COMPAL CONFIDENTIAL

MODEL NAME : *PAL51/53*

PCB NO : *LA-6592P (DAA00001V10)*

BOM P/N : *43192931L01*

GPIO MAP: E3 Master GPIO Map10102010.xlsx

E3 MACALLAN 14" SG

rPGA Sandy Bridge +
FCBGA PCH Cougar Point-M

2011-1-13

REV : 1.0(A00)

@ : Nopop Component

CONN@ : ME controll and stuff by default

MB Type	BOM P/N	
TPM EN/ TCM DIS	43192931L01	1@ 3@
TPM DIS/ TCM EN	43192931L02	2@ 4@
TPM DIS/ TCM DIS	43192931L03	2@ 3@
ATG TPM EN/ TCM DIS	43192931L11	1@ 3@
ATG TPM DIS/ TCM EN	43192931L12	2@ 4@
ATG TPM DIS/ TCM DIS	43192931L13	2@ 3@

MB PCB

Part Number	Description
DAA00001V10	PCB 0FE LA-6592P REV0 M/B DIS

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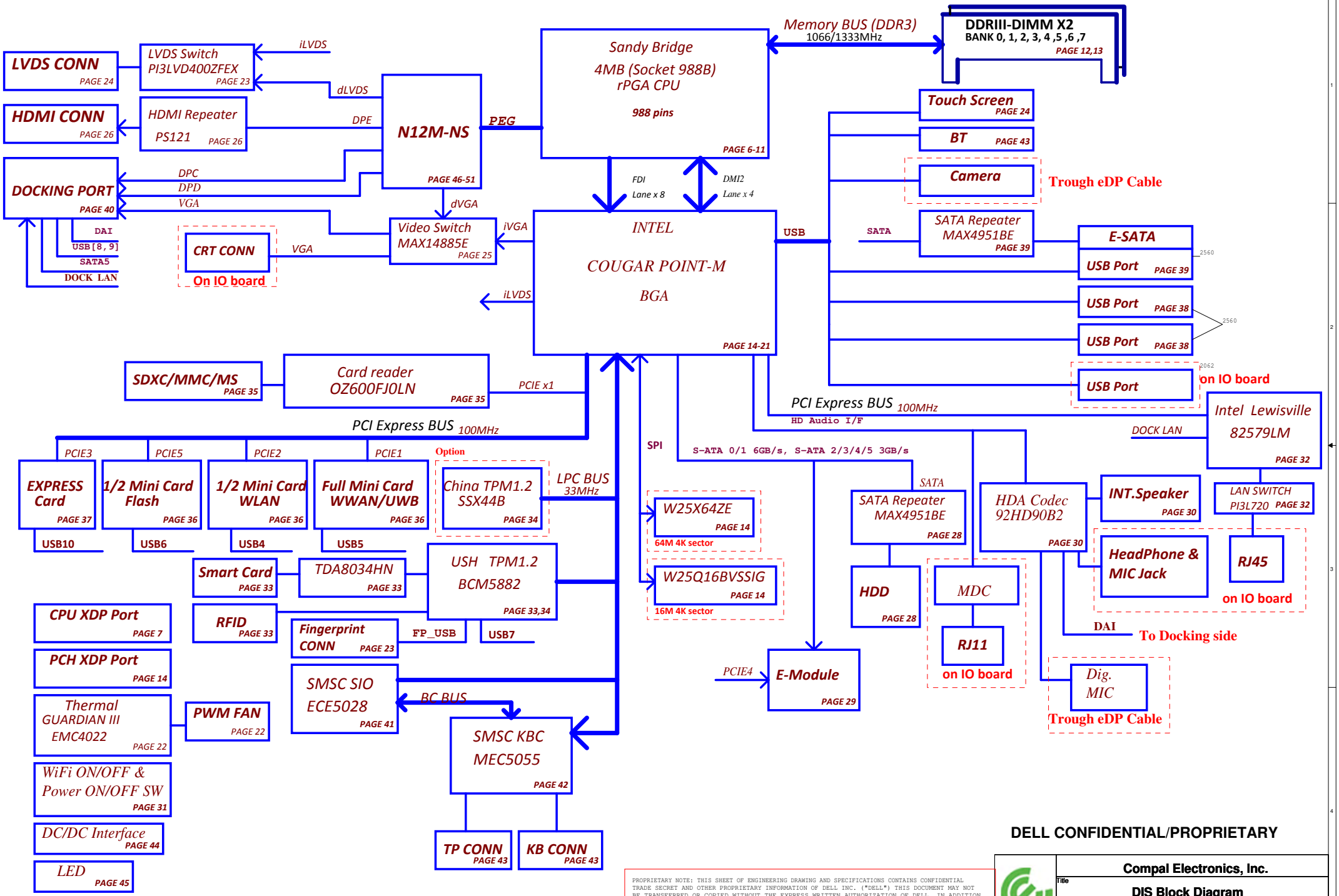
Title: Cover Sheet

Size | Document Number: LA-6592P | Rev: 1.0

Date: Thursday, January 13, 2011 Sheet 1 of 75

Block Diagram Compal confidential Model: PAL51/53



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Title	DIS Block Diagram
Size	Document Number: LA-6592P
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POWER STATES

State \ Signal	SLP S3#	SLP S4#	SLP S5#	SLP A#	ALWAYS PLANE	M PLANE	SUS PLANE	RUN PLANE	CLOCKS
S0 (Full ON) / M0	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON	ON
S3 (Suspend to RAM) / M3	LOW	HIGH	HIGH	HIGH	ON	ON	ON	OFF	OFF
S4 (Suspend to DISK) / M3	LOW	LOW	HIGH	HIGH	ON	ON	OFF	OFF	OFF
S5 (SOFT OFF) / M3	LOW	LOW	LOW	HIGH	ON	ON	OFF	OFF	OFF
S3 (Suspend to RAM) / M-OFF	LOW	HIGH	HIGH	LOW	ON	OFF	ON	OFF	OFF
S4 (Suspend to DISK) / M-OFF	LOW	LOW	HIGH	LOW	ON	OFF	OFF	OFF	OFF
S5 (SOFT OFF) / M-OFF	LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF	OFF

PM TABLE

State \ power plane	+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

Layer No.	Name	Material	Thickness (Material SPEC.) Unit : mil	Thickness (Actuality) Unit : mil
		SolderMask	min 0.4	0.50000
		Add Plating		1.45000
1	Top	Copper foil	0.5oz(0.68)	0.65000
		Prepreg	1080	2.75000
2	GND1	Copper foil	1oz(1.35)	1.35000
		Core	4mil	3.89000
3	IN 1	Copper foil	1oz(1.35)	1.35000
		Prepreg	1506	5.50000
4	GND2	Copper foil	1oz(1.35)	1.35000
		Core	3mil	3.09000
5	IN 2	Copper foil	1oz(1.35)	1.35000
		Prepreg	1506*2	11.50000
6	IN 3	Copper foil	1oz(1.35)	1.35000
		Core	3mil	3.09000
7	VCC	Copper foil	1oz(1.35)	1.35000
		Prepreg	1506	5.50000
8	IN 4	Copper foil	1oz(1.35)	1.35000
		Core	4mil	3.89000
9	GND 3	Copper foil	1oz(1.35)	1.30000
		Prepreg	1080	2.75000
10	Bottom	Copper foil	0.5oz(0.68)	0.65000
		Add Plating		1.45000
		SolderMask	min 0.4	0.50000
	Overall Thickness (1.45mm ± 10%)			57.91000

SATA	DESTINATION
SATA 0	HDD
SATA 1	ODD/ E3 Module Bay
SATA 2	NA
SATA 3	NA
SATA 4	ESATA
SATA 5	Dock

need to update Power Status and PM Table

	USB PORT#	DESTINATION
PCH	0	JUSB2 (Right side 1)
	1	JUSB3 (Right side 2)
	2	JESA1 (Right Side ESATA)
	3	JESA1 (Ext Left Side)
	4	WLAN
	5	WWAN
	6	JMINI3(Flash)
	7	USH->BIO
	8	DOCKING
	9	DOCKING
	10	Express card
	11	Bluetooth
	12	Camera
	13	LCD Touch

USH	0	BIO
	1	NA

DSC DP/HDMI Port	Connetion
Port C	Dock DP port 2
Port D	Dock DP port 1
Port E	MB HDMI Conn

PCI EXPRESS	DESTINATION
Lane 1	MINI CARD-1 WWAN
Lane 2	MINI CARD-2 WLAN
Lane 3	Express card
Lane 4	E3 Module Bay (USB3)
Lane 5	1/2vMINI CARD-3 PCIE
Lane 6	MMI
Lane 7	10/100/1G LOM
Lane 8	None

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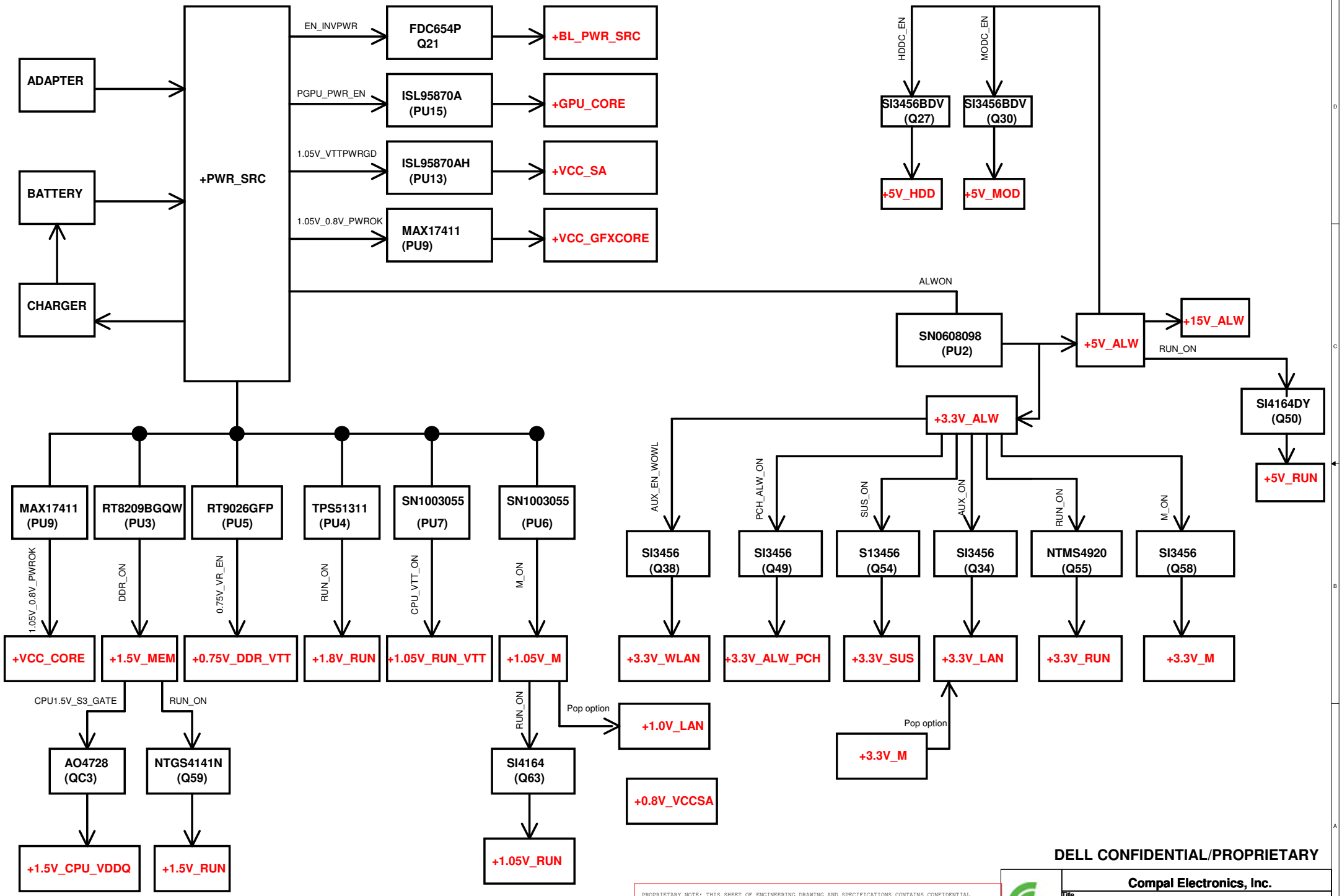
Title: Index and Config.

Size: | Document Number: LA-6592P | Rev: 1.0

Date: Thursday, January 13, 2011 | Sheet 3 of 75



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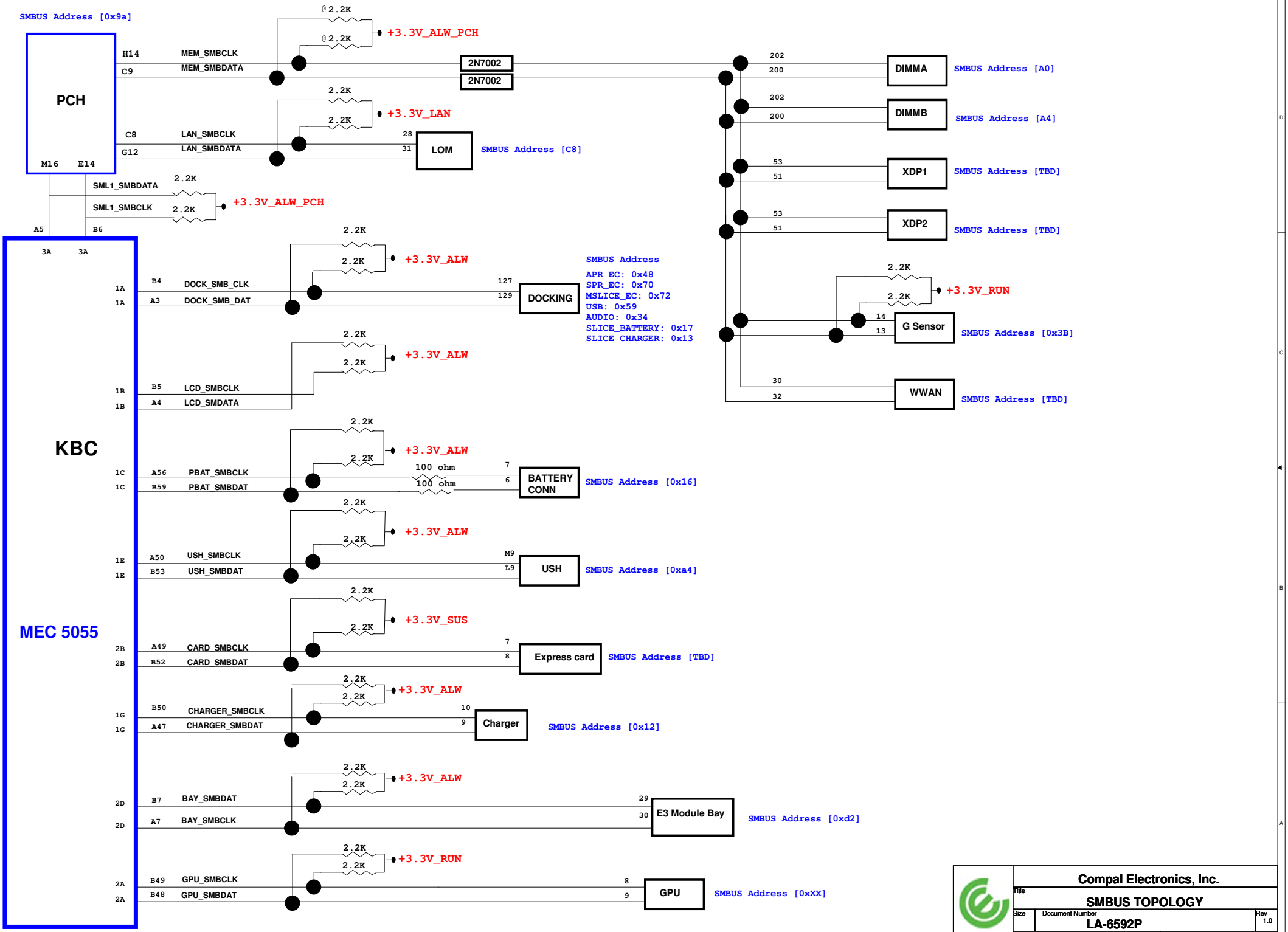
Compal Electronics, Inc.	
Title	Power Rail
Size	Document Number: LA-6592P
Rev	1.0
Date: Thursday, January 13, 2011	Sheet 4 of 75



Compal Electronics, Inc.	
Title	SMBUS TOPOLOGY
Size	Document Number: LA-6592P
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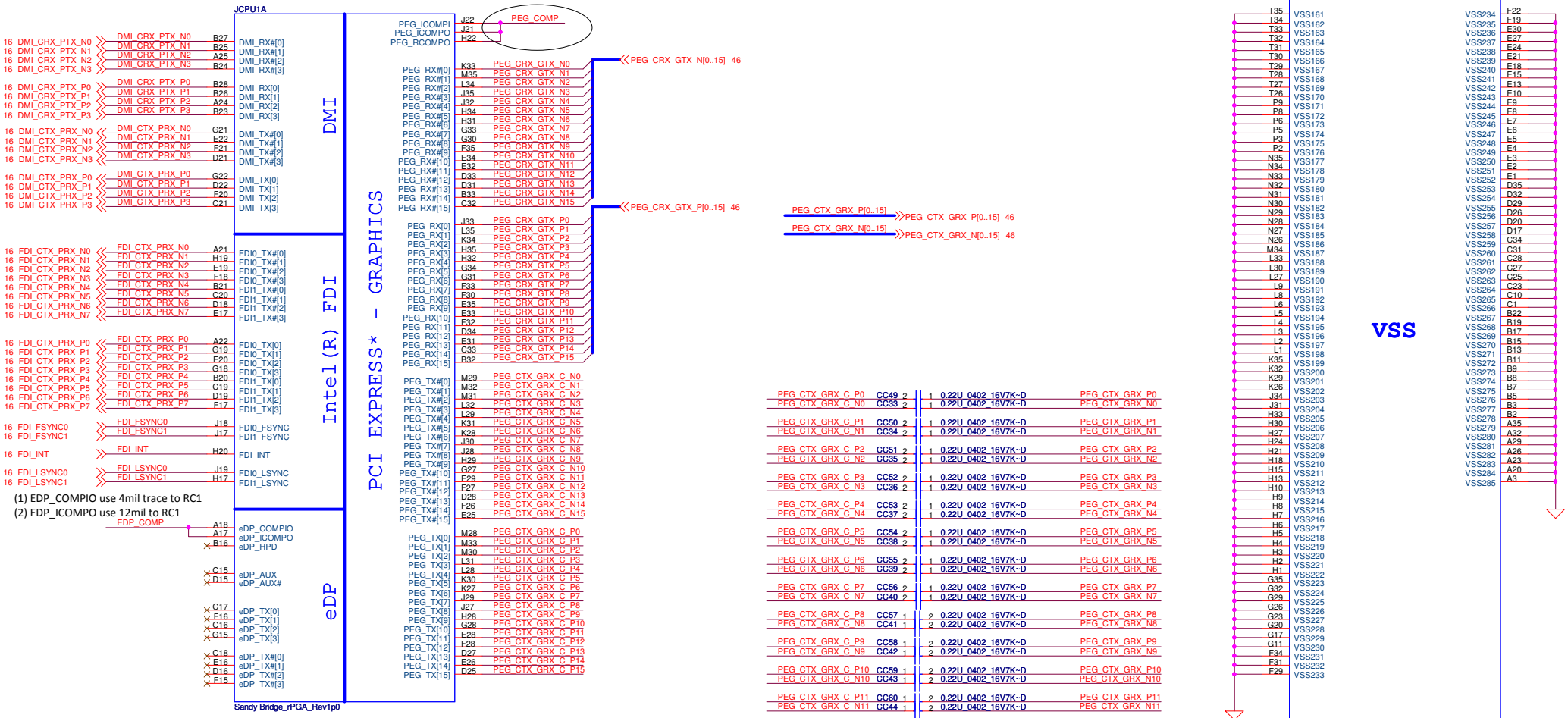
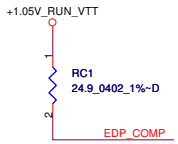
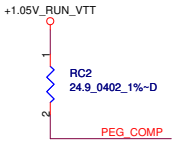
(1)PEG_RCOMPO (H22) use 4mil connect to PEG_ICOMPI, then use 4mil connect to RC2.
(2)PEG_ICOMPO use 12mil connect to RC2



DP Compensation



PEG Compensation



eDP_COMPIO and ICOMPO signals should be shorted near balls and routed with typical impedance <25 mohms

PEG_ICOMPI and RCOMPO signals should be shorted and routed with - max length = 500 mils - typical impedance = 43 mohms
PEG_ICOMPO signals should be routed with - max length = 500 mils - typical impedance = 14.5 mohms

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Compal Electronics, Inc.	
Title	Sandy Bridge (1/6)
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Follow DG Rev0.71 SM_DRAMPWROK topology

+1.5V_CPU_VDDQ
+3.3V_ALW_PCH
CC156 0.1U_0402_16V4Z~D
UC2
41,42 RUNPWROK
RUNPWROK_AND
RC12 200_0402_5%~D
RC28 130_0402_5%~D
PM_DRAM_PWRGD_CPU
RC18 200_0402_5%~D
16 PM_DRAM_PWRGD
74AHC1G09GW_TSSOP5~D
RC64 39_0402_5%~D
11,44 RUN_ON_CPU1.5VS3#
QC1 SSM3K7002FU_SC70-3~D

+3.3V_ALW_PCH
@RC124 1K_0402_5%~D
SYS_PWROK_XDP
+1.05V_RUN_VTT
CC65 0.1U_0402_16V4Z~D
CC66 0.1U_0402_16V4Z~D
Place near JXDP1

+1.05V_RUN_VTT
@JXDP1
XDP_PREQ#
XDP_PRDY#
XDP_OBS0
XDP_OBS1
XDP_OBS2
XDP_OBS3
CFG10
CFG11
XDP_OBS4
XDP_OBS5
XDP_OBS6
XDP_OBS7
GND0 OBSFN_A0 OBSFN_A1 GND2 OBSDATA_A0 OBSDATA_A1 GND4 OBSDATA_A2 OBSDATA_A3 GND6 OBSFN_B0 OBSFN_B1 GND8 OBSDATA_B0 OBSDATA_B1 GND10 OBSDATA_B2 OBSDATA_B3 GND12 PWRGOOD/HOOK0 HOOK1 VCC_OBS_AB HOOK2 HOOK3 GND14 SDA SCL TCK1 TCK0 GND16
GND1 OBSFN_C0 OBSFN_C1 GND3 OBSDATA_C0 OBSDATA_C1 GND5 OBSDATA_C2 OBSDATA_C3 GND7 OBSFN_D0 OBSFN_D1 GND9 OBSDATA_D0 OBSDATA_D1 GND11 OBSDATA_D2 OBSDATA_D3 GND13 ITPCLK/HOOK4 ITPCLK#/HOOK5 VCC_OBS_CD RESET#/HOOK6 DBR#/HOOK7 GND15 TD0 TRST# TDI TMS GND17
CFG16 CFG17 CFG0 CFG1 CFG2 CFG3 CFG8 CFG9 CFG4 CFG5 CFG6 CFG7
CLK_XDP CLK_XDP# XDP_RST#_R XDP_DBRESET# XDP_TDO XDP_TRST# XDP_TDI XDP_TMS
SAMTE_BSH-030-01-L-D-A

The resistor for HOOK2 should beplaced such that the stub is very small on CFG0 net

H_CPUPWRGD
14,16 SIO_PWRBTN#_R
RC51 @RC6 1K_0402_5%~D
CFD_PWRBTN# XDP
H_CPUPWRGD_XDP
CFG0
16,41 SYS_PWROK
RC71 @RC9 1K_0402_5%~D
XDP_HOOK2
SYS_PWROK_XDP
12,13,14,15,28,36 DDR_XDP_WAN_SMBDAT
12,13,14,15,28,36 DDR_XDP_WAN_SMBCLK
RC1251 RC127 0_0402_5%~D
DDR_XDP_WAN_SMBDAT_R1
DDR_XDP_WAN_SMBCLK_R1
XDP_TCLK

+1.05V_RUN_VTT
@RC126 56_0402_5%~D H_THERMTRIP#
@RC128 49.9_0402_1%~D H_CATERR#
RC44 62_0402_5%~D H_PROCHOT#

Keep R1132, R1133, R1136~R119 for slew rate control.

JCPU1B

MISC
C26 PROC_SELECT#
41 CPU_DETECT# AN34 SKTOCC#

CLOCKS
BCLK BCLK# A28 A27 CPU_DMI @RC13 CPU_DMI# @RC15 0_0402_5%~D CLK_CPU_DMI 15 CLK_CPU_DMI# 15
DPLL_REF_CLK DPLL_REF_CLK# A16 A15 CPU_DPLL @RC16 CPU_DPLL# @RC17 0_0402_5%~D CLK_CPU_DPLL 15 CLK_CPU_DPLL# 15

THERMAL
H_CATERR# AL33 CATERR#
18 H_PECI AN33 PECI
42,58,60 H_PROCHOT# RC57 56_0402_5%~D H_PROCHOT#_R AL32 PROCHOT#
Close to JCBU1
22 H_THERMTRIP# @RC129 0_0402_5%~D H_THERMTRIP#_R AN32 THERMTRIP#
place RC129 near CPU

DDR3 MISC
SM_DRAMRST# R8 DDR3_DRAMRST# CPU
@RC48 0_0402_5%~D
QC2 BSS138W-7-F_SOT323-3~D
DDR3_DRAMRST# 12
SM_RCOMP0 AK1
SM_RCOMP1 A5
SM_RCOMP2 A4
Max 500mils
RC50 4.99K_0402_1%~D
DDR_HVREF_RST
CC177 0.047U_0402_16V4Z~D
SM_RCOMP2 --> 15mil
SM_RCOMP1/0 --> 20mil

CLK_XDP @RH107 0_0402_5%~D CLK_CPU_ITP 15
CLK_XDP# @RH106 0_0402_5%~D CLK_CPU_ITP# 15
9 CLK_XDP_ITP @RH109 0_0402_5%~D
9 CLK_XDP_ITP# @RH108 0_0402_5%~D

XDP_RST#_R RC8 1K_0402_5%~D PLTRST_XDP# 17

PWR MANAGEMENT
16 H_PM_SYNC H_PM_SYNC AM34 PM_SYNC
18 H_CPUPWRGD @RC25 0_0402_5%~D VCCPWRGOOD_0_R AP33 UNCOREPWRGOOD
PM_DRAM_PWRGD_CPU V8 SM_DRAMPWROK
PCH_PLTRST#_R AR33 RESET#

JTAG & BPM
PRDY# AP29 XDP_PRDY#
PREQ# AP27 XDP_PREQ#
TCK AR26 XDP_TCLK
TMS AR27 XDP_TMS
TRST# AP30 XDP_TRST#
TDI AR28 XDP_TDI_R
TDO AP26 XDP_TDO_R
DBR# AL35 XDP_DBRESET#_R @RC26 0_0402_5%~D XDP_DBRESET# XDP_DBRESET# 14,16
BPM#[0] AT28 XDP_OBS0_R @RC30 XDP_OBS0
BPM#[1] AR29 XDP_OBS1_R @RC31 XDP_OBS1
BPM#[2] AR30 XDP_OBS2_R @RC33 XDP_OBS2
BPM#[3] AT30 XDP_OBS3_R @RC34 XDP_OBS3
BPM#[4] AP32 XDP_OBS4_R @RC36 XDP_OBS4
BPM#[5] AR31 XDP_OBS5_R @RC37 XDP_OBS5
BPM#[6] AT31 XDP_OBS6_R @RC38 XDP_OBS6
BPM#[7] AR32 XDP_OBS7_R @RC39 XDP_OBS7
0_0402_5%~D
For ESD concern, please put near CPU

15 DDR_HVREF_RST_PCH @RC46 0_0402_5%~D
42 DDR_HVREF_RST_GATE @RC47 0_0402_5%~D

XDP_TDI_R @RC23 0_0402_5%~D XDP_TDI
XDP_TDO_R @RC24 0_0402_5%~D XDP_TDO

PU/PD for JTAG signals
+3.3V_RUN
XDP_DBRESET# RC19 1K_0402_5%~D
+1.05V_RUN_VTT
XDP_TMS RC27 51_0402_1%~D
XDP_TDI_R RC29 51_0402_1%~D
XDP_PREQ# @RC32 51_0402_1%~D
XDP_TDO RC35 51_0402_1%~D
XDP_TCLK RC40 51_0402_1%~D
XDP_TRST# RC41 51_0402_1%~D

Buffered reset to CPU
+3.3V_RUN
+1.05V_RUN_VTT
CC140 0.1U_0402_16V4Z~D
RC4 75_0402_1%~D
UC1
14,17 PCH_PLTRST#
PCH_PLTRST#_BUF
RC10 43_0402_5%~D
PCH_PLTRST#_R
@RC11 0_0402_5%~D
SN74LVC1G07DCKR_SC70-5~D
Open drain buffer

VCCPWRGOOD_0_R
RC130 10K_0402_5%~D
Avoid stub in the PWRGD path while placing resistors RC25 & RC130

SM_RCOMP2
SM_RCOMP1
SM_RCOMP0
RC42 140_0402_1%~D
RC43 25.5_0402_1%~D
RC45 200_0402_1%~D

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Title: Sandy Bridge (2/6)
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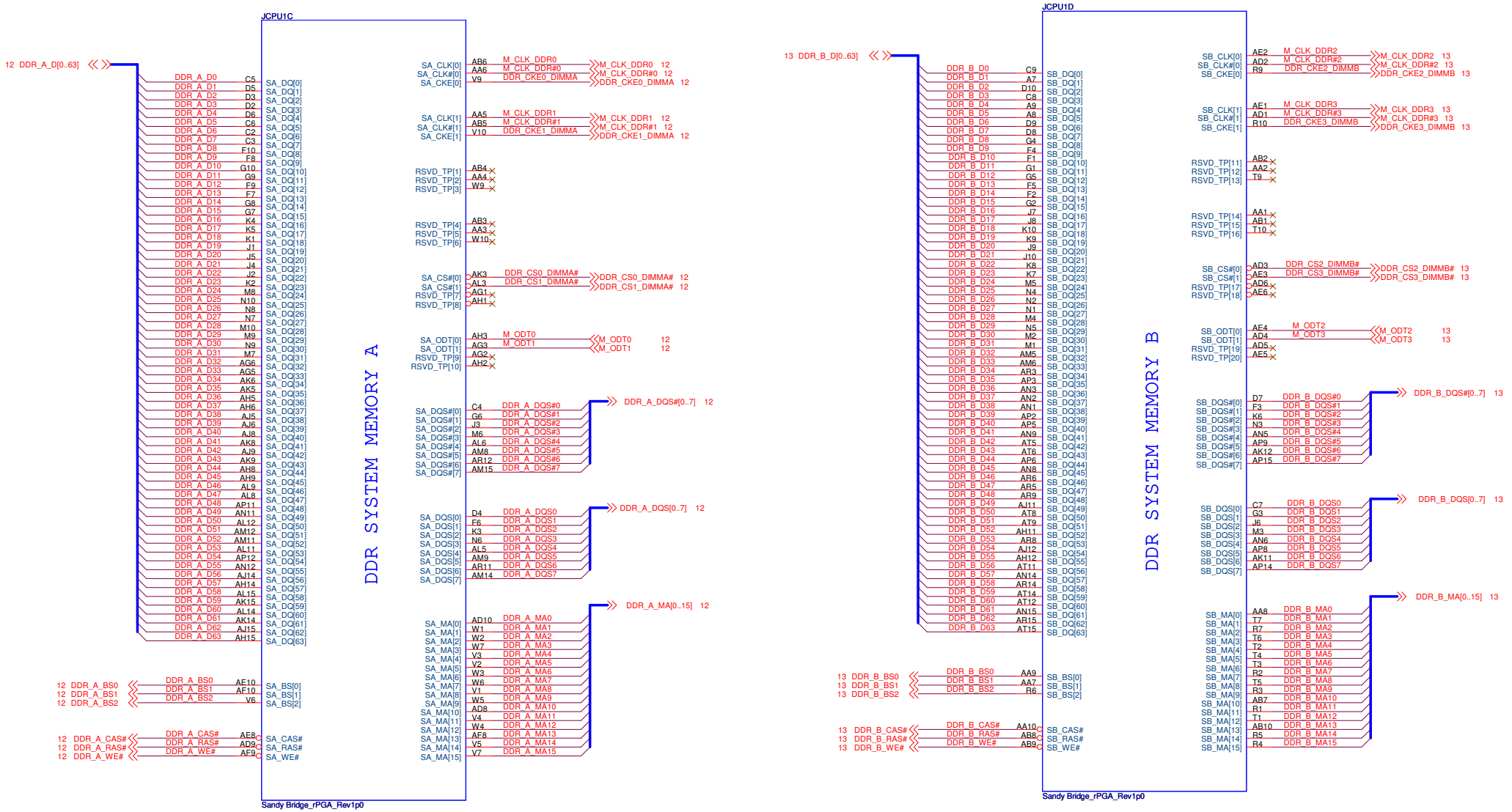
Sandy Bridge_rPGA_Rev1p0



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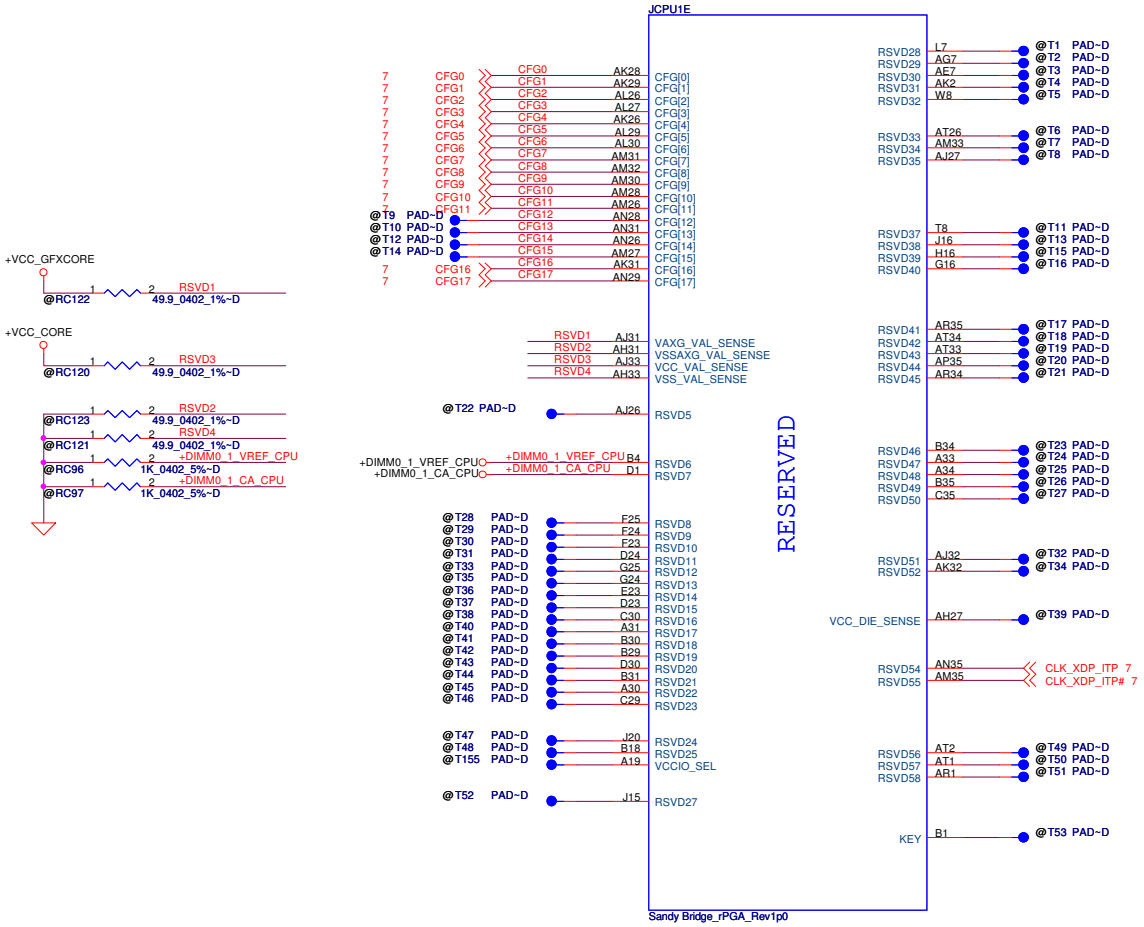
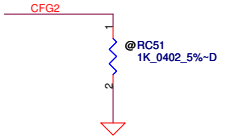
Title: Sandy Bridge (3/6)

Size | Document Number: LA-6592P | Rev: 1.0

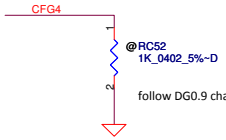
Date: Thursday, January 13, 2011 | Sheet 8 of 75

CFG Straps for Processor

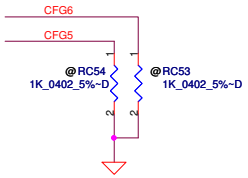




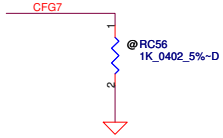
PEG Static Lane Reversal – CFG2 is for the 16x	
CFG2	1:(Default) Normal Operation; Lane # definition matches socket pin map definition 0:Lane Reversed



Display Port Presence Strap	
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

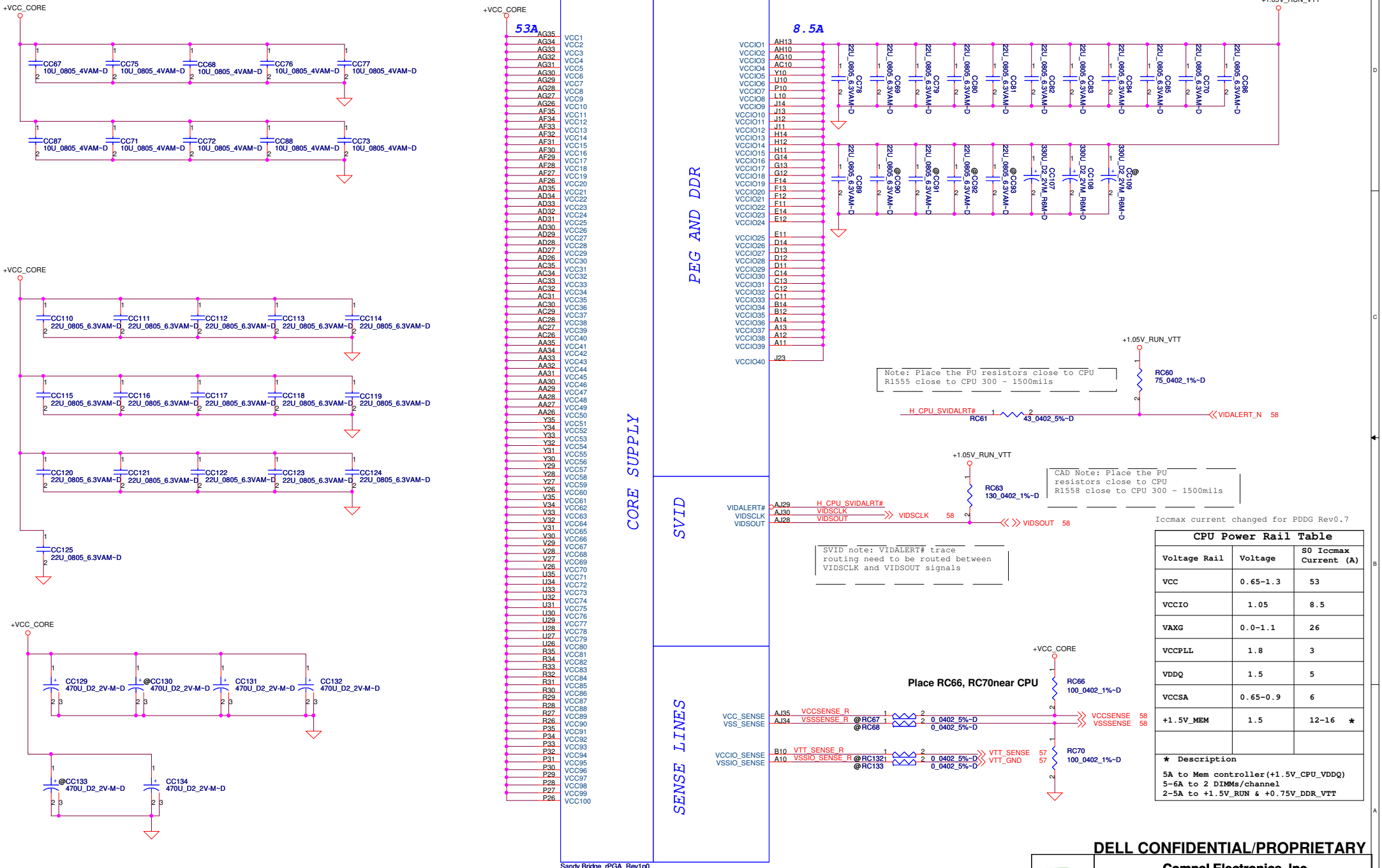


PCIE Port Bifurcation Straps	
CFG[6:5]	11: (Default) x16 – Device 1 functions 1 and 2 disabled 10: x8, x8 – Device 1 function 1 enabled ; function 2 disabled 01: Reserved – (Device 1 function 1 disabled ; function 2 enabled) 00: x8,x4,x4 – Device 1 functions 1 and 2 enabled



PEG DEFER TRAINING	
CFG7	1: (Default) PEG Train immediately following xxRESETB de assertion 0: PEG Wait for BIOS for training

POWER



Iccmax current changed for PDDG Rev0.7

CPU Power Rail Table		
Voltage Rail	Voltage	S0 Iccmax Current (A)
VCC	0.65~1.3	53
VCCIO	1.05	8.5
VAXG	0.0~1.1	26
VCCPLL	1.8	3
VDDQ	1.5	5
VCCSA	0.65~0.9	6
+1.5V_MEM	1.5	12-16 ★

★ Description

5A to Mem controller(+1.5V_CPU_VDDQ)
5~6A to 2 DIMMs/channel
2~5A to +1.5V_RUN & +0.75V_DDR_VTT

Compal Electronics, Inc.

Title: Sandy Bridge (5/6)

Size | Document Number: LA-6592P | Rev: 1.0

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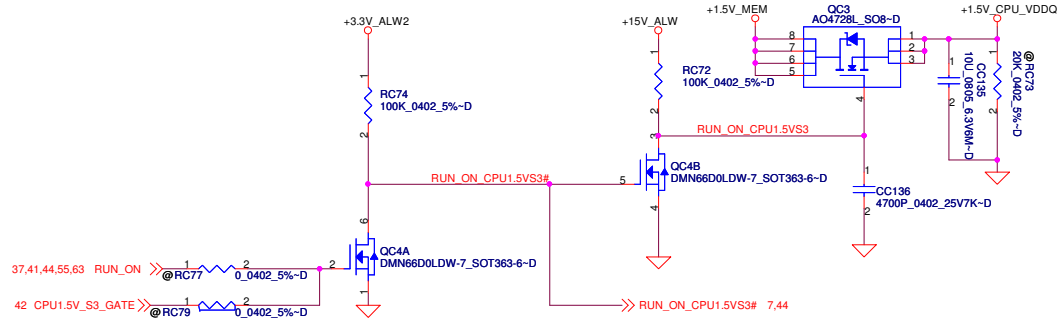
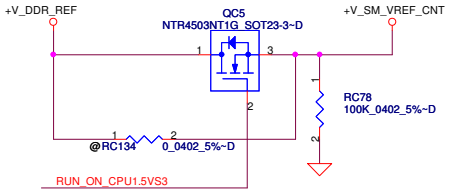
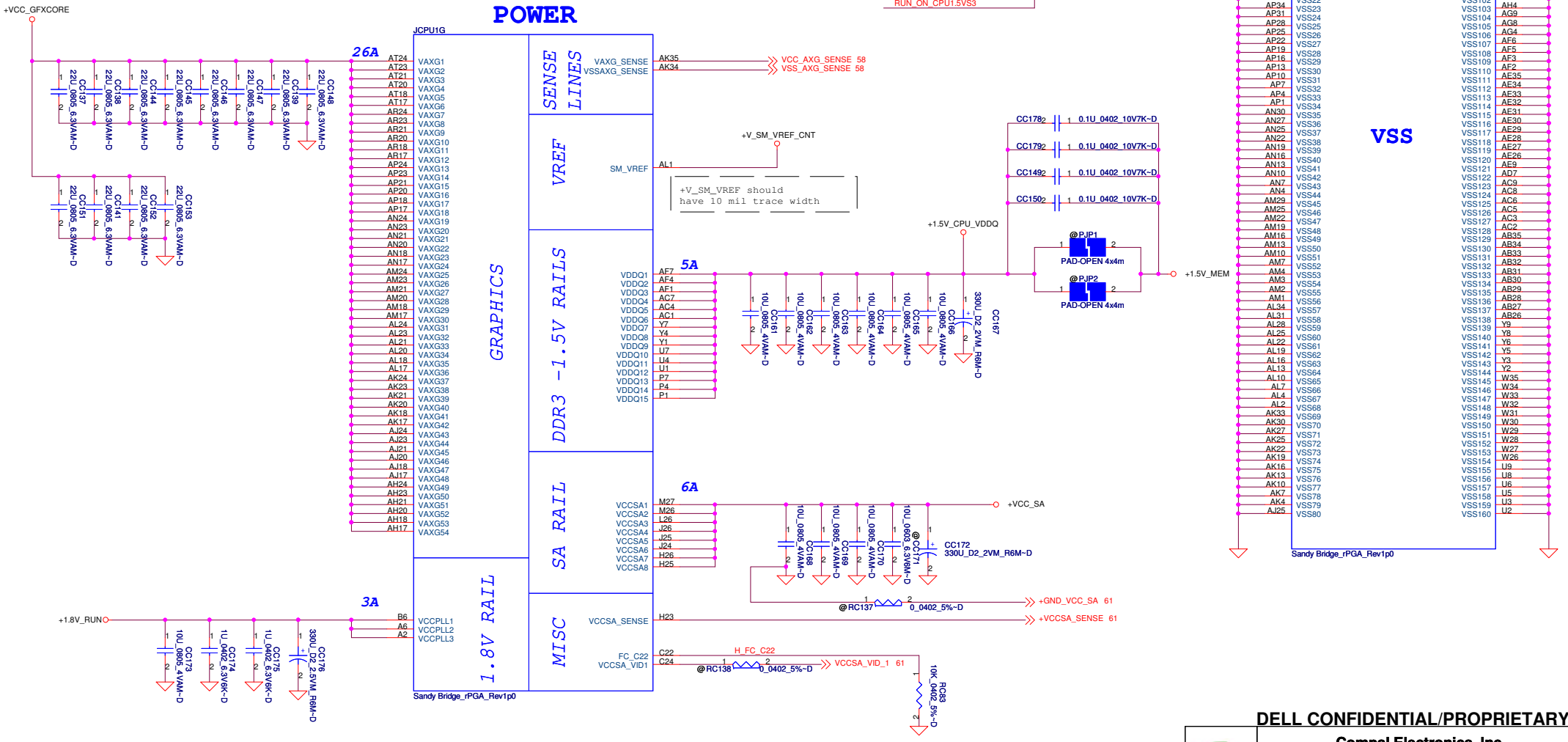
+1.5V_CPU_VDDQ Source





POWER



Compal Electronics, Inc.

Title: Sandy Bridge (6/6)

Size | Document Number: LA-6592P | Rev: 1.0

Date: Thursday, January 13, 2011 | Sheet 11 of 75

Note:
Check voltage tolerance of
VREF_DQ at the DIMM socket

2-3A to 1 DIMMs/channel

JDIMMA H=5.2

All VREF traces should have 10 mil trace width

Populate RD1 for Intel DDR3 VREFDQ multiple methods M1

Layout Note:
Place near JDIMMA

Layout Note:
Place near JDIMMA.203,204

JDIMM1
FOX_AS0A626-U4SN-7F
CONN@

change footprint.

Compal Electronics, Inc.

Title: DDRIII-SODIMM SLOT1

Size | Document Number: LA-6592P | Rev: 1.0

Date: Thursday, January 13, 2011 | Sheet 12 of 75

All VREF traces should have 10 mil trace width

Populate RD4 for Intel DDR3 VREFDQ multiple methods M1

8 DDR_B_DQS#[0..7]
8 DDR_B_D[0..63]
8 DDR_B_DQS[0..7]
8 DDR_B_MA[0..15]

Layout Note:
Place near JDIMMB

Layout Note:
Place near JDIMMB.203,204

Note:
Check voltage tolerance of VREF_DQ at the DIMM socket

2-3A to 1 DIMMs/channel

JDIMMB H=9.2

JDIMM2
FOX_AS0A626-U8SN-7F
CONN@

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title: DDRIII-SODIMM SLOT2

Size: | Document Number: LA-6592P | Rev: 1.0

Date: Thursday, January 13, 2011 | Sheet 13 of 75

CMOS_CLR1	CMOS setting
Shunt	Clear CMOS
Open	Keep CMOS

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

PCH_AZ_SYNC is sampled at the rising edge of RSMRST# pin. So signal should be PU to the ALWAYS rail.

Can be place in 0 height area.

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

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

CMOS place near DIMM

SPI_MOSI
High: Enable Intel Anti-Theft Technology
Left floating: Disable Intel Anti-Theft Technology

No Reboot Strap	
SPKR	Low = Default
	High = No Reboot

BBS_BIT0 - BIOS BOOT STRAP BIT 0

200 MIL SO8 64Mb Flash ROM
U52 X76@
W25Q64BVSSIG_SO8~D

200 MIL SO8 16Mb Flash ROM
U53 X76@
W25Q16BVSSIG_SO8~D

CougarPoint_Rev_1p0

SAMTE_BSH-030-01-L-D-A

HRS_FH12-16S-0P5SH(55)~D

SSM3K7002FU_SC70-3~D

BSS138W-7-F_SOT323-3~D

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Compal Electronics, Inc.

Title: PCH (1/8)

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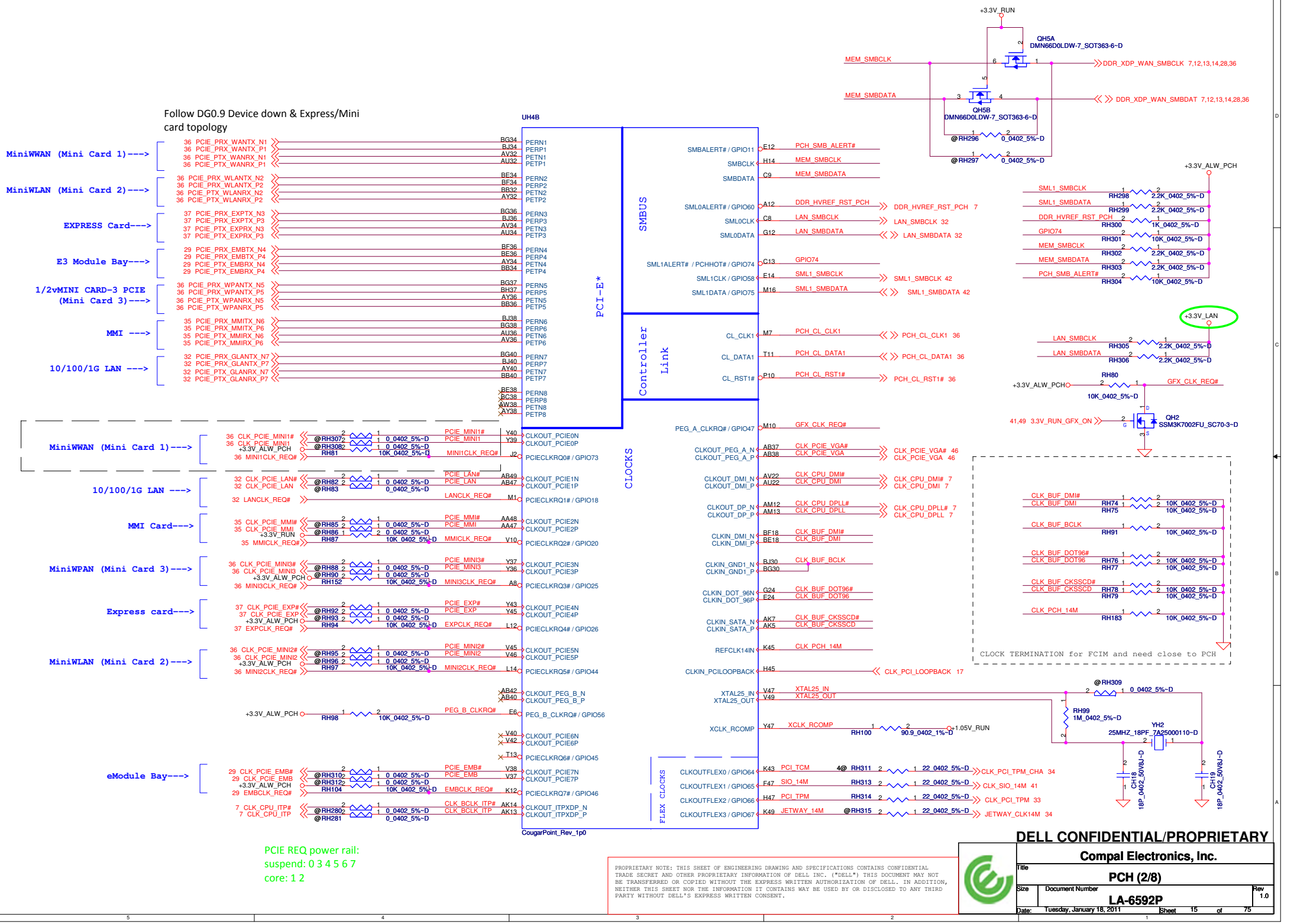
Follow DG0.9 Device down & Express/Mini card topology
UH4B
PCI-E*
SMBUS
Controller Link
CLOCKS
FLEX CLOCKS
MiniWWAN (Mini Card 1)--->
MiniWLAN (Mini Card 2)--->
EXPRESS Card--->
E3 Module Bay--->
1/2vMINI CARD-3 PCIE (Mini Card 3)--->
MMI --->
10/100/1G LAN --->
MMI Card--->
MiniWPAN (Mini Card 3)--->
Express card--->
eModule Bay--->
+3.3V_RUN
QH5A DMN66D0LDW-7_SOT363-6~D
QH5B DMN66D0LDW-7_SOT363-6~D
MEM_SMBCLK
MEM_SMBDATA
DDR_XDP_WAN_SMBCLK 7,12,13,14,28,36
DDR_XDP_WAN_SMBDAT 7,12,13,14,28,36
+3.3V_ALW_PCH
+3.3V_LAN
SML1_SMBCLK
SML1_SMBDATA
DDR_HVREF_RST_PCH
GPIO74
MEM_SMBCLK
MEM_SMBDATA
PCH_SMB_ALERT#
LAN_SMBCLK
LAN_SMBDATA
GFX_CLK_REQ#
41,49 3.3V_RUN_GFX_ON
QH2 SSM3K7002FU_SC70-3~D
CLK_BUF_DMI#
CLK_BUF_DMI
CLK_BUF_BCLK
CLK_BUF_DOT96#
CLK_BUF_DOT96
CLK_BUF_CKSSCD#
CLK_BUF_CKSSCD
CLK_PCH_14M
CLOCK TERMINATION for FCIM and need close to PCH
XTAL25_IN
XTAL25_OUT
XCLK_RCOMP
YH2 25MHZ_18PF_7A25000110~D
PCIE REQ power rail:
suspend: 0 3 4 5 6 7
core: 1 2
CougarPoint_Rev_1p0
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Compal Electronics, Inc.
Title
PCH (2/8)
Size
Document Number
LA-6592P
Rev
1.0
Date: Tuesday, January 18, 2011
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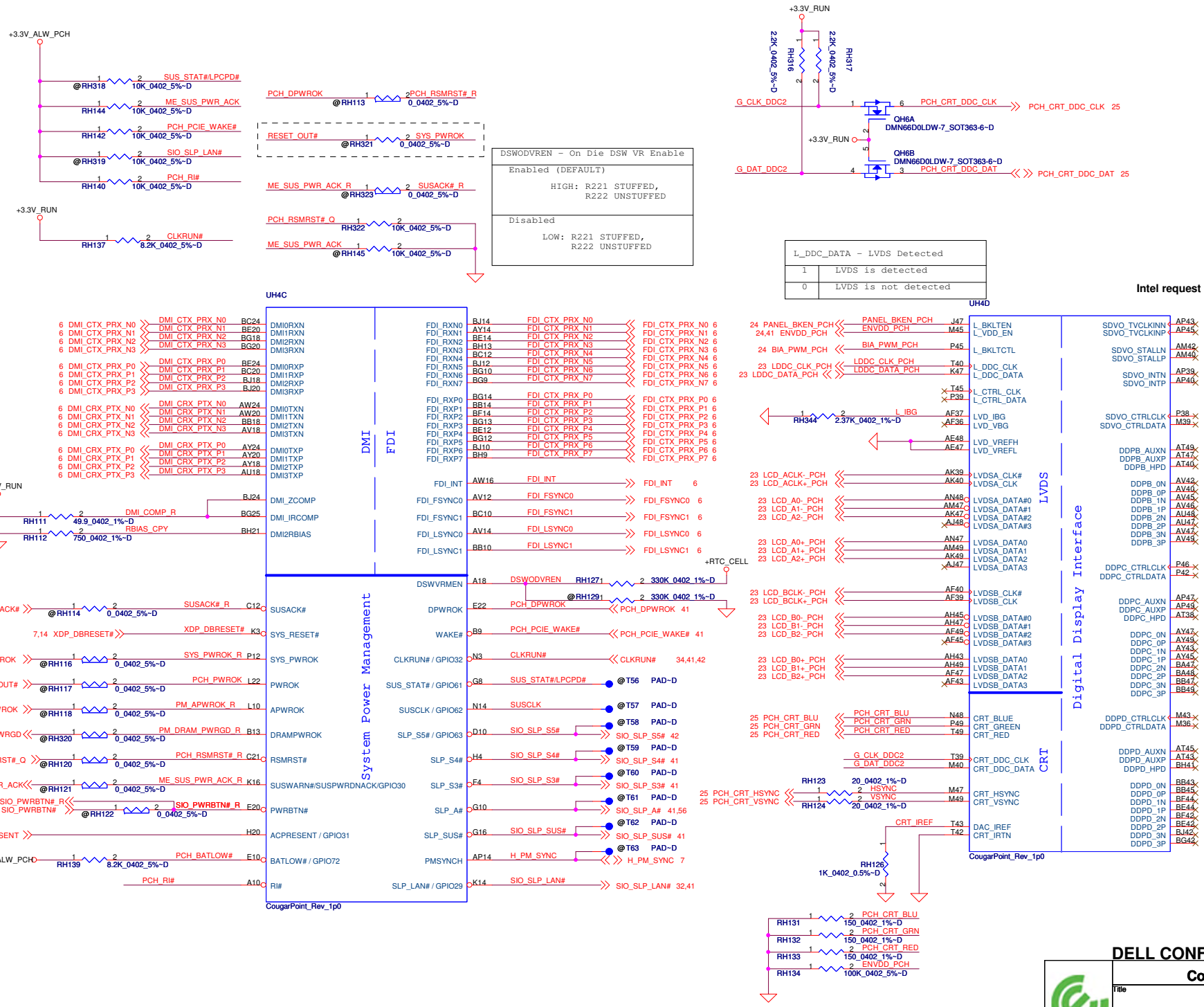

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Compal Electronics, Inc.		
Title: PCH (3/8)		
Size	Document Number: LA-6592P	Rev: 1.0
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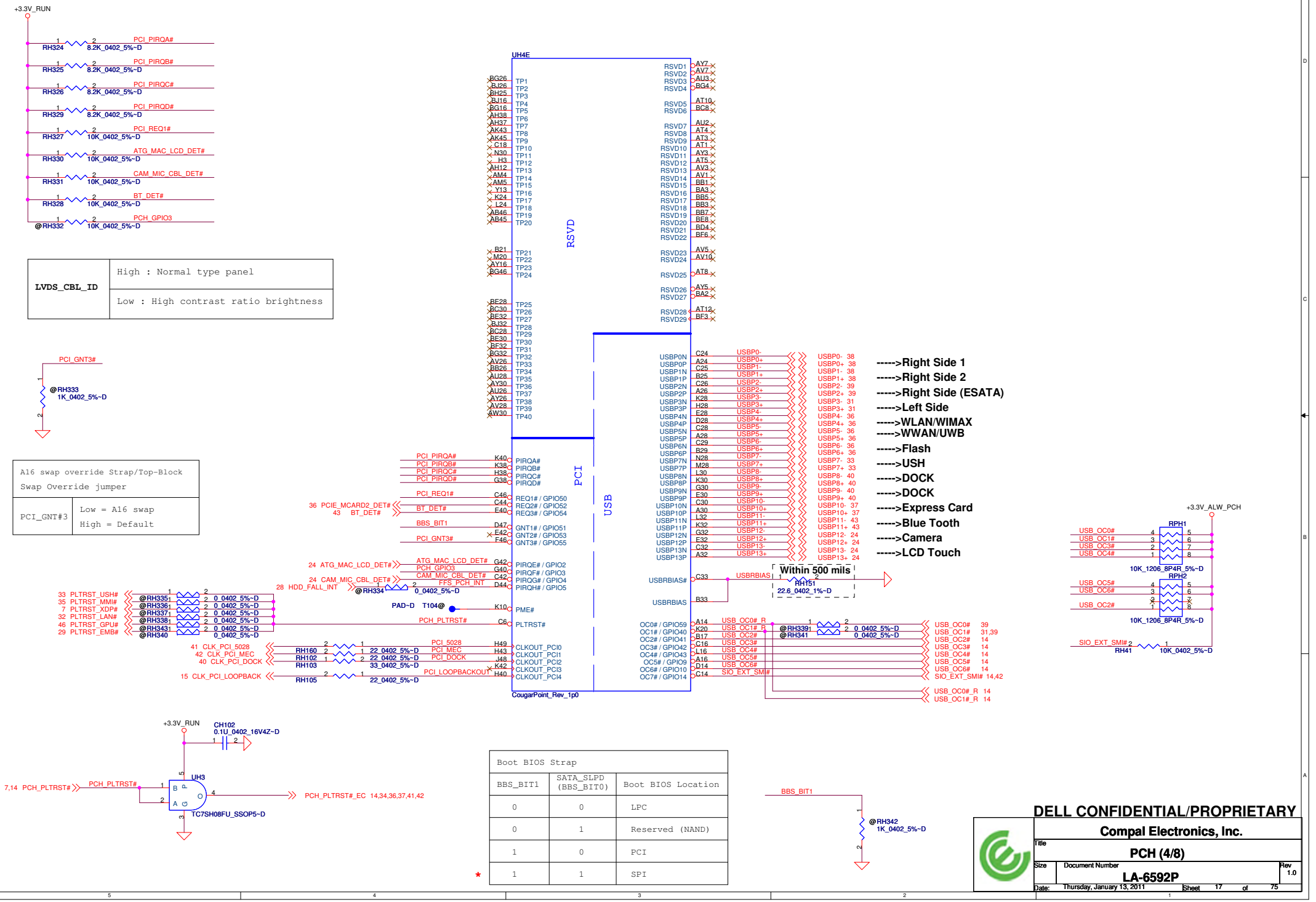
+3.3V_RUN
RH324 8.2K_0402_5%~D PCI_PIRQA#
RH325 8.2K_0402_5%~D PCI_PIRQB#
RH326 8.2K_0402_5%~D PCI_PIRQC#
RH329 8.2K_0402_5%~D PCI_PIRQD#
RH327 10K_0402_5%~D PCI_REQ1#
RH330 10K_0402_5%~D ATG_MAC_LCD_DET#
RH331 10K_0402_5%~D CAM_MIC_CBL_DET#
RH328 10K_0402_5%~D BT_DET#
@RH332 10K_0402_5%~D PCH_GPIO3
LVDS_CBL_ID
High : Normal type panel
Low : High contrast ratio brightness
PCI_GNT3#
@RH333 1K_0402_5%~D
A16 swap override Strap/Top-Block
Swap Override jumper
PCI_GNT#3
Low = A16 swap
High = Default
UH4E
RSVD
PCI
USB
CougarPoint_Rev_1p0
PIRQA# PIRQB# PIRQC# PIRQD#
REQ1# / GPIO50
REQ2# / GPIO52
REQ3# / GPIO54
GNT1# / GPIO51
GNT2# / GPIO53
GNT3# / GPIO55
PIRQE# / GPIO2
PIRQF# / GPIO3
PIRQG# / GPIO4
PIRQH# / GPIO5
PME#
PLTRST#
CLKOUT_PCI0
CLKOUT_PCI1
CLKOUT_PCI2
CLKOUT_PCI3
CLKOUT_PCI4
USBP0N USBP0P USBP1N USBP1P USBP2N USBP2P USBP3N USBP3P USBP4N USBP4P USBP5N USBP5P USBP6N USBP6P USBP7N USBP7P USBP8N USBP8P USBP9N USBP9P USBP10N USBP10P USBP11N USBP11P USBP12N USBP12P USBP13N USBP13P
USBRBIAS USBRBIAS#
OC0# / GPIO59
OC1# / GPIO40
OC2# / GPIO41
OC3# / GPIO42
OC4# / GPIO43
OC5# / GPIO9
OC6# / GPIO10
OC7# / GPIO14
Within 500 mils
RH151 22.6_0402_1%~D
----->Right Side 1
----->Right Side 2
----->Right Side (ESATA)
----->Left Side
----->WLAN/WIMAX
----->WWAN/UWB
----->Flash
----->USH
----->DOCK
----->DOCK
----->Express Card
----->Blue Tooth
----->Camera
----->LCD Touch
+3.3V_ALW_PCH
RPH1 10K_1206_8P4R_5%~D
RPH2 10K_1206_8P4R_5%~D
RH41 10K_0402_5%~D
SIO_EXT_SMI#
PAD~D T104@
PCH_PLTRST#
RH160 22_0402_5%~D PCI_5028
RH102 22_0402_5%~D PCI_MEC
RH103 33_0402_5%~D PCI_DOCK
RH105 22_0402_5%~D PCI_LOOPBACKOUT
0_0402_5%~D
+3.3V_RUN
CH102 0.1U_0402_16V4Z~D
UH3 TC7SH08FU_SSOP5~D
PCH_PLTRST#_EC 14,34,36,37,41,42
Boot BIOS Strap
BBS_BIT1
SATA_SLPD (BBS_BIT0)
Boot BIOS Location
0 0 LPC
0 1 Reserved (NAND)
1 0 PCI
1 1 SPI
@RH342 1K_0402_5%~D
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Compal Electronics, Inc.
Title PCH (4/8)
Size Document Number LA-6592P Rev 1.0
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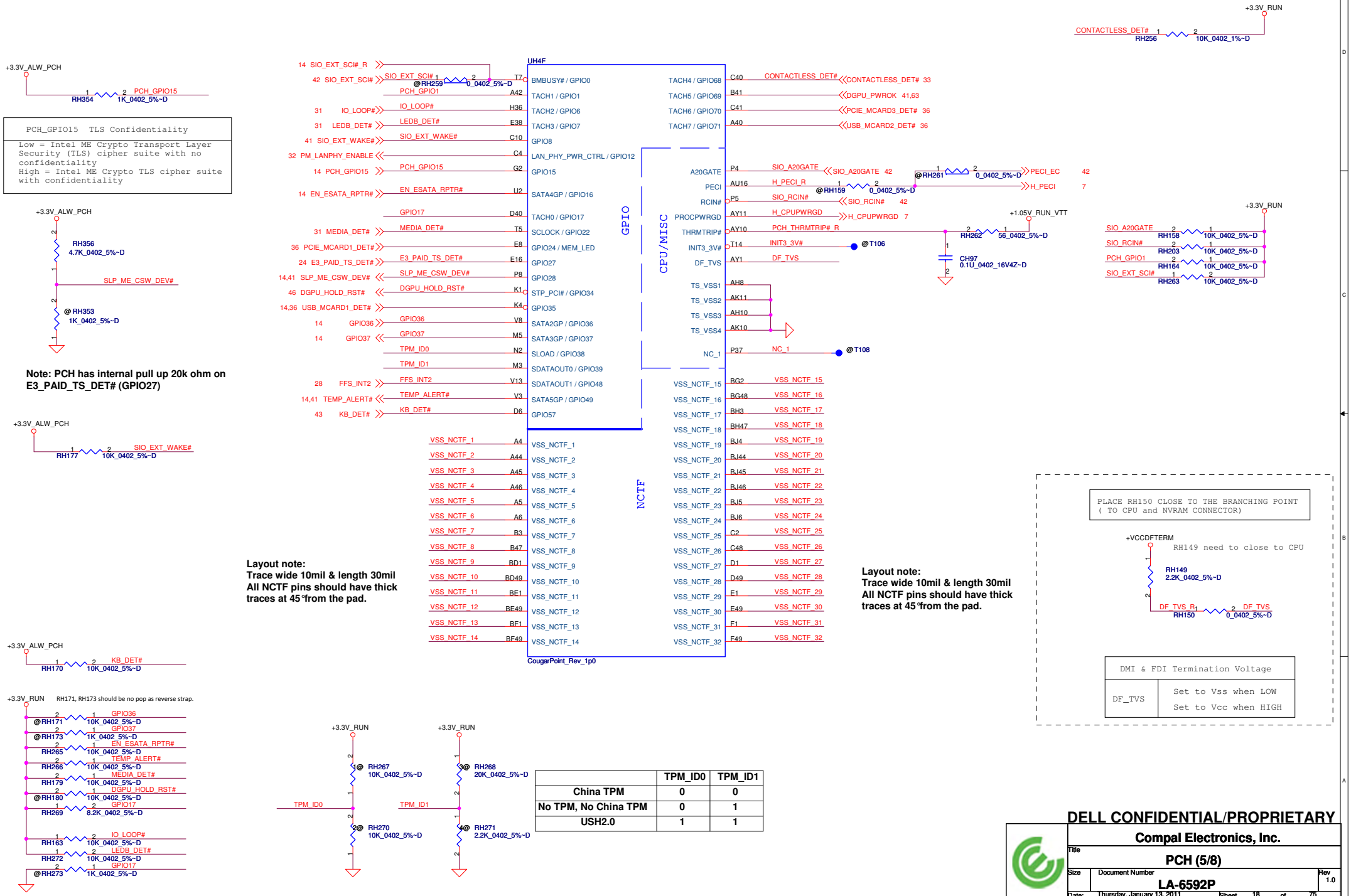

	TPM_ID0	TPM_ID1
China TPM	0	0
No TPM, No China TPM	0	1
USH2.0	1	1

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Title	PCH (5/8)
Size	Document Number: LA-6592P
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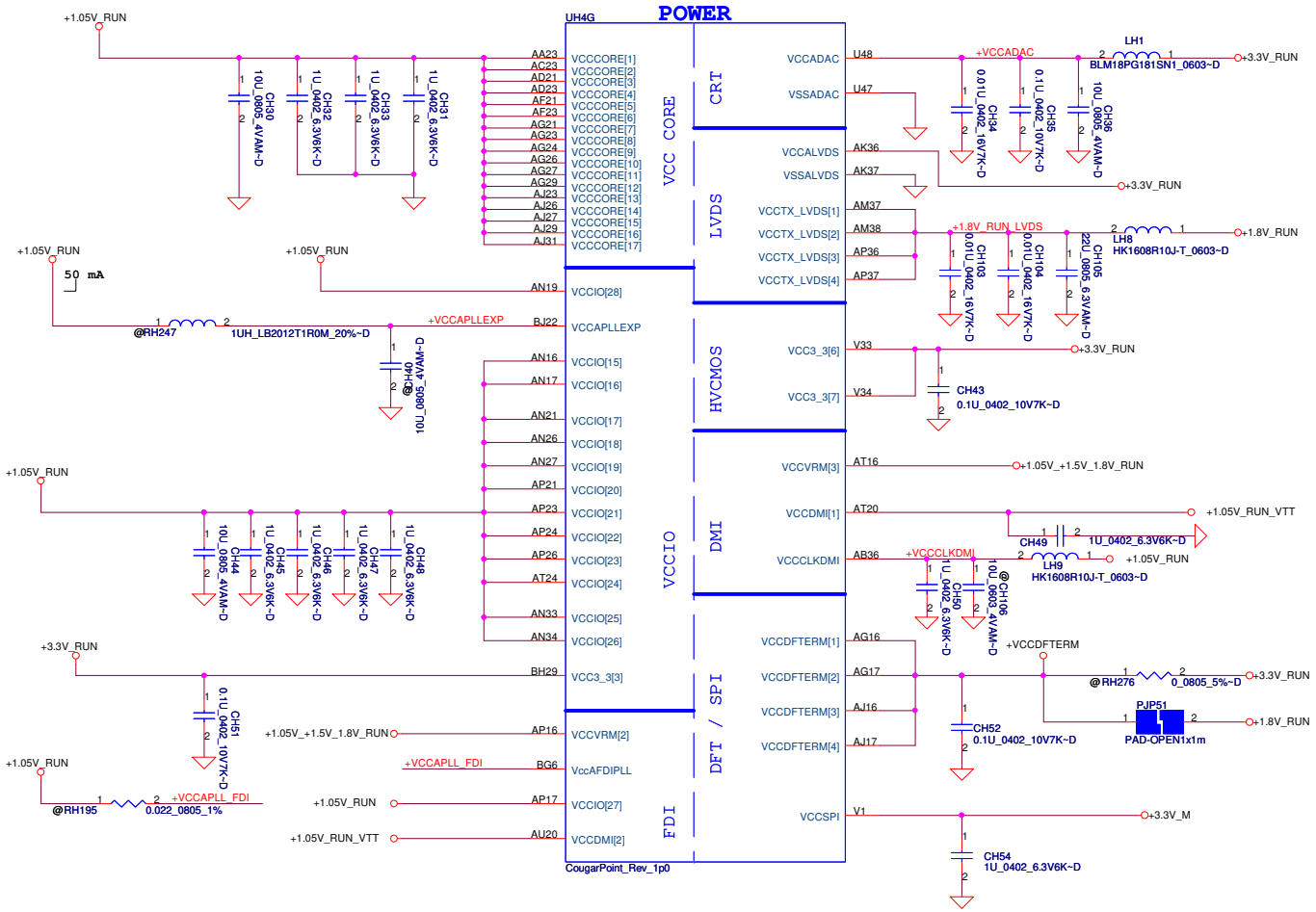
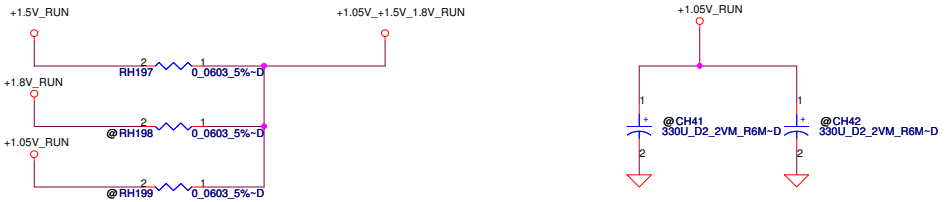


PCH Power Rail Table		
Voltage Rail	Voltage	S0 Iccmax Current (A)
V_PROC_IO	1.05	0.001
V5REF	5	0.001
V5REF_Sus	5	0.001
Vcc3_3	3.3	0.266
VccADAC3	3.3	0.001
VccADPLLA	1.05	0.08
VccADPLLB	1.05	0.08
VccCore	1.05	1.3
VccDMI	1.05	0.042
VccIO	1.05	2.925
VccASW	1.05	1.01
VccSPI	3.3	0.020
VccDSW3_3	3.3	0.003
VCCDFTERM	1.8	0.19
VccRTC	3.3	2 (mA)
VccSus3_3	3.3	0.119
VccSusHDA	3.3	0.01
VccVRM	1.8 / 1.5	0.16
VccClkDMI	1.05	0.02
VccSSC	1.05	0.095
VccDIFFCLKN	1.05	0.055
VccALVDS	3.3	0.001
VccTX_LVDS	1.8	0.06



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Title: PCH (6/8)

Size | Document Number: LA-6592P | Rev: 1.0

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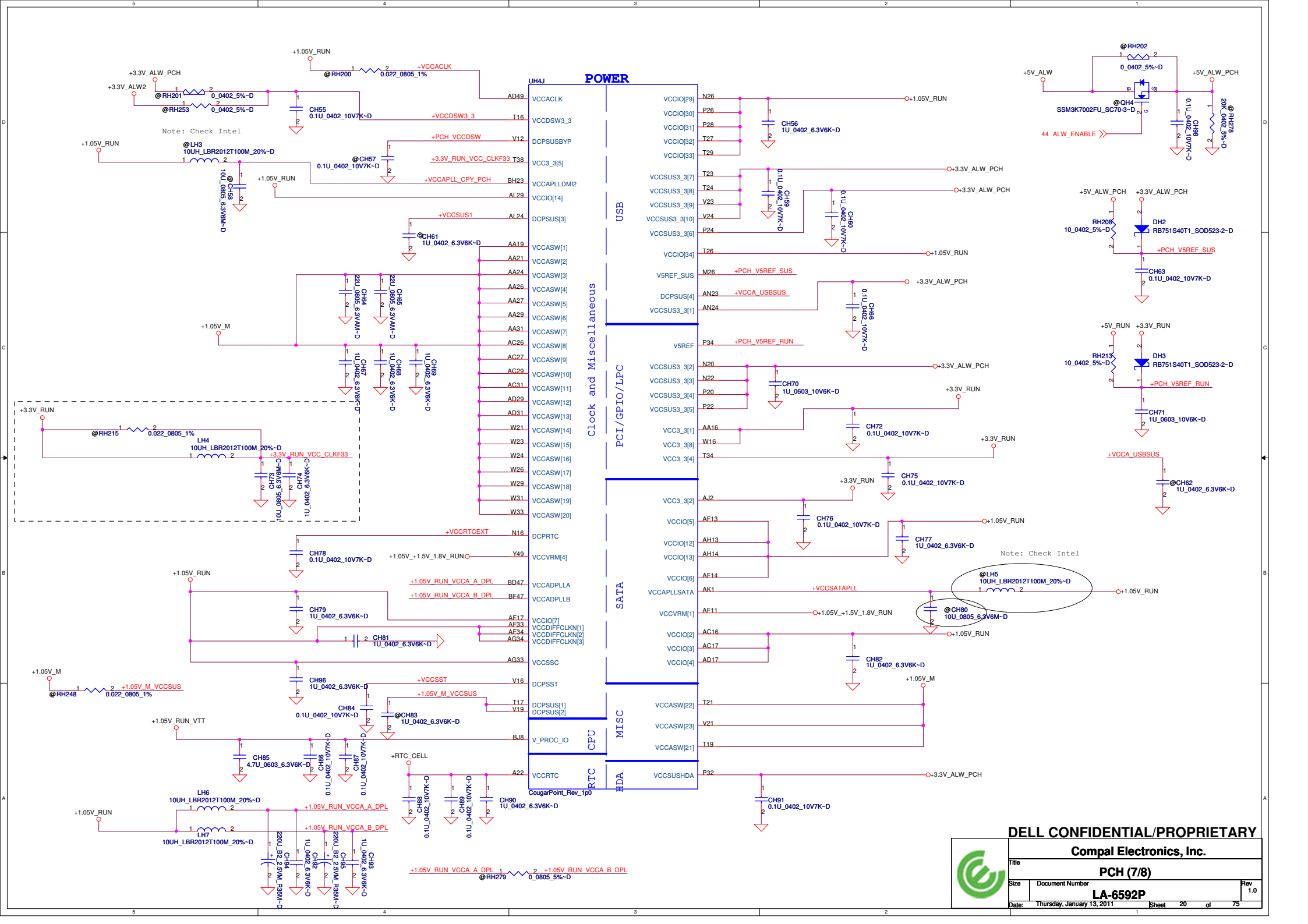

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Title	PCH (7/8)	
Size	Document Number: LA-6592P	Rev: 1.0
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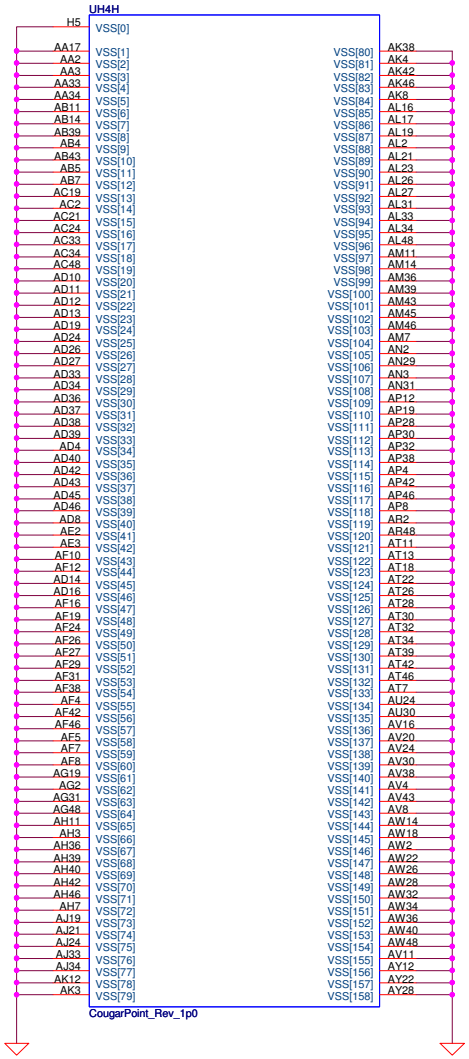

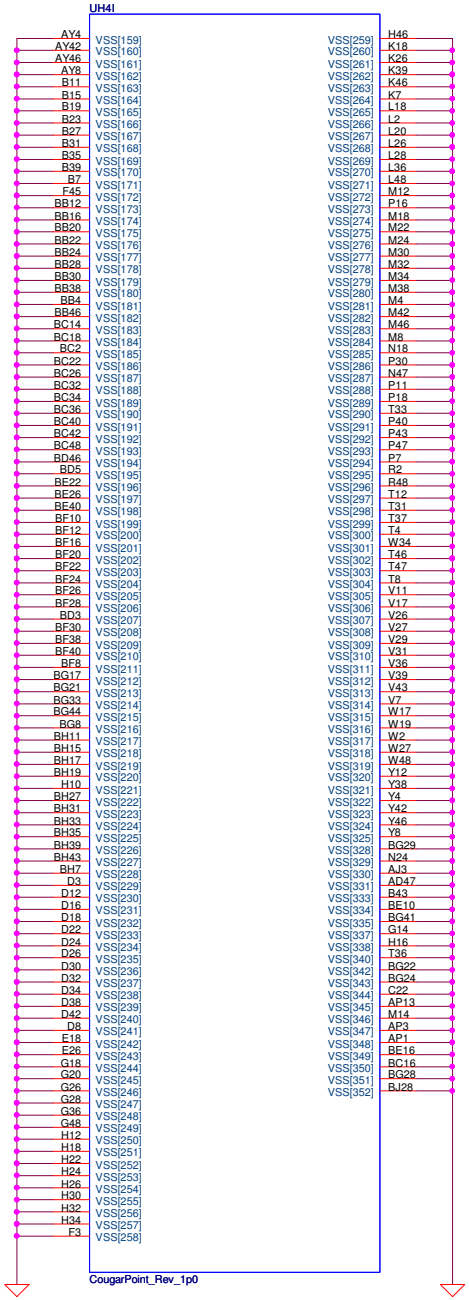

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Title	PCH (8/8)
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Place under CPU
Place C266 close to the Q12 as possible

@C266 100P_0402_50V8J~D
Q12 MMBT3904WT1G_SC70-3~D
REM_DIODE1_P_4022
REM_DIODE1_N_4022

(1) DP3/DN3 for SODIMM on Q14, place Q14 close to SODIMM and C272 close to Q14
(2) DP5/DN5 for Skin on Q13, place Q13 close to JMINI1 for WWAN and C277 close Q13

@C272 100P_0402_50V8J~D
Q14 MMBT3904WT1G_SC70-3~D
@C277 100P_0402_50V8J~D
Q13 MMBT3904WT1G_SC70-3~D
REM_DIODE3_P_4022
REM_DIODE3_N_4022

+FAN1_VOUT
RB751S40T1_SOD523-2~D
C219 22U_0805_6.3V6M~D
FAN1_DET#
FAN1_TACH_FB
JFAN1 CONN@
MOLEX_53398-0471~D

DSC only
47 VGA_THERMDP
VGA_THERMDP
C1104 470P_0402_50V7K~D
47 VGA_THERMDN
VGA_THERMDN

+3.3V_M
BC_INT#_EMC4022 R385 10K_0402_5%~D
FAN1_TACH_FB R426 10K_0402_5%~D
FAN1_DET# R402 10K_0402_5%~D

+5V_RUN
C276 10U_0805_10V4Z~D
C275 0.1U_0402_16V4Z~D
+3.3V_RUN
C305 10U_0805_6.3V6M~D
C1171 0.1U_0402_16V4Z~D

U9
EMC4022-1-EZK-TR_QFN32_5X5~D
VDDH
VDDH
VDDL
VDD_PWRGD
DN1/THERM
DP1/VREF_T
DN2/DP4
DP2/DN4
DP3/DN5
DN3/DP5
VCP
VIN
VSET
TACH/GPIO1
GPIO2
GPIO3/PWM/THERMTRIP_SIO
3V_PWROK#
VDD
ADDR_MODE/XEN
TEST1
TEST2
VSS
RTC_PWR3V
THERMTRIP2#
THERMTRIP3#
SYS_SHDN#
POWER_SW#
ACAVAIL_CLR
ATF_INT#/BC_IRQ#
FAN_OUT
FAN_OUT
SMCLK/BC_CLK
SMDATA/BC_DATA

+3.3V_M R389 VDD_PWRGD 10K_0402_5%~D
C270 2200P_0402_50V7K~D REM_DIODE1_N_4022 REM_DIODE1_P_4022
C271 2200P_0402_50V7K~D REM_DIODE3_P_4022 REM_DIODE3_N_4022
VGA_THERMDN
VGA_THERMDP
60 MAX8731_IINP 4.7K_0402_5%~D R387 VCP2
VSET_4022
FAN1_TACH_FB
FAN1_DET#
+3.3V_M 10K_0402_5%~D R1178 PWM
42 PCH_PWRGD# R391 1K_0402_5%~D 3V_PWROK#
+RTC_CELL
C274 1U_0402_6.3V6K~D
THERMTRIP2# THERMTRIP3# THERM_STP# 53
@R390 47K_0402_1%~D +RTC_CELL
POWER_SW#
ACAV_IN 42,60,62
BC_INT#_EMC4022 BC_INT#_EMC4022 42
+FAN1_VOUT
BC_CLK_EMC4022 42
BC_DAT_EMC4022 42
+3.3V_M R388 22_0402_5%~D
+VCC_4022
+ADDR_XEN 4.7K_0402_5%~D R393 +VCC_4022
C273 0.1U_0402_16V4Z~D
C1179 1U_0402_6.3V6K~D
R403 10K_0402_5%~D SMSC request

+3.3V_M R395 8.2K_0402_5%~D
+1.05V_RUN_VTT R398 2.2K_0402_5%~D
THERMATRIP2#
Q15 PMST3904_SOT323-3~D
C278 0.1U_0402_16V4Z~D
7 H_THERMTRIP#

+3.3V_RUN_GFX
@R111 8.2K_0402_5%~D
R112 2.2K_0402_5%~D
+3.3V_M R405 8.2K_0402_5%~D
THERMATRIP3#
THERMB3
Q115 PMST3904_SOT323-3~D
C280 0.1U_0402_16V4Z~D
46 THERMTRIP_VGA#

VSET_4022
C282 0.1U_0402_16V4Z~D
R406 953_0402_1%~D
Rest=953, Tp=88degree

+RTC_CELL C281 0.1U_0402_16V4Z~D
U10 TC7SH08FU_SSOP5~D
POWER_SW#
DOCK_PWR_SW# 42
POWER_SW_IN# 42

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Compal Electronics, Inc.
Title: FAN & Thermal Sensor
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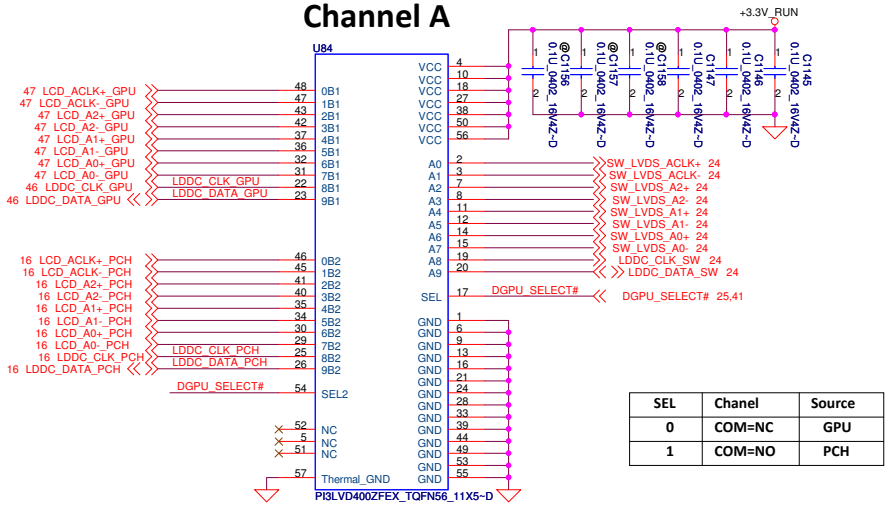
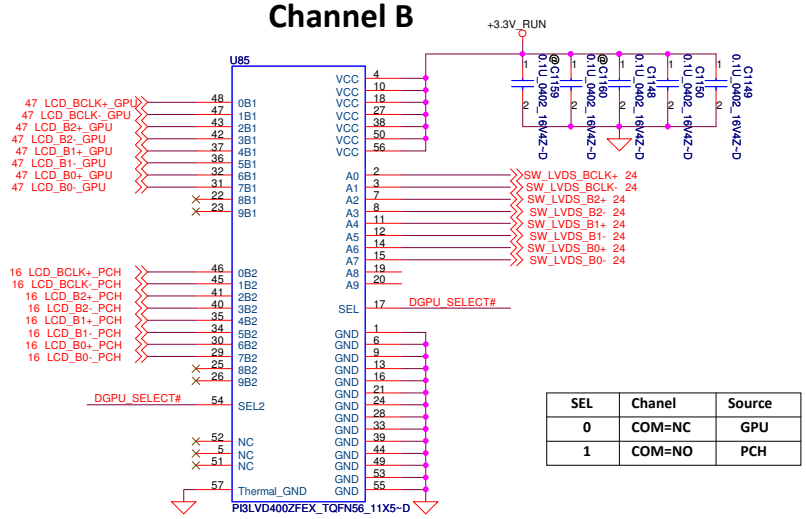
Channel A

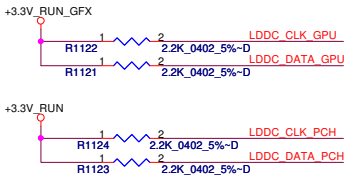


SEL	Chanel	Source
0	COM=NC	GPU
1	COM=NO	PCH

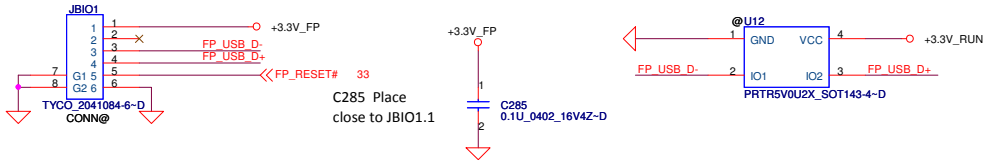
Channel B



SEL	Chanel	Source
0	COM=NC	GPU
1	COM=NO	PCH



Fingerprint CONN.



Compal Electronics, Inc.

Title: LVDS SW/FP Conn.

Size | Document Number: LA-6592P | Rev: 1.0

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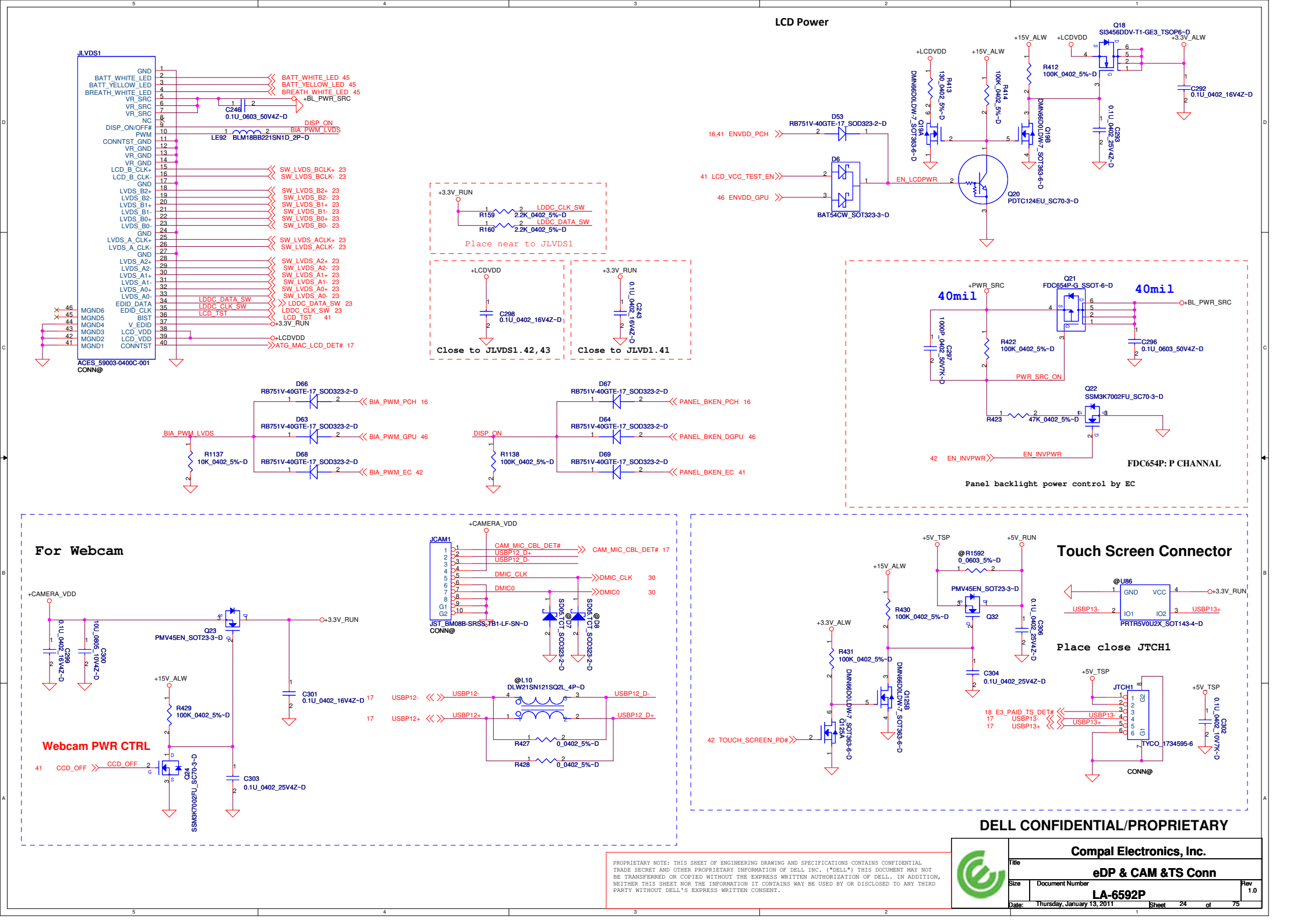

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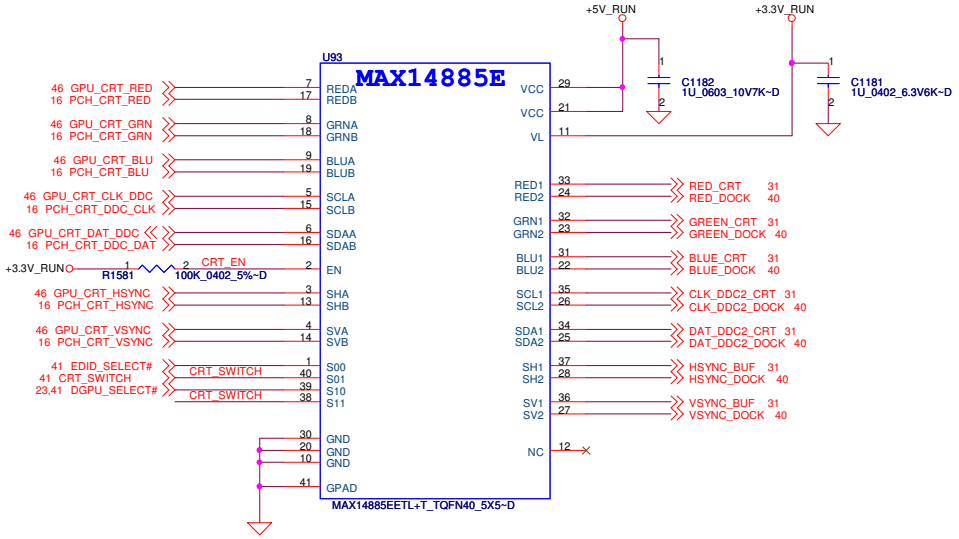
Channel A --> GPU

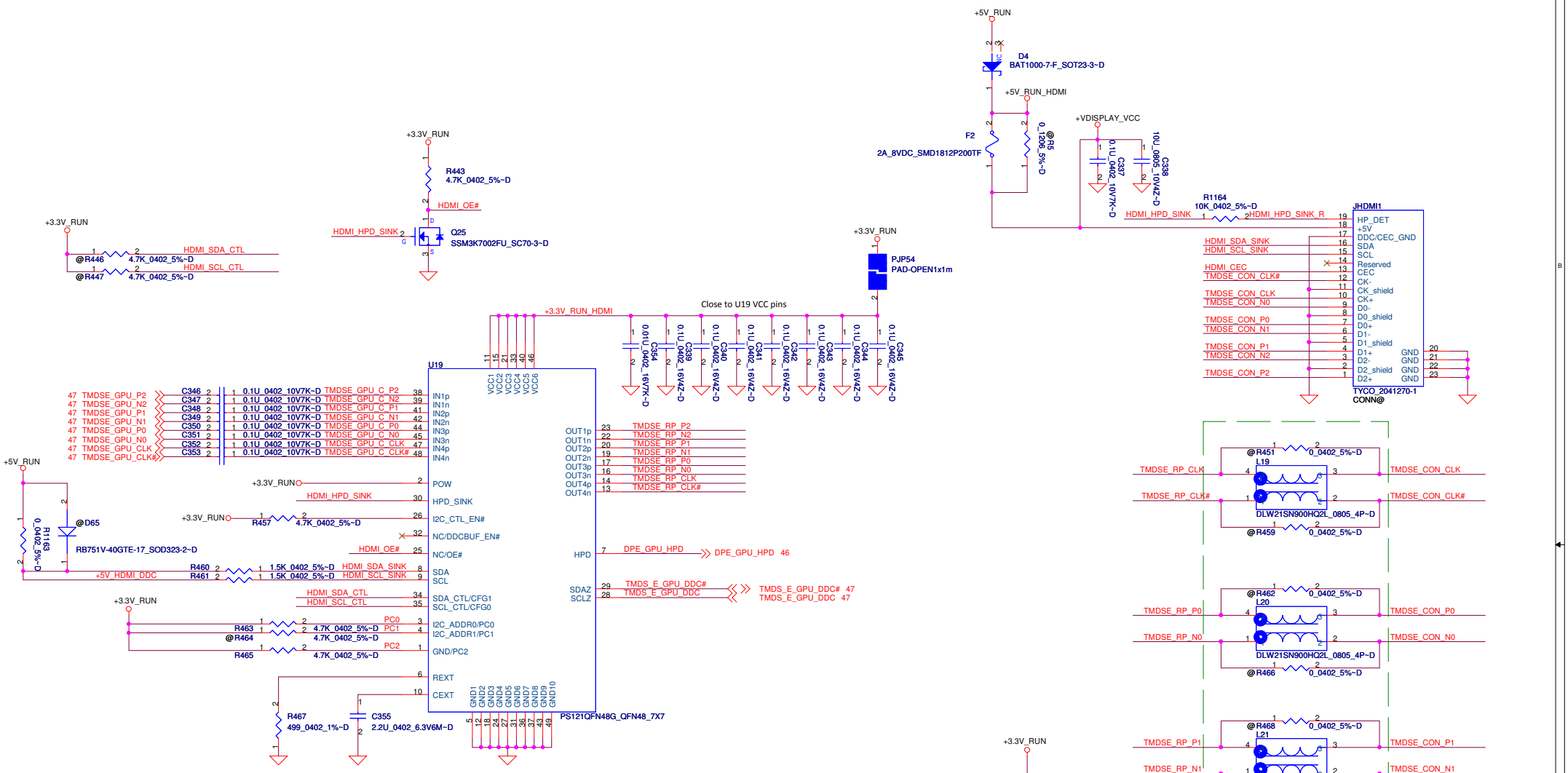
Channel B --> PCH



Port 1 --> MB Port RGB

Port 2 --> Docking Port RGB

CRT_SWITCH	0	0	1	1
DGPU_SELECT#	0	1	0	1
EDID_SELECT#	0	1	0	1
	A --> Port 1	B --> Port 1	A --> Port 2	B --> Port 2



EQUALIZATION SETTING:
[PC2,PC1,PC0]=000, 12dB
[PC2,PC1,PC0]=001, 16dB
[PC2,PC1,PC0]=010, 10dB
[PC2,PC1,PC0]=011, 7dB
[PC2,PC1,PC0]=100, 1.5dB
[PC2,PC1,PC0]=101, 4dB (Default)
[PC2,PC1,PC0]=110, 9dB
[PC2,PC1,PC0]=111, 7dB

Compal Electronics, Inc.

Title: HDMI port

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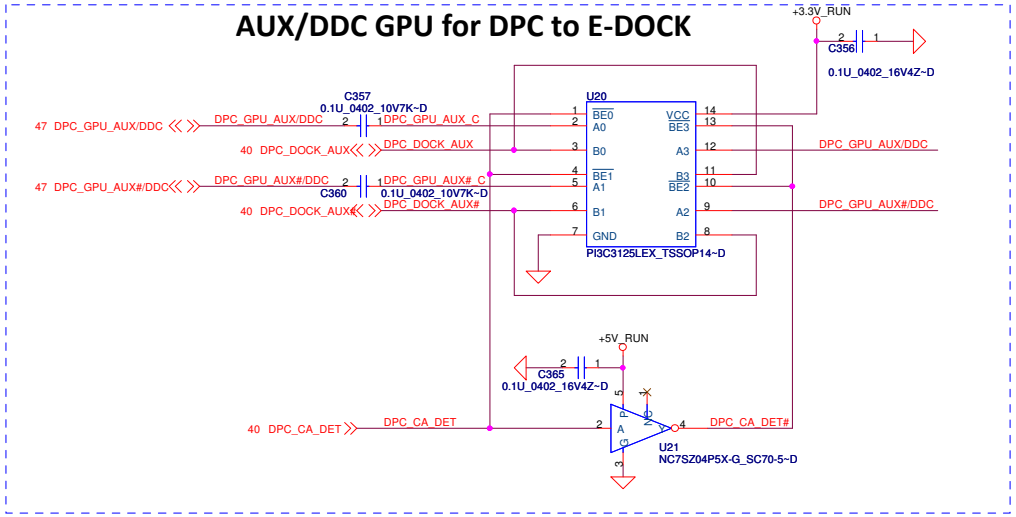

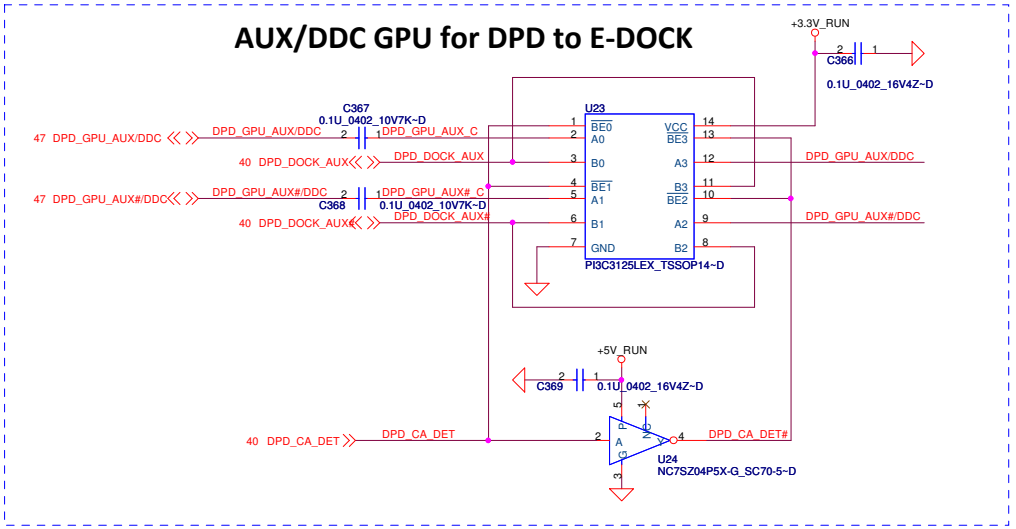

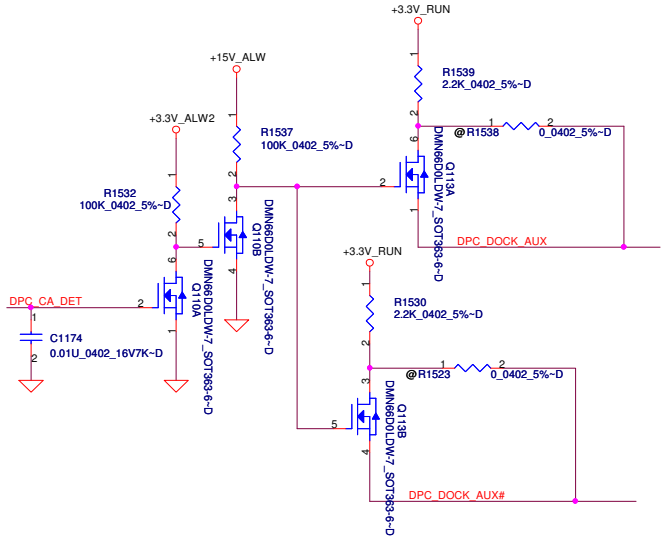

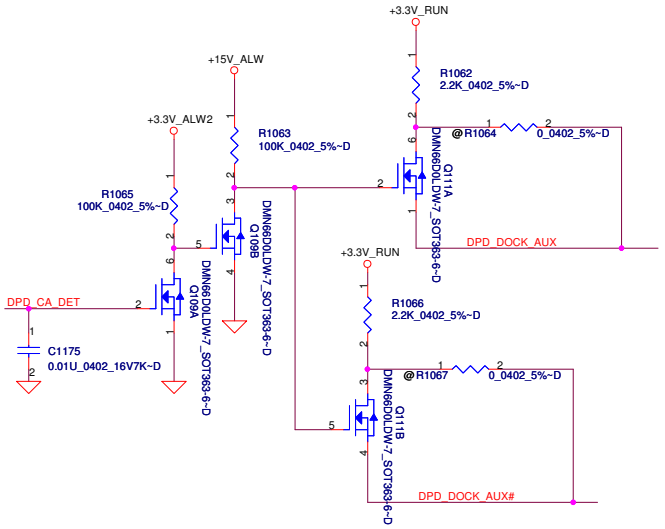

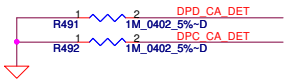

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Compal Electronics, Inc.	
Title	DP AUX SW
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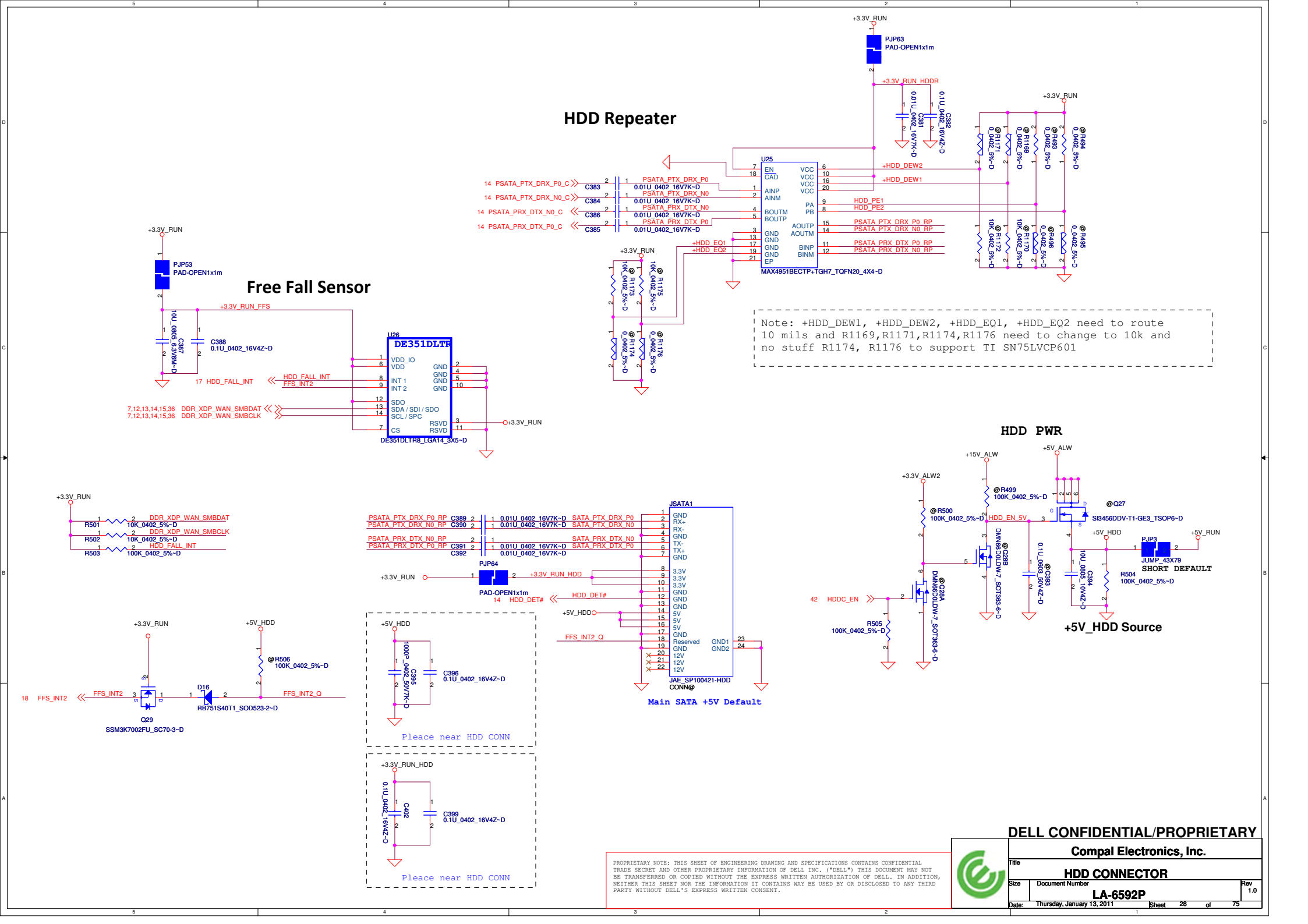
HDD Repeater
Free Fall Sensor
HDD PWR
+5V_HDD Source
Main SATA +5V Default
Please near HDD CONN
Please near HDD CONN
Note: +HDD_DEW1, +HDD_DEW2, +HDD_EQ1, +HDD_EQ2 need to route 10 mils and R1169,R1171,R1174,R1176 need to change to 10k and no stuff R1174, R1176 to support TI SN75LVCP601
MAX4951BECTP+TGH7_TQFN20_4X4~D
DE351DLTR8_LGA14_3X5~D
JAE_SP100421-HDD
CONN@
SSM3K7002FU_SC70-3~D
RB751S40T1_SOD523-2~D
SI3456DDV-T1-GE3_TSOP6~D
DMN66D0LDW-7_SOT363-6~D
JUMP_43X79
SHORT DEFAULT
PAD-OPEN1x1m
DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
HDD CONNECTOR
LA-6592P
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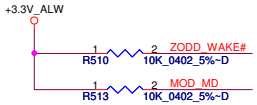
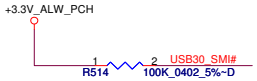
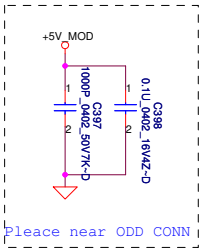
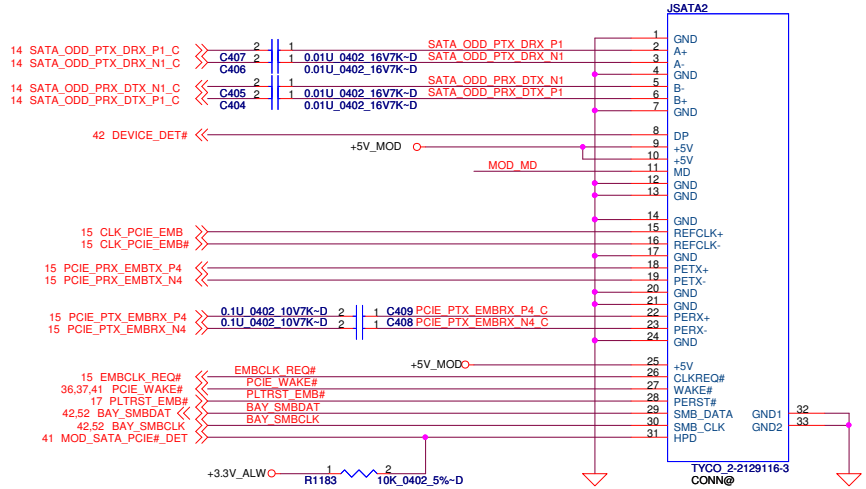
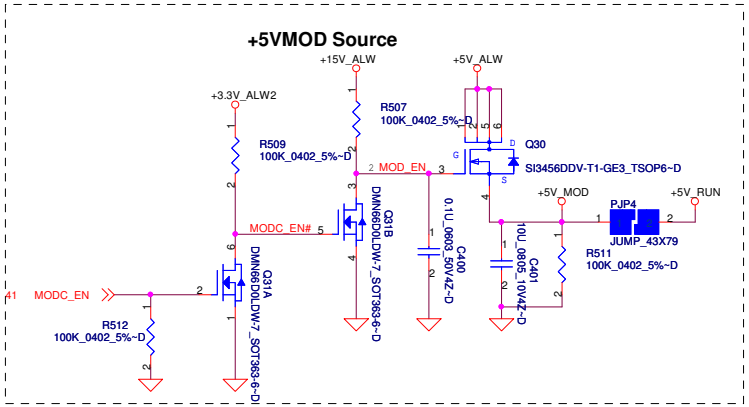
For ODD

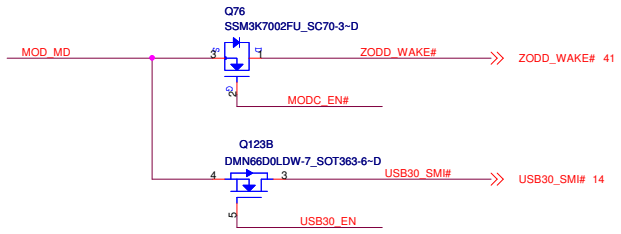


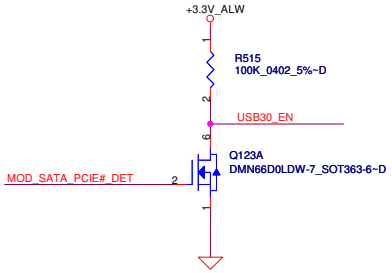












Compal Electronics, Inc.

Title: ODD CONNECTOR

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Internal Speakers Header

Speaker Connector

20 mils trace

INT_SPK_L+ L91 BLM18BD121SN1D_2P~D INT_SPK_L+_L
INT_SPK_L- L92 BLM18BD121SN1D_2P~D INT_SPK_L-_L
INT_SPK_R+ L93 BLM18BD121SN1D_2P~D INT_SPK_R+_L
INT_SPK_R- L94 BLM18BD121SN1D_2P~D INT_SPK_R-_L

JSPK1 CONN@
MOLEX_53398-0471~D

680P_0402_50V7K~D C373, C374, C375, C376

@DDE1 PESD5V0U2BT_SOT23-3~D
@DDE2 PESD5V0U2BT_SOT23-3~D

DVDD_IO should match with HDA Bus level

Notes:
Keep PVDD supply and speaker traces routed on the DGND plane.
Keep away from AGND and other analog signals

+3.3V_RUN

0.1U_0402_16V4Z~D C994
1U_0603_10V6K~D C952
0.1U_0402_16V4Z~D C953
10U_0805_10V6K~D C954

Place C951~C961 close to Codec

U72
92HD90B2X5NLGXZBX8_QFN48_7X7~D

1	DVDD_CORE	
3	DVDD_IO	
9	DVDD	
6	BITCLK	PCH_AZ_CODEC_BITCLK
5	SDATA_OUT	PCH_AZ_CODEC_SDOUT
10	SYNC	PCH_AZ_CODEC_SYNC
8	SDATA_IN	PCH_AZ_CODEC_SDIN0
11	RESET#	PCH_AZ_CODEC_RST#
15	I2S_MCLK	I2S_12MHZ
16	I2S_SCLK	I2S_BCLK
17	I2S_DOUT	I2S_DO_R
18	I2S_LRCLK	I2S_LRCLK
24	I2S_DIN	I2S_DI#
19	No Connect	
20	No Connect	
47	EAPD	41 AUD_NB_MUTE#
7	DVSS	
42	PVSS	
49	GND	
27, 38	AVDD1, AVDD2	+VDDA_AVDD
45, 39	PVDD, PVDD	+VDDA_PVDD
13	SENSE_A	AUD_SENSE_A
14	SENSE_B	AUD_SENSE_B
28	PORTA_L	MIC_IN_L
29	PORTA_R	MIC_IN_RR
23	VrefOut_A	+VREFOUT_R
31	PORTB_L	AUD_HP_OUT_L
32	PORTB_R	AUD_HP_OUT_R
40	PORTD_+L	INT_SPK_L+
41	PORTD_-L	INT_SPK_L-
44	PORTD_+R	INT_SPK_R+
43	PORTD_-R	INT_SPK_R-
25	MONO_OUT	
12	PC_BEEP	AUD_PC_BEEP
2	DMIC_CLK/GPIO 1	DMIC_CLK_L
4	DMIC_0/GPIO 2	
46	DMIC1/GPIO0/SPDIFOUT1	
48	SPDIFOUT0//GPIO3/Aux_Out	
36	CAP+	
35	CAP-	
21	VREFFILT	
22	CAP2	
34	V-	
37	Vreg	
26	AVSS1	
30	AVSS	
33	AVSS	

PCH_AZ_CODEC_BITCLK 14
PCH_AZ_CODEC_SDOUT 14
PCH_AZ_CODEC_SYNC 14
PCH_AZ_CODEC_SDIN0 14
PCH_AZ_CODEC_RST# 14

Place R1096 close to codec
R1096 33_0402_5%~D

I2S_12MHZ
I2S_BCLK
I2S_DO
R1097 33_0402_5%~D
Place R1097 close to codec
I2S_LRCLK
I2S_DI#

+3.3V_RUN
R1099 10K_0402_5%~D

place close to pin27
place close to pin38
L77 BLM21PG600SN1D_0805~D
+5V_RUN

10U_0805_10V6K~D C955
1U_0603_10V6K~D C956
0.1U_0402_16V4Z~D C957
1U_0603_10V6K~D C1172
0.1U_0402_16V4Z~D C1173

R1095 0_0805_5%~D

10U_0805_10V6K~D C958
0.1U_0402_16V4Z~D C959
10U_0805_10V6K~D C960
0.1U_0402_16V4Z~D C961

C1163 1U_0402_6.3V6K~D
R1143 2.2K_0402_5%~D
+VREFOUT

MIC_IN_L and MIC_IN_RR must symmetric in layout

Pop R161 0-ohm for Combo Jack, pop C1164 1UF for E2 backup circuit

R161 0_0402_5%~D
D70 RB751V-40GTE-17_SOD323-2~D

C1105 0.1U_0402_16V4Z~D
C1106 0.1U_0402_16V4Z~D
LE93 BLM18BB221SN1D_2P~D
Place LE93 close to codec

R1119 100K_0402_5%~D SPKR 14
R1120 100K_0402_5%~D BEEP 42
@R1141 10K_0402_5%~D
@R1142 10K_0402_5%~D

C962 4.7U_0603_10V6K~D
Place C962 close to Codec

Place C963~C966 close to Codec

4.7U_0603_10V6K~D C963
4.7U_0603_10V6K~D C964
1U_0603_10V6K~D C965
10U_0805_10V6K~D C966

+VREFOUT_R
1U_0603_10V6K~D C1180

change C981 to jumper to solve audio noise issue (Special Head phone only)

Close to U16 pin5

PCH_AZ_CODEC_SDOUT
@R1077 47_0402_5%~D
@C978 0.1U_0402_10V7K~D

Close to U16 pin6

PCH_AZ_CODEC_BITCLK
@R1076 10_0402_5%~D
@C977 10P_0402_50V8J~D

Place closely to Pin 13.

+VDDA_AVDD
AUD_SENSE_A
R1083 2.49K_0402_1%~D
+3.3V_RUN
@R1088 100K_0402_5%~D
R352 @39.2K_0402_1%~D
R1086 20K_0402_1%~D
100P_0402_50V7K~D C980
R1087 100K_0402_5%~D
31 AUD_MIC_SWITCH
Q107A DMN66D0LDW-7_SOT363-6~D
Q107B DMN66D0LDW-7_SOT363-6~D
@C967 0.1U_0402_16V4Z~D
AUD_HP_NB_SENSE 31,41

Add for solve pop noise and detect issue

Tie Analog Ground to Digital ground under codec by a single point
PJP62
PAD-OPEN1x1m

PORT A	External MIC
PORT B	HeadPhone Out
PORT C	Dock Audio
PORT D	Internal SPK

@C981 100P_0402_50V8J~D
@C982 100P_0402_50V8J~D
@C983 100P_0402_50V8J~D
GNDA

+3.3V_RUN
0.1U_0402_10V7K~D C1103

U73
CD74HC366M96_SO16~D

16	VCC	
2	1A	I2S_BCLK
4	2A	I2S_LRCLK
6	3A	I2S_DO
10	4A	I2S_12MHZ
12	5A	
14	6A	
1	OE1#	41 EN_I2S_NB_CODEC#
15	OE2#	
3	1Y#	DAI_BCLK# 40
5	2Y#	DAI_LRCK# 40
7	3Y#	DAI_DO# 40
9	4Y#	DAI_12MHZ# 40
11	5Y#	
13	6Y#	I2S_DI#
8	GND	

RE1098 33_0402_5%~D
RE1100 33_0402_5%~D
R1110 1K_0402_5%~D

@D54 DA204U_SOT323-3~D
@D55 DA204U_SOT323-3~D
@D56 DA204U_SOT323-3~D
@D57 DA204U_SOT323-3~D

RE1101 33_0402_5%~D
CE574 12P_0402_50V8J~D
RE1102 33_0402_5%~D
CE573 12P_0402_50V8J~D

+3.3V_RUN
@D58 DA204U_SOT323-3~D
DAI_DI 40

Place closely to Pin 14

+VDDA_AVDD
AUD_SENSE_B
R1078 2.49K_0402_1%~D
+3.3V_RUN
R1079 39.2K_0402_1%~D
R1081 100K_0402_5%~D
R1080 20K_0402_1%~D
1000P_0402_50V7K~D C979
R1082 100K_0402_5%~D
41 DOCK_HP_DET
Q106A DMN66D0LDW-7_SOT363-6~D
Q106B DMN66D0LDW-7_SOT363-6~D
DOCK_MIC_DET 41

Resistor	SENSE_A	SENSE_B
39.2K	PORT A	PORT E
20K	PORT B	PORT F
2.49K	Pull-up to AVDD	

Compal Electronics, Inc.
Title: Azalia (HD) Codec
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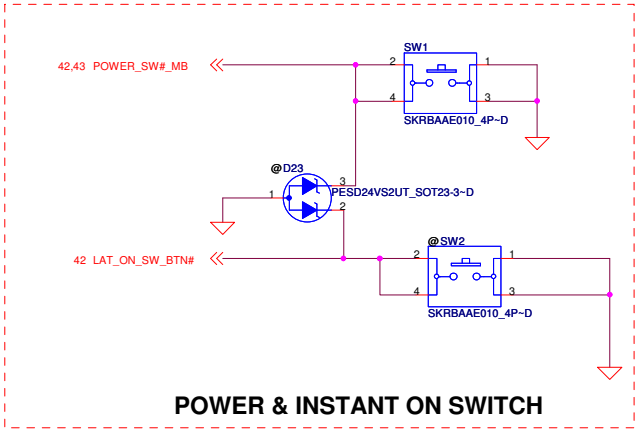
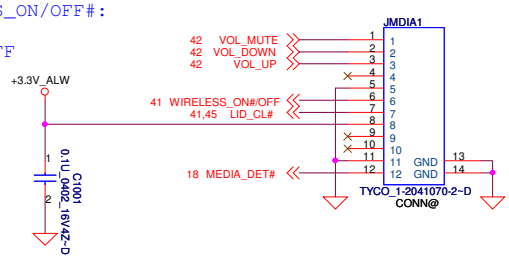


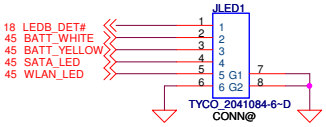
POWER & INSTANT ON SWITCH

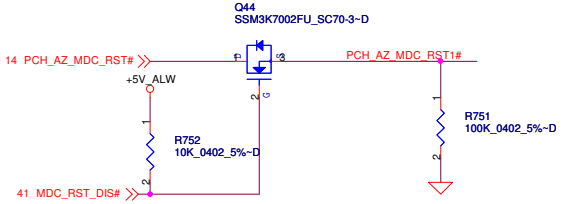
Media Board

Defult on,
WIRELESS_ON/OFF#:
LOW: ON
HIGH: OFF



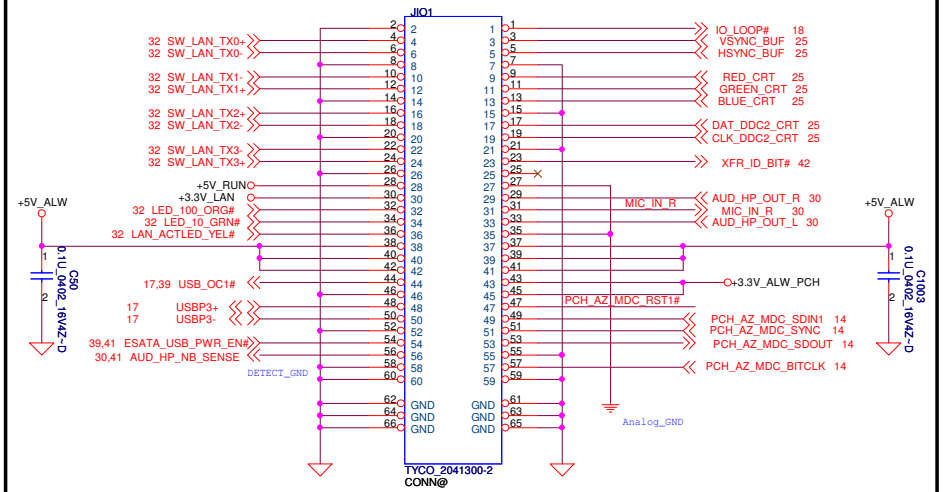
LED Board

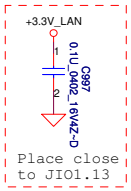


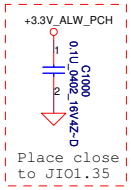


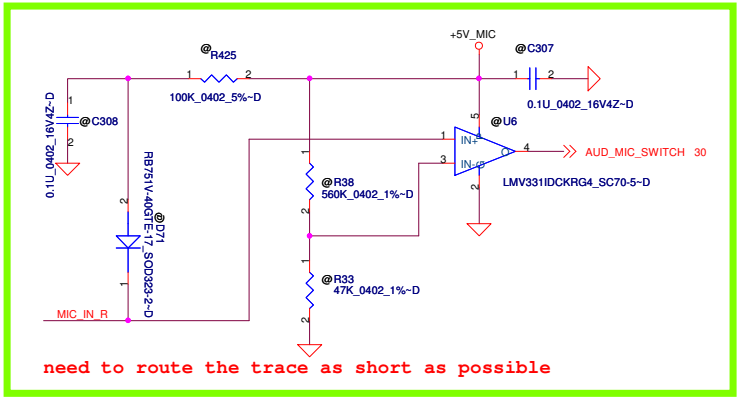
I/O board CONN.

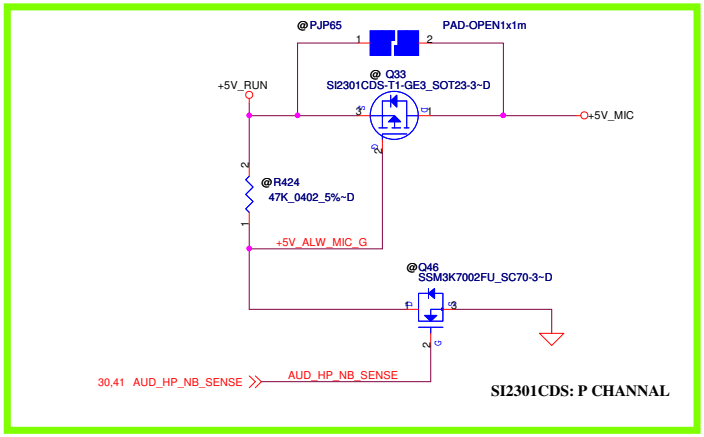
Change to TYCO_2041300-2_60P-T and Horizonal reverse to SSI











DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title: PWR SW/Sub-board Connector

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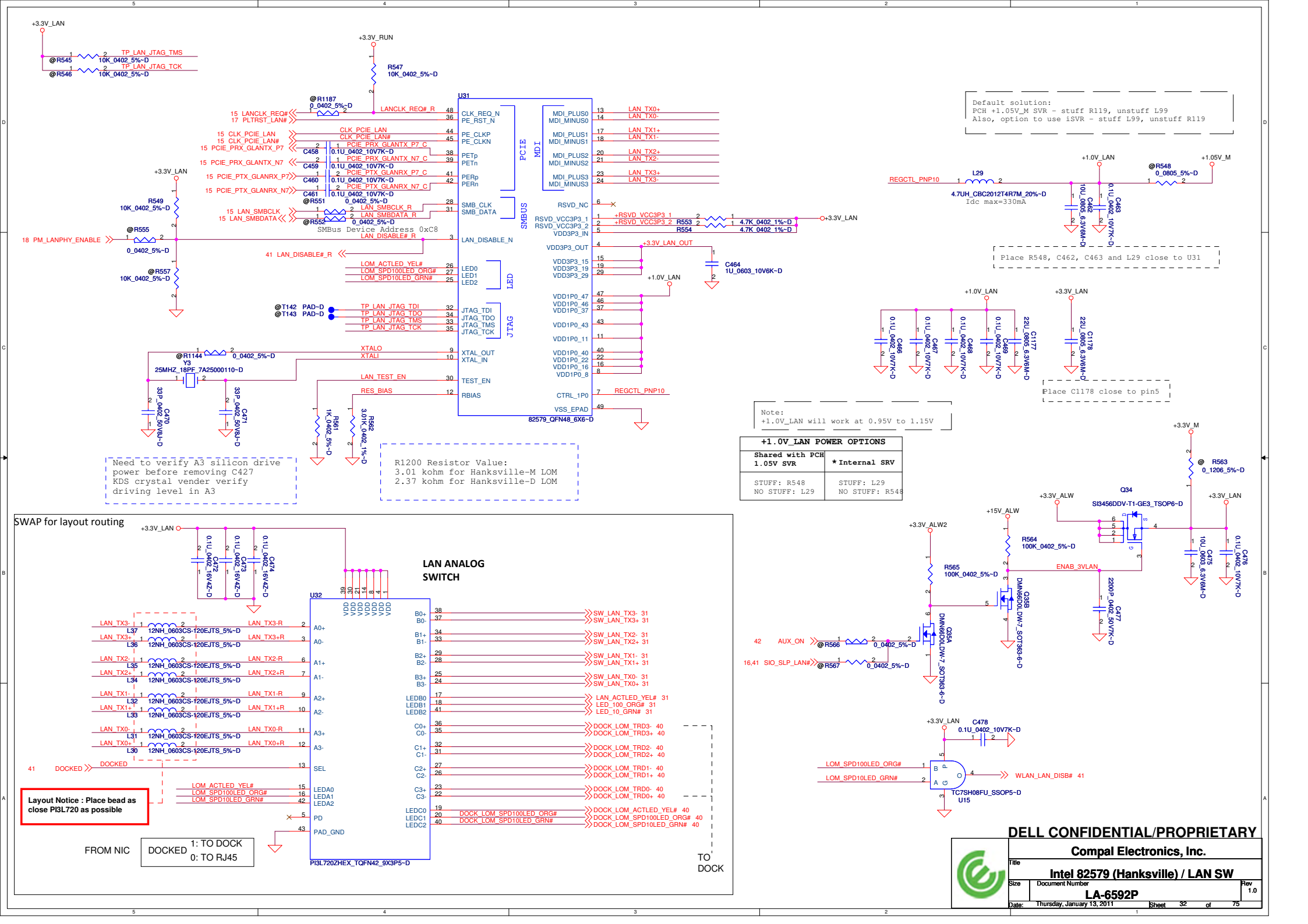

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Compal Electronics, Inc.	
Title	Intel 82579 (Hanksville) / LAN SW
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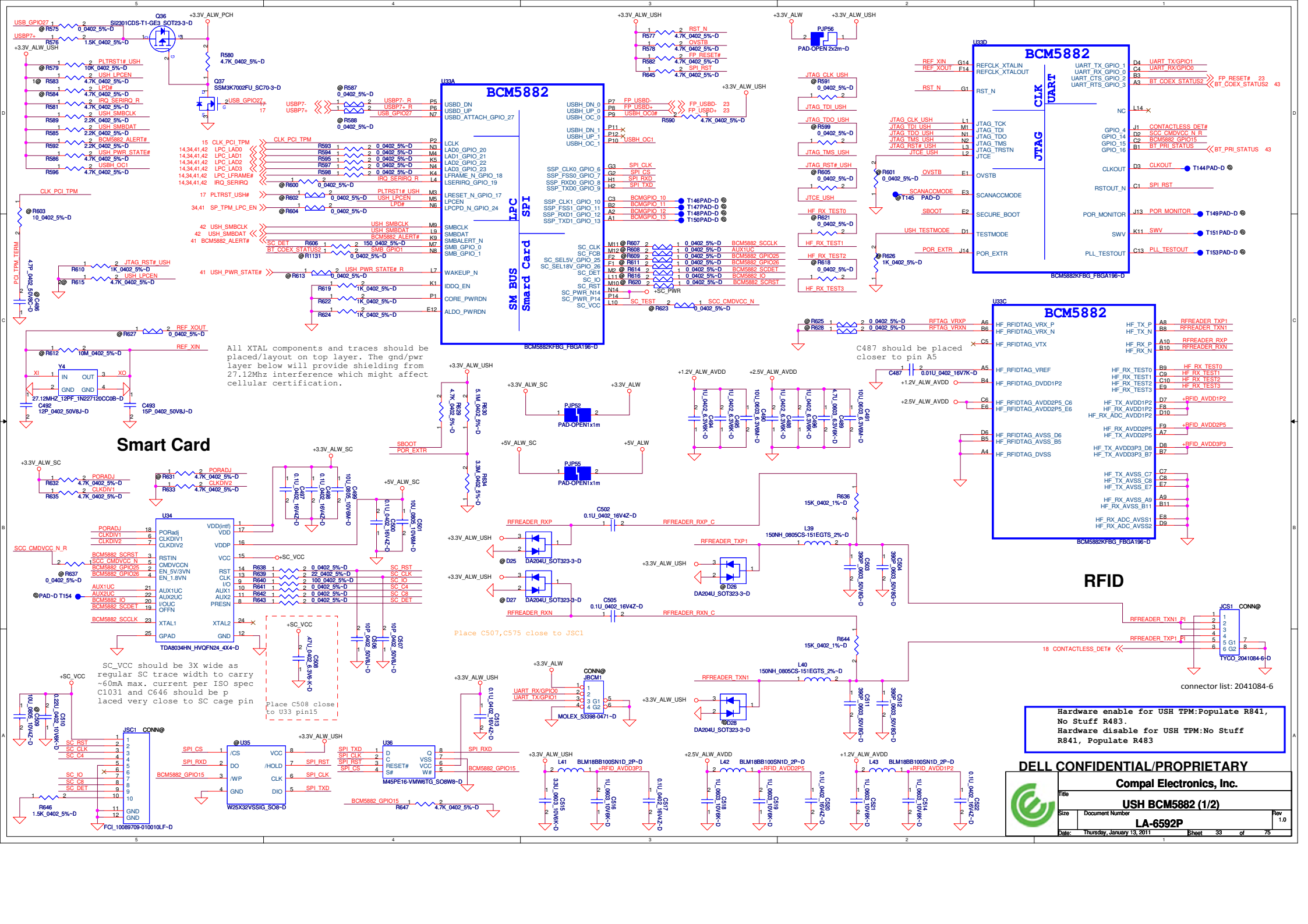
BCM5882
BCM5882KFBG_FBGA196-D
Smart Card
RFID
All XTAL components and traces should be placed/layout on top layer. The gnd/pwr layer below will provide shielding from 27.12Mhz interference which might affect cellular certification.
C487 should be placed closer to pin A5
SC_VCC should be 3X wide as regular SC trace width to carry ~60mA max. current per ISO spec C1031 and C646 should be p laced very close to SC cage pin
Place C508 close to U33 pin15
Place C507,C575 close to JSC1
Hardware enable for USH TPM:Populate R841, No Stuff R483.
Hardware disable for USH TPM:No Stuff R841, Populate R483
connector list: 2041084-6
DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
USH BCM5882 (1/2)
LA-6592P
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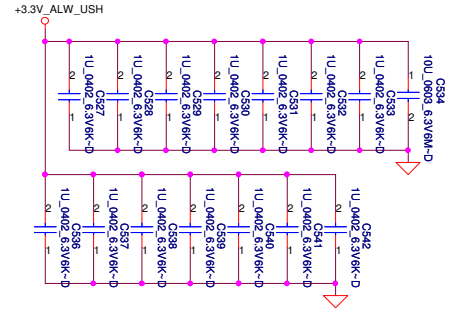
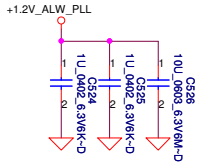
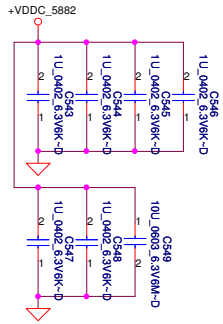
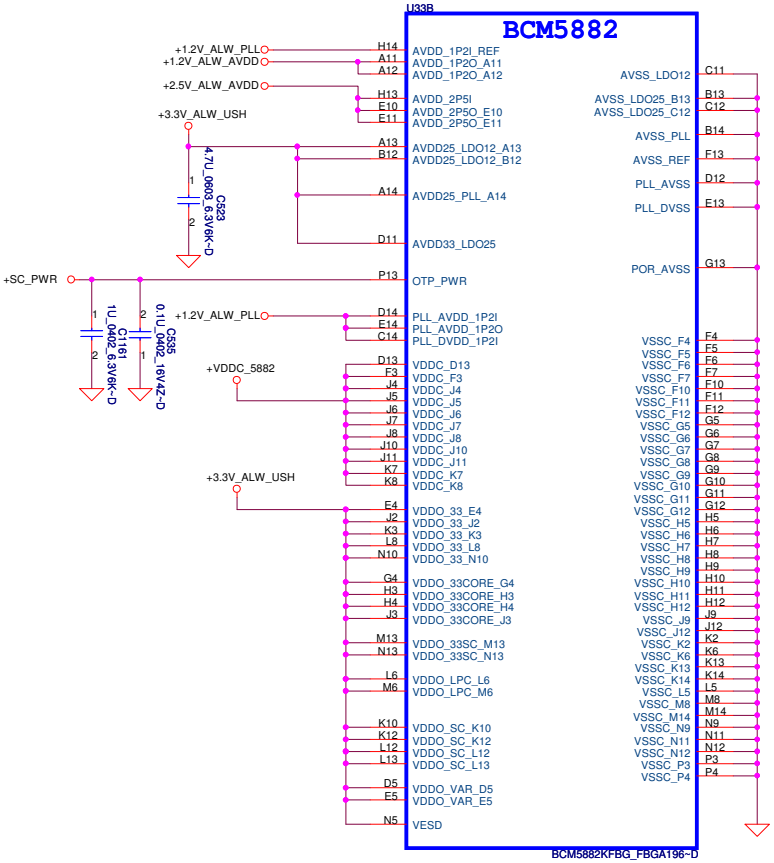


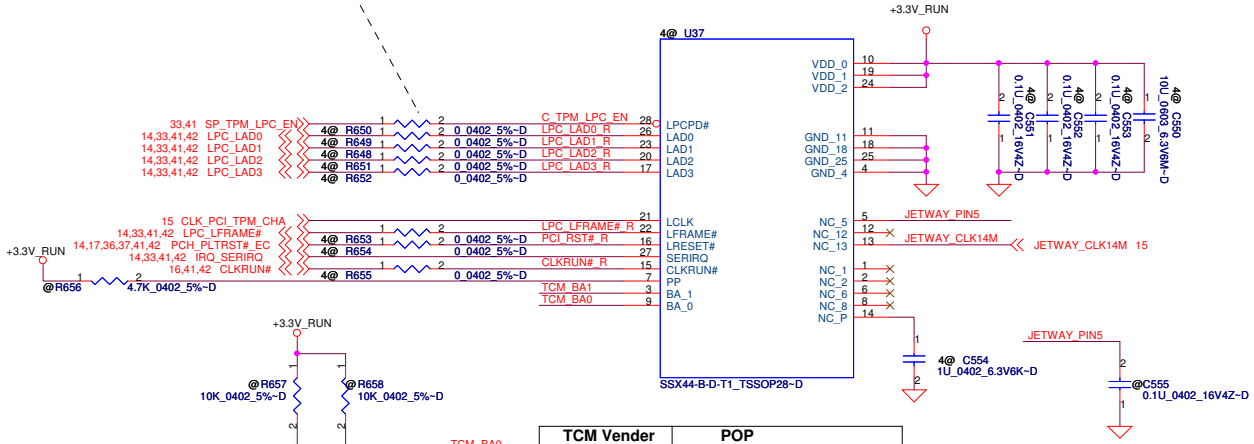






LOW:Power Down Mode
High:Working Mode

China TCM: NationZ & Jetway co-lay



TCM Vender	POP
NationZ	R659, R660, C550, C554
Jetway	C555, RH315

USH BCM5882 and China TCM Z8H172T Option				
PART/PIN	Ref Des	TCM Enable	TPM Enable	ALL TPM/TCM Disable
TCM circuit	All 4@	POP	@	@
USH_LPCEN	PU R583	@	POP	@
	PD R615	POP	@	@
SIO 5028 ->SP_TPM_LPC_EN	PU R772	@	@	@
PCH GPIO39 ->TPM_ID1	PU RH268	@	POP	POP
	PD RH271	POP	@	@
PCH GPIO38 ->TPM_ID0	PU RH267	@	POP	@
	PD RH270	POP	@	POP

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Compal Electronics, Inc.

Title: USH BCM5882 (2/2)

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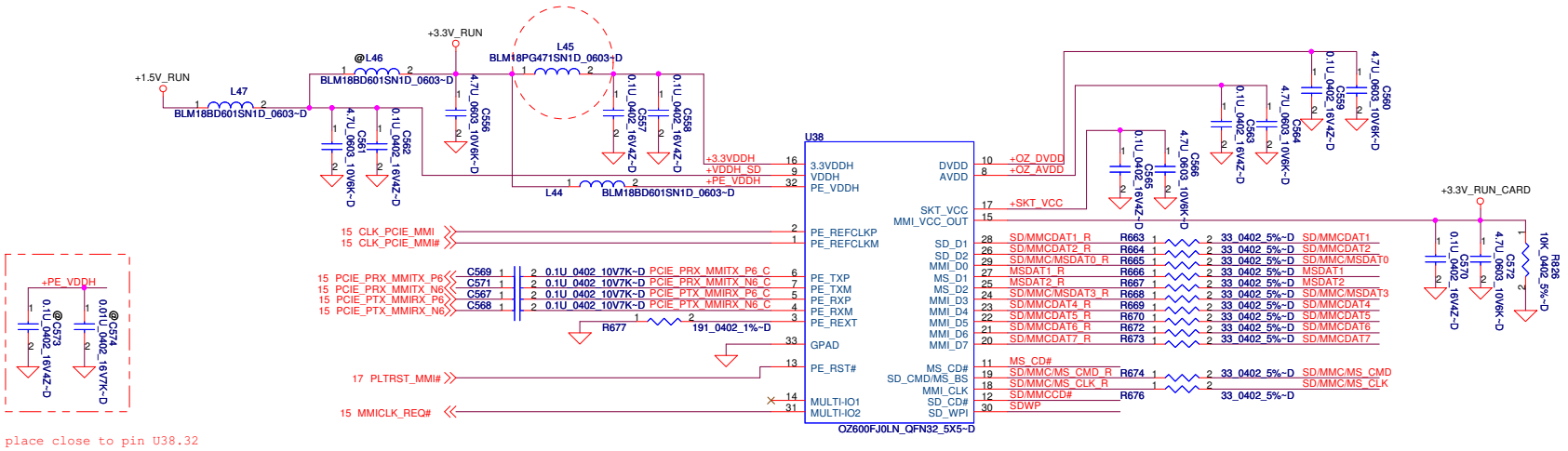
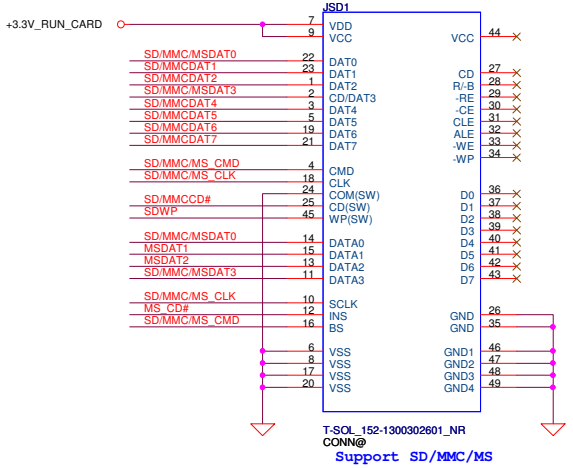
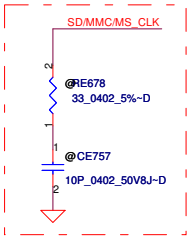
need to apply CIS symbol.



Note: The trace need to route as daisy-chain and the trace of SD signals need to route as short as possible



EMI request



Compal Electronics, Inc.

Title: Card Reader OZ600FJ0

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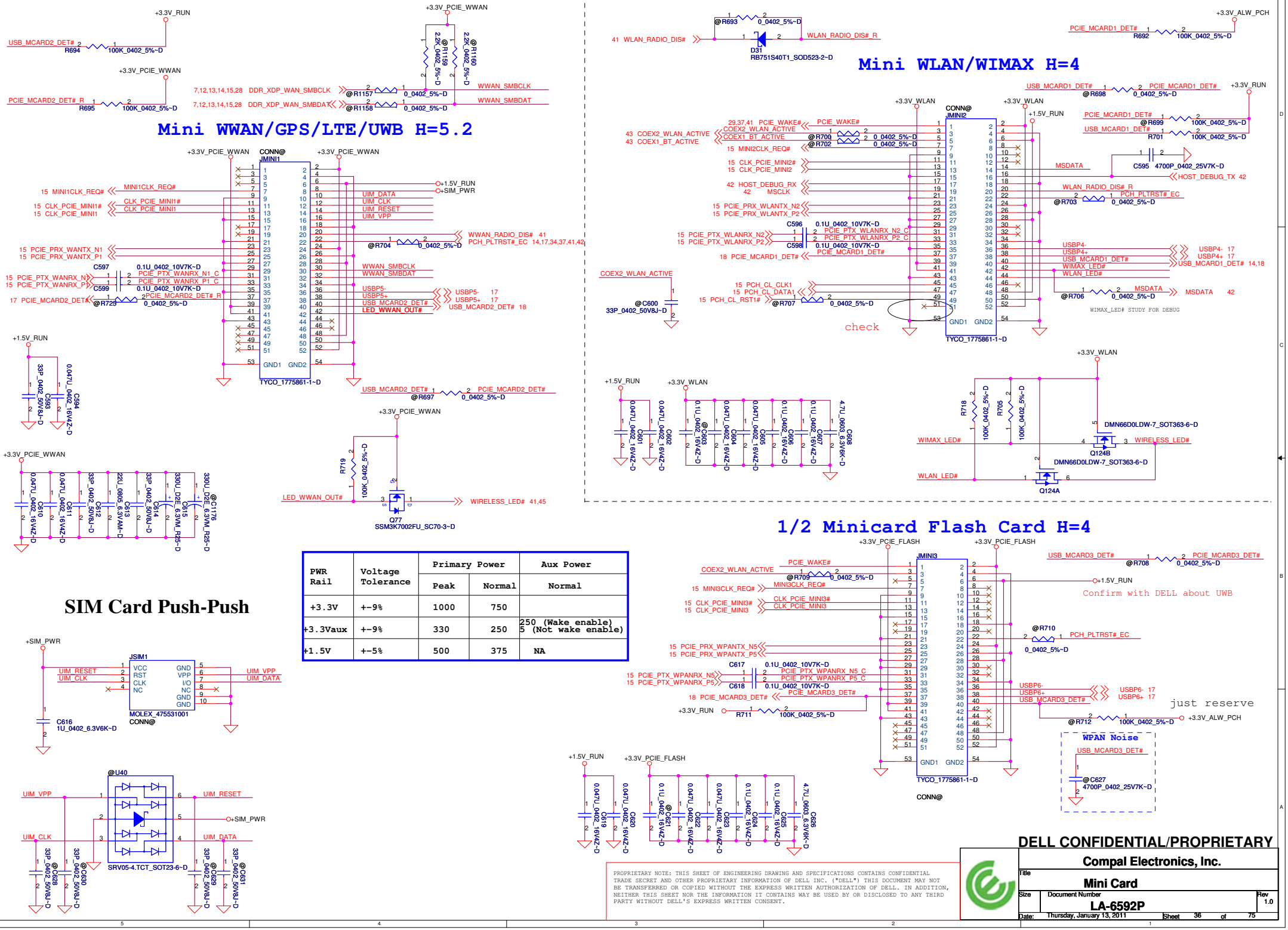

PWR Rail	Voltage Tolerance	Primary Power		Aux Power
		Peak	Normal	Normal
+3.3V	+-9%	1000	750	
+3.3Vaux	+-9%	330	250	250 (Wake enable) 5 (Not wake enable)
+1.5V	+-5%	500	375	NA

Compal Electronics, Inc.

Title: Mini Card

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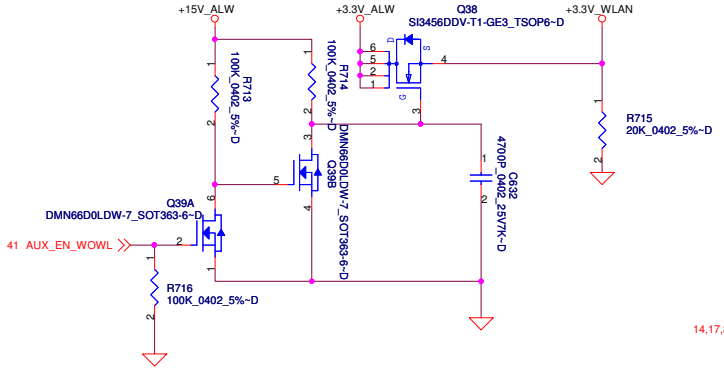
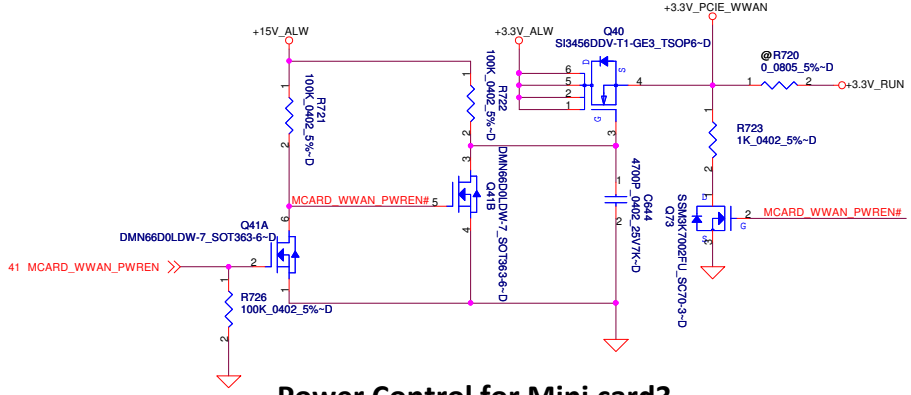
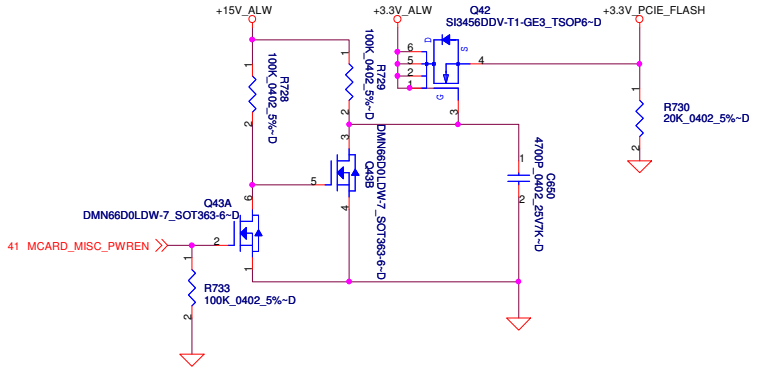
Power Control for Mini card2



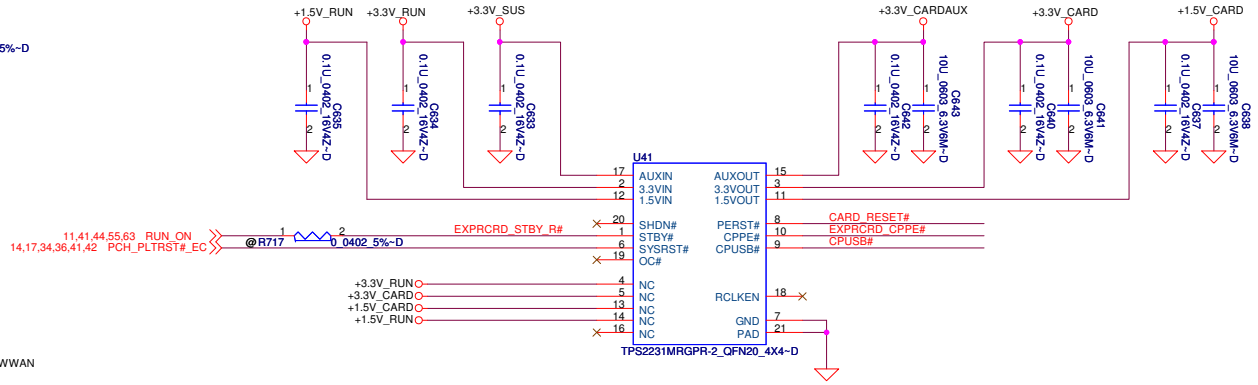
Power Control for Mini card1



Power Control for Mini card3

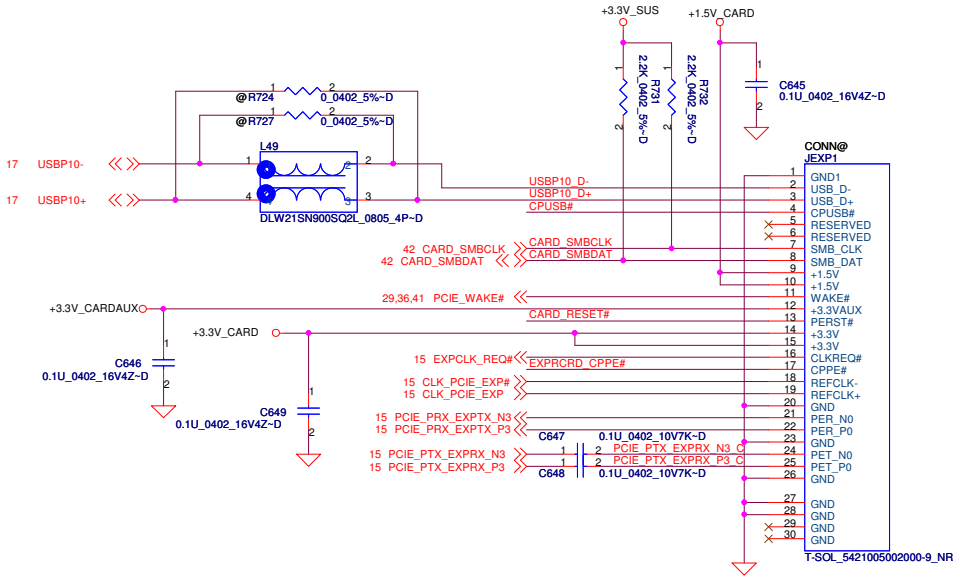


Express Card PWR S/W



Note: Add connection on pin4, pin5, pin 13 and pin14 to support GMT 2nd source part

Express Card Conn.



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Compal Electronics, Inc.

Title: PCIE-SATA SW / PCIE PWR

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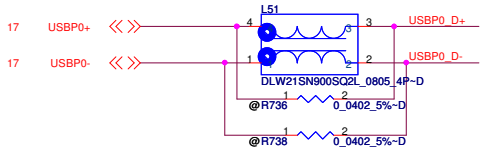

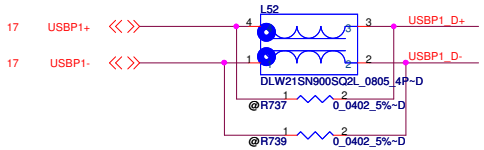

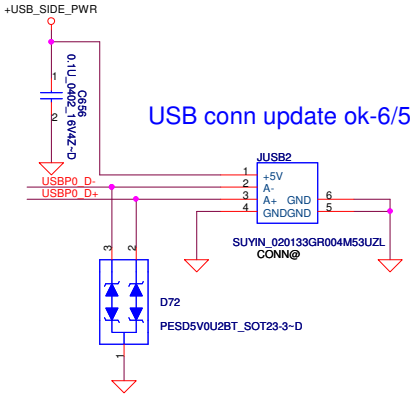

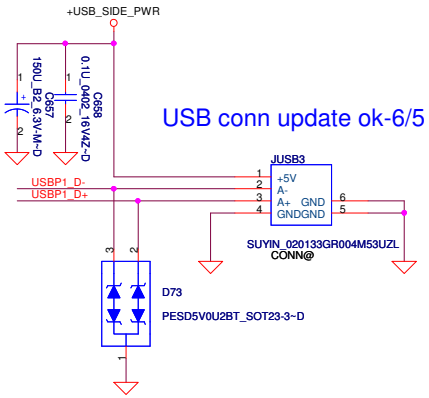

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Compal Electronics, Inc.	
Title: USB x2	
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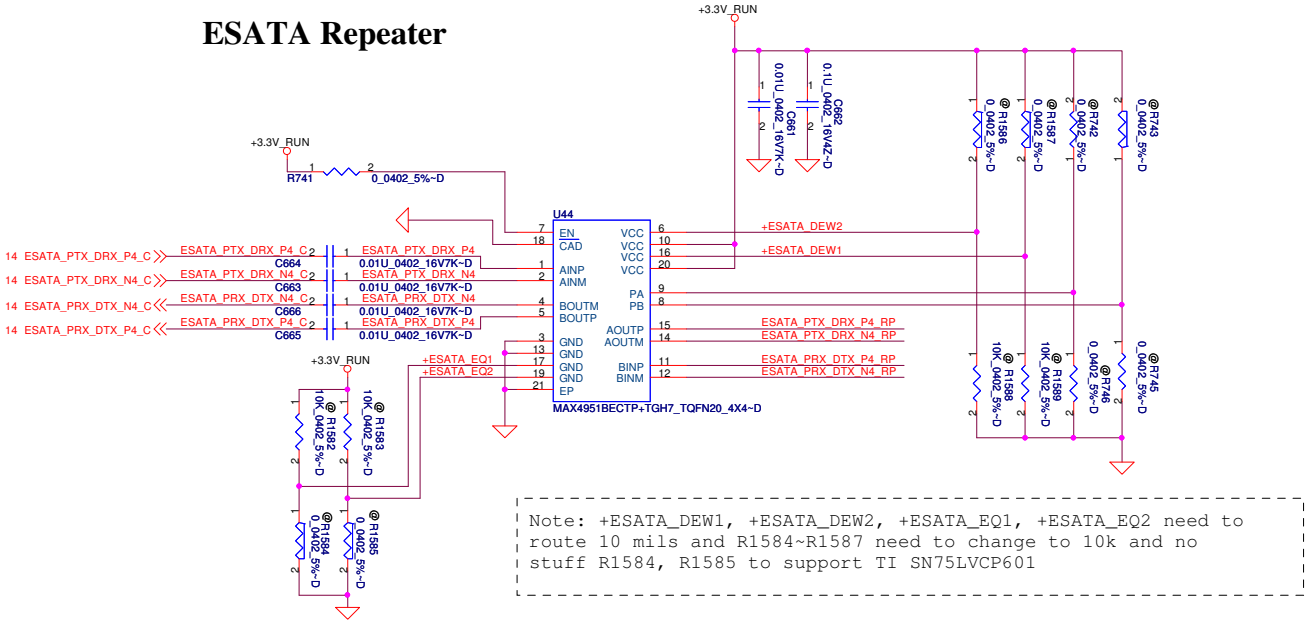
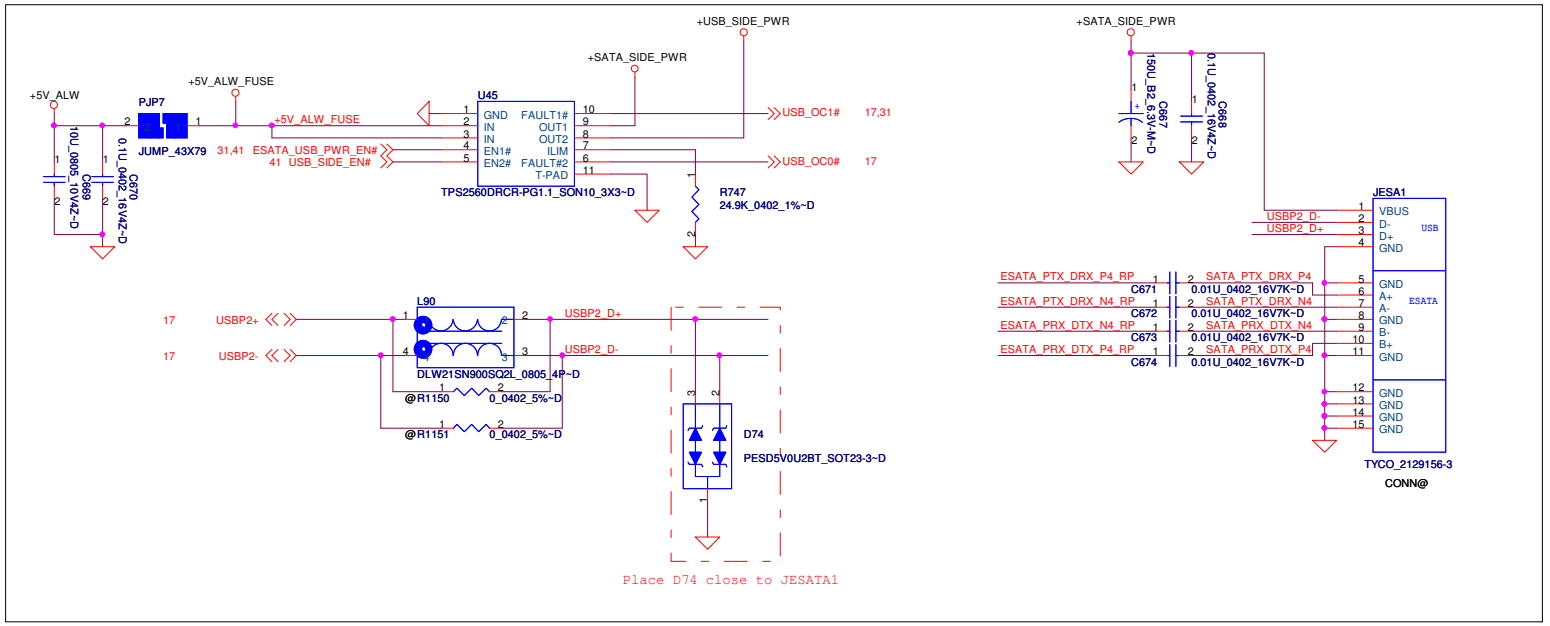
ESATA Repeater



Note: +ESATA_DEW1, +ESATA_DEW2, +ESATA_EQ1, +ESATA_EQ2 need to route 10 mils and R1584~R1587 need to change to 10k and no stuff R1584, R1585 to support TI SN75LVCP601



Compal Electronics, Inc.

Title: USB/ESATA/IO/MDC

Size | Document Number: LA-6592P | Rev: 1.0

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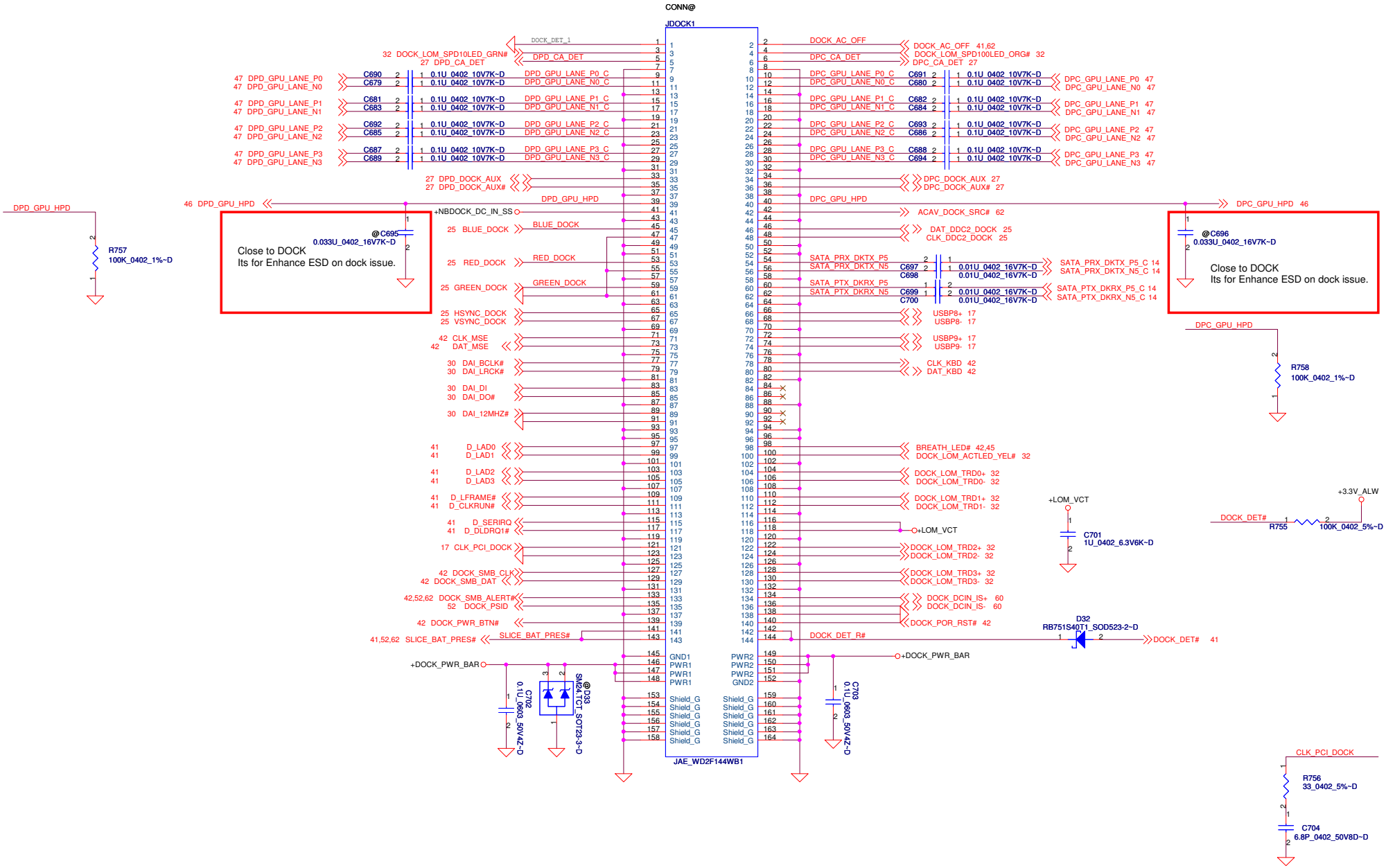

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Compal Electronics, Inc.

Title	DOCKING CONN	
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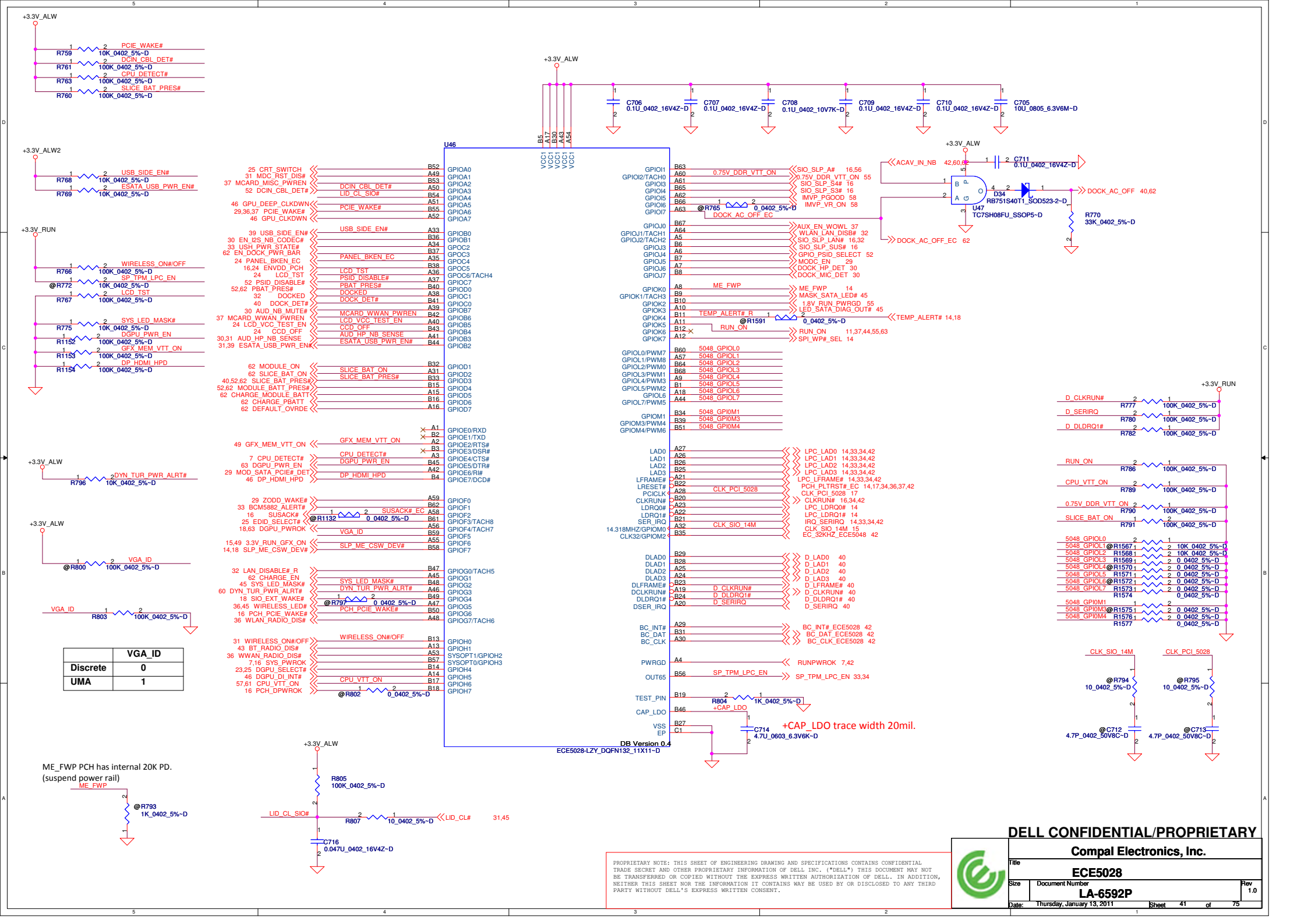
U46
ECE5028-LZY_DQFN132_11X11~D
DB Version 0.4
+3.3V_ALW
+3.3V_RUN
+3.3V_ALW2
PCIE_WAKE# R759 10K_0402_5%~D
DCIN_CBL_DET# R761 100K_0402_5%~D
CPU_DETECT# R763 100K_0402_5%~D
SLICE_BAT_PRES# R760 100K_0402_5%~D
USB_SIDE_EN# R768 10K_0402_5%~D
ESATA_USB_PWR_EN# R769 10K_0402_5%~D
WIRELESS_ON#/OFF R766 100K_0402_5%~D
SP_TPM_LPC_EN @R772 10K_0402_5%~D
LCD_TST R767 100K_0402_5%~D
SYS_LED_MASK# R775 10K_0402_5%~D
DGPU_PWR_EN R1152 100K_0402_5%~D
GFX_MEM_VTT_ON R1153 100K_0402_5%~D
DP_HDMI_HPD R1154 100K_0402_5%~D
DYN_TUR_PWR_ALRT# R796 10K_0402_5%~D
VGA_ID @R800 100K_0402_5%~D
VGA_ID R803 100K_0402_5%~D
C706 0.1U_0402_16V4Z~D
C707 0.1U_0402_16V4Z~D
C708 0.1U_0402_10V7K~D
C709 0.1U_0402_16V4Z~D
C710 0.1U_0402_16V4Z~D
C705 10U_0805_6.3V6M~D
C711 0.1U_0402_16V4Z~D
D34 RB751S40T1_SOD523-2~D
U47 TC7SH08FU_SSOP5~D
R770 33K_0402_5%~D
ACAV_IN_NB 42,60,62
DOCK_AC_OFF 40,62
DOCK_AC_OFF_EC 62
@R765 0_0402_5%~D
TEMP_ALERT# 14,18
@R1591 0_0402_5%~D
R777 D_CLKRUN# 100K_0402_5%~D
R780 D_SERIRQ 100K_0402_5%~D
R782 D_DLDRQ1# 100K_0402_5%~D
R786 RUN_ON 100K_0402_5%~D
R789 CPU_VTT_ON 100K_0402_5%~D
R790 0.75V_DDR_VTT_ON 100K_0402_5%~D
R791 SLICE_BAT_ON 100K_0402_5%~D
@R1567 5048_GPIOL0 10K_0402_5%~D
R1568 5048_GPIOL2 10K_0402_5%~D
R1569 5048_GPIOL3 0_0402_5%~D
@R1570 5048_GPIOL4 0_0402_5%~D
R1571 5048_GPIOL5 0_0402_5%~D
@R1572 5048_GPIOL6 0_0402_5%~D
R1573 5048_GPIOL7 0_0402_5%~D
R1574 0_0402_5%~D
@R1575 5048_GPIOM3 0_0402_5%~D
R1576 5048_GPIOM4 0_0402_5%~D
R1577 0_0402_5%~D
@R794 CLK_SIO_14M 10_0402_5%~D
@R795 CLK_PCI_5028 10_0402_5%~D
@C712 4.7P_0402_50V8C~D
@C713 4.7P_0402_50V8C~D
@R1132 SUSACK# 0_0402_5%~D
@R797 0_0402_5%~D
@R802 0_0402_5%~D
R804 1K_0402_5%~D
+CAP_LDO
C714 4.7U_0603_6.3V6K~D
+CAP_LDO trace width 20mil.
R805 100K_0402_5%~D
@R793 1K_0402_5%~D
ME_FWP
ME_FWP PCH has internal 20K PD.
(suspend power rail)
R807 LID_CL# 10_0402_5%~D
C716 0.047U_0402_16V4Z~D
LID_CL_SIO#
GPIOA0 GPIOA1 GPIOA2 GPIOA3 GPIOA4 GPIOA5 GPIOA6 GPIOA7
GPIOB0 GPIOB1 GPIOC2 GPIOC3 GPIOC4 GPIOC5 GPIOC6/TACH4 GPIOC7 GPIOD0 GPIOC1 GPIOC0 GPIOB7 GPIOB6 GPIOB5 GPIOB4 GPIOB3 GPIOB2
GPIOD1 GPIOD2 GPIOD3 GPIOD4 GPIOD5 GPIOD6 GPIOD7
GPIOE0/RXD GPIOE1/TXD GPIOE2/RTS# GPIOE3/DSR# GPIOE4/CTS# GPIOE5/DTR# GPIOE6/RI# GPIOE7/DCD#
GPIOF0 GPIOF1 GPIOF2 GPIOF3/TACH8 GPIOF4/TACH7 GPIOF5 GPIOF6 GPIOF7
GPIOG0/TACH5 GPIOG1 GPIOG2 GPIOG3 GPIOG4 GPIOG5 GPIOG6 GPIOG7/TACH6
GPIOH0 GPIOH1 SYSOPT1/GPIOH2 SYSOPT0/GPIOH3 GPIOH4 GPIOH5 GPIOH6 GPIOH7
GPIOI1 GPIOI2/TACH0 GPIOI3 GPIOI4 GPIOI5 GPIOI6 GPIOI7
GPIOJ0 GPIOJ1/TACH1 GPIOJ2/TACH2 GPIOJ3 GPIOJ4 GPIOJ5 GPIOJ6 GPIOJ7
GPIOK0 GPIOK1/TACH3 GPIOK2 GPIOK3 GPIOK4 GPIOK5 GPIOK6 GPIOK7
GPIOL0/PWM7 GPIOL1/PWM8 GPIOL2/PWM0 GPIOL3/PWM1 GPIOL4/PWM3 GPIOL5/PWM2 GPIOL6 GPIOL7/PWM5
GPIOM1 GPIOM3/PWM4 GPIOM4/PWM6
LAD0 LAD1 LAD2 LAD3 LFRAME# LRESET# PCICLK CLKRUN# LDRQ0# LDRQ1# SER_IRQ 14.318MHZ/GPIOM0 CLK32/GPIOM2
DLAD0 DLAD1 DLAD2 DLAD3 DLFRAME# DCLKRUN# DLDRQ1# DSER_IRQ
BC_INT# BC_DAT BC_CLK
PWRGD OUT65 TEST_PIN CAP_LDO VSS EP
SIO_SLP_A# 16,56
0.75V_DDR_VTT_ON
SIO_SLP_S4# 16
SIO_SLP_S3# 16
IMVP_PGOOD 58
IMVP_VR_ON 58
AUX_EN_WOWL 37
WLAN_LAN_DISB# 32
SIO_SLP_LAN# 16,32
SIO_SLP_SUS# 16
GPIO_PSID_SELECT 52
MODC_EN 29
DOCK_HP_DET 30
DOCK_MIC_DET 30
ME_FWP 14
MASK_SATA_LED# 45
1.8V_RUN_PWRGD 55
LED_SATA_DIAG_OUT# 45
RUN_ON 11,37,44,55,63
SPI_WP#_SEL 14
5048_GPIOL0 5048_GPIOL1 5048_GPIOL2 5048_GPIOL3 5048_GPIOL4 5048_GPIOL5 5048_GPIOL6 5048_GPIOL7
5048_GPIOM1 5048_GPIOM3 5048_GPIOM4
LPC_LAD0 14,33,34,42
LPC_LAD1 14,33,34,42
LPC_LAD2 14,33,34,42
LPC_LAD3 14,33,34,42
LPC_LFRAME# 14,33,34,42
PCH_PLTRST#_EC 14,17,34,36,37,42
CLK_PCI_5028 17
CLKRUN# 16,34,42
LPC_LDRQ0# 14
LPC_LDRQ1# 14
IRQ_SERIRQ 14,33,34,42
CLK_SIO_14M 15
EC_32KHZ_ECE5048 42
D_LAD0 40
D_LAD1 40
D_LAD2 40
D_LAD3 40
D_LFRAME# 40
D_CLKRUN# 40
D_DLDRQ1# 40
D_SERIRQ 40
BC_INT#_ECE5028 42
BC_DAT_ECE5028 42
BC_CLK_ECE5028 42
RUNPWROK 7,42
SP_TPM_LPC_EN 33,34
25 CRT_SWITCH
31 MDC_RST_DIS#
37 MCARD_MISC_PWREN
52 DCIN_CBL_DET#
46 GPU_DEEP_CLKDWN
29,36,37 PCIE_WAKE#
46 GPU_CLKDWN
39 USB_SIDE_EN#
30 EN_I2S_NB_CODEC#
33 USH_PWR_STATE#
62 EN_DOCK_PWR_BAR
24 PANEL_BKEN_EC
16,24 ENVDD_PCH
24 LCD_TST
52 PSID_DISABLE#
52,62 PBAT_PRES#
32 DOCKED
40 DOCK_DET#
30 AUD_NB_MUTE#
37 MCARD_WWAN_PWREN
24 LCD_VCC_TEST_EN
24 CCD_OFF
30,31 AUD_HP_NB_SENSE
31,39 ESATA_USB_PWR_EN#
62 MODULE_ON
62 SLICE_BAT_ON
40,52,62 SLICE_BAT_PRES#
52,62 MODULE_BATT_PRES#
62 CHARGE_MODULE_BATT
62 CHARGE_PBATT
62 DEFAULT_OVRDE
49 GFX_MEM_VTT_ON
7 CPU_DETECT#
63 DGPU_PWR_EN
29 MOD_SATA_PCIE#_DET
46 DP_HDMI_HPD
29 ZODD_WAKE#
33 BCM5882_ALERT#
16 SUSACK#
25 EDID_SELECT#
18,63 DGPU_PWROK
15,49 3.3V_RUN_GFX_ON
14,18 SLP_ME_CSW_DEV#
32 LAN_DISABLE#_R
62 CHARGE_EN
45 SYS_LED_MASK#
60 DYN_TUR_PWR_ALRT#
18 SIO_EXT_WAKE#
36,45 WIRELESS_LED#
16 PCH_PCIE_WAKE#
36 WLAN_RADIO_DIS#
31 WIRELESS_ON#/OFF
43 BT_RADIO_DIS#
36 WWAN_RADIO_DIS#
7,16 SYS_PWROK
23,25 DGPU_SELECT#
46 DGPU_DI_INT#
57,61 CPU_VTT_ON
16 PCH_DPWROK
VGA_ID
Discrete 0
UMA 1
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Title ECE5028
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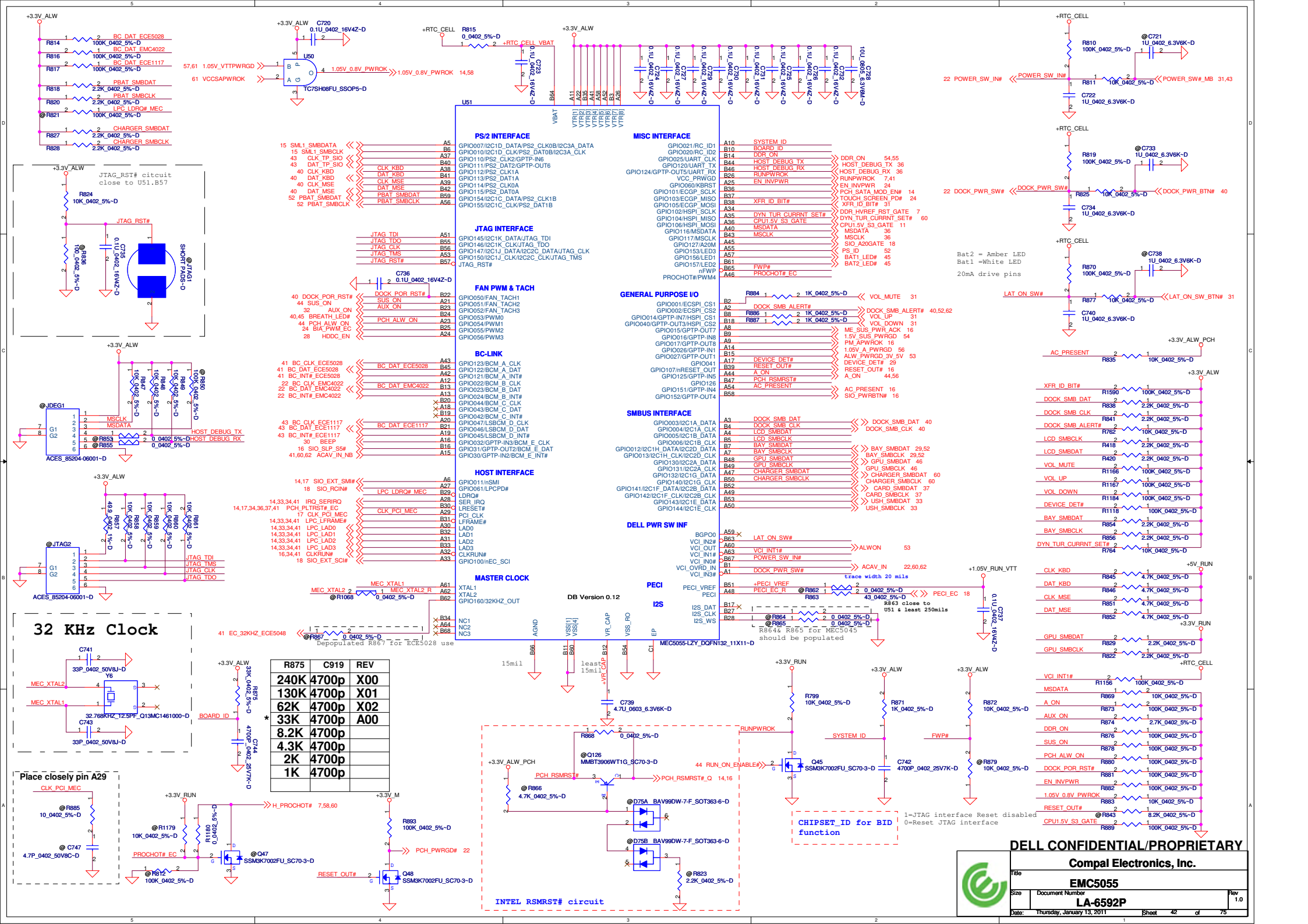
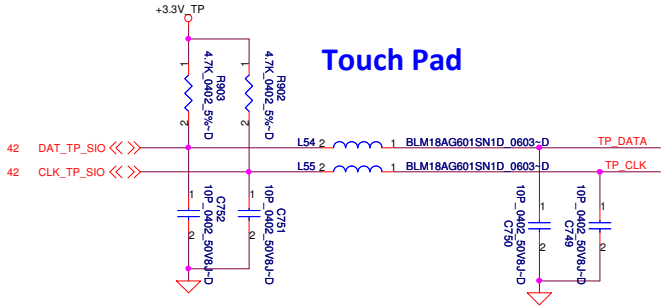
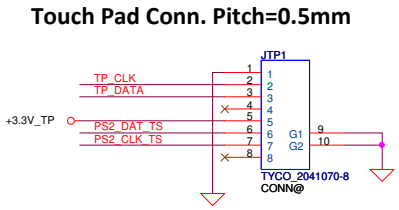
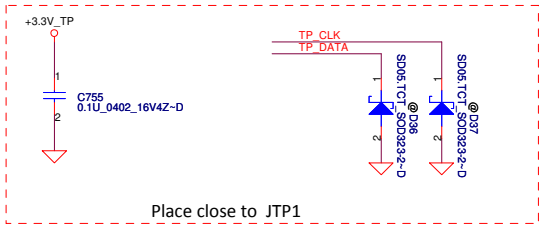


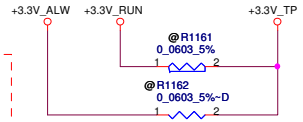
R875	C919	REV
240K	4700p	X00
130K	4700p	X01
62K	4700p	X02
33K	4700p	A00
8.2K	4700p	
4.3K	4700p	
2K	4700p	
1K	4700p	

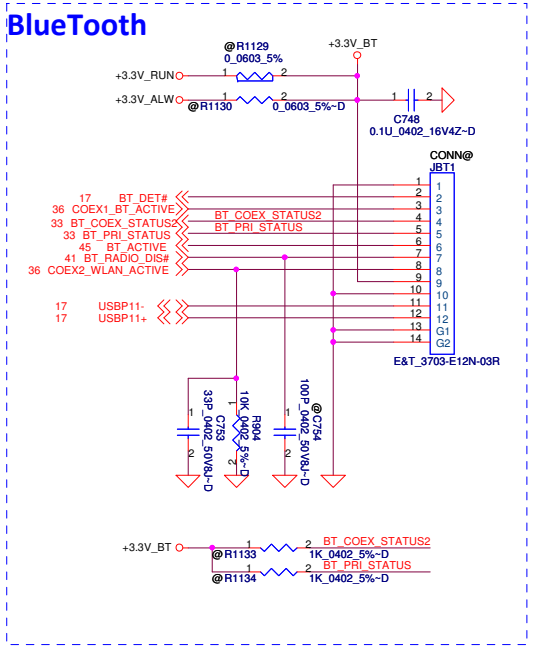


Pin reverse for PT

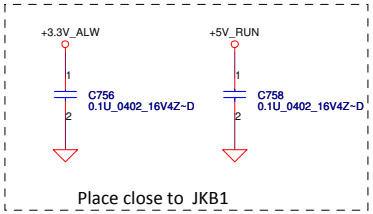


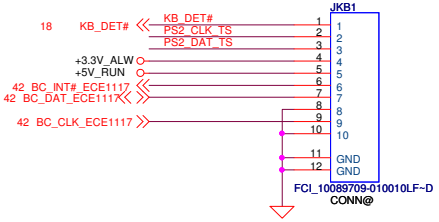


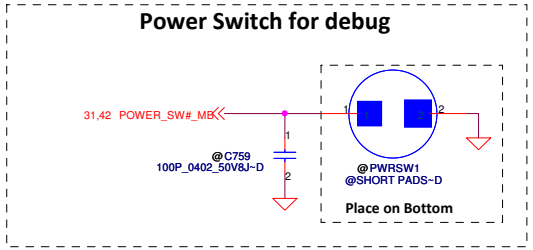




Change KB connector to same as JSC1







@LED Board FFC

Part Number	Description
NBX0000RP0L	FFC 6P H P1 PAD=0.7 87.4MM MB-LED/B 0FD

@MEDIA Board FFC

Part Number	Description
NBX0000RS0L	FFC 12P G P.5 PAD.3 75MM MB-VOLUME/B 0FD

@LVDS cable

Part Number	Description
DC02C00180L	H-CONN SET 0FD MB-LCD CAM LED 2CHANNEL

@SG DC IN wire cable

Part Number	Description
DC30100BO0L	CONN SET 0FE DCJACK-MB WDMD-DCE30002-DF

@Battery bridge cable

Part Number	Description
DC020014Z10	H-CONN SET 0FD M/B-BATTERY 9PIN

@MDC wire set cable

Part Number	Description
DC30100BL0L	CONN SET 0FD MDC-RJ11

@T/P FFC

Part Number	Description
NBX0000RR0L	FFC 8P F P0.5 PAD=0.3 136MM MB-TP/B 0FD

@KB FFC

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

@BT wire cable

Part Number	Description
DC020014Y0L	H-CONN SET 0FD MB-BT

@LVDS cable

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

@RTC BATT

Part Number	Description
GC20323MX00	BATT CR2032 3V 220MAH MAXELL

@FAN

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

@Speak

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

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Compal Electronics, Inc.

Title: Touch PAD/Int KB/BT

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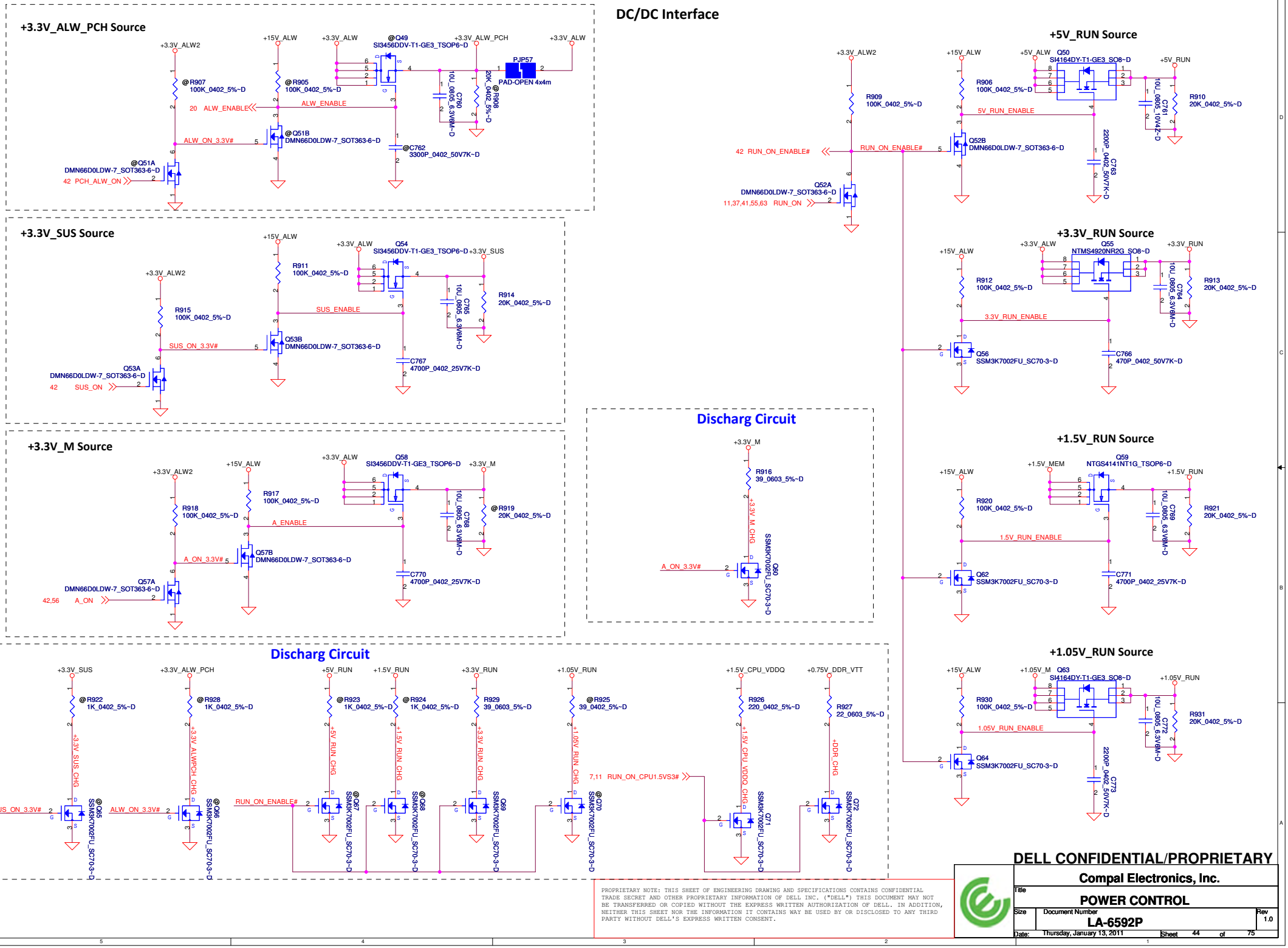
DC/DC Interface



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Compal Electronics, Inc.

Title: POWER CONTROL

Size | Document Number: LA-6592P | Rev: 1.0

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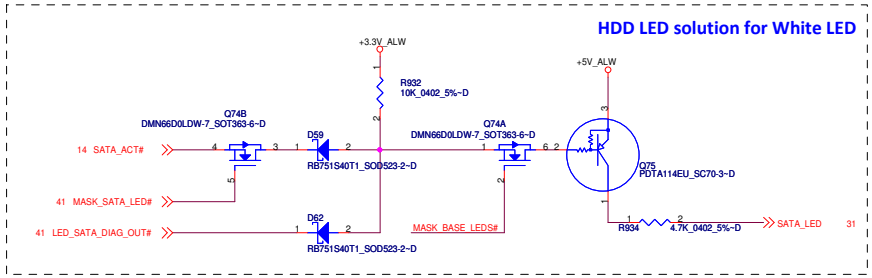

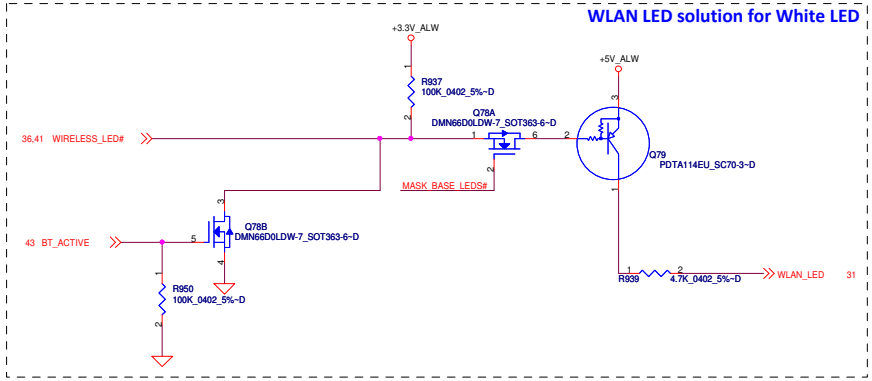

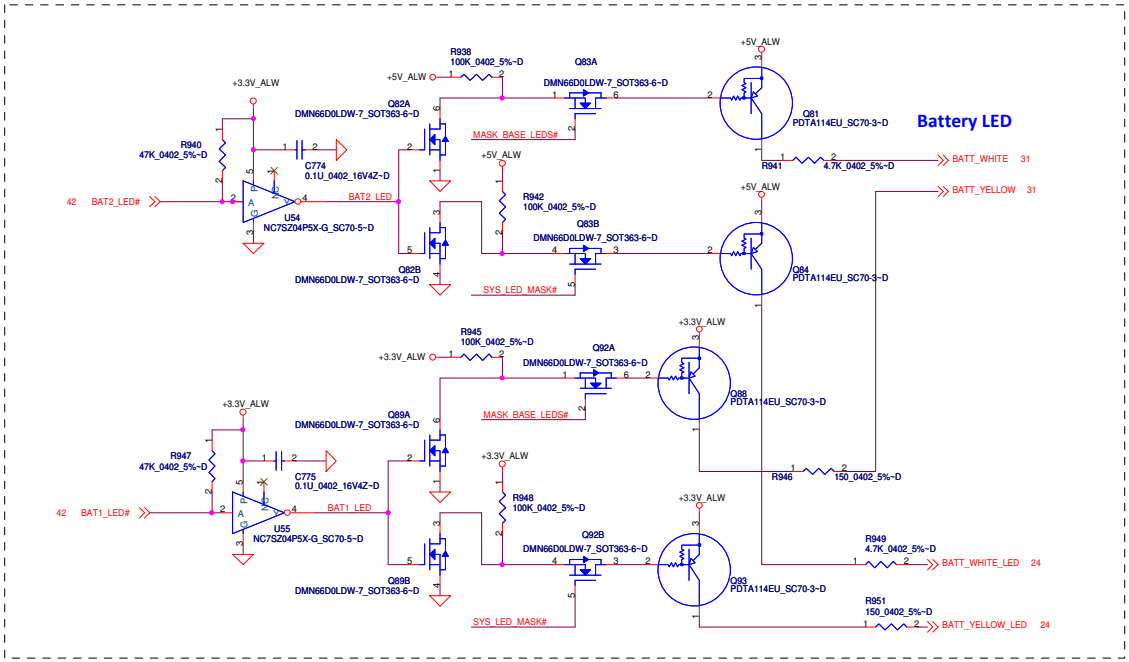

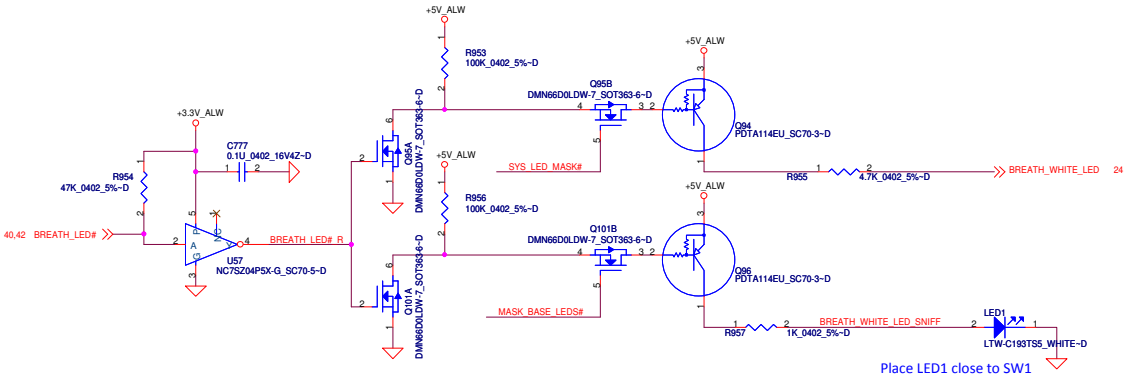

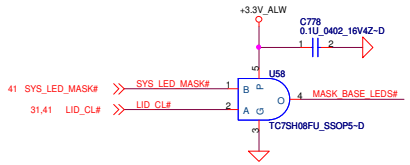

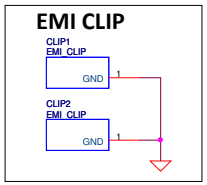

Fiducial Mark

@FD1 FIDUCIAL MARK~D
@FD2 FIDUCIAL MARK~D
@FD3 FIDUCIAL MARK~D
@FD4 FIDUCIAL MARK~D

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

@H1 H_3P2 @H2 H_3P2 @H3 H_3P0 @H4 H_3P2 @H5 H_3P0 @H6 H_3P0 @H7 H_3P0 @H8 H_3P2 @H9 H_3P0 @H10 H_3P2 @H11 H_3P7 @H12 H_3P0 @H13 H_3P0 @H14 H_3P0 @H15 H_3P0 @H16 H_3P0 @H17 H_2P2

@H19 H_3P0x2P0 @H20 H_2P0N

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Title: PAD and Standoff

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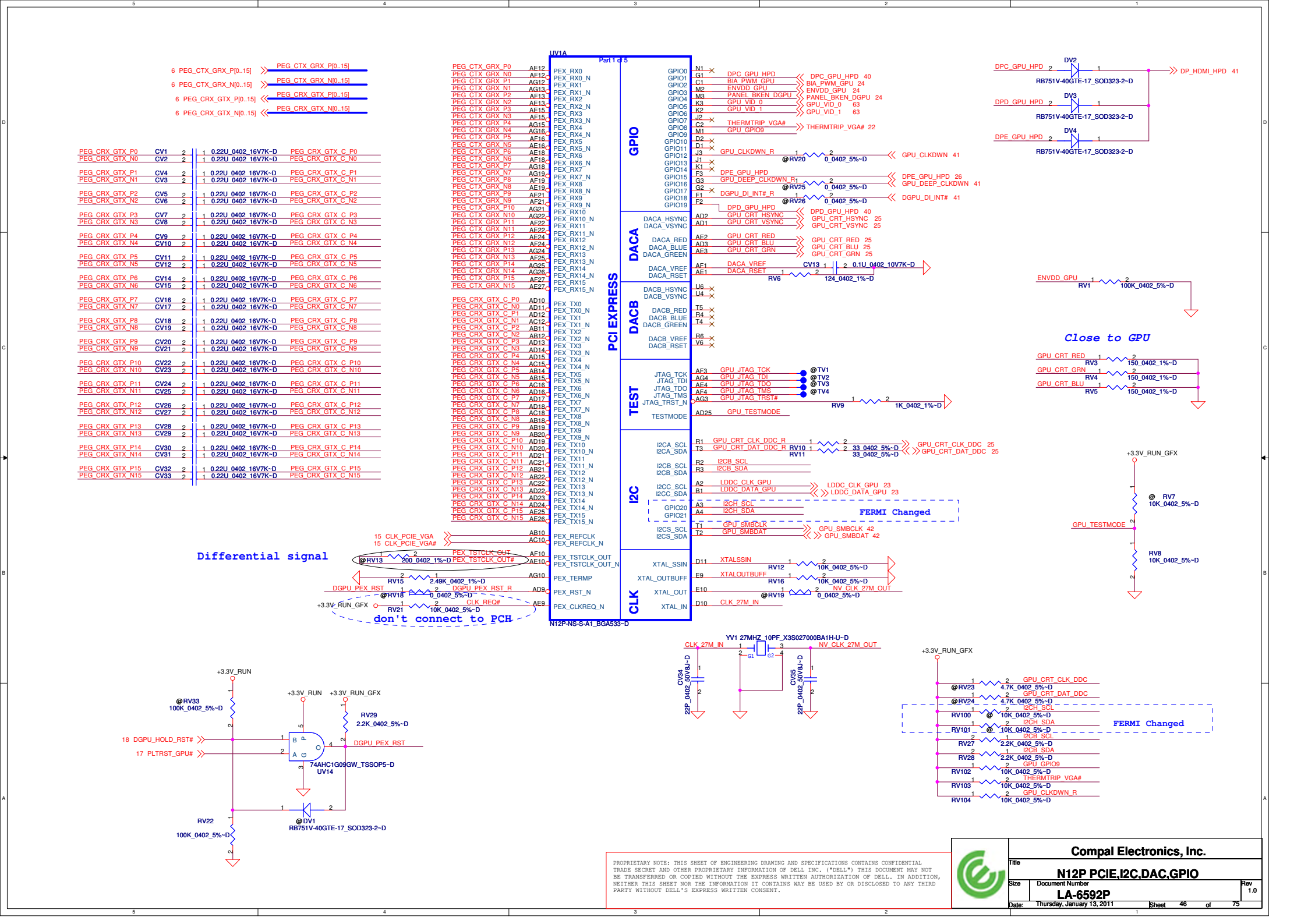
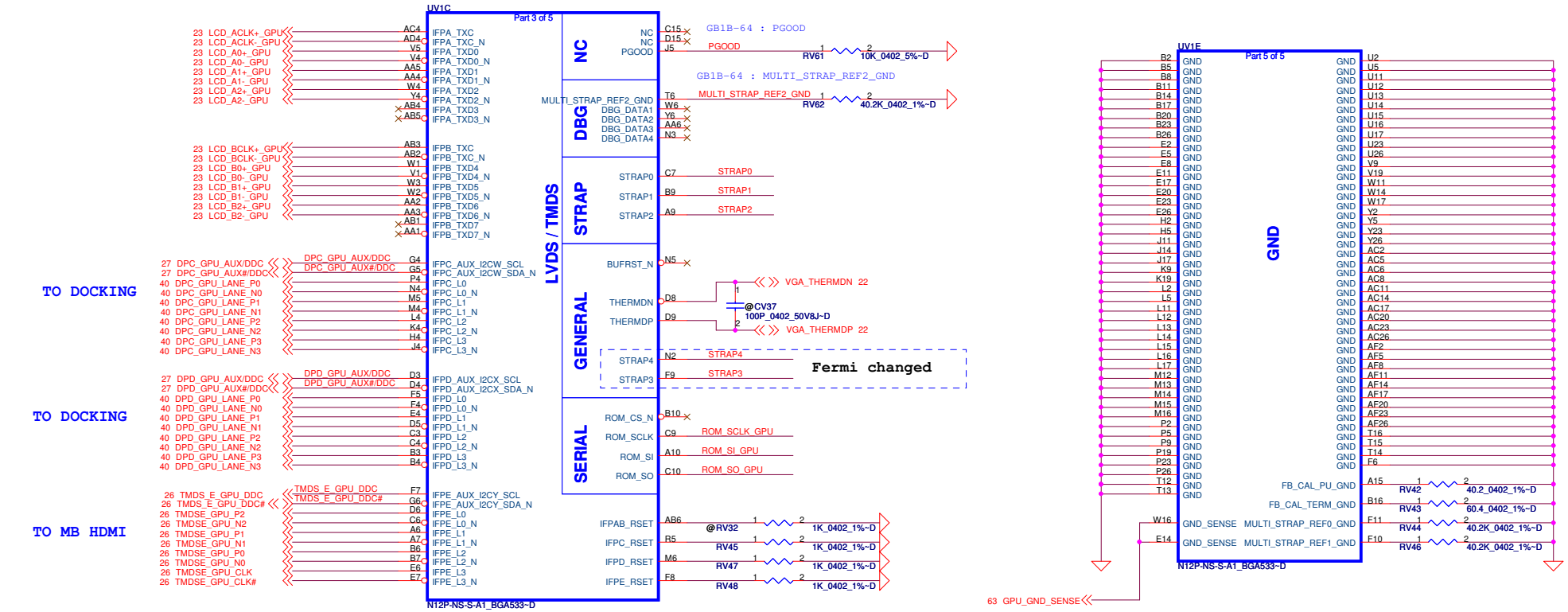
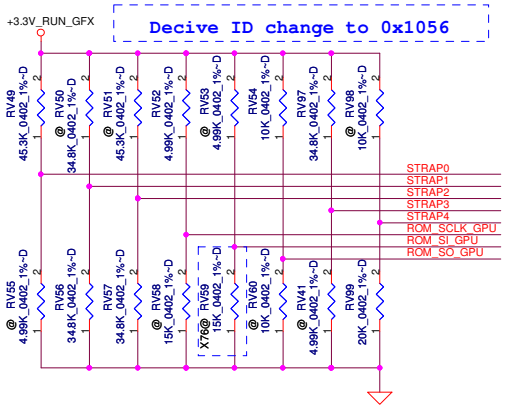
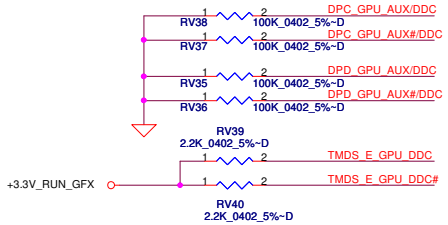

UV1A
Part 1 of 5
PCI EXPRESS
GPIO
DACA
DACB
TEST
I2C
CLK
N12P-NS-S-A1_BGA533~D
Differential signal
don't connect to PCH
Close to GPU
FERMI Changed
FERMI Changed
Compal Electronics, Inc.
N12P PCIE,I2C,DAC,GPIO
LA-6592P
Rev 1.0
Thursday, January 13, 2011
Sheet 46 of 75







set to multi-level straps

Resistor Values	Pull-up to +3V	Pull-down to Gnd
5K	1000	0000
10K	1001	0001
15K	1010	0010
20K	1011	0011
25K	1100	0100
30K	1101	0101
35K	1110	0110
45K	1111	0111

ROM_SCLK	PCIDEVID_EXT, SUB_VENDOR, SLOT_CLK, PEX_PLL_EN
ROM_SI	RAM_CFG[3:0]
ROM_SO	XCLK_417, FB_0_BAR_SIZE, ALT_ADOOR, VGA_DEVICE

** Hynix 64Mx16 DDR3 part stuff RV59=15K
Samsung 64Mx16 DDR3 part stuff RV59=20K

Hynix 128Mx16 DDR3 part stuff RV59=35K
Samsung 128Mx16 DDR3 part stuff RV59=45.3K

STRAP0	USER[3:0]
STRAP1	3GIO_PADCFG_LUT_ADR[3:0]
STRAP2	PCI_DEVID[3:0]

Compal Electronics, Inc.

Title: N12P DP, STRAP, GND

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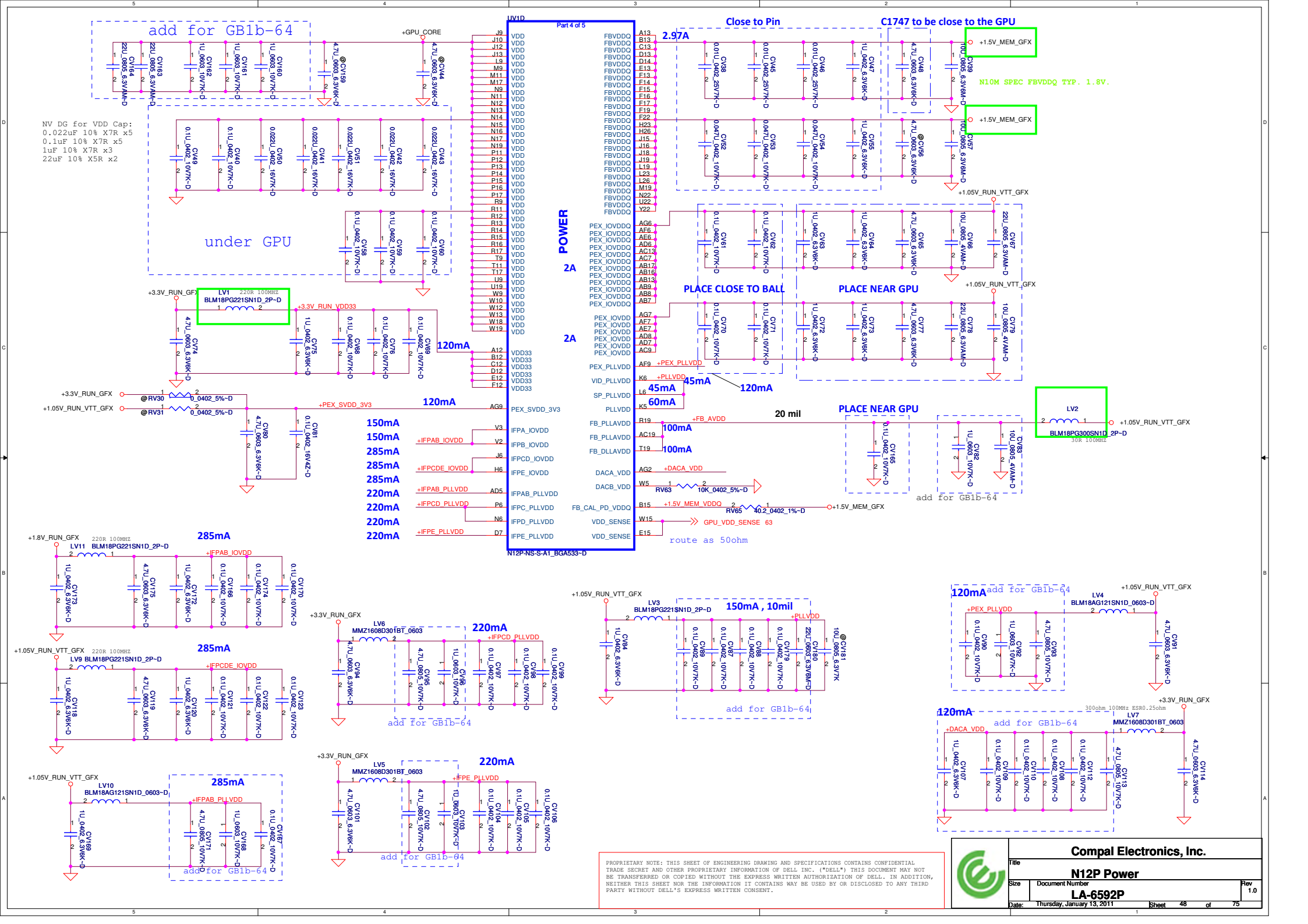

Compal Electronics, Inc.

Title: N12P Power

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FBAD[0..63] FBAD[0..63] 50,51
FBA_CMD[0..30] FBA_CMD[0..30] 50,51
DQMA#[0..7] DQMA#[0..7] 50,51
DQSA_RN[0..7] DQSA_RN[0..7] 50,51
DQSA_WP[0..7] DQSA_WP[0..7] 50,51

UV1B
Part 2 of 5
MEMORY INTERFACE
N12P-NS-S-A1_BGA533~D

FBAD0	D22	FBA_D0
FBAD1	E24	FBA_D1
FBAD2	E22	FBA_D2
FBAD3	D24	FBA_D3
FBAD4	D26	FBA_D4
FBAD5	D27	FBA_D5
FBAD6	C27	FBA_D6
FBAD7	B27	FBA_D7
FBAD8	A21	FBA_D8
FBAD9	B21	FBA_D9
FBAD10	C21	FBA_D10
FBAD11	C19	FBA_D11
FBAD12	C18	FBA_D12
FBAD13	D18	FBA_D13
FBAD14	B18	FBA_D14
FBAD15	C16	FBA_D15
FBAD16	E21	FBA_D16
FBAD17	F21	FBA_D17
FBAD18	D20	FBA_D18
FBAD19	F20	FBA_D19
FBAD20	D17	FBA_D20
FBAD21	F18	FBA_D21
FBAD22	D16	FBA_D22
FBAD23	E16	FBA_D23
FBAD24	A22	FBA_D24
FBAD25	C24	FBA_D25
FBAD26	D21	FBA_D26
FBAD27	B22	FBA_D27
FBAD28	C22	FBA_D28
FBAD29	A25	FBA_D29
FBAD30	B25	FBA_D30
FBAD31	A26	FBA_D31
FBAD32	U24	FBA_D32
FBAD33	V24	FBA_D33
FBAD34	V23	FBA_D34
FBAD35	R24	FBA_D35
FBAD36	T23	FBA_D36
FBAD37	R23	FBA_D37
FBAD38	P24	FBA_D38
FBAD39	P22	FBA_D39
FBAD40	AC24	FBA_D40
FBAD41	AB23	FBA_D41
FBAD42	AB24	FBA_D42
FBAD43	W24	FBA_D43
FBAD44	AA22	FBA_D44
FBAD45	W23	FBA_D45
FBAD46	W22	FBA_D46
FBAD47	V22	FBA_D47
FBAD48	AA25	FBA_D48
FBAD49	W27	FBA_D49
FBAD50	W26	FBA_D50
FBAD51	W25	FBA_D51
FBAD52	AB25	FBA_D52
FBAD53	AB26	FBA_D53
FBAD54	AD26	FBA_D54
FBAD55	AD27	FBA_D55
FBAD56	V25	FBA_D56
FBAD57	R25	FBA_D57
FBAD58	V26	FBA_D58
FBAD59	V27	FBA_D59
FBAD60	R26	FBA_D60
FBAD61	T25	FBA_D61
FBAD62	N25	FBA_D62
FBAD63	N26	FBA_D63

FBA_CMD0	G24	FBA_CMD0
FBA_CMD1	F27	FBA_CMD1
FBA_CMD2	F25	FBA_CMD2
FBA_CMD3	F26	FBA_CMD3
FBA_CMD4	G26	FBA_CMD4
FBA_CMD5	G27	FBA_CMD5
FBA_CMD6	G25	FBA_CMD6
FBA_CMD7	J25	FBA_CMD7
FBA_CMD8	J24	FBA_CMD8
FBA_CMD9	H24	FBA_CMD9
FBA_CMD10	H22	FBA_CMD10
FBA_CMD11	J26	FBA_CMD11
FBA_CMD12	G22	FBA_CMD12
FBA_CMD13	G23	FBA_CMD13
FBA_CMD14	J22	FBA_CMD14
FBA_CMD15	J27	FBA_CMD15
FBA_CMD16	M24	FBA_CMD16
FBA_CMD17	L24	FBA_CMD17
FBA_CMD18	J23	FBA_CMD18
FBA_CMD19	K23	FBA_CMD19
FBA_CMD20	K22	FBA_CMD20
FBA_CMD21	M23	FBA_CMD21
FBA_CMD22	K24	FBA_CMD22
FBA_CMD23	M27	FBA_CMD23
FBA_CMD24	N27	FBA_CMD24
FBA_CMD25	M26	FBA_CMD25
FBA_CMD26	K26	FBA_CMD26
FBA_CMD27	K27	FBA_CMD27
FBA_CMD28	K25	FBA_CMD28
FBA_CMD29	M25	FBA_CMD29
FBA_CMD30	L22	FBA_CMD30

FBA_DQM0	C26	DQMA#0
FBA_DQM1	B19	DQMA#1
FBA_DQM2	D19	DQMA#2
FBA_DQM3	D23	DQMA#3
FBA_DQM4	T24	DQMA#4
FBA_DQM5	AA23	DQMA#5
FBA_DQM6	AB27	DQMA#6
FBA_DQM7	T26	DQMA#7

FBA_DQS_RN0	D25	DQSA_RN0
FBA_DQS_RN1	A18	DQSA_RN1
FBA_DQS_RN2	E18	DQSA_RN2
FBA_DQS_RN3	B24	DQSA_RN3
FBA_DQS_RN4	R22	DQSA_RN4
FBA_DQS_RN5	Y24	DQSA_RN5
FBA_DQS_RN6	AA27	DQSA_RN6
FBA_DQS_RN7	R27	DQSA_RN7

FBA_DQS_WP0	C25	DQSA_WP0
FBA_DQS_WP1	A19	DQSA_WP1
FBA_DQS_WP2	E19	DQSA_WP2
FBA_DQS_WP3	A24	DQSA_WP3
FBA_DQS_WP4	T22	DQSA_WP4
FBA_DQS_WP5	AA24	DQSA_WP5
FBA_DQS_WP6	AA26	DQSA_WP6
FBA_DQS_WP7	T27	DQSA_WP7

FB_VREF	A16	+FB_VREF

FBA_CLK0	F24	CLKA0 50
FBA_CLK0_N	F23	CLKA0# 50
FBA_CLK1	N24	CLKA1 51
FBA_CLK1_N	N23	CLKA1# 51

FBA_DEBUG M22 — RV76 10K_0402_5%~D — +1.5V_MEM_GFX

PAD~D TV6@
PAD~D TV5@

Mode E – Mirror Mode Mapping

	DATA Bus	
Address	0..31	32..63
CMD0	ODT_L	
CMD1	CS1#_L	
CMD2	CS0#_L	
CMD3	CKE_L	
CMD4	A9	A11
CMD5	A6	A7
CMD6	A3	BA1
CMD7	A0	A12
CMD8	A8	A8
CMD9	A12	A0
CMD10	A1	A2
CMD11	RAS#	RAS#
CMD12	A13	A14
CMD13	BA1	A3
CMD14	A14	A13
CMD15	CAS#	CAS#
CMD16		CKE_H
CMD17		CS1#_H
CMD18		CS0#_H
CMD19		ODT_H
CMD20	RST	RST
CMD21	A7	A6
CMD22	A4	A5
CMD23	A11	A9
CMD24	A2	A1
CMD25	A10	WE#
CMD26	A5	A4
CMD27	BA2	A15
CMD28	WE#	A10
CMD29	BA0	BA0
CMD30	A15	BA2

FBA_CMD3 — RV66 10K_0402_5%~D — CKE_1
FBA_CMD19 — RV68 10K_0402_5%~D — ODT_2
FBA_CMD0 — RV71 10K_0402_5%~D — ODT_1
FBA_CMD16 — RV72 10K_0402_5%~D — CKE_2
FBA_CMD20 — RV75 10K_0402_5%~D — RST

+1.5V_MEM_GFX — RV77 1.1K_0402_1%~D — +FB_VREF — RV78 1.1K_0402_1%~D — CV128 0.01U_0402_25V7K~D
16mil

+1.8V_RUN_GFX Source

+1.8V_RUN — QV7 PMV45EN_SOT23-3~D — +1.8V_RUN_GFX
1.05V_RUN_VTT_GFX# _EN — RV95 0_0402_5%~D — 1.05V_RUN_VTT_GFX# _EN_R
CV187 10U_0805_6.3V6M~D
RV96 20K_0402_5%~D

+3.3V_RUN_GFX Source

+3.3V_ALW2 — RV92 100K_0402_5%~D
+15V_ALW — RV91 100K_0402_5%~D
+3.3V_ALW — QV5 SI3456DDV-T1-GE3_TSOP6~D — +3.3V_RUN_GFX
3.3V_RUN_GFX_EN
3.3V_RUN_GFX_ON# — QV6B DMN66D0LDW-7_SOT363-6~D
QV6A DMN66D0LDW-7_SOT363-6~D
15,41 3.3V_RUN_GFX_ON
CV185 10U_0805_6.3V6M~D
CV186 3300P_0402_50V7K~D
RV90 20K_0402_5%~D

+1.5V_MEM_GFX Source

+3.3V_ALW2 — RV69 100K_0402_5%~D
+15V_ALW — RV67 100K_0402_5%~D
+1.5V_MEM — QV1 SI4164DY-T1-GE3_SO8~D — +1.5V_MEM_GFX
GFX_MEM_VTT_EN
GFX_MEM_VTT_ON# — QV2B DMN66D0LDW-7_SOT363-6~D
41 GFX_MEM_VTT_ON — QV2A DMN66D0LDW-7_SOT363-6~D
CV124 10U_0805_6.3V6M~D
CV125 2200P_0402_50V7K~D
RV70 20K_0402_5%~D

+1.05V_RUN_VTT_GFX Source

+15V_ALW — RV73 100K_0402_5%~D
+1.05V_M — QV3 SI4164DY-T1-GE3_SO8~D — +1.05V_RUN_VTT_GFX
1.05V_RUN_VTT_GFX# _EN
QV4 SSM3K7002FU_SC70-3~D
CV126 10U_0805_6.3V6M~D
CV127 2200P_0402_50V7K~D
RV74 20K_0402_5%~D

Compal Electronics, Inc.
Title: N12P Memory
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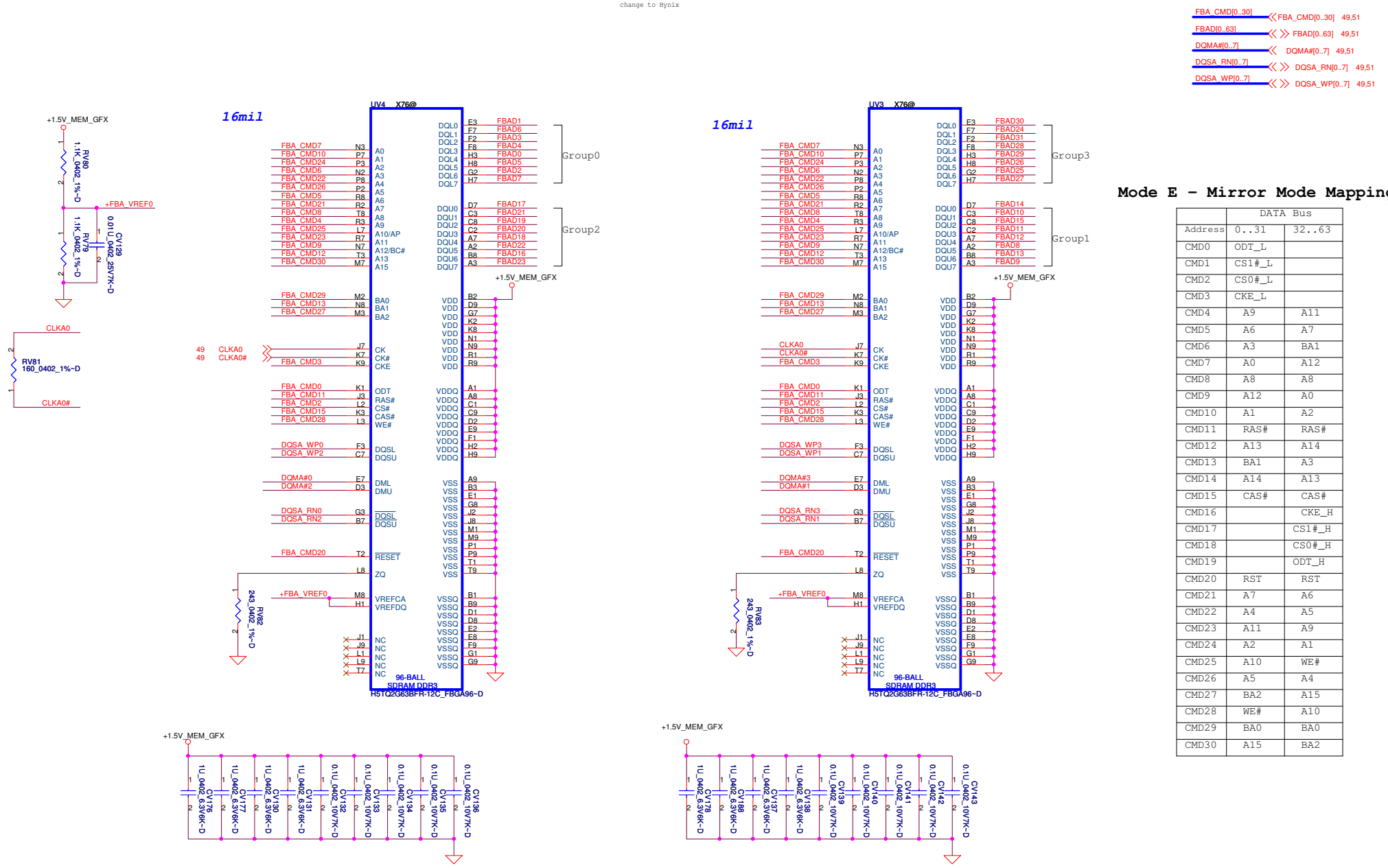
Memory Partition A - Lower 32 bits

change to Hynix



Mode E - Mirror Mode Mapping

	DATA Bus	
Address	0..31	32..63
CMD0	ODT_L	
CMD1	CS1#_L	
CMD2	CS0#_L	
CMD3	CKE_L	
CMD4	A9	A11
CMD5	A6	A7
CMD6	A3	BA1
CMD7	A0	A12
CMD8	A8	A8
CMD9	A12	A0
CMD10	A1	A2
CMD11	RAS#	RAS#
CMD12	A13	A14
CMD13	BA1	A3
CMD14	A14	A13
CMD15	CAS#	CAS#
CMD16		CKE_H
CMD17		CS1#_H
CMD18		CS0#_H
CMD19		ODT_H
CMD20	RST	RST
CMD21	A7	A6
CMD22	A4	A5
CMD23	A11	A9
CMD24	A2	A1
CMD25	A10	WE#
CMD26	A5	A4
CMD27	BA2	A15
CMD28	WE#	A10
CMD29	BA0	BA0
CMD30	A15	BA2

Compal Electronics, Inc.
Title: VRAM A Lower
Size: Document Number: LA-6592P
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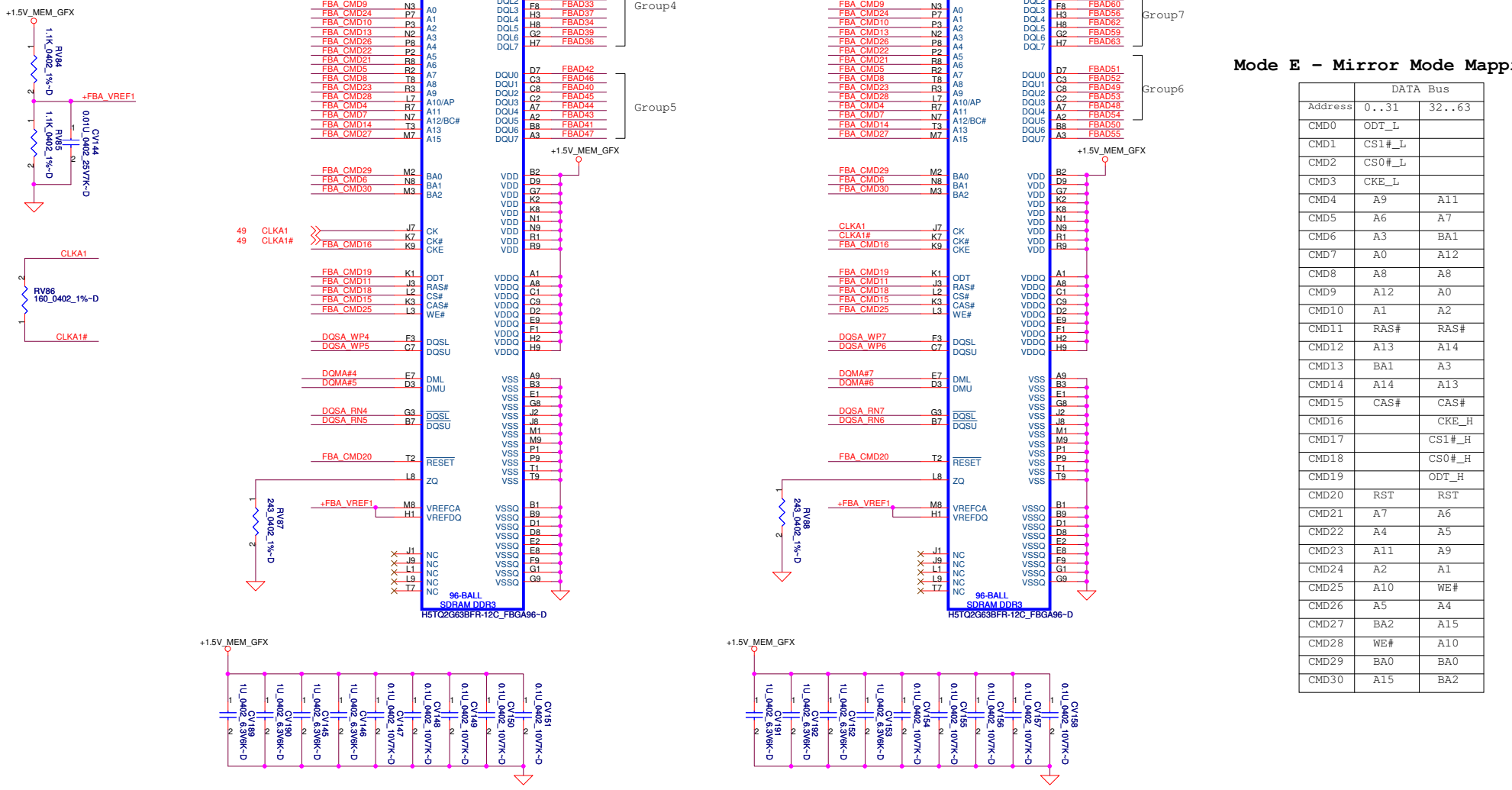
Memory Partition A - Upper 32 bits



FBAD[0..63] FBAD[0..63] 49,50
FBA_CMD[0..30] FBA_CMD[0..30] 49,50
DQMA#[0..7] DQMA#[0..7] 49,50
DQSA_RN[0..7] DQSA_RN[0..7] 49,50
DQSA_WP[0..7] DQSA_WP[0..7] 49,50

Mode E - Mirror Mode Mapping

	DATA Bus	
Address	0..31	32..63
CMD0	ODT_L	
CMD1	CS1#_L	
CMD2	CS0#_L	
CMD3	CKE_L	
CMD4	A9	A11
CMD5	A6	A7
CMD6	A3	BA1
CMD7	A0	A12
CMD8	A8	A8
CMD9	A12	A0
CMD10	A1	A2
CMD11	RAS#	RAS#
CMD12	A13	A14
CMD13	BA1	A3
CMD14	A14	A13
CMD15	CAS#	CAS#
CMD16		CKE_H
CMD17		CS1#_H
CMD18		CS0#_H
CMD19		ODT_H
CMD20	RST	RST
CMD21	A7	A6
CMD22	A4	A5
CMD23	A11	A9
CMD24	A2	A1
CMD25	A10	WE#
CMD26	A5	A4
CMD27	BA2	A15
CMD28	WE#	A10
CMD29	BA0	BA0
CMD30	A15	BA2

Compal Electronics, Inc.
Title: VRAM A Upper
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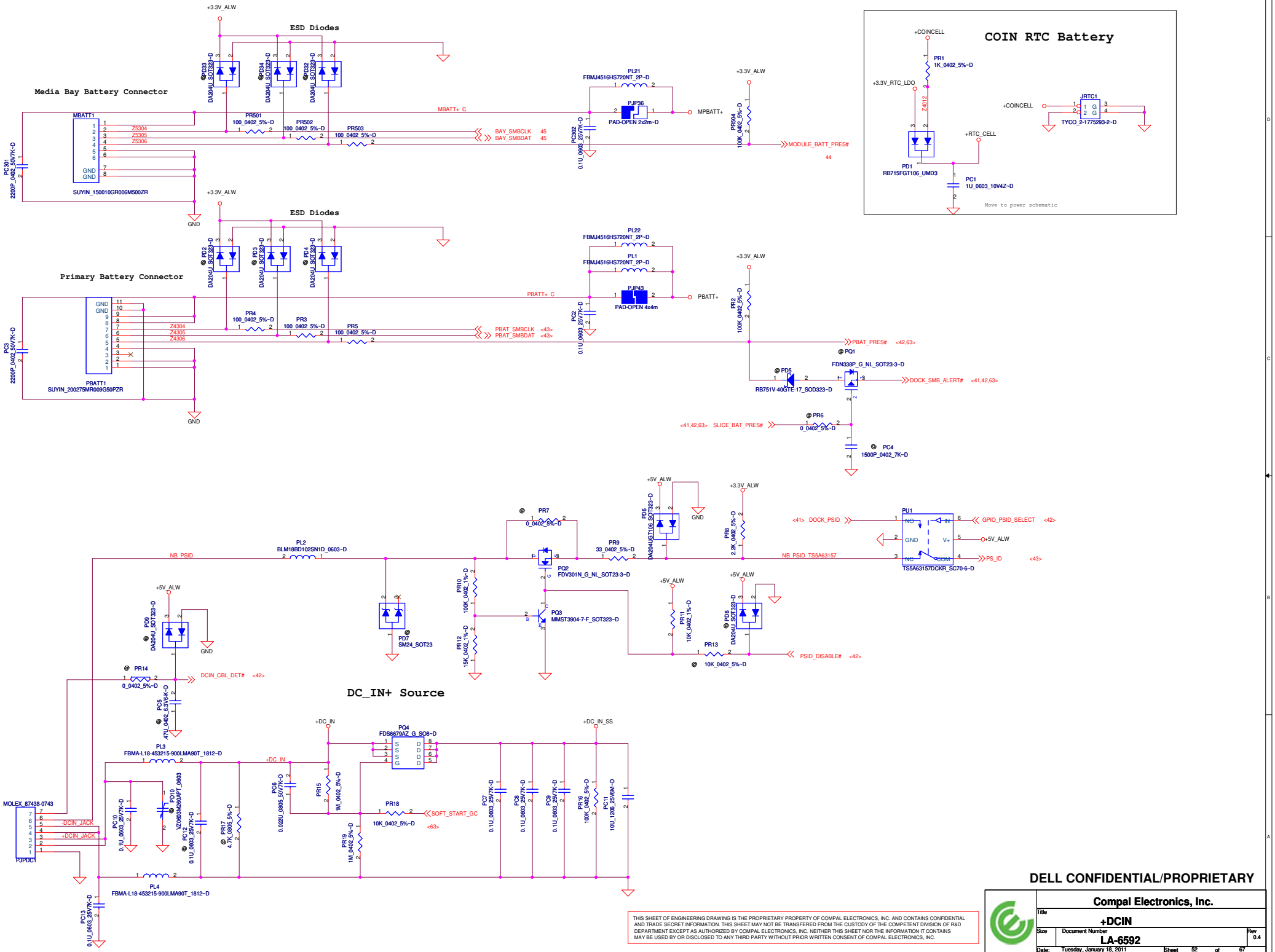
Media Bay Battery Connector
ESD Diodes
MBATT1
SUYIN_150010GR006M500ZR
MBATT+_C
MPBATT+
BAY_SMBCLK
BAY_SMBDAT
MODULE_BATT_PRES#
Primary Battery Connector
PBATT1
SUYIN_200275MR009G50PZR
PBATT+_C
PBATT+
PBAT_SMBCLK
PBAT_SMBDAT
PBAT_PRES#
DOCK_SMB_ALERT#
SLICE_BAT_PRES#
COIN RTC Battery
+COINCELL
+3.3V_RTC_LDO
+RTC_CELL
TYCO_2-1775293-2-D
RB715FGT106_UMD3
Move to power schematic
DC_IN+ Source
NB_PSID
NB_PSID_TS5A63157
DOCK_PSID
GPIO_PSID_SELECT
PS_ID
PSID_DISABLE#
DCIN_CBL_DET#
MOLEX_87438-0743
PJPDC1
-DCIN_JACK
+DCIN_JACK
+DC_IN
+DC_IN_SS
SOFT_START_GC
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+DCIN
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+3.3V_ALWP/ +5V_ALWP/ +5V_ALW2 / +15V_ALWP/ +3.3V_RTC_LDO

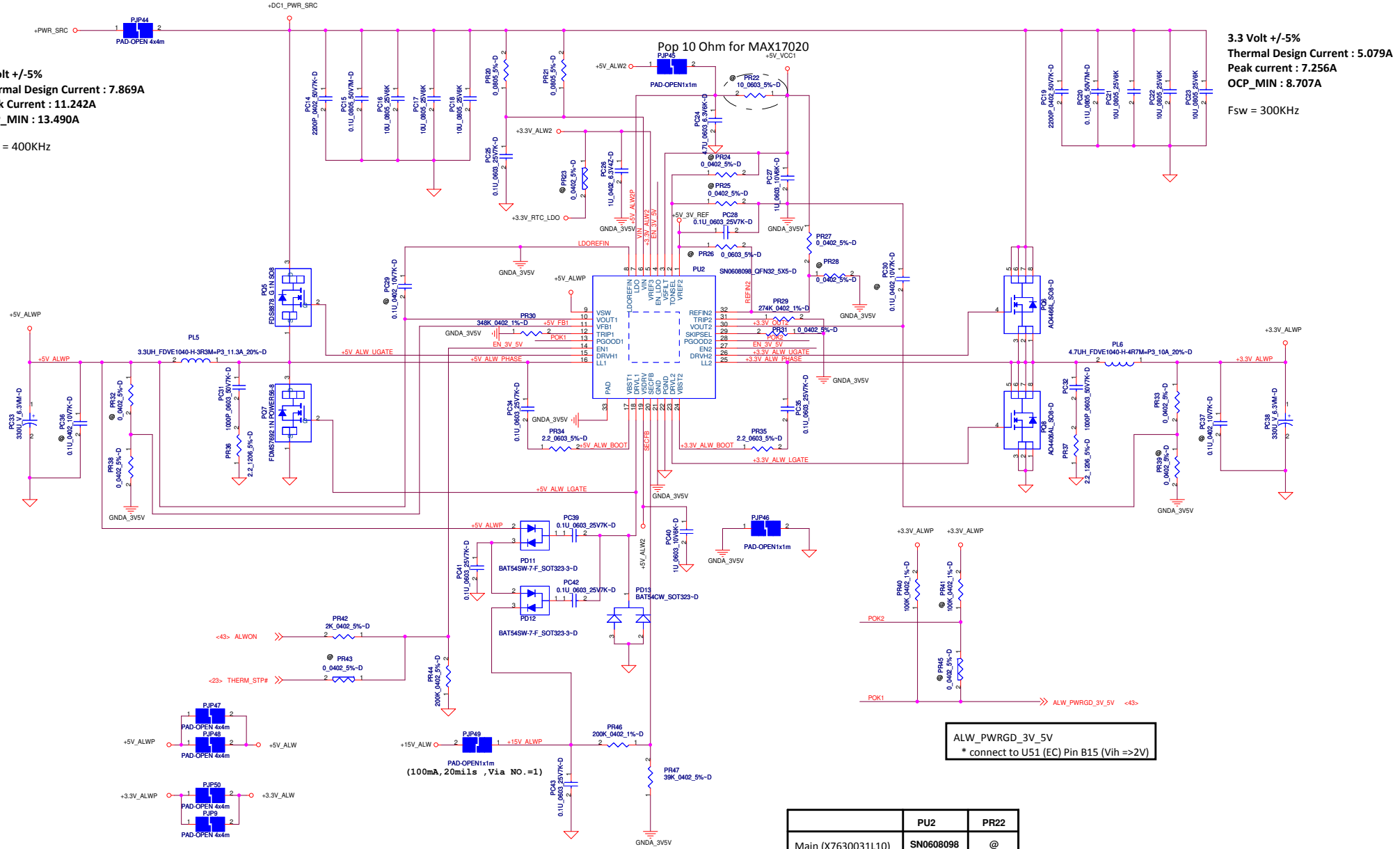
5 Volt +/-5%
Thermal Design Current : 7.869A
Peak Current : 11.242A
OCP_MIN : 13.490A

Fsw = 400KHz

3.3 Volt +/-5%
Thermal Design Current : 5.079A
Peak current : 7.256A
OCP_MIN : 8.707A

Fsw = 300KHz

Pop 10 Ohm for MAX17020



ALW_PWRGD_3V_5V
* connect to U51 (EC) Pin B15 (Vih =>2V)

	PU2	PR22
Main (X7630031L10)	SN0608098	@
2nd (X7630031L11)	MAX17020	10 Ohm

Compal Electronics, Inc.

Title: DC/DC +3V/ +5V

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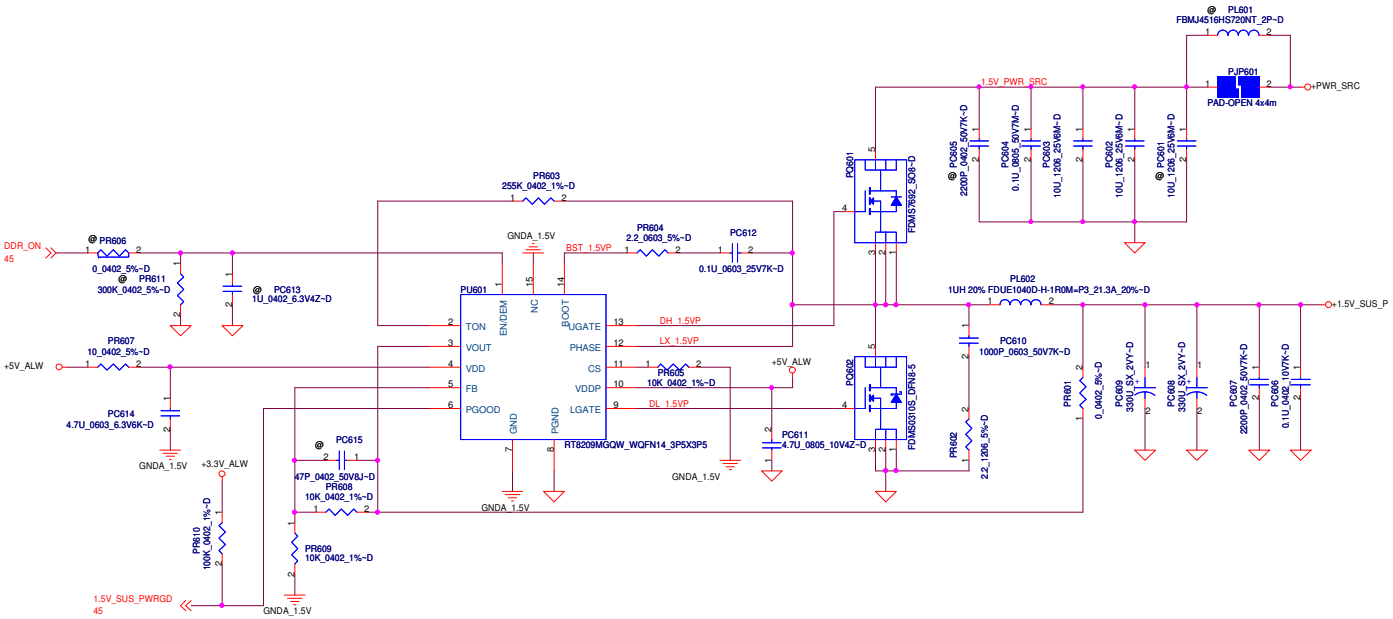
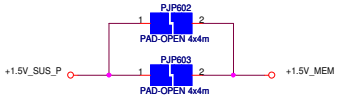
+1.5V_SUS_P

1.5 Volt +/-5%
Thermal Design Current: 12.275A
Peak current: 17.535A
OCP_MIN:21.042A



1.5V_SUS_PWRGD
* connect to U51 (EC) Pin B9 (Vih => 2V)



Compal Electronics, Inc.

Title: +1.5V MEM

Size | Document Number: LA-6592 | Rev: 0.4

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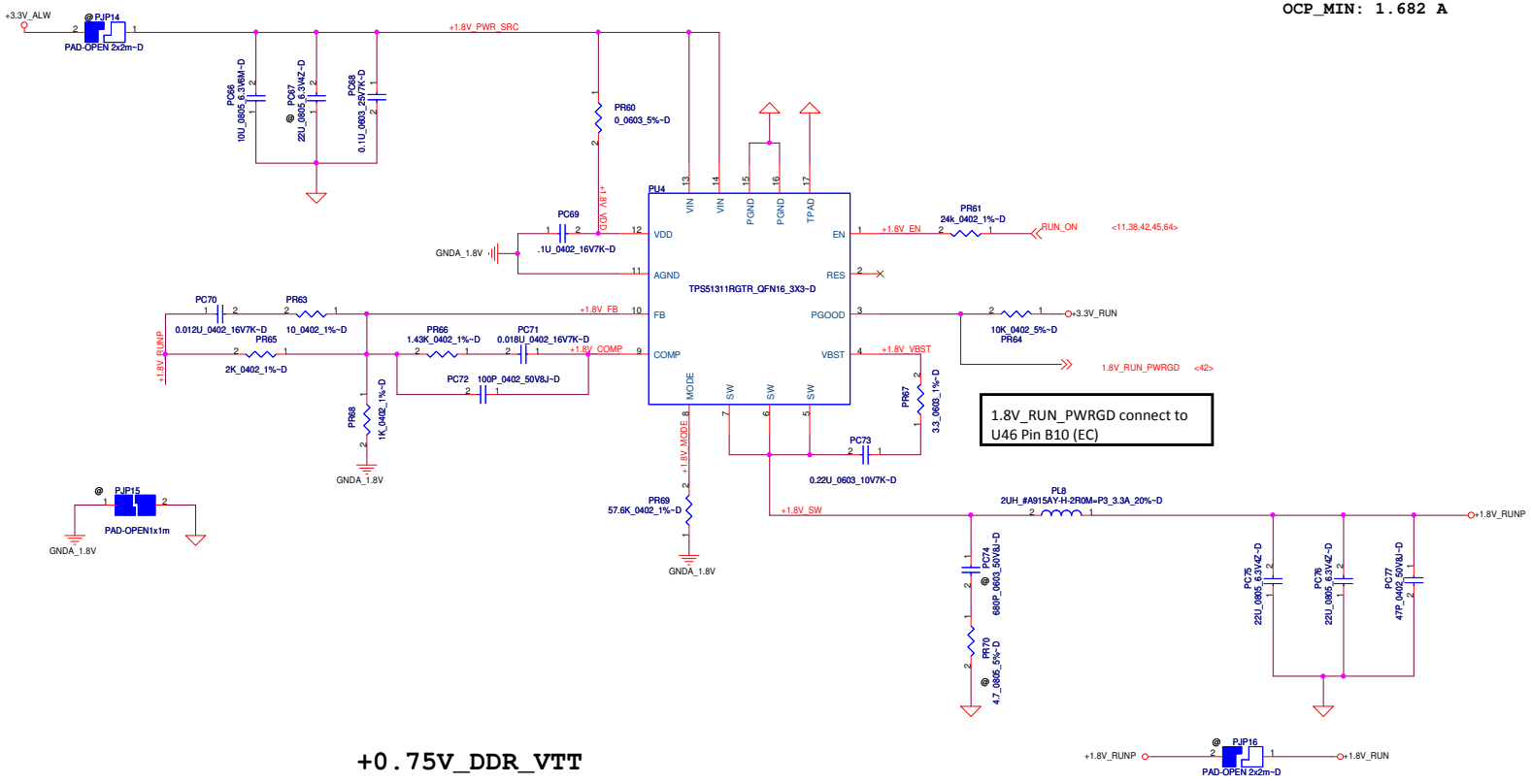
+1.8V_RUNP

1.8 Volt +/-5%
Thermal Design Current: 0.981 A
Peak current: 1.402 A
OCP_MIN: 1.682 A

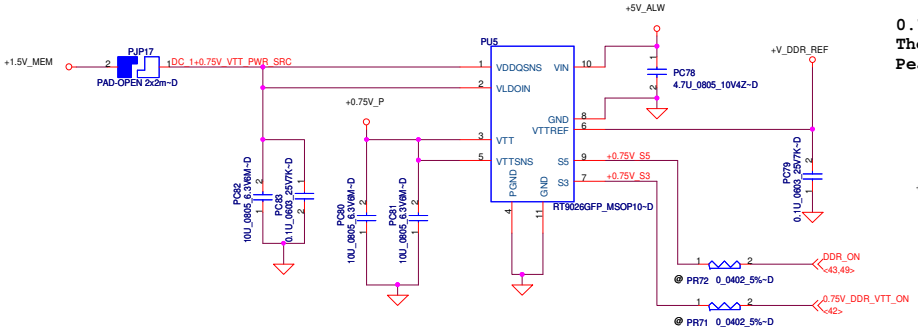


1.8V_RUN_PWRGD connect to U46 Pin B10 (EC)

+0.75V_DDR_VTT

DDR3 Termination

0.75Volt +/-5%
Thermal Design Current: 0.525A
Peak current: 0.75A



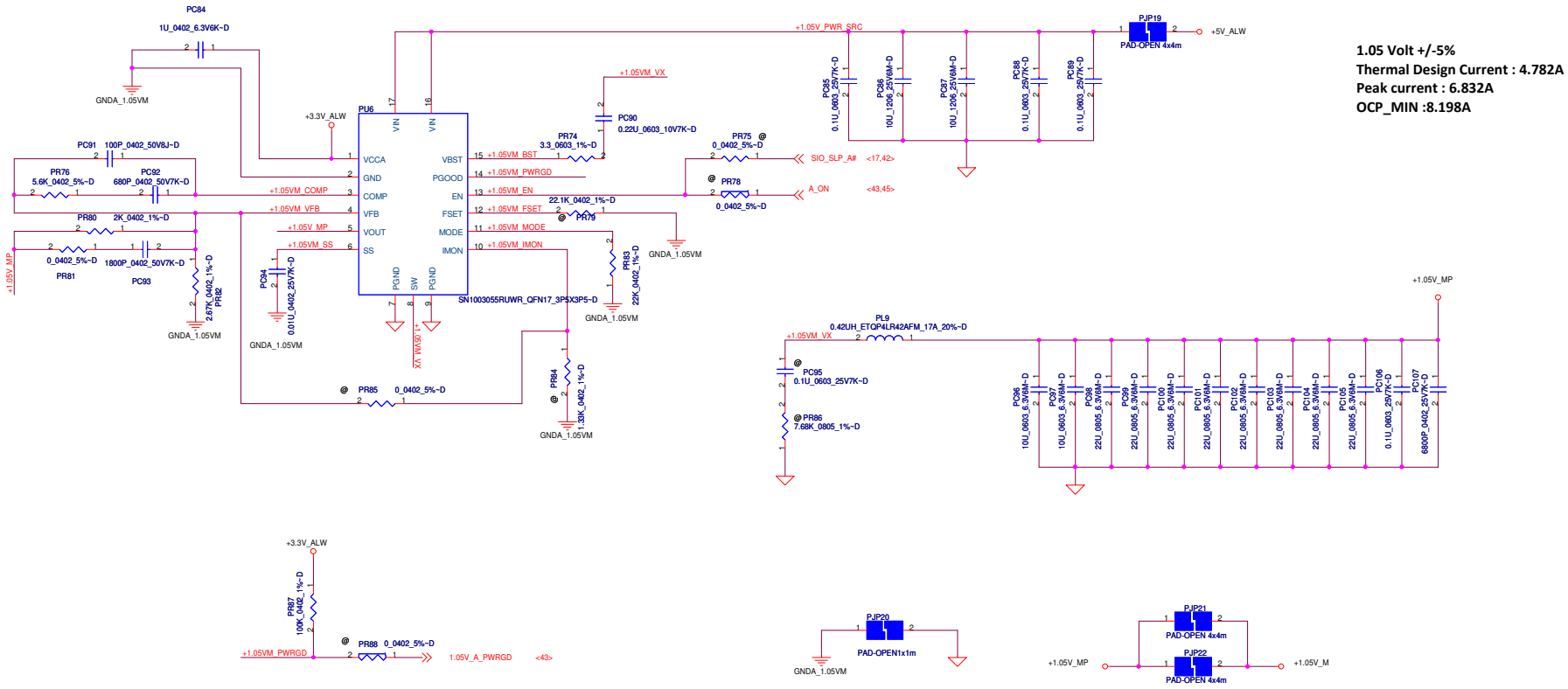
Compal Electronics, Inc.

Title: +0.75V_DDR_VT/+1.8V_RUN

Size | Document Number: LA-6592 | Rev: 0.4

Date: Tuesday, January 18, 2011 | Sheet 55 of 67

+1.05V_M



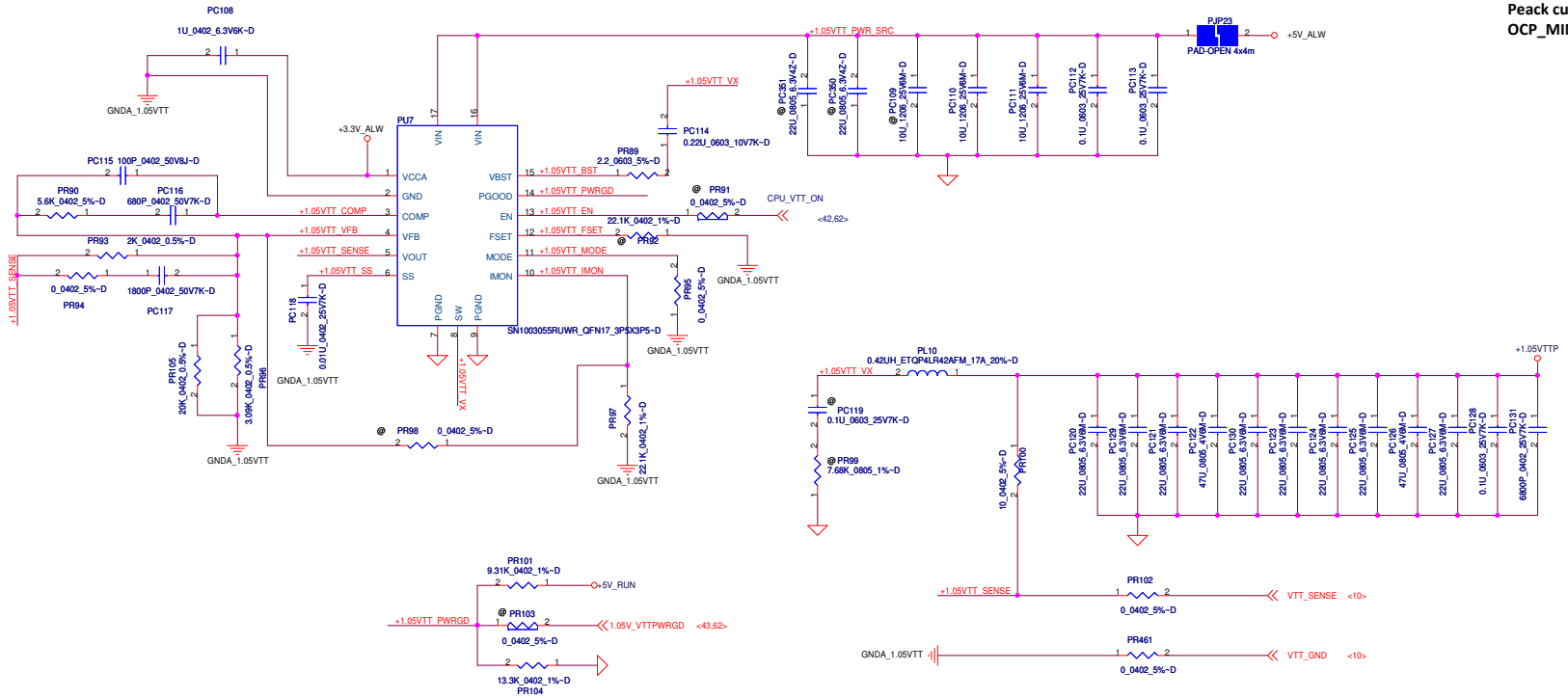
1.05 Volt +/-5%
Thermal Design Current : 4.782A
Peak current : 6.832A
OCP_MIN :8.198A

1.05V_A_PWRGD
* connect to U51 (EC) Pin A14 (Vih => 2V)

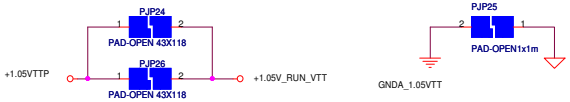
Compal Electronics, Inc.		
Title: +1.05V_M		
Size	Document Number: LA-6592	Rev: 0.4
Date: Tuesday, January 18, 2011	Sheet 56 of 67	

+1.05VTT

1.05Volt
=> (+/- 5% AC + DC +Ripple)
=> (+/- 2% DC + Ripple)
Thermal Design Current : 5.980A
Peack current : 8.970A



1.05V_VTTPWRGD
* connect to PU13 Pin 15 (Vih => 2V)
* connect to U50 Pin 1 (Vih => 2.31V)



Compal Electronics, Inc.

Title	ISL95870A +1.05V_RUN_VTT	
Size	Document Number LA-6592	Rev 0.4
Date: Tuesday, January 18, 2011	Sheet 57 of 67	

VCC_Core
Thermal Design Current : 53A
Peak current : 94A
OCP_MIN :112.8A

Layout Note:
PC142 close to PIN19

Local sense resister put HW side

IMVP_PGOOD connect to
U46 Pin A62 (EC)

Vcore/VAXG H/S Mosfet	PQ9,PQ13,PQ18,PQ24,PQ60,PQ52
Main (X7630031L08)	AON6414AL
2nd	SIR472
3rd (X7630031L09)	MDU2657RH

Vcore/VAXG L/S Mosfet	PQ11,PQ12,PQ15,PQ16,PQ19,PQ20,PQ25,PQ26,PQ53
Main (X7630031L08)	AON6704L
2nd	SIR164DP
3rd (X7630031L09)	MDU2653RH

Compal Electronics, Inc.
Title: Vcore
Size: Document Number: LA-6592
Rev: 0.4
Date: Tuesday, January 18, 2011
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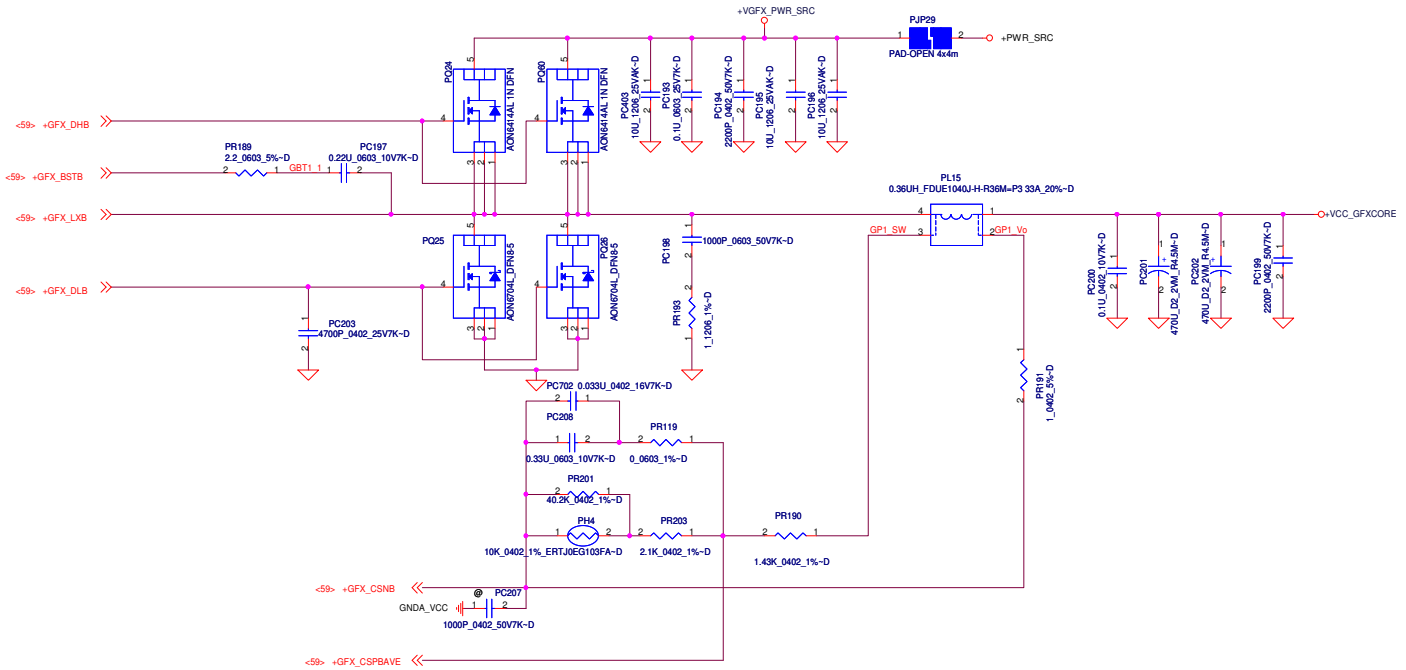
VCC_AXG
Thermal Design Current : 21.5A
Peak current : 33A
OCP_MIN :39.6A



Compal Electronics, Inc.		
Title: +VCORE/+GFXCORE		
Size	Document Number: LA-6592	Rev: 0.4
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	PU11	PR215	PR214	PR222
Main (X7630031L12)	BQ24747	10K	@	@
2nd (X7630031L13)	ISL88731C	@	10K	15.8K

Adapter Protection Event			
	PR813	PR814	PR812
SW	0 Ohm	@	100k
HW	@	0 Ohm	@

	PR217	PC229	PR226
Main	316K	220P	4.7K
2nd	226K	@	2.2K

	PC231	PR224	PR225
Main	@	200K	7.5K
2nd	0.01u	@	@

	PR228	PC225	PC227
Main	10K	2200P	56P
2nd	@	@	@

	PC228	PC234	PC233
Main	120P	1u	@
2nd	@	@	0.01u

	PC240	PC241	PR232
Main	0.1u	0.1u	0 ohm
2nd	@	0.22u	10 ohm

E2 AC_OK=17.7 Volt

PR218
TI bq24745 = 316K
Intersil ISL88731 = 226K
Maxim = 383K

Maximum charging current is 6.3A

	DYN_TUR_CURRENT_SET#
90W	High
130W	Low

Adapter Protection Circuit for Turbo Mode

	PR223	PR220	PC214	PC292	PR209	PR210	PC213
Main	1 ohm	@	@	@	0 ohm	0 ohm	0.1u
2nd	0 ohm	4.7 ohm	1u	0.1u	10 ohm	10 ohm	0.047u

Compal Electronics, Inc.
Title: Charger
Size: Document Number: LA-6592
Rev: 0.4
Date: Tuesday, January 18, 2011
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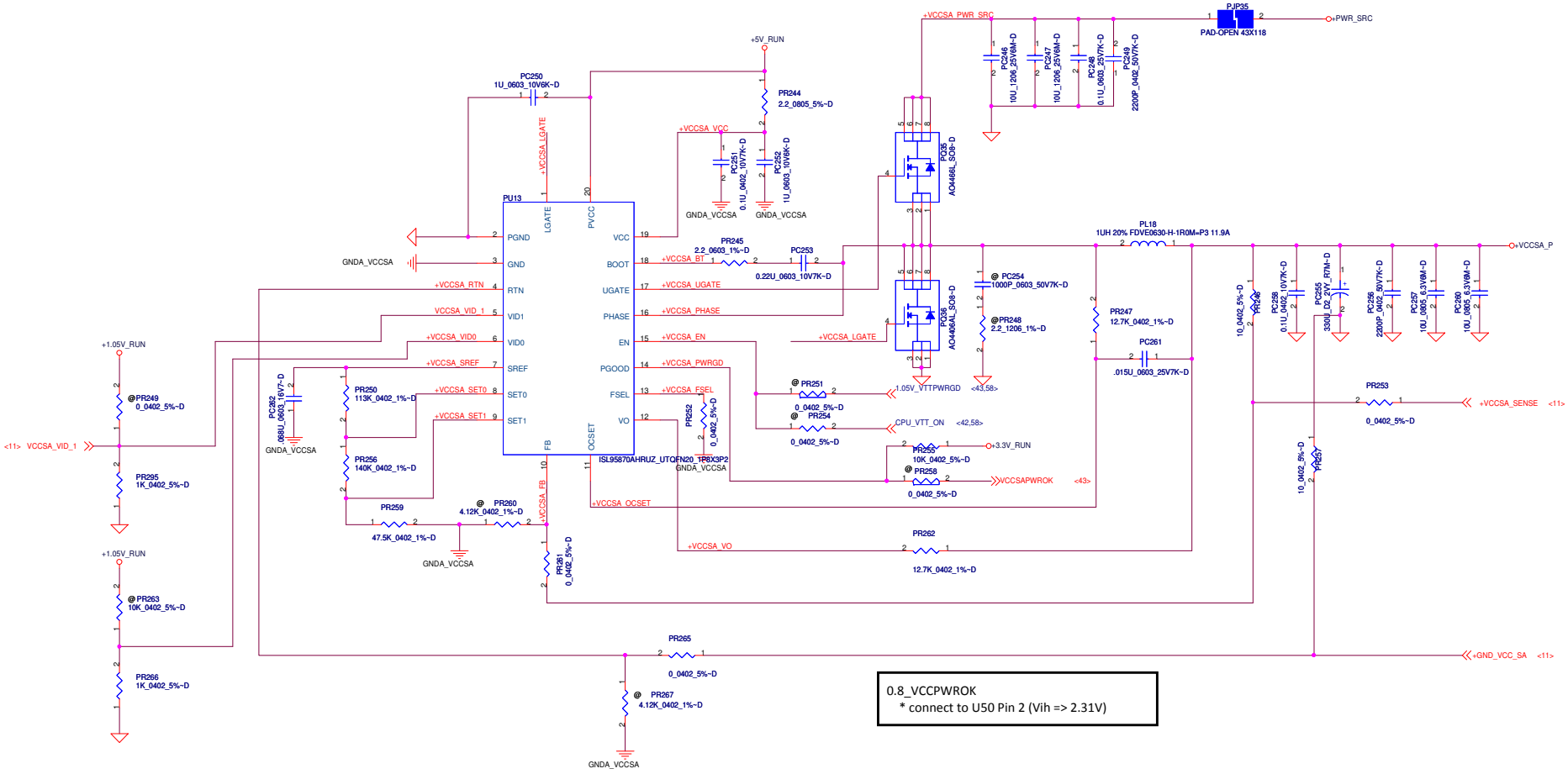
VCCSA
Thermal Design Current : 4.2A
Peak current : 6A
OCP_MIN :7.2A

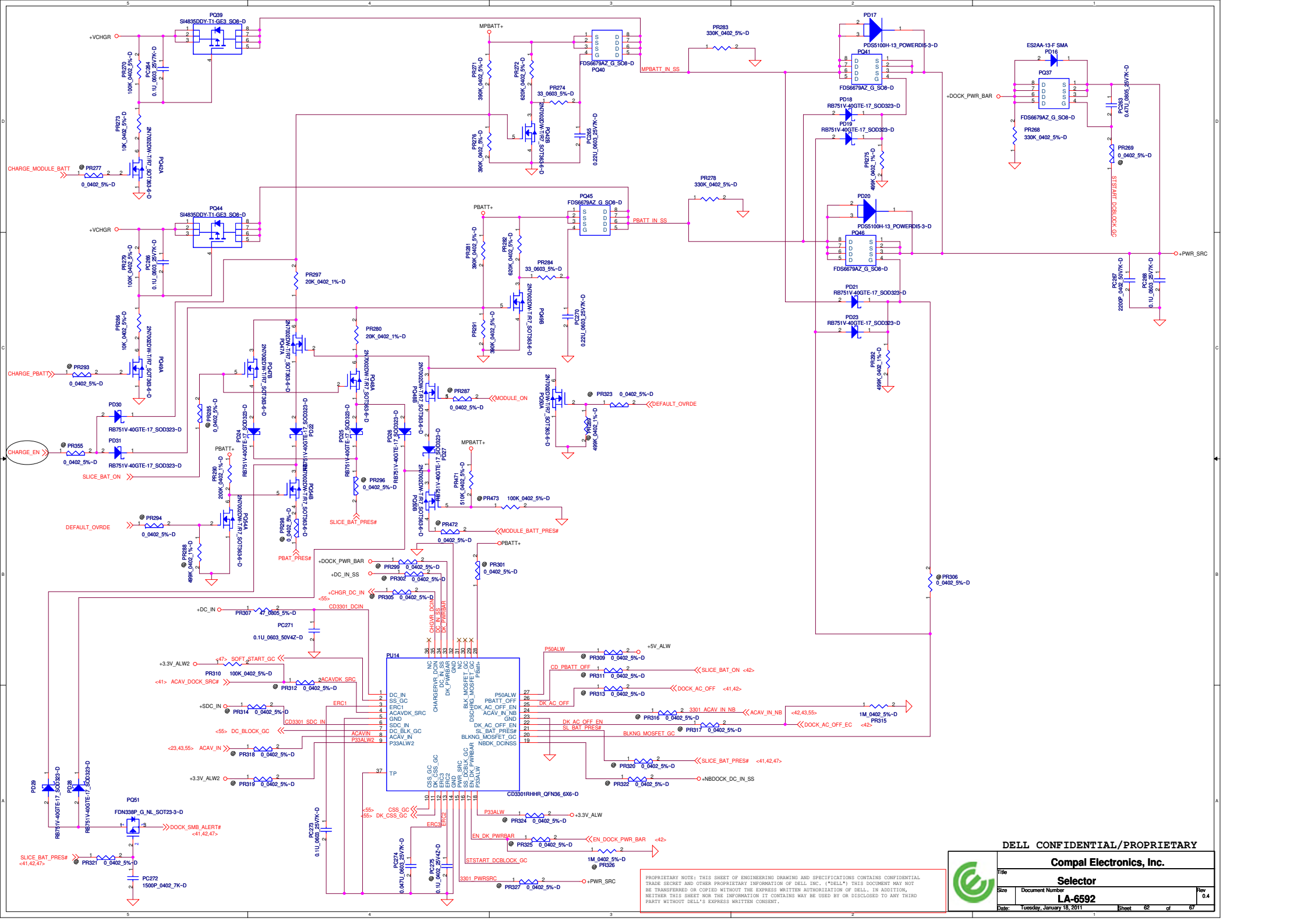


Compal Electronics, Inc.

Title: ISL95870A 0.8V_VCC_SA

Size | Document Number: LA-6592 | Rev: 0.4

Date: Tuesday, January 18, 2011 | Sheet 61 of 67



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Compal Electronics, Inc.		
Title: Selector		
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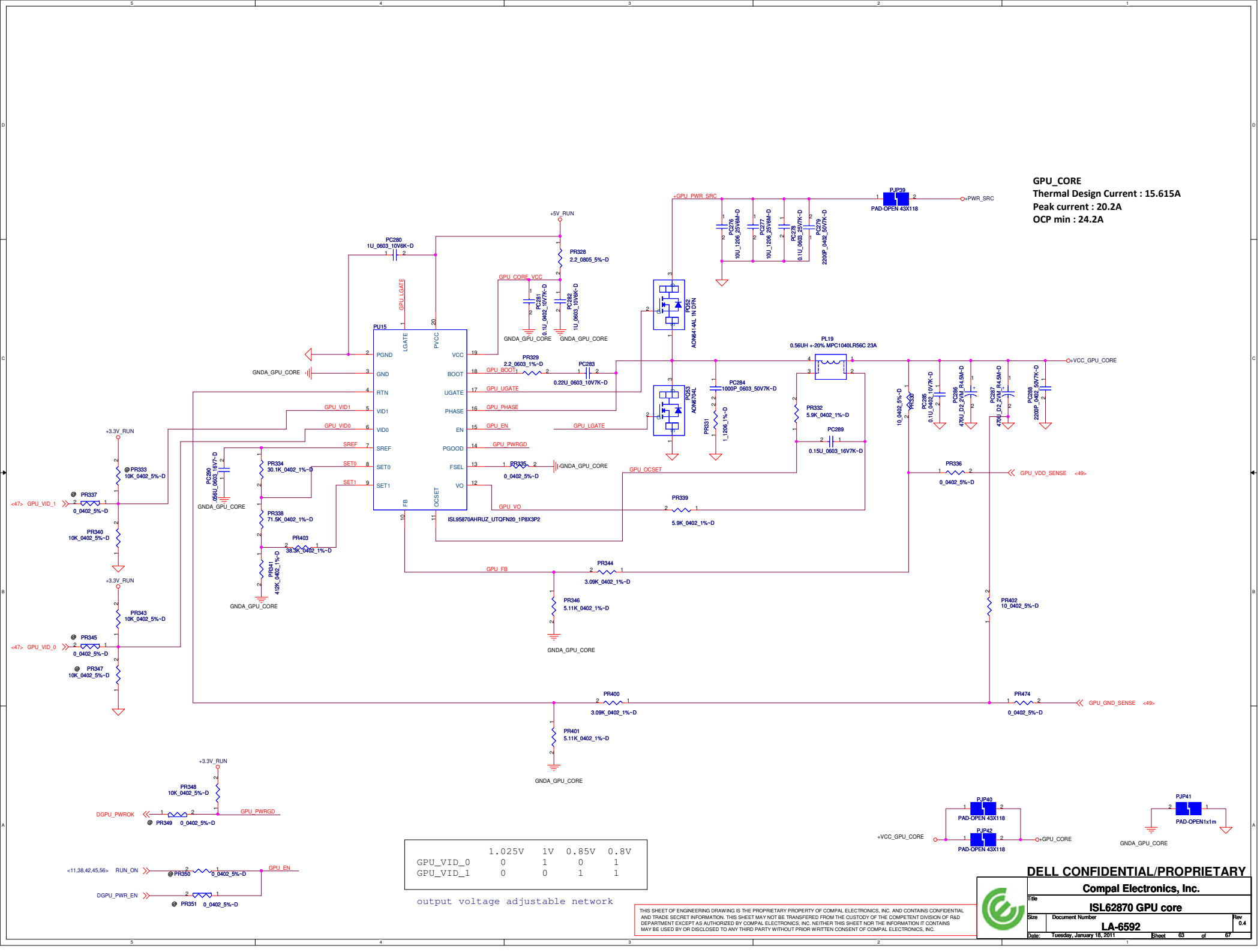

	1.025V	1V	0.85V	0.8V
GPU_VID_0	0	1	0	1
GPU_VID_1	0	0	1	1

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

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	61	VCCSA	6/30	Intersil	VCCSA spike issue	Delete PR264 Delete VCCSA_VID_0 net Connect VCCSA_VID_1 net to PIN5 Depop PR249, PR267 and PR260 Change PR261 and PR260 to 0 Ohm (SD02800008L) from 24.9k (SD03424918L) Change PR259 to 47.5k (SD03447528L) from 274k (SD03427438L) Change PR256 to 140k (SD03414038L) from 0 Ohm (SD02800008L) Change PR250 to 113k () from 34k (SD03434028L) Add pull down PR295 10k(SD02810028L)	X01
2	61	VCCSA	6/30	Intel	Change VCCSA VID pull down resistor value	Change PR295 and PR266 to 1k (SD02810018L) from 10k (SD02810028L)	X01
3	53	3V/5V	7/15	Compal	3V/5V Bulk cap interfere with ME	Change PC33 and PC38 to 330U/25m/H1.9(SGA00001A8L) from 330U/25m/H2.8 (SGA1933131L)	X01
4	54	+1.5V_SUS	7/15	Compal	Vendor will not support this part	Change PC609 and PC608 to 330U/9m/2V (SGA20331E0L) from 330U/9m/2.5V (SGA19331D1L)	X01
5	52	DCIN	7/15	Compal	PL3 and PL4 current rating is not enough for 130W adapter	Change PL2 and PL3 to FBMA-L18-453215-900LMA90T (SM01002078L) from FBMJ4516HS720NT(SM010009C8L)	X01
6	52	DCIN	7/15	Compal	PL1 current rating is not enough for 9cell (3.0Ah 1C) discharge current	Change PL1 to FBMJ4516HS720NT(SM010009C8L) from FBMA-L18-453215-900LMA90T (SM01002078L) Add PL22 FBMJ4516HS720NT(SM010009C8L)	X01
7	53	3V/5V	7/16	Compal	10u/1206/X5R/25V will COS	Change PC16,PC17,PC18,PC21,PC22 and PC23 to 10u/0805/X5R (SE00000QK00) from 10u/1206/X5R (SE142106M8L)	X01
8	53	3V/5V	7/16	Compal	+3.3V phase node over Mosfet Vds rating	Change PQ6 AO4466L (SB00000CG8L) from SI4128DY (SB00000IR0L) Change PQ8 AO4712L (SB00000AJ1L) from SI4134DY(SB00000KB0L)	X01
9	53	3V/5V	7/16	Compal	PC24 down size to 0603 from 0805	Change PC24 to 4.7u/6.3V/0603 (SE107475K8L) from 4.7u/6.3V/0805 (SE093475K8L)	X01
10	61	VCCSA	7/16	Compal	VCCSA output voltage is not constant so change some net name	Change +0.8V_VCC net name to +VCCSA_P Change 0.8V_VCCPWROK net name to VCCSAPWROK Change +0.8V_VCC_SA net name to +VCC_SA	X01
11	54	1.5V_SUS	7/16	Richtek	Reserve Pull down resister on EN pin for power consumption issue	Add 0402 resister pad on EN pin	X01
12	60	Charger	7/18	Compal	PQ27 body diode can handle surge current when adapter plug in so depop PD14	Depop PD14 SBR3A40SA (SC100003J00)	X01
13	62	Selector	7/18	Compal	Leakage issue on PD16	Change PD16 to ES2AA (SC100005A0L) from SBR3A40SA (SC100003J00)	X01
14	58,59	Axg_core Vcore	7/20	MAXIM	Reserve 0402 cap pad for transient fine tune	Add PC701 and PC702 0402 cap pad	X01
15	60	Charger	7/20	Compal	Reserve adapter protection circuit for turbo mode	Change PU11 pin1 net name to ICREF from GNDA_CHG Change PU11 pin26 net name to ICOUT from VCC Reserve PR801,PR802,PR803,PR804,PR805,PR806,PR807,PR808,PR809,PR810,PR811,PR812 Reserve PC801,PC802,PC803	X01
16	61	VCCSA	7/20	Compal	VCCSA phase node over Mosfet Vds rating	Change PQ35 AO4466L (SB00000CG8L) from SI4128DY (SB00000IR0L) Change PQ36 AO4712L (SB00000AJ1L) from SI4172DY(SB00000HN0L)	X01

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

Item	Page #	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
17	58	Vcore VAXG_core	7/24	MAXIM	Fine tune OCP setting for Pass 2 IC	Change PR127 to 165K (SD03416530L) from 100K (SD03410038L) Change PR135 to 105K (SD03410538L) from 150K (SD03415038L) Change PR126 to 165K (SD03416530L) from 100K (SD03410038L) Change PR134 to 105K (SD03410538L) from 150K (SD03415038L)	X01
18	58,59	Vcore VAXG_core	7/24	MAXIM	Phase node switching waveform abnormal issue for Pass 2 IC	Change PR118 to 1 Ohm (SD014100B8L) from 2 Ohm (SD013200B8L) Change PR119 to 1 Ohm (SD014100B8L) from 2 Ohm (SD013200B8L)	X01
19	53	3V/5V	7/28	Comapl	Broad band issue in 700MHz	Pop PC32 1000P (SE025102K8L) Pop PR37 2.2 Ohm (SD011220B8L) Pop PC31 1000P (SE025102K8L) Pop PR36 2.2 Ohm (SD011220B8L) Change PR35 to 2.2 Ohm (SD013220B8L) from 1 Ohm (SD013100B8L) Change PR35 to 2.2 Ohm (SD013220B8L) from 1 Ohm (SD013100B8L)	X01
20	58	Vcore	7/28	Comapl	Bump noise in band of 700MHz	Pop PC139 470P (SE024471J8L) Pop PC159 470P (SE024471J8L) Pop PR117 2.2 Ohm (SD011220B8L) Pop PR148 2.2 Ohm (SD011220B8L)	X01
21	54,58 59,63 56	1.5V Vcore VGFX_Core GPU_core 1.05VM	7/28	Comapl	Broad band in 800MHz and 900MHz	Pop PC610 1000P (SE025102K8L) Pop PR602 2.2 Ohm (SD011220B8L) Pop PC175 470P (SE024471J8L) Pop PR173 2.2 Ohm (SD011220B8L) Pop PC198 470P (SE024471J8L) Pop PR193 2.2 Ohm (SD011220B8L) Pop PC284 1000P (SE025102K8L) Pop PR331 2.2 Ohm (SD011220B8L) Pop PC85 0.1u (SE00000Q900)	X01
22	60	Charger	7/28	TI	Pop adapter protection componment for turbo mode with TI solution	Pop PR803 100k (SD03410038L) Pop PR804 78.7k (SD03478728L) Pop PR802 115k (SD03411538L) Pop PR801 1.87M () Pop PQ801 RHU002N06 (SB50206008L) Pop PR812 100K (SD02810038L) Pop PC801 100P (SE071101J8L)	X01
23	58,59	Vcore VAXG_core	7/28	Compal	Fine tune load line and transient for Vcore and VAXG_core	Change PR140 to 11.8k (SD03411828L) from 12.4k (SD00000AJ8L) Change PR157 to 8.25k (SD03482518L) from 8.66K(SD03486618L) Pop PC701 and PC702 0.033uF (SE076333K8L)	X01
24	56	Selector	9/2	Compal	Change parts to HF parts	Change PQ51 FDN338P_G (SB90338001L) from FDN338P (SB90338008L) Change PD18, PD19, PD21, PD22, PD23, PD24, PD25, PD26, PD27, PD28, PD29, PD30 and PD31 RB751V-40GTE-17 (SCS00004L0L) from RB751V (SC1B751V08L) Change PQ37, PQ40, PQ41, PQ45 and PQ46 FDS6679AZ_G (SB000009D1L) from FDS6679AZ (SB000009D8L)	X02
25	46	+DCIN	9/2	Compal	Change parts to HF parts	Change PD6 DA204UGT106 (SC60000170L) from DA204UT106 (SC1A204U00L) Change PQ4 FDS6679AZ_G (SB000009D1L) from FDS6679AZ (SB000009D8L) Change PD1 RB715FGT106 (SCSB715F010) from RB715F (SCSB715F08L) Change PQ2 FDV301N_G (SB503010020) from FDV301N (SB50301008L)	X02
26	47	+5V/3.3 /+15VALW	9/2	Compal	Change parts to HF parts	Change PQ5 FDS8878_G (SB00000BV1L) from FDS8878 (SB00000BV8L)	X02
27	54	Charger	9/2	Compal	Change parts to HF parts	Change PQ33 SI4812BDY-T1-GE3 (SB00000DI1L) from SI4812BDY-T1-E3 (SB00000DI0L) Change PL17 FDVE1040-H-5R6M=P3 (SH00000CH1L)from FDVE1040-5R6M=P3 (SH00000CH0L) Change PQ27 SI4835DDY-T1-GE3 (SB00000FF1L) from SI4835DDY-T1-E3 (SB00000FF0L)	X02
28	48	+1.5V_SUS	9/2	Compal	Change parts to HF parts	Change PL602 FDUE1040D-H-1R0M=P3 (SH000009U1L) from FDUE1040D-1R0M=P3 (SH000009U0L)	X02

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

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
29	47	+5V/3.3 /+15VALW	9/2	TI	Fine tune OCP setting for +5V/+3.3V	Change PR29 to 274K (SD03427438L) from 220K (SD03422038L) Change PR30 to 348K (SD00000WW8L) from 243K (SD03424338L)	X02
30	56	Selector	9/13	Compal	Change parts to HF parts	Change PQ39 and PQ44 SI4835DDY-T1-GE3 (SB00000FF1L) from SI4835DDY-T1-E3 (SB00000FF0L)	X02
~~31~~	~~60~~	~~charger~~	~~9/13~~	~~Compal~~	~~Fine tune adapter protection circuit for 2nd source and reserve H_PROCHOT#~~	~~Delete PQ802 and PR807~~ ~~MAX8731_IINP singal connect change to inverting input from Non inverting input~~ ~~ICREF singal connect change to Non inverting input from inverting input~~ ~~Pop PR811 and PR813 0 Ohm (SD02800008L)~~ ~~Depop PR814~~	X02
32	56	+1.05VM	9/14	TI	Fine tune OCP setting	Change PR83 to 22k (SD03422028L) from 10k (SD03410028L)	X02
33	56	+1.05VM	10/05	Compal	22u/1206/6.3V COS issue	Change PC98 ~ PC105 to 22u/0805 (SE00000110L) from 22u/1206 (SE077226M8L)	X02
34	57	+1.05VTT	10/05	Compal	22u/1206/6.3V COS issue	Change PC123 ~ PC125, PC121, PC127, PC120, PC129 and PC130 to 22u/0805 (SE00000110L) from 22u/1206 (SE077226M8L) Change PC122 and PC126 to 47u/0805 (SE00000G60L) from 22u/1206 (SE077226M8L)	X02
35	52	DCIN	10/05	Compal	6 ~ 7mA leakage current in slice	Change PR2 and PR504 to 100K (SD02810038L) from 10K (SD03410028L)	X02
36	61	VCCSA	10/14	Compal	Fine tune VCCSA OCP setting for 2nd and 3rd source choke	Change PR247 and PR262 to 12.7k (SD03412728L) from 11.5k (SD03411528L)	X02
~~37~~	~~63~~	~~GPU_Core~~	~~10/14~~	~~nVidia~~	~~Fix output voltage to 0.9V for nVidia ES sample~~	~~Depop PR337 and PR345 0 Ohm (SD02800008L)~~ ~~Depop PR347 10K (SD02810028L)~~ ~~Pop PR343 10K (SD02810028L)~~	~~X02~~
38	63	GPU_Core	10/14	Compal	Change OCP setting for new nVidia chip	Change PR332 and PR339 to 5.9k (SD03459018L) from 4.22k (SD03442218L)	X02
39	63	GPU_Core	11/09	nVidia	Change VID setting for new nVidia chip. Defult set 1V.	Depop PR347 10K (SD02810028L) Pop PR343 10K (SD02810028L) Change PR344 and PR400 to 3.09k (SD00000J38L) from 3.57k (SD03435718L) Change PR341 to 412k (SD00000678L) from 402k (SD034402380) Change PR403 to 38.3k (SD03438328L) from 200k (SD03420038L) Change PR338 to 71.5k (SD03471528L) from 0 Ohm (SD02800008L) Change PR334 to 30.1k (SD03430128L) from 23.7k (SD03423728L)	X03
40	62	Selector	11/09	Compal	Fine tune main and media battery switching to slice battery transient time	Change PC270 and PC265 to 0.22uF (SE000005Z8L) from 1uF (SE00000698L)	X03
41	60	Charger	11/09	Compal	Change adapter protection circuit trip point. (Adapter rated current + 0.75A)	Change PR802 to 107k (SD03410738L) from 115K (SD03411538L) Change PR801 to 649K (SD03464938L) from 1.87M (SD00000WN0L) Change PR804 to 80.6K (SD03480628L) from 78.7k (SD03478728L)	X03
42	60	Charger	11/09	Compal	Change adapter protection event to HW from SW	Pop PR814 0 Ohm (SD02800008L) Depop PR813 0 Ohm (SD02800008L) Depop PR812 100k Ohm (SD02810038L)	X03
43	60	Charger	12/09	Compal	H_PROCHOT# can not pull high issue with external circuit at DC mode	Change PR803.1 net nam to +3.3V_ALW2 from MAX8731_REF Change PQ801.3, PR804.1 and PC801.2 net nam to PGND from GAND_CHG	X04
44	60	Charger	12/09	Compal	H_PROCHOT# pull low level can not meet Intel SPEC with TI solution at AC mode	Depop PR801 (SD03464938L) Change PR802 to 174k (SD03417438L) from 107k (SD03410738L) Change PR803 to 150k (SD03415038L) from 100k (SD03410038L) Change PR804 to 113k (SD03411338L) from 80.6K (SD03480628L) Pop PR806, PR807,PR810 0 Ohm (SD02800008L) Pop PQ802 RHU002N06 (SB50206008L) Pop PR809 221K (SD00000HX8L) Pop PR808 1.8M (SD00000K180) Pop PR805 20K (SD03420028L) Depop PR811 (SD02800008L)	X04

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

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
45	58,59,63	+Vcore +VAXG +VGPU	12/10	Compal	Change sunbber valure for 3rd source MOSFET	Change PC139, PC159, PC175, PC198, PC284 to 1000P (SE025102K8L) from 470P (SE024471J8L) Change PR117, PR148, PR173, PR193, PR331 to 1 Ohm (SD012100B8L) from 2.2 Ohm (SD011220B8L)	X04
46	60	Charger	12/17	TI	H_PROCHOT# spike voltage issue when AC to DC transient	Pop PR208 10k (SD02810028L)	X04
47	58,59	+Vcore +VAXG	12/17	Compal	Fine tune VAXG and Vcore load line for 2nd source choke	Change PR157 to 7.5k (SD03475018L) from 8.25k(SD03482518L) Change PR140 to 12.7k (SD03412728L) from 11.8k (SD03411828L)	X04
48	59	+VAXG	12/17	MAXIM	Low side driver no signal when loading over 10A	Change PR119 to 0 Ohm (SD01400008L) from 1 Ohm (SD014100B8L)	X04
49	60	Charger	01/12	Compal	Adapter protection trip point for 2nd source	Change PR802 to 162k (SD03416238L) from 174k (SD03417438L)	A00
50	52 ~ 63	ALL	01/12	Compal	Remove debug resistor (0 Ohm)	Change PR14,PR23,PR43,PR45,PR71,PR72,PR78,PR88,PR91,PR103,PR121,PR129,PR146,PR171,PR198 PR199,PR206,PR207,PR216,PR221,PR240,PR251,PR258,PR269,PR277,PR285,PR287,PR293,PR294 PR296,PR298,PR299,PR301,PR302,PR305,PR309,PR311,PR312,PR313,PR314,PR316,PR317,PR318 PR319,PR321,PR322,PR323,PR324,PR325,PR337,PR345,PR349,PR351,PR355,PR472,PR606 footprint	A00

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

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	7	HW	6/15/2010	COMPAL	Boot issue	Change QC1 control from SUS_ON to RUN_ON_CPU1.5VS3#	X01
2	11	HW	6/15/2010	COMPAL	Modify net name	Change +0.8V_VCC_SA to +VCC_SA	X01
3		HW	6/15/2010	COMPAL	Follow PPM recommendation to change material	Change capacitors from 10uF_0805_10V Y5V to 10uF_0805_6.3V_X5R: C305,C387,C462,C705,C728,C760,C764,C765,C768,C769, C772,CC135,CH58,CH73,CH80,CV124,CV126,CV185,CV187 Change capacitors from 10uF_0805_6.3V to 10uF_0603_6.3V: C475,C638,C641,C643 Change resistors to 0402 size: RC134, RH201,RH253,RH208,RH213 Delete RH192 and add PJP51	X01
4	14	HW	6/15/2010	COMPAL	De-pop PCH XDP	De-pop RH1,RH3~RH10,RH12~RH21,RH24,RH283~RH285,CH1	X01
5	14	HW	6/15/2010	COMPAL	Change HDA_SYNC topology	Add QH7 and RH37	X01
6	17,29,42	HW	6/15/2010	COMPAL	Change ODD connector from 13 pin to 31 pin	Change ODD connector to 31 pin, add @R1189,RH340 and remove C1168, C1169,C1170,U87,U88,U89, R1188 and short R1188 pin1 and pin2 together	X01
7	18	HW	6/17/2010	COMPAL	Remove touch screen PAID pull down circuit	Remove RH241	X01
8	18	HW	6/17/2010	INTEL	Follow Intel Design Guide Rev1.0	Change RH149 to 1k and RH150 to 4.7k	X01
9	22	HW	6/17/2010	COMPAL	Change EMC4002 to EMC4022	Change U9 to EMC4022, remove R392,R394 R866,R404,C279	X01
10	25	HW	6/17/2010	COMPAL	Change CRT SW to MAX14885	Change CRT SW to MAX14885 and add C1181,C1182, R1581 remove C325~C336	X01
11	26	HW	6/17/2010	COMPAL	Safety request	Add no stuff D4 and co-lay with F2, change F2 to 2A_8V	X01
12	28, 39	HW	6/17/2010	COMPAL	Change SATA repeater to MAX4951BE	Chagne U25, U44 to MAX4591BE and change R1169,R1171,R1174,R1176 to 0 ohm and stuff R1174,R1176	X01
13	30	HW	6/17/2010	COMPAL	Change Codec to ZB version and speaker connector	Change JSPK1 to TYCO_1734595-6 and change U72 to ZB version and stuff C962	X01
14	33	HW	6/17/2010	COMPAL	Add Jumper for power consumption measurement	Add PJP52,PJP55	X01
15	33	HW	6/17/2010	COMPAL	Change SI2301BDS to C version	Change Q36 to SI2301CDS	X01
16	33	HW	6/17/2010	BRCOM	Change RFID capacitors for more popular	Change C502,C505 from 1uF to 0.1uF	X01
17	35	HW	6/17/2010	COMPAL	Link R677 to CIS	Link R677 to CIS to have the correct part number	X01
18	37	HW	6/17/2010	COMPAL	Change express card power SW to TPS2231MRGPR-2	Change U41 to TPS2231MRGPR-2 and remove C636,C639	X01
19	41	HW	6/17/2010	COMPAL	Add pull down on SLICE_BAT_ON	Add R791	X01
20	42	HW	6/17/2010	COMPAL	Board ID	Change R875 to 130K	X01
21	46	HW	6/17/2010	COMPAL	BIOS request	De-pop DV1, RV29 and pop U14	X01

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22	11,14,42	HW	6/18/2010	COMPAL	EOL concern	Change CC176 to SGA00005H0L, change YH1, Y6 to SJ132P7KW1L	X01
23	43	HW	6/18/2010	COMPAL	Change connector	Change JKB1 to same as JSC1	X01
24	43	HW	6/18/2010	COMPAL	Change TP pin definition	Reverse TP pin definition for PT	X01
25	41,42	HW	6/18/2010	COMPAL	Add series resistor and pull up resistors on MIC_MUTE#, VOL_MUTE,VOL_UP,VOL_DOWN	Add R773,R806,R884,R886,R887,R1166,R1167,R1184	X01
26	24,45	HW	6/18/2010	COMPAL	Correct net name for LED signal	Modify signal name BREATH_BLUE_LED to BREATH_WHITE_LED and BREATH_BLUE_LED_SNIFF to BREATH_WHITE_LED_SNIFF	X01
27	26,40, 41,46	HW	6/21/2010	NVIDIA	Add HPD circuit to inform system for NV request	Add DV2,DV3,DV4,R1154 and use ECE5028 GPIOE7/DCD# as HPD signal to inform system	X01
28	32	HW	6/21/2010	INTEL	Remove useless resistors	Remove R556, R558, R559, R560 and short the pin1 and pin2 together	X01
29	24,28,29, 32,37,44,49	HW	6/22/2010	COMPAL	Change part for Halogen free	Change Q18,Q27,Q30,Q34,Q38,Q40,Q42,Q49,Q54,Q58,QV5 to HF part	X01
30	10	HW	6/22/2010	COMPAL	To have better return path	De-pop CC130 and pop CC134	X01
31	44	HW	6/23/2010	COMPAL	Solution +1.5V_RUN voltage drop issue	Change Q59 from SI3456BDV to NTGS4141NT1G	X01
32	41	HW	6/23/2010	COMPAL	Remove double pull high resistor	Remove R1177	X01
33	29	HW	6/23/2010	COMPAL	Remove useless resistor	Remove R1125,R1126	X01
34	44	HW	6/25/2010	COMPAL	NTMS4107NR2G EOL	Change Q55 to NTMS4920NR2G	X01
35	10	HW	6/25/2010	COMPAL	CC129~CC134 D2T LESR5M EOL	Change CC129~CC134 to SGA00004X0L	X01
36	24	HW	6/25/2010	COMPAL	Change LVDS connector to 40 pin	Change JLVDS1 to 40 pin	X01
37	31	HW	6/25/2010	COMPAL	Change I/O connector to TYCO	Change JIO1 vendor from Lotes to TYCO	X01
38	24	HW	6/25/2010	COMPAL	PT panel change touch screen pin definition	Change JTS1 pin definition for new TS pin define	X01
39	14,29, 36,42	HW	7/1/2010	COMPAL	Modify Module Bay circuit	1.Remove R1181,R1182,R1189. 2.Change BAY_SMBUS, DEVICE_DET# pull up power rail from +3.3V_RUN to +3.3V_ALW. 3.Change net name ODD_DET# to PCH_SATA_MOD_EN#. 4.Add Q123,Q76,R513,R514,R515 for USB_SMI# circuit. 5.De-pop C627,R712	X01
40	24	HW	7/1/2010	COMPAL	Stuff PWM pull down resistor for PT solution	Pop R1137	X01
41	7	HW	7/1/2010	COMPAL	For support XDP device	De-pop RC9	X01
42	15,18, 41,42	HW	7/1/2010	COMPAL	Base on GPIO map to modify	1. Move SLP_ME_CSW_DEV# from GPIO45 to GPIO28, add MCARD_PCIE_SATA# on 5028 GPIOE3. 2. Remove RH238, change RH80 from 1k to 10k. 3. Change SLICE_BAT_PRES# pull up power rail from +3.3V_ALW2 to +3.3V_ALW. 4. Add R889	X01

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43	24	HW	7/1/2010	COMPAL	PWM function	Remove R1139,R1140 and add D68,D69	X01
44	11	HW	7/1/2010	COMPAL	VCCSA VID circuit	Change VCCSA_VID_0 to VCCSA_VID_1 and pop RC138	X01
45	36,45	HW	7/2/2010	COMPAL	Modify LED circuit	Remove R1578,R1579,R1580,D42,D60,D61, add Q77,Q124,R705,R718,R719	X01
46	22	HW	7/2/2010	COMPAL	Modify thermal diode for thermal request	Remove C268,C269, use DP1/DN1 for CPU,DP2/DN2 for GPU, DP3/DN3 for DIMM, DN5/DP5 for WWAM	X01
47	15,32	HW	7/5/2010	COMPAL	EOL concern	Change Y3 and YH2 from 1Y725000CE1A to 7A25000110	X01
48	11,24, 27,45	HW	7/7/2010	COMPAL	Change part for Halogen free part	Change QC5 to NTR4501NT1G, U21,U24,U54,U55,U57 change to NC7SZ04P5X-G, Q21 change to FDC654P-G	X01
49	29	HW	7/7/2010	COMPAL	USB30 SMI circuit	Stuff R513 due to this pin is OD type on USB30 module	X01
50	29	HW	7/8/2010	COMPAL	Link CIS symbol	Link JSATA2 CIS symbol	X01
51	35	HW	7/9/2010	O2-Mirco	Add discharge circuit for +3.3V_RUN_CARD	Add R826 on +3.3V_RUN_CARD	X01
52	15,29,32, 35,36,37	HW	7/9/2010	COMPAL	Move PCIE TX AC coupling capacitors close to PCH	Move C408,C409,C460,C461,C567,C568,C596,C597,C598,C599,C617,C618, C647,C648 to page 15 to close to PCH	X01
53	14	HW	7/12/2010	COMPAL	To solve SPI EA	Add R933,R935 on SPI chip select signals	X01
54	24	HW	7/12/2010	COMPAL	Link CIS symbol	Link JLVDS1	X01
55	28	HW	7/12/2010	COMPAL	Meet EA result	Stuff R493,R494	X01
56	24,30,35, 38,39	EMI	7/12/2010	COMPAL	EMI request to solve EMI issue	Add R678,C757,L92,L93, and stuff L51,L52,L90, de-pop R736~R739,R1150,R1151, and remove R1106	X01
57	31,41,45	HW	7/13/2010	Dell	Remove Mic mute function and LED	Remove R773,R806,R1108,R1061,Q105 and delete MIC_MUTE# signal	X01
58	28	HW	7/13/2010	COMPAL	Follow EA result	De-pop R493,R494 and pop R495,R496	X01
59	29	HW	7/13/2010	COMPAL	Modify zero ODD circuit	Change ZODD_WAKE#,MODC_EN#,MOD_SATA_PCIE#_DET,USB30_EN connection	X01
60	33	HW	7/14/2010	COMPAL	Change power rail for smart card	Change R632,R635 pull up power rail from +3.3V_ALW to +3.3V_ALW_SC	X01
61	22	HW	7/14/2010	COMPAL	Reserve capacitor for WWAN thermal diode	Add @C277	X01
62	14,17,18	HW	7/14/2010	COMPAL	To solve back drive issue	Move SIO_EXT_SMI# from PCH GPIO1 to GPIO14, remove RH254, and change RH164 pull up power rail from +3.3V_RUN to +3.3V_ALW_PCH	X01
63	45	HW	7/14/2010	COMPAL	Remove CLIP	Remove CLIP3,CLIP4,CLIP6~CLIP8	X01
64	38,39	HW	7/15/2010	COMPAL	Remove one TPS2560 for cost saving	Remove U43,C659,C660,R740,PJP6, and share with power source of U45	X01
65	31,41,45	HW	7/15/2010	COMPAL	Remove speaker LED	Remove Q119,Q102,R1109,R1059	X01

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66	17,18	HW	7/15/2010	COMPAL	Add pull up for PCH GPIO1	Add RH41 and change reference RH164 to RH41	X01
67	24,30,35	HW	7/16/2010	COMPAL	Change part reference for EMI request	Change L92 to LE92,L93 to LE93,R678 to RE678,CE757 to CE757	X01
68	20,44	HW	7/16/2010	COMPAL	For cost saving	Add PJP57,RH202, no stuff QH4,Q49,RH278,R908	X01
69	22	HW	7/16/2010	COMPAL	Modify current sense connection	Move MAX8731_IINP from U9.25 to U9.31	X01
70	41,42	HW	7/16/2010	DELL	Follow GPIO 0713	Add DYN_TURB_PWR_ALRT#, DYN_TUR_CURRNT_SET#, and change R796 pull up power rail from +3.3V_RUN to +3.3V_ALW	X01
71	35	HW	7/16/2010	COMPAL	Follow vendor request	De-pop RE678,CE757	X01
72	28,45	HW	7/19/2010	COMPAL	Part leverage select	Change D16,D59,D62 to SC100000S0L	X01
73	14	HW	7/19/2010	COMPAL	Follow Intel XDP design	Change RH43,RH44,RH45 to 200 ohm	X01
74	38,39	HW	7/19/2010	COMPAL	Change power rail for layout limitation	Change U90,U91 power rail to +USB_SIDE_PWR,U92 power rail to +SATA_SIDE_PWR	X01
75	46	HW	7/19/2010	NV	NV request to add 10k pull on GPIO9	Add RV102	X01
76	23	HW	7/20/2010	SMSC	Follow SMSC review result	Add R403	X01
77	31	HW	7/20/2010	COMPAL	Change USB3(on IO/B) enable signal	Chnage USB3 enable signal from USB_SIDE_EN# to ESATA_USB_PWR_EN#	X01
78	31	HW	7/20/2010	COMPAL	Change JIO1 for correct connector list	Change JIO1 to TYCO_2041300-2	X01
79	46	HW	7/20/2010	NV	Follow NV request	Add RV103,RV104, @RV20,@RV25,@RV26 and de-pop R1111	X01
80	26	HW	7/20/2010	Safety	Follow safety request	De-pop F2, pop D4 and add R5	X01
81	17,30,40	HW	7/20/2010	EMI	Follow EMI request	Add RE1098,RE1100,RE1101,RE1102,CE573,CE574, change RH103,R756 to 33 ohm, C704 to 12pF	X01
82	14	HW	7/20/2010	COMPAL	Change SPI chip select damping R	Change R933,R935 to 47 ohm	X01
83	24,39	HW	7/20/2010	COMPAL	Change material for small size	Change C300,C669 from 1206 16V to 0805 10V	X01
84	24	HW	7/20/2010	COMPAL	Change U86 power rail for touch screen	Change U86.4 power rail from +3.3V_RUN to +5V_RUN	X01
85	38,39	HW	7/20/2010	COMPAL	Remove useless capacitors	Remove C1151~C1154	X01
86	41	HW	7/20/2010	COMPAL	Follow GPIO map	Change R796 to 10k ohm, add R764	X01
87	44	HW	7/20/2010	COMPAL	Change PJP57 footprint	Change PJP57 footprint to 4x4m	X01
88	31	HW	7/21/2010	COMPAL	Modify HP & Mic circuit	Change JIO1 pin connection	X01
89	36	HW	7/21/2010	COMPAL	Add 0 ohm R on PCIE_MCARD2_DET#	Add R725	X01
90	40	HW	7/21/2010	COMPAL	Follow EA request	Change C704 to 6.8pF	X01

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91	35	HW	7/21/2010	COMPAL	Change JSD1 to support Memory Stick	Change R666,R667, change JSD1	X01
92	31, 42	HW	7/22/2010	COMPAL	GPIO MAP update.	add R1590	X01
93	39	HW	7/22/2010	COMPAL	Follow Vender request.	add R1582~R1585	X01
94	39	HW	7/23/2010	COMPAL	To compatible with SN75LVCP601	Add R1586~R1589	X01
95	41	HW	7/23/2010	COMPAL	Add 0 ohm R on TEMP_ALERT# for backup	Add R1591	X01
96	24,42	HW	7/24/2010	COMPAL	Follow GPIO map to add touch screen power down control circuit	Add TOUCH_SCREEN_PD#, Q125,Q32,R430,R431,C304,C306, and change JTCH1 pin 1,pin2 from +5V_RUN to +5V_TSP	X01
97	24	HW	7/26/2010	COMPAL	Reserve a 0 ohm resistor for +5V_TSP	Add R1592	X01
98	45	HW	7/26/2010	COMPAL	Add pull down 100k on BT_ACTIVE	Add R950	X01
99	48	HW	7/27/2010	NV	Follow NV suggestion to modify BOM	De-pop CV184, and change CV183 to 1uF,CV182 to 4.7uF, CV109 to 470pF,CV110 to 4700pF, LV8 to 100nH	X01
100	37	HW	8/23/2010	COMPAL	Add connection for express card SW	Add connection of pin4,pin5,pin13 and pin 14	X01
101	18	HW	8/23/2010	Intel	Follow Intel design guide Rev1.2	Change RH149 to 2.2k and RH150 to 0 ohm	X01
102	46	HW	8/23/2010	COMPAL	De-pop pull up resistors	De-pop RV23,RV24	X01
103	14,18,30	HW	8/23/2010	DELL	Remove PAID function of RTC and speaker	Change speaker connector to 4 pin and remove RTC_DET# and SPEAKER_DET#	X01
104	17	HW	8/26/2010	Intel	Follow Intel check list rev1.2	Add @RH332	X01
105	14,18	HW	8/26/2010	Intel	Follow Intel request	Add RH51 and RH356	X01
106	33	HW	8/27/2010	BRCOM	Follow BRCOM request	Change L39,L40 to rated current is 400mA	X01
107	45	HW	8/27/2010	COMPAL	Follow ME request	Change H17 to 2P2	X01
108	16	HW	8/27/2010	COMPAL	Reserve pull down R for ME_SUS_PWR_ACK	Add @RH145	X01
109	36	HW	9/2/2010	COMPAL	De-pop ESD diode	De-pop U40	X01
110	11	HW	9/2/2010	COMPAL	Change QC5 VGS to 20V part	Change QC5 to SB00000HK0L	X01
111	45	HW	9/3/2010	COMPAL	Follow ME request	Change H11 from 3P8 to 3P7	X01
112	26	HW	9/3/2010	COMPAL	Follow safety request	Pop F2 and de-pop R5	X01
113	46,47,48,49	HW	9/6/2010	COMPAL	Change GPU to N12P FERMI	Change UV1 to N12P FERMI	X01
114	24,26,46	HW	9/8/2010	COMPAL	Change RB751V to HF part	Change D53,D63~D69,DV1~DV4 to SCS00004L0L	X01

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115	30,31	HW	9/9/2010	IDT	To solve pop noise and detect issue	Add U6,Q33,Q46,D70,D71,R425,R33,R38,R424,R161,R352,R1088,C967,C307,C308	X01
116	35	HW	9/10/2010	O2	To solve RF noise issue	Add @C573,@C574,L45	X01
117	50,51	HW	9/14/2010	COMPAL	Change VRAM to 800MHz	Change UV3~UV6 to SA00003VS0L	X01
118	30,38,39	HW	9/14/2010	COMPAL	For EMI request	Change C973~C976 to 680pF and pop, add L91~L94, D72~D74, remove U90~U92	X01
119	35	HW	9/14/2010	O2	Modify circuit	Remove R661,R662, add L46,L47, change L45 to SM01000GG0T	X01
120	17,24	HW	9/15/2010	COMPAL	To support high contrast ratio brightness	Change net name from LVDS_CBL_DET# to LVDS_CBL_ID	X01
~~121~~	~~37,38,39~~	~~HW~~	~~9/16/2010~~	~~COMPAL~~	~~change materials~~	~~Change L49,L51,L52,L90 to SM070001E0L~~	~~X01~~
122	46,48,50,51	HW	9/20/2010	Nvidia	Vender request	add CV89,CV176,CV177,CV178,CV188~CV192,RV30, RV31, change RV81/86 to 160ohm RV59 to 15K, CV80 to 4.7uF, CV40,CV58,CV59,CV60 to 0.1u,CV41,CV42,CV43,CV50,CV51 to 0.022u. CV160~CV162 to 1u, CV181 to 10u CV180 to 22u, pop RV99 and change it to 20K pop RV41 and change to 4.99K, de-pop RV50, pop RV56. Rename from I2CS_SCL/SDA to I2CH_SCL/SDA	X01
123	48	HW	9/28/2010	Nvidia	Vender request	Change LV3 to SM01000BE0L (220ohm)	X01
124	24	HW	9/28/2010	COMPAL	solve PWM leackage issue.	Change R1137 to 10Kohm	X01
125	46	HW	9/28/2010	COMPAL	solve systen can't boot in UMA only mode.	correct from U14 to UV14 and change the PN to SA00003Y00L. pop RV29, ~~de-pop RV22~~	X01
126	14	HW	10/01/2010	COMPAL	DG1.5 update.	add RH31	X01
127	32	HW	10/04/2010	COMPAL	GPIO MAP update.	add U15, C478.	X01
128	45	HW	10/04/2010	COMPAL	LED brightness test result	change R957 to 1K, R955, R941, R949, R939, R934 to 4.7K	X01
129	32	HW	10/07/2010	COMPAL	Solve LAN Package Lost Problem	change L30~L37 from 22NH to 12NH.	X01
130	9	HW	10/07/2010	COMPAL	DG1.5 update.	depop RC96, RC97	X01
131	30	HW	10/07/2010	COMPAL	change Codec to YA version.	change the PN from SA00003ZZ1L to SA00003ZZ2L	X01
132	17,24,41	HW	10/11/2010	COMPAL	Follow GPIO Map	Change LVDS_CBL_ID to ATG_MAC_LCD_DET#, remove R771	X02
133	31	HW	10/11/2010	DELL	Remove Latitude On button	Depop SW2	X02
134	28	HW	10/12/2010	DELL	Support SSD	Add PJP64,C399,C402	X02
135	31	HW	10/18/2010	IDT	Change GND reference	Change Mic detect circuit DGND to AGND	X02
~~136~~	~~30~~	~~HW~~	~~10/19/2010~~	~~COMPAL~~	~~Change Mic detect to external detect~~	~~Remove R161 and add C1164~~	~~X02~~
137	14,18	HW	10/19/2010	COMPAL	Follow Intel debug port DG	Connect PCH_GPIO15 to PCH XDP	X02

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138	42	HW	10/19/2010	COMPAL	Change board ID to X02	Change R875 to 62k	X02
139	30,31	HW	10/21/2010	COMPAL	Modify Mic detect circuit	1. Add PJP65, 2. Change C307,C308 to 0402 size 3. Change C308 connection, 4. Change Mic detect power from +5V_ALW to +5V_RUN, 5. De-pop Q33,Q46,R424, 6. Move C1180 to +VREFOUT_R	X02
140	18	HW	10/22/2010	COMPAL	Follow check list rev1.0	Change RH177 to 10k	X02
141	31	HW	10/26/2010	COMPAL	Cost saving	Change C307,C308 to 0402 package	X02
142	34	HW	10/26/2010	COMPAL	Follow BRCOM request	Pop C1161	X02
143	14~21	HW	10/28/2010	Intel	Change PCH stepping	Change UH4 to B2 stepping	X02
144	30,31	HW	10/28/2010	COMPAL	Use internal Mic detect circuit	De-pop D71,R425,R33,R38,C307,C308,U6, R352,R1088,C967	X02
145	47	HW	11/1/2010	NV	Solve HDMI audio issue	De-pop RV41, change RV97 to 34.8K and stuff it	X02
146	47	HW	11/1/2010	NV	Chagne Device ID to 0x1056	De-pop RV51,change RV57 to 34.8k and stuff	X02
147	47	HW	11/1/2010	NV	Follow NV request	De-pop RV60, change RV54 to 10k and stuff it, change RV52 to 4.99k	X02
148	15	HW	11/5/2010	COMPAL	To fix ME issue	De-pop RH296,RH297, pop QH5,RH302,RH303	X02
149	37	HW	11/16/2010	COMPAL	To fix soldering issue	Change express card connector JEXP1 to TAISOL 5-421005002000-9	X02
150	28	HW	11/17/2010	Intel	Follow Intel CRB design	Change R501,R502 to 10k	X02
151	12,13	HW	11/18/2010	COMPAL	Follow part reference design rule	Change JDIMMA1 & JDIMMB1 to JDIMM1 & JDIMM2	X02
152	46,47, 48,49	HW	11/18/2010	NV	Change GPU to QS sample	Change UV1 to N12P-NS-S-A1	X02
153	28,44	HW	11/19/2010	COMPAL	For cost saving	De-pop R499,R500,C393,Q28,R905,R907,C762,Q51	X02
154	31	HW	11/22/2010	COMPAL	Follow part reference design rule	Change JMEDIA1 to JMDIA1	X02
155	14	HW	11/22/2010	COMPAL	Change SPI ROM to version C	~~Change U52 to SA000039A1L, U53 to SA00003FO1L~~	X02
156	46	HW	12/03/2010	COMPAL	Solve GPU reset timing issue	Add RV33 100Kohms pull up to +3.3V_RUN and de-pop RV22	X02
157	42	HW	12/03/2010	COMPAL	Follow INTEL DG1.5 RSMRST# timing cicuit	Just add RSMRST# circuit for backup. but de-pop	X02
158	46	HW	12/07/2010	COMPAL	Solve GPU reset timing issue	de-pop RV33 and pop RV22	X02
159	18	HW	12/07/2010	~~COMPAL~~	~~Audio MIC detect selection~~	~~de-pop RH269 and add RH273 1Kohms pull low~~	X02
160	33	HW	12/17/2010	COMPAL	Follow NXP design guide	Add @C575	A00

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160	14	HW	12/17/2010	COMPAL	For cost saving	De-pop RH47,RH48,RH49,RH288	A00
161	42	HW	12/20/2010	COMPAL	Change Board ID	Change R875 to 33k	A00
162	42	HW	12/21/2010	COMPAL	To solve backdrive issue	Pop Q45	A00
163	33,34	HW	12/24/2011	COMPAL	Change USH chip to CID7	Change U33 to SA00003AO1L	A00
164	34	HW	1/6/2011	COMPAL	update TPM/TCM pop option table	Correct pop option table	A00
165	ALL	HW	1/11/2011	COMPAL	For cost saving	Change 125pcs 0402 0 ohm resistors and 3pcs 0603 0 ohm footprint to new footprint which is short pin1 and pin2	A00