

MODEL NAME : Goliad MLK 12 UMA ENTRY

PCB NO : LA-A972P

BOM P/N : 4319RK31LXX

GPIO MAP: 3.3b

Goliad MLK 12" UMA ENTRY

Broadwell U Processor

2013-12-23

REV : 0.2 (X01)

@ : Nopop Component

EMC@ : EMI, ESD and RF Component

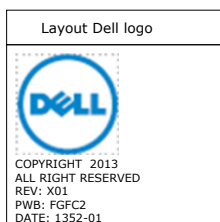
@EMC@ : EMI, ESD and RF Nopop Component

CXDP@ : XDP Component

CONN@ : Connector Component

VPRO@ : Vpro Component


NVPRO@ : Non-Vpro Component

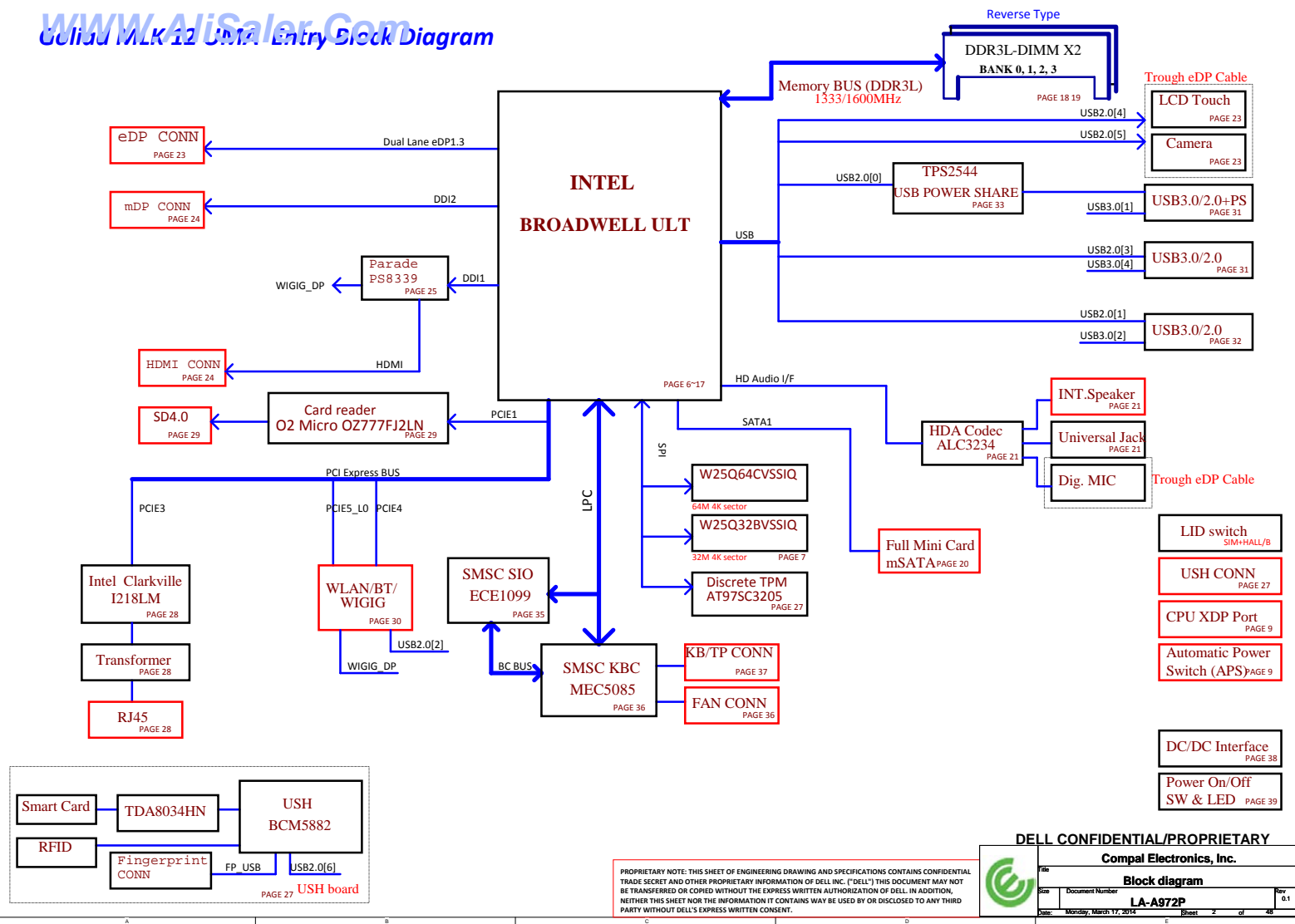


MB PCB	
Part Number	Description
DA800018000	PCB 14A LA-A972P REV0 MB W/O DOCKING 2

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Block diagram	
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PC WLF STATES

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

PM TABLE

power plane State	+5V_ALW +3.3V_ALW +3.3V_ALW_PCH +3.3V_RTC_LDO	+3.3V_SUS +1.35V_MEM	+5V_RUN +3.3V_RUN +0.675V_DDR_VTT +1.05V_RUN +VCC_CORE	+3.3V_M +1.05V_M	+3.3V_M +1.05V_M (M-OFF)
S0	ON	ON	ON	ON	ON
S3	ON	ON	OFF	ON	OFF
S5 S4/AC	ON	OFF	OFF	ON	OFF
S5 S4/AC doesn't exist	OFF	OFF	OFF	OFF	OFF

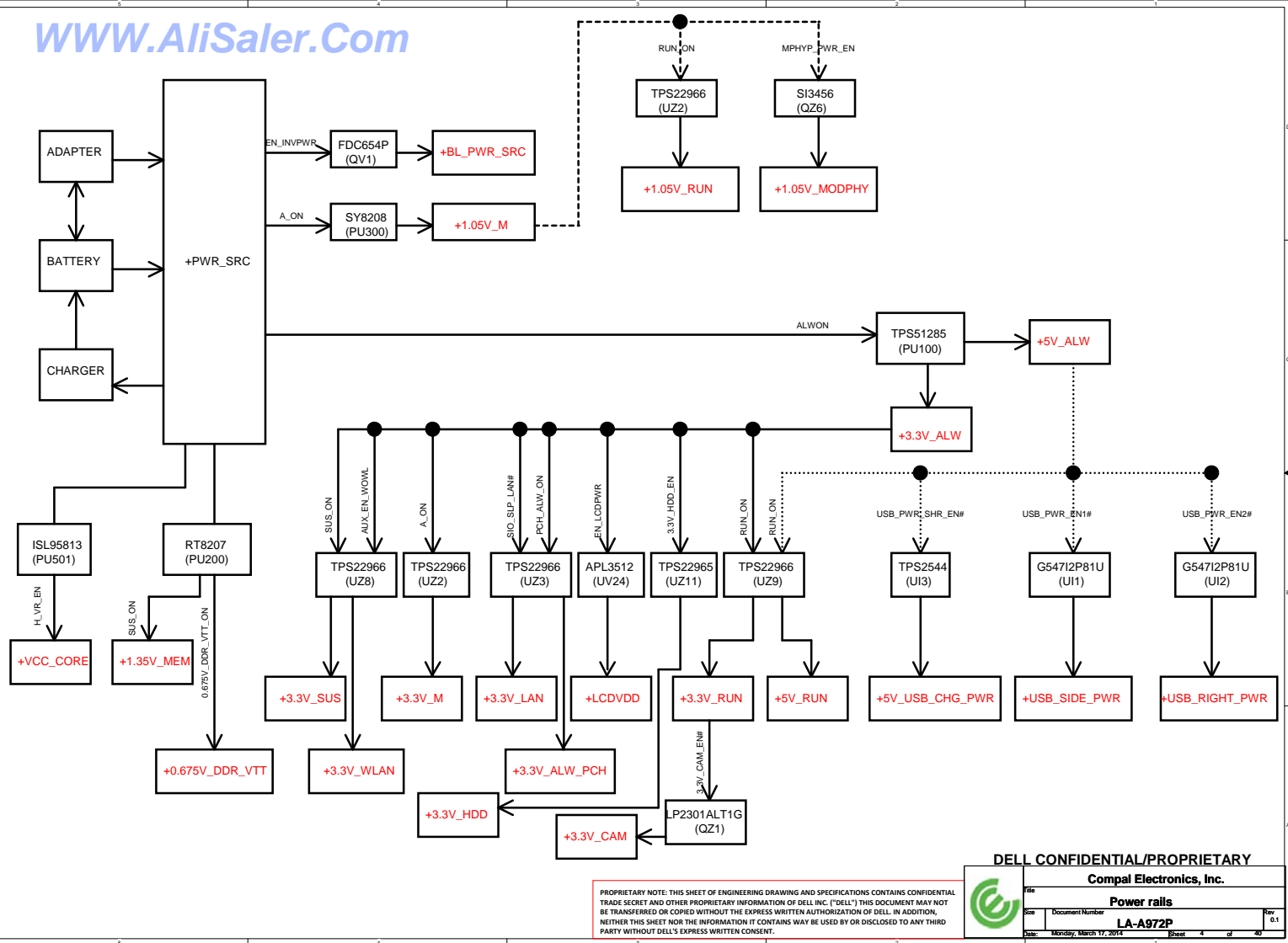
PCIE	USB3.0	SATA	DESTINATION
	USB3.0 1		JUSB1-->Rear left
	USB3.0 2		JUSB3-->Right
PCIE 1	USB3.0 3		MMI (CARD READER)
PCIE 2	USB3.0 4		JUSB2-->Rear Right
PCIE 3			LOM
PCIE 4			WLAN - JNGFF1
PCIE 5			WiGig - JNGFF1
PCIE 6		SATA 3	NA
		SATA 2	NA
		SATA 1	JMINI3
		SATA 0	NA

USB PORT#	DESTINATION
0	JUSB1
1	JUSB3
2	WLAN + BT
3	JUSB2
4	Touch Screen
5	CAMERA
6	USH
7	WWAN

USH	0	BIO
	1	NA

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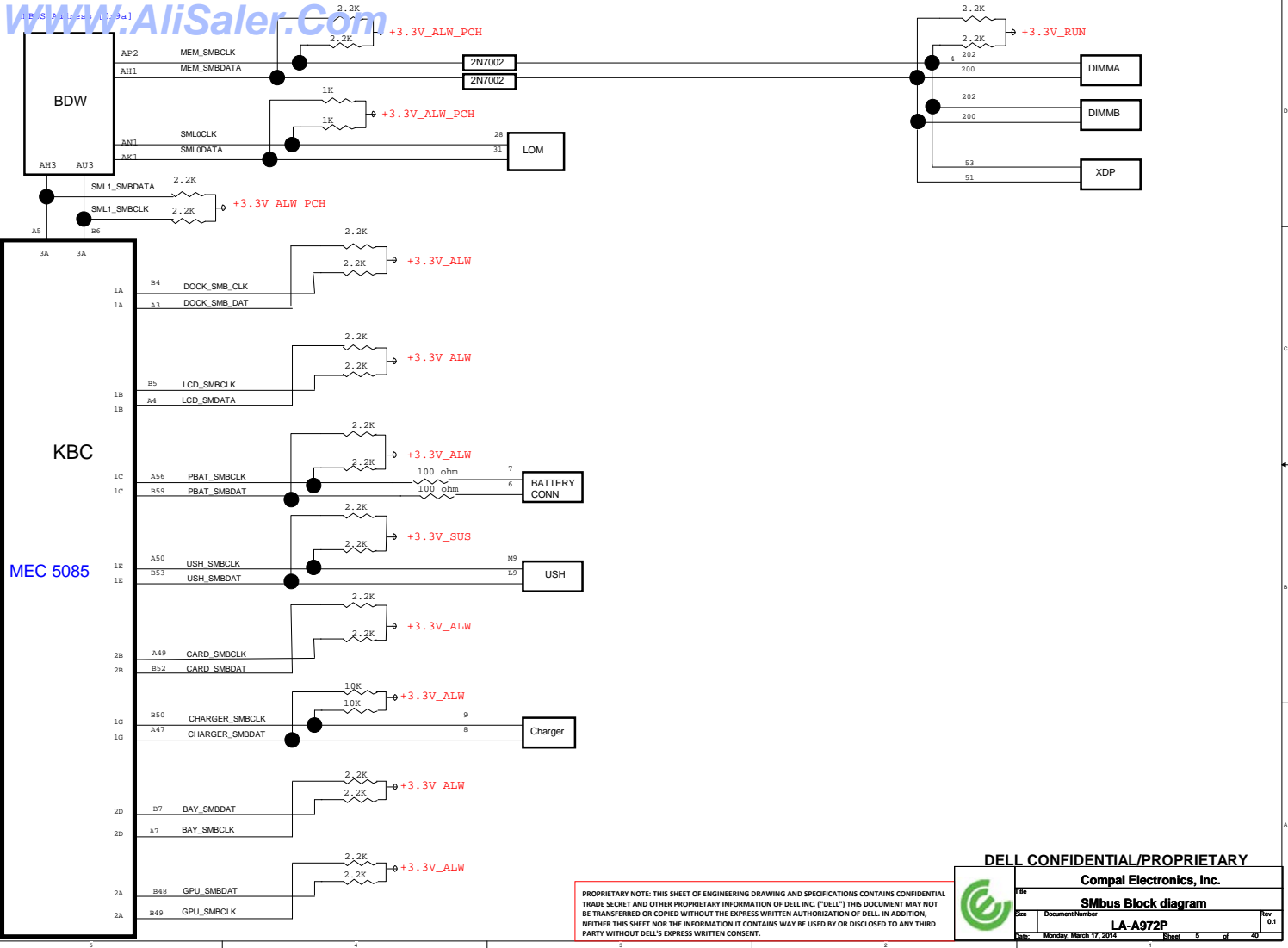
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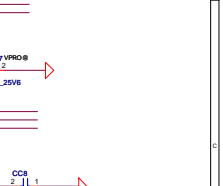
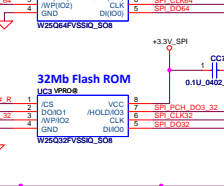
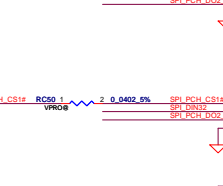
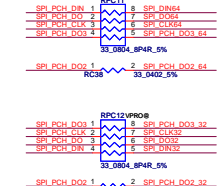
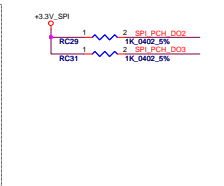
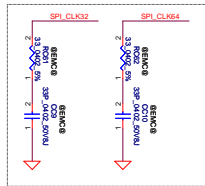
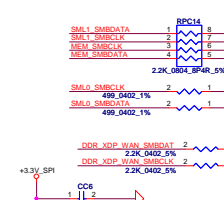
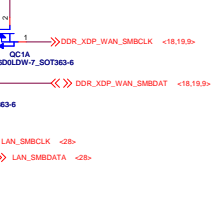
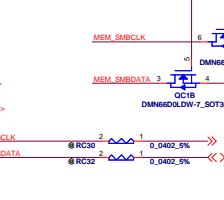
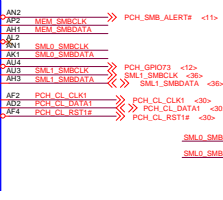
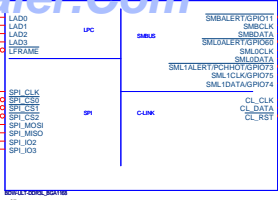
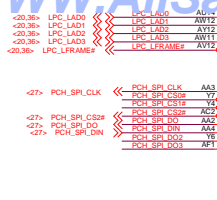
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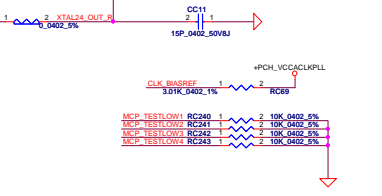
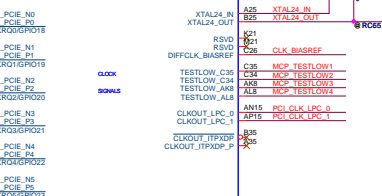
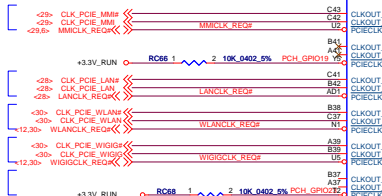
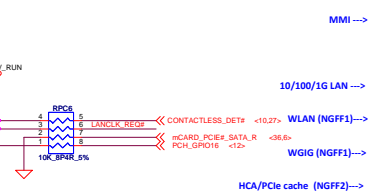
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SMBus Block diagram	
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contact to WLAN

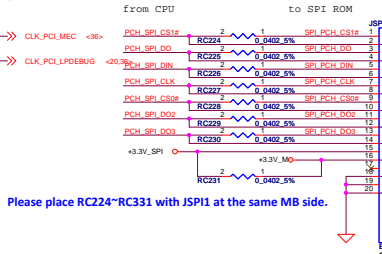
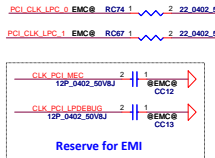




PCIECLK for UMA



PCB	PCIE1	PCIE2	PCIE3	PCIE4	PCIE5	PCIE6
G12 UMA	SD card	NA	LOM	WLAN	WIGIG	M2 3042 (HCA & SATA-Cache)
G12 Entry	SD card	NA	LOM	WLAN	WIGIG	NA
G14 DSC	SD card	NA	LOM	WLAN	GPU	WIGIG
G14 UMA	SD card	NA	LOM	WLAN	WIGIG	M2 3042 (HCA & SATA-Cache)
G14D_En	SD card	NA	LOM	WLAN	GPU	WIGIG
G14U_En	SD card	NA	LOM	WLAN	WIGIG	NA

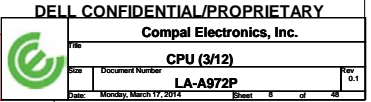


support SPI	TPM	support LPC	TPM
LPC_0	LPC_1	LPC_0	LPC_1
SIO	DOCK	CLKBUFF	DOCK
MEC	DEBUG	SIO	MEC
		TPM	DEBUG

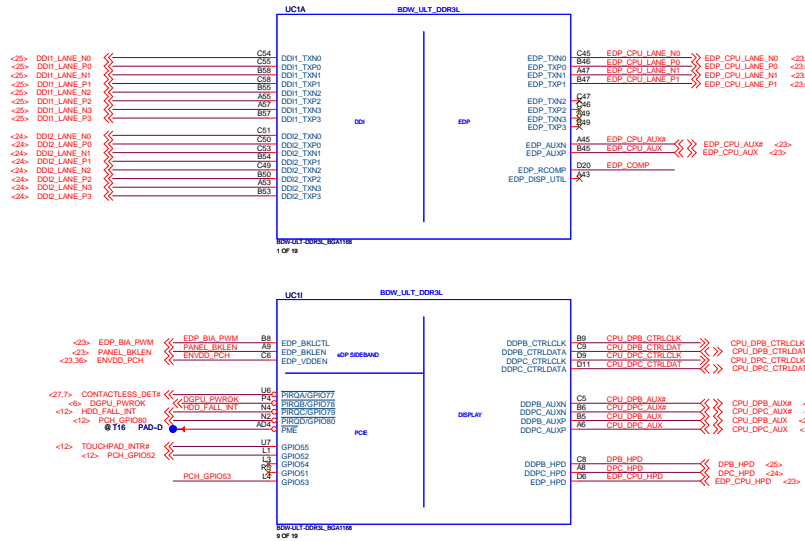
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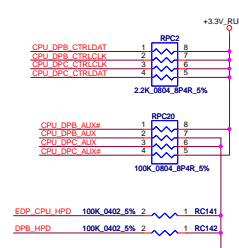
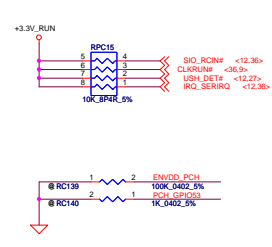
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COMPENSATION PU FOR eDP

EDP_COMP 2 1 RC133

CAD Note: Trace width=20 mils, Spacing=25mil, Max length=100 mils.



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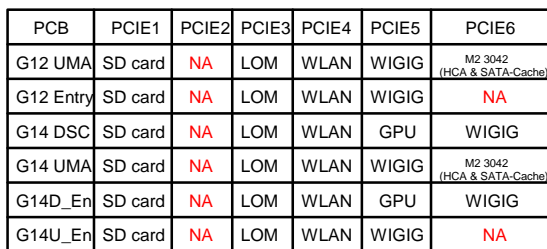
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CPU (5/12)

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PCB	USB2 7
G12 UMA	WWAN
G12 Entry	NA
G14 DSC	WWAN
G14 UMA	WWAN
G14D_En	NA
G14U_En	NA

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CPU (6/12)

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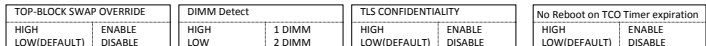
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CAD NOTE:

Route single-end 50-ohms and max 500-mils length.
Avoid routing next to clock pins or under stitching capacitors.
Recommended minimum spacing to other signal traces is 15 mils.

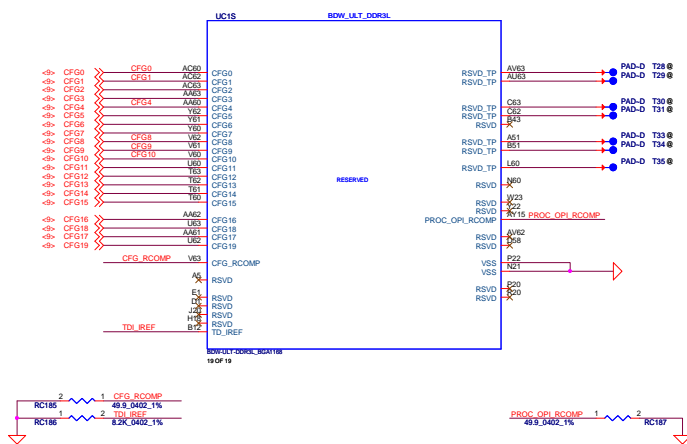
mils.



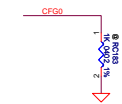
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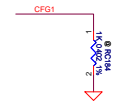
CPU (7/12)		
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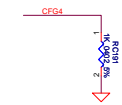
CFG STRAPS for CPU



EAR-STALL/NOT STALL RESET SEQUENCE AFTER PCU PLL IS LOCKE	
CFG0	1:(Default) Normal Operation; No stall 0:Lane Reversed



PCH/PCH LESS MODE SELECTION	
CFG1	1:(Default) Normal Operation 0:Lane Reversed



SAFE MODE BOOT	
CFG10	1: POWER FEATURES ACTIVATED DURING RESET
	0: POWER FEATURES (ESPECIALLY CLOCK GATING) ARE NOT ACTIVATED

NO SVID PROTOCOL CAPABLE VR CONNECTED	
CFG9	<p>1: VRS support SVID protocol are present</p> <p>0: No VR support SVID is present</p> <p>The chip will not generate (OR Respond to) SVID activity</p>

ALLOW THE USE OF NOA ON LOCKED UNITS	
CFG8	1: Enable(Default): Noa will be disable in locked units and enable in un-locked units 0: Disable Noa will be available regardless of the locking of the unit

	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

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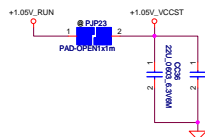
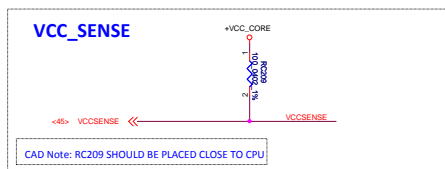
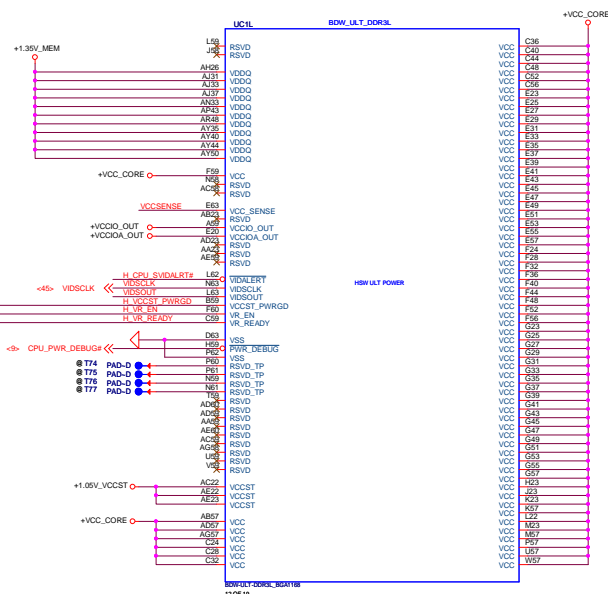
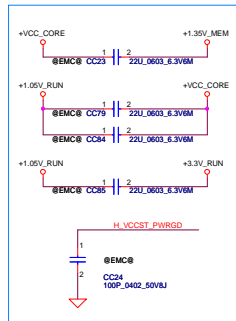
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CPU (8/12)

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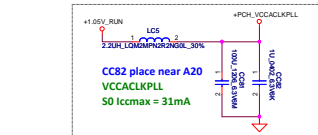
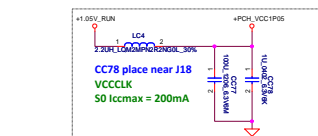
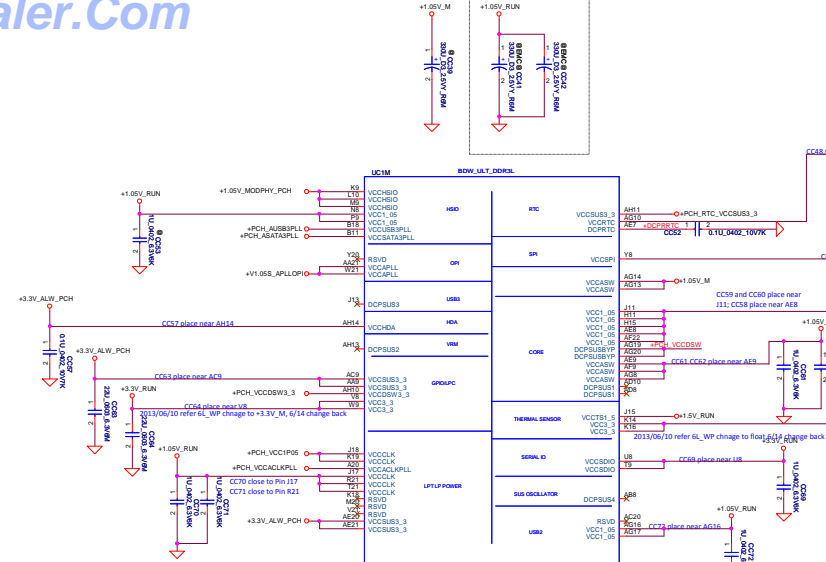
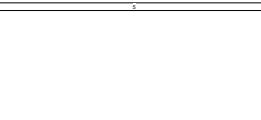
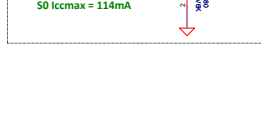
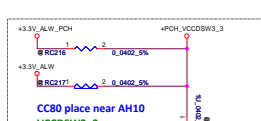
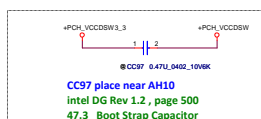
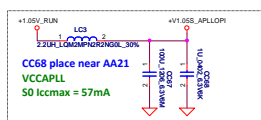
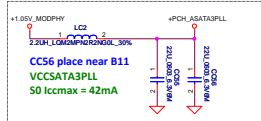
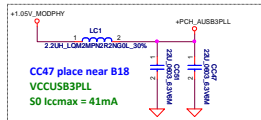
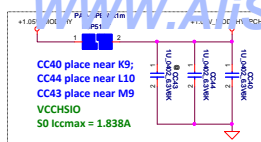
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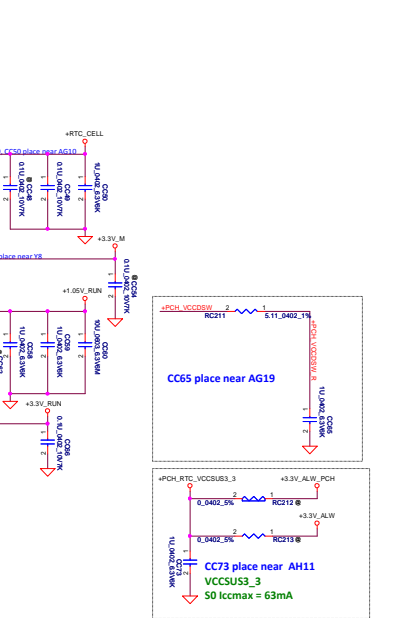


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Voltage Rail	Voltage (V)	50 Iscmax Current (A) ²	5x Iscmax Current (A) ³	Deep 5x Iscmax (A) ²	G3
VCC1_05 (Internal Suprand VR mode using INTVRM0)	1.05	1.741	0	0	0
VCC1_05 (Internal Suprand VR mode using INTVRM0)	1.05	1.632	0	0	0
VCCAP1	1.05	0.057	0	0	0
VCCAP2PLL	1.05	0.042	0	0	0
VCCOBSPLL	1.25	0.941	0	0	0
VCCACPLL	1.25	0.931	0	0	0
VCCCLX	1.05	0.300	0	0	0
VCCOBS0	1.05	1.118	0	0	0
VCCIT1_5	1.5	0.003	0	0	0
VCC1_3	3.3	0.041	0	0	0
VCCSD0	3.3	0.017	0	0	0
VCCDB	1.88	0.248	0	0	0
VCCG1	3.3	0.018	0	0	0
VCCOBA	3.3	0.011	<1 mA	0	0
VCCOBS0_3 (Internal Suprand VR mode using INTVRM0)	3.3	0.063	0.024	0	0
VCCOBS1_3 (Internal Suprand VR mode using INTVRM0)	3.3	0.062	0.005	0	0
Dsp1n1 ⁴	1.05	0.109	0.014	0	0
Bsp1n2 ⁴	1.60	0.325	0.301	0	0
Bsp1n3 ⁴	1.65	0.010	0.003	0	0
Bsp1n4 ⁴	1.05	0.001	0.001	0	0
VCCOBSW_3	3.3	0.114	0.004	0.002	0
VCCRTC	3.3	<1 mA	<1 mA	<1 mA	4 uA Sleep mode 1-2

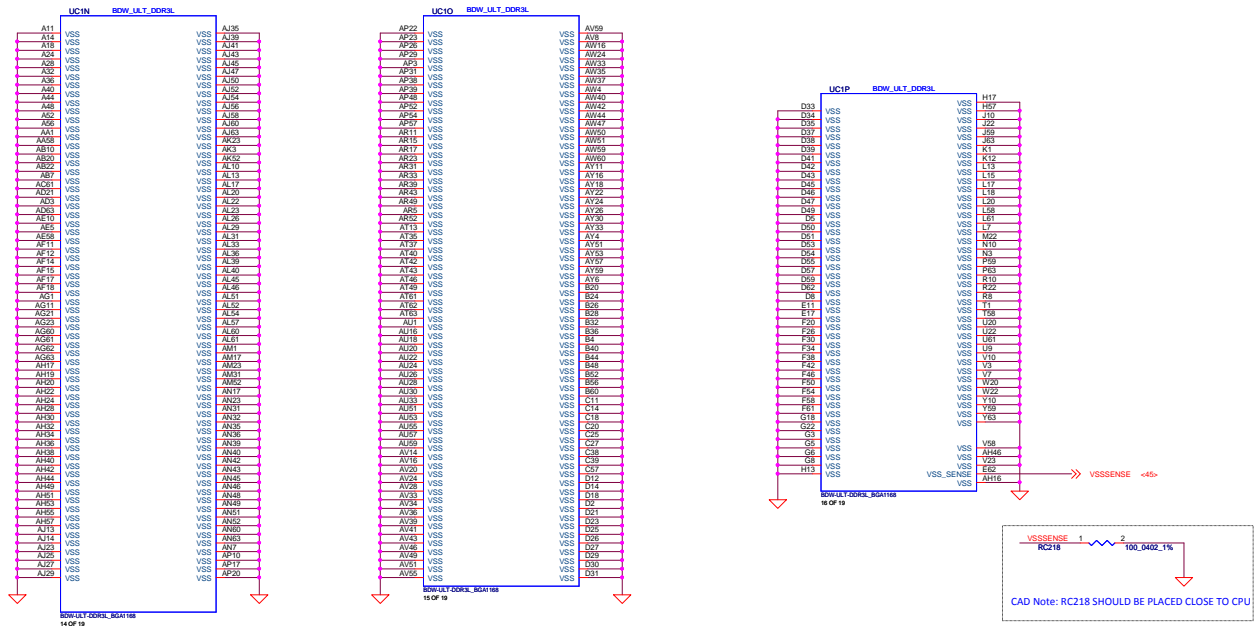


 Reminder below power rail need isolation for layout refer attach file for more detail that from Intel review feedback.

Voltage Inquiry	Interface (Camera read suspension requests)	FOI (Time sharing power rail)
V1.056	Gene USE HSD FSD0 CLAP0 CLAP1 CLAP2 CLAP3	2L1, H11, H15, A08, A72 A212, W01 F0, F1, H0, H1, H2, H3, H4, H5, H11, H15 A010, A017 A20 F02, F03 H08, H09 J17
V1_3a	GPS0 H0C H0A	A06, A08, A210, A211 A011 A014
V1_3j	GPS0 GPS1 Thermal Sensor	W0, W01 H0, H1 K14, K15

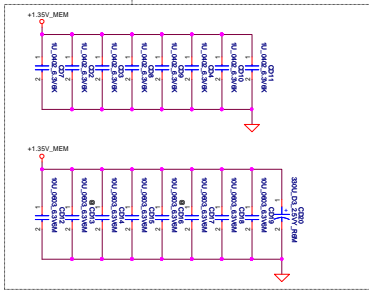
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	File _____		
	CPU (11/12)		
Size	Document Number	Rev	
	LA-A972P	0.1	
Spec. Modified: March 17, 2014 Date: _____ By: _____			

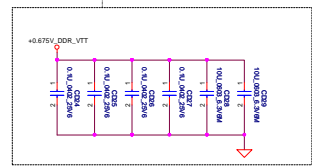


DDR_A_DQS[0:7] <<>
DDR_A_DS[0:6] <<>
DDR_A_DQS[7] <<>
DDR_A_M[0:15] <<>

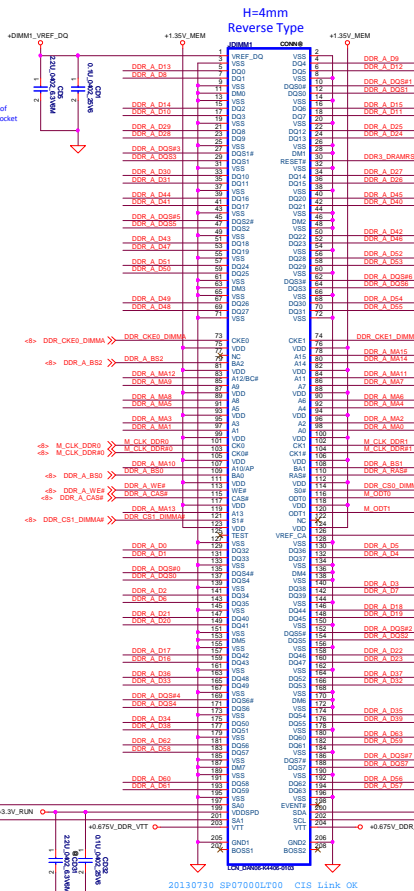
Layout Note:
Place near JDIMM1



Layout Note:
Place near JDIMM1.203,204



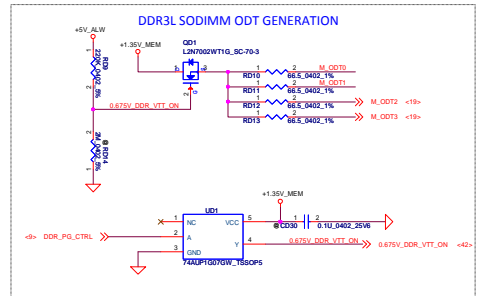
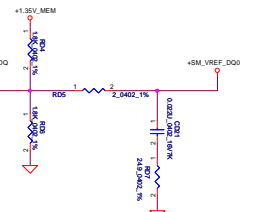
Note:
Check voltage tolerance of
VREF_DQ at the DIMM socket



20130730 SP07000L700 CIS Link OK

CAI NOTE
PLACE THE CAP NEAR TO DIMM RESET PIN

DDR3_DRAMRST# <<> 0.0402 5% <<> DDR3_DRAMRST#_CPU <<>



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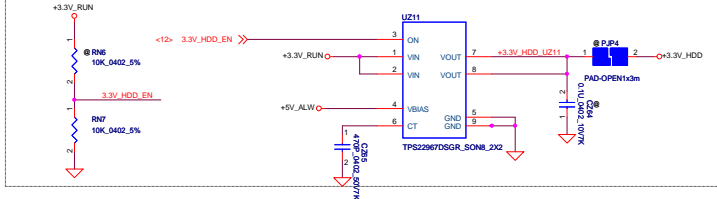


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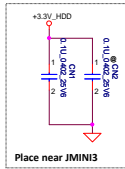
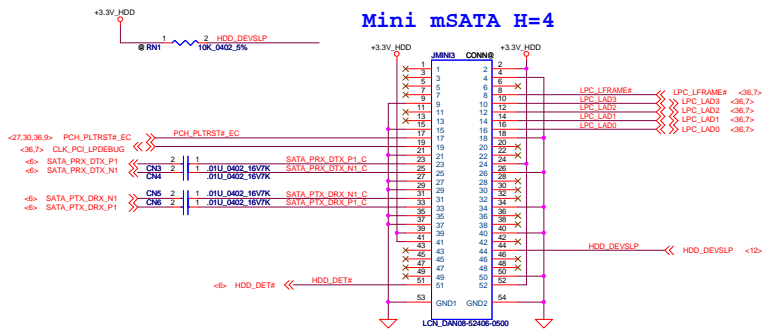
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+3.3V_HDD source



Mini mSATA H=4



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HDD CONN

LA-A972P

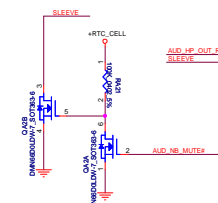
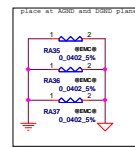
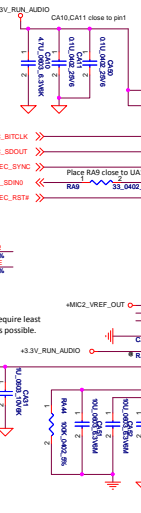
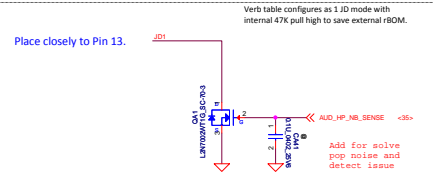
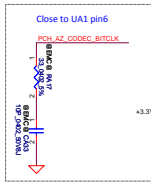
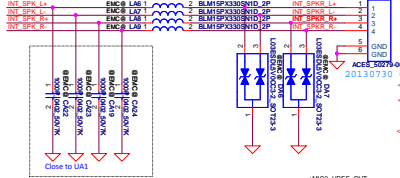
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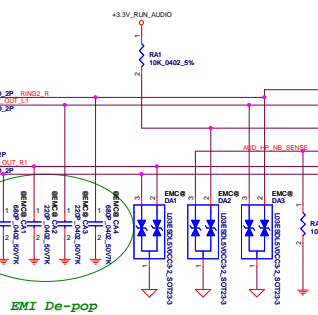
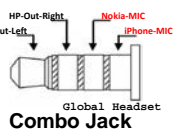
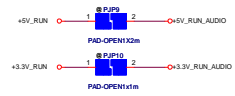
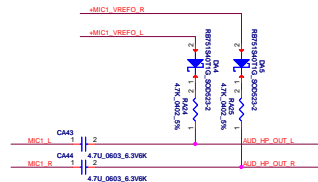
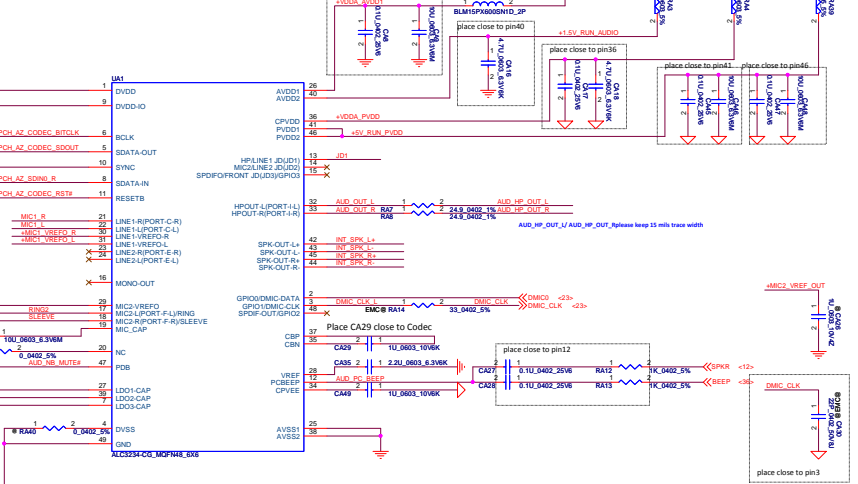
1W x 1ch, Active (Transducer spec is 90mW/50mV per unit, there are two transducer units in one speaker box.)

Internal Speakers Header

40 mils trace keep 20 mils spacing

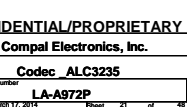
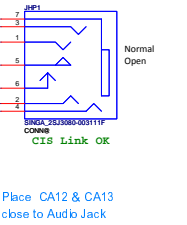
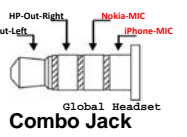


Realtek feedback
Prevent the Noise from Combo Jack
while system entry into S3 / S4 / S5




EMI De-pop

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LA-A972P

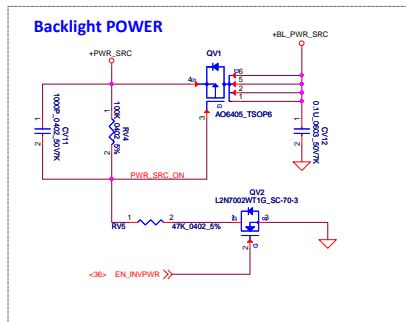
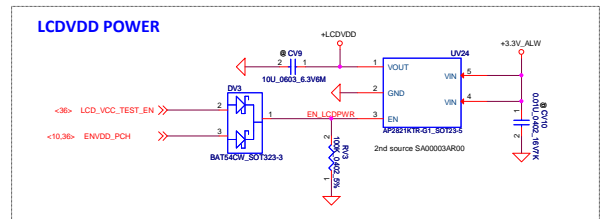



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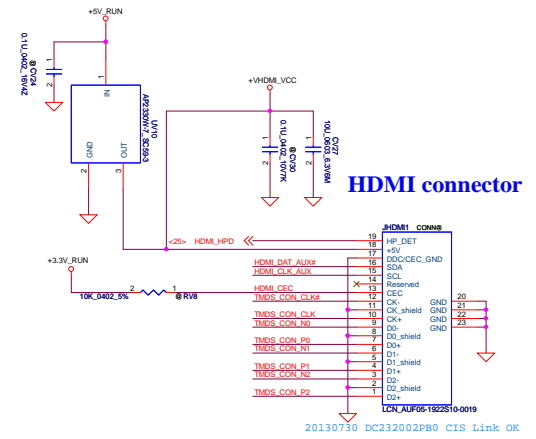
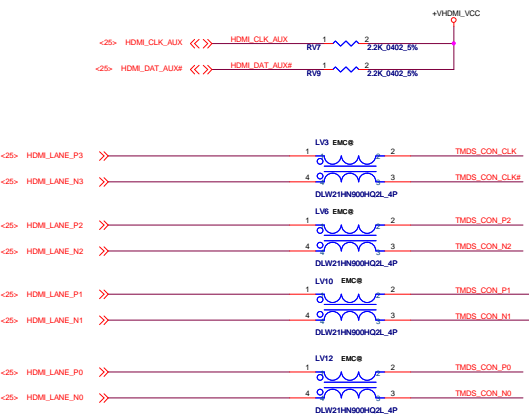
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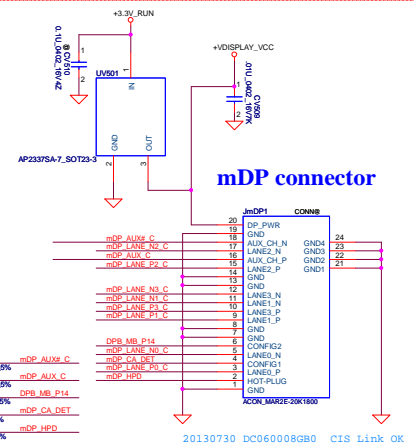
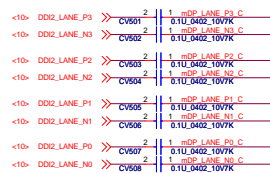
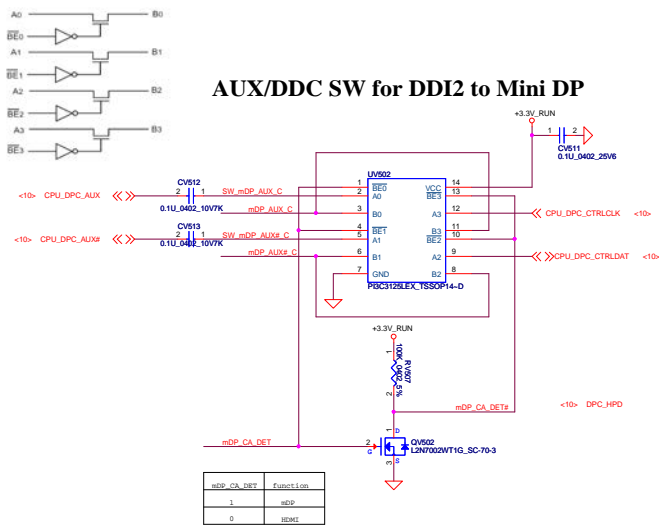
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DP 1.2 MST HUB	
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	eDP CONN & Touch screen		
	LA-A972P		
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AUX/DDC SW for DDI2 to Mini DP

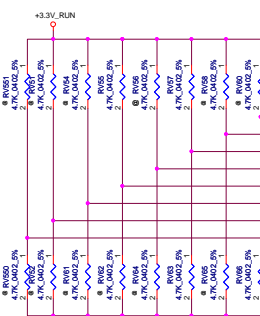
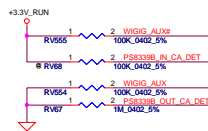


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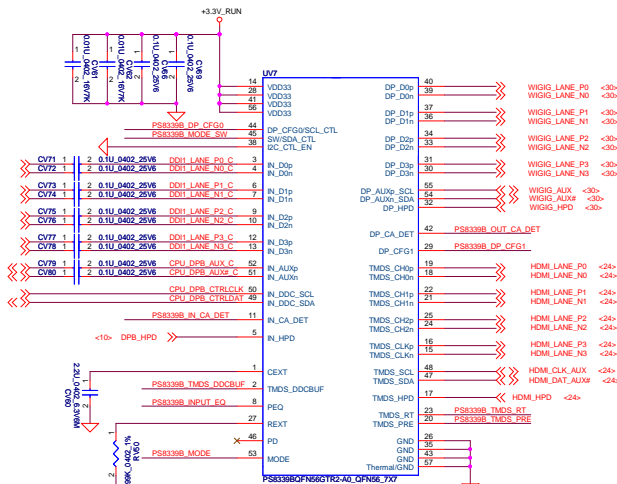
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HDMI CONN			
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PCB	DP SWITCH
G12 UMA	PS8339+PS8338
G12 Entry	PS8339
G14 DSC	PS8339+PS8338
G14 UMA	PS8339
G14D_En	PS8339+PS8338
G14U_En	PS8339



<10> DDI1_LANE_P0
<10> DDI1_LANE_N0
<10> DDI1_LANE_P1
<10> DDI1_LANE_N1
<10> DDI1_LANE_P2
<10> DDI1_LANE_N2
<10> DDI1_LANE_P3
<10> DDI1_LANE_N3
<10> CPU_DPB_AUX
<10> CPU_DPB_CTRLCLK
<10> CPU_DPB_CTRLCLK
<10> CPU_DPB_CTRLCLK



MODE = L: Control Switching Mode, HDMI ID disable
= H: Automatic Switching Mode, HDMI ID disable
= M: Automatic Switching Mode, HDMI ID enable

TMD5_PRE = L: no pre-emphasis
= H: 1.5dB pre-emphasis
= M: 3.0dB pre-emphasis

TMD5_RT = L: Standard open drain driver
= H: Open drain driver with termination resistors

TMD5_DDCBUF = L: DDC pass through
= H: DDC active buffer
= M: DDC pass through with 40 kohm pull up resistor

PEQ = L: default, LEQ, compensate channel loss up to 12dB @ HBR2
= H: HEQ, compensate channel loss up to 15dB @ HBR2
= M: LLEQ, compensate channel loss up to 5dB @ HBR2

DP_CFG1 = L: default, auto test disable & input offset cancellation enable
= H: auto test enable & input offset cancellation enable
= M: auto test disable & input offset cancellation disable

DP_CFG0 = L: default, automatic EQ enable & AUX interception enable
= H: automatic EQ disable & AUX interception enable
= M: automatic EQ disable & AUX interception disable, no pre-emphasis, 800mVpp swing

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DP SW

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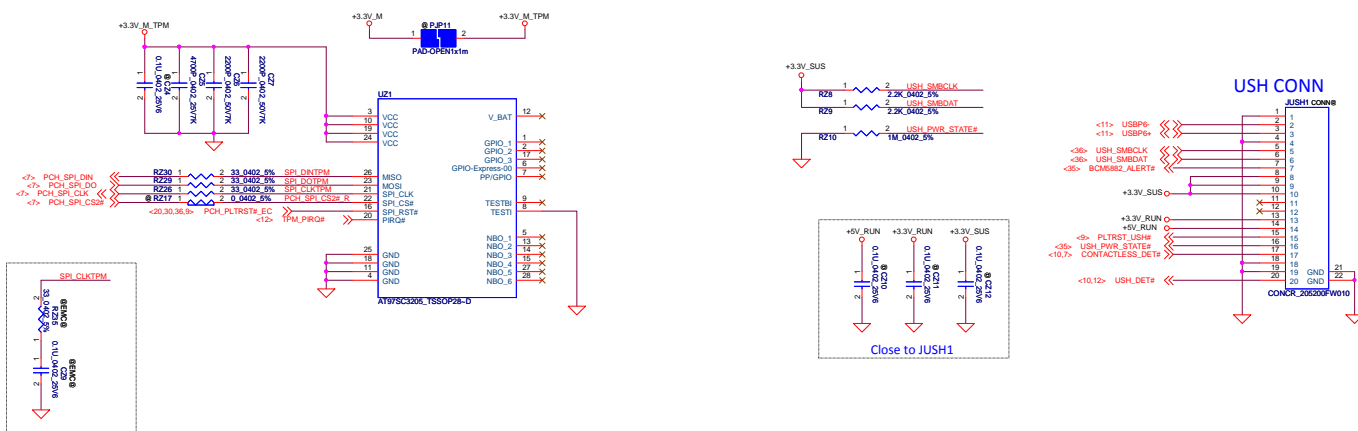
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DP to VGA & VGA Conn

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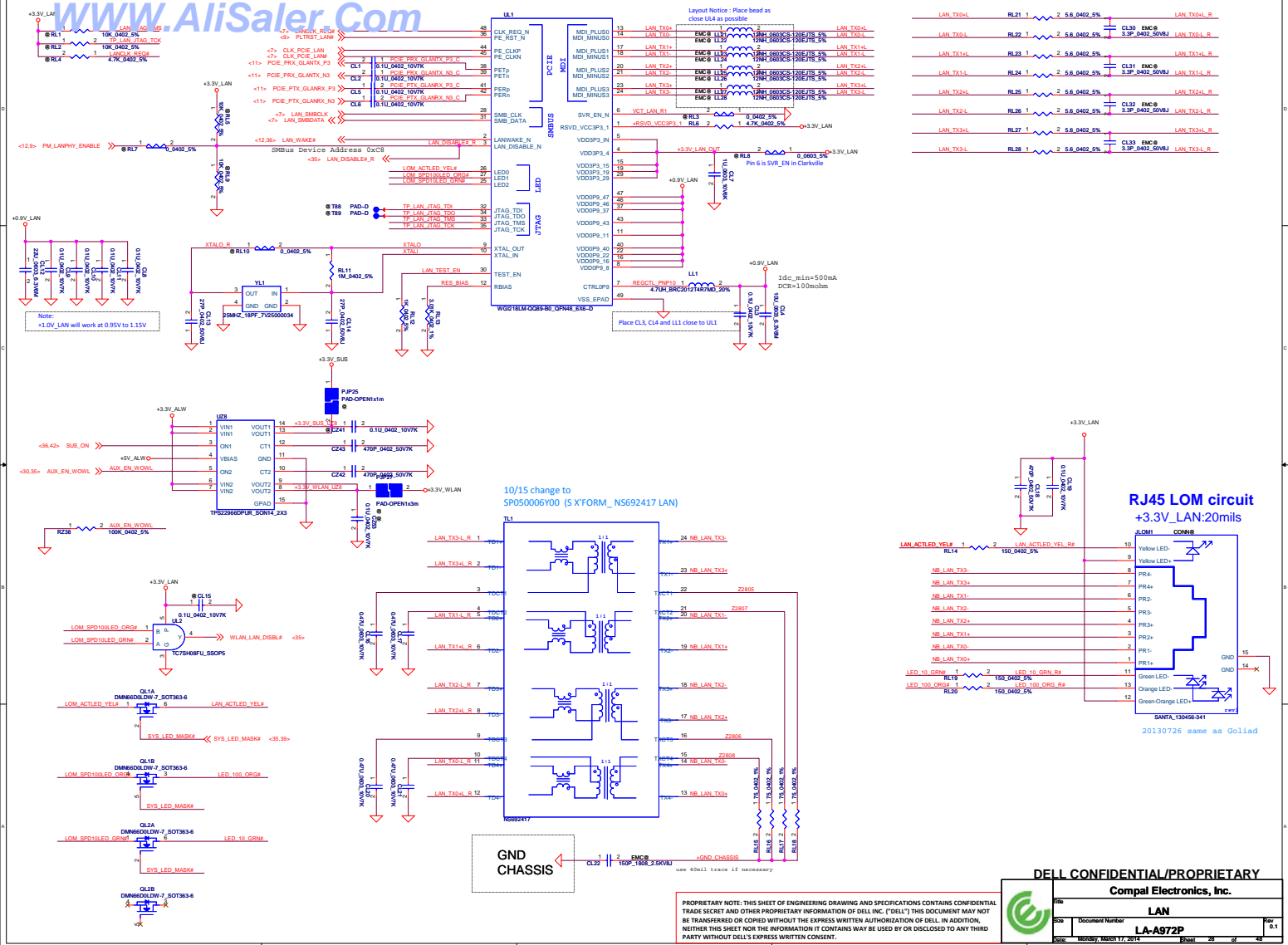
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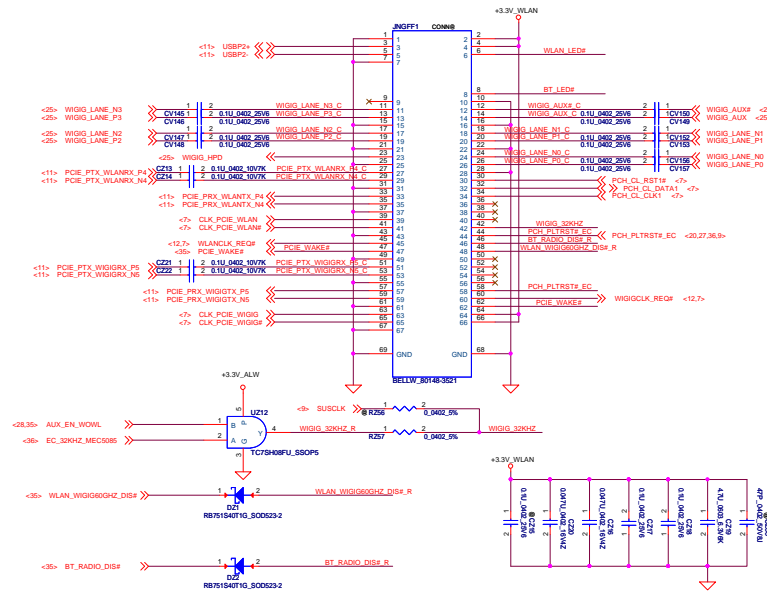
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USH & TPM

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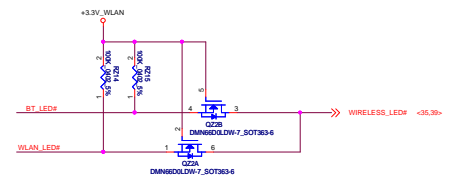
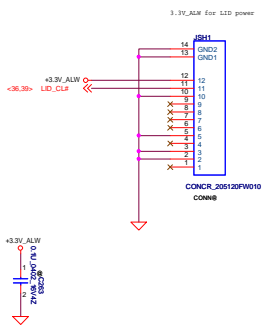




STATE #	CONFIG_0	CONFIG_1	CONFIG_2	CONFIG_3	Module Type
0	GND	GND	GND	GND	SSD-SATA
1	GND	HIGH	GND	GND	SSD-PCIe
8	HIGH	GND	GND	GND	WWAN
14	HIGH	GND	HIGH	HIGH	HCA-PCIe
15	HIGH	HIGH	HIGH	HIGH	NA

Power Rating TBD				
PWR Rail	Voltage Tolerance	Primary Power	Aux Power	
+3.3V		Peak	Normal	Normal

LED control circuit



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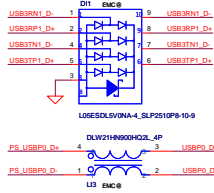
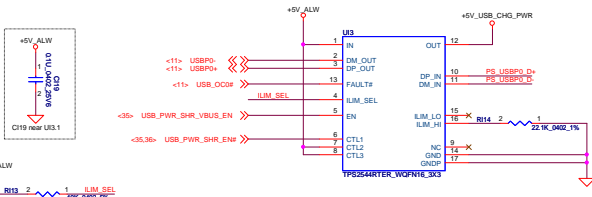
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NGFF Card

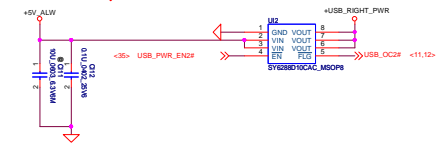
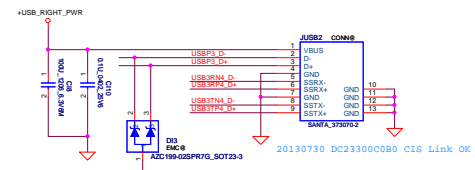
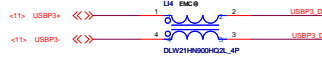
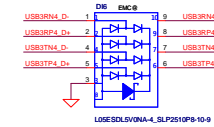
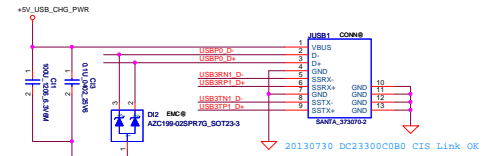
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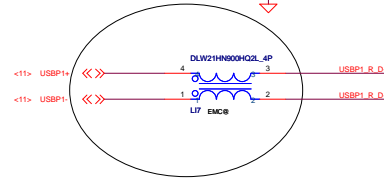
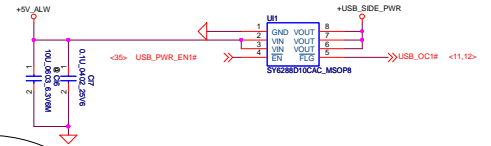
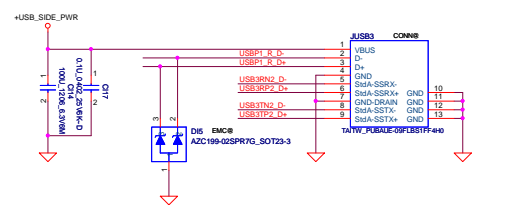
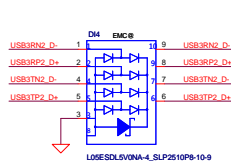
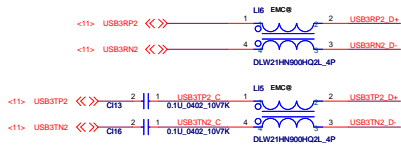
PCB	USB2 0	USB2 3
G12 UMA	USB3102	NX3DV221
G12 Entry	NA	NA
G14 DSC	USB3102	NX3DV221
G14 UMA	USB3102	NX3DV221
G14D_En	NA	NA
G14U_En	NA	NA



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1	1	1




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USB SW	
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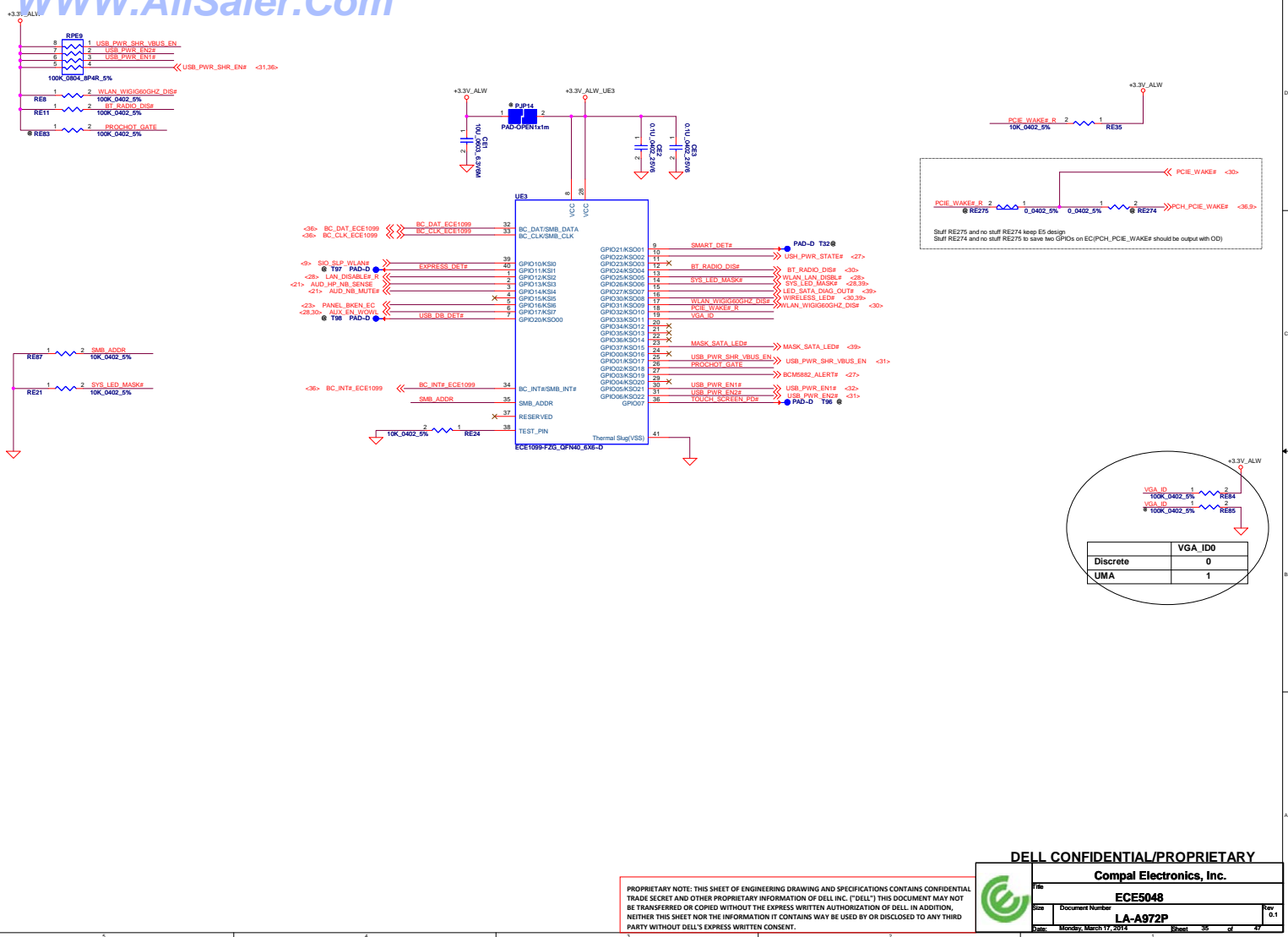
NFC on USH/B

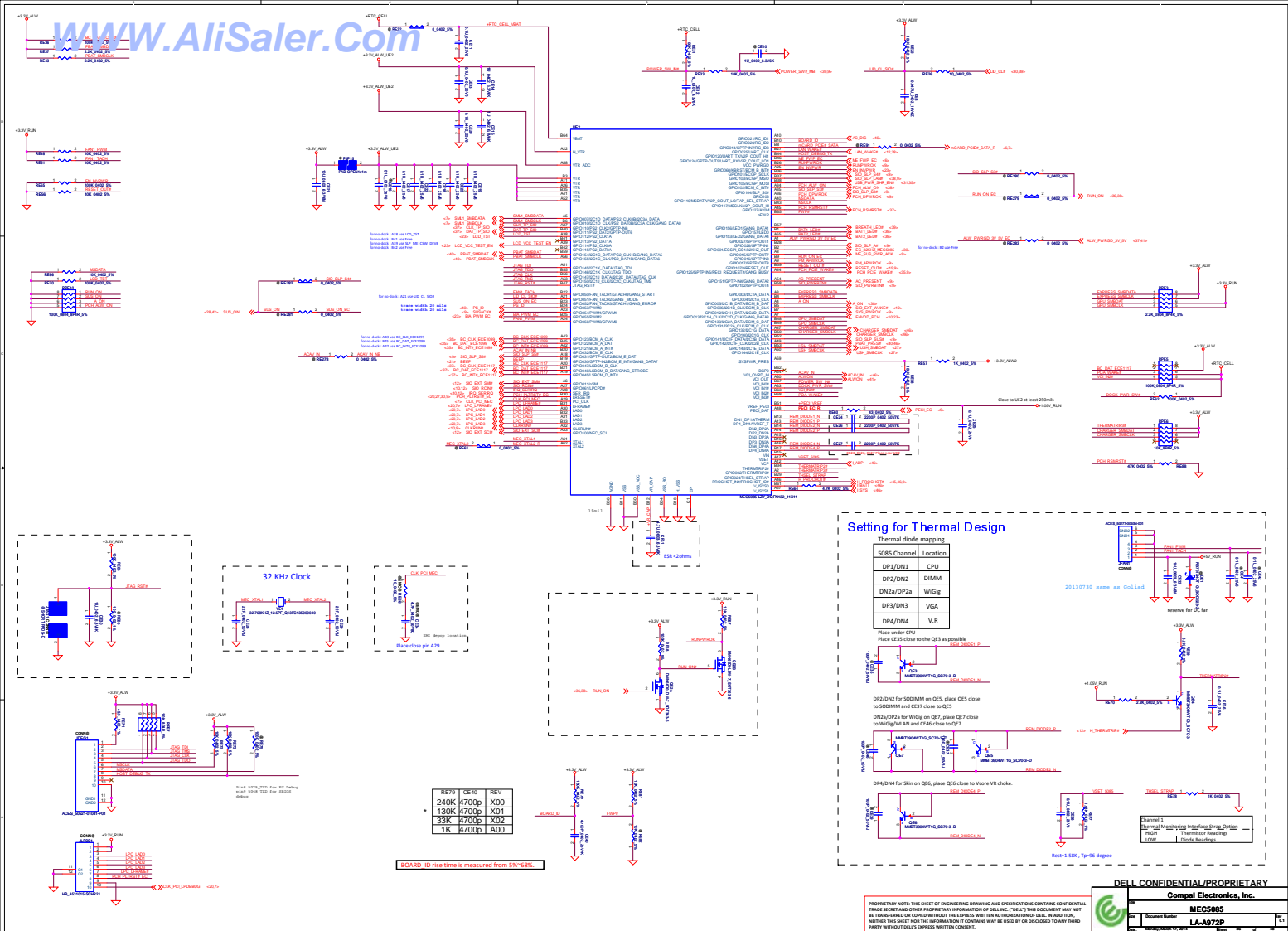
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	Title		Rev
	NFC		0.1
	Document Number		
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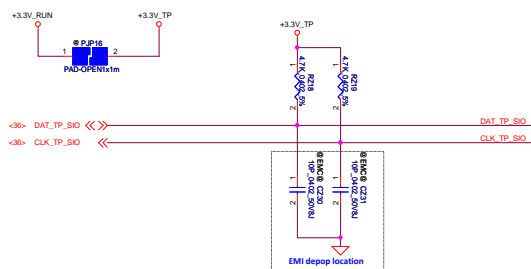
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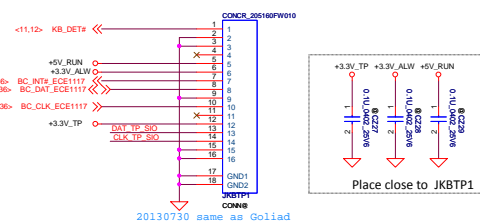




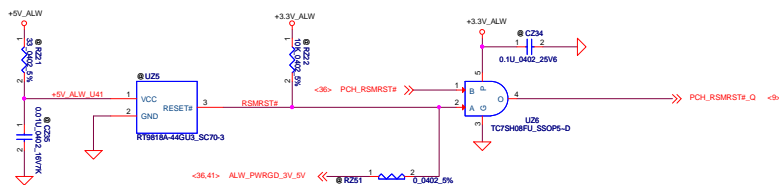
Touch Pad



Keyboard



RSMRST circuit



③ eDP Cable

Part Number	Description
DC02C007P00	H-CONN SET 14A MB-EDP-LED-CAMERA

@eDP TS Cal

Part Number	Description
DC02C007Q00	H-CONN SRT 14A MB-EDP-LED-CAMERA-TS

© DC-IN Cable

Part Number	Description
DC30100MF00	CONN SET 0VN DCJACK-MB 2DW1003-038110

@RTC BATT

Part Number	Description
DC30100MF00	CONN SET 0VN DCJACK-MB 2DW1003-03811

FAN

Part Number	Description
DC28A000800	FAN SKT DAQ20 DC5V AB7405HB-HB3 ADGA

@USH Board FFC

Part Number	Description
NBX0001KR00	FFC 26P G PO.5 PAD=0.3 47MM MB-USH

@KBTP FFC

Dart Number	Description
NBX0001KD00	FFC 16P G D0.5 PAD=0.3 82MM MB-KBTD

©NFC Board FFC

Part Number	Description
NBX0001KC00	FFC 15P F D0.5 DAD=0.3 40.5MM MB-NPC

FP FFC

Dart Number	Description
NBX0001KB00	FFC 8P F D0.5 PAD=0.3 22.5MM NB-FP

@SIM+HalvB FFC

Part Number	Description
NBX0001CR00	FFC 12P G P0.5 PAD=0.3 73.3MM NB-SIM+HAL

 Speak

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

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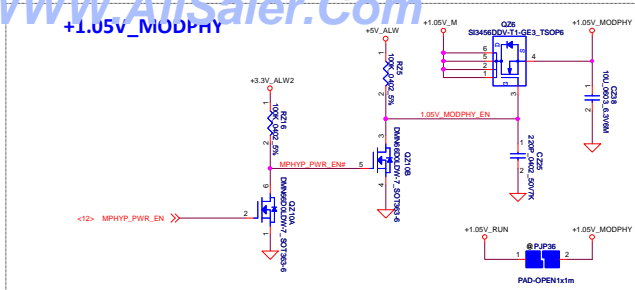
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Keyboard

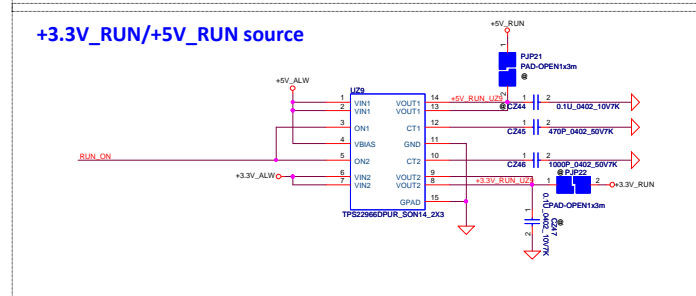
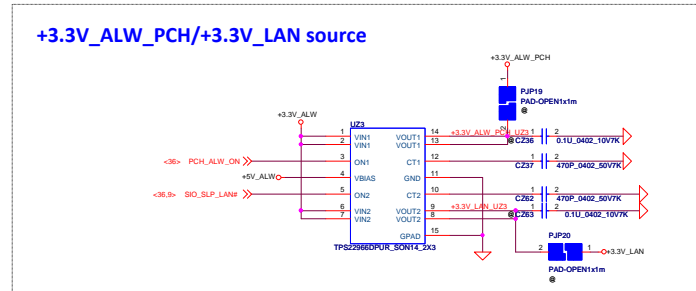
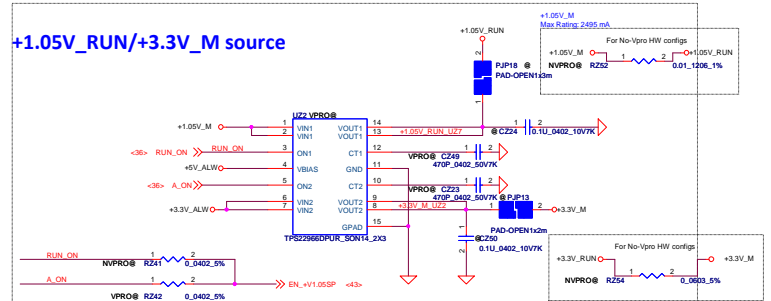
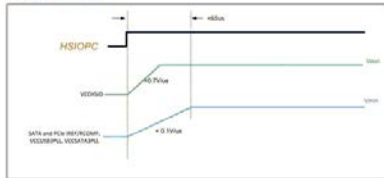
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if support MODPHY off keep DSC solution
MODPHY timing spec 0.7V/us and <65us

Figure 5-6. Sequencing Requirements between HSIOPC and LPT-LP 1.05V rails and COMP/IREF signals



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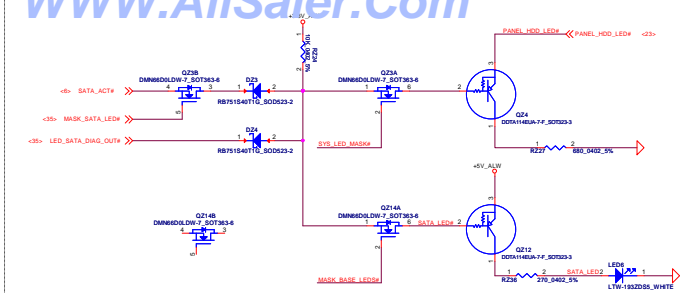
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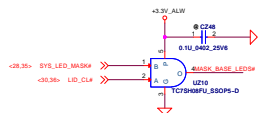
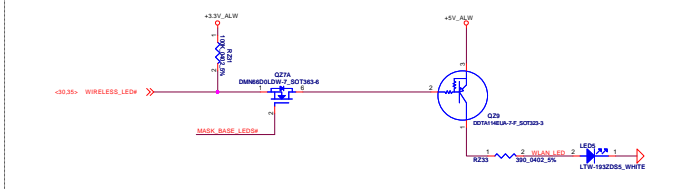


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Power control			
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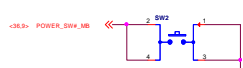
HDD LED solution for White LED



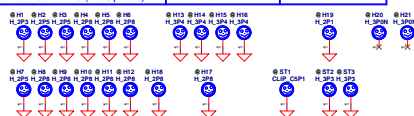
WLAN LED solution for White LED

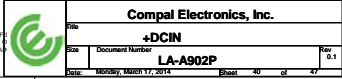


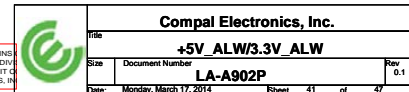
POWER & INSTANT ON SWITCH

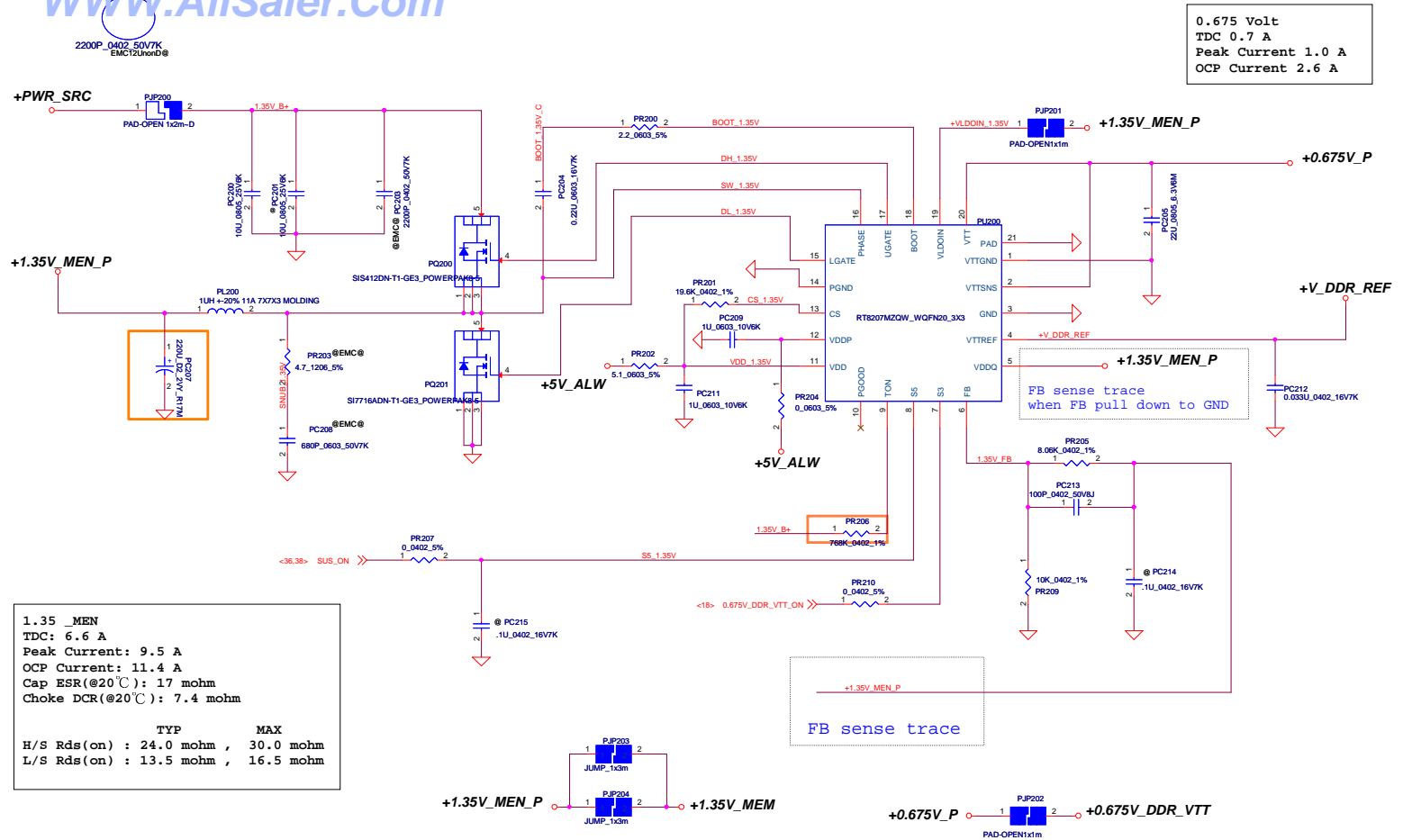


LED Circuit Control Table		
	SYS_LED_MASK#	LID_CL#
Mask All LEDs (Sniffer Function)	0	X
Mask Base MB LEDs (Lid Closed)	1	0
Do not Mask LEDs (Lid Opened)	1	1









0.675 Volt
TDC 0.7 A
Peak Current 1.0 A
OCP Current 2.6 A

1.35 _MEN
TDC: 6.6 A
Peak Current: 9.5 A
OCP Current: 11.4 A
Cap ESR(@20°C): 17 mohm
Choke DCR(@20°C): 7.4 mohm

	TYP	MAX
H/S Rds(on)	24.0 mohm	30.0 mohm
L/S Rds(on)	13.5 mohm	16.5 mohm

Mode	S3	S5	+1.35V_MEN	+V_DDR_REF	+0.675V_P
S5	L	L	off	off	off
S3	L	H	on	off(HI-Z)	on
S0	H	H	on	on	on

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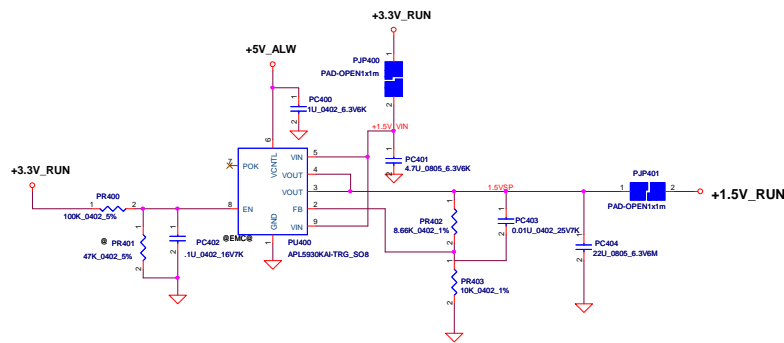
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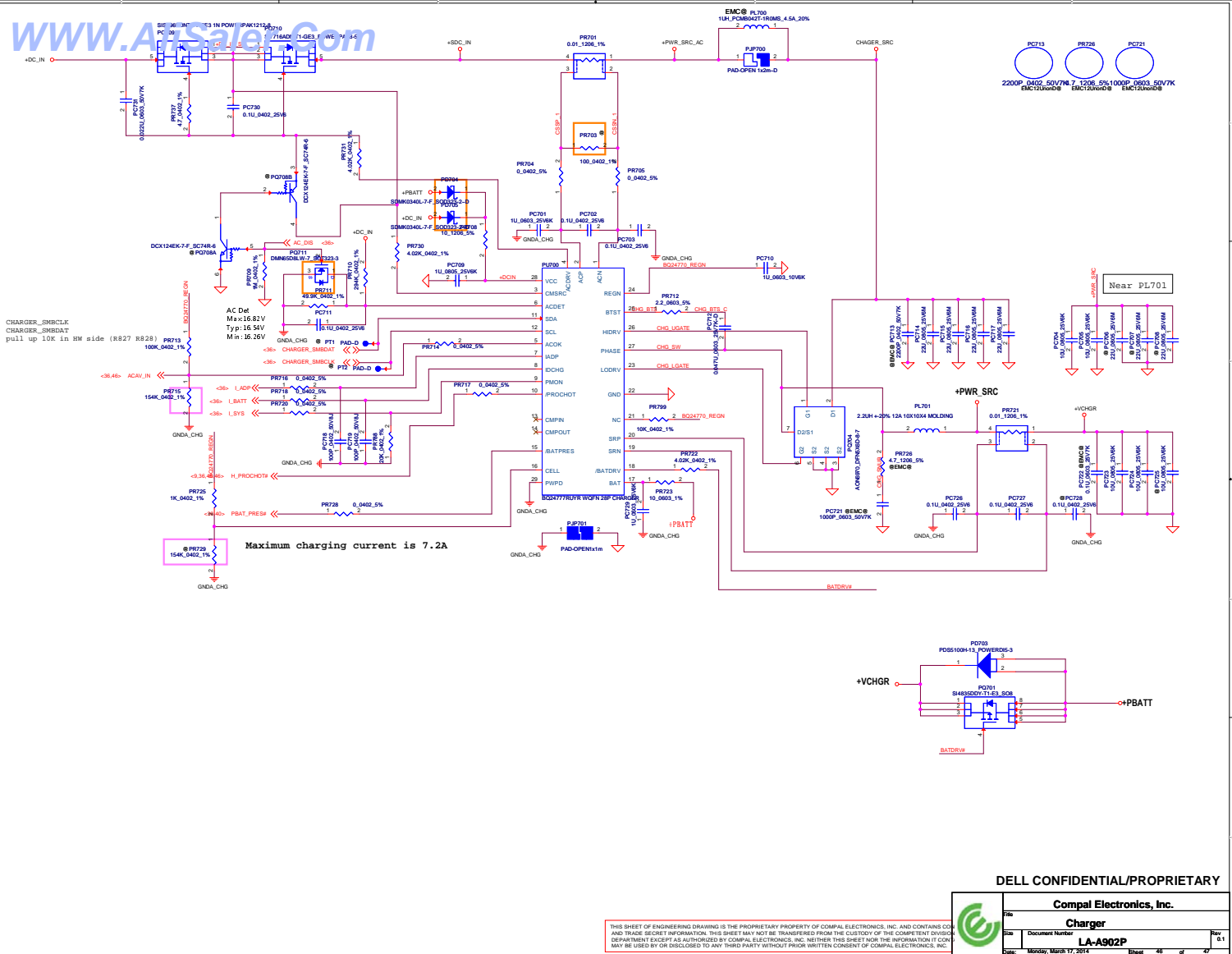
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+VCC_CORE

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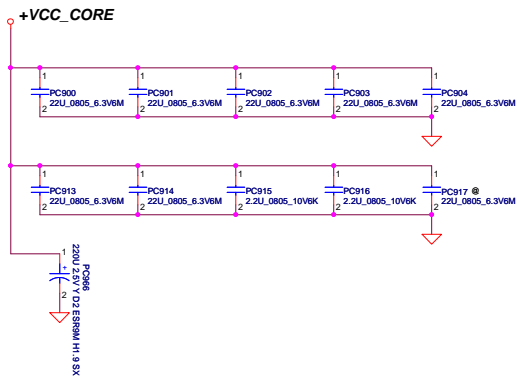
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Charger

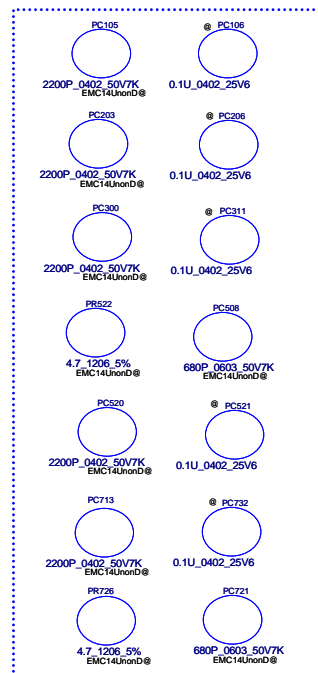
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Based on _RF Cheng. Hill
鄭智仁(11257) for PT 20131107

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Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	47	VCC_CORE	10/8	Compal	To prevent acoustic noise issue	Remove PC923, PC924, PC925, PC926, PC927, PC928, PC929, PC930, PC931, PC940, PC941, PC943, PC946, PC947, PC948 Add PC966	X01
2	42	1.35V_MEN	10/8	RICHTEK	To prevent IC damage	Add PR204	X01
3	46	Charger	10/8	Compal	Fine tune divider voltage	Change PR715, PR729 to 154k	X01
4	41,43,44	+1.05V_M +1.5V_RUN +3V/+5V	10/22	Compal	To improve the ability of anti-noise	Change PR307 to 7.5k Change PR310, PR102, PR104, PR403 to 10k Change PR100 to 6.49k Change PR101 to 15k Change PR402 to 8.66k	X01
5	45	VCC_CORE	10/31	Compal	Fine tune IMON	Add PR518, PR524, PR525	X01
6	ALL	ALL	10/31	Compal	RF request	Pop PR522, PC508, PR726, PC721, PC713, PL501, PC520	X01
7	46	Charger	12/05	Compal	Has the same behavior with dock circuit	Add PQ711	X01
8	46	Charger	12/05	Compal	To add 2nd source	Remove PQ702 Add PQ709, PQ710	X01
9	46	Charger	12/05	Compal	To reduce leakage current	Remove PD701 Add PD704, PD705	X01
10	46	Charger	3/03	Compal	To set OVP level	Remove PR729	X02
11	46	Charger	3/03	Compal	To set IC function	Remove PC720 Add PR788, PR799	X02
12	40	DCIN	3/03	Compal	For ME change request	Change PBATT1	X02
13	40	DCIN	3/03	Compal	For EMC change request	Add PD5 PC20 PC21 PC22 Remove PC11	X02

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Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	6	HW	2013/10/8	COMPAL	Follow intel reference circuit.	Add CC100, RC300 on CPU pin AC4, net name is PM_TEST_RST	0.2(X01)
2	27	HW	2013/10/8	COMPAL	Dell drop POA function.	Change JUSH1 from 26 pin to 20 pin, pin define follow E5	0.2(X01)
3	36	HW	2013/10/8	COMPAL	Dell drop POA function.	remove POA_WAKE# off page symbol remove POA_ON/OFF#,make UE2.B62 to be NC pin	0.2(X01)
4	22	HW	2013/10/9	COMPAL			0.2(X01)
5	24	HW	2013/10/9	COMPAL	correct HDMI schematic error.	swap HDMI LANE0 & LANE2 BUS	0.2(X01)
6	23	HW	2013/10/9	COMPAL	Follow EMC suggestion	Change LI1,LI2,LI3,LI4,LI5,LI6,LI7,LI8,LI9,LV3,LV6,LV10,LV12,LV27 From SM070003K00 (S COM FI_ CHILISIN CMMI21T-900Y-N) To SM070003Y00 (S COM FI_ MURATA DLW21HN900HQ2L)	0.2(X01)
7	9	HW	2013/10/9	COMPAL	reserved for S3 within 2s , system shutdown issue debug.	add RC26, reserved RC27.	0.2(X01)
8	36	HW	2013/10/9	COMPAL	board ID change.	RE79 change to 130K	0.2(X01)
9	24	HW	2013/10/9	COMPAL	SATA circuit issue	Swap mSATA P & N	0.2(X01)
10	36	HW	2013/10/14	COMPAL	follow intel latest design guide.	pop RE56 and change from 8.2K to 10K , it's RESET_OUT# pull down resistor	0.2(X01)
11	7	HW	2013/10/16	COMPAL	RF requirement.	add CC14, CC15 and move CC12, CC13 to behind the resistor (RC72)	0.2(X01)
12	20,23,31,32	HW	2013/10/17	COMPAL	follow ESD recommend list.	change all ESD diode CPN change DI2, DI3, DI5, DV4 from SCA00001100(S ZEN ROW PJDL0C05C 3P C/A SOT23) to SC600001600(S DIO ROW AZC199-02S.R7G C/C SOT23 ESD) change DI1,DI6,DI4 from SC300002800(S DIO(BR) TVWDF1004AD0 DFN ESD) to SC300002C00(S DIO(BR) L05ESDL5V0NA-4 SLP2510P8 ESD) change DA1,DA2,DA3,DA6,DA7 from SCA00001L00(S ZEN ROW L30ESDL5V0C3-2 C/A SOT23 ESD) to SCA00002900(S ZEN ROW L03ESDL5V0CC3-2 C/A SOT-23 ESD)	0.2(X01)
13	38	HW	2013/10/17	COMPAL	power doesn't split VPRO & NPRO BOM.	add RZ41, RZ42, reserve it for VPRO & NVPRO option.	0.2(X01)
14	39	HW	2013/10/17	COMPAL	SSI design will cause LED behavior error.	QL1 Pin2,5 & QL2 Pin2 change from MASK_BASE_LEDS# to SYS_LED_MASK#	0.2(X01)

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15	20	HW	2013/10/17	COMPAL	To solve Line-on HDD dirty shut down issue.	UZ8 Pin2 change from +3.3V_ALW to 3.3V_RUN	0.2(X01)
16	28, 36, 38	HW	2013/10/17	COMPAL	follow Dell requirement.	Add back SUS_ON, change control pin from SUS_ON to SIO_SLP_S4# 1. UZ8.3 from SIO_SLP_S4# to SUS_ON 2. UE2.B23 -- SUS_ON_EC , RPE10.2 -- SUS_ON 3. add RE282, RE281, RE280, RE279 4. UE2.B9 -- RUN_ON_EC	0.2(X01)
17	12	HW	2013/10/24	COMPAL			0.2(X01)
18	6	HW	2013/10/24	COMPAL	debug usage.	add RC301	0.2(X01)
19	9	HW	2013/10/28	COMPAL	reserve it to prevent PCH_PLTRST# floating when power on	add RC304, 100K pull down, on PCH_PLTRST#_EC	0.2(X01)
20	6, 7, 22, 28	HW	2013/10/23	COMPAL	follow xtal vender suggest	1 CC1 & CC2 change from 18PF to 3PF 2 CC8 & CC11 change from 18PF to 15PF 3 CL13 & CL14 change from 33PF to 27PF 4 RV81 change from 0 ohm to 2.2K & CV113 change to 18PF	0.2(X01)
21	23	HW	2013/10/29	COMPAL	it's designed for E5 Goliad, E6 GMLK doesn't need.	remove RZ1	0.2(X01)
22	30	HW	2013/10/29	COMPAL			0.2(X01)
23	12	HW	2013/10/29	COMPAL	To solve backdrive issue.	Change TPM_PIRQ# pull up (RC247) to +3.3V_RUN from +3.3V_ALW_PCH	0.2(X01)
24	30	HW	2013/10/30	COMPAL	Dell doesn't support MODPHY.	add PJP36, depop QZ6, QZ10, RZ16, RZ5, CZ25, CZ38	0.2(X01)
25	7	HW	2013/11/2	COMPAL	SMBUS Pull High	Add RN3&RN4 pull high to +3.3V_RUN for DDR_XDP_WAN_SMBDAT/SMBCLK	0.2(X01)
26	21	HW	2013/11/2	COMPAL	EMC request.	Add RA42, RA43.	0.2(X01)
27	21	HW	2013/11/05	COMPAL	follow vender suggestion. It's for 15KV ESD fail issue.	add CA12, CA13 change DA1, DA2, DA3, DA4 from GNDA to GND	0.2(X01)
28	12	HW	2013/11/05	COMPAL	GPIO 14 is sus power well, it has risk to cause back drive.	move TPM_PIRQ# from PCH_GPIO14 to PCH_GPIO17, add T21 on PCH_GPIO14	0.2(X01)
39	21	HW	2013/12/17	COMPAL			0.3(X01)
40	22	HW	2013/12/17	COMPAL			0.3(X01)

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