

MODEL NAME : *QBR10*

PCB NO : *LA-8321P*

BOM P/N : *4619H531L01*

Compal Confidential

Avenger MLK

rPGA Ivy Bridge + FCBGA PCH Panther Point-M + MXM x2

Rev: 1.0 (A00)

2012.02.16

@ : Nopop component

CONN@ : ME connector

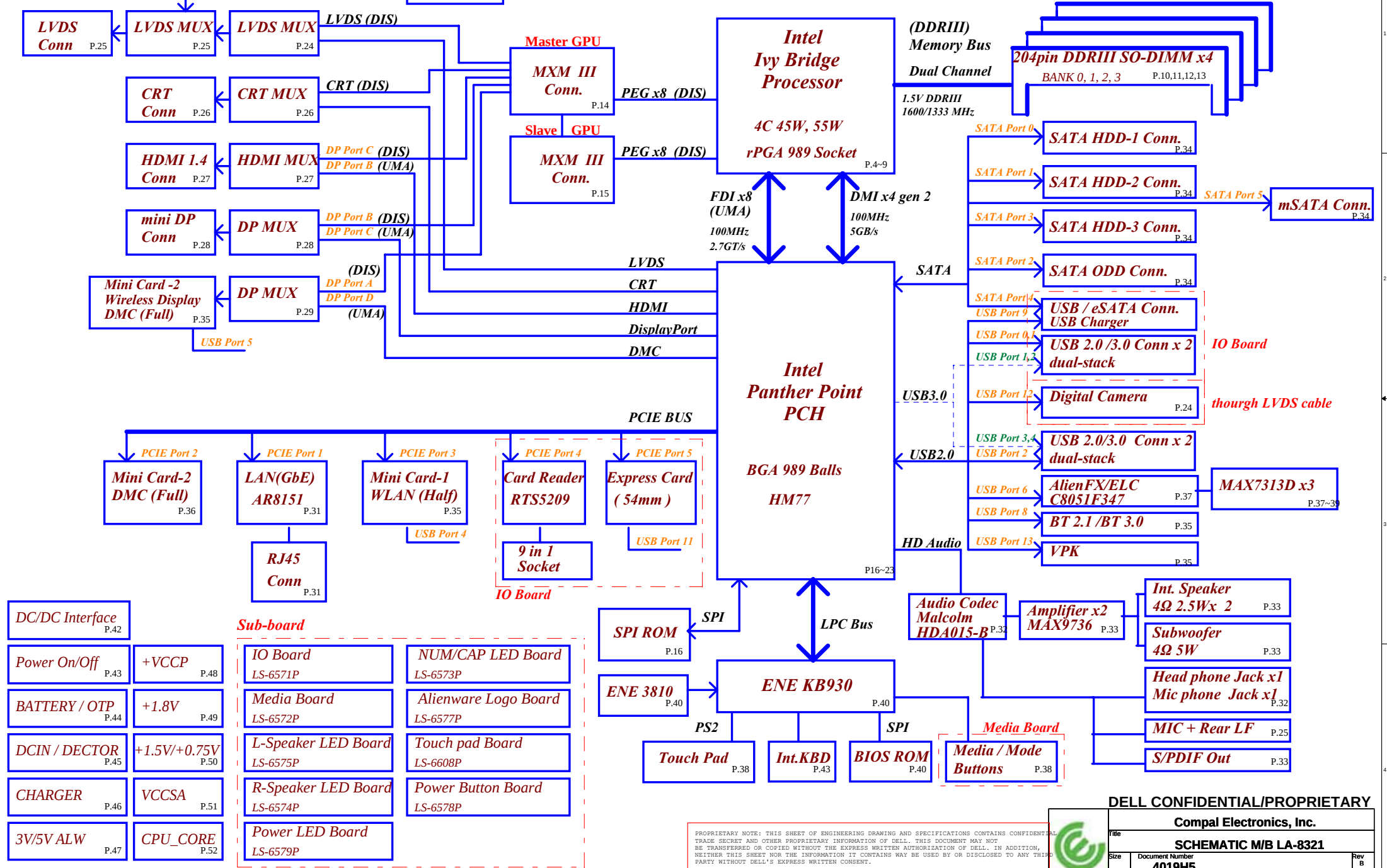
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Board ID Table for AD channel

Vcc	3.3V +/- 5%			
Ra	100K +/- 5%			
Board ID	Rb	VAD_BID min	VAD_BID typ	VAD_BID max
0	0	0 V	0 V	0 V
1	8.2K +/- 5%	0.168 V	0.250 V	0.362 V
2	18K +/- 5%	0.436 V	0.503 V	0.538 V
3	33K +/- 5%	0.712 V	0.819 V	0.875 V
4	56K +/- 5%	1.036 V	1.185 V	1.264 V
5	100K +/- 5%	1.453 V	1.650 V	1.759 V
6	200K +/- 5%	1.935 V	2.200 V	2.341 V
7	NC	2.500 V	3.300 V	3.300 V

BOARD ID Table

Board ID	PCB Revision
0	0.1
1	0.2
2	0.3
3	0.4
4	1.0
5	
6	
7	

USB3.0

USB PORT#	DESTINATION
0	JUSB1
1	JUSB2
2	JUSB3
3	JUSB4

USB

USB PORT#	DESTINATION
0	JUSB1
1	JUSB2
2	JUSB3
3	JUSB4
4	Mini Card (WLAN)
5	Mini Card (DMC)
6	AlienFX/ELC
7	None
8	Bluetooth
9	USB / eSATA combo
10	None
11	EXPRESS CARD
12	CAMERA
13	VPK

POWER STATES

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

PM TABLE

State	power plane	+1.5V	+5VS
	+5VALW +3VALW +3VLP +3V_PCH		+3VS +1.8VS +1.5VS +0.75VS +3VMXM +5VMXM +VCCP +VCCSA +VCC_CORE +1.5V_CPU_VDDQ
S0	ON	ON	ON
S3	ON	ON	OFF
S5 S4/AC	ON	OFF	OFF
S5 S4/AC don't exist	OFF	OFF	OFF

CLK	DIFFERENTIAL	DESTINATION	FLEX CLOCKS	DESTINATION
	CLKOUT_PCIE0	None	CLKOUTFLEX0	None
	CLKOUT_PCIE1	10/100/1G LAN	CLKOUTFLEX1	None
	CLKOUT_PCIE2	MINI CARD-2 DMC	CLKOUTFLEX2	None
	CLKOUT_PCIE3	MINI CARD-1 WLAN	CLKOUTFLEX3	None
	CLKOUT_PCIE4	CARD READER		
	CLKOUT_PCIE5	EXPRESS CARD		
	CLKOUT_PCIE6	None		
	CLKOUT_PCIE7	None		
	CLKOUT_PEG_A	MXM I		
	CLKOUT_PEG_B	MXM II		

Symbol Note :



SATA	DESTINATION
SATA0	HDD1
SATA1	HDD2
SATA2	ODD
SATA3	HDD3
SATA4	E-SATA
SATA5	mSATA

PCI EXPRESS	DESTINATION
Lane 1	10/100/1G LAN
Lane 2	MINI CARD-2 DMC
Lane 3	MINI CARD-1 WLAN
Lane 4	CARD READER
Lane 5	EXPRESS CARD
Lane 6	None
Lane 7	None
Lane 8	None

CLKOUT	DESTINATION
PCI0	PCH_LOOPBACK
PCI1	EC
PCI2	DEBUG
PCI3	None
PCI4	None

Power plane	Voltage
+3VALW +3VLP +3V_PCH +3VS +3VMXM	3.3V

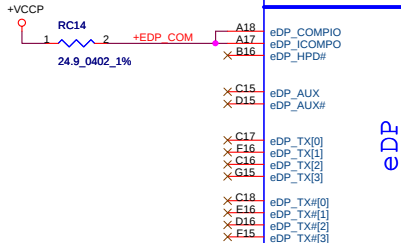
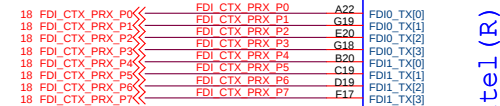
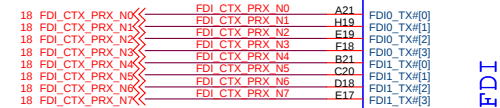
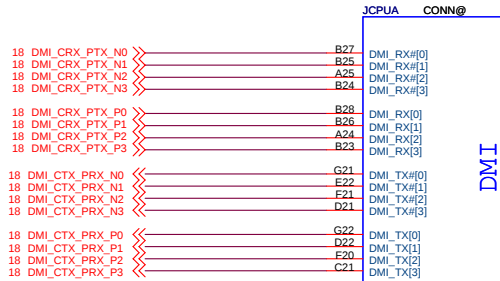
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PEG_ICOMPI and RCOMPO signals should be shorted and routed with - max length = 500 mils - typical impedance = 43 mohms
PEG_ICOMPO signals should be routed with - max length = 500 mils - typical impedance = 14.5 mohms

+VCCP
RC2
24.9_0402_1%



PEG_ICOMPI
PEG_ICOMPO
PEG_RCOMPO

PEG_RX#[0]
PEG_RX#[1]
PEG_RX#[2]
PEG_RX#[3]
PEG_RX#[4]
PEG_RX#[5]
PEG_RX#[6]
PEG_RX#[7]
PEG_RX#[8]
PEG_RX#[9]
PEG_RX#[10]
PEG_RX#[11]
PEG_RX#[12]
PEG_RX#[13]
PEG_RX#[14]
PEG_RX#[15]

PEG_RX#[0]
PEG_RX#[1]
PEG_RX#[2]
PEG_RX#[3]
PEG_RX#[4]
PEG_RX#[5]
PEG_RX#[6]
PEG_RX#[7]
PEG_RX#[8]
PEG_RX#[9]
PEG_RX#[10]
PEG_RX#[11]
PEG_RX#[12]
PEG_RX#[13]
PEG_RX#[14]
PEG_RX#[15]

PEG_TX#[0]
PEG_TX#[1]
PEG_TX#[2]
PEG_TX#[3]
PEG_TX#[4]
PEG_TX#[5]
PEG_TX#[6]
PEG_TX#[7]
PEG_TX#[8]
PEG_TX#[9]
PEG_TX#[10]
PEG_TX#[11]
PEG_TX#[12]
PEG_TX#[13]
PEG_TX#[14]
PEG_TX#[15]

PEG_TX#[0]
PEG_TX#[1]
PEG_TX#[2]
PEG_TX#[3]
PEG_TX#[4]
PEG_TX#[5]
PEG_TX#[6]
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PEG_TX#[8]
PEG_TX#[9]
PEG_TX#[10]
PEG_TX#[11]
PEG_TX#[12]
PEG_TX#[13]
PEG_TX#[14]
PEG_TX#[15]

K33 PEG GTX C HRX N0 CC1 2 2 0.22U 0402 16V7K-D PEG GTX HRX N0
K34 PEG GTX C HRX N1 CC2 2 2 0.22U 0402 16V7K-D PEG GTX HRX N1
K35 PEG GTX C HRX N2 CC3 2 2 0.22U 0402 16V7K-D PEG GTX HRX N2
K36 PEG GTX C HRX N3 CC4 2 2 0.22U 0402 16V7K-D PEG GTX HRX N3
K37 PEG GTX C HRX N4 CC5 2 2 0.22U 0402 16V7K-D PEG GTX HRX N4
K38 PEG GTX C HRX N5 CC6 2 2 0.22U 0402 16V7K-D PEG GTX HRX N5
K39 PEG GTX C HRX N6 CC7 2 2 0.22U 0402 16V7K-D PEG GTX HRX N6
K40 PEG GTX C HRX N7 CC8 2 2 0.22U 0402 16V7K-D PEG GTX HRX N7
K41 PEG GTX C HRX N8 CC9 2 2 0.22U 0402 16V7K-D PEG GTX HRX N8
K42 PEG GTX C HRX N9 CC10 2 2 0.22U 0402 16V7K-D PEG GTX HRX N9
K43 PEG GTX C HRX N10 CC11 2 2 0.22U 0402 16V7K-D PEG GTX HRX N10
K44 PEG GTX C HRX N11 CC12 2 2 0.22U 0402 16V7K-D PEG GTX HRX N11
K45 PEG GTX C HRX N12 CC13 2 2 0.22U 0402 16V7K-D PEG GTX HRX N12
K46 PEG GTX C HRX N13 CC14 2 2 0.22U 0402 16V7K-D PEG GTX HRX N13
K47 PEG GTX C HRX N14 CC15 2 2 0.22U 0402 16V7K-D PEG GTX HRX N14
K48 PEG GTX C HRX N15 CC16 2 2 0.22U 0402 16V7K-D PEG GTX HRX N15

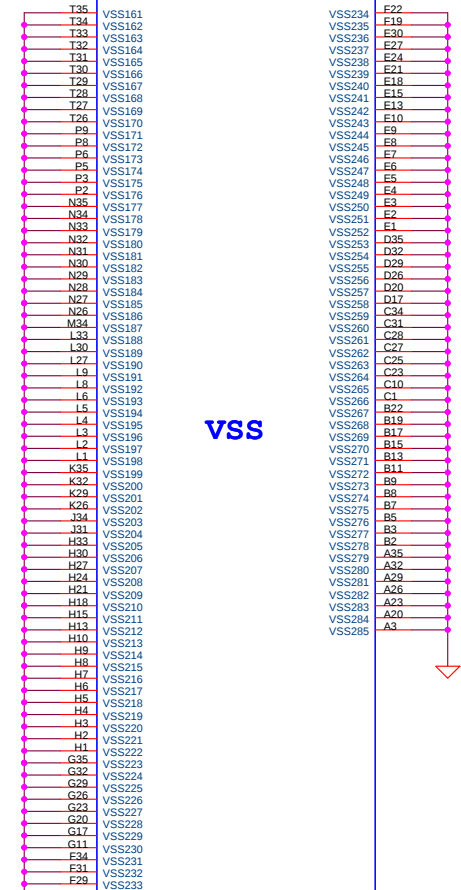
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K35 PEG GTX C HRX P2 CC19 2 2 0.22U 0402 16V7K-D PEG GTX HRX P2
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K43 PEG GTX C HRX P10 CC27 2 2 0.22U 0402 16V7K-D PEG GTX HRX P10
K44 PEG GTX C HRX P11 CC28 2 2 0.22U 0402 16V7K-D PEG GTX HRX P11
K45 PEG GTX C HRX P12 CC29 2 2 0.22U 0402 16V7K-D PEG GTX HRX P12
K46 PEG GTX C HRX P13 CC30 2 2 0.22U 0402 16V7K-D PEG GTX HRX P13
K47 PEG GTX C HRX P14 CC31 2 2 0.22U 0402 16V7K-D PEG GTX HRX P14
K48 PEG GTX C HRX P15 CC32 2 2 0.22U 0402 16V7K-D PEG GTX HRX P15

M29 PEG HTX GRX N0 CC33 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N0
M30 PEG HTX GRX N1 CC34 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N1
M31 PEG HTX GRX N2 CC35 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N2
M32 PEG HTX GRX N3 CC36 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N3
M33 PEG HTX GRX N4 CC37 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N4
M34 PEG HTX GRX N5 CC38 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N5
M35 PEG HTX GRX N6 CC39 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N6
M36 PEG HTX GRX N7 CC40 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N7
M37 PEG HTX GRX N8 CC41 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N8
M38 PEG HTX GRX N9 CC42 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N9
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M40 PEG HTX GRX N11 CC44 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N11
M41 PEG HTX GRX N12 CC45 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N12
M42 PEG HTX GRX N13 CC46 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N13
M43 PEG HTX GRX N14 CC47 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N14
M44 PEG HTX GRX N15 CC48 2 2 0.22U 0402 16V7K-D PEG HTX C GRX N15

M29 PEG HTX GRX P0 CC49 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P0
M30 PEG HTX GRX P1 CC50 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P1
M31 PEG HTX GRX P2 CC51 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P2
M32 PEG HTX GRX P3 CC52 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P3
M33 PEG HTX GRX P4 CC53 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P4
M34 PEG HTX GRX P5 CC54 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P5
M35 PEG HTX GRX P6 CC55 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P6
M36 PEG HTX GRX P7 CC56 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P7
M37 PEG HTX GRX P8 CC57 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P8
M38 PEG HTX GRX P9 CC58 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P9
M39 PEG HTX GRX P10 CC59 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P10
M40 PEG HTX GRX P11 CC60 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P11
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M43 PEG HTX GRX P14 CC63 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P14
M44 PEG HTX GRX P15 CC64 2 2 0.22U 0402 16V7K-D PEG HTX C GRX P15

Near MXM Connector

JCPU CONN@



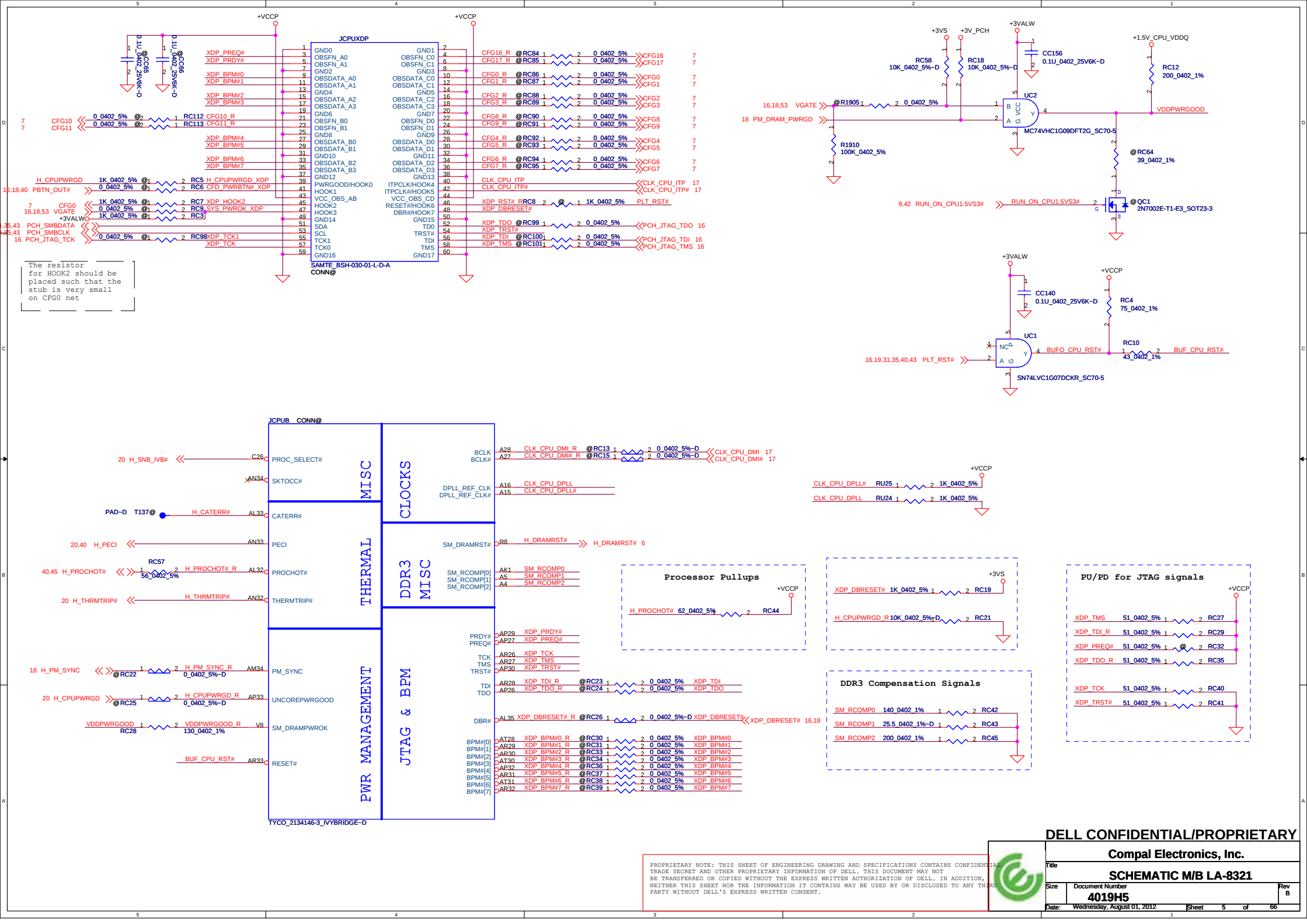
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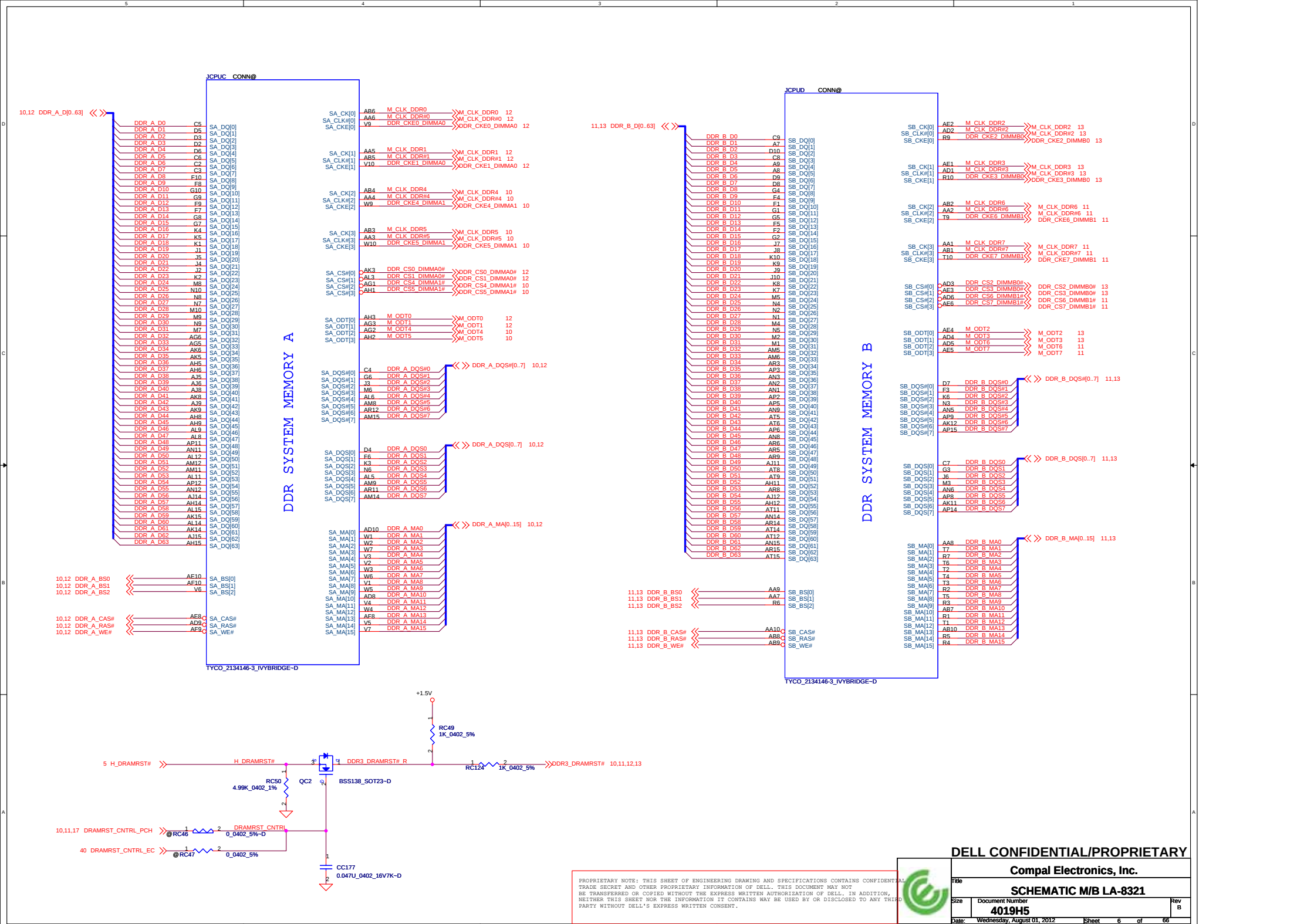
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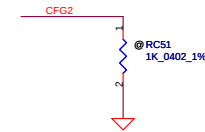
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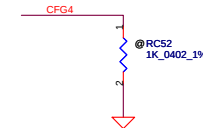




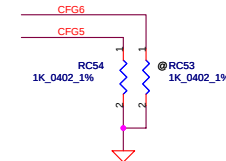
CFG Straps for Processor



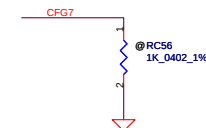
PEG Static Lane Reversal - CFG2 is for the 16x	
CFG2	1: (Default) Normal Operation; Lane # definition matches socket pin map definition 0: Lane Reversed



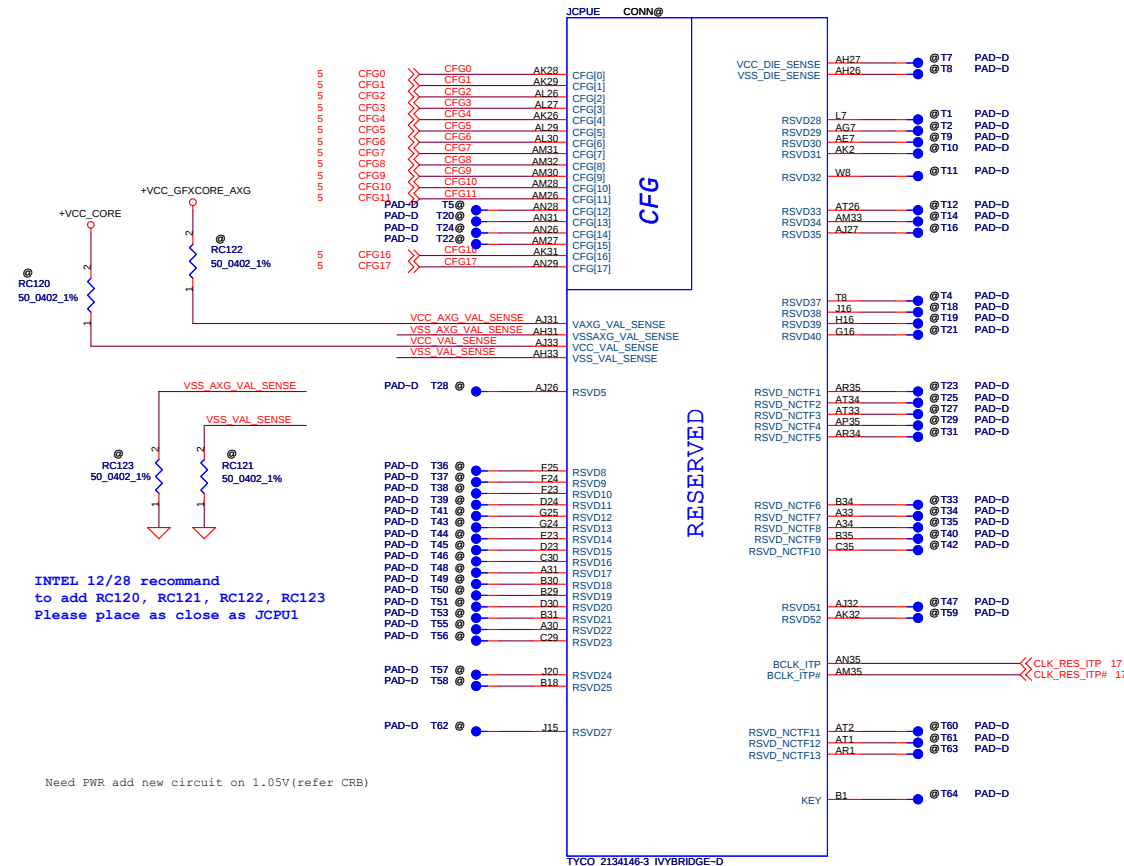
Display Port Presence Strap	
CFG4	1 : Disabled; No Physical Display Port attached to Embedded Display Port 0 : Enabled; An external Display Port device is connected to the Embedded Display Port

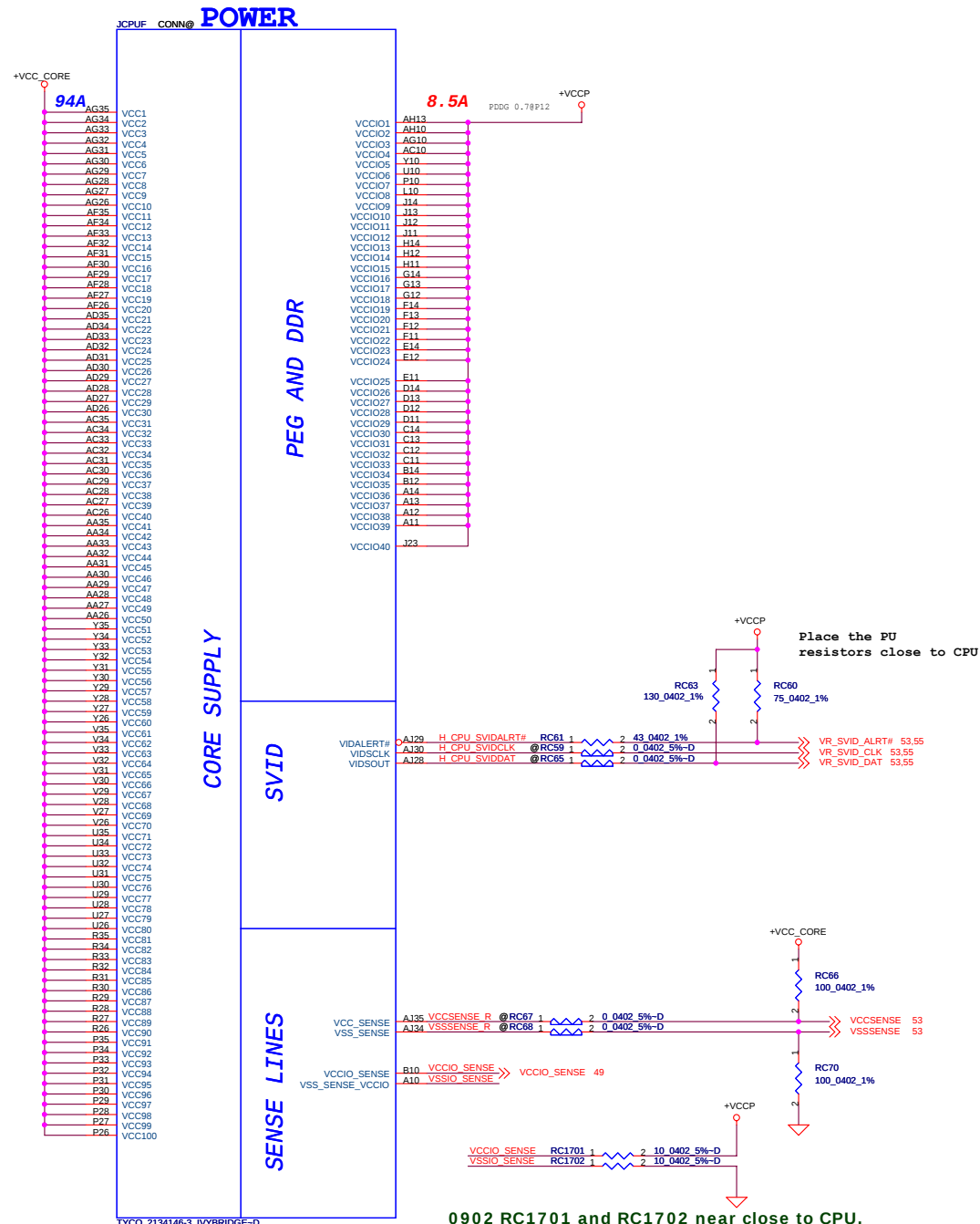


PCIe Port Bifurcation Straps	
CFG[6:5]	11: (Default) x16 - Device 1 functions 1 and 2 disabled 10: x8, x8 - Device 1 function 1 enabled ; function 2 disabled 01: Reserved - (Device 1 function 1 disabled ; function 2 enabled) 00: x8,x4,x4 - Device 1 functions 1 and 2 enabled



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





0902 RC1701 and RC1702 near close to CPU,
ask power to remove PR111 and PR104

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+1.5V_CPU_VDDQ Source

POWER

GRAPHICS

DDR3 -1.5V RAILS

SA RAIL

MISC

1.8V RAIL

VSS

Function

xxVccSA Select[1]

xxVccSA Select[0]

VCCSA VR Vout

SMB HIGH

IVB HIGH

SMB LOW

IVB LOW

0

1

0.90V

0.725V

0.80V

0.675V

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+1.5V_CPU_VDDQ Source

POWER

GRAPHICS

SA RAIL

MISC

VSS

Function	xxVccSA Select[1] [[CPU PIN# C24 VID0 of VR]]	xxVccSA Select[0] [[CPU PIN# C22 VID1 of VR]]	VCCSA VR Volt
SMB HIGH	0	0	0.90V
IVB HIGH	0	1	0.725V
SMB LOW	1	0	0.80V
IVB LOW	1	1	0.675V

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+1.5V_CPU_VDDQ Source

POWER

GRAPHICS

SA RAIL

MISC

VSS

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IVB HIGH	0	1	0.725V
SMB LOW	1	0	0.80V
IVB LOW	1	1	0.675V

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+1.5V_CPU_VDDQ Source

POWER

GRAPHICS

SA RAIL

MISC

VSS

Function	xxVccSA Select[1] [[CPU PIN# C24 VID0 of VR]]	xxVccSA Select[0] [[CPU PIN# C22 VID1 of VR]]	VCCSA VR Volt
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IVB HIGH	0	1	0.725V
SMB LOW	1	0	0.80V
IVB LOW	1	1	0.675V

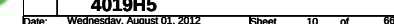
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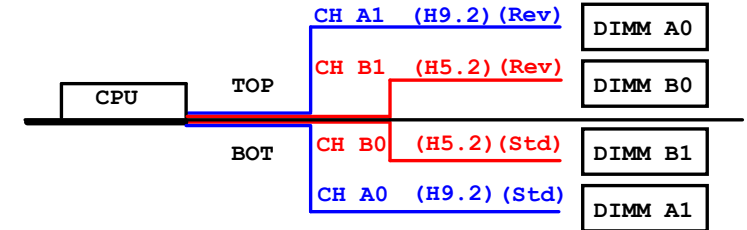
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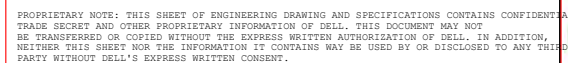
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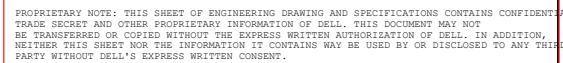
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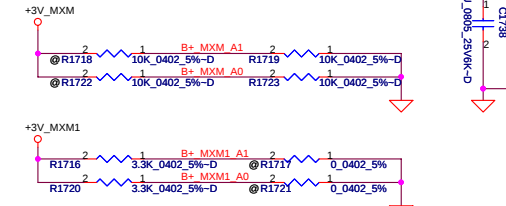
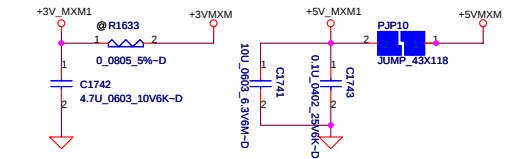
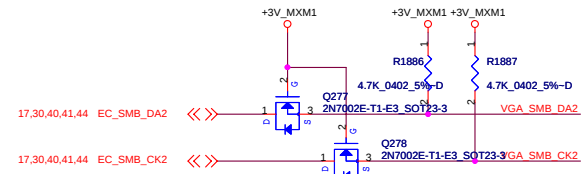
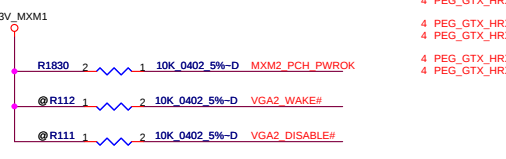
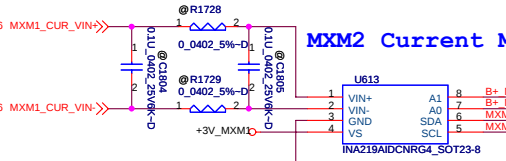
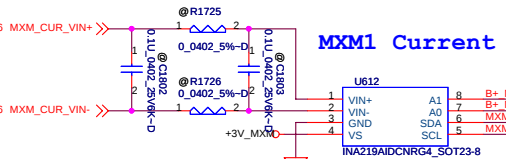
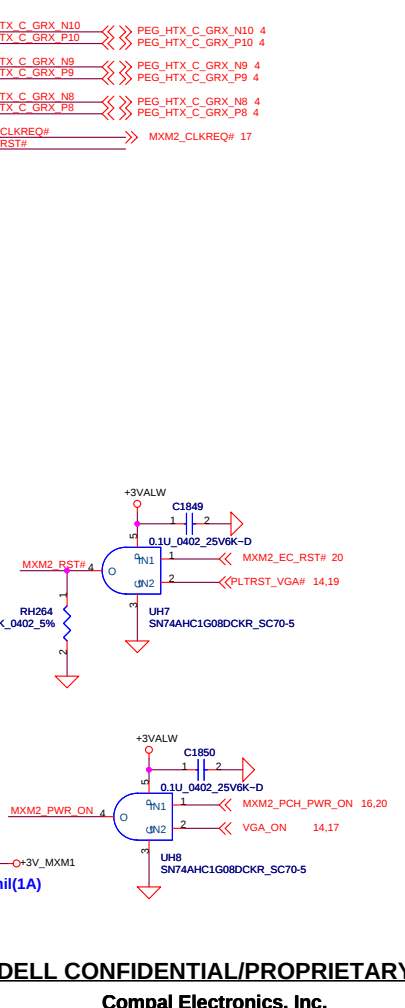
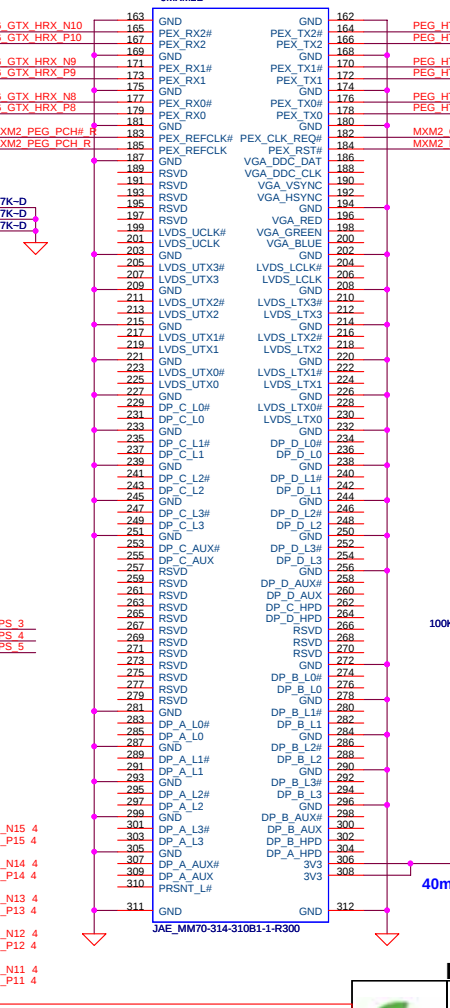
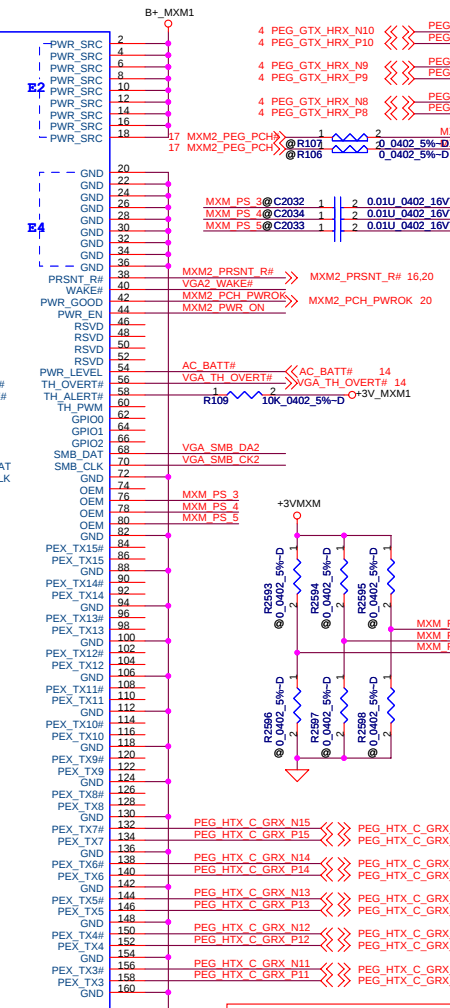
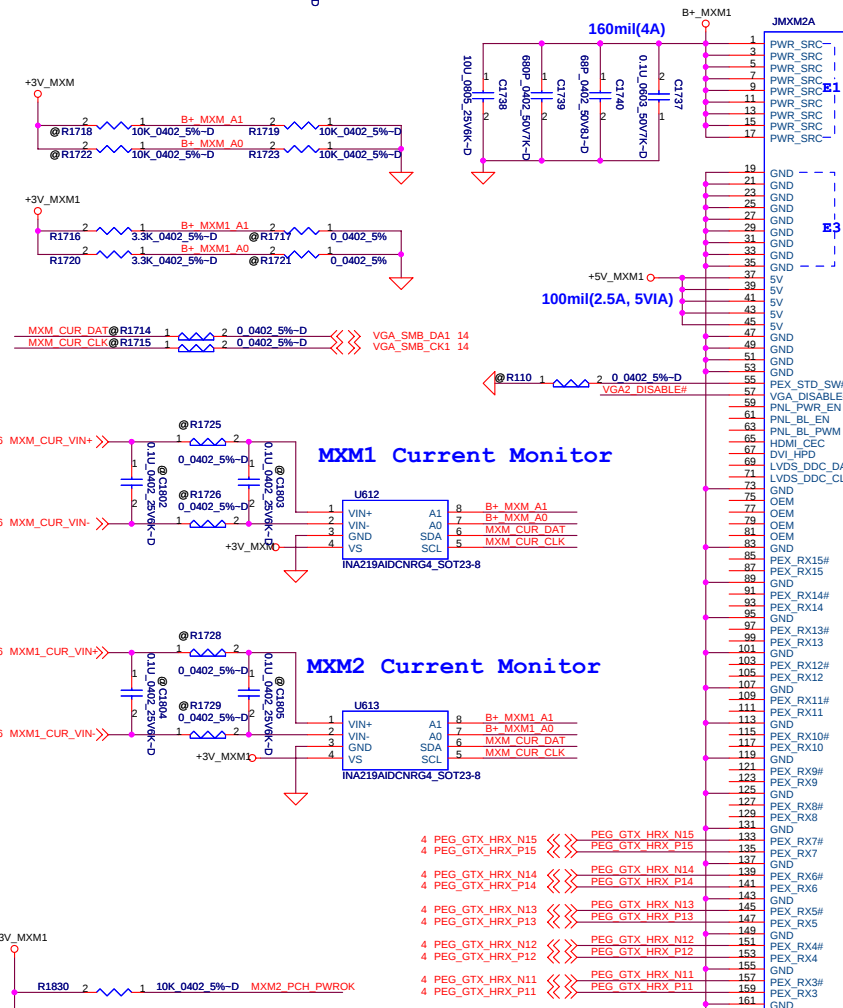
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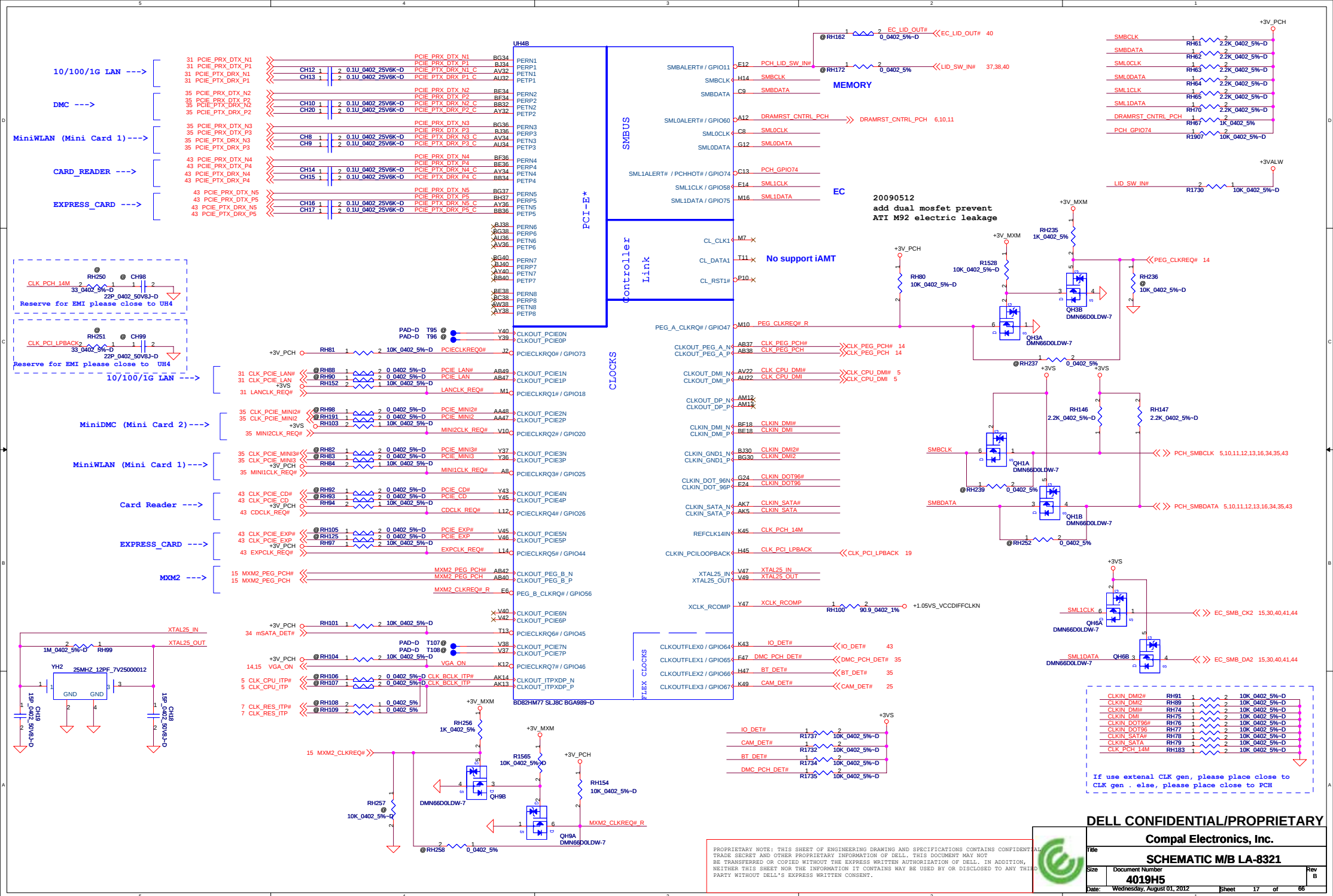


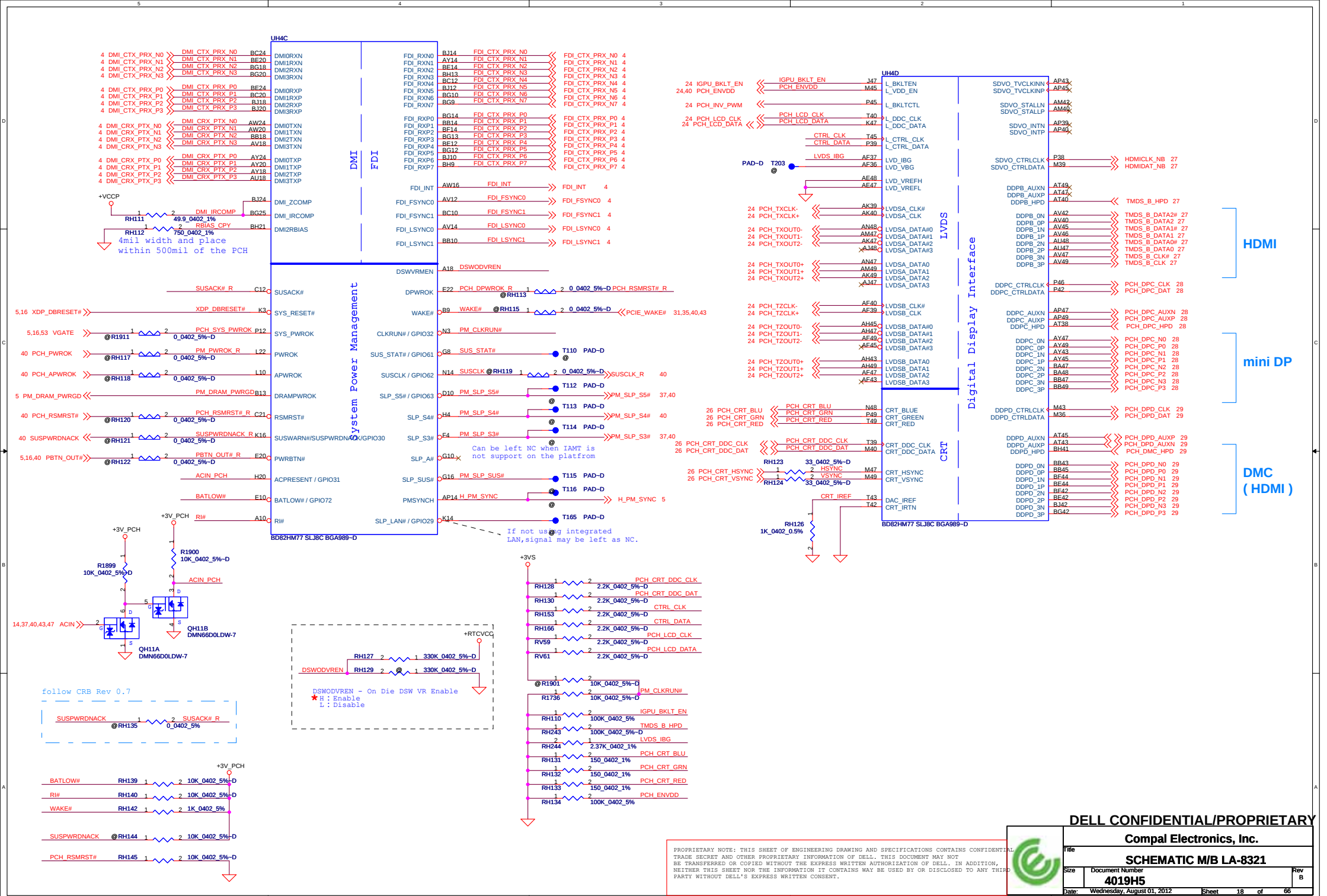
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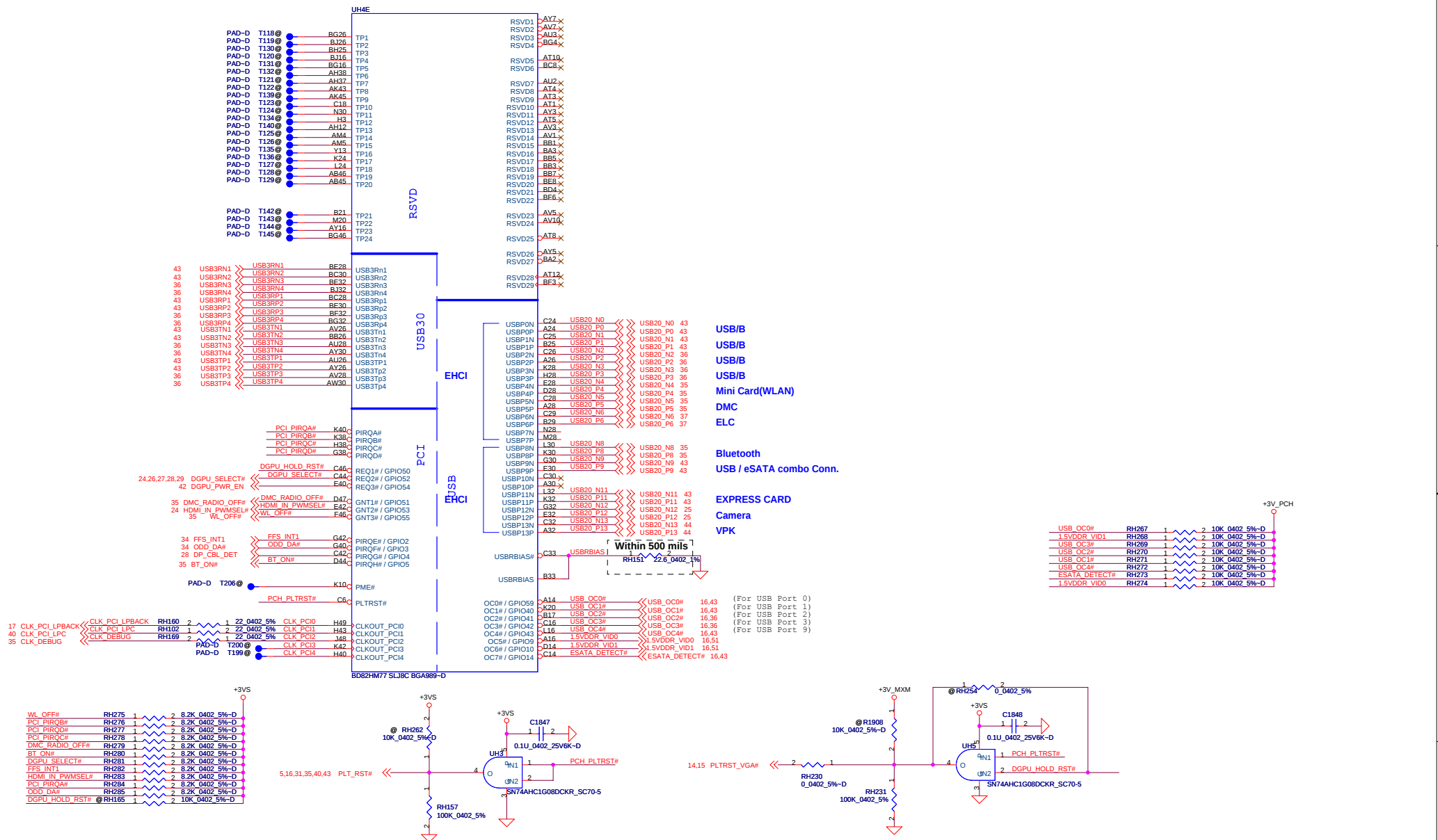
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R1831 1 2 10K 0402 5%-D VGA2_WAKE#
R1832 1 2 10K 0402 5%-D VGA2_DISABLE#

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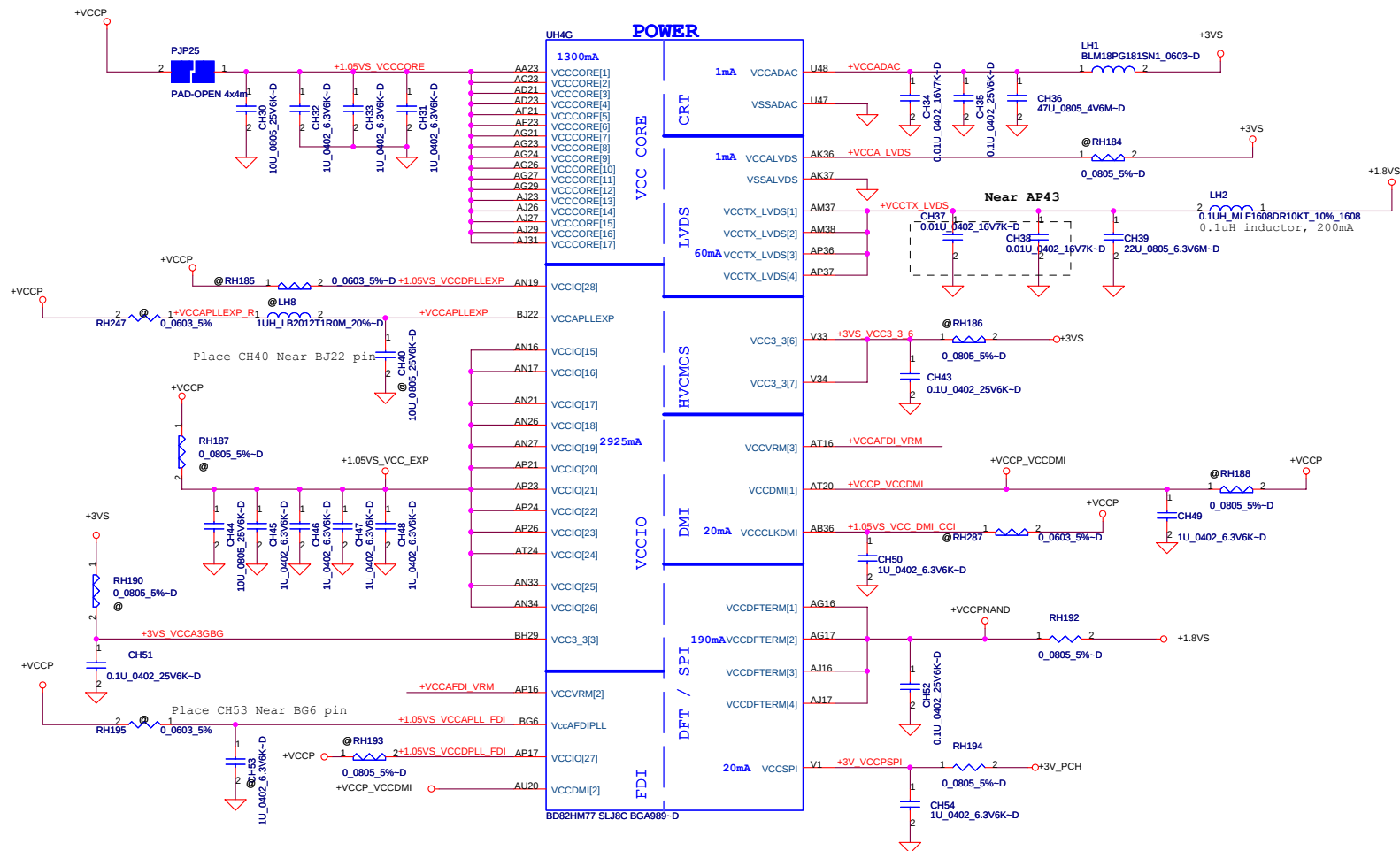
Compal Electronics, Inc.

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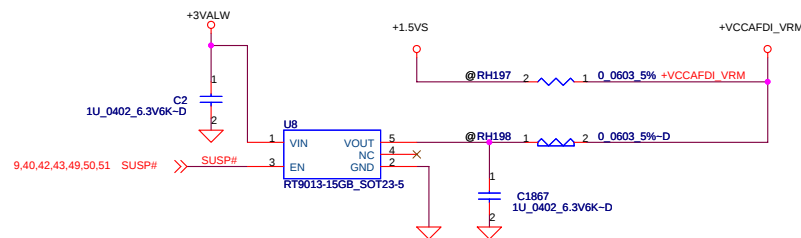
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PCH Power Rail Table		
Voltage Rail	Voltage	50 Iccmax Current (A)
V_PROC_IO	1.05	0.001
V5REF	5	0.001
V5REF_Sus	5	0.001
Vcc3_3	3.3	0.266
VccADAC	3.3	0.001
VccADPLLA	1.05	0.08
VccADPLLB	1.05	0.08
VccCore	1.05	1.3
VccDMI	1.05	0.042
VccIO	1.05	2.925
VccASW	1.05	1.01
VccSPI	3.3	0.02
VccDSW	3.3	0.003
VccpNAND	1.8	0.19
VccRTC	3.3	6 uA
VccSus3_3	3.3	0.119
VccSusHDA	3.3 / 1.5	0.01
VccVRM	1.8 / 1.5	0.16
VccCLKDMI	1.05	0.02
VccSSC	1.05	0.095
VccDIFFCLKN	1.05	0.055
VccALVDS	3.3	0.001
VccTX_LVDS	1.8	0.06

VCCVRM = 160mA detal waiting for newest spec

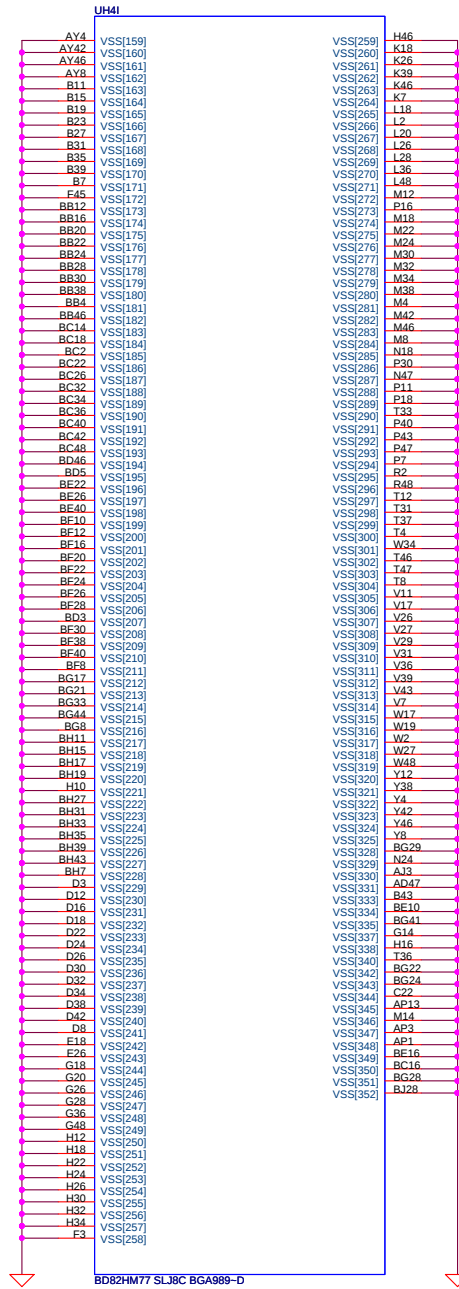
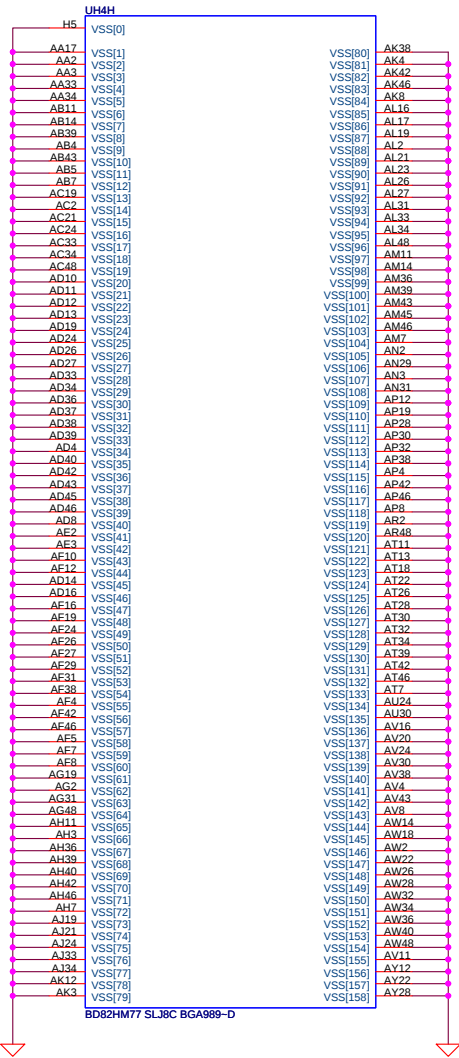


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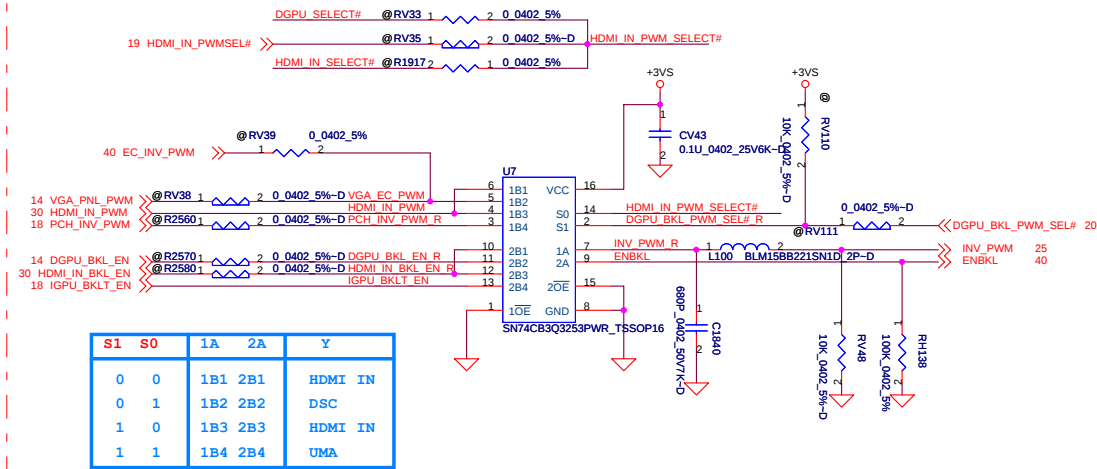


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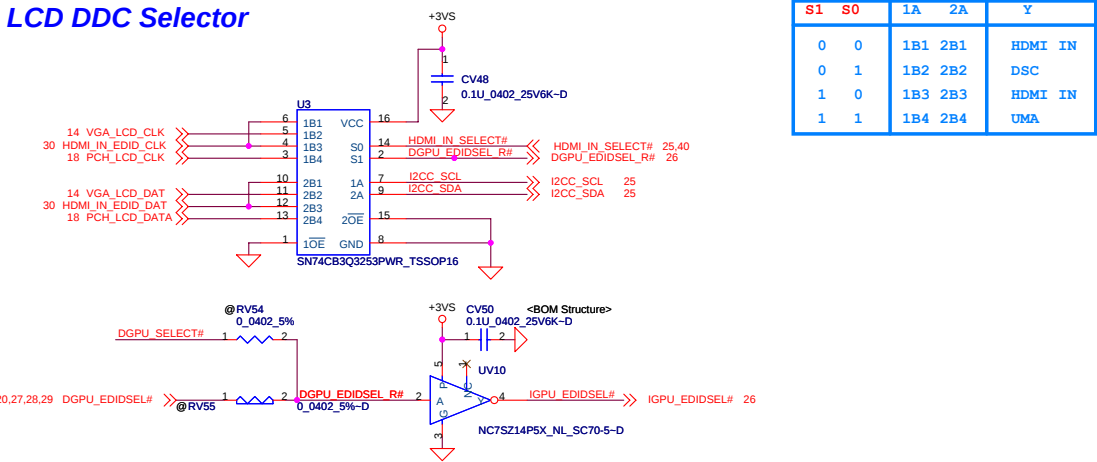


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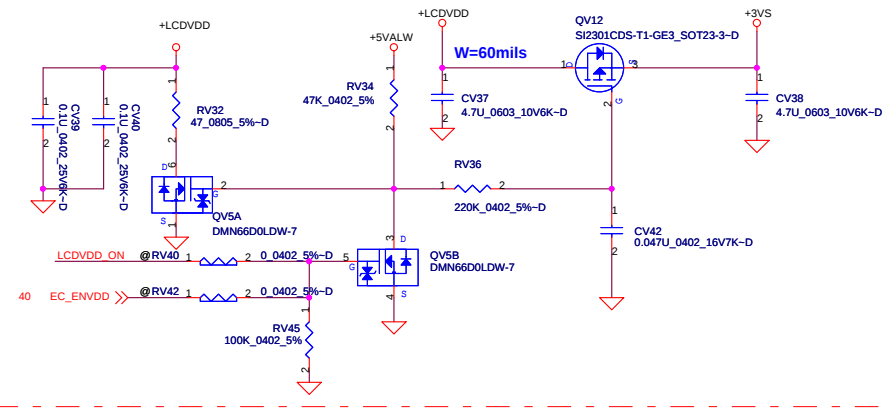
LCD Backlight / PWM Selector



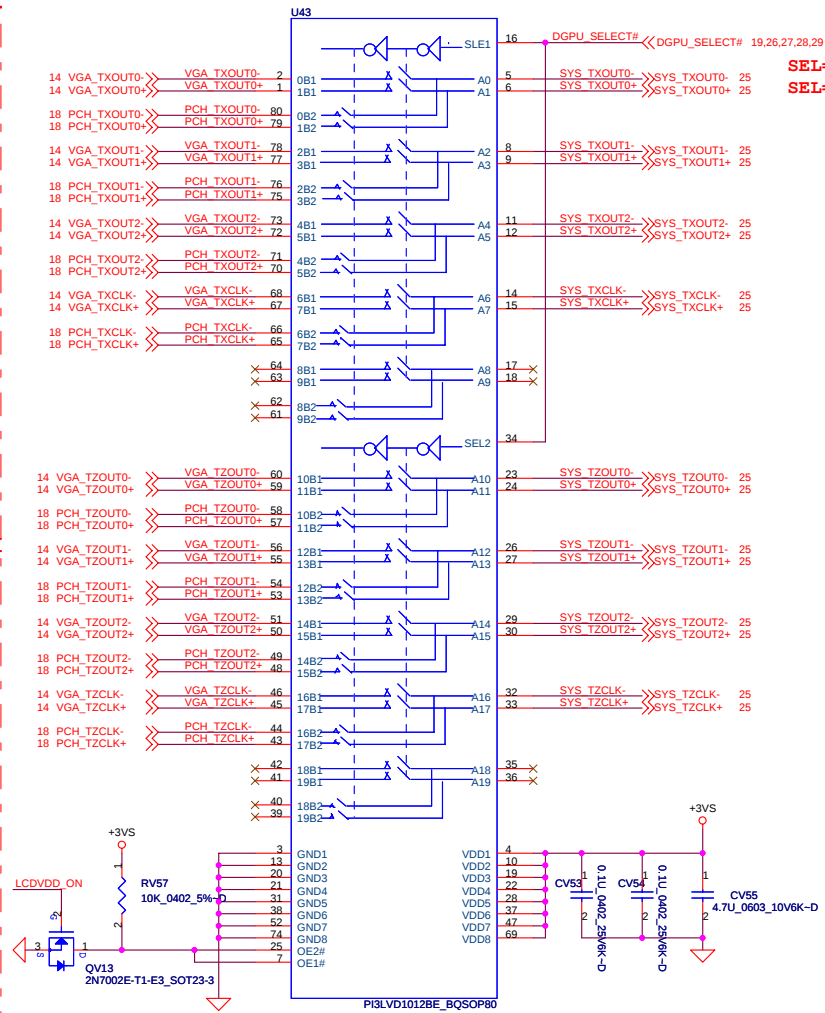
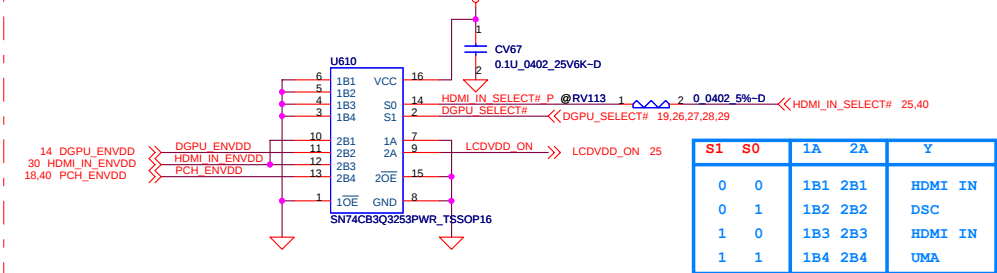
LCD DDC Selector



LCD POWER



LCD VDD Selector



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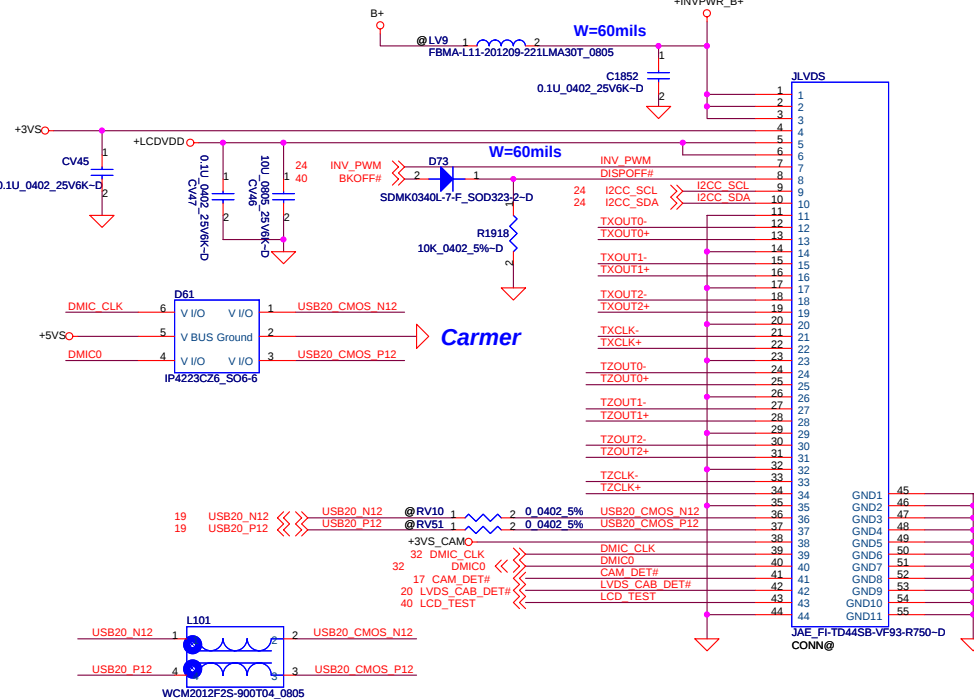
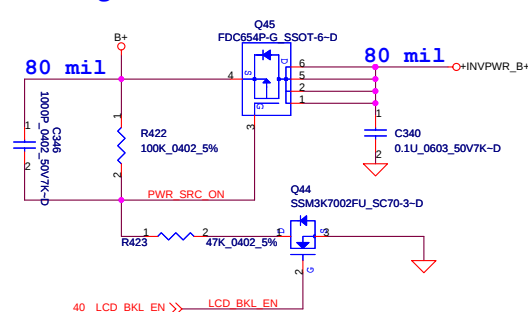
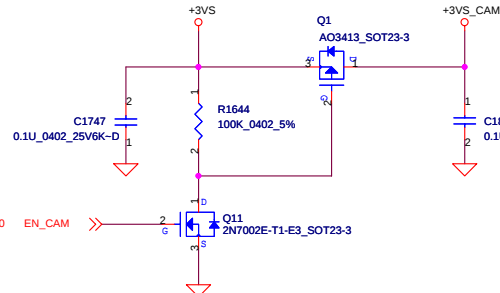
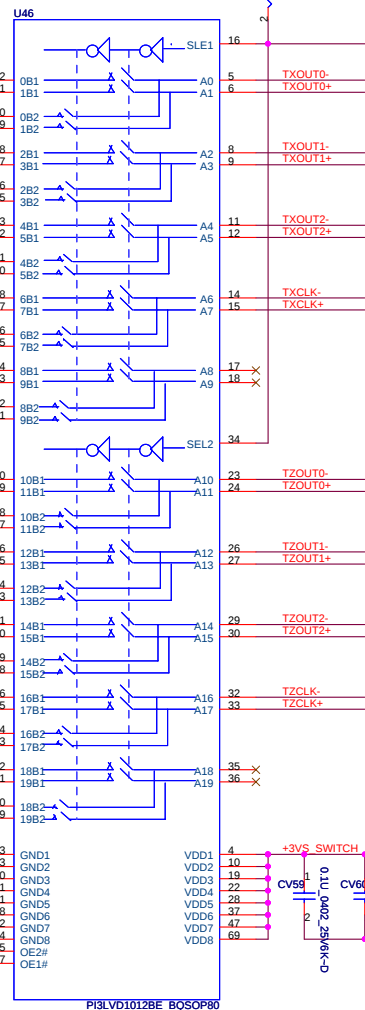
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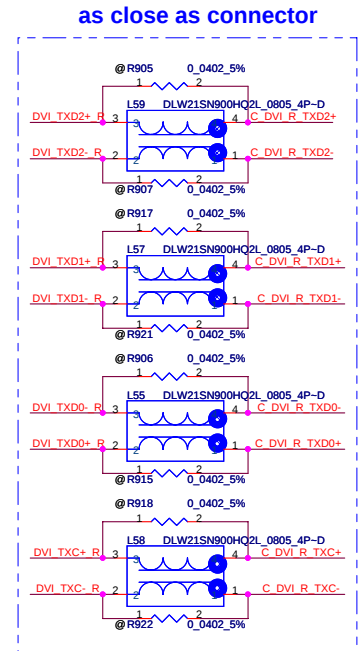
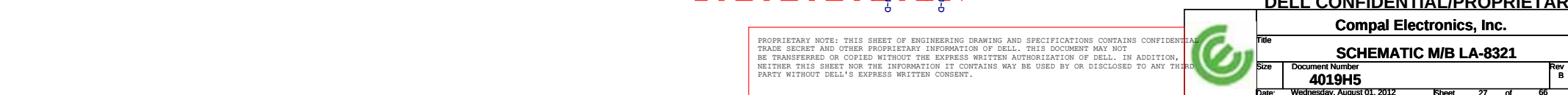
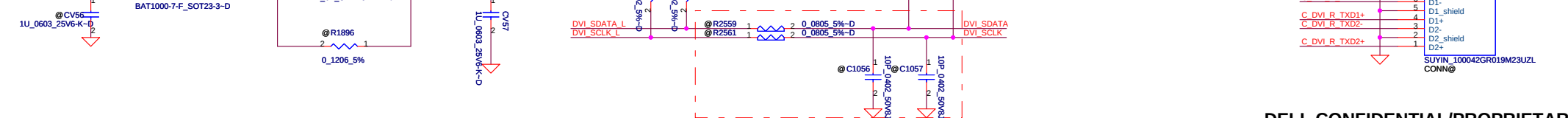
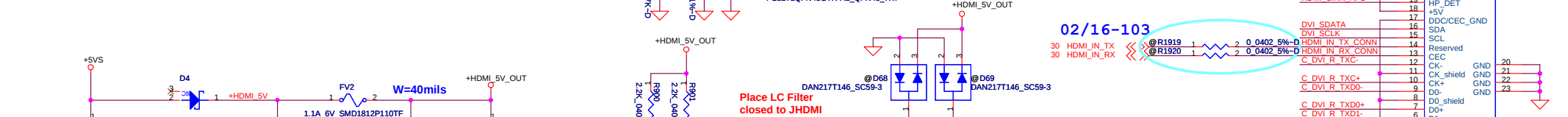
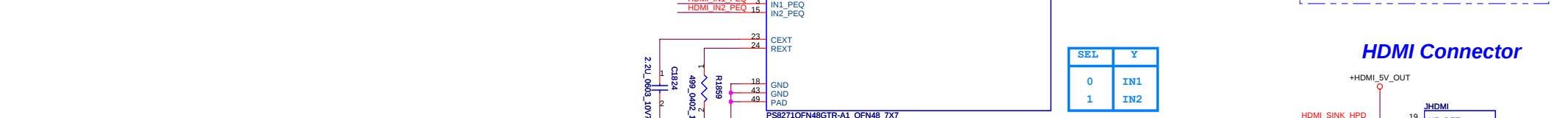
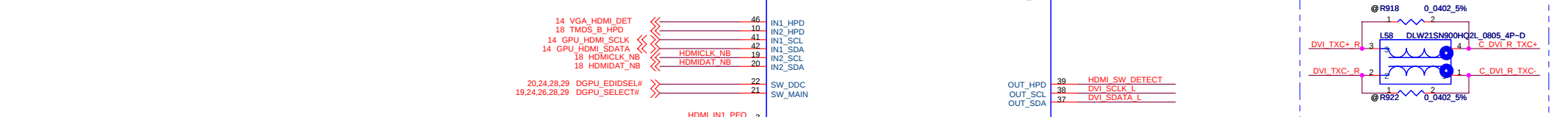
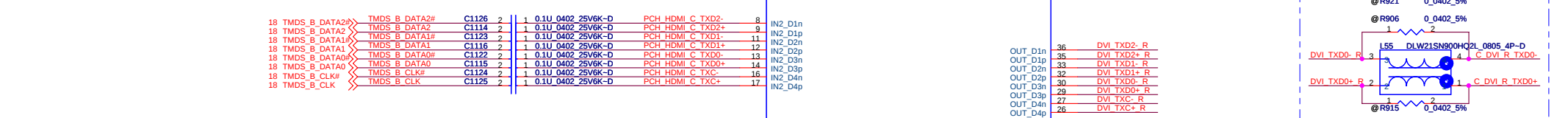
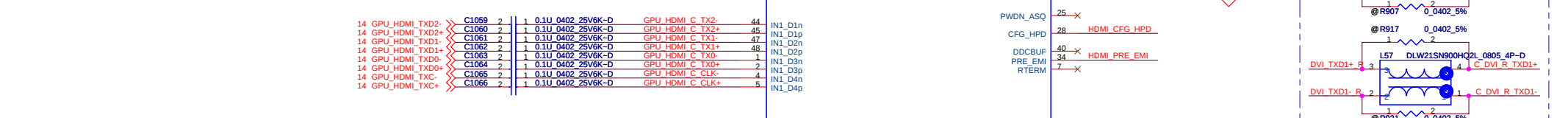
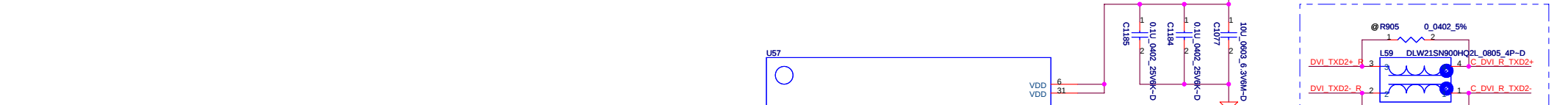
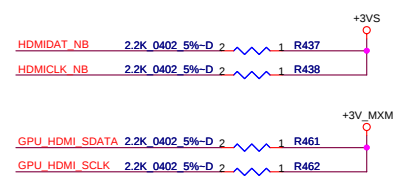
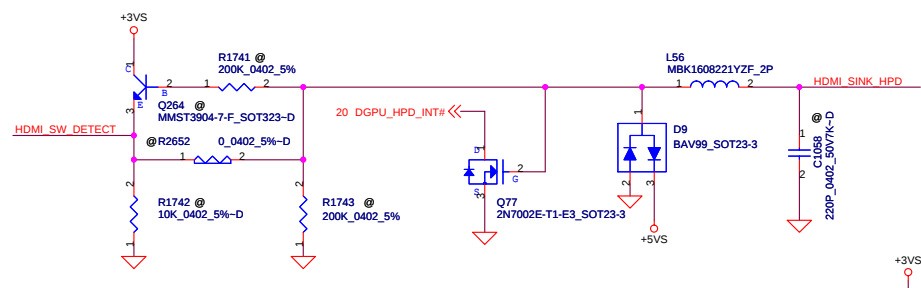
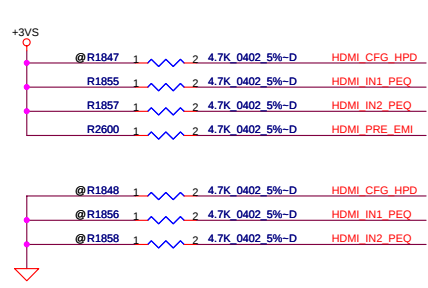
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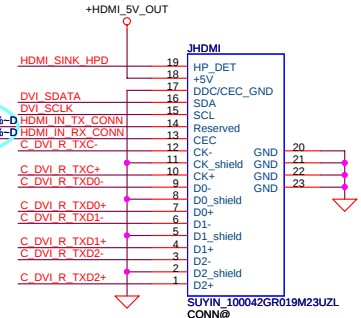
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SEL	Y
0	IN1
1	IN2

HDMI Connector



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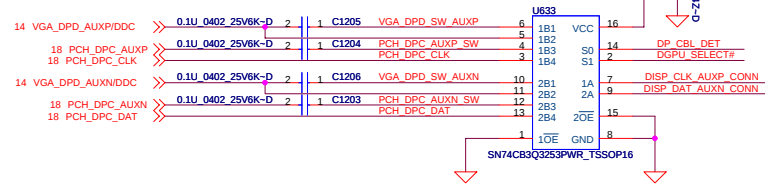
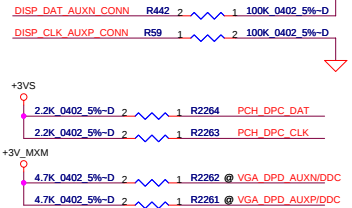
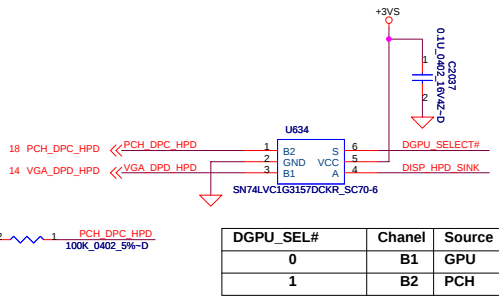
Compal Electronics, Inc.

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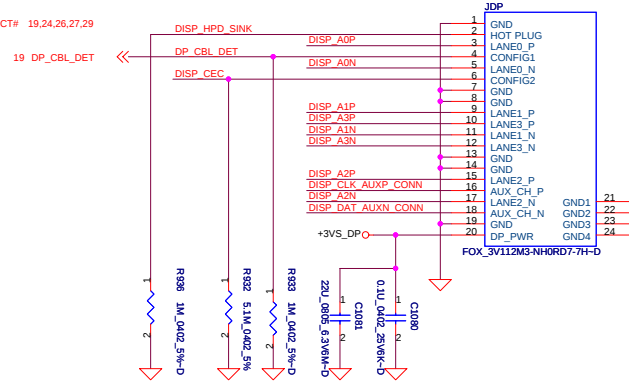
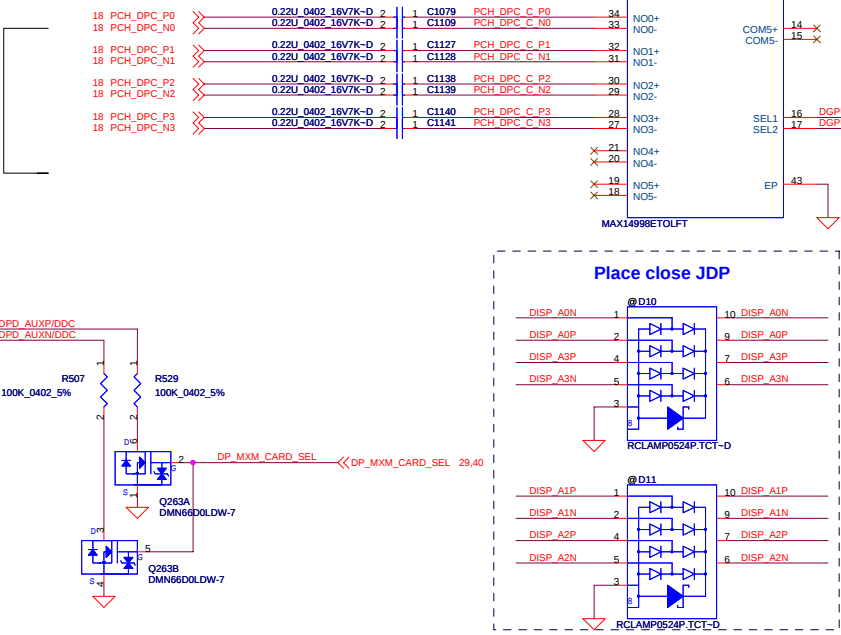
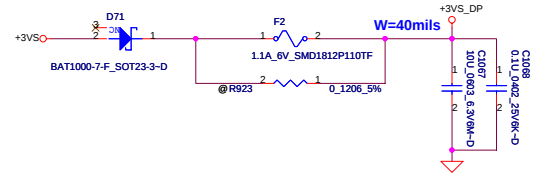
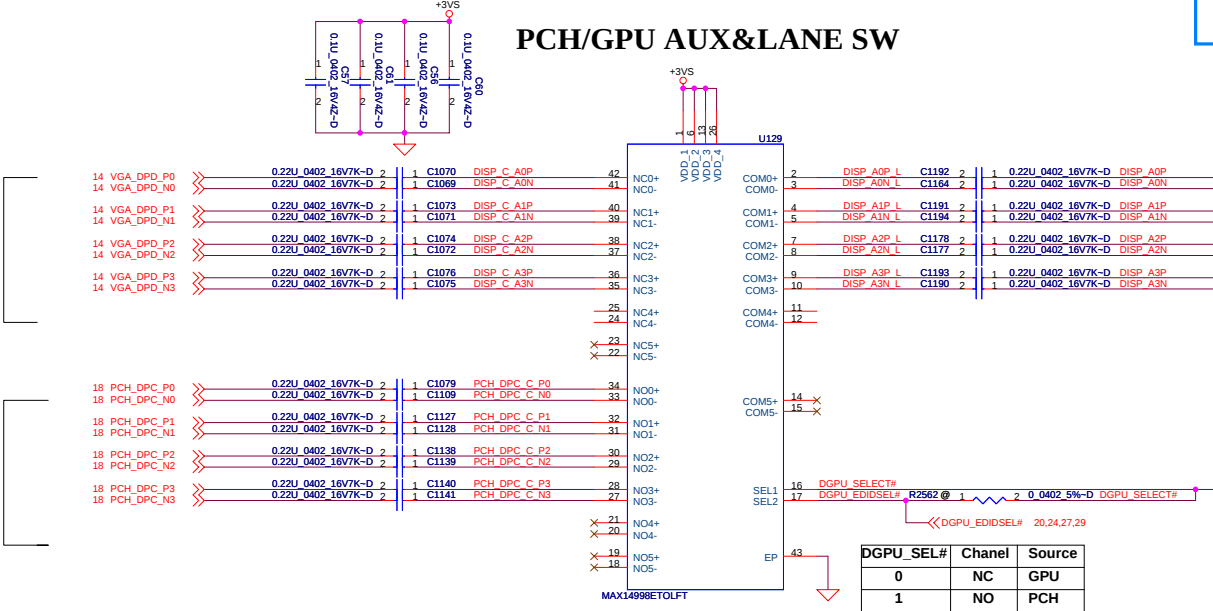
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PCH/GPU AUX&LANE SW



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From ATI/Nvidia GPU

From Intel PCH

From Intel PCH

From Intel PCH

From Intel PCH

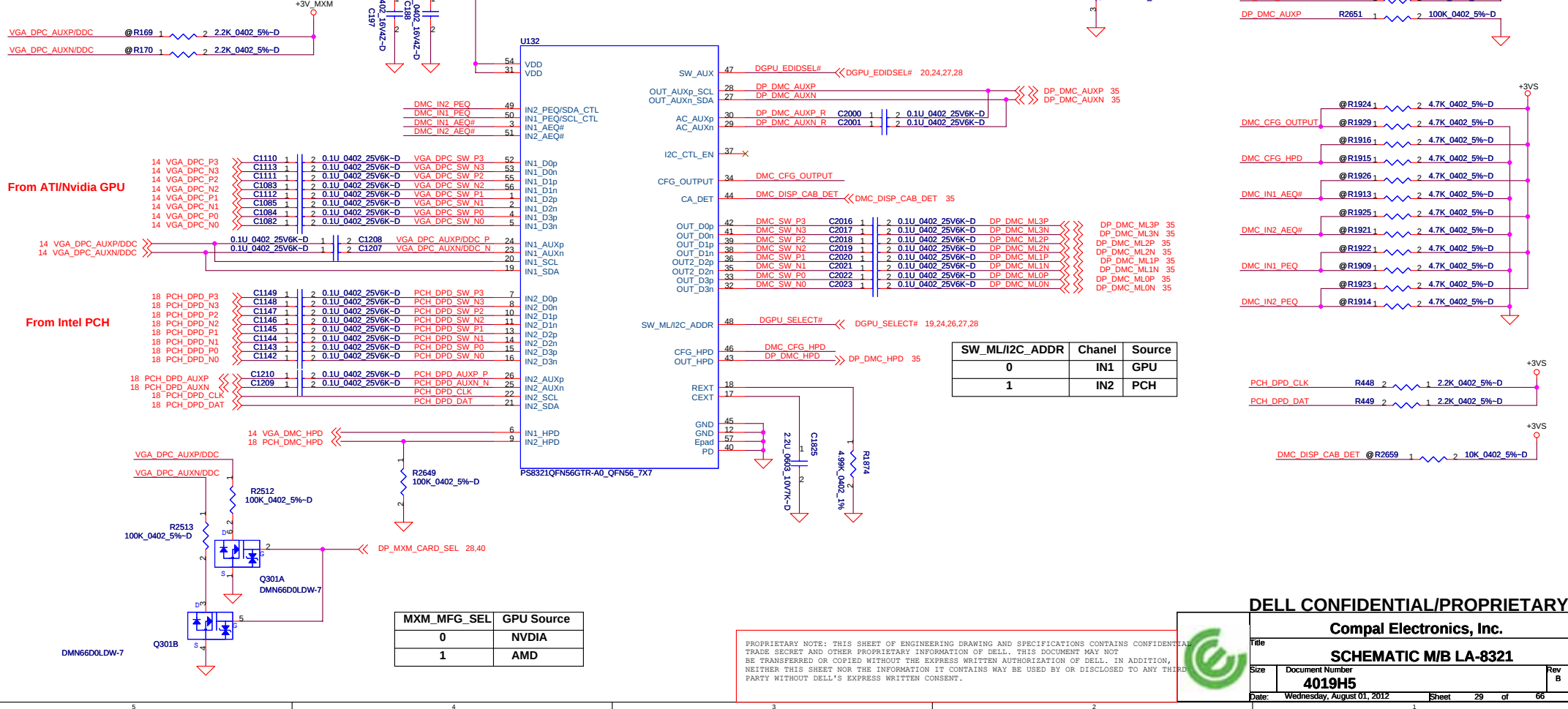
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From Intel PCH

From Intel PCH

From Intel PCH

PCH/GPU AUX&LANE SW for DMC



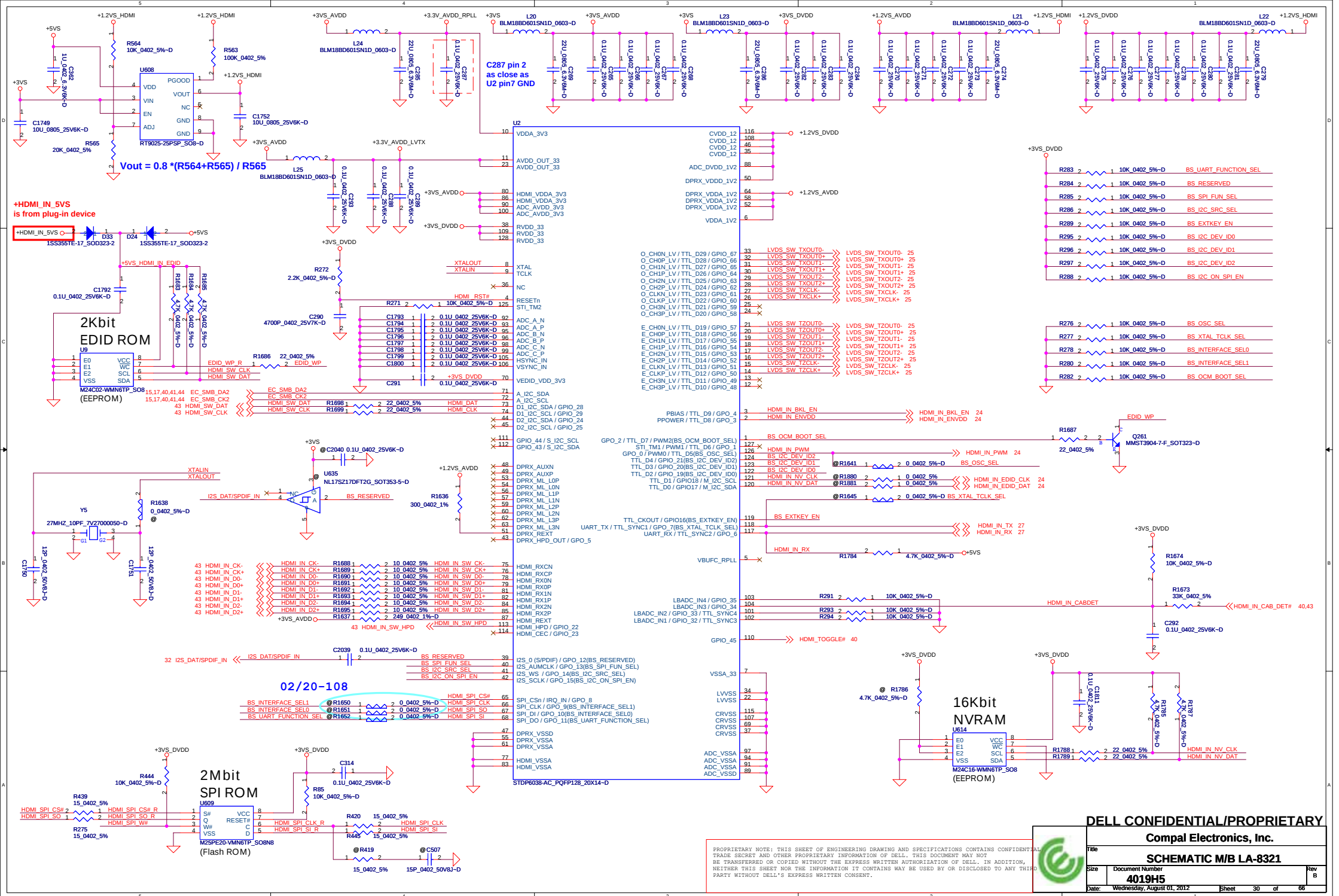
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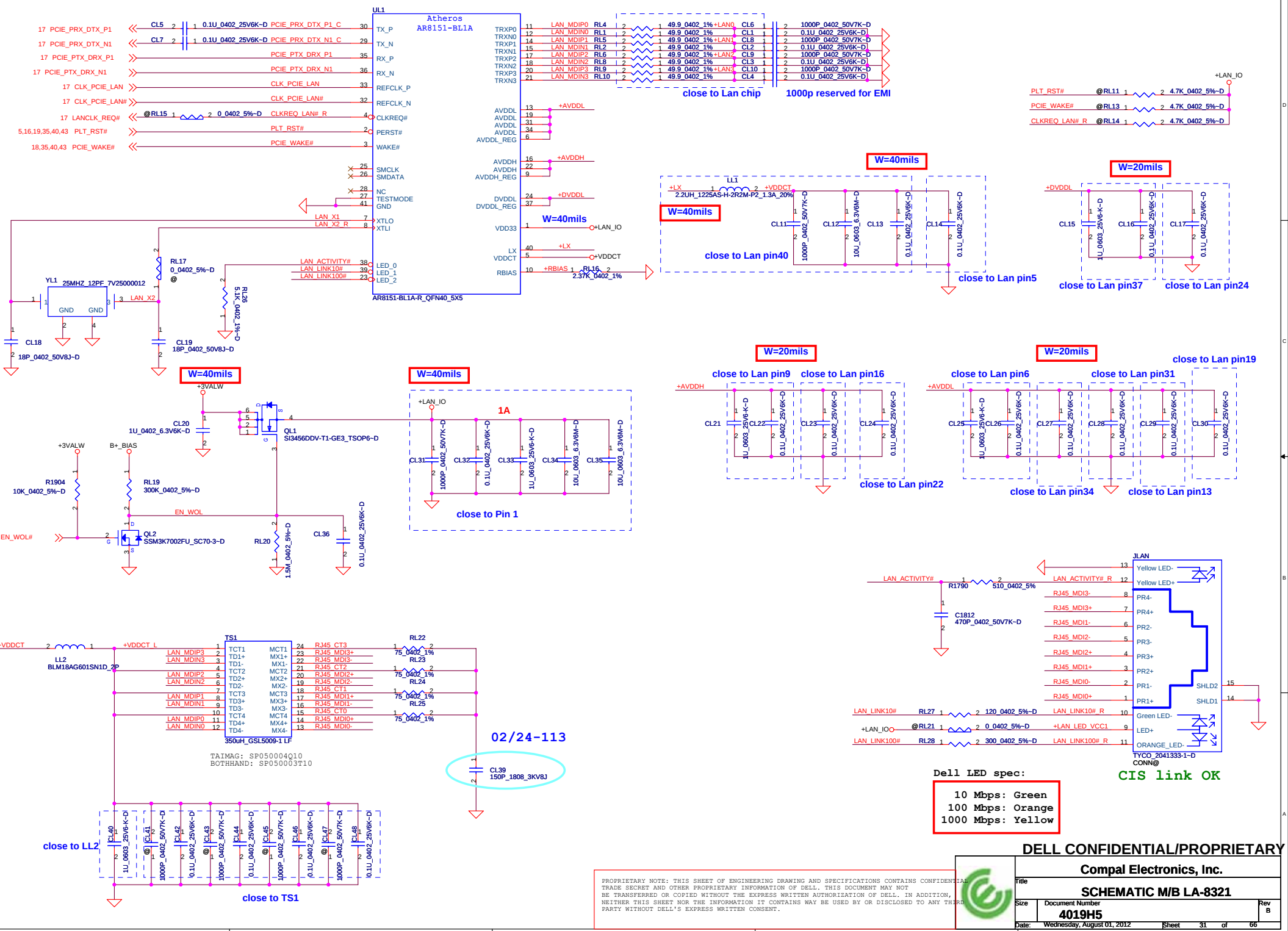
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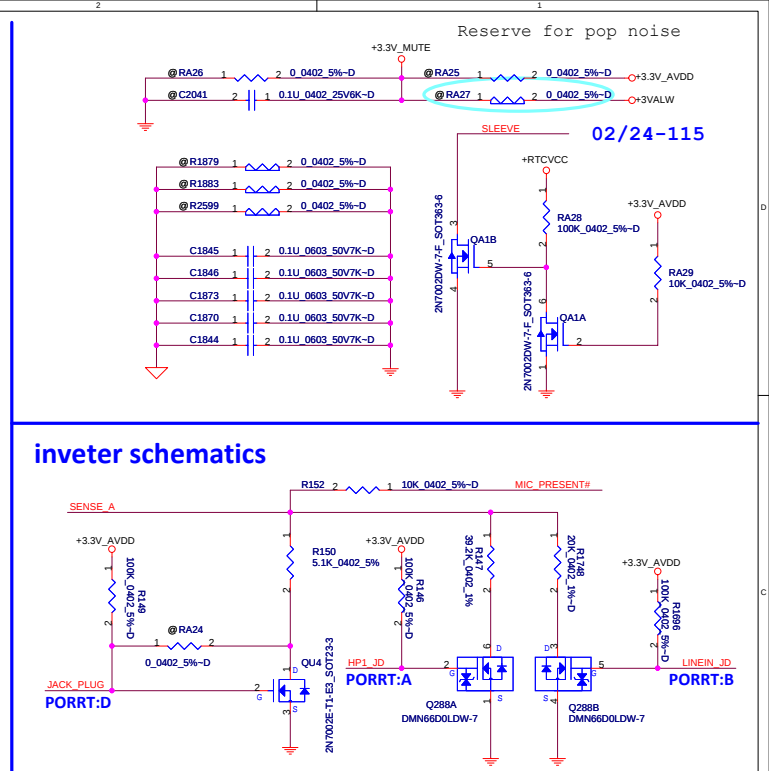
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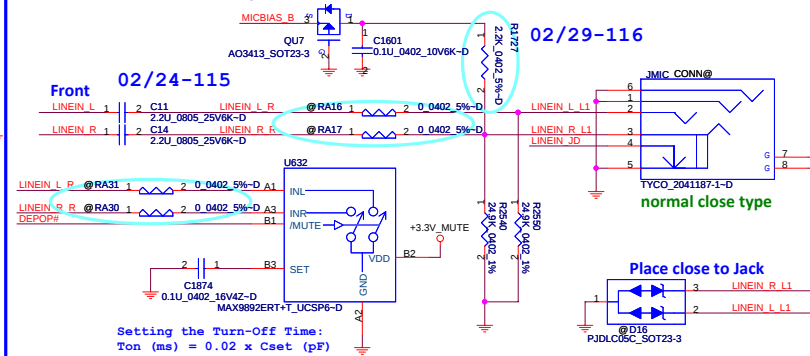
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Dell LED spec:
10 Mbps: Green
100 Mbps: Orange
1000 Mbps: Yellow

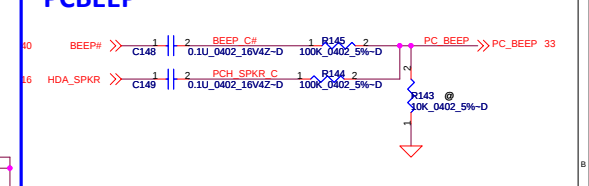
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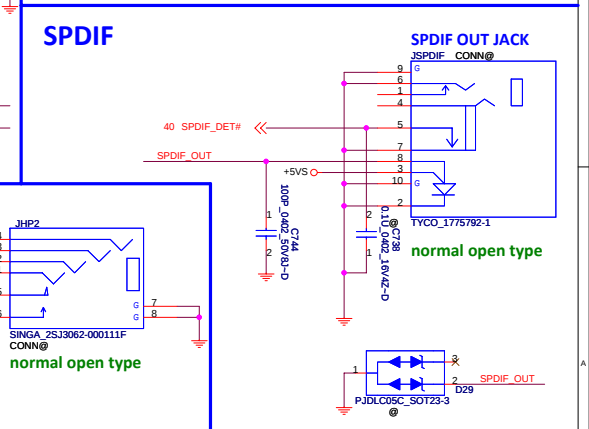
S3: PORTB Rear L/R + Line In + Mic

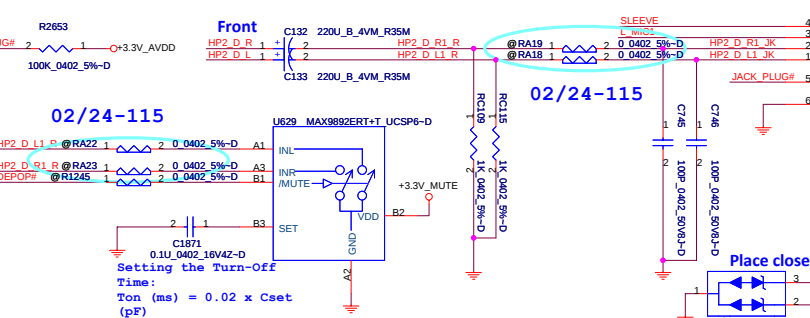


PCBEEP

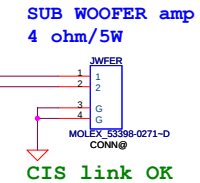
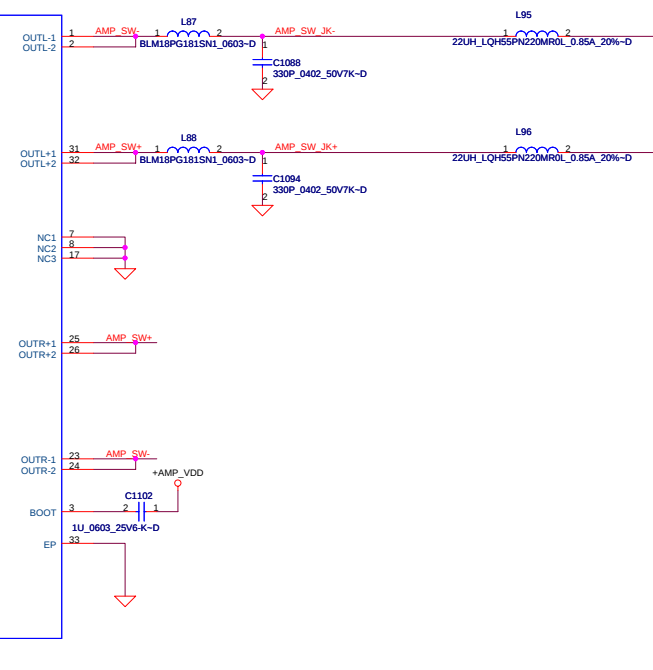
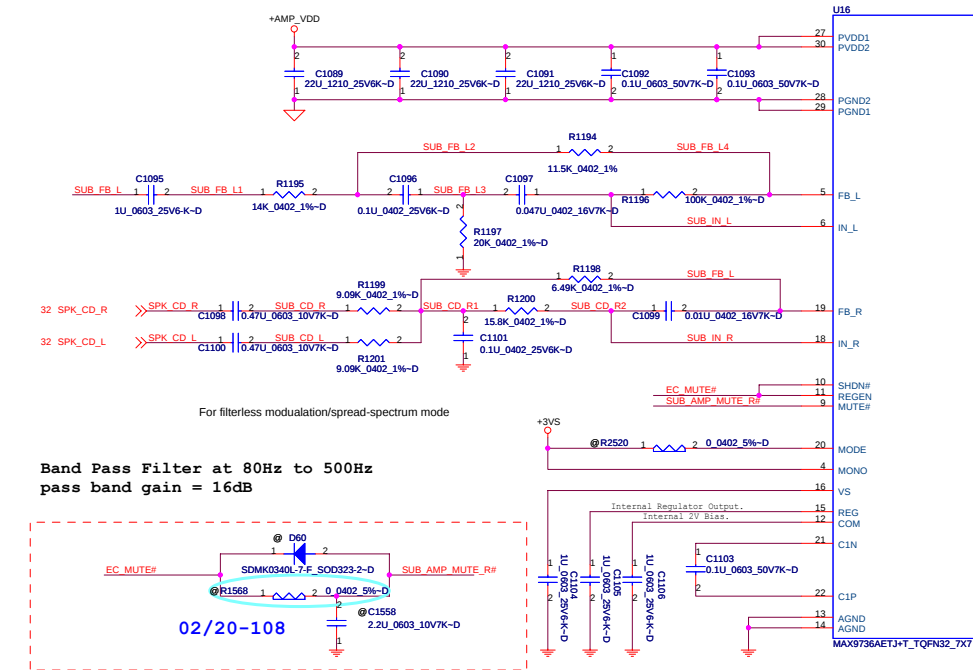
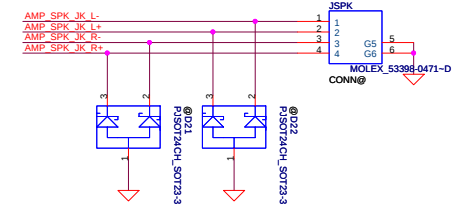
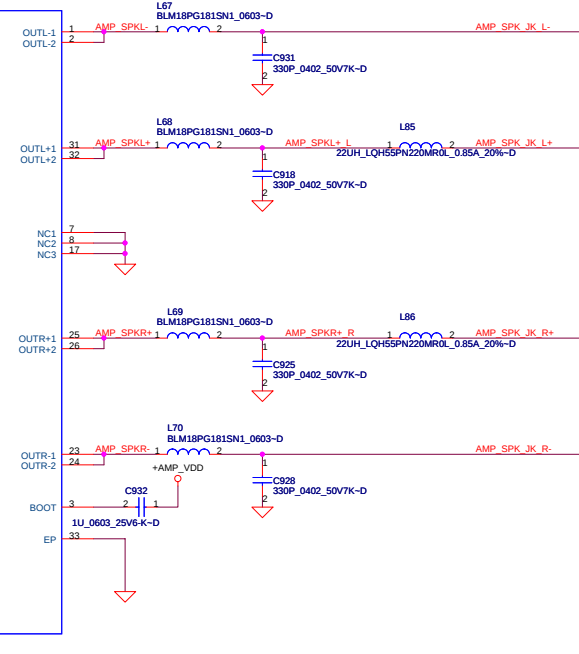
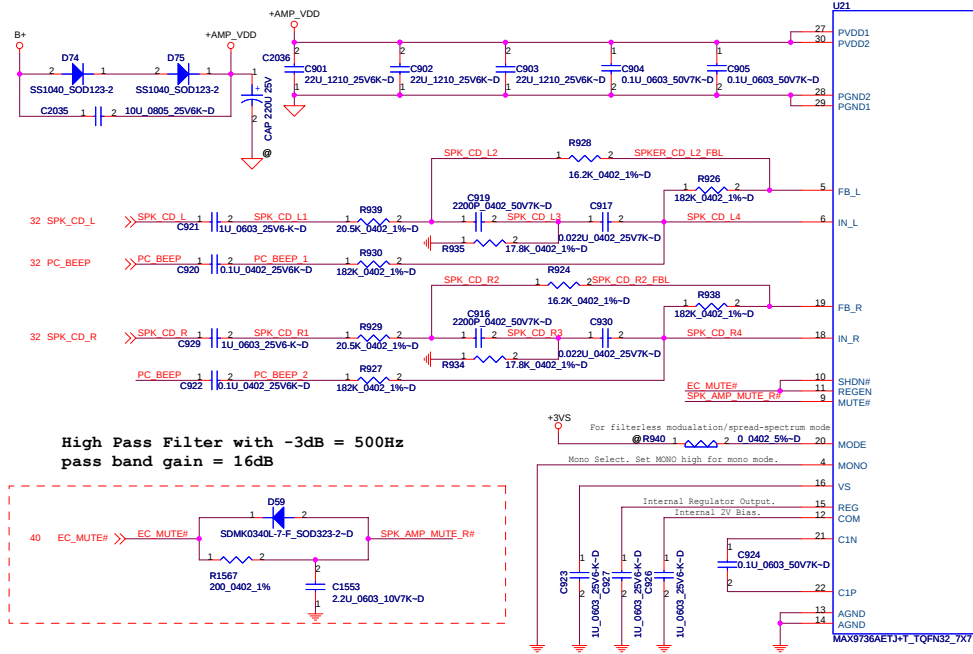


SPDIF





 Jack <u>D LI JK</u> <u>D RI JK</u> 233		Compal Electronics, Inc.			
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mSATA CONN

17 mSATA_DET#

5,10,11,12,13,16,17,35,43 PCH_SMBCLK
5,10,11,12,13,16,17,35,43 PCH_SMBDATA

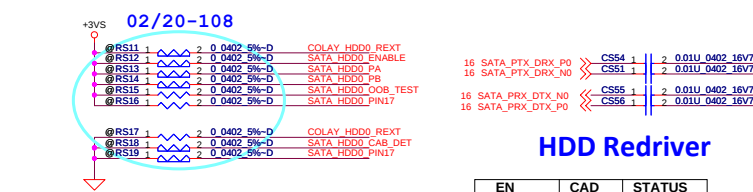
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CS47 1 2 0.01U 0402 167K-D SATA PRX DTX N5 C
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CS49 1 2 0.01U 0402 167K-D SATA PTX DRX N5 C
16 SATA_PTX_DRX_N5 C
CS48 1 2 0.01U 0402 167K-D SATA PTX DRX P5 C

+15VS
+3VS
PCH_SMBCLK
PCH_SMBDATA

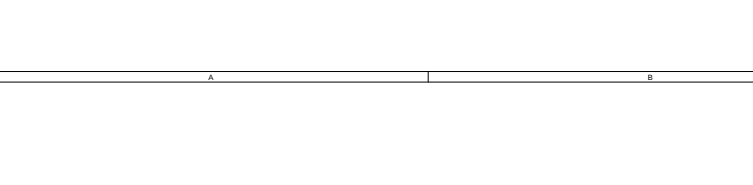
JP2

02/16-106

ACES_50406-020701-001
CONN®



EN	CAD	STATUS
0	0	LowPower
1	1	LowPower
1	0	Active
1	1	LowPower



Free Fall Sensor

The circuit diagram shows the U41 LMG3DM1TR_LGA16_3X3-D IC. The power supply is +3VS. The output pin is connected to +5VS through a 10k pull-up resistor. The output pin is also connected to FFS_INT2_CONN. The IC is labeled U41 LMG3DM1TR_LGA16_3X3-D.

19 FFS_INT1
20 FFS_INT2

FFS_INT1
FFS_INT2

PCH SMBDATA
PCH SMBCLK

U41
LMG3DM1TR_LGA16_3X3-D

+3VS

+5VS

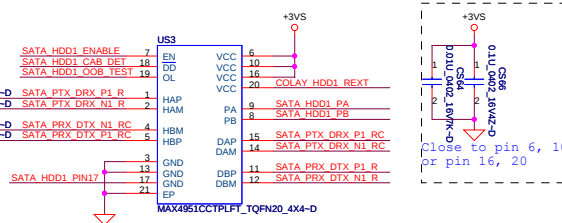
@ R343
100k_0402_5%

FFS_INT2

FFS_INT2_CONN

Q118
SSM3K7002FPU_SC70-3-D

Q12
SDMK0340L-7-F_SOD323-2-D



SATA ODD Conn.

ODD_DETECT# : High Active

19 ODD_DA# <<< @RS10 1 2 0 0402 5%-D
16,20 ODD_DETECT# <<< @RS9 1 2 0 0402 5%-D

16 SATA_PRX_DTX_P2 <<< CS17 1 2 0 010U 0402 167K-D-SATA PRX DTX P2 C
16 SATA_PRX_DTX_N2 <<< CS16 1 2 0 010U 0402 167K-D-SATA PRX DTX N2 C
16 SATA_PTX_DRX_N2 <<< CS15 1 2 0 010U 0402 167K-D-SATA PTX DRX N2 C
16 SATA_PTX_DRX_P2 <<< CS14 1 2 0 010U 0402 167K-D-SATA PTX DRX P2 C

20 ODD_EN# <<< Q2 SSM3K7002FU_SCT0-3-D

40 ODD_EJECT <<< Q3 2N7002E-T1-E3_SOT23-3

ODD_DETECT# R T212NET

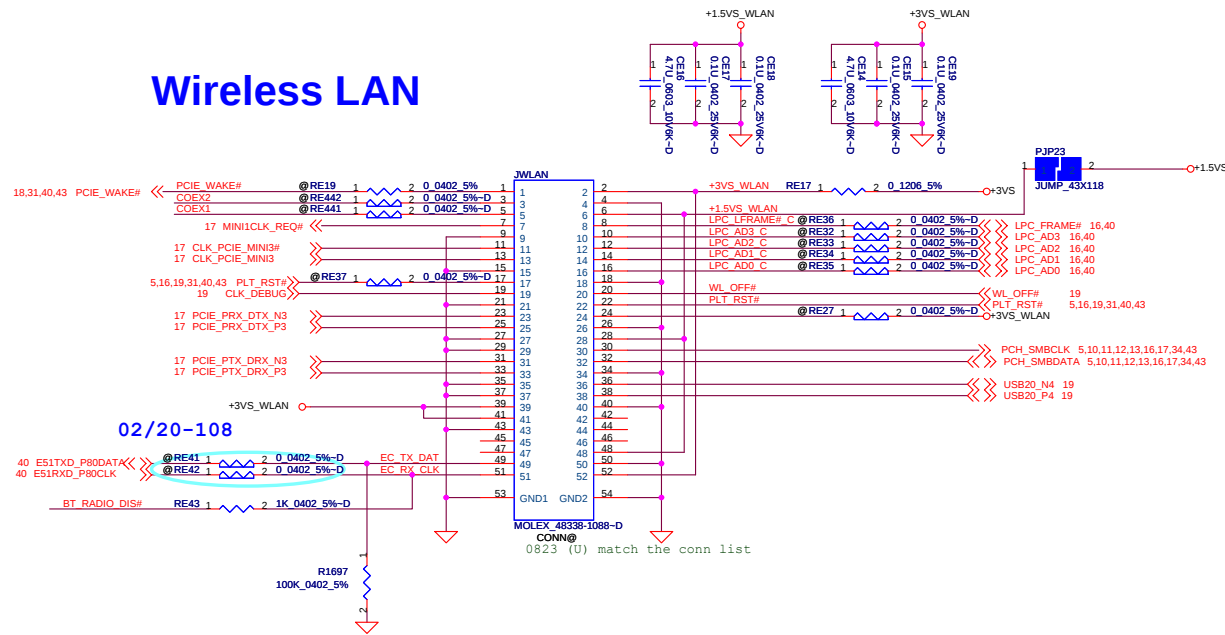
TYCO 1-2041070-6-0 CONN@



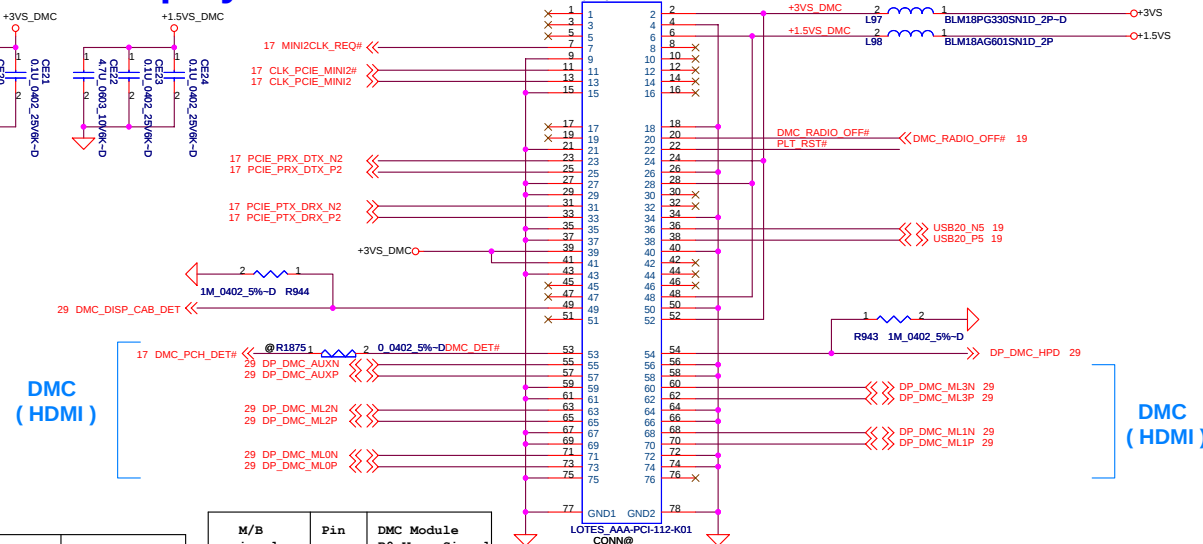
Size	Document Number 4019H5	Rev B
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Date: Wednesday, August 01, 2012	Sheet 34 of 66
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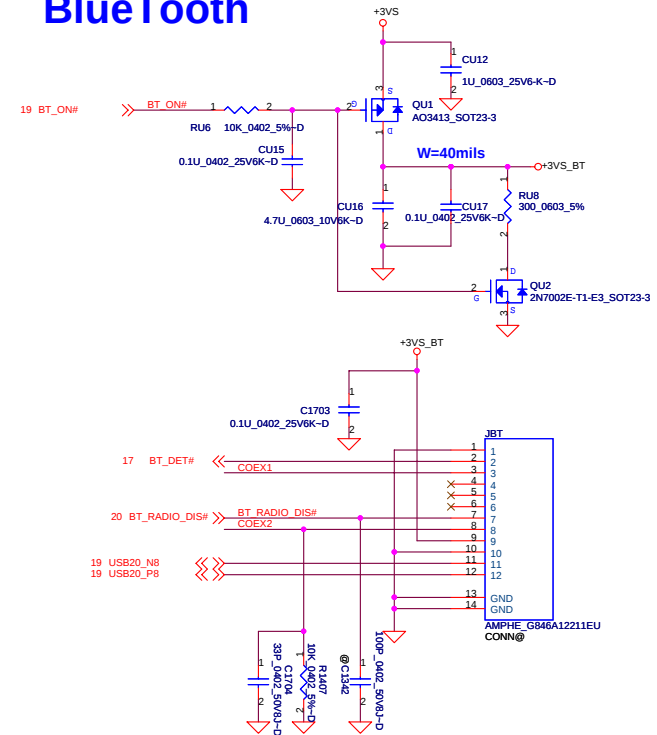
Wireless LAN



Display Mini Card



BlueTooth



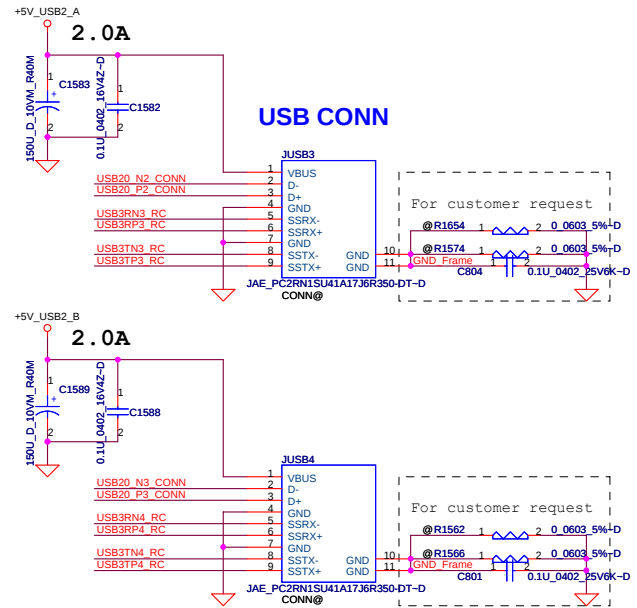
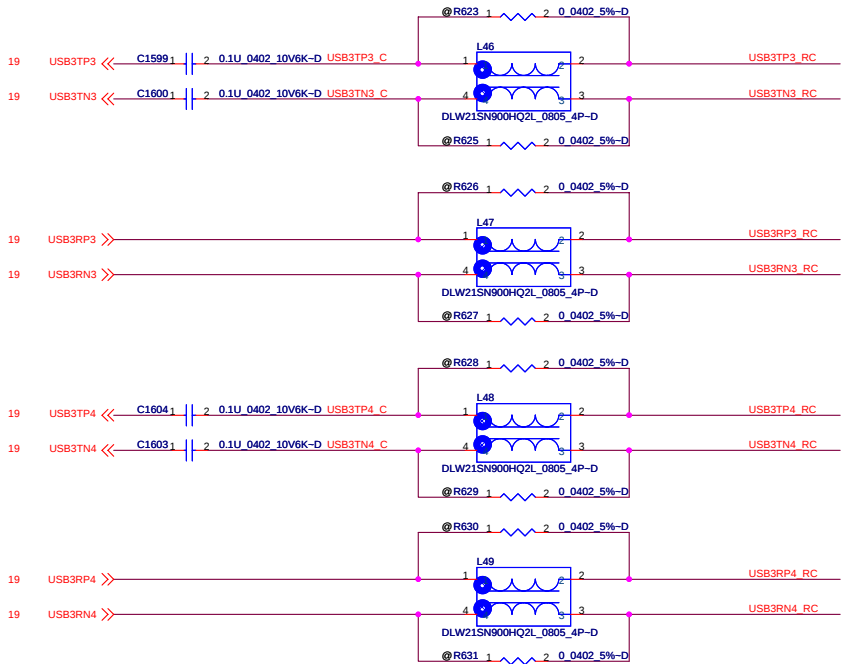
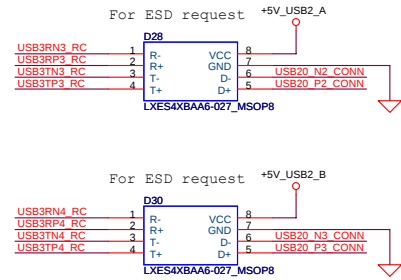
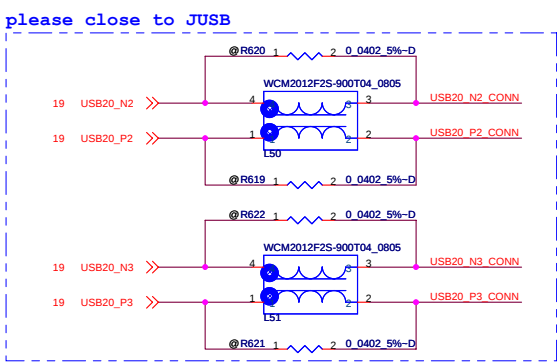
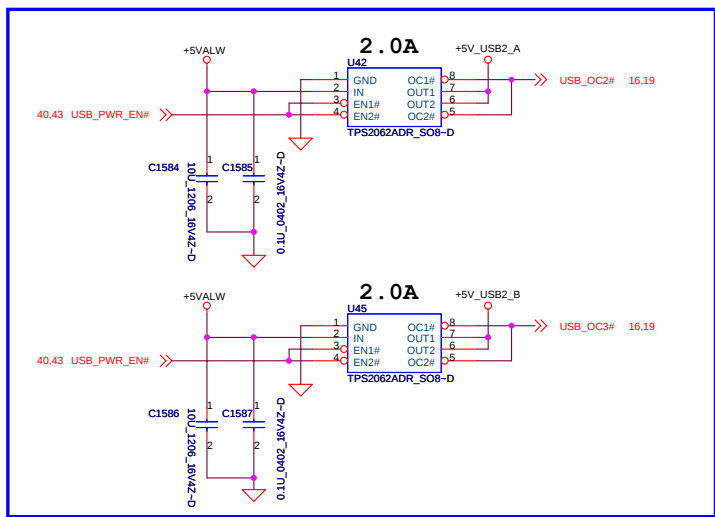
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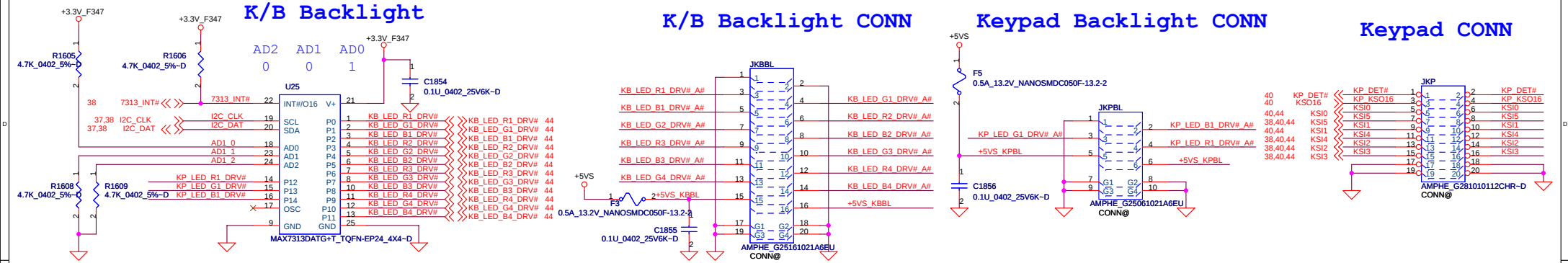


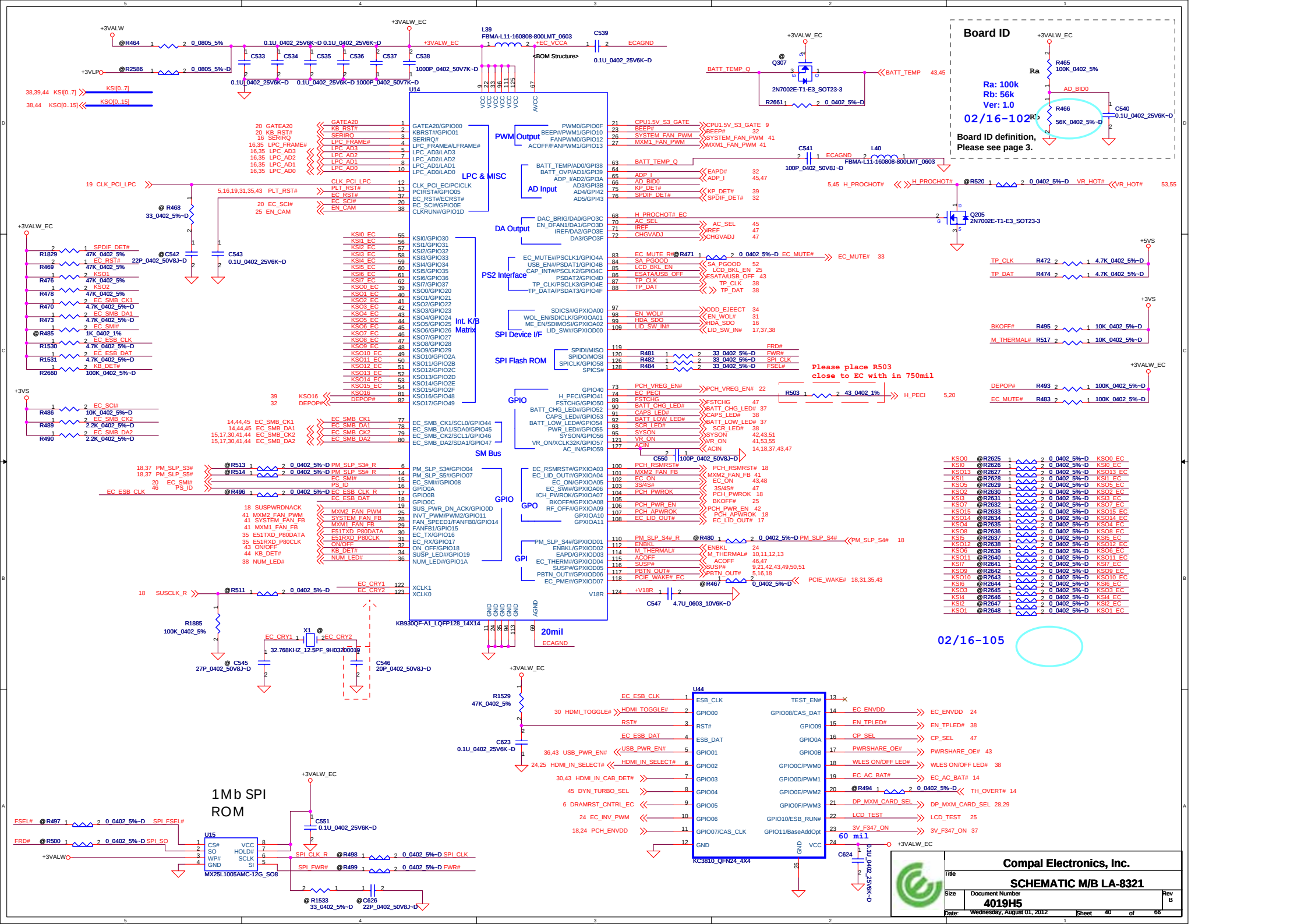
K/B Backlight

K/B Backlight CONN

Keypad Backlight CONN

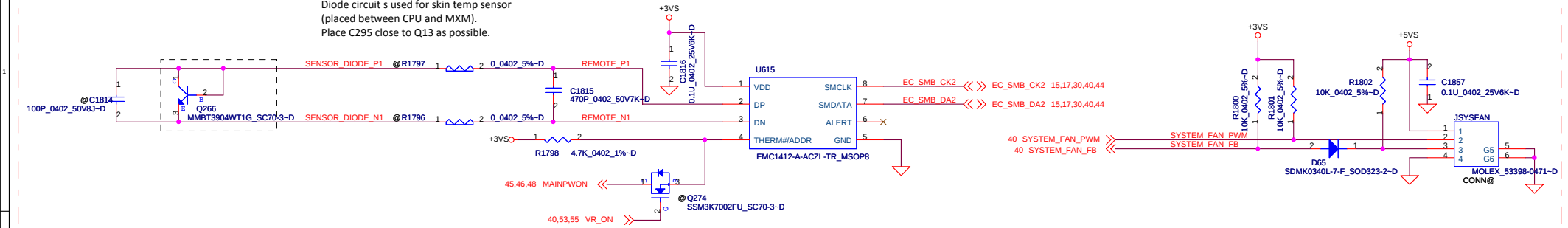
Keypad CONN



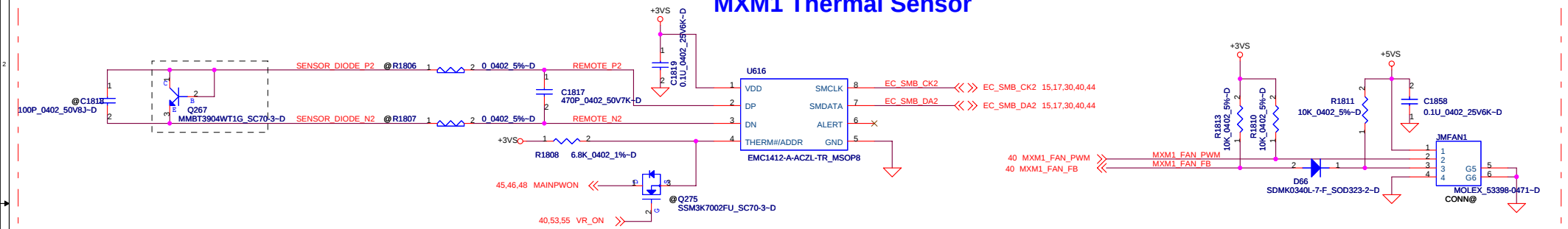


System Thermal Sensor

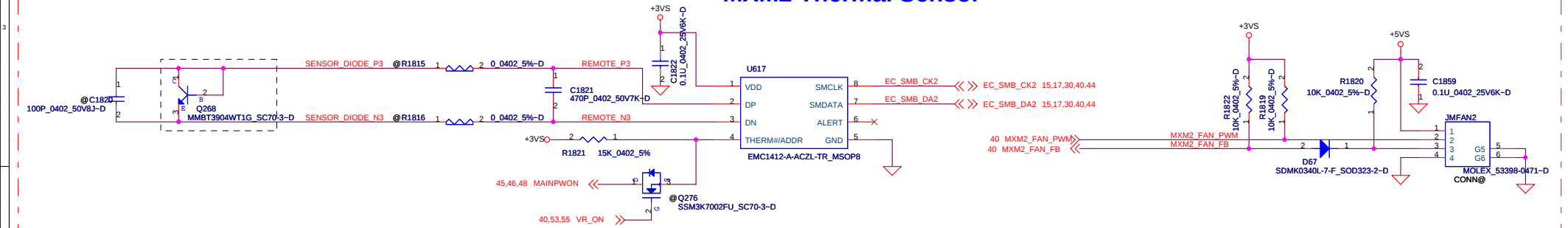
Diode circuit s used for skin temp sensor
(placed between CPU and MXM).
Place C295 close to Q13 as possible.



MXM1 Thermal Sensor



MXM2 Thermal Sensor



Pull up resistor on thermtrip pin	SMBUS address
4.7k	1111_100xb
6.8k	1011_100xb
10k	1001_100xb
15k	1101_100xb
22k	0011_100xb
33k	0111_100xb

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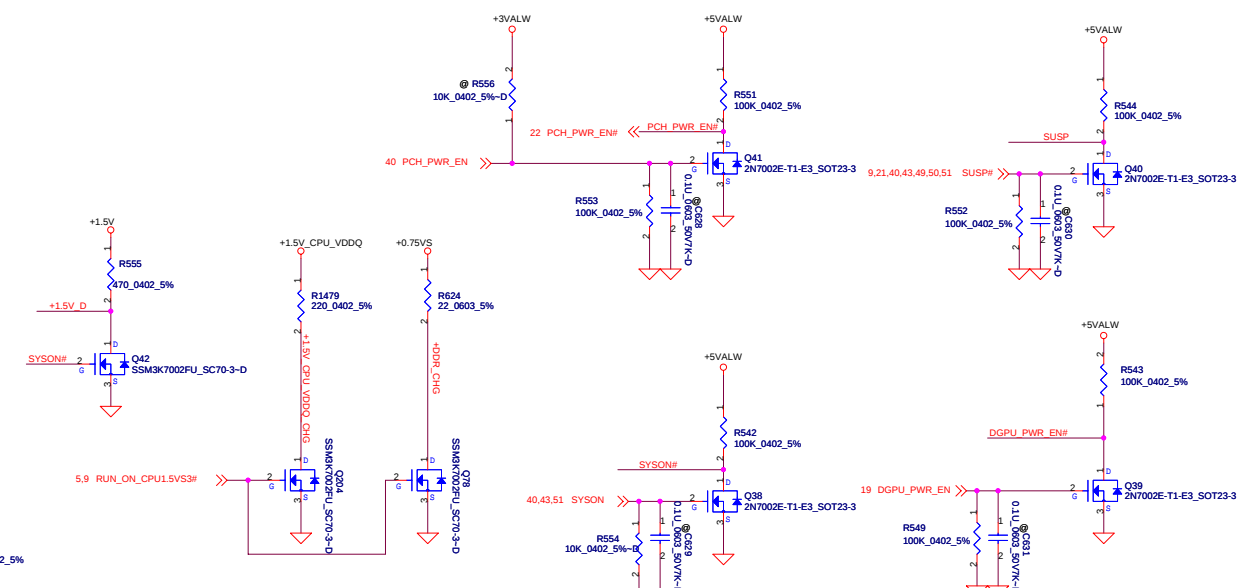


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[illegible][illegible]

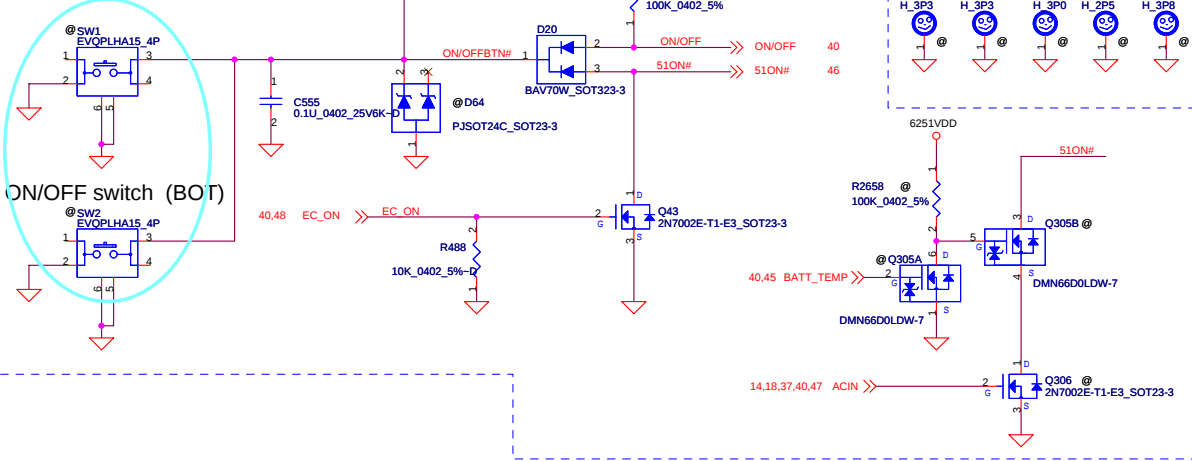
4019H5



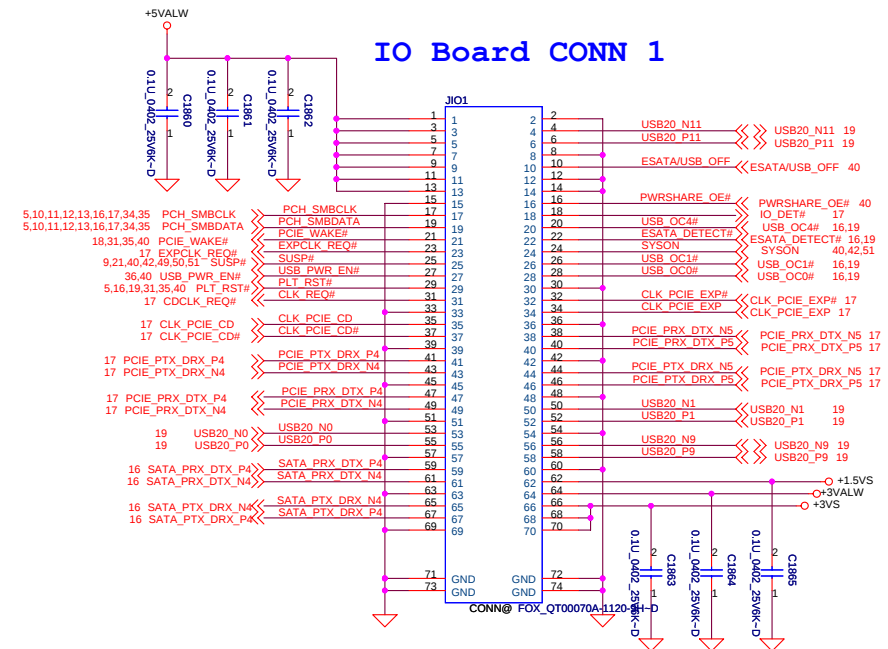
Power Button from IO/B PWR BTN

02/16-107

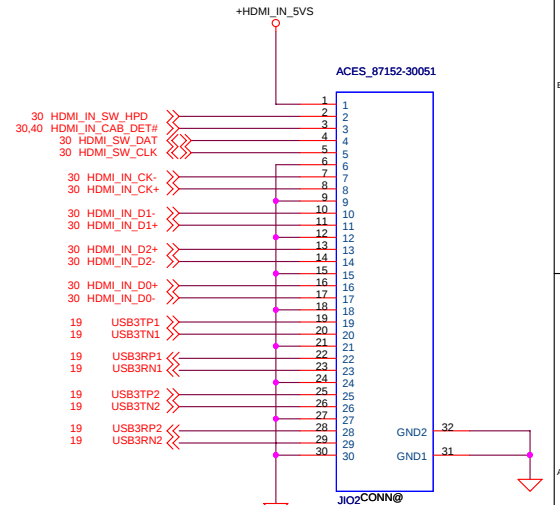
ON/OFF switch (TOP)



IO Board CONN 1



IO Board CONN 2



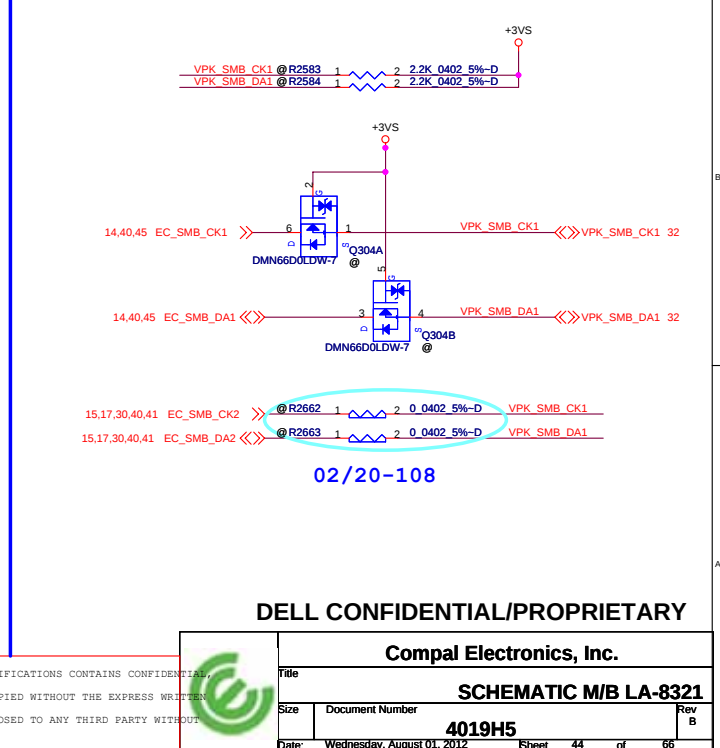
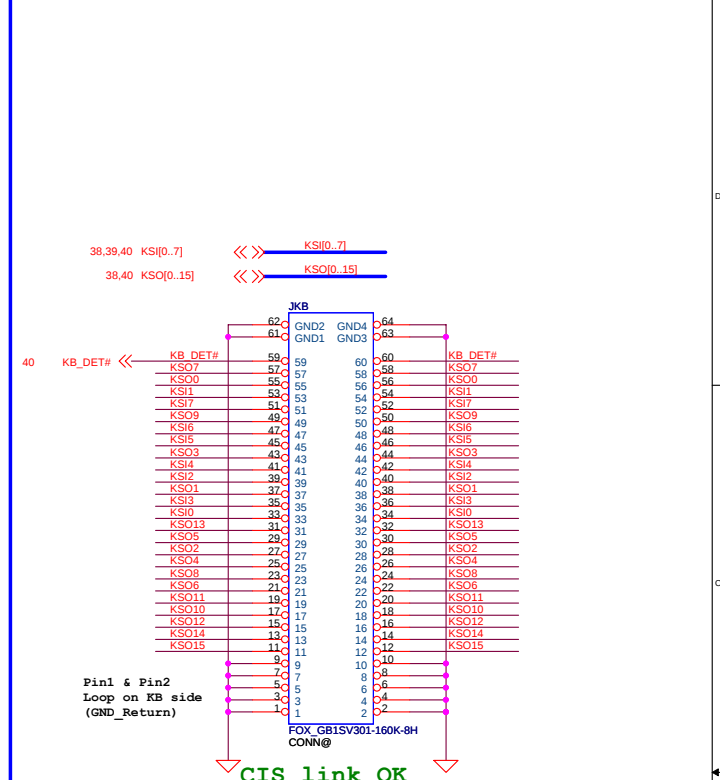
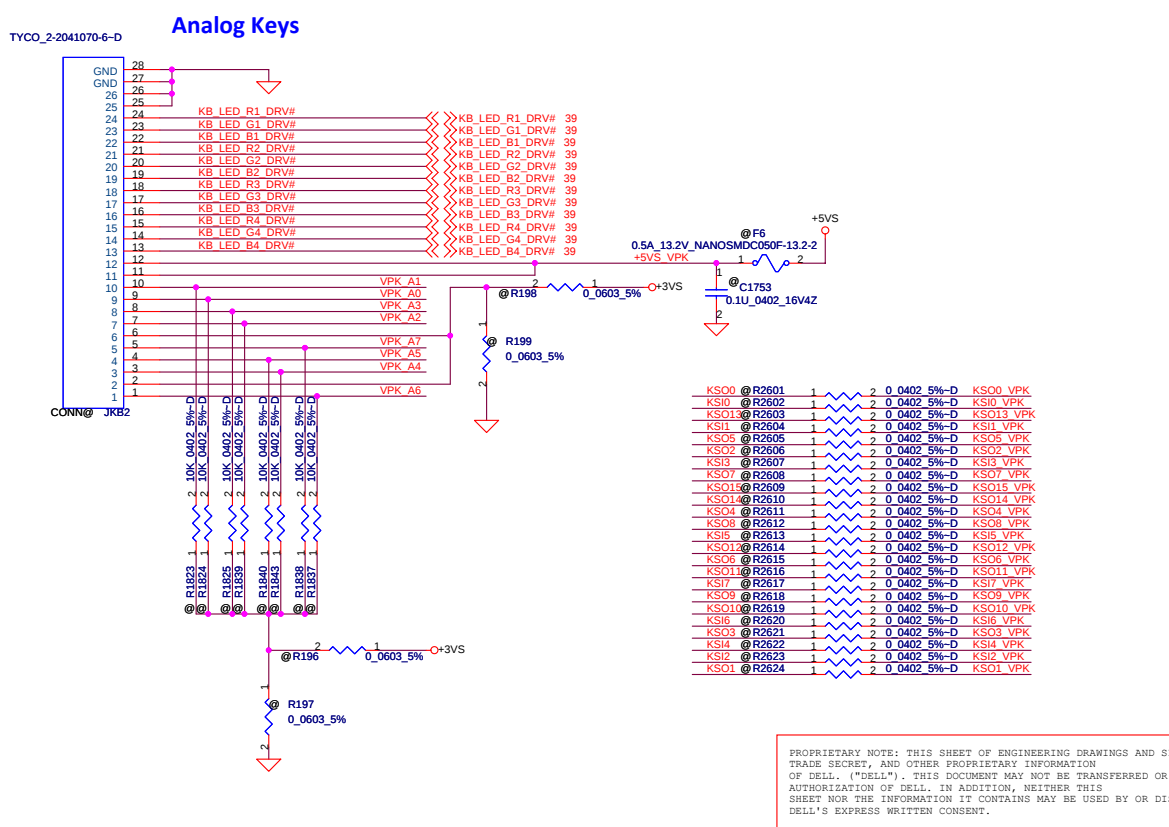
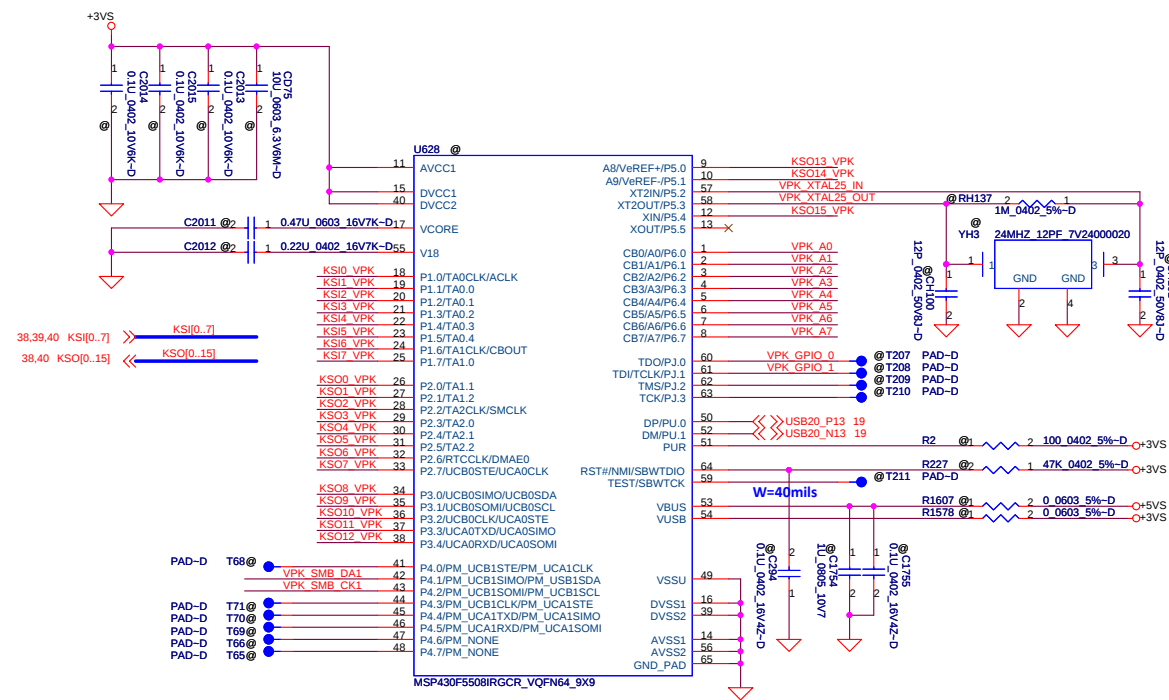
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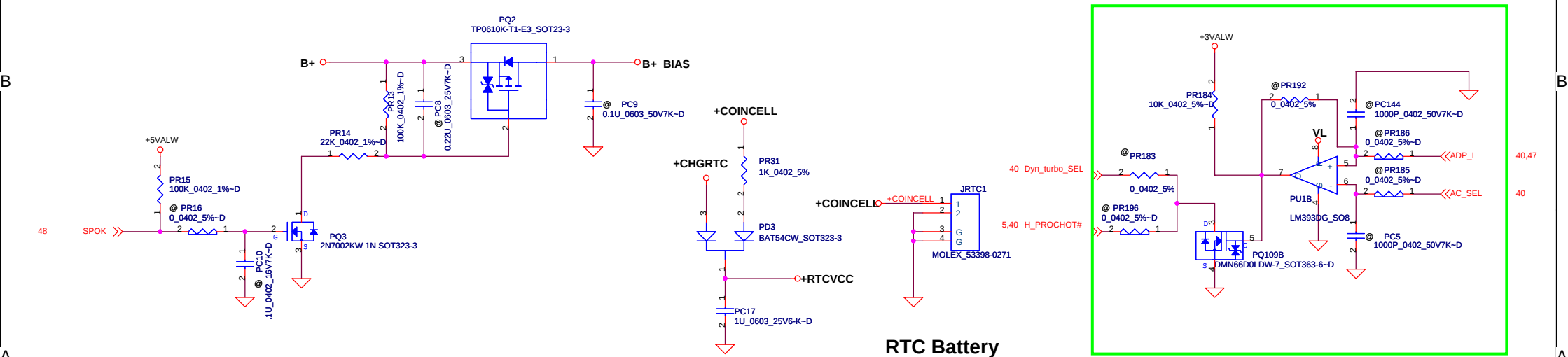
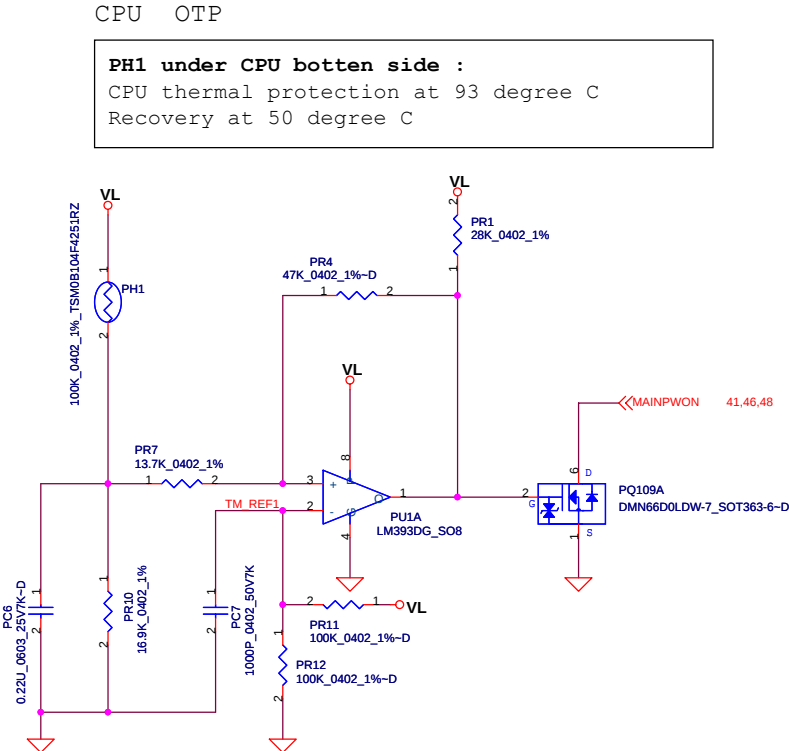
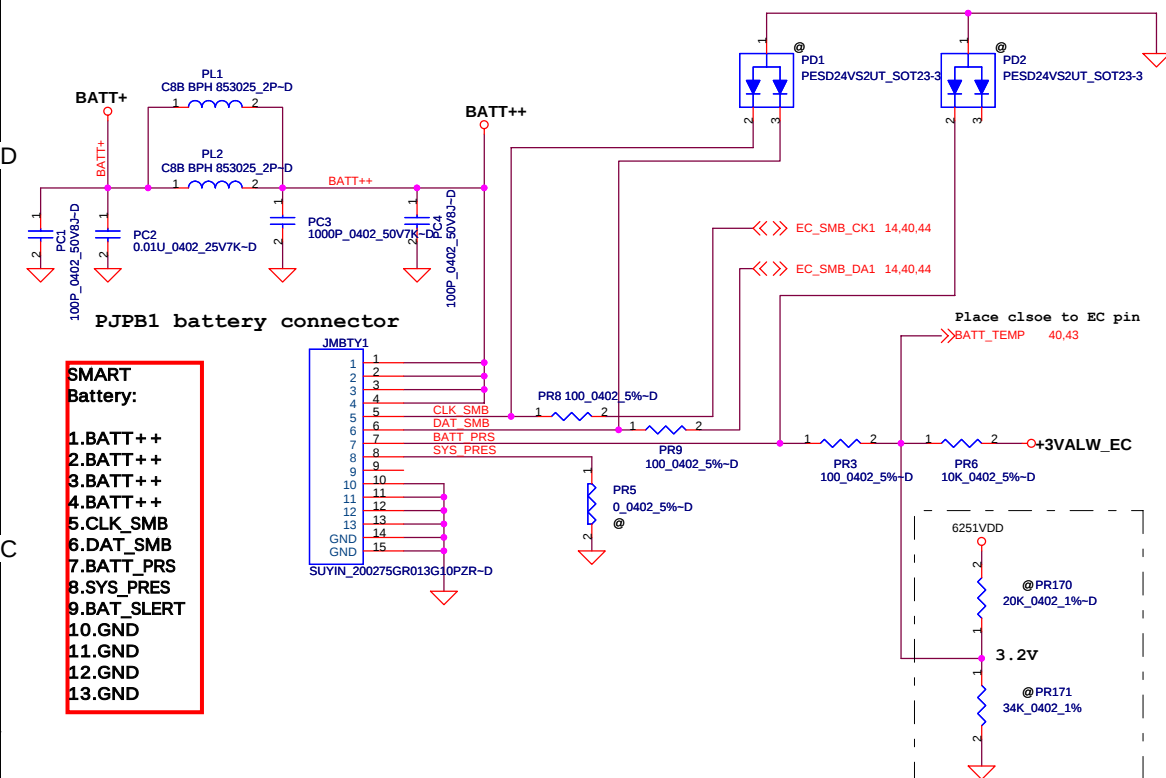
SCHEMATIC M/B LA-8321

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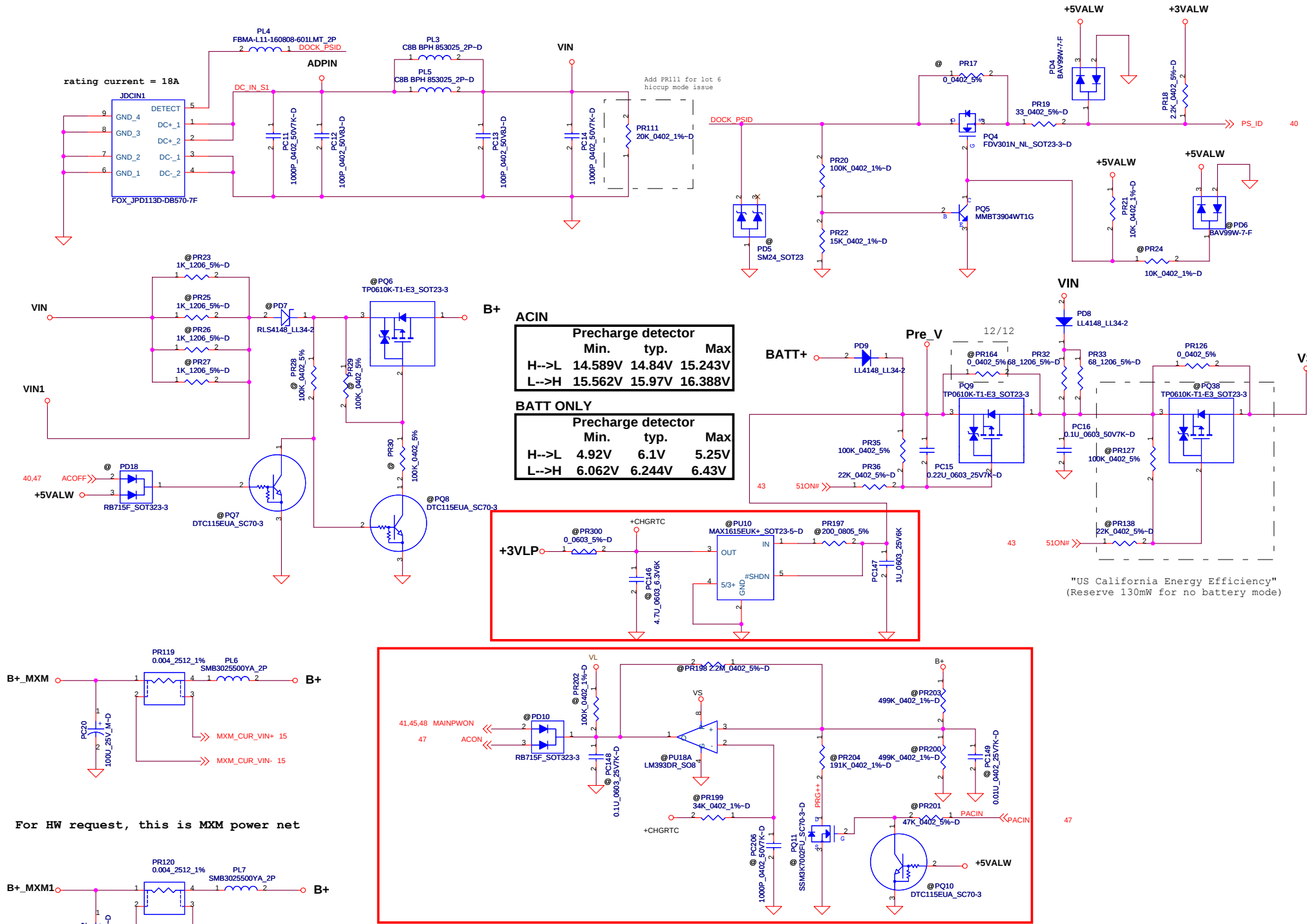
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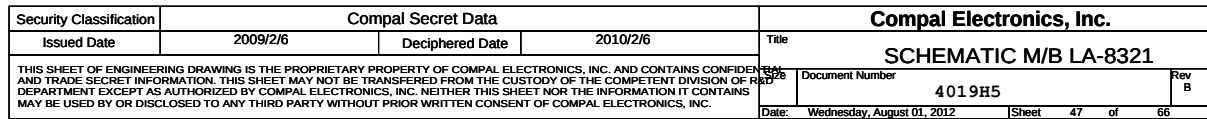


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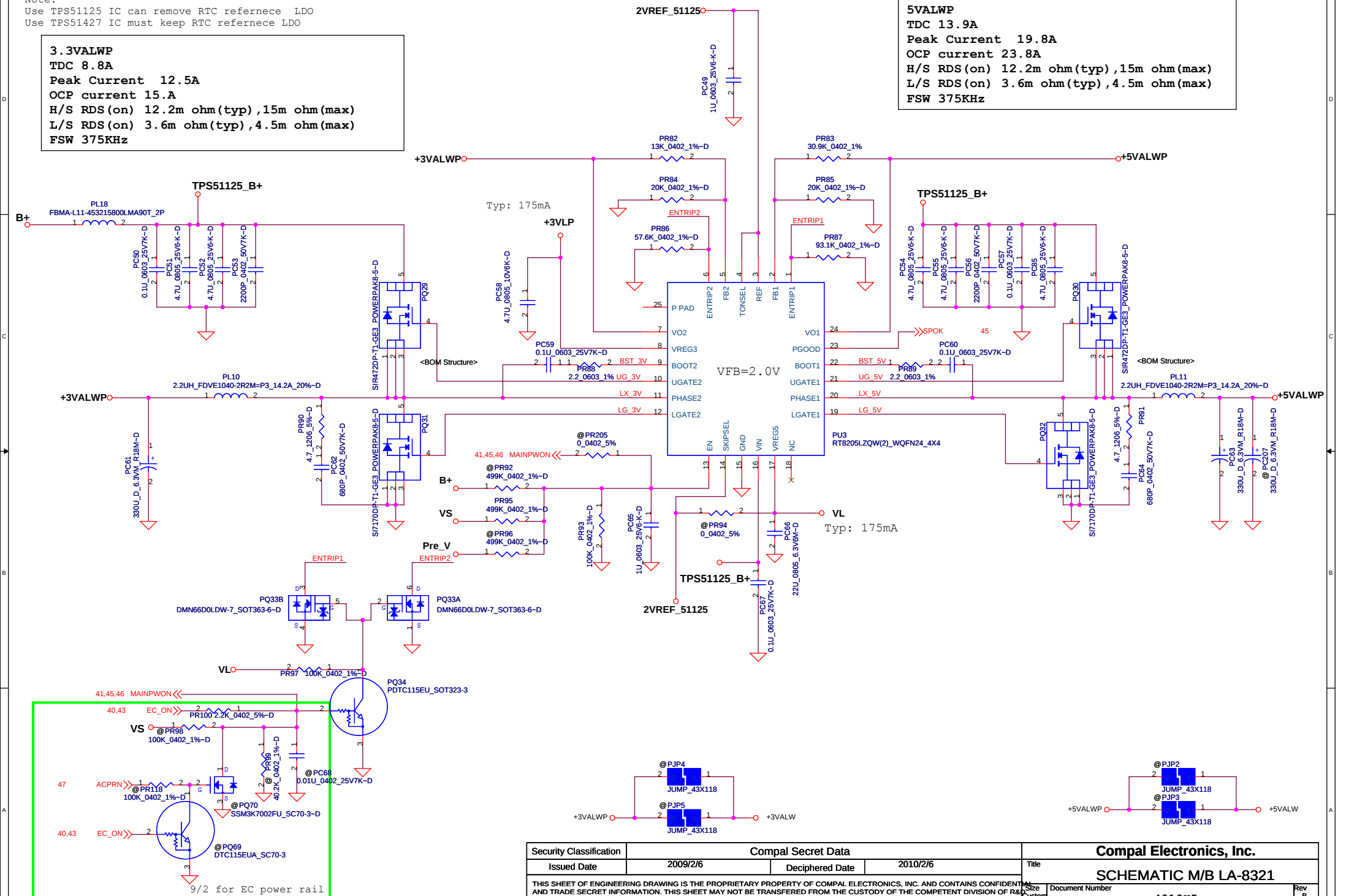




Note:
 Use TPS51125 IC can remove RTC refernece LDO
 Use TPS51427 IC must keep RTC refernece LDO

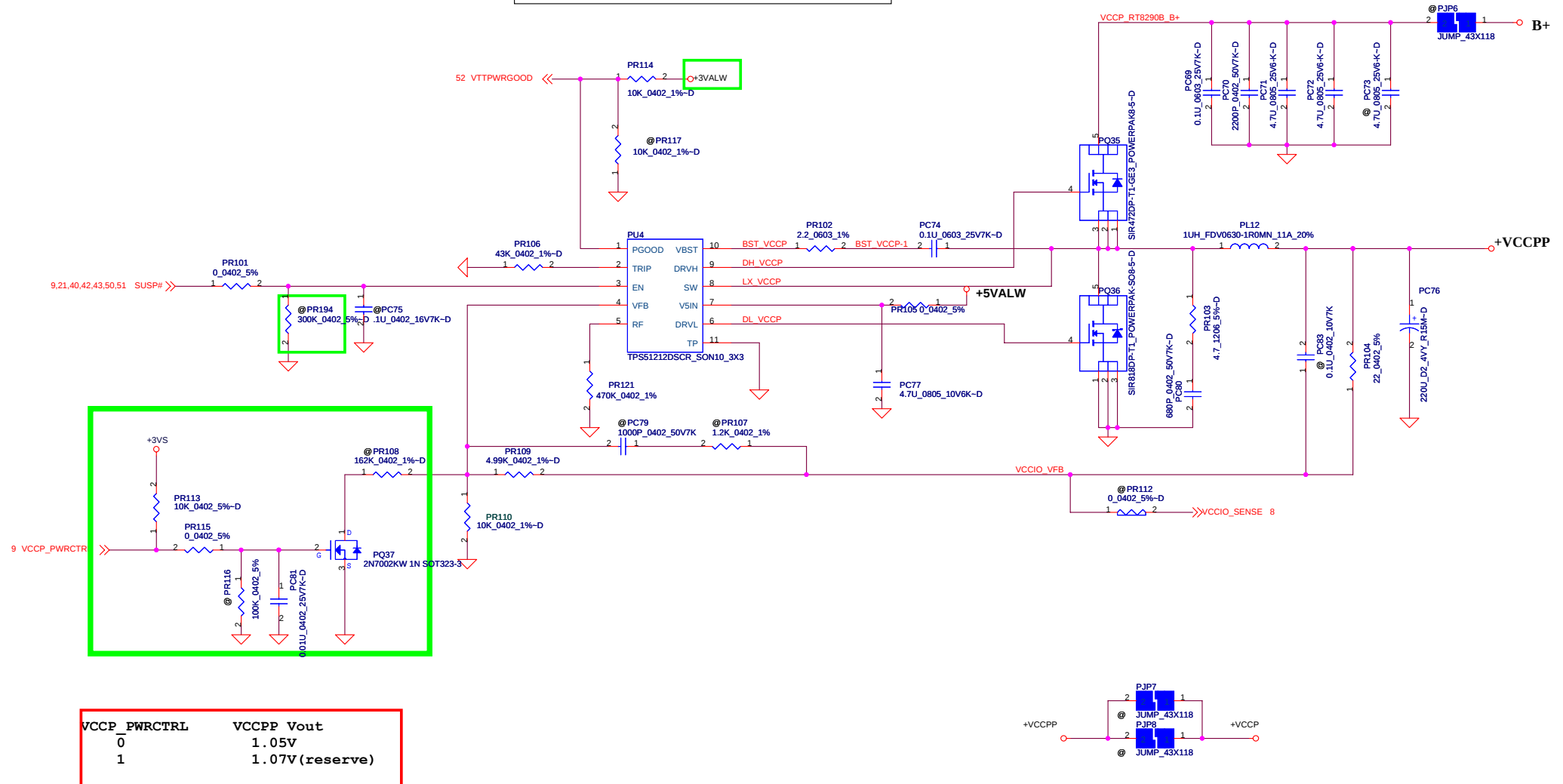
3.3VALWP
 TDC 8.8A
 Peak Current 12.5A
 OCP current 15.A
 H/S RDS (on) 12.2m ohm (typ) ,15m ohm(max)
 L/S RDS (on) 3.6m ohm (typ) ,4.5m ohm(max)
 FSW 375KHz

5VALWP
 TDC 13.9A
 Peak Current 19.8A
 OCP current 23.8A
 H/S RDS (on) 12.2m ohm (typ) ,15m ohm(max)
 L/S RDS (on) 3.6m ohm (typ) ,4.5m ohm(max)
 FSW 375KHz



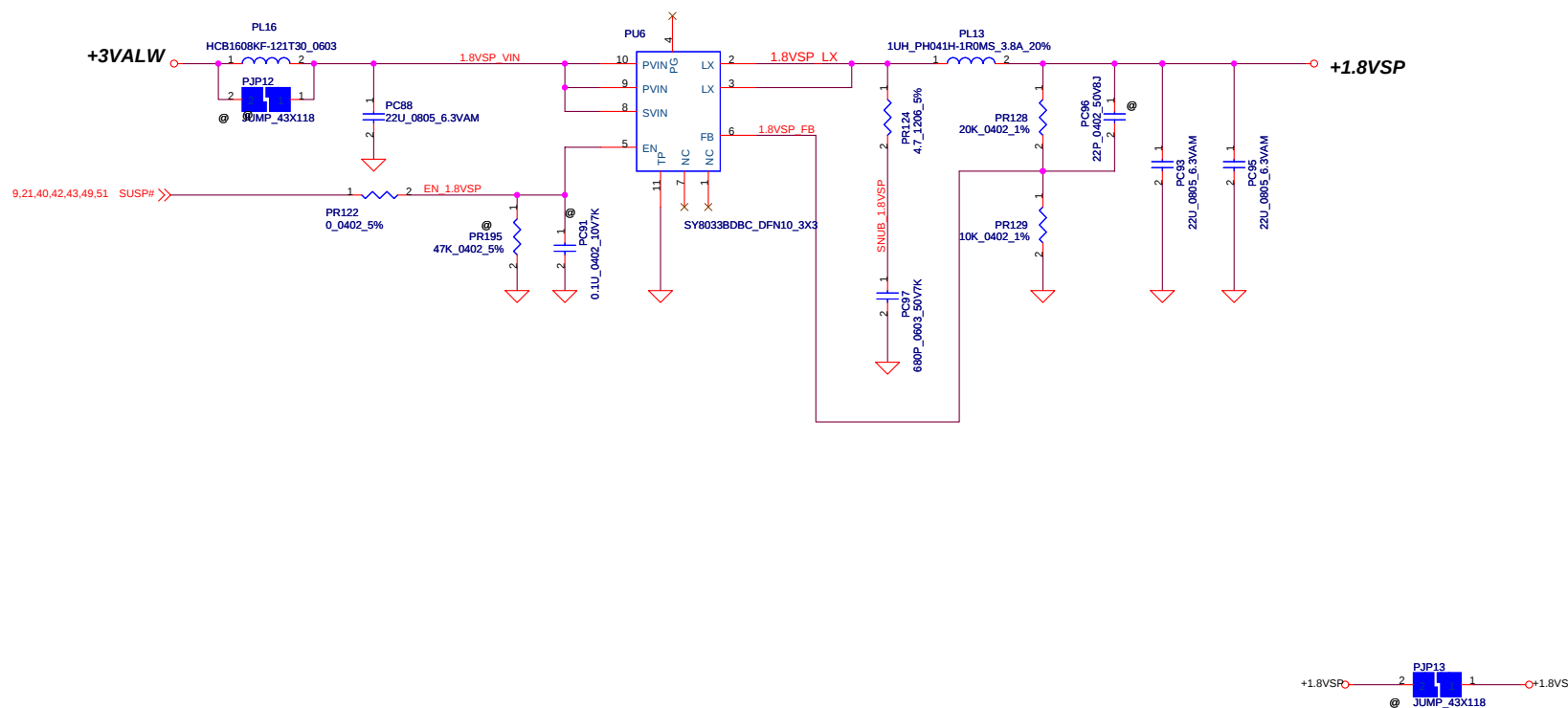
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+VCCPP
TDC 10.7A
Peak Current 15.3A
OCP current 18.3A
H/S RDS(on) 12.2m ohm(typ), 15m ohm(max)
L/S RDS(on) 2.7m ohm(typ), 3.3m ohm(max)
FSW 300KHz



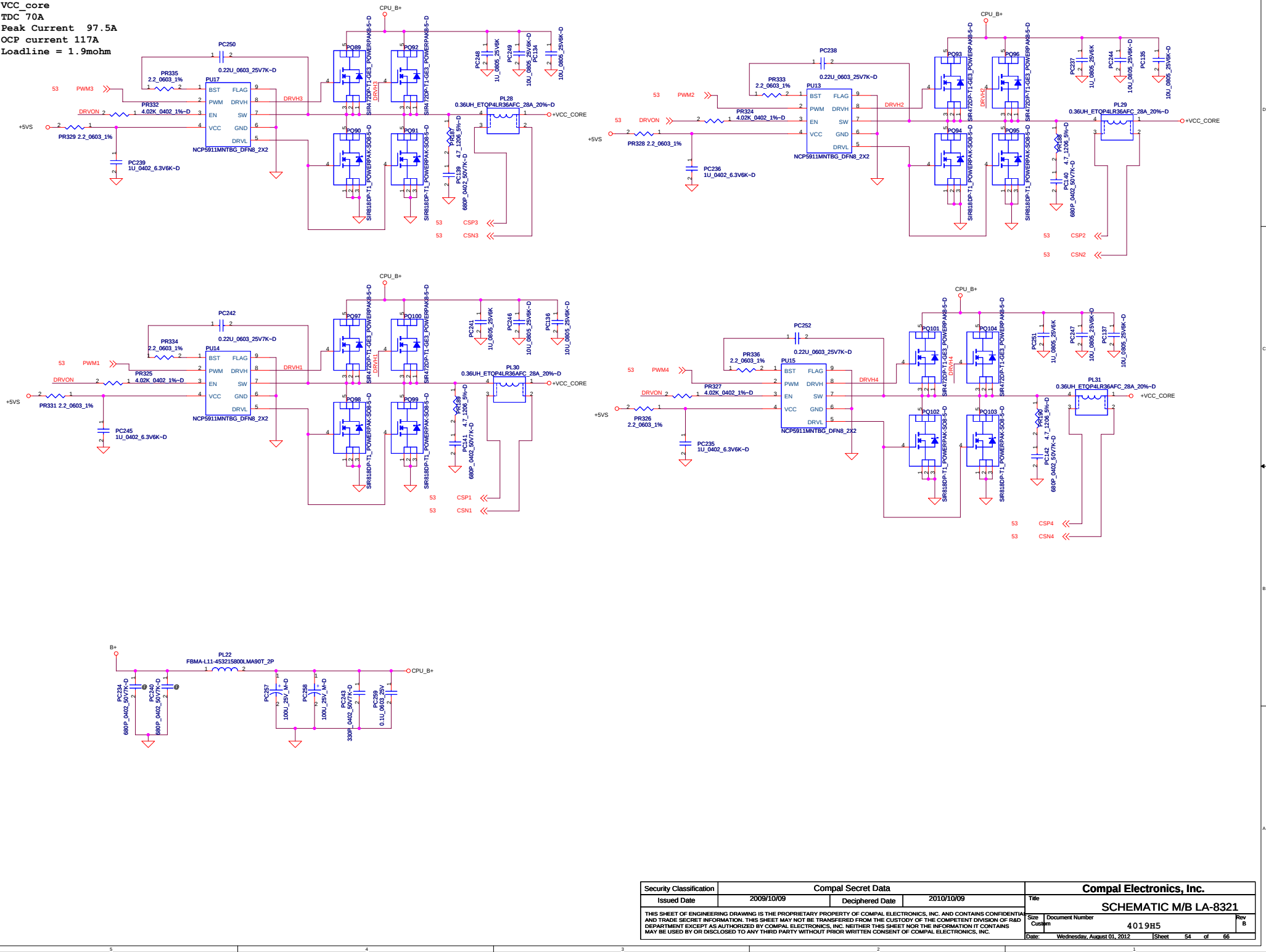
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						Date:		Wednesday, August 01, 2012		Sheet	

+1.8VSP
TDC 0.9A
Peak Current 1.2A
OCP current 3A

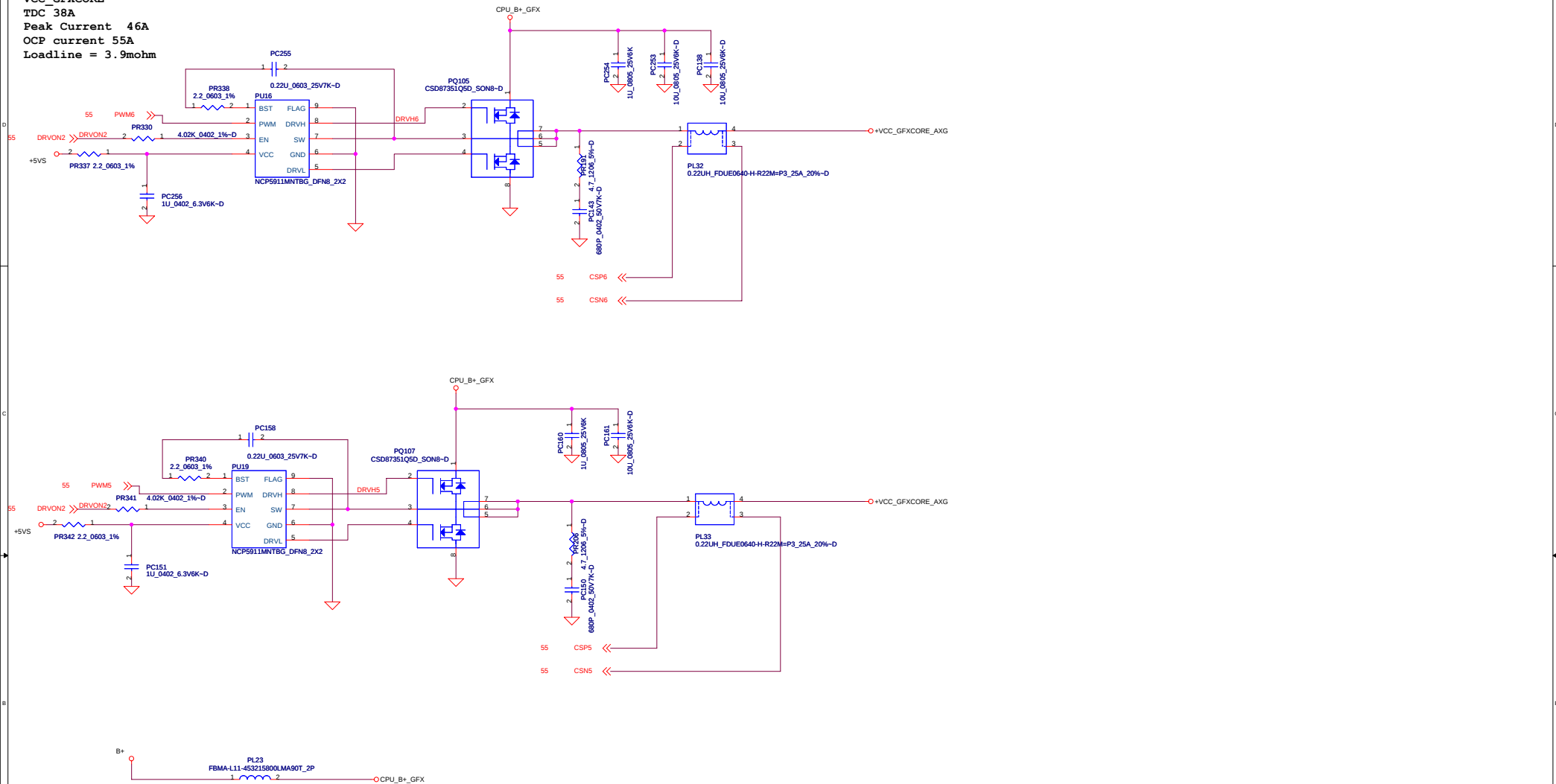


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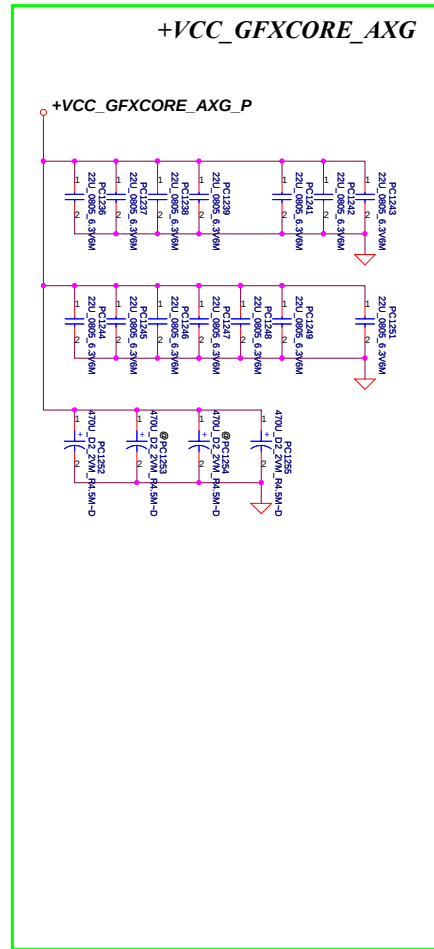
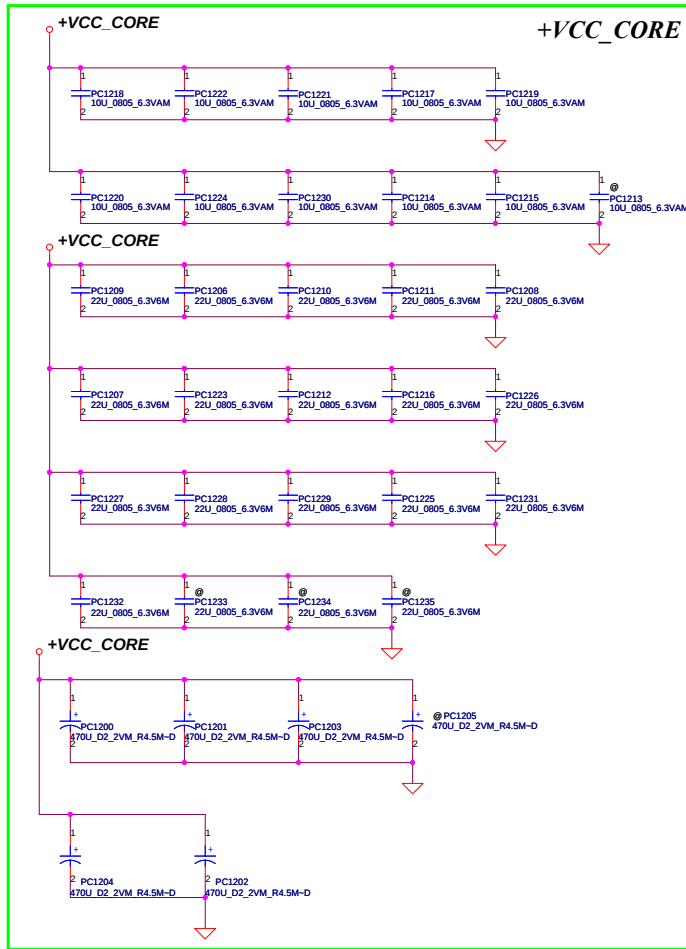
VCC_core
TDC 70A
Peak Current 97.5A
OCP current 117A
Loadline = 1.9mohm



VCC GFXCORE
TDC 38A
Peak Current 46A
OCP current 55A
Loadline = 3.9mohm

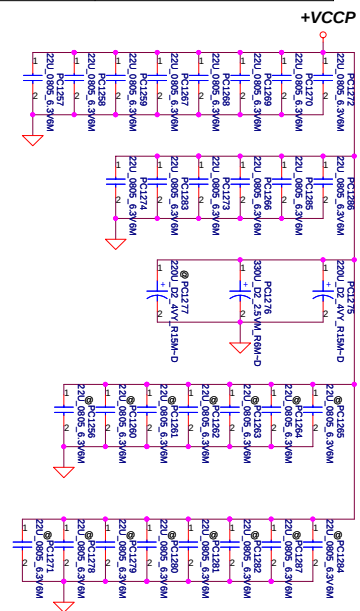


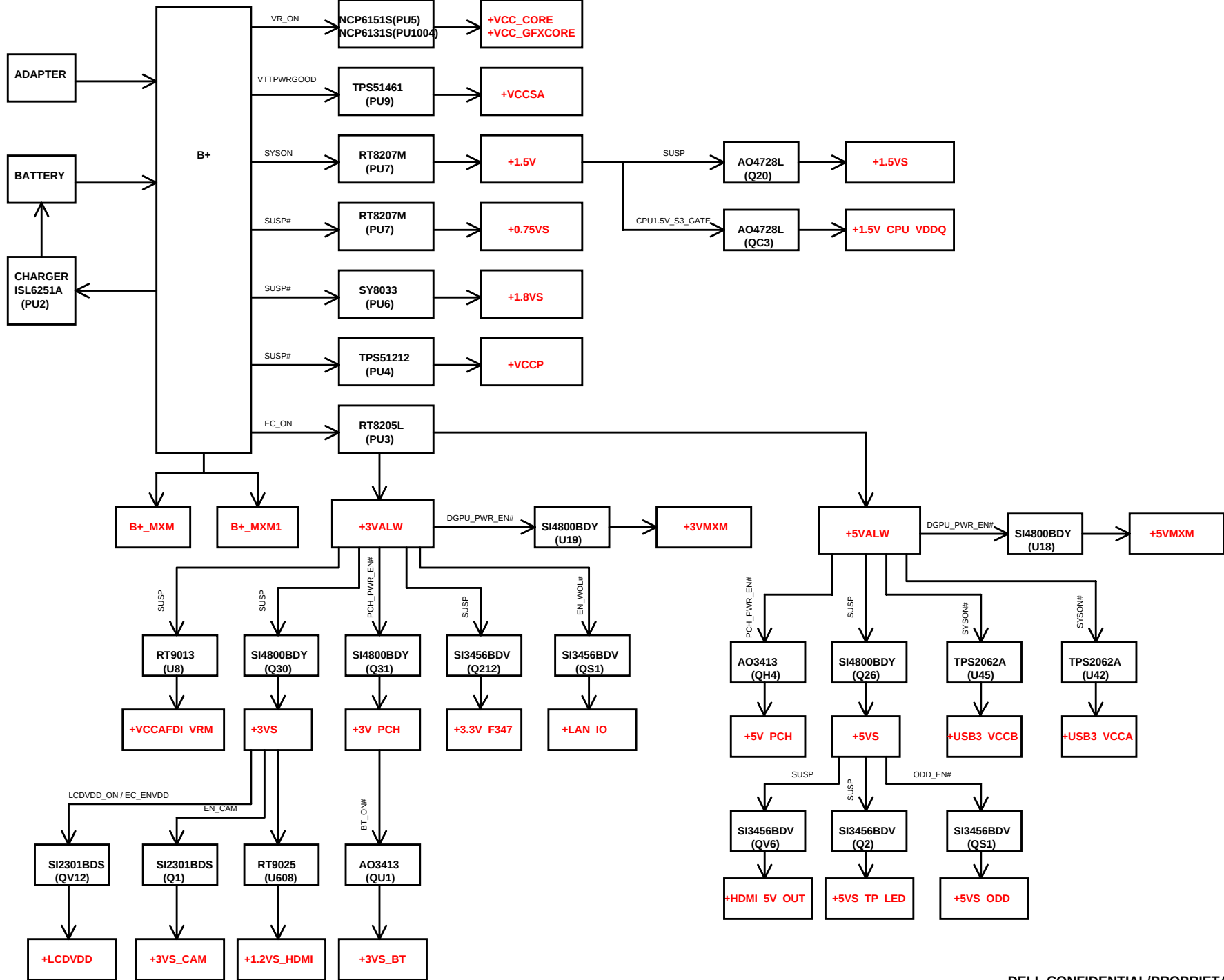
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Below is 458544_CRV_PDDG_0.5 Table 5-8.

Socket Bottom	5 x 22 μ F (0805) 5 x (0805) no-stuff sites
Socket Top	7 x 22 μ F (0805) 2 x (0805) no-stuff sites





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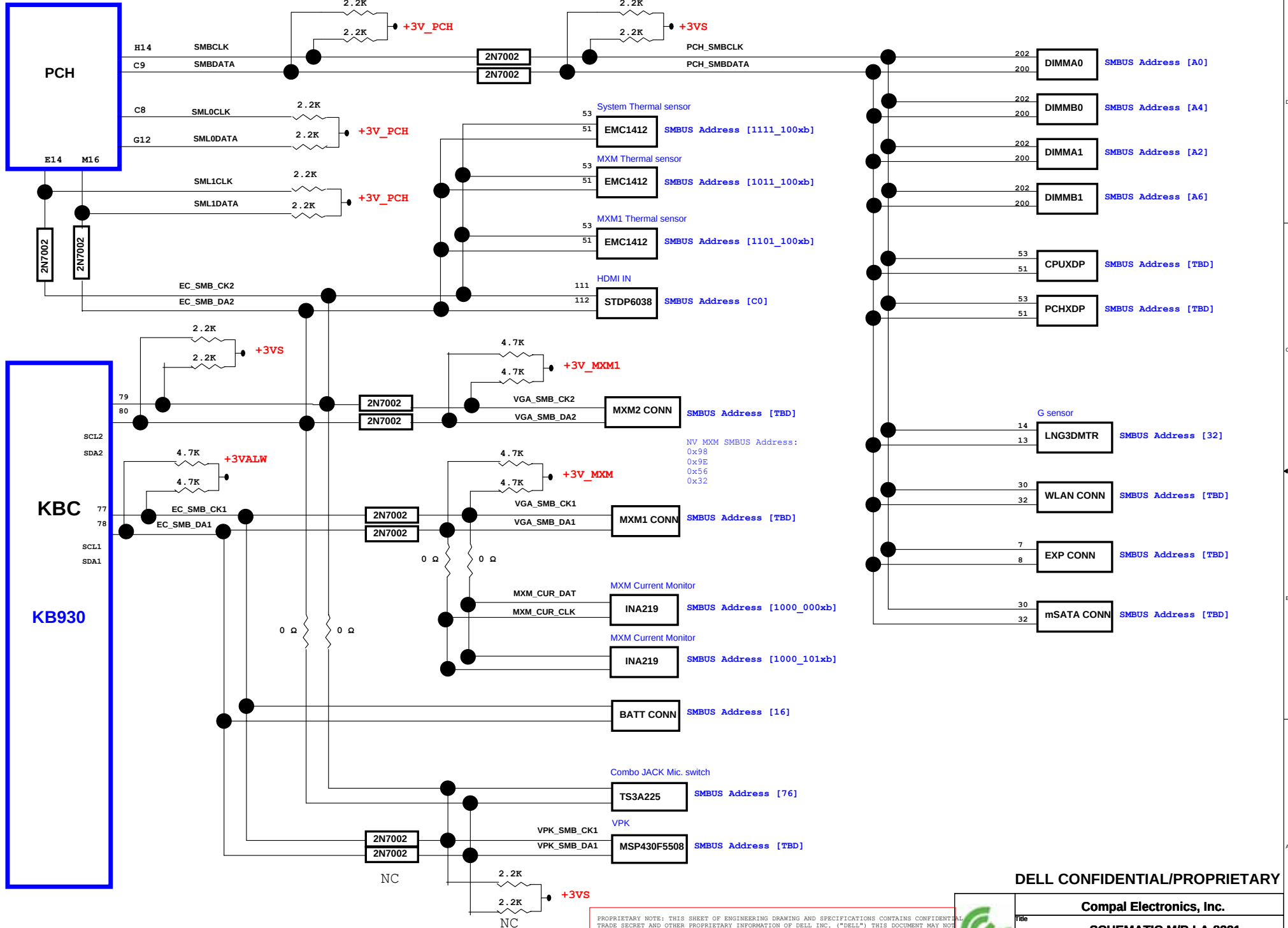


Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	52	PWR-VCCSA_COREP	10/05	Alan	SMT NC part (PR262)	BOM structure change to "Do Not Display"	X01
2	45	BATTERY CONN/OTP	10/13	Alan	EC detect the battery is insertion when only adapter in	BATT_PRS pull high from +3VALW to +3VALW_EC	
3	53	CPUCORE1	10/14	Alan	For Intel VCORE test	Change PC18=1500P	X01
4	55	GFXCORE1	10/14	Alan	For Intel Vgfx test	Change PC1042=180P, PR628=4.12K, PC1041=560P, PR622=PR626=36.5K	X01
5	47	CHARGER	10/17	Alan	For charger voltage and current setting	Change PR71=68.1K, PR75=12.7K, PR182=1.43K, PR45=0.005	X01
6	48, 51	3VALWP/5VALWP, +1.5VP/0.75VSP	10/17	Alan	Find tune OC setting	Change PR86 =57.6K, PR87 =93.1K, PR137 =7.15K	X01
7	45, 46	DCIN/DECTOR	10/25	Alan	"US California Energy Efficiency" (Reserve 130mW for no battery mode)	Refer to page 45 PR170, PR171 and page 46 modify	X01
8	46, 47	CHARGER	11/11	Alan	NC revise parts	NC: PD6, PQ23,PQ68, PD11, PD12, PQ20,	X01
9	**	ALL	11/11	Alan	Change source for affected by "Thailand flood"	Refer to PT-Build_SMT MEMO	X01
10	**	ALL	12/13	Alan	Change 0 ohm to short pad PR5, PR196, PR186,	PR185, PR300, PR46, PR112, PR262, PR298, PR299, PR642, PR643	X01
11	50	1.8VSP	12/14	Alan	PL13 footprint is too small to find the 2nd source	Change PL13 footprint for 2nd source	X01
12	48, 54, 56	DCIN/DECTOR	12/23	Alan	PL18, PL22, PL23 footprint DFB modify to larger size	PL18, PL22, PL23 update CIS PART	X02
13	47	DCIN/DECTOR	12/24	Alan	Revise PR164 for EE Jeffy request		X02
14	45	OTP Value modify	01/11	Alan	CPU OTP caculate and test value 93C not mach with schematic 90C	Double check with thermal team and agree change to 93C	X02
15	46	P46-PWR-DCIN/DECTOR	02/01	Alan	Power and EE main part is different, factory request to moidfied it	Change PQ5 to SB000008P0L as main source	A00
16	46	P46-PWR-DCIN/DECTOR	02/02	Alan	Platform is required to consume 4mA above at 19.5V in AC mode without battery attached.	Add PR111 for lot 6 hiccup mode issue (3.78mA+1mA=4.78mA)	A00
17	45, 52	DCIN/DECTOR, VCCSAP	02/16	Alan	Reduce revise 0 ohm (B+_BIAS enable, VCCSA_SENSE)	Change PR16, PR181 to short 0 ohm	A00
18	48	3VALWP/5VALWP	02/29	Alan	HDMI fail cause the 5V voltage drop to connecter only 4.7V	Change PR83 from 30K to 30.9K ohm voltage from 5.05V to 5.15V	A00

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SMBUS Address [TBD]



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

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	34	SATA HDD	2011/10/4	Compal	HDD EA fial	Add HDD re-driver *3, Add RS11~RS37, US1~US3, CS51~CS68	X01
2	35	WLAN	2011/10/4	Compal	LPC pin assignment error for 80 port	Re-assignment pin	X01
3	40	EC	2011/10/10	Compal	There are double power source for EC	Depop R464	X01
4	40, 18	PCH, EC	2011/10/10	Compal	correct net name for not support deep S4/S5	Change net name from SUSWARN# to SUSPWRDNACK, Change net name from SUSWARN#_R to SUSPWRDNACK_R	X01
5	28	DP SW	2011/10/10	Compal	DP no function, because double CAP for MUX	Delete C1069, C1070, C1071, C1072, C1073, C1074, C1075, C1076, C1079, C1109, C1127, C1128, C1138, C1139, C1140, C1141, C1203, C1204, C1205, C1206	X01
6	40	EC	2011/10/10	Compal	Change board ID to V0.2	Change R466 from 0 ohm to 8.2K ohm	X01
7	17	PCH	2011/10/11	Compal	Sourcer require change crystal size to 3225	Change YH2 PN to SJ10000EF00	X01
8	31	GLAN	2011/10/11	Compal	Sourcer require change crystal size to 3225	Change YL1 PN to SJ10000EF00	X01
9	44	VPK	2011/10/11	Compal	Sourcer require change crystal size to 3225	Change YH3 PN to SJ10000DI00	X01
10	16	PCH	2011/10/11	Compal	Sourcer require change crystal size to 3215	Change YH1 PN to SJ10000DM00	X01
11	40	EC	2011/10/11	Compal	Sourcer require change crystal size to 3215	Change X1 PN to SJ10000DM00	X01
12	30	HDMI IN	2011/10/11	Compal	Sourcer require change crystal size to 3225	Change Y5 PN to SJ10000970L	X01
13	30	HDMI IN	2011/10/11	Compal	Follow Vandor feedback modify CAP value of crystal	Change C1751, C1750 from 27P to 12P	X01
14	27	HDMI SW	2011/10/11	Compal	HDMI eye diagram fail	Add R2600, pop R1855, R1857	X01
15	34	SATA HDD	2011/10/12	Compal	Add SATA re-driver co-lay circuit	Add RS38~RS49, CS69~CS80	X01
16	5	PCH	2011/10/13	Compal	PM_DRAM_PWRGD have glitch and leakage	Change RC18 from 200 ohm to 10k ohm	X01
17	44	VPK	2011/10/14	Compal	Depop VPK function	Depop CD75, C2011~C2015, RH137, CH100, CH101, YH3, R2, R227, R1607, R1578 C294, C1754, C1755, F6, R198, C1753, R197, R1823~R1825, R1837~R1840, R1843	X01
18	44	VPK	2011/10/14	Compal	Sourcer require change arrey resister to single	Delete RP1~RP6, add R2601~R2624	X01
19	40	EC	2011/10/14	Compal	Sourcer require change arrey resister to single	Delete RP7~RP12, add R2625~R2648	X01
20	19	PCH	2011/10/14	Compal	Sourcer require change arrey resister to single	Delete RPH1~RPH5, add RH267~RH285	X01
21	34	SATA HDD	2011/10/18	Compal	Delete HDD3 SATA re-driver circuit	Delete RS42~RS45, CS73~CR76, RS20~RS28, CS57~CS62, US2	X01
22	27	HDMI SW	2011/10/19	Compal	Intel feedback change HDMI DDC pull high resister value	Change R437, R438, R461, R462 from 4.7k ohm to 2.2k ohm	X01
23	27	HDMI SW	2011/10/19	Compal	Intel feedback change HDMI HPD implementation	Depop Q264, R1741, R1742, C1058, R1743, add R2652	X01

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24	29	DMC SW	2011/10/19	Compal	Intel feedback change DMC HPD implementation	Delete R1236, R1237, Add R2649	X01
25	29	DMC SW	2011/10/19	Compal	Intel feedback add DMC AUX PU/PD resister	Add R2650, R2651	X01
26	9	CPU	2011/10/19	Compal	Modify CPU DDR Vref circuit	Delete QC5, RC76, RC77, change RC118 connect from +1.5V to +1.5V_CPU_VDDQ	X01
27	22	PCH	2011/10/19	Compal	Intel feedback follow PDDG	Delete LH4, depop CH73	X01
28	22	PCH	2011/10/19	Compal	Intel feedback follow PDDG	Delete RH224, RH225, RH227	X01
29	21	PCH	2011/10/19	Compal	Intel feedback follow PDDG	Change LH9 to RH287 (0 ohm)	X01
30	20	PCH	2011/10/19	Compal	Intel feedback follow PDG	Pop RH181, Add RH286	X01
31	33	Audio Amplifier	2011/10/20	Compal	Audio Amplifier burned issue	Add D74, D75, C2035, C2036	X01
32	33	Audio Amplifier	2011/10/21	Compal	Audio Amplifier burned issue	Change C932, C1102 connect from B+ to +AMP_VDD	X01
33	32	Audio Jcak	2011/10/21	Compal	Change JHP2 connector	Change JHP2 footprint to SINGA_2SJ3062-000111F_6P-T	X01
35	5	XDP	2011/10/21	Compal	Depop CPU XDP	Depop RC84-RC95, RC5-RC9, RC112, RC113, CC65, CC66	X01
36	16	XDP	2011/10/21	Compal	Depop PCH XDP	Depop RH1, RH3-RH10, RH12-RH21, RH24, RH51, CH1	X01
37	20, 26	PCH, CRT	2011/10/21	Compal	CRT leakage	Depop RH178, add RV115	X01
38	32	Audio Jcak	2011/10/22	Compal	Change JHP2 connector from NC to NO	Change JHP2 symbol, add RA24, depop R149, QU4	X01
39	29	DMC SW	2011/10/22	Compal	DMC AUX channel pu/pd location error	Change R2650, R2651 connect from U132 to CONN	X01
40	32	AUDIO	2011/10/22	Compal	Reserve for pop noise	Add RA25-RA27, change U631 and U629 pin B2 connect to +3.3V_MUTE	X01
41	34	ODD	2011/10/24	Compal	Zero power ODD function	Pop RS10	X01
42	28	DP SW	2011/10/24	Compal	Vendor feedback DP MUX need CAP for input and output	Add C1069, C1070, C1071, C1072, C1073, C1074, C1075, C1076, C1079, C1109, C1127, C1128, C1138, C1139, C1140, C1141, C1203, C1204, C1205, C1206 Change C1190-C1194, C1164, C1177, C1178, C1200, C1201 to 220nF	X01
43	25	CCD	2011/10/24	Compal	Reserve for EMI	Add L101, depop RV10, RV51, change D61 connect to onnector side	X01
44	28	DP SW	2011/10/24	Compal	DP dongle can't display on UMA mode	Change U633, delete C1200, C1201, add U634, C2037, C2038 Change C1203-C1206 from 0.22uF to 0.1uF Change AUX, DDC, HDP connect	X01
45	43	PWR BTN	2011/10/24	Compal	Avoid SW reverse at SMT	NC SW1 pin 1 & pin 4 and SW2 pin 1 & pin 4	X01
46	30	HDMI IN	2011/10/24	Compal	(STDP6038) doesn't need to read / write the panel EDID	de-pop R1880, R1881	X01

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47	30	HDMI IN	2011/10/24	Compal	keep I2S_DAT/SPDIF_IN has fine performance	change R1882 to C2039 0.1UF	X01
48	30	HDMI IN	2011/10/24	Compal	reserver these soltion to avoid I2S_DAT/SPDIF_IN signal has attenuation problem duo to long trance	add U635, C2040	X01
49	32	Audio	2011/10/24	Compal	change combo jack dection method	de-pop R2585, pop R1244	X01
50	32	AUDIO	2011/10/24	Compal	Reserve for pop noise	Add C2041	X01
51	32	AUDIO	2011/10/24	Compal	JACK_PLUG funcion reverse duo to JACK change to normal open type	add R2653 and QU8	X01
52	32	AUDIO	2011/10/24	Compal	vendord suggestion	change R1752 to C2042 0.1UF	X01
53	32	AUDIO	2011/10/25	Compal	change combo jack dection circuit	pop R149, QU4, depop RA24, change QU8 connect	X01
54	32	AUDIO	2011/10/25	Compal	HP fast plug in/out issue	change RC107, RC114 to 1k ohm and pop	X01
55	32	AUDIO	2011/10/25	Compal	pop noise issue	change RA20, RA21 to 0 ohm	X01
56	32	AUDIO	2011/10/26	Compal	pop noise issue	change RA22, RA23 to 0 ohm	X01
57	43	USB3.0	2011/10/26	Compal	base on EA result, depop MB usb3.0 re-driver	change C205~C208 to 0 ohm (R2654~R2657) and pop, pop C209~C212, R358~365 depop C100, C111~C113, C140, C156, C186, C187, C194~C196, C200, C2025~C2028, R374, R375, R378, R379, R416~R418, R421, U630, U632	X01
58	43	PWR BTN	2011/10/26	Compal	"US California Energy Efficiency" (Reserve 130mW for no battery mode)	Add Q305, Q306, R2658	X01
59	5	XDP	2011/10/26	Compal	Depop CPU XDP	Depop RC23~RC24, RC30~RC31, RC33~RC34, RC36~RC39	X01
60	32	AUDIO	2011/10/26	Compal	HP fast plug in/out issue	change RC109, RC115 to 1k ohm and pop	X01
61	29	DMC	2011/10/26	Compal	Reserve for DMC card	Add R2659	X01
62	29	DMC	2011/10/26	Compal	add ESD protect for DMC card	change Q302 to SB000000EN00	X01
63	26	CRT	2011/10/27	Compal	rise and fall time fail	change LV1~LV3 from 75 ohm to 47 ohm	X01
64	32	Audio	2011/10/27	Compal	audio THD+N fail	change C11, C14 to 2.2uF 0805 16V	X01
65	40	EC	2011/11/09	Compal	For Erp lot 6, reduce power consumption on S5 mode	change R483, R493 from 10K to 100K ohm	X01
66	26	CRT	2011/11/09	Compal	For EMI test fail	change LV1~LV3 from 47 ohm to 60 ohm	X01
67	42	DC-DC	2011/11/09	Compal	For PCH_PWR_EN leakage	depop R556, pop R553	X01
68	28	DP	2011/11/25	Compal	DP can't hot plug issue	depop R2261 and R2262	X01

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69	34	HDD	2011/11/25	Compal	SATA EA test fail	pop RS13, RS14, RS31, RS32	X01
70	24	LCD	2011/11/30	Compal	LCD EA test fail	Change RV32 from 100 ohm to 47 ohm	X01
71	26	CRT	2011/11/30	Compal	CRT EA test fail	Change LV4, LV5 from bead to 0 ohm, CV24, V25 from 10P to 4.7P	X01
72	33	Audio	2011/11/30	Compal	Audio amplifier fine tune	Change R929, R939 from 16.5k ohm to 20.5k ohm, R1195 from 10k ohm to 14k ohm	X01
73	16	Crystal	2011/11/30	Compal	Crystal fine tune	Change CH2 from 18P to 15P	X01
74	17, 40	PCH, EC	2011/12/08	Compal	Chang KB_DET# from PCH to EC (pin 34)	Chang KB_DET# from PCH to EC (pin 34), DEL R1733, add R2660	X02
75	32	Audio	2011/12/08	Compal	S3/S4/S5/G3 have noise when insert external speaker	Add QA1, RA28, RA29	X02
76	40	EC	2011/12/08	Compal	"US California Energy Efficiency"	Add R2661, Q307	X02
77	34	ODD	2011/12/08	Compal	ADD pull down resister for ODD_EJEECT#	Add RS50	X02
78	34	ODD	2011/12/13	Compal	Reduce 0 ohm	delete RS6	X02
79	All	All	2011/12/13	Compal	Reduce 0 ohm	change 0 ohm to short pad	X02
80	32	Audio	2011/12/13	Compal	change HP mute IC's power rail to +3VALW	change HP mute IC's power rail to +3VALW, pop RA27, depop RA25	X02
81	43	IO CONN	2011/12/14	Compal	add +5V_ALW pin for USB	change JIO1 pin 13 to +5VALW, pin 14 to ground	X02
82	40 44	SMBus	2011/12/15	Compal	Battery can't charge when with N13-GS MXM card	add R2662, R2663, depop R2583, R2584, Q304, Change R470, R473 to 4.7k	X02
83	16-23	PCH	2011/12/16	Compal	change PCH to QS sample	change UH4 part number to SA00005AG1L	X02
84	40	EC	2011/12/16	Compal	Change board ID to V0.3	Change R466 from 8.2K ohm to 18K ohm	X02
85	32	Audio	2011/12/19	Compal	Modify line-in circuit	Change R2550 connect to LINEIN_L_L1	X02
86	19	PCH	2011/12/19	Compal	nVIDIA N-13 GE can't detect	Change UH5 to SN74AHC1G08DCKR, RH230 to 0 ohm, depop R1908, pop RH231	X02
87	43	USB 3.0	2011/12/20	Compal	delete USB 3.0 redriver and co-lay circuit	delete U630, U632, C100, C111~C113, R1844, R1845, R424, R411~R418, R374, R375, R378, R379, R4, R5, R12, R17, R25, R30, R32, R35, R44~R53, R63, R66, R67, R81, R83, R108, R190, R195, R290, R313, R314, R323, R326, R337, R421, R358~R365, R2654~R2657, C140, C156, C186, C187, C2025~C2028, C194~C196, C200, C209~C212	X02
88	32	Audio	2011/12/22	Compal	iPHONE's mic can't recording	depop R8, R9	X02
89	43	USB 3.0	2011/12/22	Compal	delete USB 3.0 redriver and co-lay circuit	delete C209~C212	X02
90	30	HDMI IN	2012/01/02	Compal	HDMI IN debug function	pop R1650, R1651	X02
91	35	BT	2012/01/03	Compal	can't disable bt of combo card	change RE42 to 0 ohm, add RE43, connect BT_RADIO_DIS# to JWLAN pin 51	X03

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92	32 40 17	AUDIO	2012/01/03	Compal	ADD SPDIF detect pin	add net SPDIF_DET# connect JSPDIF pin 5 to EC pin 76, change R1829 connect to SPDIF_DET#, change IO_DET# to PCH gpio64, add R1737	X03
93	35	DMC	2012/01/04	Compal	double pull up	del R945	X03
94	40	board ID	2012/01/04	Compal	Change board ID to V0.4	Change R466 from 18K ohm to 33K ohm	X03
95	32	audio	2012/01/06	Compal	pop noise issue	add U632, RA30, RA31, C1874	X03
96	32	audio	2012/01/09	Compal	THD+N measure	add C1601, change RA30, RA31 to RA16 RA17 pin 2	X03
97	32	audio	2012/01/09	Compal	MIC fine turn	Change RA13 R1243 from short pad to 0 ohm	X03
98	32	audio	2012/01/11	Compal	THD+N fail	change C11, C14 to 25V X5R	X03
99	35	BT	2012/01/16	Compal	enable debug function on minicard	pop RE42, change RE43 to 1k ohm	X03
100	32	AUDIO	2012/01/17	Compal	Thailand flood impact	change C123, C129, C132, C133 to SGA00004D00	X03
101	34	ODD	2012/01/19	Compal	Follow AW14/17	change RS50 to 10K ohm	X03
102	40	board ID	2012/02/16	Compal	Change board ID to V1.0	Change R466 from 33K ohm to 56K ohm	A00
103	27	HDMI	2012/02/16	Compal	The HDMI-IN display will become white screen when the system attached HDMI then do S3/S4 back.	depop R1919, R1920	A00
104	32	audio	2012/02/16	Compal	reserve pull low resister for EAPD#	add R1218 and depop	A00
105	40	KB	2012/02/16	Compal	reduce 0 ohm	change R2625~R2648 to short pad	A00
106	34	M-SATA	2012/02/16	Compal	reduce m-sata 3vs ripple	change JP2 pin 19 and pin 20 to 3VS	A00
107	43	switch	2012/02/16	Compal	depop SW for MP	depop SW1 and SW2	A00
108	32~35 26 30 44	all	2012/02/20	Compal	reduce 0 ohm	change RA13, R1243, R1568, LV4, LV5, RE42, R1650, R1651, R2662, R2663, RS11~RS14, RS18, RS19, RS29~RS32, RS36, RS37 to short pad	A00
109	14 15	MXM	2012/02/21	Compal	Add ESD protect part for MXM	add D76~D78	A00
110	32	Audio	2012/02/21	Compal	audio codec loss issue	del R1746, add L102, C153, C3, R1752, R1753, move C143, C145, C146, C147 change R1750 to 0 ohm	A00
111	16	PCH	2012/02/21	Compal	update BIOS ROM	change U1 PN to SA000039A2L	A00
112	32	Audio	2012/02/21	Compal	audio codec loss issue	del C3, move C336, add C154	A00
113	31	LAN	2012/02/24	Compal	EMI ISN issue	Change CL39 to 150pF	A00
114	32	Audio	2012/02/24	Compal	audio codec loss issue	change R1753 to L103, L3 from 4.7UH_CBC2012T4R7M to 4.7UH_LQM2MPN4R7MG0	A00

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115	32	Audio	2012/02/24	Compal	reduce 0 ohm	change RA12, RA14-RA23, RA27, RA30, RA31, R1244 to short pad	A00
116	32	Audio	2012/02/29	Compal	Audio precision fail	change C2042 to 1uF, R1727, R3 to 2.2k ohm	A00
117	16-23	PCH	2012/03/07	Compal	update PCH PN	change PCH PN to SA00005AG3L	A00

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