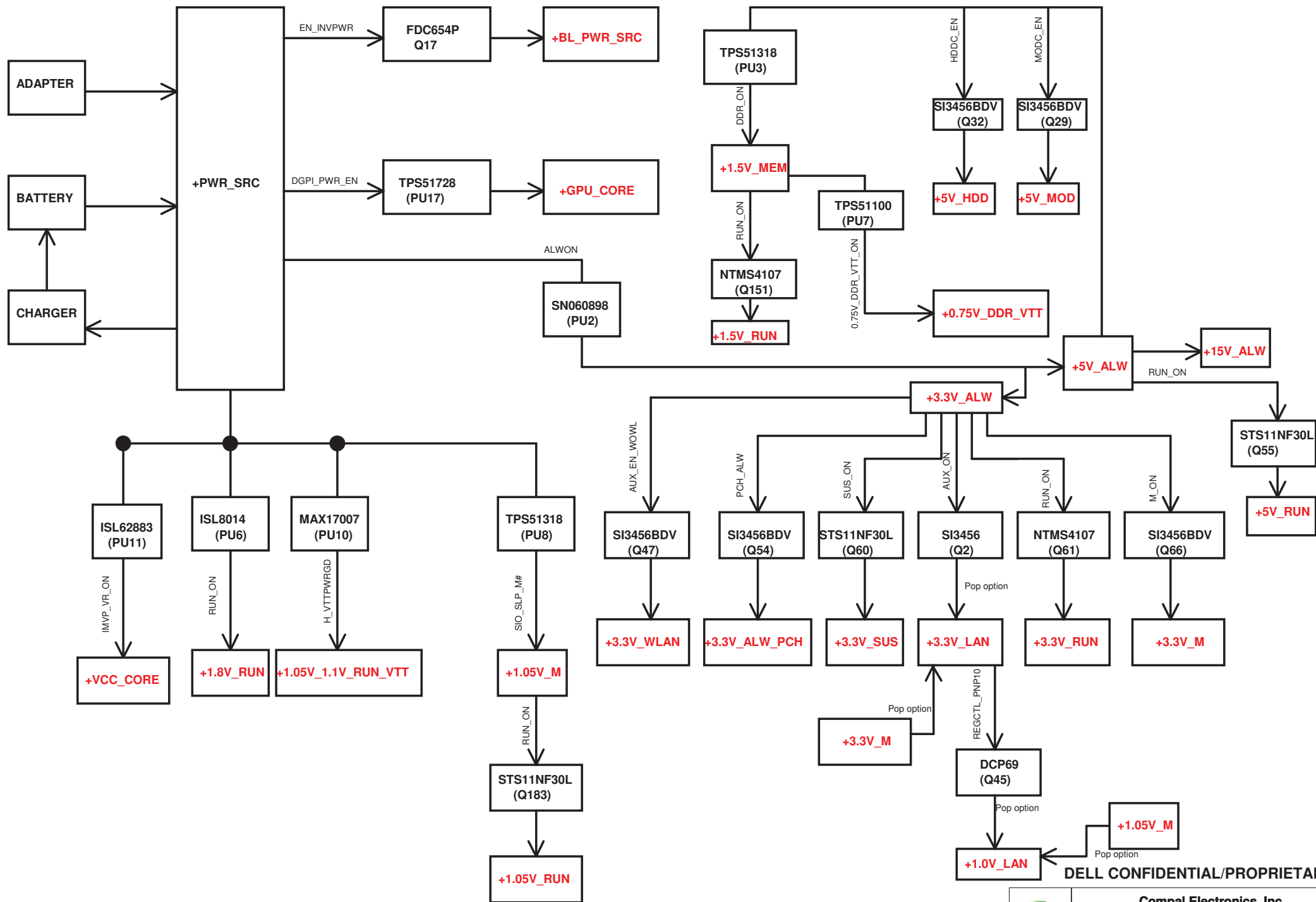
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Index and Config.



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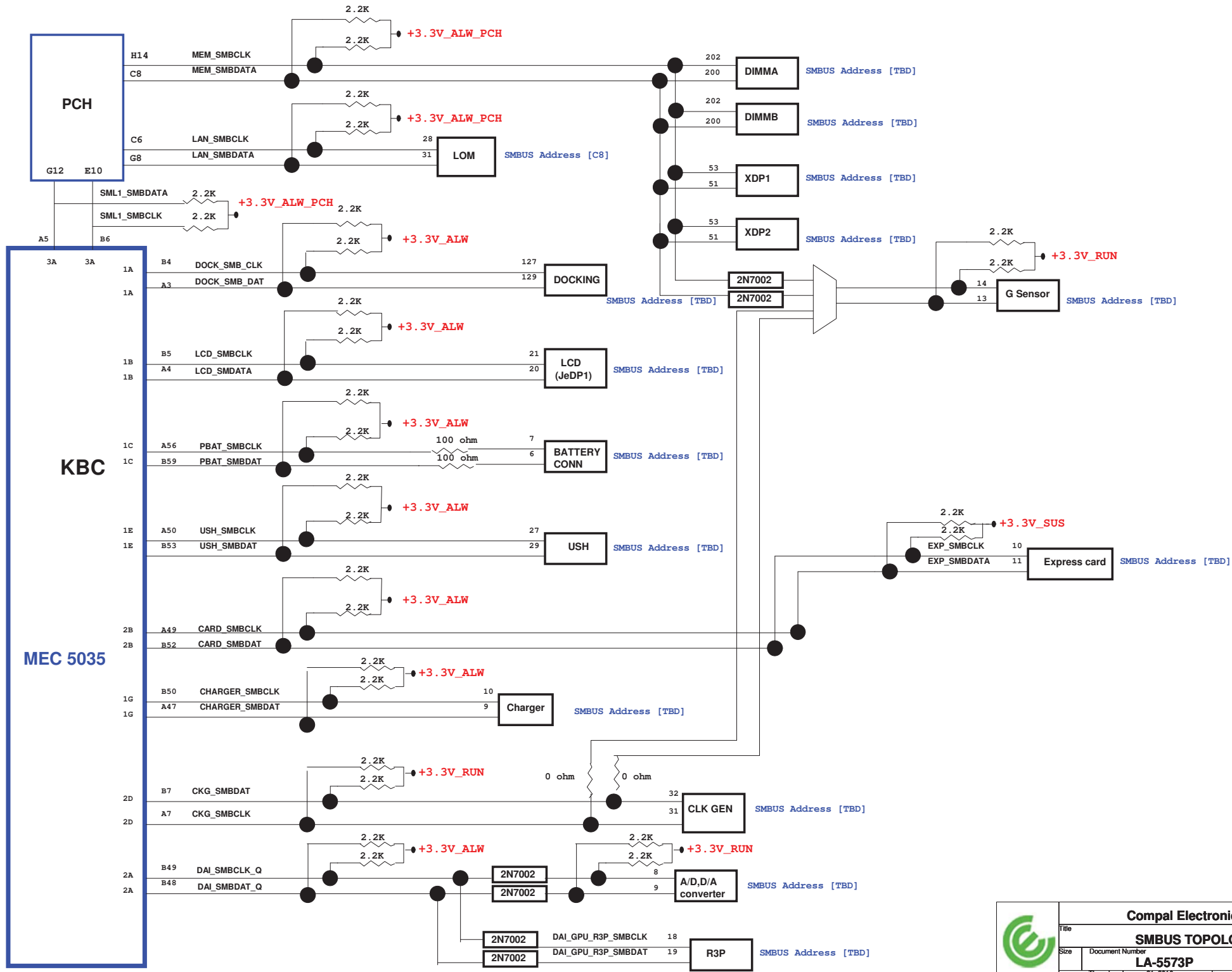


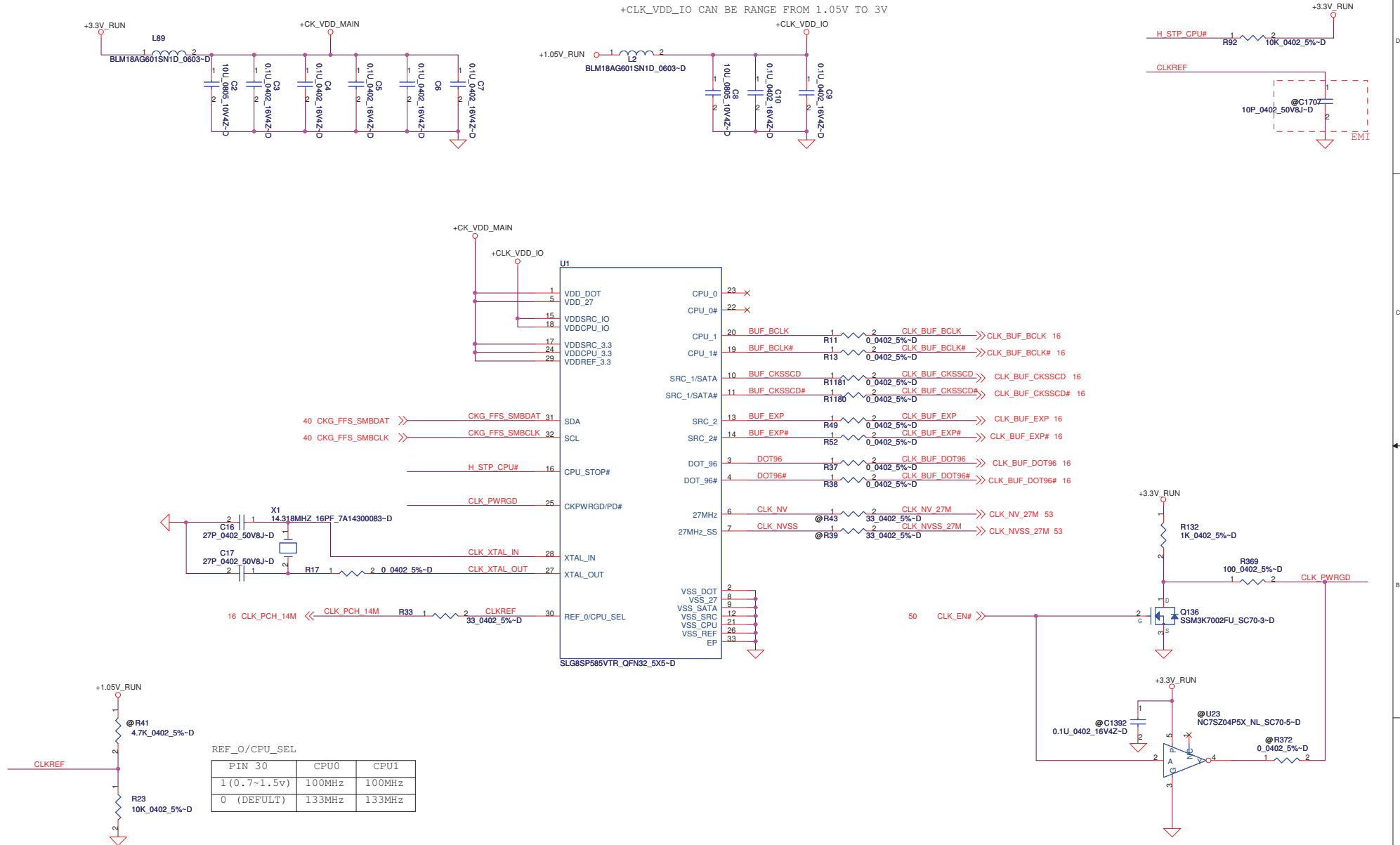
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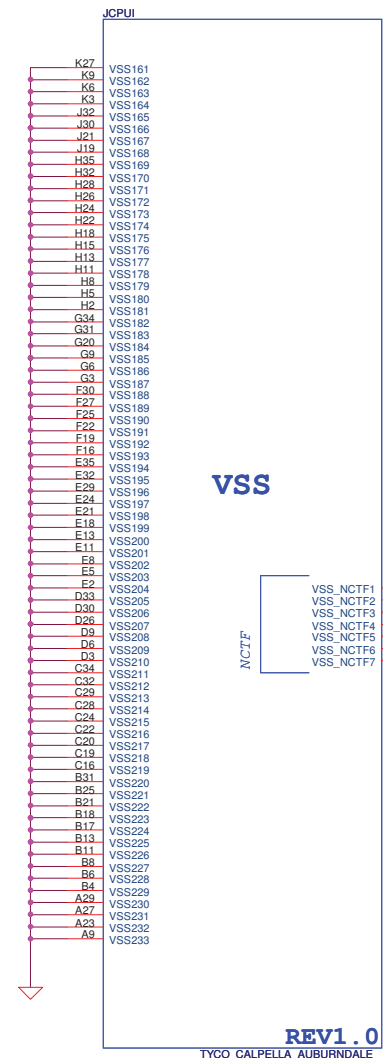
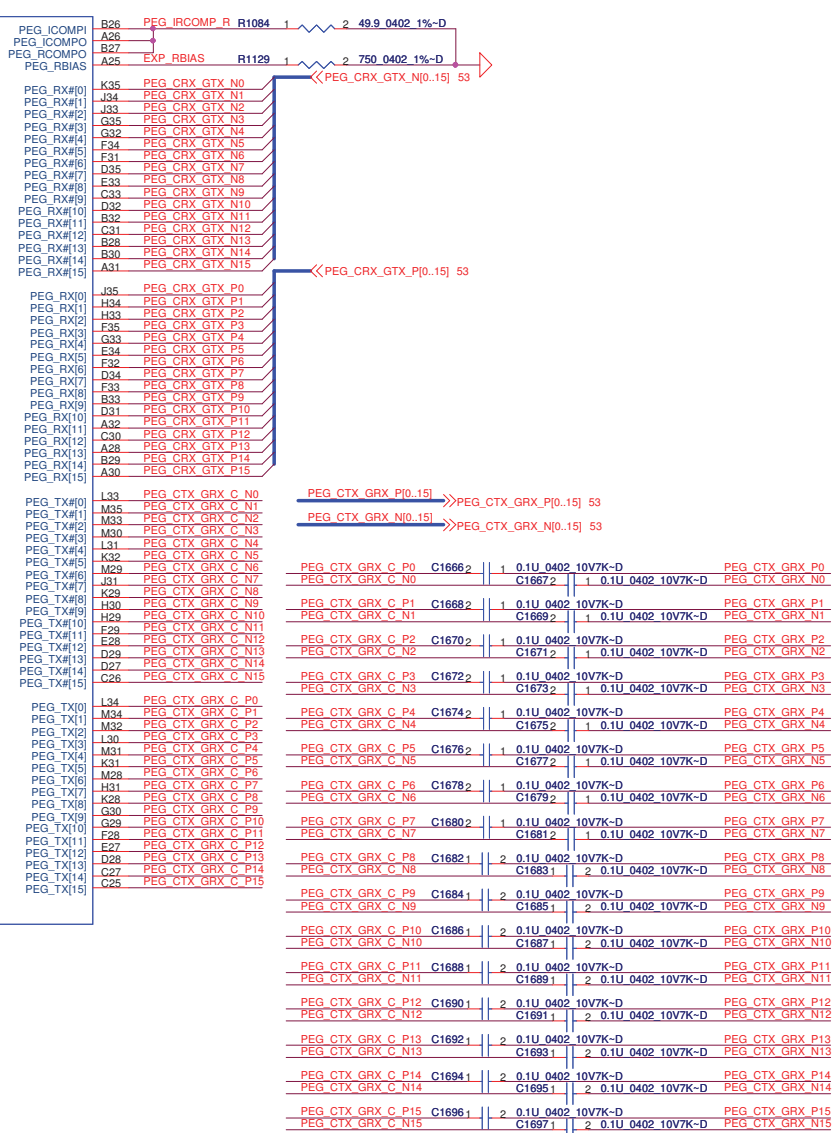
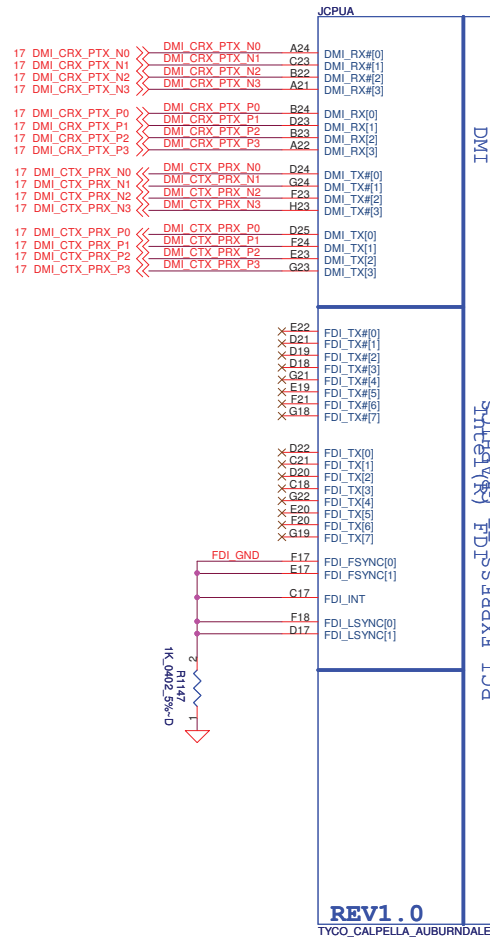
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Clock Generator			Rev 0.1
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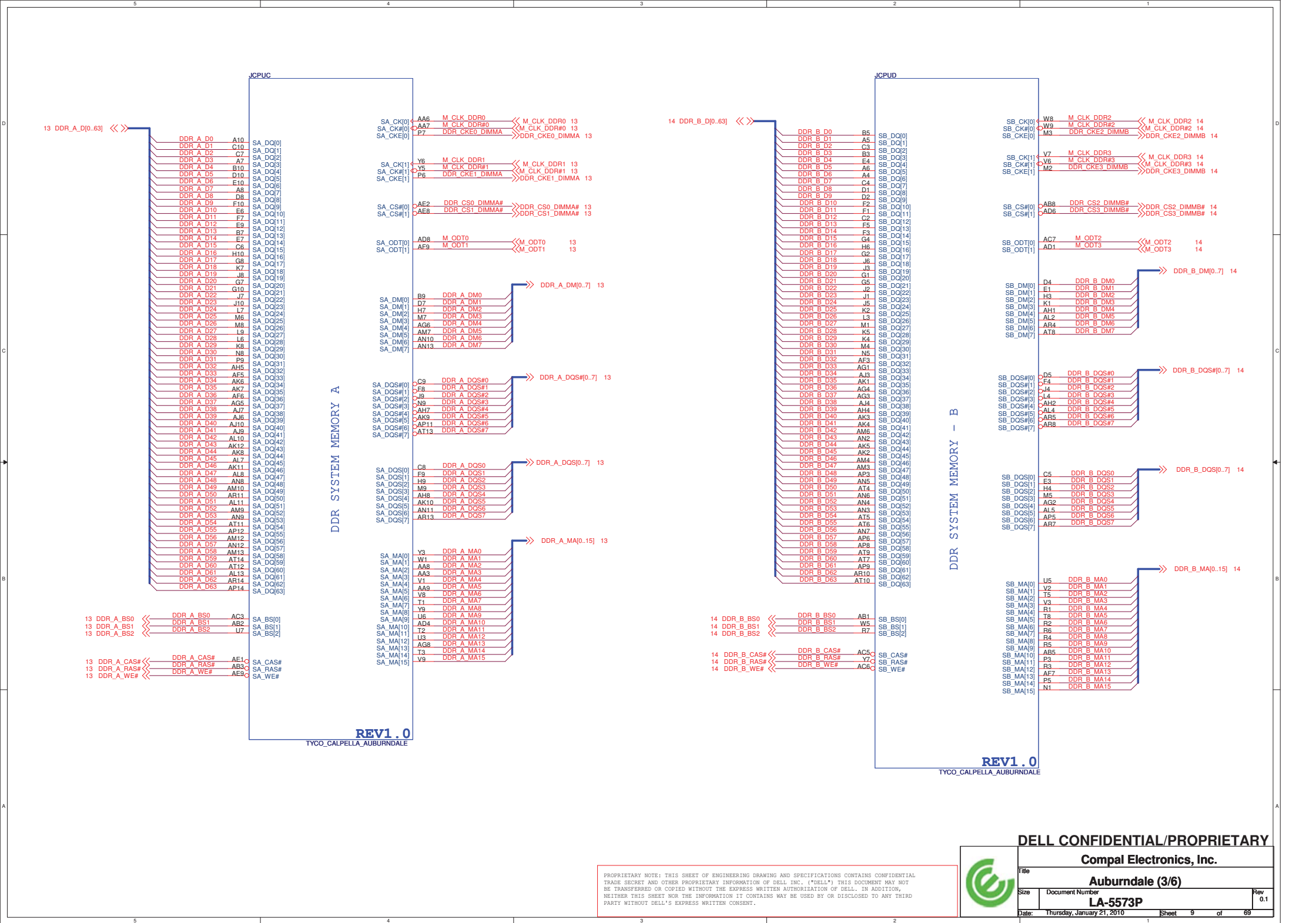


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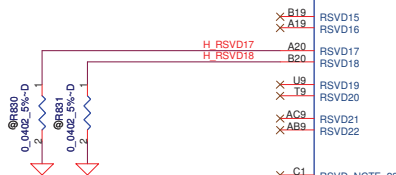
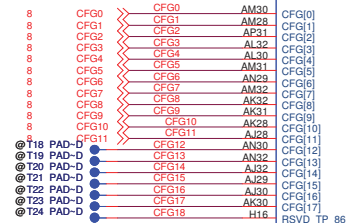
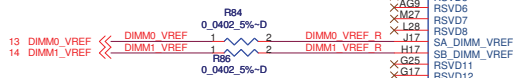
			
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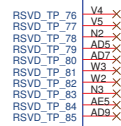
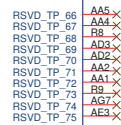
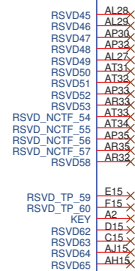
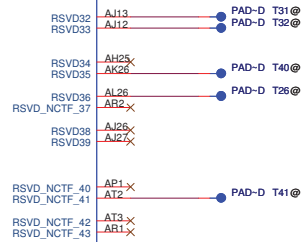




Populate R84,R86 for Intel DDR3
VREFDQ multiple methods M3

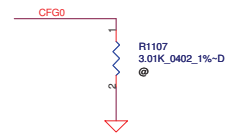


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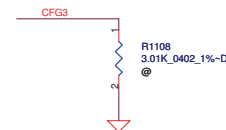


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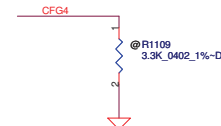
AP34



PCI-Express Configuration Select	
CFG0	1 : Single PEG 0 : Bifurcation enable



PCI-Express Static Lane Reversal	
CFG3	1 : Normal Operation 0 : Lane Number Reversed 15->0, 14->1 ...



Display Port Presence	
CFG4	1 : Disabled; No Physical Display Port attached to Embedded Display Port 0 : Enabled; An external Display Port device is connected to the Embedded Display Port

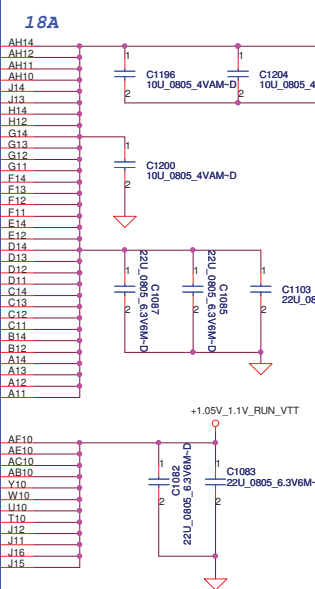
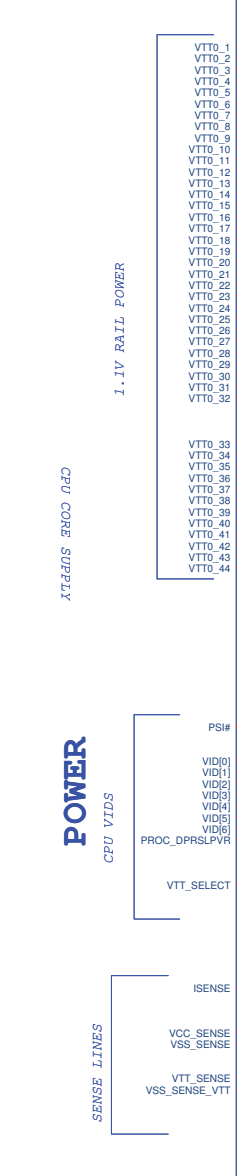
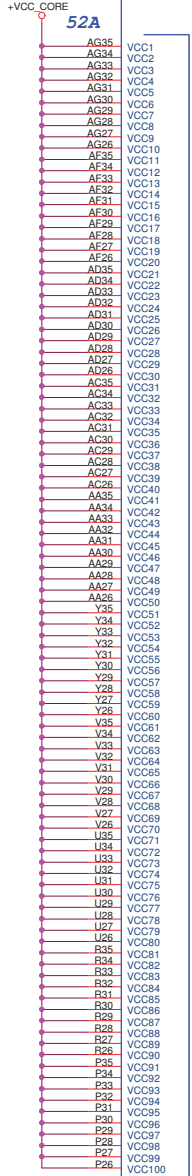
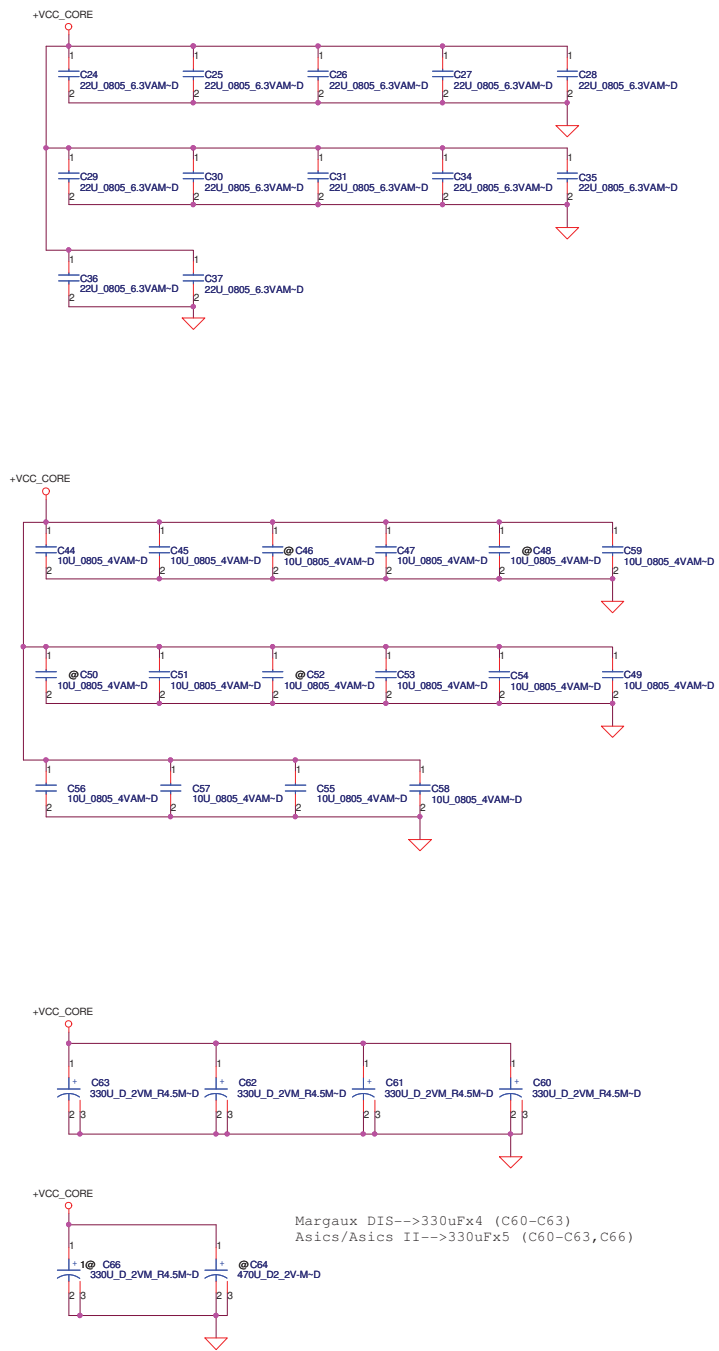
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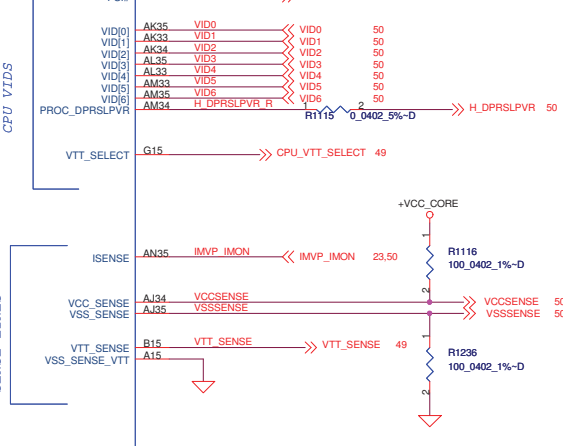
Auburndale (4/6)

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POWER



VTT_SELECT = low, 1.1V
VTT_SELECT = high, 1.05V

Place R1116 and R1117 near CPU
Route VCCSENSE and VSSSENSE trace at
27.4 ohms, 7 mils spacing

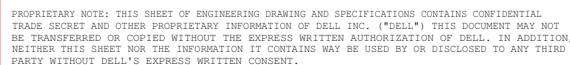
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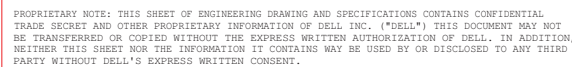
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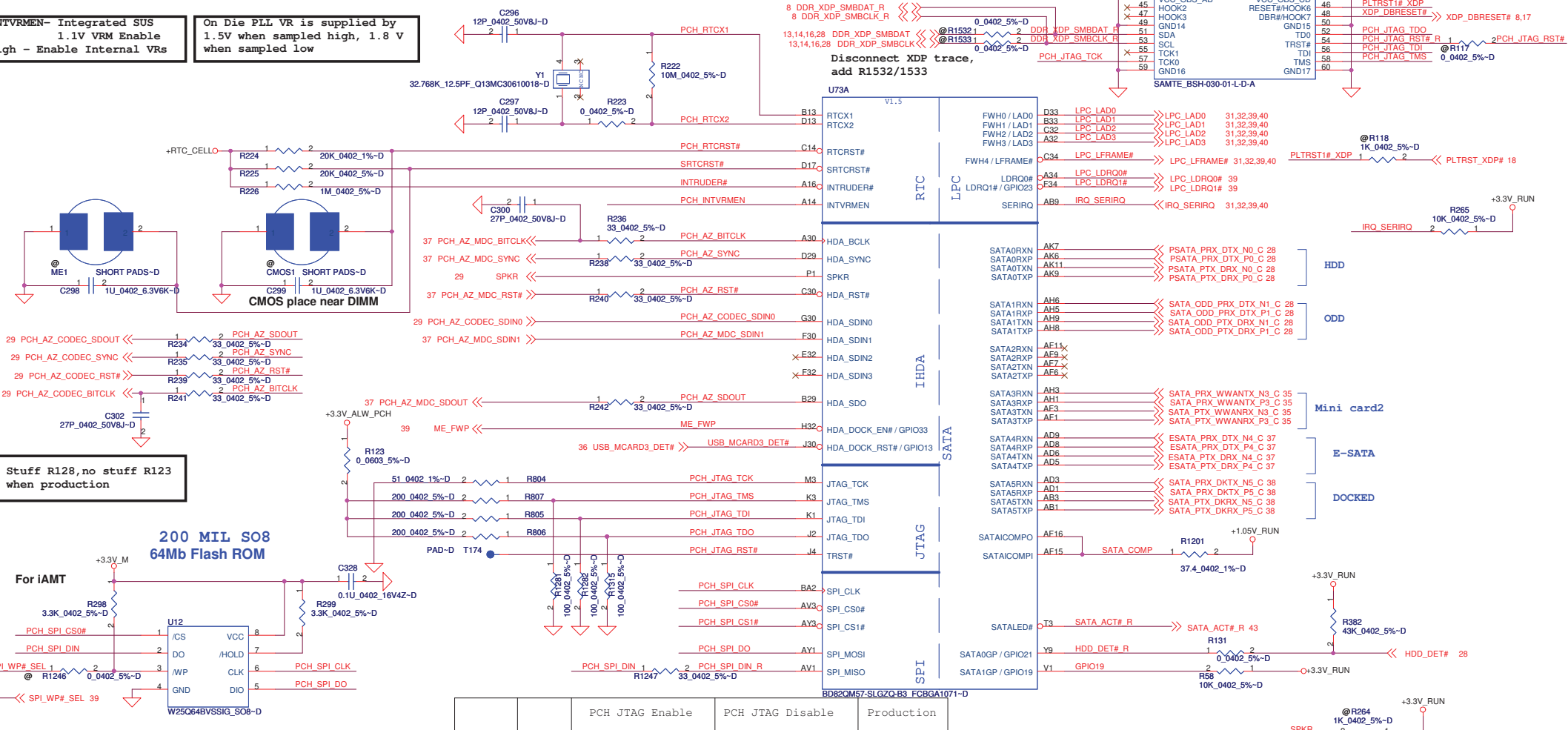




ME_CLR1	TPM setting
Shunt	Clear ME RTC Registers
Open	Keep ME RTC Registers



ITVRMEN- 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
---	--



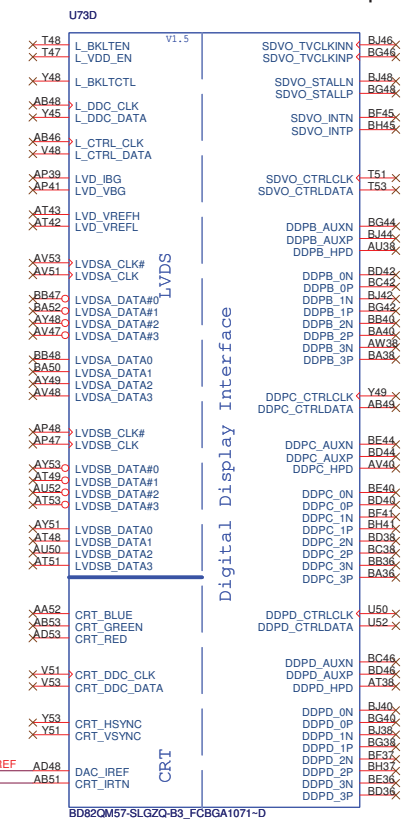
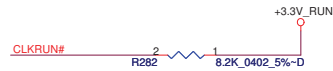
		PCH JTAG Enable		PCH JTAG Disable		Production
PCH Pin	Ref.	ES1	ES2	ES1	ES2	All
TDO	R806	No Stuff	200 ohm	No Stuff	No Stuff	No Stuff
	R1315	No Stuff	100 ohm	No Stuff	No Stuff	No Stuff
TMS	R807	200 ohm	200 ohm	No Stuff	No Stuff	No Stuff
	R1281	100 ohm	100 ohm	No Stuff	No Stuff	No Stuff
TDI	R805	200 ohm	200 ohm	20K ohm	No Stuff	No Stuff
	R1282	100 ohm	100 ohm	10K ohm	No Stuff	No Stuff
TCK	R804	51 ohm	51 ohm	51 ohm	51 ohm	No Stuff
TRST#	R808	20K ohm	20K ohm	No Stuff	No Stuff	
	R1316	10K ohm	10K ohm	No Stuff	No Stuff	

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PCH (1/8)

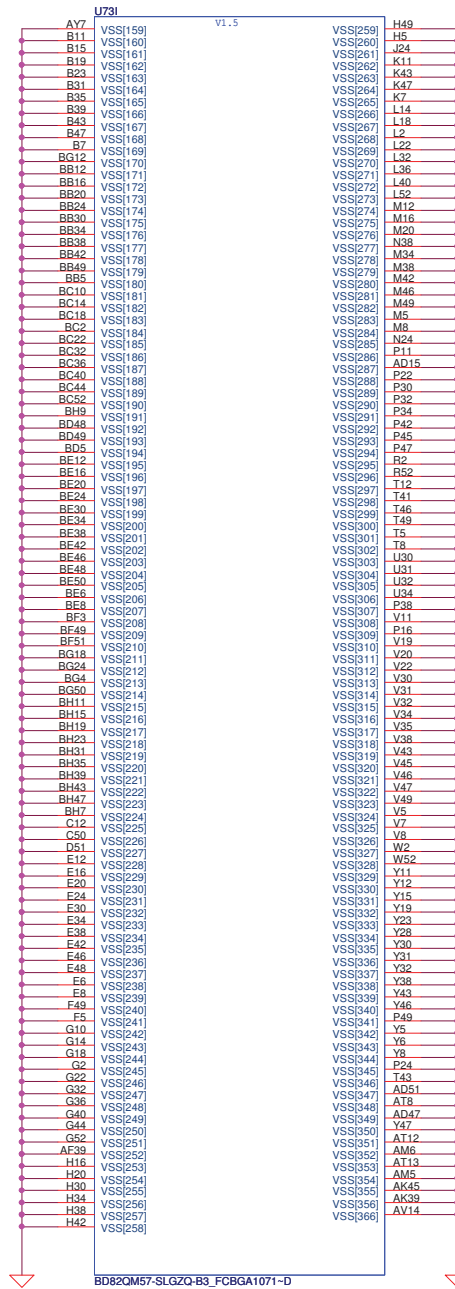
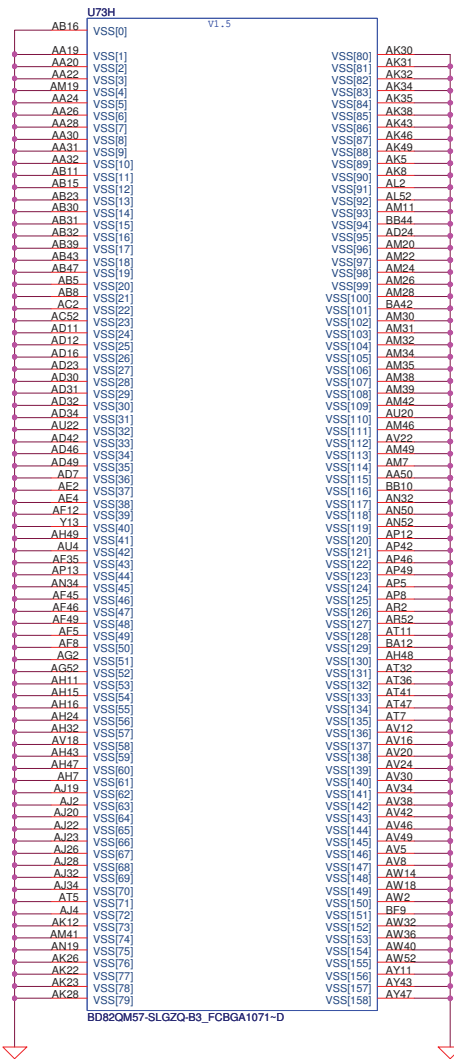
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Digital Display Interface

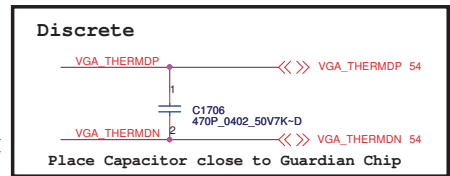
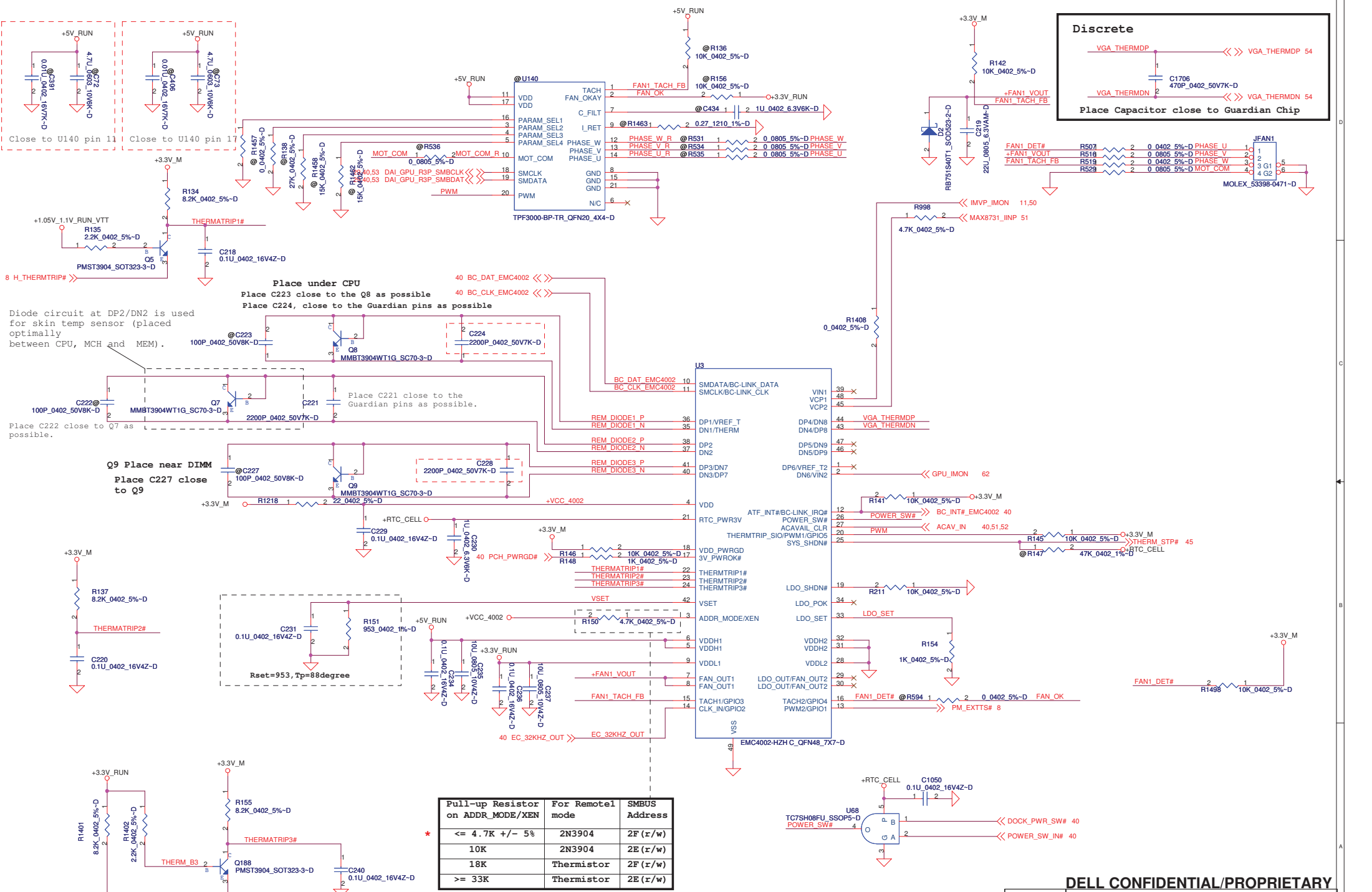


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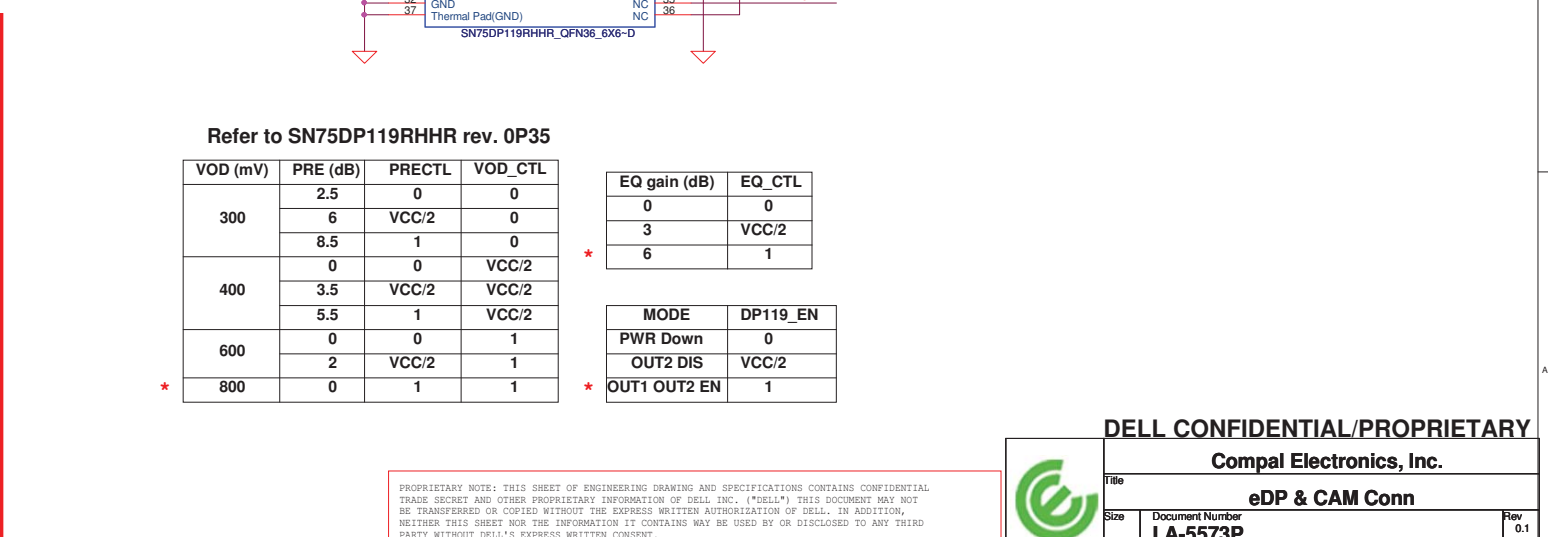
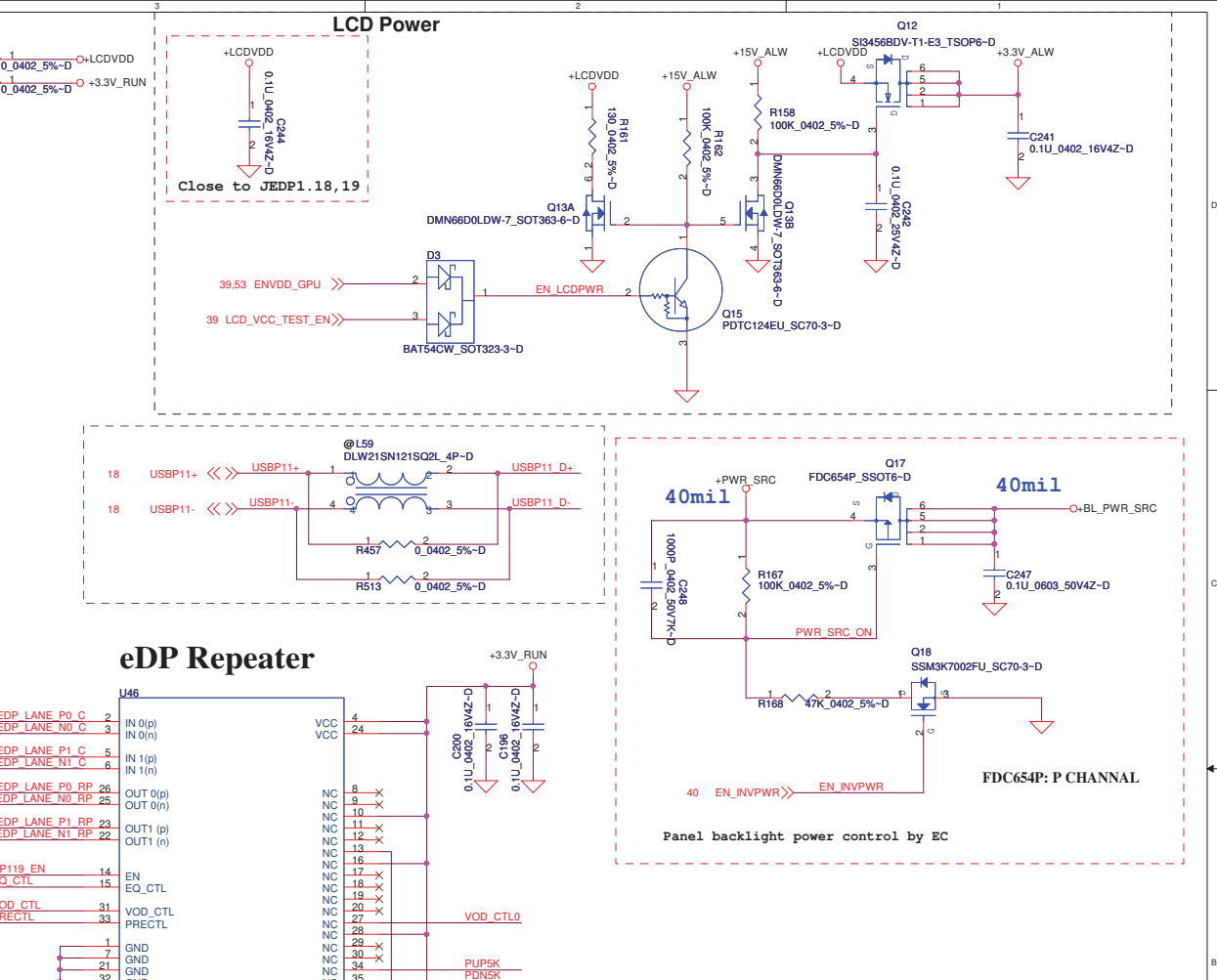


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Pull-up Resistor on ADDR_MODE/XEN	For RemoteI mode	SMBUS Address
<= 4.7K +/- 5%	2N3904	2F (r/w)
10K	2N3904	2E (r/w)
18K	Thermistor	2F (r/w)
>= 33K	Thermistor	2E (r/w)

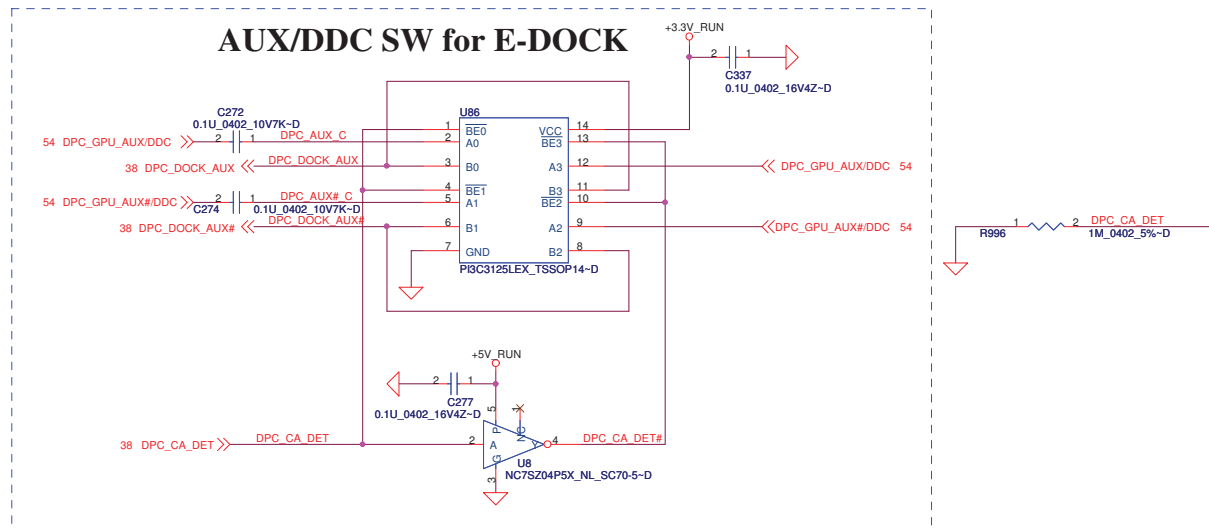


VOD (mV)	PRE (dB)	PRECTL	VOD_CTL
300	2.5	0	0
	6	VCC/2	0
	8.5	1	0
400	0	0	VCC/2
	3.5	VCC/2	VCC/2
	5.5	1	VCC/2
600	0	0	1
	2	VCC/2	1
800	0	1	1

MODE	DP119_EN
PWR Down	0
OUT2 DIS	VCC/2
OUT1 OUT2 EN	1

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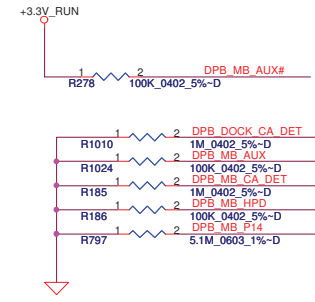
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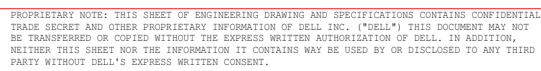
DP SW

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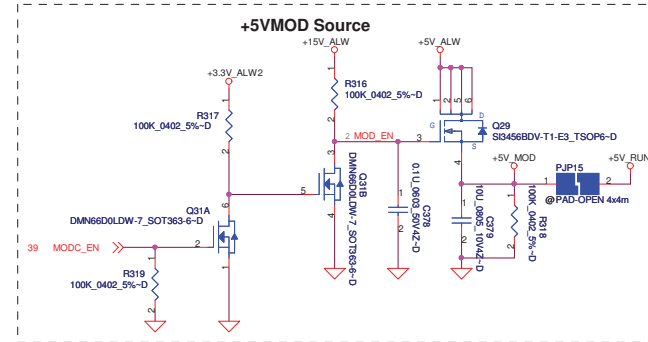
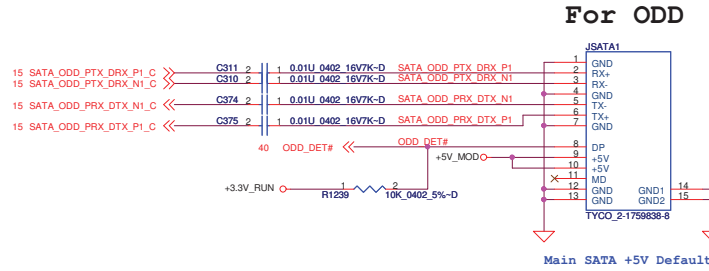
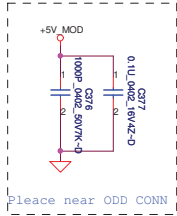
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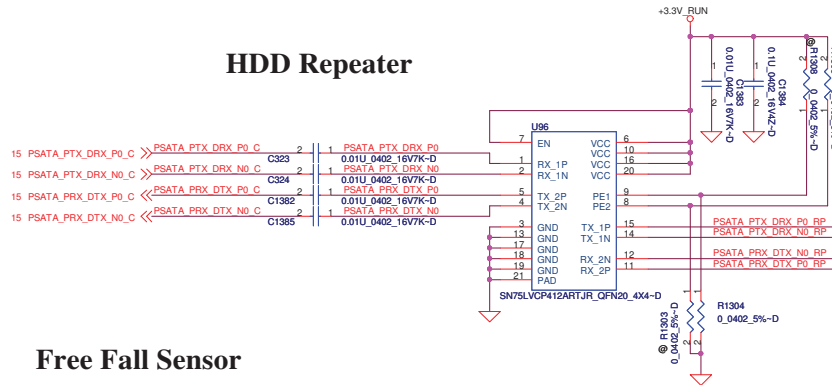
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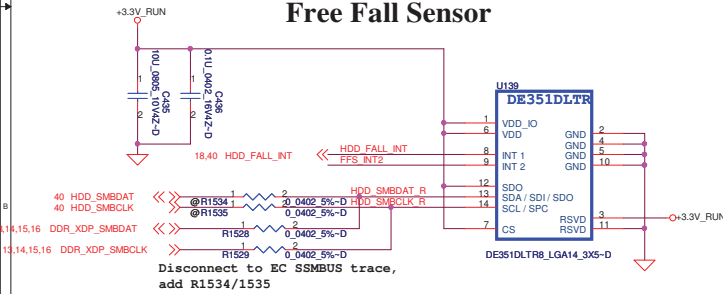
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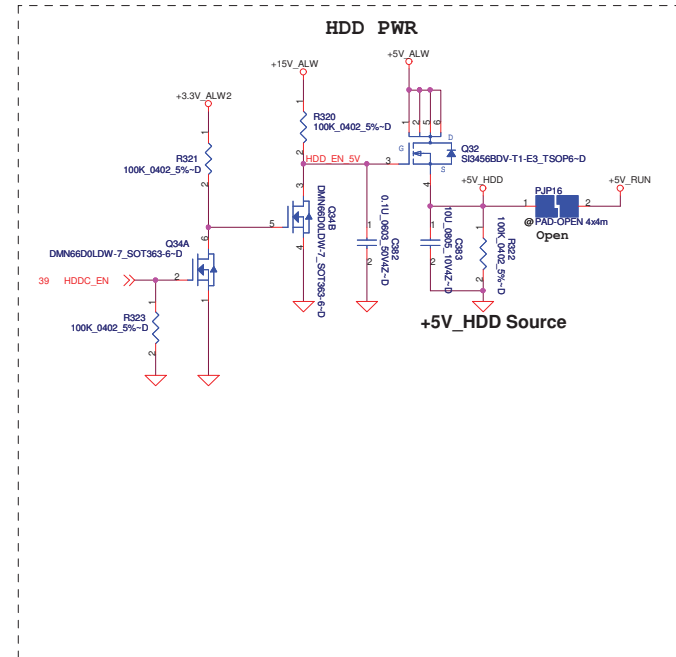
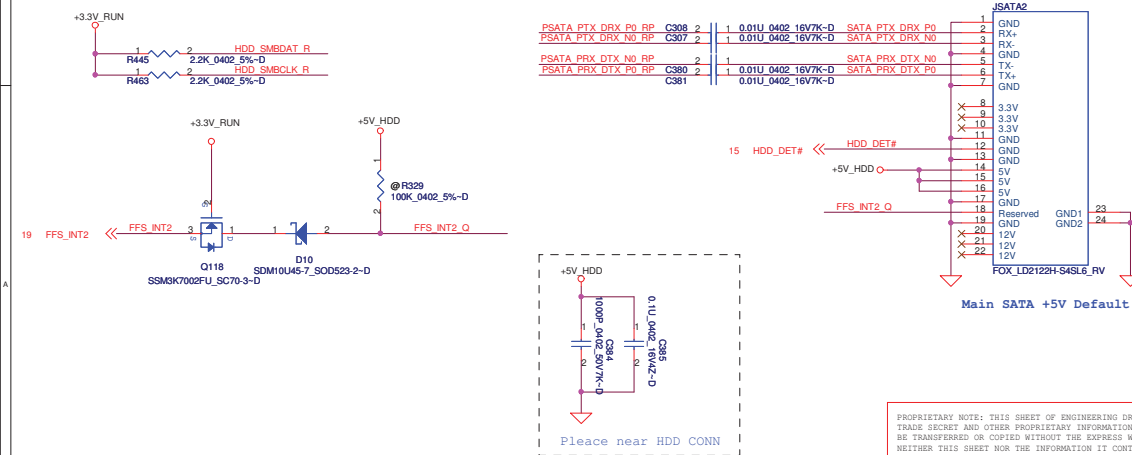
HDD Repeater



Free Fall Sensor



For HDD Temp.



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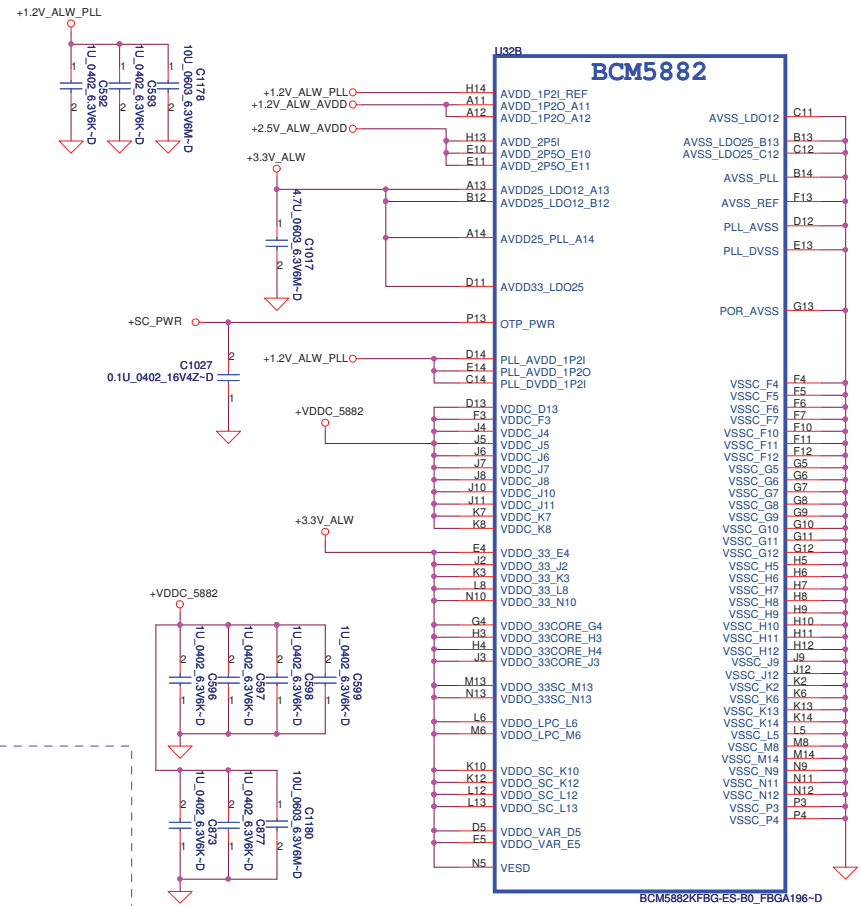
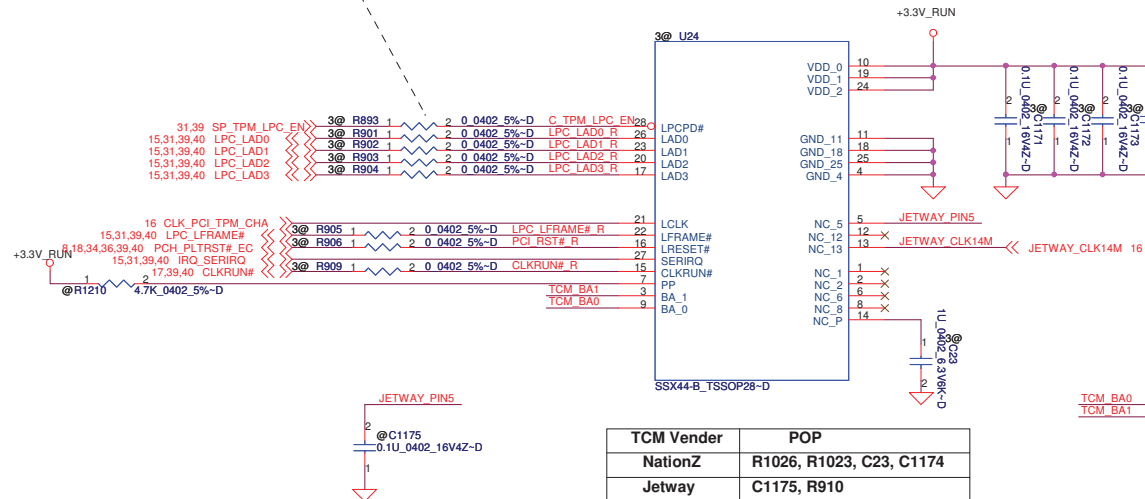
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Size	Document Number	LA-5573P	Rev 0.1
Date	Thursday, January 21, 2010	Sheet 28	of 69

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USH BCM5882 and China TCM Z8H172T Option				
PART/PIN	Ref Des	TCM Enable	TPM Enable	ALL TPM/TCM Disable
TCM circuit	All 3@	POP	@	@
USH_LPCEN	PU R841	@	POP	@
	PD R483	POP	@	@
SIO 5028 ->SP_TPM_LPC_EN	PU R788	@	@	@
PCH GPIO39 ->TPM_ID1	PU R787	@	@	POP
	PD R339	POP	POP	@
PCH GPIO38 ->TPM_ID0	PU R273	POP	POP	@
	PD R922	@	@	POP

LOW:Power Down Mode
High:Working Mode

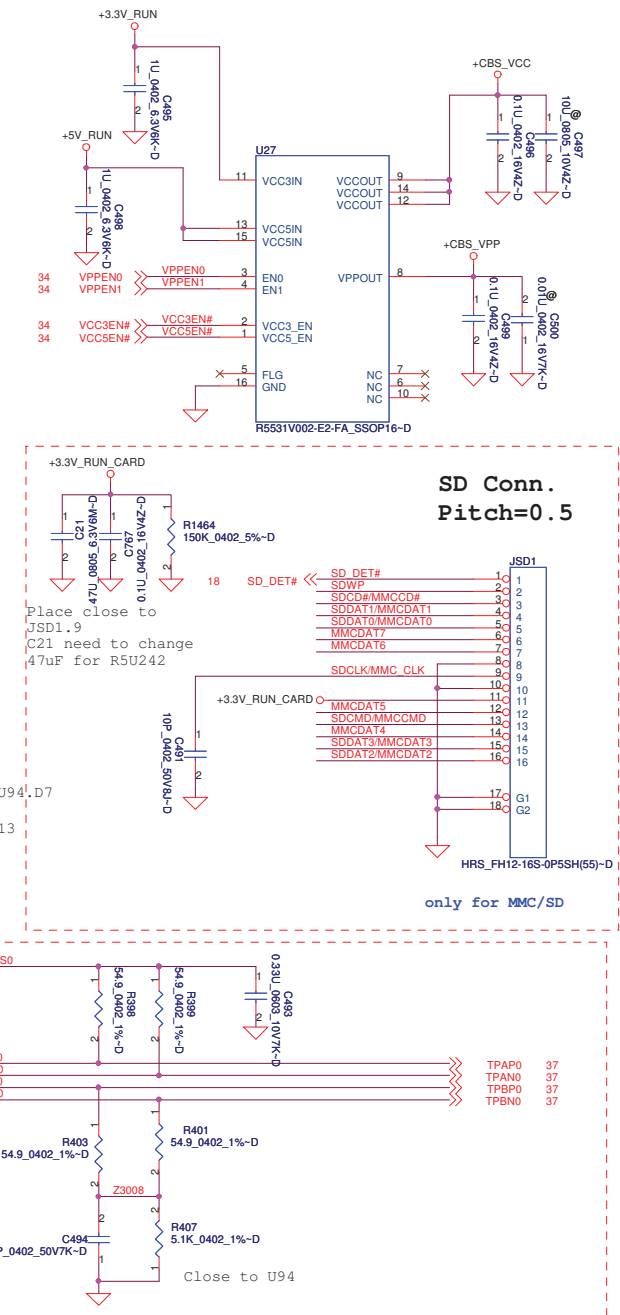
China TCM: NationZ & Jetway co-lay



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Title			
USH BCM5882 (2/2)			
Size	Document Number	Rev	
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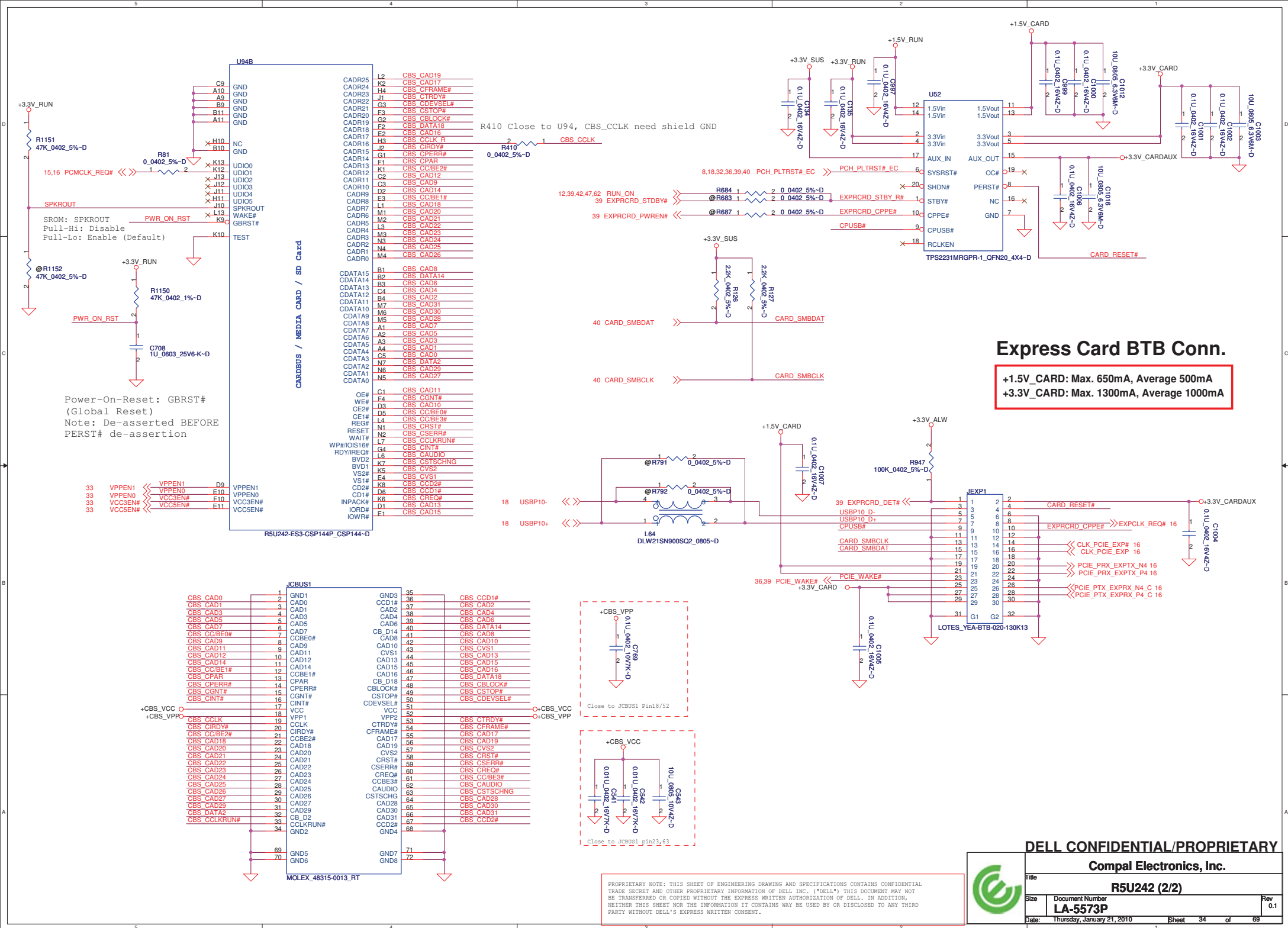
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MFIO	SD8	XD	MS8
00	WP	D7	BS
01	D1	D6	-
02	D0	D5	D1
03	D7	D4	-
04	D6	D3	D5
05	CLK	D2	D0
06	-	D1	-
07	D5	D0	D4
08	CMD	WP#	D2
09	D4	WE#	D6
10	D3	ALE	D3
11	D2	CLE	-
12	-	CE#	-
13	-	RE#	D7
14	-	R/B#	CLK

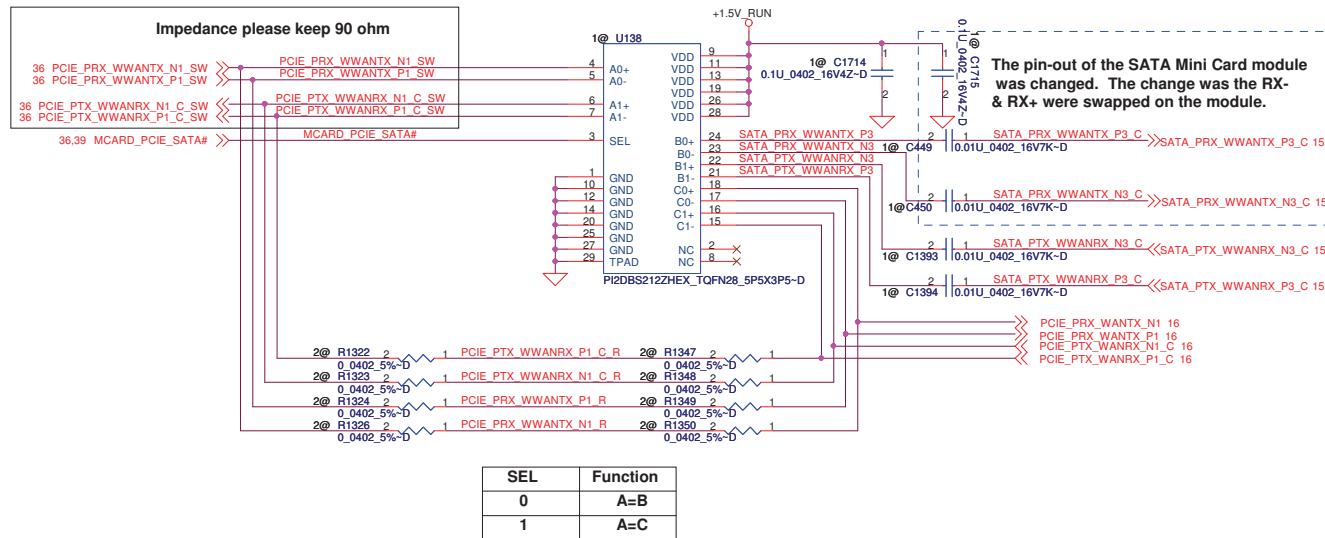


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R5U242 (1/2)			
Size	Document Number		Rev
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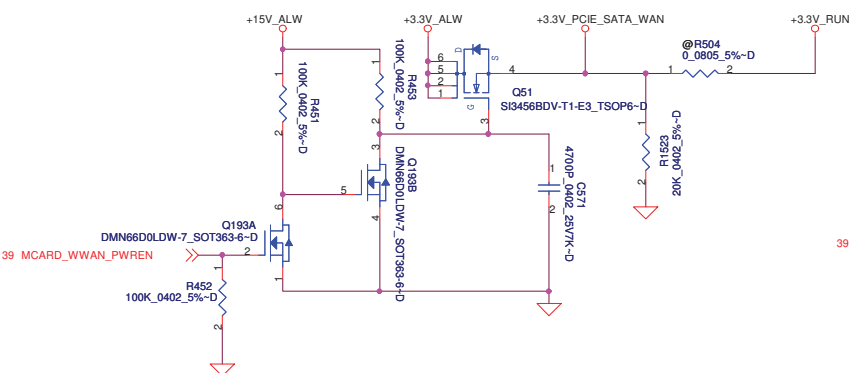


For Asics placement estimate

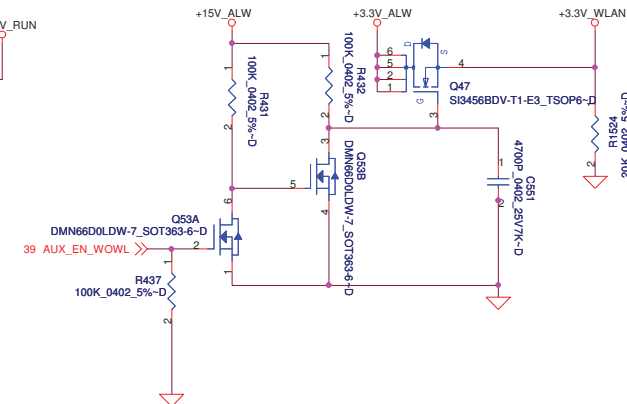
PCIE/SATA SW for Mini card1



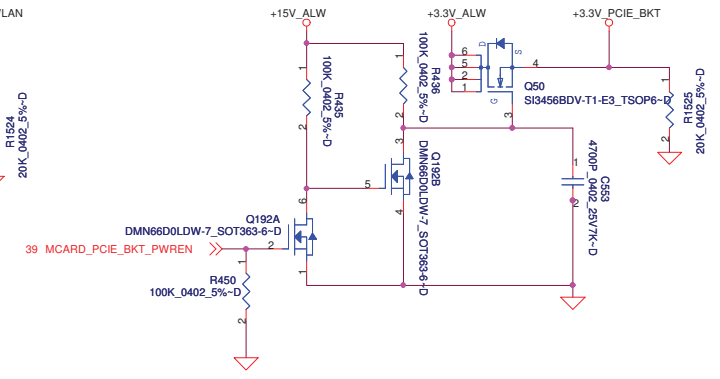
Power Control for Mini card1



Power Control for Mini card2



Power Control for Mini card3



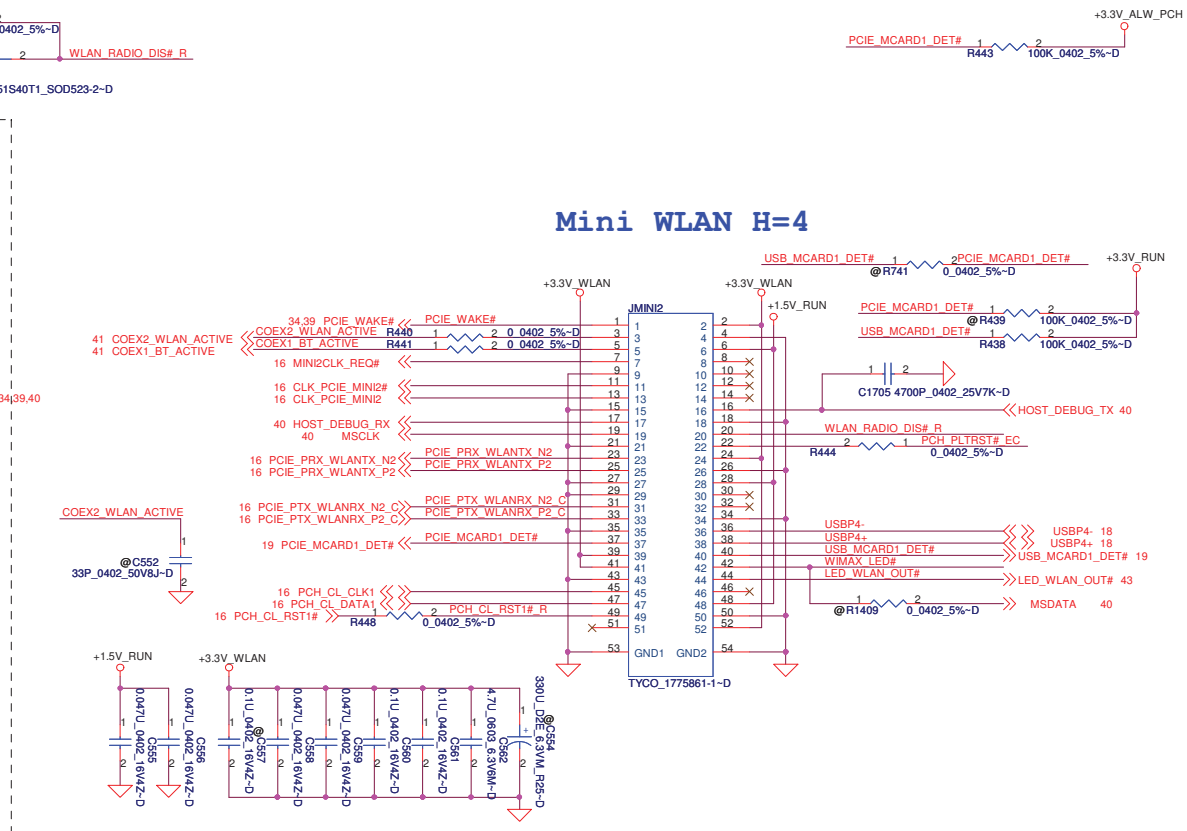
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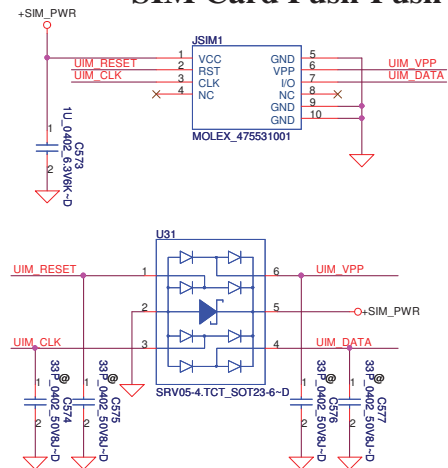
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Title	PCIE/SATA SW & PCIE PWR		
Size	Document Number	LA-5573P	
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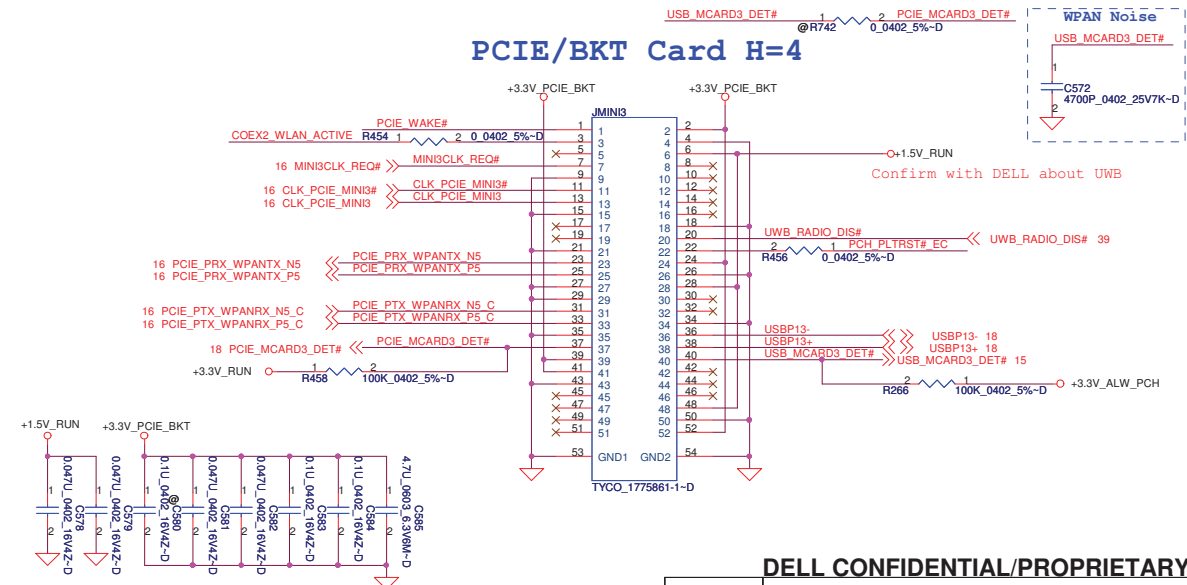


PWR Rail	Voltage Tolerance	Primary Power		Aux Power
		Peak	Normal	Normal
+3.3V	+−9%	1000	750	
+3.3Vaux	+−9%	330	250	250 (Wake enable) 5 (Not wake enable)
+1.5V	+−5%	500	375	NA

SIM Card Push-Push



PCIE/BKT Card H=4



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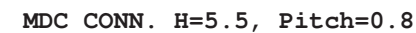
Mini Card

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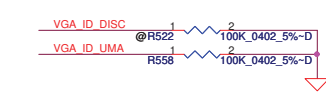
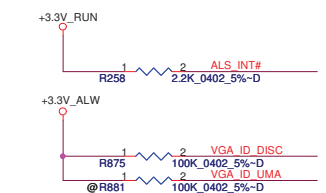
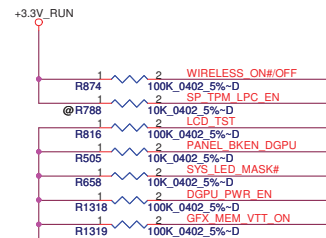
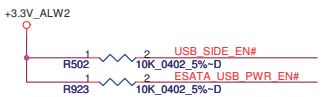
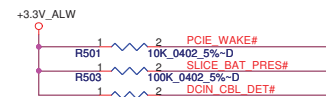


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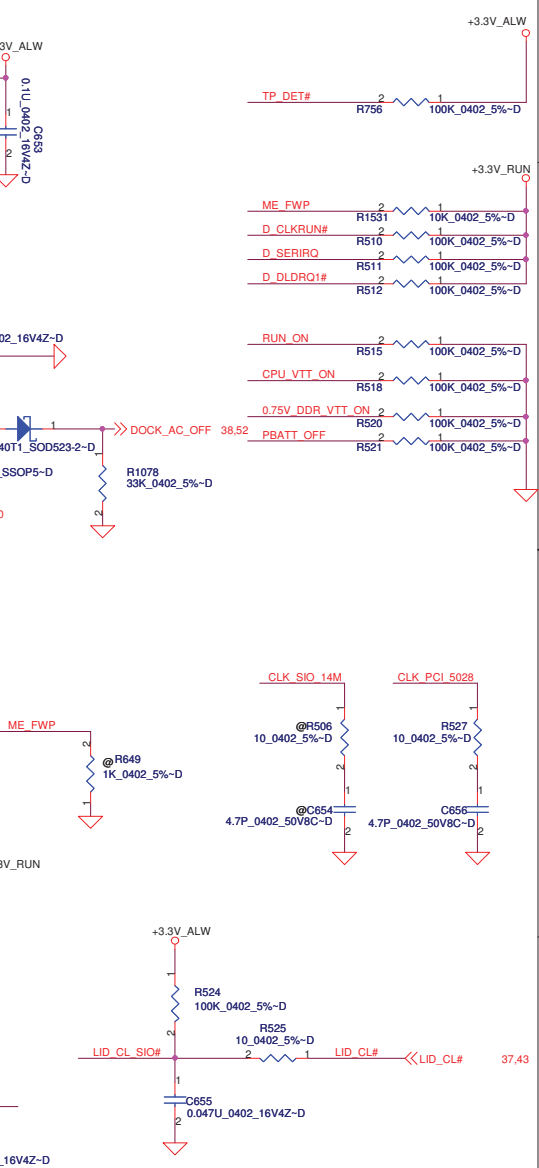
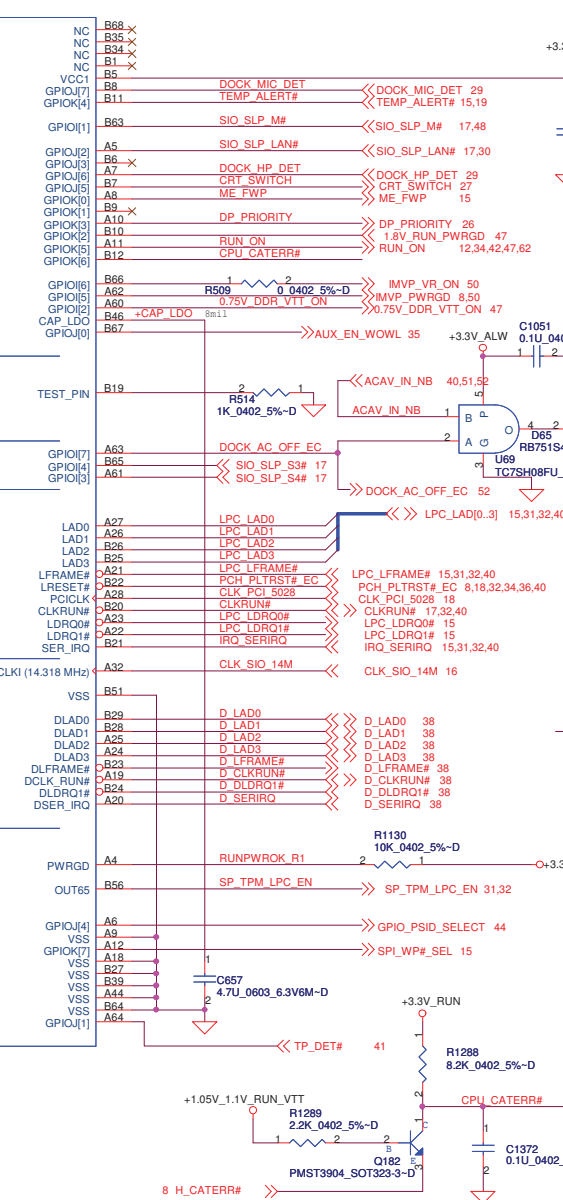
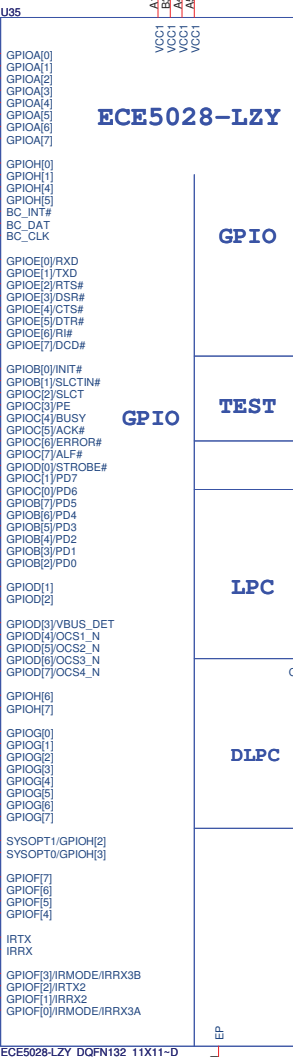
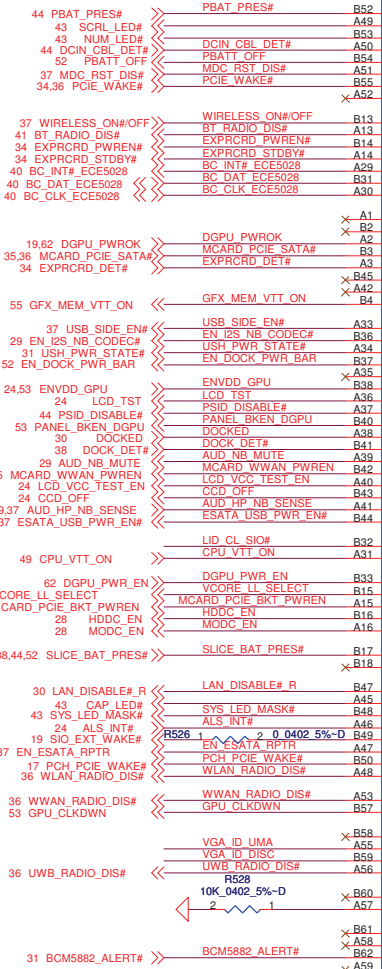
USB 2.0 PORT

Title			
USB 2.0 PORT			
Size	Document Number		Rev
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	VGA_ID_UMA	VGA_ID_DISC
Discrete	0	1
UMA	1	0
SG	1	1



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Date

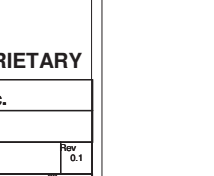
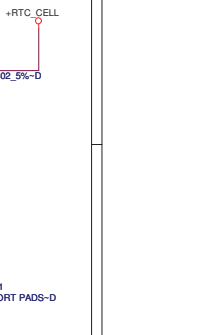
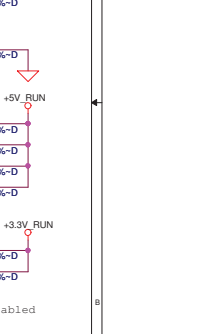
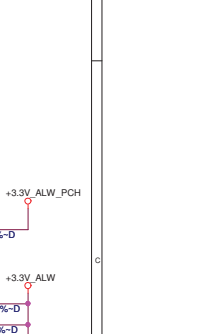
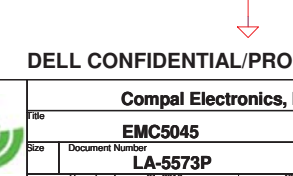
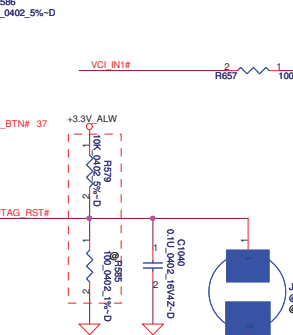
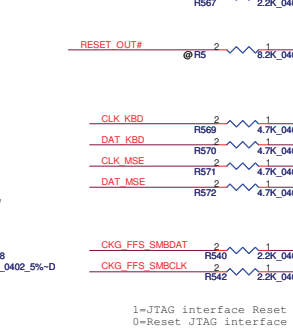
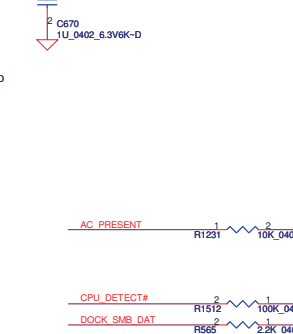
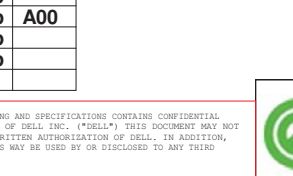
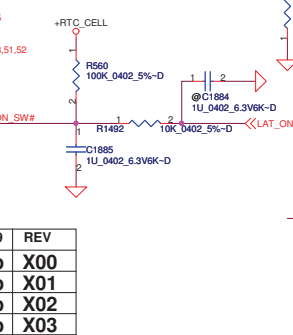
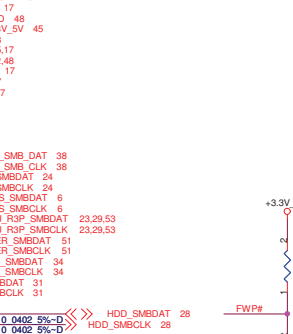
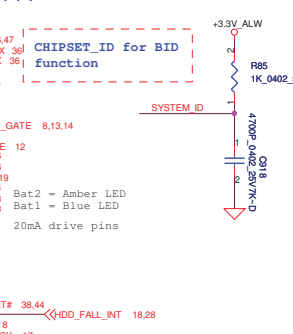
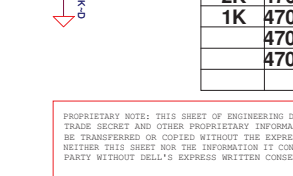
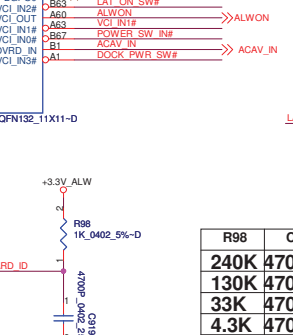
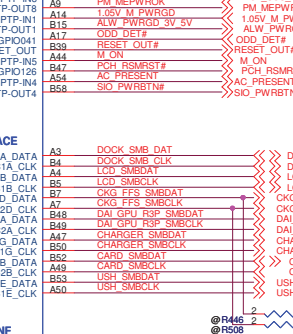
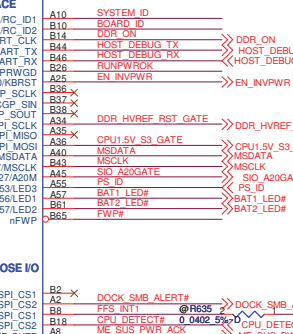
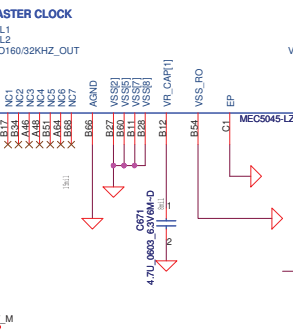
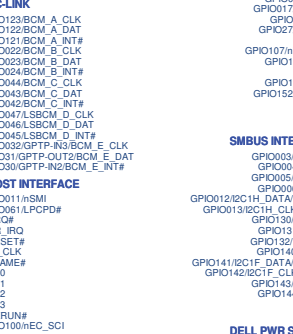
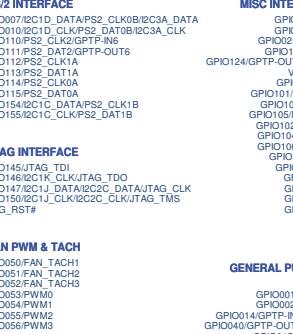
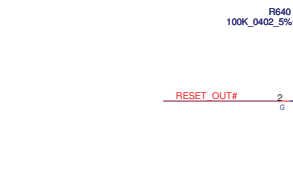
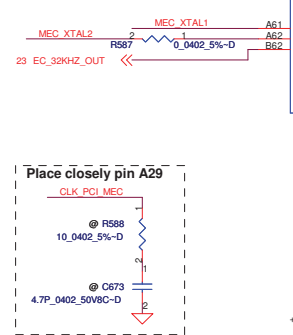
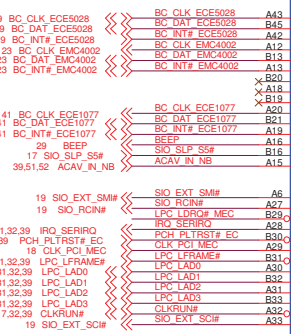
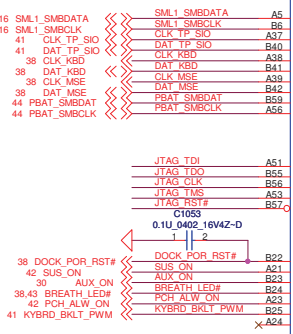
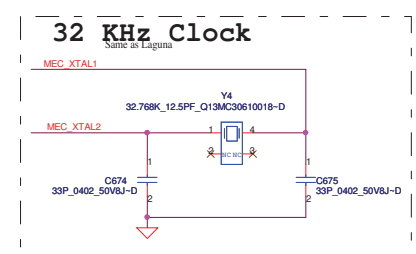
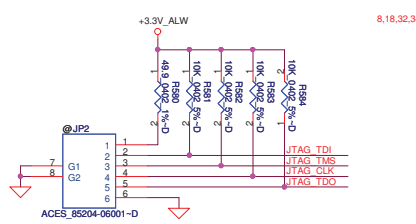
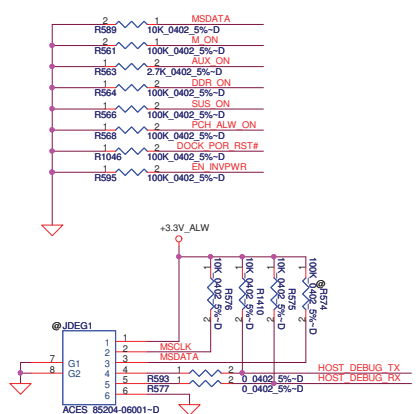
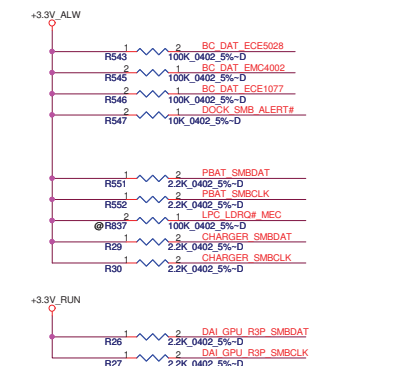
Thursday, January 21, 2010

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R98	C919	REV
240K	4700p	X00
130K	4700p	X01
33K	4700p	X02
4.3K	4700p	X03
2K	4700p	
1K	4700p	A00
4700p		
4700p		

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File

EMC5045

Size

Document Number

LA-5573P

Date

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Sheet

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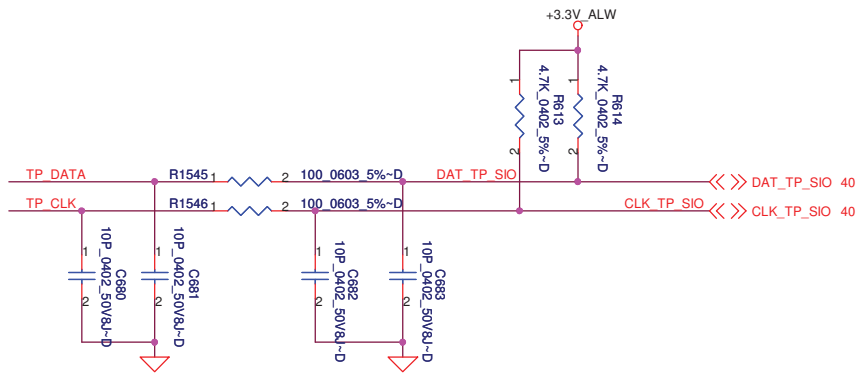
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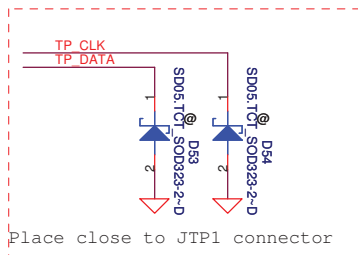
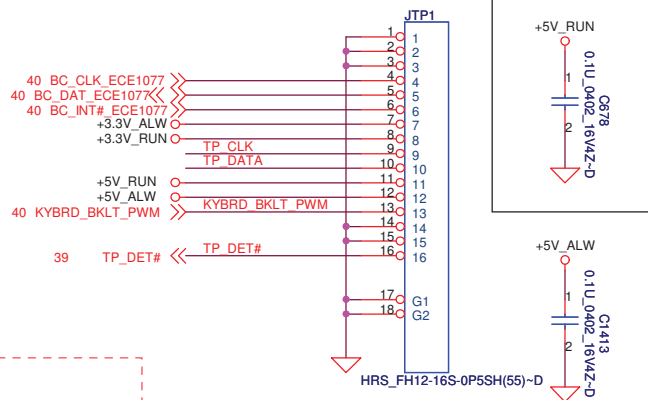
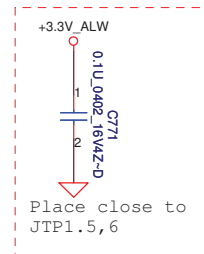
Rev

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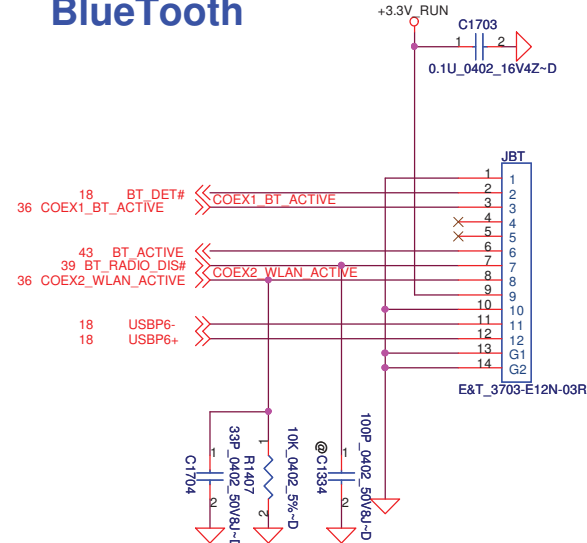
Touch Pad



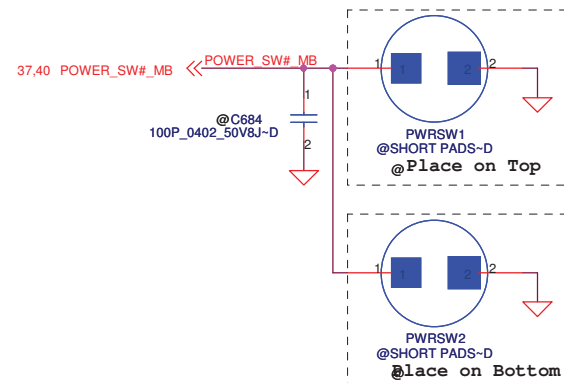
Touch Pad Conn. Pitch=0.5



Bluetooth



Power Switch for debug



Part Number	Description
DC28A000800	FAN SET DAQ20 DC5V AB7405HB-HB3 ADDA

Part Number	Description
PK230003Q0L	SPK PACK ZJX 2.0W 4 OHM FG

Part Number	Description
SP070007V0L	8 SOCKET TYCO 1770551-1 10P H5.9 SMART

Part Number	Description
DC000001Q0L	PCMCIA TYCO 1759096-1

Part Number	Description
DC02000CS0L	H-CONN SET ZGX MB-MDC

Part Number	Description
DC02000840L	H-CONN SET ZJX MB-B/T-TP-FP

Part Number	Description
DC020003Y0L	H-CONN SET ZJX MB-LCD 14 WXGA+(-1ch)

Part Number	Description
DC02000870L	H-CONN SET ZJX MB-LCD 14 WXGA+(-2ch)

Part Number	Description
GC20323MX00	BATT CR2032 3V 220MAH MAXELL

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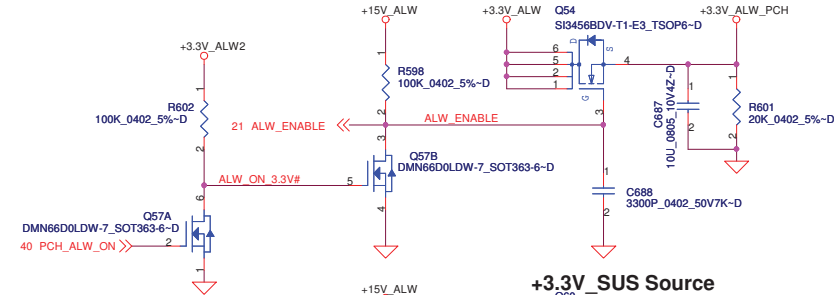
Title	Touch PAD/Int KB/LID
Size	Document Number
Date	Thursday, January 21, 2010
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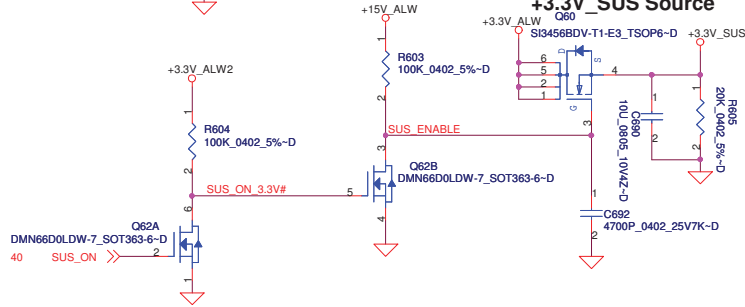


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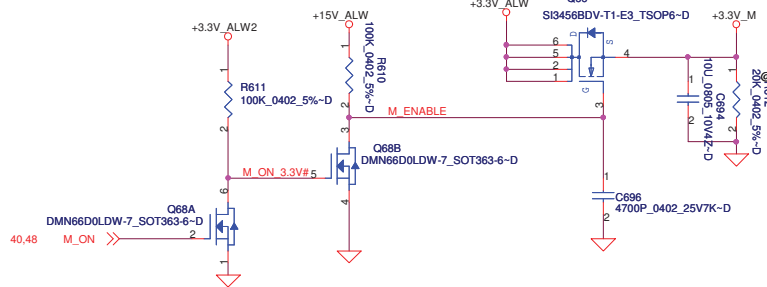
+3.3V_ALW_PCH Source



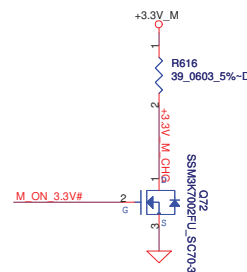
+3.3V_SUS Source



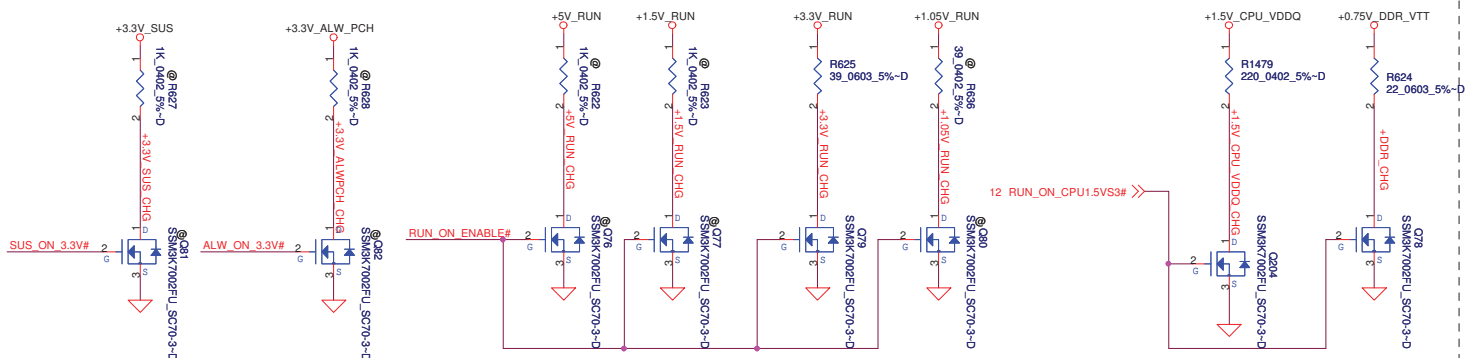
+3.3VM Source



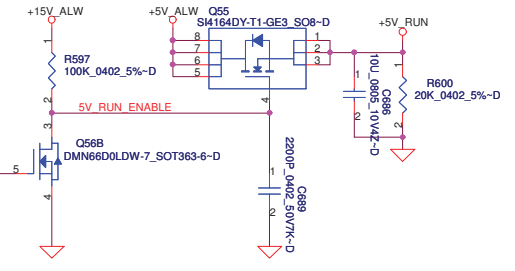
Discharg Circuit



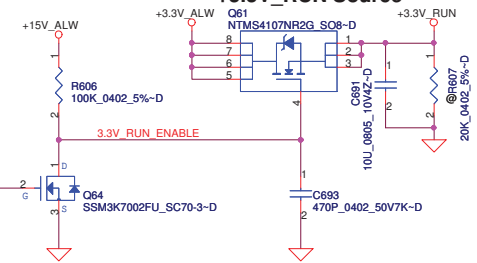
Discharg Circuit



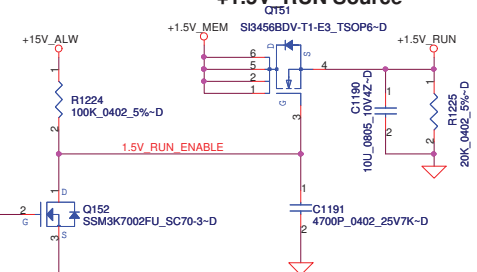
+5VRUN Source



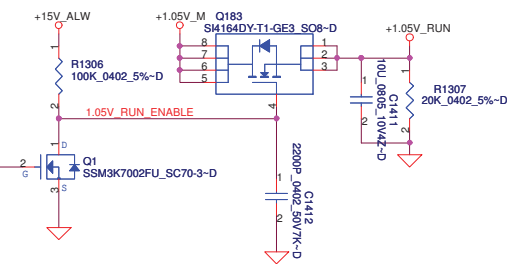
+3.3V_RUN Source



+1.5V_RUN Source



+1.05V_RUN Source



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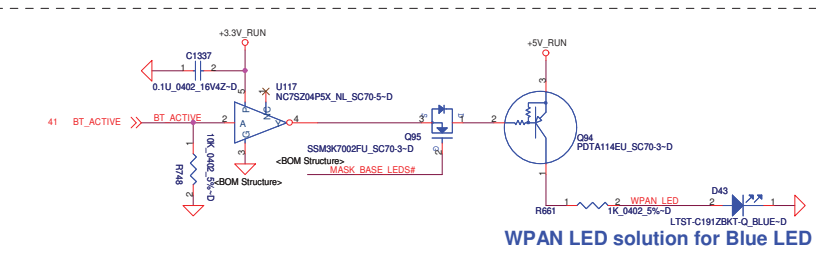
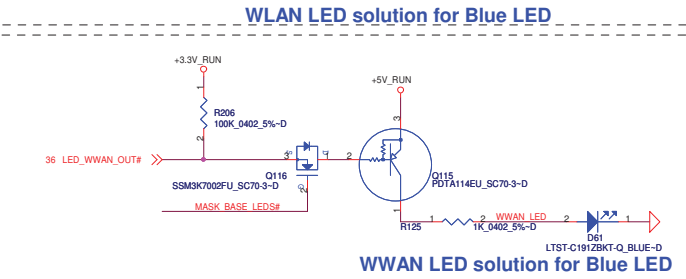
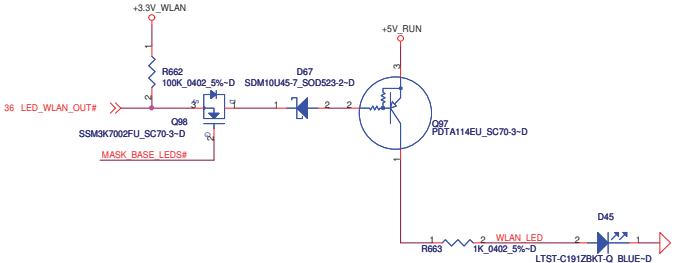
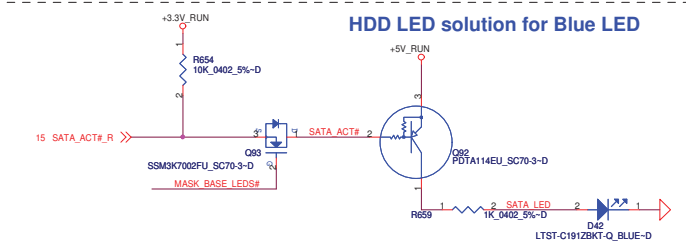
Compal Electronics, Inc.

POWER CONTROL

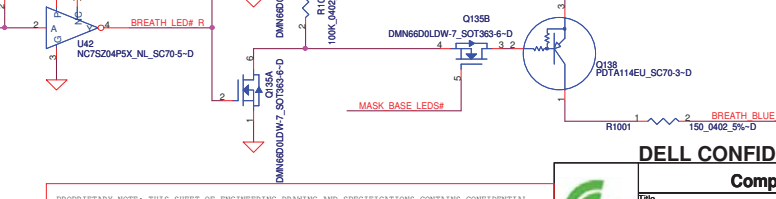
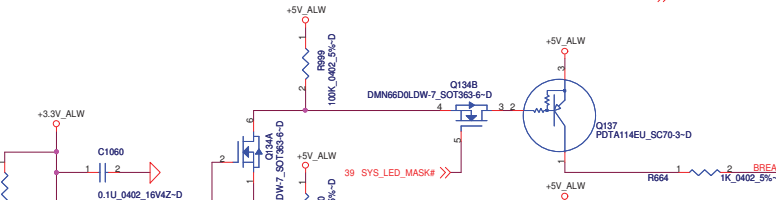
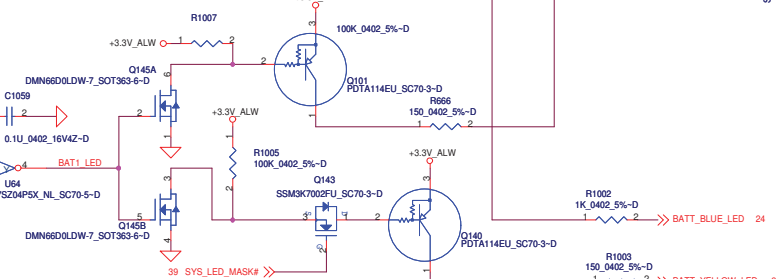
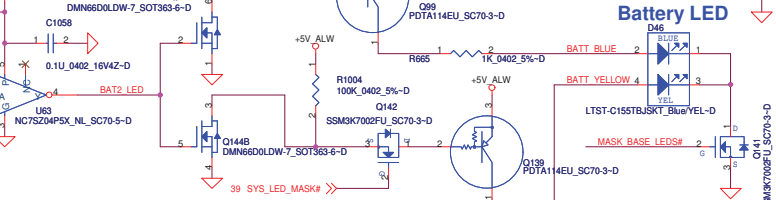
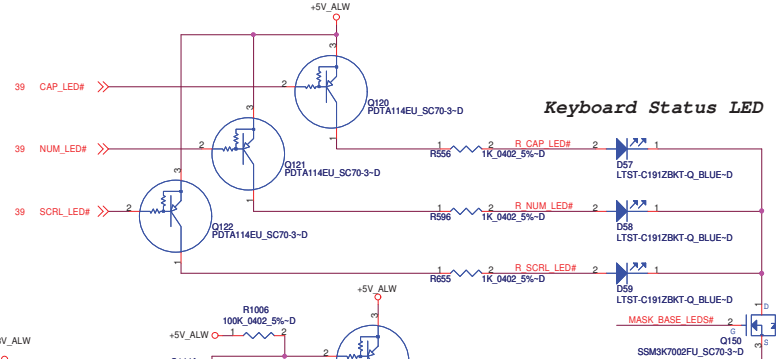
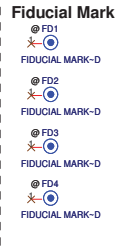
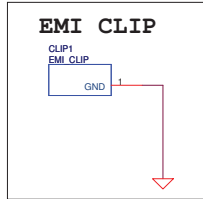
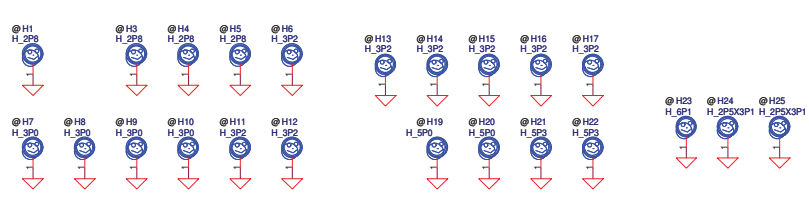
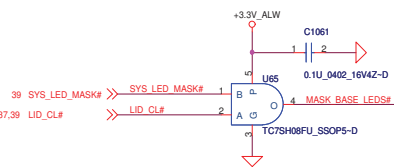
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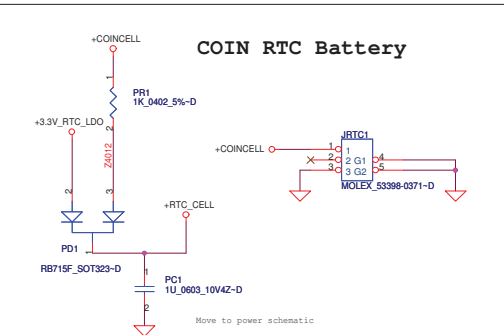
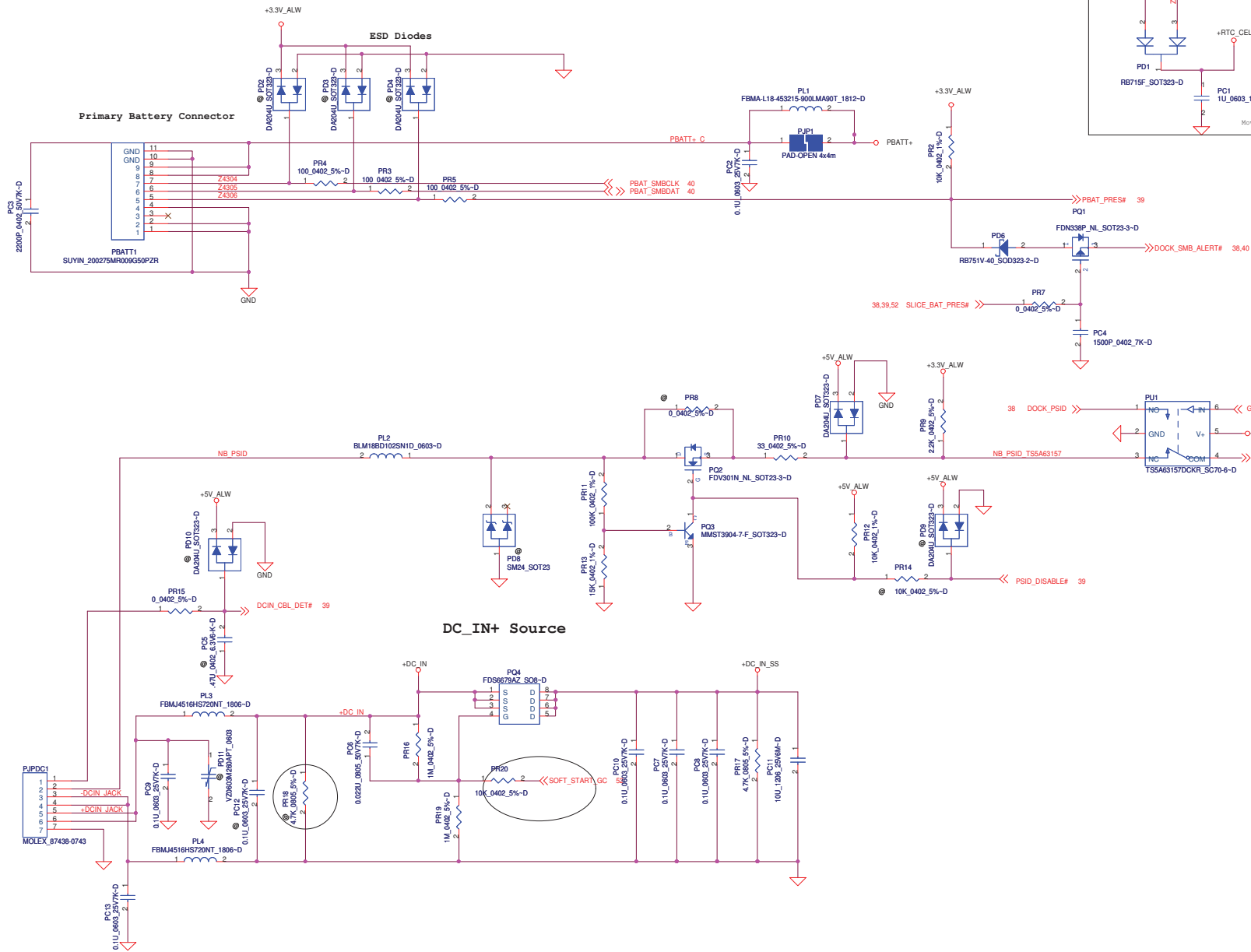
LED Circuit Control Table		
	SYS_LED_MASK#	LID_CL#
Mask All LEDs (Sniffer Function)	0	X
Mask Base MB LEDs (Lid Closed)	1	0
Do not Mask LEDs (Lid Opened)	1	1



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PAD and Standoff	
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+3.3V_ALWP/ +5V_ALWP/ +5V_ALW2 / +15V_ALWP/ +3.3V_RTC_LDO

5 Volt +/-5%
Thermal Design Current:7.13A
Peak Current:10.19A
OCP_MIN:11.2A

PQ7 pop-option
DSC 2@ SI4134DY
ASICS & ASICS2 1@ AON6428L

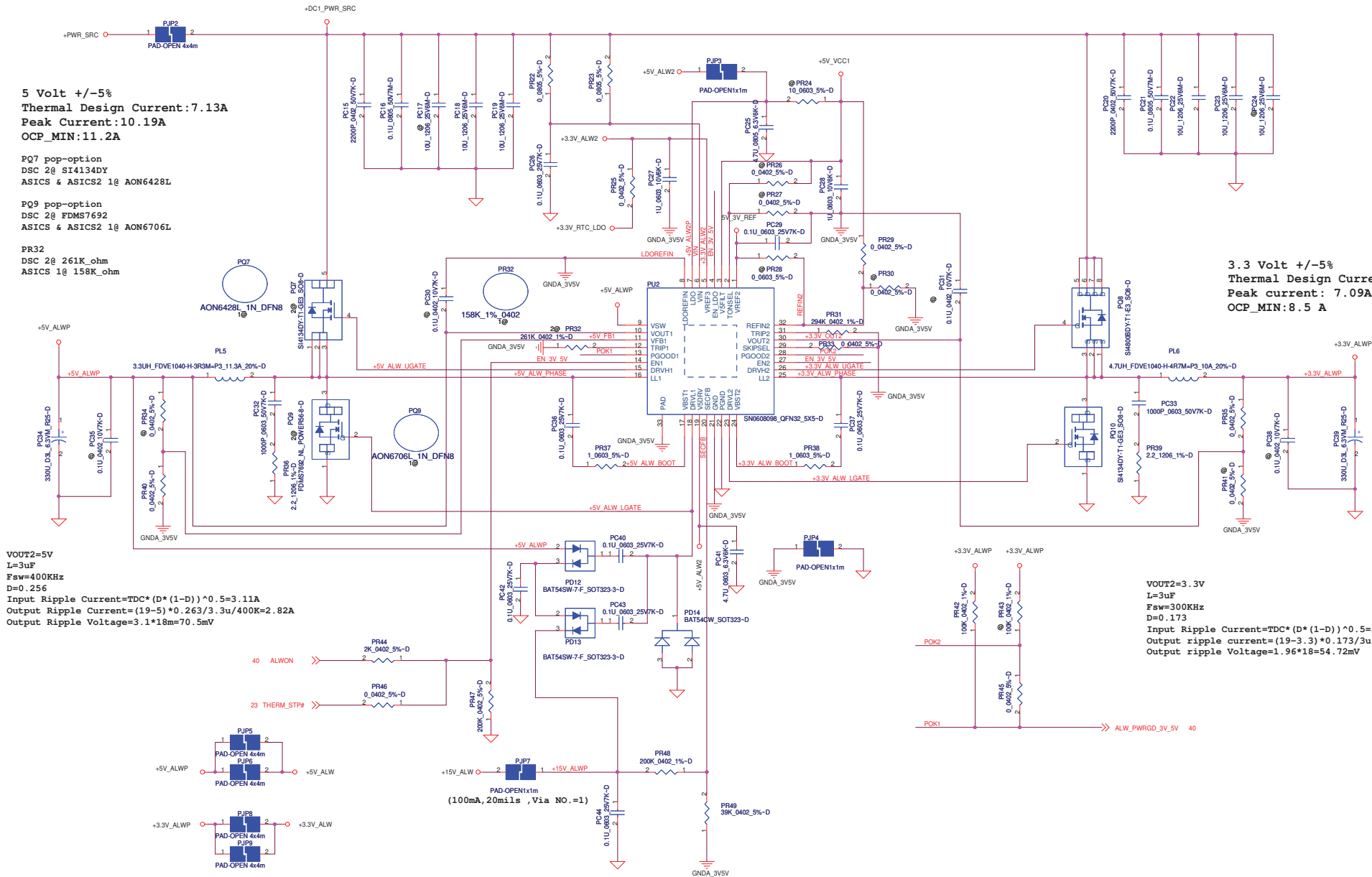
PQ9 pop-option
DSC 2@ FDM57692
ASICS & ASICS2 1@ AON6706L

PR32
DSC 2@ 261K_ohm
ASICS 1@ 158K_ohm

3.3 Volt +/-5%
Thermal Design Current: 4.96A
Peak current: 7.09A
OCP_MIN:8.5 A

VOUT2=5V
L=3uF
Fsw=400KHz
D=0.256
Input Ripple Current= $TDC \cdot (D \cdot (1-D))^{0.5} = 3.11A$
Output Ripple Current= $(19-5) \cdot 0.263 / 3.3u / 400K = 2.82A$
Output Ripple Voltage= $3.1 \cdot 18m = 70.5mV$

VOUT2=3.3V
L=3uF
Fsw=300KHz
D=0.173
Input Ripple Current= $TDC \cdot (D \cdot (1-D))^{0.5} = 3.23A$
Output ripple current= $(19-3.3) \cdot 0.173 / 3u / 300K = 3.04A$
Output ripple Voltage= $1.96 \cdot 18 = 54.72mV$



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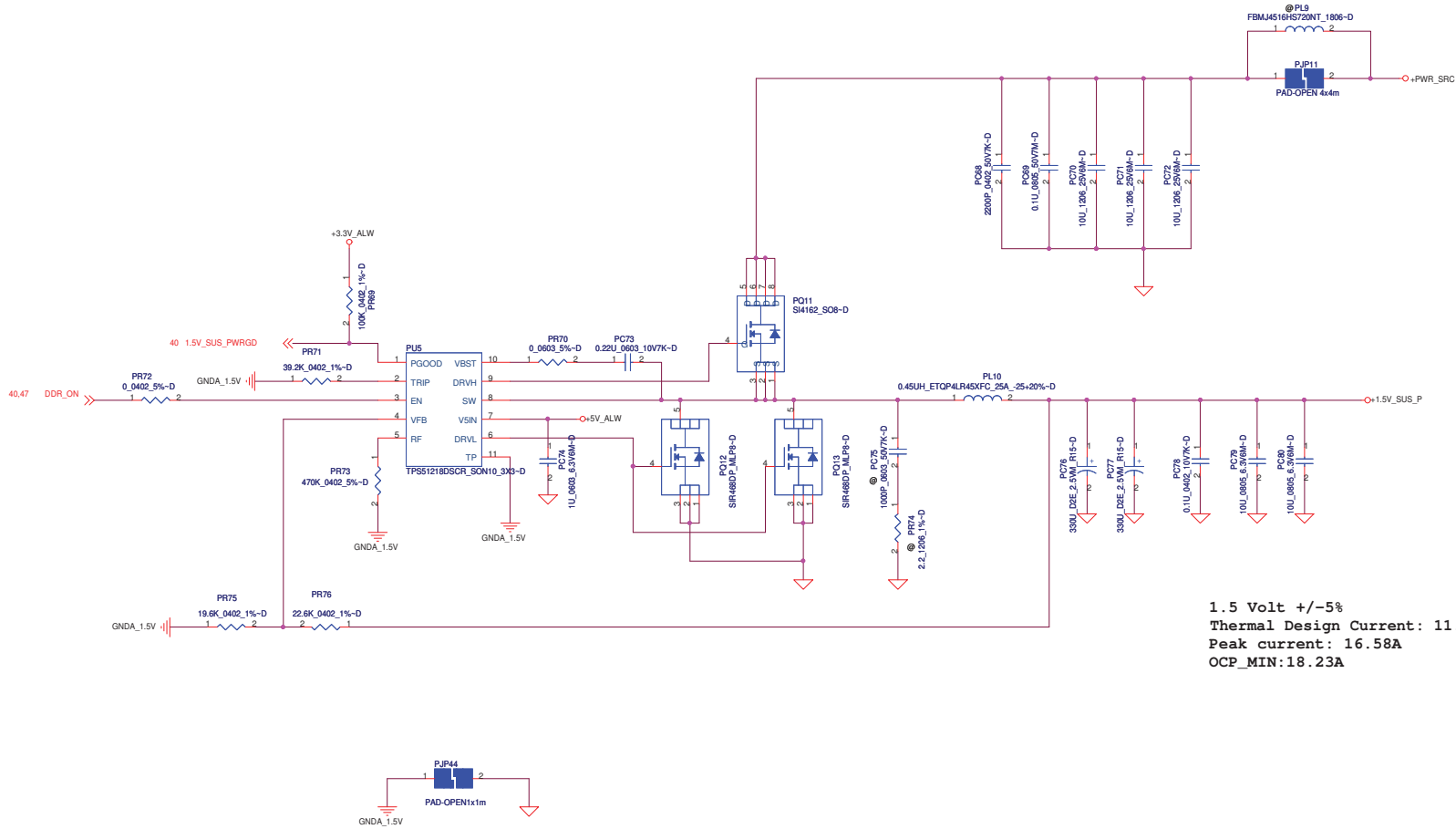
Compal Electronics, Inc.

DC/DC +3V/ +5V

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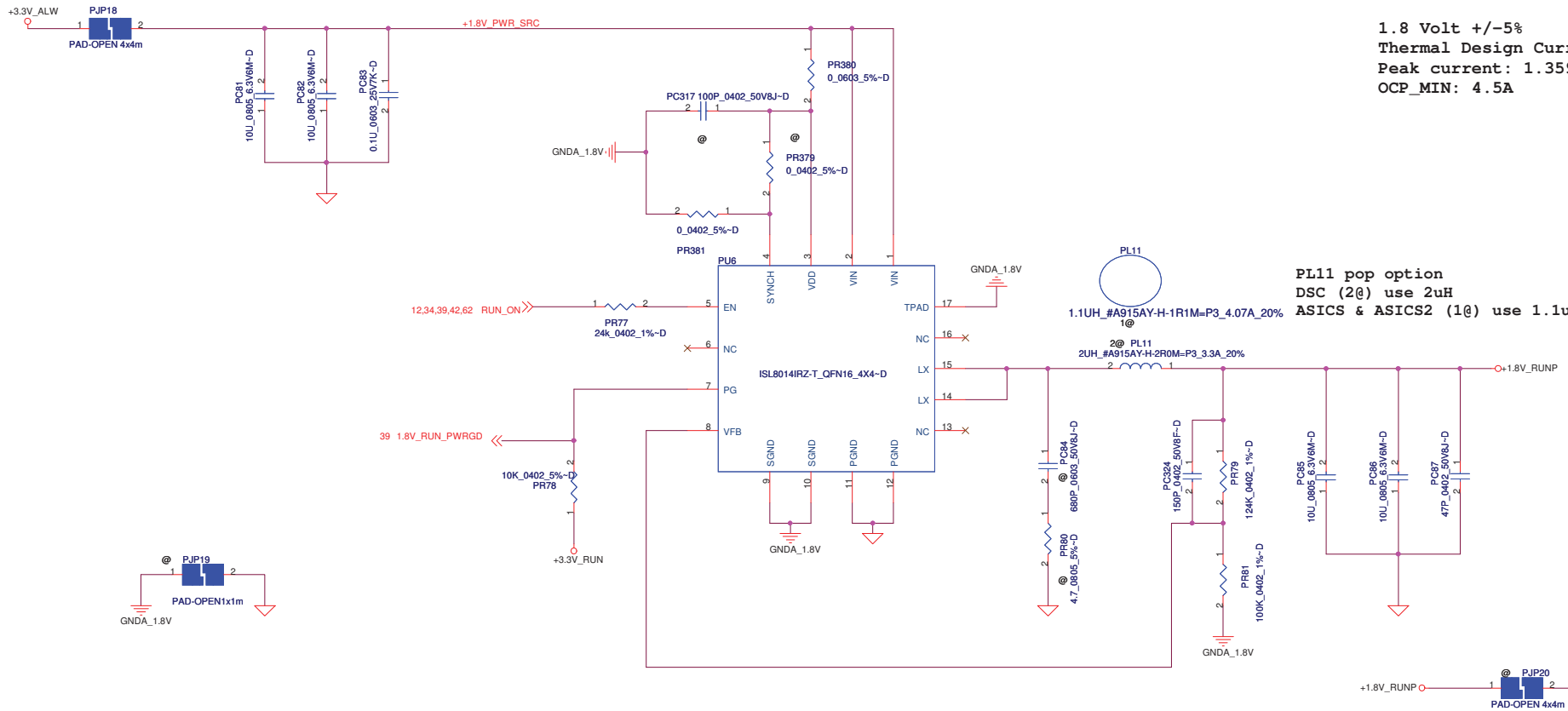
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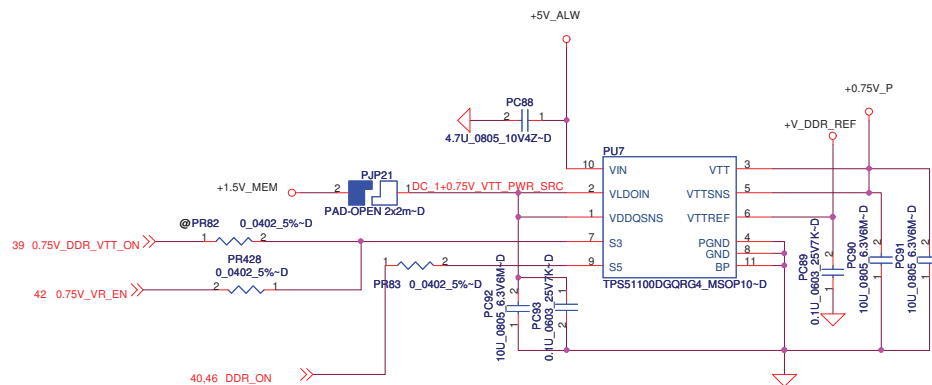
Title		+1.5V MEM	
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+1.8V_RUNP



+0.75V_DDR_VTT

DDR3 Termination



VOUT=1.8V
L=3.3uF
Fsw=290KHz
D=0.092
Input Ripple Current=TDC*(D*(1-D))^0.5=0.884A
Output Ripple Current=1.707A
Output Ripple Voltage=1.707*15m=20.5mV

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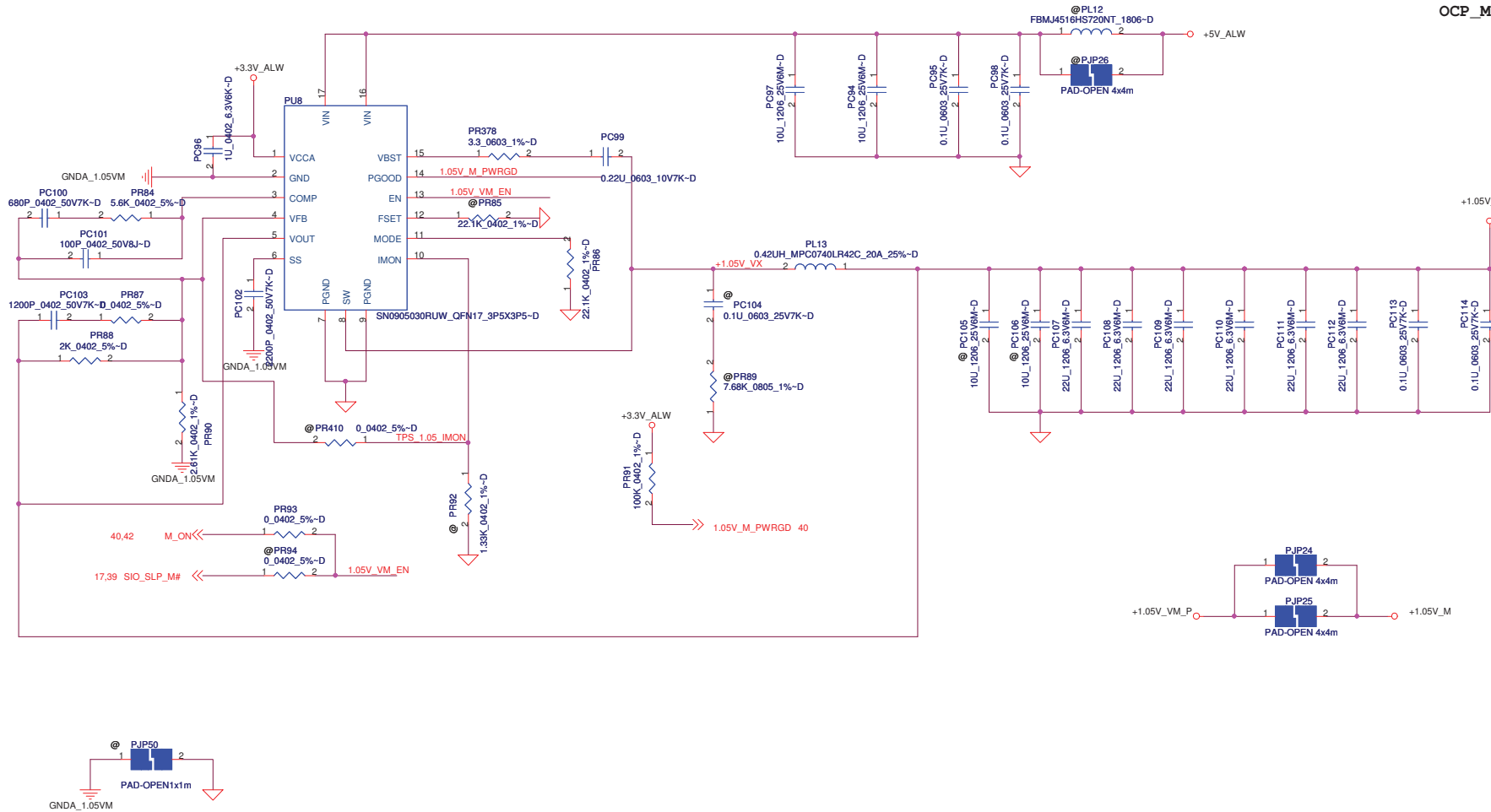
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Title			
+0.75V_DDR VT/+1.8V_RUN			
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+1.05V_M_P

1.05 Volt +/-5%
Thermal Design Current: 7.6A
Peak current: 10.9A
OCP_MIN: 11.9A



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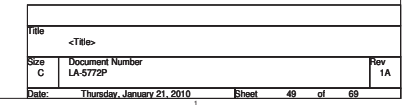


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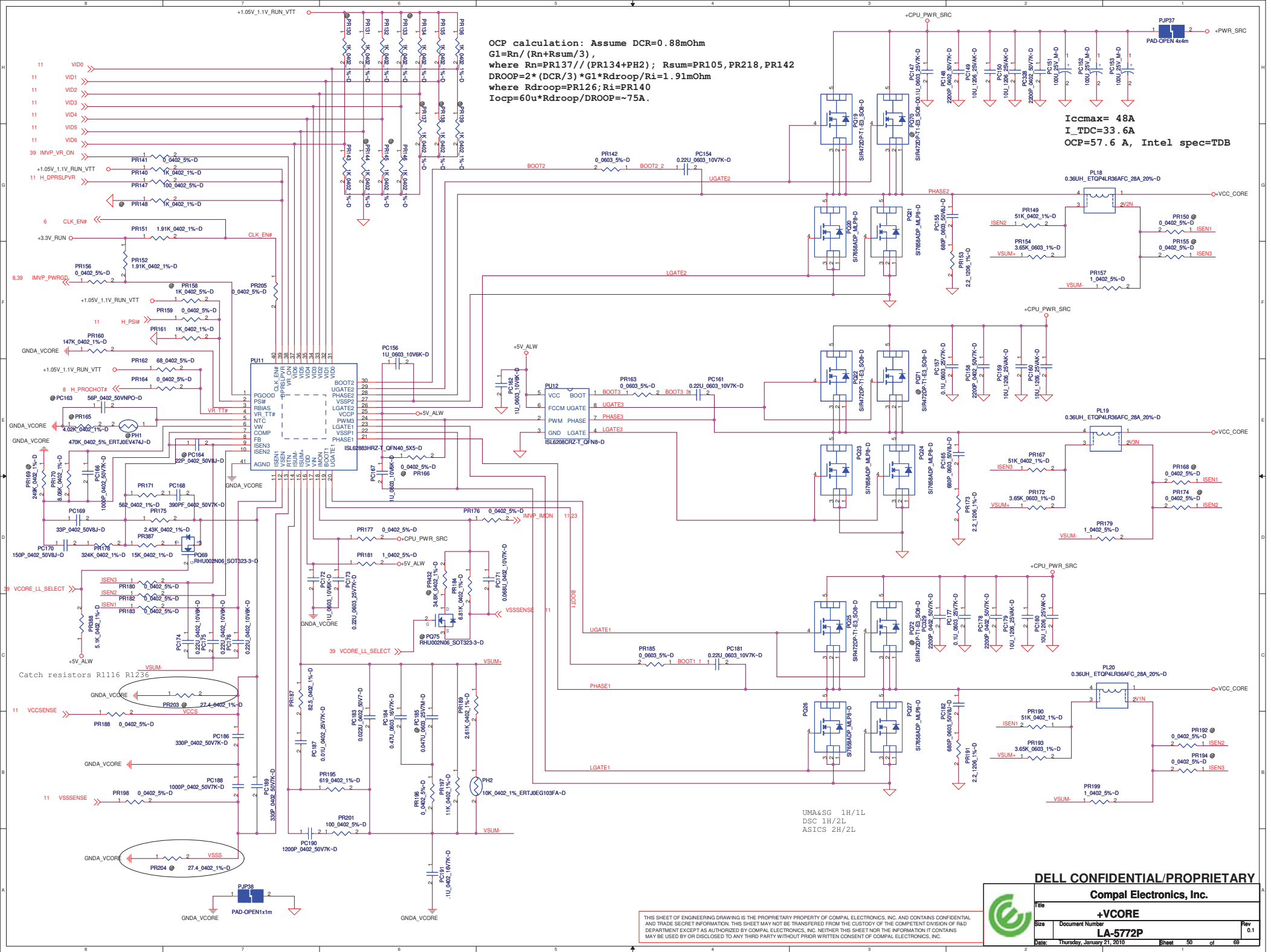
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1.05 Volt +/-5%
Thermal Design Current: 18.72A
Peack current: 26.75A
OCP_MIN: 32.096A



OCP calculation: Assume DCR=0.88mohm
 $G1=Rn/(Rn+Rsum/3)$,
 where $Rn=PR137/(PR134+PH2)$; $Rsum=PR105, PR218, PR142$
 $DR0OP=2*(DCR/3)*G1*Rdroop/Ri=1.91mOhm$
 where $Rdroop=PR126$; $Ri=PR140$
 $Iocp=60u*Rdroop/DR0OP\sim 75A$

Iccmax= 48A
 I_TDC=33.6A
 OCP=57.6 A, Intel spec=TDB



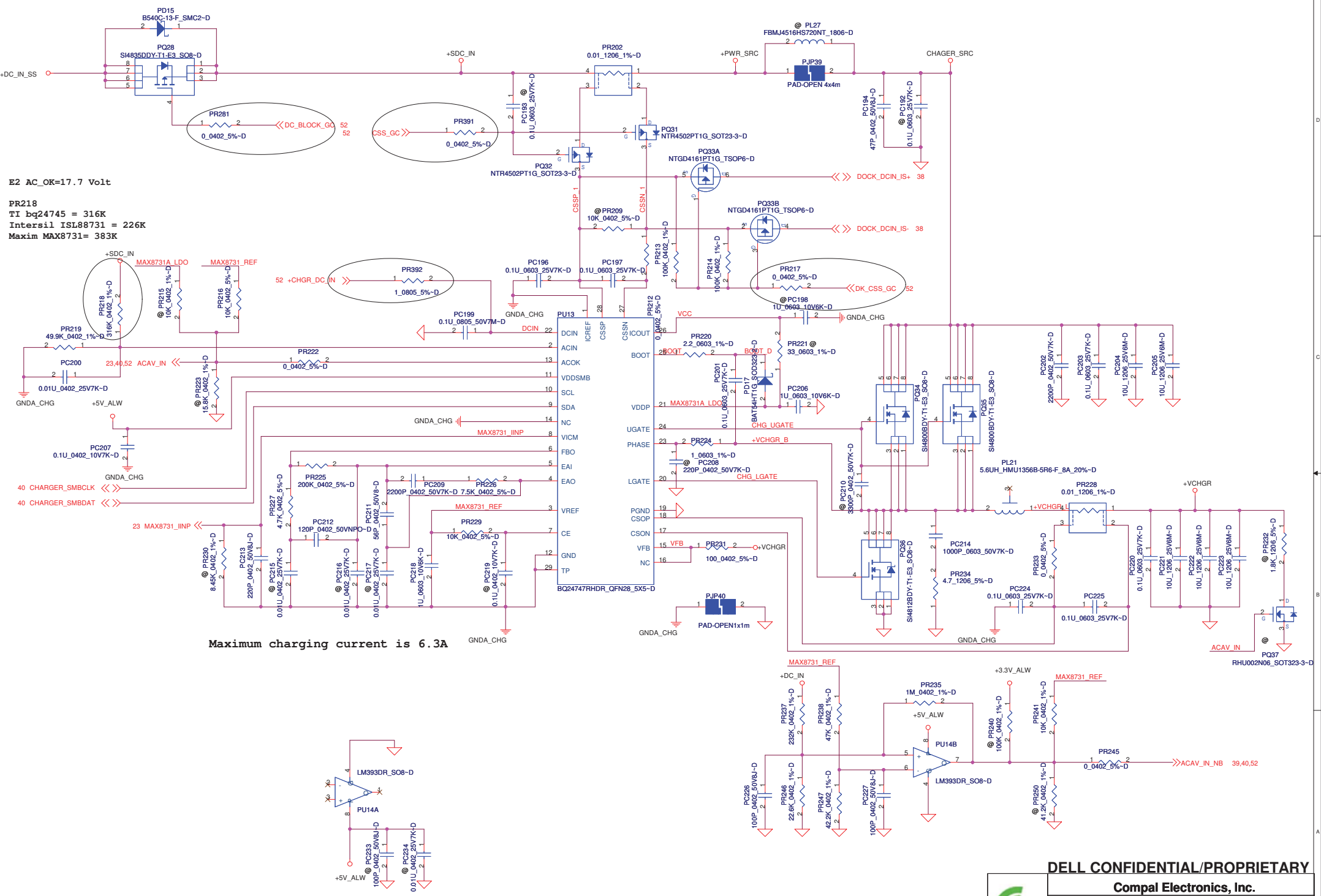
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+VCORE

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E2 AC_OK=17.7 Volt
PR218
TI bq24745 = 316K
Intersil ISL88731 = 226K
Maxim MAX8731= 383K

Maximum charging current is 6.3A

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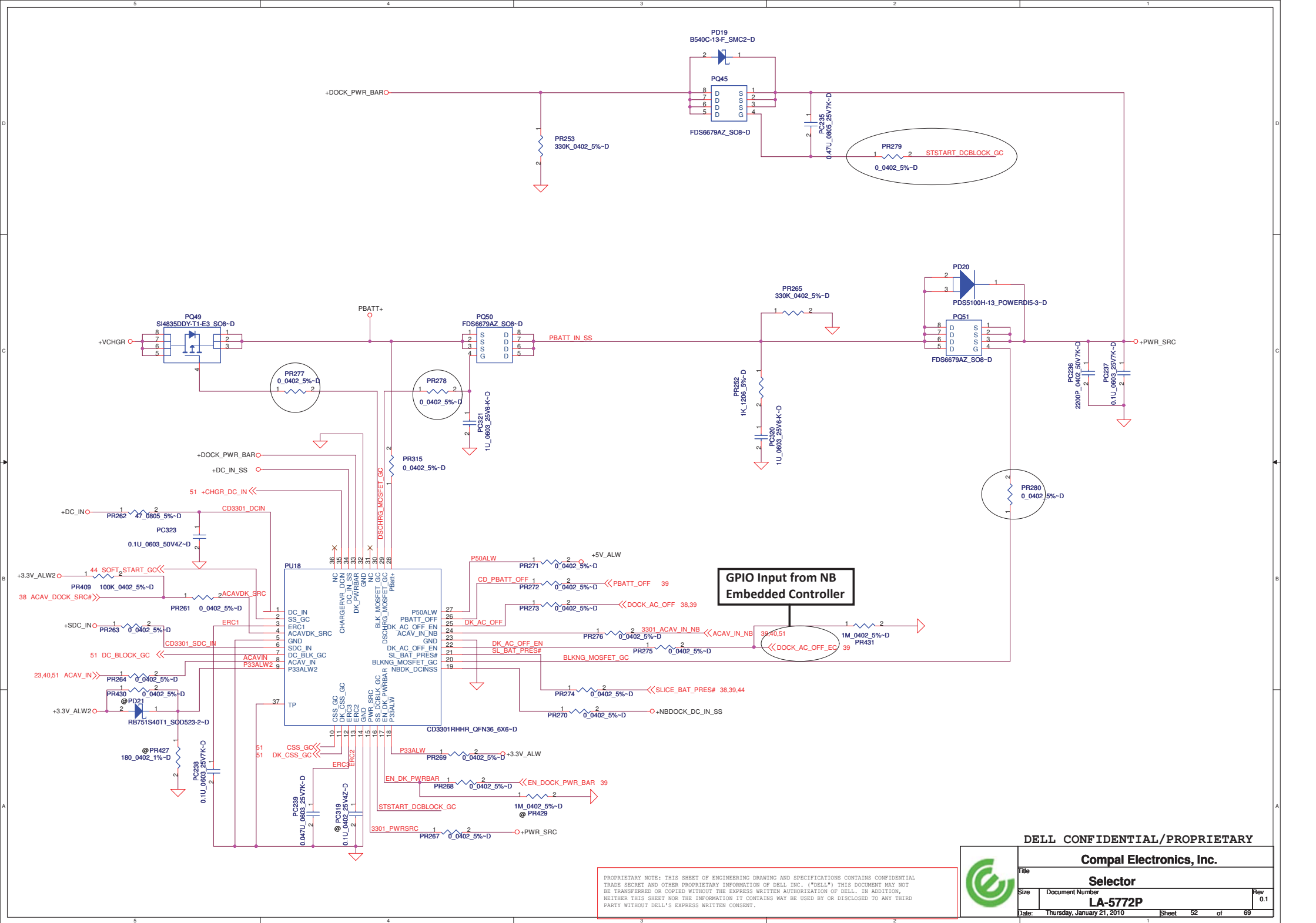
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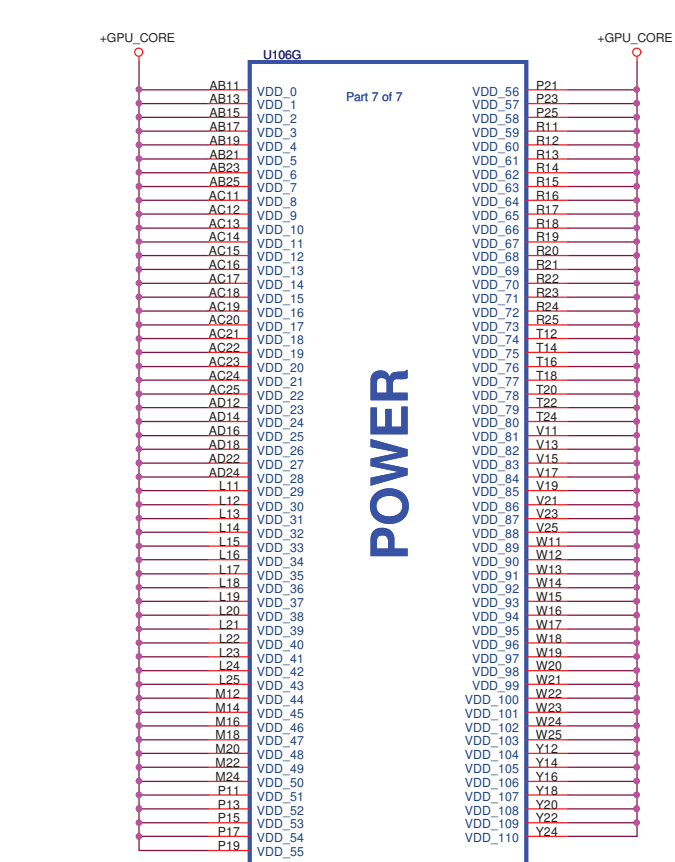
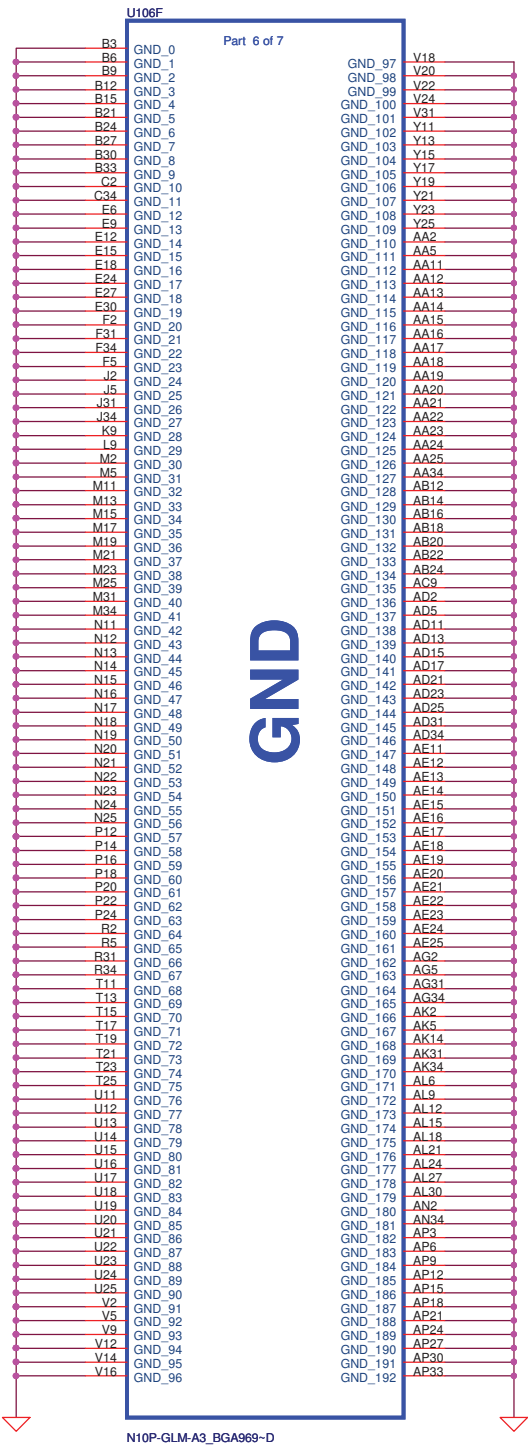
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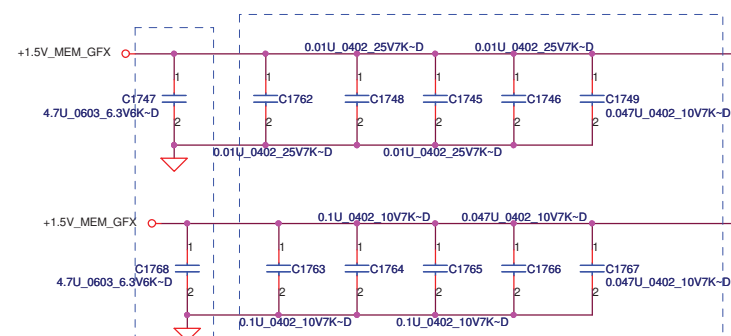
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LA-5772P

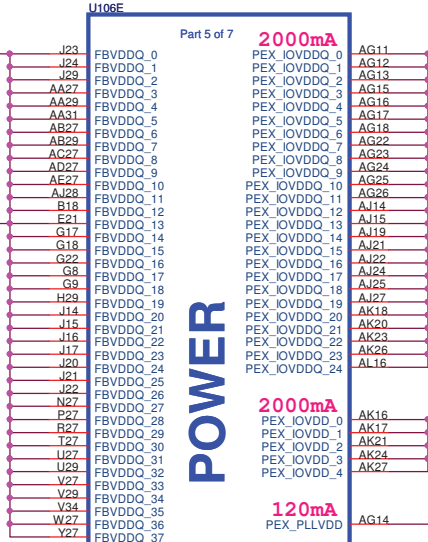
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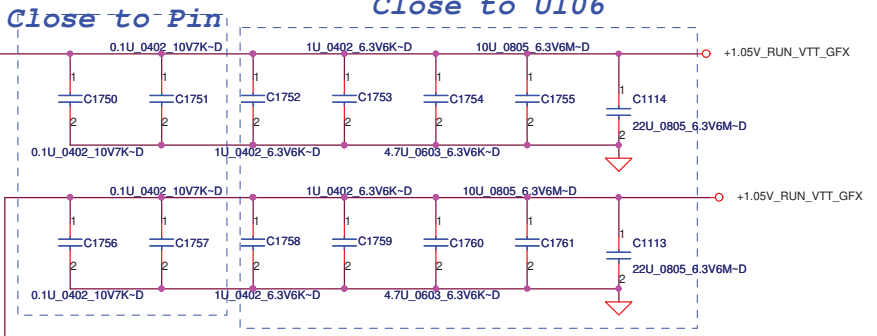




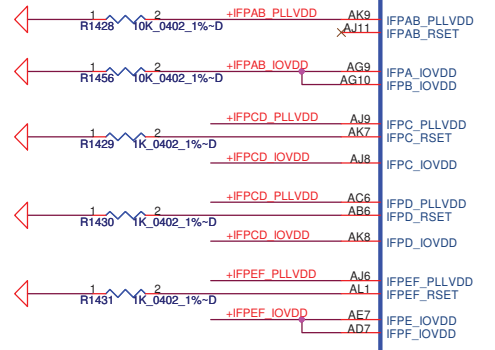
Close to U106 Close to Pin



POWER



Close to Pin



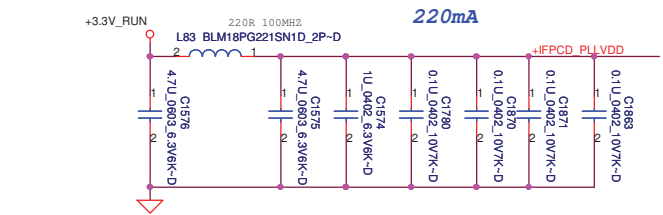
PEX_SVDD_3V3_0
PEX_SVDD_3V3_1

VDD33_0
VDD33_1
VDD33_2
VDD33_3
VDD33_4

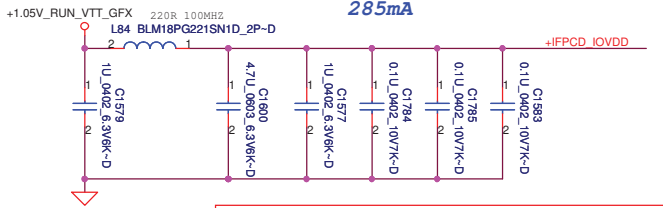
MIOA_VDDQ_0
MIOA_VDDQ_1
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MI0B_VDDQ_0
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MI0B_VDDQ_3

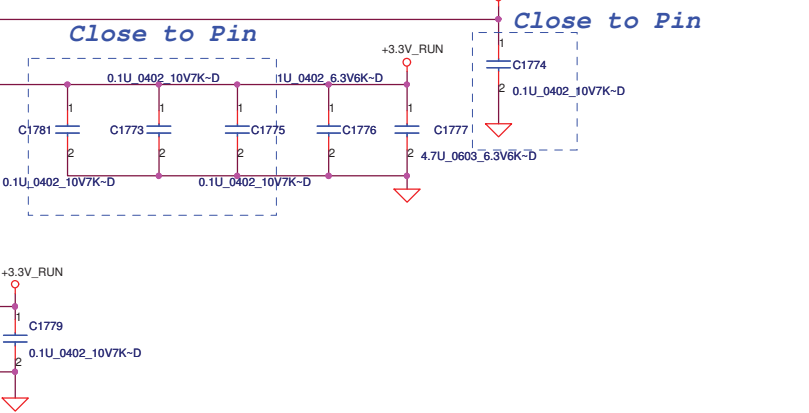
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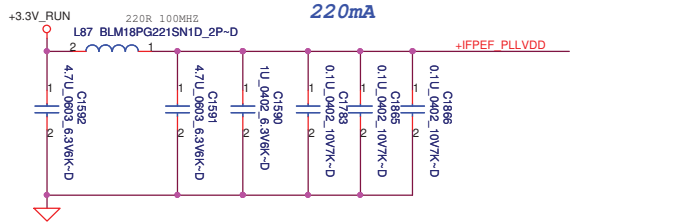
220mA



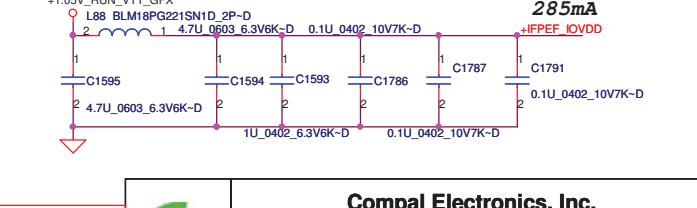
285mA



Close to Pin



220mA

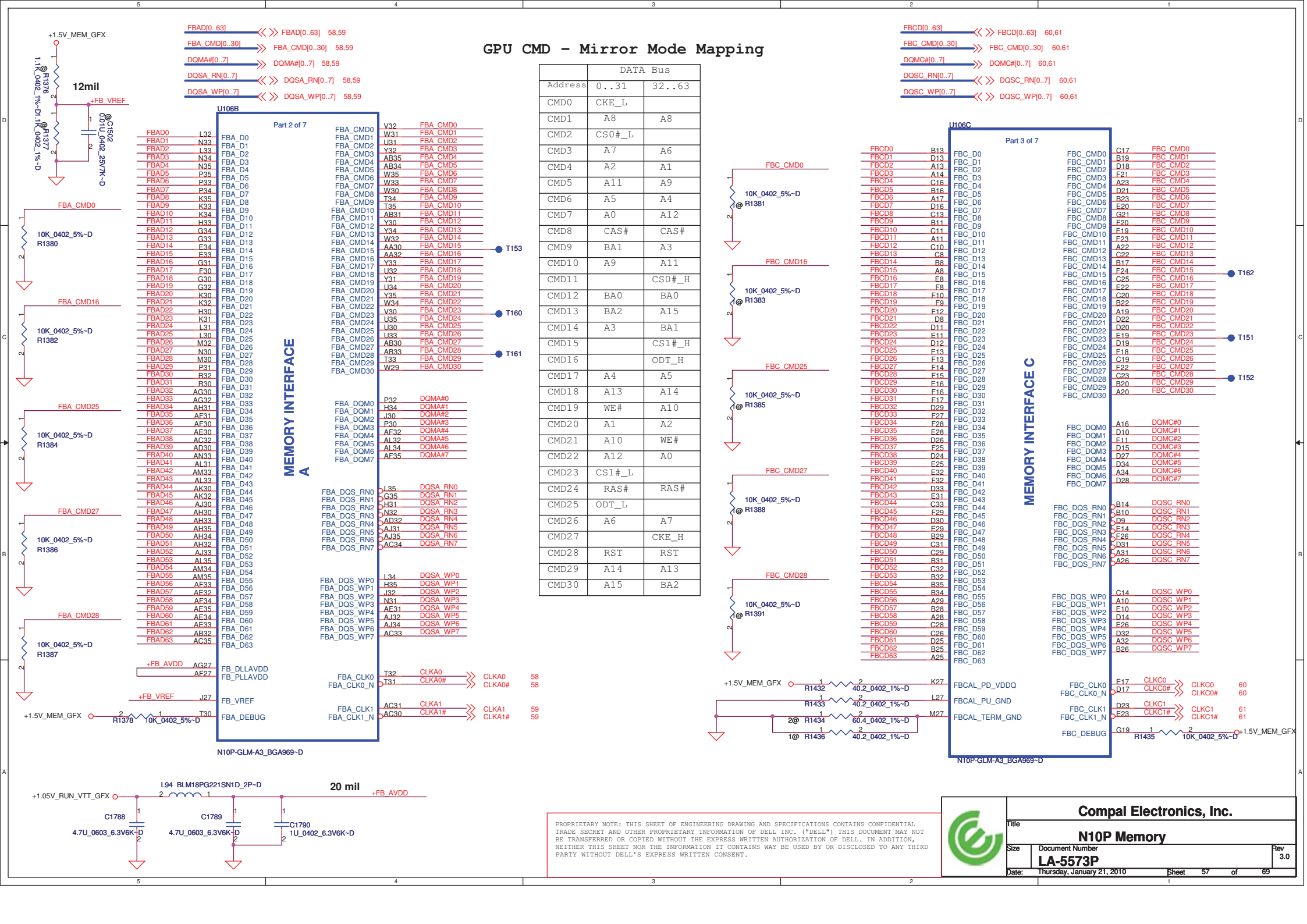


285mA

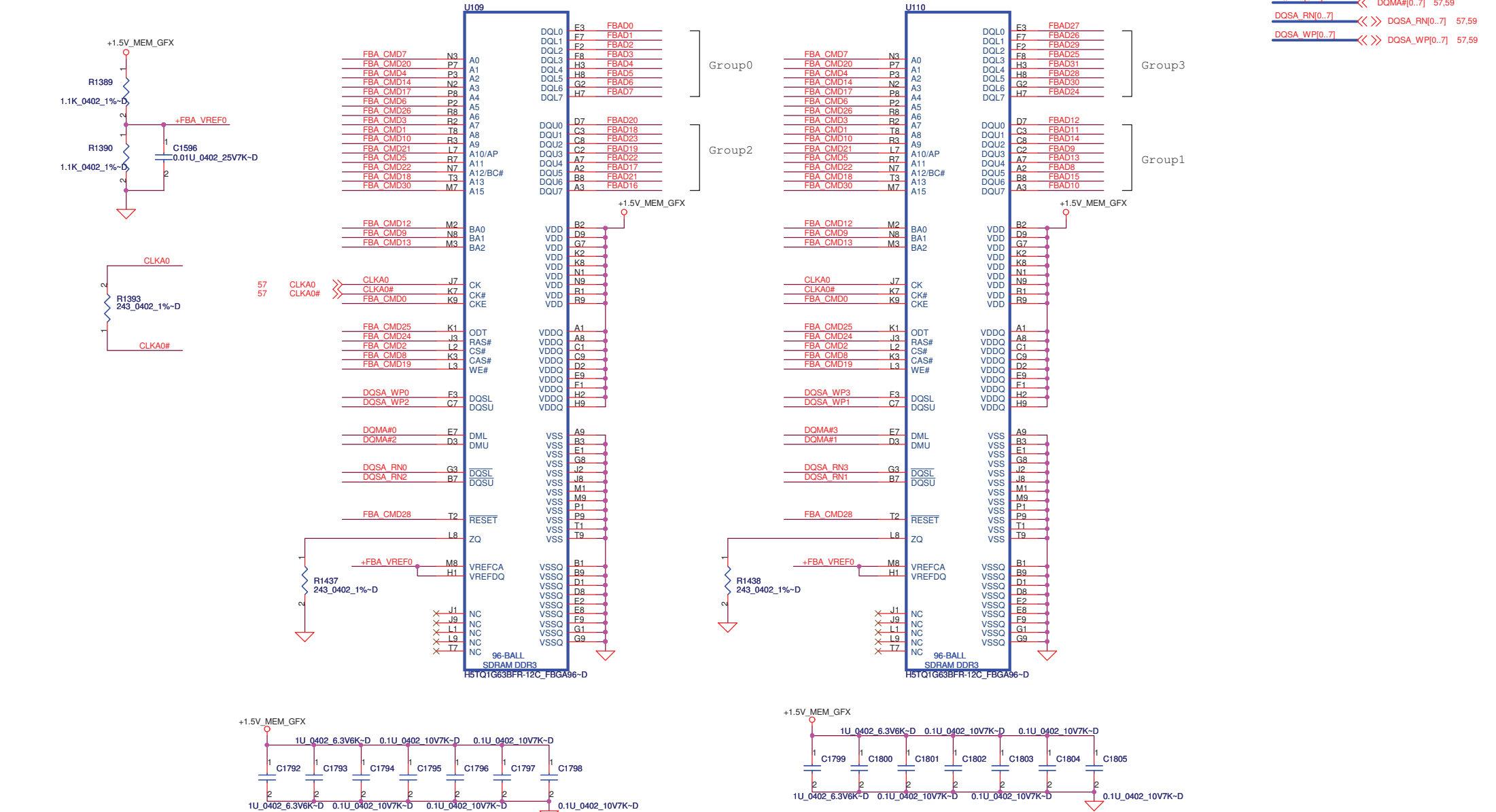
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Memory Partition A - Lower 32 bits





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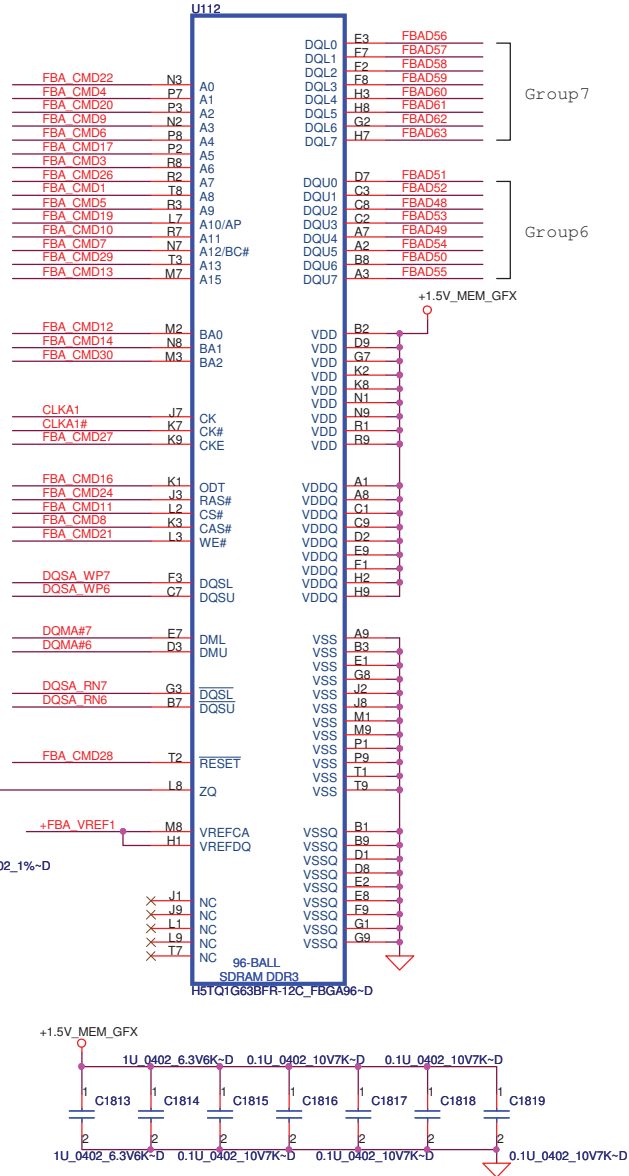
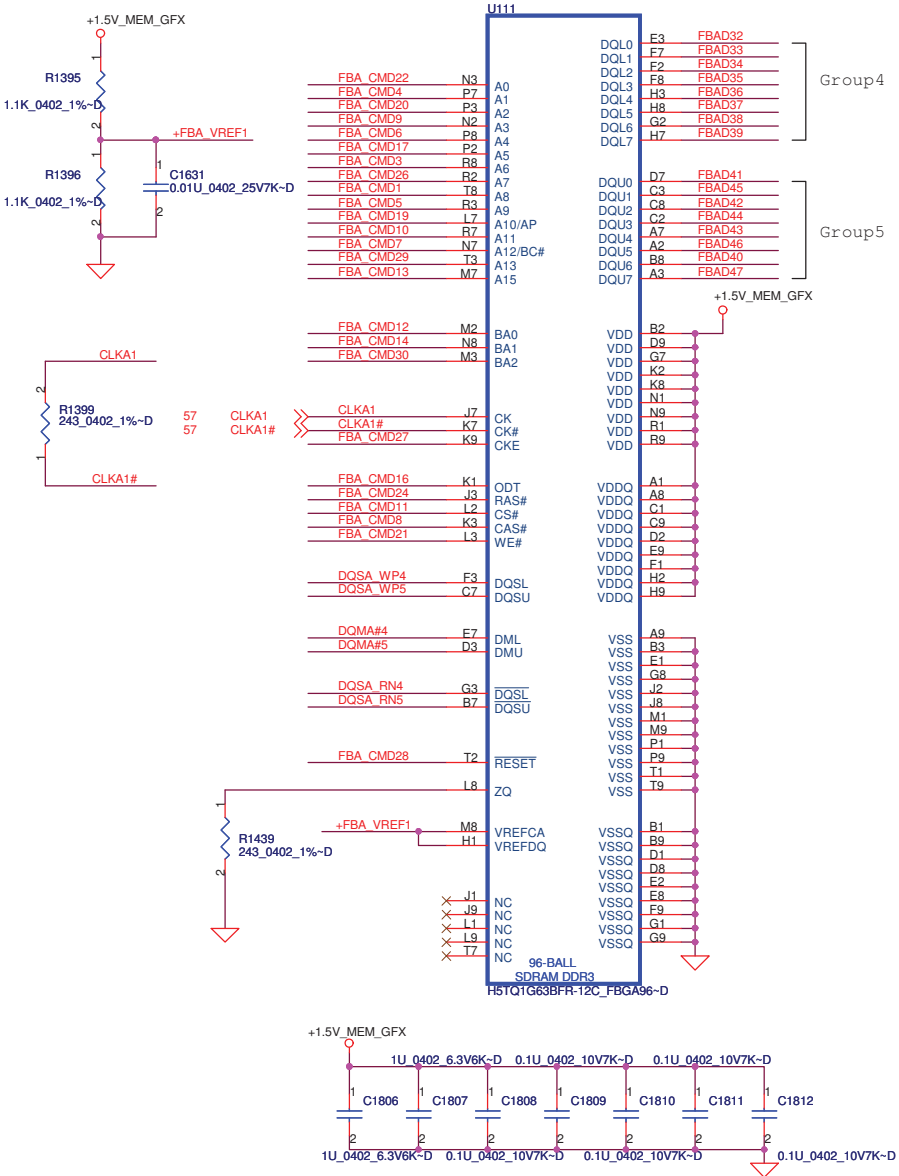
VRAM A Lower

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Memory Partition A - Upper 32 bits



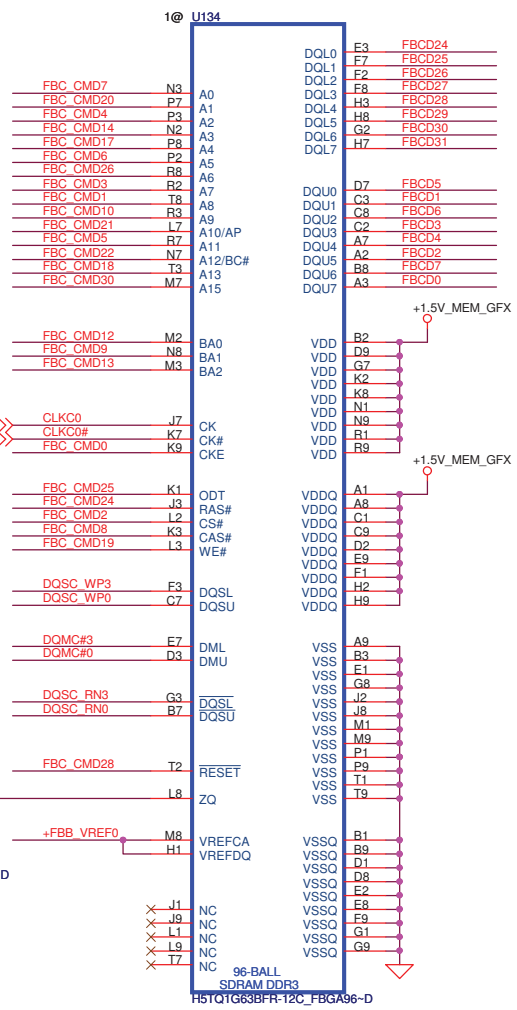
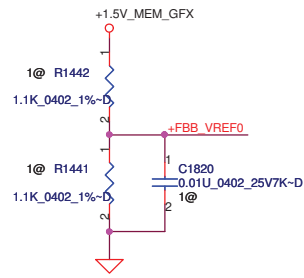
FBA_CMD[0..30]	<< FBA_CMD[0..30]	57,58
FBAD[0..63]	<< FBAD[0..63]	57,58
DQMA#[0..7]	<< DQMA#[0..7]	57,58
DQSA_RN[0..7]	<< DQSA_RN[0..7]	57,58
DQSA_WP[0..7]	<< DQSA_WP[0..7]	57,58

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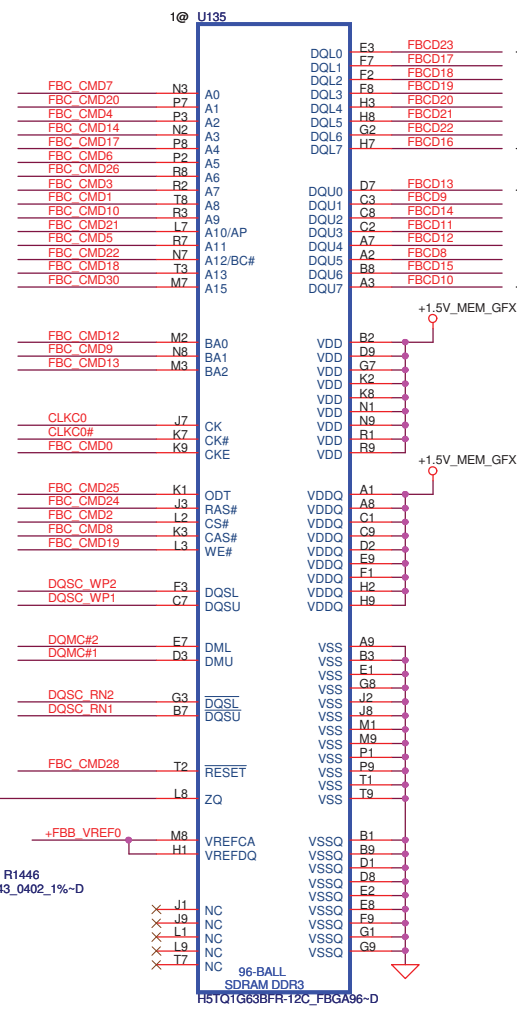


Compal Electronics, Inc.		
Title		
VRAM A Upper		
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Memory Partition C - Lower 32 bits

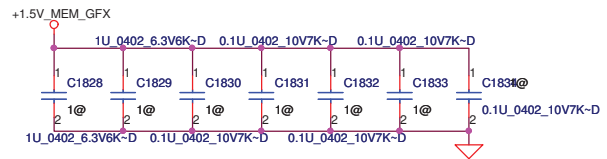
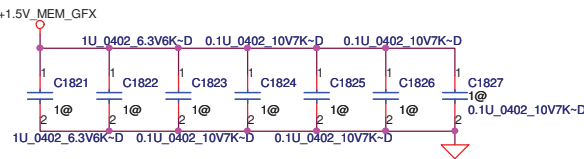


Group3
Group0



Group2
Group1

FBCD[0..63] << >> FBCD[0..63] 57,61
FBC_CMD[0..30] << >> FBC_CMD[0..30] 57,61
DQMC#[0..7] << >> DQMC#[0..7] 57,61
DQSC_RN[0..7] << >> DQSC_RN[0..7] 57,61
DQSC_WP[0..7] << >> DQSC_WP[0..7] 57,61



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Title: **VRAM C Lower**

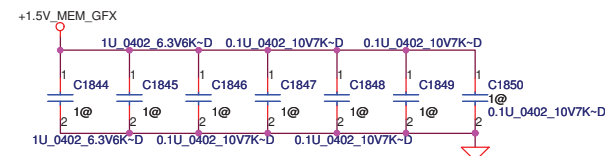
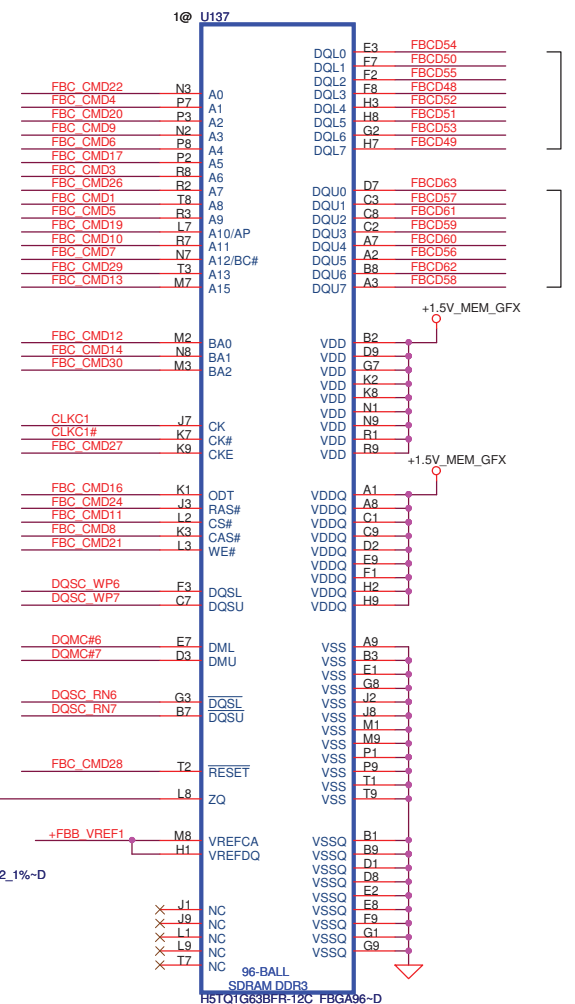
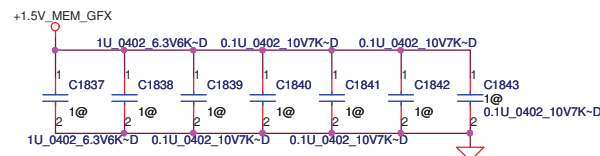
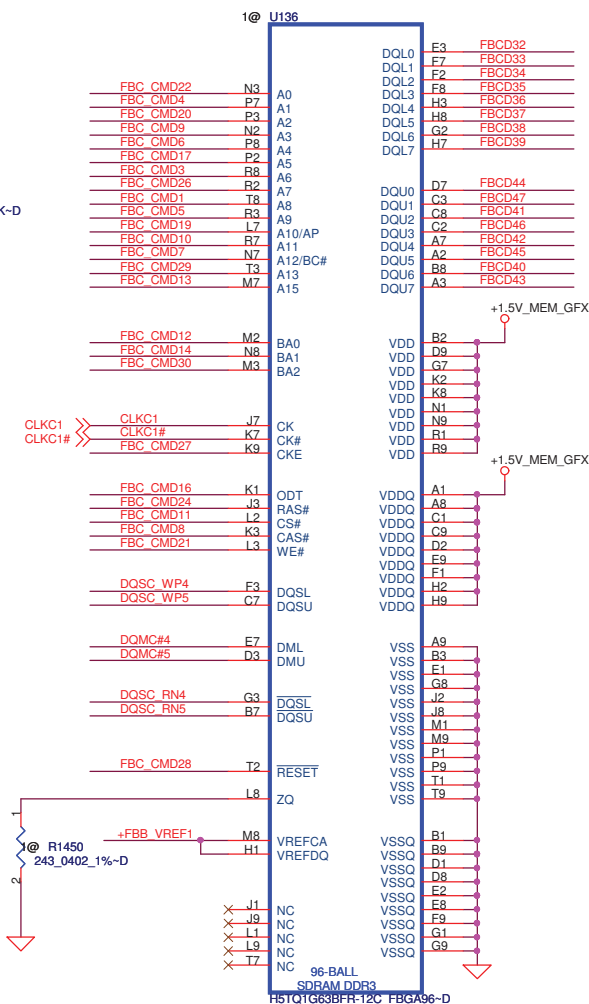
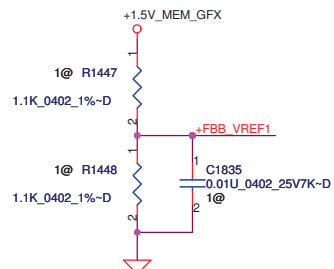
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Memory Partition C - Upper 32 bits



<u>FBCD[0..63]</u>	<< >>	FBCD[0..63]	57,60
<u>FBC_CMD[0..30]</u>	<< >>	FBC_CMD[0..30]	57,60
<u>DQMC#[0..7]</u>	<< >>	DQMC#[0..7]	57,60
<u>DQSC_RN[0..7]</u>	<< >>	DQSC_RN[0..7]	57,60
<u>DQSC_WP[0..7]</u>	<< >>	DQSC_WP[0..7]	57,60

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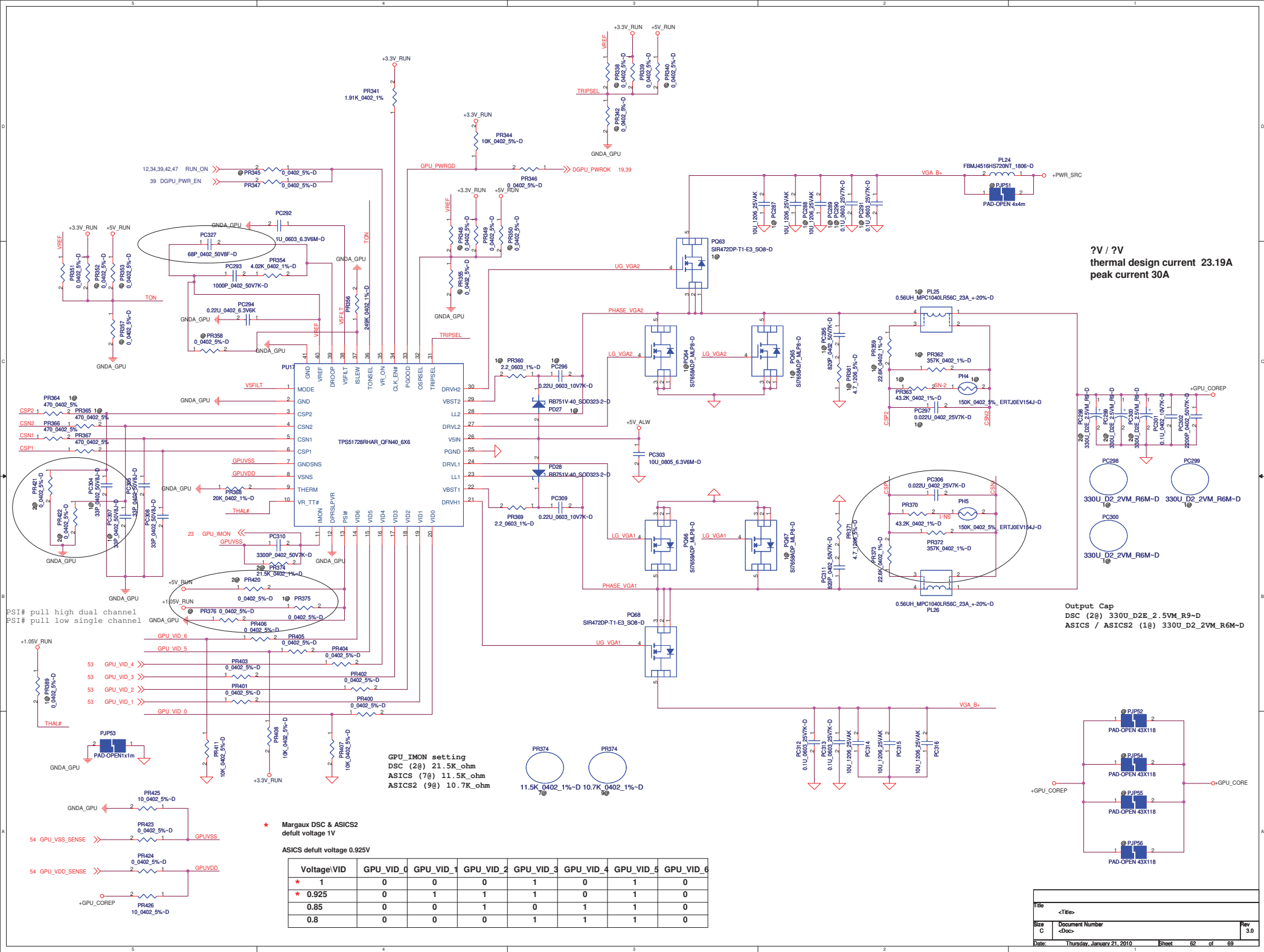


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VRAM C Upper

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Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	8, 12, 13, 14, 42	HW	6/30/2009	Intel	Intel S3 reduction circuit.	Add R1469, R1471-R1480, C1872-C1877, Q199-Q204, change R624 to 27 ohm, pop Q78, add net DDR_HVREF_RST_GATE from U36.B36, CPU1.5V_S3_GATE from U36.B37, change CPU VDDQ net name to +1.5V_CPU_VDDQ	X01
2	40	HW	6/30/2009	COMPAL	Board ID	R98 change to 130k ohm	X01
3	43	HW	6/30/2009	COMPAL	for derating concern	Change R1001 from 82 to 150 ohm	X00
4	8	HW	6/30/2009	Intel	Follow CRB by Intel request	R1286 needs to change to 0-ohm	X00
5	39, 40	HW	6/30/2009	COMPAL	MEMO implementation	de-pop R1319, R595	X00
6	8	HW	7/01/2009	Intel	Intel S3 reduction circuit.	Change R879 to 2k, R880 to 1.1k, add U141	X01
7	55	HW	7/01/2009	COMPAL	Rdson concern by ADC	Change Q55/Q58/Q59/Q183 to SI4164	X01
8	8, 42, 47	HW	7/02/2009	Intel	Intel S3 reduction circuit.	Add R1481-R1484, Q205, Q206, Q207, C1877, PR428, change R879 to 1.5k, R880 to 750 ohm, change net DDR_HVREF_RST_GATE to U36.A34, CPU1.5V_S3_GATE to U36.A36	X01
9	30	HW	7/03/2009	COMPAL	+3.3V_LAN enable control follow M09	De-pop R47	X01
10	12	HW	7/03/2009	DELL	Intel S3 reduction circuit.	De-pop R1473, separated +V_DDR_REF_Q for each SO-DIMM, The dividers should use 1% part replacement for 5% as well	X01
11	8, 12, 13, 14, 42	HW	7/08/2009	DELL	Intel S3 reduction circuit.	Add C1879, PJP57, PJP58, R1485, R1486, change Q205 to PMST3904, Q200 to AO4728L, R624 to 22 ohm, connect RUN_ON_CPU1.5VS3# to Q78.2 Q204.2,	X01
12	8	HW	7/09/2009	COMPAL	Intel S3 reduction circuit.	Add R1487	X01
13	24	HW	7/14/2009	COMPAL	Nvidia BIA PWM implementation	POP R165, de-pop R166	X01
14	8, 15	HW	7/14/2009	COMPAL	Depop all related components where are located at 0 Z-hight area	Depop JXDP1, JXDP2, JDEG1, JP2 circuit	X02
15	24	HW	7/14/2009	DELL	ENVDD_PCH connection	Remove D91 and connect ENVDD_GPU to 5028.pin B38	X02
16	19	HW	7/14/2009	Intel	GPIO1, 6, 7 PU if not being used	Add R1489-R1491	X02
17	24	HW	7/14/2009	COMPAL	Camera need to be changed from 7 to 8 pin	Change JEDP1 pin definition	X02
18	37	HW	7/16/2009	COMPAL	JTP1, JBI01 power gnd pins redefined	Change JTP1, JBI01 pin definition	X02
19	37, 40	HW	7/16/2009	SMSC	LAT_ON_SW# needs to be added a 1uF cap	Add @C1884, C1885, R1492, change R560 to 100K, JIO.32 change to LAT_ON_SW_BTN#	X02
20	23	HW	7/16/2009	SMSC	R594 has to be a group with R3P circuit	De-pop R594 for M09 fan solution	X02
21	31	HW	7/17/2009	Braodcom	Found both PD R898 and PU R485 pop	depopulate R898 for normal operation	X02
22	40	HW	7/17/2009	COMPAL	Board ID	Change R98 to 62K ohm.	X02
23	31	HW	7/17/2009	Braodcom	RFID disable circuit remove	Remove R1062-R1065	X02
24	28, 37	HW	7/17/2009	TI	Please reserve 1 resistor and connect connector (Pin1 or 7) to MAX4951	Add R1493 & R1494 at pin 18 of U95 & U96 for power saving	X02
25	31	HW	7/17/2009	Braodcom	+SC_VCC Capacitor (C718) Value Change	Broadcom has recommended changing the value of C718 from .47uF to 220nF	X02
26	42	HW	7/17/2009	COMPAL	Backdrive EA Failure on Margaux/ASICs	Pop R625 and Q79	X02
27	24	HW	7/17/2009	DELL	eDP repeater change to SN75DP119.	update U46 circuit for eDP repeater	X02
28	23	HW	7/17/2009	COMPAL	R3P circuit by SMSC request	R536 depop for 3P FAN, R1457 change to 0 ohm, R138 change to 27K ohm	X02
29	21	HW	7/17/2009	Intel	The PLLs aren't used in a DIS system	De-pop C105 & C106	X02
30	33	HW	7/17/2009	TXC	EA result	C514, C515 have to change to 22pF	X02
31	36, 39	HW	7/22/2009	DELL	Reconnect the signal UWB_RADIO_DIS#	connect UWB_RADIO_DIS# from EC5028.A56 to MINI3.20	X02
32	23	HW	7/22/2009	DELL	Change FAN solution to M09	De-pop R3P circuit component & pop M09 solution	X02
33	42	HW	7/23/2009	COMPAL	de-rating result fail	Change Q61 from AO4456 to NTMS4107	X02
34	26	HW	7/23/2009	PERICOM	Pericom 8200 SW issue DVI can not work	Add R1495 to pull up U9 pin 23 (P1_OC0) of Pericom 8200 SW with a 4.7K ohm resistor to 3.3_RUN	X02
35	24	HW	7/23/2009	TI	eDP repeater DP119 vender review request	reserve pop option for X1EDP & DP119, change PU/PD to 20K.	X02
36	28	HW	7/23/2009	DELL	We will never disable the power to HDD redriver, go back connected in SSI	Remove R1493 & delete SATA_PWSAVE	X02
37	18, 28, 40	HW	7/23/2009	DELL	There has been some confusion due to the net name showing active low	change net name HDD_FALL_INT1# to HDD_FALL_INT to show correct polarity	X02

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Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
38	29	HW	7/24/2009	DELL	use the SiTimes part due to the cost savings	change X4 from TXC to SiTimes.	X02
39	31	HW	7/24/2009	Braodcom	connect pin-L10 of U32 to pin-5 of U33, and disconnect pin-D2 from pin-5 of U33	pop R775, de-pop R776	X02
40	33	HW	7/24/2009	COMPAL	fixed SD/MMC Clock overshoot and undershoot	Changing R8 dumping from 0-ohm to 10-ohm	X02
41	31	HW	7/24/2009	Braodcom	BCM5880 Leakage Issue on Margaux	Add Q208,Q209,R1496 circuit to fix.	X02
42	37, 39	HW	7/27/2009	DELL	ESATA repeater power saving	Add a 0 ohm jumper between EN pin and VDD, but no-pop it. Then connect the EN pin to 5028.A47 with a 0 ohm jumper that is popped.	X02
43	39	HW	7/27/2009	DELL	Sometimes VGA_ID_DISC and VGA_ID_UMA both read as low	Change R875 and R881 to +3.3V_ALW rail.	X02
44	23	HW	7/27/2009	SMSC	SMSC review feedback	The pull-up source of the R150 should be changed to +VCC_4002	X02
45	31	HW	7/27/2009	NXP	Better for decoupling noise	Change C1015 ,C633 to 10pf	X02
46	36	HW	7/27/2009	DELL	For PCH GPIOs rail.	PCIE_MCARD3_DET# & USB_MCARD1_DET# pull-ups (R458 & R438) need to change from +3.3V_ALW_PCH rail to +3.3V_RUN rail	X02
47	11	HW	7/27/2009	Intel	The VCC_Core de-coupling requirements for Clarksfield XE processor	C60-64, C66 change to 470uF/4mOhm, C44-C59 change to 22uF(0805)	X02
48	23, 40	HW	7/29/2009	SMSC	per SMSC 5045 AN 19.6, 4002 AN 16.11	R541, R554, R1492 should be 10K, R147 should be populate, Add R1498	X02
49	35	HW	7/29/2009	DELL	Braidwood has been removed from Ibex Peak platforms	De-pop JBW1 & R1453	X02
50	39	HW	7/29/2009	DELL	GPIO MAP update	change net name from RESERVED FOR ESATA to EN_ESATA RPTR	X02
51	42	HW	7/29/2009	Compal	By Intel S3 timing concern	reserve R1500 & @R1499 0 ohm for Q206.2 from RUN_ON_CPU1.5VS3# & RUN_ON_ENABLE#	X02
52	37	HW	7/30/2009	Intel	Intel continues to recommend that all pre-production and production motherboards include common mode choke footprints to enable a stuffing option in case a choke is required to pass EMI testing	Add @L30, @L31, R424-R427	X02
53	31	HW	7/30/2009	Broadcom	Broadcom schematic review request	pop R537; Remove C647, C641,R634, R498, R898; Add @C1886 & @C1887; Remove L73, R631, C1026, R494, Short net RFREADER_TXN1_PI_R to RFREADER_RXP_C; Remove C642, C640, change R487, R496 to 0 ohm; Add @R1501; de-pop R496 & R497; JCS1 pin2 & pin3 and pin4 & pin5 should be short to carry higher current.	X02
54	31	HW	7/30/2009	Compal	Solve smart card cage vender reverse pin definition.	Reverse JSC1 pin definition	X02
55	31	HW	7/31/2009	Broadcom	Broadcom schematic review request	The pin1 of R497 and R496 should be connected to GND	X02
56	15, 40	HW	7/31/2009	KDS	KDS crystal EA result	change DIS C296 & C297 to 12pF, C674, C675 to 33pF	X02
57	8, 15	HW	7/31/2009	Intel	For XDP debug concern	Populate all the resistors and leave out the connector	X02
58	27	HW	8/03/2009	Compal	CRB EA result	C251-C253 to 4.7pF; L61-L63 to 10-Ohm Bead ; De-pop C996, C518, C390	X02
59	23	HW	8/03/2009	Compal	If populate R147 PU resistor for THERM_STP#, it will impact ALWON signal at MEC 5045	De-pop R147	X02
60	15, 40	HW	8/04/2009	KDS	KDS crystal EA result	change DIS C427 change to 200 ohm, C514, C515 back to 15P and change X3 from CL=16pF to CL=12pF	X02
61	8	HW	8/05/2009	DELL	fix the Intel S3 power up timing	change C1877 from 0.01uF to 0.22uF 0402 cap.	X02
62	28, 37	HW	8/06/2009	Compal	Per ESATA/SATA EA result	pop R1301, R1304, de-pop R1298, R1308	X02
63	28	HW	8/06/2009	Compal	ODD_DET# PU from +5V_MOD to +3.3V_RUN	connect R1239.1 to +3.3V_RUN & pop R1239	X02
64	42	HW	8/06/2009	SMSC	Watch dog timer may not be resetED when 4002 VDD_PWRGD is not completely at Logic Low	Pop R616 to 39 & pop Q72	X02
65	30	HW	8/10/2009	Intel	Remove the VCT trace	Remove @R562, @C41	X02
66	35	HW	8/10/2009	DELL	Braidwood Removal on RAM	Remove @JBW1, @C1851, @R1452, @R1453, @C1852, R1411	X02
67	31	HW	8/11/2009	Broadcom	Broadcom review request	Remove @R1061, Change C718 value to 470pF, change C646 value to 220pF. pin2 of R470 should have a 0ohm but de-pop resistor to USB_GPIO27 net.	X02

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Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
68	8	HW	8/11/2009	Intel	Intel review request	add @R1504 for DDR3_DRAMRST# CPU PD & add C1888 for PM_DRAMRST# to slow down gate of FET	X02
69	33	HW	8/11/2009	Richo	Change pop option for R5U242	Change C21 from 10U to 47U, change R46 to C1889 (1uF)	X02
70	38	HW	8/11/2009	Compal	For DVI DOCK issue	Add R1505-R1508	X02
71	21	HW	8/12/2009	Intel	Follow CRB rev 1.6 schematic	No stuff C111 and C112	X02
72	31	HW	8/12/2009	Broadcom	Per Broadcom request	pop R496 & R497 (0 ohm)	X02
73	31	HW	8/12/2009	Compal	Smart card EA result	change R772 to 47 Ohm for resolving SC_CLK Rise/Fail timing issue	X02
74	8	HW	8/12/2009	Intel	Follow Intel S3 white paper rev0.9	pop R1504 & change C1888 to 470pF	X02
75	37	HW	8/12/2009	DELL	add a pull-up to +3.3V_ALW for IO_LOOP	change R835-1 from +3.3V_ALW_PCH to +3.3V_ALW	X02
76	37	HW	8/12/2009	Compal	disconnect IO & DOCK VCT	rename IO VCT to +LOM_VCT_IO & reserve C712 pad for test.	X02
77	31	HW	8/13/2009	Broadcom	Per Broadcom request	need to have 4.7K pull-up to 3.3V_ALW for BCM5882 pin-C1 "RSTOUT_N"	X02
78	8	HW	8/13/2009	DELL	Avoid a glitch for DDR_HVREF_RST_GATE, please add a 1.1K 1% no-stuff pull-up to +1.5V_CPU_VDDQ rail on the PM_DRAM_PWRGD_R signal for a back-up option	change C1888 to 0.1u, add @R1511 for PM_DRAM_PWRGD_R	X02
79	8,45	HW	8/13/2009	DELL	CPU detection since the edge diode has been removed from M'09	Add R1512 for CPU_DETECT# and connect JCPU.AH24 to U36.B18	X02
80	37	HW	8/14/2009	DELL	Invert the EN_ESATA_RPTR signal and connect this to SATAGP4/GPIO16	Add @R1513 & @Q210, pop R1494 and de-pop R1497, change net name from GPIO16 to EN_ESATA_RPTR#	X02
81	33	HW	8/14/2009	Compal	Solve 1394 impedance issue	Change R399, R400, R401, R403 to 54.9 ohm.	X02
82	37	HW	8/14/2009	Compal	EMI solution	pop L30 & L31, de-pop R424-R427	X02
83	38	HW	8/17/2009	NV	Solve DIV issue	Add Q211-Q216, R1514-R1521 for SW DDC PU.	X02
84	11	HW	8/17/2009	Compal	PWR team request	de-pop C66, C64, change C60-C63 to 330uF, C44-C59 to 10uF, can meet Intel spec.	X02
85	55	HW	8/18/2009	NV	Reserve crystal for 27M.	add @R1522, @y7, @C1890, @C1891	X02
86	26	HW	8/19/2009	Pericom	8200 pin 8,9 add cpas to minimize noise	Add C1597 & C1598	X02
87	29	HW	8/19/2009	COMPAL	EMI solution	C676 to 150pF and R1295 to L4 (220 ohm), POP C1121-C1124, C1145-C1148	X02
88	33,34	HW	8/20/2009	COMPAL	EMI solution for SD CLOCK & EXP card USB	R8 change to 22 ohm, pop L64 & depop R791, R792	X02
89	11	HW	9/11/2009	DELL	To meet Intel spec	C60-C63, Margaux DIS-->330uF, Asics/Asics II-->470uF	X02
90	55	HW	9/11/2009	DELL	27M crystal for NV	add Y7, C1890, C1891, R1522, R1417, de-pop R617, R1317, R43, R39	X02
91	21	HW	9/11/2009	Intel	Intel request	de-pop C39, C610	X02
92	31	HW	9/11/2009	Broadcom	Broadcom review feedback	change C718 from 470p to .47u, C646 from 220p to .22u	X02
93	30	HW	9/11/2009	Intel	Follow Intel document request	change R1502 to C427 10pF, C475, C476 to 33pF	X02
94	35	HW	9/11/2009	Compal	Add PD 10k for Minicard PWR	Add R1523-R1525	X03
95	31	HW	10/23/2009	Compal	Smart card connector DFM issue	change JSC1 type (the same with Rothschild)	X03
96	54	HW	10/23/2009	NV	JTAG TRST#: Populate R1372 with 1K resistor.	Change R1372 to 1K and pop	X03
97	40	HW	10/23/2009	COMPAL	Board ID	Change R98 to 4.3K ohm.	X03
98	17	HW	10/23/2009	Intel	Intel schematic check list 2.0 request	R268 change from 1k ohm to 10k ohm, R672 change from 0.5% to 5%	X03
99	40	HW	10/23/2009	SMSC	SMSC review feed back	R561 and R1046 are too large it is recommend that no PU/PD be larger than 100K	X03
100	12,42	HW	10/23/2009	COMPAL	avoid double bleed off	+3.3V_M, +3.3V_RUN, +1.5V_CPU_VDDQ power plane discharge circuit have been pop, de-pop R612, R607, R1471.	X03
101	36	HW	10/23/2009	DELL	support WiMax LED status	Need to populate R840	X03
102	16,32	HW	10/25/2009	COMPAL	Change R910 placement	Please put R910 close to PCH not TCM chip	X03
103	41	HW	10/25/2009	COMPAL	Touch Pad PU need to move from 5V to 3V	R613, R614 change power rail from +5V_ALW to +3.3V_ALW	X03
104	31	HW	10/28/2009	Broadcom	For 5882-B0 request	L71, L72 68nH, 2%, 400mA; C1070, C1071 1500pF, 2%, 50V; C1886, C1887 150pF, 2%, 50V	X03
105	29	HW	10/28/2009	IDT	create a low pass filter with the pole set at 36kHz to filter out of band noise	de-pop C1066 & C1067, R1090, R1089 ; R340 & R342, R1091 & R1092 change to 2k, add C1894-C1897 1000pF.	X03
110	29	HW	10/28/2009	COMPAL	ME request for JSPK1 swap	JSPK1 Pin 2 and pin 4 swap, pin 3 and pin 5 swap	X03

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Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
111	8,12,13,15,16,28	HW	10/29/2009	DELL	MEM SMBus design needs to change	Move Q190 connection, add R1528,R1529, add net name DDR_XDP_CLK/DAT	X03
112	31	HW	10/29/2009	DELL	smart card clock resistor	Change R772 from 47 ohm to 22 ohm	X03
113	37	HW	10/29/2009	COMPAL	EMI concern	pop R15 with 10 ohm and C15 with 10pF	X03
114	36	HW	10/29/2009	COMPAL	USB MCARD2_DET# change to +3.3V_ALW_PCH	R447 pull up should change to +3.3V_ALW_PCH	X03
115	40	HW	10/29/2009	COMPAL	avoid RESET_OUT# double PD	de-pop R5	X03
116	15	HW	11/02/2009	COMPAL	EMI, RF team concern	pop C300, C302	X03
117	24	HW	11/04/2009	COMPAL	LCD power sequencing issue	change R161 from 470 to 130 ohm .	X03
118	37	HW	11/05/2009	COMPAL	EMI concern	Change choke vender from Murata to Delta on L30,L31	X03
119	29	HW	11/05/2009	COMPAL	RF team concern	X4 change from Sitime to TXC	X03
120	15	HW	11/05/2009	COMPAL	RTC issue	Y1 & Y4 change from 30ppm to 10ppm.	X03
121	15	HW	11/05/2009	COMPAL	For flash ROM EOL issue	U13 change from W25X32 to W25Q32	X03
122	19	HW	11/09/2009	DELL	PCH driving the siganl low at GPIO15 initial	add R1530 2.2K PU resistor to +3.3V_ALW_PCH on the SIO_EXT_WAKE# signal.	X03
123	55	HW	11/10/2009	COMPAL	By power team request	Please pop 22u*2 at original reserved location C1722 and C1723.	X03
124	39	HW	11/10/2009	DELL	add a 10K 5% PU to +3.3V_RUN on ME_FWP	Add R1531	X03
125	24, 53	HW	11/11/2009	NV	By NV review request	pop R180, de-pop R181; change GPU booting voltage setting, GPU_VID1: @Q4, 7@R1374, 8@R1361, GPU_VID4:pop R1379, GPU VID2: 7@R1357, 8@R1360, GPU_VID3: pop R1354	X03
126	15,28	HW	11/13/2009	COMPAL	To cut redundant trace for SMBUS	Add @R1532/R1533/R1534/R1535	X03
127	19	HW	11/17/2009	Intel	By Intel check list request	Add R1544 for PCH GPIO34	X03
128	41	HW	12/24/2009	Compal	To solve touch pad ESD issue	Change L41 and L42 to R1545 & R1546 with 100 ohm.	X03
129	29	HW	12/24/2009	Compal	RF noise issue concern	change Sitime 12MHz oscillator X4 to driver strength 1x	X03
130	15	HW	12/24/2009	Intel	Follow Intel check list rev2.0	Change R224 to tolerance from 5% to 1%	X03
131	36	HW	12/24/2009	DELL	Wimax LED abnormal operation.	de-pop R1409	X03
132	11	HW	12/24/2009	Compal	PWR team request	Change C60-C63, add C66 to 330uF for Ascis/AsicsII	X03
133	38	HW	12/24/2009	Compal	Simplo battery slice EMI issue	Add C1898 and C1899(Depop,reserve for EMI test)	A00
134	31	HW	12/24/2009	Braodcom	By Broadcom request	Change L71,L72 from 68nH to 150nH, C1070,C1071 from 1500pF to 390pF.C1887, C1888 from 150pF to 390pF.	A00
135	40	HW	12/30/2009	DELL	Board ID	Change R98 from 4.3K to 1K for A00	A00
136	33,34	HW	12/30/2009	COMPAL	Change R5U242 to rev ES3	Change U94 from ES2 to ES3	A00
137	8,15	HW	12/30/2009	Intel	De-pop XDP & JTAG resistor	de-pop C19,C20,R6,R7,R68,R19,R3,R1153,R1156,R1157,R66,R1241,R780-R785, R22,R24,R78,R91,R101-R116,C1375,R69,R118,R123,R804,R807,R805,R806,R1281, R1282,R1315	A00
138	28,37	HW	01/15/2010	COMPAL	Change Esata repeater for power save	Change U95 U96 from 412 to 412A	A00
139	27	HW	01/15/2010	COMPAL	EMI concern	Change L61-L63 to 27nH, C251-C253 to 2P, pop C390, C518, C996	A00
140	11	HW	01/18/2010	COMPAL	No stuff MLCC caps to fix Acoustic noise	de-pop C46, C48, C50, C52	A00
141	15	HW	01/21/2010	COMPAL	For factory to do JTAG test	Pop R123, R804-R807, R1281, R1282, R1315	A00

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Version Change List (P. I. R. List)

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	50	+VCORE_DSC	6/12	Dell	Adjust Vimon	ASICS and ASICS2 Change PR184 to 7.5K	
2	62	Graphic ASICS	6/19	TI	Adjust compensation	DSC Change PR370 to 43.2K, PR372 to 357K, PR373 to 22.6K, PC 306 to 0.022uF ASICS/ASICS2 Change PR370&PR363 to 43.2K, PR372&PR362 to 357K, PR373&PR359 to 22.6K, PC306&PC297 to 0.022uF	
3	62	Graphic ASICS	6/19	TI	Droop circuit add cap for filtering the noise	DSC, ASICS and ASICS2 Change PD26 to PC327 68pF	
4	62	Graphic ASICS	6/19	TI	Adjust to operate single phase	DSC PR364,PR365,PC304,PC307 unpop and add PR421&PR422 0_ohm to avoid PIN3,4 floating Add PR420 0_ohm connect +5V_RUN to control PSI# for Single phase	
5	62	Graphic ASICS	6/30	TI	add 0_ohm for cut power rail to debug	Add PR423 PR424 PR425 PR426	
6	62	Graphic ASICS	7/01	TI	CSS GC logic wrong issue	Add PR427 180_ohm to GND	
7	62	Graphic ASICS	7/2	ADC Guangyong 090612	Change PR374 and PC310 reference GND to GPUVSS	connect PR374 and PC310 pin1 to GPUVSS	
8	50	+VCORE	7/14	Dell / intersil	change Cisense GND to VSUM-	PC174 PC175 PC176 pin2 connect to VSUM-	
9	52	Selector	7/16	Compal	Add 1M_ohm pull down to fix ACAV_IN_NB oscillation when battery mode S5	Add PR429	
10	52	Selector	7/22	TI	new version CD3301 (PG2.1) dont need PD21	un-pop PD21 add PR430	
11	53	Selector	7/22	TI	DOCK_AC_OFF_EC floating issue	add PR431	
12	62	Graphic ASICS	8/3	TI	Pin38 V5FILT is output pin. don't need to connect to power rail.	Delete connection to +5V_RUN	
13	45 / 49 50 / 51	+5V/+3.3V +1.1VTT +Vcore charger	8/11	Compal / EMC	solve EMI issue	pop PC32 PC33 PR36 PR39 PL15 PC155 PC165 PC182 PR153 PR173 PR191 PL24 add PL27	
14	50	+VCORE	8/13	Intersil	Adjust Imon and Load line	PR195 change to 619, PR175 change to 2.43K, PR387 change to 15K PR184 change to 8.45K, add PR432 34.8K and PQ75 (PR432 and PQ75 un-pop Merle 0820) PC171 change to 0.068uF, PC183 add 0.022uF	
15	49	+1.1VTT	8/13	DELL	Improve ESD	PQ74 change SB57002528L to SB00000DH0L	
16	51	Charger	8/13	Dell / TI	change PU13 to BQ24747 to improve IC ESD to change strong	change PU13 from SA00001RK0L to SA00003KX0L	
17	48	+1.05V_VM_DSC	8/13	TI	change from TPS51318 to SN0905030	change PU8 to SN0905030	
18	45	+5V/+3.3V	8/17	TI/Compal	adjust OCP setting	Change PR31 from 243K to 294K, PR32 from 232K to 261K(DSC) 158K(ASICS)	
19	46	+1.5V_MEM_DSC	8/17	TI/Compal	adjust OCP setting	Change PR71 from 61.9K to 39.2K	
20	50	+VCORE	0820	Dell EMC	Add 2 2200pF caps. (jerry lin 0820)	Add PC328 PC329	

Version Change List (P. I. R. List)

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