

MODEL NAME : *PAR00*

PCB NO : *LA-6601P (DAA00002000)*

BOM P/N : *TBD*

Compal Confidential

Voyager

Schematic Document

Rev: 1.0(A00)

2010-11-30

@ : Nopop Component

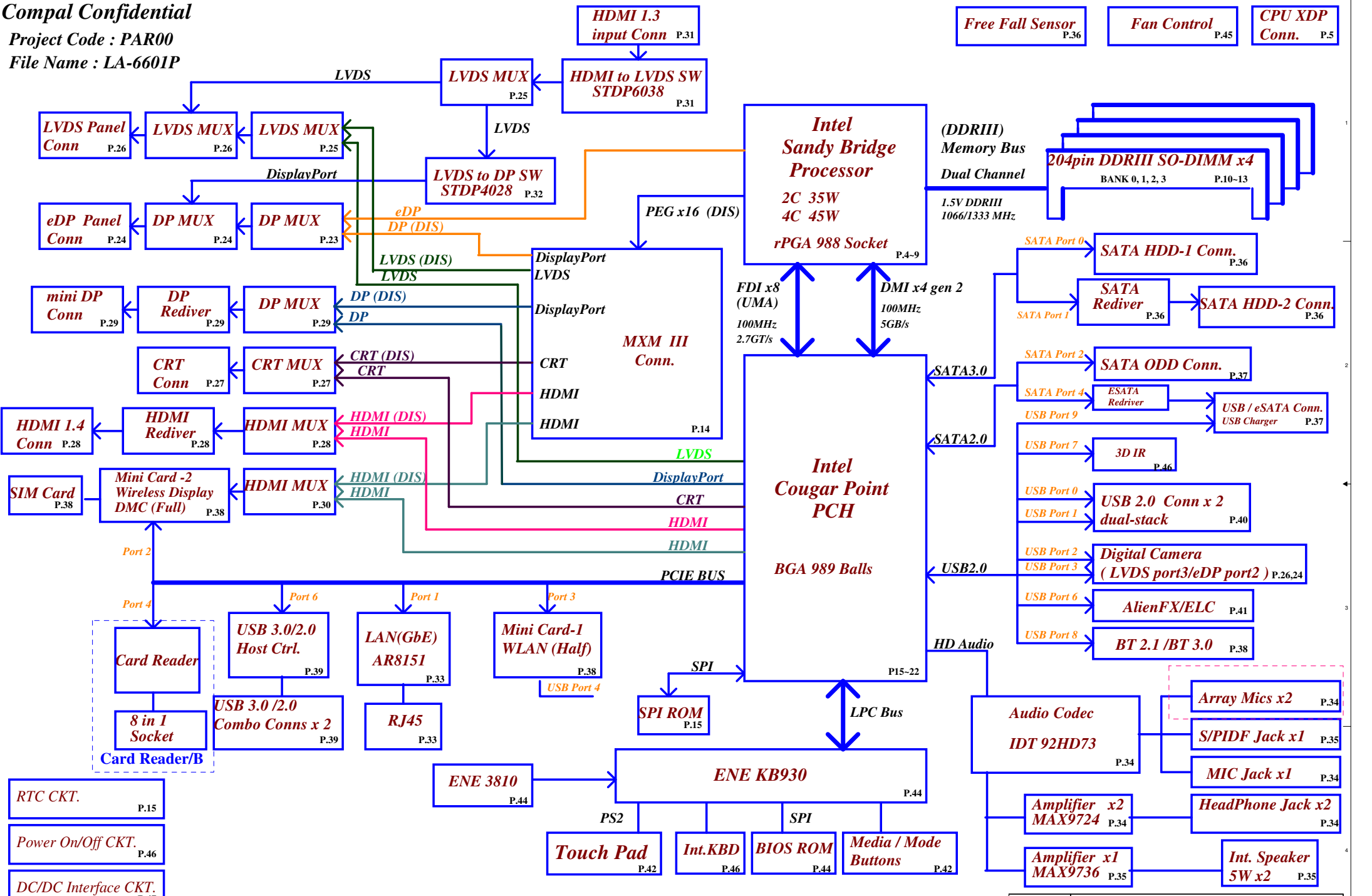
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Cover Sheet		
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Block Diagram			
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Board ID Table for AD channel

Vcc	3.3V +/- 5%				
Ra	100K +/- 5%				
Board ID	Rb	V _{AD_BID min}	V _{AD_BID typ}	V _{AD_BID max}	EC AD3
0	0	0 V	0 V	0.155 V	0x00-0x0C
1	8.2K +/- 5%	0.168 V	0.250 V	0.362 V	0x0D-0x1C
2	18K +/- 5%	0.375 V	0.503 V	0.621 V	0x1D-0x30
3	33K +/- 5%	0.634 V	0.819 V	0.945 V	0x31-0x49
4	56K +/- 5%	0.958 V	1.185 V	1.359 V	0x4A-0x69
5	100K +/- 5%	1.372 V	1.650 V	1.838 V	0x6A-0x8E
6	200K +/- 5%	1.851 V	2.200 V	2.420 V	0x8F-0xBB
7	NC	2.433 V	3.300 V	3.300 V	0xBC-0xFF

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	

USB	USB PORT#	DESTINATION
	0	JUSB1
	1	JUSB2
	2	eDP CAMERA
	3	LVDS CAMERA
	4	JMINI1 (WLAN)
	5	JMINI2 (DMC)
	6	AlienFX/ELC
	7	IR SENSOR
	8	Bluetooth
	9	JESATA
	10	None
	11	None
	12	None
13	None	

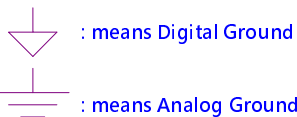
SMBUS Control Table

	SOURCE	MIINI1	BATT	MINI2	EXPRESS CARD	SODIMM	MXM
EC_SMB_CK1 EC_SMB_DA1	KB930	X	V	X	X	X	V
EC_SMB_CK2 EC_SMB_DA2	KB930	X	X	X	X	X	X
PCH_SMBCLK PCH_SMBDATA	PCH	V	X	V	V	X	X
MEM_SMBCLK MEM_SMBDATA	PCH	X	X	X	X	V	X

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

CLK	DIFFERENTIAL	DESTINATION	FLEX CLOCKS	DESTINATION
	CLKOUT_PCIE0	None	CLKOUTFLEX0	None
	CLKOUT_PCIE1	10/100/1G LAN	CLKOUTFLEX1	CLK_14M
	CLKOUT_PCIE2	MINI CARD-2 DMC	CLKOUTFLEX2	None
	CLKOUT_PCIE3	MINI CARD-1 WLAN	CLKOUTFLEX3	None
	CLKOUT_PCIE4	CARD READER		
	CLKOUT_PCIE5	None		
	CLKOUT_PCIE6	USB 3.0		
	CLKOUT_PCIE7	None		
CLKOUT_PEG_A	MXM			

Symbol Note :



SATA	DESTINATION
SATA0	HDD1
SATA1	HDD2
SATA2	ODD
SATA3	NA
SATA4	ESATA
SATA5	None

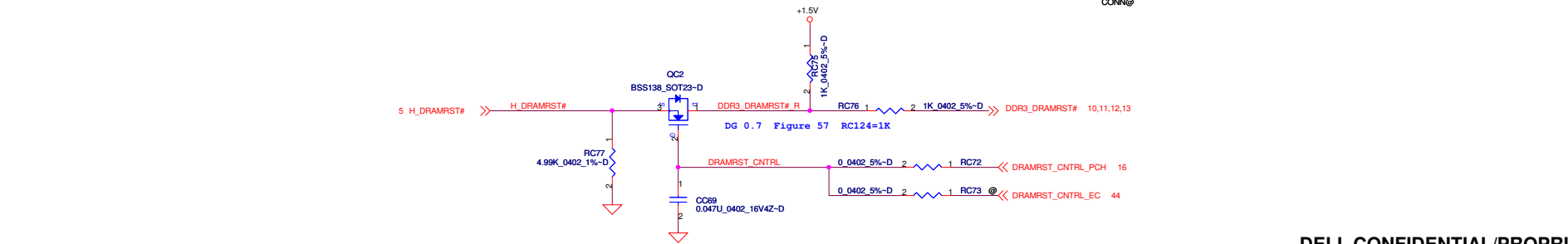
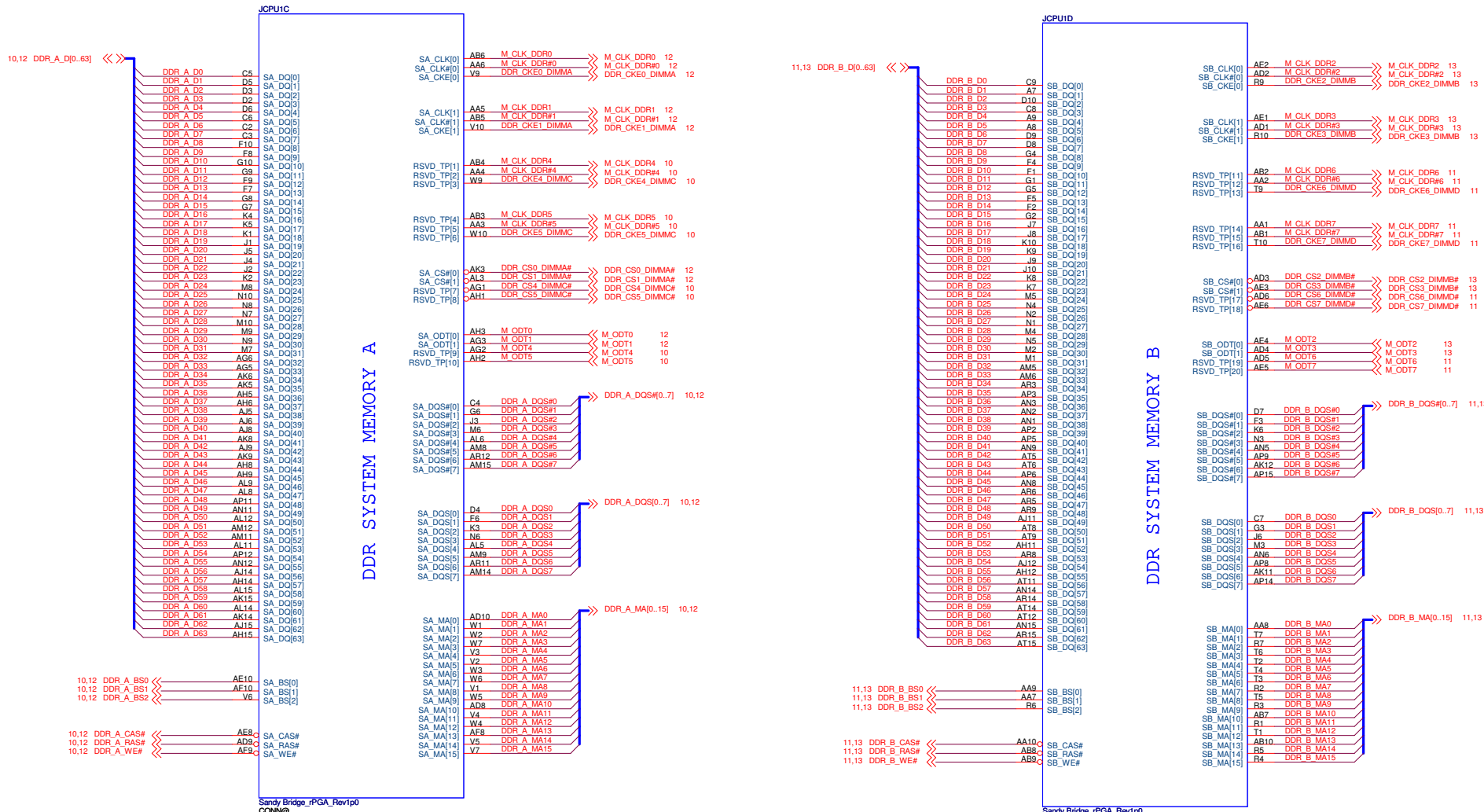
PCI EXPRESS	DESTINATION
Lane 1	10/100/1G LAN
Lane 2	MINI CARD-2 DMC
Lane 3	MINI CARD-1 WLAN
Lane 4	CARD READER
Lane 5	None
Lane 6	USB 3.0
Lane 7	None
Lane 8	None

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Need to confired
when Intel spec release.



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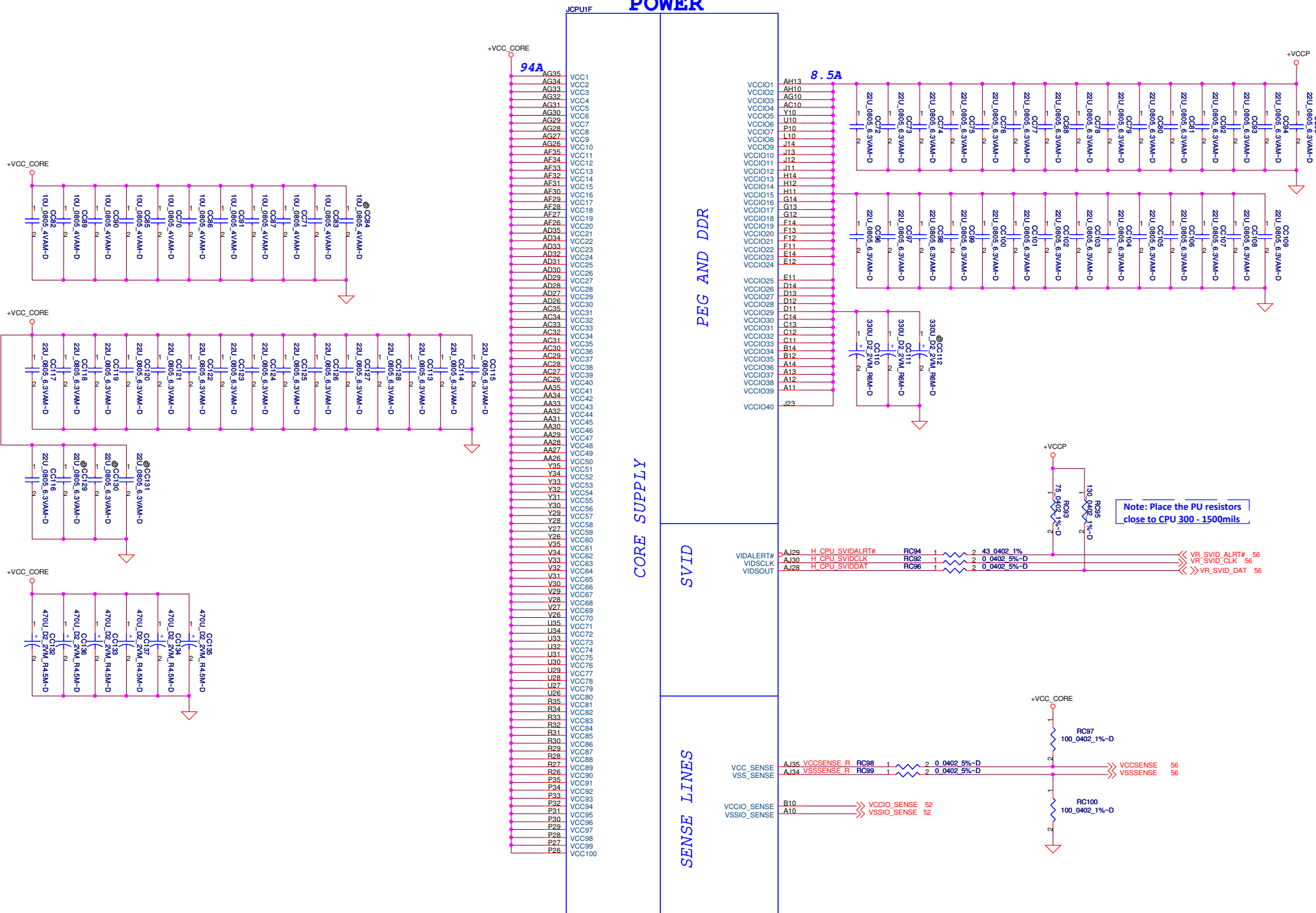
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PROCESSOR(3/6) DDRIII

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POWER



Sandy Bridge_rPGA_Rev1p0
CONN@

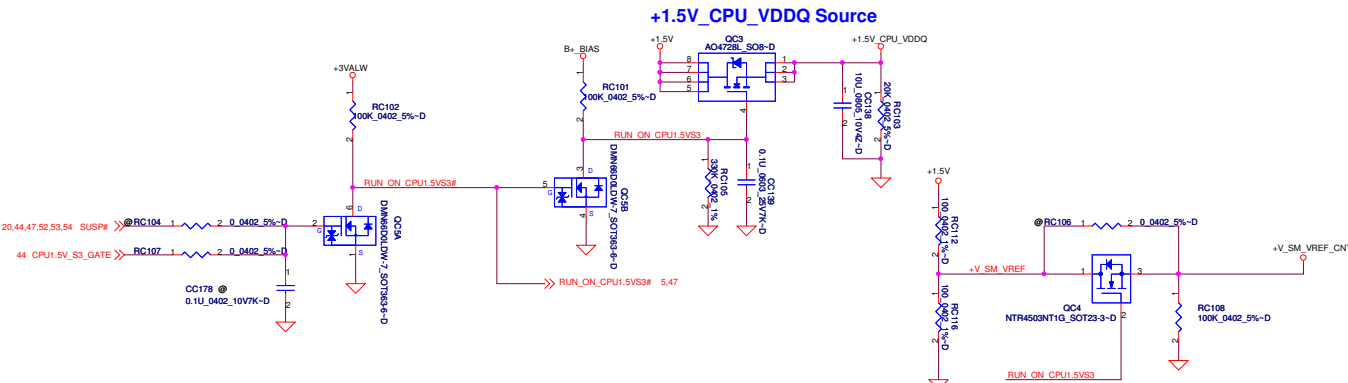
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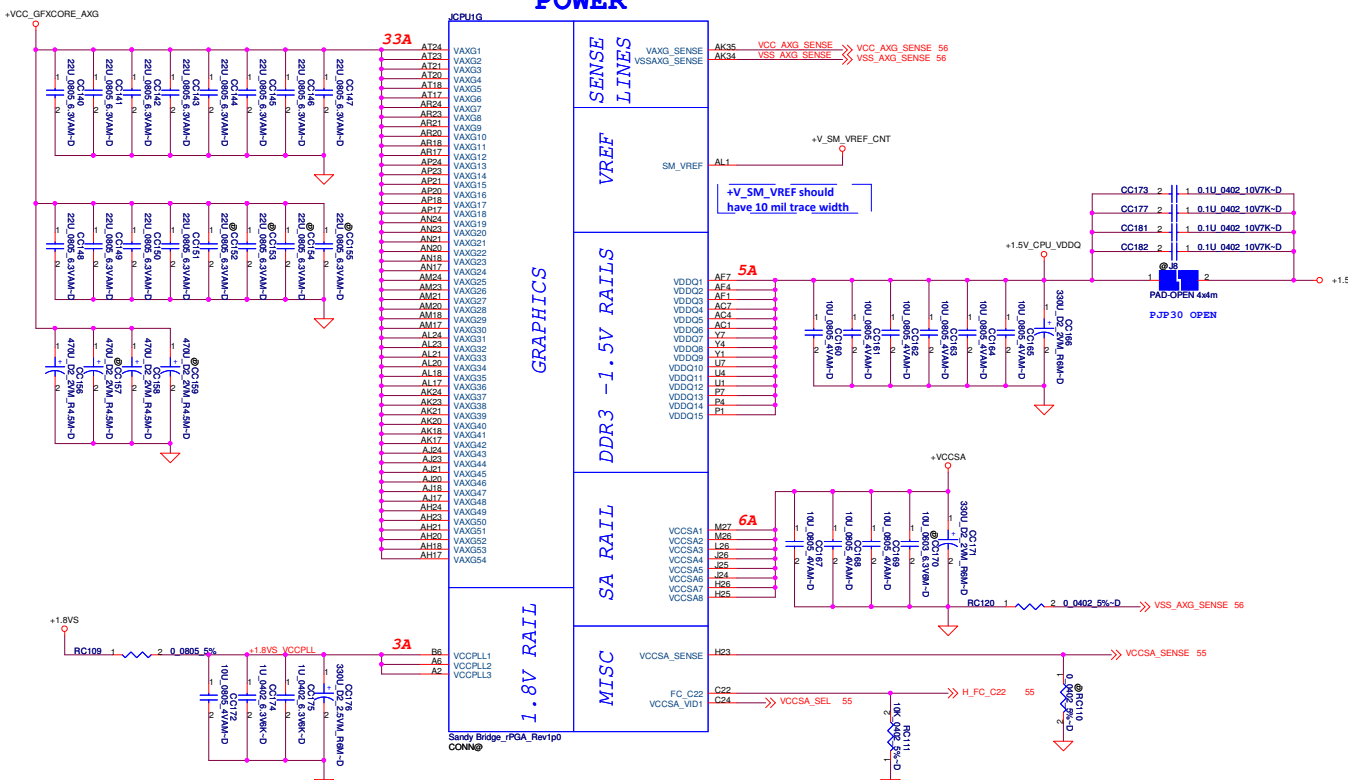
PROCESSOR(5/6) PWR,BYPASS

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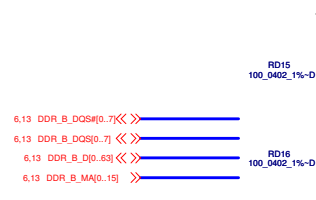
POWER



JCPU1H

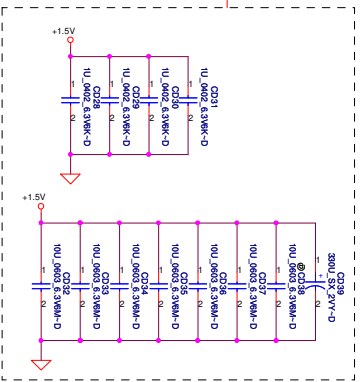
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AT32	VSS2	AJ19
AT29	VSS3	AH6
AT27	VSS4	AJ13
AT25	VSS4	AJ10
AT22	VSS5	VSS5
VSS6	VSS6	AJ7
AT19	VSS7	VSS7
AT16	VSS8	AJ5
AT13	VSS9	VSS9
AT10	VSS10	AJ2
AT7	VSS11	AH5
VSS10	VSS10	AJ1
AT4	VSS12	AH2
AT3	VSS13	AH30
AT2	VSS14	AH22
AT19	VSS15	VSS15
VSS16	VSS16	AH28
AT16	VSS17	AH26
AT13	VSS18	AH25
AT10	VSS19	AH22
AH7	VSS20	AH19
AT4	VSS21	AH10
AT2	VSS22	AH7
AP4	VSS23	AH4
AP3	VSS24	AG9
AP2	VSS25	AG8
VSS26	VSS26	AG4
AP2	VSS27	AF6
AP18	VSS28	AF3
AP13	VSS29	AF2
AP10	VSS30	AF5
AP7	VSS32	AE34
AP4	VSS33	AE33
AP1	VSS34	AE32
AN30	VSS35	AE31
AN27	VSS36	AE30
AN25	VSS36	AE29
AN22	VSS37	AE28
AN19	VSS38	AE27
AN16	VSS39	AE26
AN13	VSS40	AE25
AN10	VSS41	AD7
AN7	VSS42	AC9
AM4	VSS43	AC8
AM29	VSS44	AC6
AM25	VSS45	AC5
AM22	VSS46	AC3
AM15	VSS47	AC2
AM16	VSS48	AB35
VSS49	VSS49	AB34
AM13	VSS50	AB34
AM10	VSS51	AB33
AM7	VSS51	AB32
AM4	VSS52	AB31
VSS53	VSS53	AB30
AM3	VSS54	AB29
AM2	VSS55	VSS135
AM1	VSS56	AB27
AL34	VSS56	AB26
AL31	VSS57	AB25
AL28	VSS58	Y3
AL25	VSS59	Y2
AL22	VSS60	Y1
AL19	VSS61	Y5
AL16	VSS62	Y3
AL13	VSS64	Y2
AL10	VSS65	Y35
AL7	VSS66	W34
AL4	VSS67	W33
VSS67	VSS67	W32
AK3	VSS69	W31
AK0	VSS70	W30
AK2	VSS71	W29
AK25	VSS72	W28
AK22	VSS73	W27
AK19	VSS74	W26
AK16	VSS75	UB
AK13	VSS76	UB
AK10	VSS77	UB
AK7	VSS78	UB
AK4	VSS79	UB
AJ25	VSS80	U2

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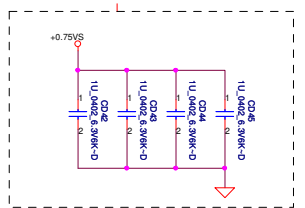


Note:
Check voltage tolerance of
VREF_DQ at the DIMM socket

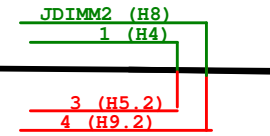
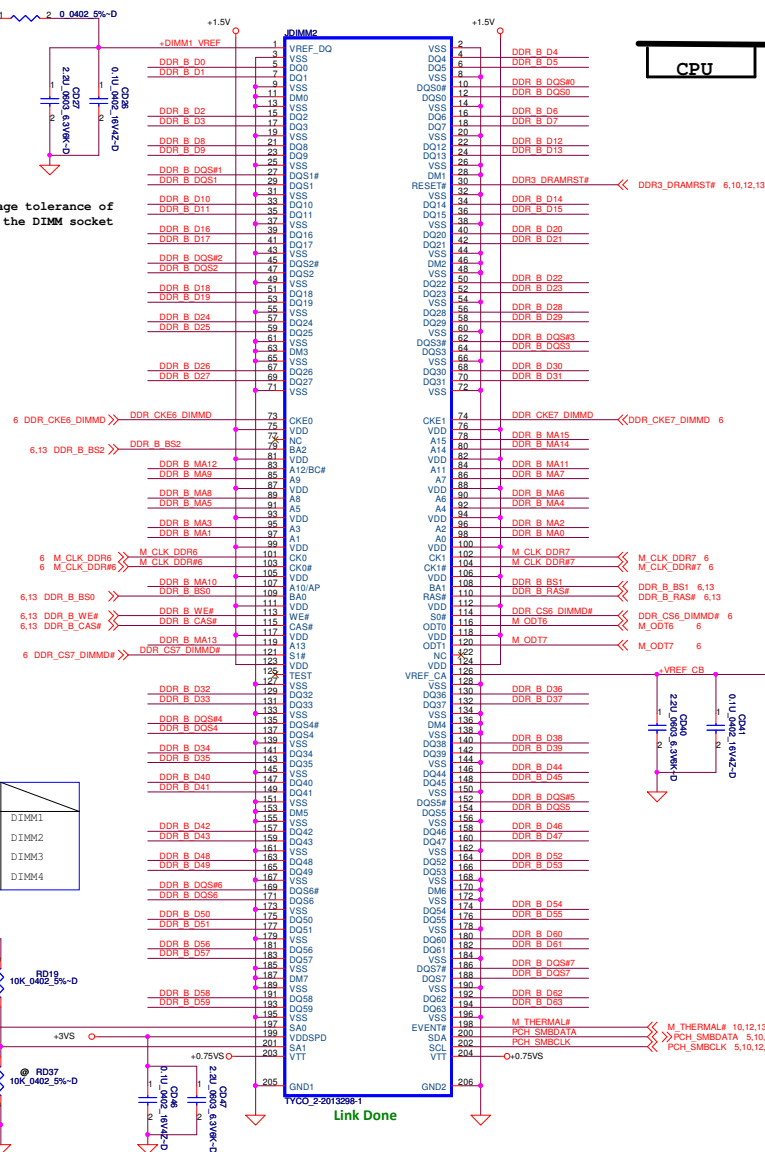
Layout Note:
Place near JDIMMB



Layout Note:
Place near JDIMMB.203,204



SA0	SA1	
1	0	DIMM1
1	1	DIMM2
0	0	DIMM3
0	1	DIMM4



CPU

Link Done

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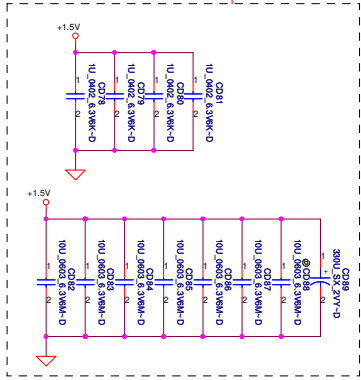
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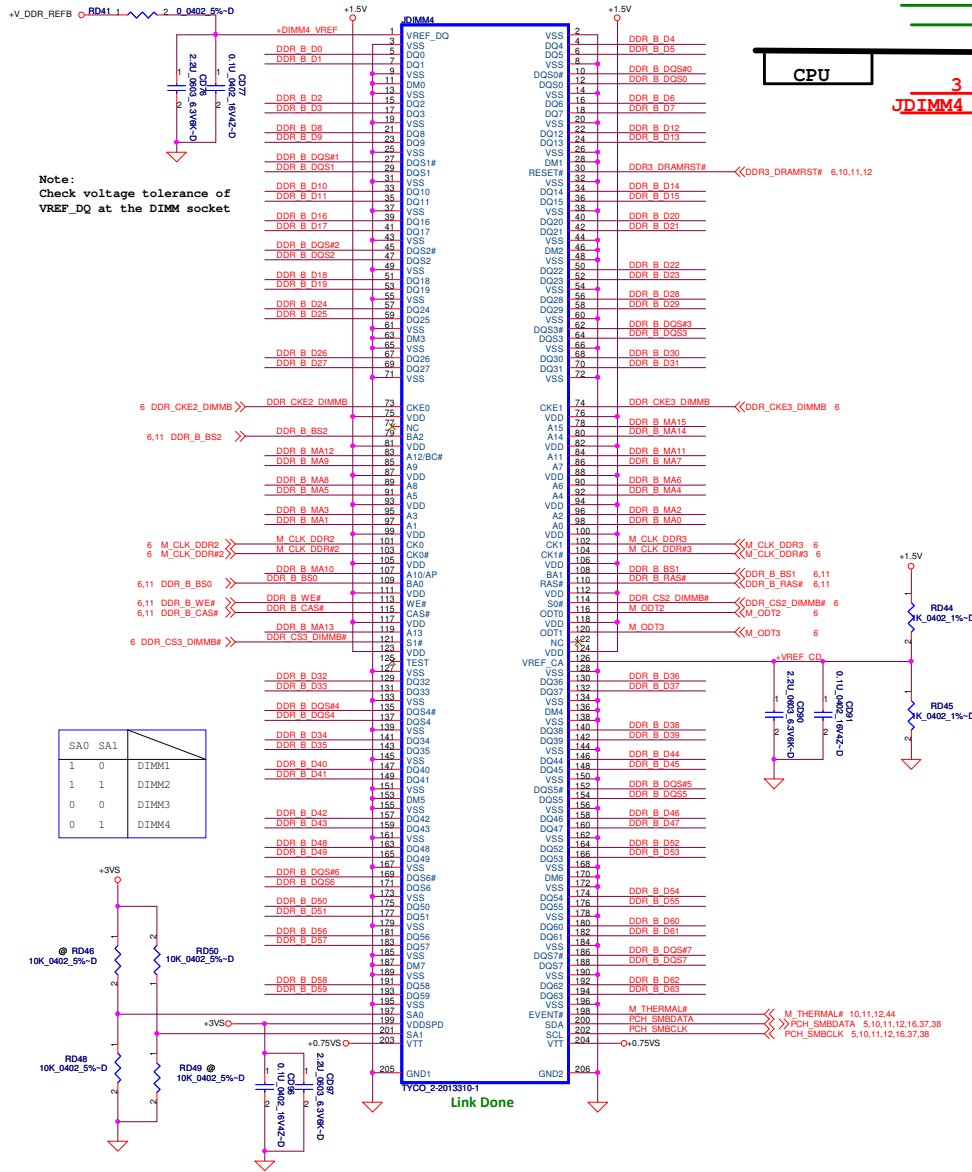
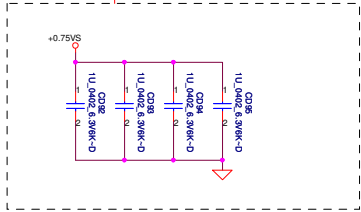
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- 6.11 DDR_B_DQS[0..7] <<<
- 6.11 DDR_B_DQS[0..7] <<<
- 6.11 DDR_B_D[0..63] <<<
- 6.11 DDR_B_MA[0..15] <<<

Layout Note:
Place near JDIMM3

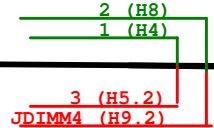


Layout Note:
Place near JDIMM4.203,204



Note:
Check voltage tolerance of
VREF_DQ at the DIMM socket

SA0	SA1	
1	0	DIMM1
1	1	DIMM2
0	0	DIMM3
0	1	DIMM4



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DDR III DIMM

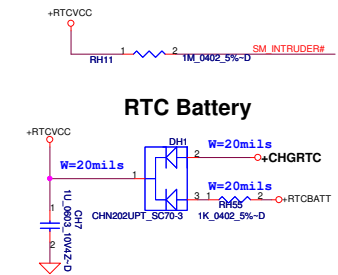
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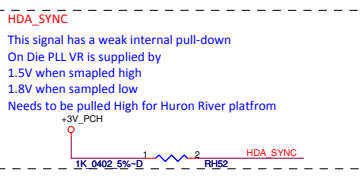
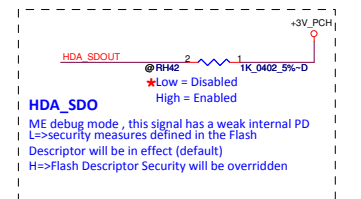
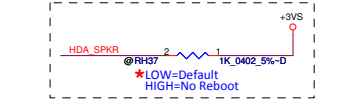
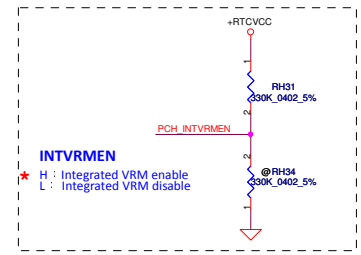
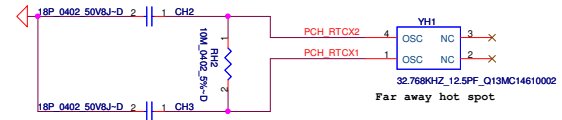
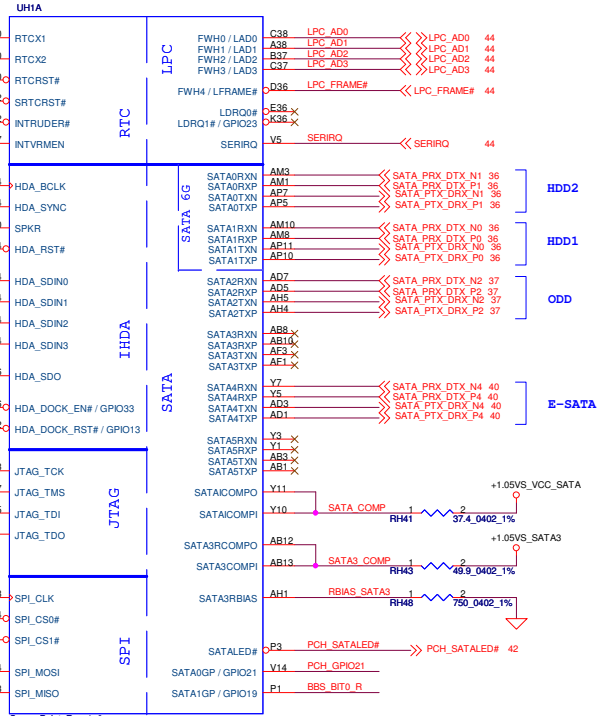
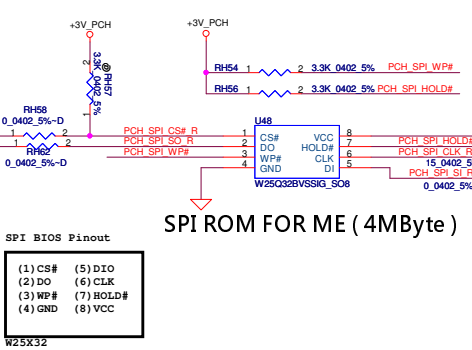
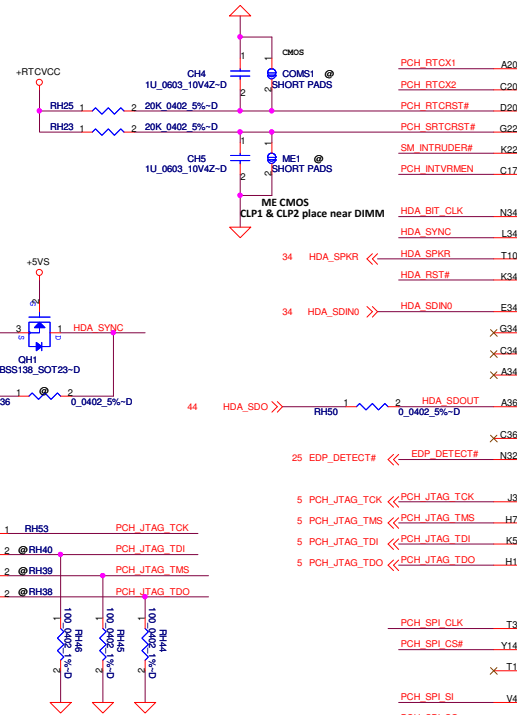
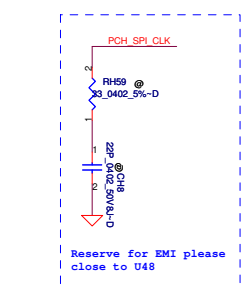
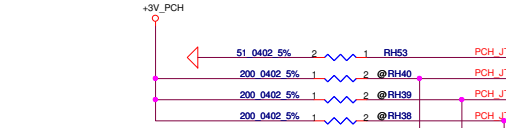
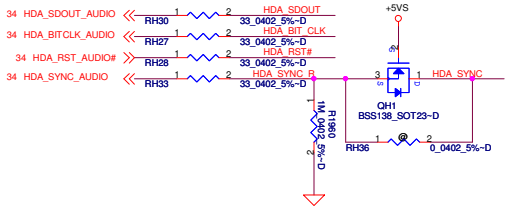


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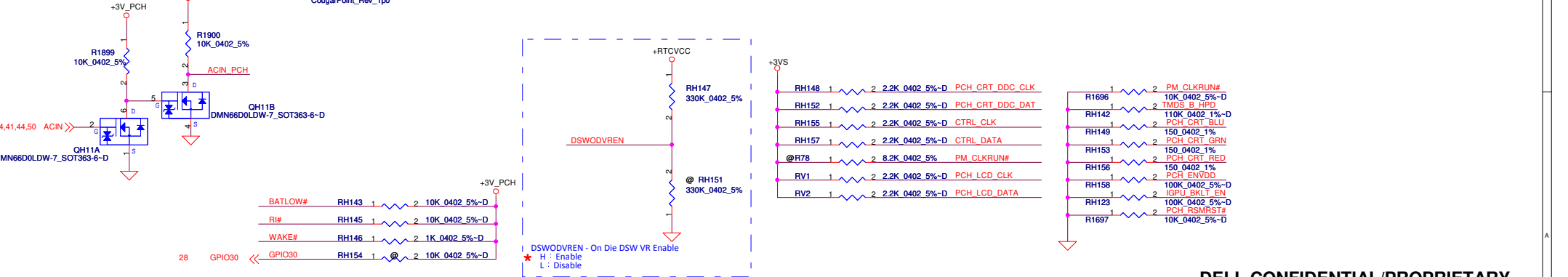
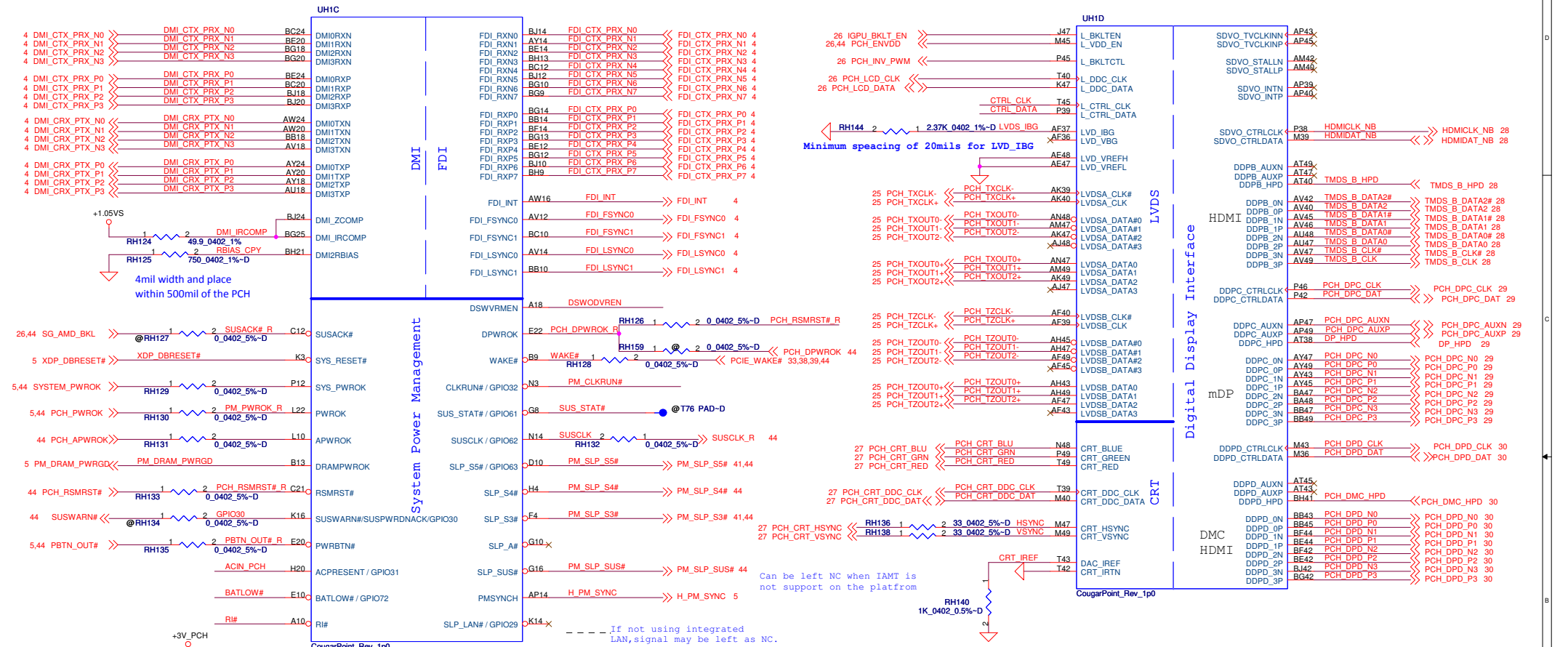
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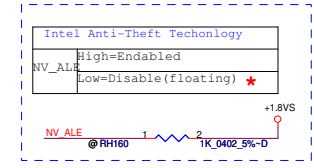
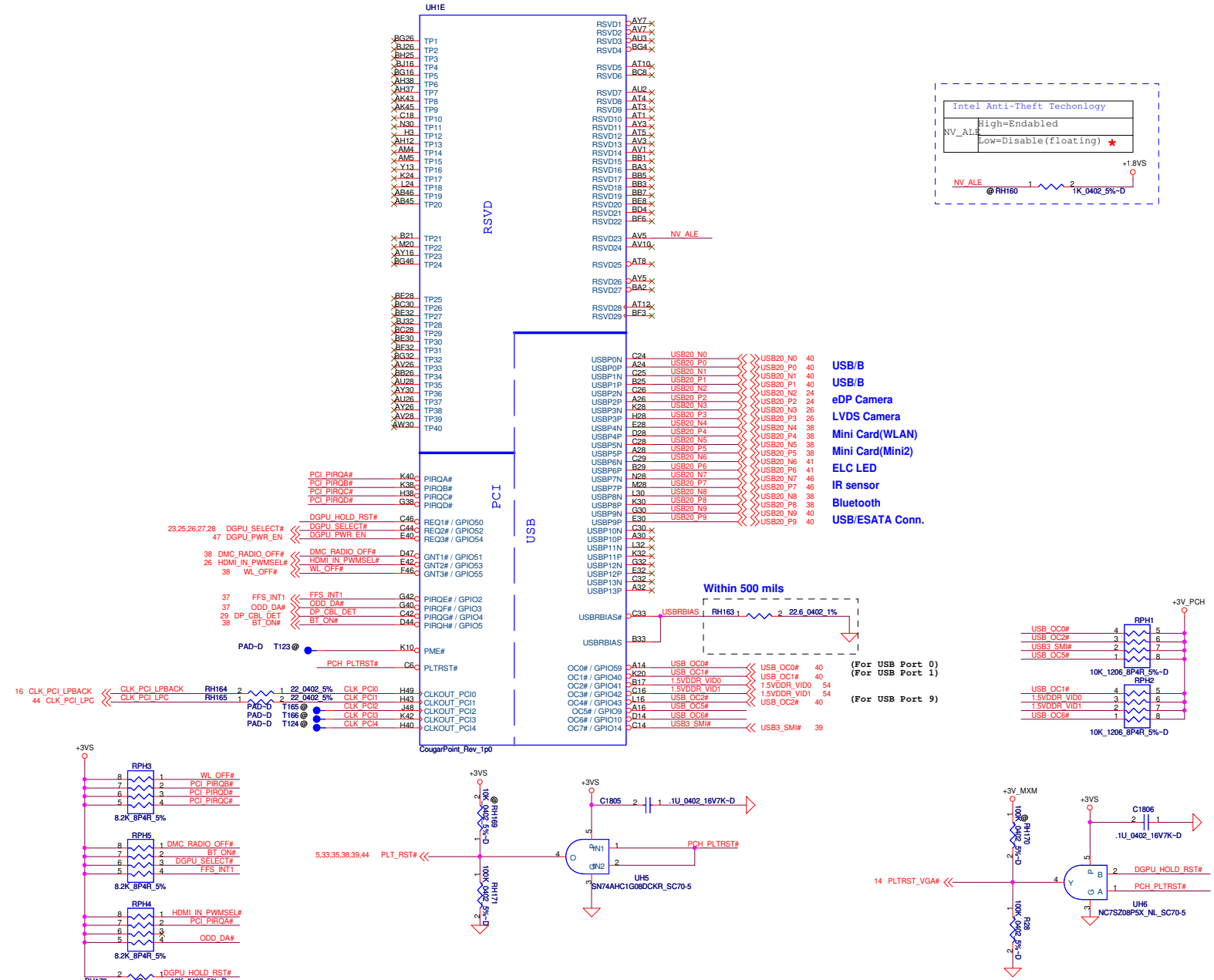


RTC Battery

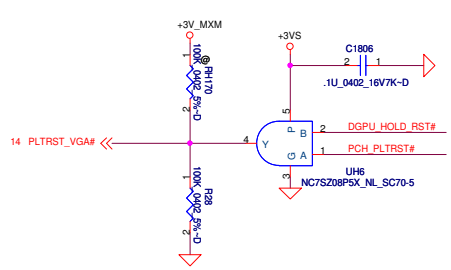
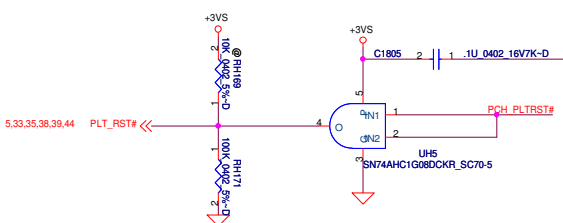
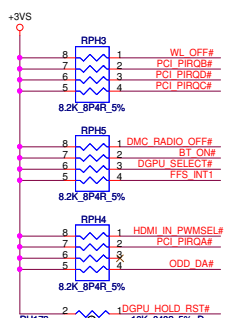
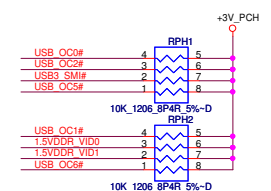


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Within 500 mils



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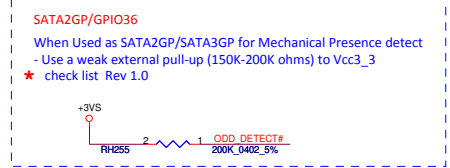
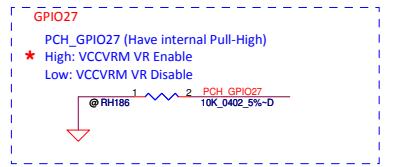
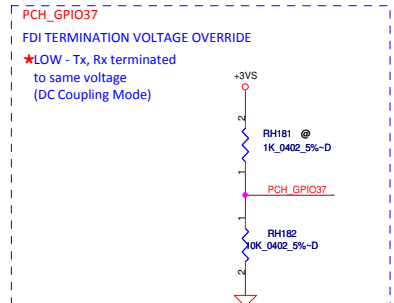
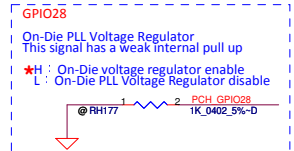
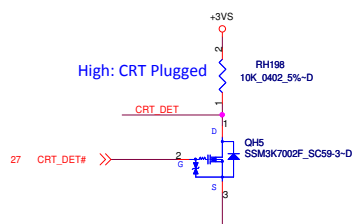
PCH (4/8) PCI, USB, NVRAM

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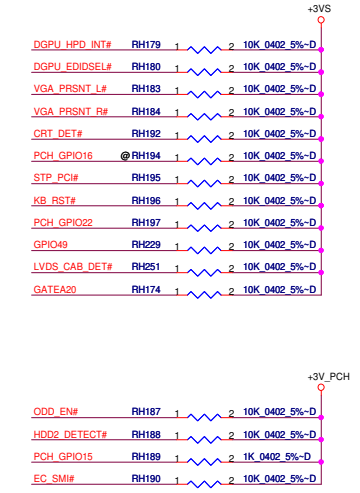
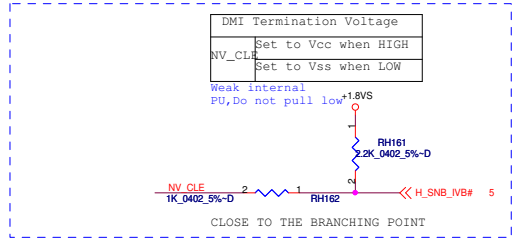
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Title	PCH (4/8) PCI, USB, NVRAM		Rev	1.0
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Pin	Signal	Pin	Signal	Pin	Signal
23,26,28	DGPU_EDIDSEL# << DGPU_EDIDSEL# A42	TACH4 / GPIO68	C40 DGPU_BKL_PWM_SEL# >> DGPU_BKL_PWM_SEL# 26	A20GATE	P4
28	DGPU_HPD_INT# << DGPU_HPD_INT# H36	TACH5 / GPIO69	B41 EDP_CAB_DET# << EDP_CAB_DET# 23,24	PECI	AU16 PCH_PECI_R 1 << H_PECI 44
44	EC_SCI# << EC_SCI# E38	TACH6 / GPIO70	C41 LVDS_CAB_DET# << LVDS_CAB_DET# 26	RCIN#	P5 KB_RST# << KB_RST# 44
44	EC_SMI# << EC_SMI# C10	TACH7 / GPIO71	A40-X	PROCPWRGD	AY11 H_CPUUPWRGD >> H_CPUUPWRGD 5
38	BT_RADIO_DIS# << BT_RADIO_DIS# C4	GPIO8		THRMTTRIP#	AY10 H_THERMTTRIP# C 390_0402_5% 1 << H_THERMTTRIP# 5
	PCH_GPIO15 << PCH_GPIO15 G2	LAN_PHY_PWR_CTRL / GPIO12		DF_TVS	T14 INIT3_3V# << INIT3_3V#
	PCH_GPIO16 << PCH_GPIO16 U2	GPIO15		TS_VSS1	AY1 NV_CLE << NV_CLE
14	DGPU_PWROK << DGPU_PWROK D40	SATA4GP / GPIO16		TS_VSS2	
	PCH_GPIO22 << PCH_GPIO22 T5	TACH0 / GPIO17		TS_VSS3	
37	ODD_EN# << ODD_EN# E8	SCLOCK / GPIO22		TS_VSS4	
	PCH_GPIO27 << PCH_GPIO27 E16	GPIO24 / MEM_LED		NC_1	
14	VGA_PRSNT_R# << VGA_PRSNT_R# N2	GPIO27			
14	VGA_PRSNT_L# << VGA_PRSNT_L# M3	GPIO28			
37	FFS_INT2 << FFS_INT2 V13	STP_PCH# / GPIO34			
	GPIO49 << GPIO49 V3	GPIO35			
38	HDD2_DETECT# << HDD2_DETECT# D6	GPIO36			
	VSS_NCTF_1 << VSS_NCTF_1 A4	SATA2GP / GPIO36			
	VSS_NCTF_2 << VSS_NCTF_2 A44	SATA3GP / GPIO37			
	VSS_NCTF_3 << VSS_NCTF_3 A45	SLOAD / GPIO38			
	VSS_NCTF_4 << VSS_NCTF_4 A46	SDATAOUT0 / GPIO39			
	VSS_NCTF_5 << VSS_NCTF_5 A5	SDATAOUT1 / GPIO48			
	VSS_NCTF_6 << VSS_NCTF_6 A6	SATA5GP / GPIO49			
	VSS_NCTF_7 << VSS_NCTF_7 B3	GPIO57			
	VSS_NCTF_8 << VSS_NCTF_8 B47				
	VSS_NCTF_9 << VSS_NCTF_9 BD1				
	VSS_NCTF_10 << VSS_NCTF_10 BD49				
	VSS_NCTF_11 << VSS_NCTF_11 BE1				
	VSS_NCTF_12 << VSS_NCTF_12 BE49				
	VSS_NCTF_13 << VSS_NCTF_13 BE1				
	VSS_NCTF_14 << VSS_NCTF_14 BF49				

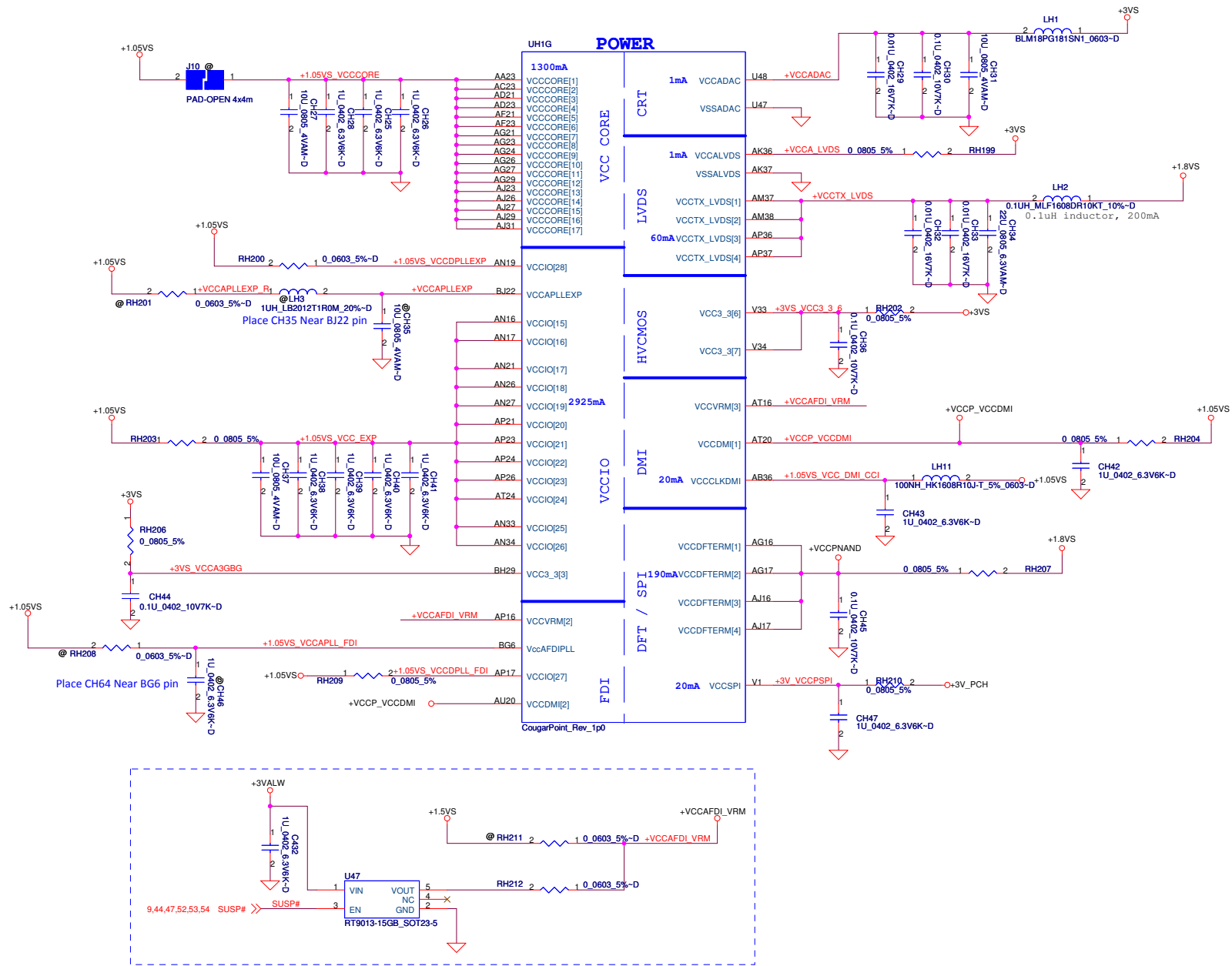


Layout note:
Trace wide 10mil & length 30mil
All NCTF pins should have thick traces at 45° from the pad.

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		Title	
		PCH (5/8) GPIO, CPU, MISC	
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PCH Power Rail Table

Voltage Rail	Voltage	S0 Iccmax Current (A)
V_PROC_IO	1.05	0.001
V5REF	5	0.001
V5REF_Sus	5	0.001
Vcc3_3	3.3	0.266
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

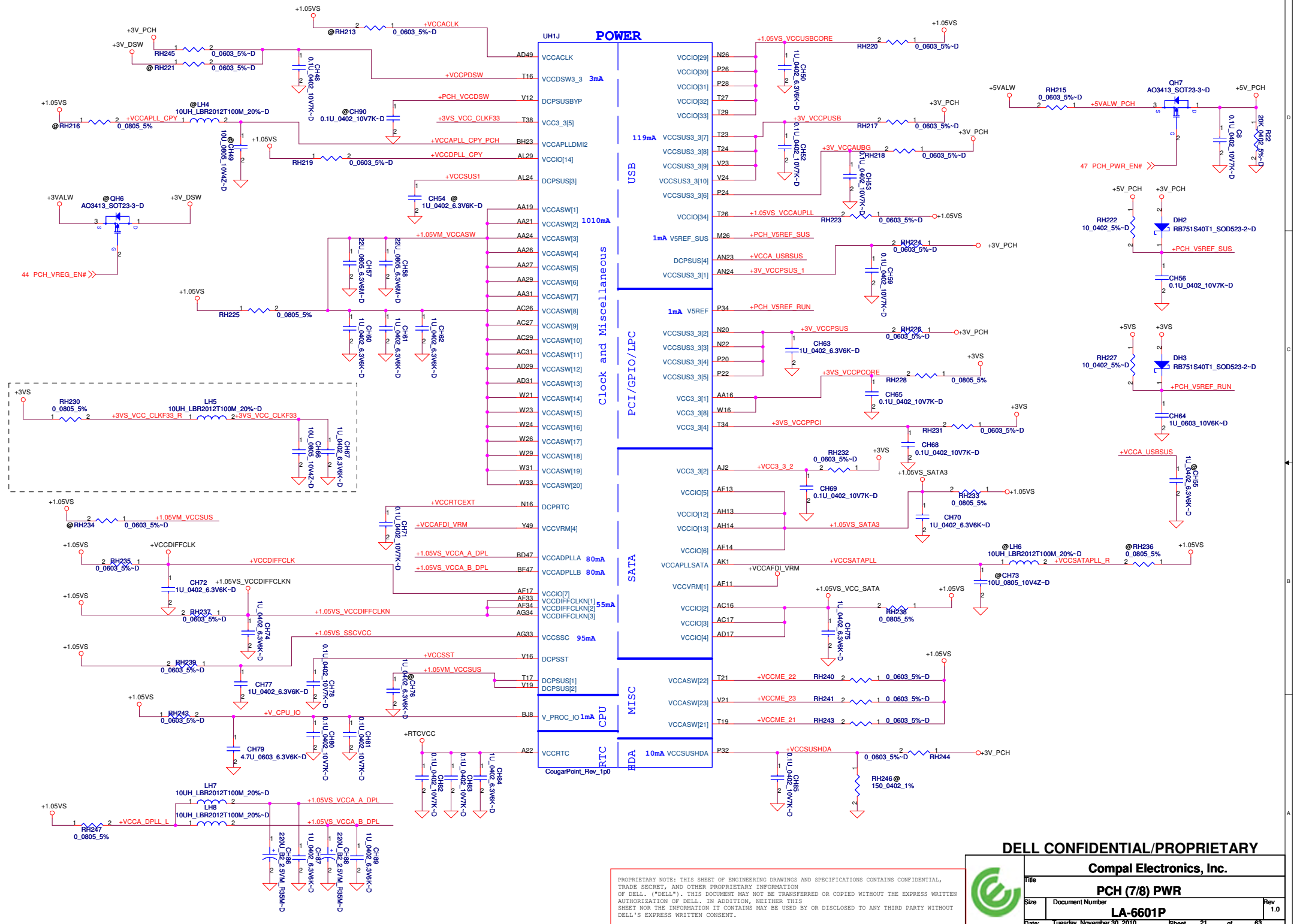
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Title			PCH (6/8) PWR		
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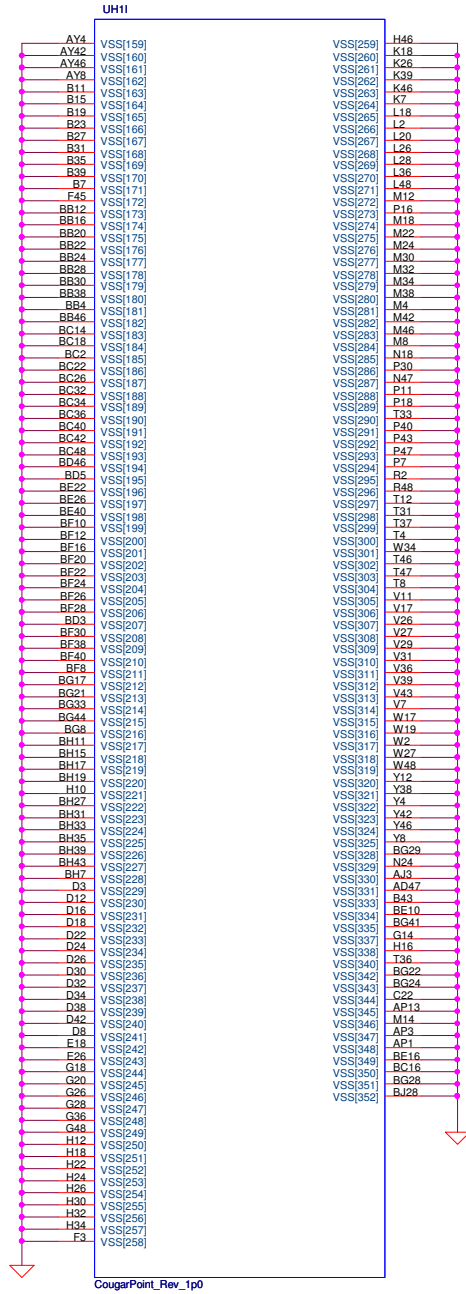
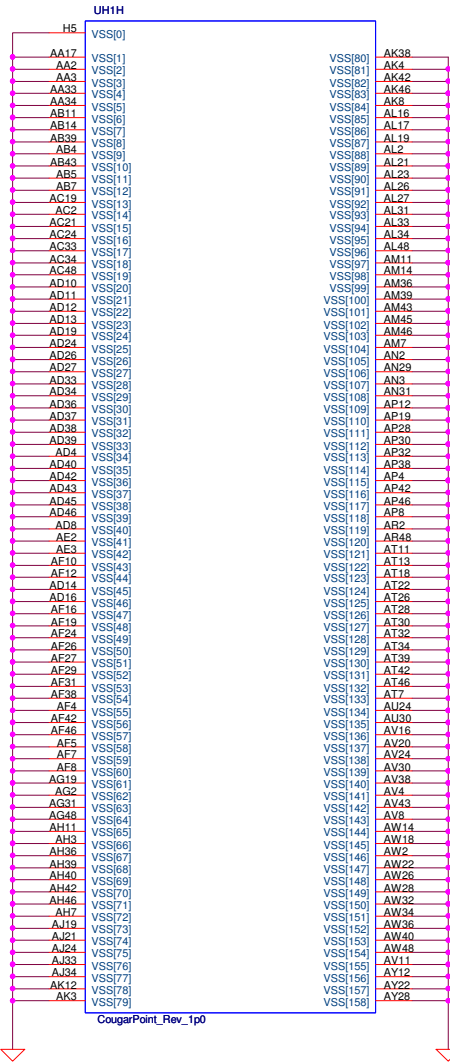


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PCH (7/8) PWR			
File			
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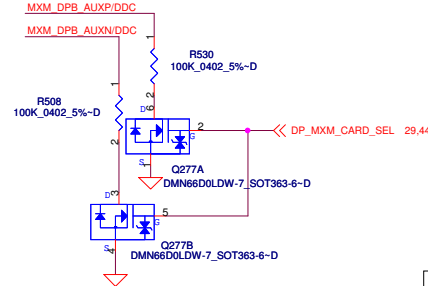
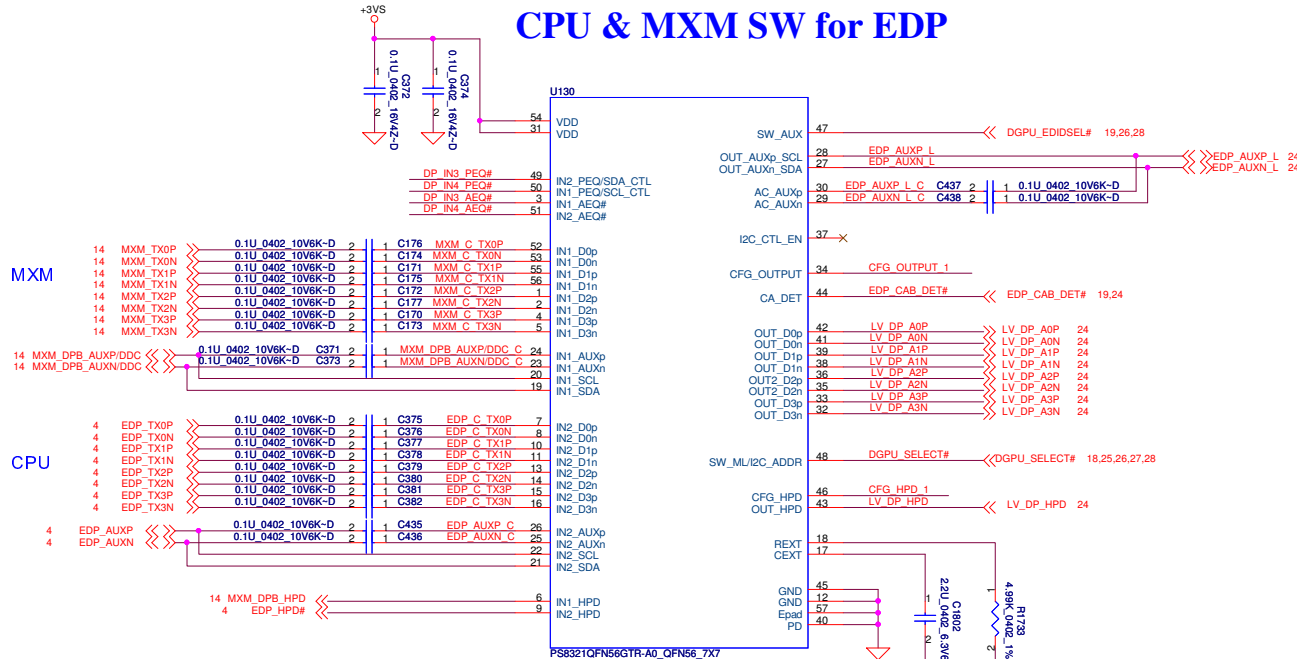
PCH (8/8) VSS

LA-6601P

Rev 1.0

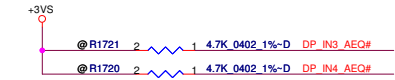
Date: Tuesday, November 30, 2010 Sheet 22 of 63

CPU & MXM SW for EDP

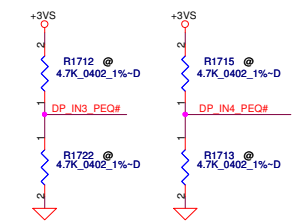


MXM_MFG_SEL	GPU Source
0	NVIDIA
1	ATI

AUX_SEL/SEL1&2	Chanel	Source
0	A	CPU
1	B	MXM

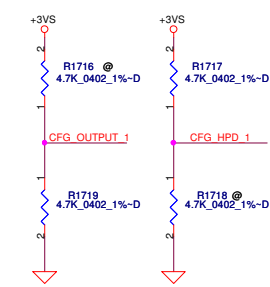


INy_AEQ# (y=1, 2), Automatic RX equalization enable
 L: Disable input automatic equalization
 H: Enable input automatic equalization



INy_PEQ# (y = 1, 2), Programmable input equalization level setting
 L: Low EQ setting (LEQ), default
 H: High EQ setting (HEQ)
 M: No EQ

CFG_OUTPUT: output configuration
 L: Output is tracking DPCD register setting (auto interception)
 H: Output swing level fixed at 600mV and no pre-emphasis
 M: Output swing level is fixed at 400mV and no pre-emphasis



CFG_HPDP, HPD switching configuration
 L: HPD is switched by SW_ML
 H: HPD is switched by SW_AUX
 M: HPD is switched with overlap

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eDP SW- GPU & CPU

LA-6601P

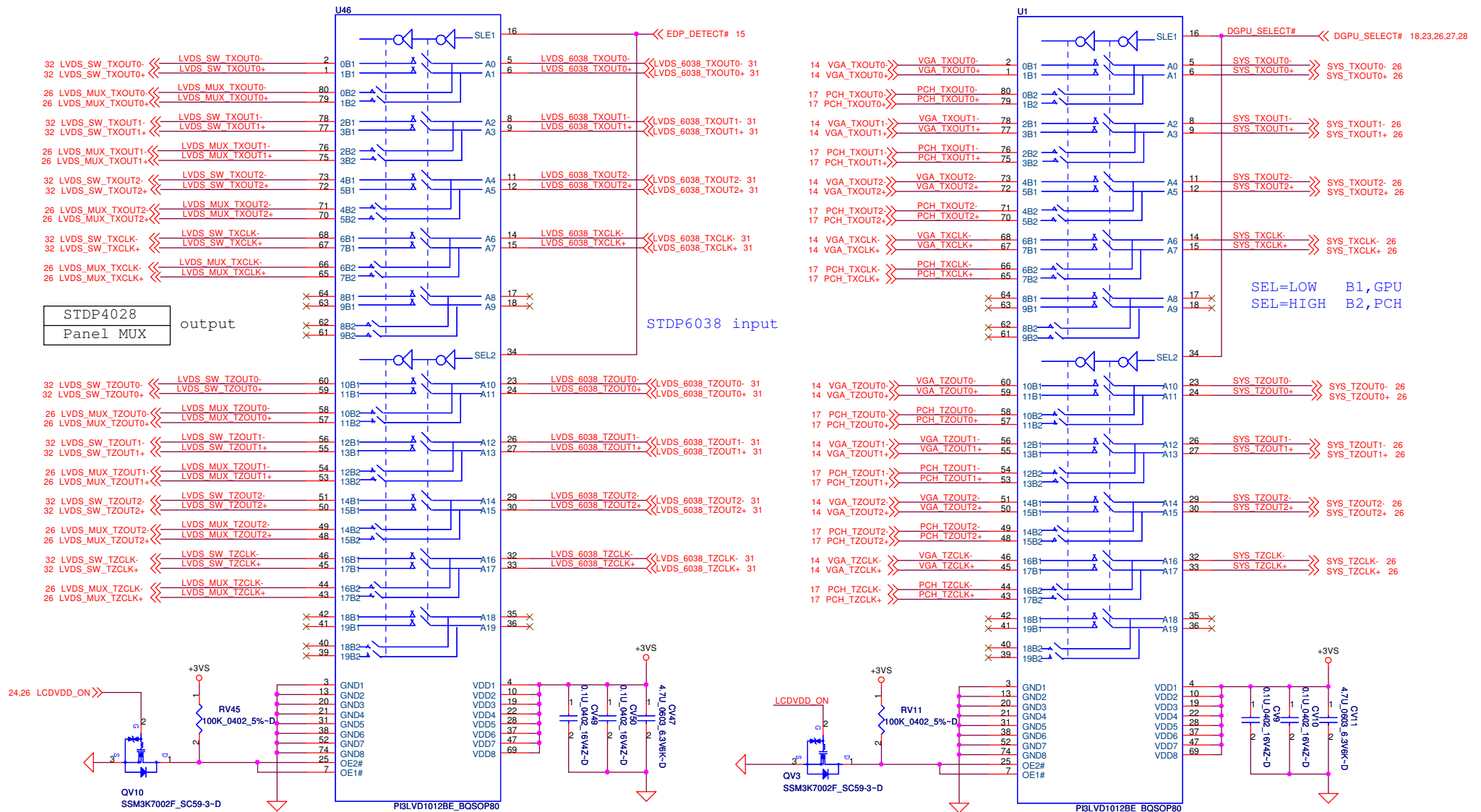
Rev 1.0

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SEL	Y
L	GPU
H	PCH

STDP6038 SW STDP4028 PCH/GPU AUX for LVDS



SEL=LOW B1, GPU
SEL=HIGH B2, PCH

SEL	Y
L	STDP4028
H	Panel MUX

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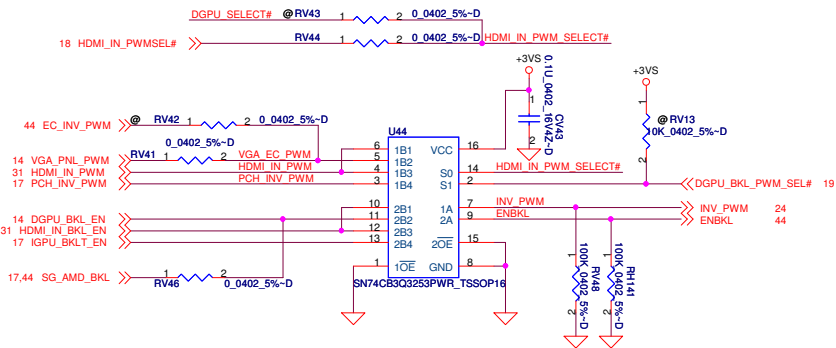
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LVDS SW- 1 to 2 & GPU/PCH

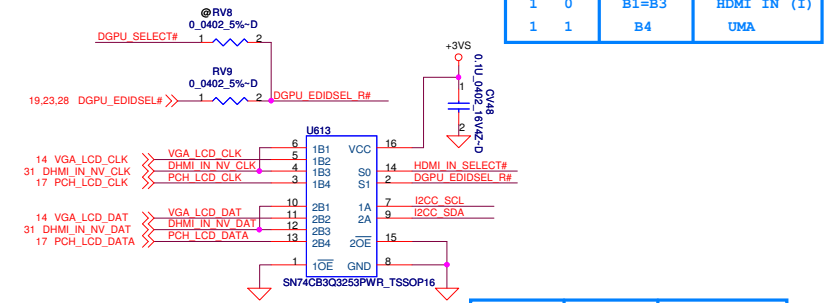
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LCD Backlight Selector



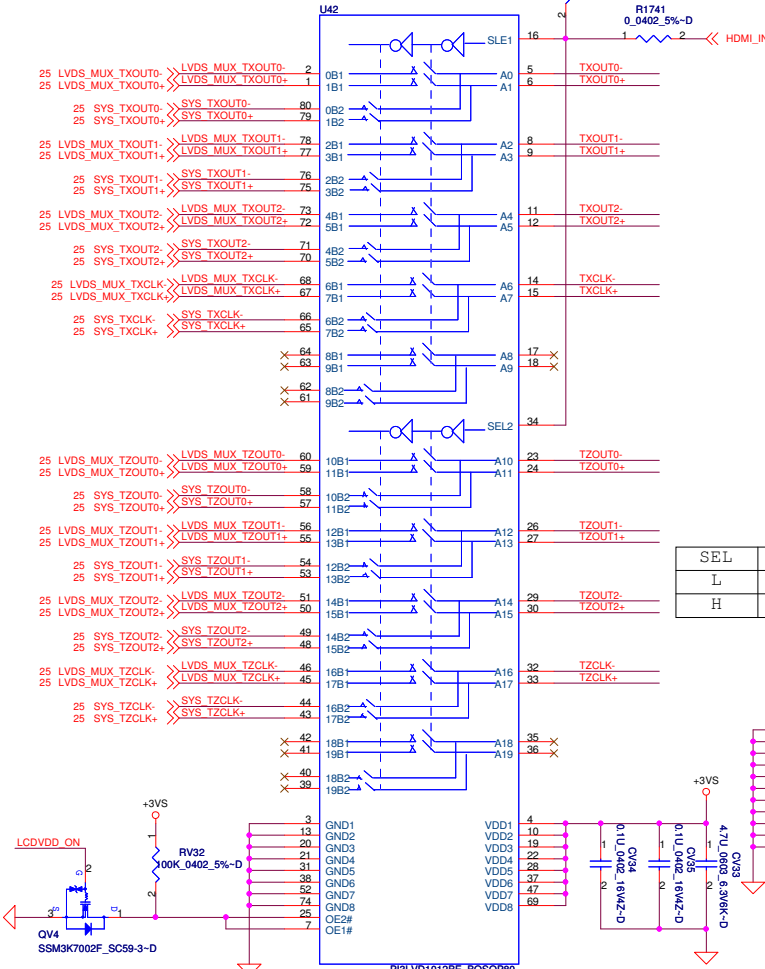
LCD DDC Selector



S1	S0	Output	Y
0	0	B1=B3	HDMI IN (D)
0	1	B2	DSC
1	0	B1=B3	HDMI IN (I)
1	1	B4	UMA

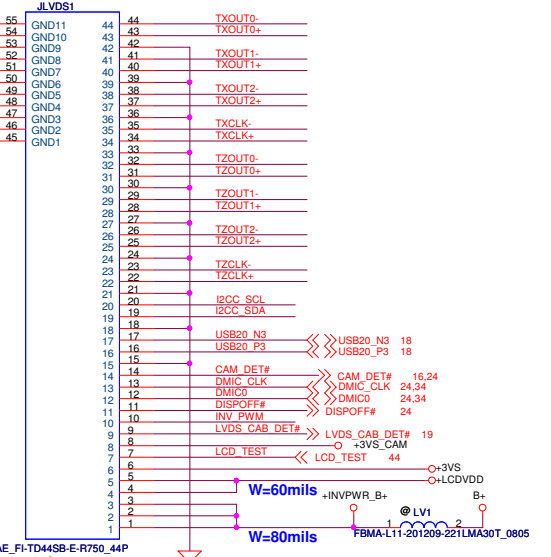
S1	S0	Output	Y
0	0	B1=B3	HDMI IN (D)
0	1	B2	DSC
1	0	B1=B3	HDMI IN (I)
1	1	B4	UMA

PCH/GPU MUX & 6038 MUX SW for LVDS

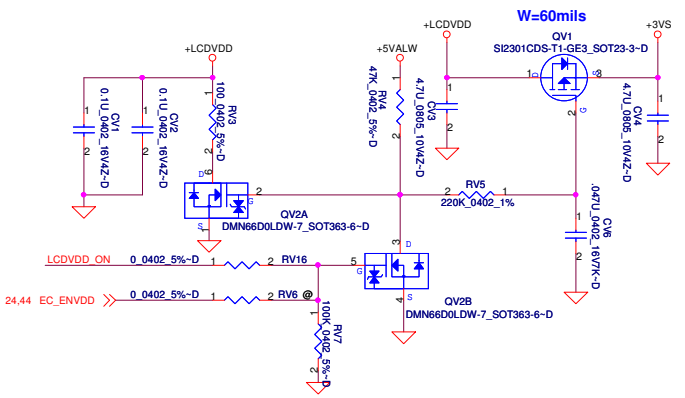


SEL	Y
L	B1
H	B2

LVDS Conn.



LCD POWER



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LVDS SW- 6038/SYSTEM & CONN

LA-6601P

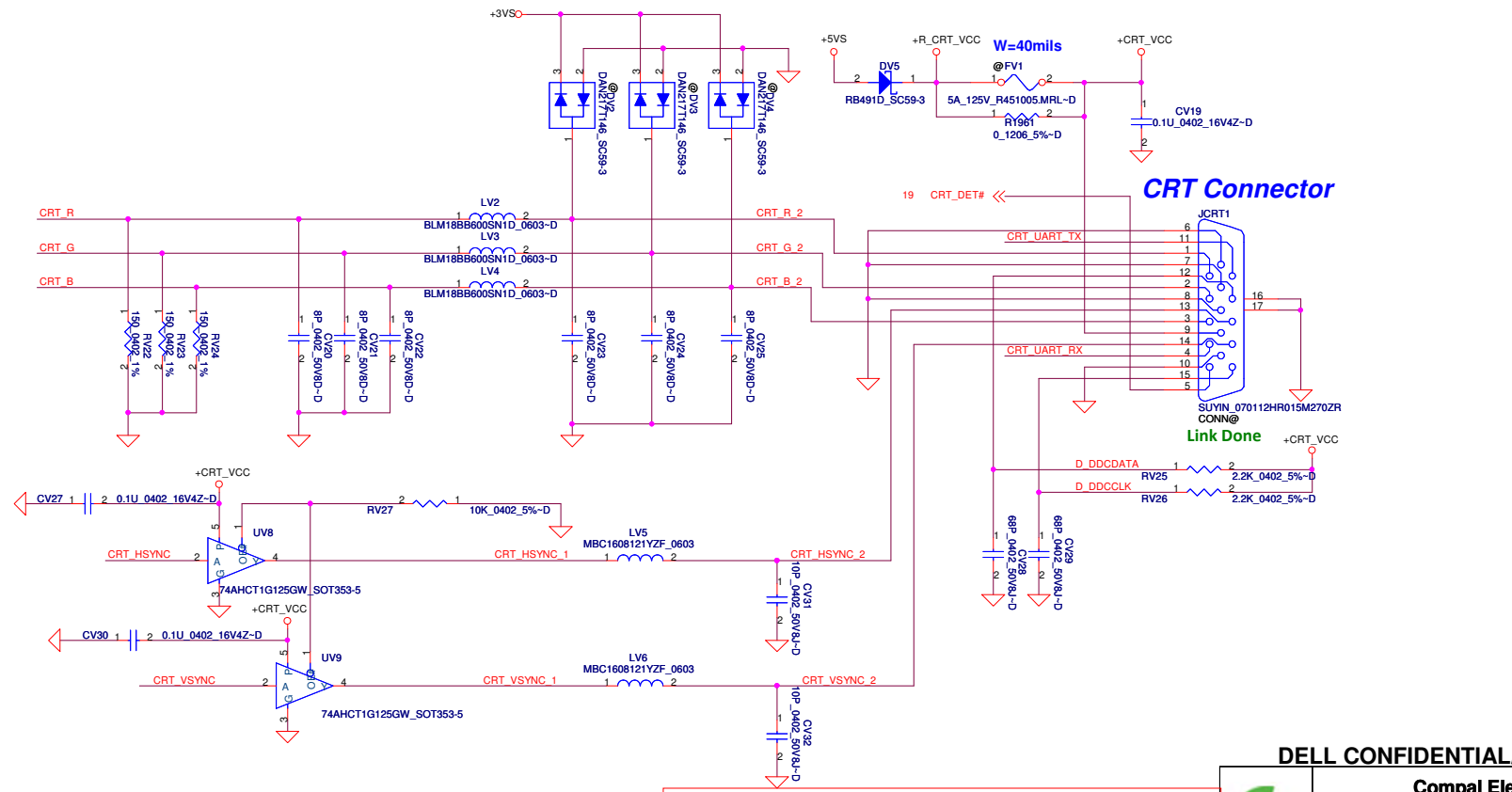
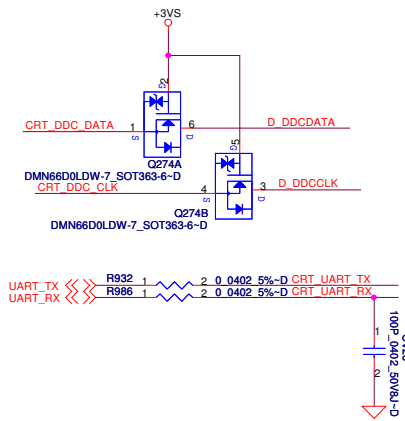
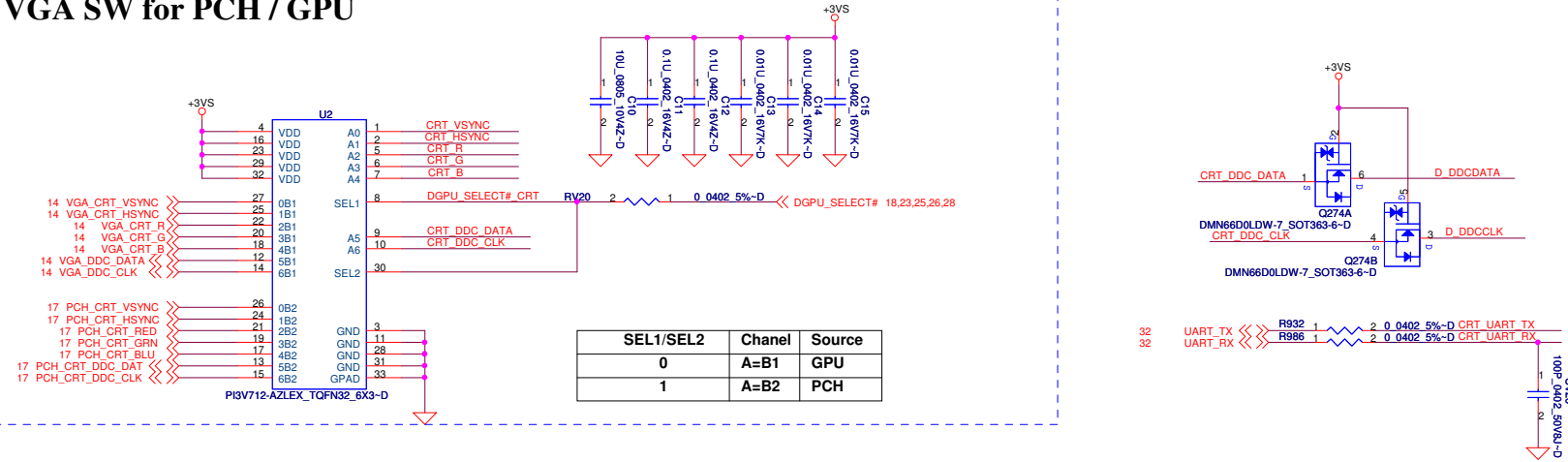
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VGA SW for PCH / GPU



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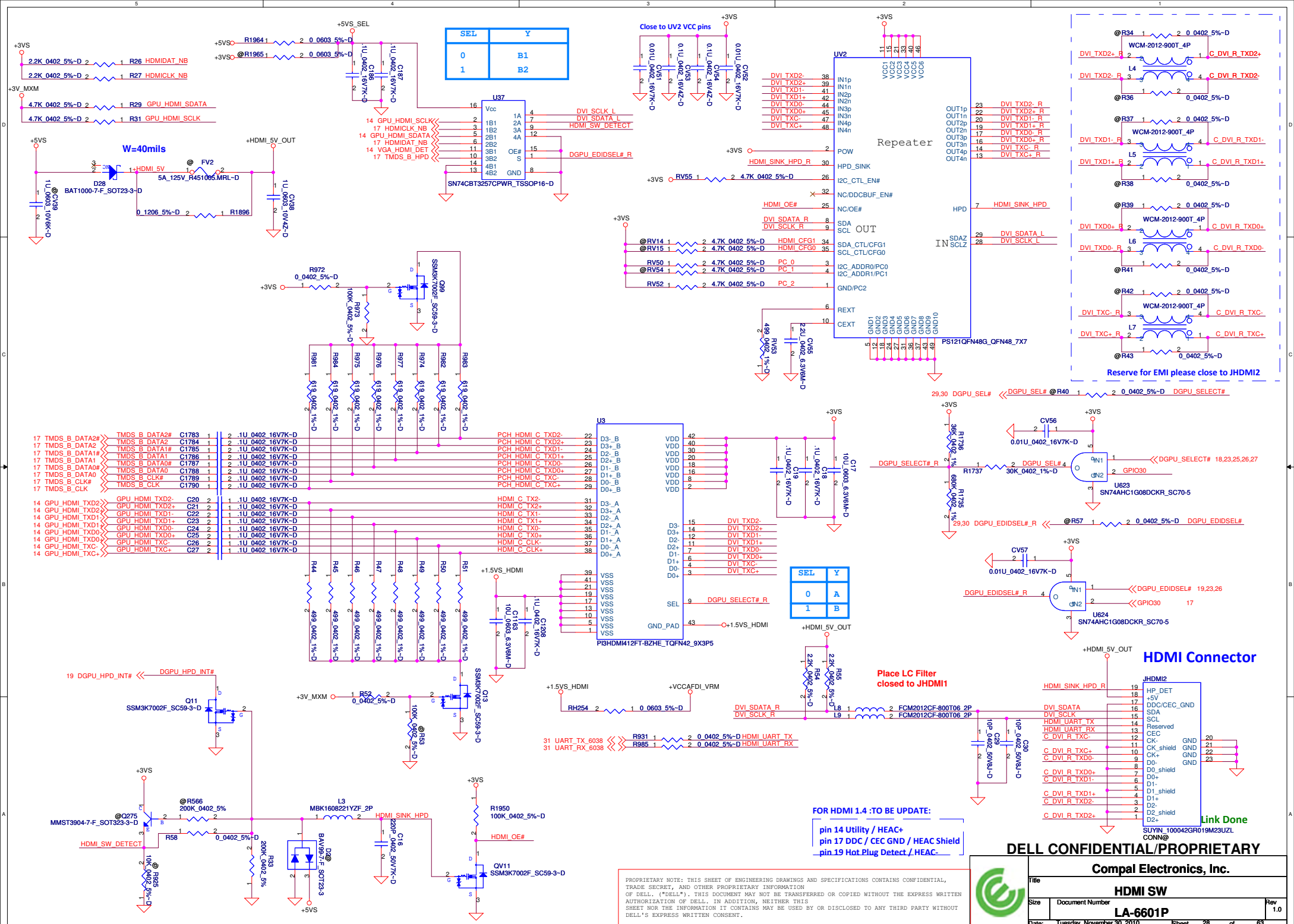
CRT SW

LA-6601P

Rev 1.0

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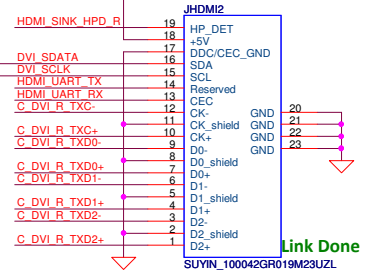
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FOR HDMI 1.4 :TO BE UPDATE:
 pin 14 Utility / HEAC+
 pin 17 DDC / CEC GND / HEAC Shield
 pin 19 Hot Plug Detect / HEAC-

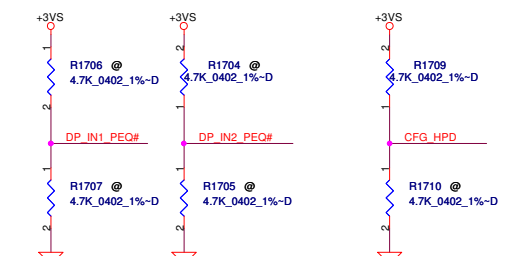
HDMI Connector



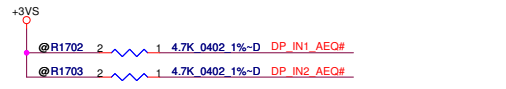
Link Done
 SUTVIN 100042GR019M23U2L
 CONN@

Place LC Filter closed to JHDMI1

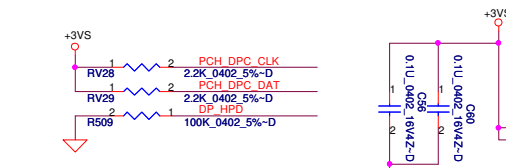
Reserve for EMI please close to JHDMI2



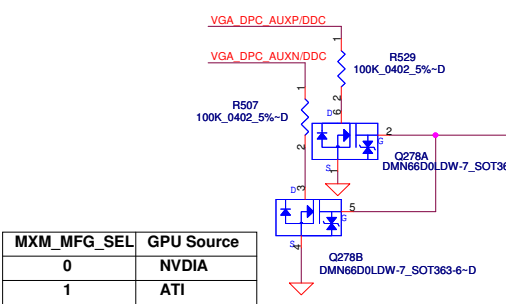
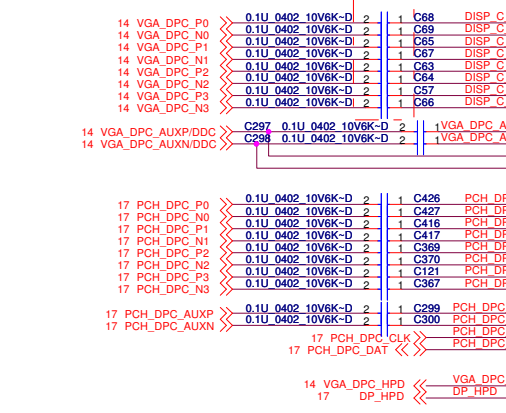
Iny_PEQ(y = 1, 2), Programmable input equalization level setting
 L: Low EQ setting (LEQ), default
 H: High EQ setting (HEQ)
 M: No EQ



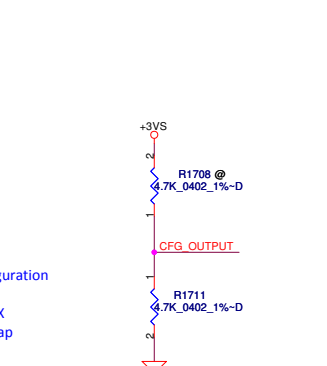
Iny_AEQ# (y=1, 2), Automatic RX equalization enable
 L: Disable input automatic equalization
 H: Enable input automatic equalization



CFG_OUTPUT: output configuration
 L: Output is tracking DPCD register setting (auto interception)
 H: Output swing level fixed at 600mV and no pre-emphasis
 M: Output swing level is fixed at 400mV and no pre-emphasis



MXM_MFG_SEL	GPU Source
0	NVIDIA
1	ATI

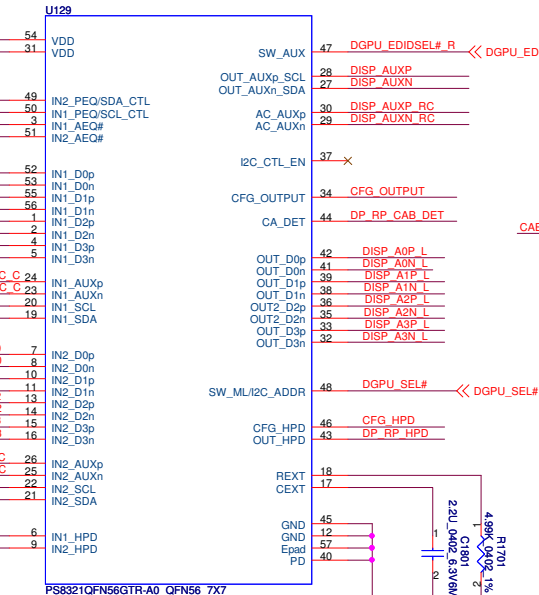


CFG_HPD, HPD switching configuration
 L: HPD is switched by SW_ML
 H: HPD is switched by SW_AUX
 M: HPD is switched with overlap



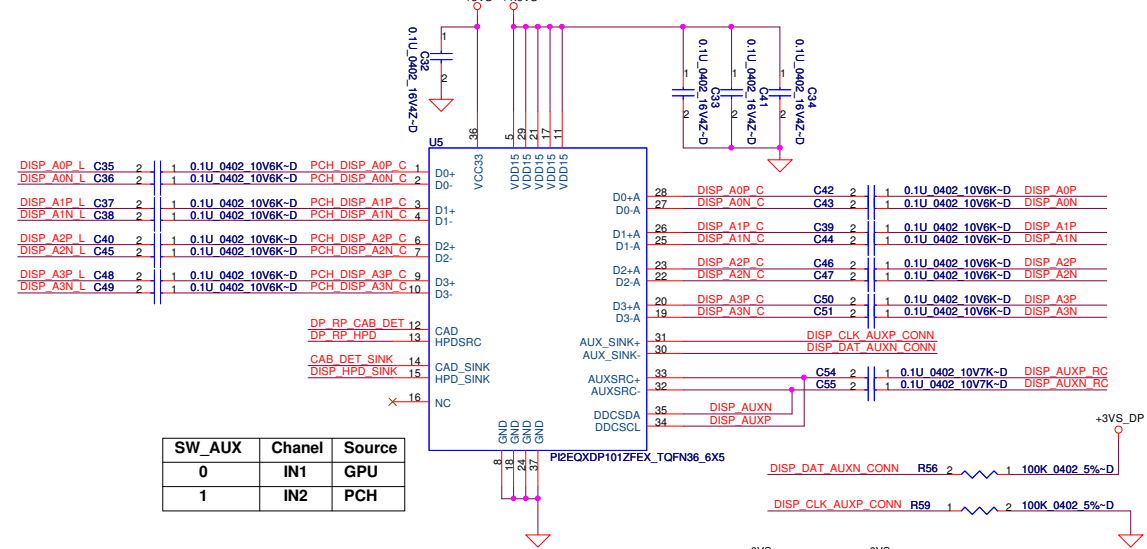
CFG_OUTPUT: output configuration
 L: Output is tracking DPCD register setting (auto interception)
 H: Output swing level fixed at 600mV and no pre-emphasis
 M: Output swing level is fixed at 400mV and no pre-emphasis

PCH/GPU AUX&LANE SW for DPB

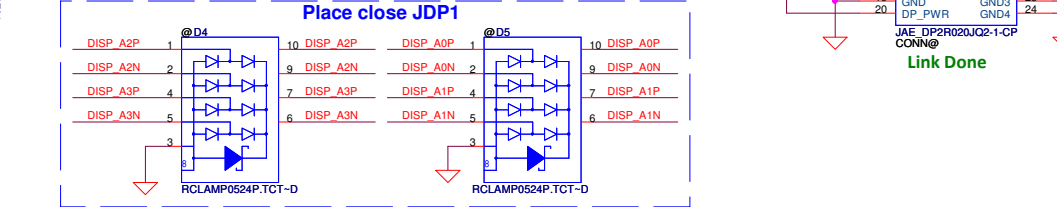
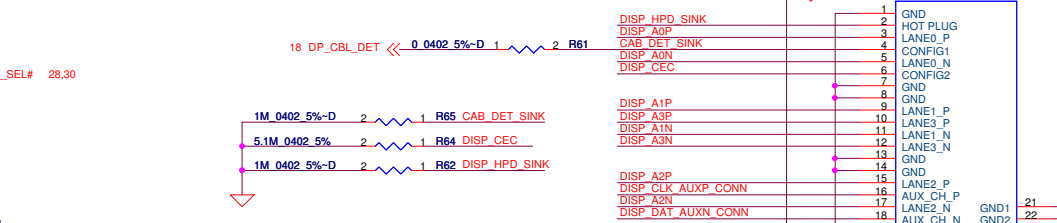
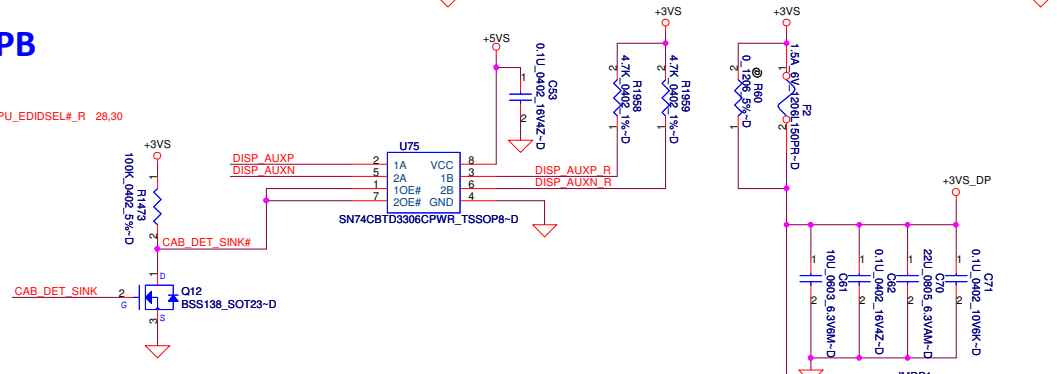


SW_ML/I2C_ADDR	Chanel	Source
0	IN1	GPU
1	IN2	PCH

DP Redriver

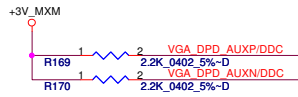


SW_AUX	Chanel	Source
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1	IN2	PCH

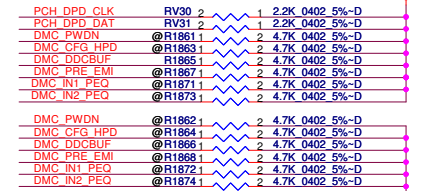
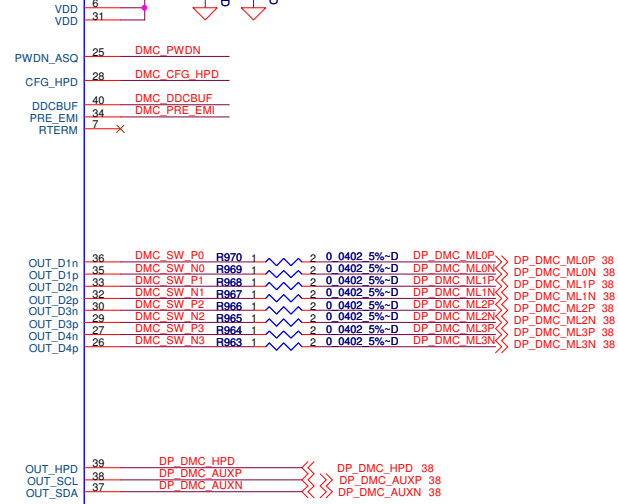
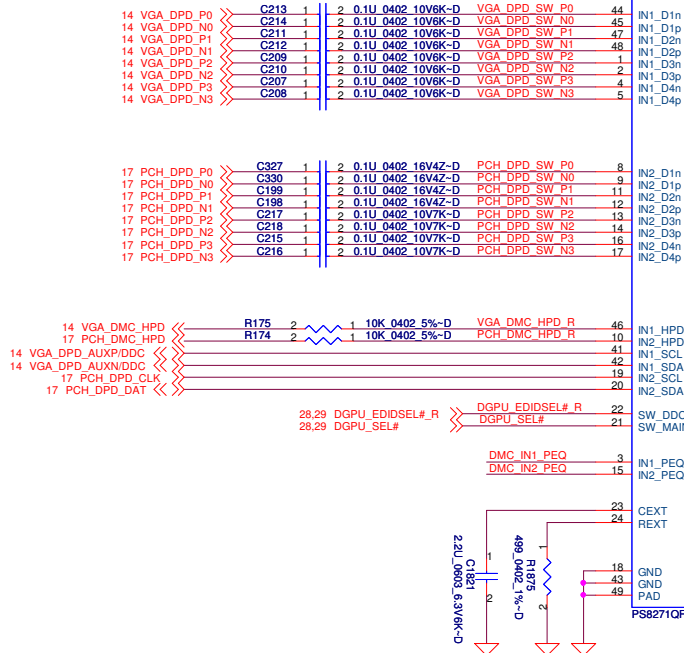


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PCH/GPU AUX&LANE SW for DPB



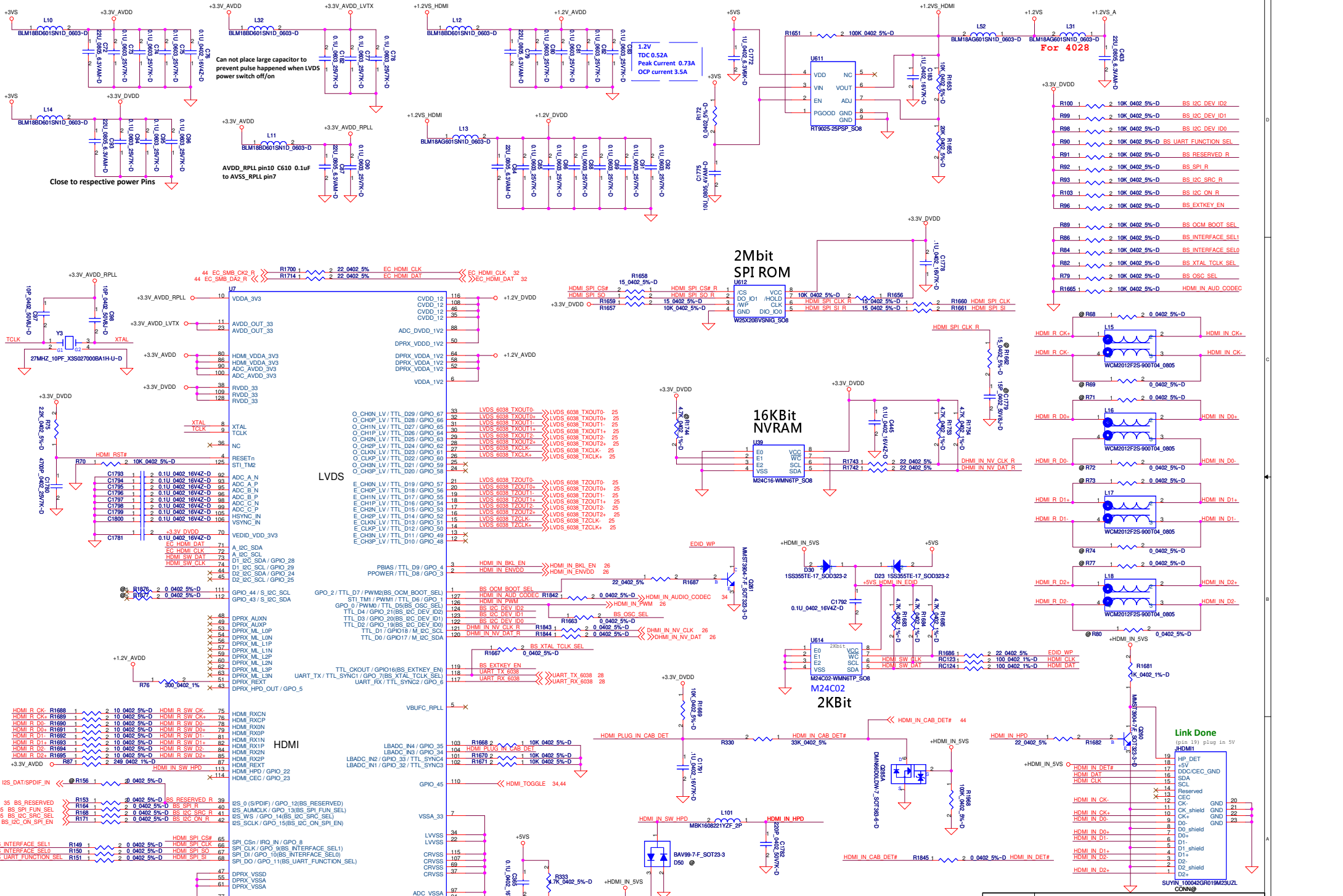
SEL	Y
0	IN1
1	IN2

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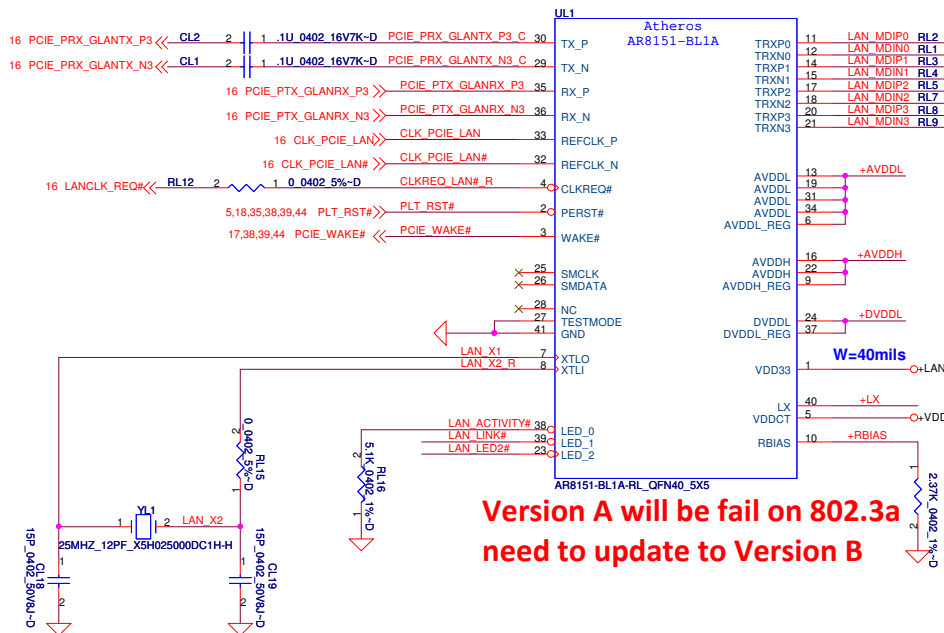
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Title			
HDMI SW for DMC			
Size	Document Number	Rev	
	LA-6601P	1.0	
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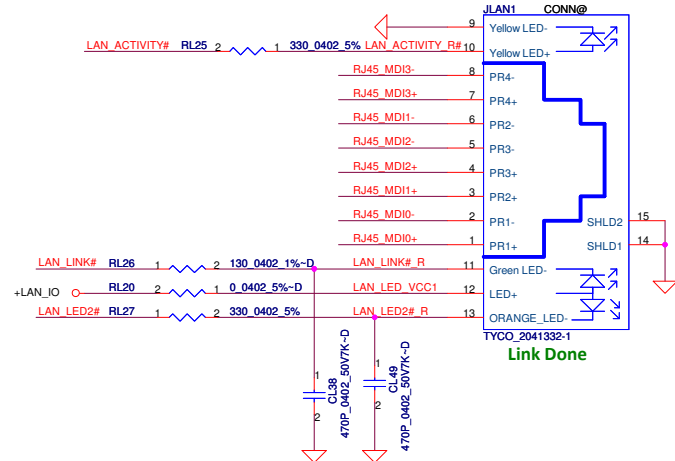
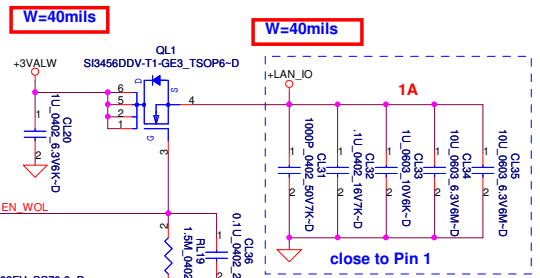
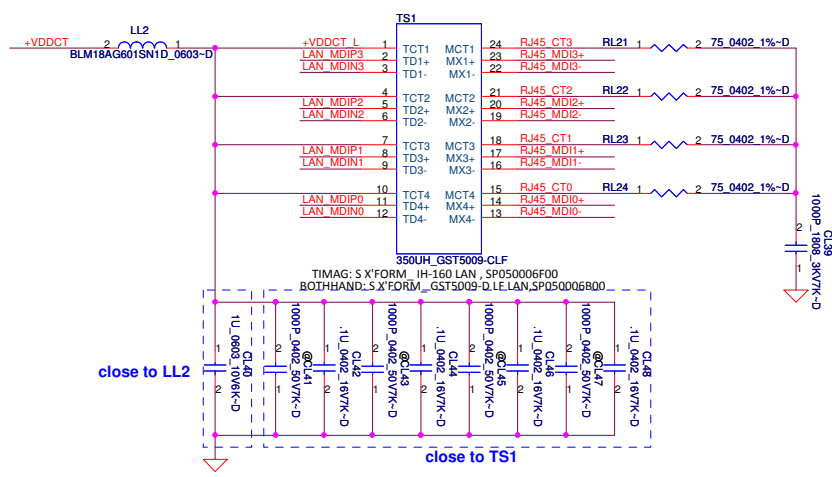
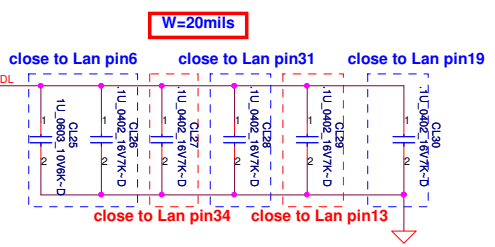
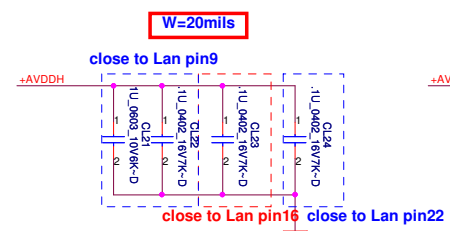
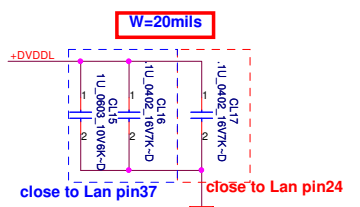
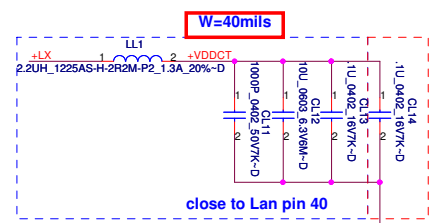
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		Compal Electronics, Inc.	
		HDMI input - STDP6038	
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**Version A will be fail on 802.3a
need to update to Version B**

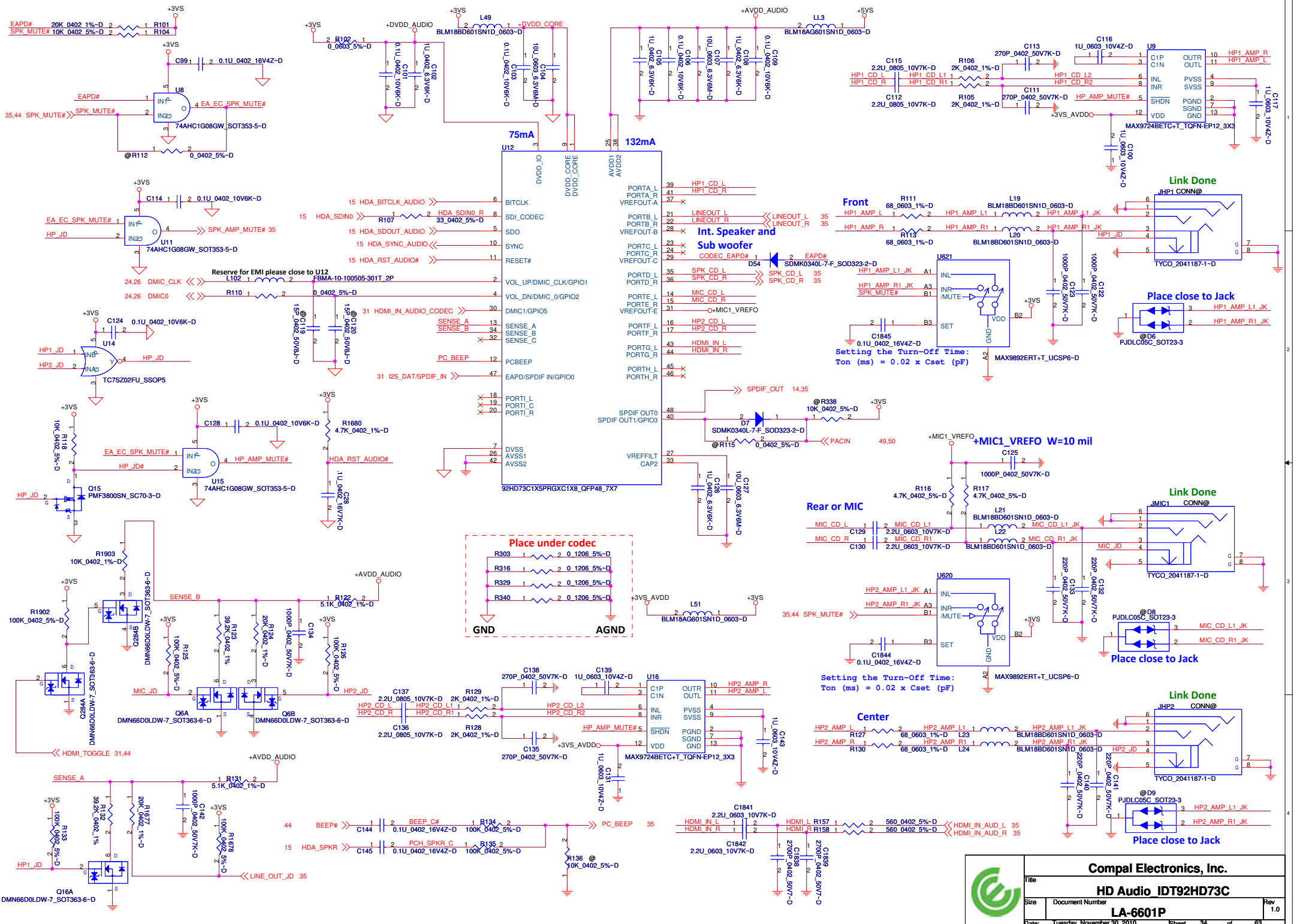
close to Lan chip 1000p reserved for EMI



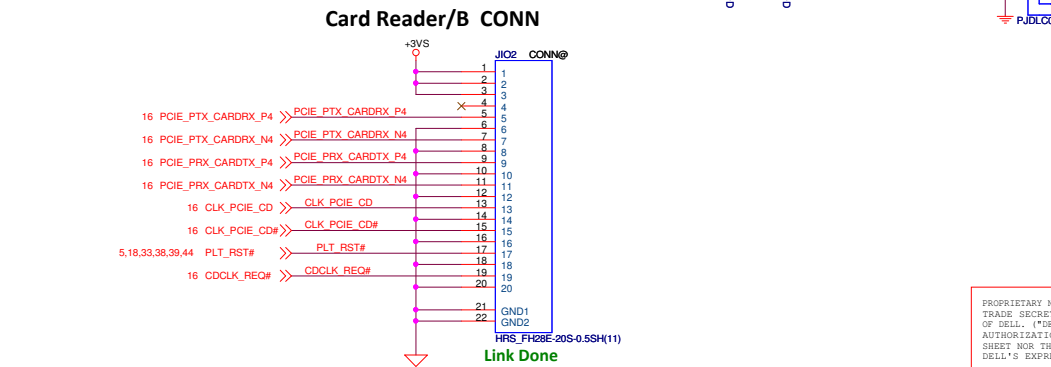
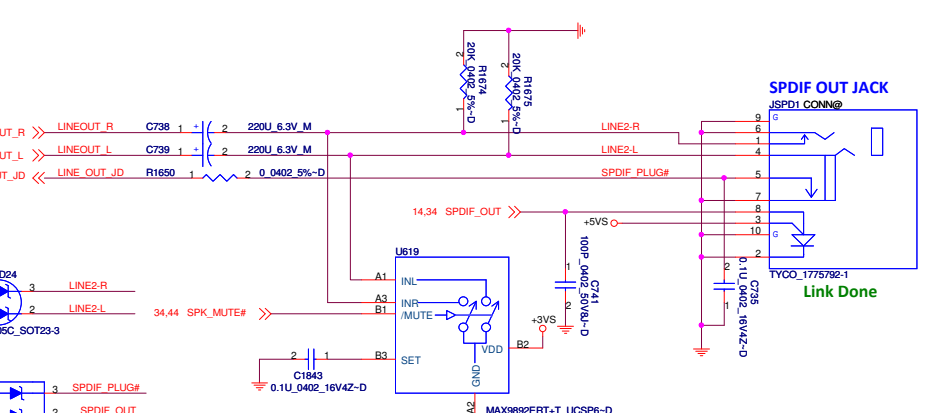
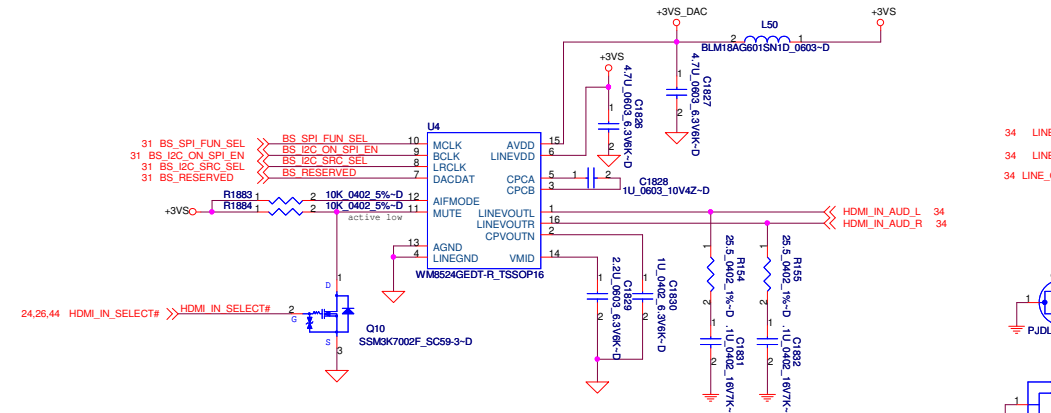
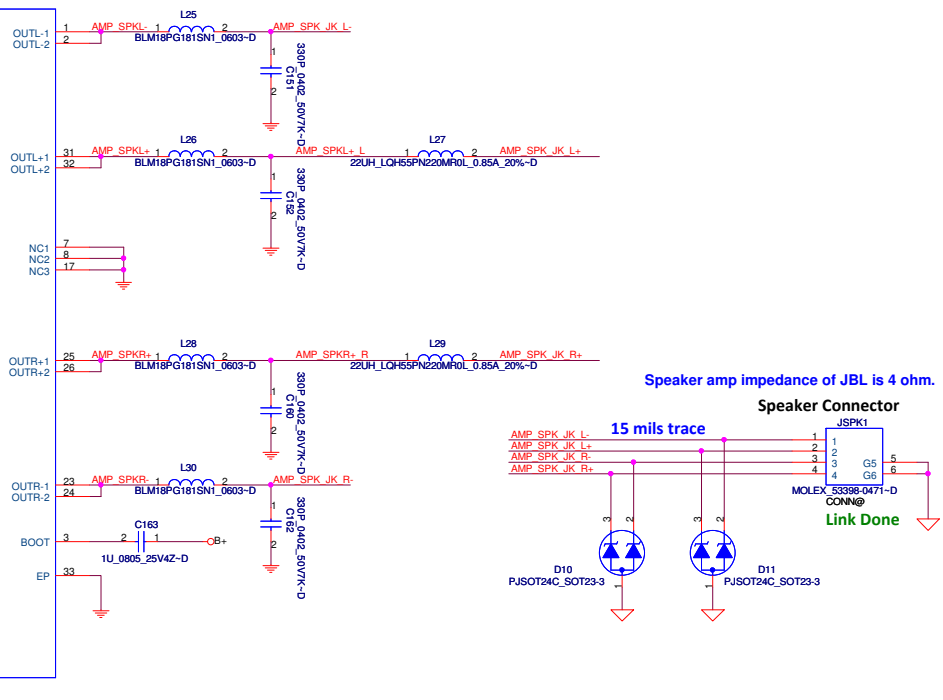
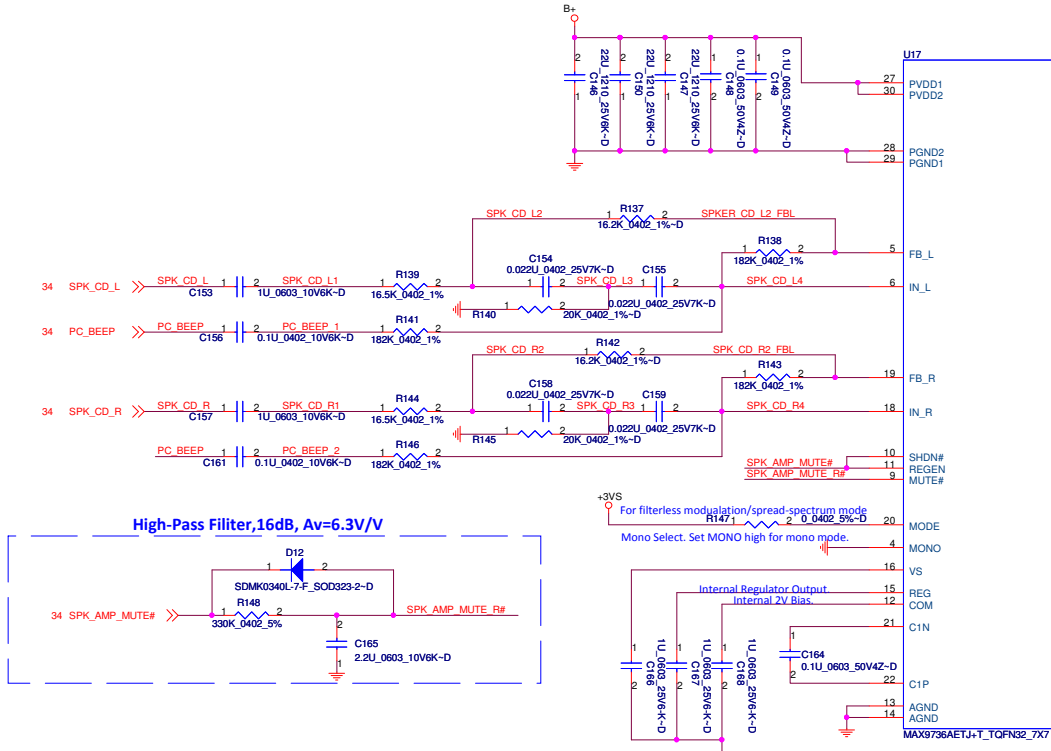
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		GLAN AR8151 AL1A	
File	Document Number	LA-6601P	
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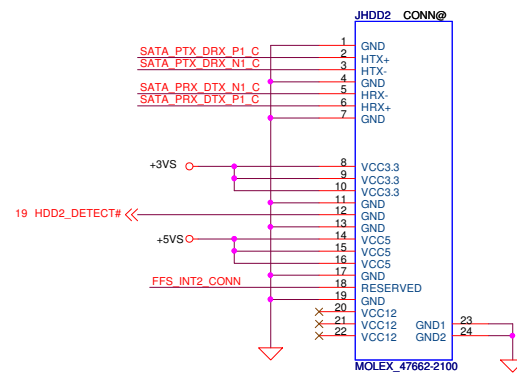
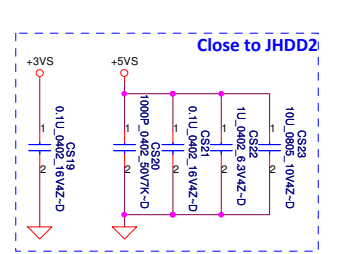
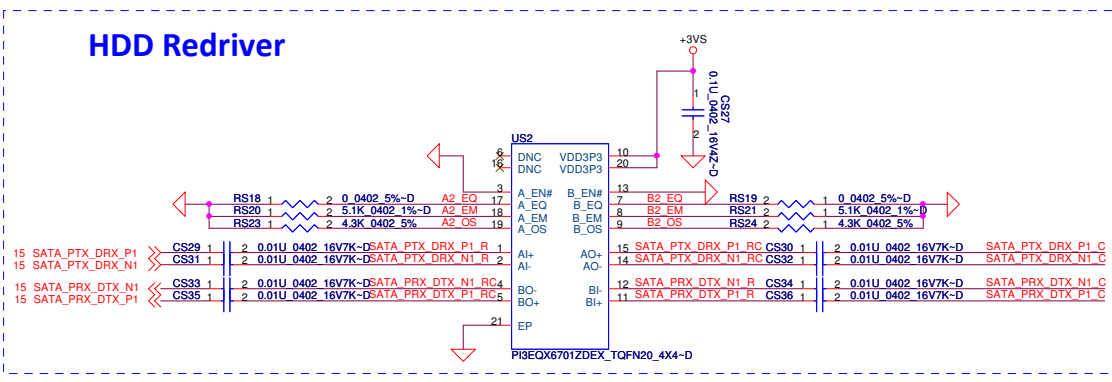
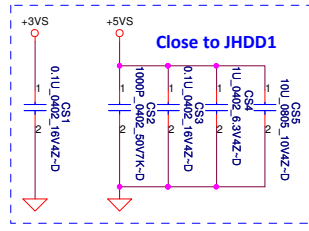
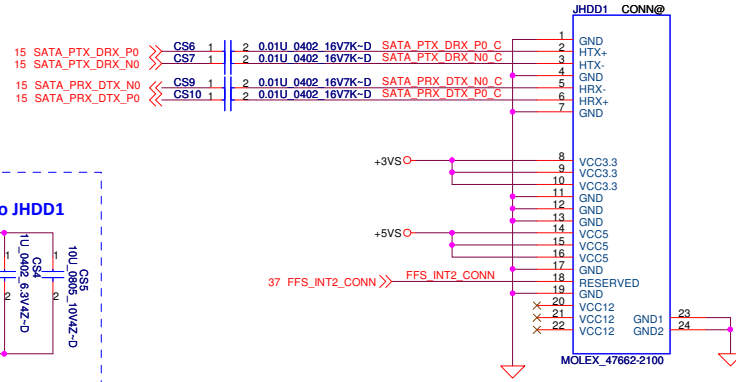
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HD Audio IDT92HD73C			
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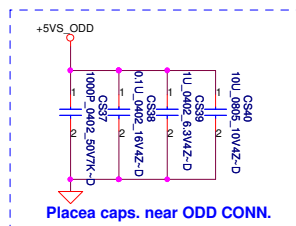
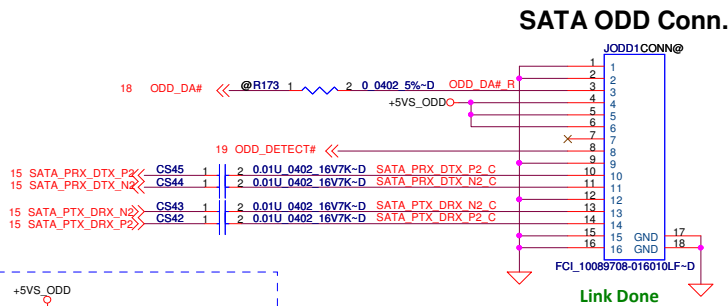
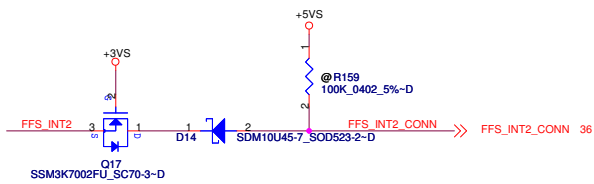
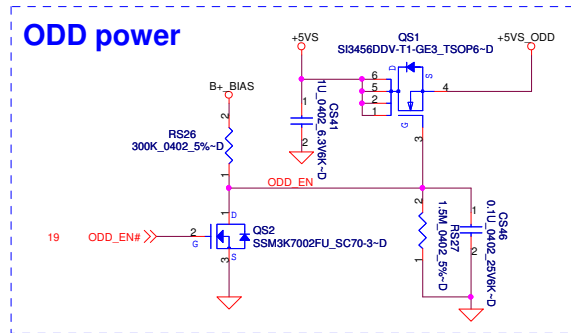
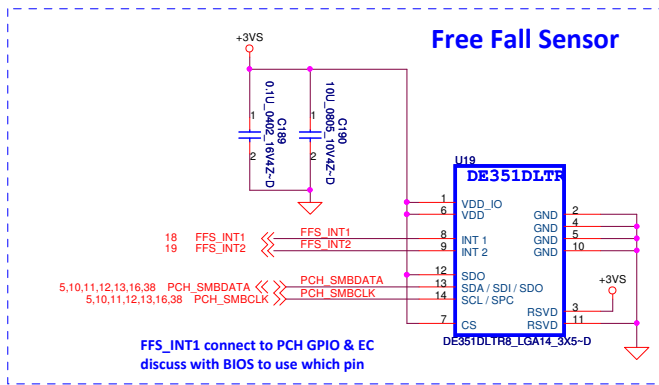
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Title			SATA HDD1 & HDD2		
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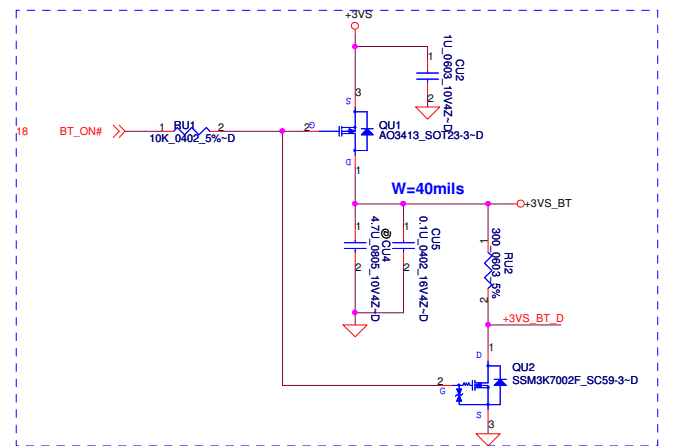
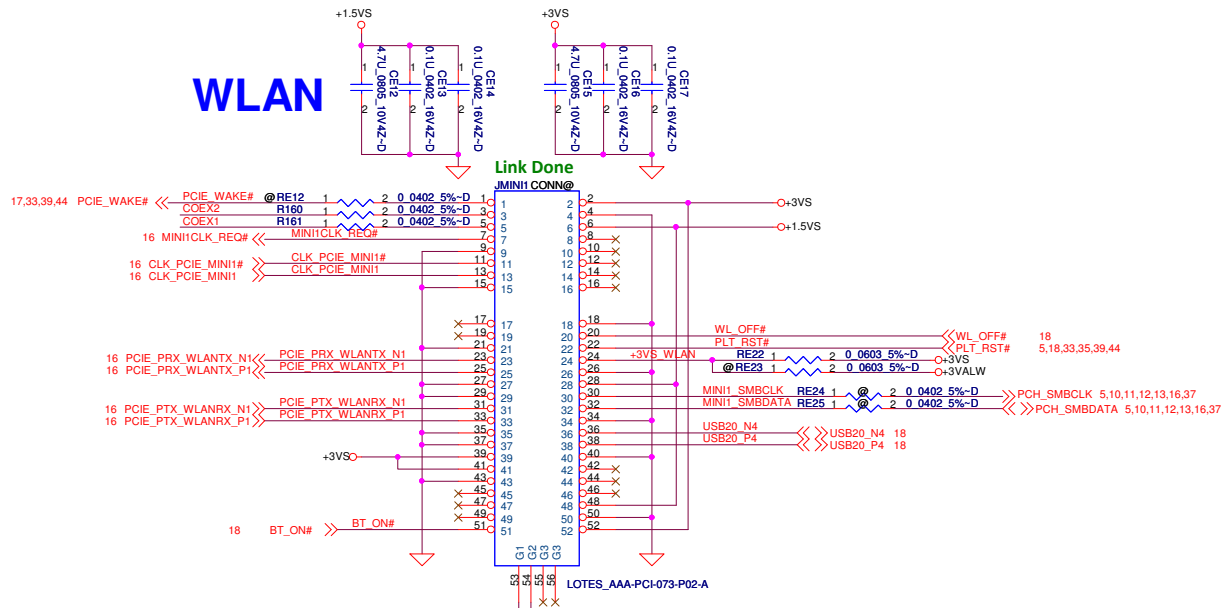
SATA HDD3 & ODD & FFS

LA-6601P

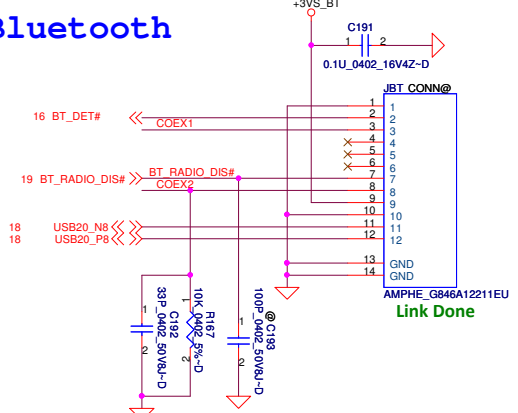
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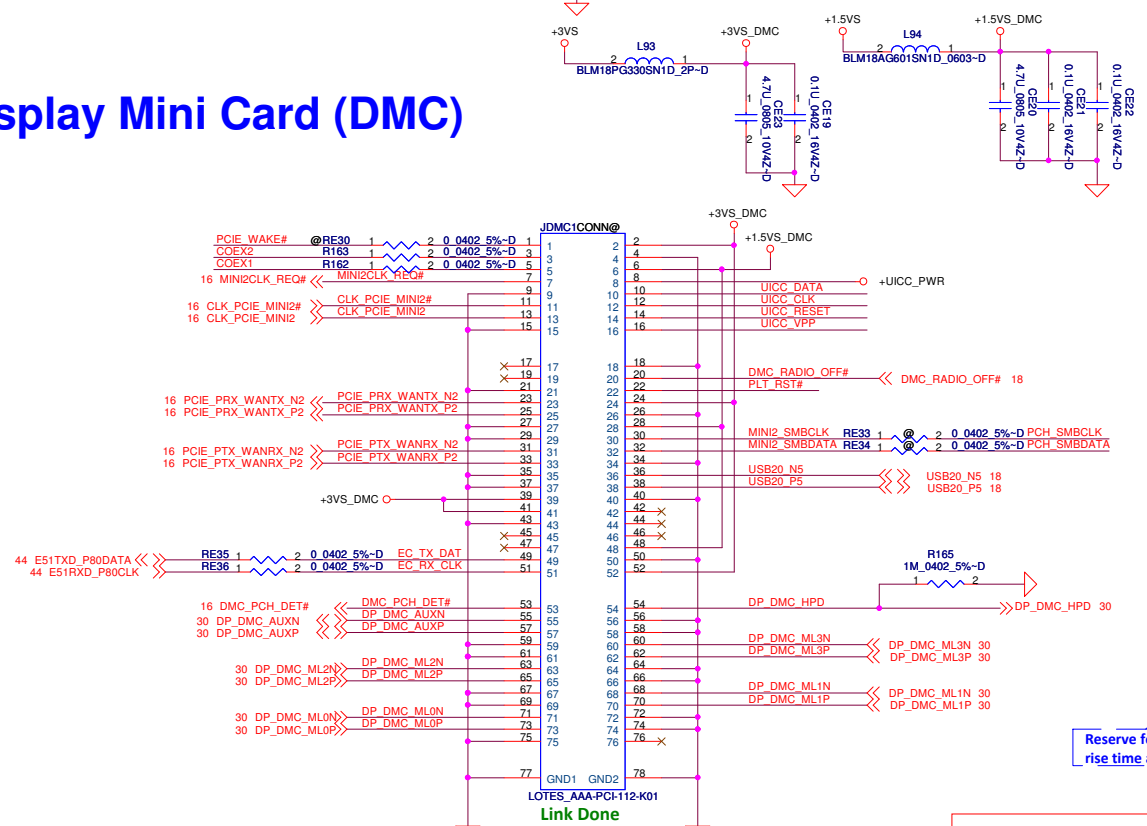
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Bluetooth

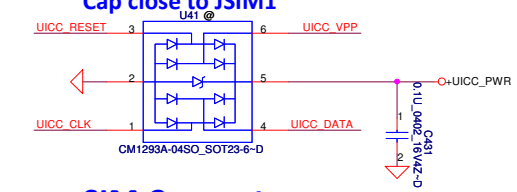


Display Mini Card (DMC)

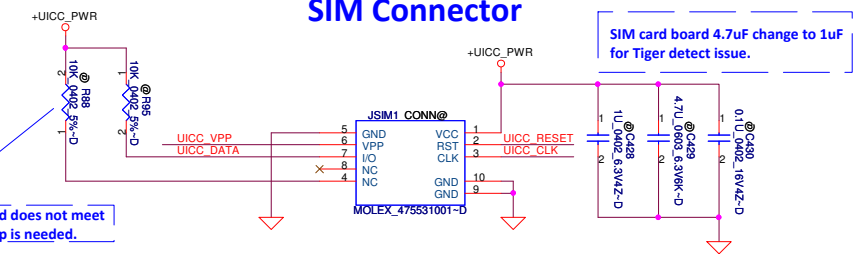


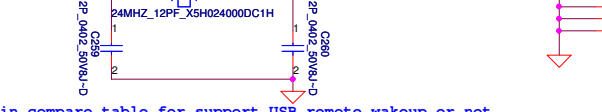
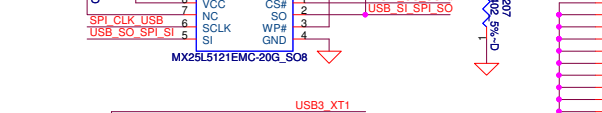
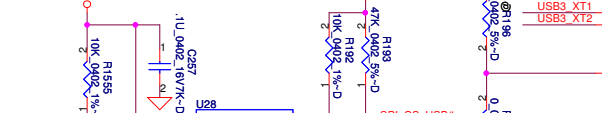
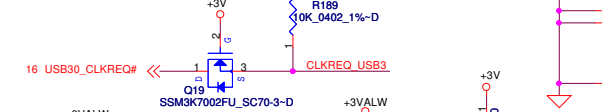
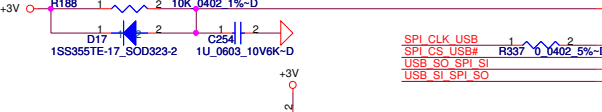
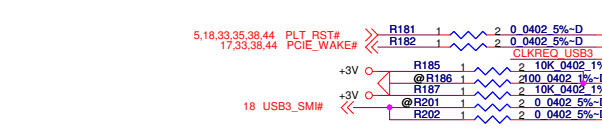
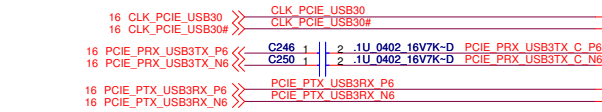
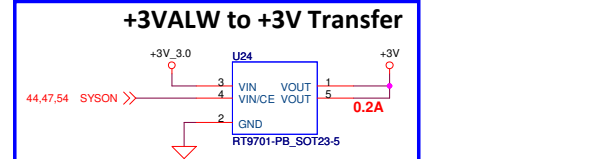
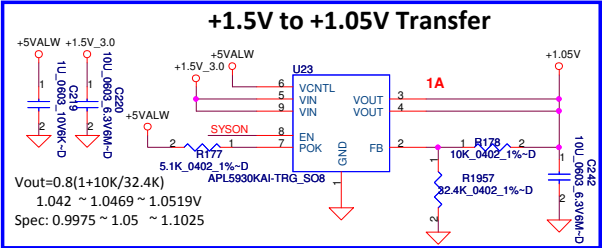
Reserve for SIM card does not meet rise time and pull-up is needed.

For ESD Cap close to JSIM1



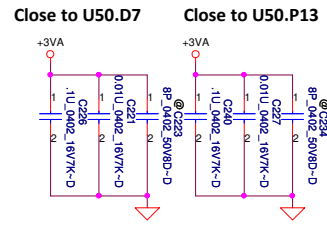
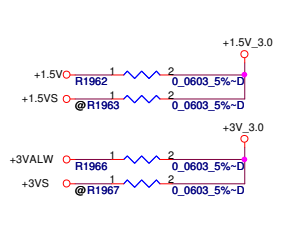
SIM Connector



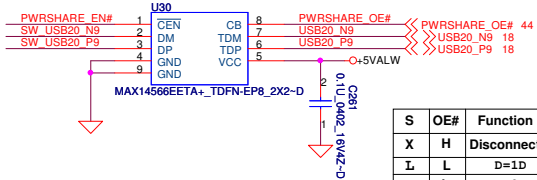


Pin compare table for support USB remote wakeup or not

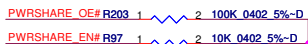
	AUXDET(Pin J2)	CSEL(Pin P6)	CLK
Support USB remote wakeup	pull high 10k to VDD33	Tied to GND	Must use 24MHz crystal: mount Y1,R19,C40,C41
Not support USB remote wakeup	Tied to GND	pull high to VDD33	Can use either 48MHz or 24MHz When use 48MHz clock: mount R22,R25



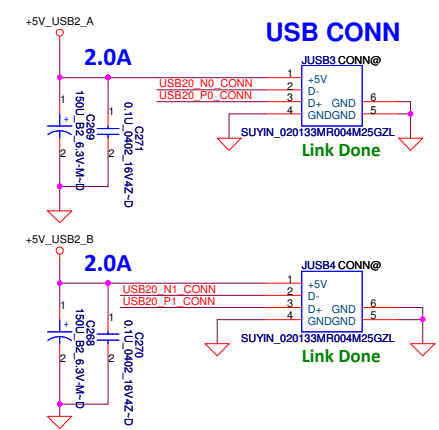
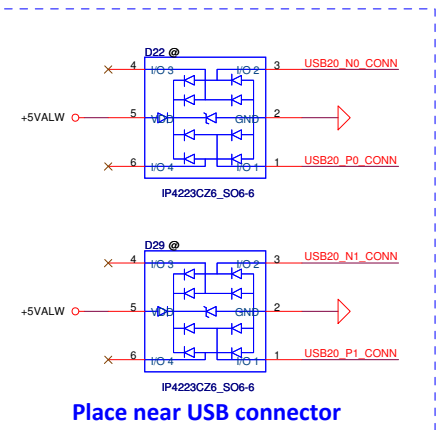
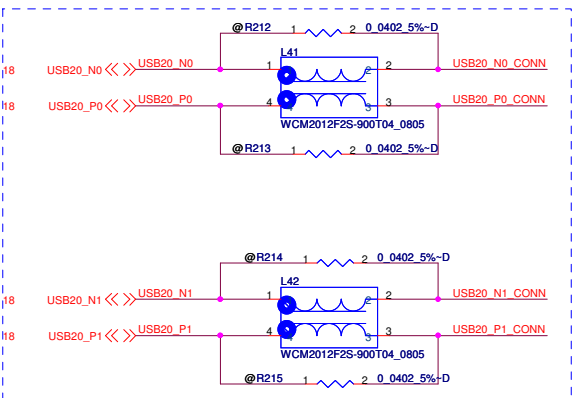
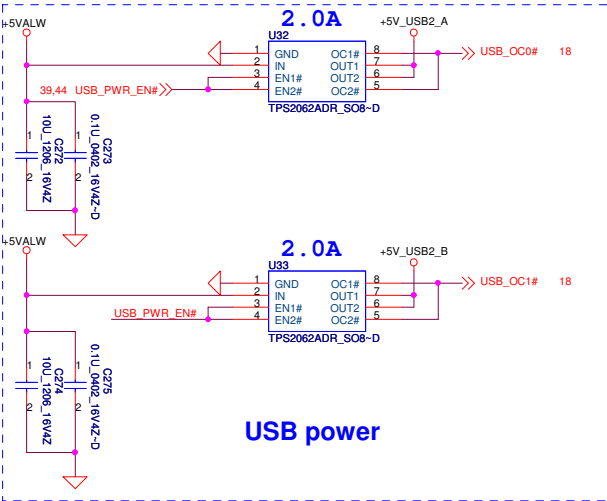
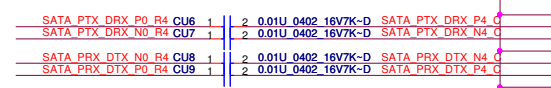
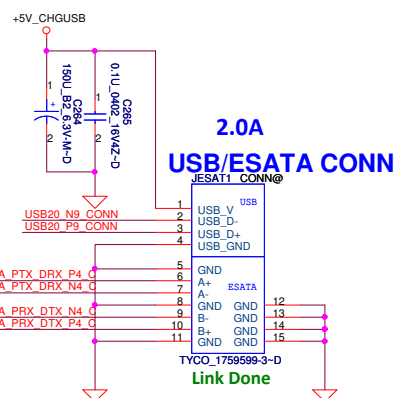
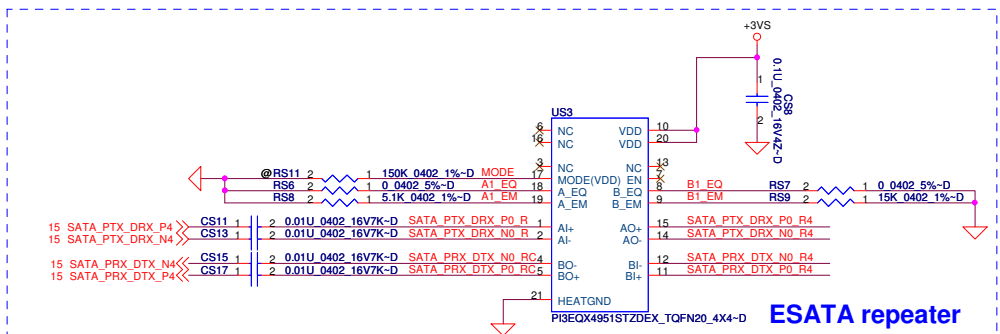
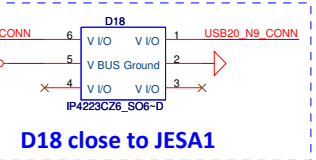
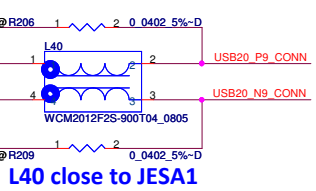
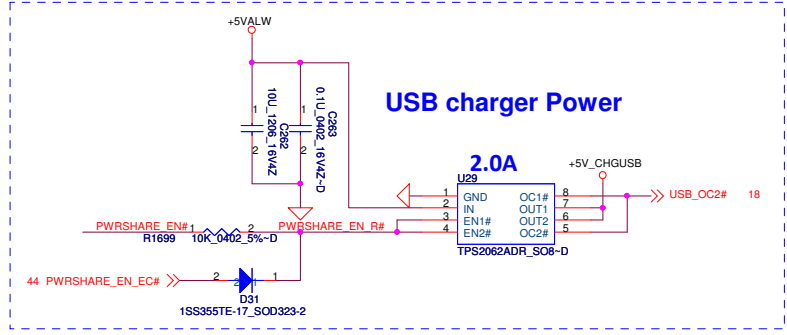
Power share



S	OE#	Function
X	H	Disconnect
L	L	D=1D
H	L	D=2D



USB charger Power



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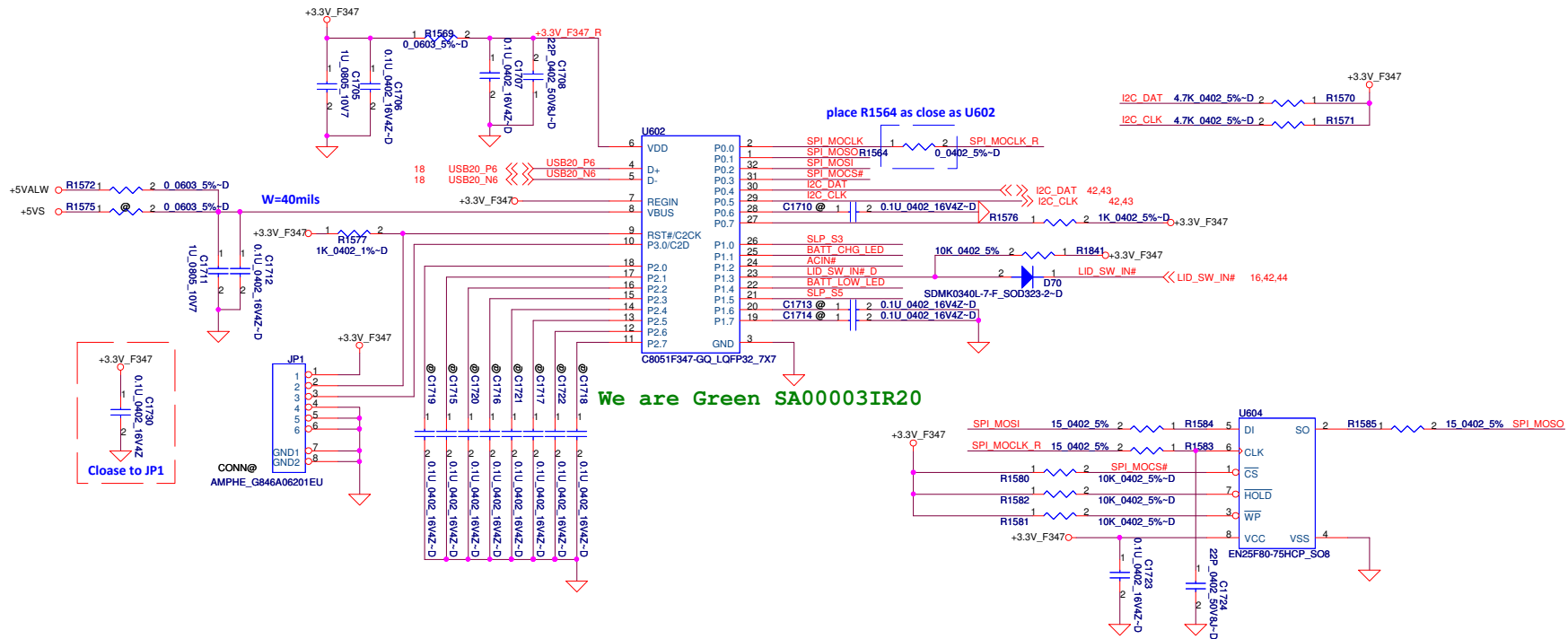
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USB/ESATA TS3USB221RSER

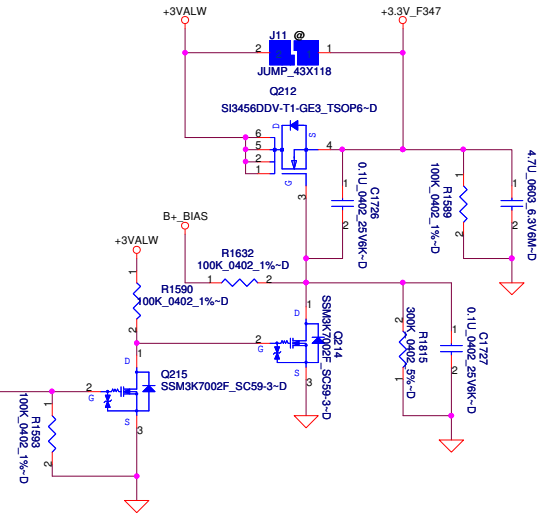
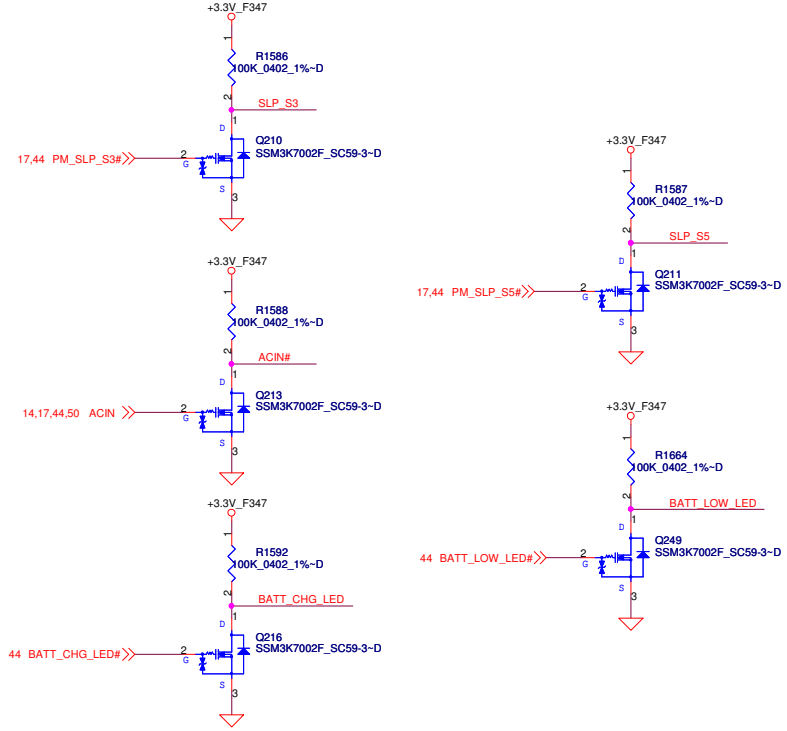
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DEVICE	SMBUS ADDRESS
MAXIM - LED	0100 000b
MAXIM - GPIO	0100 001b
I2C EEPROM	1010 000b



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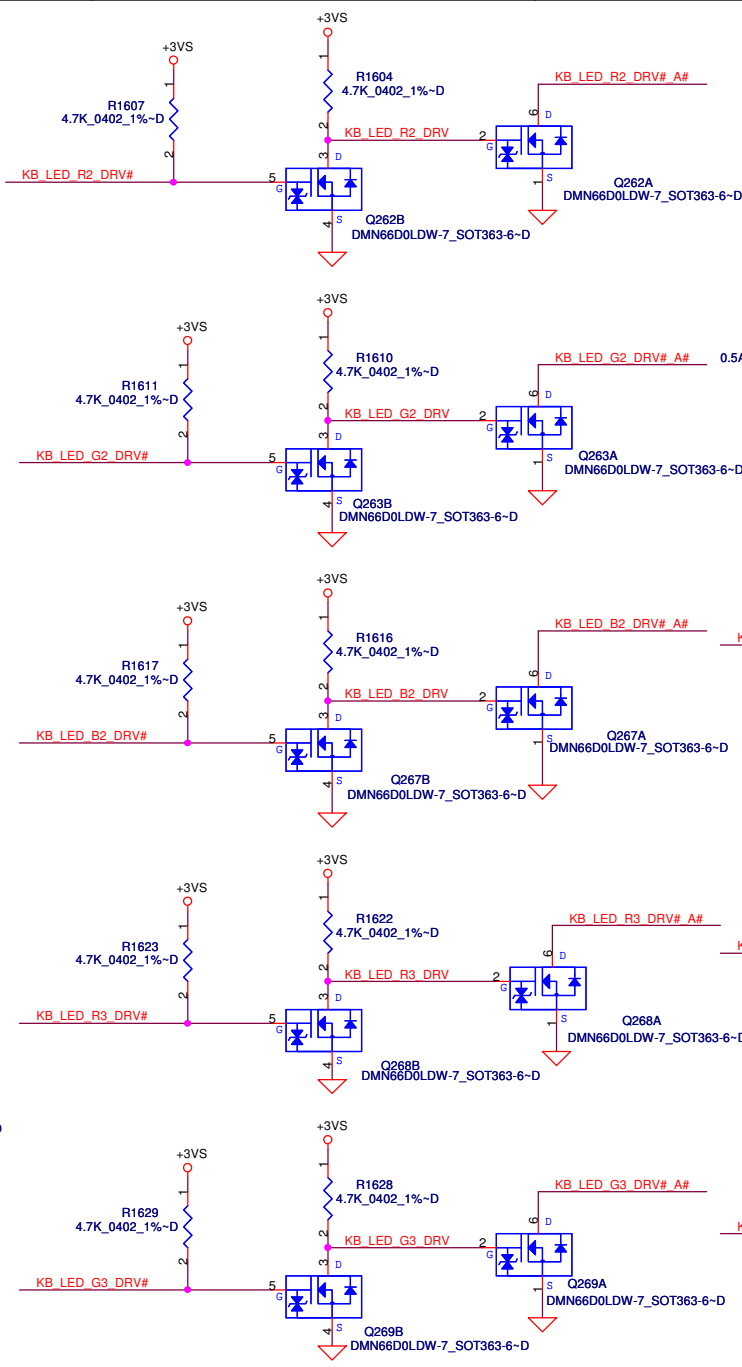
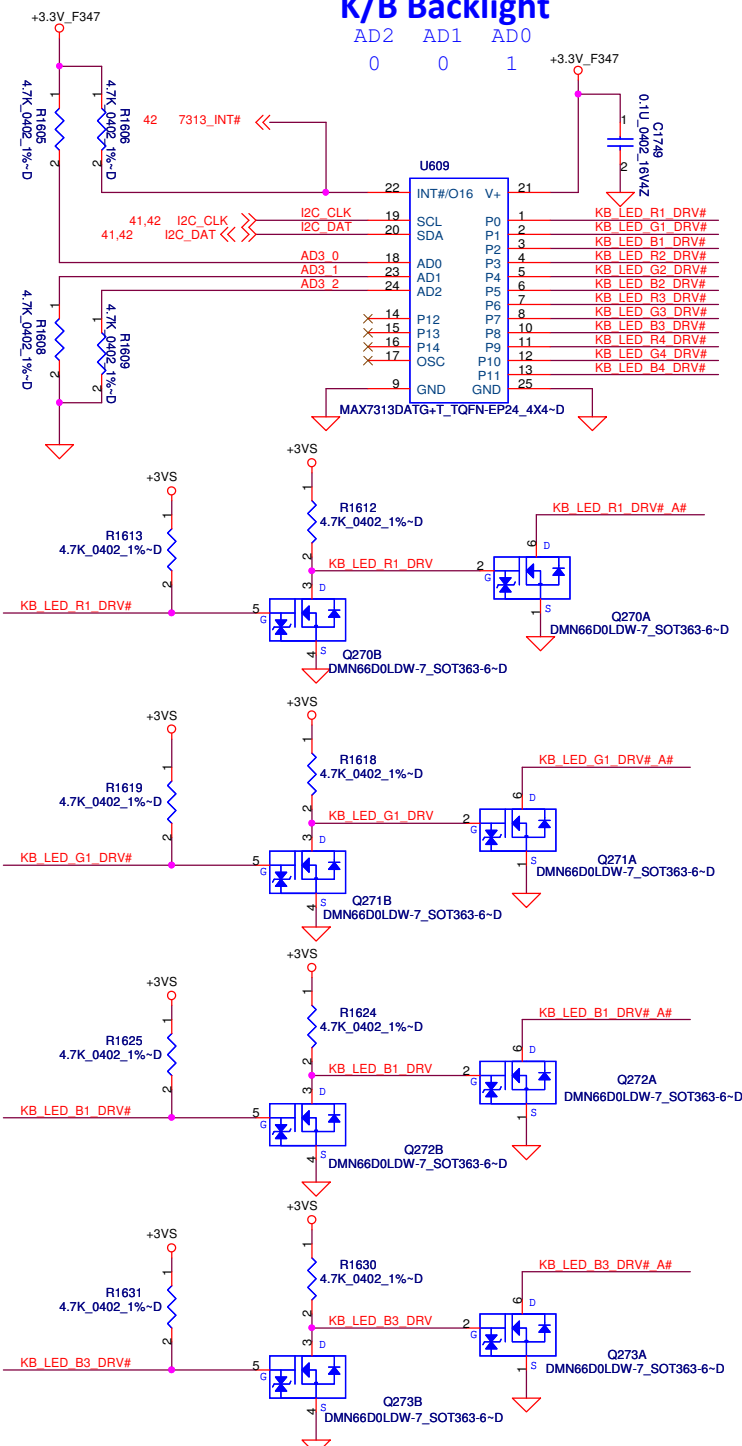
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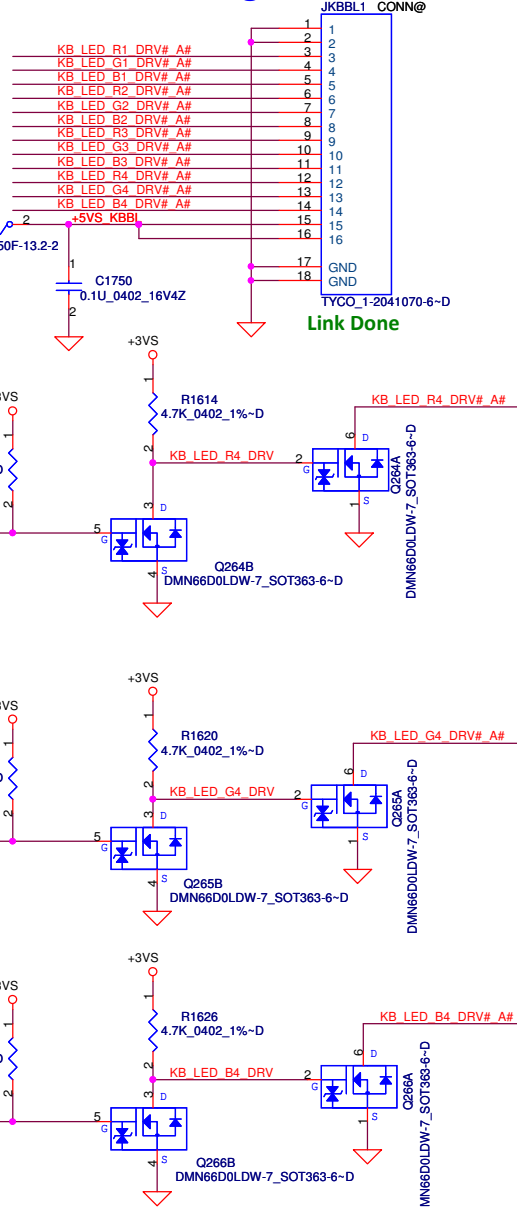
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K/B Backlight

AD2 AD1 AD0
0 0 1



K/B Backlight CONN

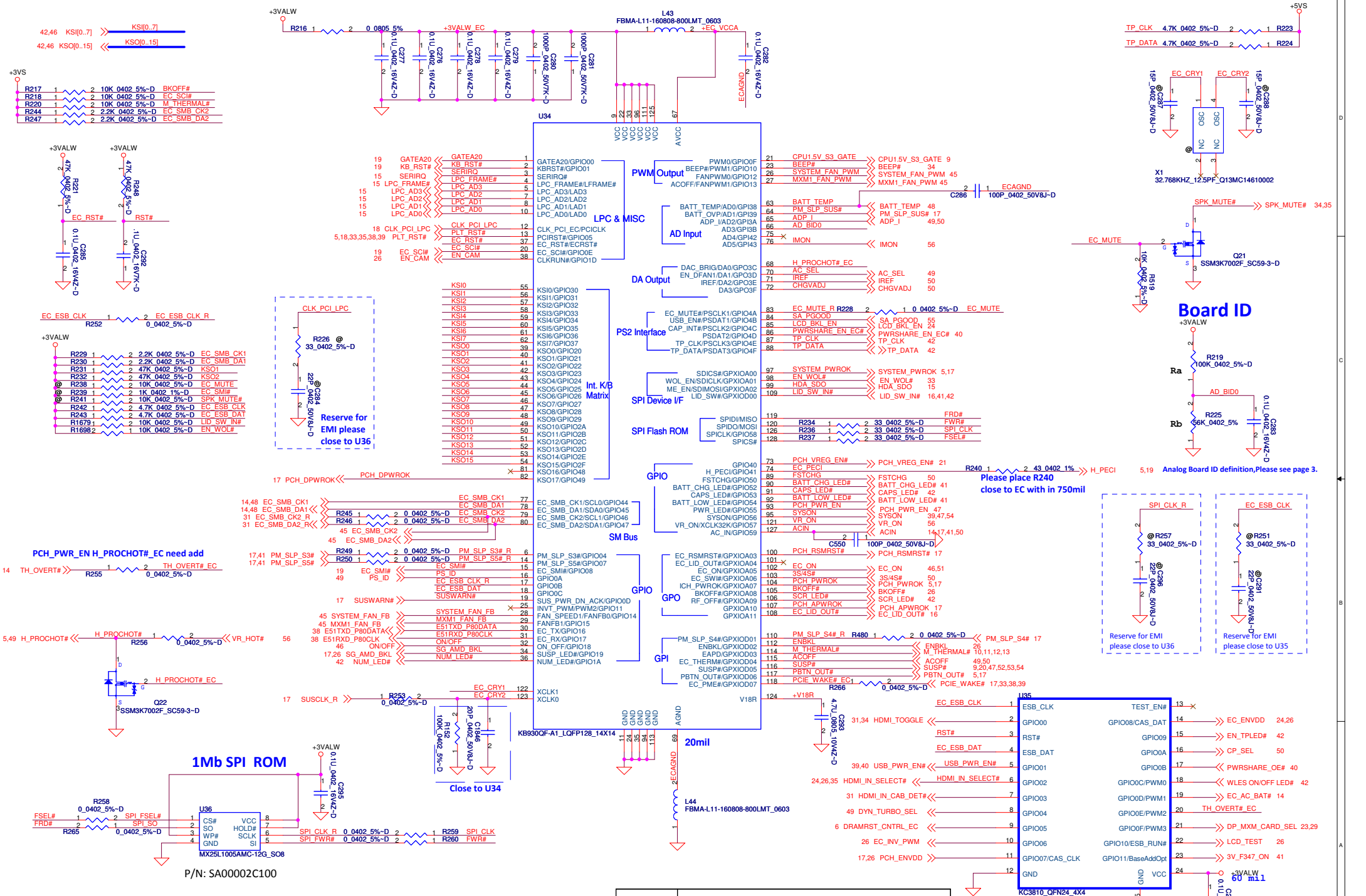


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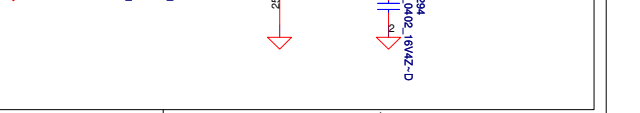
Compal Electronics, Inc.

EC ENE-KB930

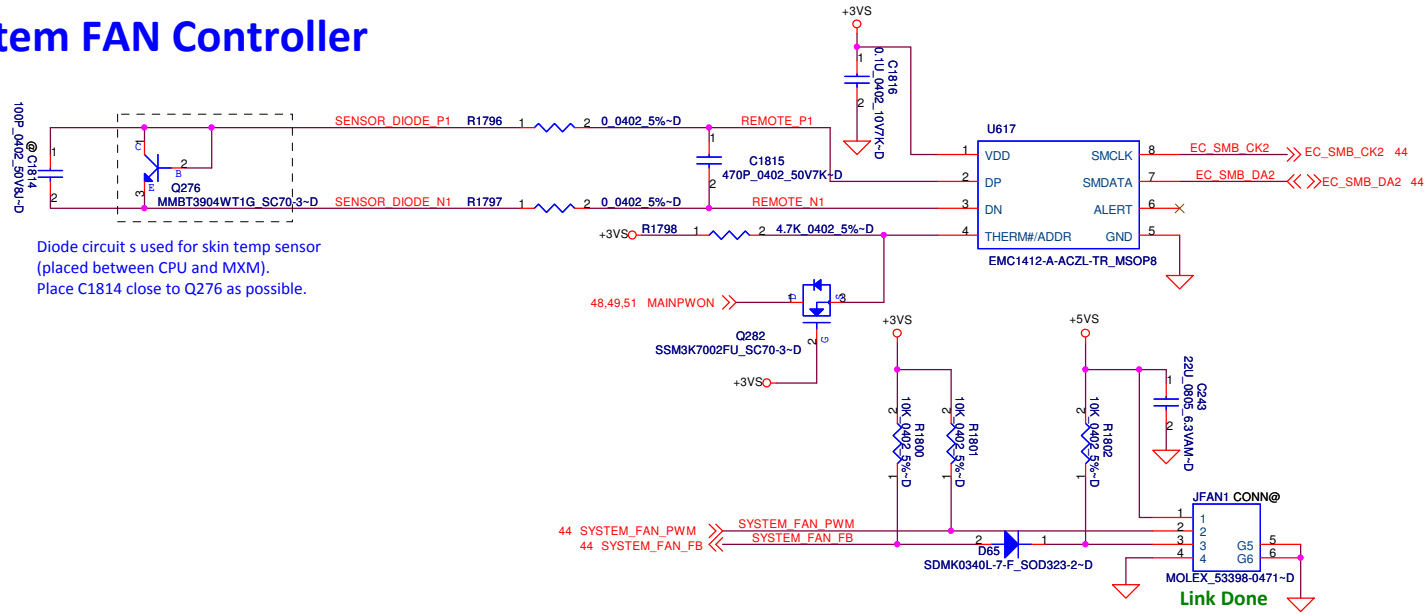
LA-6601P

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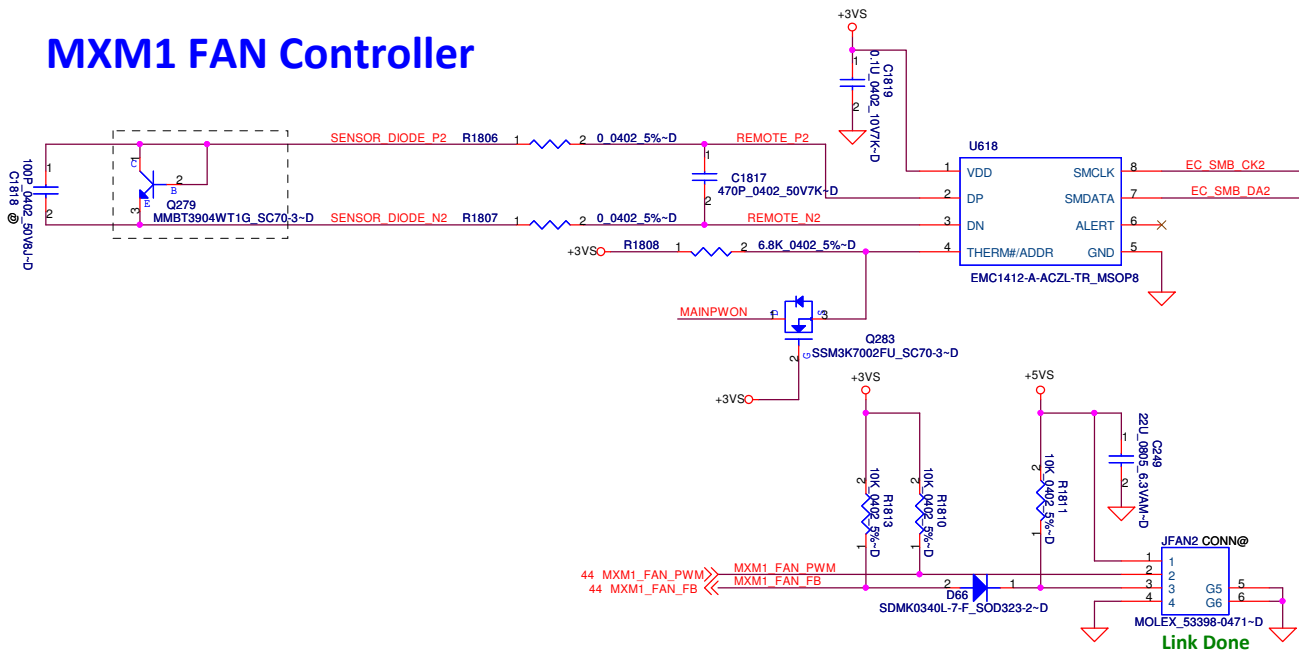


System FAN Controller



Diode circuit is used for skin temp sensor (placed between CPU and MXM). Place C1814 close to Q276 as possible.

MXM1 FAN Controller

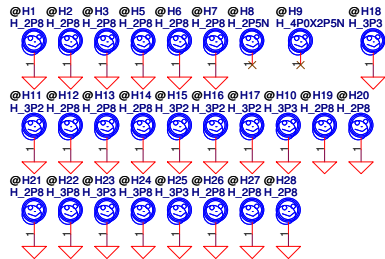
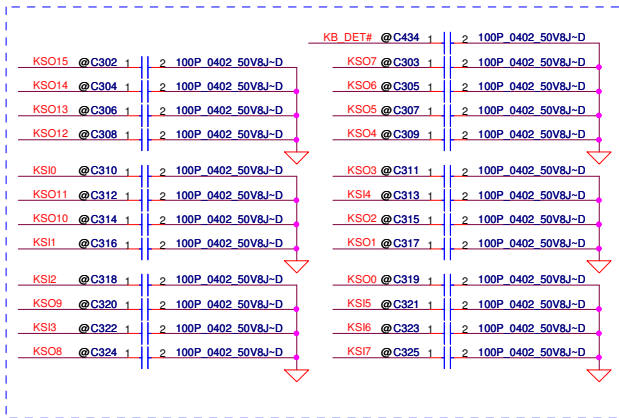
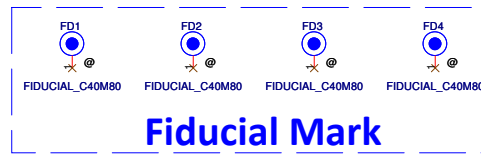


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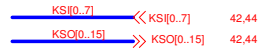
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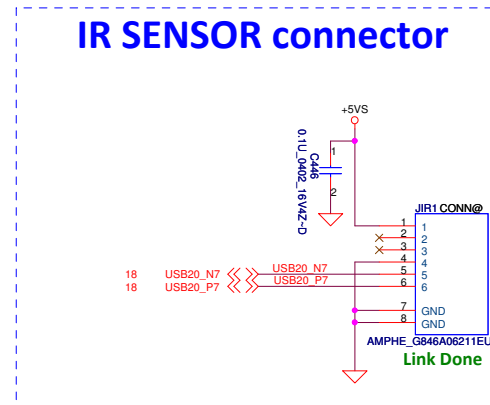
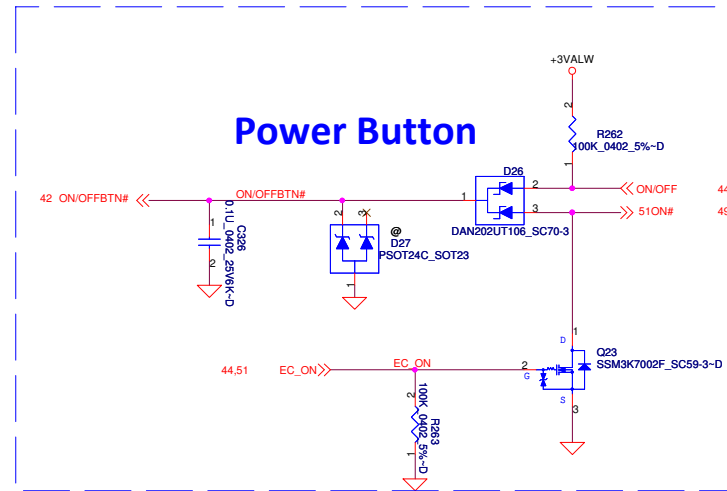
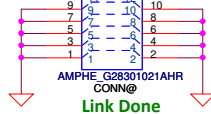
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Title Thermal Sensor & FAN		
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INT_KBD Conn.



16	KB_DET#	KB1	KB_DET#
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	KSO0	57 - 58	KSO0
	KSI1	55 - 56	KSI1
	KSI7	53 - 54	KSI7
	KSO9	51 - 52	KSO9
	KSI6	49 - 50	KSI6
	KSI5	47 - 48	KSI5
	KSI3	45 - 46	KSI3
	KSI4	43 - 44	KSI4
	KSI2	41 - 42	KSI2
	KSO1	39 - 40	KSO1
	KSI3	37 - 38	KSI3
	KSI0	35 - 36	KSI0
	KSO13	33 - 34	KSO13
	KSO5	31 - 32	KSO5
	KSO2	29 - 30	KSO2
	KSO4	27 - 28	KSO4
	KSO8	25 - 26	KSO8
	KSO6	23 - 24	KSO6
	KSO11	21 - 22	KSO11
	KSO10	19 - 20	KSO10
	KSO12	17 - 18	KSO12
	KSO14	15 - 16	KSO14
	KSO15	13 - 14	KSO15
		11 - 12	
		9 - 10	
		7 - 8	
		5 - 6	
		3 - 4	
		1 - 2	



DELL CONFIDENTIAL/PROPRIETARY

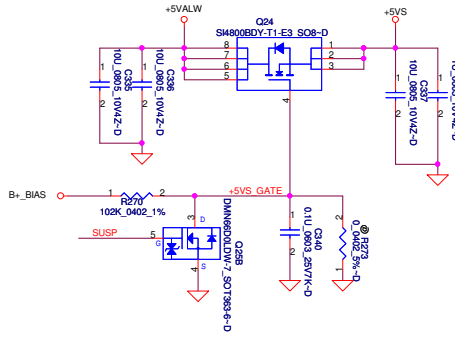


Compal Electronics, Inc.		
Title		
KB & Power Button & IR		
Size	Document Number	Rev
	LA-6601P	1.0
Date:	Tuesday, November 30, 2010	Sheet 46 of 63

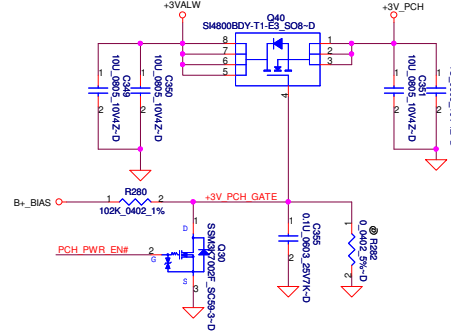
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DC to DC

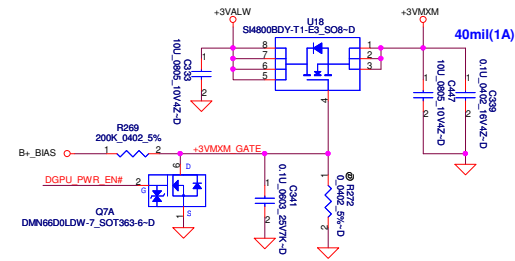
+5VALW to +5VS



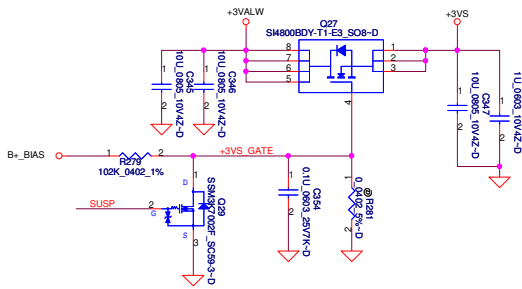
+3VALW to +3V_PCH



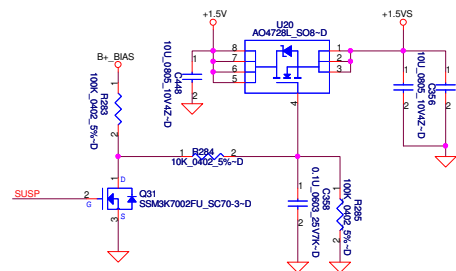
+3VALW to +3VMXM Transfer



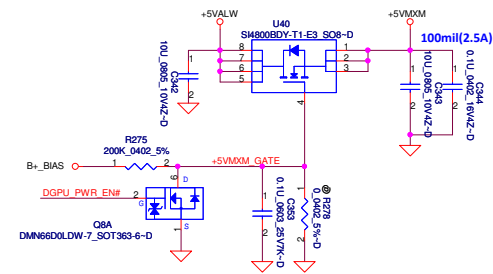
+3VALW to +3VS



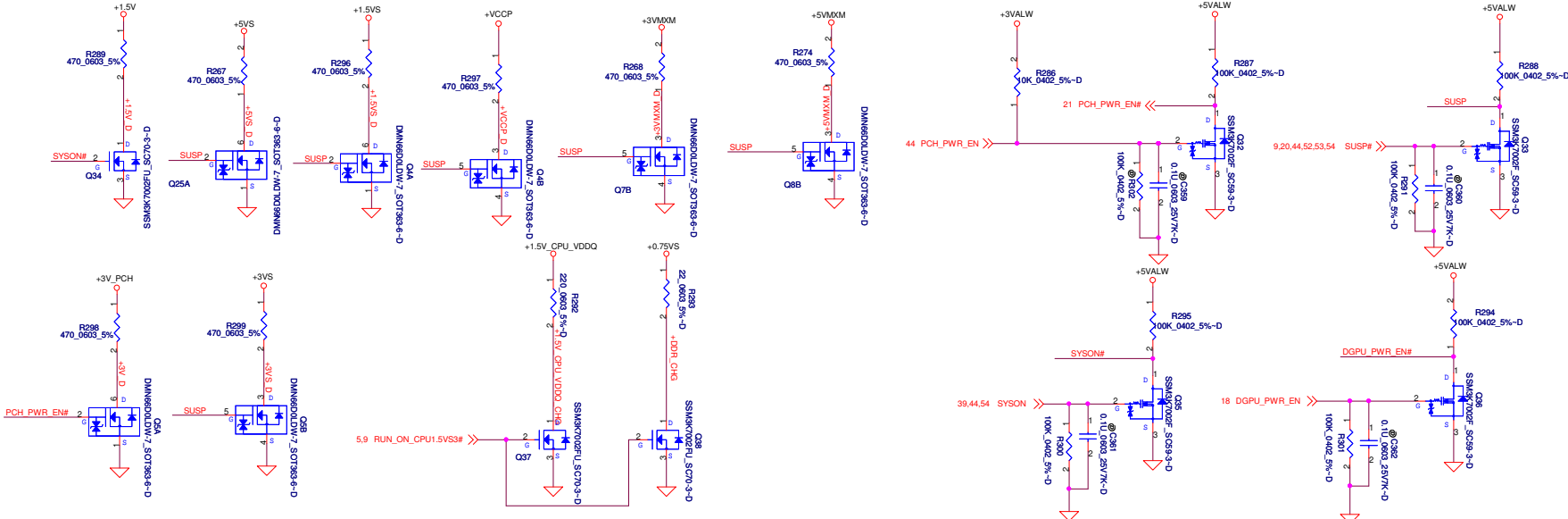
+1.5V To +1.5VS




+5VALW to +5VMXM



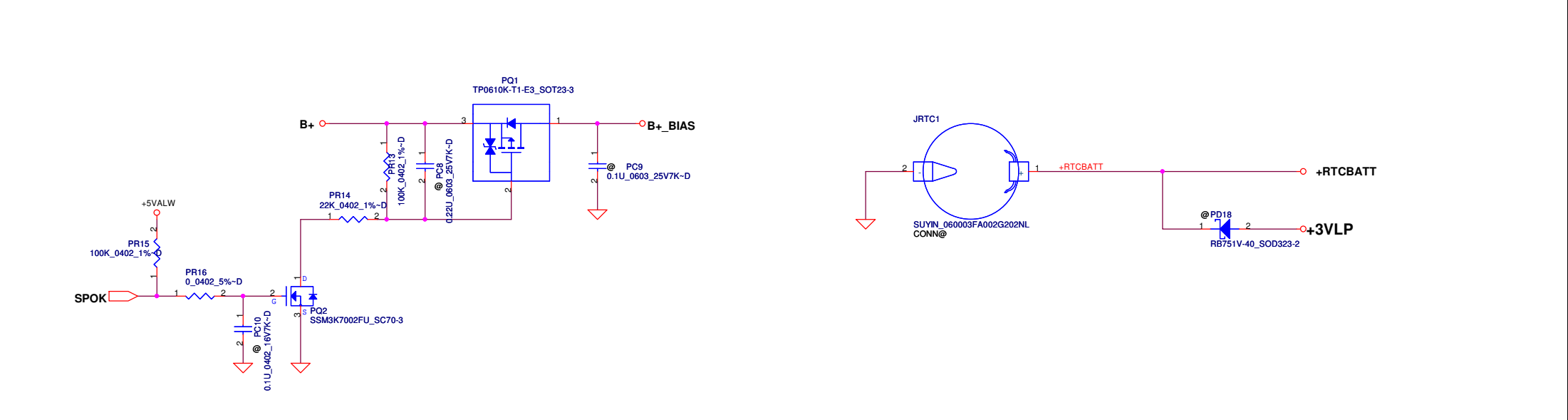
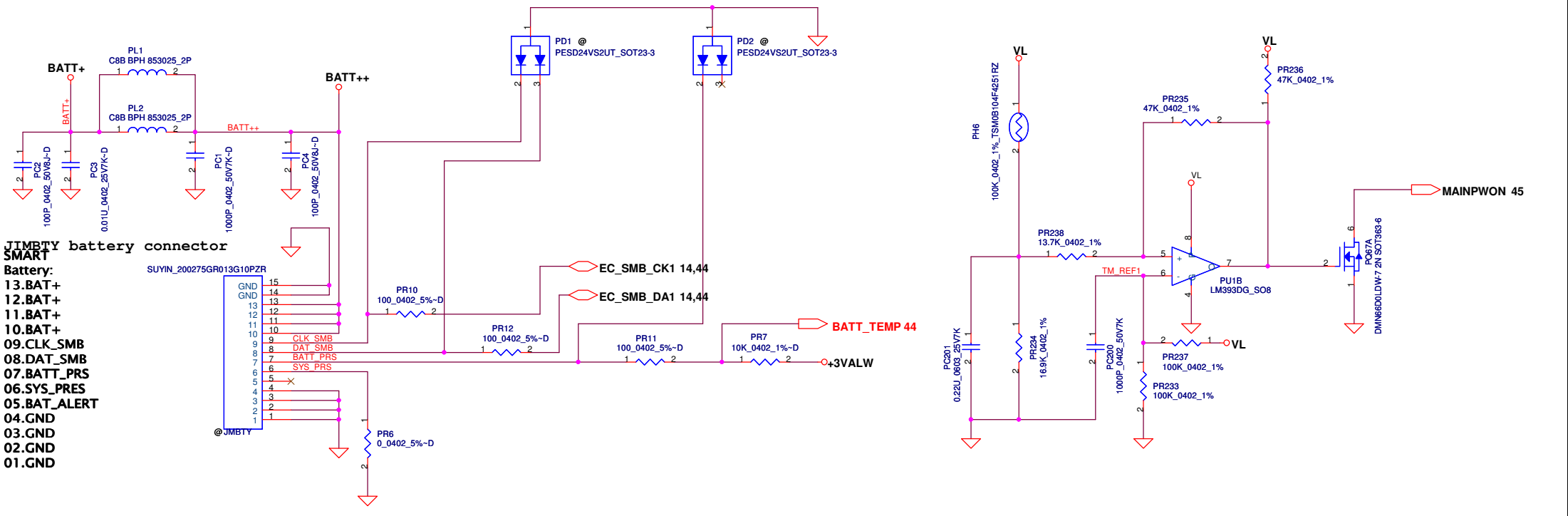
Discharge Circuit



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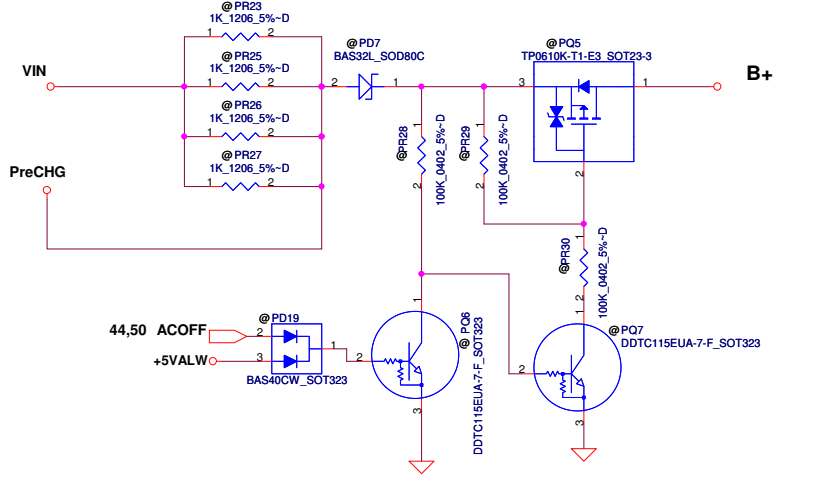
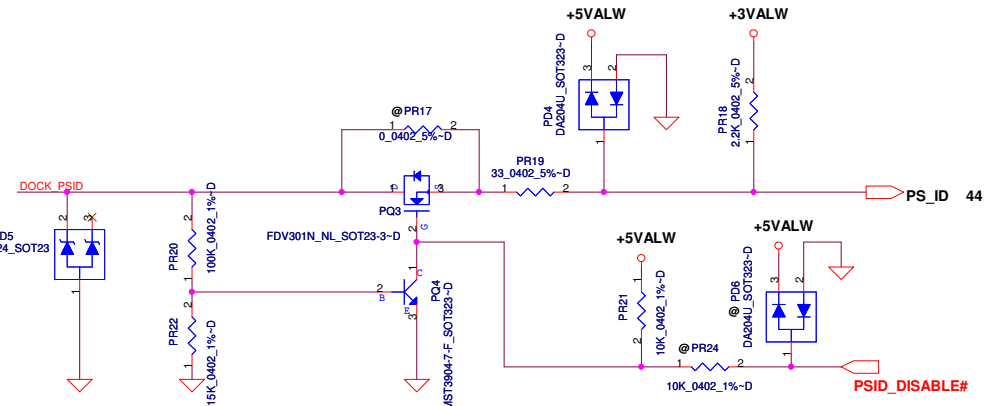
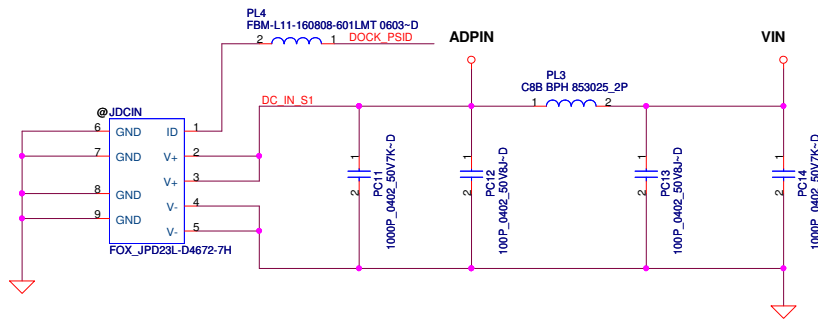
		Compal Electronics, Inc.	
		DC/DC Interface	
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JMBTY battery connector
SMART
Battery:
 13.BAT+
 12.BAT+
 11.BAT+
 10.BAT+
 09.CLK_SMB
 08.DAT_SMB
 07.BATT_PRS
 06.SYS_PRES
 05.BAT_ALERT
 04.GND
 03.GND
 02.GND
 01.GND



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BATTERY CONN/OTP			
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	LA-6601P	0.3	
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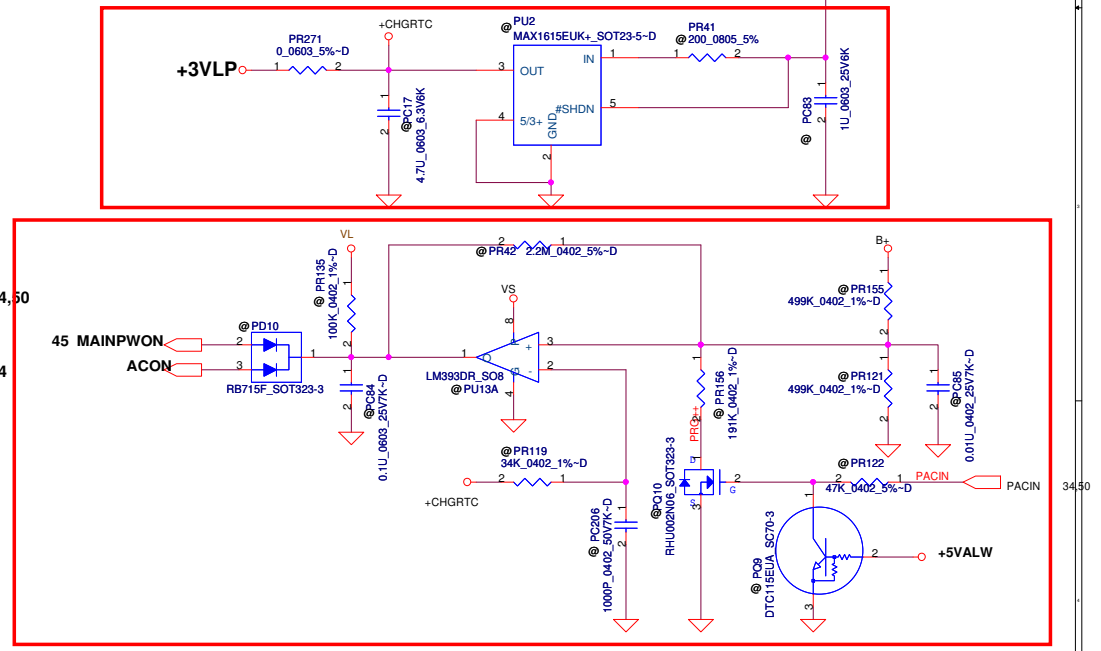
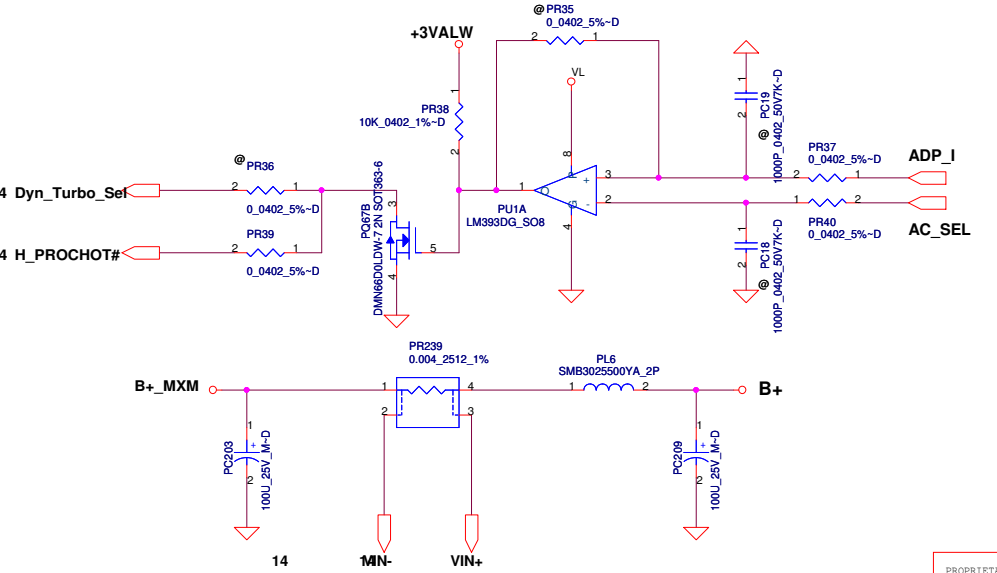
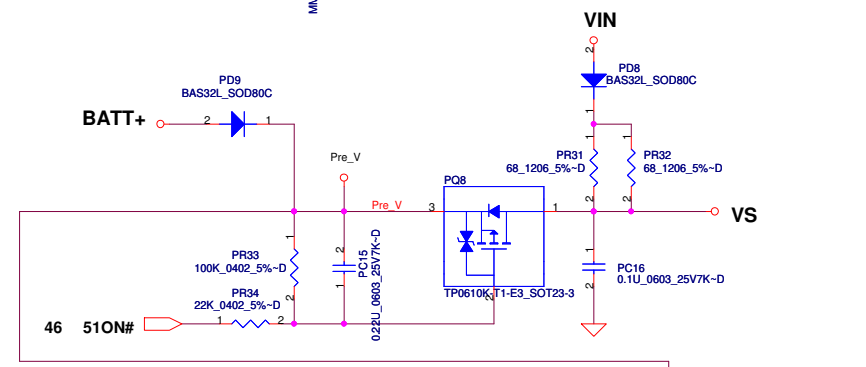


ACIN

	Precharge detector	Min.	typ.	Max.
H-->L	14.589V	14.84V	15.243V	
L-->H	15.562V	15.97V	16.388V	

BATT ONLY

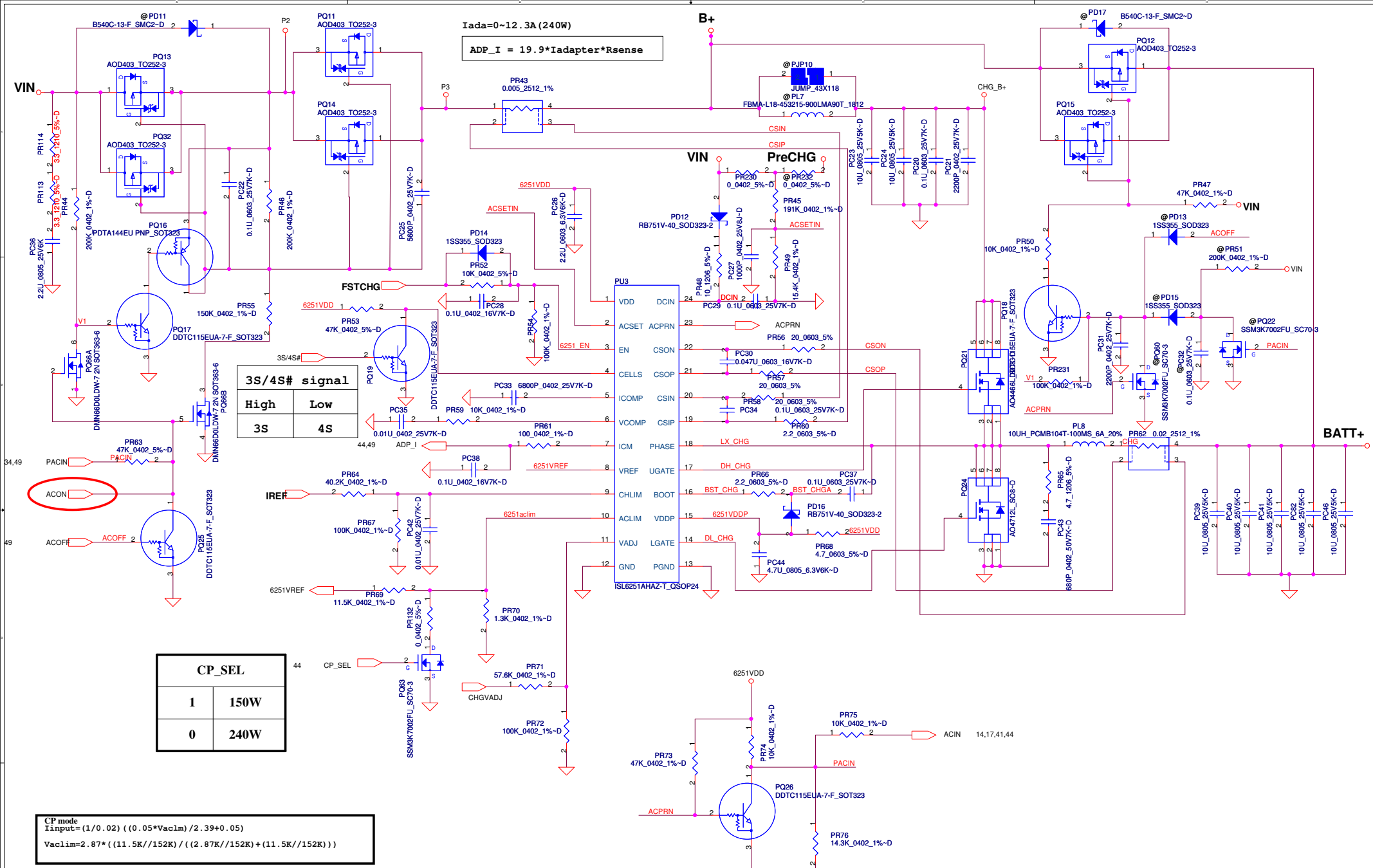
	Precharge detector	Min.	typ.	Max.
H-->L	4.92V	6.1V	5.25V	
L-->H	6.062V	6.244V	6.43V	



Add MXM power net for HW request.

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Compal Electronics, Inc.			
DCIN & DETECTOR			
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Tada=0~12.3A (240W)
 $ADP_I = 19.9 * I_{adapter} * R_{sense}$

3S/4S# signal	
High	Low
3S	4S

CP_SEL	
1	150W
0	240W

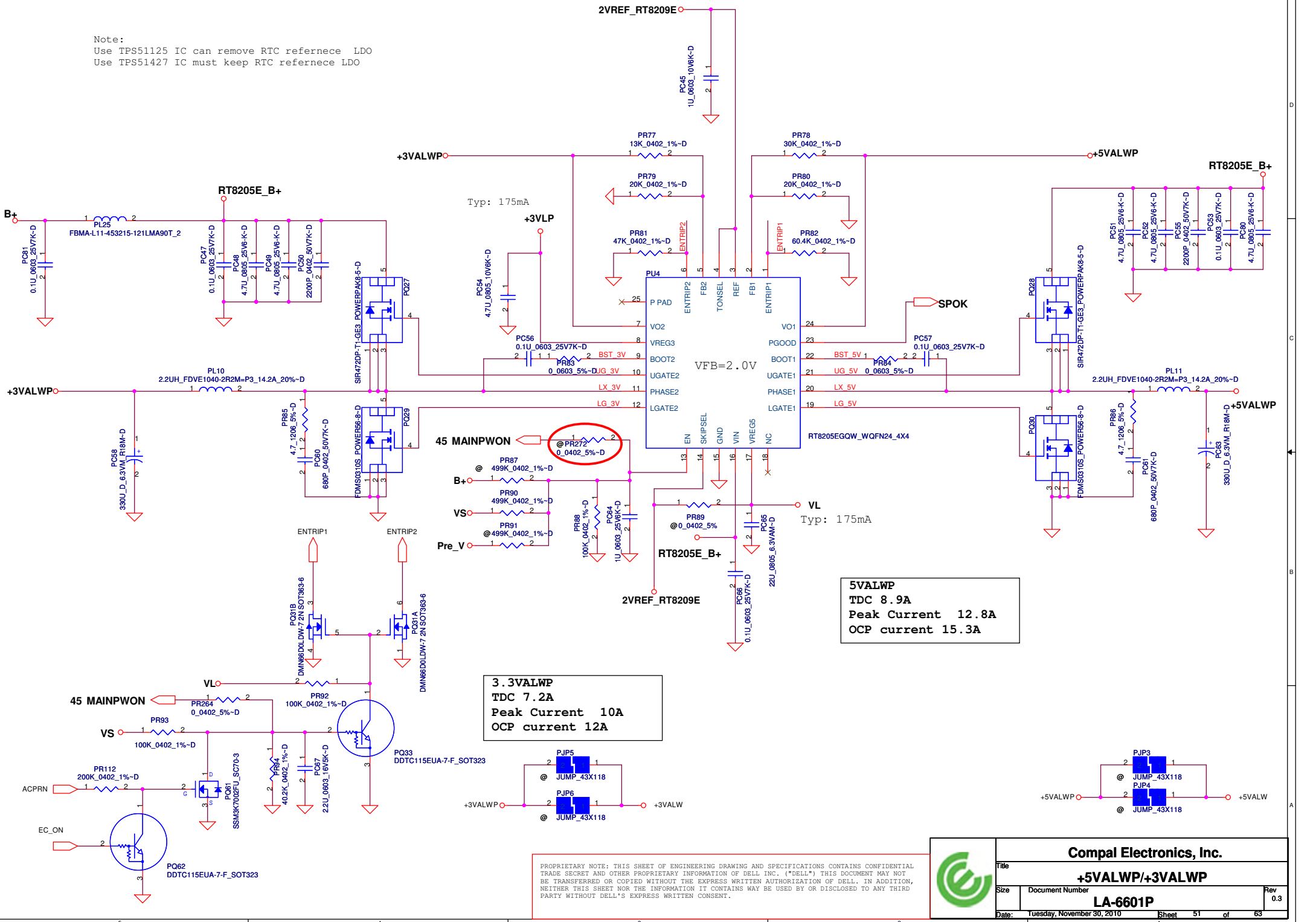
CP mode
 $I_{input} = (1/0.02) * ((0.05 * Vac_{lim}) / 2.39 + 0.05)$
 $Vac_{lim} = 2.87 * ((11.5K / 152K) / ((2.87K / 152K) + (11.5K / 152K)))$

CC=0.22~5.04A	CHGVADJ	CV mode
IREF=1*Icharge	0V	4V per cell
IREF=0.22V~3.294V	1.882V	4.2V per cell
	3.3V	4.35V per cell

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				Compal Electronics, Inc.	
				CHARGER	
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Note:
 Use TPS51125 IC can remove RTC refernece LDO
 Use TPS51427 IC must keep RTC refernece LDO

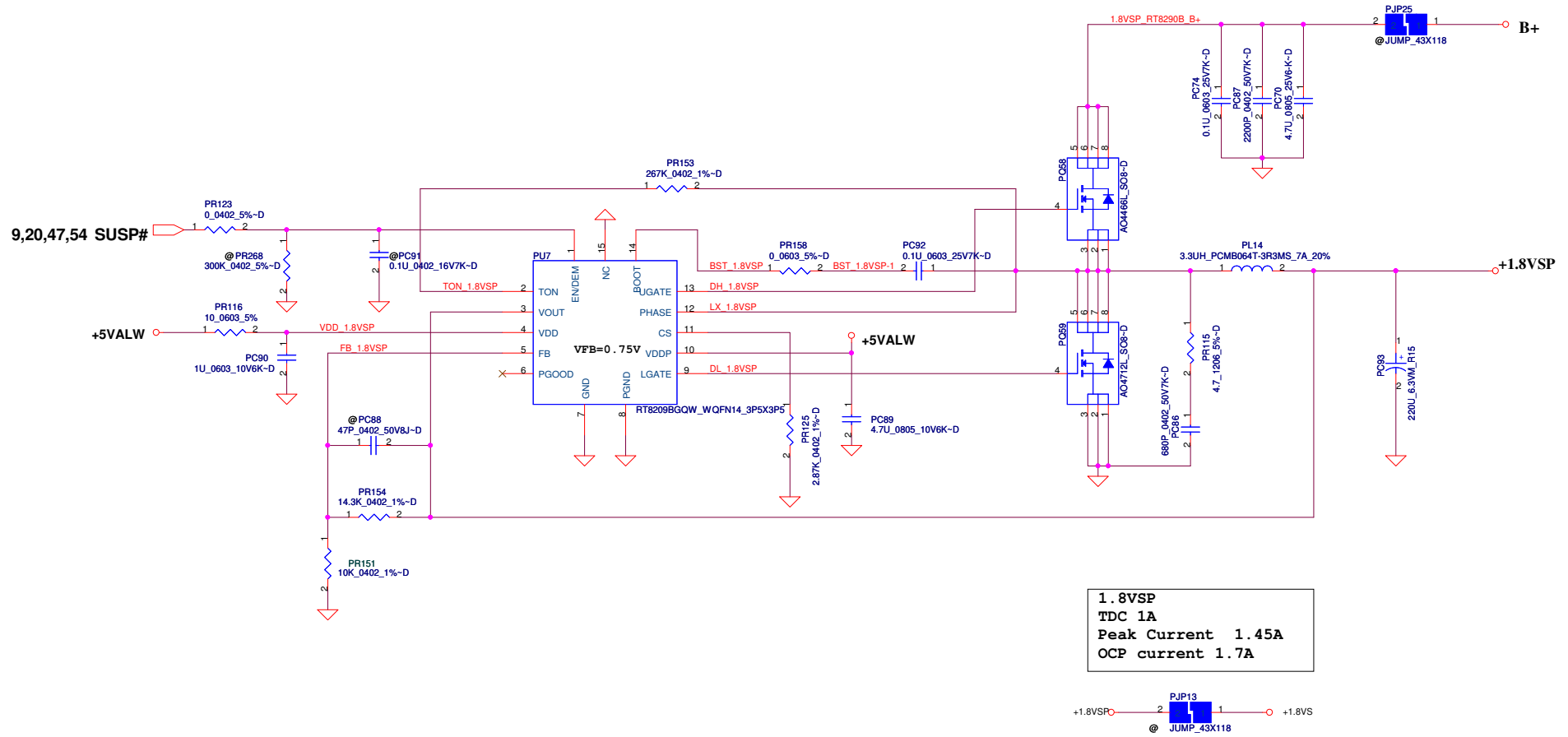


+5VALWP
 TDC 8.9A
 Peak Current 12.8A
 OCP current 15.3A

45 MAINPWON
 TDC 7.2A
 Peak Current 10A
 OCP current 12A

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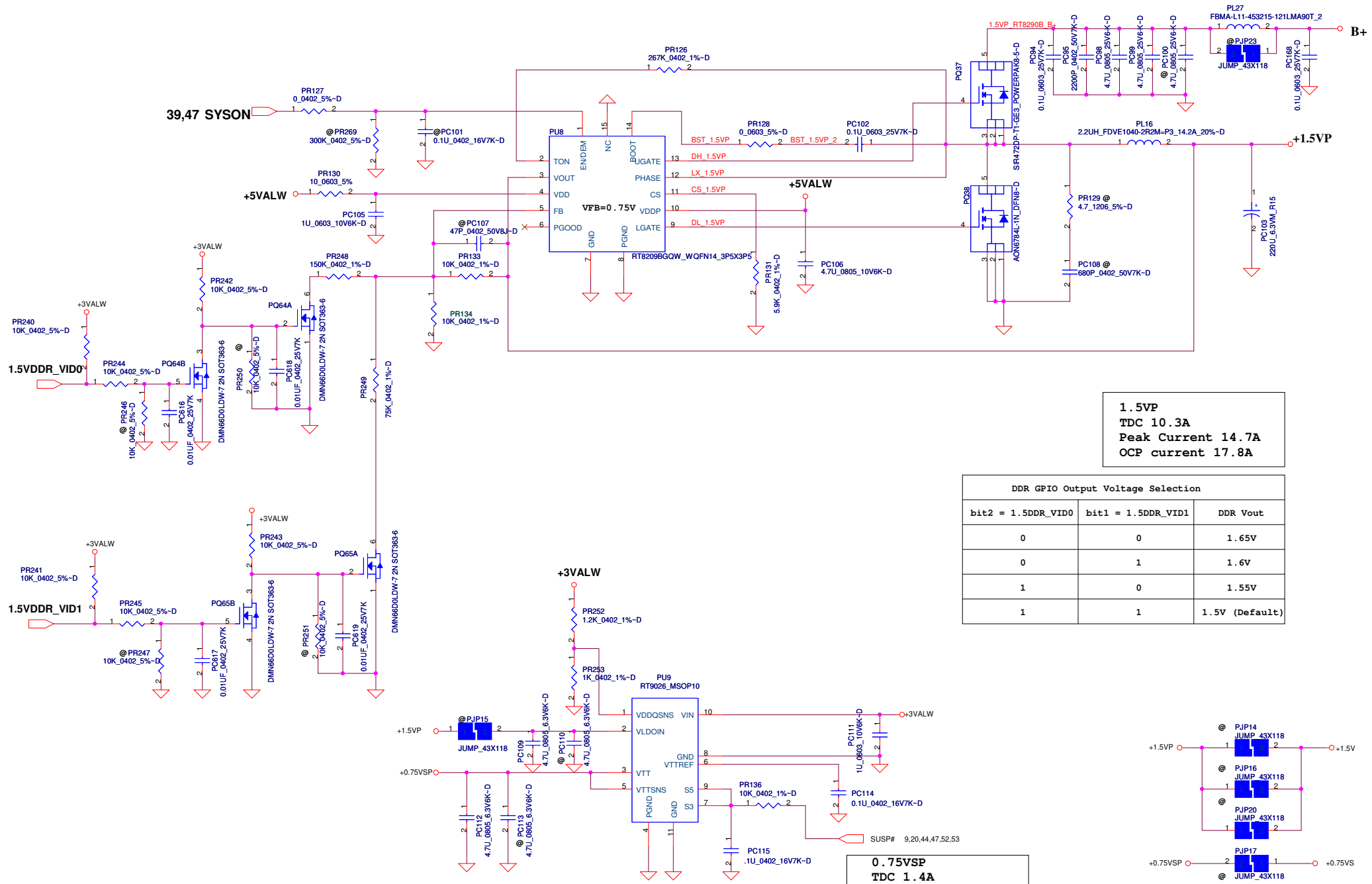
			Compal Electronics, Inc.	
			+5VALWP/+3VALWP	
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Compal Electronics, Inc.		
Title		
+1.8VSP		
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39,47 SYSON



1.5VP
TDC 10.3A
Peak Current 14.7A
OCp current 17.8A

DDR GPIO Output Voltage Selection		
bit2 = 1.5DDR_VID0	bit1 = 1.5DDR_VID1	DDR Vout
0	0	1.65V
0	1	1.6V
1	0	1.55V
1	1	1.5V (Default)

0.75VSP
TDC 1.4A
Peak Current 2A
OCp current 3A

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Compal Electronics, Inc.

Title

+1.5VSP/0.75VSP

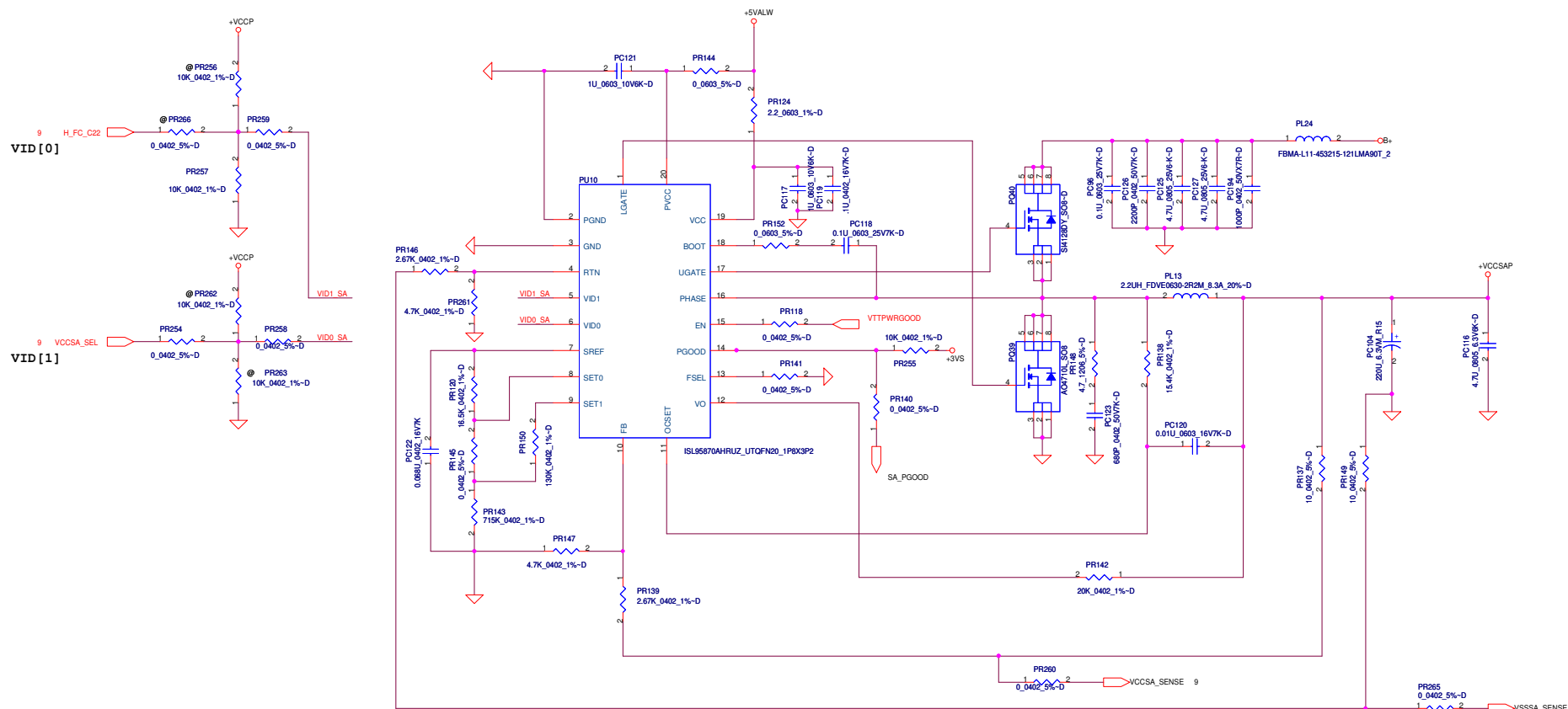
Size **Document Number**

LA-6601P

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Rev

0.3




Note:
RIN pin need reference output GND

VID[0]	VID[1]	VCCSA Vout	Required	Yes	Yes
0	0	0.9V	Yes	Yes	Yes
0	1	0.8V	Yes	Yes	Yes

+VCCSAP
TDC 4.2A
Peak Current 6A
OCP current 7.2A



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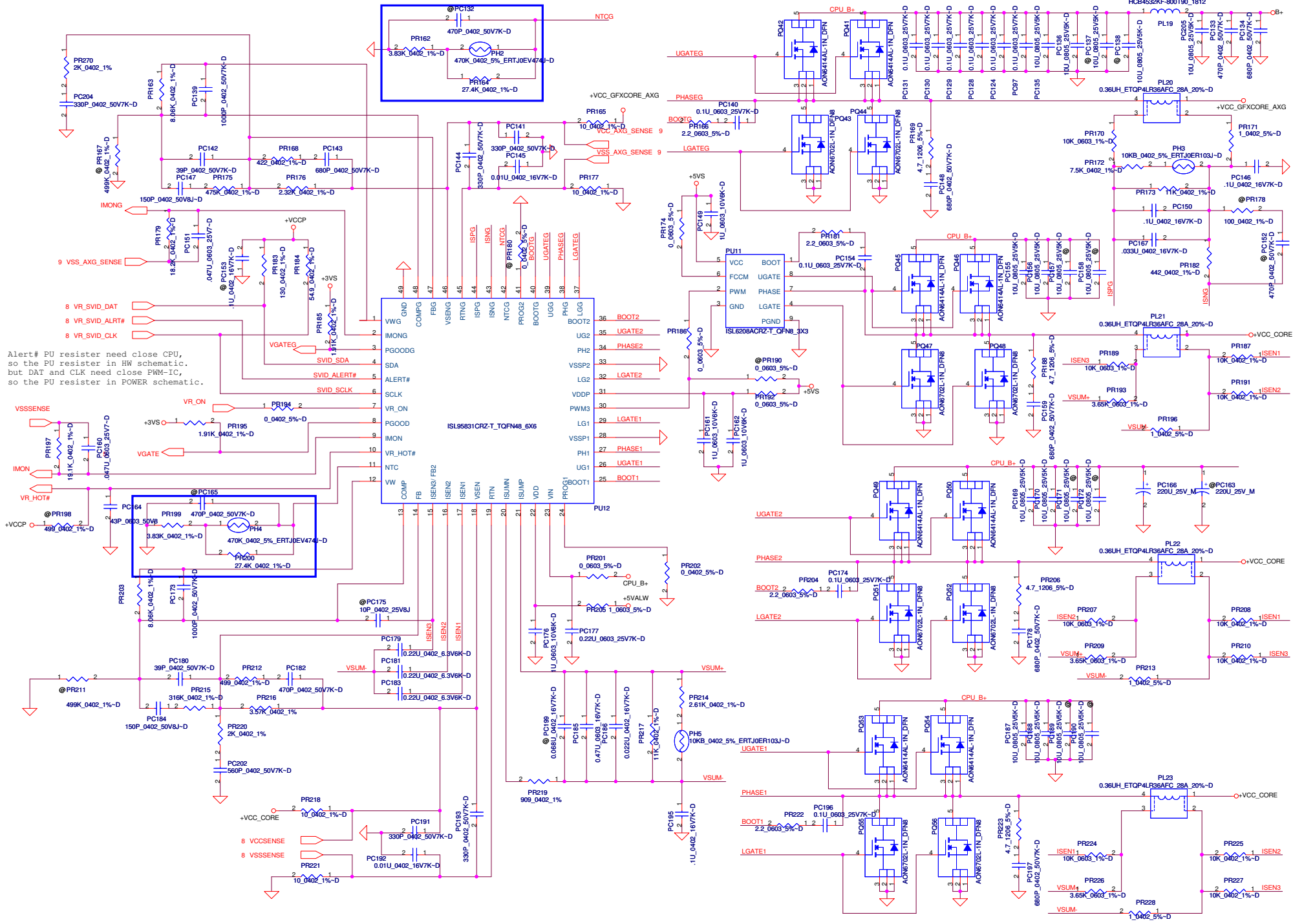


Compal Electronics, Inc.

Title: **PWR-VCCSA COREP**

Size: Document Number **LA-6601P** Rev **0.3**

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Alert# PU resistor need close CPU,
so the PU resistor in HW schematic.
but DAT and CLK need close PWM-IC,
so the PU resistor in POWER schematic.

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Compal Electronics, Inc.	
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Version Change List (P. I. R. List)

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	56	CPU_CORE	10'06/17	Compal_Alvin	Improve thermal compensation.	Change PR164 from 0ohm to 27.4Kohm.	X00
2	51-57	all DC-DC schematic	10'06/17	Compal_Alvin	Improve dc to dc power efficiency.	Delete all snuber for all dc-dc. Delete PR85, PR86, PR98, PR115, PR129, PR148, PR169, PR188, PR206, PR223. Delete PC60, PC61, PC78, PC86, PC108, PC123, PC148, PC159, PC178, PC197.	X00
3	50	Charger	10'07/22	Compal_Alvin	Voltage rating enhancement.	Change PR49 form 14.3K to 15K.	X01
4	50	Charger	10'07/22	Compal_Alvin	Output capacitor rating enhancement.	Add PC46 10uF 0805 to output.	X01
5	51	+5VALWP/+3VALWP	10'07/22	Compal_Alvin	Enhance Input capacitor rating and switch waveform.	Add PC80 4.7uF 0805 to input and change low side to FDMS0310S.	X01
6	56	CPU_CORE	10'07/22	Compal_Alvin	Improve EMC solution.	Add PC97, PC124, PC128, PC129, PC130, PC131 0.1uF 0603.	X01
7	51	+5VALWP/+3VALWP	10'07/22	Compal_Alvin	Improve EMC solution.	Add PC80 0.1uF 0603.	X01
8	54	+1.5VP/0.75VSP	10'07/22	Compal_Alvin	Improve EMC solution.	Add PC168 0.1uF 0603.	X01
9	55	VCCSAP	10'07/22	Compal_Alvin	Improve EMC solution.	Add PL24 120ohm bead, and PC194 1000pF 0402.	X01
10	53	+1.8VSP	10'07/22	Compal_Alvin	Improve low side switching waveform.	Change PQ59 from AO4466 to AO4712L	X01
11	49	DCIN/DECTOR	10'08/03	Compal_Alvin	Add dynmatic trubo function to control trubo.	Add dynamatic trubo function.	X01
12	52	+VCCPP	10'08/10	Compal_Alvin	For met Intel SPEC.	Change VCCPP output CAP to 470uF.	X01
13	56	CPU_CORE	10'08/10	Compal_Alvin	Adjust the CPU loadline and transient to met Intel SPEC.	PC167 and PC186. PR216, PR219, PR202, PR180, PR176, PR179, PR182, PR167, PR186.	X01
14	56	CPU_CORE	10'09/28	Compal_Alvin	Improve CPUCore PWRGOOD signal.	Change VDD power rail from 5VS to 5VALW and add PR220 and PC202.	X02
15	55	VCCSAP	10'09/28	Compal_Alvin	Improve VCCSA PWRGOOD signal.	Change VCC power rail from 5VS to 5VALW.	X02
16	49/50	DCIN/DECTOR BATTERY CONN/OTP	10'09/28	Compal_Alvin	Saving S4/S5 power consumption.	Change PUI Pin8 from Pre_V to VL.	X02
17	51/52/54	+5VALWP/+3VALWP +VCCPP +1.5VP/0.75VSP	10'10/12	Compal_Alvin	For EMI solution.	Add PL25, PL26, PL27 P/N:SM01000DJ00 (S SUPPRE_FBMA-L11-453215-121LMA90T 1812) Add 10uF PC205 and change PC23, PC24 to 10uF. Pop PC133 and PC134.	X02

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18	51-56	all DC-DC schematic	10'10/13	Compal_Alvin	EMI solution.	Add all snuber for all dc-dc. Add PR85, PR86, PR98, PR115, PR129, PR148, PR169, PR188, PR206, PR223. Add PC60, PC61, PC78, PC86, PC108, PC123, PC148, PC159, PC178, PC197.	X02
19	50	Charger	10'11/02	Compal_Alvin	Precharger schematic bom change for old solution	Delete PD13, PD15, PR51, PQ22, PC32. Add PQ60, PR231.	X02

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Compal Electronics, Inc.		
Title		
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Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	29	DP SW for mDP CONN	10'07/22	Compal_Yungmao	Mini DP no function	Modified JMDP1 pin define	X00
2	39	USB 3.0 PD720200	10'08/10	Compal_Yungmao	USB3.0 transfer speed is too low	L33 swap pin3 with pin4, net U3TXDN2_L, U3TXDN2 L34 swap pin3 with pin4, net U3RXDP1_L, U3RXDP1 L35 swap pin3 with pin4, net U3RXDN2_L, U3RXDN2 L36 swap pin3 with pin4, net U3RXDP1_L, U3RXDP1	X00
3	31	HDMI input - STDP6038	10'07/22	Compal_Yungmao	HDMI-IN no function	Change U7 pin111, 112 to U7 pin72, pin71	X00
4	34-35	HD Audio_IDT92HD73C	10'08/3	Compal_Yungmao	S/PDIF jack no function	net LINE_OUT_JD connect to R1677 pin2 delete R721, R722, C740	X00
5	38	Mini Card -WLAN / DMC / BT	10'08/11	Compal_Yungmao	Install Bluetooth module might be cause system can't bootable	remove net name BT_ACTIVE	X00
6	33	GLAN AR8151 AL1A	10'08/9	Compal_Yungmao	LOM can't work in 1000Mbps speed and no LED is on	swap JLAN1 pin11 with pin13, net LAN_LINK#, LAN_LED2#	X00
7	34	HD Audio_IDT92HD73C	10'08/10	Compal_Yungmao	Audio left and right channel reverse	swap U9, U16 pin6 with pin8	X00
8	40	USB/ESATA TS3USB221RSER	10'08/3	Compal_Yungmao	USB charging Device can't be charging in S4/S5 with " AC and Battery " mode	change D18 from +5VS to +5VALW	X00
9	14	MXMIII Connector A	10'07/22	Compal_Yungmao	-9% of 3.3V (3.003) will cause no display when system power on	add R1817, R1816, Q281	X00
10	5	PROCESSOR(2/6) PM,XDP,CLK	10'07/15	Compal_Yungmao	for EMI/EDS requirement	add RC121,RC125,RC126,RC127,RC128	X00
11	10-13	DDRIII DIMMA ~ DDRIII DIMMD	10'07/15	Compal_Yungmao	for DDR3 module can select serial address	add RD35,RD36,RD37,RD38,RD39,RD47,RD49	X00
12	14	MXMIII Connector A	10'08/4	Compal_Yungmao	for MXM3.0 module power saving	add R1818, R1819 pull high	X00
13	25	LVDS SW- 1 to 2 & GPU/PCH	10'07/13	Compal_Yungmao	STDP6038 chipset vendor require to add for debug used	add R313, R314	X00
14	04	PROCESSOR(6/6)	10'09/20	Compal_Ray	derating fail	QC4 change to SB00000090L	X02
15	14	MXMIII Connector	10'09/20	Compal_Ray	battery can't charge	R1818, R1819 depop, change connection EC_SMB_DA1 to VGA_SMB_DA1	X02
16	17	PCH (3/8)	10'09/20	Compal_Ray	can't boot when plug bluetooth module.	pop RH95	X02
17	26	LVDS SW & CONN	10'09/20	Compal_Ray	Web CAM can't work.	Change CAM power to 3VS	X02

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17	28	HDMI SW	10'09/20	Compal_Ray	Follow A18 +HDMI_5V_OUT circuit	remove QV5,CV40,RV35,QV6,RV34,Add R1896	X02
18	28	HDMI SW	10'09/20	Compal_Ray	HDMI can't work	Change UV2 HPD connection	X02
19	30	HDMI SW for DMC	10'09/20	Compal_Ray	DP can't work	pop R1865 add R1958,R1959, remove C52,C53	X02
20	40	USB/ESATA	10'09/20	Compal_Ray	eSATA can't work	remove RS12	X02
21	40	USB/ESATA	10'09/20	Compal_Ray	update for eSATA power share function	PWRSHARE_EN# GPIO assign to EC pin 86 Add R97 for PWRSHARE_EN# pull down add R1699,D31	X02
22	15	PCH (1/8)	10'09/20	Compal_Ray	ME position redifned for HDD.	Swap HDD1 (Port 1) ,HDD2 (Port 0)	X02
23	39	USB3.0 PD720200	10'09/27	Compal_Ray	USB3.0 can't work	depop R201, pop R202 0 ohm	X02
24	17	PCH (3/8)	10'09/27	Compal_Ray	AV17 doesn't support deep sleep mode	pop RH126, add RH159 and depop it depop RH139 ,RH134	X02
25	15	PCH (1/8)	10'09/27	Compal_Ray	Add HDA BUS ON/OFF control circuit,	add CH17,UH9,RH30,RH50,QH10,RH267	X02
26	15	PCH (1/8)	10'09/27	Compal_Ray	follow Design guide	Add RH47 for BBS_BIT0_R	X02
27	17	PCH (3/8)	10'09/27	Compal_Ray	follow Design guide	Add R1687 for PCH_RSMRST# pull down	X02
28	17	PCH (3/8)	10'09/27	Compal_Ray	Change ACIN connection	Remove RH150 ,RH137,Add R1900,R1899,QH11	X02
29	35	Speaker AMP	10'09/27	Compal_Ray	To solve po noise when HDMI IN toggling	add Q10	X02
30	04	PROCESSOR(6/6)	10'09/27	Compal_Ray	derating fail	QC4 change to SB00000090L	X02
31	34	HD Audio	10'09/27	Compal_Ray	Add HDMI IN audio sense circuit.	add Q284 R1902,R1903	X02
32	34	HD Audio	10'09/27	Compal_Ray	to solve backdrive issue on +3VS	add D54	X02
33	15	PCH (1/8)	10'09/27	Compal_Ray	follow DG1.5 recommand	Add R1960	X02

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34	16	PCH (4/8)	10'09/27	Compal_Ray	PLTREST_VGA issue	Add R28 D13 and change RH170 to 0 ohm	X02
35	28	HDMI SW	10'10/01	Compal_Ray	Add R58 for HMI_SW_DETECT bypass direct due to it's desn't need level shift to 5V	Add R58	X02
36	35	Speaker AMP	10'10/01	Compal_Ray	add mute siwtch to solve po noise issue	Add U619 ,C1843	X02
37	33	GLAN AR8151 AL1A	10'10/01	Compal_Ray	Change CL39 to 3KV spec for Hi-port test	change CL39 to 1000P_1808_3KV7K~D	X02
38	15	PCH	10'10/07	Compal_Ray	Rename location	Change CLIP1 to COMS1 and CLIP2 to ME1	X02
39	39	USB 3.0	10'10/07	Compal_Ray	Add power option	Add R1964,R1965,R1966,R1967 for U37 power option	X02
40	31	HDMI	10'10/07	Compal_Ray	For double pull high	Remove R81,R83	X02
41	15	PCH	10'10/07	Compal_Ray	Change RTC circuit	Change RTC circuit and change DH1 to CHN202UPT,Reomve RH250	X02
42	33	GLAN AR8151 AL1A	10'10/07	Compal_Ray	Crystal EA result	Change CL18,CL19 to 15pF by crystal EA result	X02
43	9,10,11	CPU	10'10/07	Compal_Ray	Remove XDP 0 ohm resistor	CPU XDP depop, Remove:RC68~RC71, Change to depop RC59,RC61~RC67,RC121,RC121,RC125~RC128,RC50,RC51 Add T51~T54	X02
44	16	PCH	10'10/07	Compal_Ray	Crystal EA result	Change YH2 to X5H025000DC1H-H, CH23,CH24 to 12pF by crystal EA result	X02
45	5	CPU	10'10/07	Compal_Ray	Follow Design guide 1.5	Add RC113 to reserve PCH_PWROK for VDDPWROOD	X02
46	31	ST6038	10'10/07	Compal_Ray	Derating issue	Change L13 to BLM18AG601SN1D for derating issue	X02
47	9	CPU	10'10/07	Compal_Ray	S3 issue	Reserve CC178 for CPU1.5V_S3_GATE timing delay	X02
48	31	ST6038	10'10/07	Compal_Ray	By vendor review	Follow vendor to depop R1744	X02
49	32	ST4028	10'10/07	Compal_Ray	By vendor review	Change U607 to M25PE20	X02
50	31	ST6038	10'10/08	Compal_Ray	Timing issue	Add R172 for LDO timing enable timing delay	X02

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51	16	Codec	2010/10/8	Compal_Ray	Mute issue	Add U620,C1844,U621,C1845 for mute	X02
52	28	MXM	2010/10/8	Compal_Ray	Follow A18	Change AC_BATT# to EC_AC_BAT# , and remove R1817,D72, add U622,C1823	X02
53	35	USB3.0	2010/10/8	Compal_Ray	EMI issue	Change L33~L38 to DLW21SN670HQ2L	X02
54	26	LVDS SW	2010/10/8	Compal_Ray	Remove resistor for double pull high	Remove R323 ,R326	X02
55	35	Audio	2010/10/12	Compal_Ray	By Maxim review result	Change C154,C158 to .022uF and R140,R145 to 20K	X02
56	15	PCH	2010/10/12	Compal_Ray	Reserve 0 ohm for HDA_SDOUT	Add RH51	X02
57	44	ENE	2010/10/12	Compal_Ray	Change GPIO	Change GPIO46 to VGA_ON and depop RH118	X02
58	24,44	ENE	2010/10/12	Compal_Ray	Change GPIO, and add backlight control circuit	Change VGA_ON to LCD_BKL_EN, and add backlight control circuit, add Q39,C332,R422,R423,Q28,C331	X02
59	29	DP	2010/10/12	Compal_Ray	DP dual mode can't display	Remove C301,C308	X02
60	35	Audio	2010/10/12	Compal_Ray	To reach 16dB	Change R137,R142 to 16.2K	X02
61	15	PCH	2010/10/22	Compal_Ray	Pop RH50 for ME lock issue	Pop RH50	A00
62	37	ODD	2010/10/22	Compal_Ray	Re define ODD pin	For ODD power require, add one more power pin	A00
63	37	ODD	2010/10/22	Compal_Ray	Remove zero power ODD switch.	Remove SW1 and add R173 0 ohm for ODD_DA#	A00
64	46	power switch	2010/10/22	Compal_Ray	Remove reserve power switch	Remove SW4,SW5	A00
65	24,44	LCD	2010/10/22	Compal_Ray	Correct net name	Rename LCD_BKL_EN# to LCD_BKL_EN	A00
66	44	BID	2010/10/22	Compal_Ray	Change BID	Change BID, R225 to 56K	A00
67	34	BID	2010/10/22	Compal_Ray	HDMI in audio issue.	change HDMI_IN_SELECT# to HDMI_TOGGLE	A00


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68	26	AMD	2010/10/22	Compal_Ray	AMD MXM card Brightness Contrl Hot/Key issue	add RV46 and connect to SG_AMD_BKL.	A00
69	17, 28, 29, 30	NV	2010/10/22	Compal_Ray	Meet NV Optimus V1.2	Change AC_BATT# to EC_AC_BAT# , and remove R1817,D72, add U622,C1823	A00
70	27	CRT	2010/10/22	Compal_Ray	CRT switch high EOS failure rate	Change C13~C15 to 0.01uF.	A00
71	31	HDMI	2010/10/22	Compal_Ray	HDMI in cable detect issue	Add R1968,Q285,R1845	A00
72	44	ENE	2010/10/22	Compal_Ray	Crystal remove for ENE	Add C1846 for not use crystal for ENE	A00
73	24	EDP	2010/10/29	Compal_Ray	Remove RV39	Remove RV39 for LCDVDD_ON double pull down	A00
74	36	HDD	2010/10/30	Compal_Ray	Left HDD pin to NC	Left JHDD2 Pin 20,21,22 to NC	A00

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