COMPAL CONFIDENTIAL

MODEL NAME : *JAL21/22*

PCB NO : *LA-4051P (DAA00000R1L)*

BOM P/N : *43153431L01 (Avia TPM)*

43153431L02 (Avia Non TPM)

43153431L11(DSC TPM)

43153431L12 (DSC Non TPM)

M09 Avia / Maybach DIS

uFCPGA Mobile Penryn
Intel Cantiga PM + ICH9M

2008-05-14

REV : 0.6 (X04)

@ : Nopop Component

1@ : for Avia / JAL22 (NB9P) Component

2@ : for MayDSC / JAL21 (NB9M) Component

3@ : Disable TPM

4@ : Enable TPM

Fix Function Field

MB PCB

Part Number	Description
DAA00000R1L	PCB 03P LA-4051P REV1 M/B

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Compal Electronics, Inc.

Title: Cover Sheet

Size | Document Number: LA-4051P | Rev: 0.5

Date: Wednesday, May 14, 2008 | Sheet 1 of 63

Block Diagram
Compal confidential
Model : JAL21/22

FAN
+FAN1_VOUT
page 18

Thermal GUARDIAN III EMC4002
+3.3V_M page 18

Pentium-M Penryn -4MB (Socket P) uFCPGA CPU
+1.5V_RUN
+1.05V_VCCP
+VCC_CORE
478pin
page 7,8,9

CPU ITP Port
+1.05V_VCCP page 7

Clock Generator CK505 SLG8LP554
+3.3V_M page6

CRT CONN
+5V_RUN page 20

Video Switch TS3DV520
+3.3V_RUN page 20

VGA

VGA

NV G98
+FBVDDQ
+3.3V_RUN
+1.1V_GFX_PCIE
+GPU_CORE
page 51,52,53,54,55,56

H_A#(3..35)

System Bus
FSB 1066 MHz

H_D#(0..63)

PCIE-E 16X

INTEL Cantiga 1329pin BGA
+1.5V_RUN
+1.8V_MEM
+1.05V_VCCP
+3.3V_RUN
+1.05V_M
page 10,11,12,13,14,15

Memory BUS (DDR2)
+1.8V_MEM 667/800 MHz

DDRII-DIMM X2
BANK 0, 1, 2, 3, 4 ,5 ,6 ,7 ,8
page 16,17
+0.9V_DDR_VTT
+1.8V_MEM

LVDS CONN
+5V_ALW
+3.3V_RUN on M/B Board
+LCDVDD
+INV_PWR_SRC page 19

LVDS

DPC

DP Switch TS2DP512
+5V_RUN page 21

DPB

DMI
+1.5V_RUN
100MHz

PCI BUS
+3.3VRUN 33MHz
IDSEL:AD17
(GNT#1,REQ#1)
(PIRQD#,PIRQB#,PIRQC#)

CardBus R5C847
+3.3V_RUN page 31,32

SNIFFER IEEE1394
page 31

DOCKING PORT
+DOCK_PWR_BAR
+LOM_VCT page 35

DP CONN
+3.3V_RUN page 21

SD CONN
+3.3V_RUN_CARD page 31

Through CABLE to SD Board

Through CABLE to IO Board

DAI

SATA3

USB[8,9]

DOCK LPC BUS

USB[7]

INTEL ICH9-M 676pin BGA
+5V_ALW
+5V_RUN
+RTC_CELL
+3.3V_RUN
+3.3V_ALW_ICH
+1.5V_RUN
+1.05V_VCCP
page 22,23,24,25

48MHz

USB[11]

USB Port Camera
+5V_RUN page 19

Trough LVDS Cable

Repeater

SATA4

E-SATA USB Port1 X1

Charger USB Port X1
+5V_ALW page 33

USB[2,3] LEFT SIDE

USB[0,1] RIGHT SIDE

USB Ports X2
+5V_ALW page 33
On IO/B

GLCI/LCI
Azalia I/F

Intel Boazman 82567LM
+3.3V_ALW
+1.8V_LAN_M
+1V_LAN_M page 29

LAN Switch P13L500
+3.3V_LAN page 30

S-ATA(4)

SATA1

SATA0

E-Module
+5V_MOD page 26

S-HDD
+3.3V_RUN
+5V_HDD page 26

PCI Express BUS

PCIE3

PCIE2

PCIE1

Mini Card 3 WPAN/BT/Robson
+3.3V_RUN
+1.5V_RUN page 34

Mini Card 2 WLAN
+3.3V_WLAN
+1.5V_RUN page 34

Mini Card 1 WWAN
+3.3V_RUN
+1.5V_RUN page 34

SIM card
page 34

LPC BUS

+3.3V_RUN
33MHz

LPC BUS

SPI

W25X32VSSIG
+3.3V_LAN page 24

32Mbit

Azalia Codec 92HD71B
+3.3V_RUN
+VDDA page 27

AMP & INT. Speaker
+5V_RUN page 28

RJ45
page 33
On IO/B

Trough LVDS Cable

Dig. MIC
page 19

USB[6]

USB[4]

USB[5]

RFID
page 36

USH I/F BCM5880 TPM 1.2
+3.3V_RUN
+2.5V_AVDD_5880
+1.2V_AVDD_5880
page 36

USB[10]

SMSC KBC MEC5035
+RTC_CELL
+3.3V_ALW page 38

DC IN
BATT IN page 43

3V/5V
page 44

73S8009CN
+3.3V_RUN page 36

Smart Card
page 36

USBH

LED
page 42

SMBus

BC

MDC
+3.3V_SUS
page 33

HeadPhone & MIC Jack
+3.3V_RUN page 33

On IO/B

DAI SSM2602
+3.3V_RUN page 27

DOCKING

RJ11

Through Cable

GPUCORE / 1.1V
page 41

1.5V/1.05V
page 45

Selector
page 40

1.8V/0.9V
page 46

CHARGER
page 48

VCORE (IMVP-6)
page 47

Biometric
+3.3V_RUN page 33

ECE1077
+3.3V_ALW

Touch Pad
page 39

Int.KBD & Stick
page 39

Stick

Trough Cable

BC BUS

SMSC SIO ECE5028
+3.3V_ALW
page 37

DOCK LPC BUS

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Title: Block Diagram

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POWER STATES

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

PM TABLE

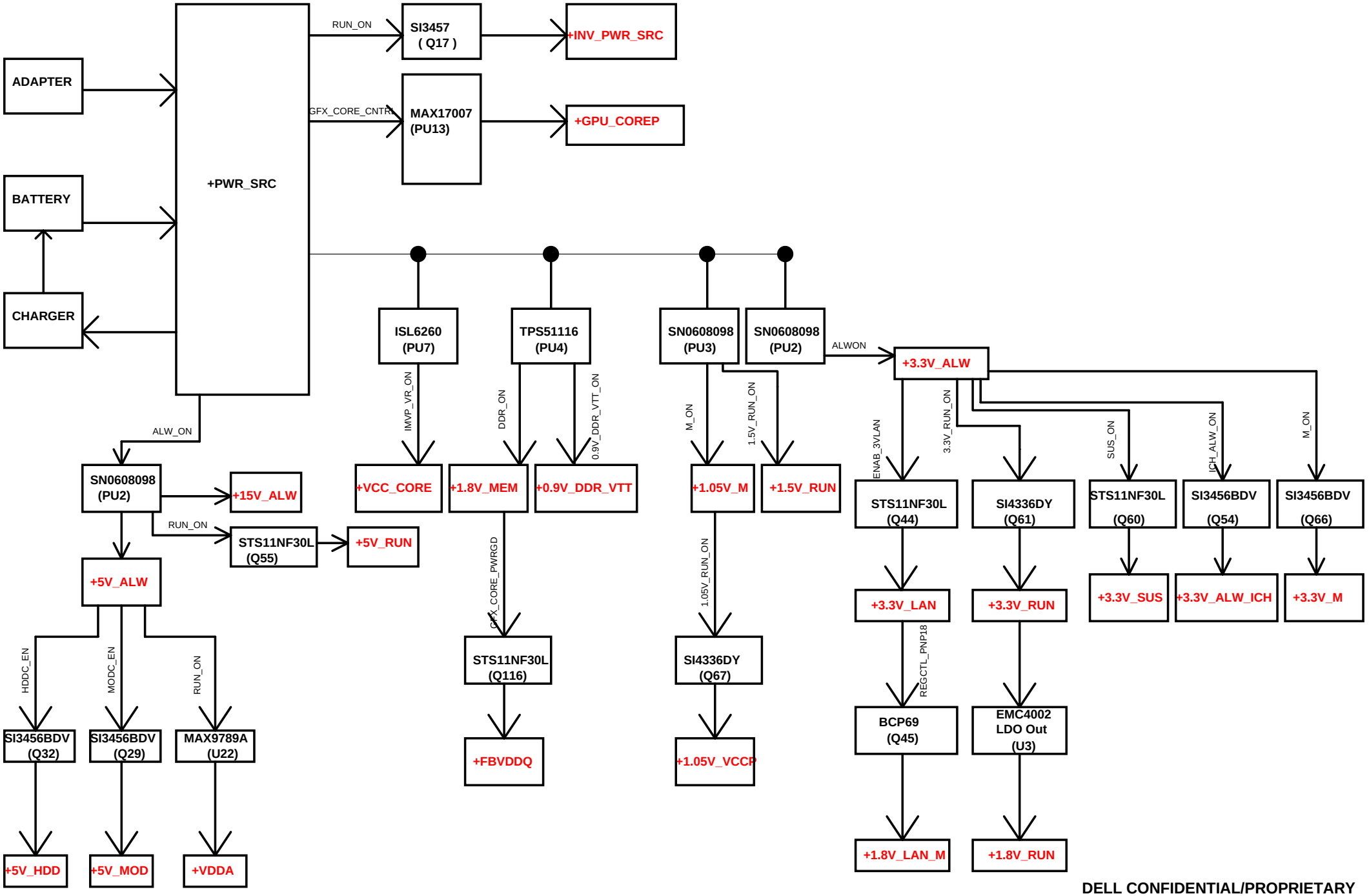
State \ power plane	+15V_ALW +5V_ALW +3.3V_ALW_ICH +3.3V_RTC_LDO	+3.3V_SUS +1.8V_MEM	+5V_RUN +3.3V_RUN +2.5V_RUN +1.5V_RUN +0.9V_DDR_VTT +GPU_CORE +VCC_CORE +1.05V_VCCP +FBVDDQ +1.1V_GFX_PCIE	+3.3V_M +1.05V_M	+3.3V_M +1.05V_M (M-OFF)
S0	ON	ON	ON	ON	ON
S3	ON	ON	OFF	ON	OFF
S5 S4/AC	ON	OFF	OFF	ON	OFF
S5 S4/AC don't exist	OFF	OFF	OFF	OFF	OFF

PCI TABLE

PCI DEVICE	IDSEL	REQ#/GNT#	PIRQ
R5C847	AD17	REQ#1 / GNT#1	PIRQ[B..D]

	USB PORT#	DESTINATION
ICH9-M	0	JUSB1 (Ext Right Side Top)
	1	JUSB1 (Ext Right Side Bottom)
	2	JESA1 (Ext Left Side Bottom)
	3	JESA1 (Ext Left Side TOP)
	4	WLAN
	5	WWAN
	6	WPAN
	7	Card Bus/Express card
	8	DOCKING
	9	DOCKING
	10	USH->BIO
	11	Camera

PCI EXPRESS	DESTINATION
Lane 1	MINI CARD-1 WWAN
Lane 2	MINI CARD-2 WLAN
Lane 3	MINI CARD-3 BT/UWB
Lane 4	EXPRESS CARD
Lane 5	None
Lane 6	10/100/1G LAN



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Title: Power Rail

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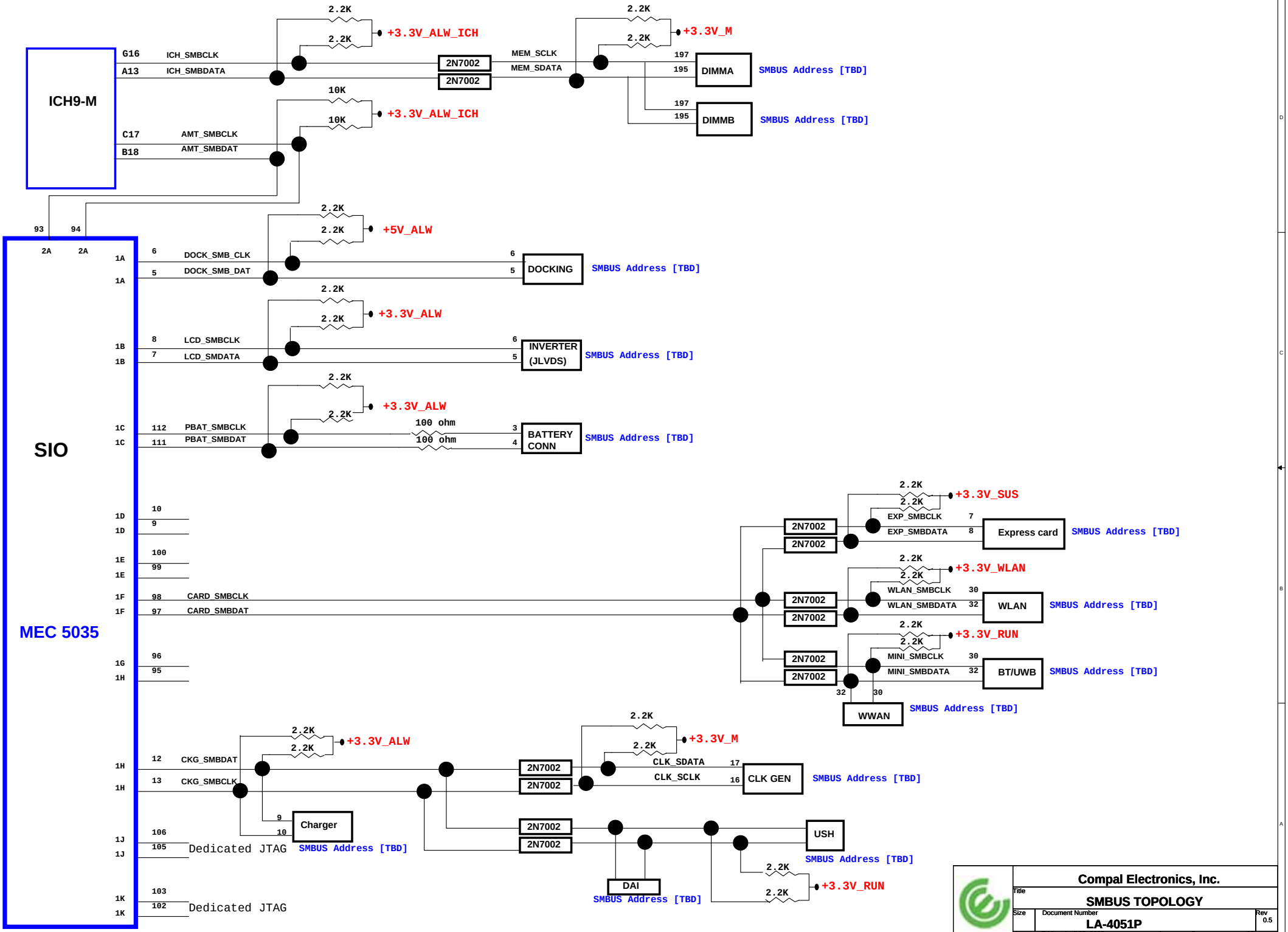

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Title	SMBUS TOPOLOGY
Size	Document Number: LA-4051P
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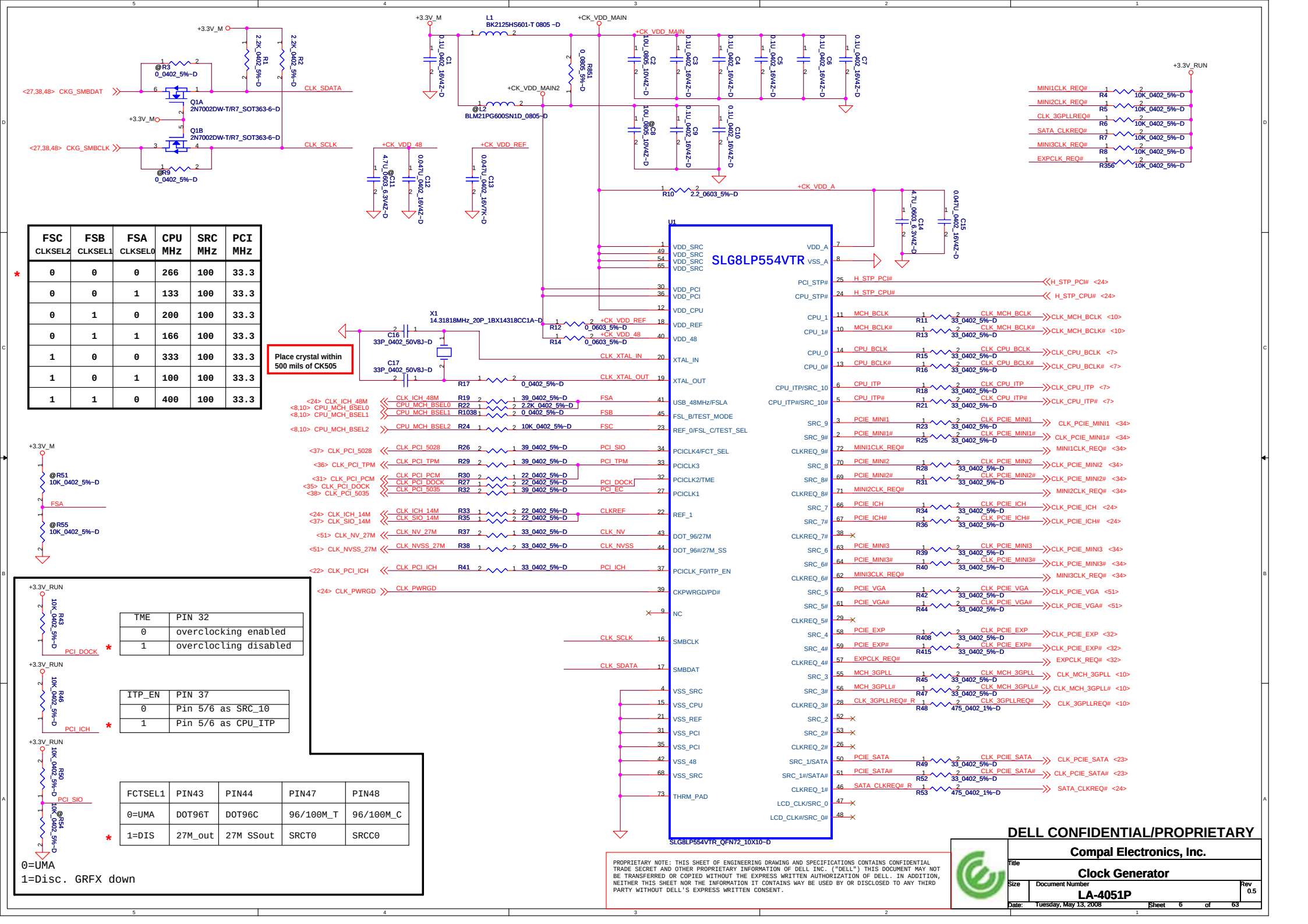
Date: Friday, April 25, 2008	Sheet 5 of 63



FSC CLKSEL2	FSB CLKSEL1	FSA CLKSEL0	CPU MHz	SRC MHz	PCI MHz
* 0	0	0	266	100	33.3
0	0	1	133	100	33.3
0	1	0	200	100	33.3
0	1	1	166	100	33.3
1	0	0	333	100	33.3
1	0	1	100	100	33.3
1	1	0	400	100	33.3

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Title: Clock Generator

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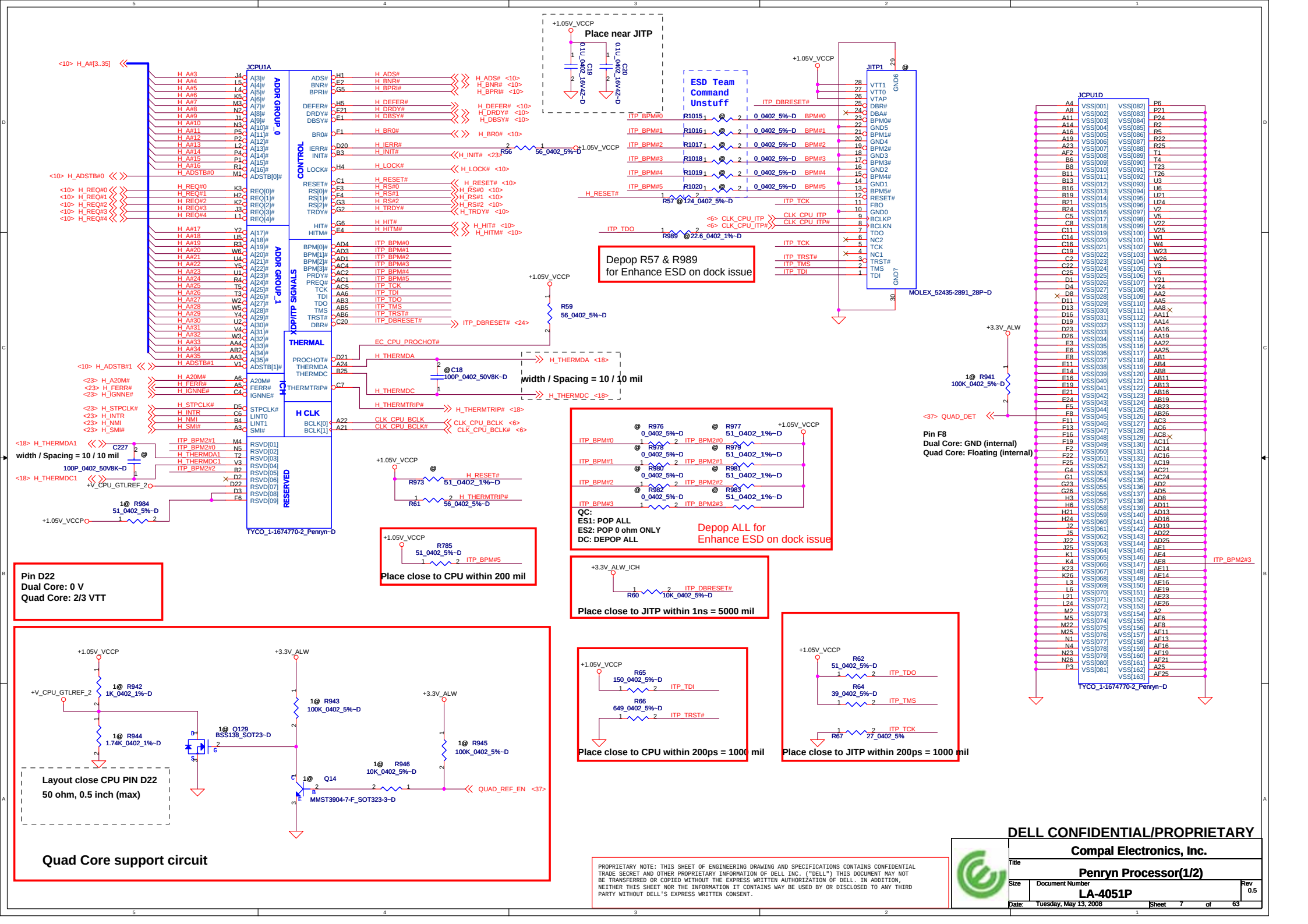
JCPU1A
JCPU1D
JITP1
ADDR GROUP_0
ADDR GROUP_1
CONTROL
XDP/ITP SIGNALS
THERMAL
H CLK
RESERVED
Place near JITP
ESD Team Command Unstuff
Depop R57 & R989 for Enhance ESD on dock issue
Depop ALL for Enhance ESD on dock issue
width / Spacing = 10 / 10 mil
Pin D22
Dual Core: 0 V
Quad Core: 2/3 VTT
Pin F8
Dual Core: GND (internal)
Quad Core: Floating (internal)
QC:
ES1: POP ALL
ES2: POP 0 ohm ONLY
DC: DEPOP ALL
Place close to CPU within 200 mil
Place close to JITP within 1ns = 5000 mil
Place close to CPU within 200ps = 1000 mil
Place close to JITP within 200ps = 1000 mil
Layout close CPU PIN D22
50 ohm, 0.5 inch (max)
Quad Core support circuit
TYCO_1-1674770-2_Penryn~D
MOLEX_52435-2891_28P~D
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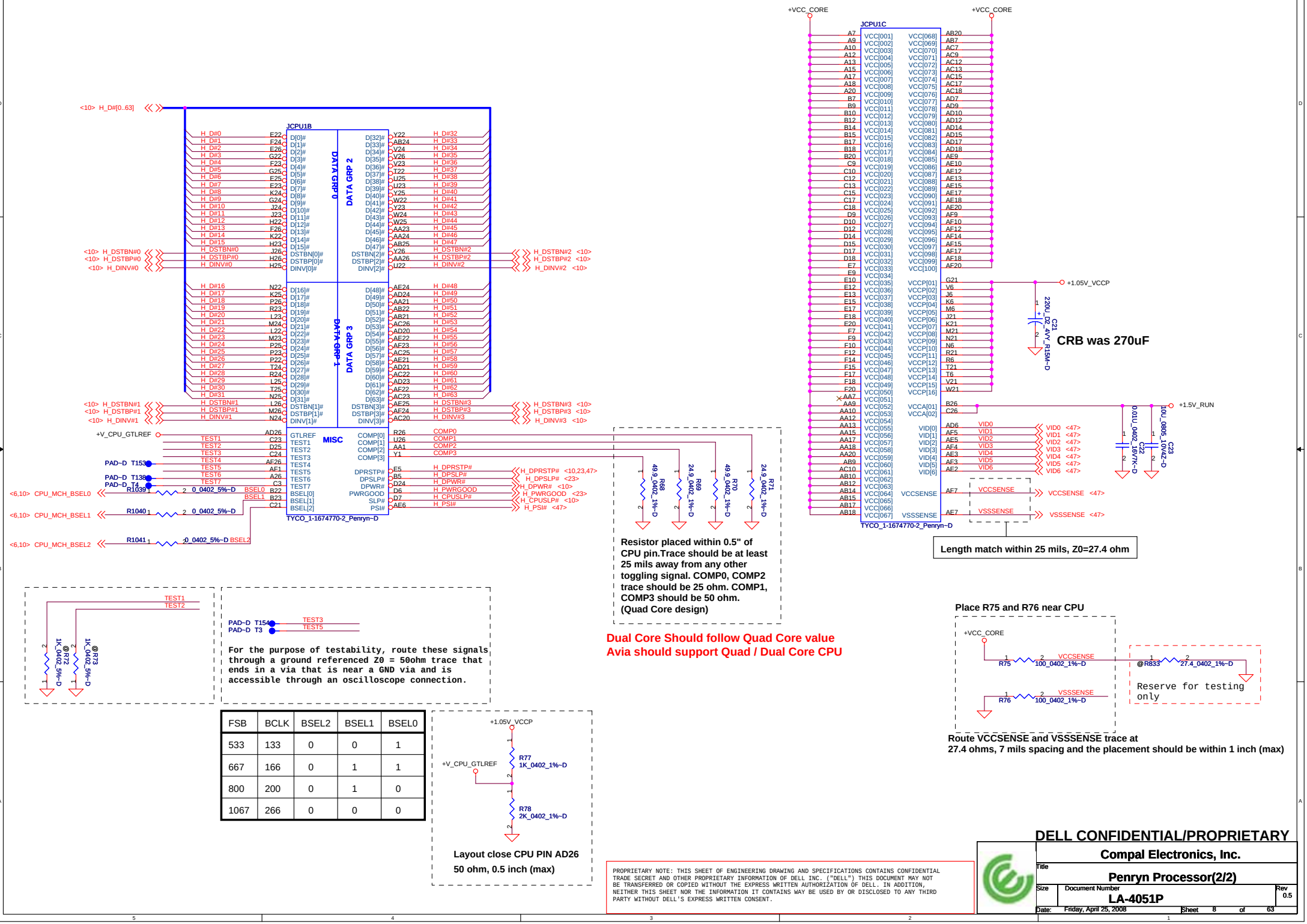
Compal Electronics, Inc.
Penryn Processor(1/2)
LA-4051P
Tuesday, May 13, 2008



FSB	BCLK	BSEL2	BSEL1	BSEL0
533	133	0	0	1
667	166	0	1	1
800	200	0	1	0
1067	266	0	0	0

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Title: Penryn Processor(2/2)

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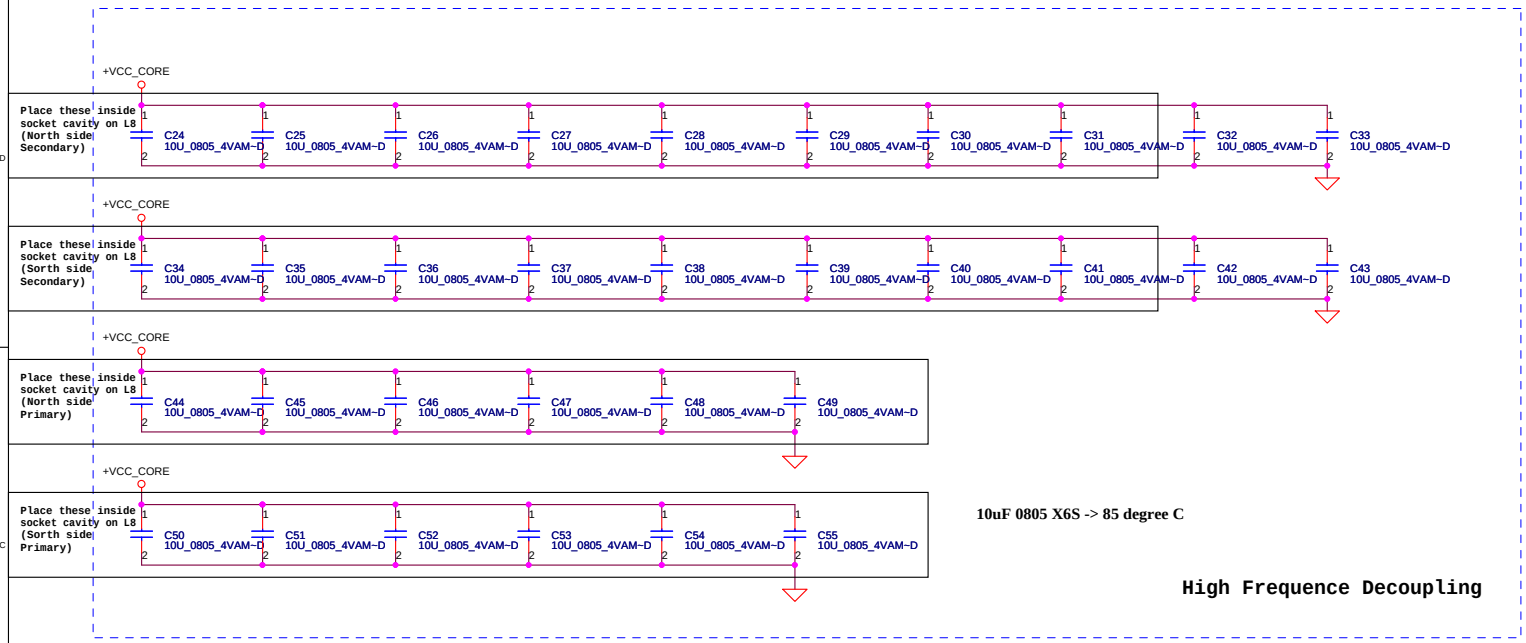
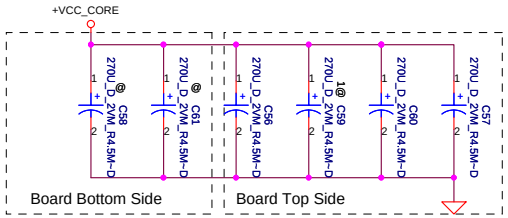
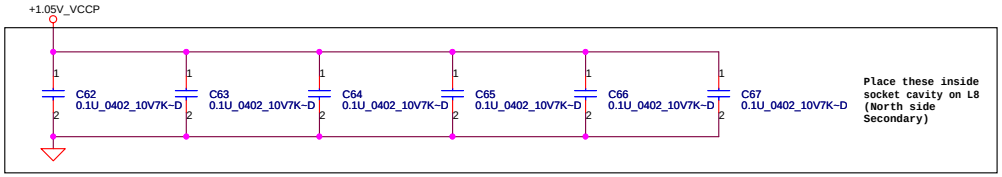


Near VCORE regulator.



ESR <= 1.5m ohm
Capacitor > 1320uF



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Title: CPU Bypass

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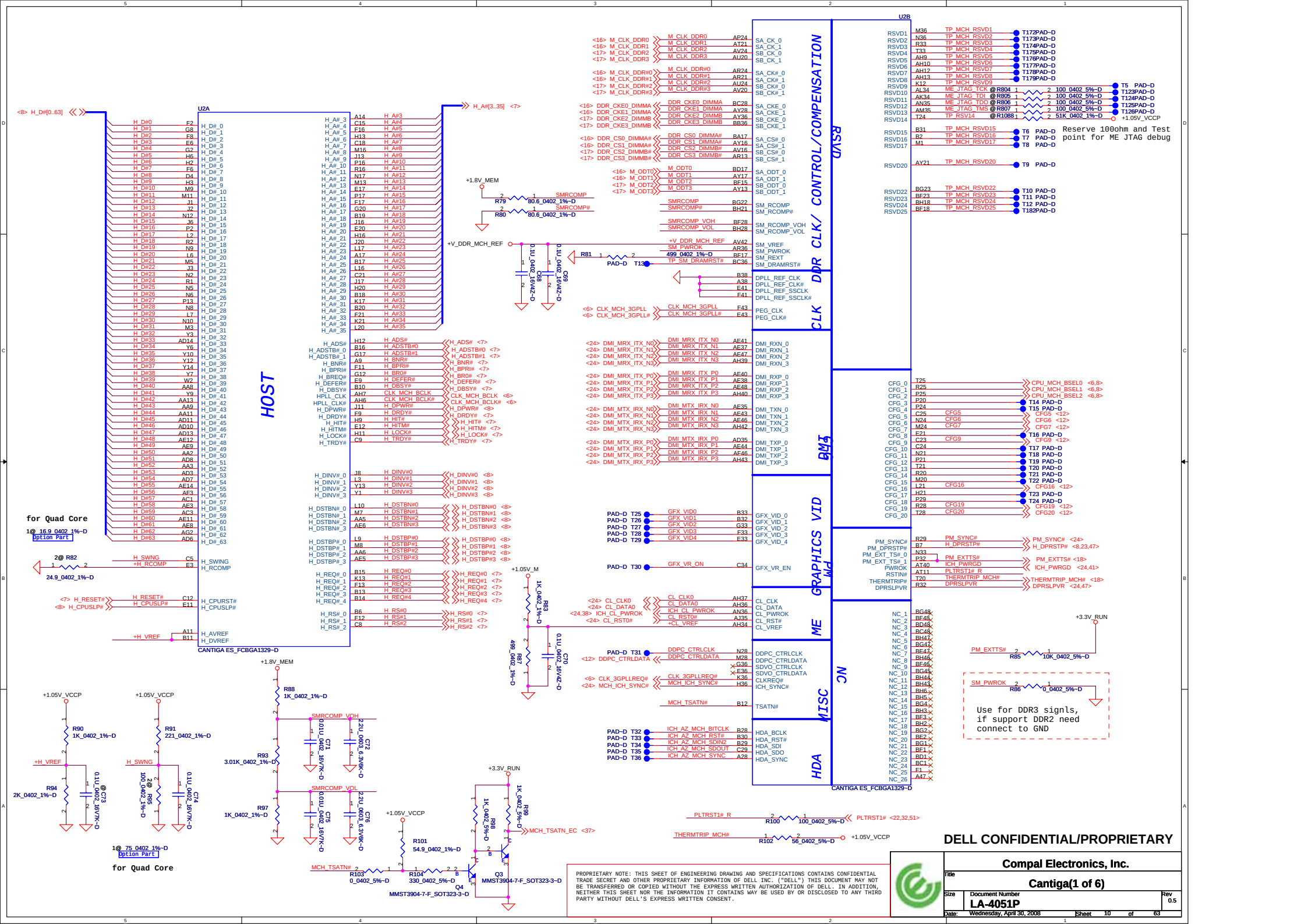
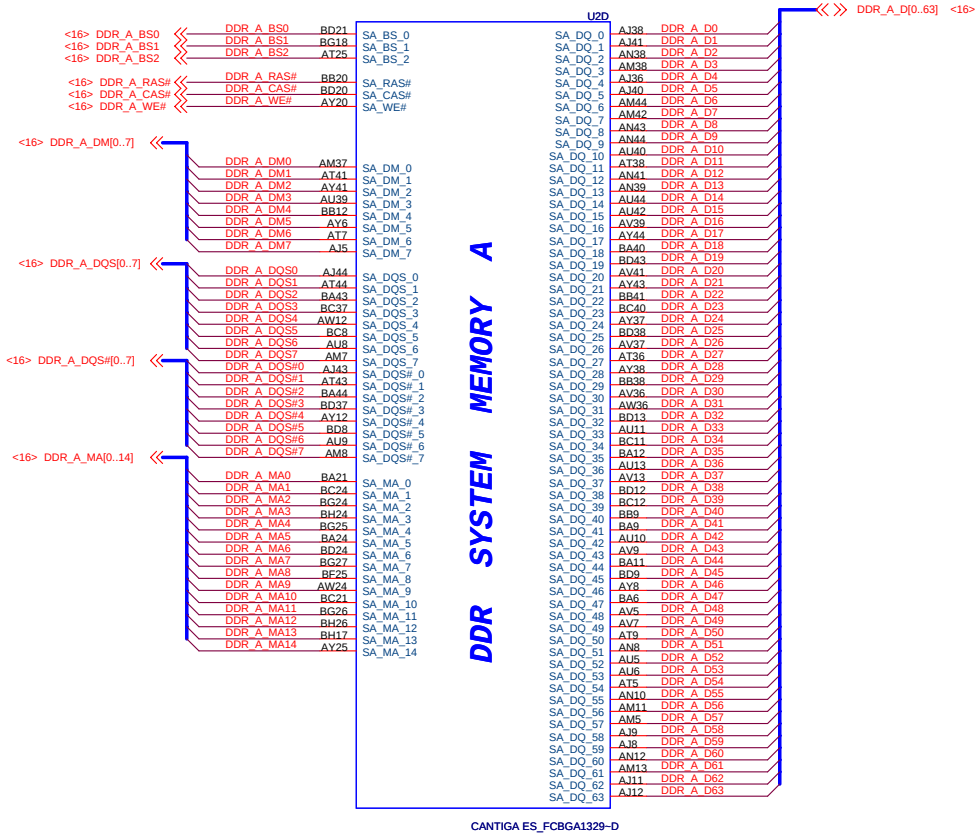
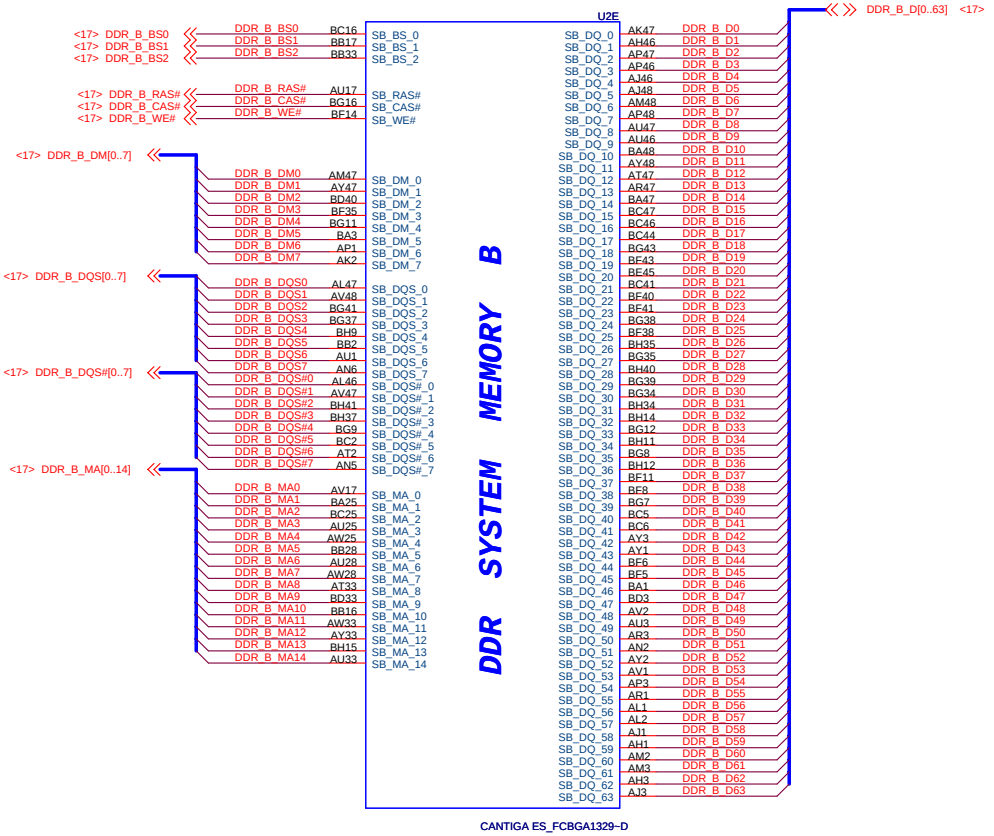

HOST
CANTIGA ES_FCBGA1329~D
DDR CLK/ CONTROL/COMPENSATION
RSVD
CLK
DMI
GRAPHICS VID
ME
MISC
HDA
NC
for Quad Core
Option Part
Use for DDR3 signls, if support DDR2 need connect to GND
DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
Cantiga(1 of 6)
LA-4051P
Wednesday, April 30, 2008





Compal Electronics, Inc.

Title: Cantiga(2 of 6)

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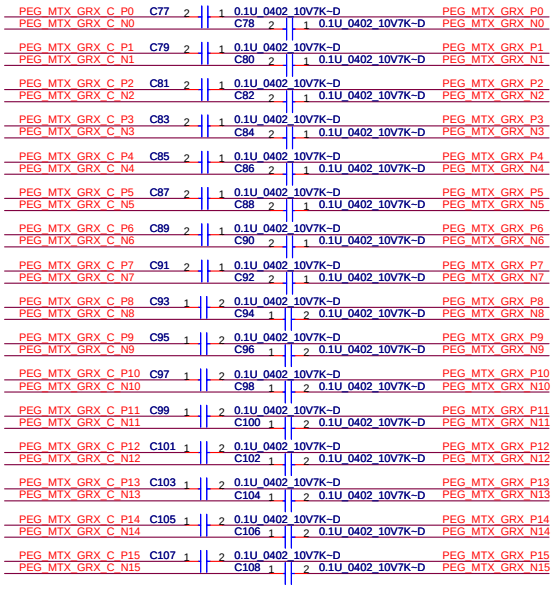
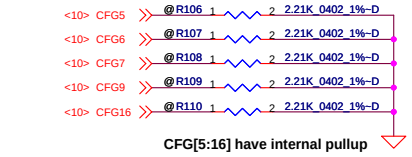
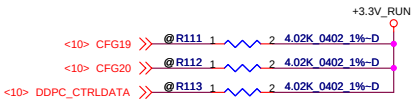
Strap Pin Table

CFG5	DMI X2 Select	Low = DMI x 2 High = DMI x 4 (Default)
CFG6	iTPM Host Interface	Low = iTPM enable High = iTPM disable(Defult)
CFG7	Management Engine Crypto Strap	Low = TLS cipher suite with no confidentiality High = TLS cipher suite with confidentiality(Default)
CFG9	PCI Express Graphic Lane	Low = Reverse Lane High = Normal Operation(Default)
CFG16	FSB Dynamic ODT	Low=Dynamic ODT Disable High=Dynamic ODT Enable(default)
CFG19	DMI Lane Reversal	Low=Normal (default) High=Lane Reversed
CFG20	Digital Display Port Concurrent Operation	Low=Only digital display port (SDVO/DP/iHDMI) or PCIe is operational (default) High = Digital display port (SDVO/DP/iHDMI) and PCIe are operating simultaneously via the PEG port
SDVO_CRTL_DATA		Low=No SDVO Device Present (default) High=SDVO Device Present
DDPC_CTRLDATA		Low=DisplayPort disabled (default) High=DisplayPort device present





CFG[5:16] have internal pullup



CFG[19:20] have internal pulldown

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Title	Cantiga(3 of 6)
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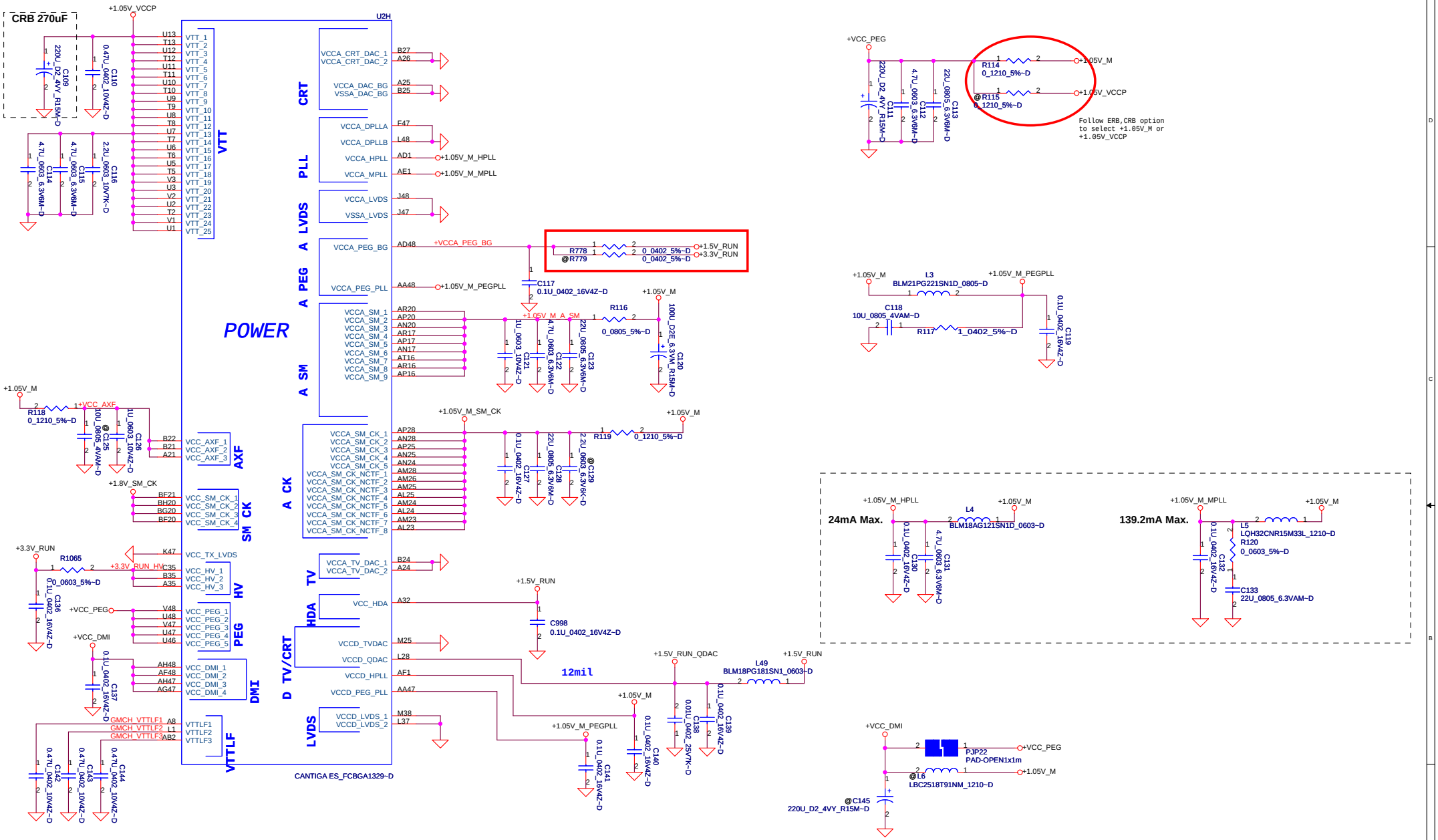

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Title	Cantiga(4 of 6)
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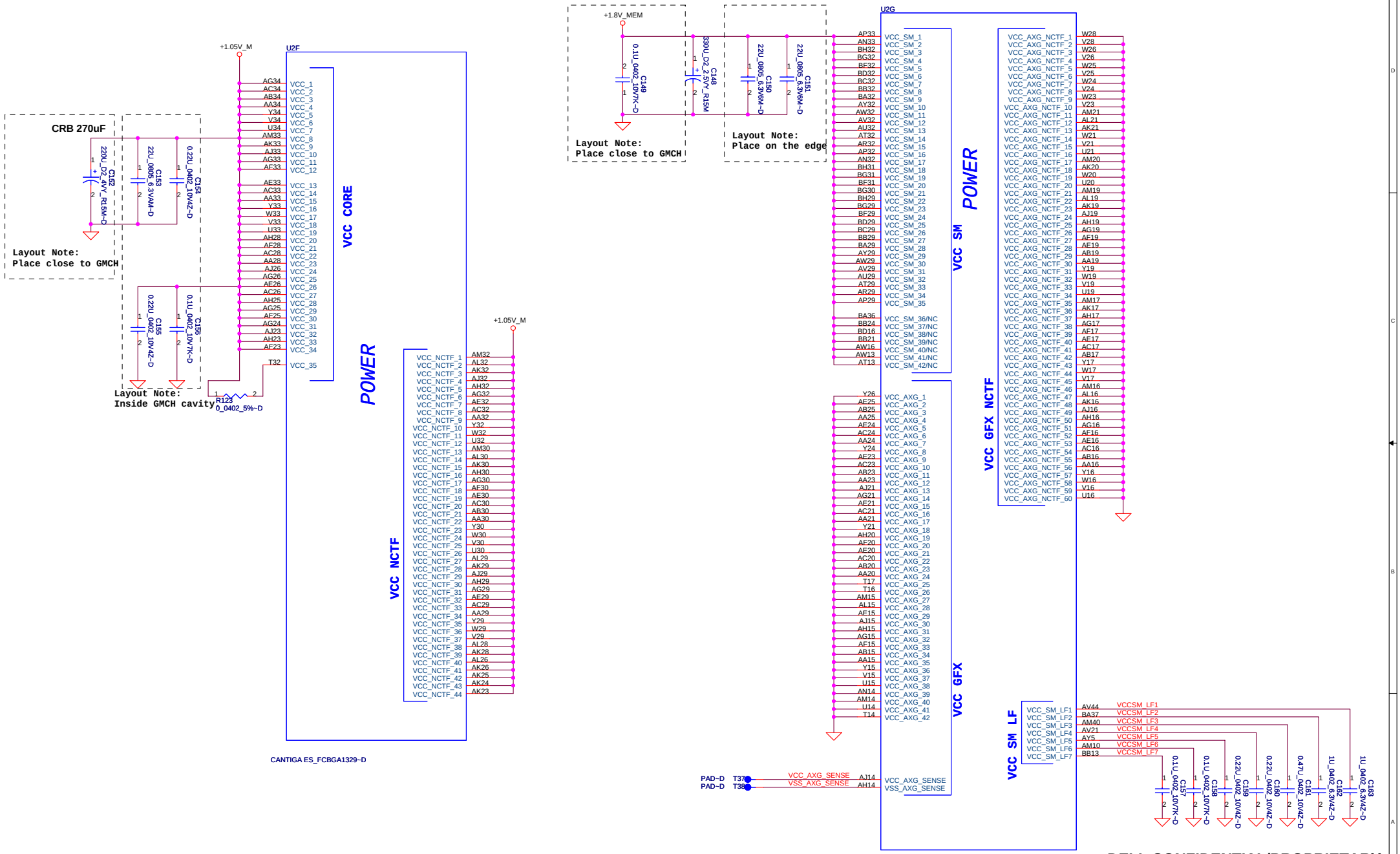

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Title	Cantiga(5 of 6)
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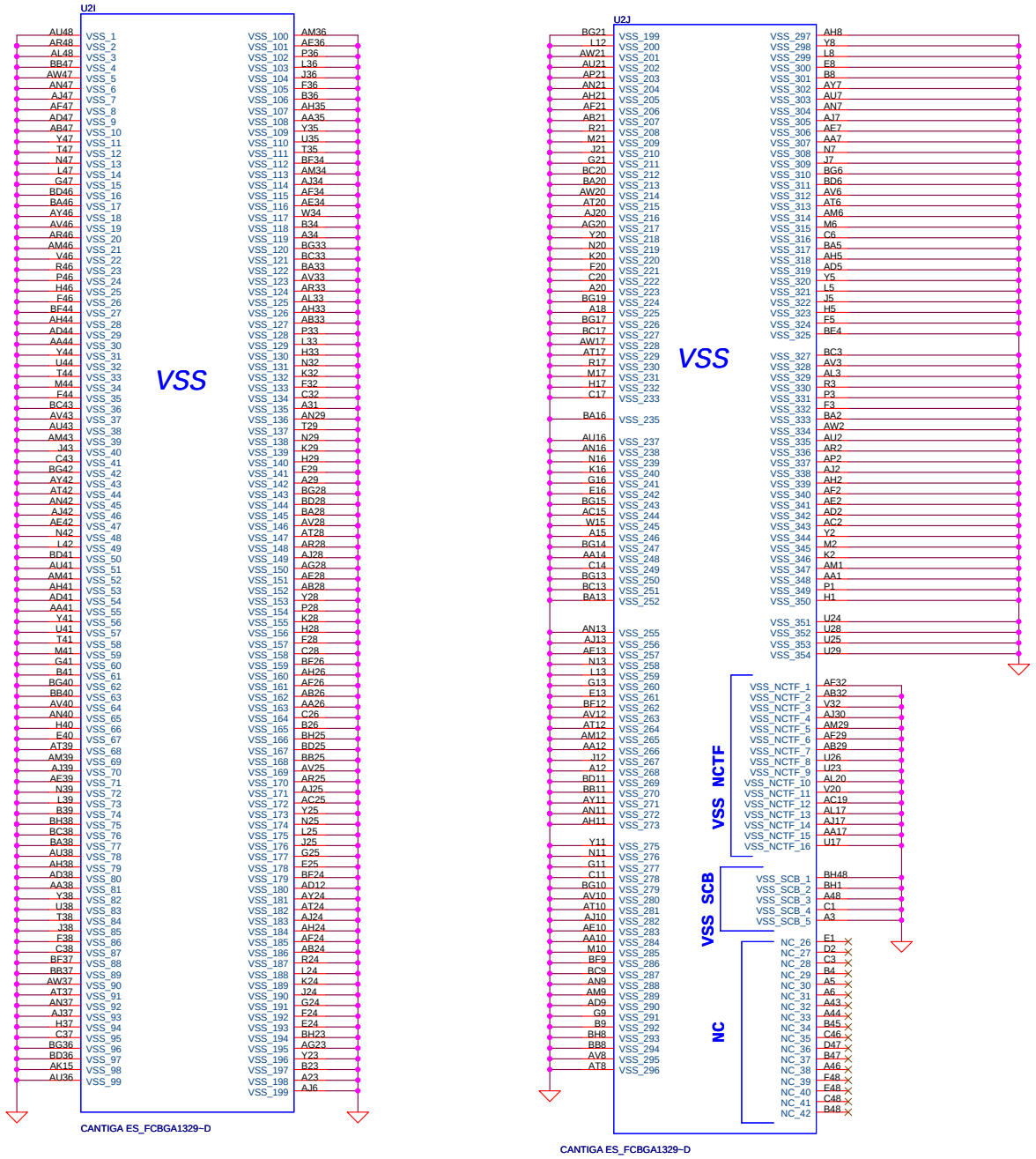

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Title: Cantiga(6 of 6)

Size | Document Number: LA-4051P | Rev: 0.5

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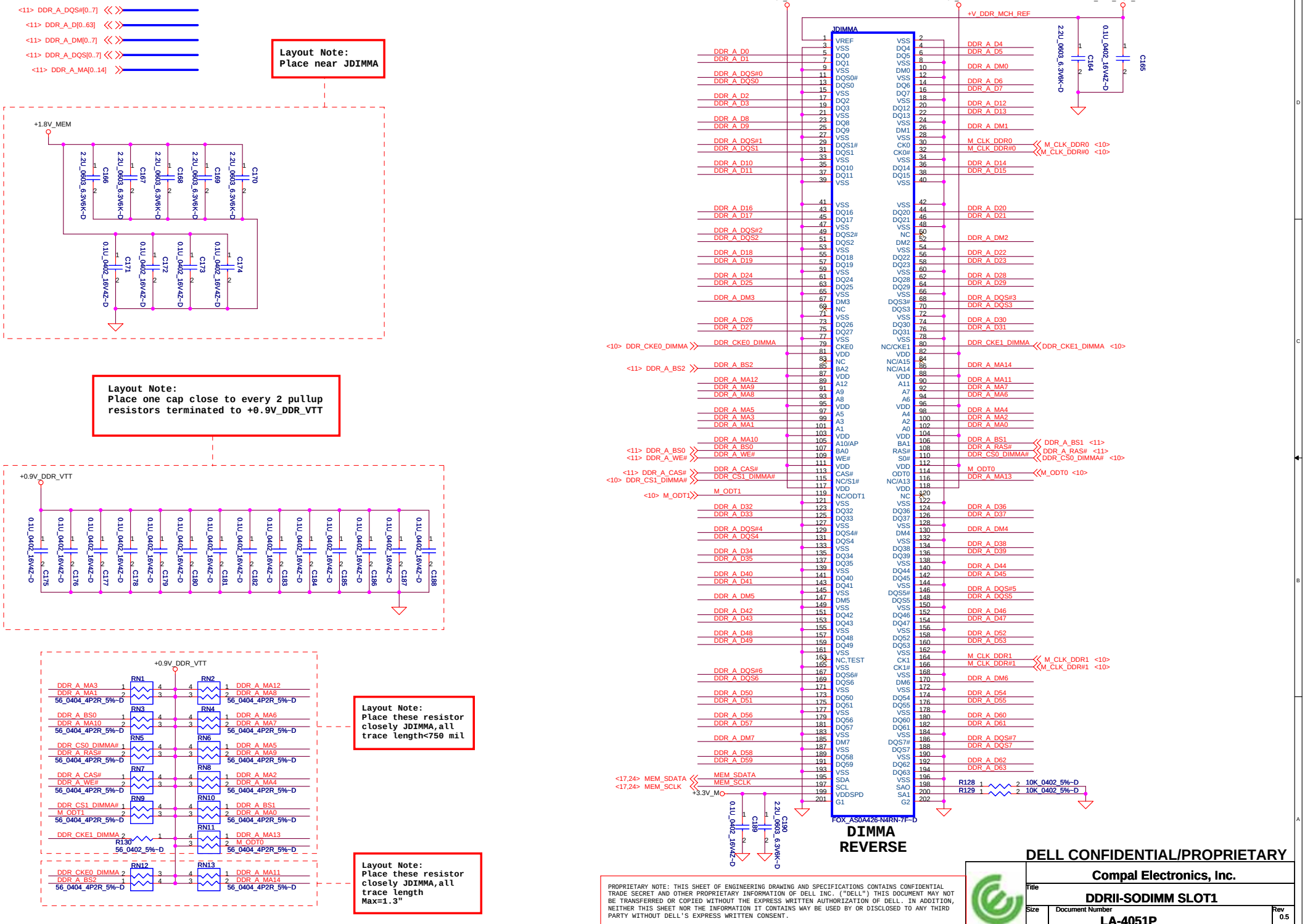
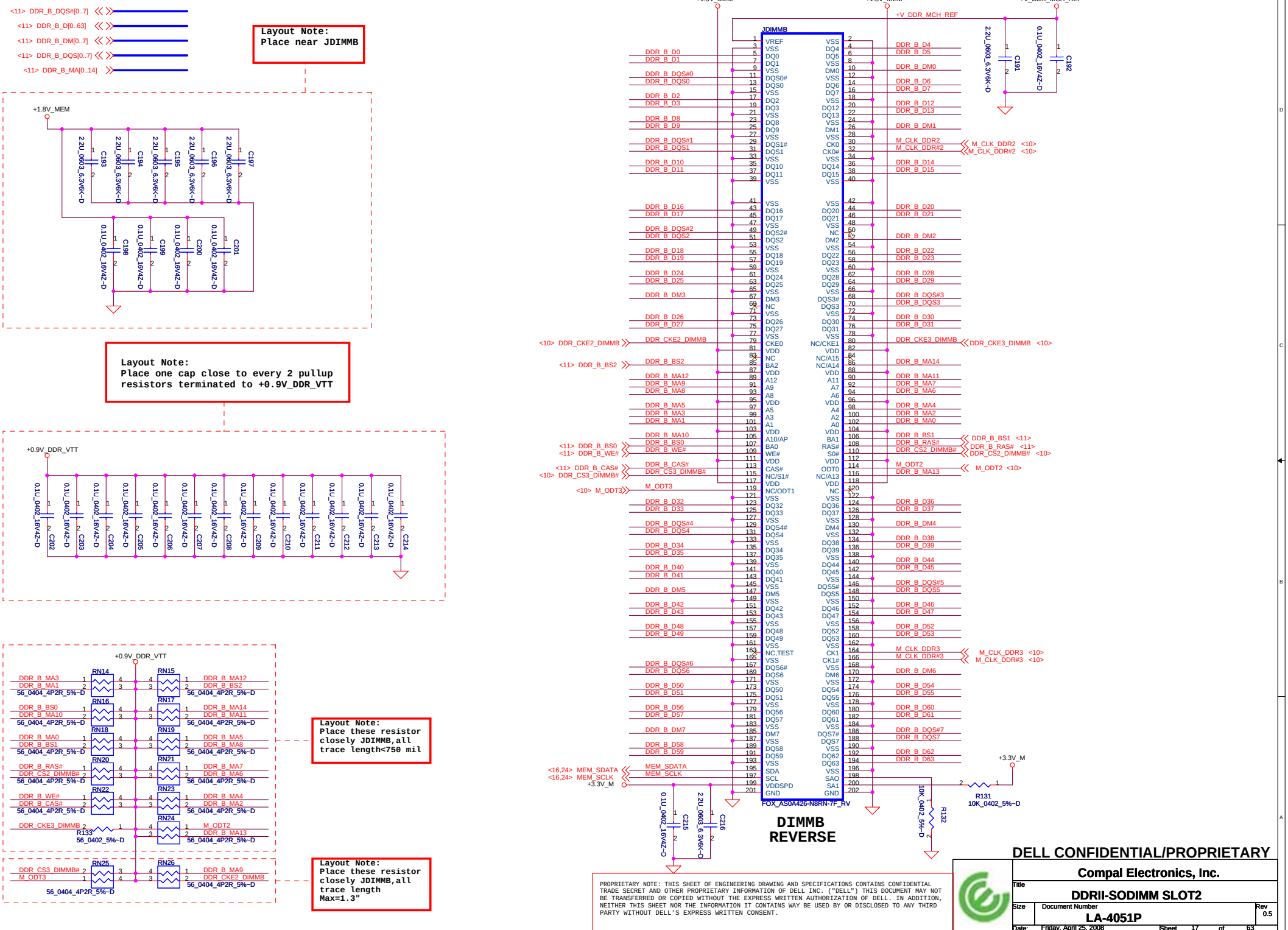

Layout Note:
Place near JDIMMA
Layout Note:
Place one cap close to every 2 pullup
resistors terminated to +0.9V_DDR_VTT
Layout Note:
Place these resistor
closely JDIMMA,all
trace length<750 mil
Layout Note:
Place these resistor
closely JDIMMA,all
trace length
Max=1.3"
JDIMMA
FOX_AS0A426-N4RN-7F-D
DIMMA
REVERSE
DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
DDRII-SODIMM SLOT1
LA-4051P
Rev 0.5
Friday, April 25, 2008
Sheet 16 of 63


Layout Note:
Place near JDIMMB
Layout Note:
Place one cap close to every 2 pullup
resistors terminated to +0.9V_DDR_VTT
Layout Note:
Place these resistor
closely JDIMMB,all
trace length<750 mil
Layout Note:
Place these resistor
closely JDIMMB,all
trace length
Max=1.3"
JDIMMB
DIMMB
REVERSE
FOX_AS0A426-N8RN-7F_RV
DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
DDRII-SODIMM SLOT2
LA-4051P
Friday, April 25, 2008
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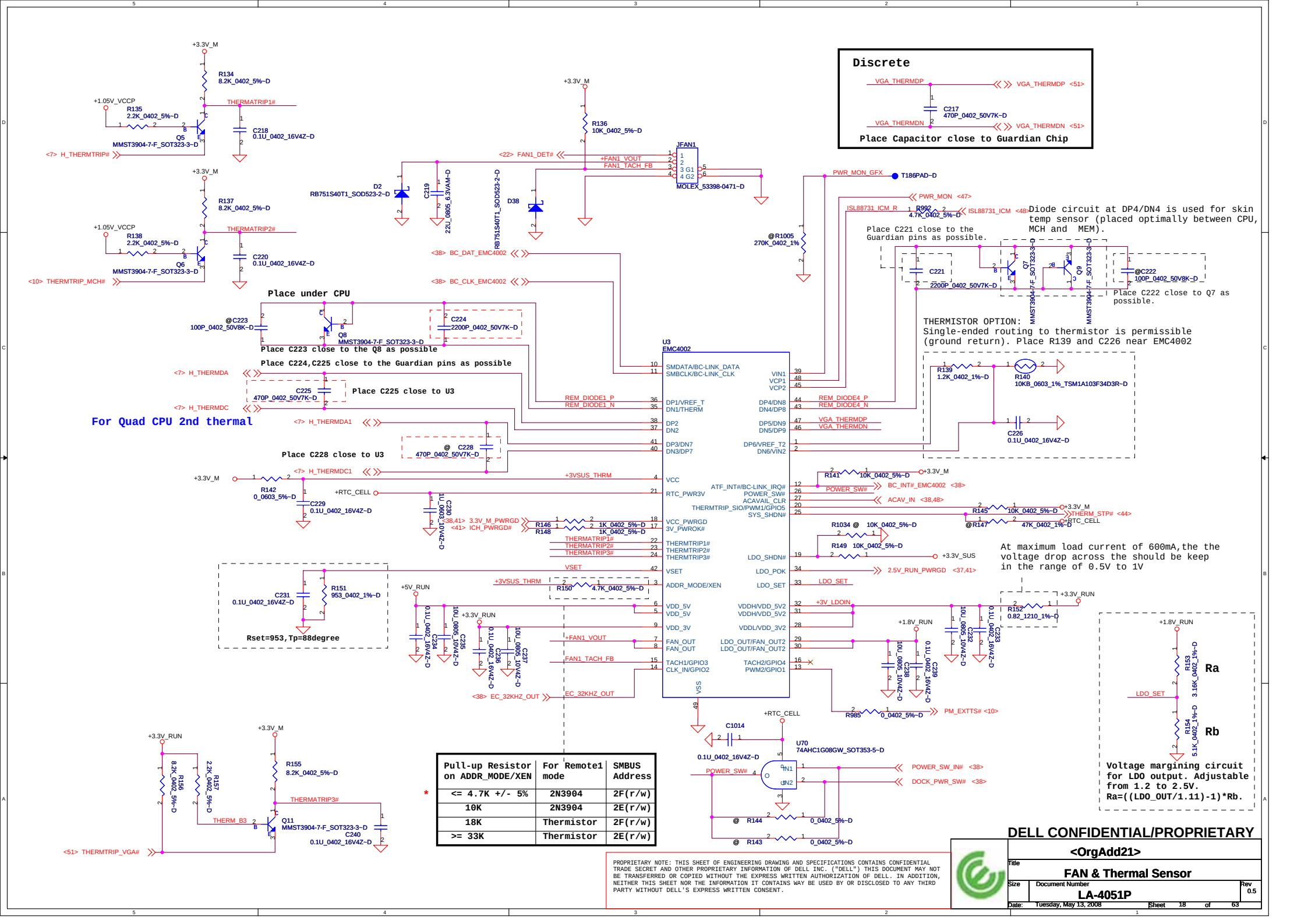
Discrete
VGA_THERMDP
VGA_THERMDP <51>
C217
470P_0402_50V7K-D
VGA_THERMDN
VGA_THERMDN <51>
Place Capacitor close to Guardian Chip
Diode circuit at DP4/DN4 is used for skin temp sensor (placed optimally between CPU, MCH and MEM).
Place C221 close to the Guardian pins as possible.
Place C222 close to Q7 as possible.
THERMISTOR OPTION:
Single-ended routing to thermistor is permissible (ground return). Place R139 and C226 near EMC4002
Place under CPU
Place C223 close to the Q8 as possible
Place C224,C225 close to the Guardian pins as possible
Place C225 close to U3
Place C228 close to U3
For Quad CPU 2nd thermal
Rset=953,Tp=88degree
At maximum load current of 600mA,the the voltage drop across the should be keep in the range of 0.5V to 1V
Voltage margining circuit for LDO output. Adjustable from 1.2 to 2.5V.
Ra=((LDO_OUT/1.11)-1)*Rb.
Pull-up Resistor on ADDR_MODE/XEN
For Remote1 mode
SMBUS Address
<= 4.7K +/- 5%
2N3904
2F(r/w)
10K
2N3904
2E(r/w)
18K
Thermistor
2F(r/w)
>= 33K
Thermistor
2E(r/w)
DELL CONFIDENTIAL/PROPRIETARY
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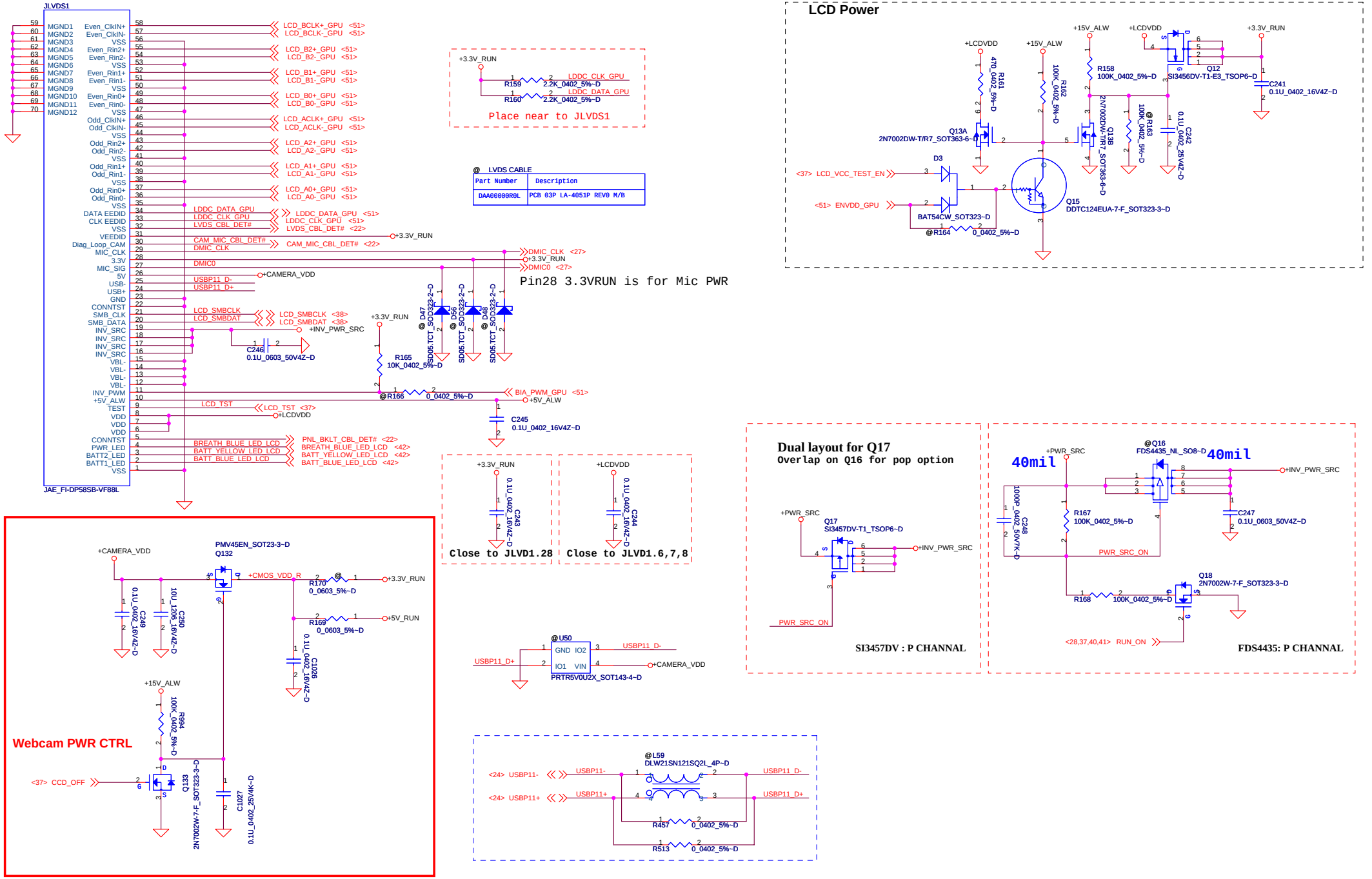
<OrgAdd21>
Title
FAN & Thermal Sensor
Size
Document Number
LA-4051P
Rev
0.5
Date: Tuesday, May 13, 2008
Sheet 18 of 63

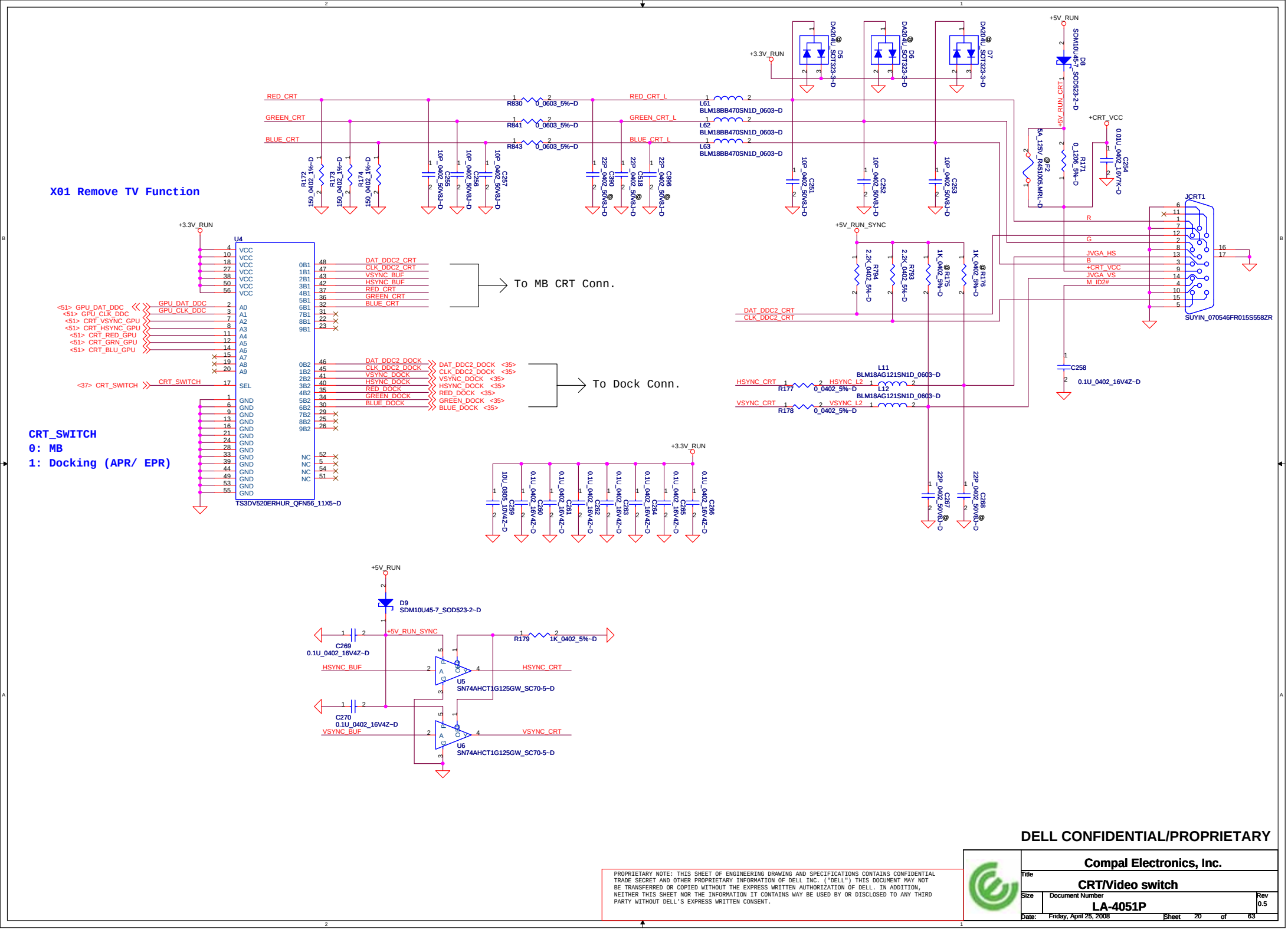


Compal Electronics, Inc.

Title: LVDS Conn

Size | Document Number: LA-4051P | Rev: 0.5

Date: Friday, April 25, 2008 | Sheet 19 of 63


X01 Remove TV Function
CRT_SWITCH
0: MB
1: Docking (APR/ EPR)
To MB CRT Conn.
To Dock Conn.
U4
TS3DV520ERHUR_QFN56_11X5~D
U5
SN74AHCT1G125GW_SC70-5~D
U6
SN74AHCT1G125GW_SC70-5~D
JCRT1
SUYIN_070546FR015S558ZR
D9
SDM10U45-7_SOD523-2~D
DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
CRT/Video switch
LA-4051P
Friday, April 25, 2008
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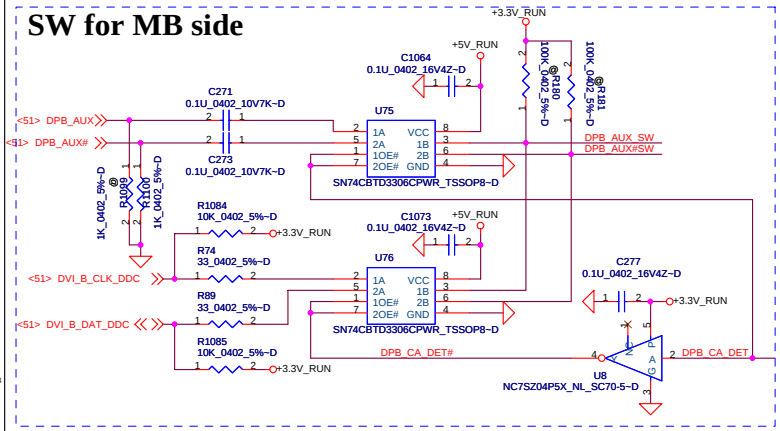
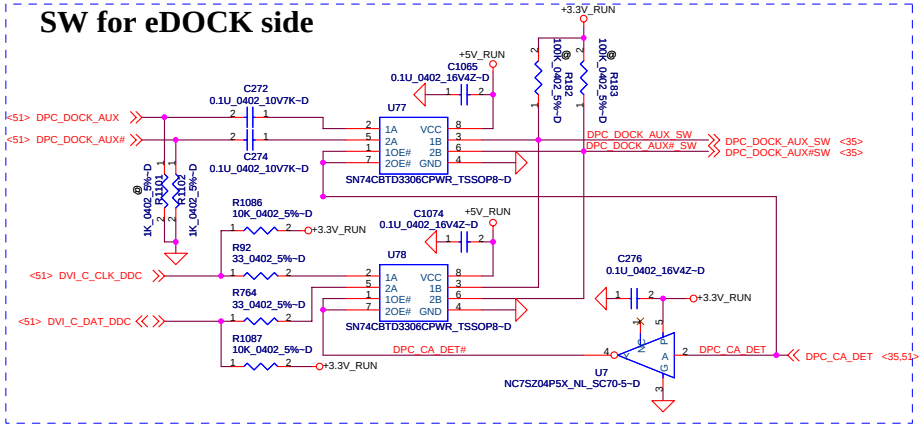
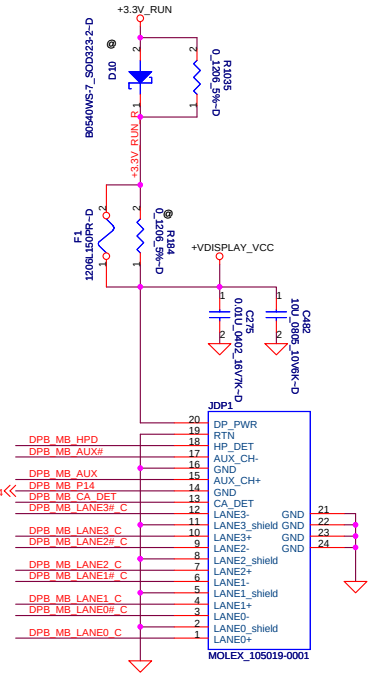
SW for MB side

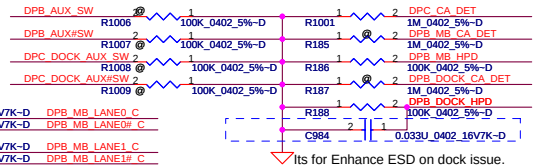


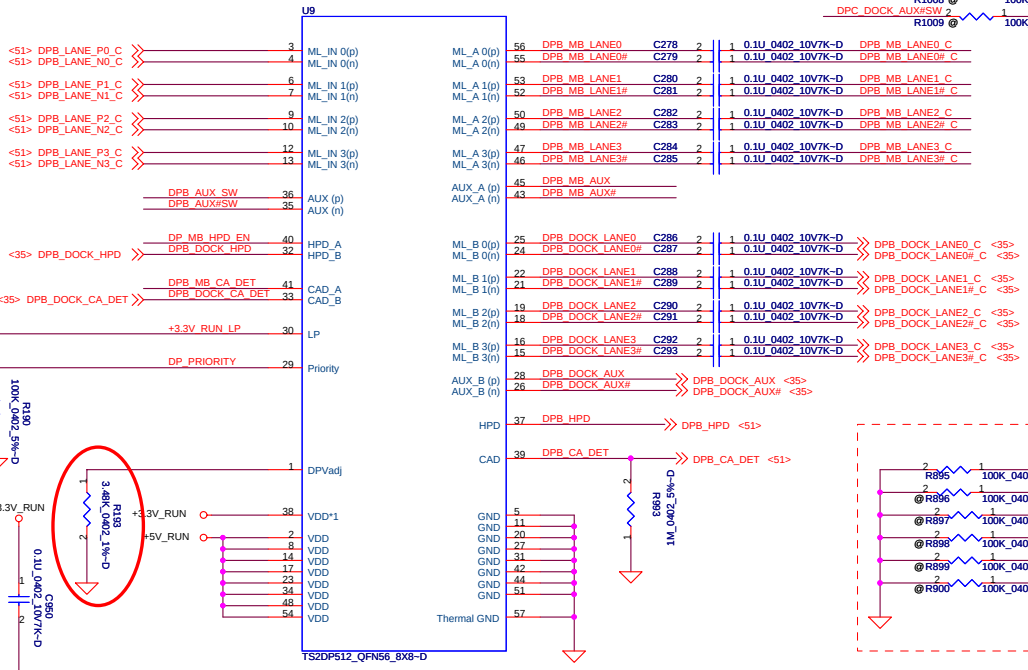
SW for eDOCK side



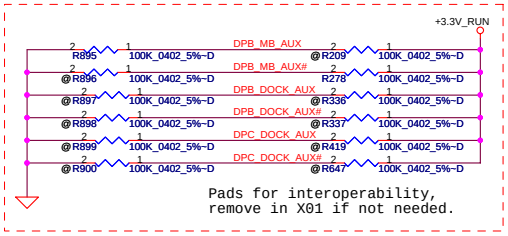
Display port Connector

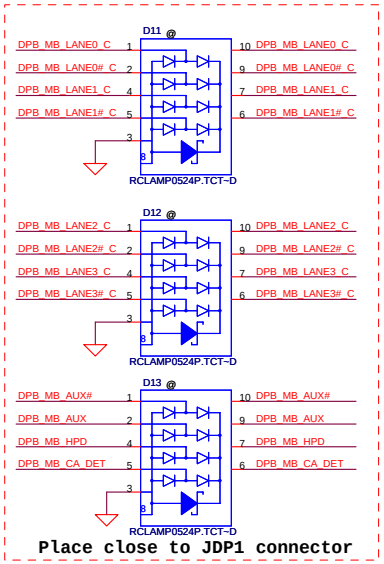


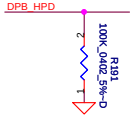


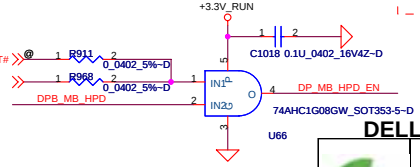


DSC need 3.48K to pass DP EA. check Avia ??









Pin30	Level	State	Description
LP	Hi	Normal Mode	Standard operational mode for device
	Low	Low power Mode	Device is forced into a low power mode causing the output s to go to a high-Z state, all other inputs are ignore

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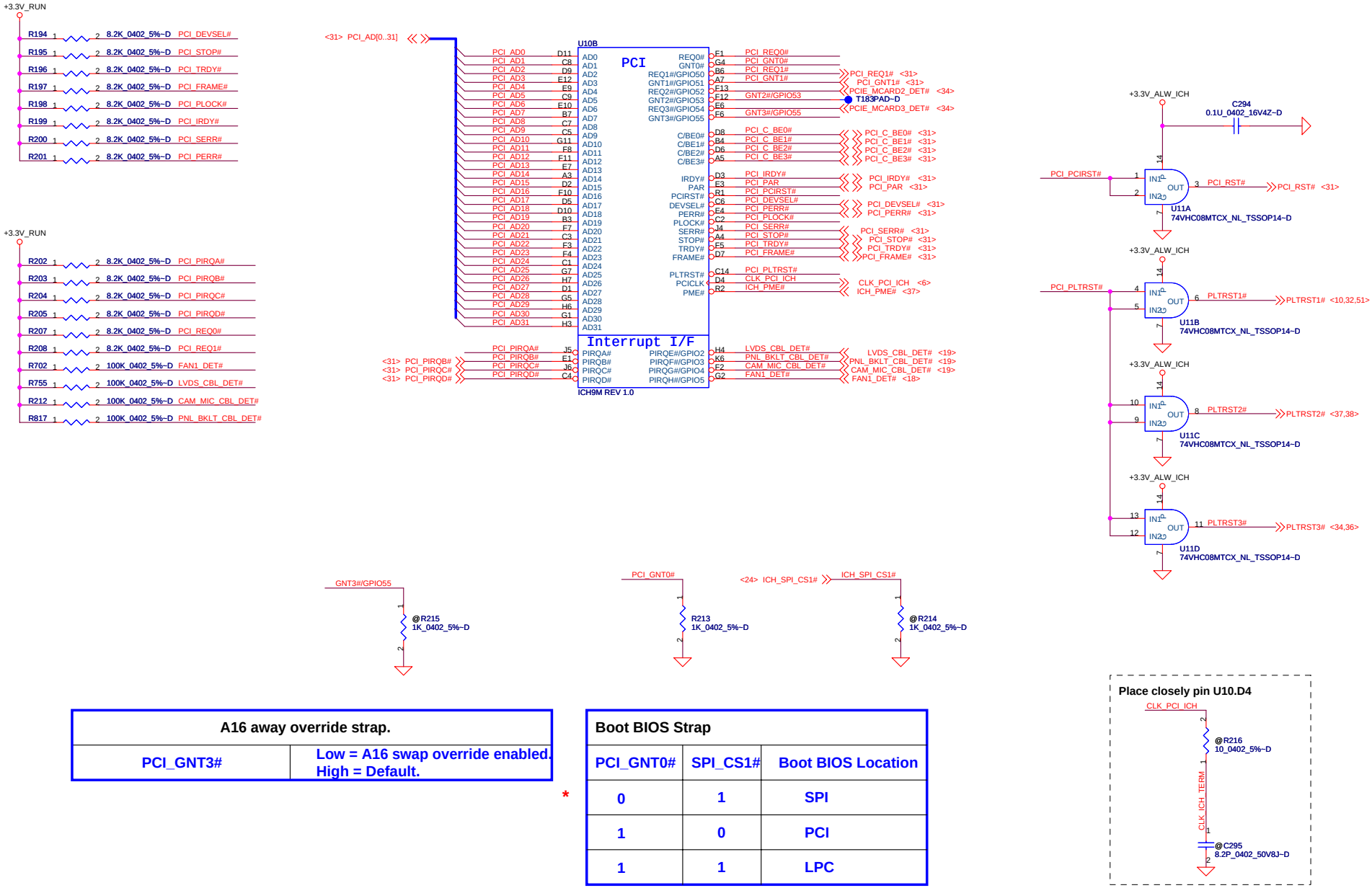
Compal Electronics, Inc.

Title: Display port

Size | Document Number: LA-4051P | Rev: 0.5

Date: Tuesday, May 13, 2008 | Sheet 21 of 63



A16 away override strap.	
PCI_GNT3#	Low = A16 swap override enabled. High = Default.

*

Boot BIOS Strap		
PCI_GNT0#	SPI_CS1#	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC

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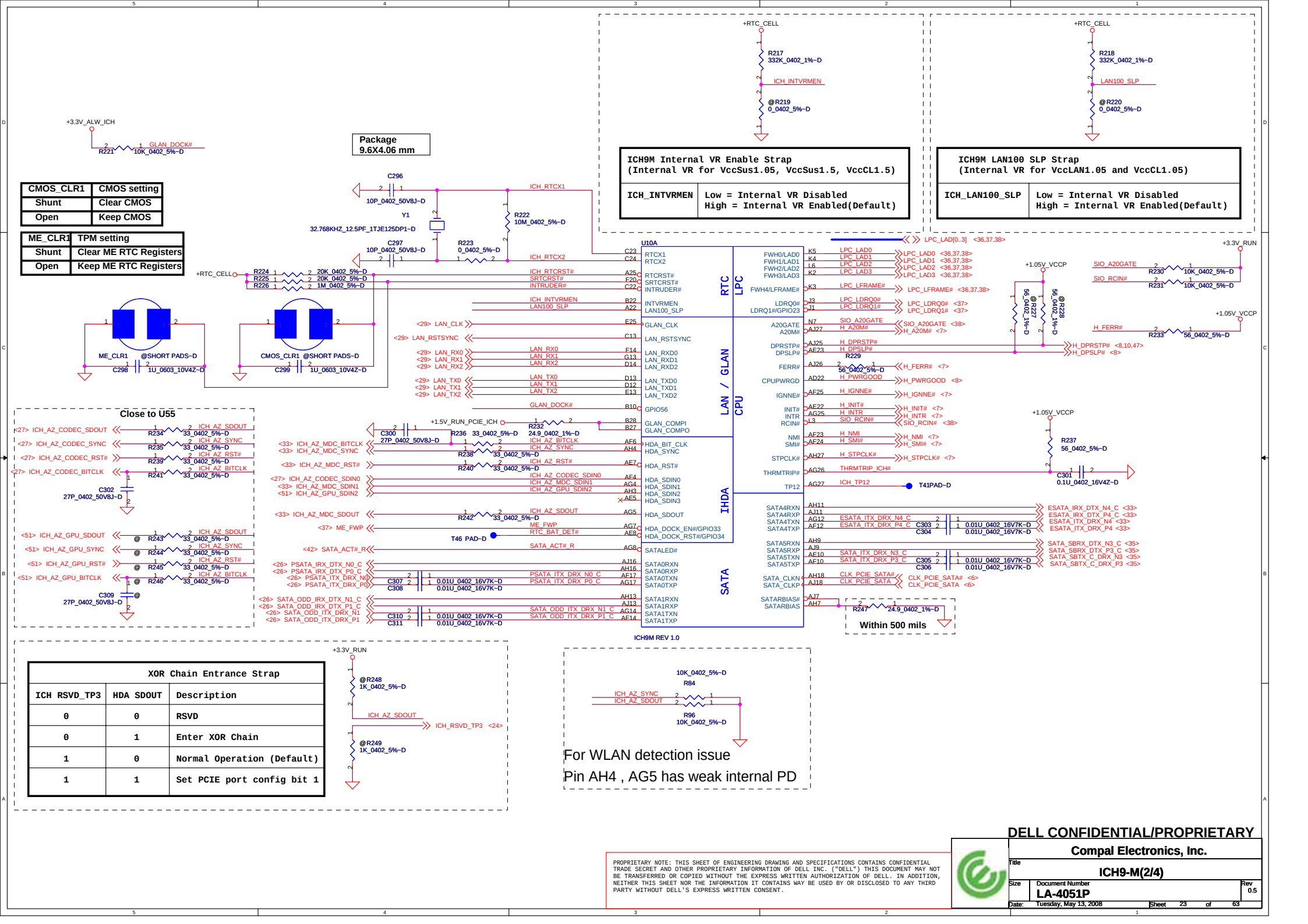
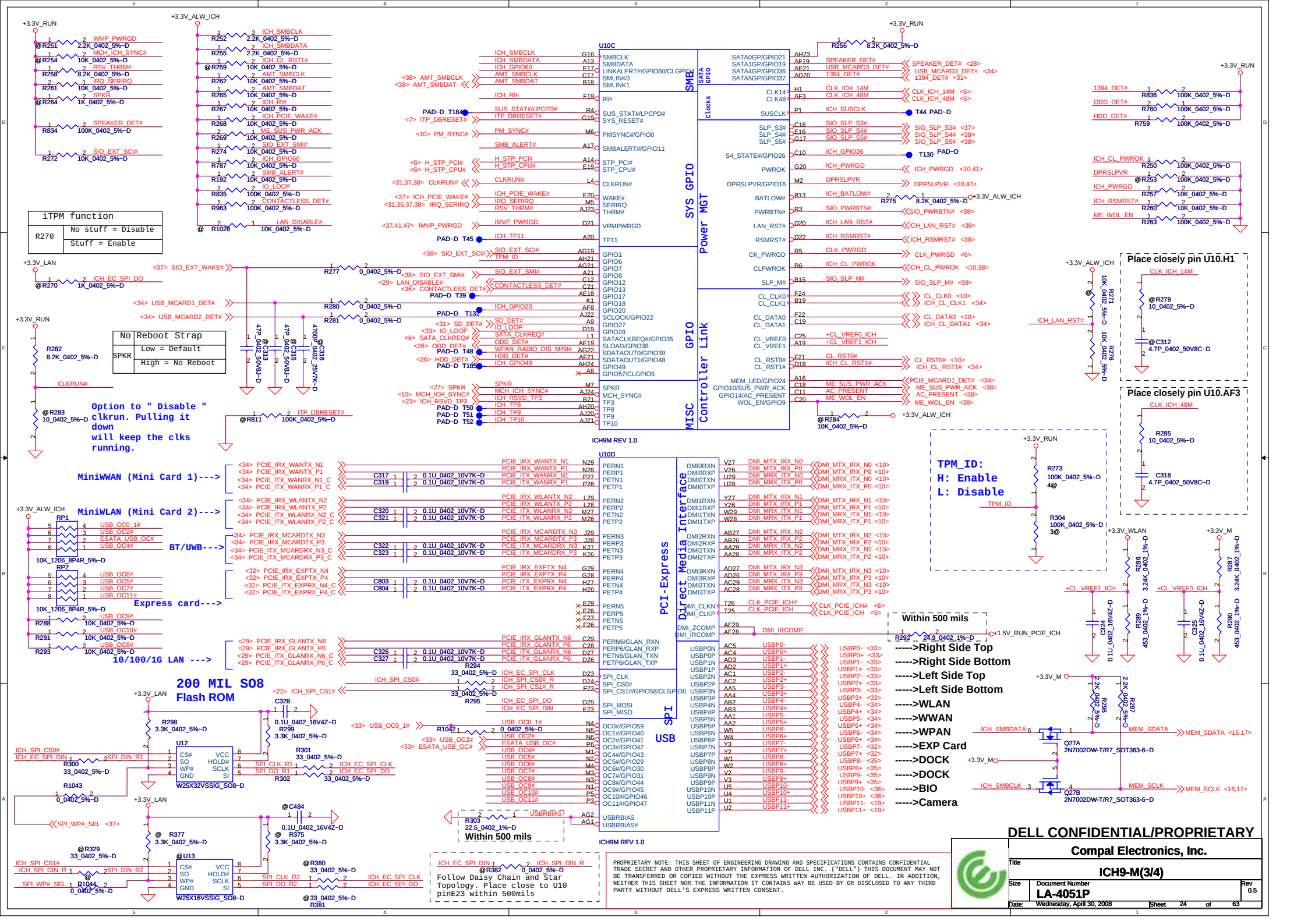
Compal Electronics, Inc.

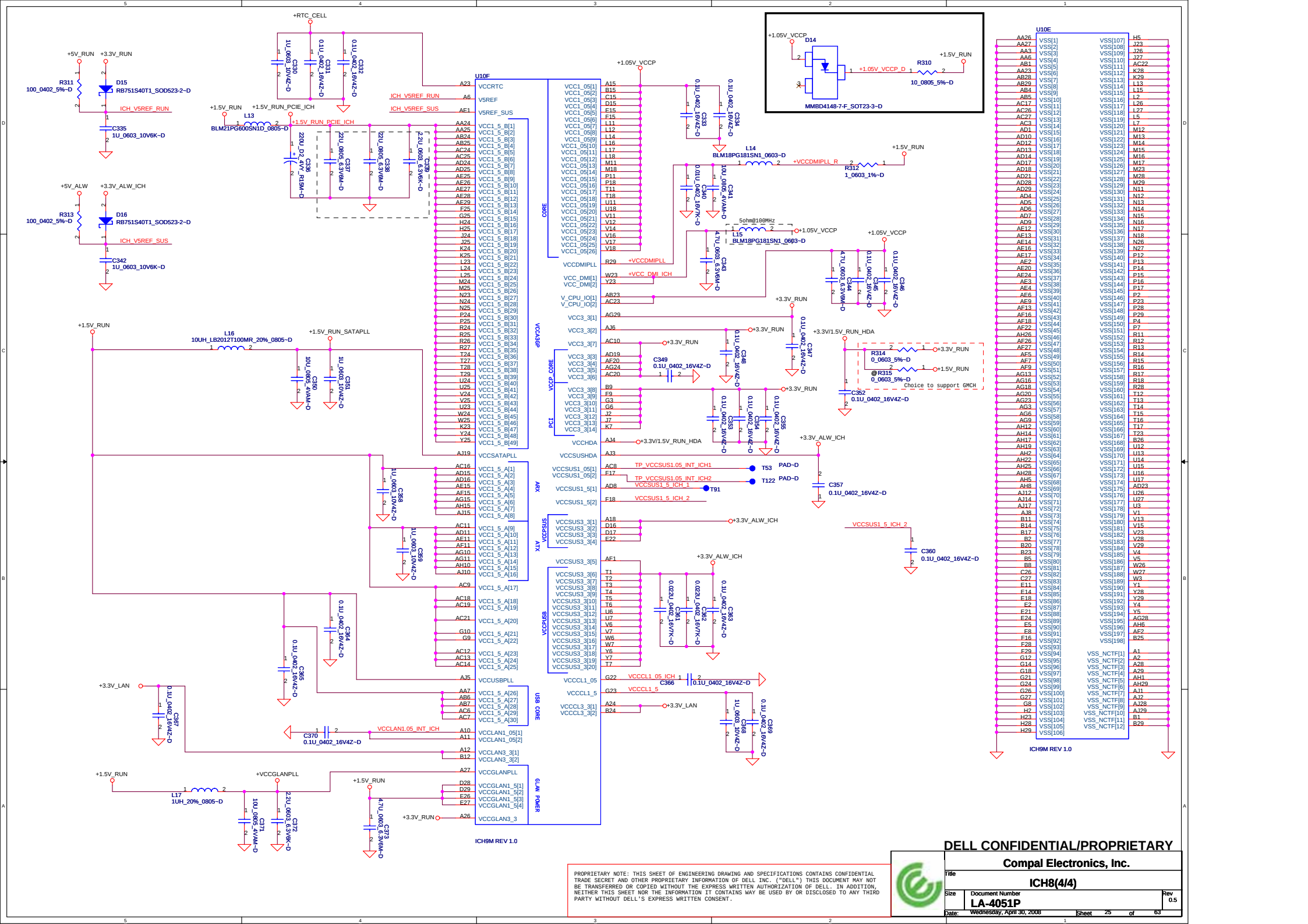
Title: ICH9-M(1/4)

Size | Document Number: LA-4051P | Rev: 0.5

Date: Wednesday, April 30, 2008 | Sheet 22 of 63


Package
9.6X4.06 mm
ICH9M Internal VR Enable Strap
(Internal VR for VccSus1.05, VccSus1.5, VccCL1.5)
ICH_INTVRMEN
Low = Internal VR Disabled
High = Internal VR Enabled(Default)
ICH9M LAN100 SLP Strap
(Internal VR for VccLAN1.05 and VccCL1.05)
ICH_LAN100_SLP
Low = Internal VR Disabled
High = Internal VR Enabled(Default)
CMOS_CLR1 | CMOS setting
Shunt | Clear CMOS
Open | Keep CMOS
ME_CLR1 | TPM setting
Shunt | Clear ME RTC Registers
Open | Keep ME RTC Registers
Close to U55
XOR Chain Entrance Strap
ICH RSVD_TP3 | HDA SDOUT | Description
0 | 0 | RSVD
0 | 1 | Enter XOR Chain
1 | 0 | Normal Operation (Default)
1 | 1 | Set PCIE port config bit 1
For WLAN detection issue
Pin AH4 , AG5 has weak internal PD
Within 500 mils
ICH9M REV 1.0
DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
ICH9-M(2/4)
LA-4051P
Rev 0.5
Tuesday, May 13, 2008
Sheet 23 of 63


iTPM function
R270
No stuff = Disable
Stuff = Enable
No Reboot Strap
SPKR
Low = Default
High = No Reboot
Option to " Disable " clkrun. Pulling it down will keep the clks running.
MiniWWAN (Mini Card 1)--->
MiniWLAN (Mini Card 2)--->
BT/UWB--->
Express card--->
10/100/1G LAN --->
200 MIL SO8
Flash ROM
U10C
SMB
SATA GPIO
Clocks
SYS GPIO
Power MGT
GPIO
Controller Link
MISC
ICH9M REV 1.0
U10D
PCI-Express
Direct Media Interface
SPI
USB
ICH9M REV 1.0
TPM_ID:
H: Enable
L: Disable
Place closely pin U10.H1
Place closely pin U10.AF3
Within 500 mils
----->Right Side Top
----->Right Side Bottom
----->Left Side Top
----->Left Side Bottom
----->WLAN
----->WWAN
----->WPAN
----->EXP Card
----->DOCK
----->DOCK
----->BIO
----->Camera
Follow Daisy Chain and Star Topology. Place close to U10 pinE23 within 500mils
DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
ICH9-M(3/4)
LA-4051P
Rev 0.5
Wednesday, April 30, 2008
Sheet 24 of 63



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Compal Electronics, Inc.	
Title	ICH8(4/4)
Size	Document Number: LA-4051P
Rev	0.5
Date:	Wednesday, April 30, 2008
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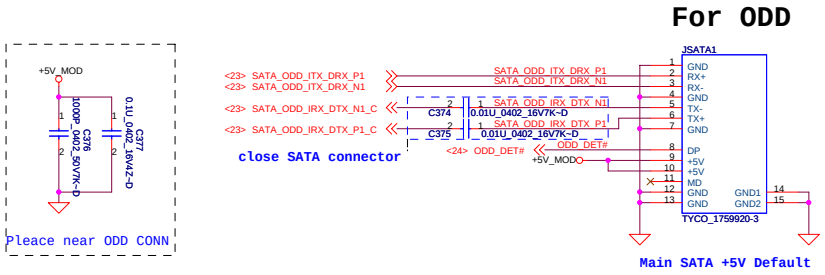

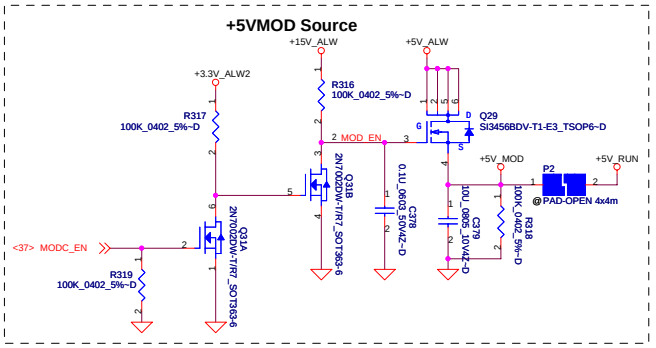

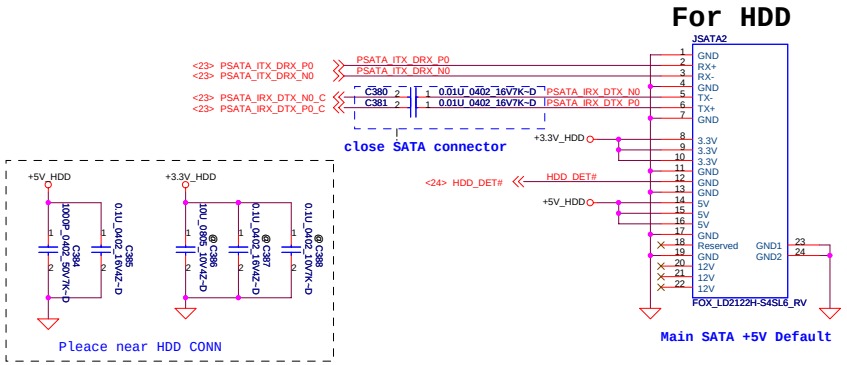

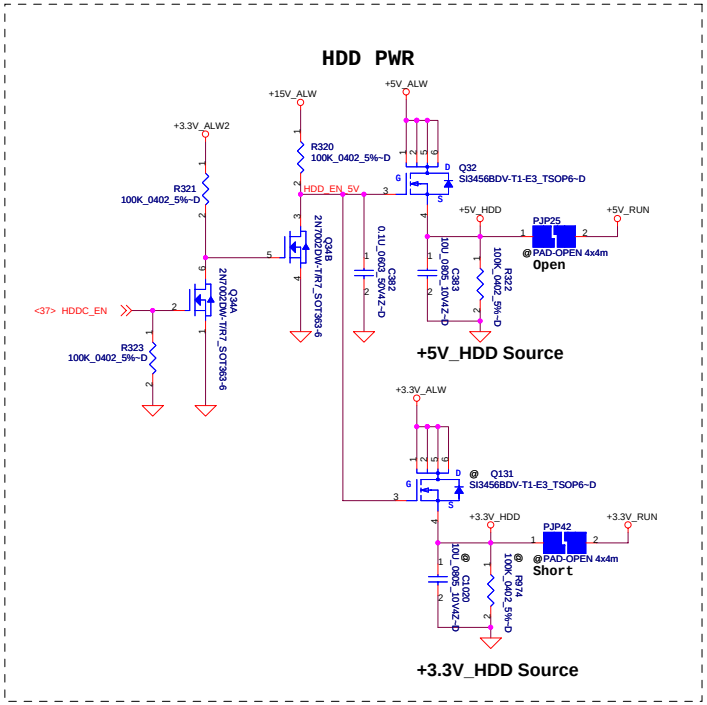

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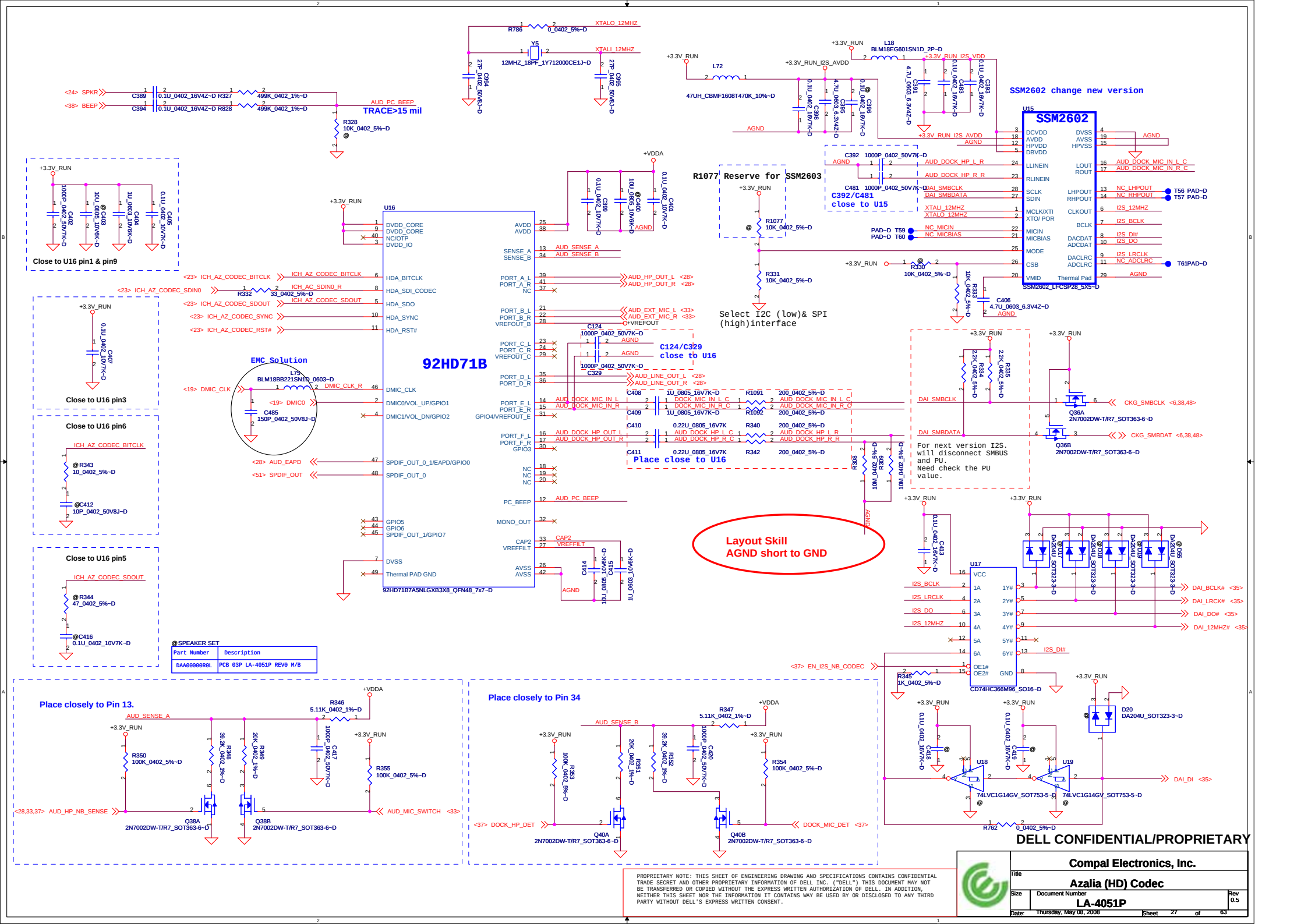
Compal Electronics, Inc.

Title	ODD/HDD CONNECTOR	
Size	Document Number: LA-4051P	Rev: 0.5
Date: Wednesday, April 30, 2008	Sheet 26 of 63	


92HD71B
U16
92HD71B7A5NLGXB3X8_QFN48_7x7~D
SSM2602 change new version
U15
SSM2602
SSM2602_LFCSP28_5X5~D
R1077 Reserve for SSM2603
Select I2C (low)& SPI (high)interface
C392/C481 close to U15
C124/C329 close to U16
Place close to U16
EMC Solution
Close to U16 pin1 & pin9
Close to U16 pin3
Close to U16 pin6
Close to U16 pin5
Layout Skill
AGND short to GND
For next version I2S. will disconnect SMBUS and PU. Need check the PU value.
Place closely to Pin 13.
Place closely to Pin 34
@SPEAKER SET
Part Number | Description
DAA00000R0L | PCB 03P LA-4051P REV0 M/B
TRACE>15 mil
CD74HC366M96_SO16~D
74LVC1G14GV_SOT753-5~D
Q38A 2N7002DW-T/R7_SOT363-6~D
Q38B 2N7002DW-T/R7_SOT363-6~D
Q40A 2N7002DW-T/R7_SOT363-6~D
Q40B 2N7002DW-T/R7_SOT363-6~D
Q36A 2N7002DW-T/R7_SOT363-6~D
Q36B 2N7002DW-T/R7_SOT363-6~D
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Compal Electronics, Inc.
Azalia (HD) Codec
LA-4051P
Rev 0.5
Date: Thursday, May 08, 2008
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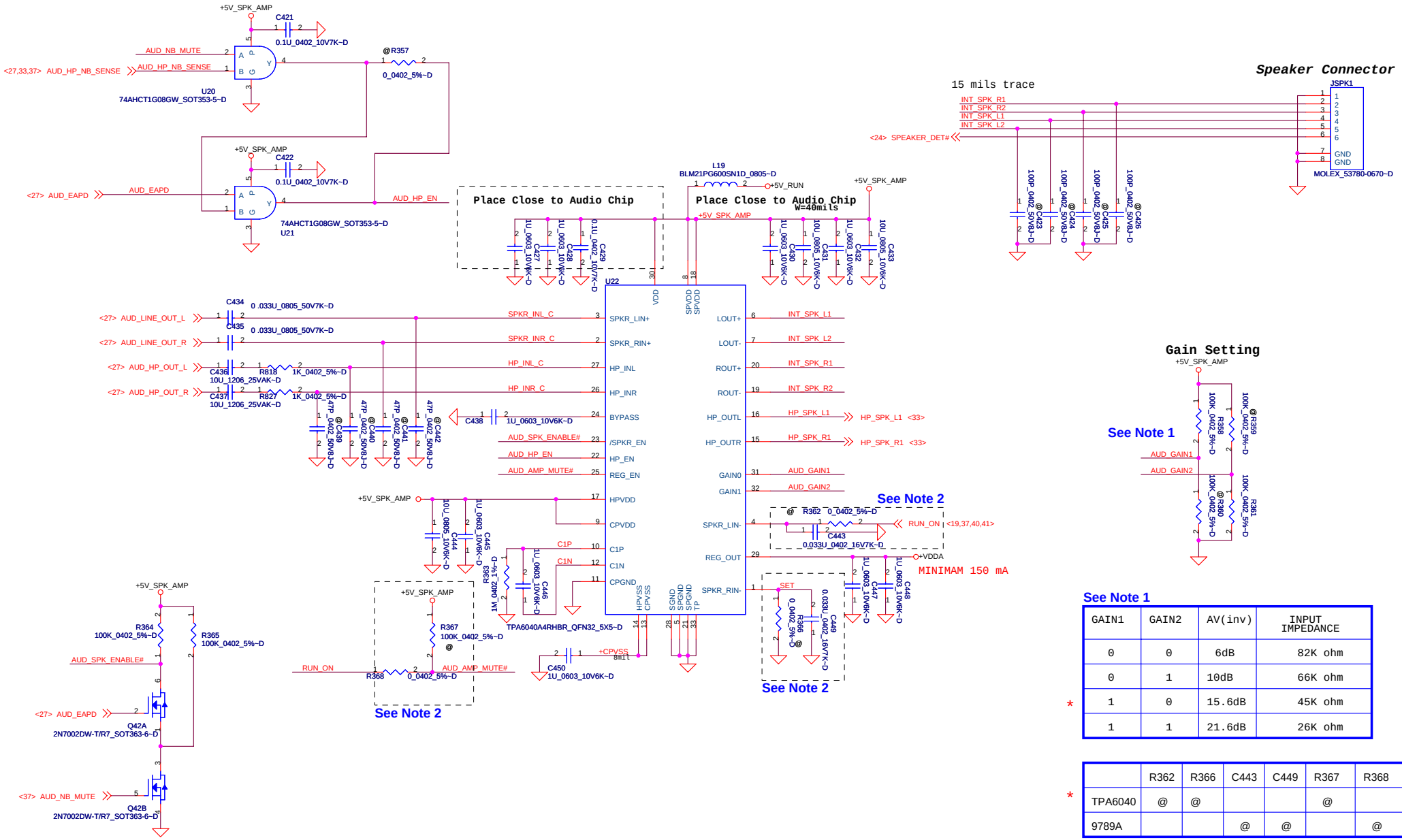

GAIN1	GAIN2	AV(inv)	INPUT IMPEDANCE
0	0	6dB	82K ohm
0	1	10dB	66K ohm
1	0	15.6dB	45K ohm
1	1	21.6dB	26K ohm

* See Note 1

	R362	R366	C443	C449	R367	R368
TPA6040	@	@			@	
9789A			@	@		@

* See Note 2

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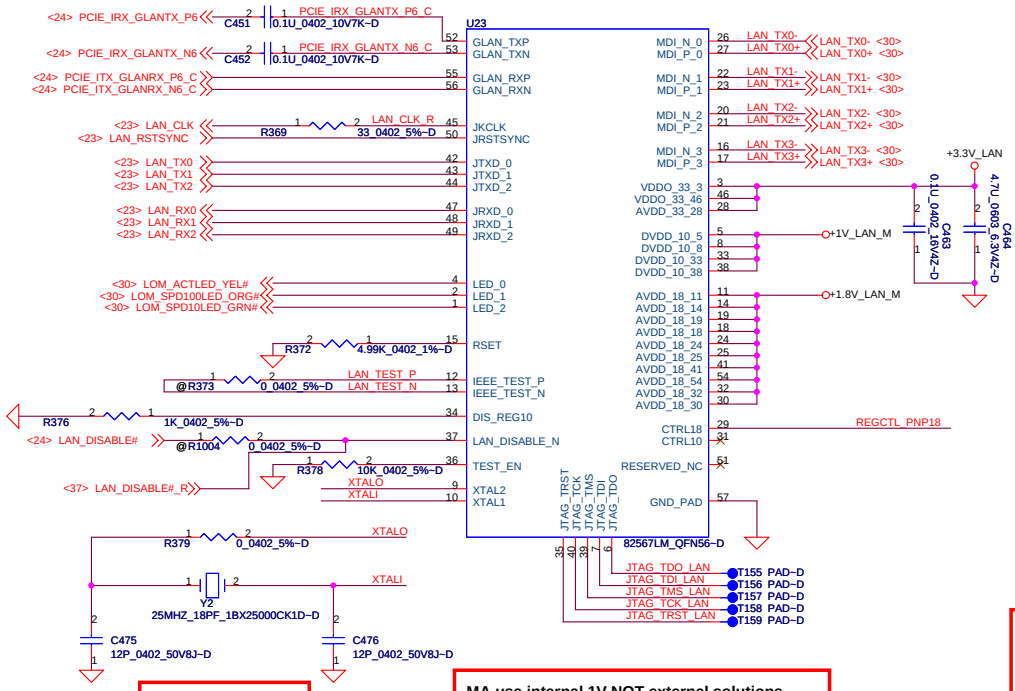
Compal Electronics, Inc.

Title: AMP and PHONE JACK

Size | Document Number: LA-4051P | Rev: 0.5

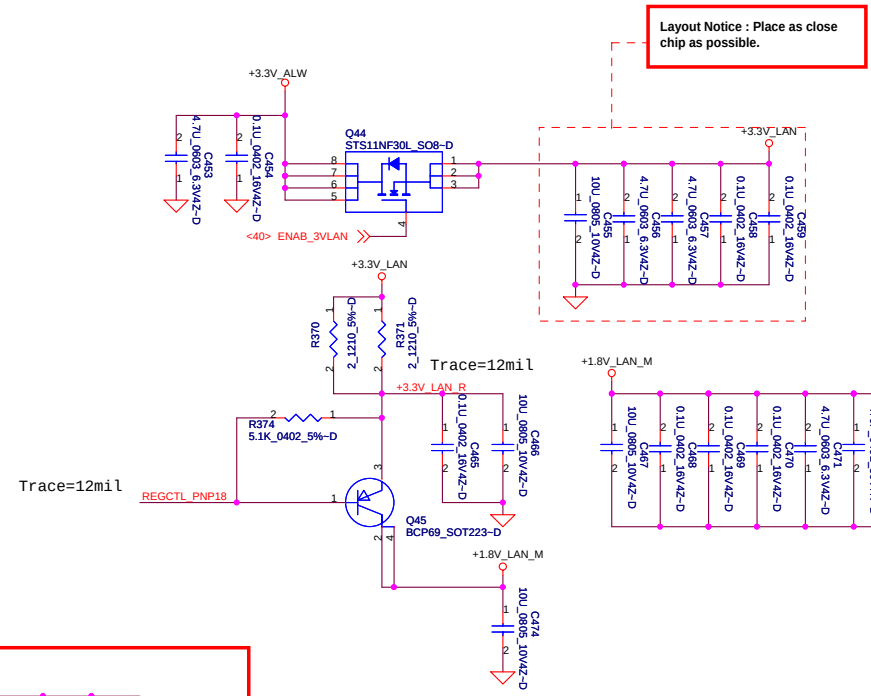
Date: Tuesday, May 06, 2008 | Sheet 28 of 63

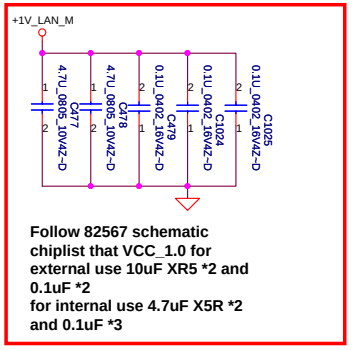


Need to ensure crystal at least 300uW max power drive-level

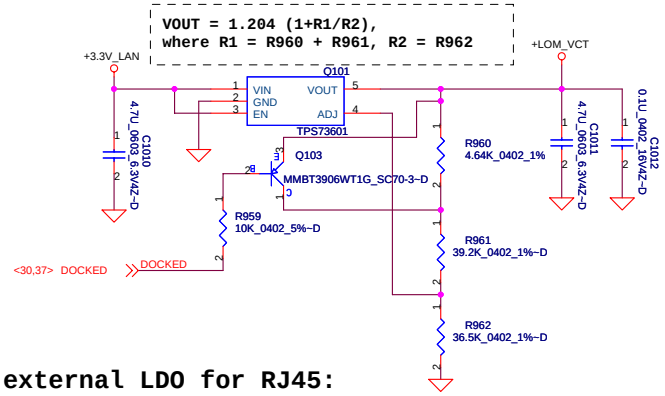
MA use internal 1V,NOT external solutions.
82567LM:
B0 version: 1.05V
A1 version: 1V

Layout Notice : Place as close chip as possible.





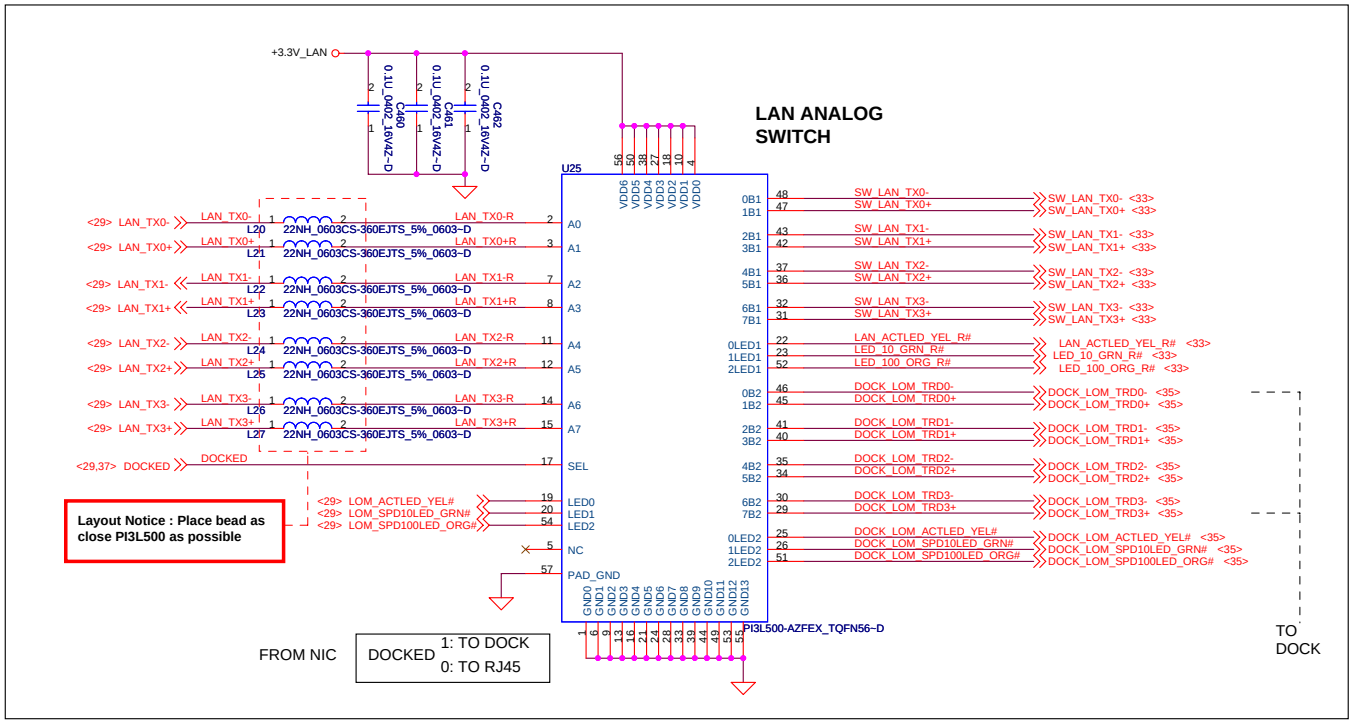
Follow 82567 schematic chiplist that VCC_1.0 for external use 10uF XR5 *2 and 0.1uF *2
for internal use 4.7uF X5R *2 and 0.1uF *3



Intel proposal add external LDO for RJ45:
MB:2.5V,
Dock:2.65V

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.	
Title	LAN-82567LM
Size	Document Number: LA-4051P
Rev	0.5
Date:	Wednesday, April 30, 2008
Sheet	29 of 63



Compal Electronics, Inc.

Title: LAN TRANSFOMER

Size | Document Number: LA-4051P | Rev: 0.5

Date: Friday, April 25, 2008 | Sheet 30 of 63

U26A

R5C847-CSP208Q

PCI I/F

16 bit PC card I/F

RST & INT &

CLK

AUDIO

1394 I/F

USB

TEST

Media Card I/F

R5C847-CSP208Q_CSP208-D

must have clean layout

For MMC PLUS

R416/C397 close to R5C847

close to U26

Close to U26

Close to Pin A16,B16

Close to JP5 pin5

Close to JP5 pin5

U27

R5531V002-E2-FA_SSOP16-D

U28

TPS2051BDBVR_SOT23-5-D

JS1394

TYCO_2-1734820-0_20P-T

JSD1

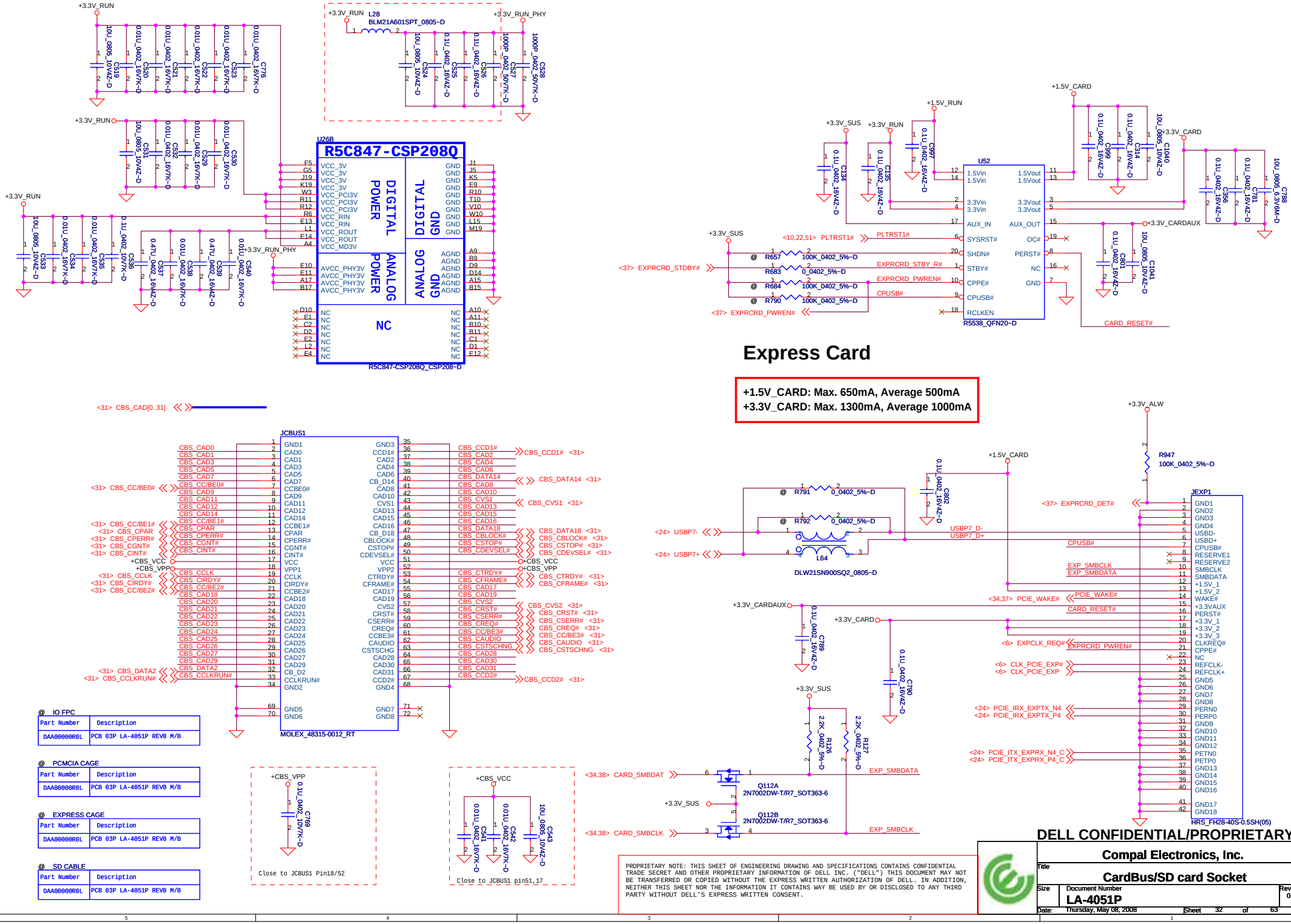
TYCO_1-1775737-6

Compal Electronics, Inc.

Title: CardBus Controller(R5C847)

Size: | Document Number: LA-4051P | Rev: 0.5

Date: Tuesday, May 06, 2008 | Sheet 31 of 63


R5C847-CSP208Q
U26B
DIGITAL POWER
DIGITAL GND
ANALOG POWER
ANALOG GND
NC
R5C847-CSP208Q_CSP208-D
L28
BLM21A601SPT_0805~D
+3.3V_RUN
+3.3V_RUN_PHY
+3.3V_RUN_PHY
+3.3V_SUS
+1.5V_RUN
+1.5V_CARD
+3.3V_CARD
+3.3V_CARDAUX
U52
R5538_QFN20~D
PLTRST1#
EXPRCRD_STDBY#
EXPRCRD_STBY_R#
EXPRCRD_PWREN#
CPUSB#
CARD_RESET#
Express Card
+1.5V_CARD: Max. 650mA, Average 500mA
+3.3V_CARD: Max. 1300mA, Average 1000mA
JCBUS1
MOLEX_48315-0012_RT
CBS_CAD[0..31]
CBS_CCD1#
CBS_DATA14
CBS_CVS1
CBS_DATA18
CBS_CBLOCK#
CBS_CSTOP#
CBS_CDEVSEL#
CBS_CTRDY#
CBS_CFRAME#
CBS_CVS2
CBS_CRST#
CBS_CSERR#
CBS_CREQ#
CBS_CC/BE3#
CBS_CAUDIO
CBS_CSTSCHNG
CBS_CCD2#
CBS_CC/BE0#
CBS_CC/BE1#
CBS_CPAR
CBS_CPERR#
CBS_CGNT#
CBS_CINT#
CBS_CCLK
CBS_CIRDY#
CBS_CC/BE2#
CBS_DATA2
CBS_CCLKRUN#
USBP7_D-
USBP7_D+
JEXP1
HRS_FH28-40S-0.5SH(05)
EXP_SMBCLK
EXP_SMBDATA
PCIE_WAKE#
CARD_RESET#
EXPCRD_PWREN#
CLK_PCIE_EXP#
CLK_PCIE_EXP
PCIE_IRX_EXPTX_N4
PCIE_IRX_EXPTX_P4
PCIE_ITX_EXPRX_N4_C
PCIE_ITX_EXPRX_P4_C
Q112A
2N7002DW-T/R7_SOT363-6
Q112B
2N7002DW-T/R7_SOT363-6
CARD_SMBDAT
CARD_SMBCLK
DLW21SN900SQ2_0805~D
Close to JCBUS1 Pin18/52
Close to JCBUS1 pin51,17
@ IO FPC
@ PCMCIA CAGE
@ EXPRESS CAGE
@ SD CABLE
Part Number | Description
DAA00000R0L | PCB 03P LA-4051P REV0 M/B
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DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
Title
CardBus/SD card Socket
Size
Document Number
LA-4051P
Rev
0.5
Date: Thursday, May 08, 2008
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USB PORT#	DESTINATION
0	JUSB1 (Ext Right Side Top)
1	JUSB1 (Ext Right Side Bottom)
2	JESA1 (Ext Left Side Bottom)
3	JESA1 (Ext Left Side TOP)
4	WLAN
5	WWAN
6	WPAN
7	Express card
8	DOCKING
9	DOCKING
10	USH->BIO
11	Camera

modify pin18,19 drill

Equalizer Selection

SEL0_ [A:B]	SEL1_ [A:B]	Compliance Channel
0	0	no equalization
* 0	1	[0:2.5dB] @ 1.6 GHz
1	0	[2.5:4.5dB] @ 1.6 GHz
1	1	[4.5:6.5dB] @ 1.6 GHz

Output Swing Control

SEL2_ [A:B]	Swing
0	1x
1	1.2x

Output De-emphasis Adjustment

SEL3_ [A:B]	De-emphasis
* 0	0dB
1	-3.5dB

Fingerprint CONN.

pop U51 per 02/22 email (ESD team)

UPEK --> 5V
AUTHENTEC -->3.3V

Place close to JBIO1.1

Left side USB Port

Change Layout Placement to Close SB

Place ESD diodes as close as USB connector.

Place close to JIO1.35

Place close to JIO1.36

Place close to JIO1.13

Place close to JIO1.30

update pad

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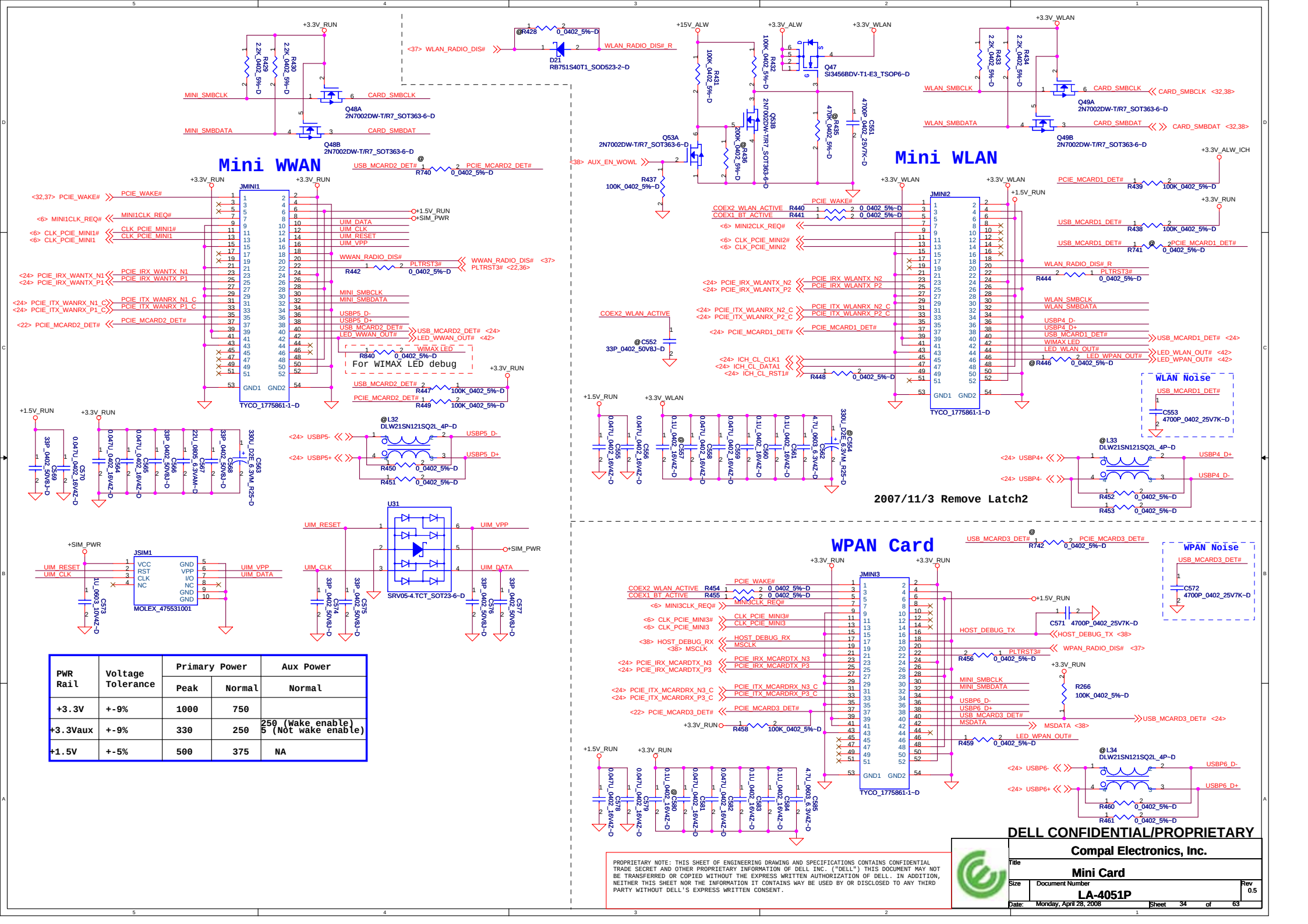
Compal Electronics, Inc.

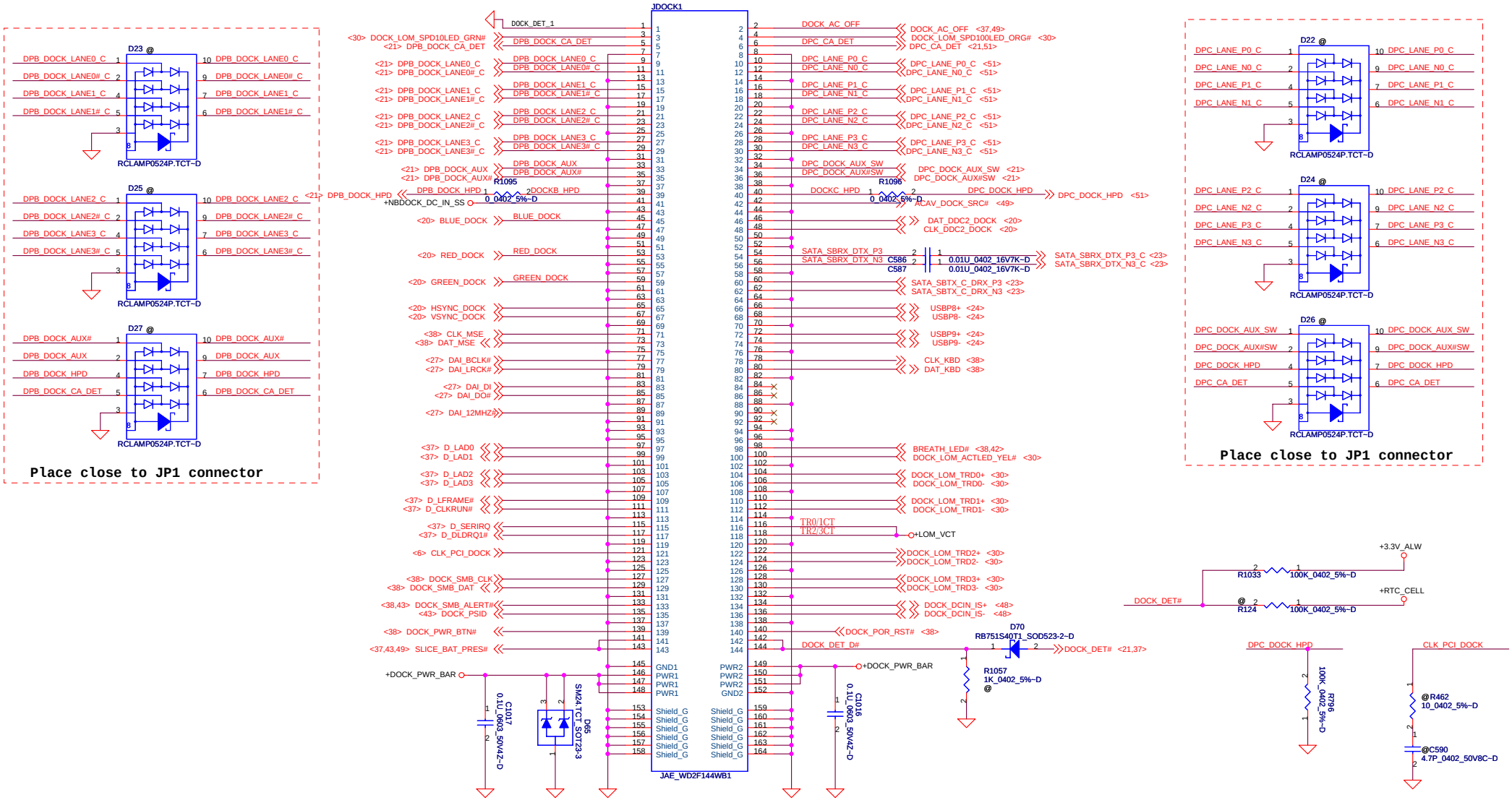
Title: USB 2.0 PORT

Size: | Document Number: LA-4051P | Rev: 0.5

Date: Tuesday, May 13, 2008 | Sheet 33 of 63



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

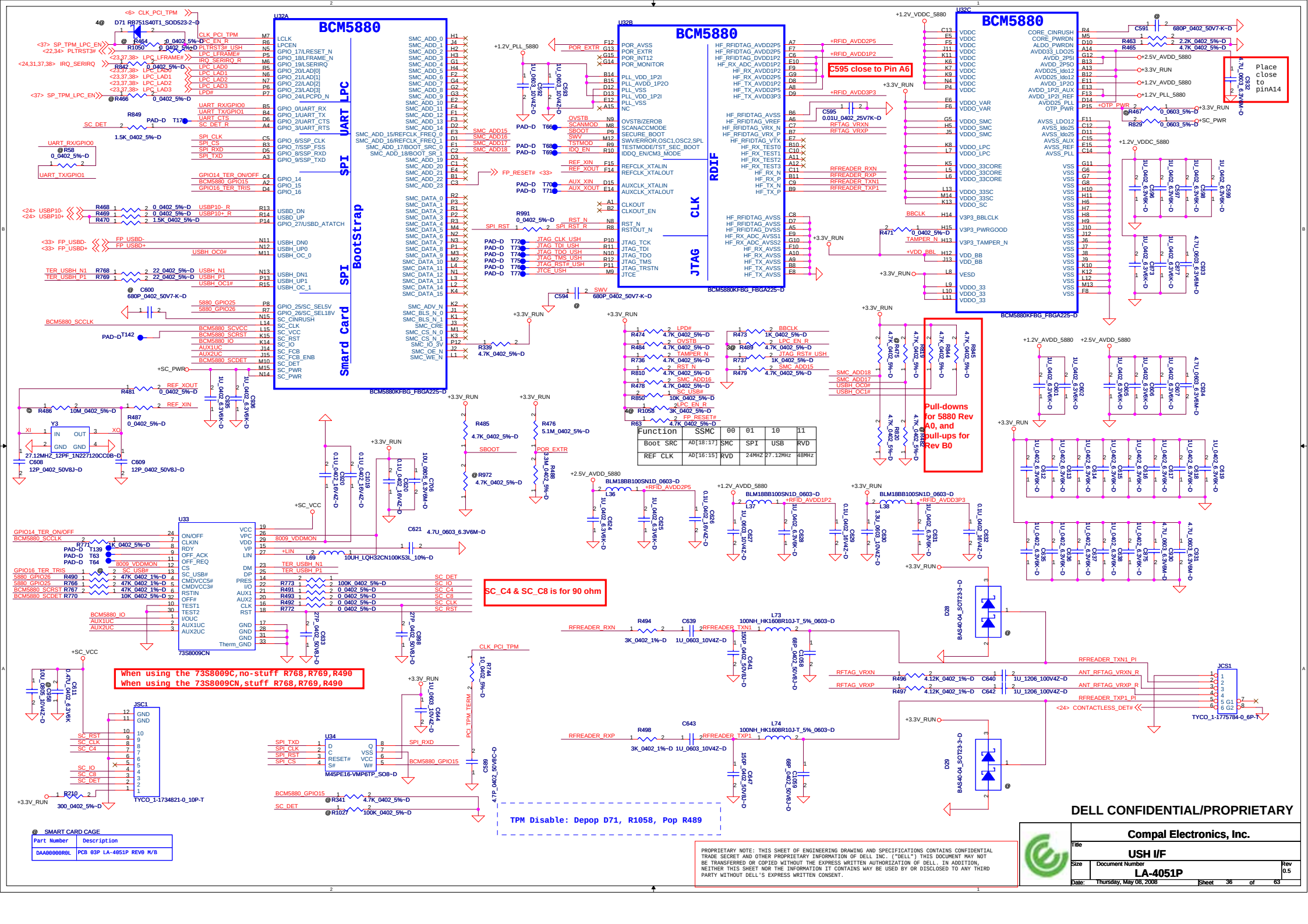


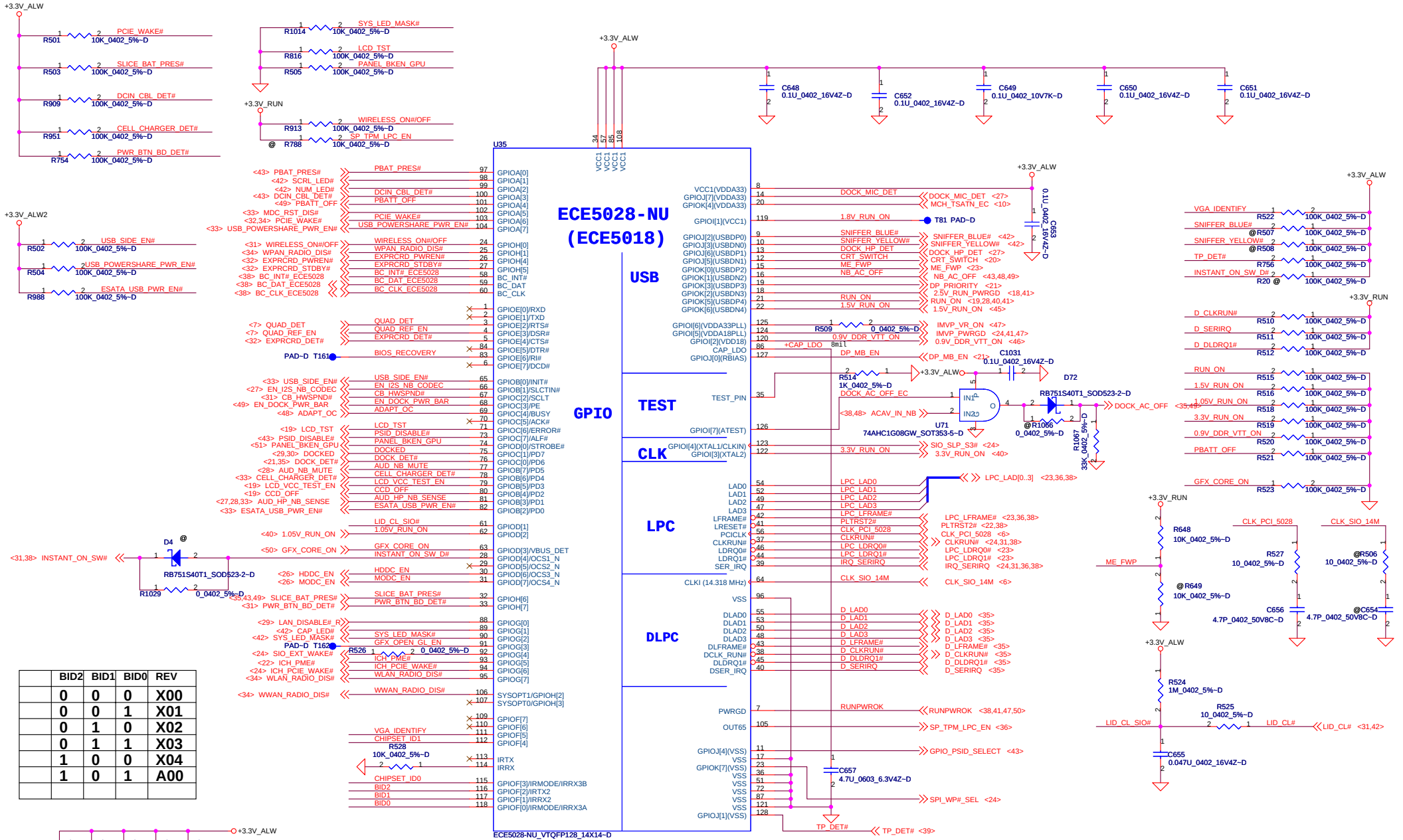
Compal Electronics, Inc.

Title: DOCKING CONN

Size: | Document Number: LA-4051P | Rev: 0.5

Date: Tuesday, May 06, 2008 | Sheet 35 of 63


BCM5880
U32A
U32B
U32C
UART LPC
SPI
SPI
Smard Card
BootStrap
RDTF
CLK
JTAG
BCM5880KFBG_FBGA225~D
C595 close to Pin A6
Place close to pinA14
Pull-downs for 5880 Rev A0, and pull-ups for Rev B0
SC_C4 & SC_C8 is for 90 ohm
When using the 73S8009C,no-stuff R768,R769,R490
When using the 73S8009CN,stuff R768,R769,R490
TPM Disable: Depop D71, R1058, Pop R489
DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
USH I/F
LA-4051P
Thursday, May 08, 2008



	BID2	BID1	BID0	REV
	0	0	0	X00
	0	0	1	X01
	0	1	0	X02
	0	1	1	X03
	1	0	0	X04
	1	0	1	A00

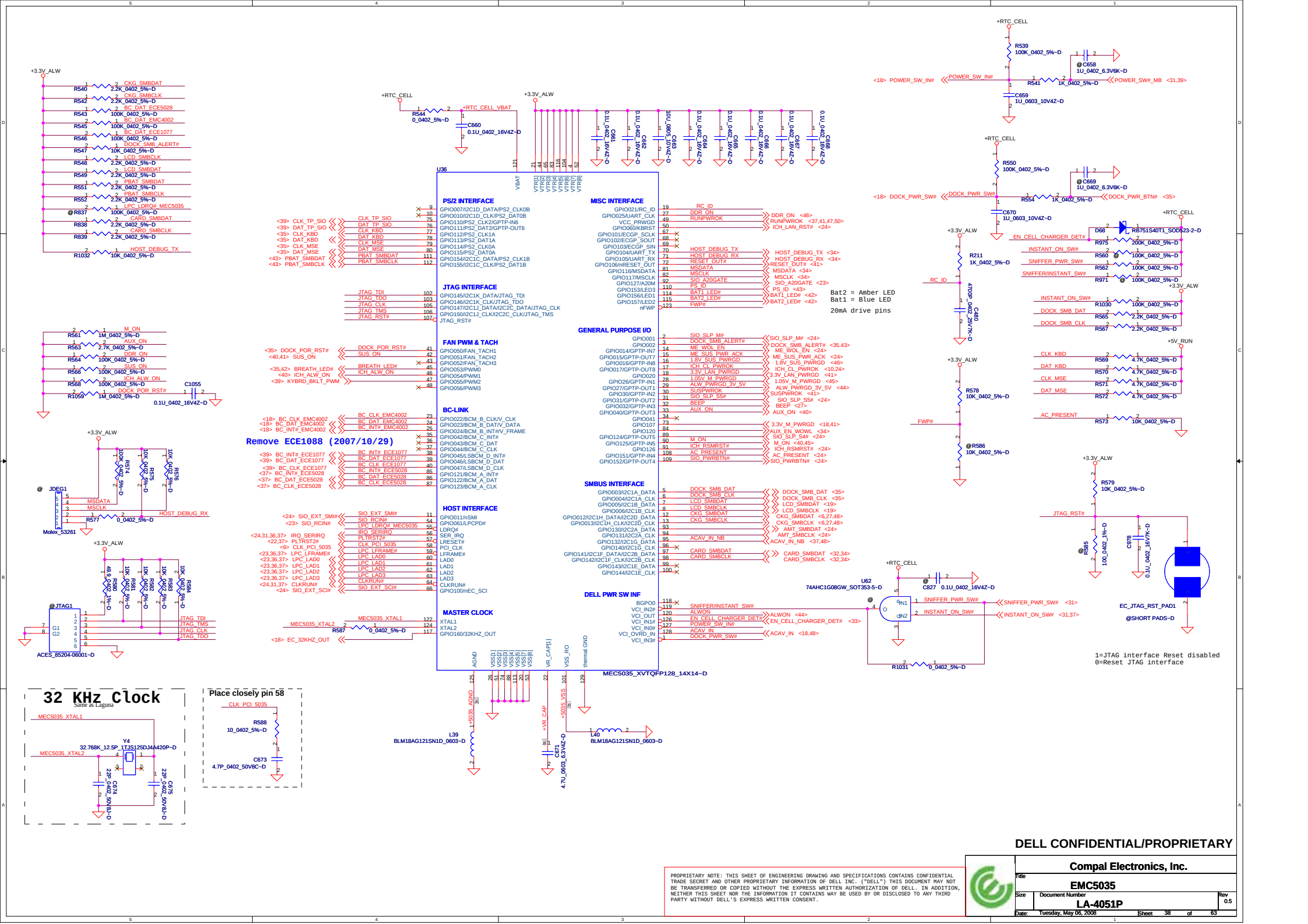
CHIPSET_ID1	CHIPSET_ID0	
0	0	Roush-I Foose-I
0	1	Roush-A
1	0	SmFF
1	1	Nike

Compal Electronics, Inc.

Title: ECE5028

Size | Document Number: LA-4051P | Rev: 0.5

Date: Friday, April 25, 2008 | Sheet 37 of 63



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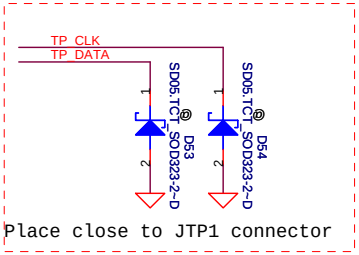
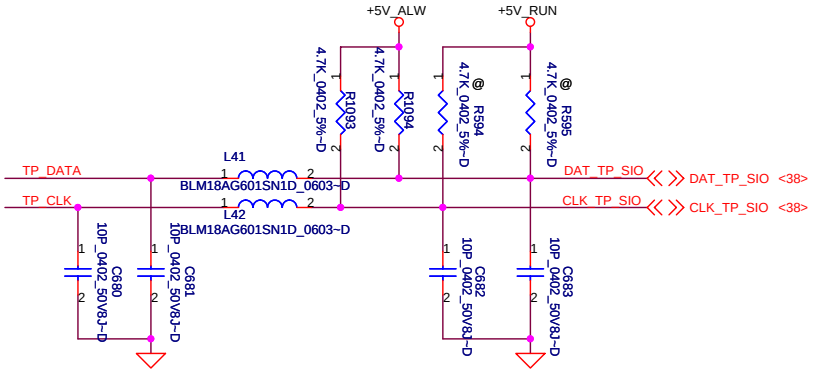
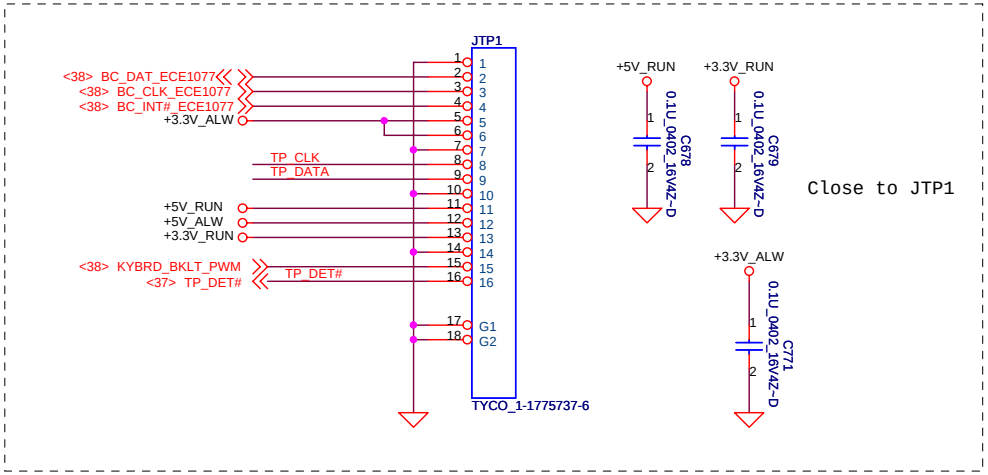
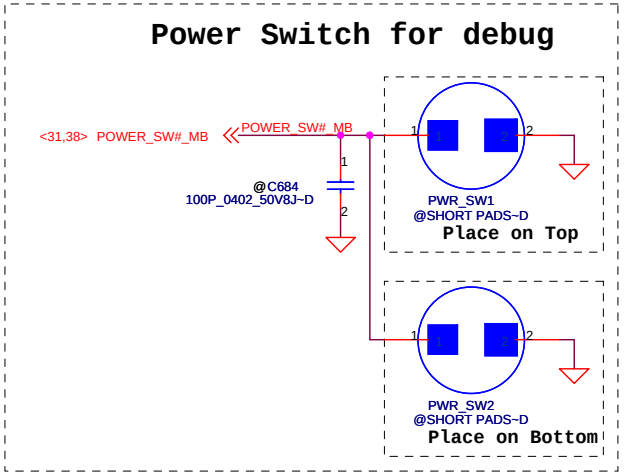
Compal Electronics, Inc.	
Title	EMC5035
Size	Document Number: LA-4051P
Rev	0.5
Date:	Tuesday, May 06, 2008
Sheet	38 of 63









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Compal Electronics, Inc.	
Title	Touch PAD/Int KB/LID
Size	Document Number: LA-4051P
Rev	0.5
Date:	Friday, April 25, 2008
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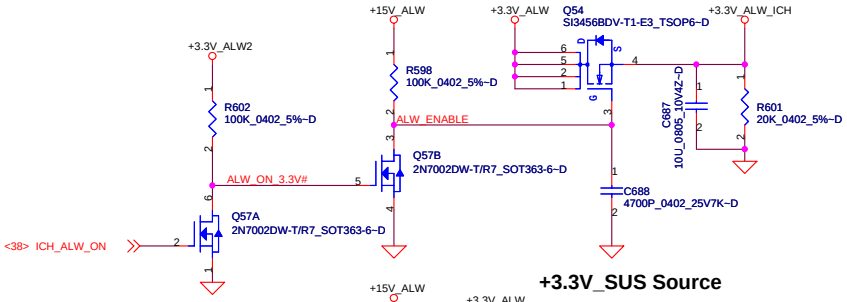
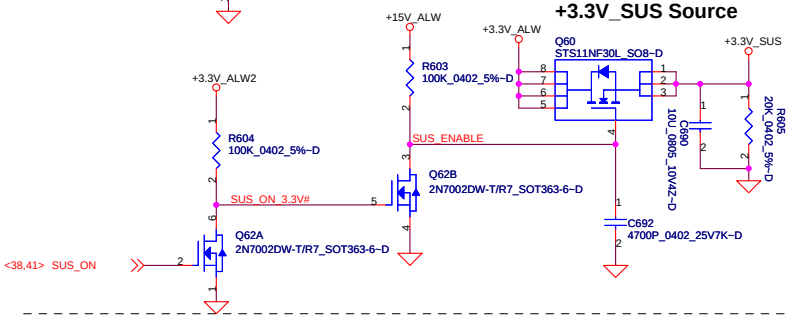
DC/DC Interface

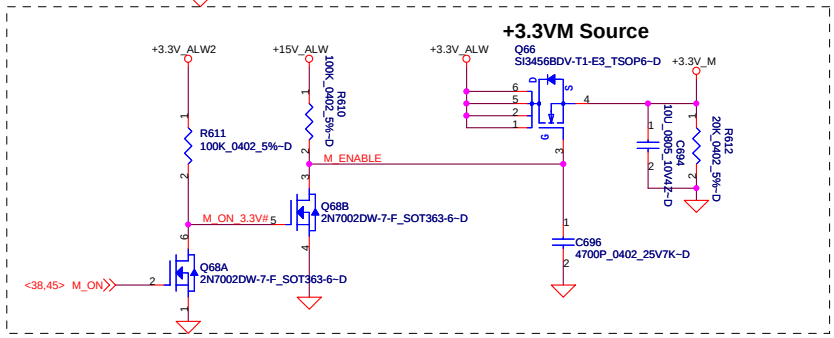
+3.3V_ALW_ICH Source



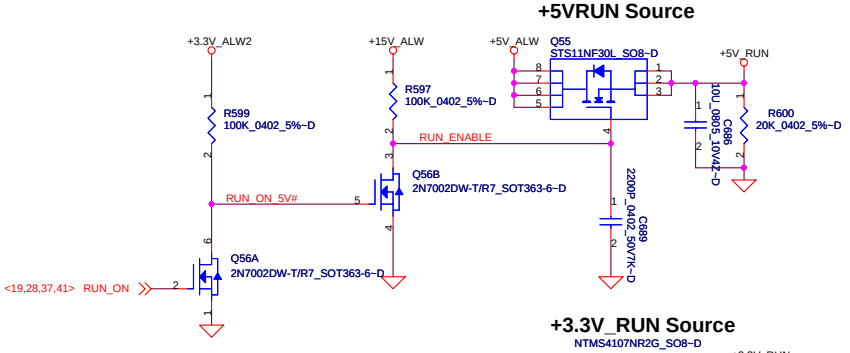
+3.3V_SUS Source



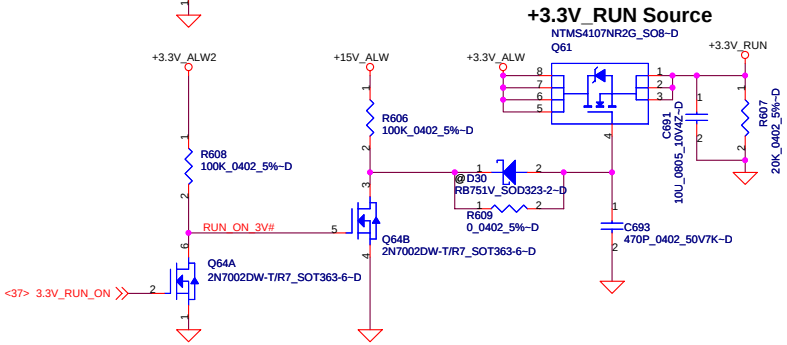
+3.3VM Source



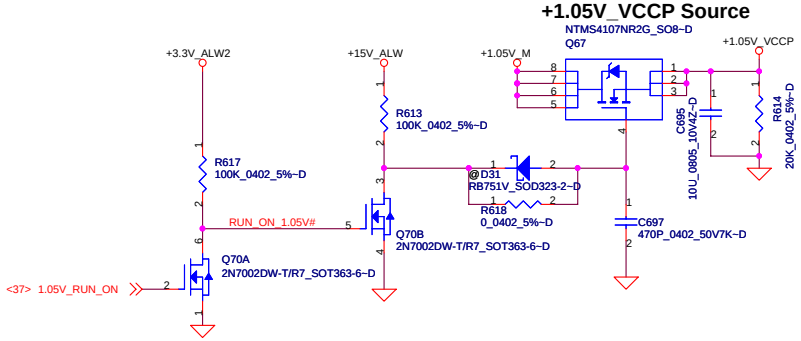
+5VRUN Source



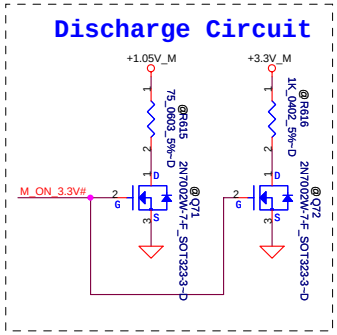
+3.3V_RUN Source

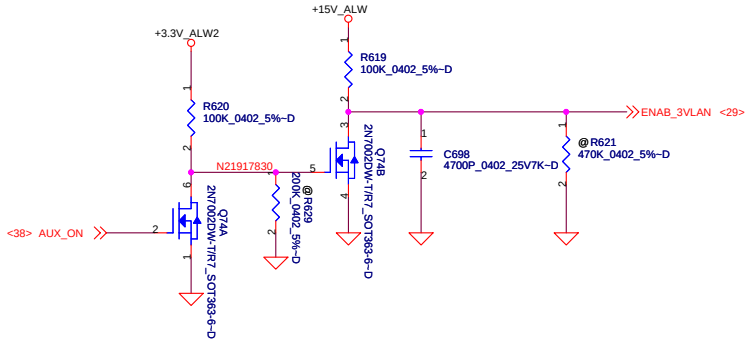


+1.05V_VCCP Source

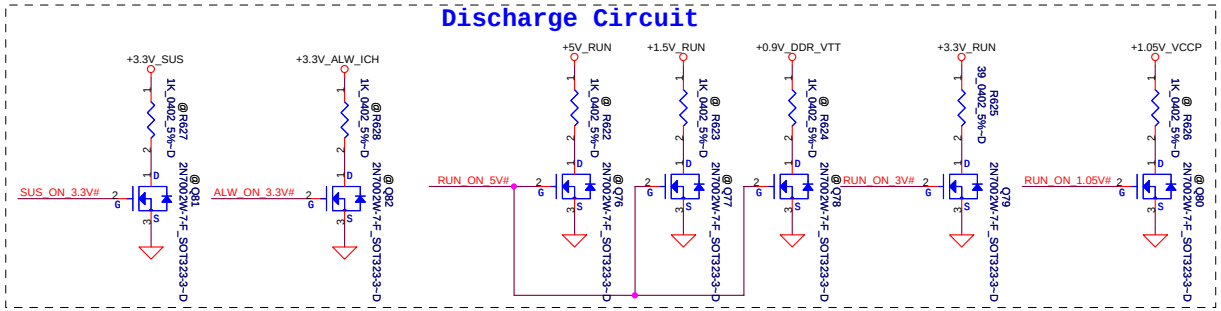


Discharge Circuit





Discharge Circuit

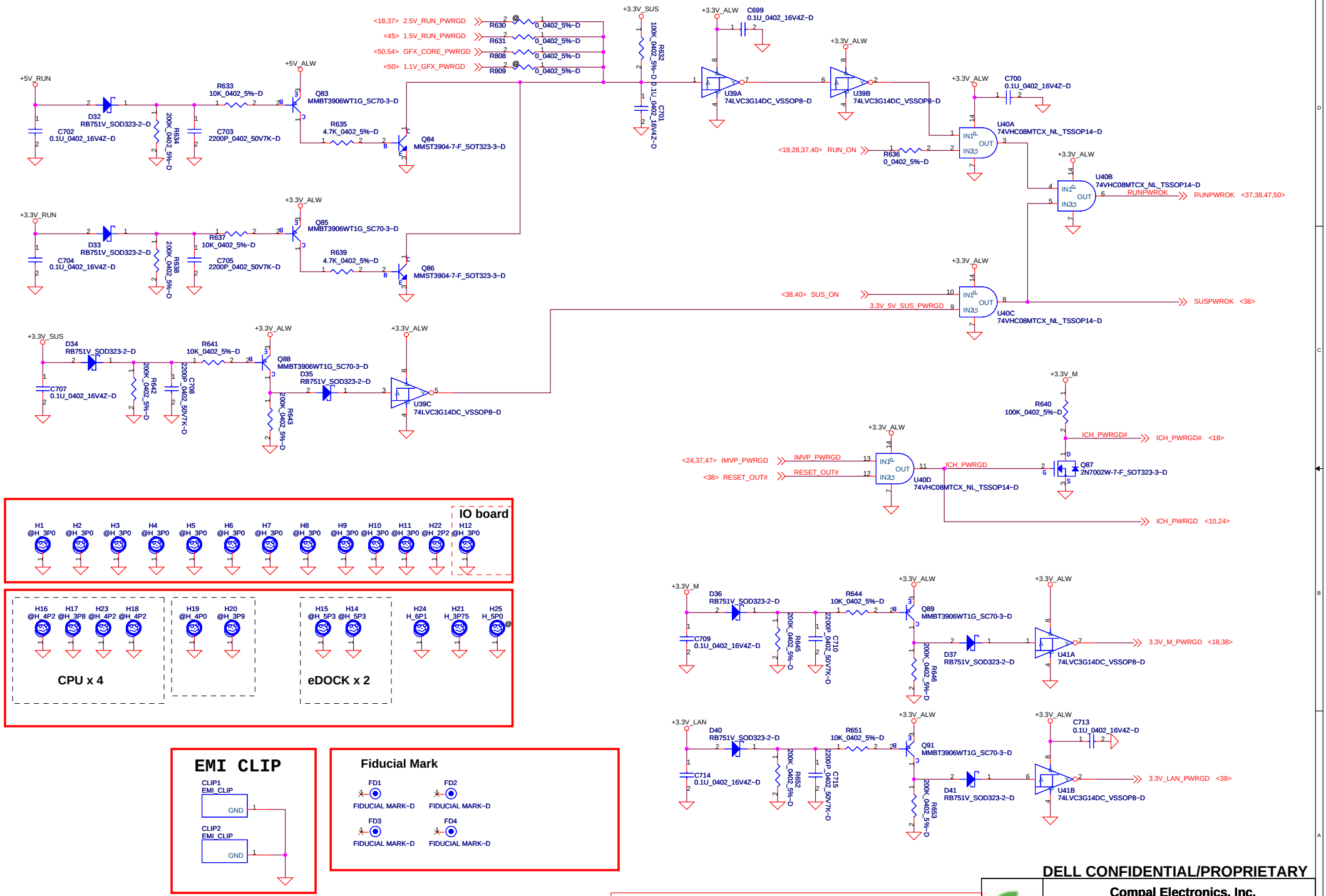


Compal Electronics, Inc.

Title: POWER CONTROL

Size | Document Number: LA-4051P | Rev: 0.5

Date: Tuesday, May 06, 2008 | Sheet 40 of 63



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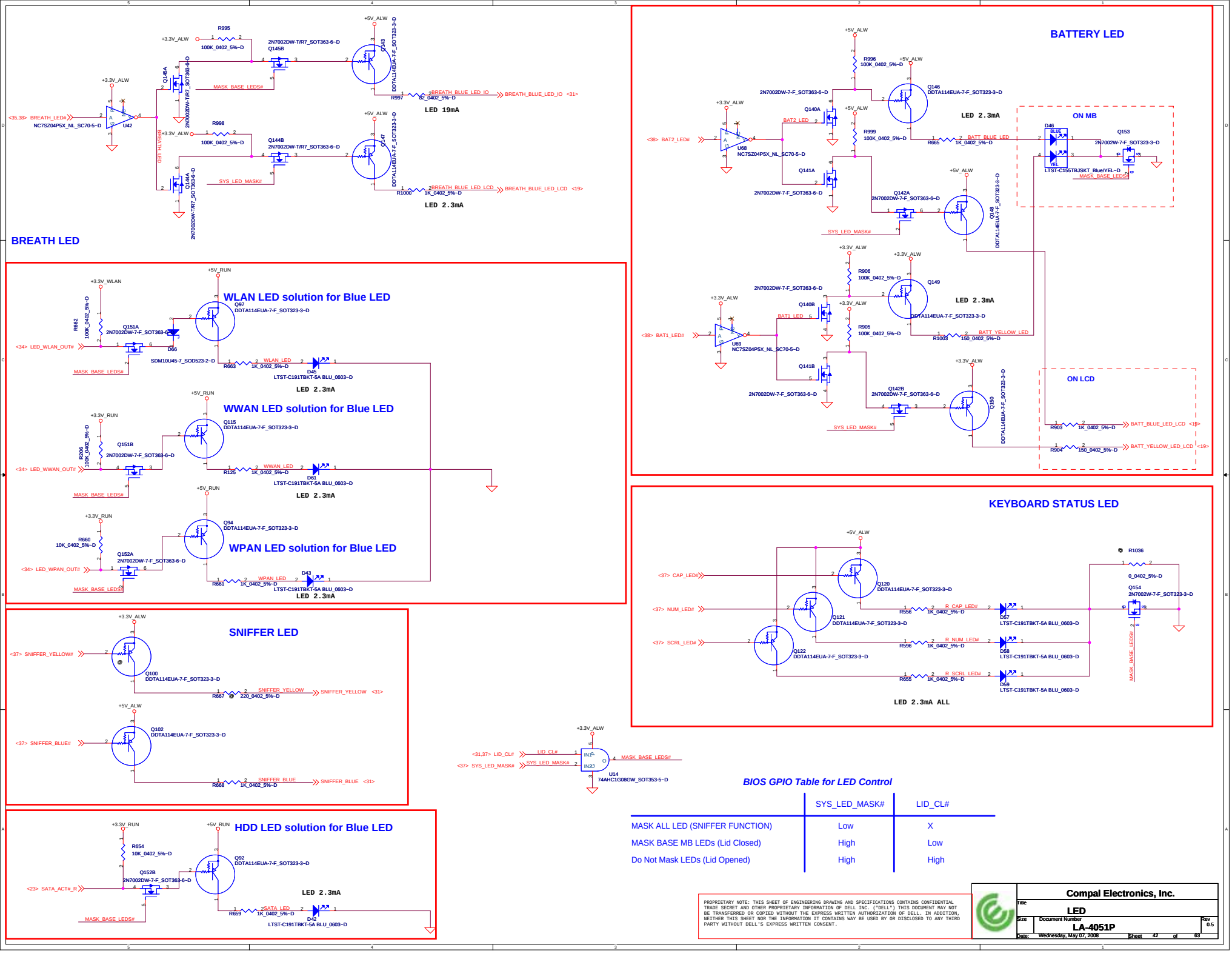
Compal Electronics, Inc.

Title: Power Good

Size | Document Number: LA-4051P | Rev: 0.5

Date: Wednesday, April 30, 2008 | Sheet 41 of 63


BREATH LED
LED 19mA
LED 2.3mA
BATTERY LED
ON MB
ON LCD
WLAN LED solution for Blue LED
WWAN LED solution for Blue LED
WPAN LED solution for Blue LED
SNIFFER LED
HDD LED solution for Blue LED
KEYBOARD STATUS LED
LED 2.3mA ALL
BIOS GPIO Table for LED Control
SYS_LED_MASK# LID_CL#
MASK ALL LED (SNIFFER FUNCTION) Low X
MASK BASE MB LEDs (Lid Closed) High Low
Do Not Mask LEDs (Lid Opened) High High
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Compal Electronics, Inc.
LED
LA-4051P
Rev 0.5
Wednesday, May 07, 2008
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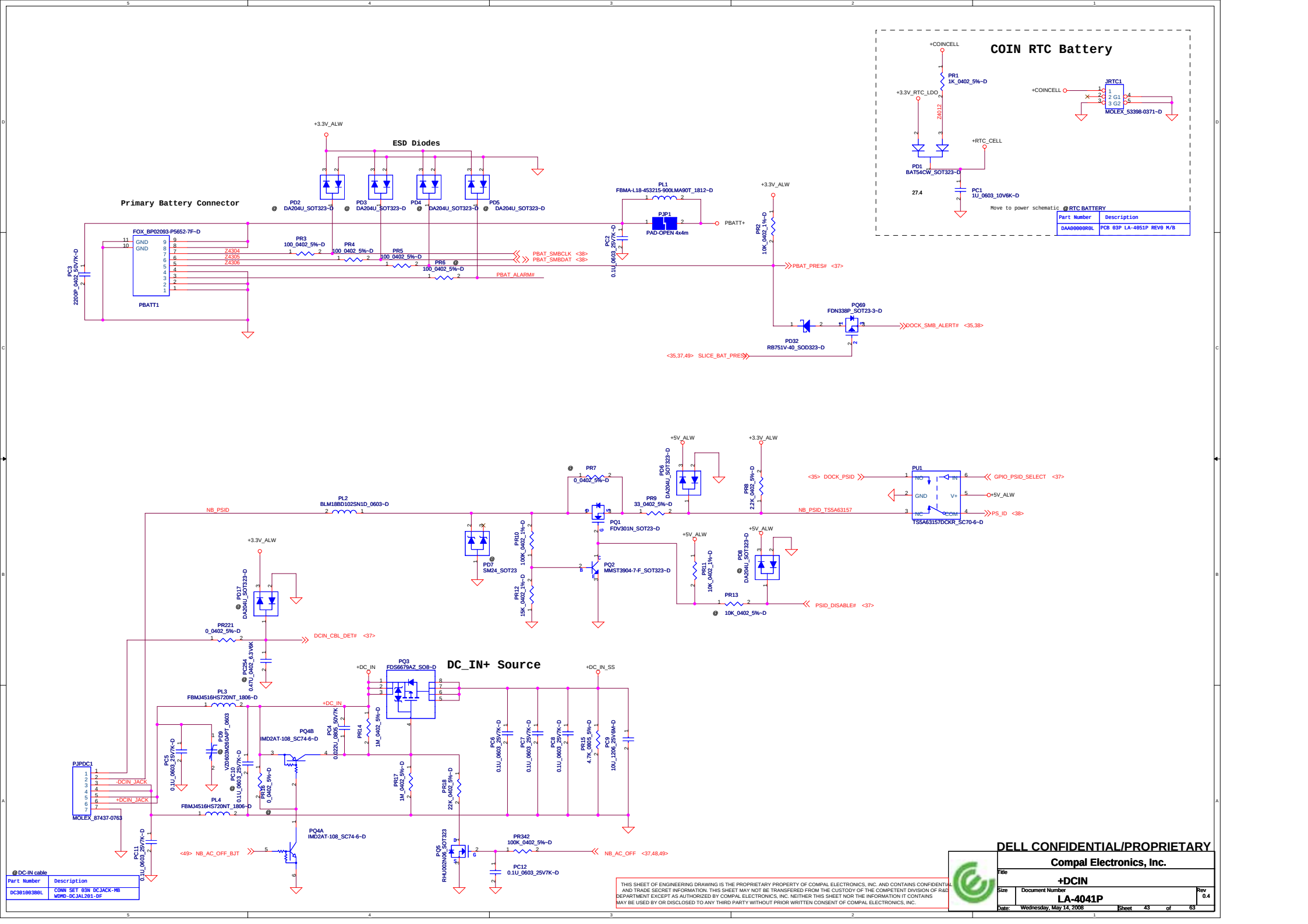
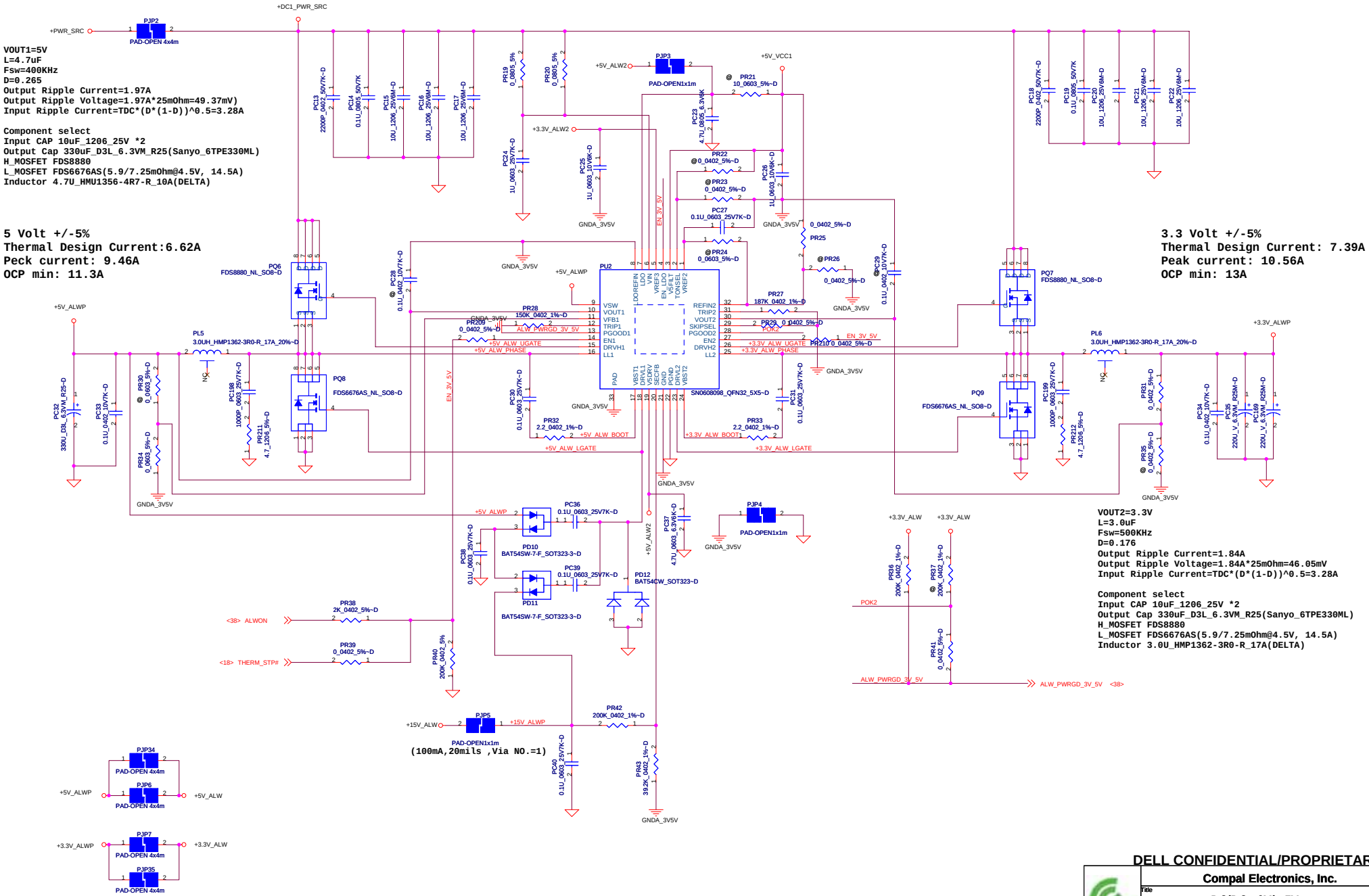


+3.3V_ALWP/ +5V_ALWP/ +5V_ALW2 / +15V_ALWP



Compal Electronics, Inc.		
Title: DC/DC +3V/ +5V		
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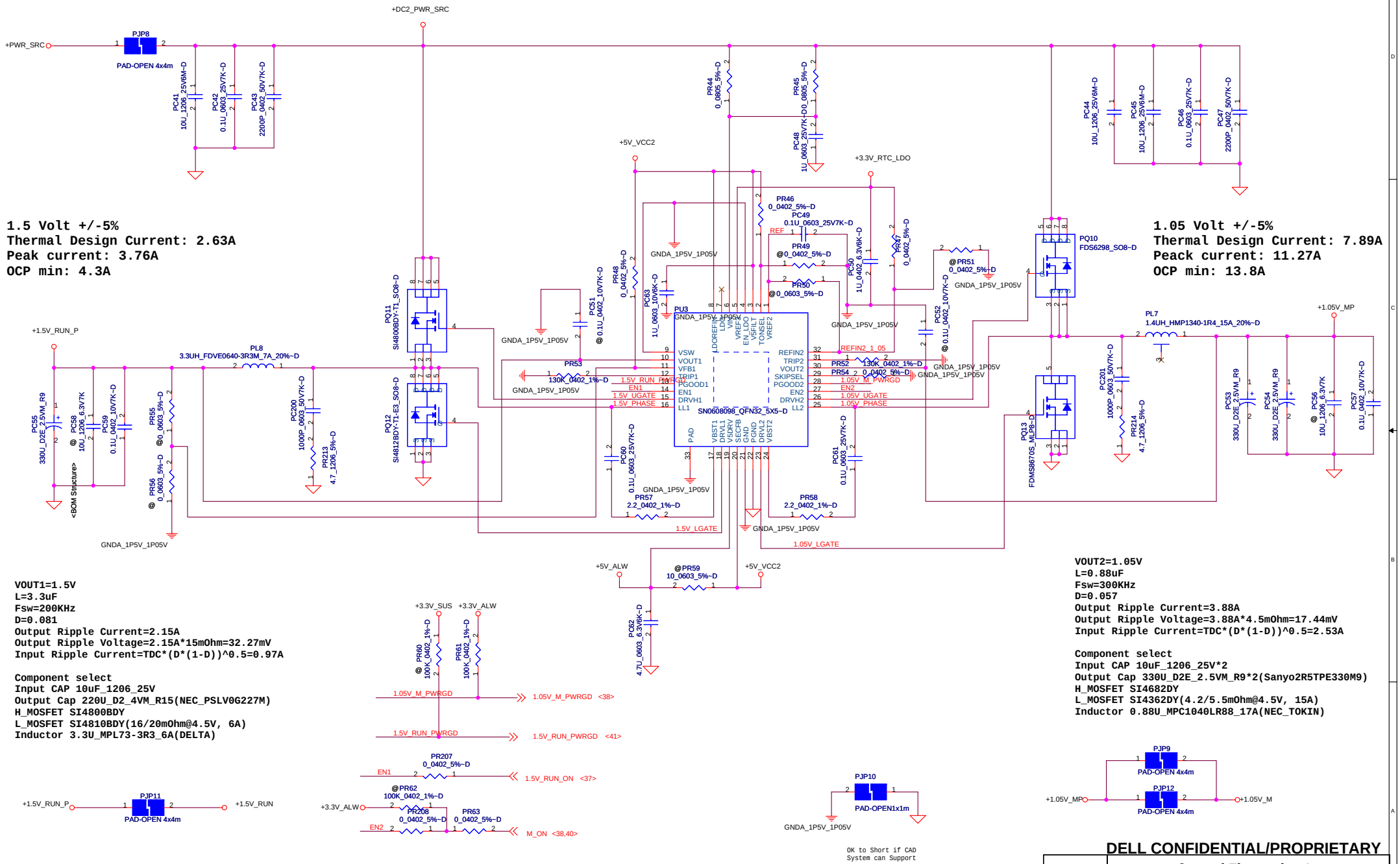
Date: Wednesday, May 14, 2008	Sheet 44 of 63	

+1.5V_RUN / +1.05V_M/ +3.3V_RTC_LDO



Compal Electronics, Inc.

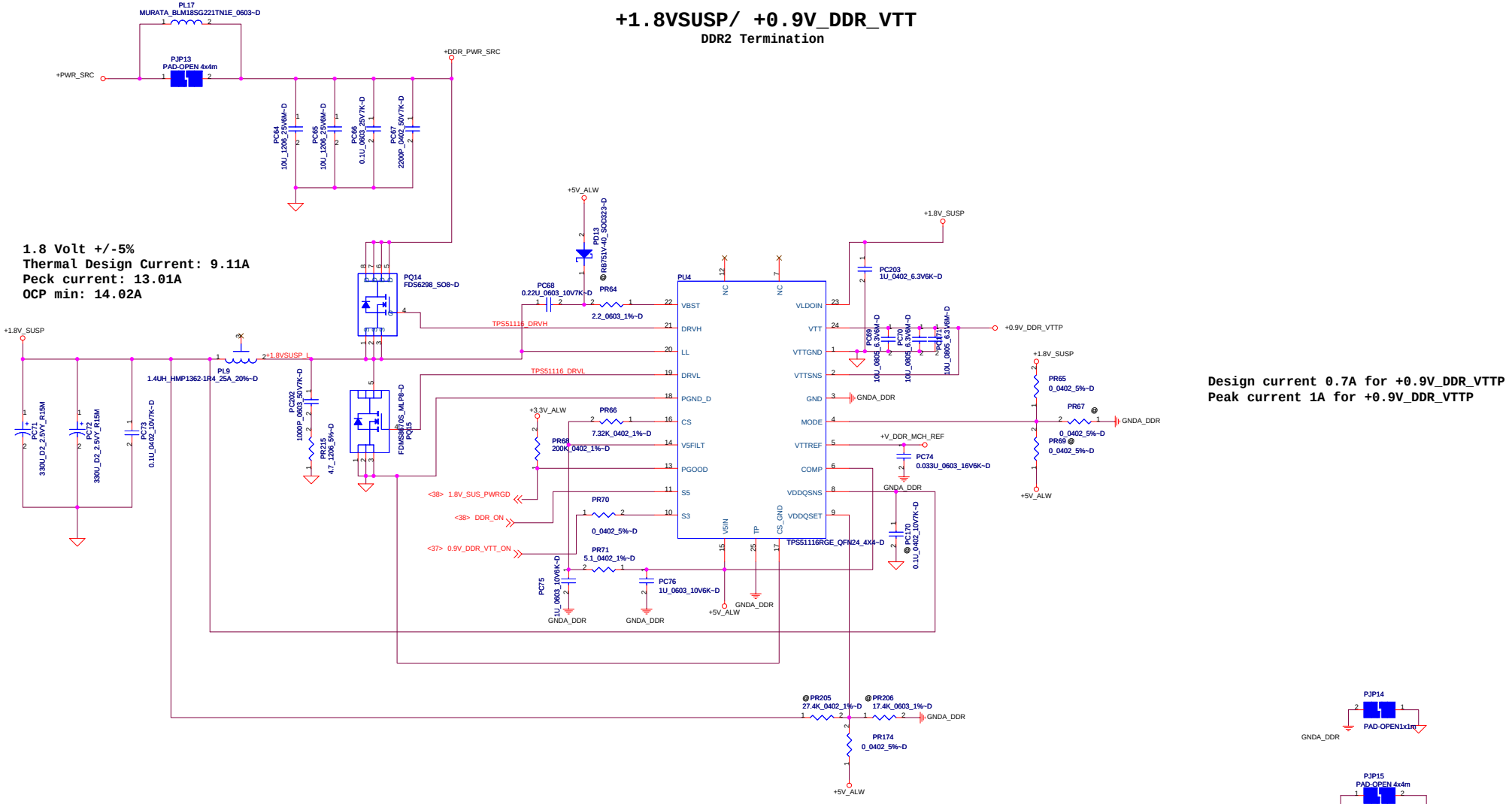
Title	+1.5V_RUN / +1.05V_VCCP	
Size	Document Number LA-4041P	Rev 0.4
Date: Wednesday, May 14, 2008	Sheet 45 of 63	

+1.8VSUSP/ +0.9V_DDR_VTT

DDR2 Termination

1.8 Volt +/-5%
Thermal Design Current: 9.11A
Peck current: 13.01A
OCP min: 14.02A

Design current 0.7A for +0.9V_DDR_VTTP
Peak current 1A for +0.9V_DDR_VTTP



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.	
Title	1.8VSUSP/0.9VDDR
Size	Document Number: LA-4041P — Rev: 0.4
Date: Wednesday, May 14, 2008	Sheet 46 of 63

PU5 PU6 PU8
AVIA ISL6208
Maybach DIS MAX8791

PU7
AVIA ISL6260C
Maybach DIS MAX8786

AVIA
PC98 0.15uF
PR115 0 ohm
PR118 0 ohm
PC120 180pF
PR129 6.34K ohm
PR78,PR100,PR125 10K ohm
PR76,PR97,PR120 10 ohm
PC89,PC103,PC119 0.22uF
PL11,PL12,PL13 0.36uH

Maybach DIS
PC98 470pF
PR115 6.04K ohm
PR118 71.5K ohm
PC120 0.47uF
PR129 825 ohm
PR78,PR100,PR125 430 ohm
PR76,PR97,PR120 0 ohm
PC89,PC103,PC119 1uF
PL11,PL12,PL13 0.45uH

Iccmax=44A
I_TDC=35A
OCP=65A, Intel spec=50A

Maybach DIS
change PR123 to 10_ohm
change PC122 to PR320 10_ohm

Compal Electronics, Inc.

Title: +VCORE

Size: | Document Number: LA-4041P | Rev: 0.4

Date: Wednesday, May 14, 2008 | Sheet 47 of 63

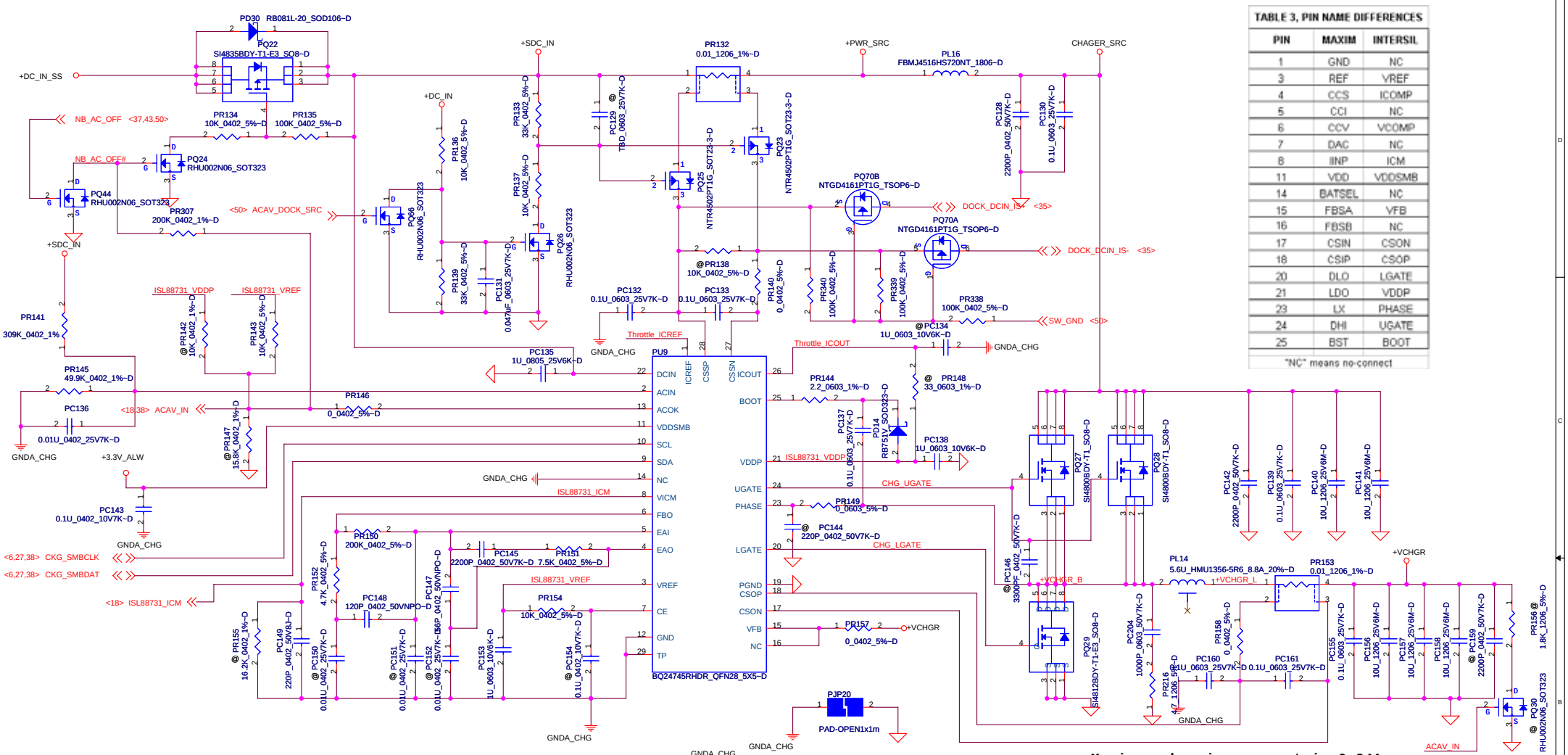


TABLE 3, PIN NAME DIFFERENCES		
PIN	MAXIM	INTERSIL
1	GND	NC
3	REF	VREF
4	CCS	ICOMP
5	CCI	NC
6	CCV	VCOMP
7	DAC	NC
8	IINP	ICM
11	VDD	VDDSMB
14	BATSEL	NC
15	FBSA	VFB
16	FBSB	NC
17	CSIN	CSON
18	CSIP	CSOP
20	DLO	LGATE
21	LDO	VDDP
23	LX	PHASE
24	DHI	UGATE
25	BST	BOOT

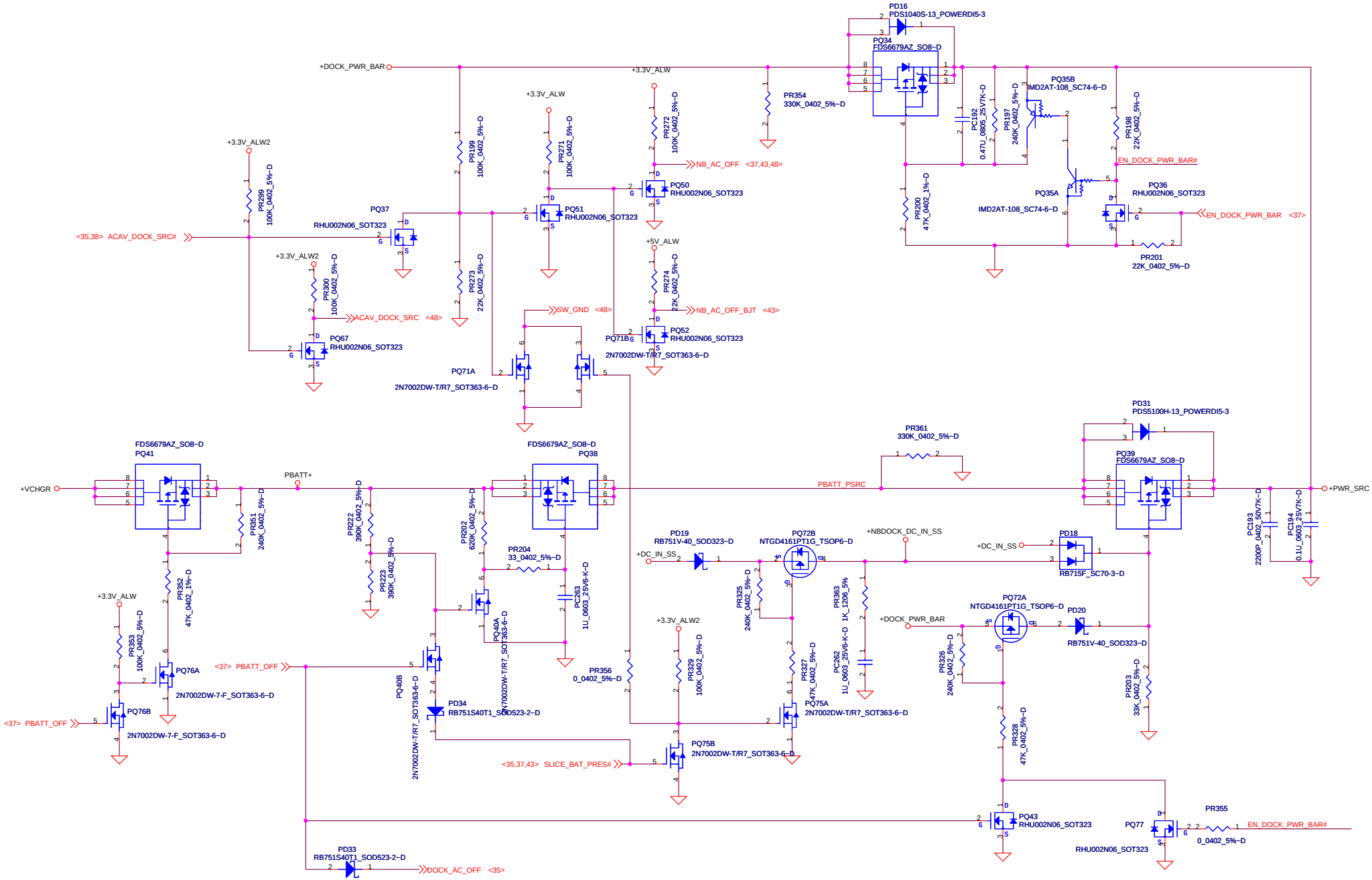
"NC" means no-connect

Compal Electronics, Inc.

Title: Charger

Size: | Document Number: LA-4041P | Rev: 0.5

Date: Wednesday, May 14, 2008 | Sheet 48 of 56



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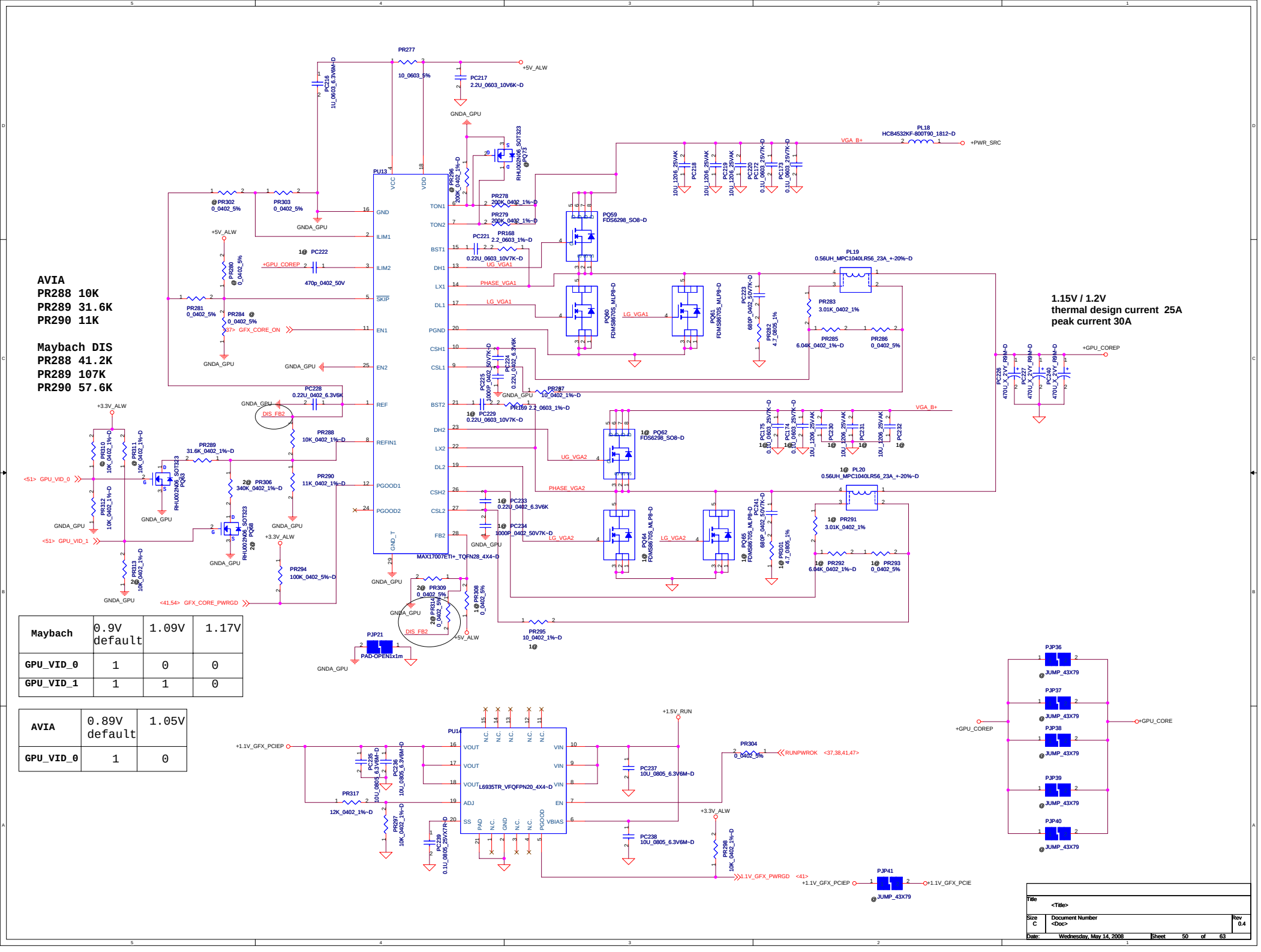
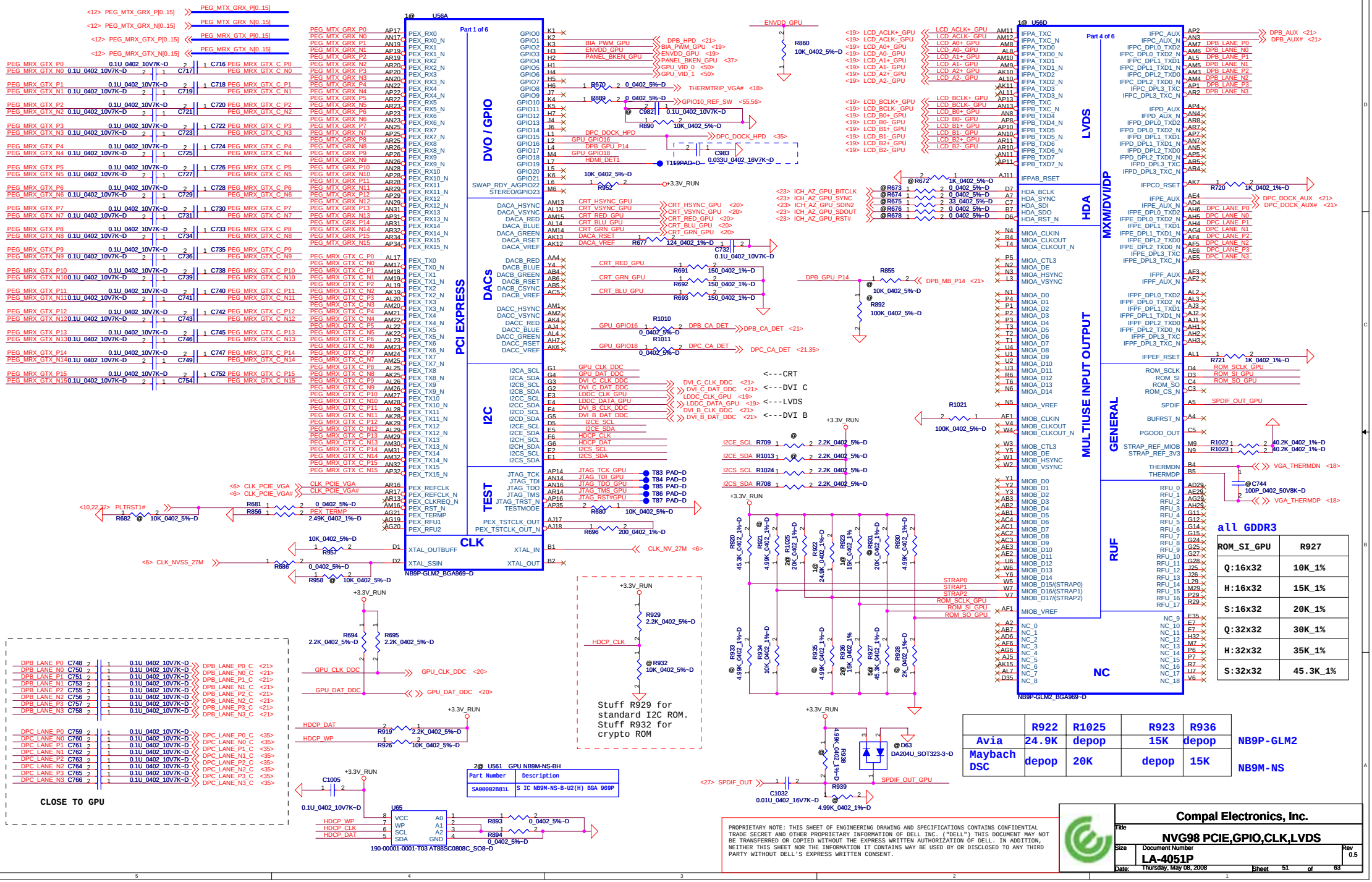
Compal Electronics, Inc.	
Title	Selector
Size	Document Number: LA-4041P
Rev	0.4
Date:	Wednesday, May 14, 2008
Sheet	49 of 63



Maybach	0.9V default	1.09V	1.17V
GPU_VID_0	1	0	0
GPU_VID_1	1	1	0

AVIA	0.89V default	1.05V
GPU_VID_0	1	0

Title	<Title>	
Size C	Document Number <Doc>	Rev 0.4
Date: Wednesday, May 14, 2008	Sheet 50 of 63	


U56A
Part 1 of 6
PCI EXPRESS
DVO / GPIO
DACs
I2C
TEST
CLK
NB9P-GLM2_BGA969~D
U56D
Part 4 of 6
LVDS
HDA
MXM/DVI/DP
MULTIUSE INPUT OUTPUT
GENERAL
RUF
NC
NB9P-GLM2_BGA969~D
Stuff R929 for standard I2C ROM.
Stuff R932 for crypto ROM
CLOSE TO GPU
U65
190-00001-0001-T03 AT88SC0808C_SO8~D
2@ U561 GPU NB9M-NS-BH
Part Number
Description
SA00002B81L
S IC NB9M-NS-B-U2(H) BGA 969P
all GDDR3
ROM_SI_GPU
R927
Q:16x32
10K_1%
H:16x32
15K_1%
S:16x32
20K_1%
Q:32x32
30K_1%
H:32x32
35K_1%
S:32x32
45.3K_1%
Avia
Maybach DSC
R922
24.9K
R1025
depop
20K
R923
15K
R936
NB9P-GLM2
NB9M-NS
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Compal Electronics, Inc.
Title
NVG98 PCIE,GPIO,CLK,LVDS
Size
Document Number
LA-4051P
Rev
0.5
Date: Thursday, May 08, 2008
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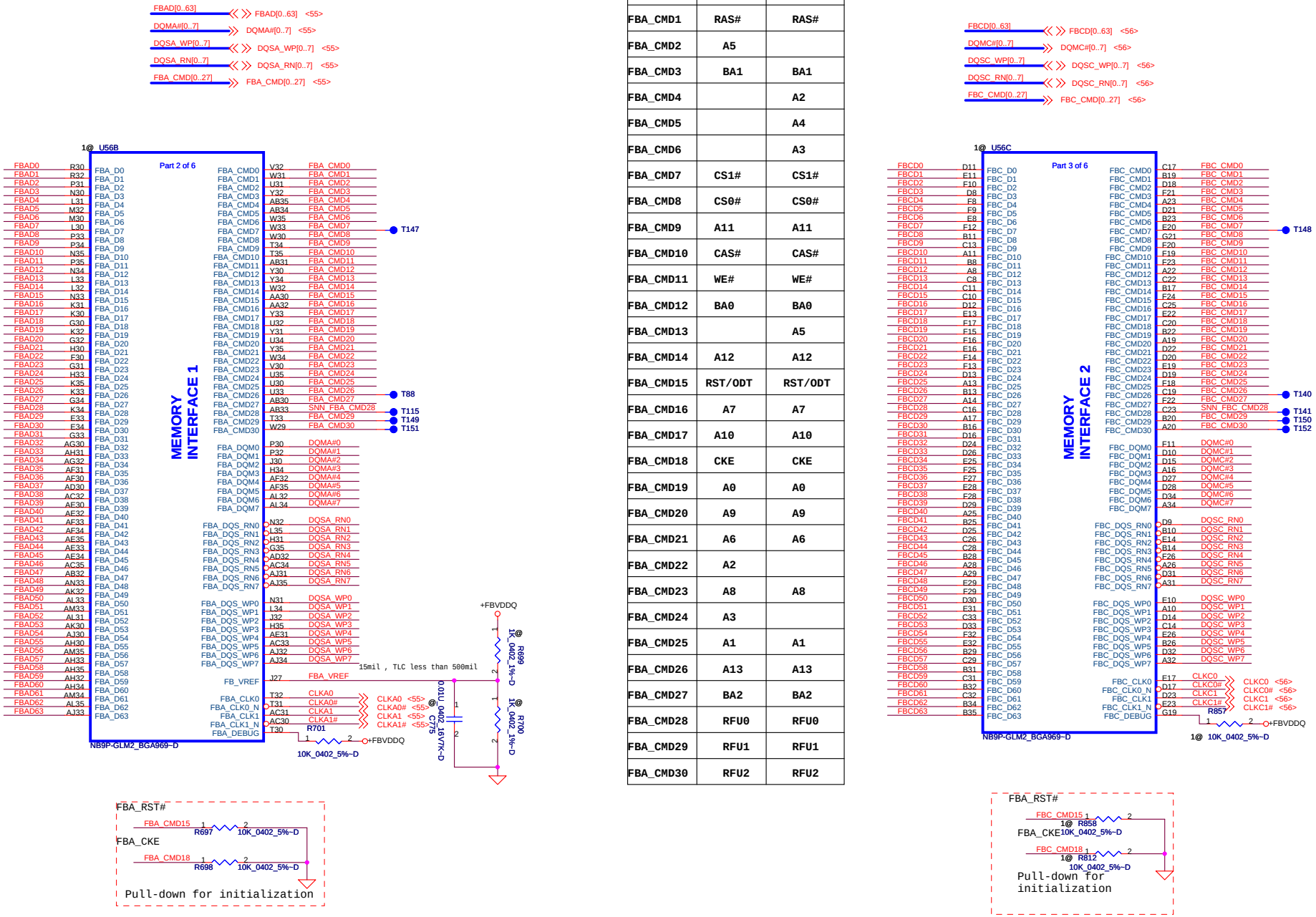
	0..31	32..63
FBA_CMD0	A4	
FBA_CMD1	RAS#	RAS#
FBA_CMD2	A5	
FBA_CMD3	BA1	BA1
FBA_CMD4		A2
FBA_CMD5		A4
FBA_CMD6		A3
FBA_CMD7	CS1#	CS1#
FBA_CMD8	CS0#	CS0#
FBA_CMD9	A11	A11
FBA_CMD10	CAS#	CAS#
FBA_CMD11	WE#	WE#
FBA_CMD12	BA0	BA0
FBA_CMD13		A5
FBA_CMD14	A12	A12
FBA_CMD15	RST/ODT	RST/ODT
FBA_CMD16	A7	A7
FBA_CMD17	A10	A10
FBA_CMD18	CKE	CKE
FBA_CMD19	A0	A0
FBA_CMD20	A9	A9
FBA_CMD21	A6	A6
FBA_CMD22	A2	
FBA_CMD23	A8	A8
FBA_CMD24	A3	
FBA_CMD25	A1	A1
FBA_CMD26	A13	A13
FBA_CMD27	BA2	BA2
FBA_CMD28	RFU0	RFU0
FBA_CMD29	RFU1	RFU1
FBA_CMD30	RFU2	RFU2



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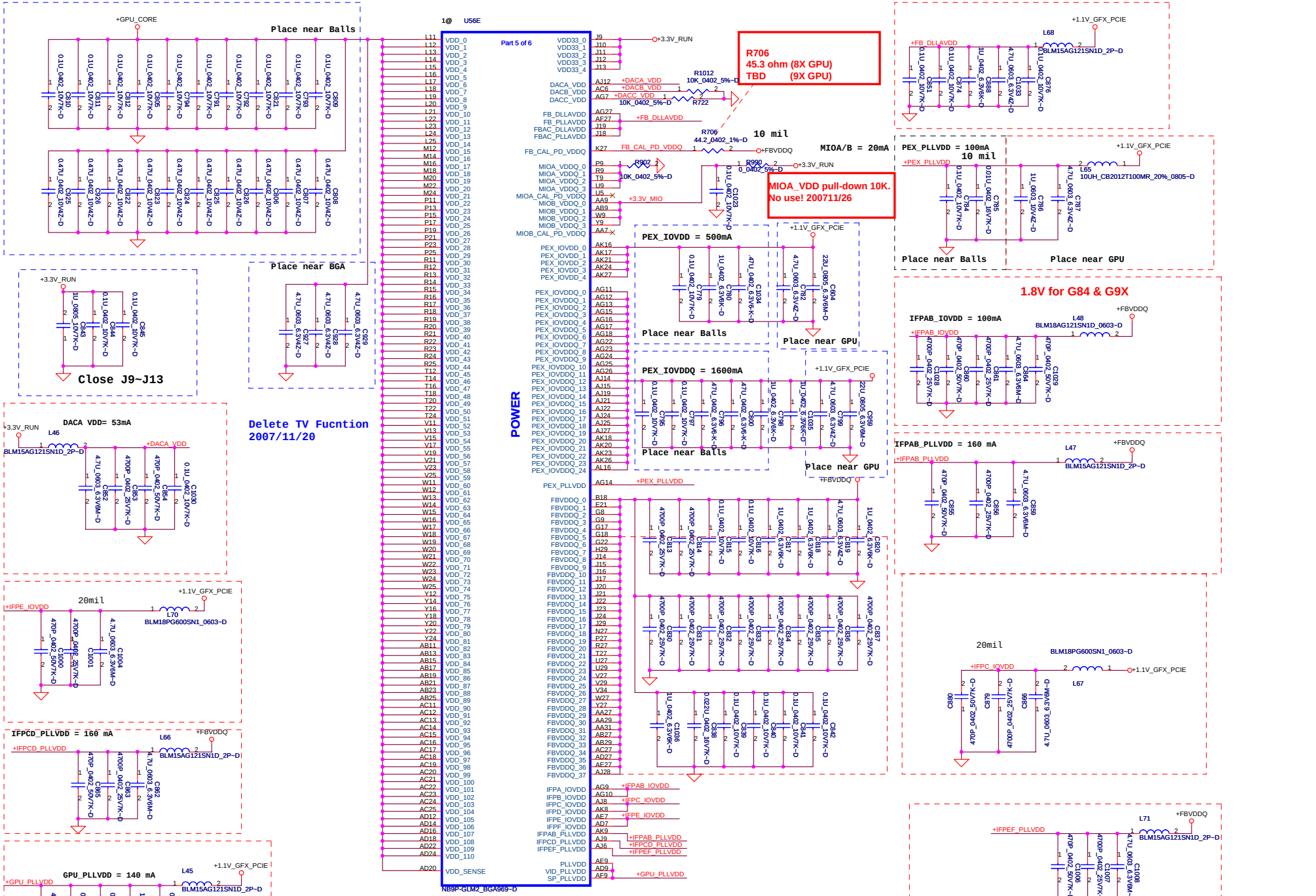
Compal Electronics, Inc.

Title: NVG98 Memory Interface

Size: | Document Number: LA-4051P | Rev: 0.5

Date: Wednesday, April 30, 2008 | Sheet 52 of 63


1@ U56E
Part 5 of 6
POWER
NB9P-GLM2_BGA969-D
Place near Balls
Place near BGA
Close J9~J13
Delete TV Fucntion
2007/11/20
R706
45.3 ohm (8X GPU)
TBD (9X GPU)
R706
44.2_0402_1%~D
10 mil
MIOA/B = 20mA
MIOA_VDD pull-down 10K.
No use! 200711/26
PEX_IOVDD = 500mA
PEX_IOVDDQ = 1600mA
Place near GPU
1.8V for G84 & G9X
IFPAB_IOVDD = 100mA
IFPAB_PLLVDD = 160 mA
PEX_PLLVDD = 100mA
10 mil
DACA VDD= 53mA
IFPCD_PLLVDD = 160 mA
GPU_PLLVDD = 140 mA
IFPEF_PLLVDD = 160 mA
20mil
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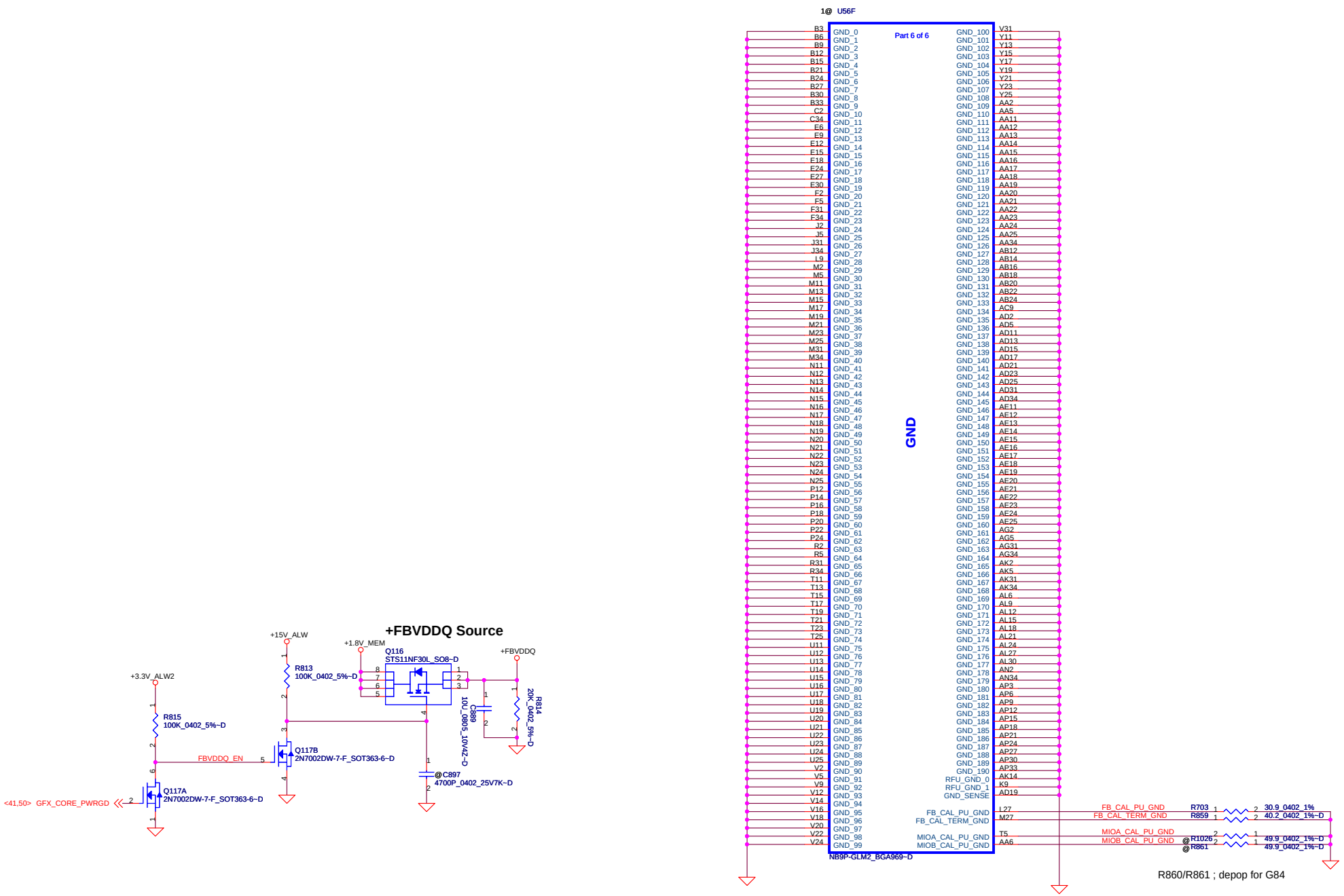
Compal Electronics, Inc.
Title
NVG98 POWER
Size
Document Number
LA-4051P
Rev
0.5
Date: Friday, April 25, 2008
Sheet 53 of 63



Compal Electronics, Inc.

Title: NVG98 GND

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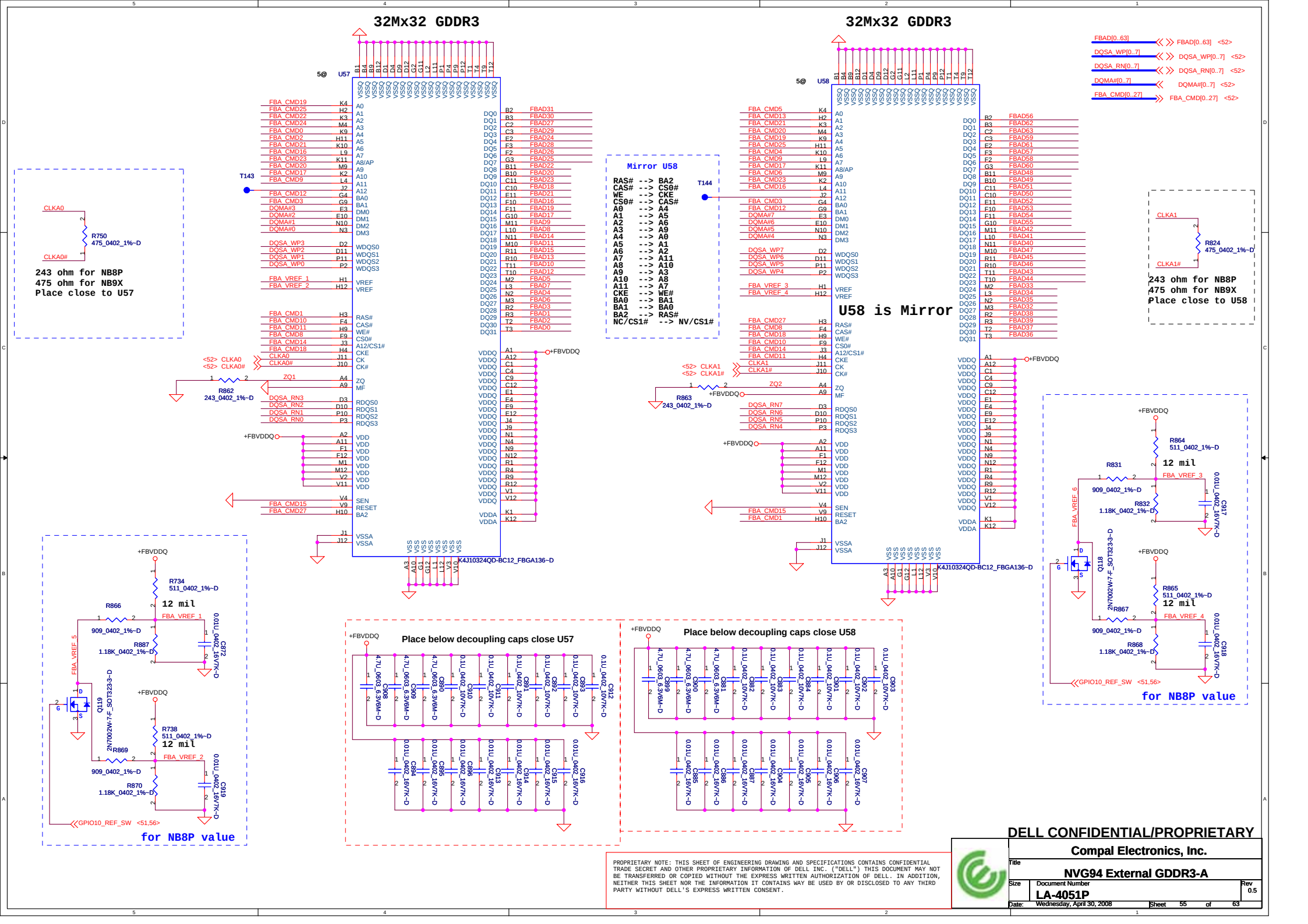
32Mx32 GDDR3
5@ U57
T143
FBA_CMD19
FBA_CMD25
FBA_CMD22
FBA_CMD24
FBA_CMD0
FBA_CMD2
FBA_CMD21
FBA_CMD16
FBA_CMD23
FBA_CMD20
FBA_CMD17
FBA_CMD9
FBA_CMD12
FBA_CMD3
DQMA#3
DQMA#2
DQMA#1
DQMA#0
DQSA_WP3
DQSA_WP2
DQSA_WP1
DQSA_WP0
FBA_VREF_1
FBA_VREF_2
FBA_CMD1
FBA_CMD10
FBA_CMD11
FBA_CMD8
FBA_CMD14
FBA_CMD18
CLKA0
CLKA0#
ZQ1
R862
243_0402_1%~D
DQSA_RN3
DQSA_RN2
DQSA_RN1
DQSA_RN0
+FBVDDQ
FBA_CMD15
FBA_CMD27
J1
J12
K4J10324QD-BC12_FBGA136~D
FBAD31
FBAD30
FBAD27
FBAD29
FBAD24
FBAD28
FBAD26
FBAD25
FBAD22
FBAD20
FBAD23
FBAD18
FBAD21
FBAD16
FBAD19
FBAD17
FBAD9
FBAD8
FBAD14
FBAD15
FBAD13
FBAD10
FBAD12
FBAD5
FBAD7
FBAD4
FBAD6
FBAD3
FBAD1
FBAD2
FBAD0
+FBVDDQ
CLKA0
R750
475_0402_1%~D
CLKA0#
243 ohm for NB8P
475 ohm for NB9X
Place close to U57
Mirror U58
RAS# --> BA2
CAS# --> CS0#
WE --> CKE
CS0# --> CAS#
A0 --> A4
A1 --> A5
A2 --> A6
A3 --> A9
A4 --> A0
A5 --> A1
A6 --> A2
A7 --> A11
A8 --> A10
A9 --> A3
A10 --> A8
A11 --> A7
CKE --> WE#
BA0 --> BA1
BA1 --> BA0
BA2 --> RAS#
NC/CS1# --> NV/CS1#
32Mx32 GDDR3
5@ U58
T144
U58 is Mirror
<52> CLKA1
<52> CLKA1#
R863
243_0402_1%~D
+FBVDDQ
FBAD[0..63]
DQSA_WP[0..7]
DQSA_RN[0..7]
DQMA#[0..7]
FBA_CMD[0..27]
<52>
CLKA1
R824
475_0402_1%~D
CLKA1#
243 ohm for NB8P
475 ohm for NB9X
Place close to U58
+FBVDDQ
R734
511_0402_1%~D
12 mil
R866
909_0402_1%~D
FBA_VREF_1
R887
1.18K_0402_1%~D
C872
0.01U_0402_16V7K~D
FBA_VREF_5
Q119
2N7002W-7-F_SOT323-3~D
R738
511_0402_1%~D
12 mil
R869
909_0402_1%~D
FBA_VREF_2
R870
1.18K_0402_1%~D
C919
0.01U_0402_16V7K~D
GPIO10_REF_SW <51,56>
for NB8P value
Place below decoupling caps close U57
4.7U_0603_6.3V6M~D
0.1U_0402_10V7K~D
0.01U_0402_16V7K~D
Place below decoupling caps close U58
R864
511_0402_1%~D
12 mil
R831
909_0402_1%~D
FBA_VREF_3
R832
1.18K_0402_1%~D
C917
0.01U_0402_16V7K~D
FBA_VREF_6
Q118
2N7002W-7-F_SOT323-3~D
R865
511_0402_1%~D
12 mil
R867
909_0402_1%~D
FBA_VREF_4
R868
1.18K_0402_1%~D
C918
0.01U_0402_16V7K~D
GPIO10_REF_SW <51,56>
for NB8P value
DELL CONFIDENTIAL/PROPRIETARY
Compal Electronics, Inc.
NVG94 External GDDR3-A
LA-4051P
Rev 0.5
Wednesday, April 30, 2008
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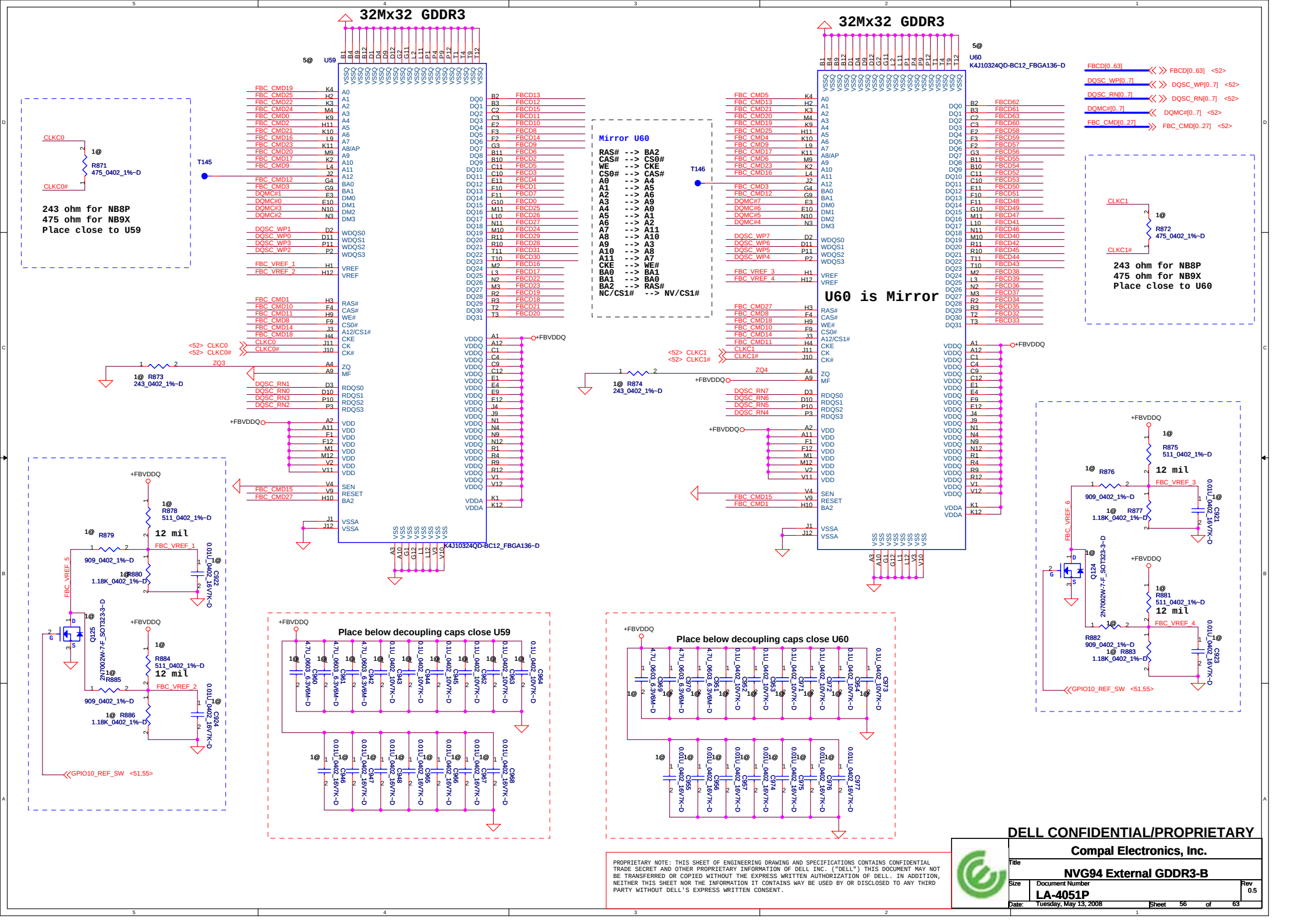
PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



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

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	37	ECE5028	2007/10/09	Compal	change BID pop option to X01: SCH165393	R534 (depop) ; R529 (pop)	X01
2	33	USB2.0	2007/10/25	Compal	Charger USB Fail: SCH165395	Need to swap the connection for USB_CHARGER_PWR_EN# & ESATA_USB_PWR_EN#	X01
3	13	Cantiga	2007/10/25	Compal	modify JUMPER ref. name	Modify ref name from P1 to PJP22	X01
4	51	NV98	2007/10/25	Compal	VRAM strap pin pop option	depop R922,R923,R933,R934 and pop R920,R921,R935,R936 to match 16Mx32 (Samsung)	X01
5	51 20	NV98 CRT SW	2007/10/25	Compal	No more TV out function supported on Edock-LIO:SCH165398	Delete TV signals & Circuit, and remove R669, R762, R763	X01
6	6	Clock	2007/11/1	Compal	Clock 27M R37 Resistor Error:SCH165399	R37 change value to 33ohm	X01
7	7	Quad Core	2007/11/5	Compal	Support Quad Core CPU	(1) Quad Core Support, stuff R941, R984, R945, R946, R943, R942, R944, Q14, Q129 (2) Quad Core ITP Support, stuff R976, R977, R978, R979, R980, R981, R982, R983	X01
8	21	DP	2007/11/5	Compal	Support DP compoments	(1) Support DP, all components stuff	X01
9	21	DP	2007/11/5	Compal	DPB_HPD# Voltage Level	Remove R1006 pull down 7.5K (UMA need the resistor), becasue Descrite level is 3.3V	X01
10	21	DP	2007/11/5	Compal	DOCK_DET# Double Pull Up	Remove R799 for Double Pull Up	X01
11	21	DP	2007/11/5	Compal	DP Spec for AUX/# need pull down 100k	add DPB_MB_AUX/# --> R895/R896 add DPB_DOCK_AUX/# --> R897/R898 add DPC_DOCK_AUX/# --> R899/R900 (no-stuff)	X01
12	22	SB	2007/11/5	Compal	MDC Reset Change Control By ECE5028 to 5V Level:SCH165401	SB U10 PinF6 change Name to GNT3#/GPIO55 only	X01
13	23	SB	2007/11/5	Compal	SB Remove RTC Detect Funcion	Remove R375, R961, R960, Q130 and Add T46 on U10 pinAE8	X01
14	23 51	SB GPU	2007/11/5	Compal	Support HDCP Audio:SCH165403	SB Stuff 3rd HD Audio to GPU R243, R244, R245, R246 GPU Stuff R673, R674, R676, R678 0ohm, R675 33ohm	X01
15	24 37	SB	2007/11/5	Compal	SB GPIO Change:SCH165431	(1) Sniffer detect Remove From SB to ECE5028 GPIOH7, U10 pinAE8 add T39, pull up resistor R754 change to page37 (2)R266 USB_MCARD3_DET# move to page34 (3)SB U10 pinC12 net named to "LAN_PHY_PWR_CNTRL"	X01
16	28	Audio	2007/11/5	Compal	Audio Test Result:SCH165433	C437/C436 change from 1uF_1206 to 2.2uF_1206	X01
17	31 37	PWR Board	2007/11/5	Compal	Power Board Detect pin name Changed:SCH165431	JS1394 pin9 change name to "PWR_BTN_BD_DET#", and connect to page 37 ECE5028 pin33 GPIOH7	X01
18	29 37	LOM	2007/11/5	Compal	LOM Disable pin name changed:SCH165431	LOM Disable pin name changed to "LAN_PHY_PWR_CNTRL" and connect to page 37 ECE5028 pin88 GPIOG0	X01
19	33 37	ESATA	2007/11/5	Compal	ESATA Enable pin name Change:SCH165431	ESATA Enable pin name U29 Changed to "ESATA_USB_PWR_EN#" and connector to ECE5028 pin82 GPIOB2	X01
20	33 37	USB	2007/11/5	Compal	Charger USB Port pin name Change:SCH165431	Chatger USB U53 Enable pin name changed to "USB_POWERSHARE_PWR_EN#" and connector to ECE5028 pin104 GPIOA7	X01
21	33	USB	2007/11/5	Compal	Charger USB Port Switch Eye Diagram Fail:SCH165434	U54 Change to TI Part TS3USB1RSER	X01
22	33	MDC	2007/12/5	Compal	MDC DIS pin Voltage to +3.3V too Low:SCH165431	R326 pull up to +5V_ALW and connrection changed from SB to ECE5028 pin102 GPIOA5 (2007/12/5 update to pull up +5V_ALW)	X01
23	34	WLAN	2007/11/5	Compal	New ME Drawing Remove Latch 2	Remove JLAT2	X01
24	34	Nimi-card	2007/11/5	Compal	Correct Nimi-Card Detect	stuff R438, R458, R449	X01
25	35	Dock-ESD	2007/11/5	Compal	Support Dock ESD	ESD Part D65, D66 stuff	X01
26	36	USH	2007/11/5	Compal	Smartcard Detect Cancel:SCH165435	Smartcard SC_DET pin remove module port to EC	X01
27	36	USH	2007/11/5	Compal	Correct Smartcard Buffer 73S8009CN Power Bead Current Value:SCH165435	L69 change part >400mA of Murata LQH32CN100K53L	X01
28	36	USH	2007/11/5	Compal	Contactless Connector Changed:SCH165435	JCS1 change connector to TYCO_1-1775784-0_6P-T. But still wait contactless spec to update	X01
29	37	ECE5028	2007/11/5	Compal	ECE5028 change GPIO Define:SCH165431	(1)pin102 no need of PNL_LED_MASK#, change to MDC_RST_DIS# (3)pin70 GPIOC5 no need of ADAPT_TRIP_SET, NC (4)updte CHIP_ID message, current set to (0,0)	

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

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
30	38	MEC5035	2007/11/05	Compal	MEC5035 pin19 add RC_ID:SCH165437	add R211/C480	X01
31	38	MEC5035	2007/11/05	Compal	MEC5035 SUSPWROK change Define:SCH165437	SUSPWROK change from pin19 to pin30	X01
32	38	MEC5035	2007/11/05	Compal	MEC5035 no need DEBUG_ENABLE#, support from KOST_DEBUG_RX:SCH165437	(1)JDEG1 pin 2 change to HOST_DEBUG_RX, Double pull up --> remove R553. (2)DEBUG_ENABLE# no need, remove R959	X01
33	38	MEC5035	2007/11/05	Compal	No Need EC SPI Rom Function:SCH165439	(1)Remove R591, R589, R590, R592, R593, C672, U37 (2)MEC5035 pin 67, 68, 69 : NC	X01
34	38 39	MEC5035	2007/11/05	Compal	No Need ECE1088:SCH165440	(1)MEC5035 pin35, 37 : NC (2)remove ECE1088: U38, C676, C677, R747, R650, R826	X01
35	39 38	ECE1088	2007/11/05	Compal	TouchPad Change Define:SCH165443	(1)TouchPad Connector Change pin define for pin 14/15/16 to GND/KYBD_BLJT_PWR/TP_DET# (2)KYBD_BLJT_PWR connect to MEC5035 pin47	X01
36	41	Screw	2007/11/05	Compal	ME Changed Screw Size	(1)Dock: H14/H15 --> H_5P3 (2)GPU : H19 --> 4P0, H20 --> 3P9, H21 --> 3P3 (3)H23 --> 4P0 (4)H22 --> 2P2	X01
37	42	LED	2007/11/05	Compal	LED Circuit Changed:SCH165444	(1)Add U14 AND Gate for Base LED Mark with LID_CL# (2) Refer Page 42 for LED circuit changed	X01
38	37	MEC5028	2007/11/19	Compal	ALWON oscillation on Battery only with RTC battery:SCH165445	Cause the ECE5028 no power, add D4/R20 to separate	X01
39	24,33,36	USH/BIO	2007/11/19	Compal	USH add Reset# to BIO Module:SCH165061	BIO_DET# Function Delete, add R63 pull-up for FP_RESET#. And link to USH pin C3. And add R1002 for UPEK module	X01
40	29	LOM	2007/11/19	Compal	Intel LOM PHY 82576LM change to B0 version:SCH165446	Intel LOM PHY 82576LM change to B0 version	X01
41	10~15	NB	2007/11/19	Compal	Intel NB Cantiga change to B0:SCH165447	Intel NB Cantiga change to B0	X01
42	21,35,51	DP	2007/11/19	Compal	DP Port Cable Detect change to "H" Detect:SCH165448	Delete R783/Q10, and net name change to DPB_HPD Delete R795/Q114, and net name change to DPC_DOCK_HPD	X01
43	21	DP	2007/11/19	Compal	DP Port delete no use parts	Delete R895~R900, R209, R278, R336, R337, R419, R647 --> Dell want keep those parts	X01
44	21	DP	2007/11/19	Compal	DP Port delete function:SCH165448	DP Port delete function work, DPC_DOCK_AUX_SW/DPC_DOCK_AUX#SW add R1008/R1009 100k to GND DP Port delete function work, DPB_AUX_SW/DPB_AUX#SW add R1006/R1007 100k to GND, but depop U9 pin 1 R193 change to 3.48K_1%, and depop R180/R181/R896. pop R276/R336/R337	X01
45	35	DOCK	2007/11/19	Compal	Dock connect rename:SCH165449	Dock connect rename to JDOCK1	X01
46	35	DOCK	2007/11/20	Compal	Dock connect ESD Diode:SCH165449	add D65 SM24C.TCT_SOD23 ESD Diode on +DOCK_PWR_BAR	X01
47	18	Thermal	2007/11/20	Compal	No need for PWR_MON_GFX for DSC platform:SCH165450	un-stuff R1005	X01
48	20	CRT/ESD	2007/11/20	Compal	No stuff CRT ESD Diode D5, D6, D7:SCH165453	No stuff CRT ESD Diode D5, D6, D7	X01
49	55,56	GDDR	2007/11/20	Compal	Chnage to NB9P, CLK Shunt Resistors Change Value:SCH165454	R750, R824, R871, R872 change to 475ohm_1%	X01
50	51	GPU	2007/11/20	Compal	need to add two series resistors for CA_DET:SCH165454	add R1010, R1011 0hm, un-stuff	X01
51	12,13,20 51, 53	NB/GPU	2007/11/20	Compal	TV Function Remove from M09 Platform:SCH165454	NB: page12 U2 pinC31/E32 --> NC NB: page13 U2 pinM25 to GND, pinL28 to +1.5V_RUN after a Bead (L49) SW: page20 U4 7B1/8B1/9B1, 7B2/8B2/9B2 --> NC and remove R669/R762/R763 GPU: page51, delete R679, C737. U56 pinAA4/Y4/AB4/AB6/AC5 NC GPU: page53, delete DACB: C867,C868, C869, C1031,L49, and add R1012 10K pull dowm DACB at pinAC6	X01
52	51	GPU	2007/11/20	Compal	Nvidia FAE suggest for I2C E channel pull up:SCH165454	U56 GPU pinD5/E5 I2CE_SCL/SDA add R709/R1013 10K pull up, but depop	X01
53	51	GPU	2007/11/20	Compal	Nvidia GPU set threes different power level: 1.17V, 1.09V, 0.9V:SCH165454	U56 GPIO5 --> GPU_VID_0 GPIO6 --> GPU_VID_1	X01
54	35	DOCK	2007/11/20	Compal	DOCK pin out to support Battery Slice:SCH165449	JDOCK1 pin41 add net : +NBDOCK_DC_IN_SS	X01
55	30	LOM	2007/11/20	Compal	Remove termination resistors capacitors and LED serial resistors:SCH165456	Remove MDI termination R384~R391, C488~C491, R395, R396, R397 move to IO Board	X01
56	18	EMC4002	2007/11/21	Compal	EMC4002, Power SW pin separate :SCH165450	Add AND Gate: U70 and C1014, R143/R144 depop	X01
57	29, 33, 35	LOM	2007/11/21	Compal	Intel LOM LDO for +2.65V/+2.5V:SCH165456	page29: Add LDO Q101/Q103, R959~R962, C1010~C1012 page33: IO connector pin36 change to +LOM_VCT page35: Dock pin116/118 change to +LOM_VCT	X01
58	30	LOM SW	2007/11/21	Compal	Change MDI bus Bead Value at L20 ~ L27 from 36nH to 22nH:SCH165456	Change MDI bus Bead Value at L20 ~ L27 from 36nH to 22nH, will improving the IEEE	X01
59	33	USB Port 2	2007/11/21	Compal	USB SW Vendor Suggest Change Design:SCH165434	USB Port Two Connection Changed for Port2: SB --> Switch--> Choke --> Connector, and Switch Chip close to SB	X01
60	21	DP	2007/11/21	Compal	Proper Compoments Derating	D10 change change to B0540WS-7_SOD323-2	X01
61	53	GPU Power	2007/11/21	Compal	Change from Nvidia NB8P to NB9P, remove some parts:SCH165457	For +IFPC_IOVDD remove Q127, R940, Q128, PJP43	X01
62	53	GPU Power	2007/11/21	Compal	pop for NB9P on +IFPE_IOVDD/ +IFPEF_PLLVDD:SCH165457	+IFPE_IOVDD: L70, C1000, C1001, C1004 +IFPEF_PLLVDD: L71, C1006, C1007, C1008	X01

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

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
63	38	MEC5035	2007/11/21	Compal	Change Netname following Power Circuit Changed:SCH165437	"ACAV_IN_DOCK" to " ACAV_DOCK_SRC" "ACAV_IN_DOCK#" to " ACAV_DOCK_SRC#" "ACAV_IN_MB/DOCK" to " ACAV_IN" Remove U64, C846, add U71, C1031	X01
64	37	MEC5028	2007/11/21	Compal	DF174483: [SSI2]The LCD/LED will keep had power with USB device when unplug AC & Battery.	1) Add 100k no pop pull-ups to +3.3V_ALW2 on: - USB_SIDE_EN# - ESATA_USB_PWR_EN# - USB_POWERSHARE_PWR_EN# 2) No stuff R502, R923, R929.	X01
65	37	MEC5028	2007/11/21	Compal	Change PU/PD on SYS_LED_MASK#:SCH165431	add R1014 100k PD	X01
66	36	USH	2007/11/21	Compal	Remove unnecessary parts on contact less:SCH165435	Remove R495, R499	X01
67	51	GPU	2007/11/21	Compal	Need to depop R855/R892 to pass HDMI spec:SCH165454	depop R855/R892	X01
68	27, 36	Crystal	2007/11/21	Compal	Y3 Y5 is not PSL parts:SCH165458	Update Y3, Y5 to PSL parts	X01
69	24, 29, 37	Crystal	2007/11/22	Compal	LAN_PHY_DISABLE# Change net name same with Roush:SCH165431	Change net name to LAN_DISABLE# for SB GPIO12 to PHY, and pass a 0ohm resistor for "LAN_DISABLE#_R" to ECE5028 GPIO60	X01
70	7	CPU Quad Core	2007/11/22	Compal	Bom Separate for Avia and Maybach DSC for CPU:SCH165460	Change the R976~ R983, R984, R941~R946 Q129, Q14 to 1@, then Avia Bom Stuff. MaybachDSC un-stuff	X01
71	19	Camera VDD	2007/11/22	Compal	Camera net name update:SCH165461	Camera net name update to "+CAMERA_VDD"	X01
72	31	PCMCIA	2007/11/22	Compal	Change SD Card Power Switch for PSL:SCH165463	U28 chnage to TI TPS2051BDBVR_SOT23-5	X01
73	31	PCMCIA	2007/11/22	Compal	JSD1 connector changed from FPC type to Cable type:SCH165464	JSD1 change to 16pin cable type connector, same with touchpad connector	X01
74	33	BIO	2007/11/22	Compal	BIO connector change to another part:SCH165464	JBIO1 change to "TYCO_1734242-6_6P-T"	X01
75	35	Docking	2007/11/22	Compal	Docking Connector Change Layout Symbol:SCH165449	JDOCK1 change to JAE_WD2F144WB1	X01
76	36	Contact Less	2007/11/22	Compal	Contact Less Connector Changed:SCH165435	JCS1 Contact Less Connector Changed to Tyco_1-1775784-0	X01
77	27	I2C Codec	2007/11/27	Compal	Reduce one components R329 for I2C Codec fixed:SCH165467	We use I2C codec, no more for SPI Audio Codec, R329 can remove	X01
78	36	USH	2007/11/27	Compal	use B0 USH BCM5880 Chip, resistors setting changed:SCH165435	R845/R844 pop, delete R847/R846	X01
79	24	SPI/ICH9	2007/11/27	Compal	no more for 2nd SPI Rom, save board space:SCH165469	delete components: R307/R308/R309/R295/R305/R304/R306/C329/U13	X01
80	7	ITP	2007/11/29	Compal	ESD suggest add 0-ohm resistors on ITP bus:SCH165507	Add R1015~R1020 on ITP BPM#0~BPM#5, and depop first. Then we need hand soldering when we want use ITP	X01
81	13	NB	2007/12/03	Intel	SCH165564, Intel provide remove D1/R122	remove D1/R122	X01
82	37, 36	USH	2007/12/04	Broadcom	Broadcom Review Result	(1) R788 SP_TPM_LPC_EN pull up pop (2) R490 depop (3) C591 depop (4) remove R472 resistor 10ohm (5) pop R829, depop R467 for B0 version (6) depop R849, due to Broadcom no need detect SC_DET (7) R476 Change to 5.1M, R488 change to 3.3M to reduce power consumption (8) depop C594 (9) add R1027 47K pull down	X01
82	51, 52, 53, 54	Graphic	2007/12/04	Nvidia	Nvidia Review result	(1) PEX_IOVDDQ add C1035 1uF (2) PEX_IOVDD add C1034 (3) remove C778 (4) R699, R700, C755 no stuff (5) FBVDDQ C820 to 1u and add one C1036 (1u) (6) +FBVDDQ all 0.022u to 4700p, done (7) +FB_DLLAVDD add C1033 4.7u (8) +GPU_PLLVDD C850 change to 0.1u (9) +GPU_PLLVDD add C1037 4.7u (10) strap pin define change, STRAP0: Not stuff R933; Stuff R920 with 45.3K 1%. STRAP1: Not Stuff R921; Stuff R934 with 10K 1% STRAP2: NB9M-NS : Not stuff R935, Stuff R922 with 20K 1% STRAP2: NB9P-GLM2 : Not stuff R935, Stuff R922 with 25K 1% ROM_CLK_GPU: NB9M-NS : Not stuff R923, stuff R936 with 15K 1% ROM_SI_GPU: Qimonda 16Mx32 : Not stuff R931, Stuff R927 with 10K 1%. Hynix 16Mx32 : Not stuff R931, Stuff R927 with 15K 1% Samsung 16Mx32 : Not stuff R931, stuff R927 with 20K 1% Qimonda 32Mx32 : Not stuff R931, Stuff R927 with 30K 1%. Hynix 32Mx32 : Not stuff R931, Stuff R927 with 35K 1% Samsung 32Mx32 : Not stuff R931, stuff R927 with 45.3K 1% ROM_SO_GPU: Not stuff R928, Stuff R930 with 4.99K 1% (11) Add R1022 40.2K 1% on STRAP_REF_MIOB (12) Add R1023 40.2K 1% on STRAP_REF_3V3. (13) C982 Remove (14)Add pull down resiter on MIOA_CAL_PU_GND R1026 and not stuff (15)Add 10K pull down on MIOB_CLKIN R1021 (16) I2CE_SCL/SDA: Change R709 and R1013 to pull up +3.3V_RUN (17) I2CS_SCL/SDA: Add 10K pull up on I2CS_SCL. (18) R696 pop	X01
82	28	Audio	2007/12/05	IDT	IDT Audio Reference changed	R818. R827 change to 1K_0402	

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83	32	CardBus/Express	2007/12/6	Ricoh	Ricoh review result	(1) CBS_CCD1#/CBS_CCD2# add C1038/C1039 270pF pull down (2) U52 +1.5V_CARD add C1041, +3.3V_CARDAUX ADD C1040 10uF_0805 (3) R657, R684, R790 depop, because chip internal have been pull up	X01
84	24	LOM	2007/12/10	Intel	Per Intel message, no use GPIO12 to control LAN_DISABLE#, then reserve to pull up	add R1028 pull up +3.3V_ALW_ICH, depop	X01
85	37, 38	EC	2007/12/10	Dell	INSTANT_ON_SW# design change (WI165505)	INSTANT_ON_SW# change design to add R1029, R1030, R1031, then depop R560, D4, C827, R20	X01
86	23, 51	SB/VGA	2007/12/10	Compal	HDMI Over Audio source changed, because it will imapct S3 resume. HDMI source change from SPDIF	Depop R673, R674, R675, R676, R678, R243, R244, R245, R246.	X01
87	27	Codec	2007/12/12	Compal	IDT codec review result to change C408 ~ C411	Value from 1uF to 2.2uF	X01
88	18,21,37,38	EMC4002 , DP 5028, 5035, LED	2007/12/13	Compal	The VCC tied to logic gate VCC isnt correct.	Change U70,U66,U71,U62,U14 from 74AHCT to 74AHC part. (VCC pin spec = 3.3V)	X01
89	35	DP	2007/12/17	Dell	SCH166257: DOCK_DET# add pull 100K	add R1033 100K, and depop R124	X02
90	38	DOCK/5035	2007/12/17	Dell	TASK166259: update GPIO Map	signal ACAV_DOCK_SRC# can be removed from the 5035	X02
91	29	LOM PHY	2007/12/17	Dell	SCH166263: De-pop R1004 for control LAN PHY enable from BIOS setting	De-pop R1004	X02
92	42	LED	2007/12/17	Compal	SCH165444: add D66 for +5V_RUN back drive issues	add D66 between Q151 and Q97	X02
93	18	+2.5V LDO	2007/12/17	Compal	SCH166267: Disable EMC4002 LDO for +2.5V_RUN	add R1034 10K pull low, and de-pop R149, C238, C239	X02
94	19	DP	2007/12/17	Compal	SCH166272: De-populate D10 with a 0ohm Resistor	D10 footprinter can't stuff for 0805 or 1210, reserve a 1210 resistor footprint first: R1035	X02
95	42	LED	2007/12/17	DELL	SCH166275:Mask signals for NUM/SCRL/CAPS LEDs	Add Q154/R1036 to control NUM/SCRL/CAPS LED on/off, R1036 de-pop	X02
96	33, 38	USB	2007/12/17	DELL	SCH166278:Update cell charger detect circuit	add D67/D68 R1037, del R986, update C1021 to 1uF	X02
97	6, 8, 24	CLOKC, CPU, ICH	2007/12/17	DELL	SCH166282: intel NOA tets points comliance	add R1038~R1042 on PT2	X02
98	33	eSATA	2007/12/17	Compal	SCH166284:eSATA add Repeater Chip	eSATA repeater for ICH to eSATA trace over 5inch issues, addU72, C1042~C1045, R1043~R1048, Q155 . U72 change to PI2EQX3201BZFE	X02
99	37	5035	2007/12/17	Compal	SCH166316:PT2 change to X02 BID	PT2 change the BID for X02: R530, R534 pop. R535, R529 de-pop	X02
100	35	Dock	2007/12/21	Compal	SCH166435 : Hot Docking then Docking side Apdater Protect	add D70 and R1057 on docking connector, and add C1055, R1059. MEC5035 pin41 change to "DOCK_POR_RST#" to dock pin140	X02
101	9	CPU Bulk Caps	2008/2/4	Power	SCH166160 : CPU Bulk change to 270u_4.5mohm to support QC CPU	C56~C61 change to 270U_D_2VM_R4.5M~D, C58, C61 depop	X03
102	21	DP	2008/2/13	Dell	SCH168227 : DP Circuit Separate to Two Path for DP and DVI	Add C1056, C1057, R1060~R1063, Q155, Q156, U73, U74	X03
103	24, 36	SB (TPM), USH	2008/2/13	Dell	SCH168228 : Disable TPM Strape pin on SB GPIO6	Add R304 (3@) pull low when disable TPM Strap, and depop R273. And USH Depop D71, R1058 (4@) Pop R489 (3@)	X03
104	27	Audio	2008/2/13	IDT	SCH168229 : Reduce distortion, hissing, noise, and “pops” when changing PC BEEP volume	Depop R328, and R327/R828 change to 499K	X03
105	35	Dock	2008/2/13	Power	SCH168230 : Prevent System as Docking Always	Depop R1057	X03
106	13	NB	2008/2/13	Compal	SCH168231 : Debug +3.3V_Run backdrive issues	Reserve R1065 and stuff	X03
107	37	ECE5028	2008/2/13	Power	SCH168232 : Power Battery Slice Issues	Add D72/R1067, and reserve R1066	X03
108	33	eSATA	2008/2/13	Pericom	SCH168233 : Vendor Suggest Reserve Some Resistors on ESATA Repeater Chip	R1068~R1069 pop, and R1070~R1073 depop. And pop R1046 470ohm for SATA Eye	X03
109	36	USH	2008/2/13	Dell	SCH168234 : USH USB Signals Damping Resistor Value	R468/ R469 change to 0ohm	X03
110	33	USB Switch	2008/2/13	Dell	SCH168235 : USB Switch Add Resistore Reserve	Add R1074, R1075, depop	X03
111	42	LED	2008/2/13	Compal	SCH168236 : Follow Roush Test Result for LED Current Spec	Change to 1K: R663, R125, R661, R1000, R668, R659, R556, R596, R655, R903, R665 Change to 82ohm: R997	X03
112	18	EMC4002	2008/2/13	SMSC	SCH168237 : For Proper ESATA Power Consumption on EMC4002 +3.3V_LDO	R152 Change to 0.82_1210	X03
113	6	Clock	2008/2/13	Dell	SCH168238 : For Proper Ferrite Bead Power Rating	L1 change to BK2125HS601 500mA	X03
114	36	USH	2008/2/13	Broadcom	SCH168239 : For USH Support Low Power	Pop R849	X03
115	10	NB	2008/2/13	Intel	SCH168045 : Reserve for Intel Debug	add R1088, Depop	X03
116	37	ECE5028	2008/2/13	Compal	SCH168043 : X03 Board ID Updated	Pop R529 and Depop R534	X03
117	27	Audio	2008/2/15	ADI	SCH168240 : ADI Suggest	(1) L18 change to BLM18EG601SN1D for wider high frequency coverage (2) U15 pin 12/18 combine together and add L72(BLM18EG601SN1D) (3) C391, C395, C406 change to 4.7uF_0603 (IDT suggest 10uF_0805 better, but the package is too big) (4)C392 remove	X03
118	27 36	Audio USH	2008/2/15	IDT Broadcom	Chip Version changed	(1) U32 USH change to C0 version (2) U16 IDT Audio change to 92HD71B7A5NLGXB3X8_QFN48	
119	24 36	SB USH	2008/2/15	Compal	TPM Disable to Common Resistors Location with UMA, R1064 --> R304, R483 --> R489		

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120	7	ITP	2008/2/18	Intel	Change Some ITP Resistors Value	ITP Resistors: R67 --> 27, R64 --> 39 , R66 -> 649, R65 --> 150, R57 --> 124	X03
121	33	eSATA	2008/2/18	Compal	SCH168046: Follow eSATA EA Result, Add the Parallel Resistor	R1046 pop 470ohm	X03
122	27, 28	Audio	2008/2/20	ADI/Dell	SCH168466 : ADI Suggest to Update Separate AGND and Audio Precision Spec Update	(1) ADI SSM2602 add AGND net, include Audio Codec 92HD71 (2) Audio Precision spec for SNR and THD+N update, then C436/C437 change to 10uF	X03
123	21	DP	2008/2/20	Dell	SCH168467 : More DP Components Changed	(1) R1060 / R1061 / R1062 / R1063 change to 10K (2) R897/R336/R898/R337/R1008/R1009 Depopulate (3) R193 to 5.11K (4) R1001 change to 1M	X03
124	27	Codec	2008/2/22	ADI/Dell	SCH168468 : update codec circuit for noise problem	(1) C401, change to 0.1uF (2) add C124,C329,R308,R309,C392,C481 (3) delete C397 (4) C408/C409 change to 0.22uF (5) C410/C411 change to 0.068uF (6) R340/R342 change to 100 ohm	X03
125	36	USH5880	2008/2/22	Compal	SCH168469 : add PI circuit for EMI issue	Add L73/L74/C1059/C1058	X03
126	18	EMC4002	2008/2/25	Compal	SCH168531 : chnge R153 value to meet the formula of Ra	R153 change to 3.16K	X03
127	33	USB2.0	2008/2/29	Compal	SCH168774 : To pop U51 per ESD testing result	pop U51	X03
128	23,29,36	ICH,USH,LAN	2008/2/29	Compal	SCH168777 : X'tal EA result to change some Caps value	C296/C297 from 15pF to 10pF;C475/C476 from 27pF to 12pF;C609/C608 from 22pF to 12pF	X03
129	8	CPU	2008/3/3	Dell	SCH168828 : QC BU issue	Pin AA7 of the CPU has to be NC and we connect it to +VCC_CORE	X03
130	27	Codec	2008/3/3	Compal/IDT	SCH168836 : Follow Roush to add R1091/R1092 for Audio noise	add R1091/R1092 (100 ohm)	X03
131	39	TP/KB/LID	2008/3/3	Dell	SCH168838 : M09 S3 backdrive issue	Touch pad vendor use 5VALW for SMBUS,to add R1093,Ro1094, and depop R594/R595	X03
132	23	ICH	2008/3/3	Compal	SCH168843 : 24MHz noise issue (EMI feedback)	pop C300,C302,C309	X03
133	7	CPU	2008/4/28	Compal	SCH170946 : change R944 from 2K to 1.74K	R944 from 2K to 1.74K	X04
134	7	CPU	2008/4/28	Compal	POP R785 to support Quad Core circuit	POP R785 (51 ohm)	X04
135	10	MCH	2008/4/28	Compal	SCH170947 : R82 & R95 value for Quad core , Dual Core	R82 for Avia is 16.9 ohm ; R82 for DSC is 24.9 ohm R95 for Avia is 75 ohm ; R95 for DSC is 100 ohm	X04
136	21,51	GPU,DP	2008/4/28	Compal	SCH170948 : ESD requirement	C984 & C983 from 0.1uF to 0.033uF	X04
137	24	ICH	2008/4/28	Compal	SCH170949 : Depop 2nd SPI ROM	Depop R329,R1044,R377,U13,R375,C484,R380,R381,R382	X04
138	27	Codec	2008/4/28	Compal	SCH170950 : DMIC_CLK EMI issue	We pop C485 and change R338 to L75(POP)	X04
139	27	Codec	2008/4/28	Compal	SCH170952 : Bypass double inverter of DAI_DI	follow Roush to bypass U18,U19. so we depop U18,U19,C418,C419, and add R762(0 ohm) to bypass it.	X04
140	35	eDOCK	2008/4/28	Compal	SCH170955 : Follow Roush to add R1095, R1096	add R1095,R1096	X04
141	37	ECE5028	2008/4/28	Compal	SCH170956 : change BID	depop R529, add R534 ; depop R530, add R535 ; add R531, depop R536	X04
142	40	PWR CTRL	2008/4/28	Compal	SCH170957 : add discharge circuit of 3.3VRUN	add R625(39 ohm), Q79	X04
143	18	EMC4002	2008/5/7	Compal	SCH171232 : FAN speed couldnt be detected issue	add D38	X04
144	42	LED	2008/5/7	Compal	SCH171235 : SNIFFER LED only support blue color led	depop Q100,R667	X04
145	23	ICH	2008/5/8	Compal	SCH171330 : WLAN detection issue	Follow Roush to add R84,R96 PD 10K ohm	X04

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1	43	+DC_IN	11/24	leverage Roush	Battery slice need detect NB battery is insert or not.	Add PQ69 NTR4502PT1G, and PD32 RB751_SOD323 Connect to DOCK_SMB_ALERT# and SLICE_BAT_PRES#	
2	43	+DC_IN	11/24	leverage Roush	DCIN_CBL_DET# damage ECE5028	Add ESD diedo PD17 DA204U_SOT323 at DCIN_CBL_DET# Series PR221 1K_0402_5% between PJPDC1, PIN1 and DCIN_CBL_DET# Parallel PC254 0.47uF_0402_6.3V on DCIN_CBL_DET#	
3	43	+DC_IN	11/24	leverage Roush	Roush component and rework changes for Dcoking test	PC4 change form 0.47uF_0805_25V to 0.1uF_0805_25V PR14 change form 240K_0402_5% to 1M_0402_5% PR17 change form 47K_0402_1% to 220K_0402_5% PR18 change form 47K_0402_1% to 22K_0402_5% PR342 change form 0_0402_1% to 100K_0402_5%	
4	48	Charger	11/24	leverage Roush	NB DC blocking MOSFET won't turn off when Dock AC insert.	Add PQ44 RHU002N06 control NB DC blocking MOSFET. Control singal is NB_AC_OFF Series PR284 200K_0402_1% between PQ44 PIN1 and ACAV_IN Add PD30 B540C parallel PQ34	
5	48	Charger	11/24	leverage Roush	Charger of ISL88731 will turn off When ACIN is no power	Add LM393 to replace ISL88731 ACOK function(PU11B)	
6	48 49	Charger Selector	11/24	leverage Roush	+PWR_SRC exist on Docking connector through the DOCK_DCIN_IS+ and -	Add PQ70 NTGD4161PT1G series DOCK_DCIN_IS+ and - Add PQ71 RHU002N06 to control PQ70 on/off	
7	48 49	Charger Selector	11/24	leverage Roush	A global signal name change for all notebooks	From "ACAV_IN_DOCK" to "ACAV_DOCK_SRC" From "ACAV_IN_DOCK#" to "ACAV_DOCK_SRC#"	
8	48	Charger	11/24	leverage Roush	SCH165050: Validate EMC4002 VIN1/VCP1/VCP2 for UMA & Discrete for PT1 SMT	Depop UL circuit.	
9	49	Selector	11/24	leverage Roush	PBATT DC blocking MOSFET won't turn off when Docking AC insert. It will cause Battery or adapter protect.	Add PD18 RB715F_SOT323, PD20 and PD19 RB751V_SOD323, PR329 100K_0402_5% PR328 and PR327 47K_0402_5%, PR326 and PR325 240K_0402_5% PQ75 2N7002DW-7-F_SOT363-6, PQ72 NTG6161PT1G_TSOP6 Extra net name add +NBDOCK_DC_IN_SS from Docking connector	
10	43	+DCIN	11/24	EE / SCH165224	follow HW change	To delete the RTC detection circuit	
11	52	Graphic	11/24	Compal	support Maybach DIS and AVIA	Add PR308 and PR309 to switch 1 phase or 2 phase.	
12	48 49	Selector charger	11/30	Dell	for slice function implement	change charger output to FB pin15 net name from PBATT+ to +VCHGR Add PQ41 PQ70 PR351 PR352 PR353 between +VCHGR and PBATT+	
13	47	Vcore	12/17	Intersil	transent to meet Intel IMVP6+	change PR116 from 1.69K to 1.18K,PC111 from 680p to 1000pF, PR113 from 332 to 232,PR121 from 82.5K to 162k, PC117 from 1500p to 680pF,PC120 from 220p to 180pF, PR122 from 14.7K to 12.1K,PR107 from 11.5K to 20k, PR130 from 1K to 2k,PC116 from 0.033u to 0.047u, PC112 from 0.033u to 0.01uF	
14	47	Vcore	12/17	Maxim	fix voltage too low when no load	change PR78,PR100,PR120 from 2K to 430 ohm Change PC89,PC103,PC119 from 0.22u to 1uF	

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15	43	+DCIN	12/17	Dell	change DCIN connector for ESD issue of "DCIN_CBL_DET#"	from Molex_87437_0663 to MOLEX_87437-0763	
16	49	selector	12/24	Dell	AC adaptor crowbar when docking	Add PR354 330K ohm Add PR355: 0 ohm Add PQ77 RHU002N06	
17	49	Selector	02/19	Merle DELL	Fix BITS CR196131 and CR196130	Add PR363 1K_1206 and PC262 1U_0603_25V from +NBDOCK_DC_IN_SS to ground Add PD35 RB751S40T1_SOD523-2 from NB_AC_OFF# to ACAV_IN_NB	
18	47	+Vcore	02/19	Dell / Maxim	Reduce Ring-backwithin 20mV when change bulk caps from 4*220uF to 3*270uF (Maybach DIS)	PR129 change from 909 ohm to 825 ohm	
19	47	+Vcore	02/19	Maxim	Fix Jitter issue	change PR123 to 10_ohm change PC122 to PR320 10_ohm	
20	50	Graphic	02/19	Maxim	MAX17007 cold boot issue back up circuit if IC versin change can not catch ST schedule	Add PQ73 RHU002N06 Add PR296	
21	48	Charger	03/06	Compal	Delete non-use circuit	delete +DC_IN_SS to PR217 and PR217.	
22	49	Selector	03/06	Compal	For slice battery hot docking issue	Change PQ40 from IMD2AT to 2N7002DW change PR202 from240K_ohm ot 620k_ohm change PR204 from 47K_ohm to 33_ohm add PR222 390K_ohm and PR223 390K_ohm add PD34 RB751S40T1	
23	47	+Vcore	03/11	Maxim	For driver IC power down issue	Add PR321 PR322 PR323 from IC pin 2 to GND	
24	50	Graphic	03/18	Compal	hardware delete NET	delete NET 1.1V_RUN_ON delete PR305	
25	50	Graphic	4/23	Compal	EMI soultion	change PR168 to 2.2ohm	
26	50	Graphic	4/23	Compal	hardware change control mode	un-pop PR310 pop PR312 (un-pop PR311 pop PR313 for JAL21)	
27	50	Graphic	4/23	Maxim	MAX17007 version change	un-pop PQ73 RHU002N06 un-pop PR296	
28	47	Vcore	4/23	Maxim	JAL21 Driver IC power down issue need change resistor value	change PR321 PR322 PR323 to 33K	

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