COMPAL CONFIDENTIAL

MODEL NAME : QXW00

PCB NO : LA-7901P (DA60000PM00)

BOM P/N : 4619F631L01 / L02

GPIO MAP: E4_VC_GPIO_map_rev_1.1

Korbel 14 UMA--Non vPRO

Ivy/Sandy Bridge + Panther POINT(HM77w/DASH)

2012-03-03

REV : 1.0 (A00)

@ : Nopop Component

CONN@ : Connector Component

MB Type	BOM P/N	
TPM	43*	1@ 3@ 5@
TCM		2@ 4@ 5@
TPM DIS		2@ 3@
HM77 w/o Vpro		
QM77 w/ Vpro		
PCH XDP		PXDP@
HDMI LOGO		46@

MB PCB

Part Number	Description
DA60000PM00	PCB 0LH LA-7901P REV0 M/B UMA

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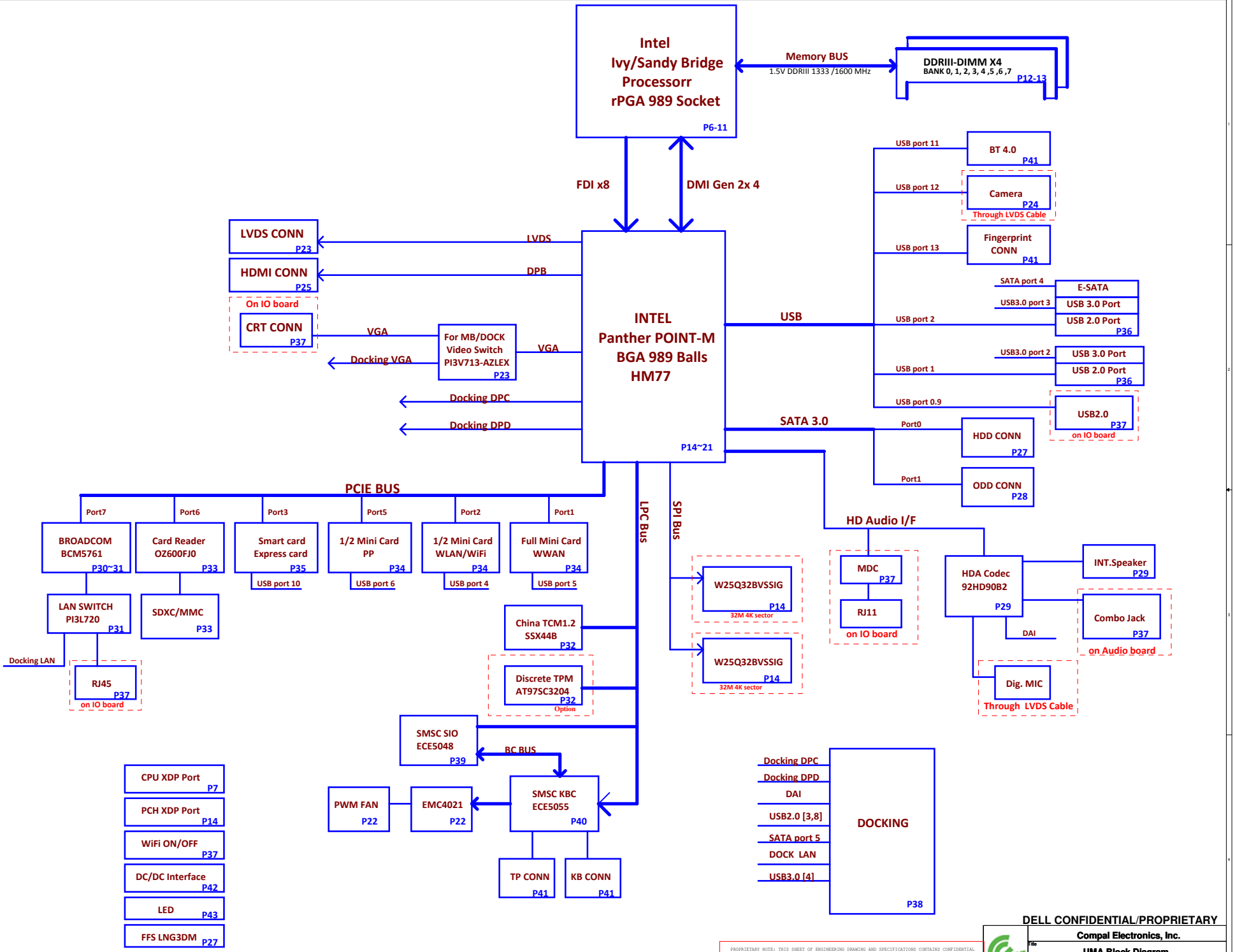
Compal Electronics, Inc.

Title: Cover Sheet

Size | Document Number: LA-7901P | Rev: 1.0

Date: Saturday, March 03, 2012 | Sheet 1 of 61



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Compal Electronics, Inc.

Title: UMA Block Diagram

Size: | Document Number: LA-7901P | Rev: 1.0

Date: Friday, March 02, 2012 | Sheet 2 of 61

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

need to update Power Status and PM Table

USB 3.0 PORT#	Connetion
1	NA
2	JUSB1 (Left side)
3	JUSB2 (Left side)
4	DOCKING

	USB PORT#	DESTINATION
PCH	0	JUSB (Right side-IO/B)
	1	JUSB (Left side)
	2	JESA1 (Leftt side ESATA)
	3	MLK DOCK
	4	WLAN
	5	WWAN
	*1 6	JMINI3(Flash)-for w/ Vpro
	*1 7	DOCKING
	8	NA
	9	JUSB (Right side-Audio/B)
	10	Express card/Smart Card
	11	Bluetooth
	12	Camera
	13	BIO

*1: HM76 don't support port 6,7

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

UMA DP/HDMI Port	Connetion
Port B	MB HDMI Conn
Port C	Dock DP port 2
Port D	Dock DP port 1

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

Compal Electronics, Inc.
Title: Index and Config.
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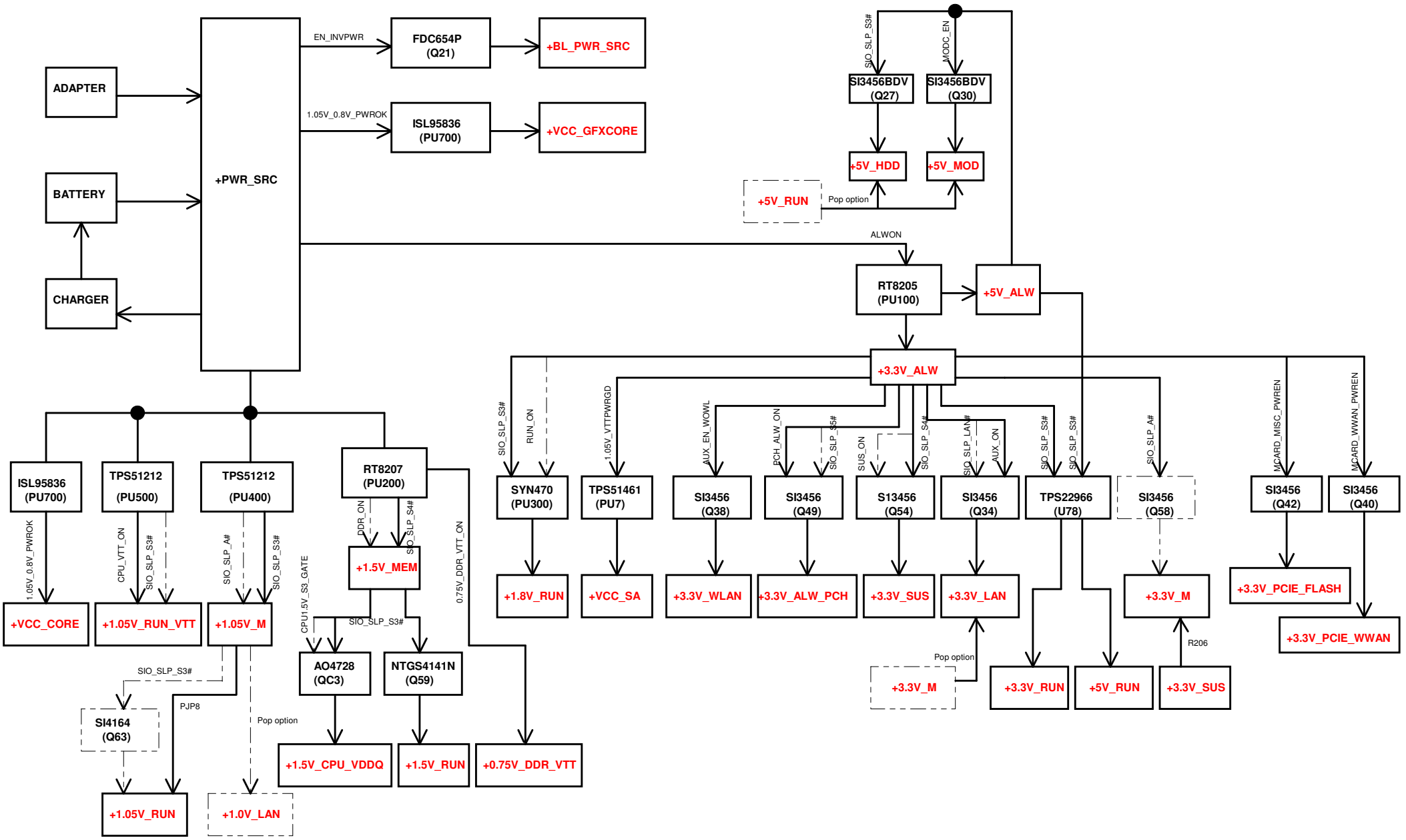
Date: Friday, March 02, 2012 | Sheet 3 of 61



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Compal Electronics, Inc.		
Title: Power Rail		
Size	Document Number: LA-7901P	Rev: 1.0
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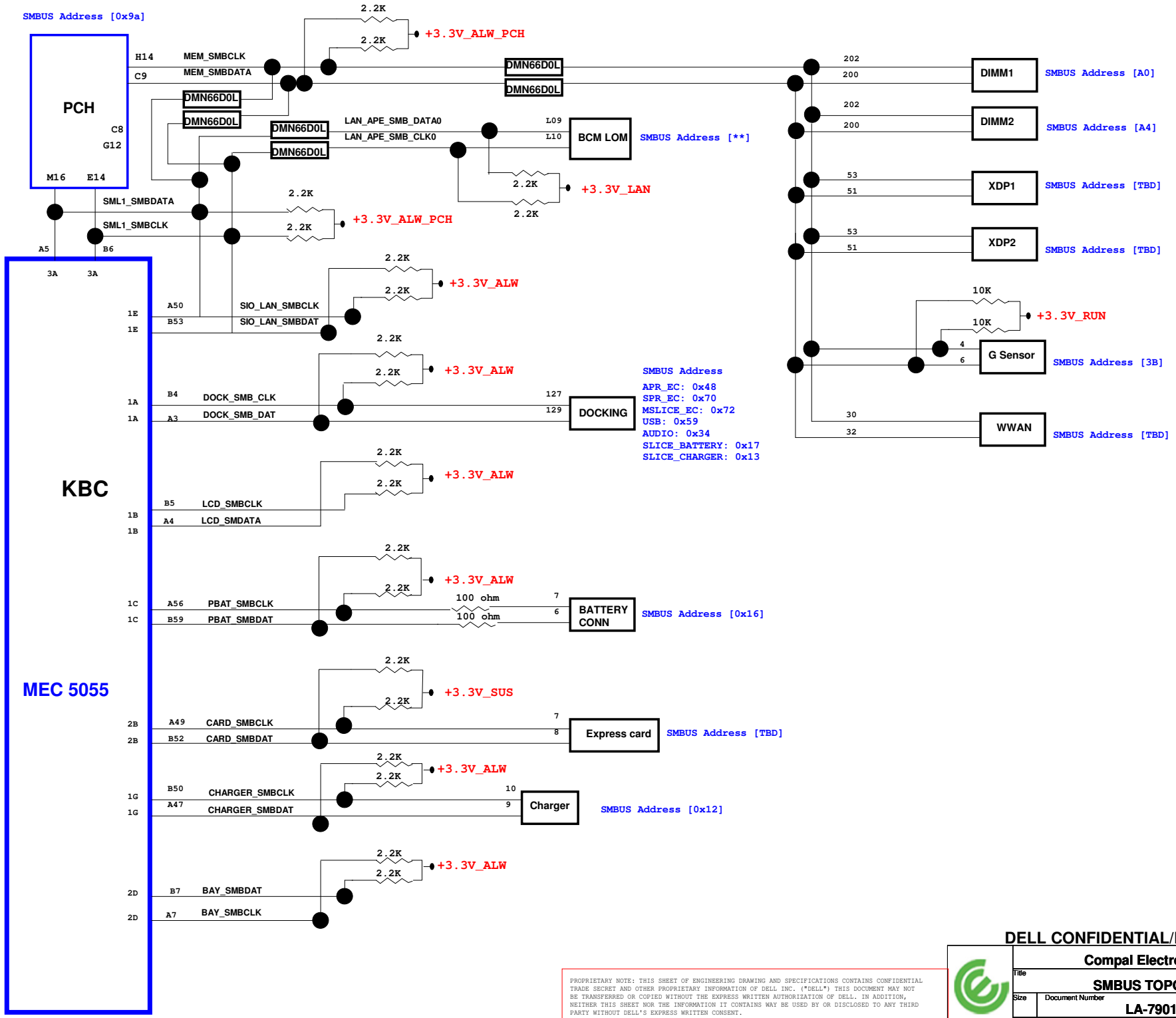

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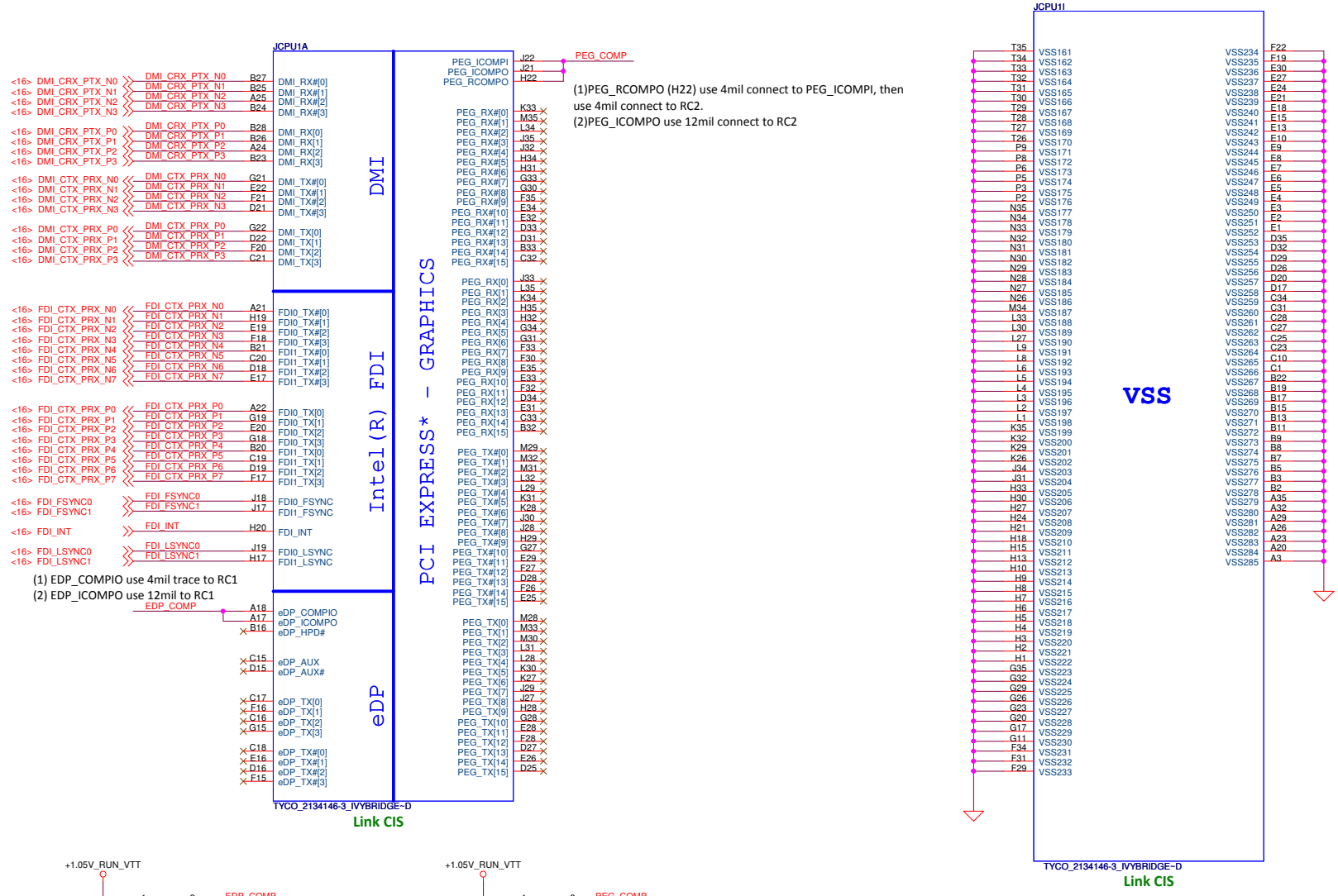
Compal Electronics, Inc.

Title: SMBUS TOPOLOGY

Size | Document Number: LA-7901P | Rev: 1.0

Date: Friday, March 02, 2012 | Sheet 5 of 61



DP Compensation

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

PEG Compensation

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

Compal Electronics, Inc.

Title: Ivy/Sandt Bridge (1/6)

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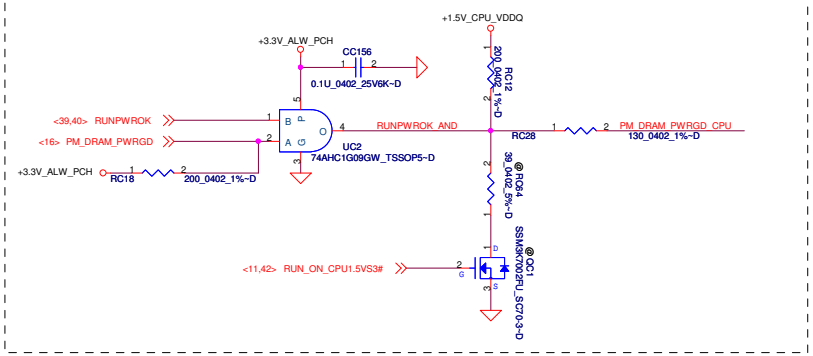
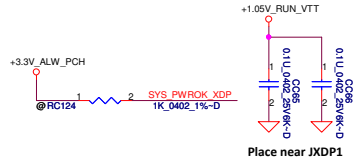
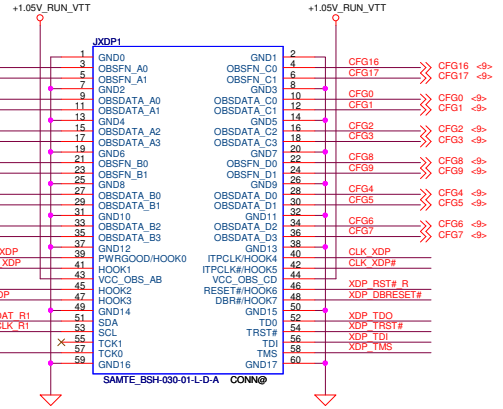
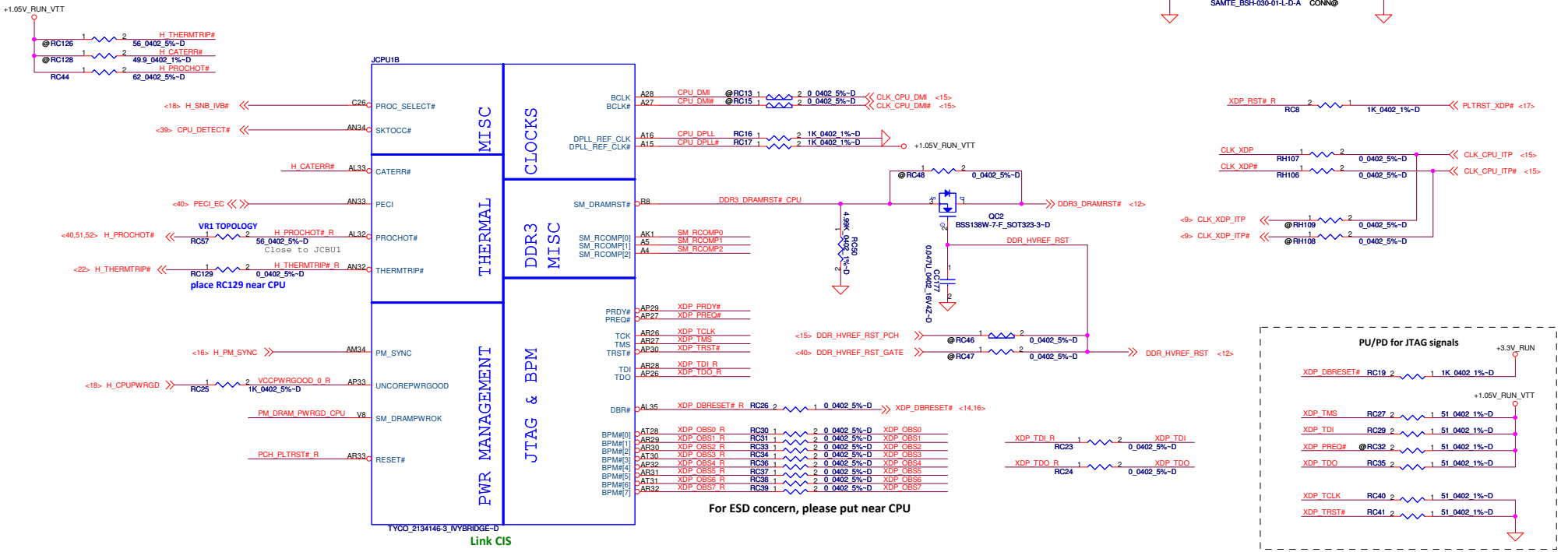
Follow DG Rev0.71 SM_DRAMPWROK topology





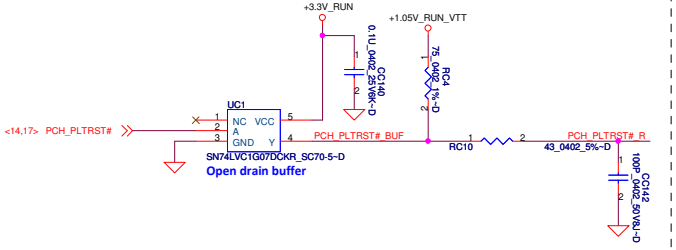


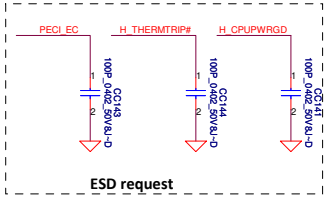
The resistor for HOOK2 should beplaced such that the stub is very small on CFG0 net

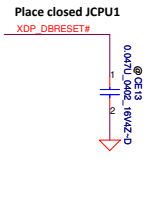


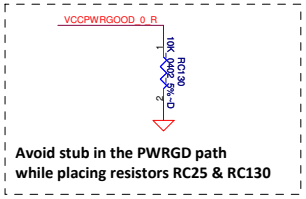
Link CIS

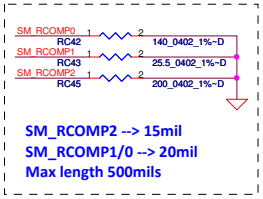
Buffered reset to CPU











Compal Electronics, Inc.

Title: Ivy/Sandy Bridge (2/6)

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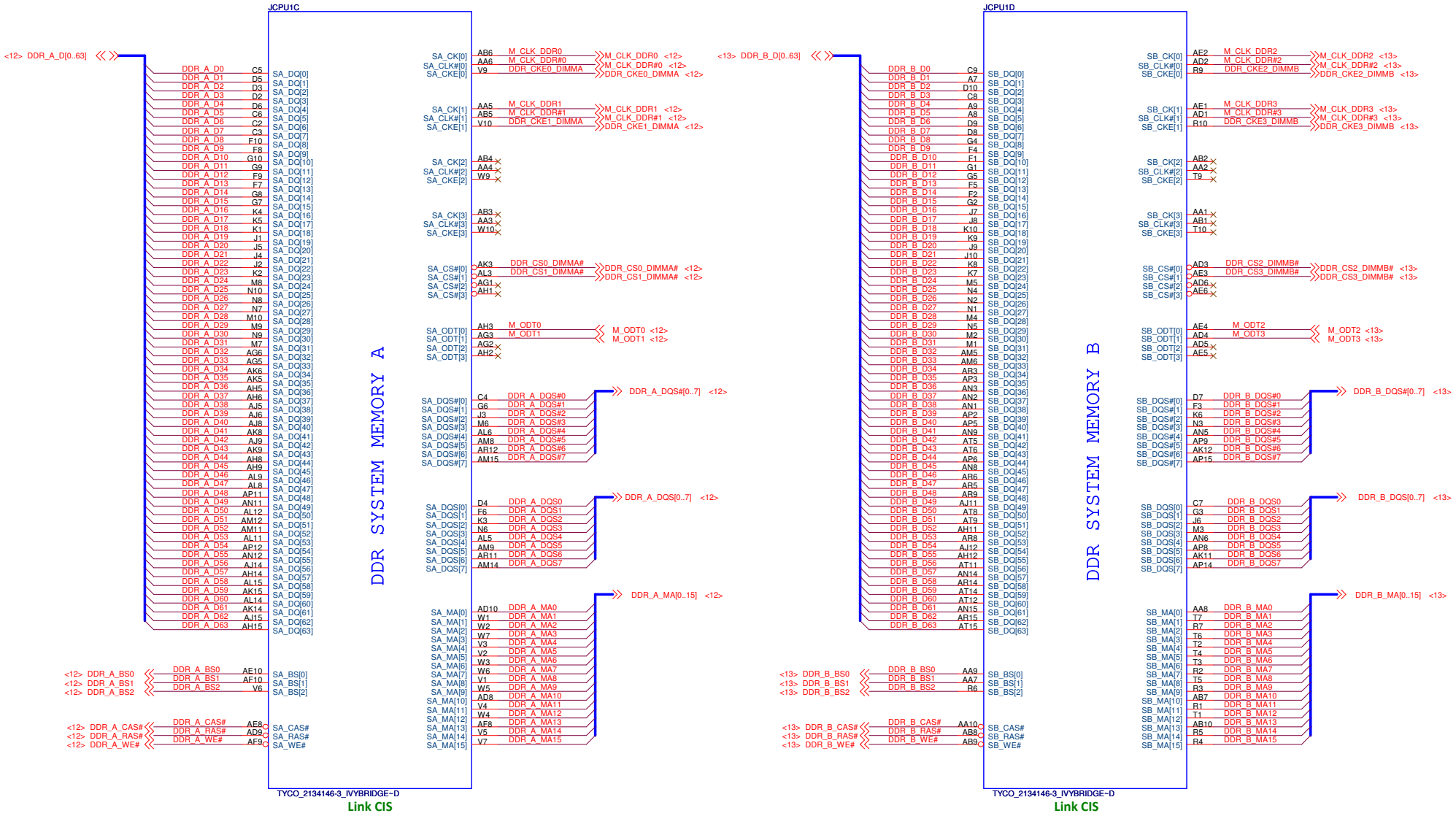


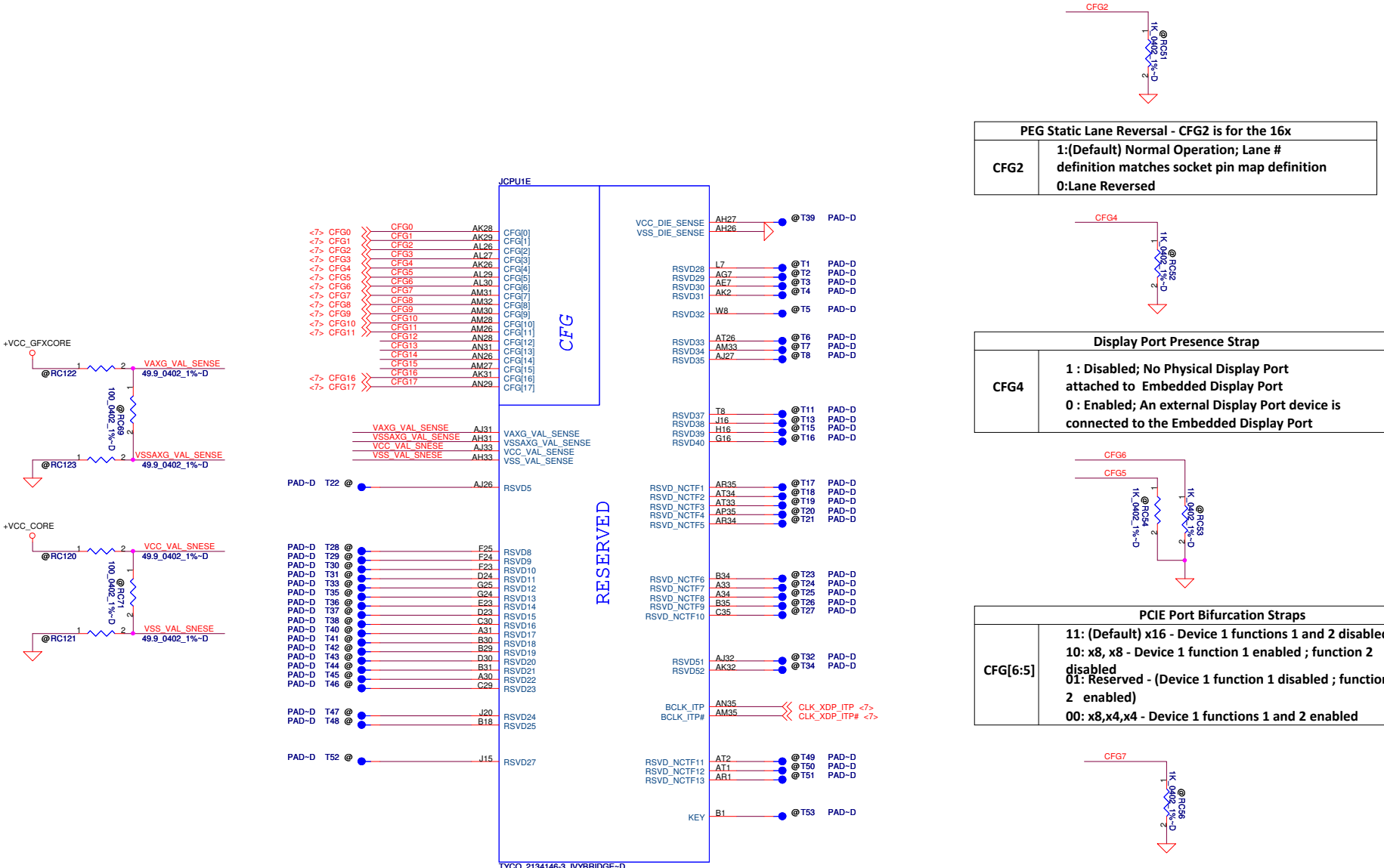
Compal Electronics, Inc.

Title: Ivy/Sandy Bridge (3/6)

Size | Document Number: LA-7901P | Rev: 1.0

Date: Friday, March 02, 2012 | Sheet 8 of 61

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

Compal Electronics, Inc.

Title: Ivy/Sandy Bridge (4/6)

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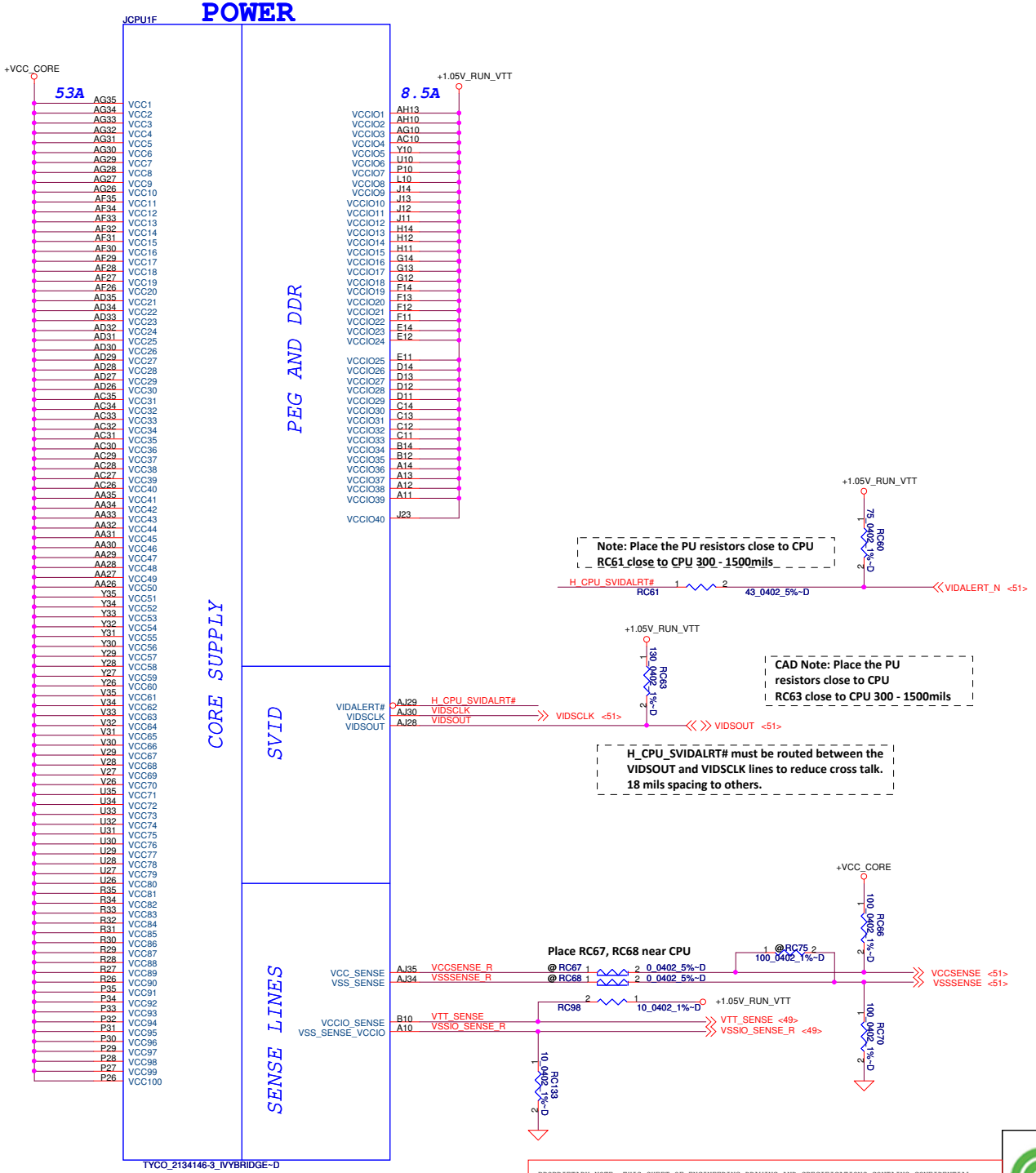
POWER



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
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: Ivy/Sandy Bridge (5/6)

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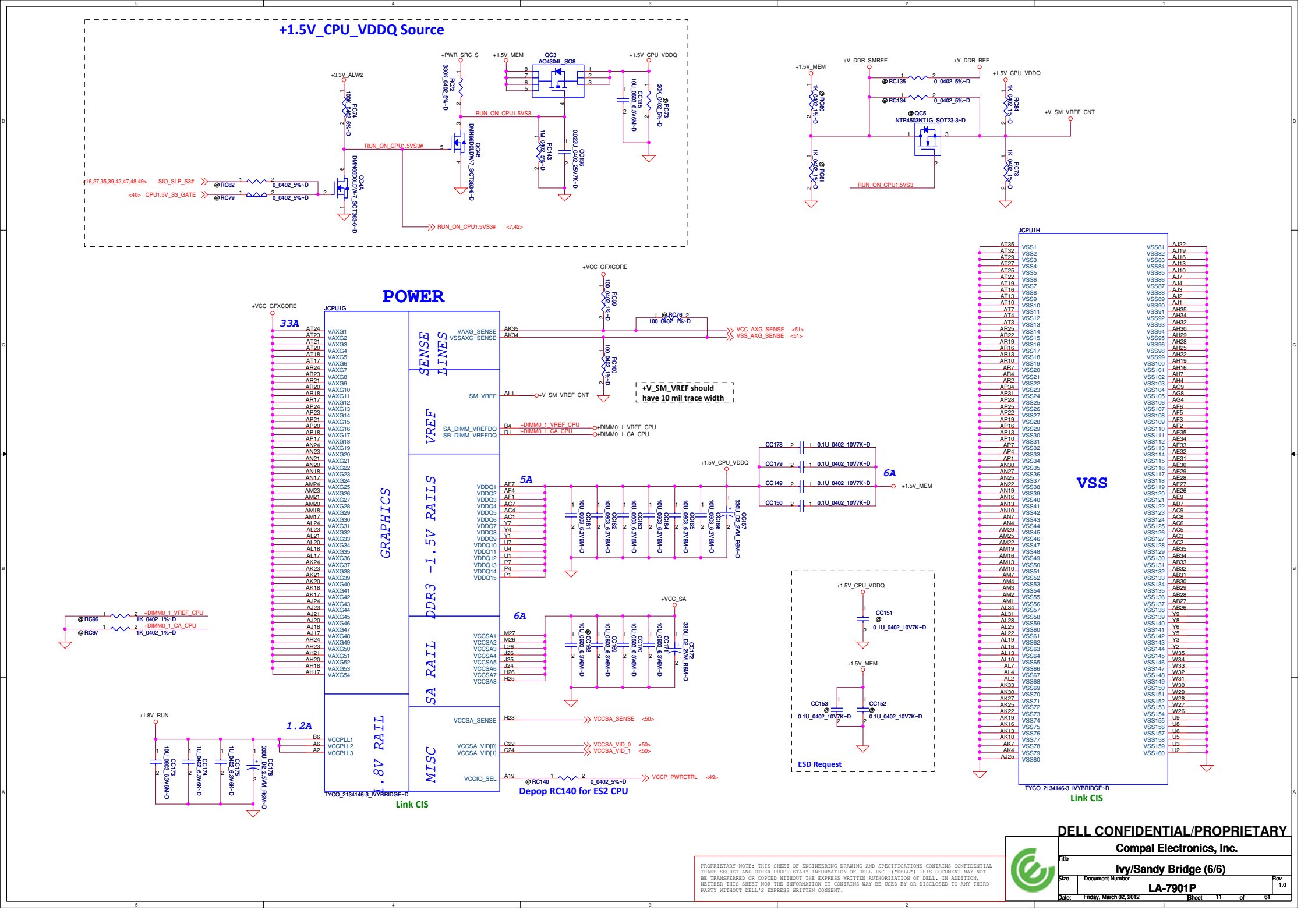

Compal Electronics, Inc.

Title: Ivy/Sandy Bridge (6/6)

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JDIMM1 Rev Type H=8mm

2-3A to 1 DIMMs/channel

All VREF traces should have 10 mil trace width

Populate RD1, De-Populate RD7 for Intel DDR3 VREFDQ multiple methods M1
Populate RD7, De-Populate RD1 for Intel DDR3 VREFDQ multiple methods M3

Layout Note: Place near JDIMM1

Layout Note: Place near JDIMM1.203,204

Link CIS

M3 Circuit (Processor Generated SO-DIMM VREF_DQ)

Compal Electronics, Inc.

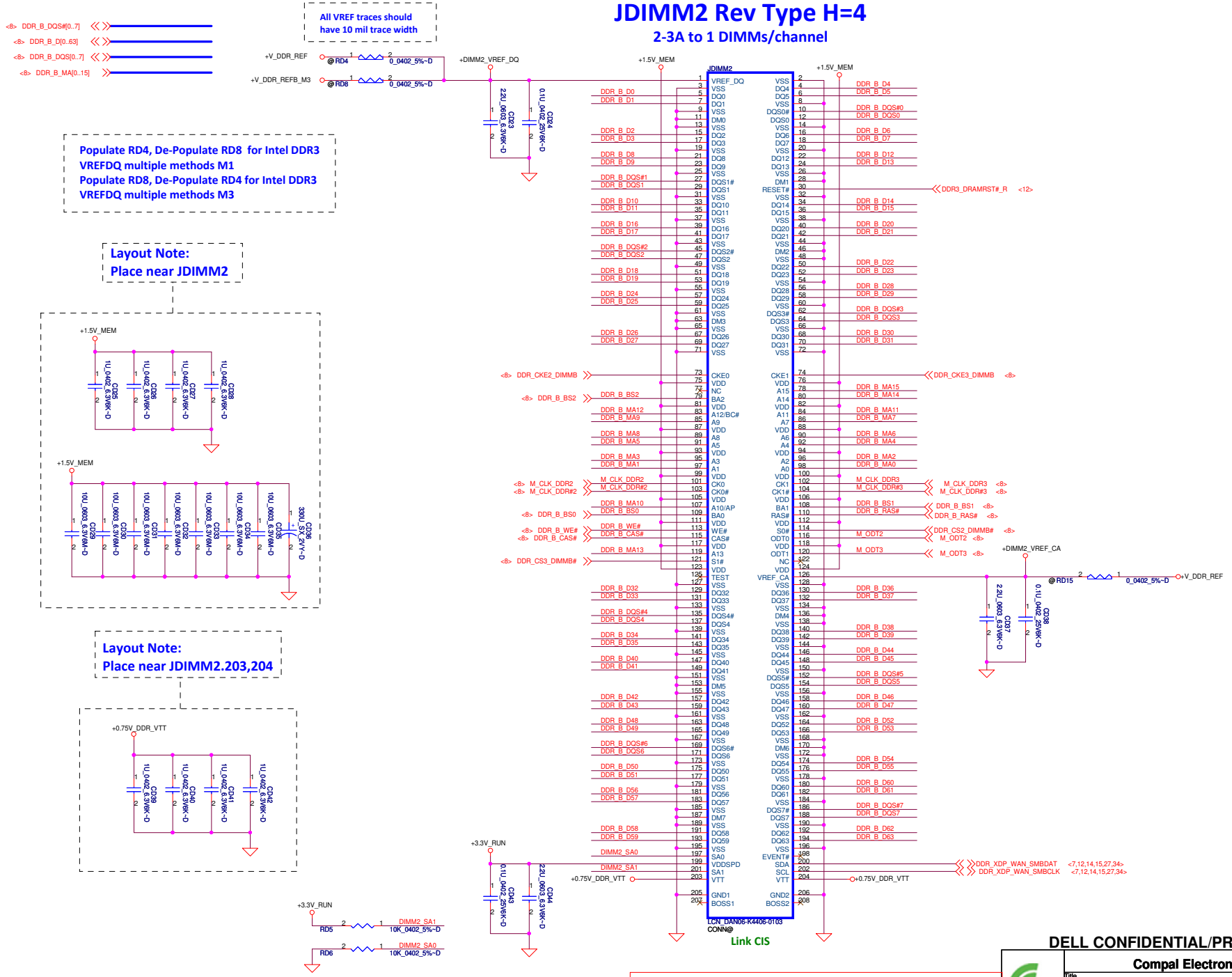
Title: DDRIII-SODIMM SLOT1

Size: | Document Number: LA-7901P | Rev: 1.0

Date: Friday, March 02, 2012 | Sheet 12 of 61

JDIMM2 Rev Type H=4

2-3A to 1 DIMMs/channel



Compal Electronics, Inc.

Title: DDRIII-SODIMM SLOT2

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

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

CMOS_CLR1	CMOS setting
Shunt	Clear CMOS
Open	Keep CMOS

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

SPKR	No Reboot Strap
	Low = Default
	High = No Reboot

INTEL HDA_SYNC isolation circuit

Close to UH4.T3

Close to U52

Close to U53

BBS_BIT0 - BIOS BOOT STRAP BIT 0

200 MIL SO8
64Mb Flash ROM
W25Q64CVSSIG_SO8

200 MIL SO8
32Mb Flash ROM
W25Q32BVSSIG_SO8~D

HM76(w/o vpro): depop RH350 and pop RH359
QM77(w/ vpro) : pop RH350 and depop RH359

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Compal Electronics, Inc.

Title: PCH (1/8)

Size: | Document Number: LA-7901P | Rev: 1.0

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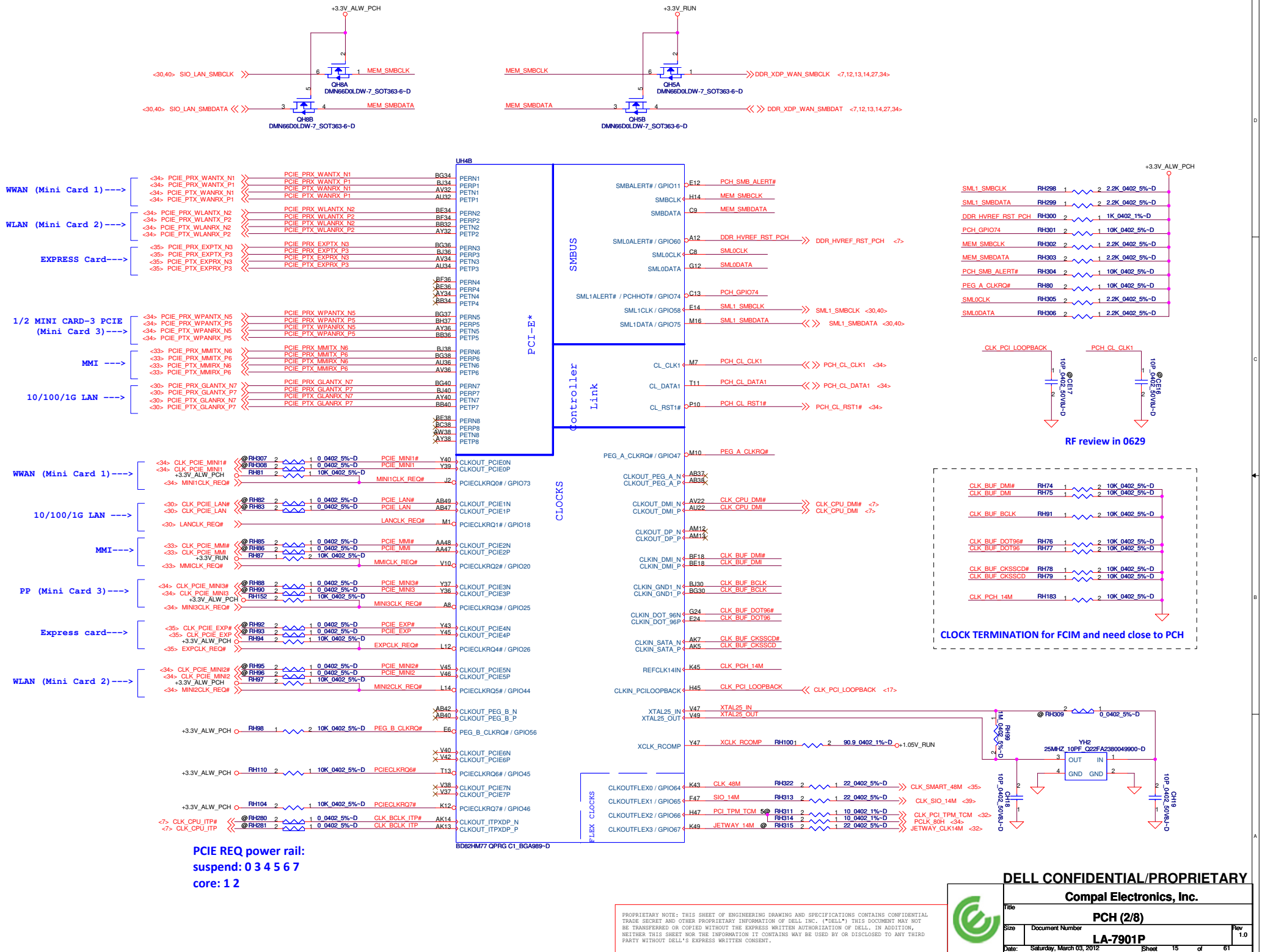
+3.3V_ALW_PCH
+3.3V_RUN
SIO_LAN_SMBCLK
SIO_LAN_SMBDATA
MEM_SMBCLK
MEM_SMBDATA
QH8A DMN66D0LDW-7_SOT363-6~D
QH8B DMN66D0LDW-7_SOT363-6~D
QH5A DMN66D0LDW-7_SOT363-6~D
QH5B DMN66D0LDW-7_SOT363-6~D
DDR_XDP_WAN_SMBCLK <7,12,13,14,27,34>
DDR_XDP_WAN_SMBDAT <7,12,13,14,27,34>
UH4B
PCI-E*
SMBUS
Controller Link
CLOCKS
FLEX CLOCKS
WWAN (Mini Card 1)--->
WLAN (Mini Card 2)--->
EXPRESS Card--->
1/2 MINI CARD-3 PCIE (Mini Card 3)--->
MMI --->
10/100/1G LAN --->
PP (Mini Card 3)--->
Express card--->
SMBALERT# / GPIO11
SMBCLK
SMBDATA
SML0ALERT# / GPIO60
SML0CLK
SML0DATA
SML1ALERT# / PCHHOT# / GPIO74
SML1CLK / GPIO58
SML1DATA / GPIO75
CL_CLK1
CL_DATA1
CL_RST1#
PEG_A_CLKRQ# / GPIO47
CLKOUT_PEG_A_N
CLKOUT_PEG_A_P
CLKOUT_DMI_N
CLKOUT_DMI_P
CLKOUT_DP_N
CLKOUT_DP_P
CLKIN_DMI_N
CLKIN_DMI_P
CLKIN_GND1_N
CLKIN_GND1_P
CLKIN_DOT_96N
CLKIN_DOT_96P
CLKIN_SATA_N
CLKIN_SATA_P
REFCLK14IN
CLKIN_PCILOOPBACK
XTAL25_IN
XTAL25_OUT
XCLK_RCOMP
CLKOUTFLEX0 / GPIO64
CLKOUTFLEX1 / GPIO65
CLKOUTFLEX2 / GPIO66
CLKOUTFLEX3 / GPIO67
BD82HM77 QPRG C1_BGA989~D
RF review in 0629
CLOCK TERMINATION for FCIM and need close to PCH
PCIE REQ power rail:
suspend: 0 3 4 5 6 7
core: 1 2
DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
PCH (2/8)
LA-7901P
Rev 1.0
Saturday, March 03, 2012
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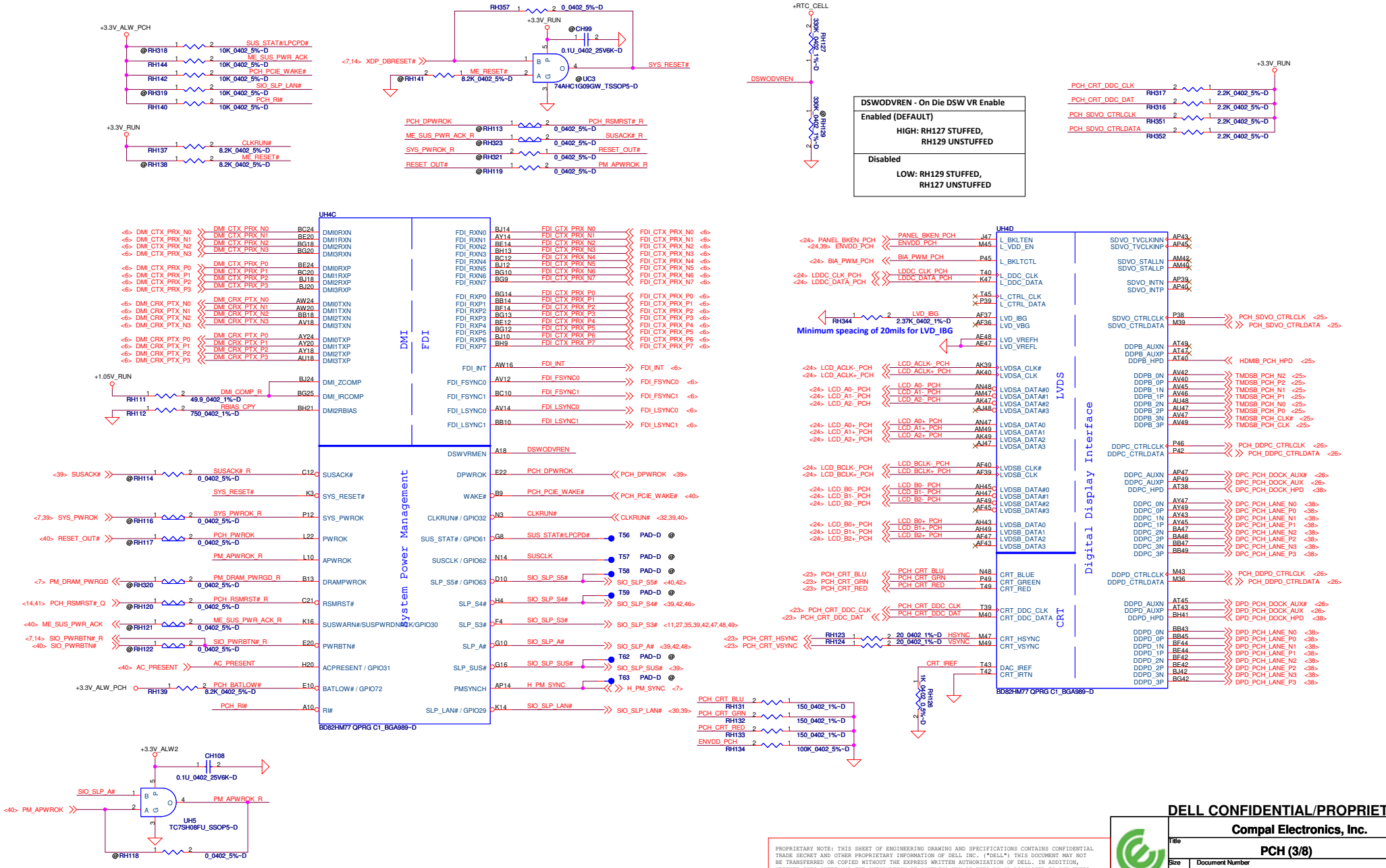
+3.3V_ALW_PCH
SUS_STAT#/LPCPD#
ME_SUS_PWR_ACK
PCH_PCIE_WAKE#
SIO_SLP_LAN#
PCH_RI#
10K_0402_5%~D
+3.3V_RUN
CLKRUN#
ME_RESET#
8.2K_0402_5%~D
RH357
0_0402_5%~D
@CH99
0.1U_0402_25V6K~D
XDP_DBRESET#
ME_RESET#
SYS_RESET#
@UC3
74AHC1G09GW_TSSOP5~D
PCH_DPWROK
PCH_RSMRST#_R
ME_SUS_PWR_ACK_R
SUSACK#_R
SYS_PWROK_R
RESET_OUT#
PM_APWROK_R
+RTC_CELL
DSWODVREN
330K_0402_1%~D
DSWODVREN - On Die DSW VR Enable
Enabled (DEFAULT)
HIGH: RH127 STUFFED, RH129 UNSTUFFED
Disabled
LOW: RH129 STUFFED, RH127 UNSTUFFED
PCH_CRT_DDC_CLK
PCH_CRT_DDC_DAT
PCH_SDVO_CTRLCLK
PCH_SDVO_CTRLDATA
2.2K_0402_5%~D
UH4C
DMI
FDI
Power Management
DMI_CTX_PRX_N0
DMI_CTX_PRX_N1
DMI_CTX_PRX_N2
DMI_CTX_PRX_N3
DMI_CTX_PRX_P0
DMI_CTX_PRX_P1
DMI_CTX_PRX_P2
DMI_CTX_PRX_P3
DMI_CRX_PTX_N0
DMI_CRX_PTX_N1
DMI_CRX_PTX_N2
DMI_CRX_PTX_N3
DMI_CRX_PTX_P0
DMI_CRX_PTX_P1
DMI_CRX_PTX_P2
DMI_CRX_PTX_P3
DMI_ZCOMP
DMI_IRCOMP
DMI2RBIAS
+1.05V_RUN
DMI_COMP_R
RBIAS_CPY
49.9_0402_1%~D
750_0402_1%~D
FDI_RXN0
FDI_RXN1
FDI_RXN2
FDI_RXN3
FDI_RXN4
FDI_RXN5
FDI_RXN6
FDI_RXN7
FDI_RXP0
FDI_RXP1
FDI_RXP2
FDI_RXP3
FDI_RXP4
FDI_RXP5
FDI_RXP6
FDI_RXP7
FDI_CTX_PRX_N0
FDI_CTX_PRX_N1
FDI_CTX_PRX_N2
FDI_CTX_PRX_N3
FDI_CTX_PRX_N4
FDI_CTX_PRX_N5
FDI_CTX_PRX_N6
FDI_CTX_PRX_N7
FDI_CTX_PRX_P0
FDI_CTX_PRX_P1
FDI_CTX_PRX_P2
FDI_CTX_PRX_P3
FDI_CTX_PRX_P4
FDI_CTX_PRX_P5
FDI_CTX_PRX_P6
FDI_CTX_PRX_P7
FDI_INT
FDI_FSYNC0
FDI_FSYNC1
FDI_LSYNC0
FDI_LSYNC1
DSWVRMEN
DSWODVREN
SUSACK#
SYS_RESET#
SYS_PWROK
PWROK
APWROK
DRAMPWROK
RSMRST#
SUSWARN#/SUSPWRDNACK/GPIO30
PWRBTN#
ACPRESENT / GPIO31
BATLOW# / GPIO72
RI#
DPWROK
WAKE#
CLKRUN# / GPIO32
SUS_STAT# / GPIO61
SUSCLK / GPIO62
SLP_S5# / GPIO63
SLP_S4#
SLP_S3#
SLP_A#
SLP_SUS#
PMSYNCH
SLP_LAN# / GPIO29
BD82HM77 QPRG C1_BGA989~D
UH4D
LVDS
CRT
Digital Display Interface
L_BKLTEN
L_VDD_EN
L_BKLTCTL
L_DDC_CLK
L_DDC_DATA
L_CTRL_CLK
L_CTRL_DATA
LVD_IBG
LVD_VBG
LVD_VREFH
LVD_VREFL
Minimum spacing of 20mils for LVD_IBG
LVDSA_CLK#
LVDSA_CLK
LVDSA_DATA#0
LVDSA_DATA#1
LVDSA_DATA#2
LVDSA_DATA#3
LVDSA_DATA0
LVDSA_DATA1
LVDSA_DATA2
LVDSA_DATA3
LVDSB_CLK#
LVDSB_CLK
LVDSB_DATA#0
LVDSB_DATA#1
LVDSB_DATA#2
LVDSB_DATA#3
LVDSB_DATA0
LVDSB_DATA1
LVDSB_DATA2
LVDSB_DATA3
CRT_BLUE
CRT_GREEN
CRT_RED
CRT_DDC_CLK
CRT_DDC_DATA
CRT_HSYNC
CRT_VSYNC
DAC_IREF
DAC_IRTN
SDVO_TVCLKINN
SDVO_TVCLKINP
SDVO_STALLN
SDVO_STALLP
SDVO_INTN
SDVO_INTP
SDVO_CTRLCLK
SDVO_CTRLDATA
DDPB_AUXN
DDPB_AUXP
DDPB_HPD
DDPB_0N
DDPB_0P
DDPB_1N
DDPB_1P
DDPB_2N
DDPB_2P
DDPB_3N
DDPB_3P
DDPC_CTRLCLK
DDPC_CTRLDATA
DDPC_AUXN
DDPC_AUXP
DDPC_HPD
DDPC_0N
DDPC_0P
DDPC_1N
DDPC_1P
DDPC_2N
DDPC_2P
DDPC_3N
DDPC_3P
DDPD_CTRLCLK
DDPD_CTRLDATA
DDPD_AUXN
DDPD_AUXP
DDPD_HPD
DDPD_0N
DDPD_0P
DDPD_1N
DDPD_1P
DDPD_2N
DDPD_2P
DDPD_3N
DDPD_3P
HDMIB_PCH_HPD
TMDSB_PCH_N2
TMDSB_PCH_P2
TMDSB_PCH_N1
TMDSB_PCH_P1
TMDSB_PCH_N0
TMDSB_PCH_P0
TMDSB_PCH_CLK#
TMDSB_PCH_CLK
DPC_PCH_DOCK_AUX#
DPC_PCH_DOCK_AUX
DPC_PCH_DOCK_HPD
DPC_PCH_LANE_N0
DPC_PCH_LANE_P0
DPC_PCH_LANE_N1
DPC_PCH_LANE_P1
DPC_PCH_LANE_N2
DPC_PCH_LANE_P2
DPC_PCH_LANE_N3
DPC_PCH_LANE_P3
PCH_DDPC_CTRLCLK
PCH_DDPC_CTRLDATA
PCH_DDPD_CTRLCLK
PCH_DDPD_CTRLDATA
DPD_PCH_DOCK_AUX#
DPD_PCH_DOCK_AUX
DPD_PCH_DOCK_HPD
DPD_PCH_LANE_N0
DPD_PCH_LANE_P0
DPD_PCH_LANE_N1
DPD_PCH_LANE_P1
DPD_PCH_LANE_N2
DPD_PCH_LANE_P2
DPD_PCH_LANE_N3
DPD_PCH_LANE_P3
BD82HM77 QPRG C1_BGA989~D
PANEL_BKEN_PCH
ENVDD_PCH
BIA_PWM_PCH
LDDC_CLK_PCH
LDDC_DATA_PCH
LVD_IBG
2.37K_0402_1%~D
LCD_ACLK-_PCH
LCD_ACLK+_PCH
LCD_A0-_PCH
LCD_A1-_PCH
LCD_A2-_PCH
LCD_A0+_PCH
LCD_A1+_PCH
LCD_A2+_PCH
LCD_BCLK-_PCH
LCD_BCLK+_PCH
LCD_B0-_PCH
LCD_B1-_PCH
LCD_B2-_PCH
LCD_B0+_PCH
LCD_B1+_PCH
LCD_B2+_PCH
PCH_CRT_BLU
PCH_CRT_GRN
PCH_CRT_RED
PCH_CRT_DDC_CLK
PCH_CRT_DDC_DAT
PCH_CRT_HSYNC
PCH_CRT_VSYNC
20_0402_1%~D
CRT_IREF
1K_0402_0.5%~D
150_0402_1%~D
100K_0402_5%~D
+3.3V_ALW2
CH108
0.1U_0402_25V6K~D
SIO_SLP_A#
PM_APWROK_R
UH5
TC7SH08FU_SSOP5~D
0_0402_5%~D
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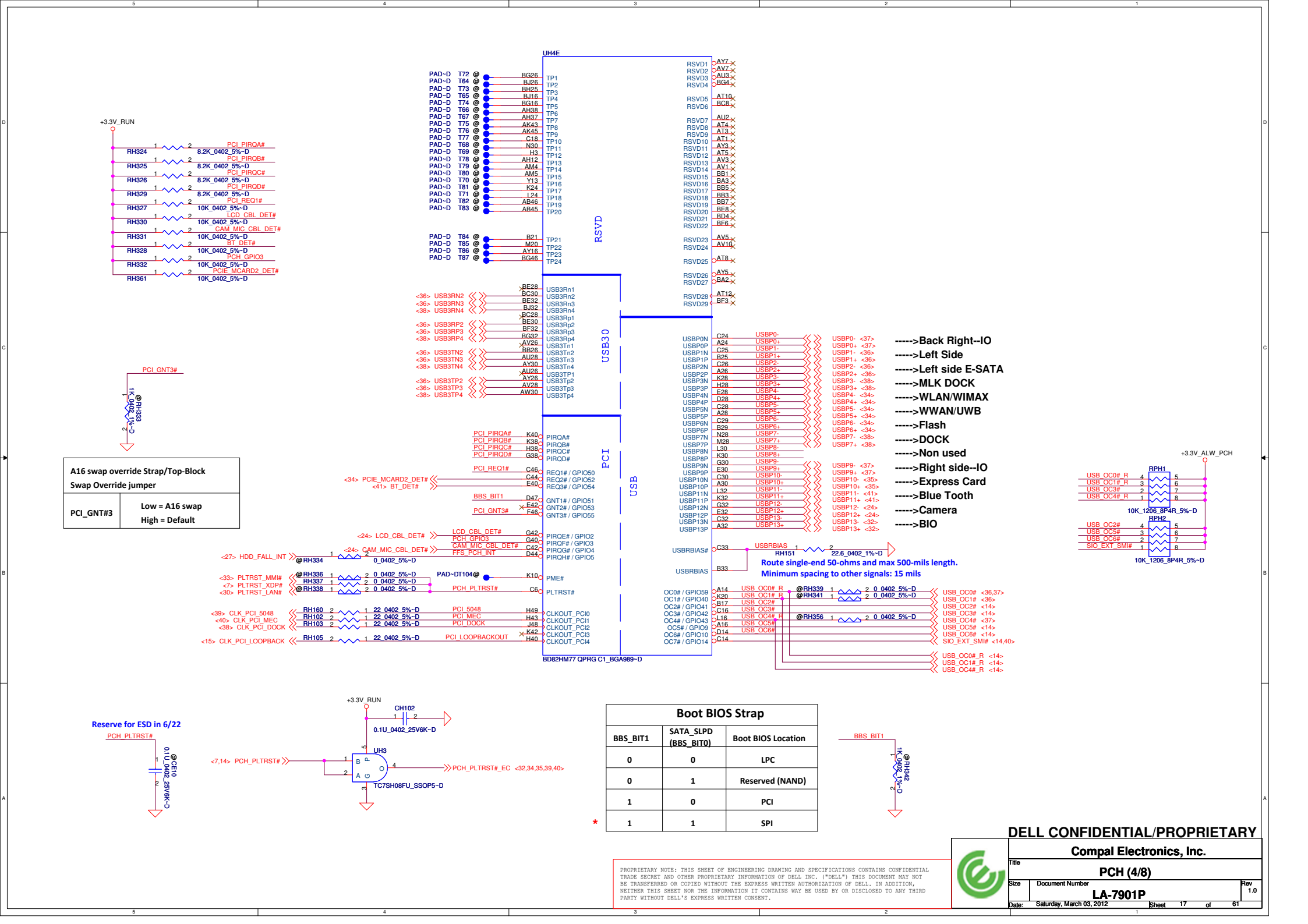
Compal Electronics, Inc.
Title
PCH (3/8)
Size
Document Number
LA-7901P
Rev
1.0
Date: Saturday, March 03, 2012
Sheet 16 of 61


UH4E
RSVD
USB30
PCI
USB
BD82HM77 QPRG C1_BGA989~D
+3.3V_RUN
PCI_PIRQA#
PCI_PIRQB#
PCI_PIRQC#
PCI_PIRQD#
PCI_REQ1#
LCD_CBL_DET#
CAM_MIC_CBL_DET#
BT_DET#
PCH_GPIO3
PCIE_MCARD2_DET#
RH324 8.2K_0402_5%~D
RH325 8.2K_0402_5%~D
RH326 8.2K_0402_5%~D
RH329 8.2K_0402_5%~D
RH327 10K_0402_5%~D
RH330 10K_0402_5%~D
RH331 10K_0402_5%~D
RH328 10K_0402_5%~D
RH332 10K_0402_5%~D
RH361 10K_0402_5%~D
PCI_GNT3#
@RH333 1K_0402_1%~D
A16 swap override Strap/Top-Block
Swap Override jumper
PCI_GNT3# Low = A16 swap
High = Default
----->Back Right--IO
----->Left Side
----->Left side E-SATA
----->MLK DOCK
----->WLAN/WIMAX
----->WWAN/UWB
----->Flash
----->DOCK
----->Non used
----->Right side--IO
----->Express Card
----->Blue Tooth
----->Camera
----->BIO
Route single-end 50-ohms and max 500-mils length.
Minimum spacing to other signals: 15 mils
RH151 22.6_0402_1%~D
+3.3V_ALW_PCH
RPH1
RPH2
10K_1206_8P4R_5%~D
Reserve for ESD in 6/22
PCH_PLTRST#
@CE10 0.1U_0402_25V6K~D
CH102 0.1U_0402_25V6K~D
UH3
TC7SH08FU_SSOP5~D
PCH_PLTRST#_EC <32,34,35,39,40>
BBS_BIT1
@RH342 1K_0402_1%~D
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
DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
Title PCH (4/8)
Size Document Number LA-7901P Rev 1.0
Date: Saturday, March 03, 2012 Sheet 17 of 61
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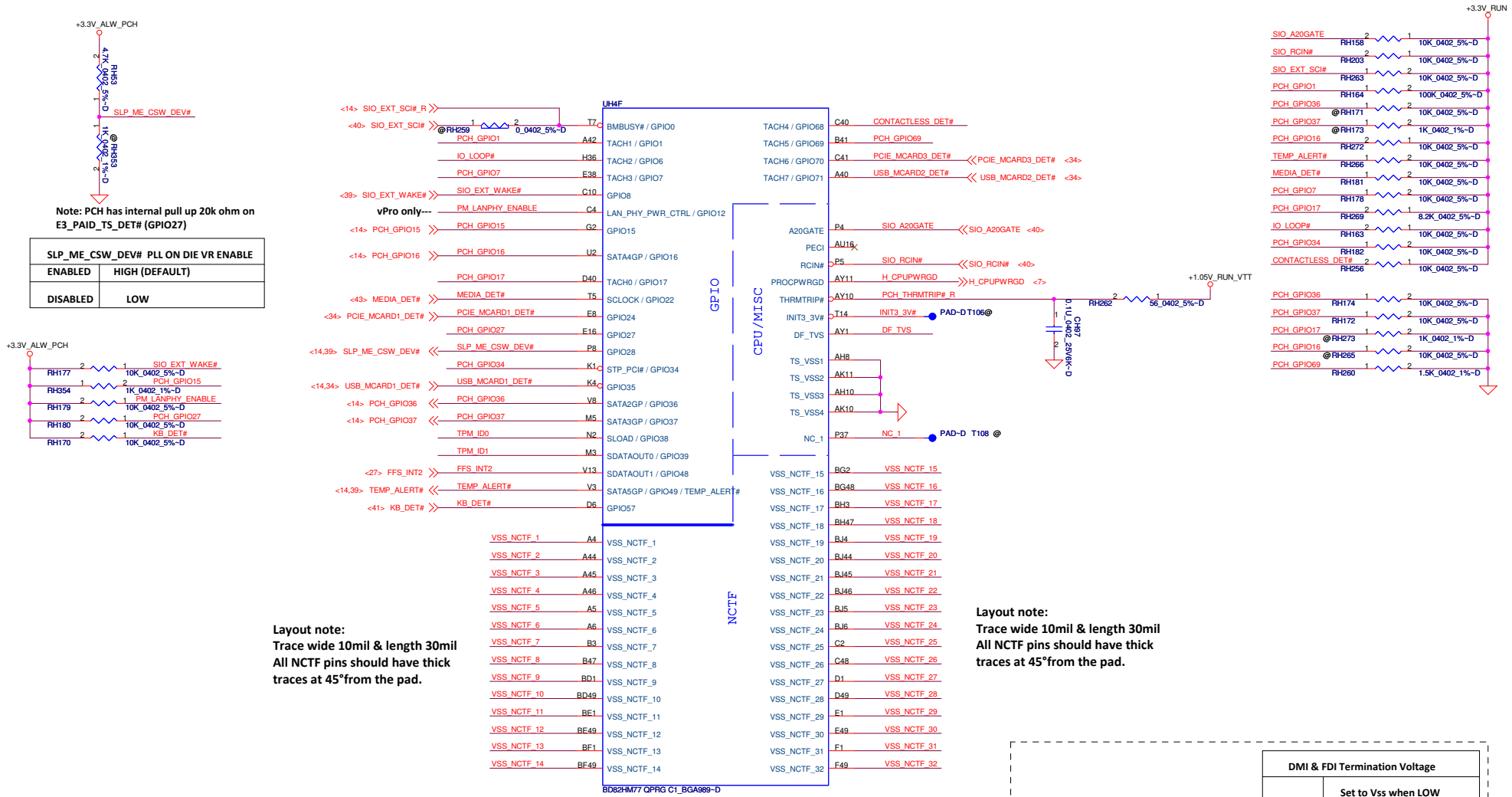

Compal Electronics, Inc.

Title: PCH (5/8)

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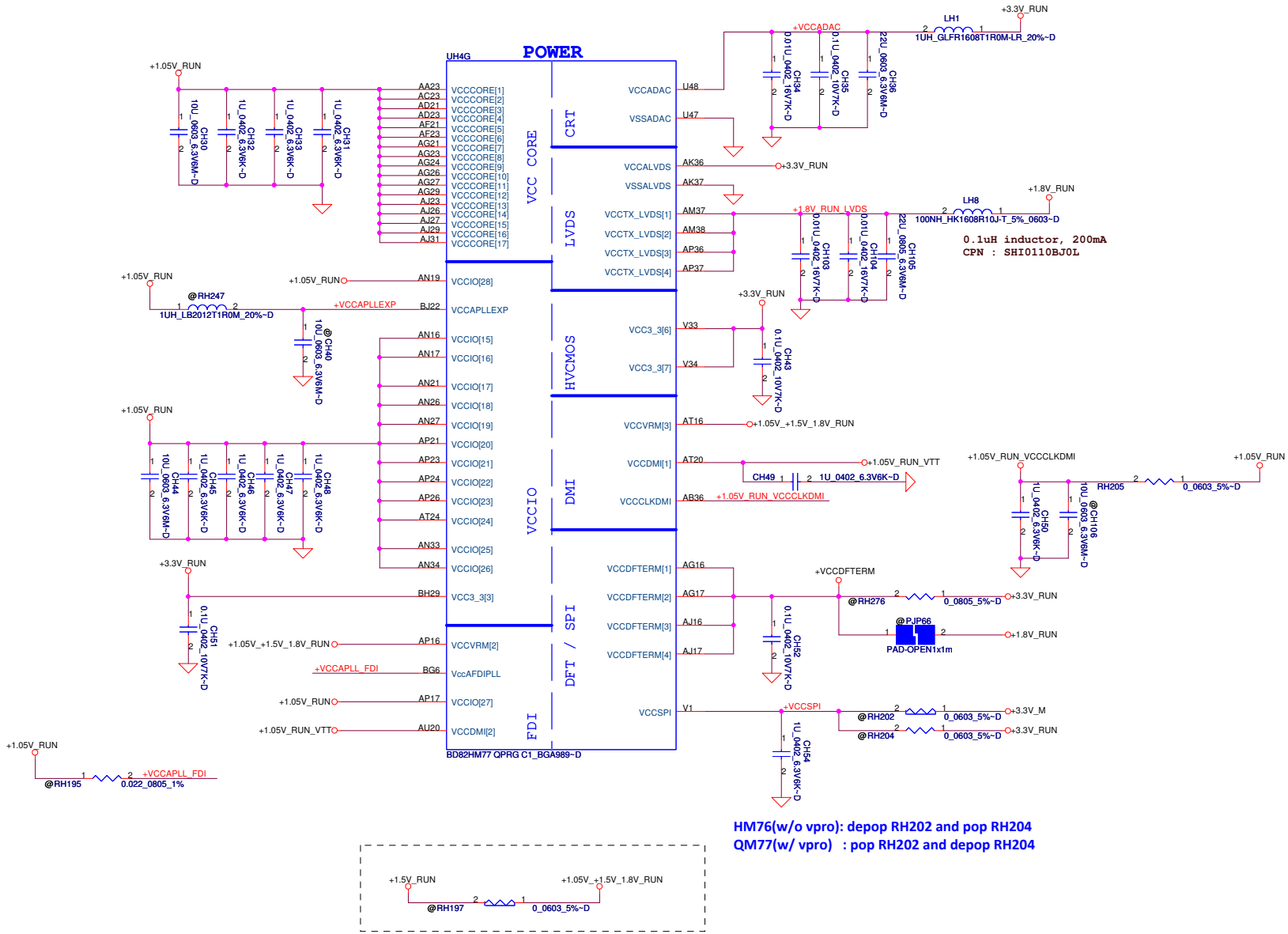
Date: Saturday, March 03, 2012 | Sheet 18 of 61



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	0.288
VccADAC3	3.3	0.063
VccADPLLA	1.05	0.08
VccADPLLB	1.05	0.08
VccCore	1.05	1.7
VccDMI	1.05	0.047
VccIO	1.05	3.711
VccASW	1.05	0.903
VccSPI	3.3	0.01
VccDSW3_3	3.3	0.001
VCCDFTERM	1.8	0.002
VccRTC	3.3	6uA
VccSus3_3	3.3	0.126
VccSusHDA	3.3	0.01
VccVRM	1.8 / 1.5	0.167
VccClkDMI	1.05	0.07
VccSSC	1.05	0.095
VccDIFFCLKN	1.05	0.055
VccALVDS	3.3	0.001
VccTX_LVDS	1.8	0.04

Compal Electronics, Inc.

Title: PCH (6/8)

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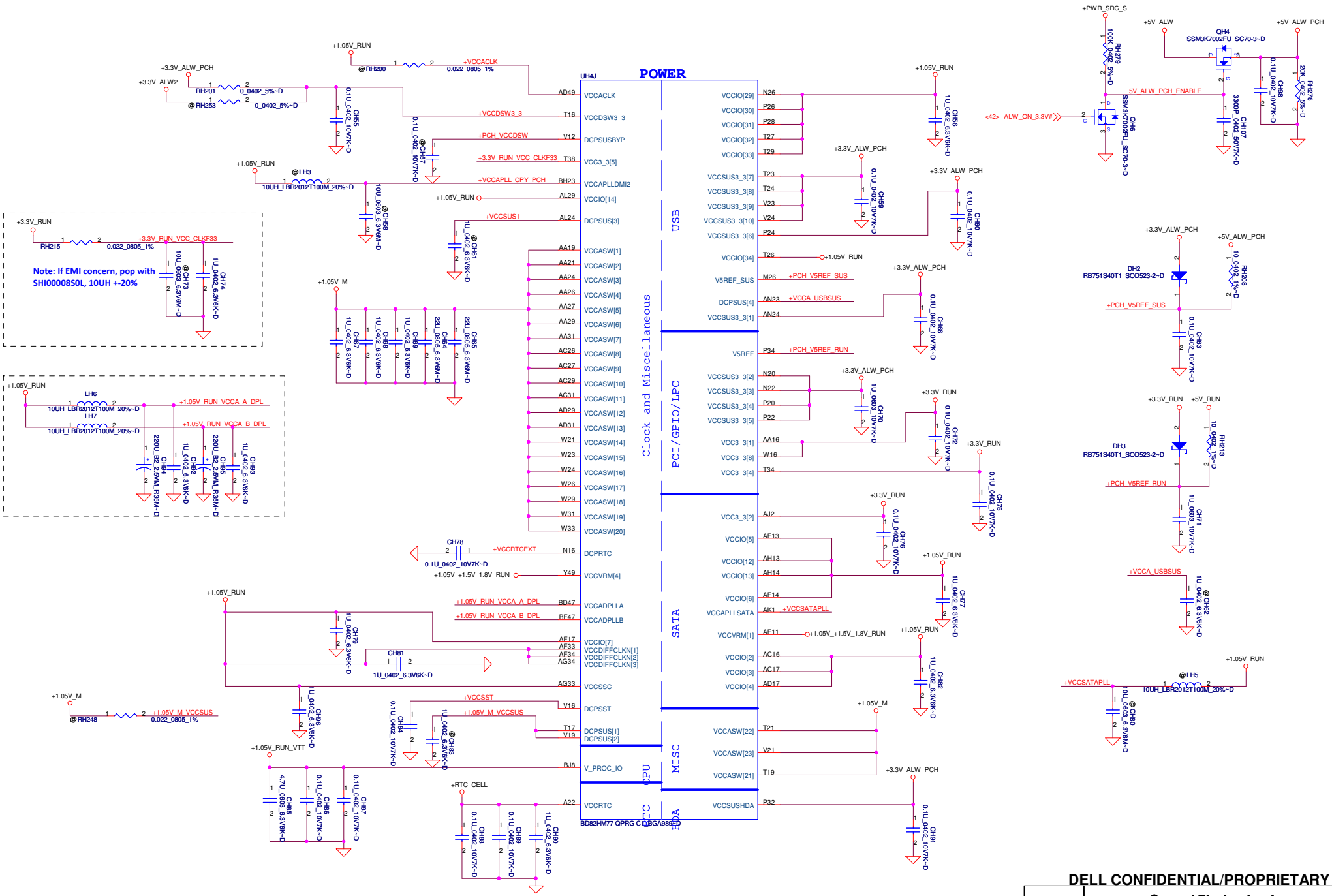

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Compal Electronics, Inc.		
Title: PCH (7/8)		
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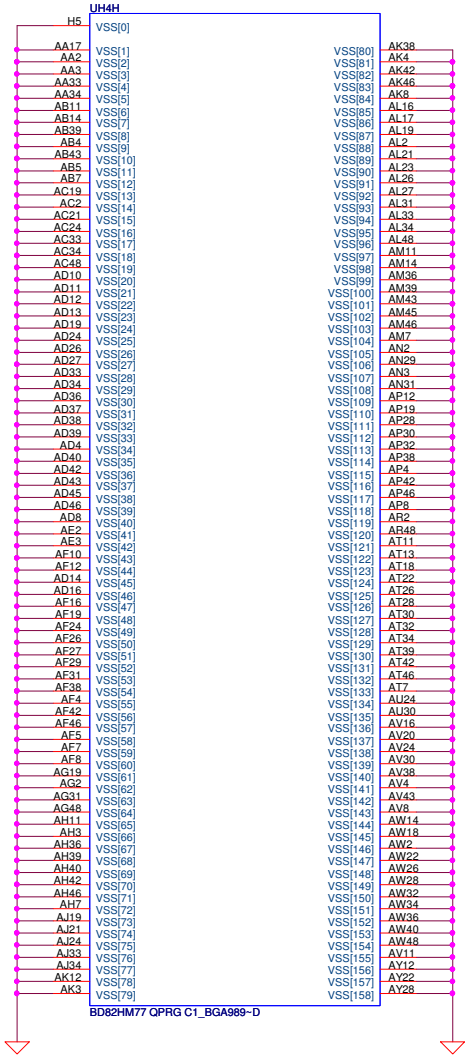

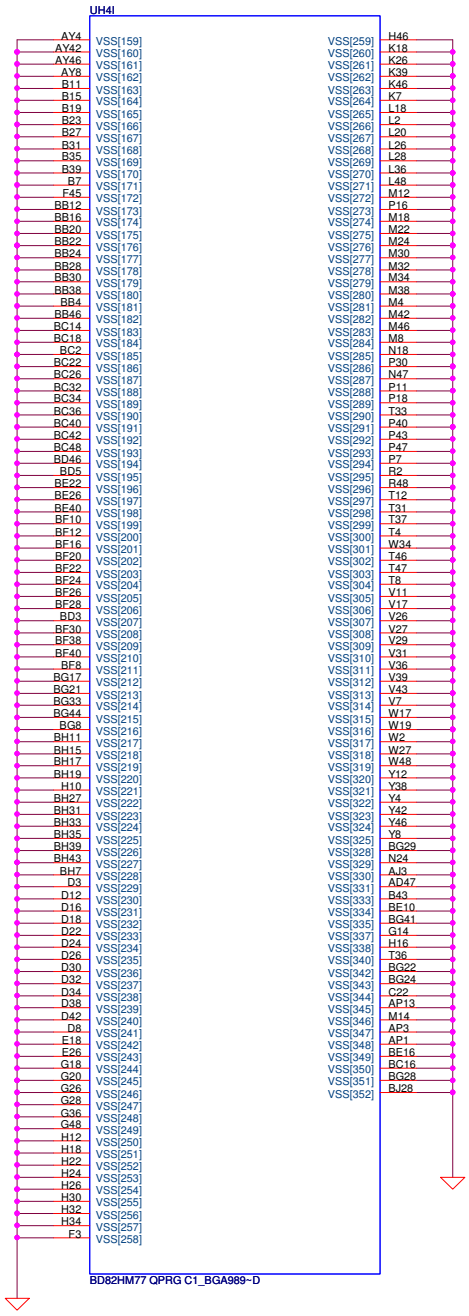

Compal Electronics, Inc.

Title: PCH (8/8)

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(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 Vcore VR choke.

Place under CPU
Place C266 close to the Q12 as possible

HM76(w/o vpro): depop R385 and pop R386
QM77(w/ vpro) : pop R385 and depop R386

Link CIS

Rest=1.24k, Tp=92degree

Compal Electronics, Inc.

Title: FAN & Thermal Sensor

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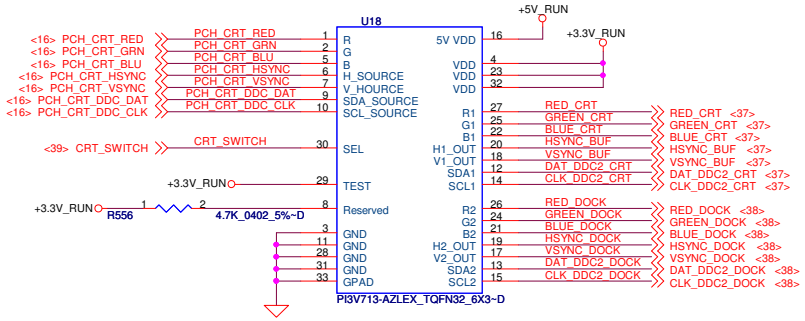
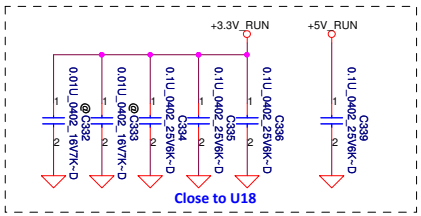
SW for MB/DOCK



change TI(SA00004RS0L) as main source from Pericom

SEL1/SEL2	Chanel	Source
0	A=B1	MB
1	A=B2	APR/SPR



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Title: CRT/Video switch

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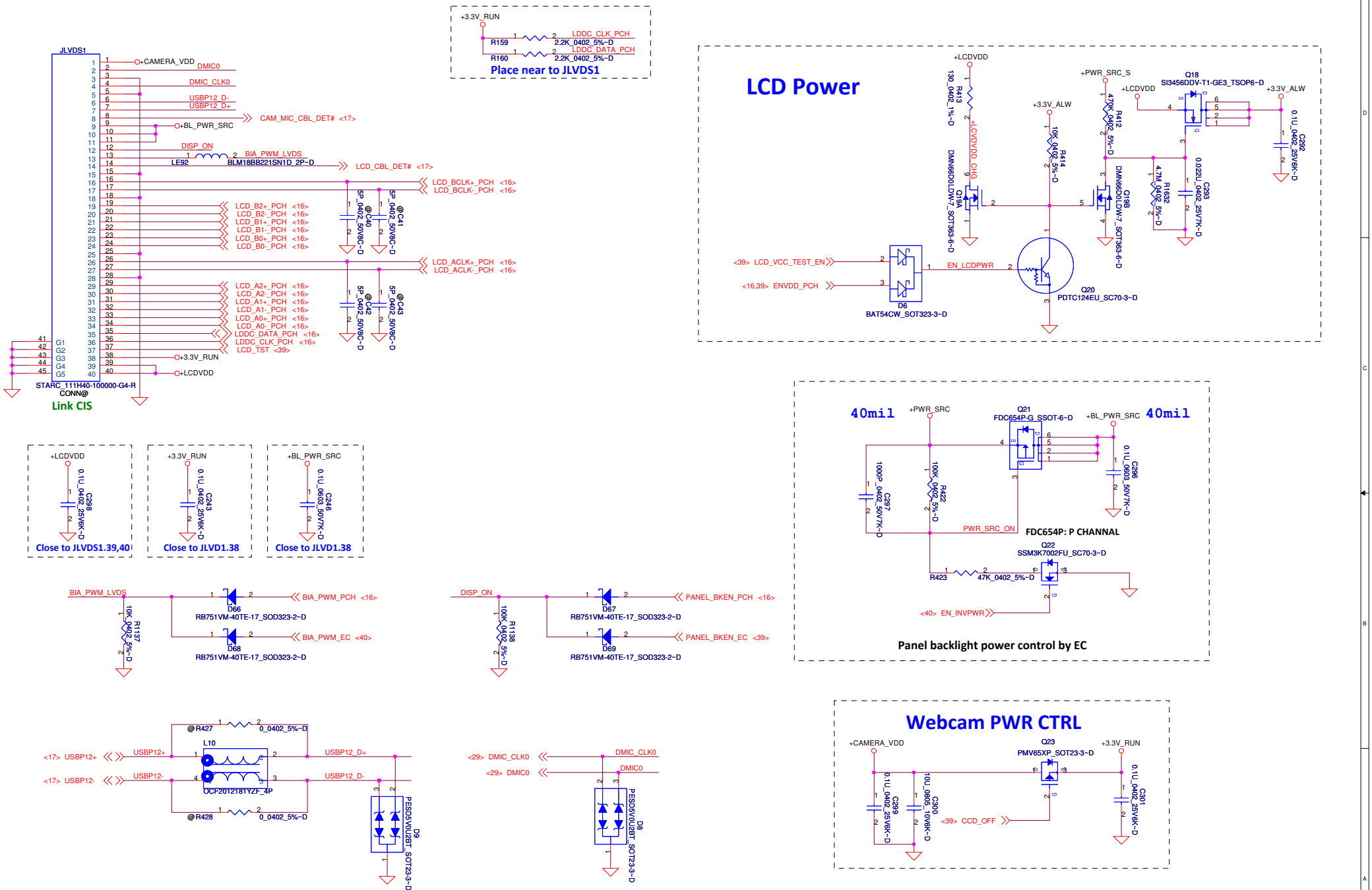

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Compal Electronics, Inc.	
Title	LVDS & CAM Conn
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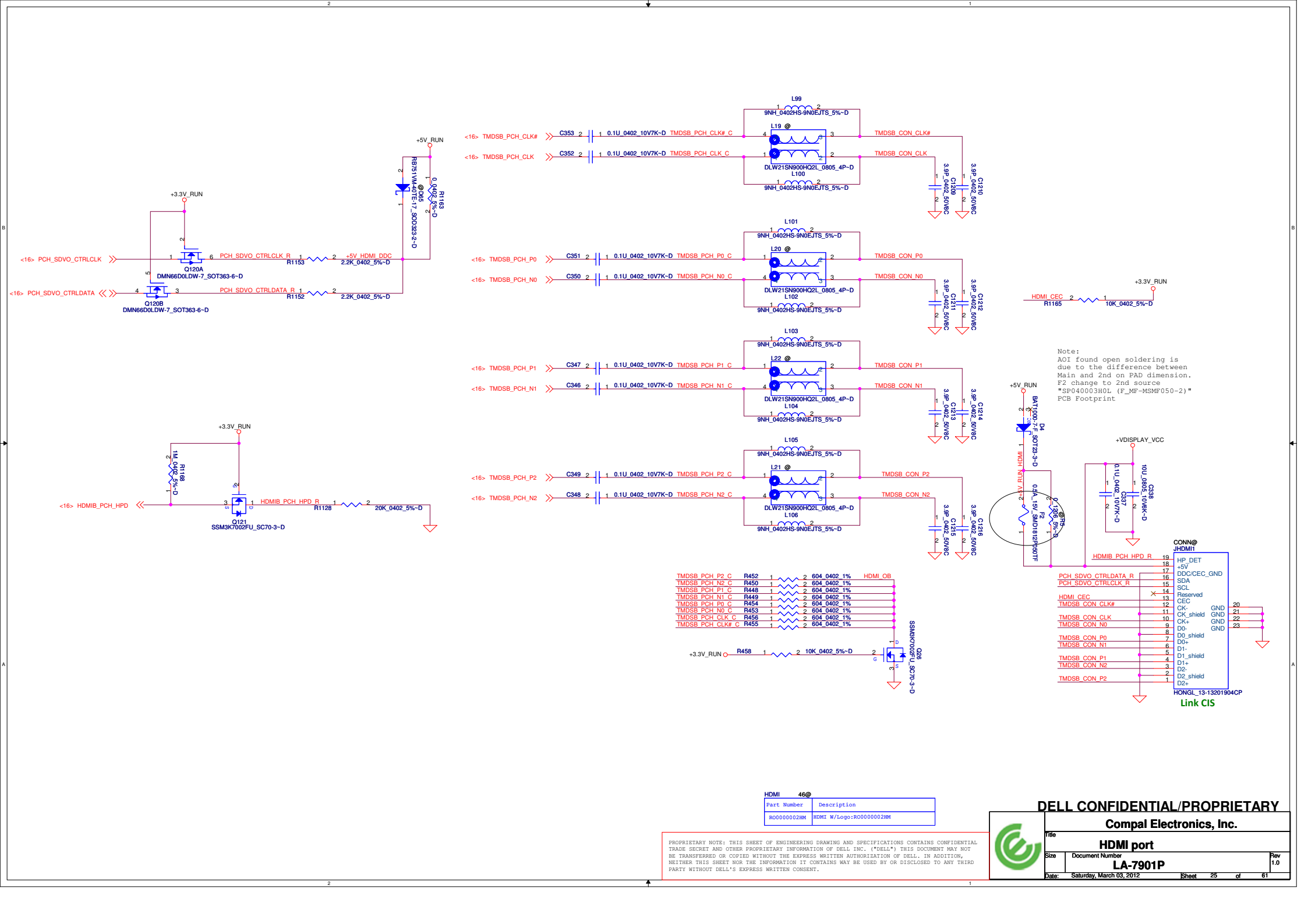
+5V_RUN
+3.3V_RUN
<16> PCH_SDVO_CTRLCLK
<16> PCH_SDVO_CTRLDATA
Q120A
DMN66D0LDW-7_SOT363-6~D
Q120B
DMN66D0LDW-7_SOT363-6~D
PCH_SDVO_CTRLCLK_R
PCH_SDVO_CTRLDATA_R
R1153
R1152
2.2K_0402_5%~D
+5V_HDMI_DDC
D65
RB751VM-40TE-17_SOD323-2~D
R1163
0_0402_5%~D
<16> HDMIB_PCH_HPD
R1168
1M_0402_5%~D
Q121
SSM3K7002FU_SC70-3~D
HDMIB_PCH_HPD_R
R1128
20K_0402_5%~D
<16> TMDSB_PCH_CLK#
<16> TMDSB_PCH_CLK
<16> TMDSB_PCH_P0
<16> TMDSB_PCH_N0
<16> TMDSB_PCH_P1
<16> TMDSB_PCH_N1
<16> TMDSB_PCH_P2
<16> TMDSB_PCH_N2
C353
C352
C351
C350
C347
C346
C349
C348
0.1U_0402_10V7K~D
L99
L19 @
L100
L101
L20 @
L102
L103
L22 @
L104
L105
L21 @
L106
9NH_0402HS-9N0EJTS_5%~D
DLW21SN900HQ2L_0805_4P~D
TMDSB_CON_CLK#
TMDSB_CON_CLK
TMDSB_CON_P0
TMDSB_CON_N0
TMDSB_CON_P1
TMDSB_CON_N1
TMDSB_CON_P2
TMDSB_CON_N2
3.9P_0402_50V8C
C1208
C1210
C1211
C1212
C1213
C1214
C1215
C1216
HDMI_CEC
R1165
10K_0402_5%~D
Note:
AOI found open soldering is due to the difference between Main and 2nd on PAD dimension. P2 change to 2nd source "SP040003H0L (F_MF-MSMF050-2)" PCB Footprint
BAT1000-7-F_SOT23-3-D
D4
+5V_RUN_HDMI
0.5A_15V_SMD1812P050TF
F2
+VDISPLAY_VCC
0.1U_0402_10V7K~D
C337
10U_0805_10V6K~D
C338
HDMIB_PCH_HPD_R
PCH_SDVO_CTRLDATA_R
PCH_SDVO_CTRLCLK_R
HDMI_CEC
TMDSB_CON_CLK#
TMDSB_CON_CLK
TMDSB_CON_N0
TMDSB_CON_P0
TMDSB_CON_N1
TMDSB_CON_P1
TMDSB_CON_N2
TMDSB_CON_P2
CONN@
JHDMI1
HP_DET
+5V
DDC/CEC_GND
SDA
SCL
Reserved
CEC
CK-
CK_shield
CK+
D0-
D0_shield
D0+
D1-
D1_shield
D1+
D2-
D2_shield
D2+
GND
HONGL_13-13201904CP
Link CIS
TMDSB_PCH_P2_C
TMDSB_PCH_N2_C
TMDSB_PCH_P1_C
TMDSB_PCH_N1_C
TMDSB_PCH_P0_C
TMDSB_PCH_N0_C
TMDSB_PCH_CLK_C
TMDSB_PCH_CLK#_C
R452
R450
R448
R449
R454
R453
R456
R455
604_0402_1%
HDMI_OB
R458
10K_0402_5%~D
SSM3K7002FU_SC70-3~D
HDMI 46@
Part Number
Description
RO0000002HM
HDMI W/Logo:RO0000002HM
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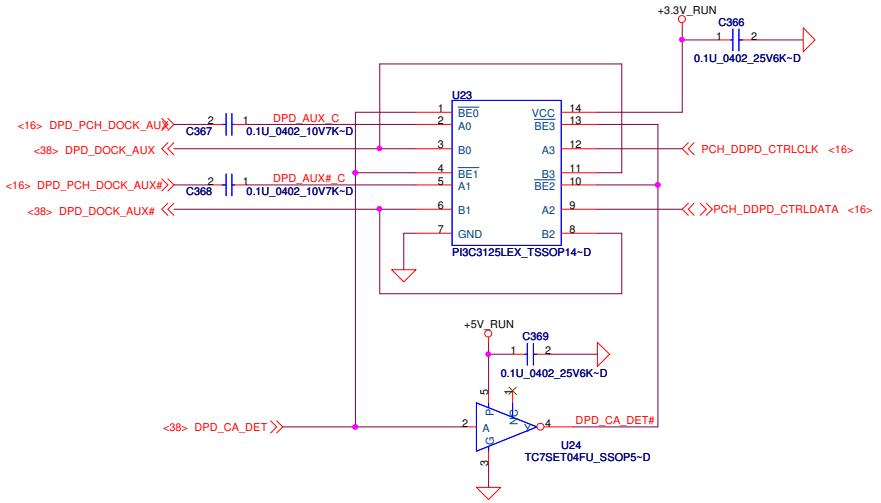
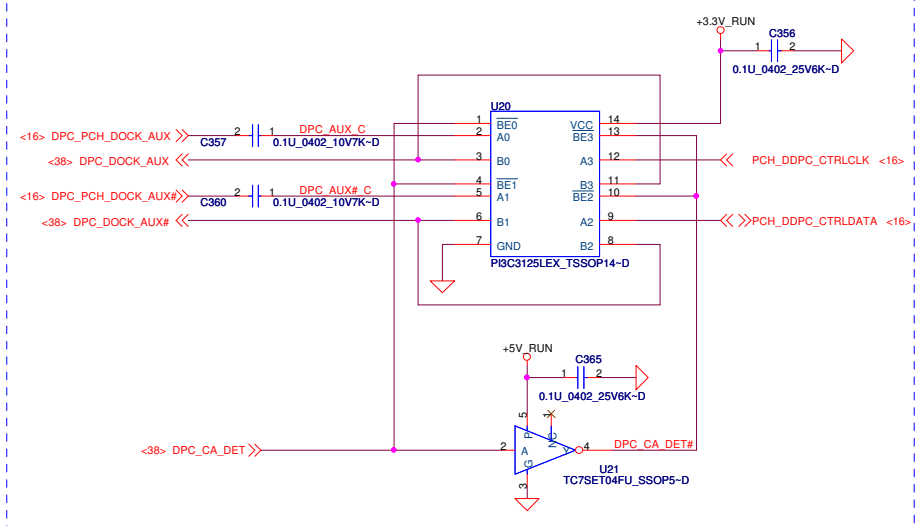
AUX/DDC SW for DPD to E-DOCK

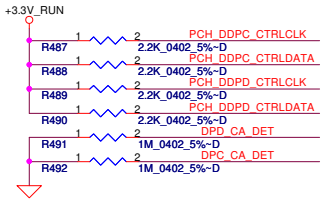


Note:When implement 2nd source, please check Vil and Vih spec is meet main source spec

AUX/DDC SW for DPC to E-DOCK



Note:When implement 2nd source, please check Vil and Vih spec is meet main source spec



Intel WW18 Strapping option

Intel WW18 Strapping option

Compal Electronics, Inc.

Title: DP SW

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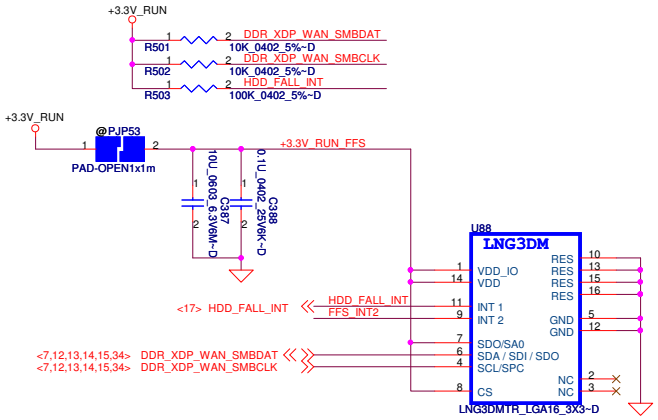

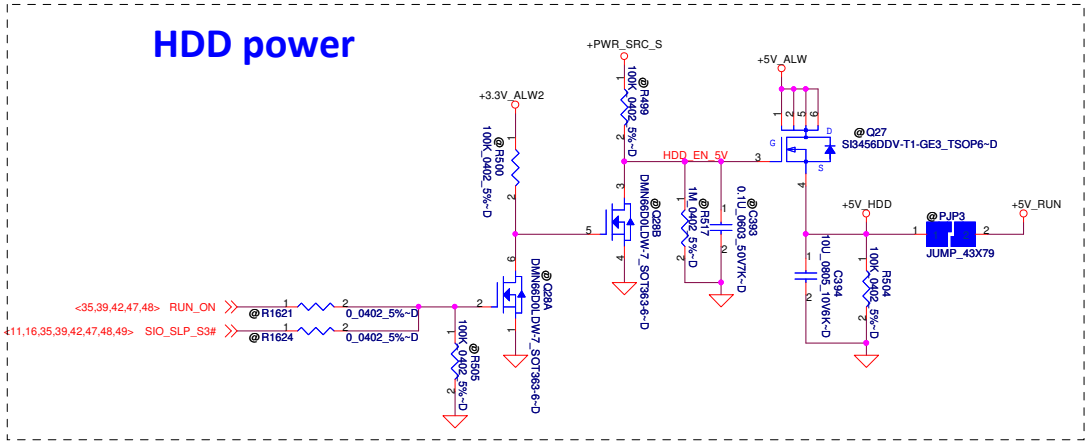

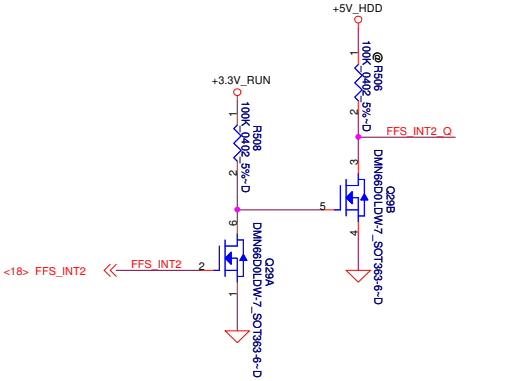

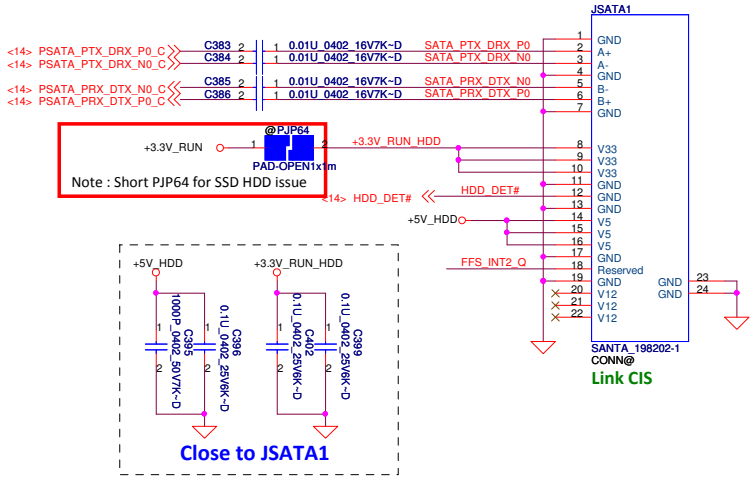

Compal Electronics, Inc.

Title: HDD CONNECTOR

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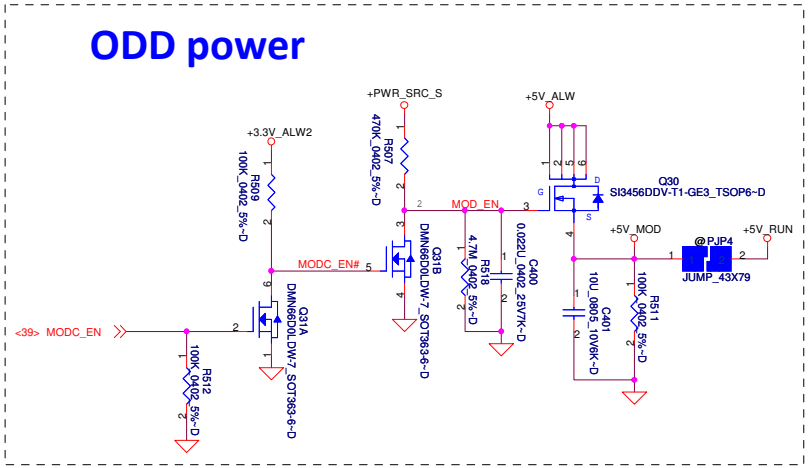
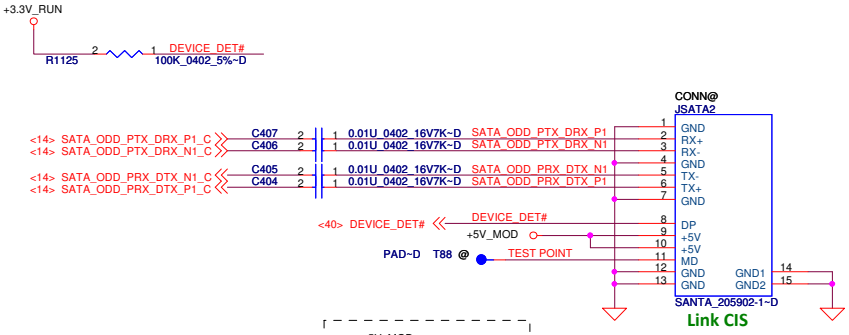
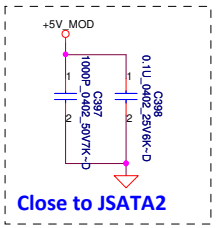
ODD power







Compal Electronics, Inc.

Title: ODD CONNECTOR

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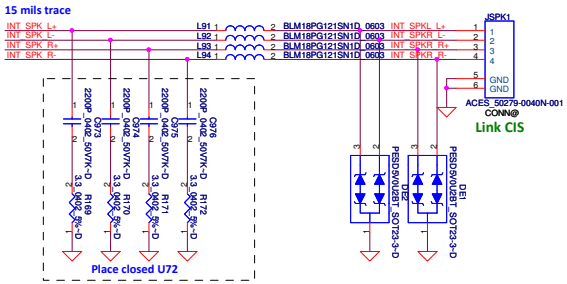
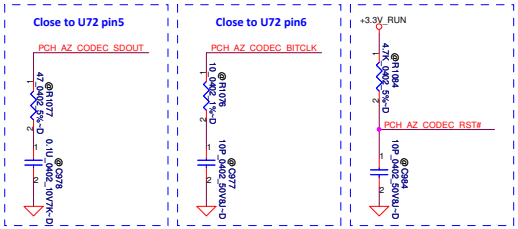
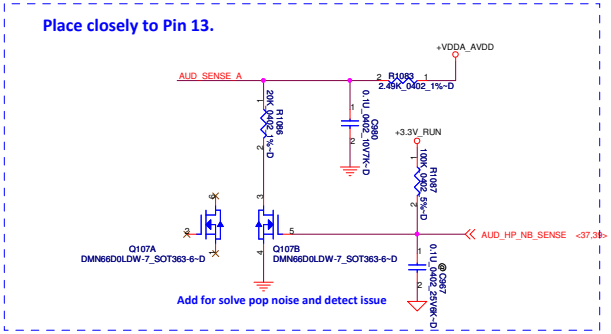
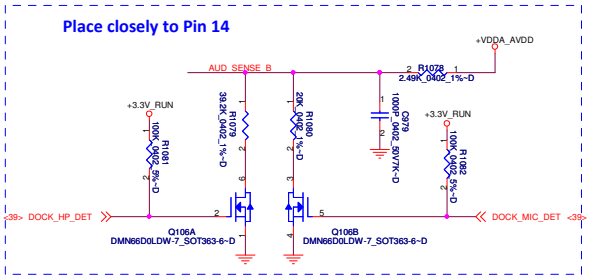
Internal Speakers Header





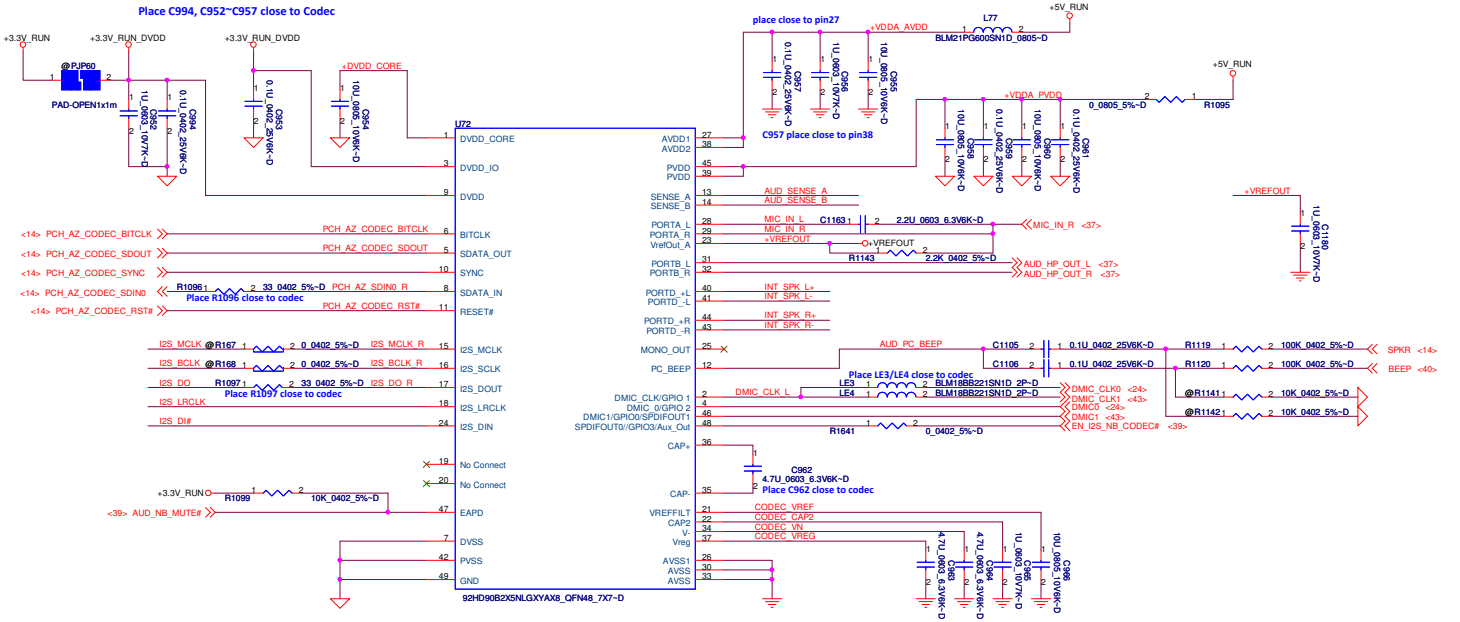




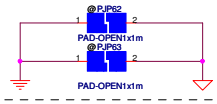
DMIC0	Camera/B
DMIC1	Power/B

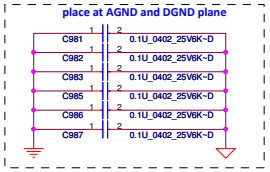
Resistor	SENSE_A	SENSE_B
39.2K	PORT A	PORT E
20K	PORT B	PORT F
10K	NA	DMIC0
5.11K	SPDIFOUT0	SPDIFOUT1 (DMIC1)
2.49K	Pull-up to AVDD	

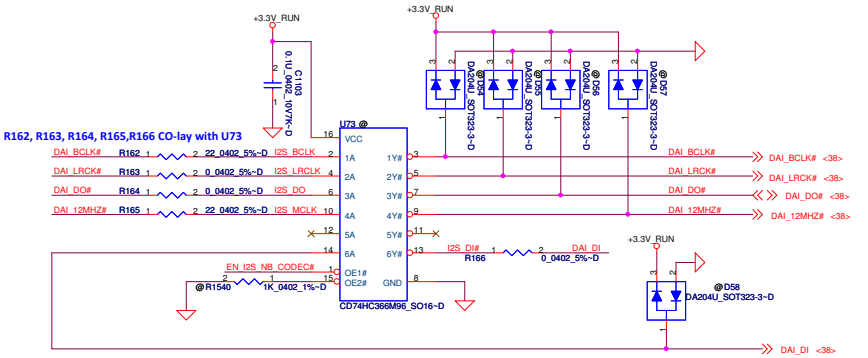
PORT A	External MIC
PORT B	HeadPhone Out
PORT C	Dock Audio
PORT D	Internal SPK



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







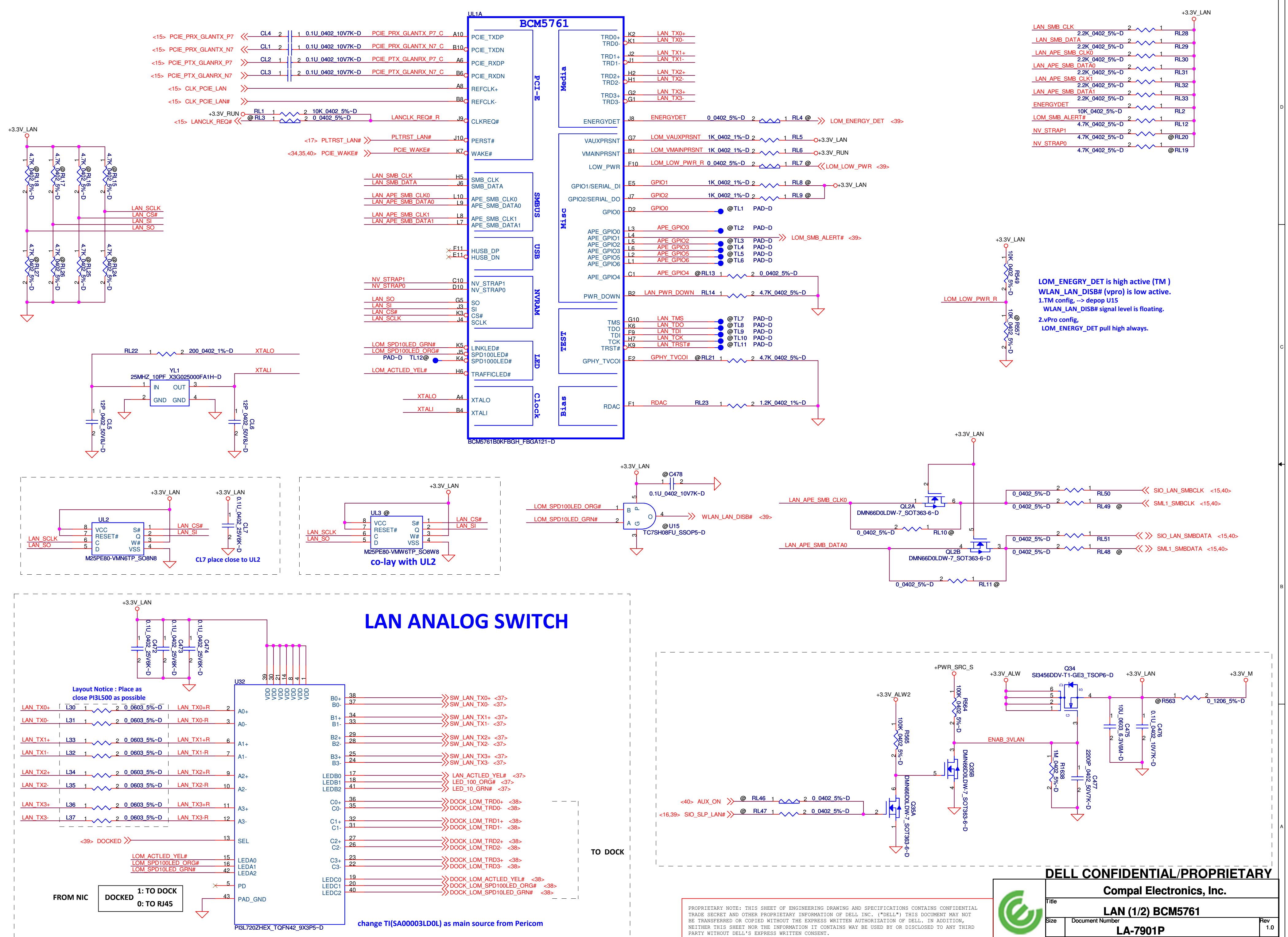
DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title: Azalia (HD) Codec

Size | Document Number: LA-7901P | Rev: 1.0

Date: Friday, March 02, 2012 | Sheet 29 of 61



BCM5761
UL1A
BCM5761B0KFBGH_FBGA121~D
PCI-E
Media
SMBUS
USB
NVRAM
LED
Clock
Misc
TEST
Bias
PCIE_TXDP
PCIE_TXDN
PCIE_RXDP
PCIE_RXDN
REFCLK+
REFCLK-
CLKREQ#
PERST#
WAKE#
SMB_CLK
SMB_DATA
APE_SMB_CLK0
APE_SMB_DATA0
APE_SMB_CLK1
APE_SMB_DATA1
HUSB_DP
HUSB_DN
NV_STRAP1
NV_STRAP0
SO
SI
CS#
SCLK
LINKLED#
SPD100LED#
SPD1000LED#
TRAFFICLED#
XTALO
XTALI
TRD0+
TRD0-
TRD1+
TRD1-
TRD2+
TRD2-
TRD3+
TRD3-
ENERGYDET
VAUXPRSNT
VMAINPRSNT
LOW_PWR
GPIO1/SERIAL_DI
GPIO2/SERIAL_DO
GPIO0
APE_GPIO0
APE_GPIO1
APE_GPIO2
APE_GPIO3
APE_GPIO5
APE_GPIO6
APE_GPIO4
PWR_DOWN
TMS
TDO
TDI
TCK
TRST#
GPHY_TVCOI
RDAC
+3.3V_LAN
+3.3V_RUN
LOM_ENERGY_DET is high active (TM)
WLAN_LAN_DISB# (vpro) is low active.
1.TM config, --> depop U15
WLAN_LAN_DISB# signal level is floating.
2.vPro config,
LOM_ENERGY_DET pull high always.
25MHZ_10PF_X3G025000FA1H~D
M25PE80-VMN6TP_SO8N8
CL7 place close to UL2
M25PE80-VMW6TP_SO8W8
co-lay with UL2
TC7SH08FU_SSOP5~D
WLAN_LAN_DISB#
DMN66D0LDW-7_SOT363-6~D
SIO_LAN_SMBCLK
SML1_SMBCLK
SIO_LAN_SMBDATA
SML1_SMBDATA
LAN ANALOG SWITCH
Layout Notice : Place as close PI3L500 as possible
PI3L720ZHEX_TQFN42_9X3P5~D
U32
TO DOCK
FROM NIC
DOCKED
1: TO DOCK
0: TO RJ45
change TI(SA00003LD0L) as main source from Pericom
+PWR_SRC_S
+3.3V_ALW
+3.3V_M
+3.3V_ALW2
SI3456DDV-T1-GE3_TSOP6~D
ENAB_3VLAN
AUX_ON
SIO_SLP_LAN#

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title: LAN (1/2) BCM5761

Size | Document Number: LA-7901P | Rev 1.0

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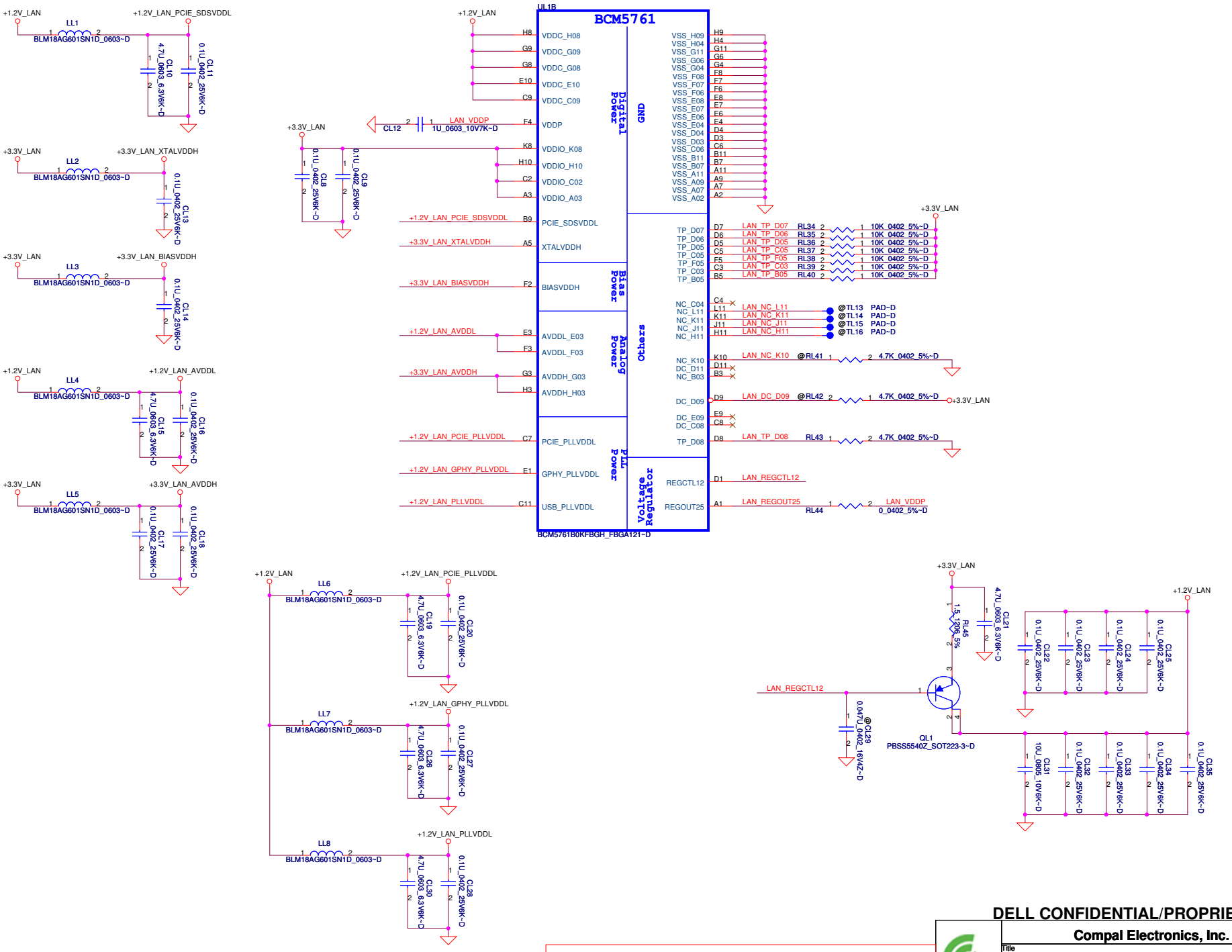
BCM5761
UL1B
BCM5761B0KFBGH_FBGA121~D
Digital Power
GND
Bias Power
Analog Power
Others
PLL Power
Voltage Regulator
LL1
LL2
LL3
LL4
LL5
LL6
LL7
LL8
BLM18AG601SN1D_0603~D
QL1
PBSS5540Z_SOT223-3~D
+1.2V_LAN
+3.3V_LAN
+1.2V_LAN_PCIE_SDSVDDL
+3.3V_LAN_XTALVDDH
+3.3V_LAN_BIASVDDH
+1.2V_LAN_AVDDL
+3.3V_LAN_AVDDH
+1.2V_LAN_PCIE_PLLVDDL
+1.2V_LAN_GPHY_PLLVDDL
+1.2V_LAN_PLLVDDL
LAN_VDDP
LAN_REGCTL12
LAN_REGOUT25
LAN_TP_D07
LAN_TP_D06
LAN_TP_D05
LAN_TP_C05
LAN_TP_F05
LAN_TP_C03
LAN_TP_B05
LAN_NC_L11
LAN_NC_K11
LAN_NC_J11
LAN_NC_H11
LAN_NC_K10
LAN_DC_D09
LAN_TP_D08
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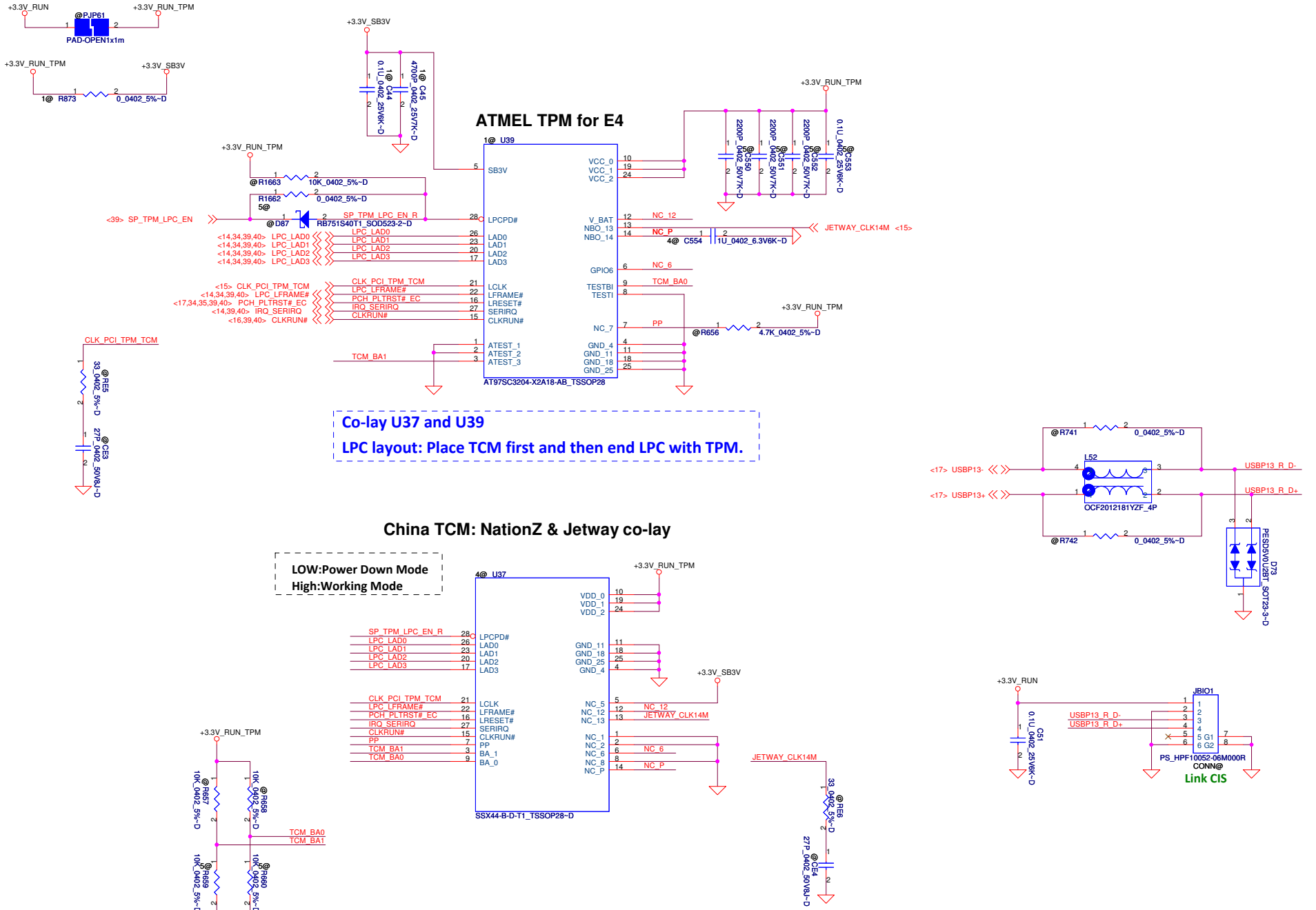
Compal Electronics, Inc.
Title
LAN (2/2) BCM5761
Size
Document Number
LA-7901P
Rev
1.0
Date: Friday, March 02, 2012
Sheet 31 of 61



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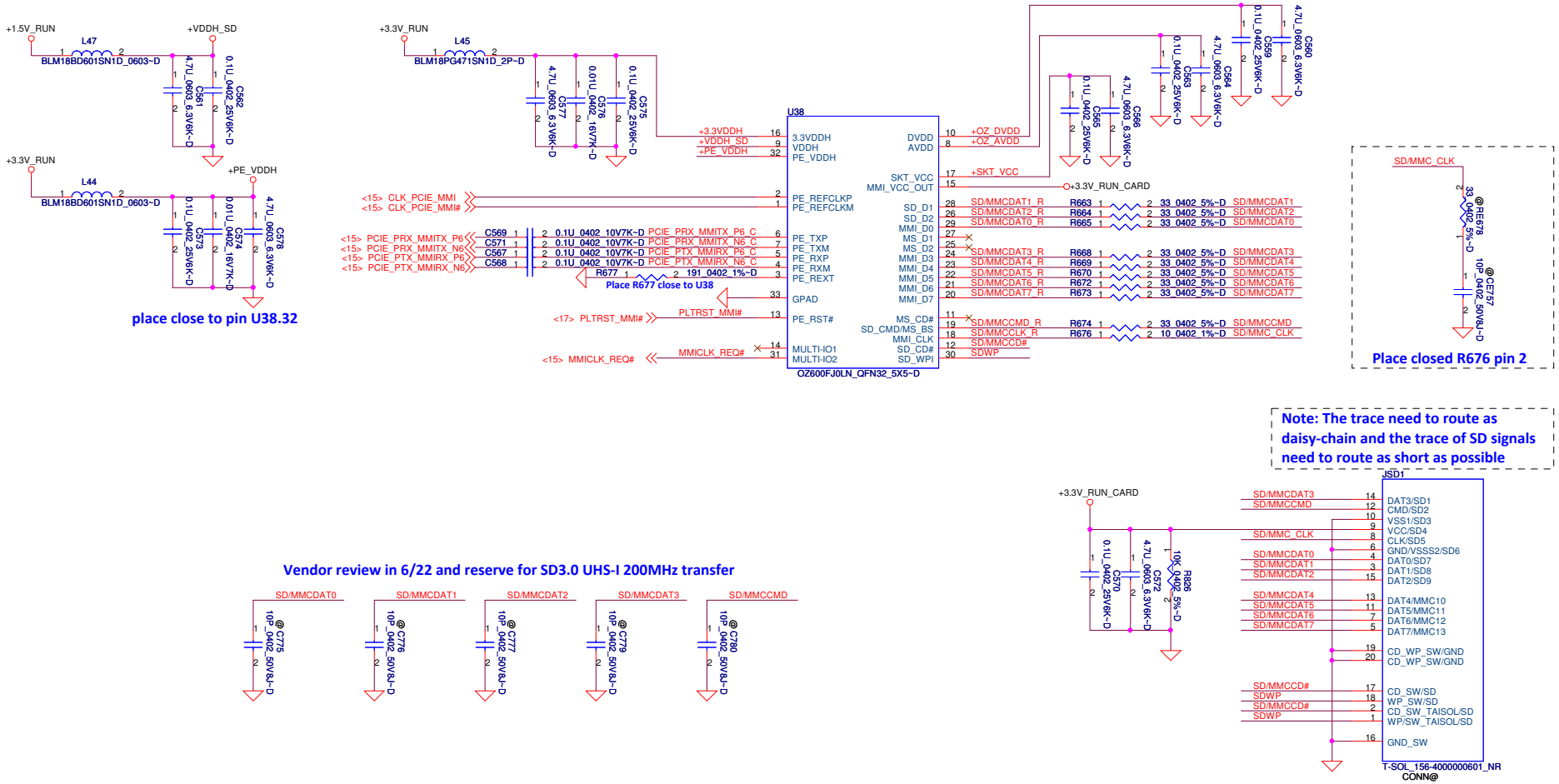
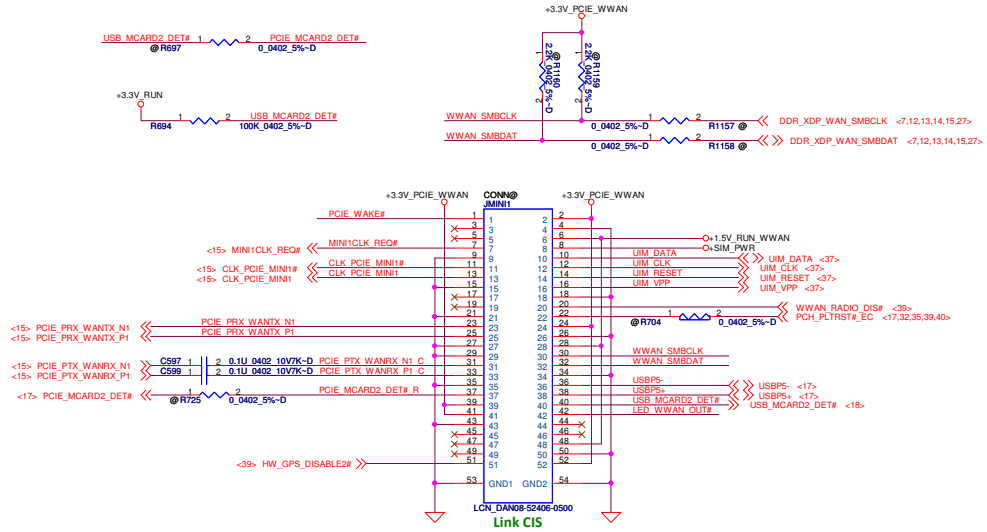
Compal Electronics, Inc.	
Title	TPM/TCM/BIO Conn
Size	Document Number: LA-7901P
Rev	1.0
Date: Friday, March 02, 2012	Sheet 32 of 61

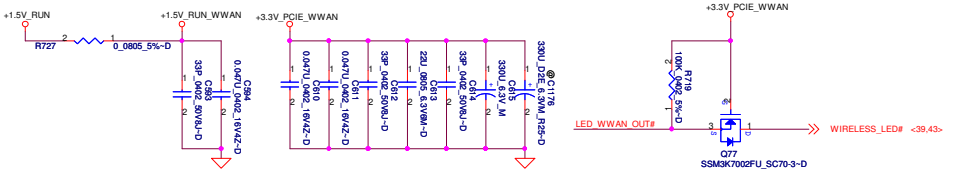


DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.	
Title	Card Reader OZ600FJ0
Size	Document Number: LA-7901P
Rev	1.0
Date: Friday, March 02, 2012	Sheet 33 of 61

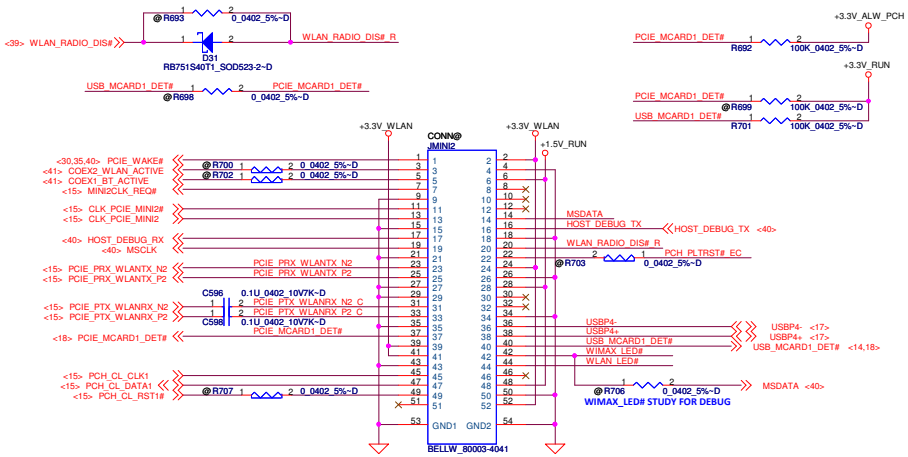
Mini WWAN/GPS/LTE/UWB H=4

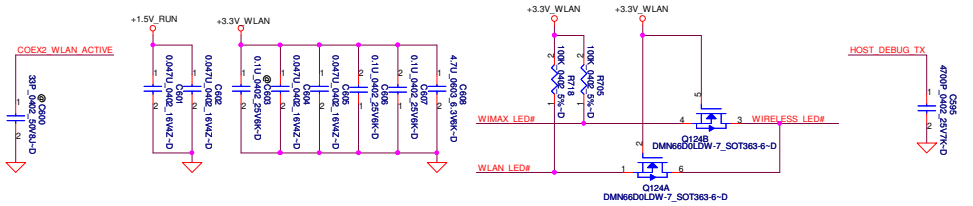




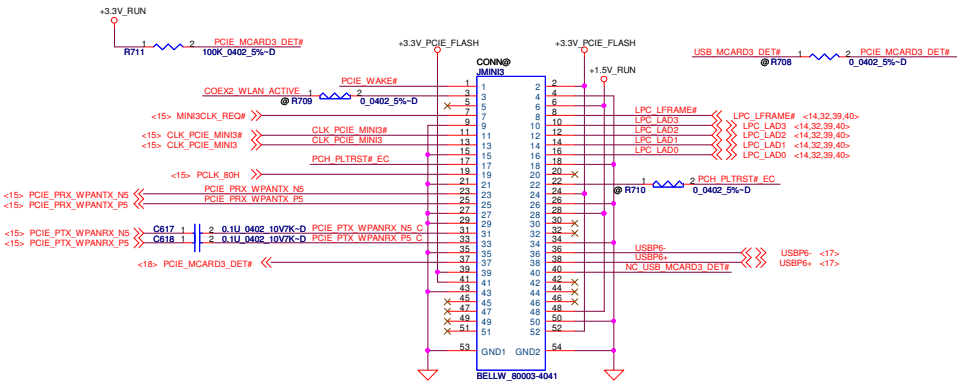
PWR Rail	Voltage Tolerance	Primary Power		Aux Power
		Peak	Normal	Normal
+3.3V	+-9%	1000	750	
+3.3Vaux	+-9%	330	250	250 (Wake enable) 5 (Not wake enable)
+1.5V	+-5%	500	375	NA

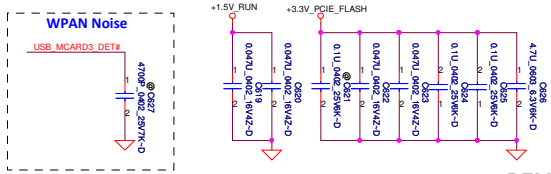
Mini WLAN/WIMAX H=6.7



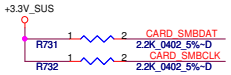


1/2 Minicard Pink Pather/60GHz Card H=6.7

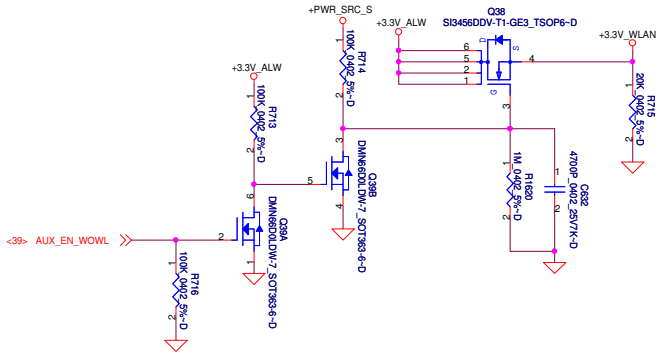




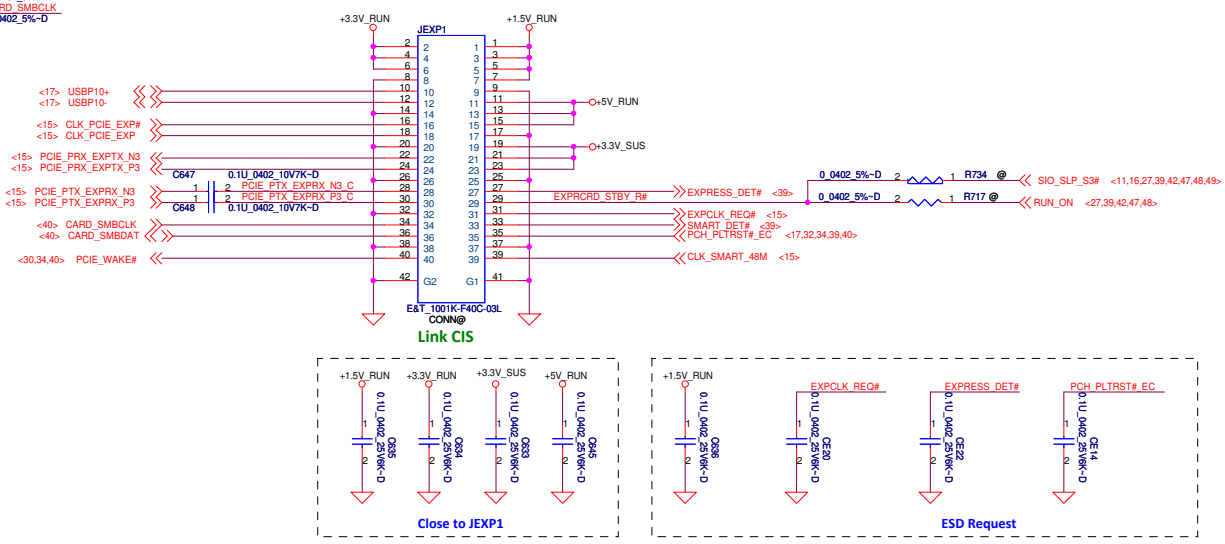
Compal Electronics, Inc.		
Title: Mini Card		
Size	Document Number: LA-7901P	Rev: 1.0
Date: Friday, March 02, 2012	Sheet 34 of 61	



Power Control for Mini card2

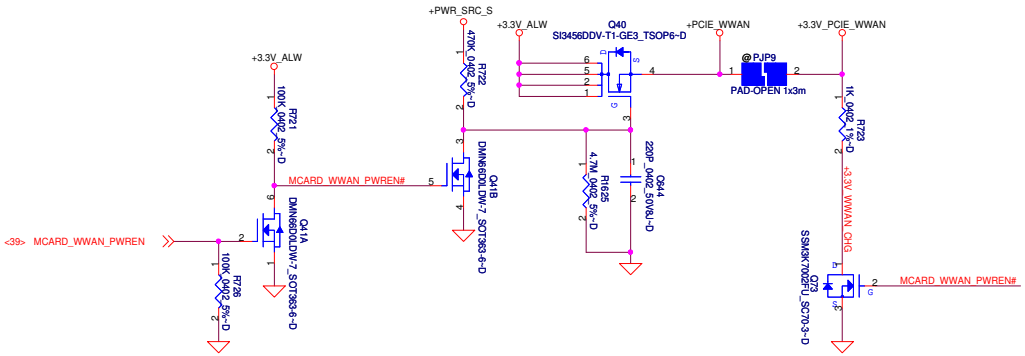


Express/Smart Card Conn.

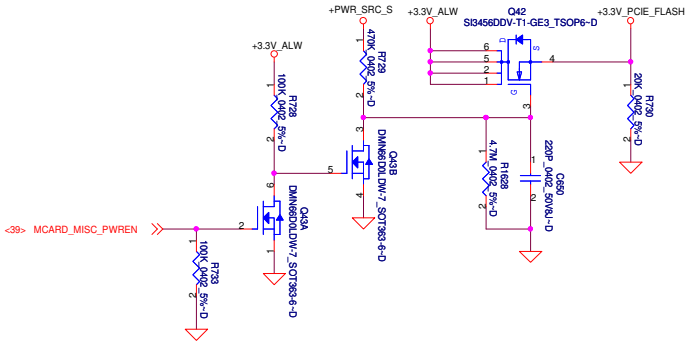


Link CIS

Power Control for Mini card1



Power Control for Mini card3



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Compal Electronics, Inc.

Title: MINI CARD PWR/EXP_SC

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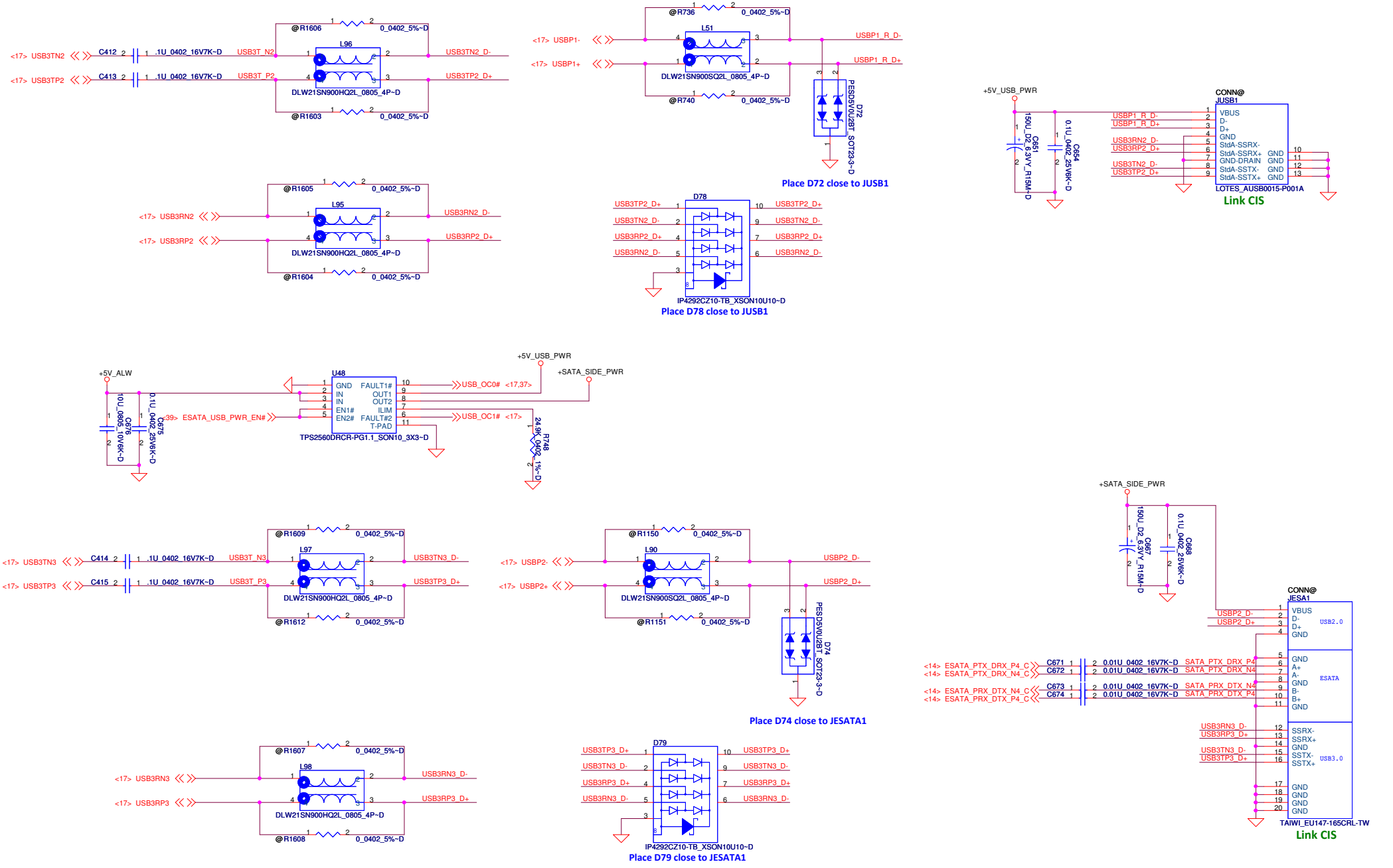
Date: Friday, March 02, 2012 | Sheet 35 of 61



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Compal Electronics, Inc.		
Title: USB2.0/3.0 ESATA		
Size	Document Number: LA-7901P	Rev: 1.0
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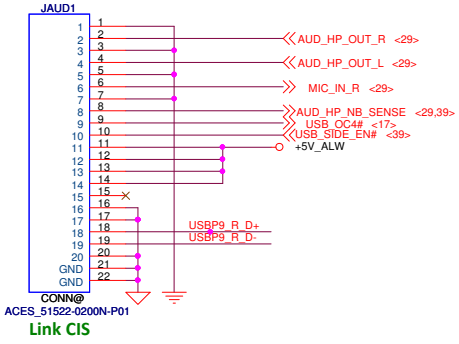
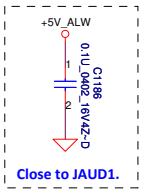
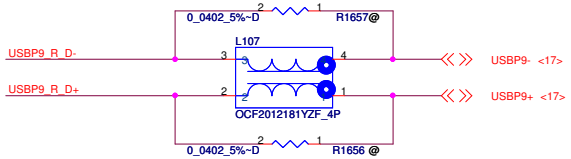
AUDIO BOARD



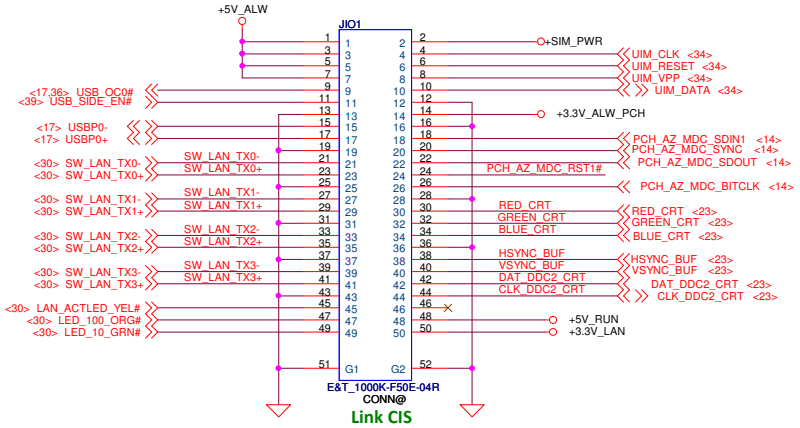
Link CIS



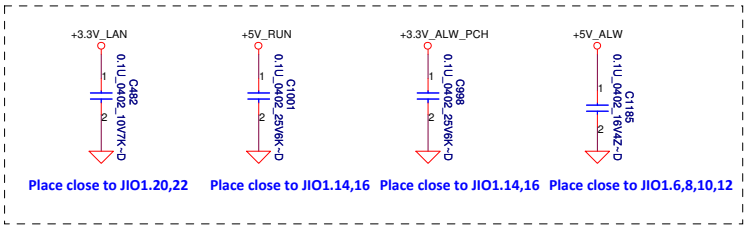
Close to JAUD1.



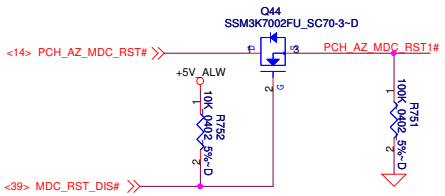
IO BOARD



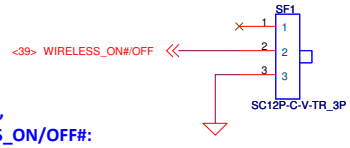
Link CIS



Place close to JIO1.20,22 | Place close to JIO1.14,16 | Place close to JIO1.14,16 | Place close to JIO1.6,8,10,12



Sniffer Switch



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

Compal Electronics, Inc.

Title: IO/AUDIO/MEDIA/SNF

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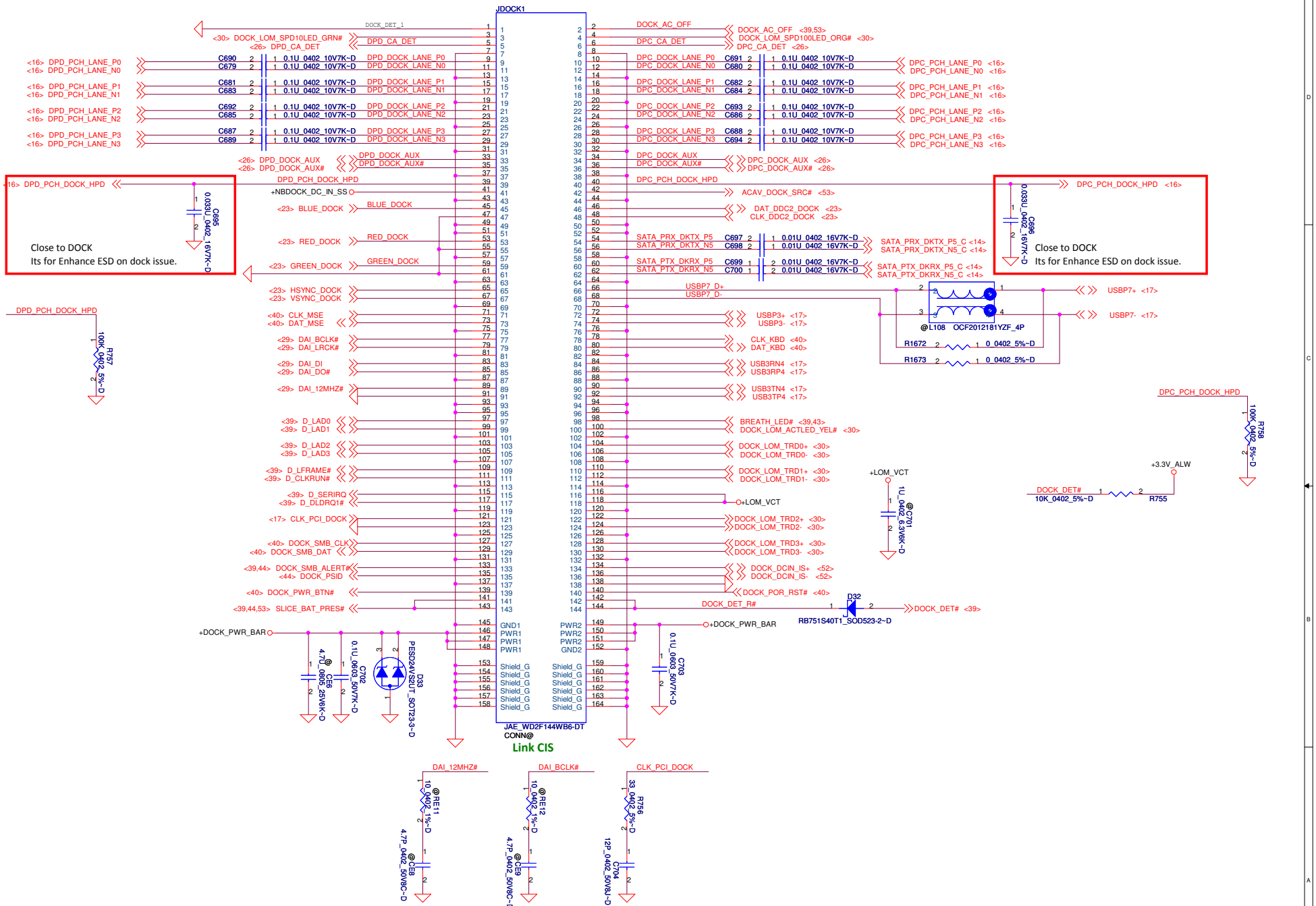
Date: Friday, March 02, 2012 | Sheet 37 of 61

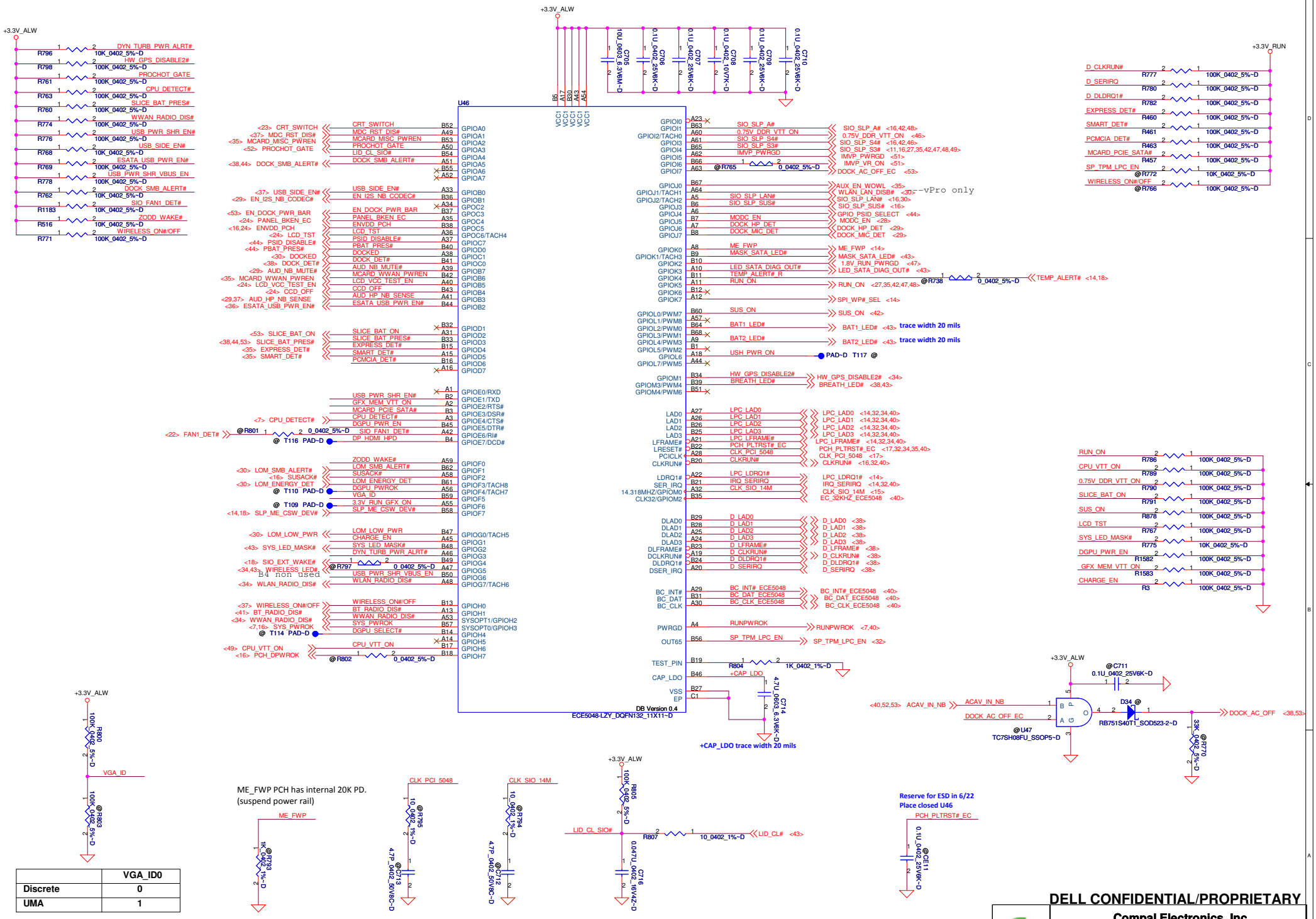


Compal Electronics, Inc.

Title: DOCKING CONN

Size | Document Number: LA-7901P | Rev: 1.0

Date: Friday, March 02, 2012 | Sheet 38 of 61

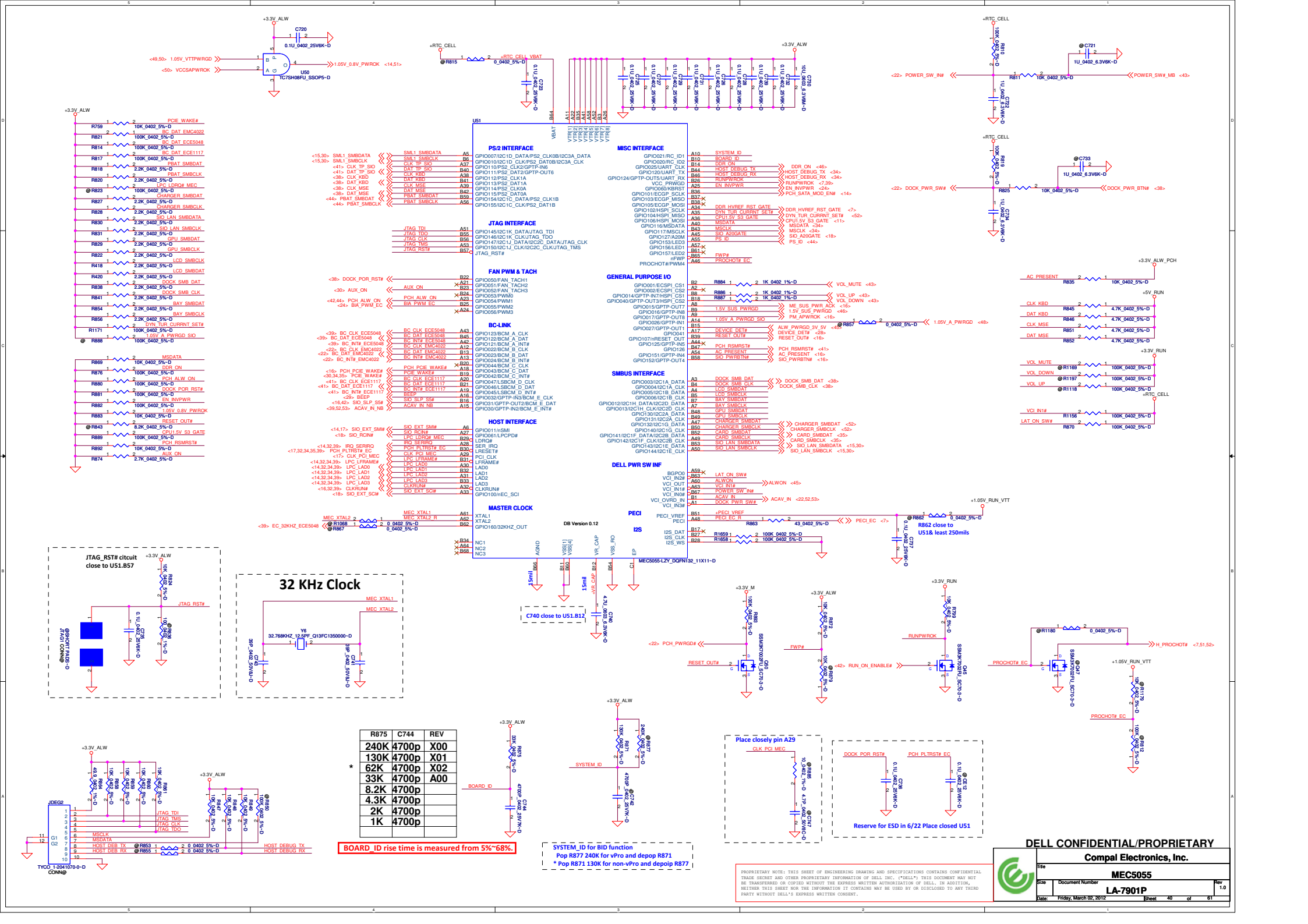


Compal Electronics, Inc.

Title: ECE5048

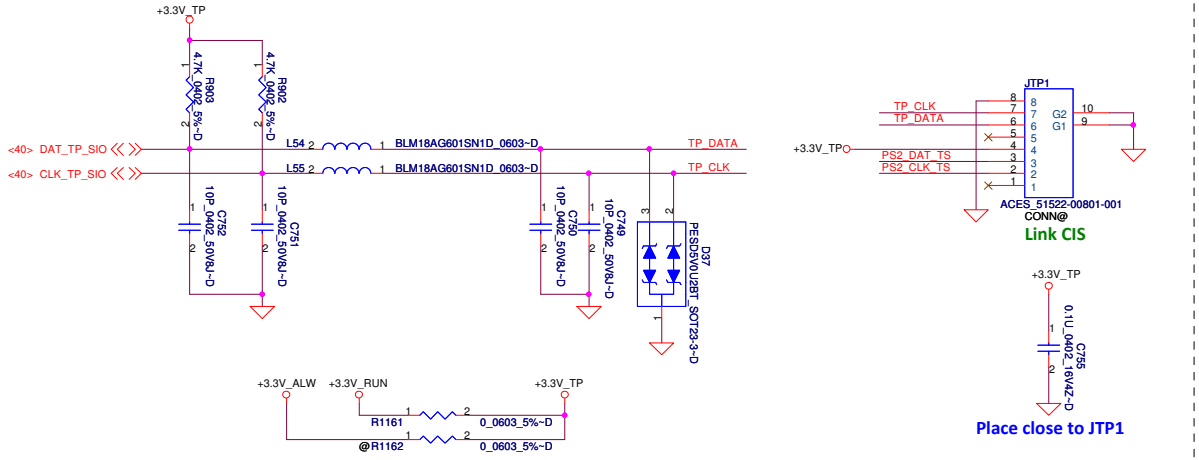
Size: | Document Number: LA-7901P | Rev: 1.0

Date: Friday, March 02, 2012 | Sheet 39 of 61

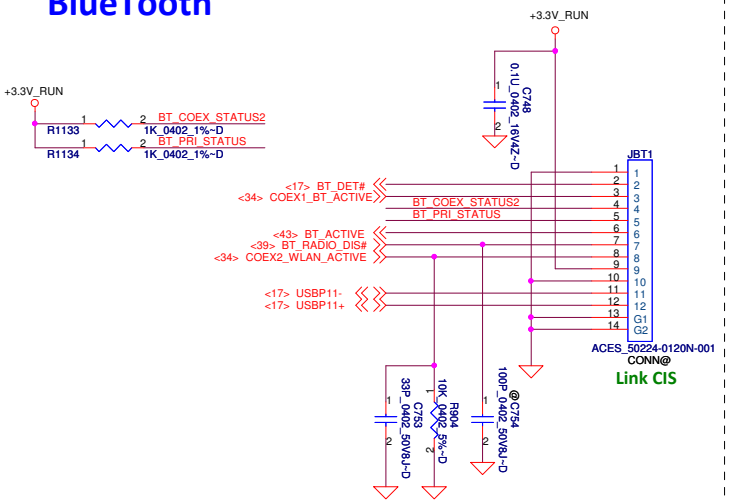


R875	C744	REV
240K	4700p	X00
130K	4700p	X01
62K	4700p	X02
33K	4700p	A00
8.2K	4700p	
4.3K	4700p	
2K	4700p	
1K	4700p	

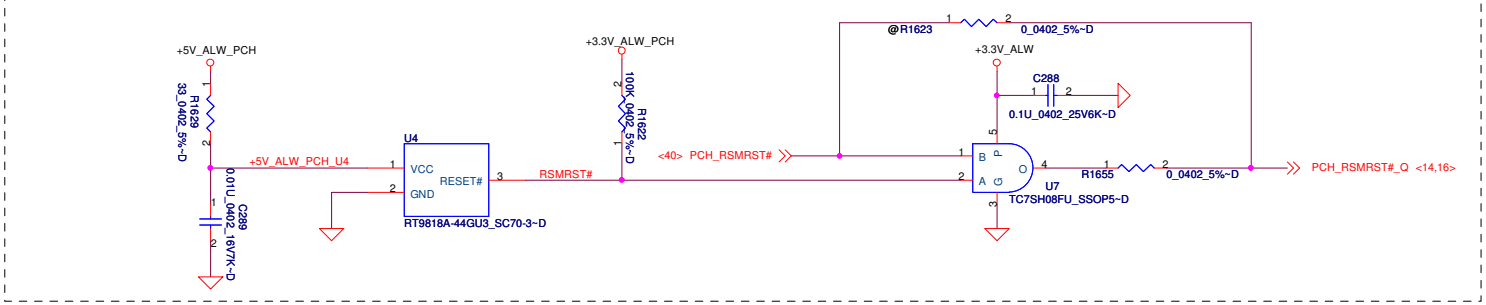
Touch Pad



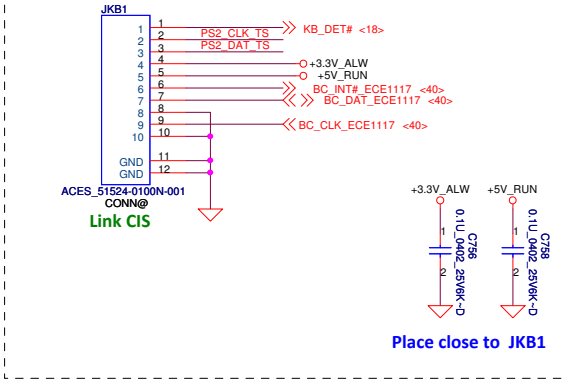
BlueTooth



RSMRST circuit



Keyboard



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Compal Electronics, Inc.		
Title: Int KB/TP/BT/RSMRST		
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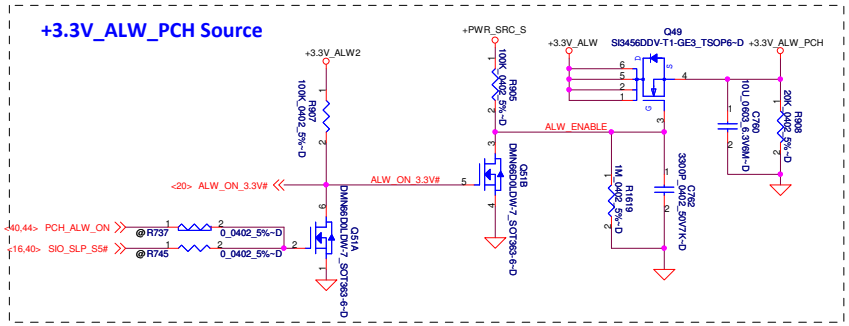
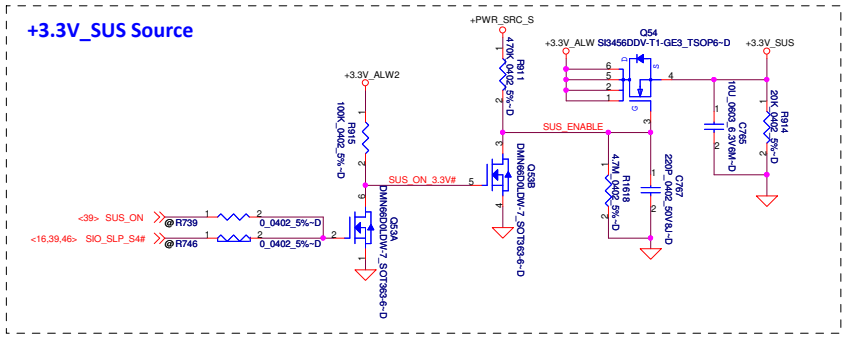
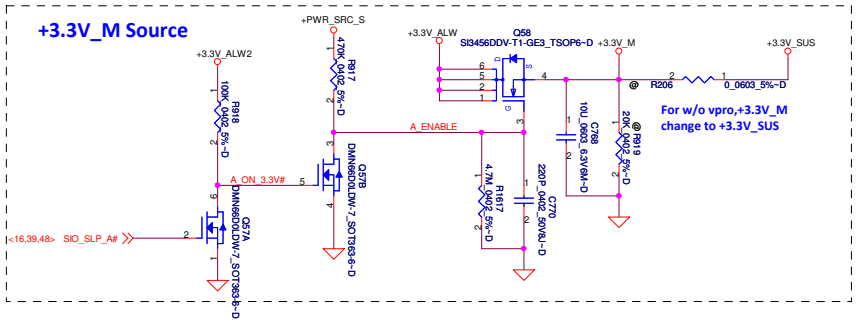
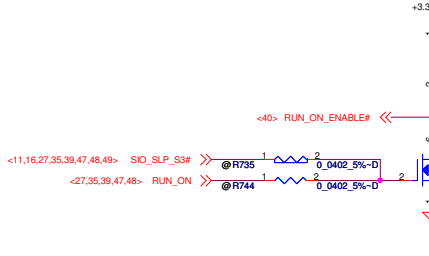
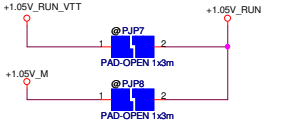
DC/DC Interface



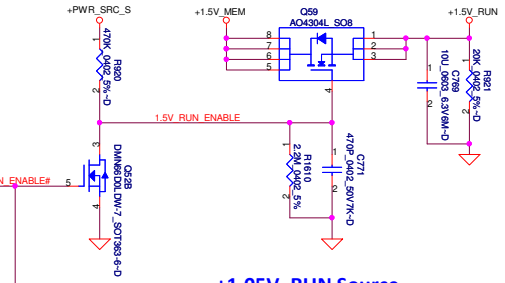


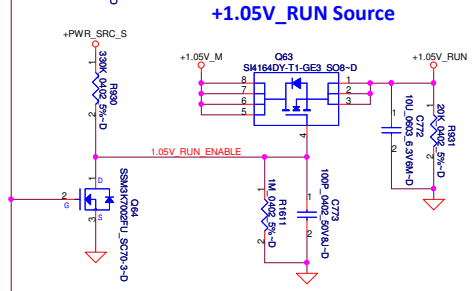


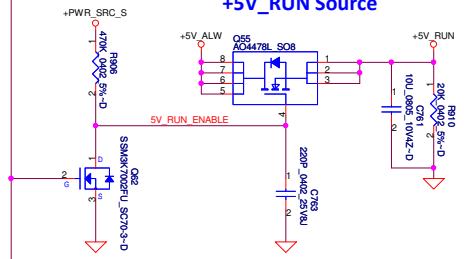


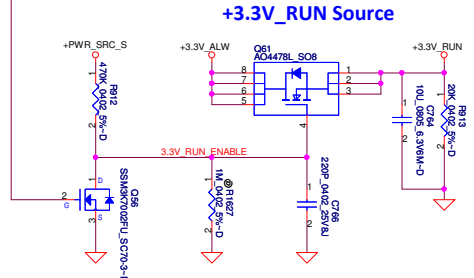


For SSI
w/ vpro: PJP7 open and PJP8 open
w/o vpro: PJP7 open and PJP8 short.depop Q63
For PT
w/o vpro: PJP7 and PJP8 open.pop Q63

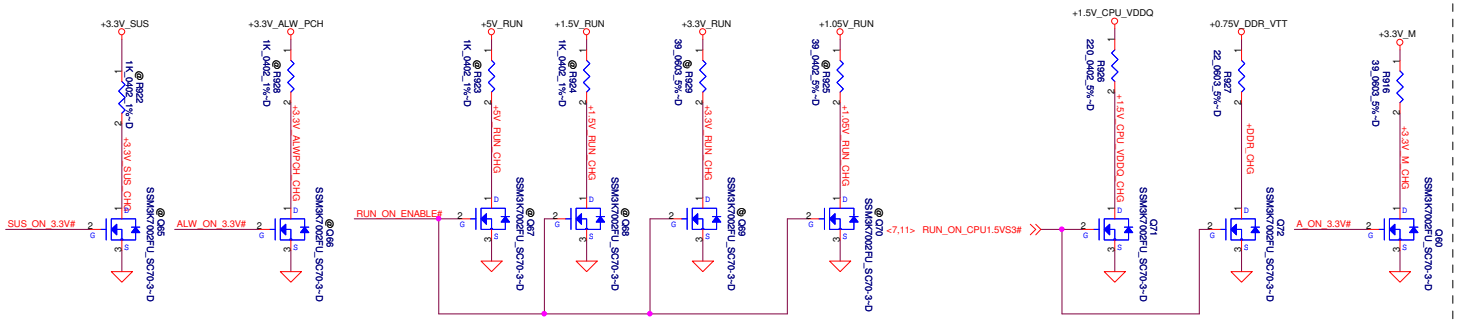








Discharge Circuit



DELL CONFIDENTIAL/PROPRIETARY

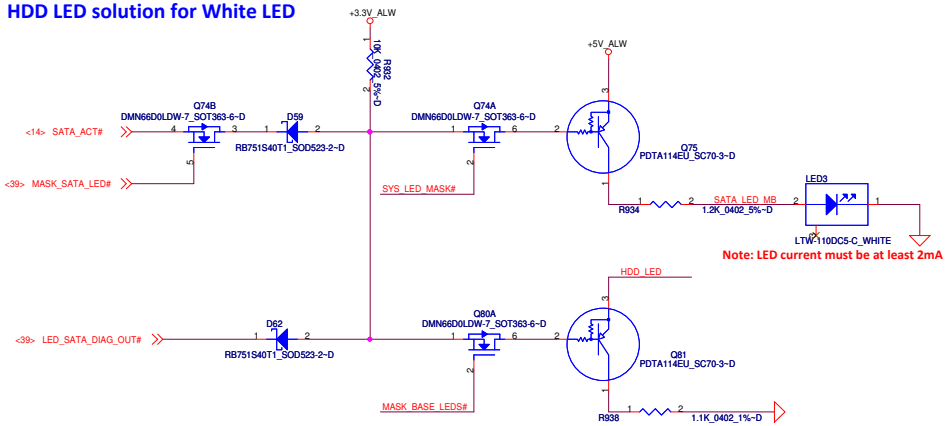
Compal Electronics, Inc.

Title: POWER CONTROL

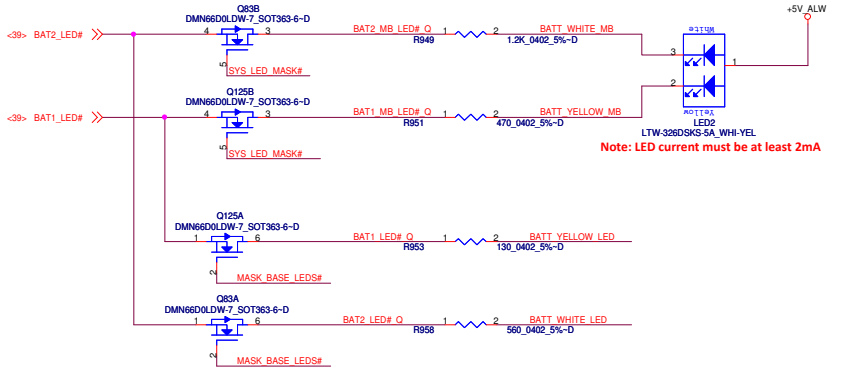
Size: | Document Number: LA-7901P | Rev: 1.0

Date: Friday, March 02, 2012 | Sheet 42 of 61

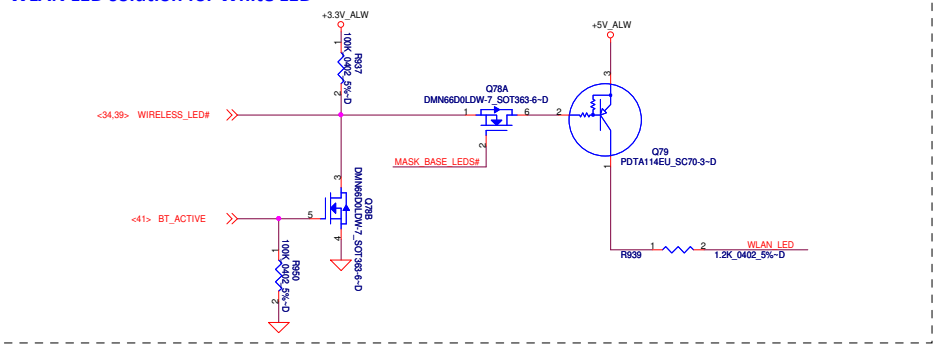
HDD LED solution for White LED



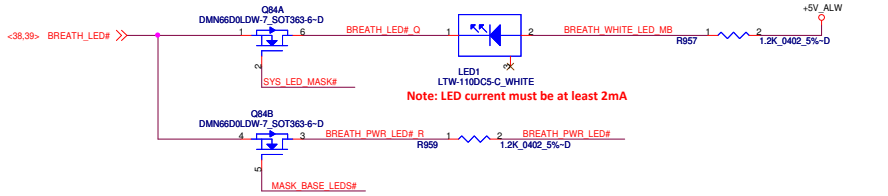
Battery LED



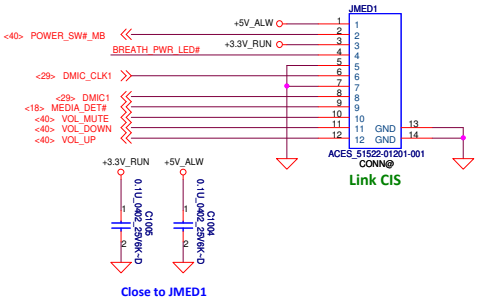
WLAN LED solution for White LED

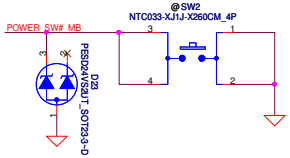


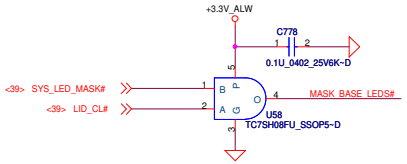
Breath LED



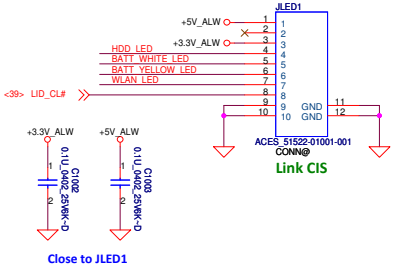
MEDIA BOARD







LED BOARD



LED Circuit Control Table

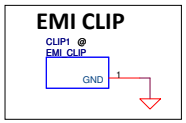
	SYS_LED_MASK#	LID_CL#
Mask All LEDs (Sniffer Function)	0	X
Mask Base MB LEDs (Lid Closed)	1	0
Do not Mask LEDs (Lid Opened)	1	1

Fiducial Mark

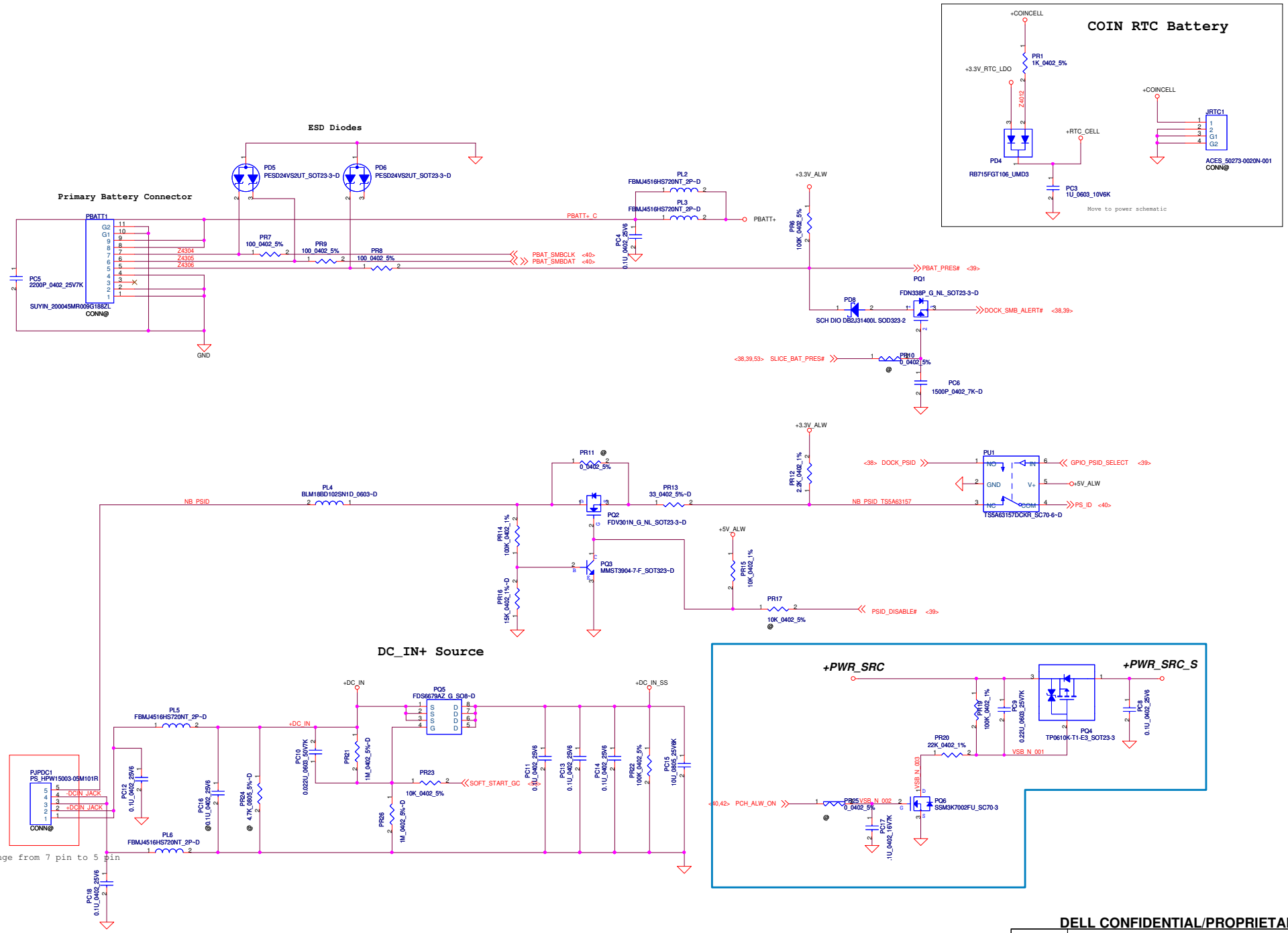
@FD1 FIDUCIAL MARK-D
@FD2 FIDUCIAL MARK-D
@FD3 FIDUCIAL MARK-D
@FD4 FIDUCIAL MARK-D

@H1 H_2P8 @H2 H_3P0 @H3 H_3P0 @H4 H_3P0 @H5 H_3P0 @H6 H_3P0 @H7 H_3P3 @H8 H_3P3 @H9 H_1P6X3P0N @H10 H_3P8 @H11 H_3P8 @H12 H_3P8 @H13 H_3P8 @H14 H_6P7N
@H15 H_2P2N @H16 H_2P3 @H17 H_2P3 @H18 H_3P3 @H19 H_2P3

EMI CLIP

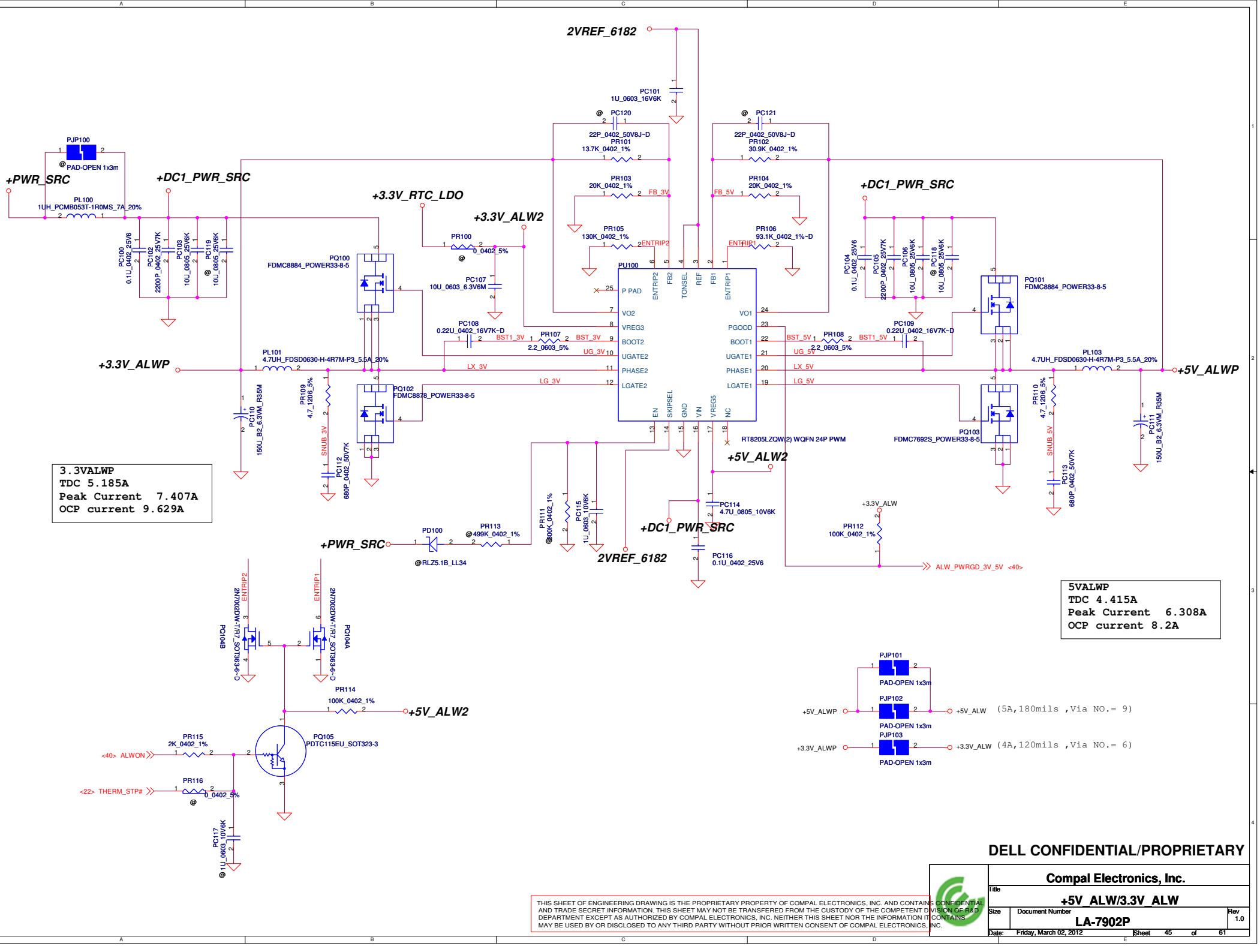


Compal Electronics, Inc.
Title: PWR/LED Conn/PAD/ME
Size: Document Number: LA-7901P
Rev: 1.0
Date: Friday, March 02, 2012
Sheet 43 of 61



Compal Electronics, Inc.

Title	+DCIN	
Size	Document Number LA-7902P	Rev 1.0
Date: Friday, March 02, 2012	Sheet 44 of 61	



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.	
Title	+5V_ALW/3.3V_ALW
Size	Document Number: LA-7902P
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Date:	Friday, March 02, 2012
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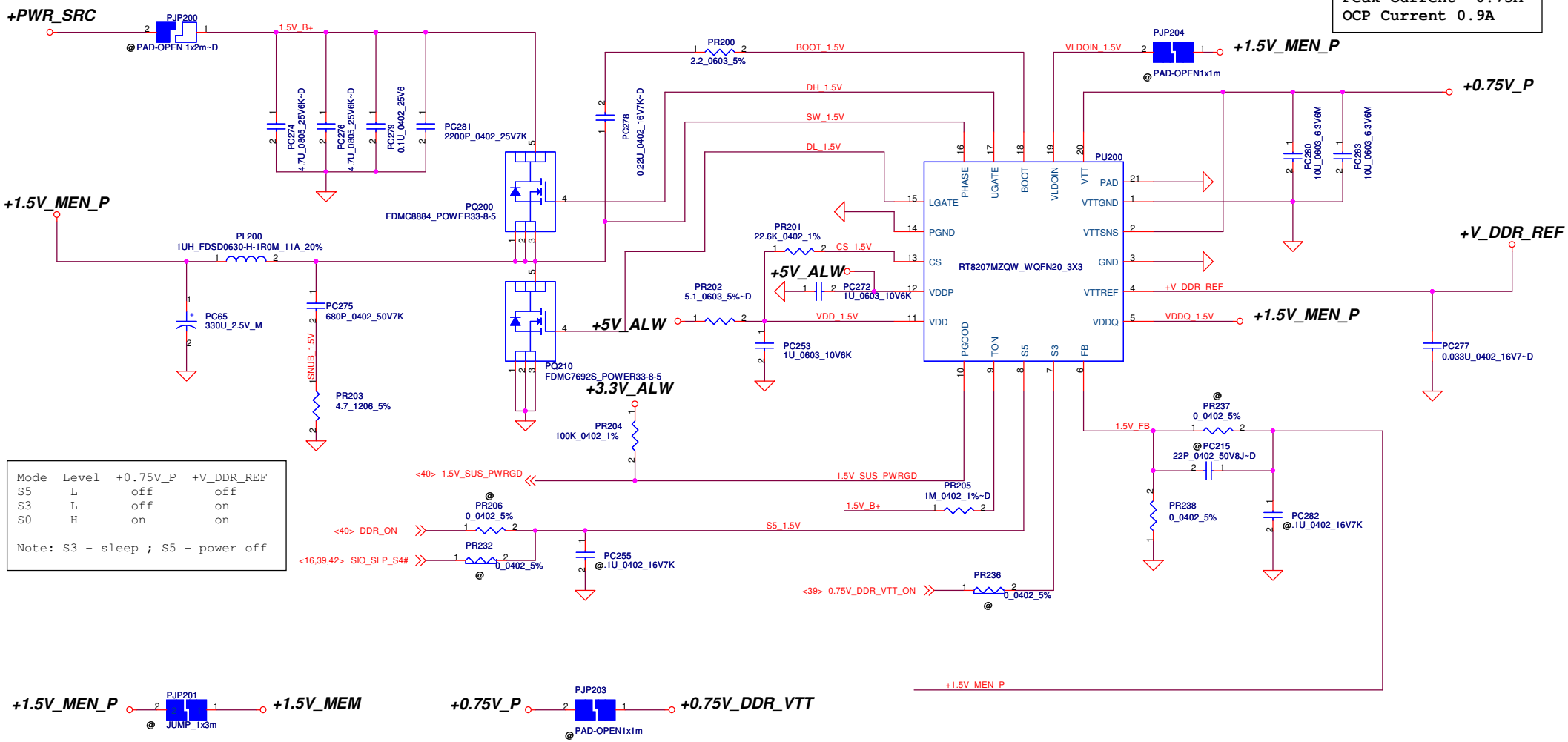
1.5Volt +/- 5%
TDC 9.74A
Peak Current 13.915A
OCP current 16.698A

0.75Volt +/- 5%
TDC 0.525A
Peak Current 0.75A
OCP Current 0.9A



Mode	Level	+0.75V_P	+V_DDR_REF
S5	L	off	off
S3	L	off	on
S0	H	on	on

Note: S3 - sleep ; S5 - power off

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.	
Title	+1.5V_MEN/+0.75V_DDR_VTT
Size	Document Number: LA-7902P
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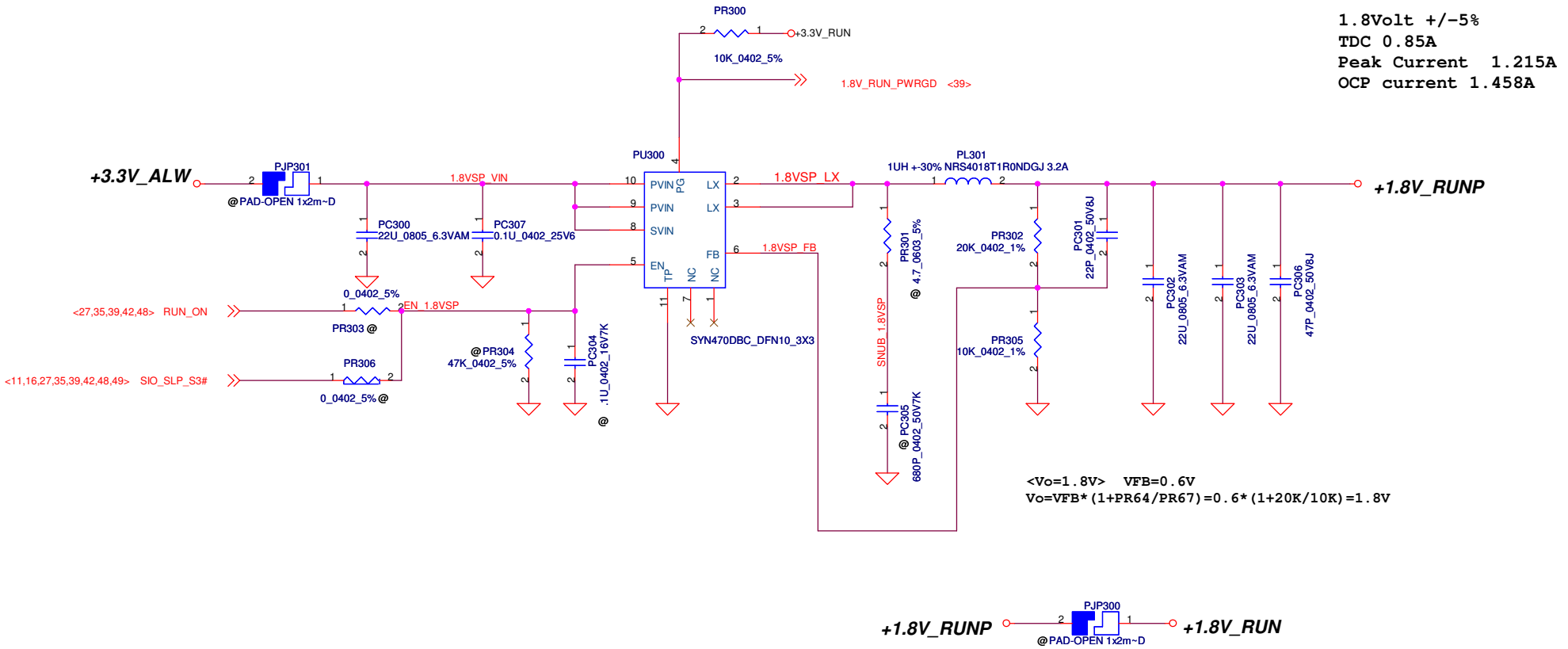
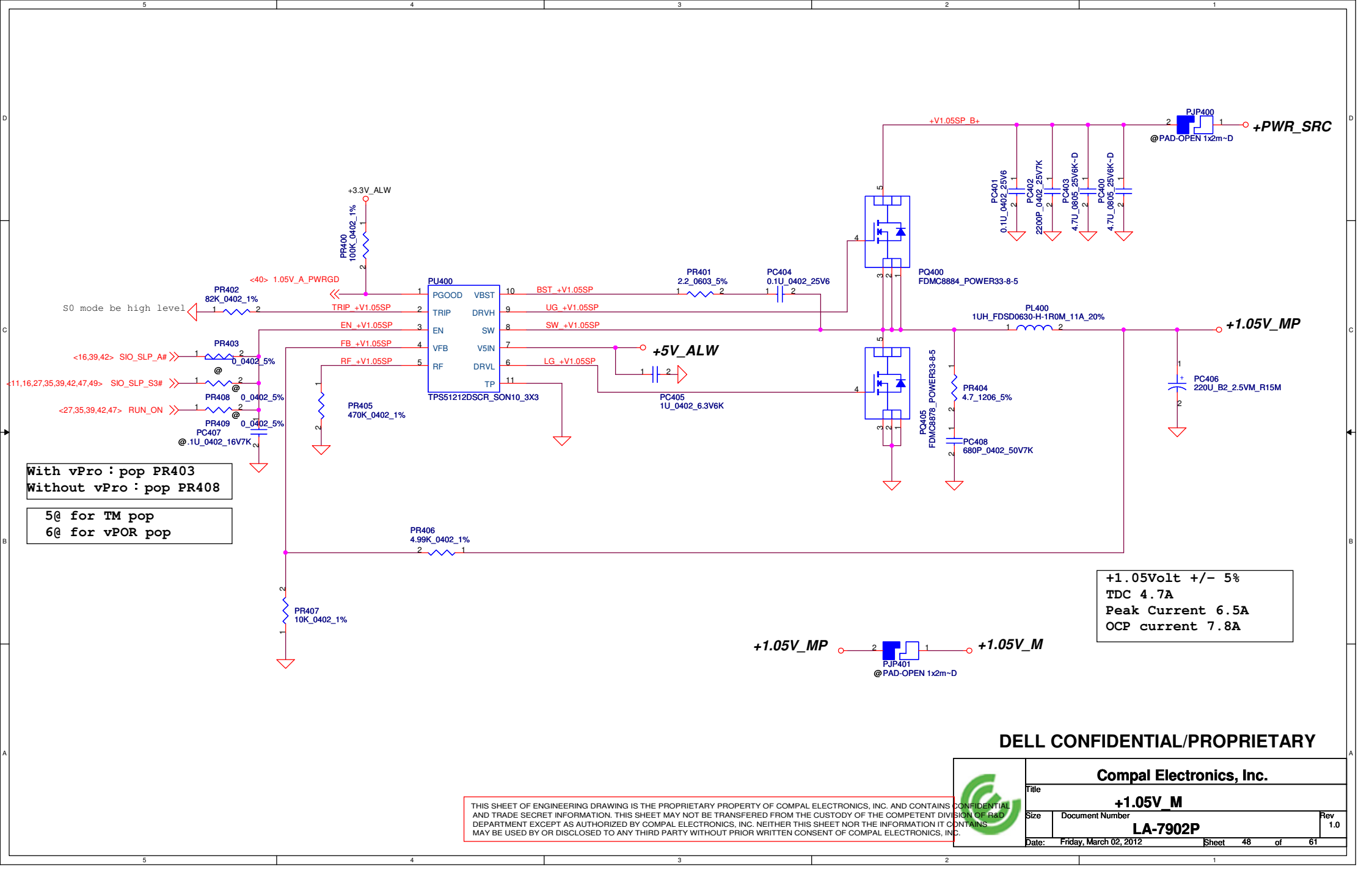


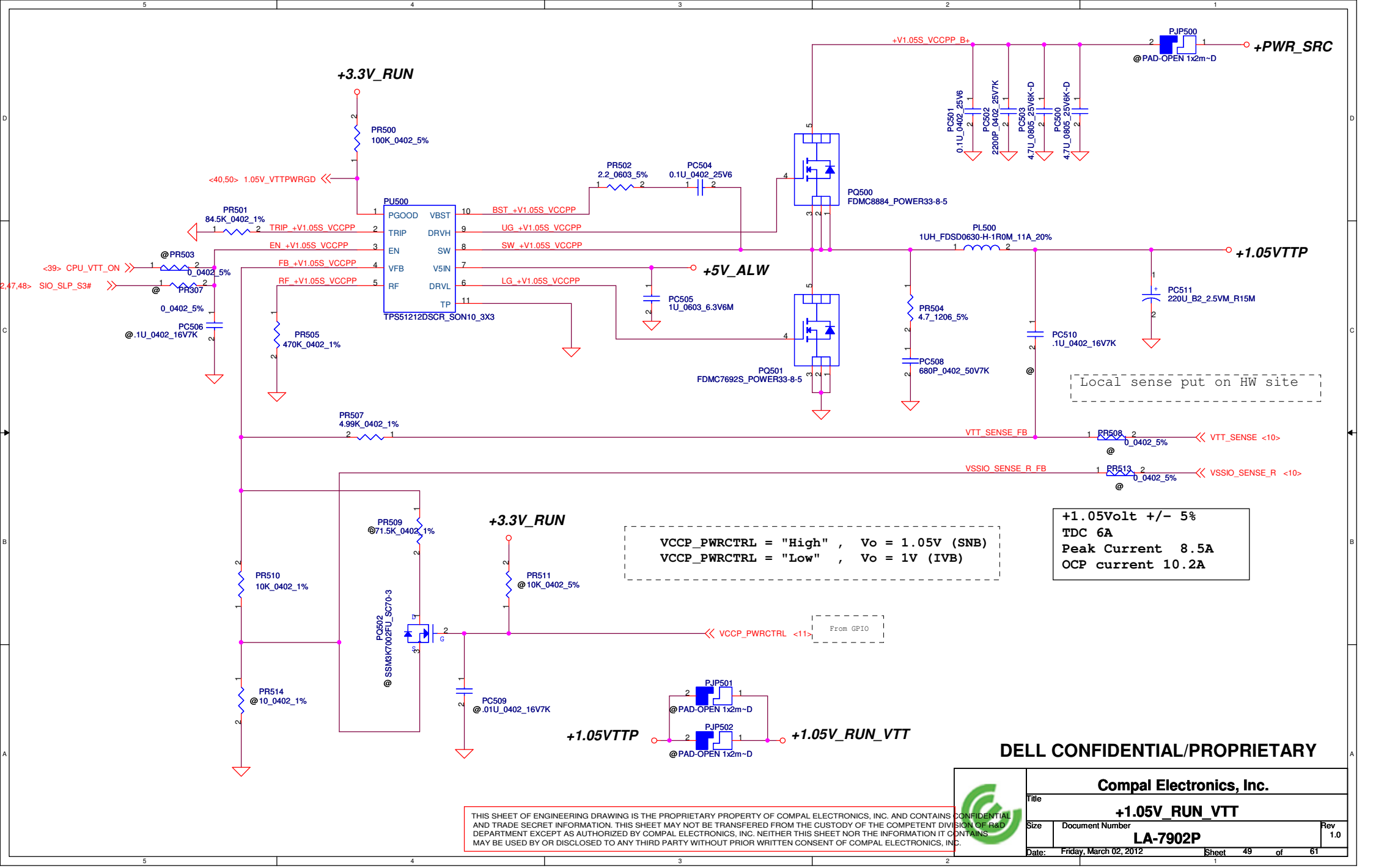
DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.		
Title: +1.8V_RUN		
Size	Document Number: LA-7902P	Rev: 1.0
Date: Friday, March 02, 2012	Sheet 47 of 61	



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.		
Title: +1.05V_M		
Size	Document Number: LA-7902P	Rev: 1.0
Date: Friday, March 02, 2012	Sheet 48 of 61	



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Compal Electronics, Inc.	
Title	+1.05V_RUN_VTT
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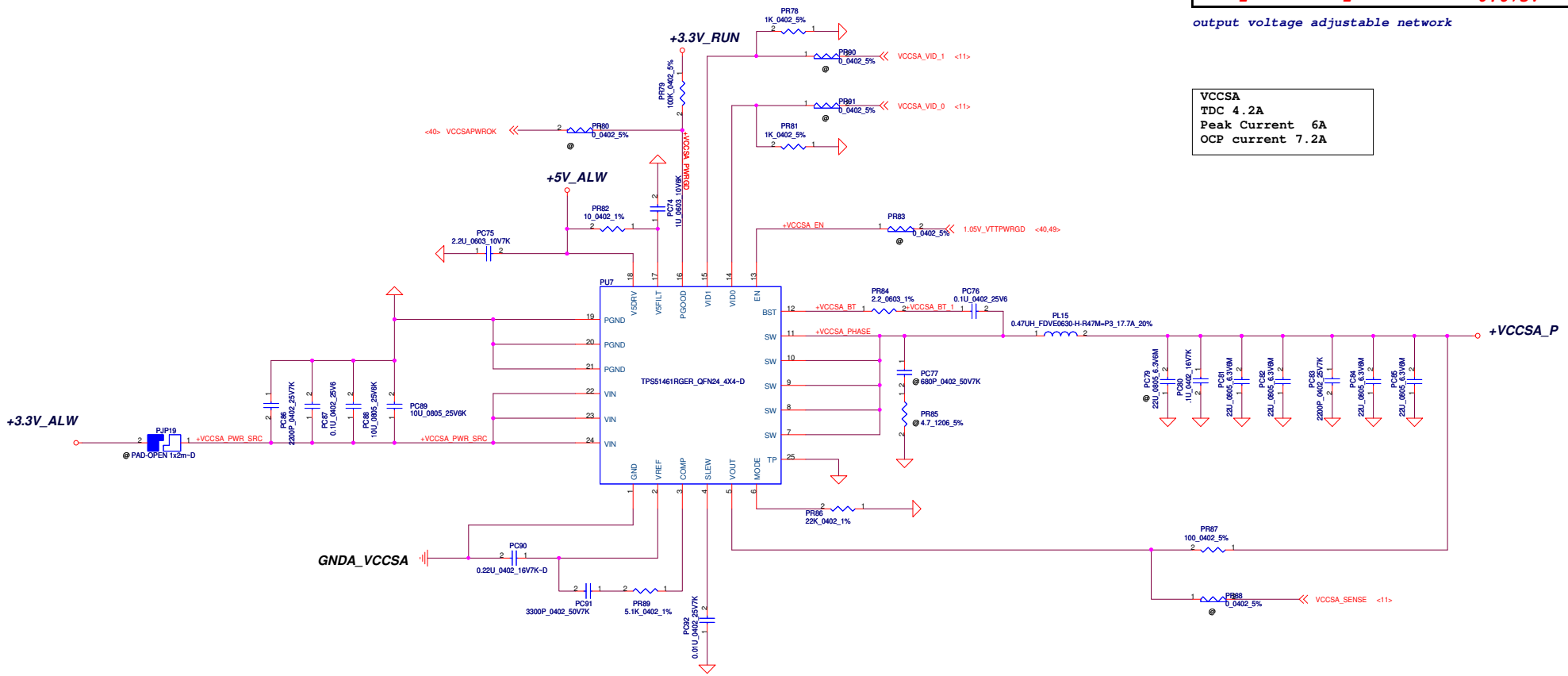
VID [0]	VID[1]	VCCSA Vout
0	0	0.9V
0	1	0.8V
1	0	0.725V
1	1	0.675V

output voltage adjustable network

VCCSA
TDC 4.2A
Peak Current 6A
OCP current 7.2A

The 1k PD on the VCCSA VIDs are empty. These should be stuffed to ensure that VCCSA VID is 00 prior to VCCIO stability.



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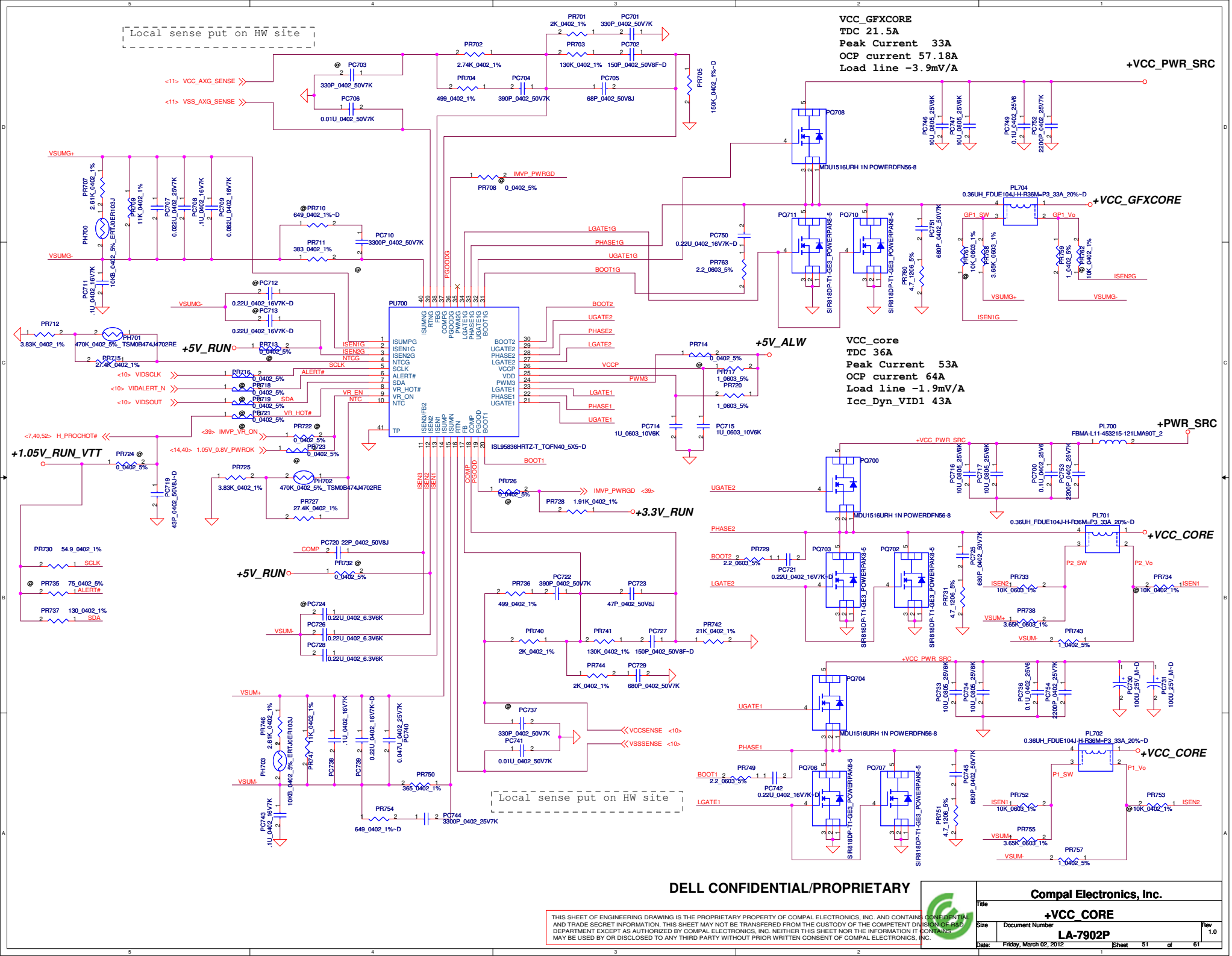
Compal Electronics, Inc.		
Title: +VCC_SA		
Size	Document Number: LA-7902P	Rev: 1.0
Date: Friday, March 02, 2012	Sheet 50 of 61	


Local sense put on HW site
VCC_GFXCORE
TDC 21.5A
Peak Current 33A
OCP current 57.18A
Load line -3.9mV/A
+VCC_PWR_SRC
+VCC_GFXCORE
VCC_core
TDC 36A
Peak Current 53A
OCP current 64A
Load line -1.9mV/A
Icc_Dyn_VID1 43A
+PWR_SRC
+VCC_CORE
+5V_RUN
+5V_ALW
+3.3V_RUN
+1.05V_RUN_VTT
PU700
ISL95836HRTZ-T_TQFN40_5X5~D
PQ708
PQ711
PQ710
PQ700
PQ703
PQ702
PQ704
PQ706
PQ707
MDU1516URH 1N POWERDFN56-8
SIR818DP-T1-GE3_POWERPAK8-5
PL704
PL700
PL701
PL702
0.36UH_FDUE104J-H-R36M=P3_33A_20%~D
FBMA-L11-453215-121LMA90T_2
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Compal Electronics, Inc.
Title
+VCC_CORE
Size
Document Number
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1.0
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ISL88731C 11@
BQ24747 22@

E2 AC_OK=17.7 Volt

PR1313
TI bq24745 = 316K
Intersil ISL88731 = 226K

Vref
TI bq24747 = 3.3V
Intersil ISL88731C = 3.2V
VDDP
TI bq24747 = 6V
Intersil ISL88731C = 5.1V

Maximum charging current is 7.2A

	DYN_TUR_CURRENT_SET#
65W	High
90W	Low

Adapter Protection Circuit for Turbo Mode

PU1300 22@	PR1313 22@	PR1325 22@	PC1334 22@	PR1330 22@	PR1304 22@	PR1305 22@	PC1304 22@	PR1322 22@
BQ24747	316k_0402_1%	4.7k_0402_1%	0.1U_0402_25V6	0_0402_5%	0_0402_5%	0_0402_5%	0.1U_0402_25V6 1 +-5% 0603	

Compal Electronics, Inc.
Title: Charger
Size: Document Number: LA-7902P
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Date: Friday, March 02, 2012
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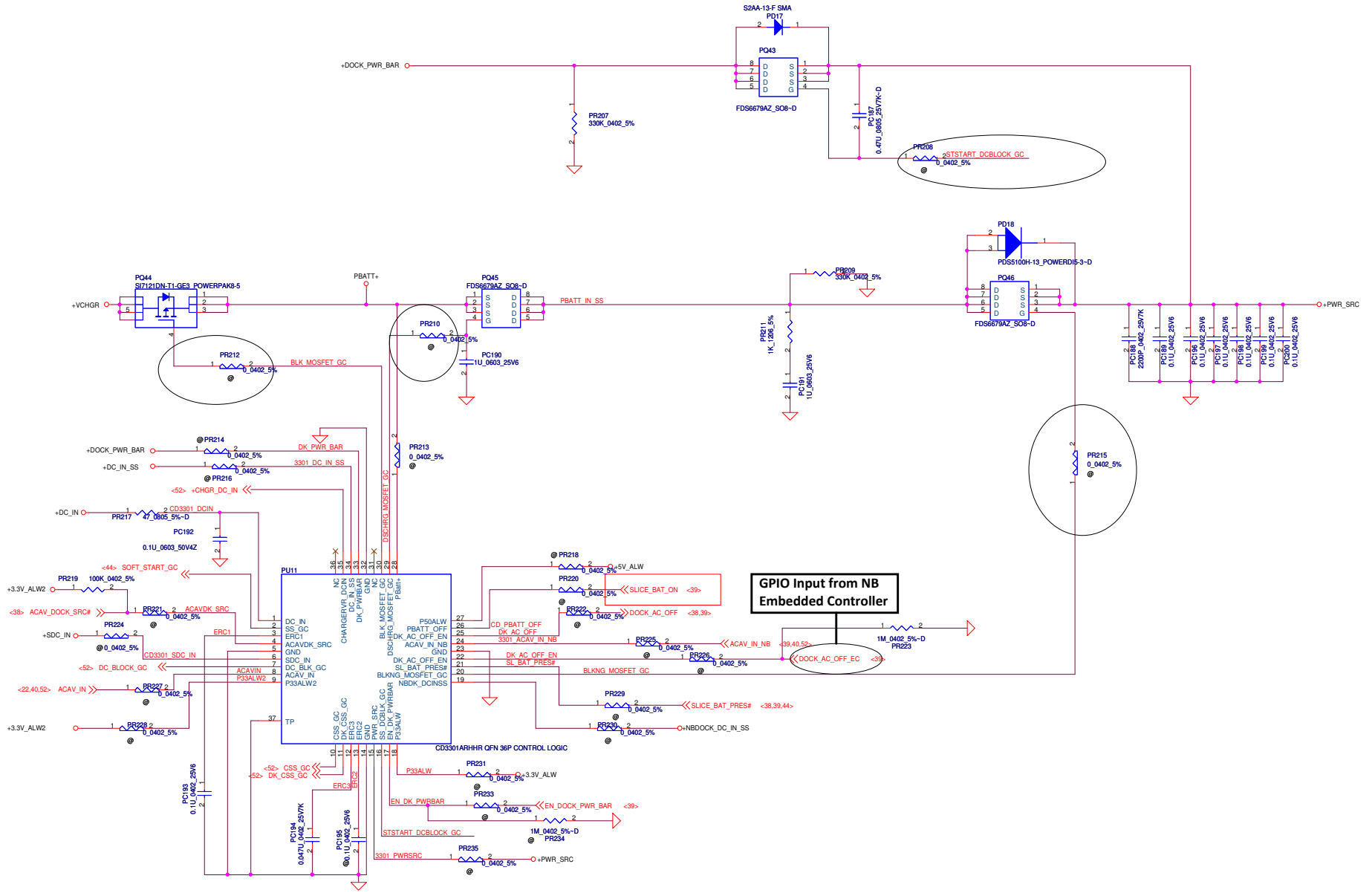

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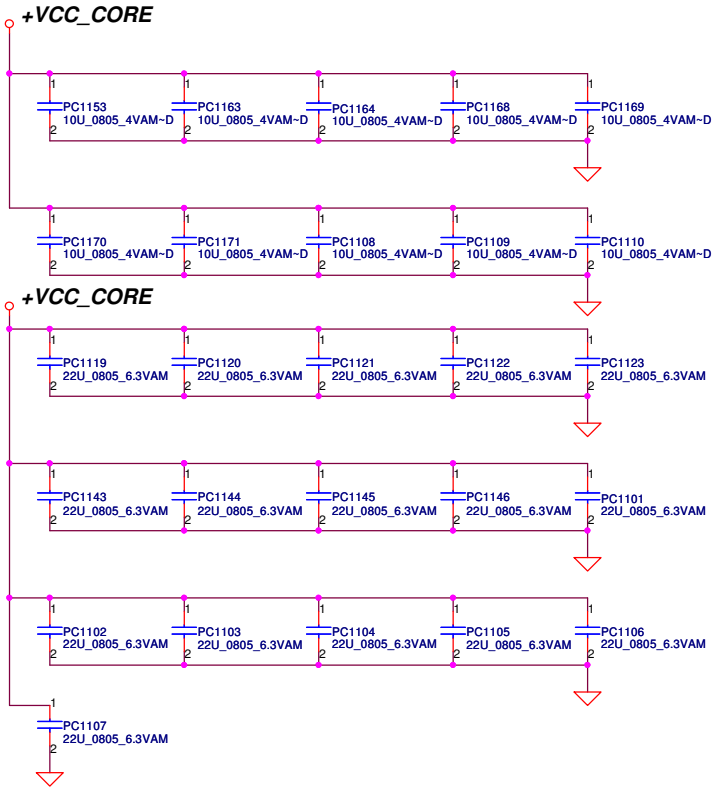
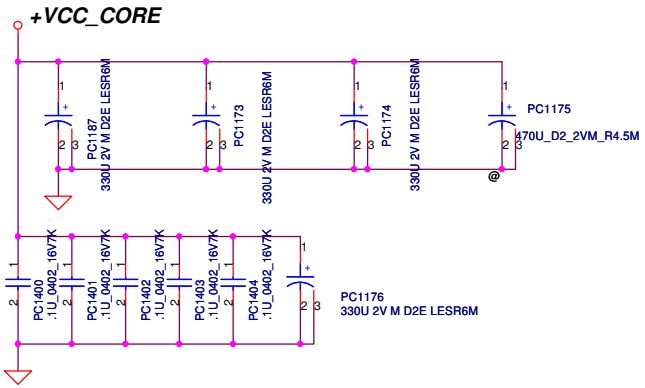
Compal Electronics, Inc.

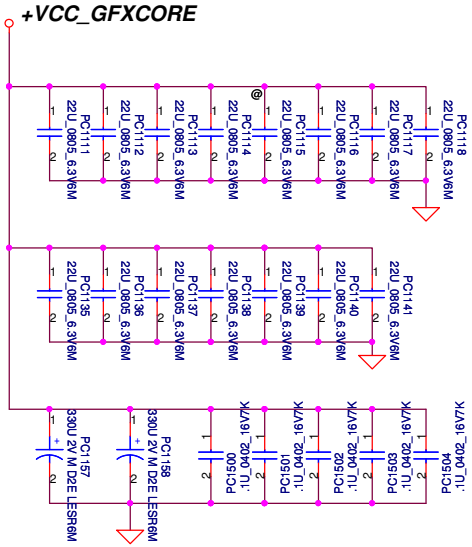
Title: Selector

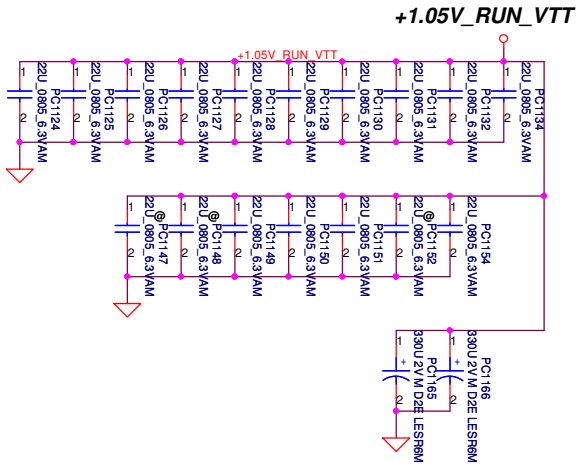
Size | Document Number: LA-7902P | Rev: 1.0

Date: Friday, March 02, 2012 | Sheet 53 of 61









	Compal Electronics, Inc.	
Title	PROCESSOR DECOUPLING	
Size	Document Number LA-7902P	Rev 1.0
Date: Friday, March 02, 2012	Sheet 54 of 61	

Version Change List (P. I. R. List) Page 1

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	44	Power	8/18	Compal	ME design change.	PJPDC1 change from 7pin to 5pin	X01
2	45	Power	8/18	Compal	Main and 2nd IC common setting.	De-pop PD100,PR113,PR111	X01
3	45 46	Power	8/18	Compal	Prevent Jitter issue.	Add PC120,PC121,PC215 parallel with PR101,PR102,PR207	X01
4	51	Power	8/18	Compal	Prevent output voltage glitch when power up.	PU700 VCCP and VDD change form +5V_RUN to +5V_ALW	X01
5	53	Power	8/18	Dell	Change net name PBATT to SLICE_BAT_ON.	Change net name same as E4.	X01
6	50	Power	8/18	Compal	Reserve 0 ohm resistance for test.	Add PR90, PR91	X01
7	45 52	Power	8/30	Compal	For reduce EMI radiation.	Pop PL100, PL1300	X01
8	54	Power	8/30	Compal	Reserve cap for improve transient response.	Reserve PC1176	X01
9	53	Power	8/30	Compal	For reduce EMI radiation.	Add PC196, PC197, PC198, PC199, PC200	X01
10	54	Power	8/31	Compal	Change to green P/N.	Change PQ4, PC1153, PC1163, PC1164, PC1168, PC1169, PC1170, PC1171, PC1108, PC1109, PC1110, PC1187, PC1173, PC1174, PC1175, PC1157, PC1158, PC179, PQ1310, PQ1306 to green P/N	X01
11	48	Power	9/1	Dell	For support TL+TM	Change 6@ to pop for PC400~PC406, PC408, PL400, PQ400, PQ405, PR400~PR407, PU400. 5@ to @ for PR408.	X01
12	49	Power	9/1	Compal	For fix 1.05V_RUN_VTT on 1.05V	Depop PR509, PR511, PQ502. Change PR507 to 4.99k.	X01
13	51	Power	9/5	Compal	Follow EMI requirement.	Change PL700 to SM01000DJ00	X01
14	45 46	Power	9/6	Compal	Change to green P/N.	Change PC107, PC263, PC280, PC405, PC505 to HF P/N.	X01
15	52	Power	9/13	Compal	For reduce EMI radiation.	Pop PC1400~1404, PC1500~PC1504.	X01

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
16	51	Power	9/14	Compal	Adjust CPU transient , loadline and OCP	Add PC740 to 0.1uF Change PR750 to 365 ohm Change PR741 to 130K ohm Change PC744 to 3300pF,PR754 to 649ohm.	X01
17	51	Power	9/14	Compal	Adjust AXG transient , loadline and OCP	Change PR703 to 130K ohm Change PC709 to 82nF Change PR702 to 2.74K ohm Change PR711 to 383 ohm	X01
18	52	Power	11/17	Compal	Shortage issue	Change PQ1303 from NTGD416 to AP2623	X02
19	52	Power	11/17	Compal	Need ESD protected	Change PQ1306, PQ1310 from SB57002040L to SB000009Q80	X02
20	53	Power	11/17	Compal	IC version upgrade	Change PU11 from CD3301 to CD3301A	X02
21	45	Power	11/17	Compal	Shortage issue	Change PC110, PC111 from SGA00004E00 to SGA00002N80	X02
22	45	Power	11/17	Compal	EMI request	Pop PC1138,PC1139,PC1149,PC1150	X02
23	44	Power	11/21	Compal	Erp lot6 tier2 Fail issue	PWR_SRC_S control signal change from +3.3V_ALW to PCH_ALW_ON	X02
24	44	Power	12/05	Compal	Prevent COS.	Change PD8 from SCS0340L01L to SCS00005C00 Change PD1301 from SCS00003M0L to SCS00004O0L	X02
25	54	Power	12/13	Compal	Prevent COS.	Change PC1176,PC1174,PC1173,PC1187,PC1157,PC1158, PC1165,PC1166 to SGA00002U1L	X02
26	50	Power	12/13	Compal	Improve efficiency	change PR86 to 22K_0402_5%	X02
27	47	Power	12/16	Compal	Prevent COS.	Change PL301 from SH00000MN00 to SH00000MW00	X02

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	11	HW	08/25/2011	COMPAL	INTEL review feedback	Add CC178,CC179,CC149,CC150	X01
2	14,39	HW	08/25/2011	COMPAL	SMSC request to delete LPC_LDRQ0#	Leave LDRQ0# no connection on both of 5048 and PCH side Removed R743	X01
3	22	HW	08/25/2011	COMPAL	Removed reserve circuit for EMC4022	Removed R405,C280,R392,R394	X01
4	42	HW	08/25/2011	COMPAL	Load SW sources output rising time mismatch and COS. cost concern	Change back to E3 +3.3V/5V_RUN discrete solution Removed U78 and add Q55,Q61 circuit	X01
5	29	HW	08/25/2011	COMPAL	Codec is change to 92HD93	Pop R162~R166 and de-pop U73,R1540	X01
~~6~~	~~29~~	~~HW~~	~~08/25/2011~~	~~COMPAL~~	~~Reserve co-lay with ALC290~~	Pop option for 92HD93/ALC290=>R1646/C1164; R1644/R1643; C965/R1642; Q107/R171 ~~Reserve for ALC290 only: C1204, C1205, R1647, C1165, R1648~~ Reserve for 92HD93 only: R1645, C963 Add R174 depop and R175 pop	X01
7	20	HW	08/25/2011	COMPAL	Vgs less than cut-in voltage in battery mode	Add control circuit QH6,R279,CH107 for +5V_ALW_PCH	X01
8	27,28	HW	08/25/2011	COMPAL	Vgs of 5V MOS maybe large than max rating	Add R517, R518	X01
9	11	HW	08/25/2011	COMPAL	Follow INTEL PDDG 0.8	De-pop RC140	X01
10	40	HW	08/25/2011	COMPAL	Change board ID to X01	Change R875 to 130Kohms	X01
11	34	HW	08/25/2011	COMPAL	PCH GPIO52 need 8.2~10K pull up +3.3VS	Change R695 from 100K to 10Kohms	X01
12	23	HW	08/25/2011	COMPAL	CRT SW 2nd source TI, TS3V713 pin29 is VDD	Connect U18 pin29 to +3.3V_RUN	X01
13	16	HW	08/25/2011	COMPAL	+1.05V_M turn off before APWROK de-assert	Add UH5,CH108 6@ circuit reserve for VPRO	X01
14	41	HW	08/25/2011	COMPAL	Reset IC threshold voltage issue	Change U4 to RT9801A (threshold adjustable) Add R1649~R1654;Reserve R1655 and pop R1623	X01
15	26	HW	08/25/2011	COMPAL	DPX_CA_DET voltage too low through dongle	Change U21 and U24 to SA000055G0L	X01
16	17,18	HW	08/25/2011	COMPAL	Request from INTEL review feedback	Pop RH332 for PCH_GPIO3 and RH180 for GPIO27	X01
17	42	HW	08/25/2011	COMPAL	Material changed	Power team request Q59 change to SB00000L80L	X01
18	43	HW	08/25/2011	COMPAL	White light LED brightness is abnormal	Change R934, R938, R939, R949, R958, R957 and R959 to 1.2 Kohms	X01
~~19~~	~~40~~	~~HW~~	~~08/25/2011~~	~~COMPAL~~	~~Reserve C1208 for ESD backup plan~~	~~Reserve C1208 for ESD backup plan~~	~~X01~~
20	11	HW	08/25/2011	COMPAL	S3 can't resume issue	Control 1.5V_VDDQ by EC. Pop RC79 and de-pop RC82	X01
21	17	HW	08/25/2011	COMPAL	INTEL review feedback	Change RH331,RH272 to 10K ohm	X01

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
22	34	HW	08/25/2011	COMPAL	WWAN card request	JMINI1 pin 1 connect to PCIE_WAKE#	X01
23	14	HW	08/25/2011	COMPAL	ROM size changed	Change U52 to 8M and R936,R895,R897,R900 to 6@	X01
24	11	HW	08/25/2011	COMPAL	Material package changed	Change CC161~CC166 from 0402 to 0603	X01
25	42	HW	08/25/2011	COMPAL	BOM changed	Change Q60 to 6@	X01
26	39	HW	08/25/2011	COMPAL	GPIO signal name changed same as E/P	Change PBATT_OFF to SLICE_BAT_ON	X01
27	34	HW	08/25/2011	COMPAL	Material package changed	Changed C615 to SF000002000	X01
28	30	HW	08/26/2011	COMPAL	LAN EA result	Changed RL23 to 1.2K Ohm.	X01
29	40	HW	08/26/2011	COMPAL	Backdrive issue	Depop R1169,R1197,R118 due to it has internal pull high.	X01
30	37	HW	08/29/2011	COMPAL	To avoid power short to GND	NC Pin 15 for JAUD1	X01
31	37	HW	08/30/2011	COMPAL	Follow connector list	Swap JAUD1 pin.	X01
32	12	HW	08/30/2011	COMPAL	Change part to HF part	Change QD1, QD2 part number to SB501380050 (for HF)	X01
33	15	HW	09/01/2011	COMPAL	For clock EA	Change RH311 and RH314 to 10 ohm	X01
34	43	HW	09/01/2011	COMPAL	ME drawing update	Add H19	X01
35	14,16 19,22 30,40 42	HW	09/01/2011	COMPAL	BOM option change for TL	Change U53,R936,R895,R897,R900,RH350,UH5,CH108,RH116 RH202,R385,R426,R402,Q63,R931,Q58,Q60 R916,RL46,R871 to pop Change RH359,RH321,RH119,RH204,R430,R386,R408 ,R206,RL47,R877,to depop	X01
36	25	HW	09/02/2011	COMPAL	Due to EMI HDMI test Fail, add EMI solution	Chamge resistor to Inductor Change R451, R459, R462, R466, R468, R469, R470, R471 to 9nH L99, L100, L101, L102, L103, L104, L105, L106. Add C1209, C1210, C1211, C1212, C1213, C1214, C1215 and C1216 between Inductor and HDMI connector	X01
37	37	HW	09/05/2011	COMPAL	ME connector list change	Change JAU1 to 50271-0020N-001	X01
38	37	HW	09/06/2011	COMPAL	EMI issue	Add L107 & R1656,R1657	X01
39	15,30	HW	09/06/2011	COMPAL	Follow LL to reserve SM bus for BRCM LAN	Add QH8,RL50,RL51	X01
40	36	HW	09/08/2011	COMPAL	Follow Intel design guide	Change C412~C415 to 0.1uF for USB3.0 signal	X01
41	7	HW	09/08/2011	COMPAL	Follow ESD recommand.	Reserve CC1141~CC144 for ESD	X01
42	14,15,40	HW	09/08/2011	COMPAL	Crystal EA result	Change CH2,CH3 to 18pF Change C741,C743 to 39pF Change CH18,CH19 to 10pF Change CL5,CL6=33pF,RL22=510 ohm	X01

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43	29	HW	09/13/2011	COMPAL	Follow IDT recommand	Swap R169~R172,C973~C976 connection	X01
44	42	HW	09/13/2011	COMPAL	Change Q55,Q61 part for open soldering issue.	Change Q55,Q61 from DMN3030LSS-13 to AO4478L	X01
45	40	HW	10/13/2011	COMPAL	Change board ID to X02	Change R875 to 62Kohm	X02
46	42	HW	10/13/2011	COMPAL	Rated Vgs of Q61 is 25V	De-pop R1627	X02
47	39	HW	10/13/2011	COMPAL	SMSC change 5048 pin A23 to GPIOI0	Re-link ECE 5048 symbol	X02
48	40	HW	10/13/2011	COMPAL	SMSC review feedback	Reserve R1658 and R1659 100Kohms to GND for I2S disabled	X02
49	41	HW	10/13/2011	COMPAL	Change reset IC to RT9818A-44GU3	Update U4 symbol and add R1629 for backup of inrush prevention. Change RSMRST# pull up with 100Koms. Pop R1655 and de-pop R1623.Delete R1649~R1654	X02
50	39	HW	10/13/2011	COMPAL	When suspend/resume cycles, wireless SW GPIO IRQs keeps giving	Change pull up rail to +3.3V_ALW for WIRELESS_ON#/OFF	X02
51	29	HW	10/13/2011	COMPAL	15" UMA speaker no sound issue	Pop snubber on speaker trace with C: 2200pF and R: 3.3ohms. Change bead rated current from 200mA to 2A.	X02
52	29	HW	10/13/2011	COMPAL	EMI request	Pop C981,C982,C983,C985,C986,C987	X02
53	27	HW	10/13/2011	COMPAL	Depop HDD control power circuit for cost down.	Depop R1624,Q28,R500,R499,R617,C393	X02
54	30	HW	10/18/2011	COMPAL	Crystal EA result	Change YL1 to 3G025000FA1H, CL5,CL6 to 12pF.RL22 to 200 ohm.	X02
55	All	HW	10/18/2011	COMPAL	For cost saving.	Change 0 ohm to R-short.	X02
56	42	HW	10/26/2011	COMPAL	1V leakage on 3.3V_RUN during system boot	Pop Q69 and R929	X02
57	42	HW	10/26/2011	COMPAL	Inrush current with Smart Card detect fail issue	change C763 and C766 to 2200p	X02
58	43	HW	10/27/2011	COMPAL	LED Conn PIN definition change	JLED1 PIN define change	X02
59	37	HW	10/27/2011	COMPAL	Remove 2pin connector for Audio performance	Remove JAG1 2 pin connector.	X02
60	42	HW	11/01/2011	COMPAL	Change MOSFET to wihtout Schottky Diode for +1.5V_RUN leakage issue	change QC3, Q59 as AO4304L from AO4728L	X02
61	14	HW	11/15/2011	COMPAL	RTC issue	change CH2, CH3 to 15pF	X02
62	14	HW	11/15/2011	COMPAL	S5 power consumption over spec.	depop RH288	X02

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63	34	HW	11/29/2011	COMPAL	S3 had leakage in +3/5V_RUN	De-pop R725, remove R695 and add +3.3V_RUN pull high at PCH side(RH361)	X02
64	32	HW	11/29/2011	COMPAL	TPM is changed to AT97SC3204-X2A18-AB	U39(TPM) is changed to SA00004WQ10 (AT97SC3204-X2A18-AB) for WIN8 support	X02
65	32	HW	11/29/2011	COMPAL	+3.3V_RUN Giltch when AC plugin	Add D87, R1662 and R1663 (pull high to +3.3V_RUN_TPM) for HW solution backup	X02
66	14~21	HW	11/29/2011	COMPAL	Change PCH to C1 version	Change UH4 to SA00005AG1L(HM77 for non vpro)	X02
67		HW	11/29/2011	COMPAL	Change RC value at Gate of MOS Load SW to modify power rail soft start timing	RC72 from 100K to 330K; RC143 form 330K to 1M; CC136 form 0.1u to 0.022u R412 from 100K to 470K; R1632 form 1M to 4.7M; C293 form 0.1u to 0.022u R507 from 100K to 470K; R517 form 1M to 4.7M; C400 form 0.1u to 0.022u R722 from 100K to 470K; R1625 form 1M to 4.7M; C644 form 4700p to 220p R729 from 100K to 470K; R1628 form 1M to 4.7M; C650 form 4700p to 220p R917 from 100K to 470K; R1617 form 1M to 4.7M; C770 form 4700p to 220p R920 from 100K to 470K; R1610 form 470K to 2.2M; C771 form 4700p to 470p R930 from 100K to 330K; R1611 form 470K to 1M; C773 form 2200p to 100p R906 from 100K to 470K; C763 form 2200p to 220p R912 from 100K to 470K; C766 form 470p to 220p	X02
68	36	HW	12/01/2011	COMPAL	Change P/N for HF	Change C412~C415 P/N to SE076104K8L	X02
69	35	HW	12/01/2011	COMPAL	Reserve 0.1uF CAP to GND for ESD request	reserve CE14, CE20, CE22, CC151, CC152, CC153 to GND	X02
70	19	HW	12/05/2011	COMPAL	Change LH1 from bead to Inductor for CRT	Change LH1 to 1uH Inductor(SHI00007W0L)	X02
71	17,38	HW	12/07/2011	COMPAL	EMI solution for E-Docking USB port	Swap USB Port7 and Port8 and reserve a choke(L108) at E-Docking side: Port7 from NA to E-docking Port8 from E-Docking to NA	X02
72	24,32,37	HW	12/07/2011	COMPAL	Change USB9,12,13 CMC to 180ohm for EMI request	Change L10,L52,L107 to SM070002X00(OCF2012181YZF)	X02
73	37	HW	12/08/2011	COMPAL	Follow CONN List_1130A Change JAUD1 to ACES_51522-0200N-P01	Change JAUD1 to ACES_51522-0200N-P01	X02
74	22	HW	12/09/2011	COMPAL	Thermal requests to change OTP from 88 to 92	Change R406 from 953ohm to 1.24Kohm	X02
75	41	HW	12/09/2011	COMPAL	To prevent inrush current at reset IC input	Change R1629 from 0ohms to 33ohms resistor	X02
76	19	HW	12/09/2011	COMPAL	For CRT issue	Change CH36 from 10uF to 22uF	X02
77	25	HW	12/13/2011	COMPAL	Change HDMI R,C value for EMI request	Change R448,R449,R450,R452,R453,R454,R455,R456 from 680ohm to 604ohm; C1209~C1216 from 4.7pF to 3.9pF	X02
78	42	HW	12/15/2011	COMPAL	+3.3V_SUS sequence timing	R911 from 100K to 470K; R1618 from 1M to 4.7M; C767 from 4700p to 220p	X02
79	43	HW	12/15/2011	COMPAL	Change current limit resistors of LED	R934 from 1.2K to 820, R957 from 1.2K to 1K, R951 from 330 to 270, R949 from 1.2K to 910,	X02

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80	34	HW	01/04/2012	COMPAL	Change RC25 value for ESD	Change RC25 from 0ohm to 1kohm(ST MEMO)	A00
81	40	HW	01/17/2012	COMPAL	SMSC creates a new catalog part number and IC marking for the MEC5055	Change U51 P/N to SA00003TZ2L	A00
82	43	HW	02/20/2012	COMPAL	Change current limit resistors of LED	Change R938 to 1.1k ohm, R958 to 560 ohm, R953 to 130 ohm, R951 to 470 ohm, change R939, R959, R957, R934, R949 to 1.2k ohm	A00
83	38	HW	02/24/2012	COMPAL	Dalmore14 UMA hang on white screen issue when attached AC+media battery after hot dock.	Change R755 from 100k ohm to 10k ohm	A00
84	40	HW	02/24/2012	COMPAL	Change board ID to A00	Change R875 to 33K ohm	A00
85	33	HW	02/24/2012	COMPAL	Change SD CLK damping resistor for EMI request	Change R676 from 33 ohm to 10 ohm	A00
86	32	HW	02/24/2012	COMPAL	Change BOM option for TPM/TCM funtion	Change C550,C551,C552,C553,R659,R660,R1662,RH311 BOM option to 5@	A00
87	25	HW	03/03/2012	COMPAL	SMT request to change F2 footprint	For DFX conern of F2 2nd source, SP040003H0L, change F2 footprint to F_MF-MSMF050-2	A00
88	14~21,30	HW	03/03/2012	COMPAL	Change PCH P/N for X-build	UH4 is changed to SA00005AG3L	A00
89	14	HW	03/03/2012	COMPAL	De-pop resistor on PCH JTAG for power saving	De-pop RH288, RH47, RH48 and RH49	A00