

COMPAL CONFIDENTIAL

MODEL NAME :EDC41

PCB NO :LA-G891P

BOM P/N :XXXXX

Vinafix.com

14 WHL-U UMA(non TBT)

Whiskey Lake U42

2019-02-12

REV : 1.0 (A00)

- @ : Nopop Component
- EMI@ : EMI Component
- @EMI@ : EMI Nopop Component
- ESD@ : ESDComponent
- @ESD@ : ESD Nopop Component
- RF@ : RF Component
- @RF@ : RF Nopop Component
- CONN@ : Connector Component
- DS3@ : Deep sleep support
- NDS3@ : non Deep sleep support
- CXDP@ : XDP Component
- RTD3@ : RTD Component
- NRTD3@ : RTD Component
- ST33@ : ST TPM Component
- 750@ : NUVOTON TPM Component

MB PCB	
Part Number	Description
DA8001GT000	PCB 2FB LA-G891P REV0 MB UU NAR 1

Layout Dell logo



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REV:X00
PWB:

Power CKT : *NORTHBAY 14UU_WHL_PWR_0128
GPIO map : X10_CSLP GPIO map Rev1.3_20180529

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Title

Cover Sheet

Size

Document Number

LA-G891P

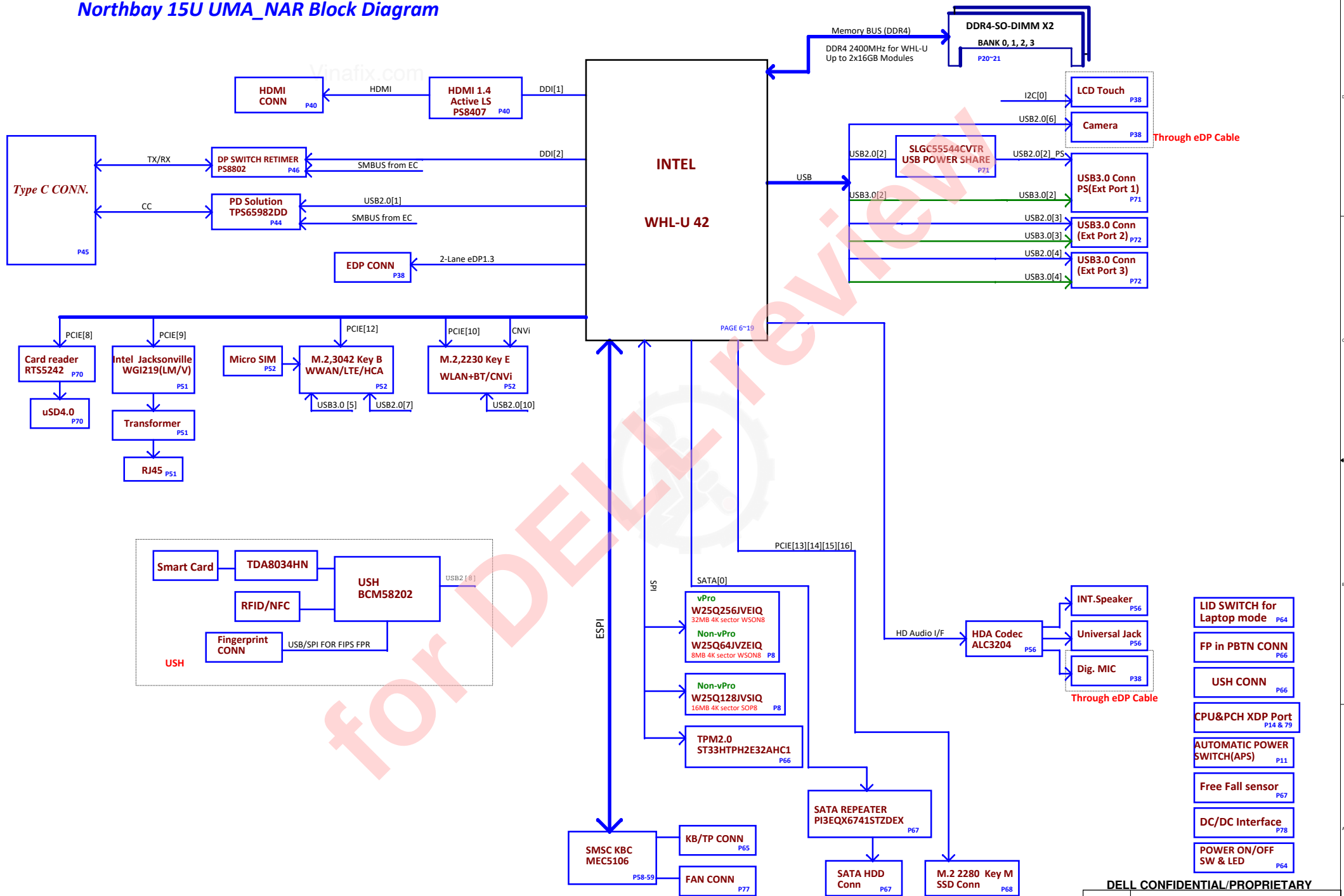
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Northbay 15U UMA_NAR Block Diagram



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POWER STATES

State \ Signal	SLP S3#	SLP S4#	SLP S5#	SLP A#	ALWAYS PLANE	M PLANE	SUS PLANE	RUN PLANE	CLOCKS
S0 (Full ON) / M0	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON	ON
S0ix/Moff	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
S0ix (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

USB3.0	GbE	PCIE	SATA	DESTINATION
USB3.0-1		PCIE-1		Type-C
USB3.0-2		PCIE-2		JUSB1
USB3.0-3		PCIE-3		JUSB2
USB3.0-4		PCIE-4		JUSB3
USB3.0-5		PCIE-5		M.2 3042(LTE)
USB3.0-6		PCIE-6		NA
		PCIE-7		
		PCIE-8		Card Reader
		PCIE-9		LOM
		PCIE-10		M.2 2230(WLAN)
		PCIE-11	SATA-0	HDD
		PCIE-12	SATA-1	M.2 3042(LTE)
		PCIE-13		
		PCIE-14		M.2 2280 SSD (PCIex4 or SATA)
		PCIE-15	SATA-1*	
		PCIE-16	SATA-2	

USB PORT#	DESTINATION
1	Type-C
2	JUSB1
3	JUSB2
4	JUSB3
5	NA
6	Camera
7	M2 3042(WWAN)
8	USH
9	FPR in PB
10	M.2 2230(BT)

PM TABLE

State \ power plane	+5V_ALW +3.3V_ALW +3.3V_ALW_DSW +3.3V_ALW_PCH +RTC_CELL +1.8V_PRIM +5V_ALW2 +3.3V_ALW2 +3.3V_RTC_LDO +1V_PRIM	+3.3V_CV2 +1.2V_MEM +2.5V_MEM	+5V_RUN +3.3V_RUN +0.6V_DDR_VTT +1.8V_RUN +1.2V_RUN
S0	ON	ON	ON
S0ix	ON	ON	OFF
S5 S4/AC	ON	OFF	OFF
S5 S4/AC doesn't exist	OFF	OFF	OFF

Figure 6-1. High Speed I/O (HSIO) Lane Multiplexing in CNL U PCH-LP

Flex I/O Lane	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
High Speed I/O (HSIO) Type and Lane	USB3.1 Gen1/Gen2 # 1	USB3.1 Gen1/Gen2 # 2	USB3.1 Gen1/Gen2 # 3	USB3.1 Gen1/Gen2 # 4	USB3.1 Gen1/Gen2 # 5	USB3.1 Gen1/Gen2 # 6	PCIE* # 7	PCIE* # 8	PCIE* # 9	PCIE* # 10	PCIE* # 11	PCIE* # 12	PCIE* # 13	PCIE* # 14	PCIE* # 15	PCIE* # 16
	PCIE* # 1	PCIE* # 2	PCIE* # 3	PCIE* # 4	PCIE* # 5	PCIE* # 6	GbE	GbE	GbE	SATA 0	SATA 1a	GbE	GbE	SATA 1b	SATA 2	SATA 2
Intel® RST Support	No Support				No Support				Yes				Yes			

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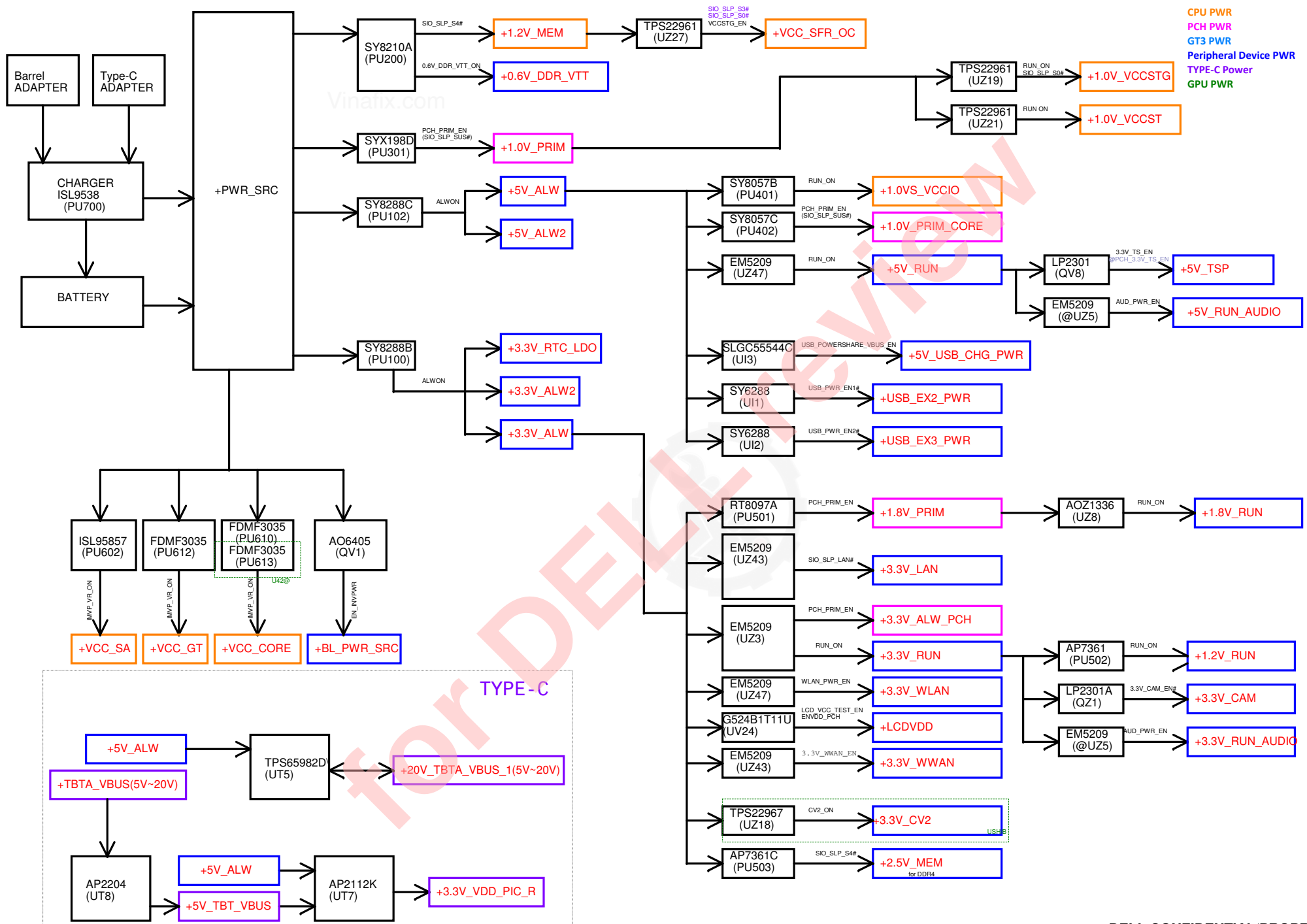
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Port assignment

LA-G891P

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- CPU PWR
- PCH PWR
- GT3 PWR
- Peripheral Device PWR
- TYPE-C Power
- GPU PWR

TYPE-C

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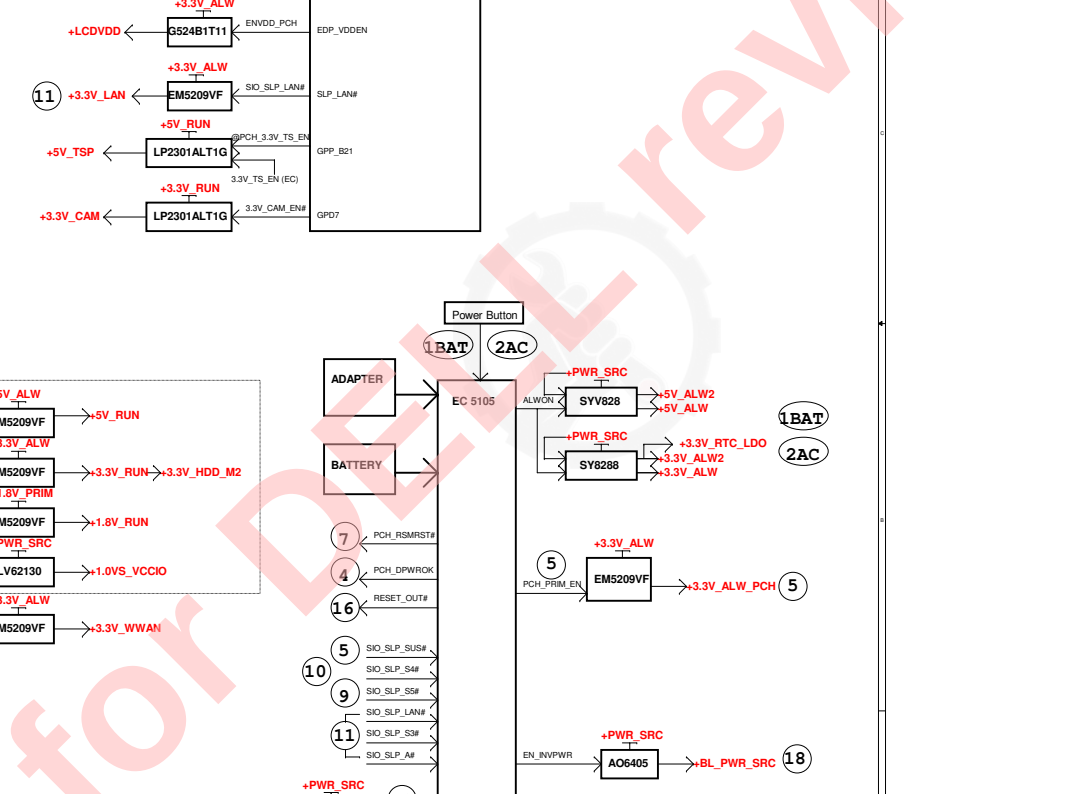
Power rails

LA-G891P

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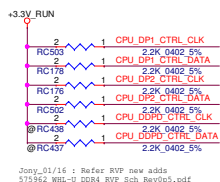
Power Sequence

LA-G891P

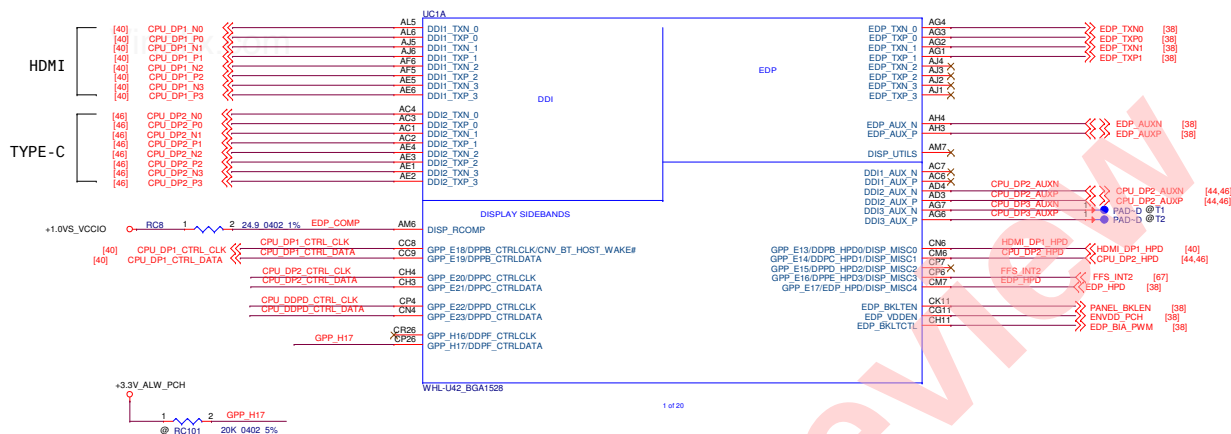
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For 2LANE EDP

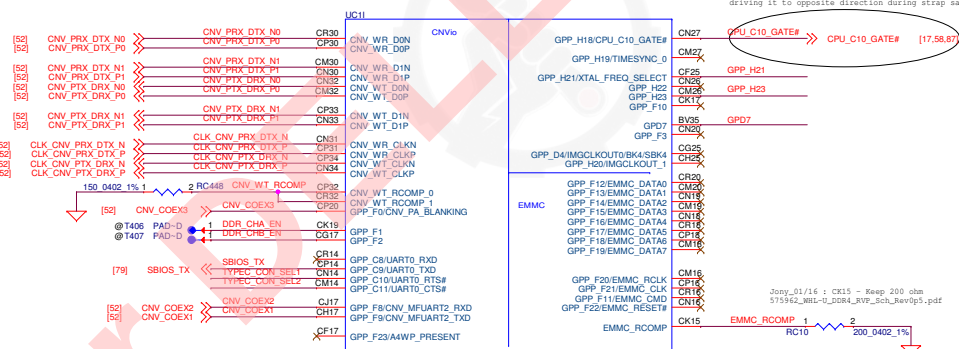
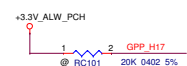


Jony_01/16 : Refer RVP new add
575962 WHL-U DDR4 RVP Sch Rev0p5.pdf

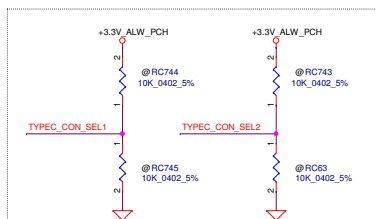


All VREF traces should have 10 mil trace width

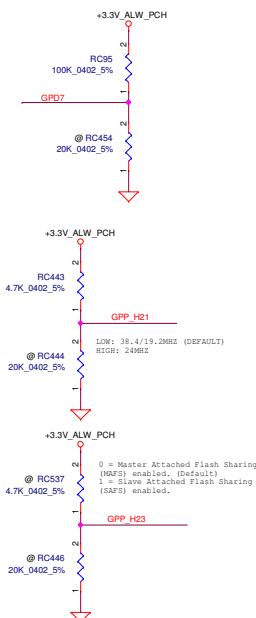
COMPENSATION PU FOR eDP
CAD Note:
Trace width=5 mils
Isolation Spacing=25mil,
Max length=100 mils.



This strap should sample HIGH.
There should NOT be any on-board device
driving it to opposite direction during strap sampling.



Vendor	JAE	FOXCON	TBD	TBD
TYPEC_CON_SEL1	LOW	LOW	HIGH	HIGH
TYPEC_CON_SEL2	LOW	HIGH	LOW	HIGH



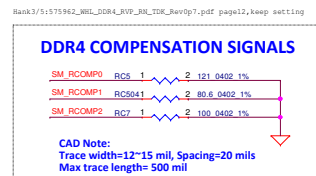
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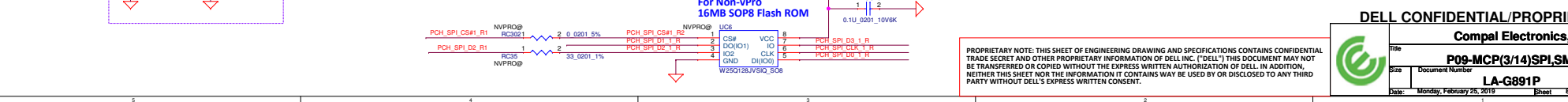
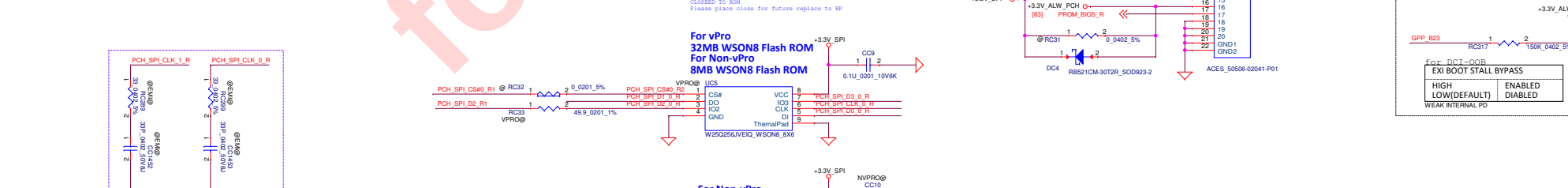
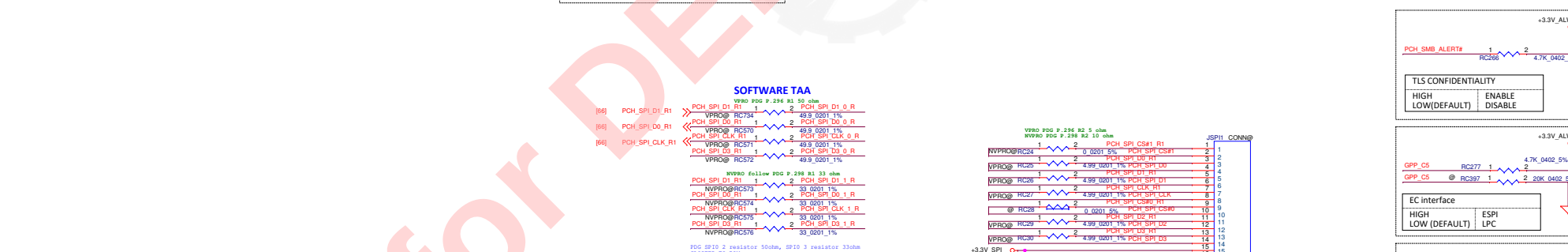
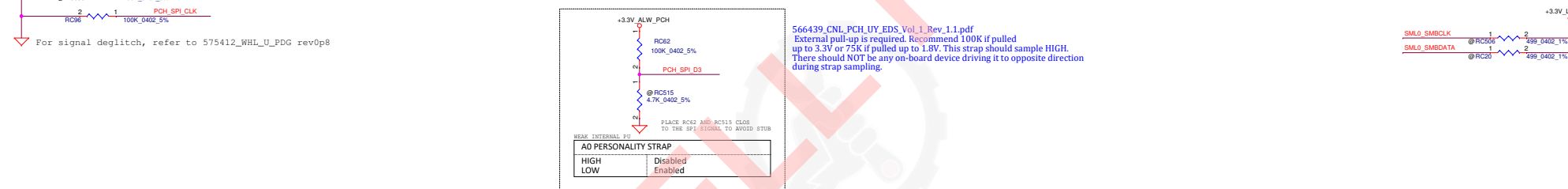
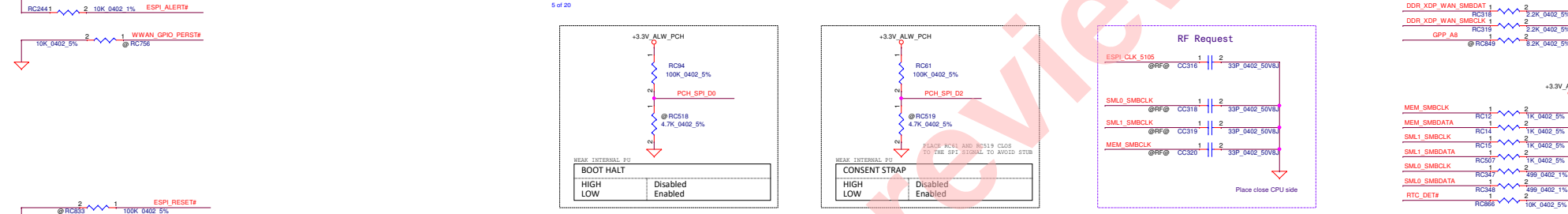
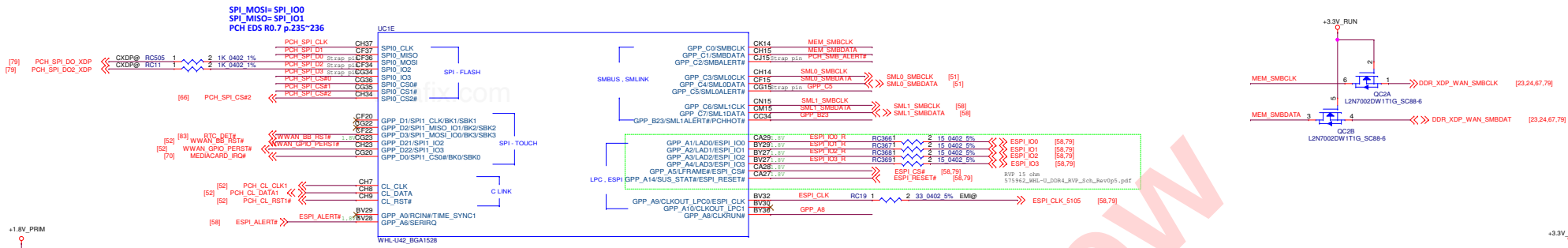
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Title		P07-MCP(1/14)DDI,EDP,CSI2,EMMC	
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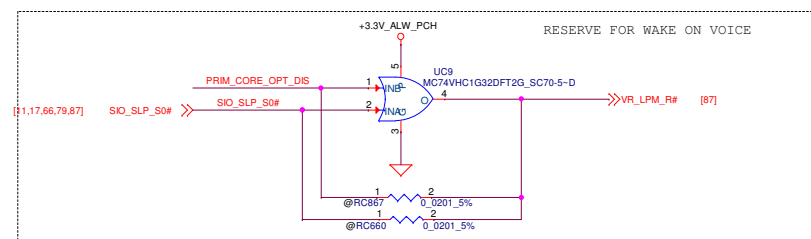
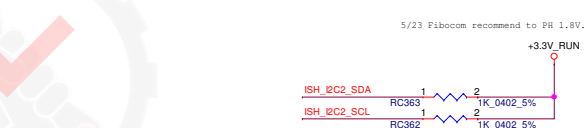
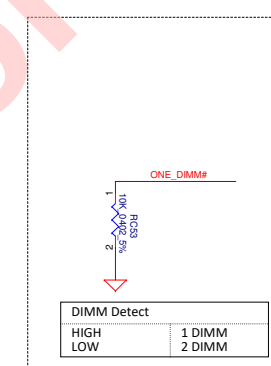
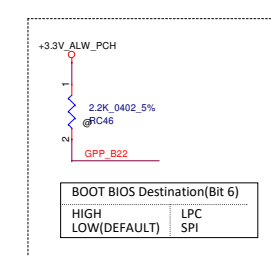
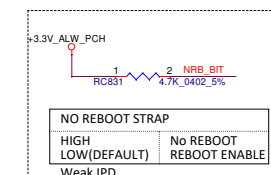
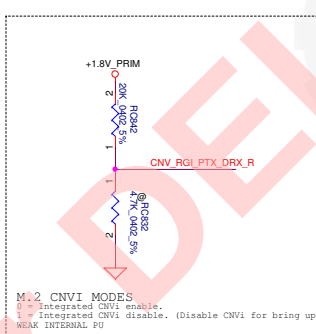
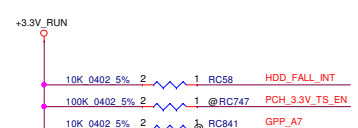
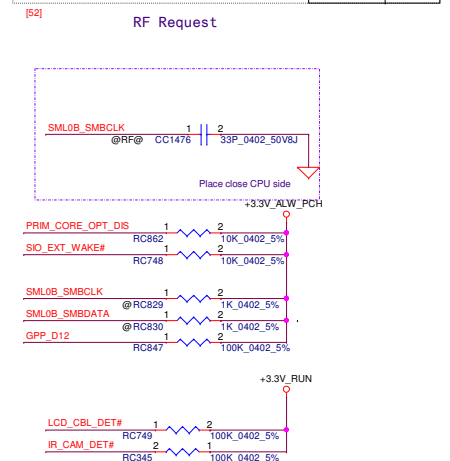
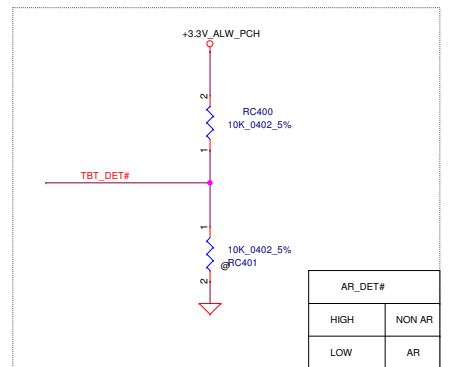
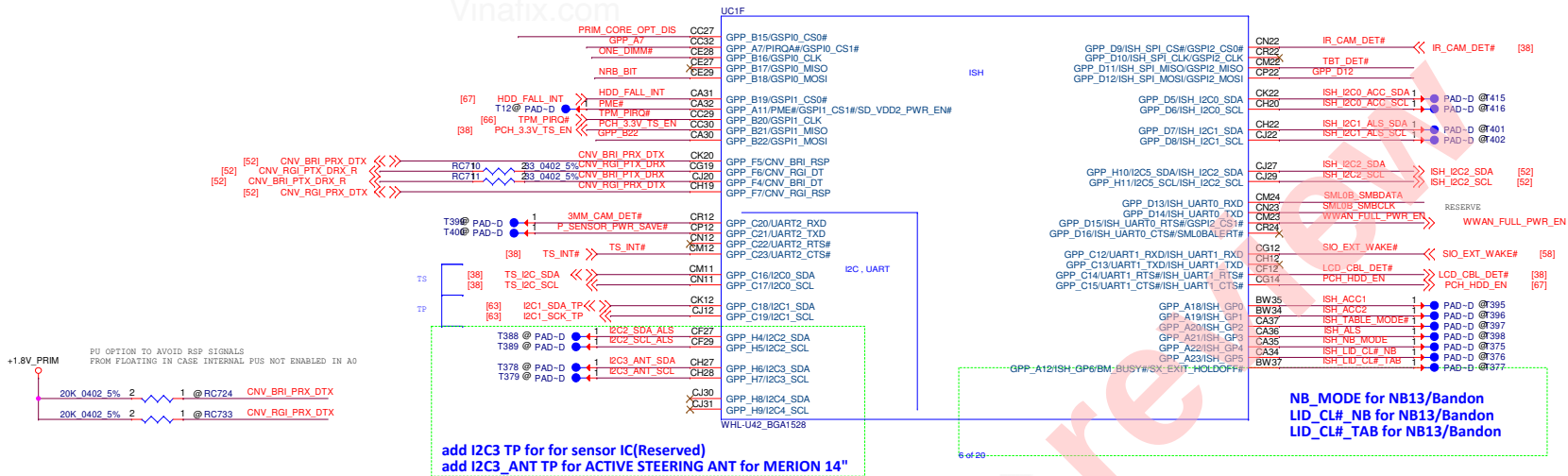
566439_CN1_PCH_UY_EDS_Vol.1_Rev.1.1.pdf
External pull-up is required. Recommend 100K if pulled up to 3.3V or 75K if pulled up to 1.8V. This strap should sample HIGH. There should NOT be any on-board device driving it to opposite direction during strap sampling.

For vPro 32MB WSON8 Flash ROM For Non-vPro 8MB WSON8 Flash ROM

For Non-vPro 16MB SOP8 Flash ROM

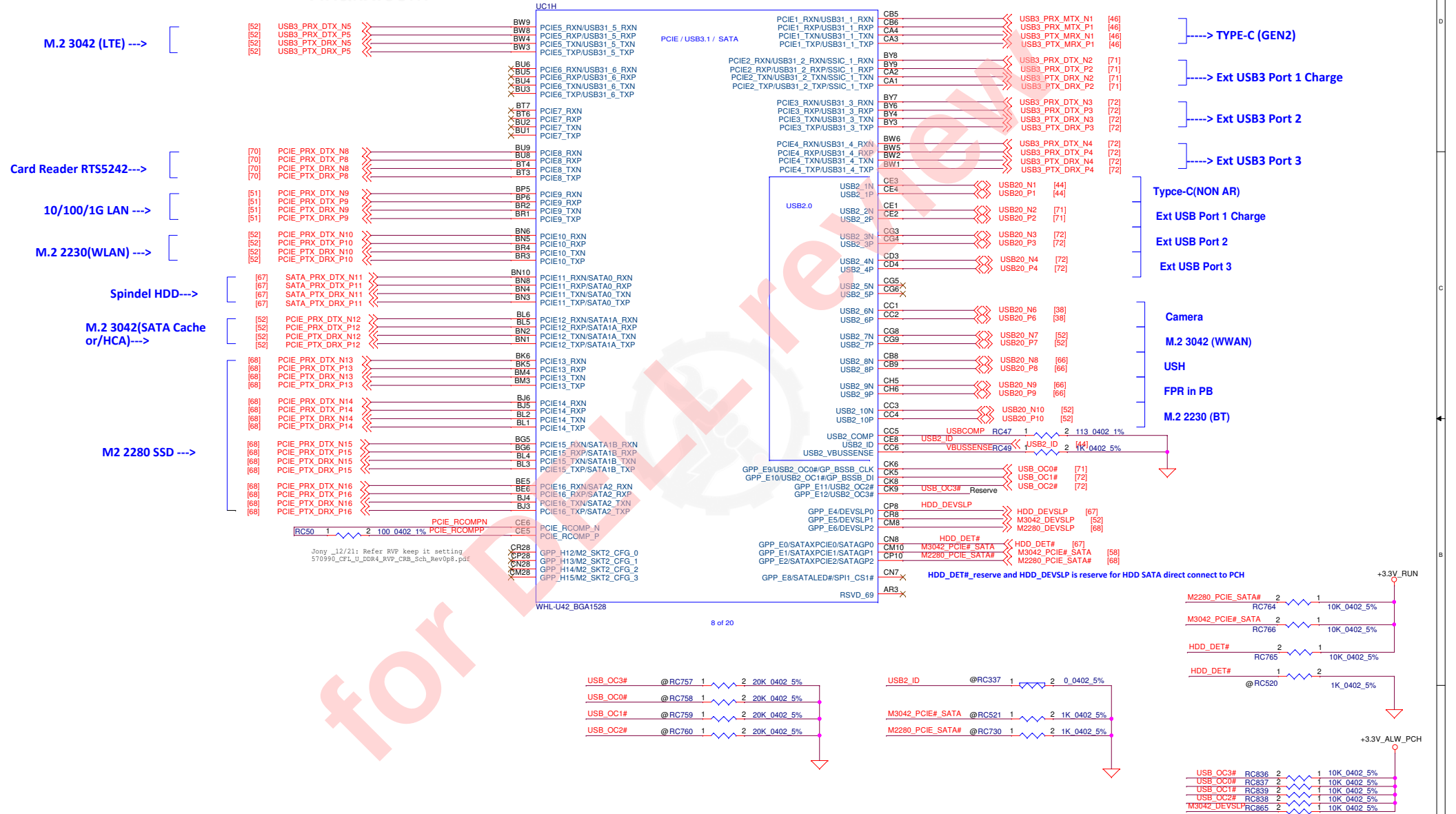
For DCT-OOB EXI BOOT STALL BYPASS

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P09-MCP(314)/SPI,SMB,LPC
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AR,NB_Bandon DSC(follow WHL 180306C port map)

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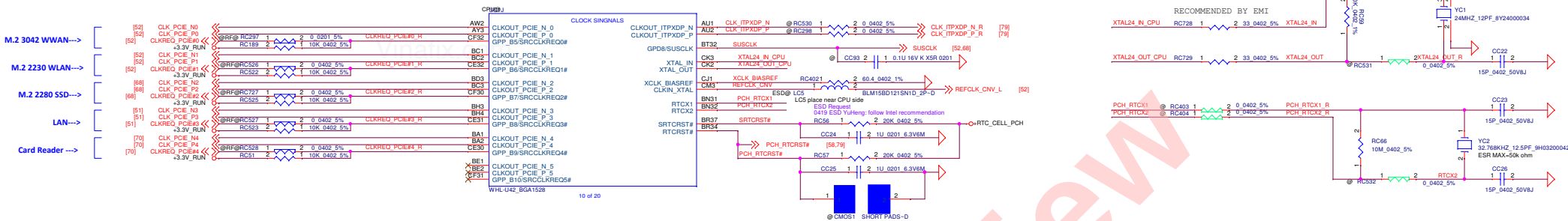


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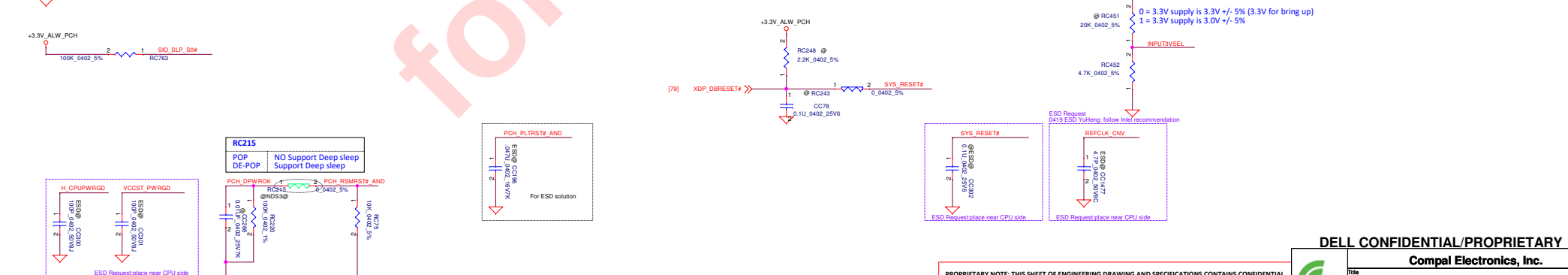
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Title P11-MCP(5/14)PCIE,USB,SATA	
Size	Document Number LA-G891P
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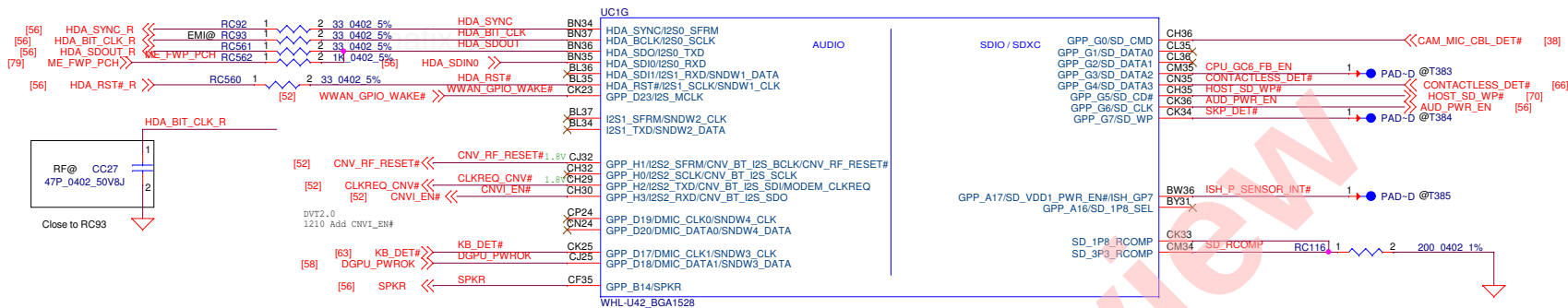
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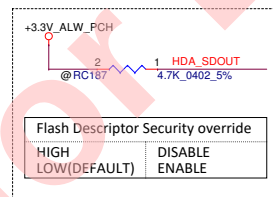
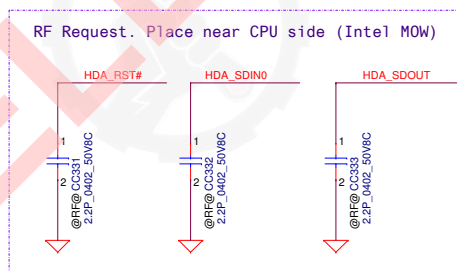
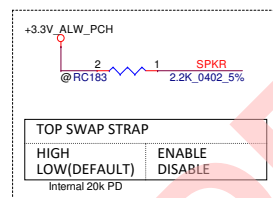
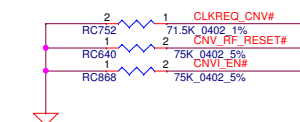
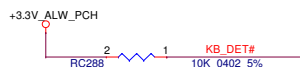
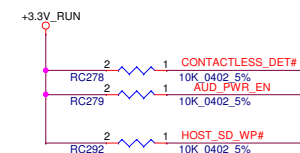
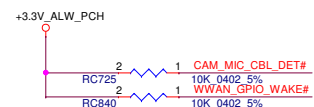
The schematic diagram illustrates the PCH wakeup logic. It shows several input signals connected to a network of resistors and logic gates. The inputs include +3.3V_LAN, +3.3V_ALW_DSW, +1.0V_VCCST, and +3.3V_ALW_PCH. The logic involves resistors (e.g., 10K, 1K, 100K) and gates (e.g., RC323, RC67, RC739, RC738, RC439, RC440, RE536, RC215, RC441, RC442). A detailed view of the PCH_PLTRST# AND gate shows its internal structure with transistors and resistors.

	RC439	RC440	RE536	RC215	RC441	RC442
Support DS3	V	X	V	X	V	X
No Support DS3	X	V	X	V	X	V

[illegible]



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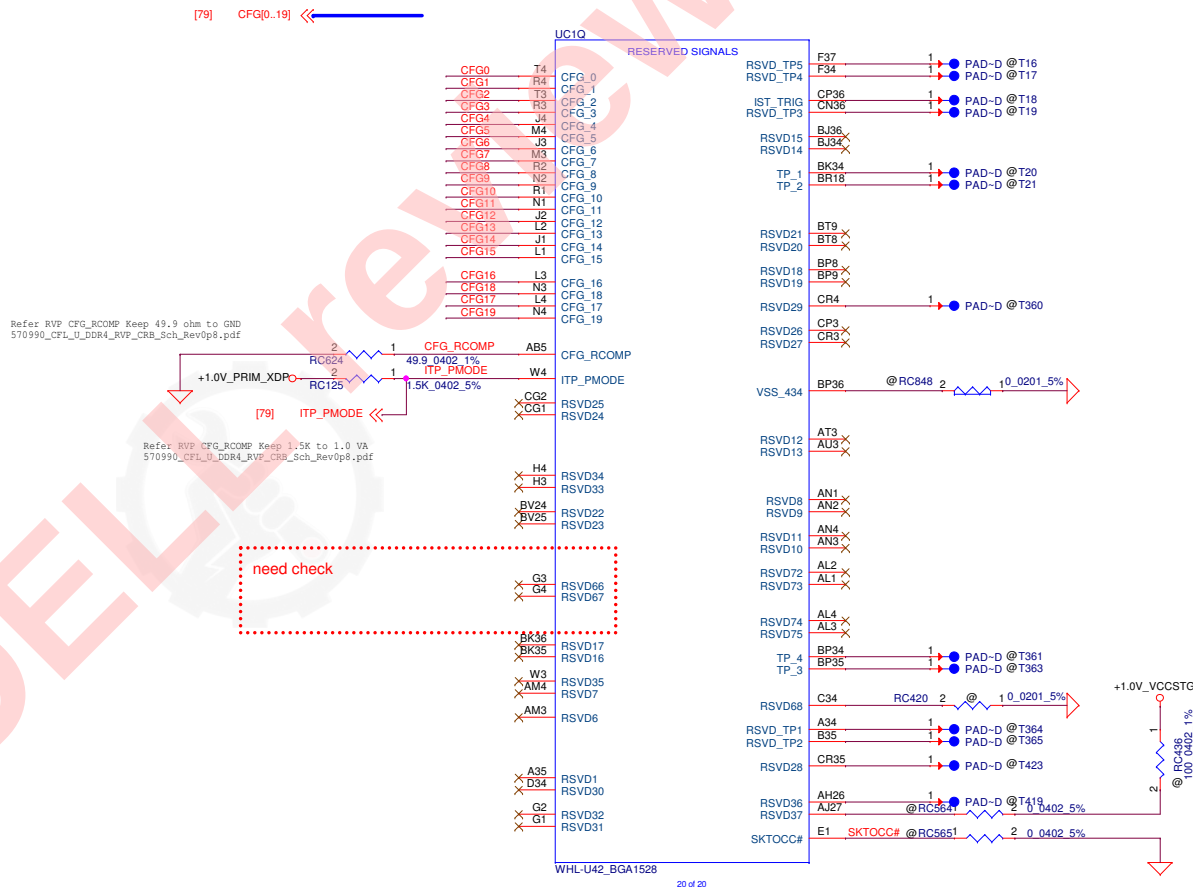
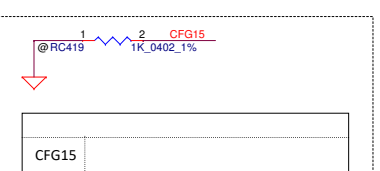
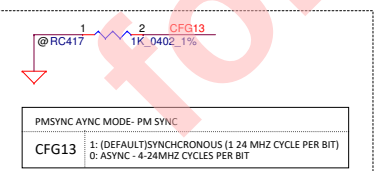
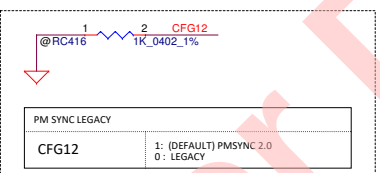
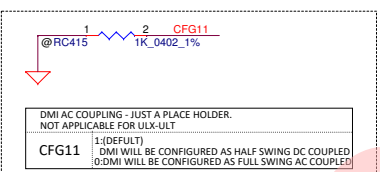
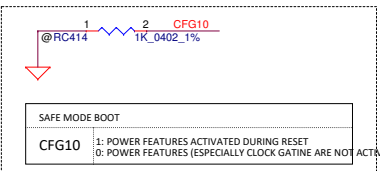
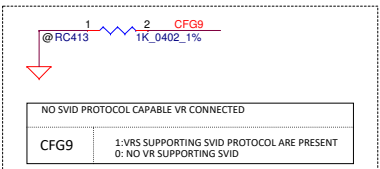
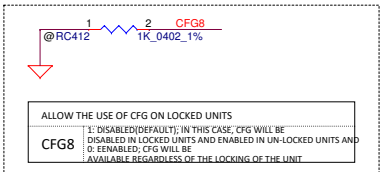
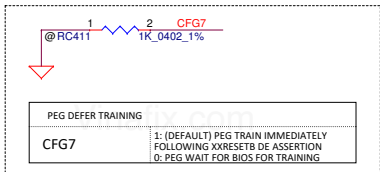
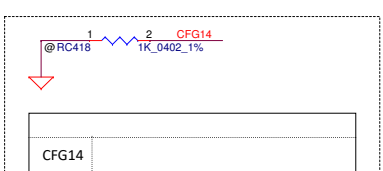
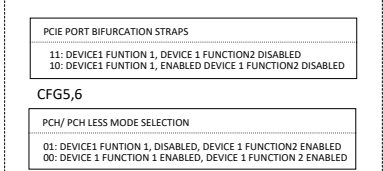
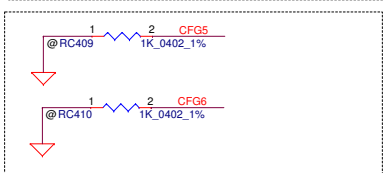
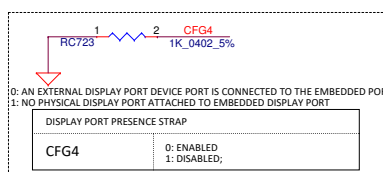
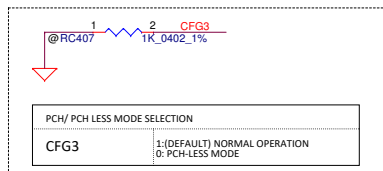
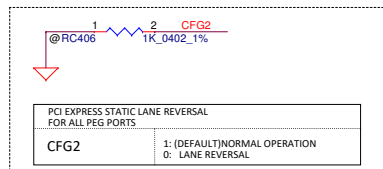
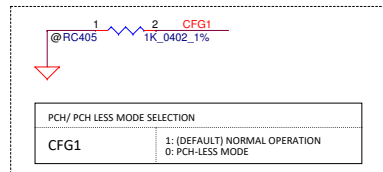
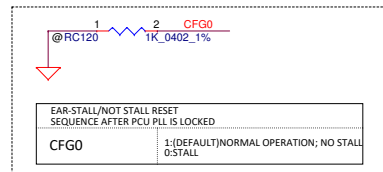
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Title	P13-MCP(7/14)MISC,JTAG,HDA,SDIO		
Size	Document Number	LA-G891P	Rev 0.3
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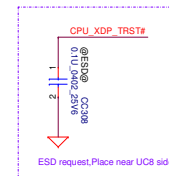
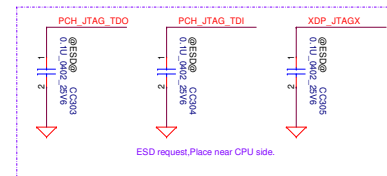
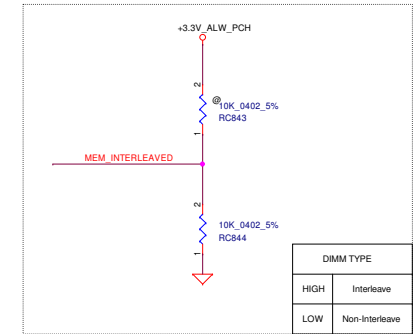
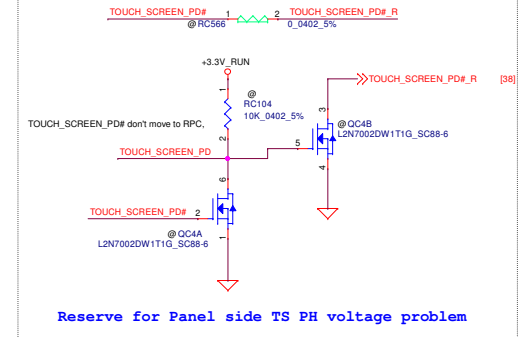
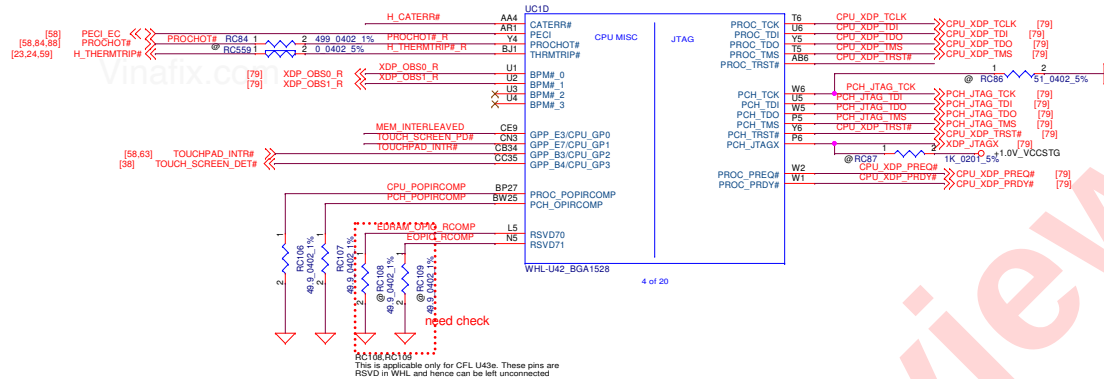
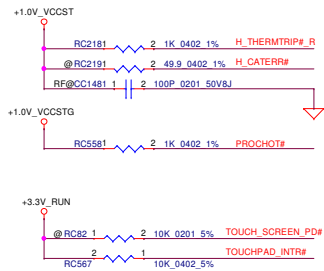
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Compal Electronics, Inc.	
Title	
P14-MCP(8/14)CFG,RSVD	
Size	Document Number
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	Compal Electronics, Inc.		
	Title		
	P15-MCP(9/14)XDP		
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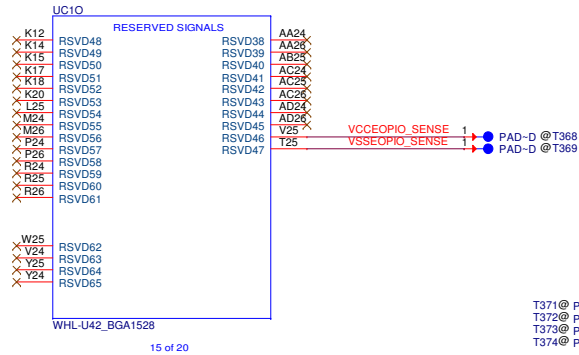
PSC(Primary side cap) : Place as close to the package as possible
BSC(Backside cap) : Place on secondary side, underneath the package

Component placement order:
Package edge > 0402 caps > 0805 caps > Bulk caps > Power source

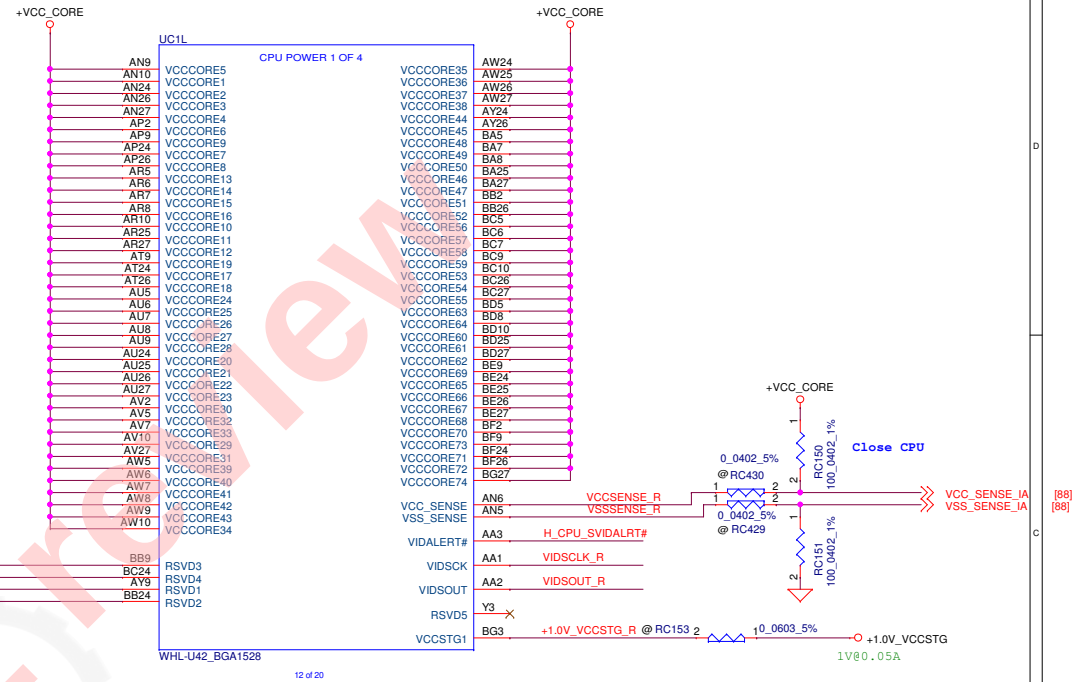
+VCC_CORE: 0.55~1.5V, 29A
+VCC_EDRAM: 1V, 2.5A

+V1.8S_EDRAM: 1.8V, 50mA - REMOVE
+VCC_EOPIR: 0.8~1V, 2A - REMOVE

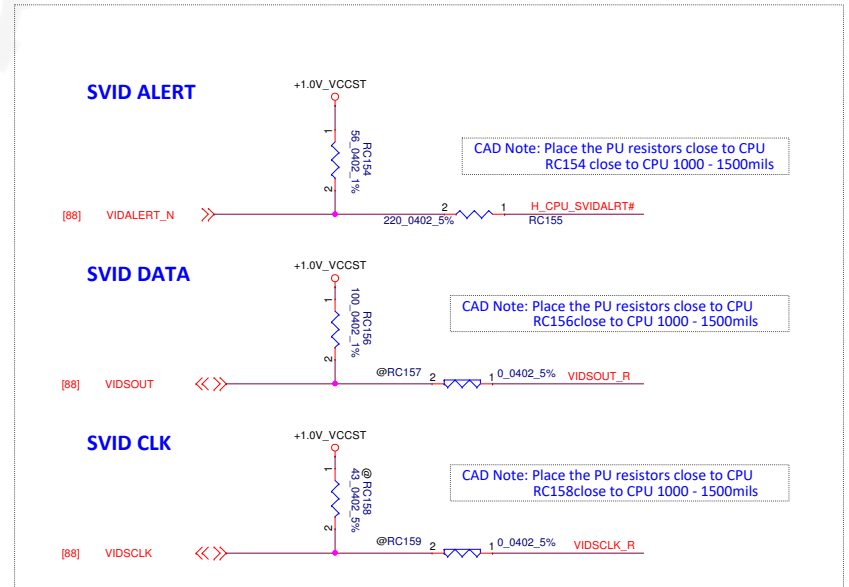
Pin Number	CFU U43#	WHL U42 Q5/Production	CNU U22/WHL U42 E50/A
AH26	ZV#	RSVD	RSVD
T25	VSS_EOPIR_SENSE	RSVD	RSVD
V25	VCC_EOPIR_SENSE	RSVD	RSVD
AA24	VCC_EOPIR	RSVD	RSVD
AA26	VCC_EOPIR	RSVD	RSVD
AB25	VCC_EOPIR	RSVD	RSVD
AC24	VCC_EOPIR	RSVD	RSVD
AC25	VCC_EOPIR	RSVD	RSVD
AD24	VCC_EOPIR	RSVD	RSVD
AD26	VCC_EOPIR	RSVD	RSVD
K12	VCCOPC	RSVD	RSVD
K13	VCCOPC	RSVD	RSVD
K14	VCCOPC	RSVD	RSVD
K15	VCCOPC	RSVD	RSVD
K16	VCCOPC	RSVD	RSVD
K17	VCCOPC	RSVD	RSVD
K18	VCCOPC	RSVD	RSVD
K19	VCCOPC	RSVD	RSVD
K20	VCCOPC	RSVD	RSVD
K21	VCCOPC	RSVD	RSVD
K22	VCCOPC	RSVD	RSVD
K23	VCCOPC	RSVD	RSVD
K24	VCCOPC	RSVD	RSVD
K25	VCCOPC	RSVD	RSVD
K26	VCCOPC	RSVD	RSVD
K27	VCCOPC	RSVD	RSVD
K28	VCCOPC	RSVD	RSVD
K29	VCCOPC	RSVD	RSVD
K30	VCCOPC	RSVD	RSVD
K31	VCCOPC	RSVD	RSVD
K32	VCCOPC	RSVD	RSVD
K33	VCCOPC	RSVD	RSVD
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K38	VCCOPC	RSVD	RSVD
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K40	VCCOPC	RSVD	RSVD
K41	VCCOPC	RSVD	RSVD
K42	VCCOPC	RSVD	RSVD
K43	VCCOPC	RSVD	RSVD
K44	VCCOPC	RSVD	RSVD
K45	VCCOPC	RSVD	RSVD
K46	VCCOPC	RSVD	RSVD
K47	VCCOPC	RSVD	RSVD
K48	VCCOPC	RSVD	RSVD
K49	VCCOPC	RSVD	RSVD
K50	VCCOPC	RSVD	RSVD
K51	VCCOPC	RSVD	RSVD
K52	VCCOPC	RSVD	RSVD
K53	VCCOPC	RSVD	RSVD
K54	VCCOPC	RSVD	RSVD
K55	VCCOPC	RSVD	RSVD
K56	VCCOPC	RSVD	RSVD
K57	VCCOPC	RSVD	RSVD
K58	VCCOPC	RSVD	RSVD
K59	VCCOPC	RSVD	RSVD
K60	VCCOPC	RSVD	RSVD
K61	VCCOPC	RSVD	RSVD
K62	VCCOPC	RSVD	RSVD
K63	VCCOPC	RSVD	RSVD
K64	VCCOPC	RSVD	RSVD
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K97	VCCOPC	RSVD	RSVD
K98	VCCOPC	RSVD	RSVD
K99	VCCOPC	RSVD	RSVD
K100	VCCOPC	RSVD	RSVD



T371@ PAD-D 1 +VCC_CORE_G0
T372@ PAD-D 1 +VCC_CORE_G1
T373@ PAD-D 1 +VCC_CORE_G2
T374@ PAD-D 1 +VCC_CORE_G3



VCCOPC,VCCOPC_1P8,VCC_EOPIR for SKYLAKE-U 2+3e
(w/ on package cache)



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Compal Electronics, Inc.			
Title			
P16-MCP(10/14)PWR-VCC CORE			
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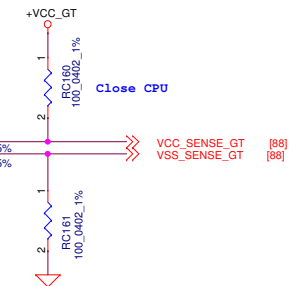
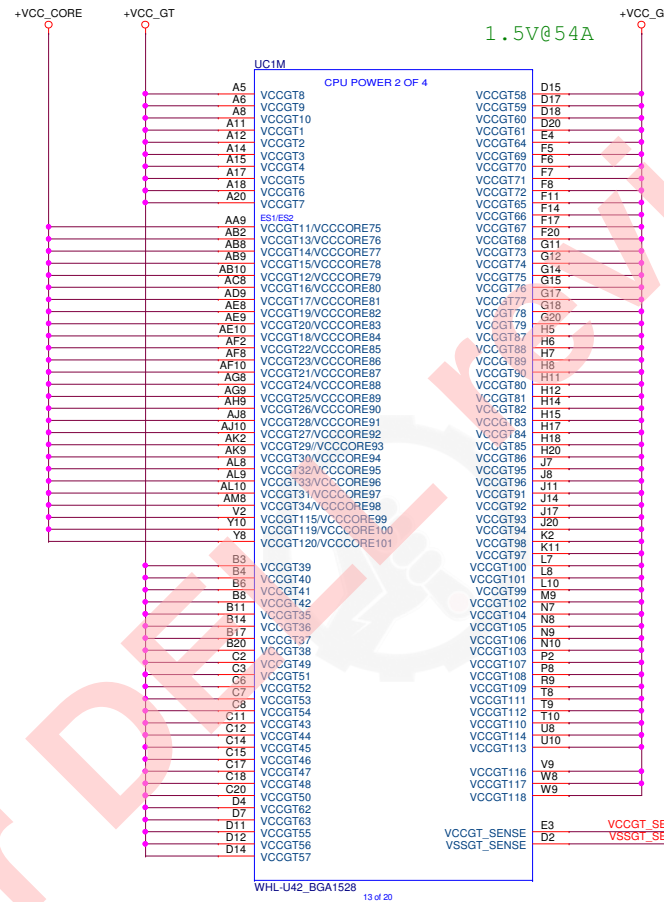
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THE BALLOUT ONLY FOR WHL ES2 CPU

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+VCCGT: 0.55~1.5V, 54A
+VCCGTx : 0.55~1.5V, 7A

Pin Number	CFL-U43E	WHL ES1 Netname	WHL ES2 Netname
AA9	VCCGT	VCCGT	VCCCORE
AB10	VCCGT	VCCGT	VCCCORE
AB2	VCCGT	VCCGT	VCCCORE
AB8	VCCGT	VCCGT	VCCCORE
AB9	VCCGT	VCCGT	VCCCORE
AC8	VCCGT	VCCGT	VCCCORE
AD9	VCCGT	VCCGT	VCCCORE
AE10	VCCGT	VCCGT	VCCCORE
AE8	VCCGT	VCCGT	VCCCORE
AE9	VCCGT	VCCGT	VCCCORE
AF10	VCCGT	VCCGT	VCCCORE
AF2	VCCGT	VCCGT	VCCCORE
AF8	VCCGT	VCCGT	VCCCORE
AG8	VCCGT	VCCGT	VCCCORE
AG9	VCCGT	VCCGT	VCCCORE
AH9	VCCGT	VCCGT	VCCCORE
AJ10	VCCGT	VCCGT	VCCCORE
AJ8	VCCGT	VCCGT	VCCCORE
AK2	VCCGT	VCCGT	VCCCORE
AK9	VCCGT	VCCGT	VCCCORE
AL10	VCCGT	VCCGT	VCCCORE
AL8	VCCGT	VCCGT	VCCCORE
AL9	VCCGT	VCCGT	VCCCORE
AM8	VCCGT	VCCGT	VCCCORE
V2	VCCGT	VCCGT	VCCCORE
Y10	VCCGT	VCCGT	VCCCORE
Y8	VCCGT	VCCGT	VCCCORE



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P17-MCP(11/14)PWR-VCCGT

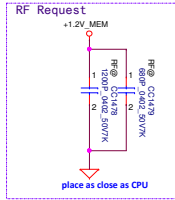
LA-G891P

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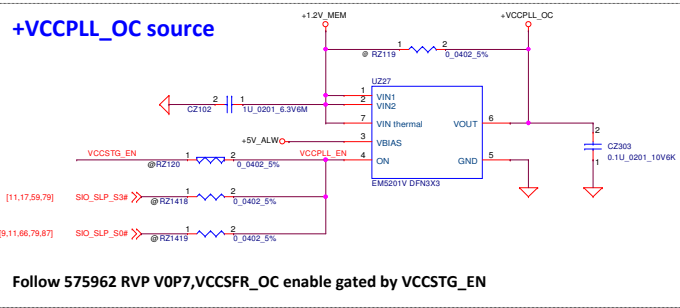
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+1.2V_DDR: 1.2V, 3.5A
+1.0V_VCCST: 1V, 120mA; VCCPLL: 1V, 120mA
+1.0V_VCCSTG: 1V, 40mA
+VCCPLL_OC: 1.2V, 260mA
+1.0V_VCCIO: 0.85~0.95V, 3.1A
+VCC_SA: 1.15V, 5.1A

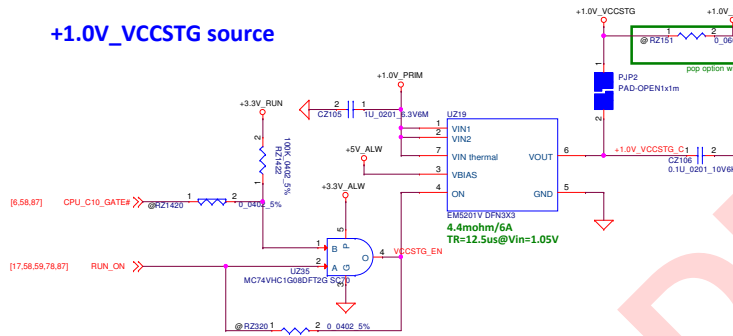
Vinafix.com



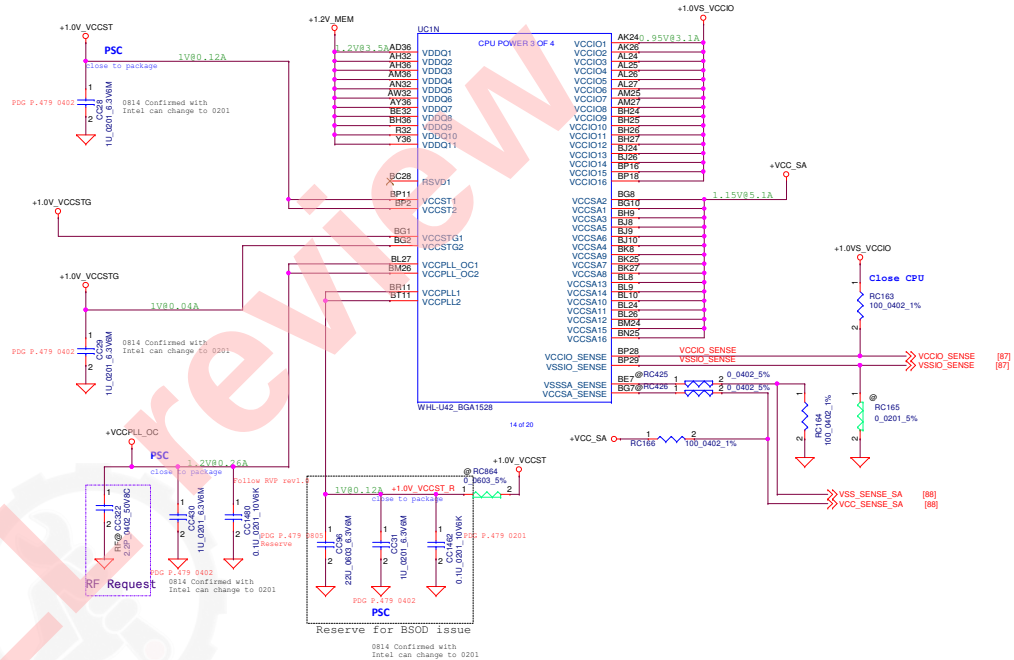
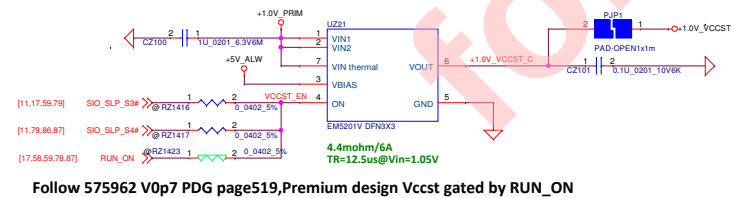
+VCCPLL_OC source



+1.0V_VCCSTG source

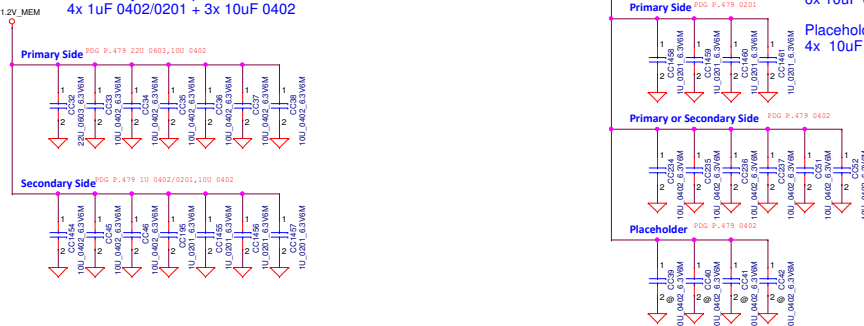


+1.0V_VCCST source



WHL_U PDG rev0.8 P.479
VDDQ:
Primary Side cap
1x 22uF 0603 + 6x 10uF 0402
Secondary Side cap
4x 1uF 0402/0201 + 3x 10uF 0402

WHL_U PDG rev0.8 P.479
VCCIO:
Primary Side cap
4x 1uF 0201
Primary or Secondary Side
6x 10uF 0402
Placeholder Only
4x 10uF 0402



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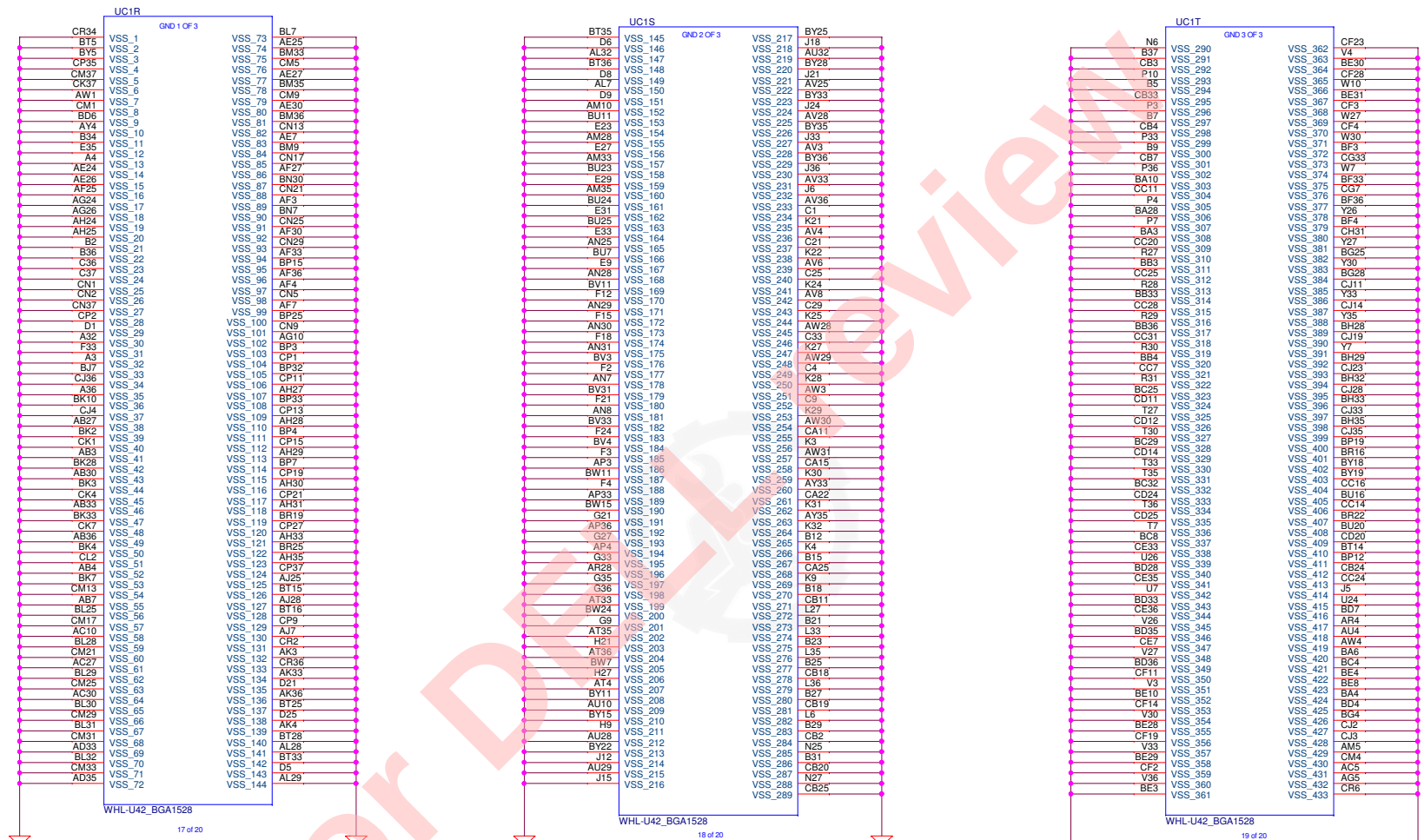
P18-MCP(12/14)PWR-VCCIO, MEM

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P20-MCP(14/14)VSS

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Size	Document Number	Rev
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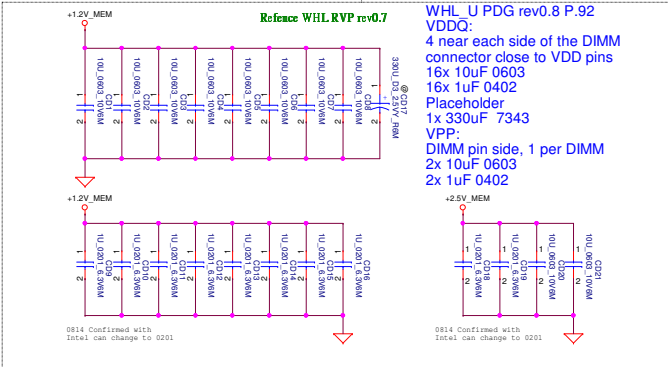
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		File	
		SOC or PCH / FCH	
Size	Document Number		Rev
	LA-G891P		0.3
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[7] DDR_A_DQS[0..7] << >>
 [7] DDR_A_DQ[0..63] << >>
 [7] DDR_A_DQS[0..7] << >>
 [7] DDR_A_MA[0..16] << >>

Layout Note:
Place near JDIMM1

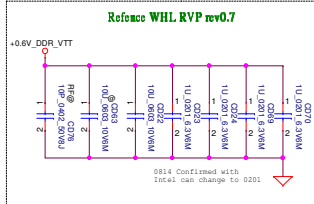
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Link LOTES_ADDR0206-P001A02 done 0410



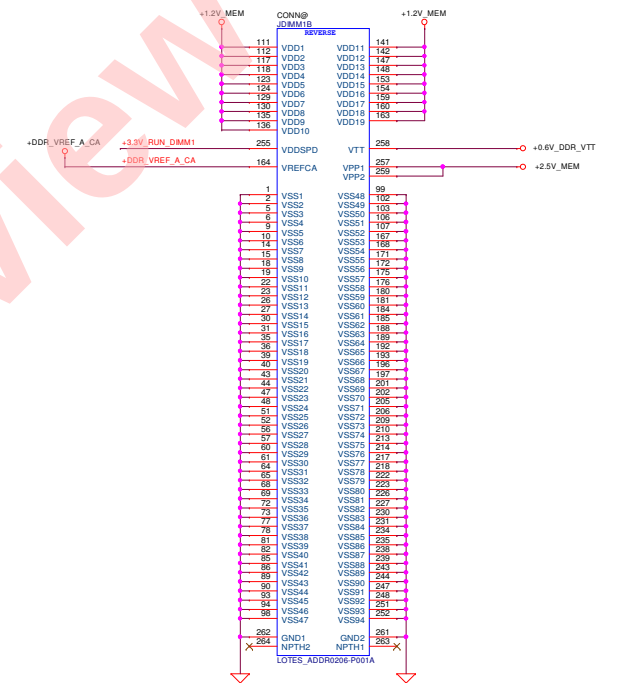
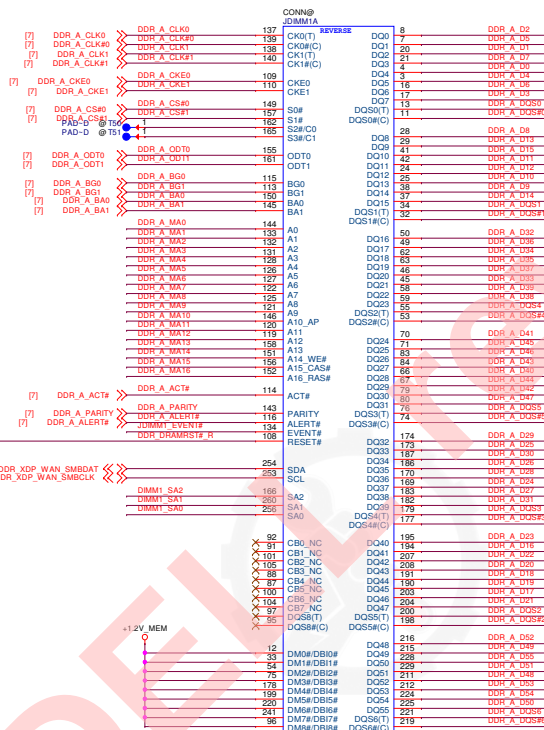
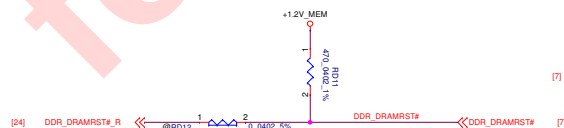
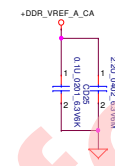
WHL U PDG rev0.8 P.92
VTT:
Place on VTT plane close to SODIMM
2x 10uF 0603(1 cap stuffed, 1 placeholder)
4x 1uF 0402
VDDSPD:
Place close to DIMM
2x 0.1uF 0402
2x 2.2uF 0402

Layout Note:
Place near
JDIMM1.258

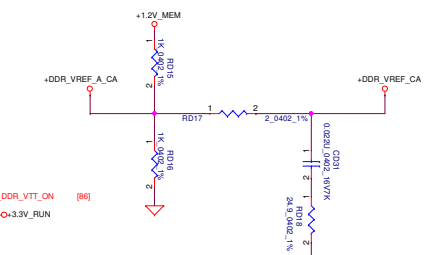


DIMM Select

	SA0	SA1	SA2
DIMM1	0	0	0
DIMM2	1	0	0
DIMM3	0	1	0
DIMM4	1	1	0



JDIMM1 EVENT# 1 2 1K 0402 5% << H_THERMTRIP# [14.24.59]



6/8 Change to SA0007WE00 DII

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DDR4 DIMMA

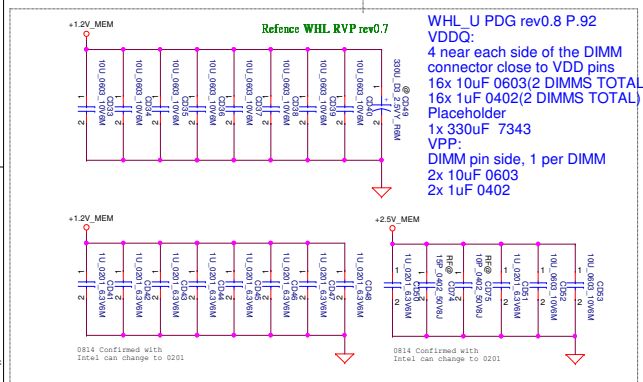
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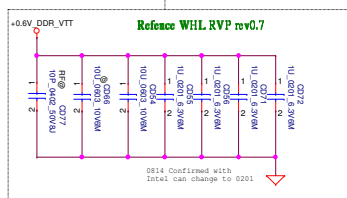
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[7] DDR_B_D[0..63] <<>>
[7] DDR_B_DQS[0..7] <<>>
[7] DDR_B_MA[0..16] >>>
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Layout Note:
Place near JDIMM2

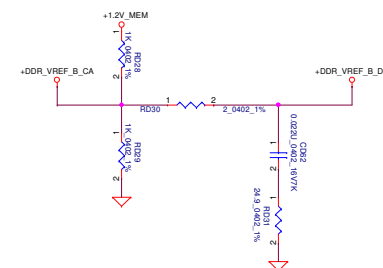
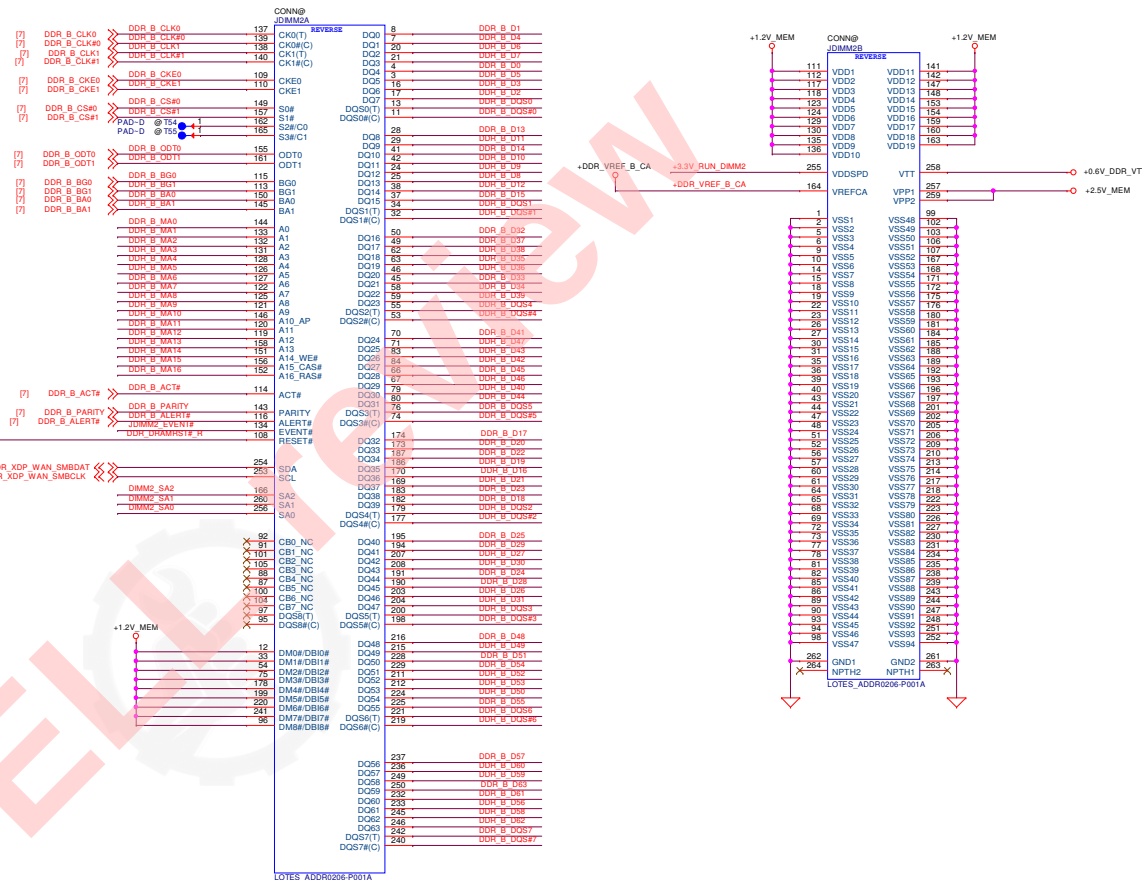
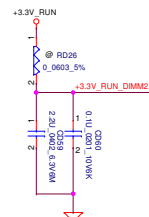


WHL_U PDG rev0.8 P.92
VTT:
Place on VTT plane close to SODIMM
2x 10uF 0603(1 cap stuffed, 1 placeholder)
4x 1uF 0402
VDDSPD:
Place close to DIMM
2x 0.1uF 0402
2x 2.2uF 0402

Layout Note:
Place near
JDIMM2.258



	SA0	SA1	SA2
DIMM1	0	0	0
DIMM2	1	0	0
* DIMM3	0	1	0
DIMM4	1	1	0



Compal Electronics, Inc.

DDR4 DIMM

LA-G891F

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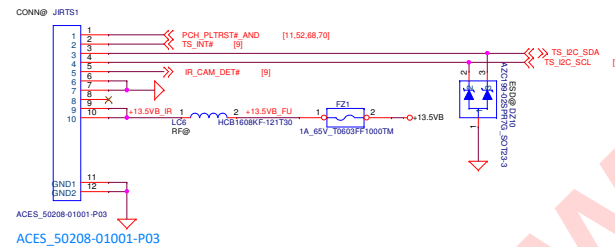
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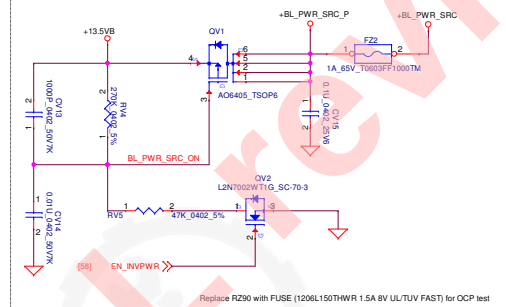
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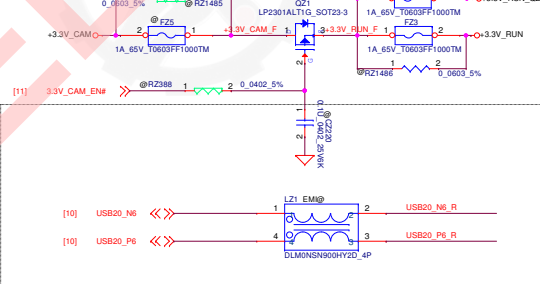
TOUCH SCREEN & IR CAMERA connector



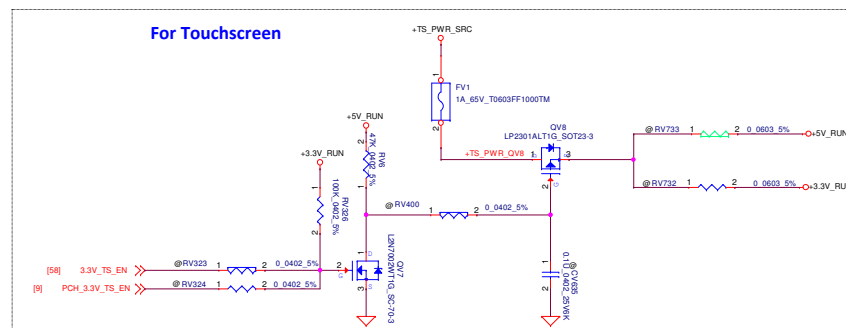
Backlight POWER



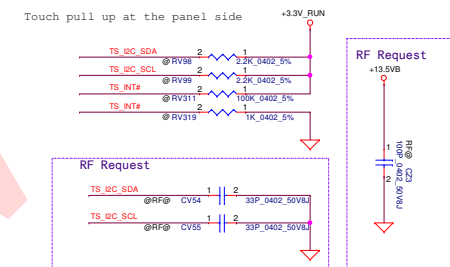
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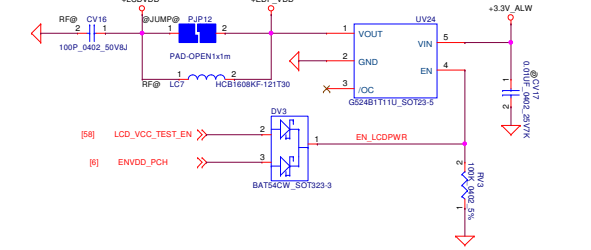
For Touchscreen



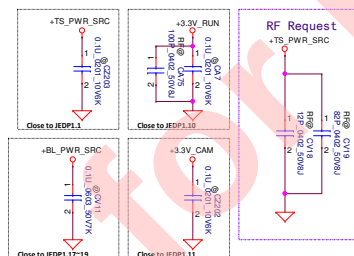
For 2LANE EDP &5V_TSP,NB15



LCDVDD POWER



For signal deglitch, refer to 575412_WHL_U_PDG rev0p8.
it recommends to pop 100k, but 4.7k is ok so follow previous CKT .



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eDP CONN & Touch screen

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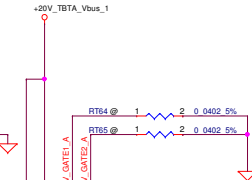
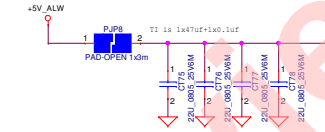
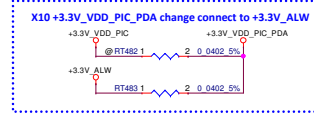
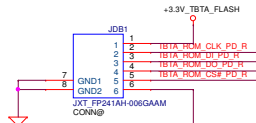
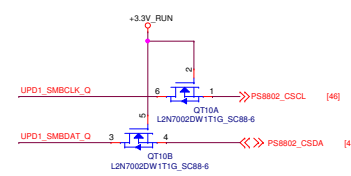
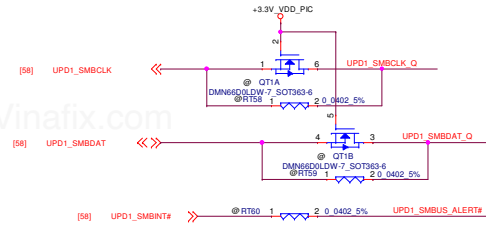
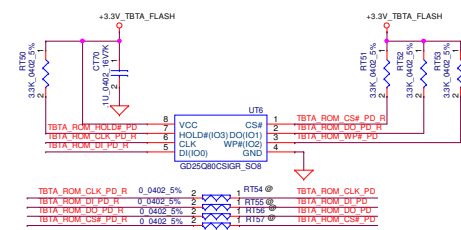
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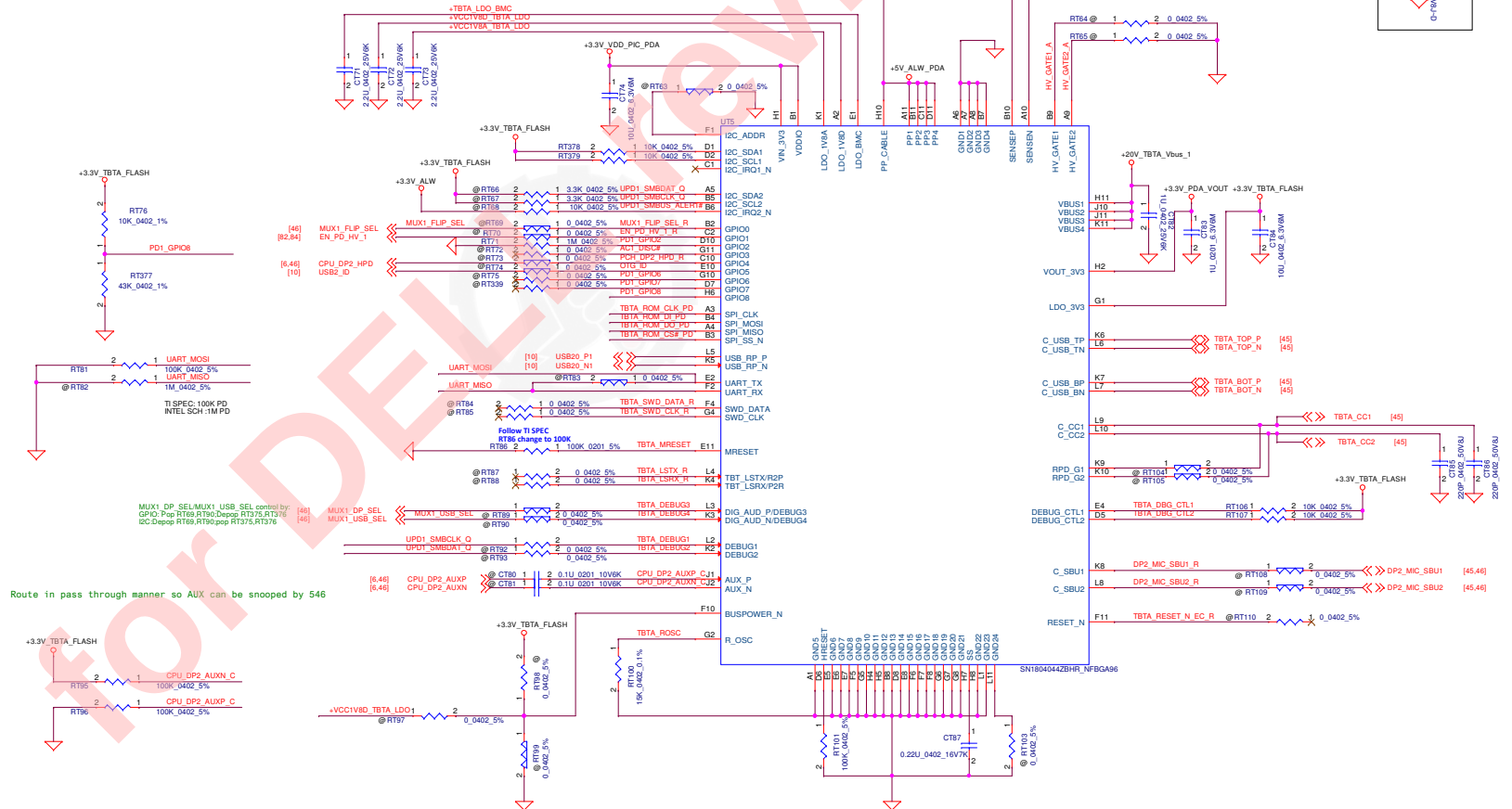
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Title			
TBT-AR-VCC/VSS			
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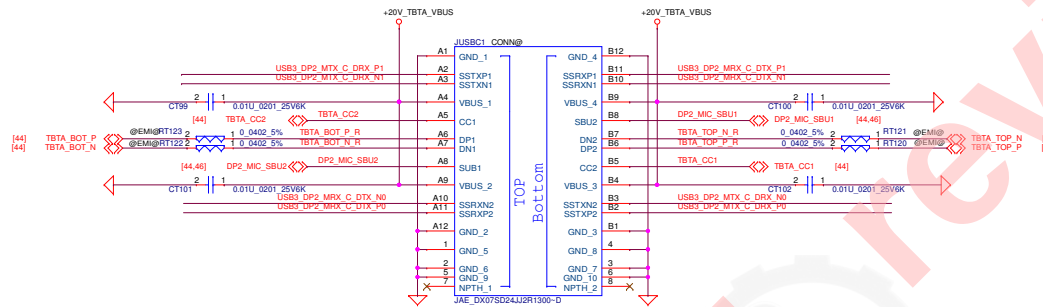


DIV = R2/(R1+R2)		Factory Device Configuration	Description
DIV_min	DIV_max		
0.00	0.08	0	UFP only 5V @0.9A Sink capability with "Ask for Maxv" for anything from 0.9 -3.0A T8T Alternate Modes not supported DisplayPort Alternate Modes not supported TI VED supported
0.10	0.18	1	UFP only 5V @0.9A Sink capability with "Ask for Maxv" for anything from 0.9 -3.0A T8T Alternate Modes not supported DisplayPort Alternate Modes -Sink, C and D pin configuration TI VED supported
0.20	0.28	2	UFP only 5V @0.9A Source capability T8T Alternate Modes not supported DisplayPort Alternate Modes not supported TI VED supported
0.30	0.38	3	UFP only 5V @0.9A Source capability T8T Alternate Modes not supported DisplayPort Alternate Modes -Sink, C and D pin configuration TI VED supported
0.40	0.48	4	DPP 5V @0.9-3.0A Sink capability 5V @0.9A Source capability T8T Alternate Modes -Source, C, D, and E pin configurations DisplayPort Alternate Modes not supported TI VED supported Accepts data and power role swaps, but does not initiate.
0.50	0.58	5	DPP 5V @0.9-3.0A Sink capability 5V @0.9A Source capability T8T Alternate Modes not supported DisplayPort Alternate Modes -Source, C, D, and E pin configurations. TI VED supported Accepts power role swaps but will not initiate. Accepts data role swaps to UFP and can initiate.
0.60	0.68	6	DPP 5V @0.9-3.0A Sink capability 5V @0.9A Source capability T8T Alternate Modes not supported DisplayPort Alternate Modes -Source, C, D, and E pin configurations. TI VED supported Accepts power role swaps but will not initiate. Accepts data role swaps to DFP and can initiate.
0.70	1.00	7	Infinite boot retry from Flash to Host I/F cycles.

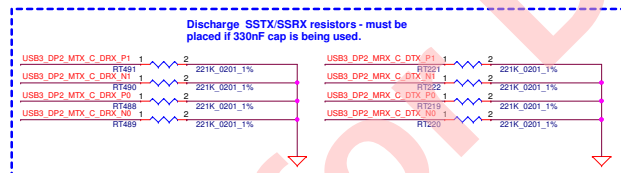
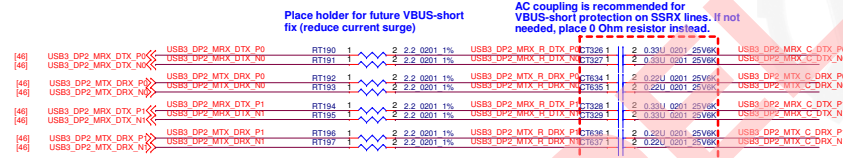
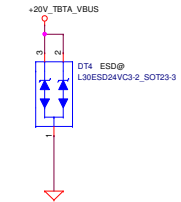
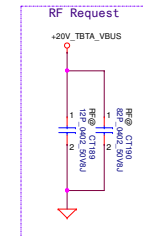


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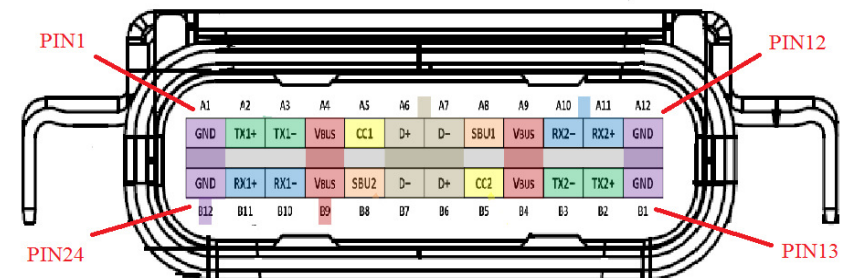
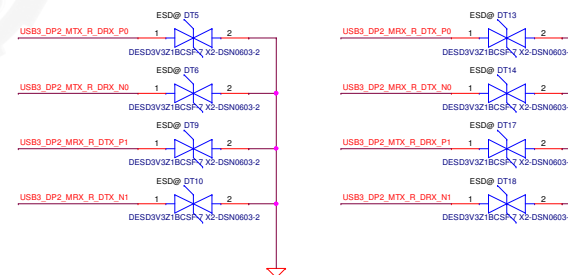
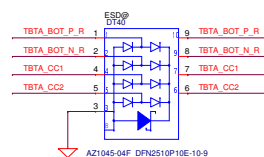
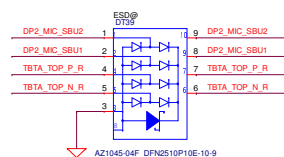
CT630-633 use SD043000080 (0 ohm) for CSLP3 build



Link DX07SD24J2R1300 done 0123



change typeC ESD part from SC40000AR00 to SC40000DF00



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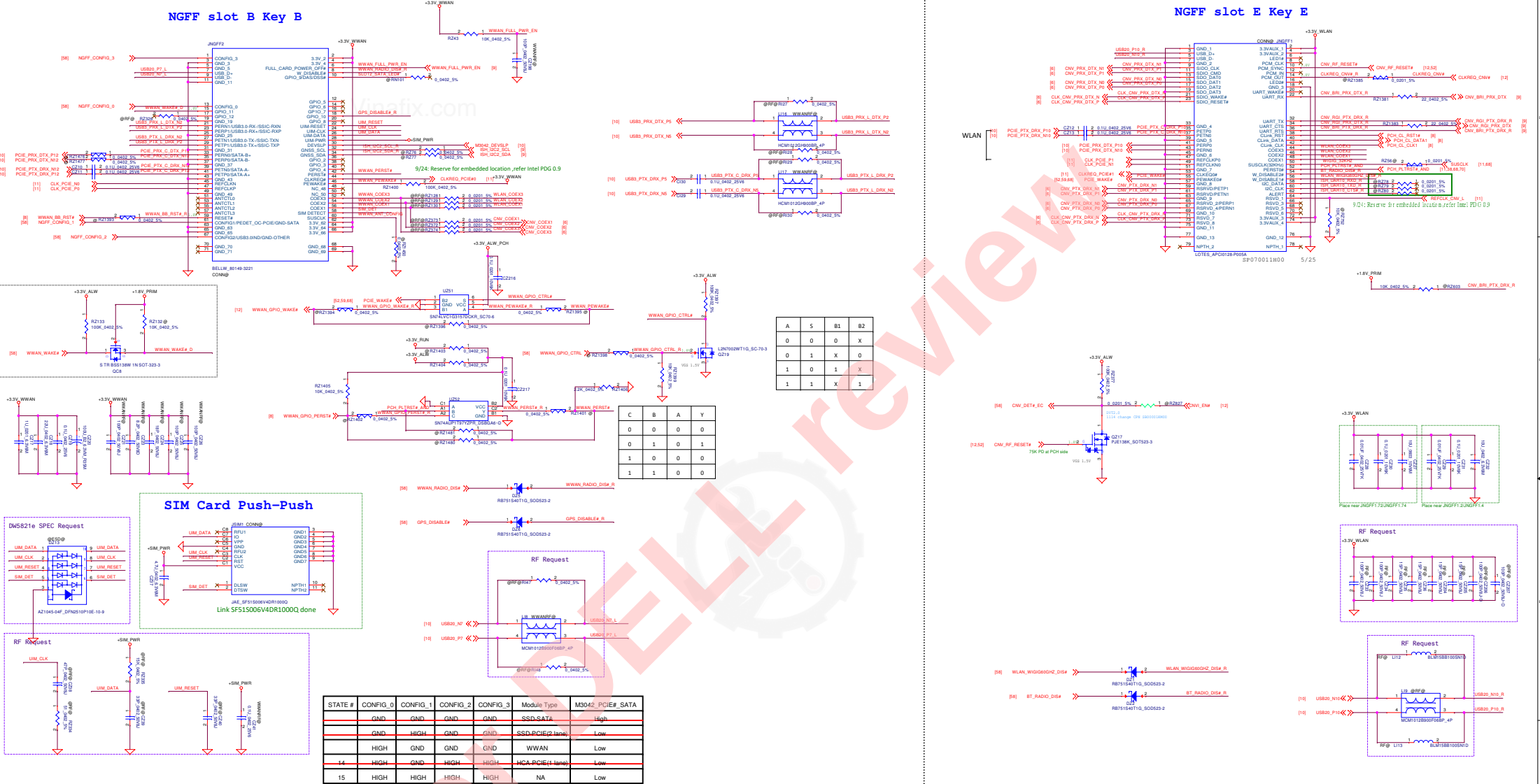
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NGFF slot B Key B

NGFF slot E Key E



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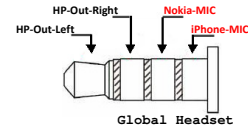
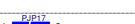
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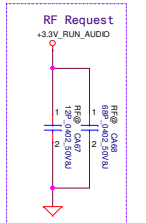
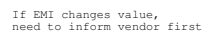


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Compal Electronics, Inc.			
Title		PCIE device	
Size	Document Number		Rev
	LA-G891P		0.3
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Internal Speakers Header



Add this Filter to avoid other components/chips be influenced



LA-G891P

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Title		Codec ALC3204	
Size	Document Number	LA-G891P	
Date	Monday, February 25, 2019	Sheet	56 of 102

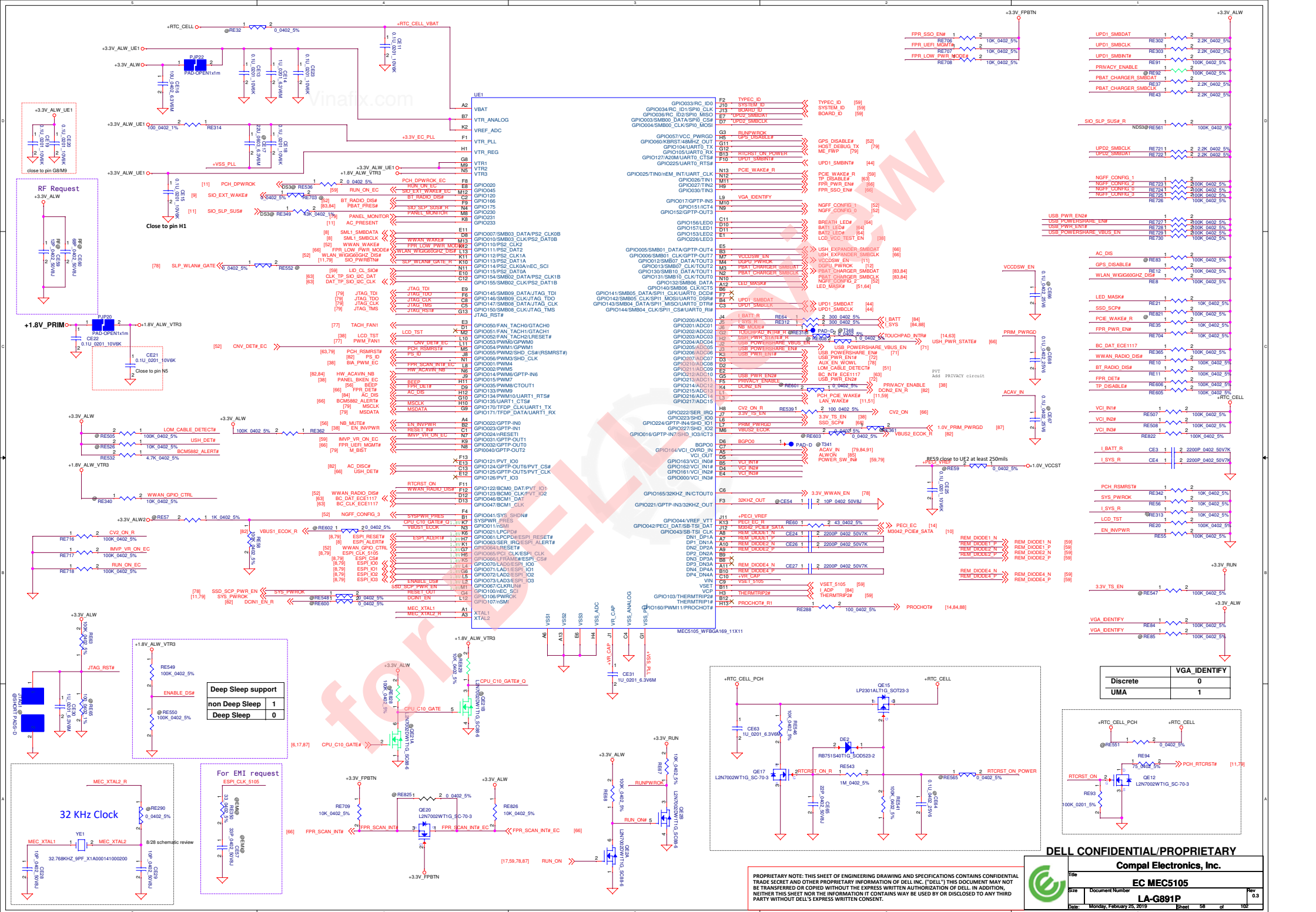
Reserve

for DELL review

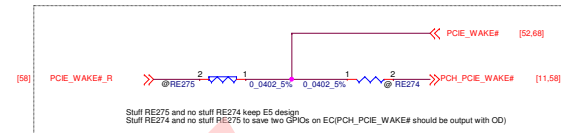
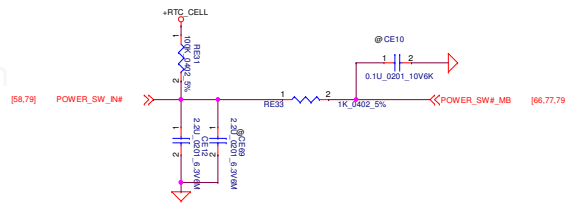
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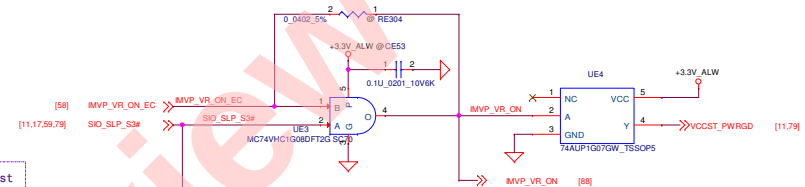
DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title			
Audio Amplifier			
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 57 of 102



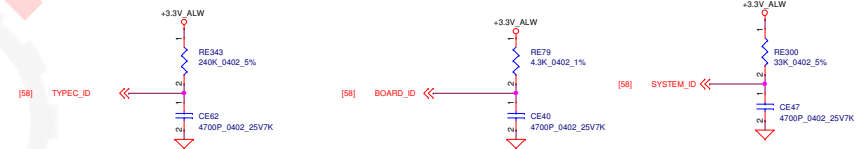
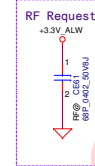
Vinafix.com



Stuff RE275 and no stuff RE274 keep E5 design
Stuff RE274 and no stuff RE275 to save two GPIOs on EC(PCH_PCIE_WAKE# should be output with OD)



6/8 Change to SA00007WE00 DII



RE343	CE62	REV
* 240K	4700p	Single Port ACE w/o AR
130K	4700p	Single Port ACE w/AR
62K	4700p	Dual Port ACE w/o AR
33K	4700p	Dual Port ACE w/AR
8.2K	4700p	Dual Port ACE (w/AR +w/o AR)
4.3K	4700p	.
2K	4700p	.
1K	4700p	.

RE79	CE40	REV
240K	4700p	X00
130K	4700p	X01
62K	4700p	X02
33K	4700p	X03
8.2K	4700p	reserved
* 4.3K	4700p	A00
2K	4700p	.
1K	4700p	.

RE300	CE47	PANEL SIZE
240K	4700p	11"
130K	4700p	12"
62K	4700p	13"
* 33K	4700p	14"
8.2K	4700p	15"
4.3K	4700p	17"
2K	4700p	15P
1K	4700p	.

PD ACE_DET# rise time is measured from 5%~68%.

BOARD_ID rise time is measured from 5%~68%.

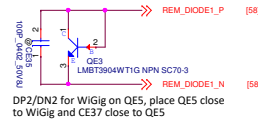
SYSTEM_ID rise time is measured from 5%~68%.



Thermal diode mapping

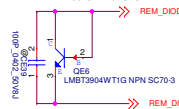
5085 Channel	Location
DP1/DN1	CPU (QE3)
DP2/DN2	M.2
DN2a/DP2a	DDR (QE7)
DP3/DN3	NA
DP4/DN4	CPU VR (QE6)

Place under CPU
Place CE35 close to the QE3 as possible

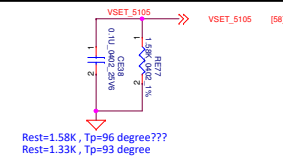
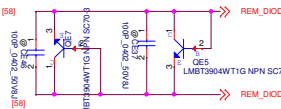


DP2/DN2 for WIGig on QE5, place QE5 close to WIGig and CE37 close to QE5

DP4/DN4 for Skin on QE6, place QE6 close to Vcore VR choke.



DN2a/DP2a for DDR on QE7, place QE7 close to DDR and CE46 close to QE7



Rest=1.58K, Tp=96 degree???

Rest=1.33K, Tp=93 degree

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MEC5105 support

LA-G891P

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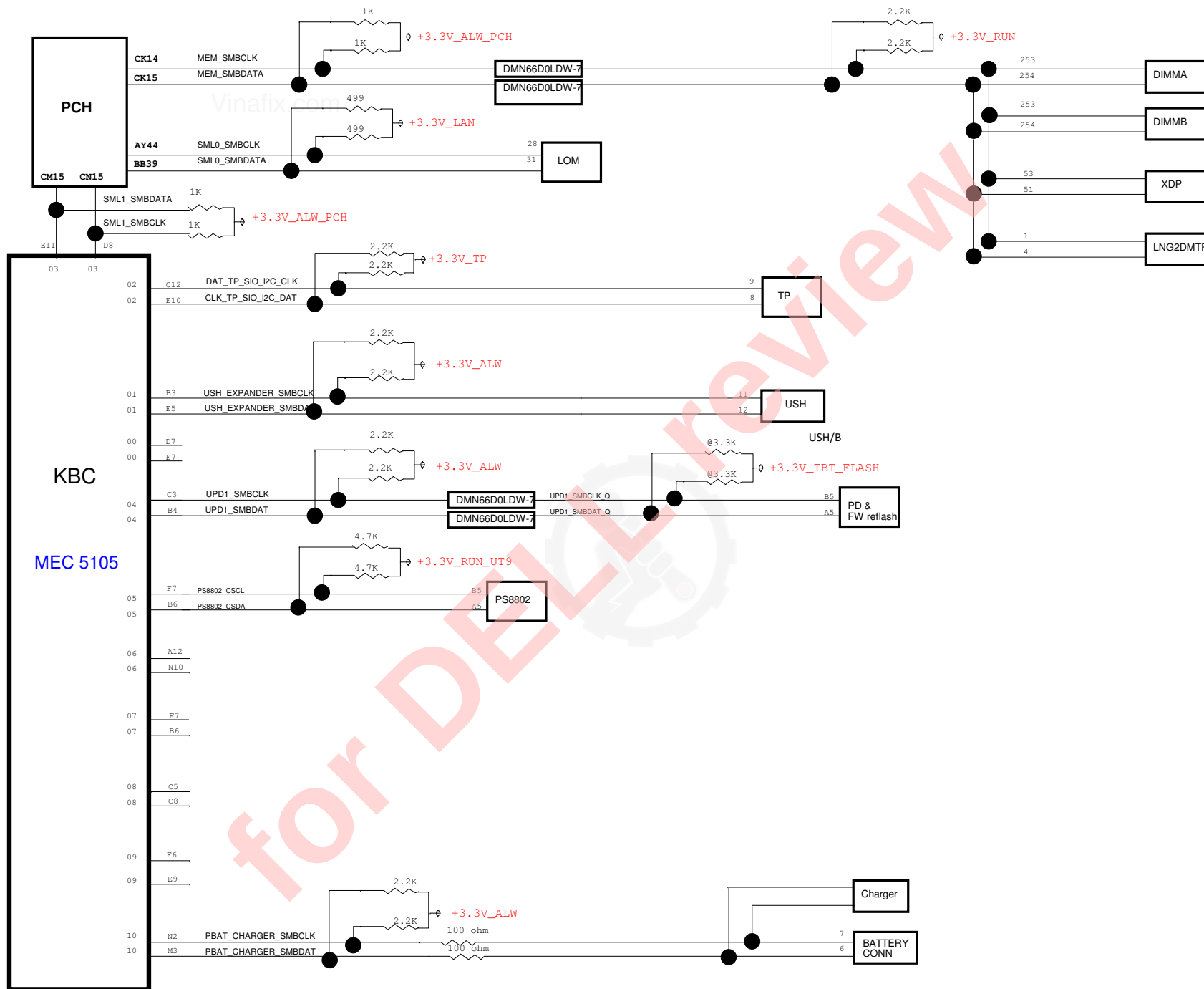
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Compal Electronics, Inc.			
Title		Secure & Reset IC	
Size	Document Number		Rev
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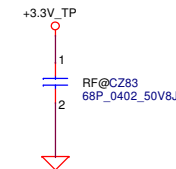
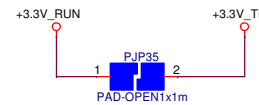
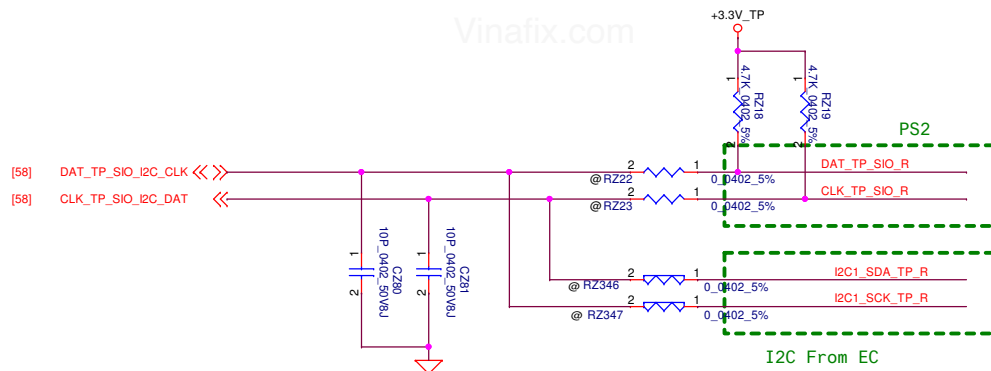


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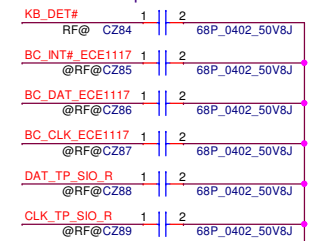
Compal Electronics, Inc.

Title		LED (Controller)	
Size	Document Number	LA-G891P	Rev 0.3
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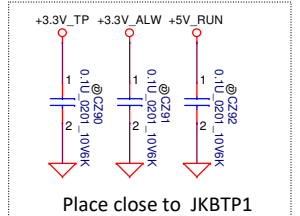
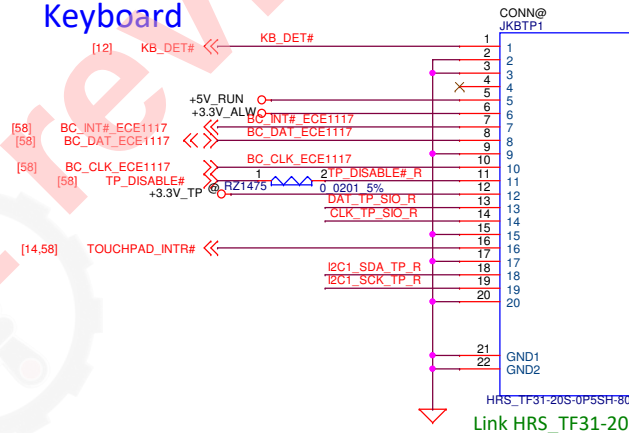
Touch Pad



RF Request



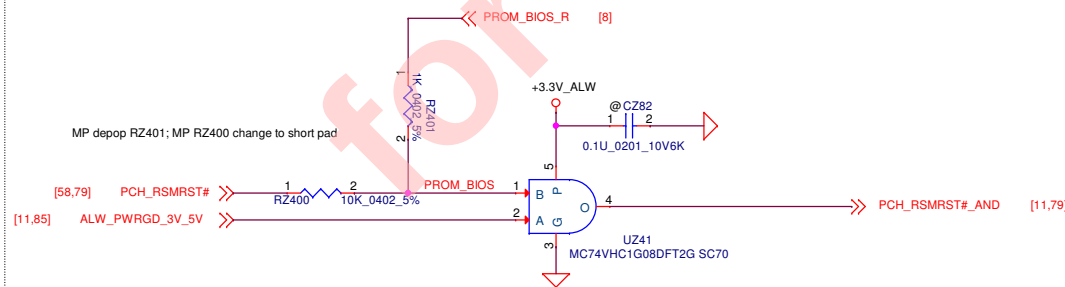
Keyboard



5/29

Link HRS_TF31-20S-0P5SH-800 done 0313

RSMRST circuit



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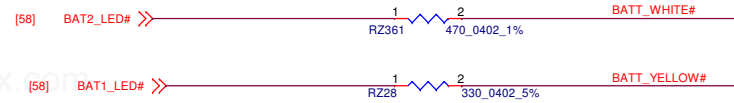
Compal Electronics, Inc.

Keyboard

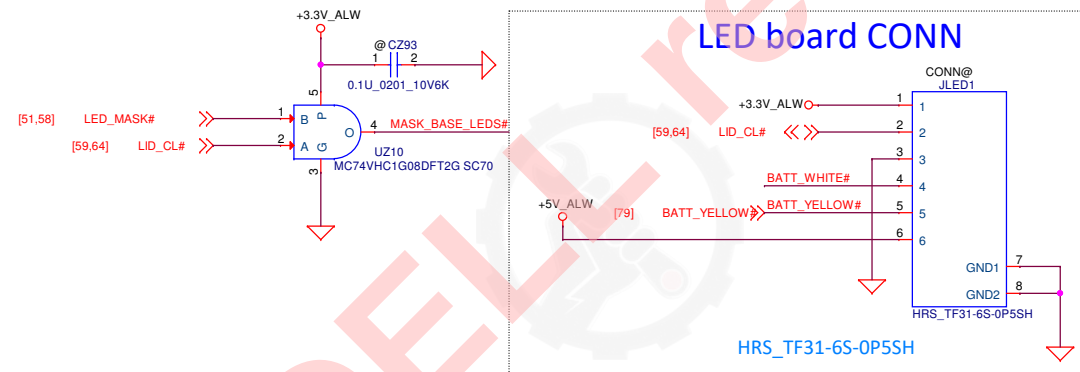
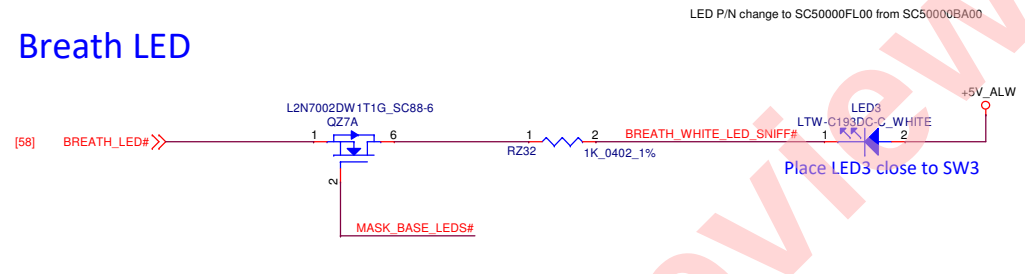
LA-G891P

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Battery LED



Breath LED



LED Circuit Control Table

	LED_MASK#	LID_CL#
Mask All LEDs (Unobtrusive mode)	0	X
Mask Base MB LEDs (Lid Closed)	1	0
Do not Mask LEDs (Lid Opened)	1	1

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Size	Document Number	LA-G891P	Rev 0.3
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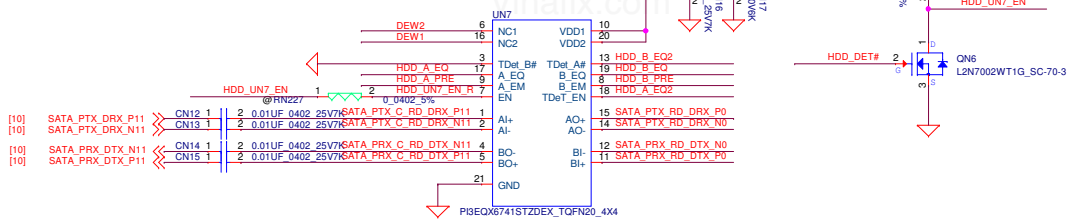
**Compal Electronics, Inc.**

MEC5105 support		
Size	Document Number	Rev
	LA-G891P	0

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	pin 3	pin 6	pin 13	pin 16	pin 18
Pericom	TDet_B#	NC	TDet_A#	NC	TDet_EN
TI	GND	DEW2	GND	DEW1	GND
Parade	GND	REXT	B_EQ2	DEW	A_EQ2

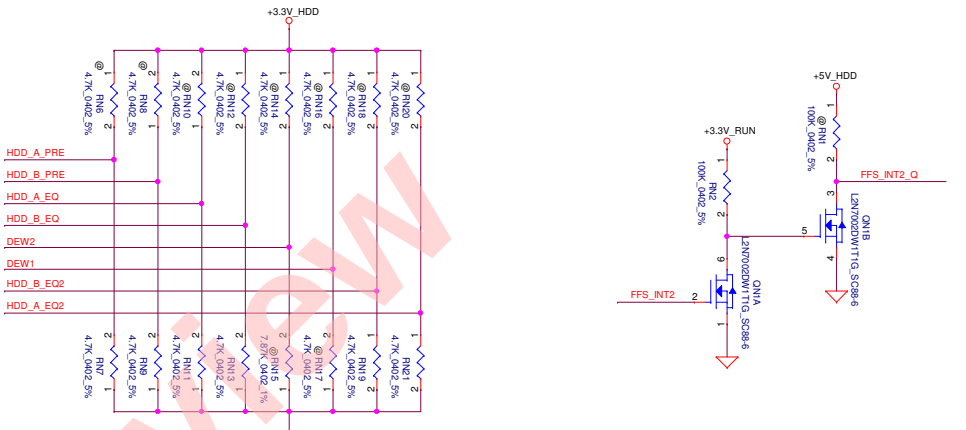
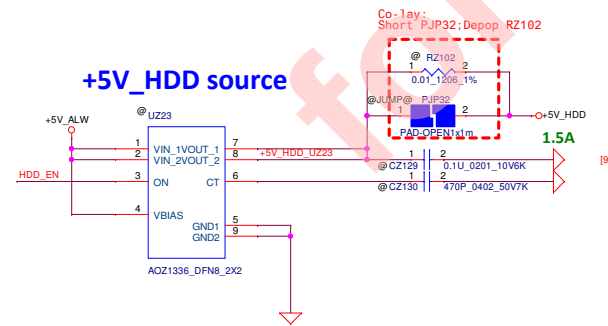
SATA Repeater



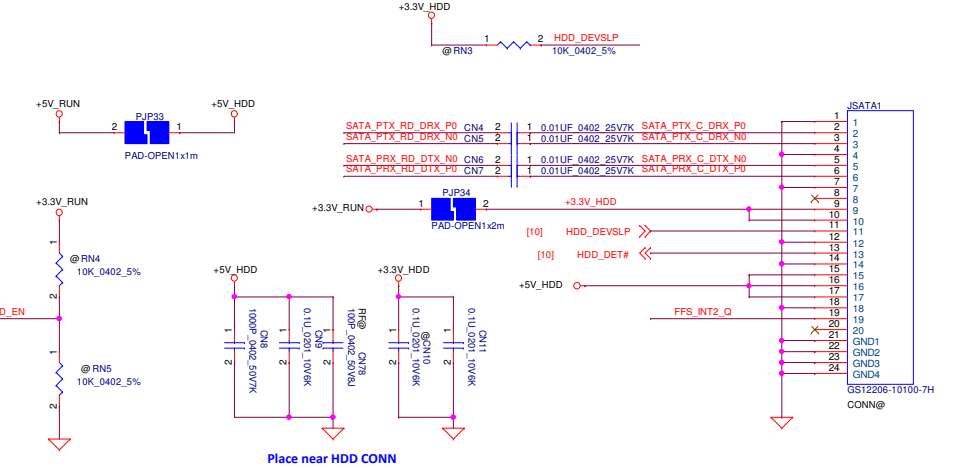
	HDD_A_EQ	HDD_B_EQ	HDD_A_EQ2	HDD_B_EQ2	DEW1	DEW2	HDD_A_PRE	HDD_B_PRE
Pericom PI3EQX6741ST	PD (RN11)	PD (RN13)	PD (RN21)	PD (RN19)	NC	NC	PD (RN7)	PD (RN9)
TI SN75LVCP601	PD (RN11)	NC	PD (RN21)	PD (RN19)	NC (IPU)	NC (IPU)	PH (RN6)	PH (RN8)
Parade PS8527C	PD (RN11)	PD (RN13)	PD (RN21)	PD (RN19)	NC (1/2 VDD)	PD (RN15)	NC (1/2 VDD)	NC (1/2 VDD)

*				A_EQ	B_EQ		A_EM	B_EM	
	Main	Pericom	0 NC 1	3dB 6dB 9dB	3dB 6dB 9dB	0 NC 1	0dB 1.5dB	0dB 1.5dB	
	2nd	TI	0 NC 1	7dB 0dB 14dB	7dB 0dB 14dB	0 NC 1	0dB -4dB -2dB	0dB -4dB -2dB	
	3rd	Parade	EQ2	EQ1	A_EQ	B_EQ		A_EM	B_EM
			(M = VDD/2)						
			0	M	2.4dB	2.4dB	0 M 1	0dB -3.5dB -1.5dB	0dB -3.5dB -1.5dB
			0	0	7.4dB	7.4dB			
			0	1	14.4dB	14.4dB			
			M	M	12.2dB	12.2dB			
			M	0	9.4dB	9.4dB			
			M	1	13.3dB	13.3dB			
			1	M	6.2dB	6.2dB			
1	0	11.2dB	11.2dB						
1	1	5dB	5dB						

* red color is current setting



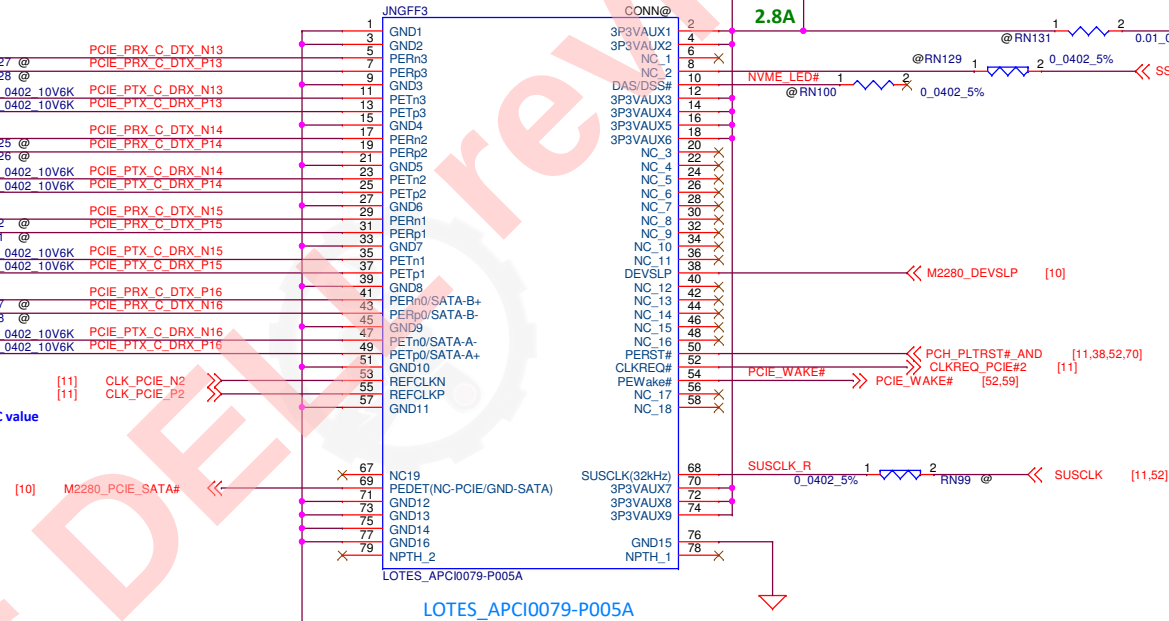
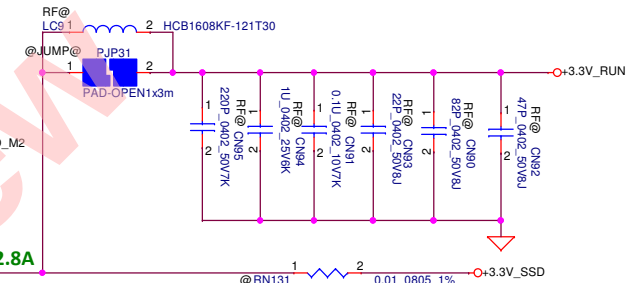
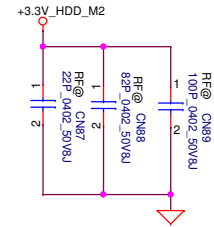
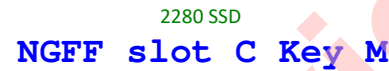
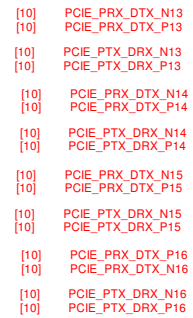
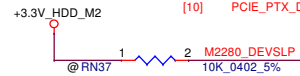
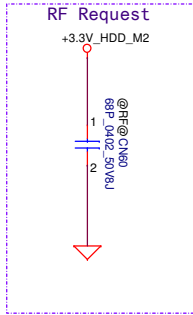
Command	SAD[6:1]	SAD[0] = SA0	R/W	SAD+R/W
Read	010100	0	1	01010001 (51h)
Write	010100	0	0	01010000 (50h)
Read	010100	1	1	01010011 (53h)
Write	010100	1	0	01010010 (52h)



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SATA Repeater&HDD CONN	
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OTES_APCI0079-P005A

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Rev	0.3
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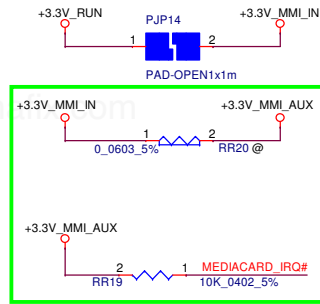
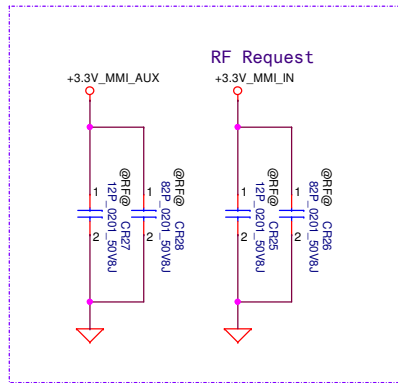


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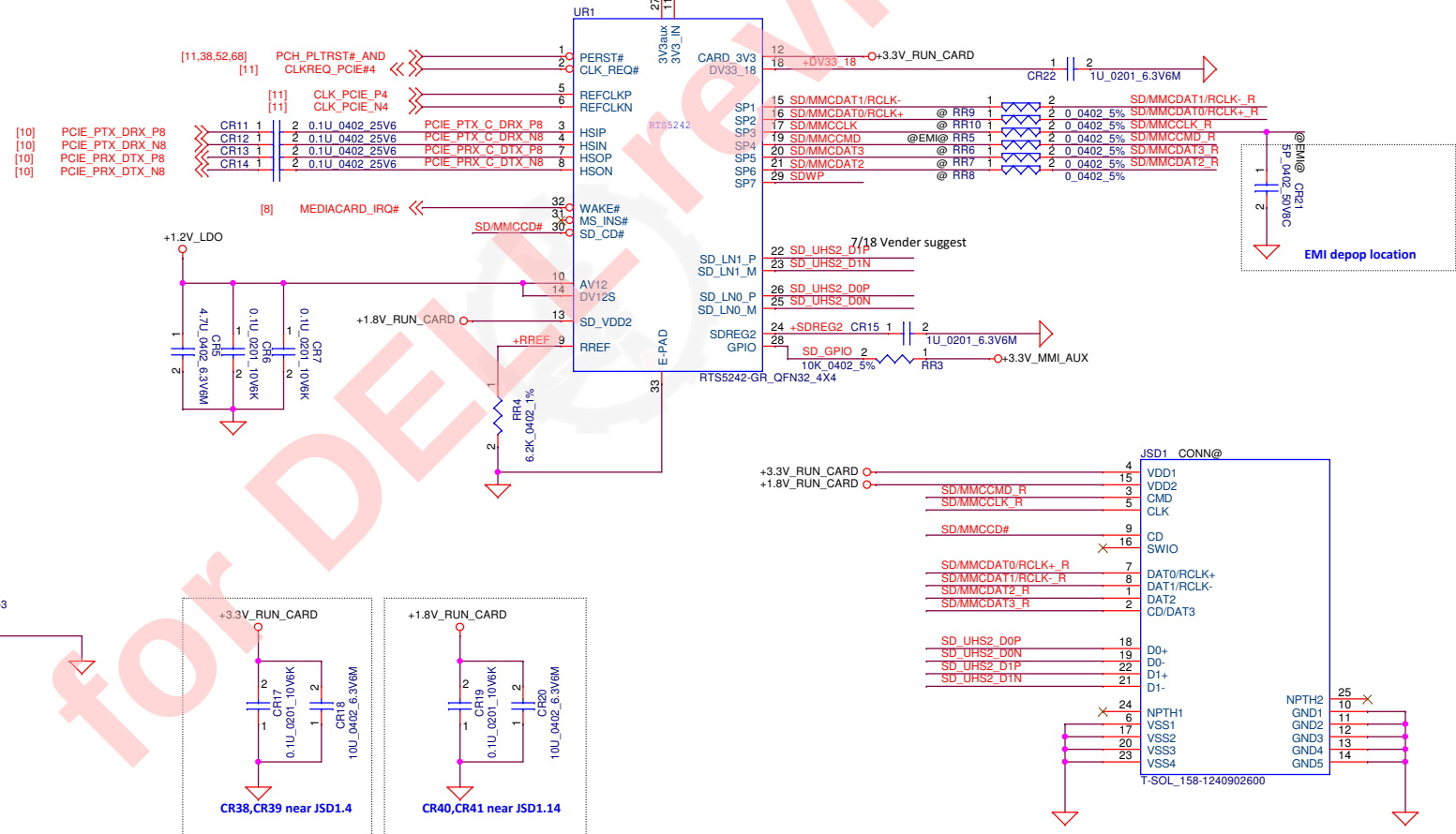
Title		eMMC/UFS
Size	Document Number	Rev
	LA-G891P	0.3
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For PCIE Interface



support D3 Hot(if D3 cold PIN11,PIN27 need Add MOS on/off 3V3AUX)

7/18 Vender suggest.



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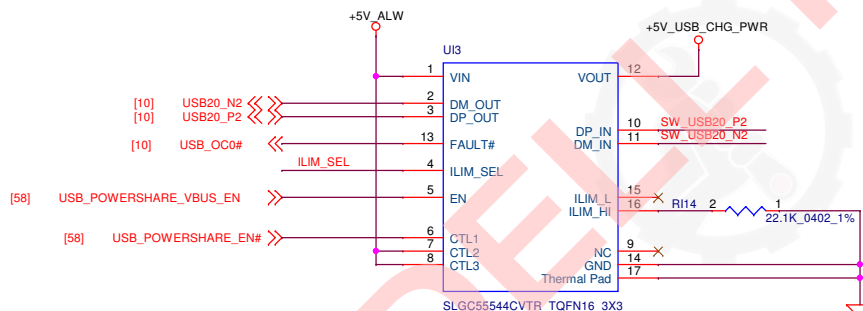
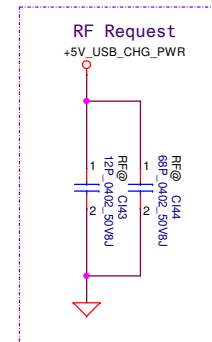
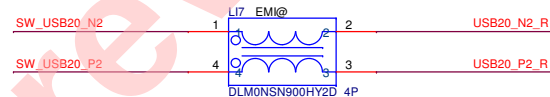
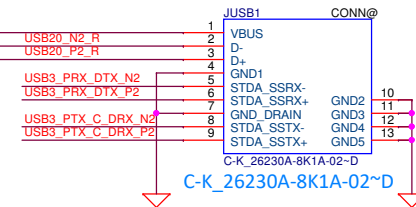
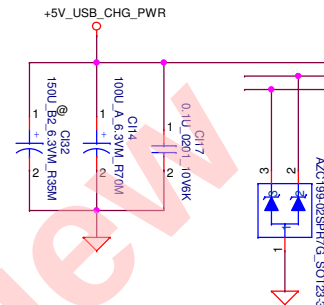
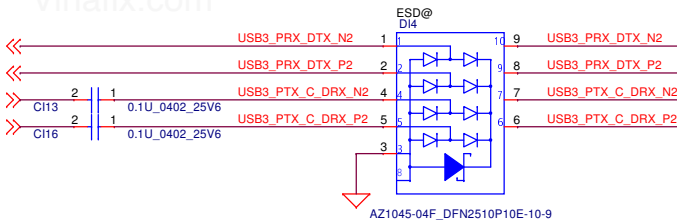
Card Reader RTS5242

LA-G891P

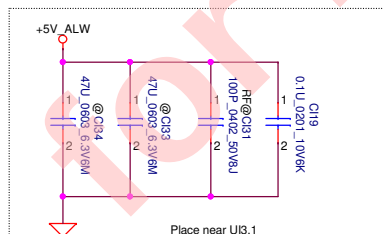
Date: Monday, February 25, 2019 Sheet 70 of 102

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[10] USB3_PRX_DTX_N2
[10] USB3_PRX_DTX_P2
[10] USB3_PTX_DRX_N2
[10] USB3_PTX_DRX_P2



Link Seligro SA000097E10 Done
MAIN : SLGC55544CVTR



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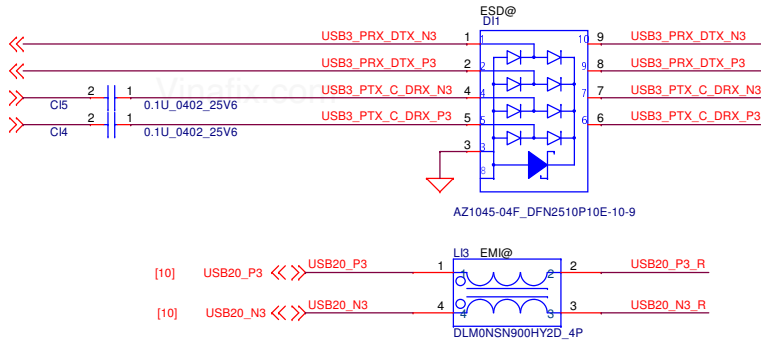
Title		JUSB1+PS
Size	Document Number	LA-G891P
Date:	Monday, February 25, 2019	Sheet 71 of 102

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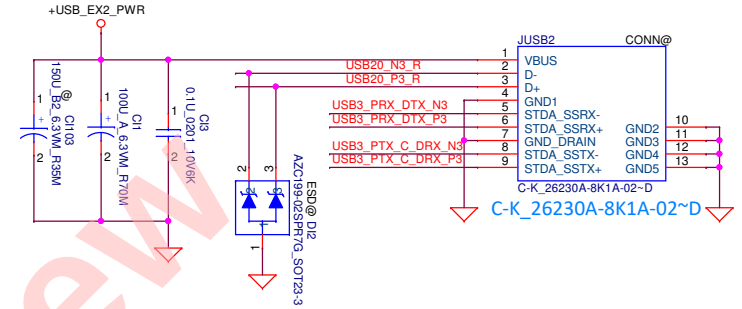
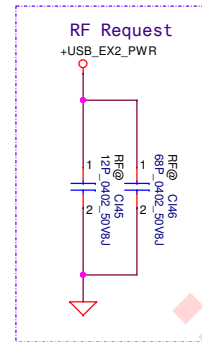


Rev 0.3

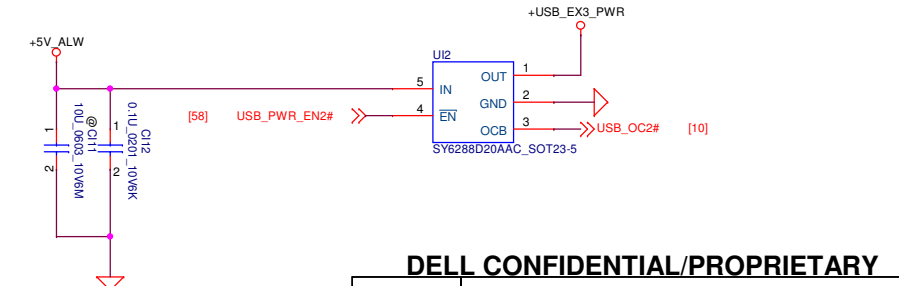
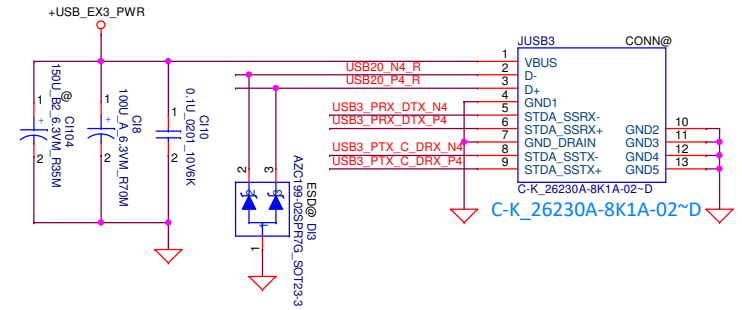
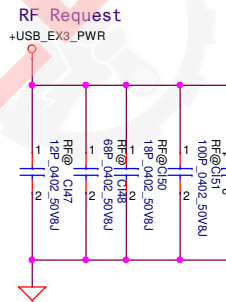
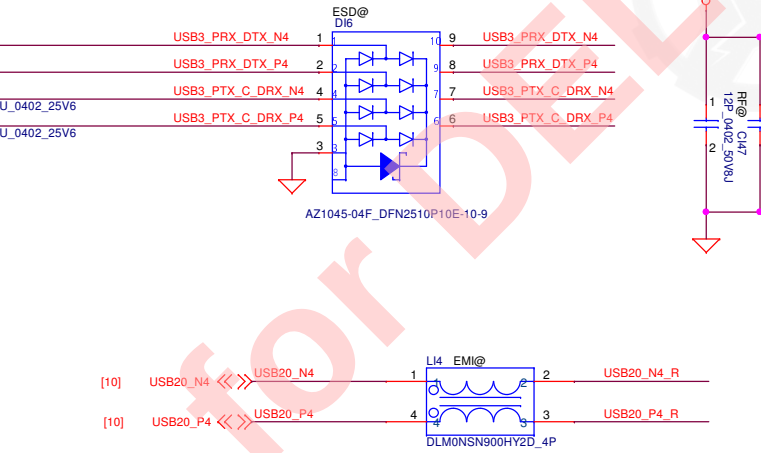
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[10] USB3_PRX_DTX_P3
[10] USB3_PTX_DRX_N3
[10] USB3_PTX_DRX_P3



DFB request:
main SM070003Z00 (INPAQ, MCM1012B900F06BP_4P)
Footprint use 2nd source SM070004400 (PANAS_EXC24CQ900U_4P)
Pitch change from 0.5mm to 0.55mm



[10] USB3_PRX_DTX_N4
[10] USB3_PRX_DTX_P4
[10] USB3_PTX_DRX_N4
[10] USB3_PTX_DRX_P4



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USB2/USB3 DB			
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Title		USB	
Size	Document Number	LA-G891P	Rev 0.3
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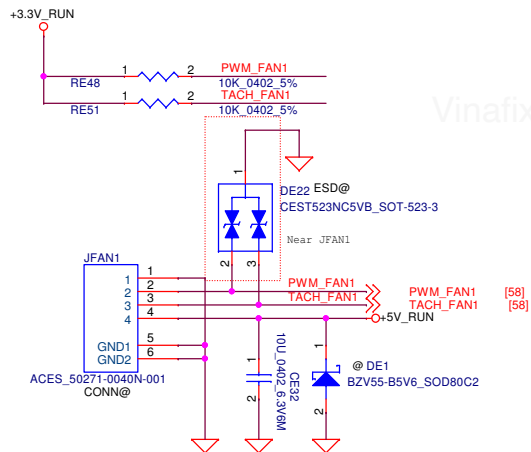
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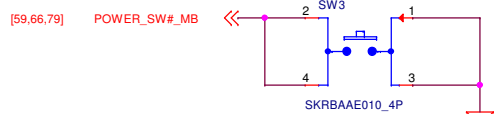
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Title			
USB			
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Link 50271-0040N-001 DONE

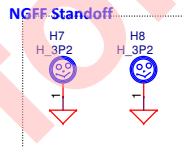
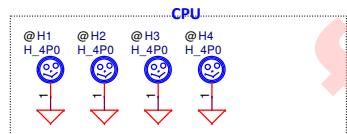
JFAN1 fan follow X9 project PIN DEFINE

POWER & INSTANT ON SWITCH TOP

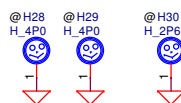
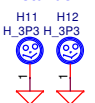


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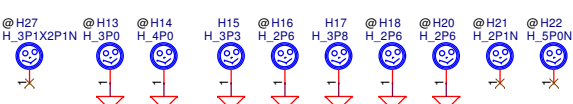
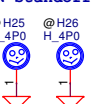
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FIDUCIAL MARK-D
- @FD4
FIDUCIAL MARK-D



EDP Standoff



FAN Standoff



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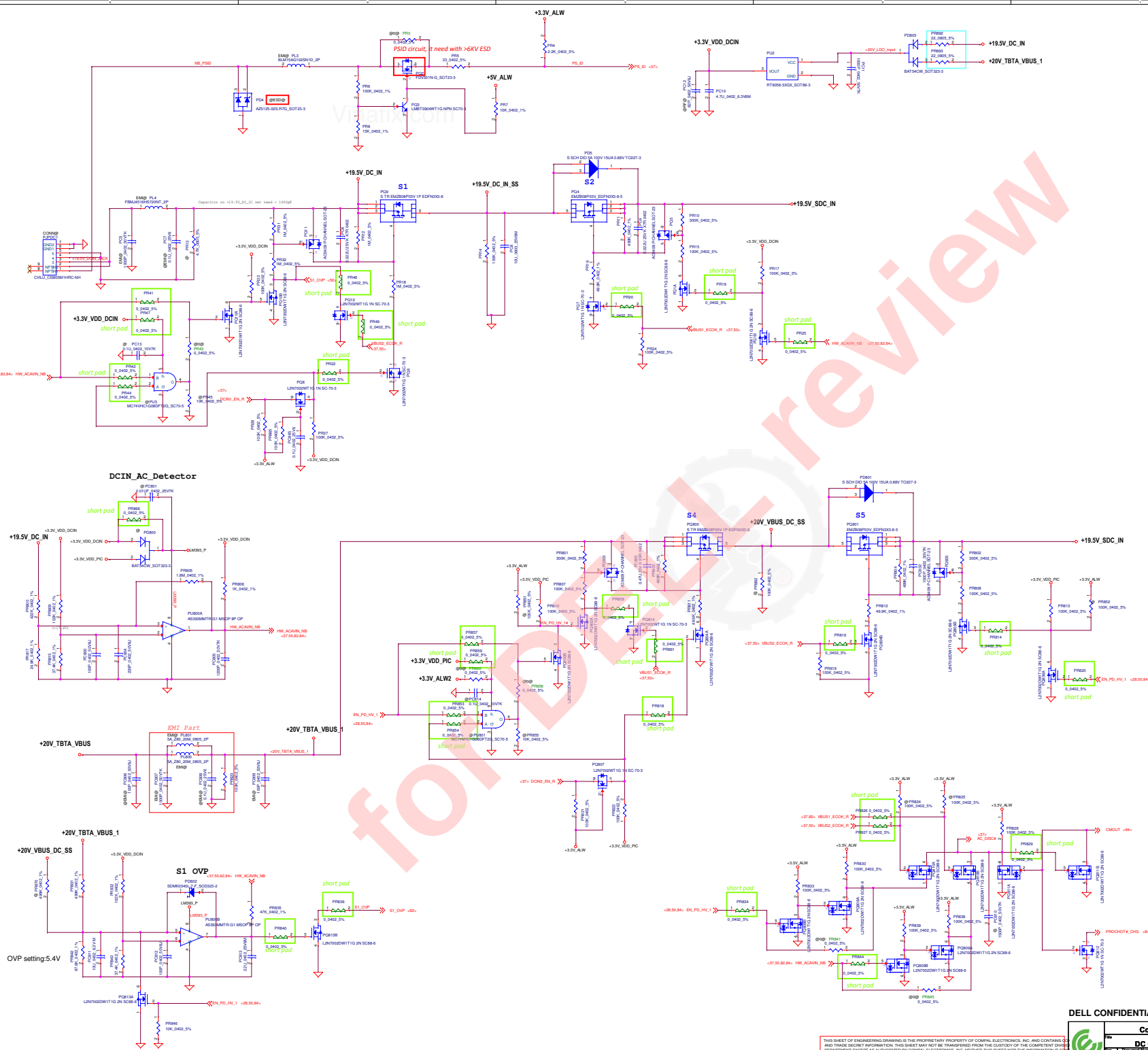
Vinafix.com

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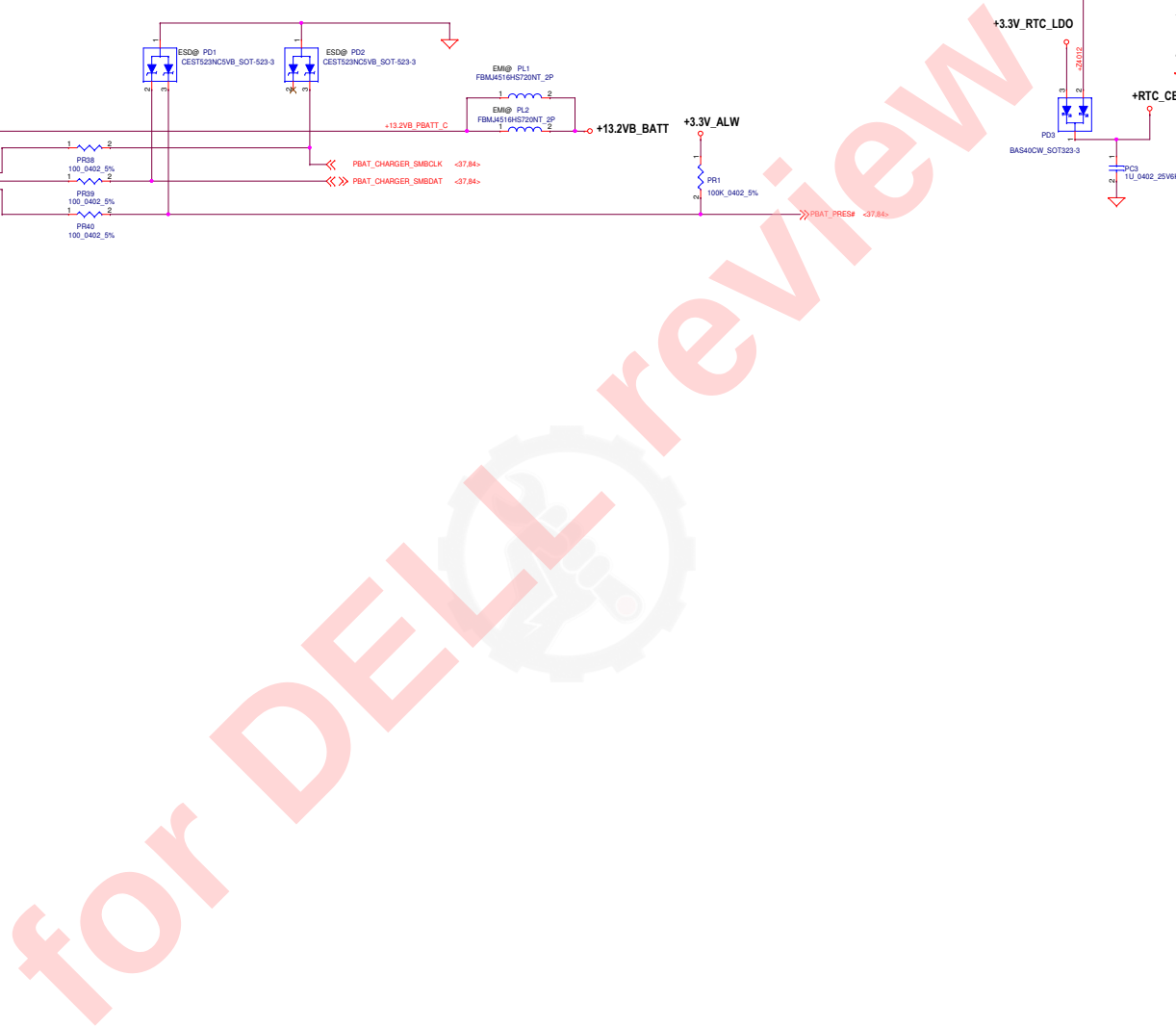
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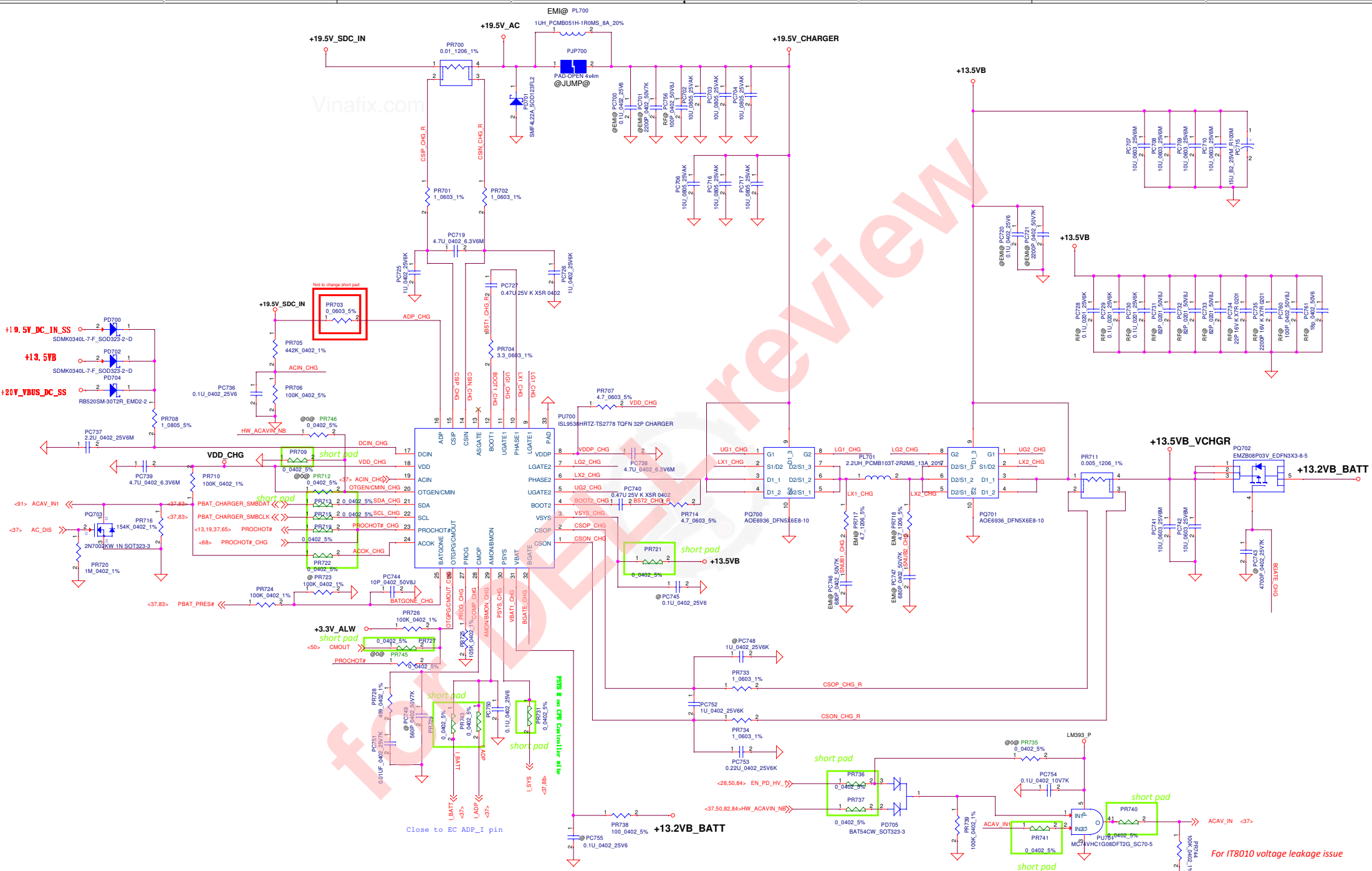
	Compal Electronics, Inc.		
	Title		
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	Size	Document Number	Rev
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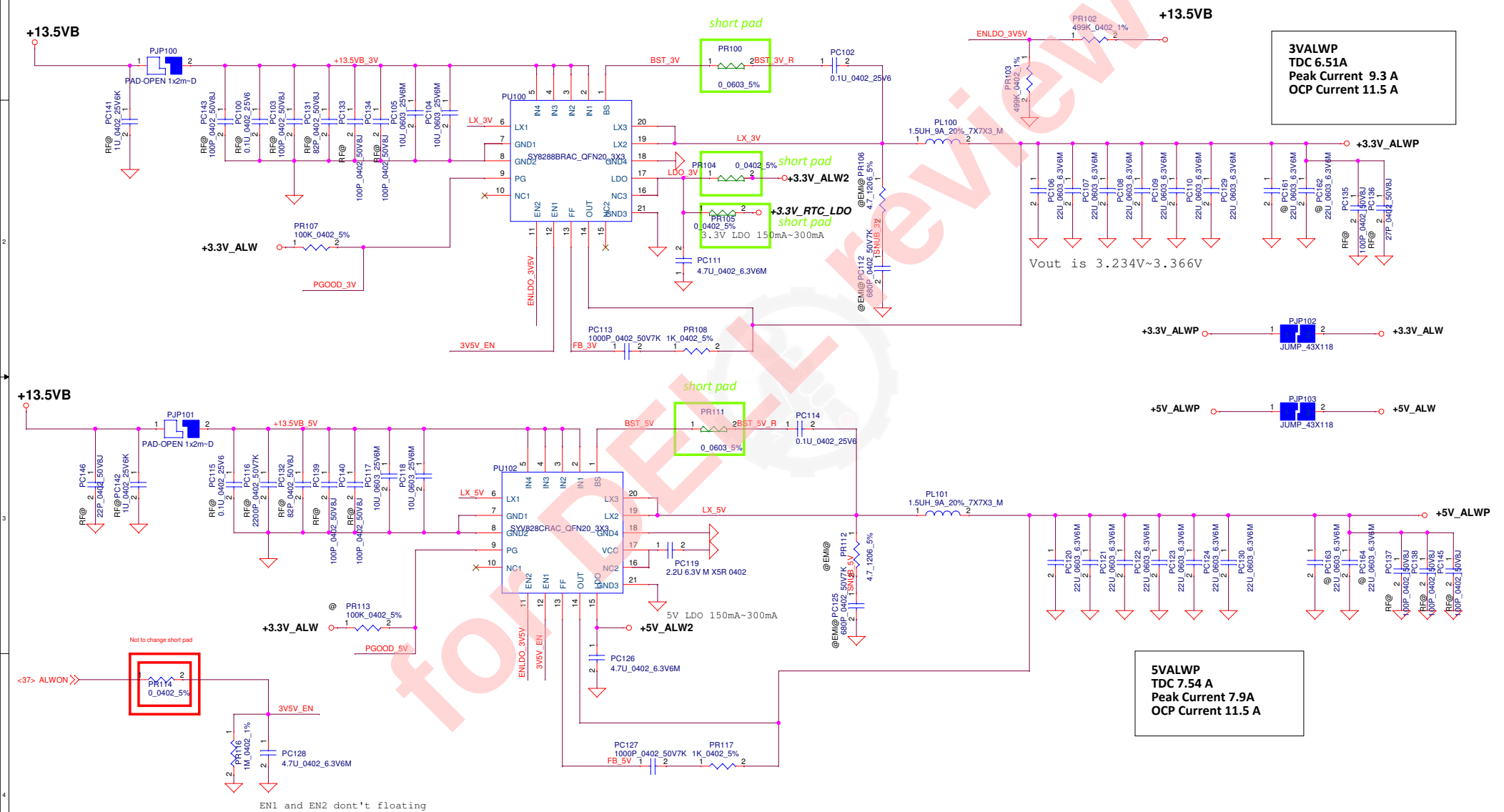
	Compal Electronics, Inc.				
	Battery Connector/ RTC				
	LA-891				
	Rev. 0.3				
Title Size Date: Monday, February 26, 2018	Document Number Sheet 13 of 15				



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Charger			
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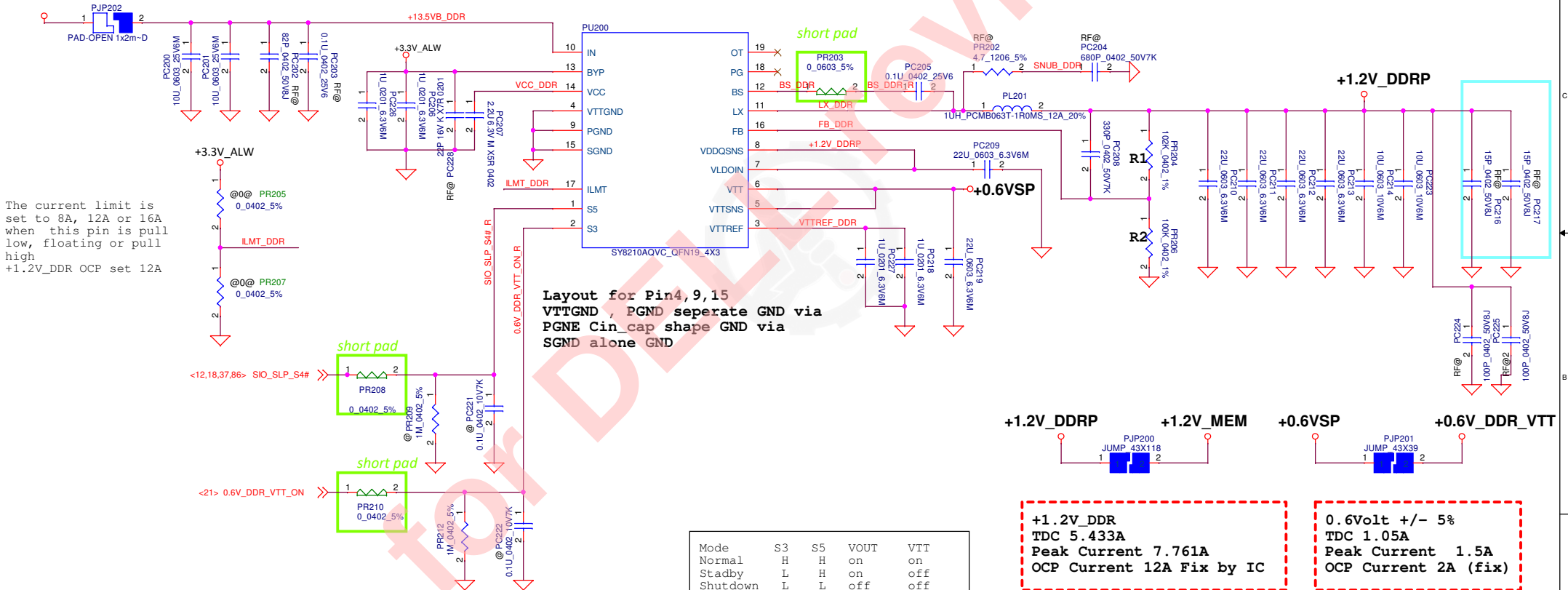
Compal Electronics, Inc.

+5V_ALW/3.3V_ALW

LA-891

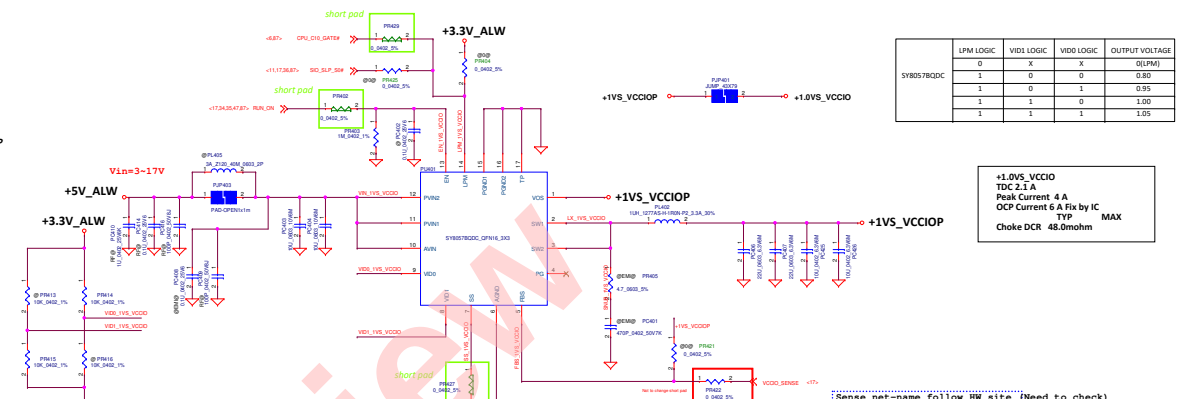
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+13.5VB**DELL CONFIDENTIAL/PROPRIETARY****Compal Electronics, Inc.**

Title		
+1.2V MEN/+0.6V DDR VTT		
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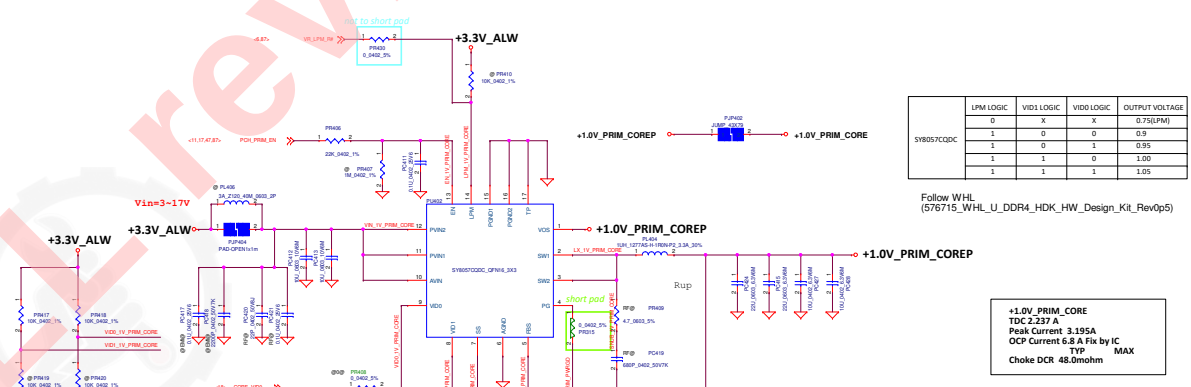
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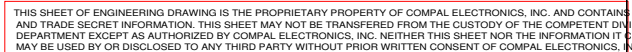


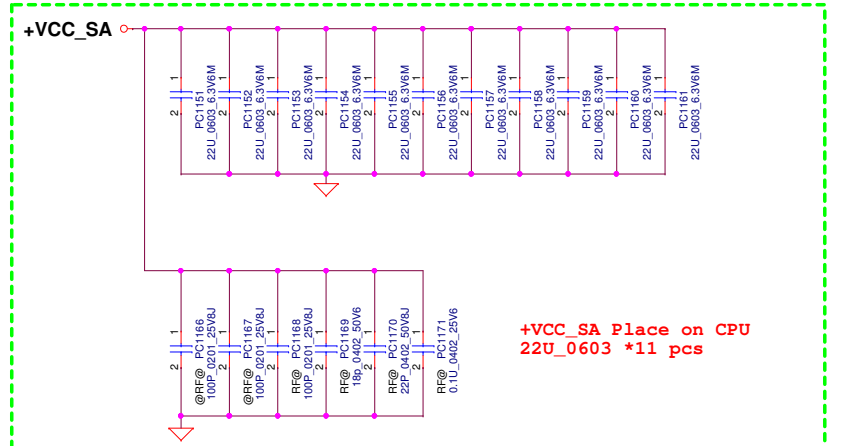
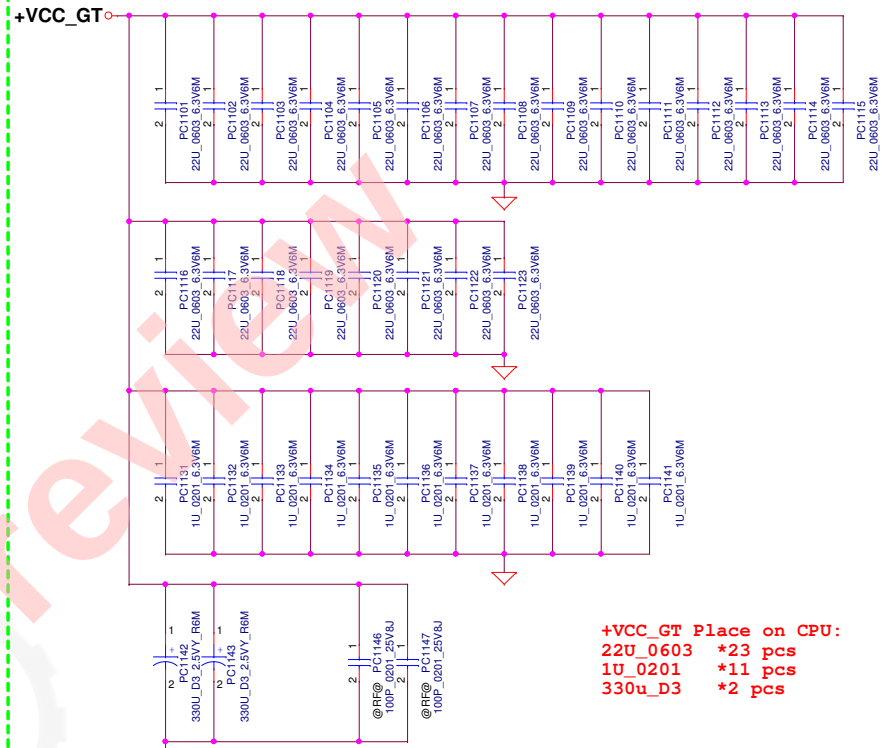
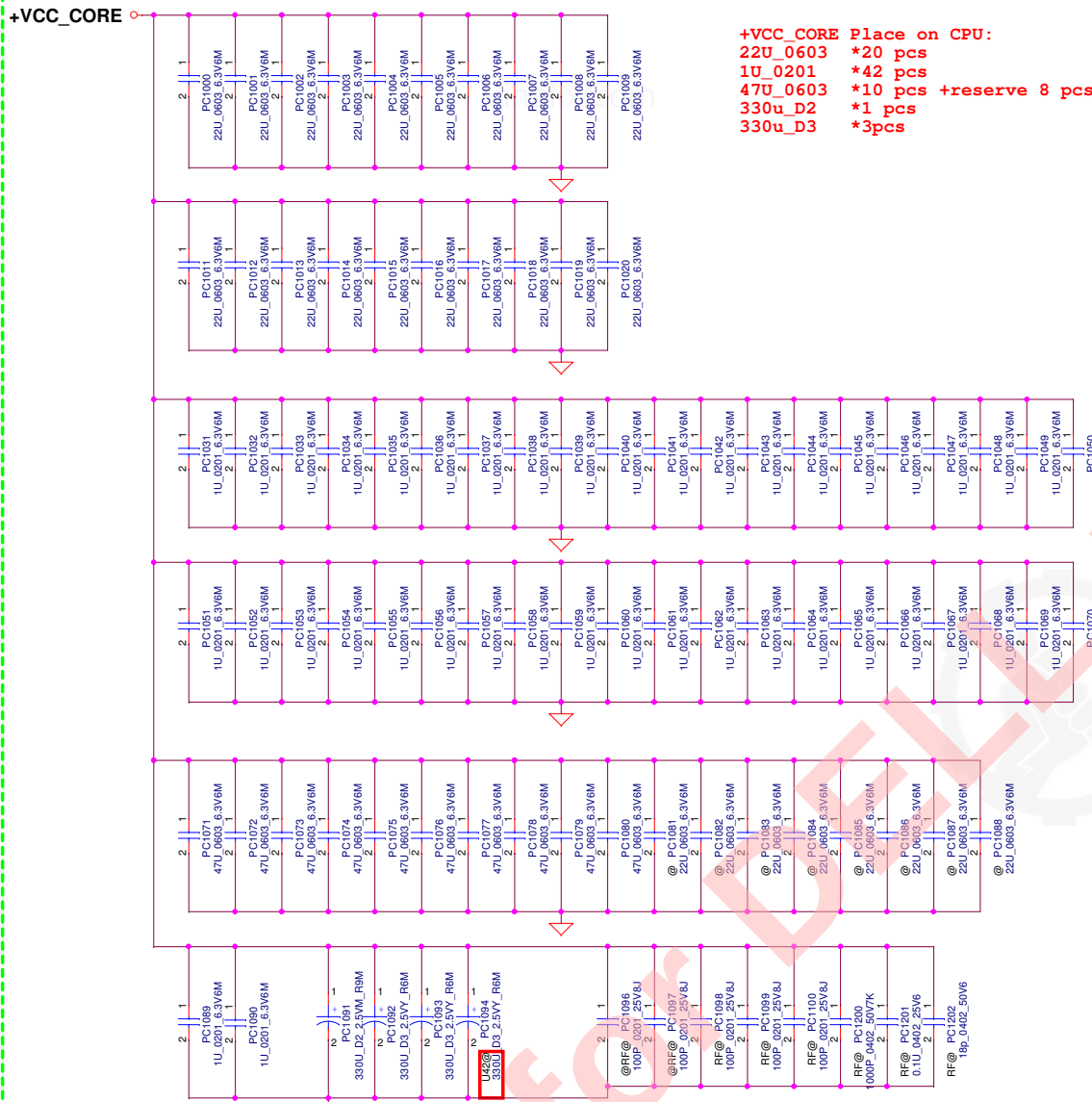
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VSSIO_SENDE v17s

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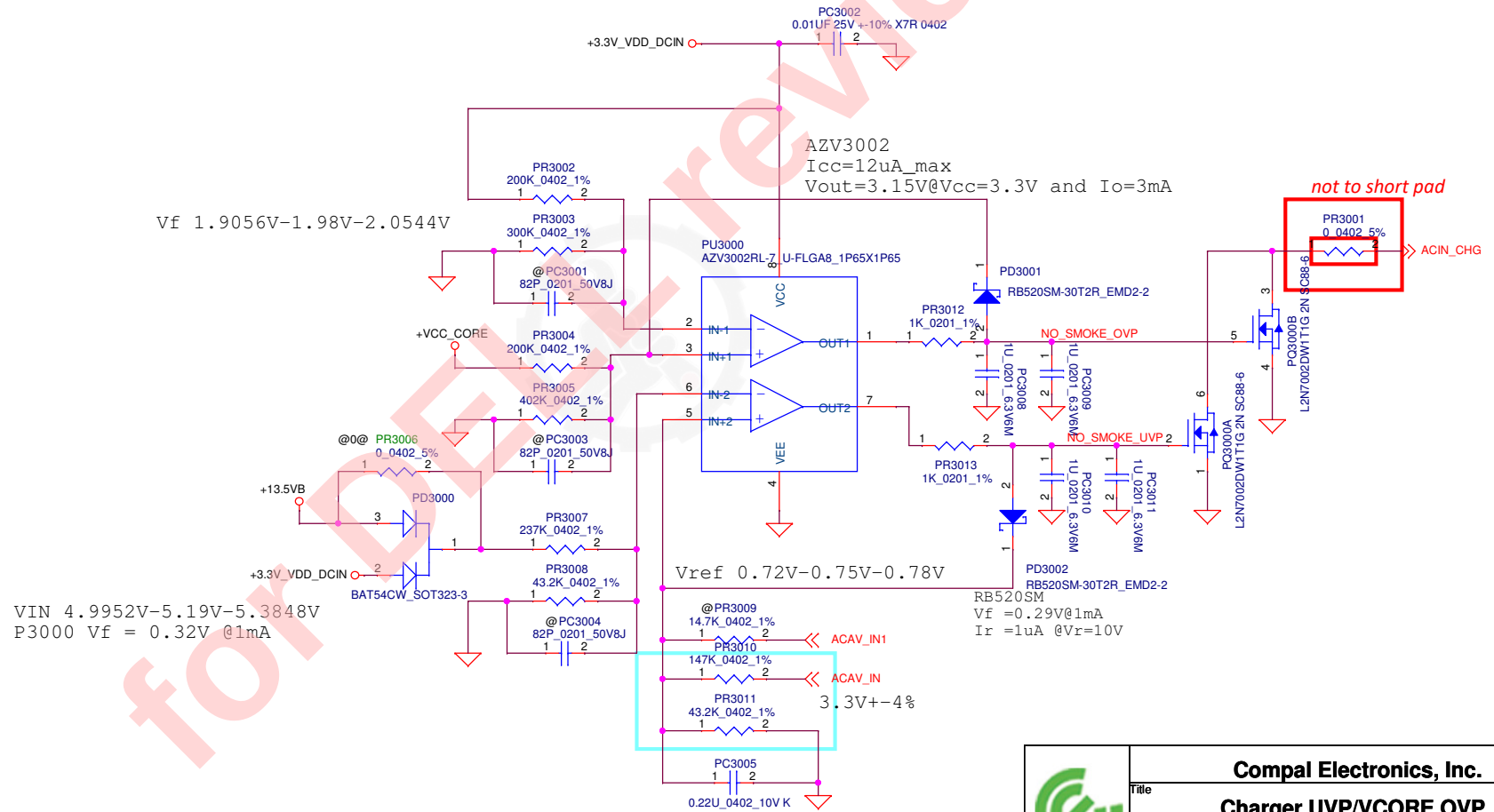




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Compal Electronics, Inc. CPU Decoupling CAP			
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Compal Electronics, Inc.

Title Charger UVP/VCORE OVP

Size Document Number

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U42

PC626 U42@  0.1U_0402_10%	PR613 U42@  97.6K_0402_1%	PR621 U42@  316_0402_1%	PC624 U42@  0.022U_0402_10%	PC621 U42@  680P_0402_10%
PR638 U42@  523_0402_1%	PR622 U42@  2.49K_0402_1%	PC616 U42@  68P_0402_5%	PC617 U42@  1200P_0402_10%	

U22

PC626 U22@  0.047U_0402_10%	PR613 U22@  84.5K_0402_1%	PR621 U22@  316_0402_1%	PC624 U22@  0.033U_0402_10%	PC621 U22@  820P_0402_10%
PR638 U22@  412_0402_1%	PR622 U22@  1.65K_0402_1%	PC616 U22@  33P_0402_5%	PC617 U22@  1200P_0402_10%	

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Version Change List (P. I. R. List)						
Item	Page#	Date	Issue Description	Solution Description	Rev.	
D	1	P089	06/04	Fairchild & AOS Dr.MOS vendor remove PVCC reserved resistor	Delete reserved PR686/PR689/PR681 on PVCC side	X01
	2	P082 P086 P088 P089	06/08 07/02	Change to common PN	1. PC624 change to SE076223K80 (S CER CAP 0.022U 16V K X7R 0402) 2. PC804 change to SE074221K80 (S CER CAP 220P 50V K X7R 0402) 3. PC633 change to SE075472K80 (S CER CAP 4700P 25V K X7R 0402) 4. PL201 change to SH00000YB00 (common P/N) 5. PL614 change to SH00001ED00 (common P/N)	X01
	3	P090	07/12	Merion Top side Z-height limitation	1. Un-stuff PC1094 (U428) 2. Add stuff PC1095 - 330uF (Bottom side)	X01
	4	P088 P099	07/13	CPU tune value by intersil	1. Change the PR636 from 665 Ohm to 634 Ohm. - (VCCSA R1) -> SD000002280, S RES 1/16W 634 +-1% 0402 2. Change the PR640 from 374 Ohm to 365 Ohm. - (VCCGT R1) -> SD034365080, S RES 1/16W 365 +-1% 0402 3. Change the PC646 from 0.047uF to 0.0022uF. - (VCCGT RC) -> SE075222K80, S CER CAP 2200P 25V K X7R 0402 4. Change the PC642 from 0.033uF to 0.068uF. - (VCCGT RC) -> SE000003380, S CER CAP 0.068U 16V K X7R 0402 5. Change the PC621 from 680pF to 820pF. - (VCC1A PB RC). -> SE000008980, S CER CAP 820P 25V K X7R 0402 6. Change the PR611 from 1.87kOhm to 9.31kOhm. - (PROG2) -> SD034931180, S RES 1/16W 9.31K +-1% 0402	X01
C	5	P082 P083	07/20	ESD request	PD1, PD2, change to SCA00002A00 for ESD demand	X01
	6	P082	07/30	LPS function test fail on G3 mode. Need to return LDO(PU2) design circuit.	Need stuff item : PU2/ PC10/ PC11/ PR47/ PR33/ PR27/ PR17/ PD800 / PR806 / PR809/ PR832/ PR859 / PR810 / PR813 Need delete location : PR48 / PR34 / PR35 / PR36 / PR37/ PR847 / PR848 / PR849/ PR850 Need un-stuff item : PR851 / PR860 / PR852	X01
	7	P082	07/30	PQ8 gate for non-Backdrive issue	Add R/C delay PR865/PC865 : 100K(SD028100380) and 0.1uF_0402_25V(SE00000G880)	X01
	8	P082	08/10	LM393 resistor value fine tune	PR800 change to 422K_0402_1% (SD034422380) PR815 change to 37.4K_0402_1% (SD034374280) PR832 change to 102K_0402_1% (SD028102380) PR843 change to 37.4K_0402_1% (SD034374280) PR831 change to 1M_0402_1% (SD034100480) PR842 change to 191K_0402_1% (SD034191380)	X01
	9	P088	08/10	ISL95857C solution	PR651 value change to 39.2K for ISL95857C	X01
	10	ALL	08/10	Intel validation tune value by Intersil FAE	Change the PR629 from 90.9kOhm to 86.6kOhm. 1MON of GT Change the PR636 from 665 Ohm to 634 Ohm. R1 of SA Change the PR651 from 78.7kOhm to 39.2kOhm. 1MON of SA. Change the PR611 from 1.87kOhm to 9.31kOhm. PROG2 Change the PC646 from 2200pF to 6800pF. Ch of GT.	X01
	11	P082 P083	08/15	Follow Schematic naming rule	Re-define the RTC/DCIN/Battery connector from 0 to CONN0.	X01
	12	P082 P083	08/15	Check and modify connector P/N	PJPDC1 - SP02001A500 PBATT1 - SP02001A700 JRTC1 - SP02000R000	X01
	13	P087	08/15	R/C delay fine tune for WHL bring up sequence	1. Modify PR312 / PR406 value from 0 ohm to 22K_0402_1% (SD034220280) 2. PC411 change to stuff 3. Add PC360 : 0.1uF_0402_25V (SE00000G880)	X01
	14	P091	08/20	Remove double pull down resistor	Un-stuff PR505 / PR407	X01
	15	P083	08/21	RTC issue	Add RTC detect circuit 1. Add PR9 10Mohm 2. Add PC13 MOS	X01
B	16	P091	08/22	Smokeless circuit for Vcore	Add smokeless circuit for Vcore	X01
	17	P082	08/22 09/11	LPS function modify	1. Add un-stuff PR870 and pull up source is +20V_VBUS_DC_SS ; 499K_0402_1% (SD034499380) 2. Modify PR831 value to 499K_0402_1% (SD034499380) and pull up source change to +20V_TBTA_VBUS_1 3. Modify PR842 value to 97.6K_0402_1% (SD034976280) 4. PC811 change to SE00000UD00 (10U 6.3V M X5R 0402)	X01
	18	P082	08/22	Modify 1 barrel / 1 Type-C External LDO circuit for No Smoke design	1. PD800 change to un-stuff 2. Add PR866 0_0402_5% 3. Add PD803 (BAT54CW_SOT323-3) 4. Add un-stuff PR868 0_0603_5%	X01
	19	P088 P089	08/22	CPU VR input Low noise MLCC PCB footprint update : C_0603-S3	IA input : PC658 / PC657 / PC656 / PC682 / PC683 / PC684 / PC672 / PC673 GT input : PC675 / PC674 / PC664 / PC665 SA input : PC612 / PC608 IA output : PC1071 / PC1072 / PC1073 / PC1074 / PC1075/ PC1076 / PC1077 / PC1078 / PC1079 / PC1080	X01
A	20	P090	08/22	Un-stuffed CPU +VCC_CORE output MLCC change value	Change reserve location from 47uF to 22uF (Keep un-stuff) PC1081 / PC1082 / PC1083 / PC1084 / PC1085 / PC1086 / PC1087 / PC1088	X01
	21	P089	08/22	Remove double net name	Remove PU610 / PU612 / PU613 Dr.MOS pin 15(PVCC) double net name	X01
	22	P087	08/23	Change PU301, PU501 powergood connection netname	Change connection to 1.0V_PRIM_PWRGD from 1.8V_PRIM_PWRGD (PU301, PU501)	X01
	23	P087	08/28	R/C for WHL sequence	1. Add PR313 : 100K_0402_5% 2. Add PR314 / PR315 : 0 ohm 3. Reserve PC350 footprint to PG (1.0V_PRIM_PWRGD) signal	X01
DELL CONFIDENTIAL/PROPRIETARY Compal Electronics, Inc. Title PWR P.I.R Size Document Number Date Monday, February 25, 2019 Sheet 100 of 106 Rev 0.3 PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.						

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Version Change List (P. I. R. List)						
Item	Page#	Date	Issue Description	Solution Description	Rev.	
24	All	08/24 08/27	RF request	PC301 change 0.1uF to 18pF PC103 change 2200pF to 100pF PC734 change 2200pF to 22pF PR676 / PC678 stuff PR202 un-stuff add PC330 120pF add PC315 100pF add PC332 / PC333 100pF / 120pF add PC334 18pF add PC760 / PC761 100pF / 18pF add PC692 22pF add PC146 22pF add PC1169 / PC1170 / PC1171/ PC1168 18pF/22pF/0.1uF/100pF add PC1200/PC1098/PC1099/PC1201/PC1202 1000pF/100pF*2/0.1uF/18pF add PC1100 100pF add PC666/PC667 100pF/18pF add PC420 22pF add PC144 22pF add PC143 100pF add PC145 100pF add PC693/PC694 100pF/18pF Change the PR629 from 90.9kOhm to 86.6kOhm. IMON of GT Change the PR636 from 665 Ohm to 634 Ohm. RI of SA Change the PR651 from 78.7kOhm to 39.2kOhm. IMON of SA. Change the PR611 from 1.87kOhm to 9.31kOhm. PROGE Change the PC646 from 2200pF to 6800pF. Ch of GT. Change the PR638 from 422 Ohm to 412 Ohm. RI of IA. Change the PC621 from 680pF to 420pF. SA AC to GND	X01	
25	P088	08/28	Intel validation tune value by Intersil FAB		X01	
26	P091	08/28	Disable No Smoke function	Un-stuff PR3001 for disable No Smoke function	X01	
27	P082	09/04	1 barrel / 1 Type-C change solution 2	Change to Stuff : PR46 / PR41 / PR858 / PR857 / PQ12 / PR49 / PQ814 / PR861 Un-stuff : PR856 / PR43	X01	
28	P082	09/14	DCIN AC detect tune value	Change PR817 to SD034249280 (S RES 1/16W 24.9K +-1% 0402)	X01	
29	All	09/11	Follow schematic naming rule	Jump BOM structure change Solder -> JUMP# Not Solder -> \$JUMP#	X01	
30	P091	11/05	no smoke circuit update	PR3002 change to 200K_0402_1% (SD034200380) PR3003 change to 300K_0402_1% (SD034300380) PR3001 change to stuff add PC3008 / PC3009 on NO_SMOKE_OVP add PC3010 / PC3011 on NO_SMOKE_OVP	X01	
31	P090	11/5	SAMSUNG DC-Bias issue	PC1071 / PC1072 / PC1073 / PC1074 / PC1075/ PC1076 / PC1077 / PC1078 / PC1079 / PC1080 change to SE000015500 (47uF_0603_6.3V)	X02	
32	P091	11/22	depop SMOKEless option circuit component	PQ3001/PQ3002 un-stuff	X02	
33	ALL	11/29	short pad	PR100/PR111/PR203/PR304/PR671/PR692/PR19/PR20/PR22 PR25/PR42/PR44/PR46/PR47/PR49/PR814/PR816/PR818 PR820/PR826/PR827/PR829/PR834/PR836/PR840/PR844 PR853/PR854/PR858/PR859/PR861/PR709/PR713/PR715 PR719/PR721/PR722/PR727/PR729/PR731/PR736/PR737 PR740/PR741/PR743/PR104/PR105/PR119/PR120/PR208 PR210/PR314/PR315/PR402/PR423/PR429/PR430/PR504 PR513/PR602/PR603/PR606/PR614/PR616/PR620/PR625 PR619/PR659/PR662/PR664/PR687	X02	
34	ALL	11/30	RF require	PC333 120pF -> 1uF add PC335 PC316 100pF -> 0.1uF PC330/PC331 un-stuff add PC337/PC336 add PC421 add PC338/PC339 add PC410/PC414/PC416	X02	
35	P082	12/3	PD803 voltage derating issue back up	addPR892/PR893 (22_0805) delete PR868	X02	
36	P083	12/6	ESD test request	PD1 / PD2 change to SCA00004700	X02	
37	P084	12/11	quickly sensing	PR701 / PR702 change to 1_0603_1%	X02	
38	ALL	12/12	RF require	PC216 2200pF -> 15pF PC217 100pF -> 15pF	X02	
39	P091	12/12	sequence margin	PR3010 14.7K -> 147K PR3011 4.32K -> 43.2K	X02	
40	P087	12/12	HW issue check	PR429 / PR430 change from short-PAD to normal type 0 ohm	X02	
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NVPRO@ RC734 NVPRO@ RC570 NVPRO@ RC571 NVPRO@ RC572
33_0201_1% 33_0201_1% 33_0201_1% 33_0201_1%

NVPRO@ RC33 NVPRO@ UC5 NVPRO@ UL1
33_0201_1% W25Q64JVZEIQ WGI219V SLKJ5 A1 QFN

NVPRO@ RC25 NVPRO@ RC26
10_0201_1% 10_0201_1%

NVPRO@ RC27 NVPRO@ RC29
10_0201_1% 10_0201_1%

NVPRO@ RC30
10_0201_1%

NVPRO@ RZ58 NVPRO@ RZ59 NVPRO@ RZ60
33_0201_1% 33_0201_1% 33_0201_1%

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SENSOR	
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Layer No.	Name	Er	Material	Thickness (Material SPEC.) Unit : mil	Thickness (Actuality) Unit : mil	Delay time (ps/inch)	35 ± 3.5 ohm single-end	40 ± 4 ohm single-end	45 ± 4.5 ohm single-end	50 ± 5 ohm Single-end	52 ± 5.2 ohm Single-end	80 ± 8 ohm Diff.	80 ± 8 ohm Diff.	83 ± 8.3 ohm Diff.	85 ± 8.5 ohm Diff.	85 ± 8.5 ohm Diff.	88 ± 8.8 ohm Diff.	90 ± 9 ohm Diff.	90 ± 9 ohm Diff.	100 ± 10 ohm Diff.	Ref
			SolderMask	GA-150LL	0.50		trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	
			Add Plating		0.95								SE50			SE 50				SE50	
1	Top		Copper foil	0.5oz	0.65	145.30	8.1	6.6	5.3	4.2	3.9	4.4/3.5	4.2/3.1	4/3.5	3.8/3.5	4.2/4.2	3.5/3.6	3.5/3.9	4.2/5.8	3.5/7.1	L2
		3.7	Prepreg	1086 or 1060	2.65		35.3	39.94	44.57	50.16	51.84	80.13	80.31	83.26	84.93	84.93	88.19	89.84	90.14	99.93	
2	GND/PWR		Copper foil	1oz	1.25																
		3.8	Core	3mil	3.00								SE50							SE50	
3	Sig1		Copper foil	1oz	1.25	161.68	7.5	6	4.8	3.9	3.6	4/3.5	3.8/3	3.7/3.5	3.5/3.6	3.9/4.4	3.5/4.2	3.5/4.7	3.9/5.6	3.5/9.6	L2/L4
		3.7	Prepreg	7628+1080	10.95		35.29	40.13	45.06	49.72	52.16	80.22	80.68	85.65	85.01	85.09	87.98	90.04	90.53	99.97	
4	GND/PWR		Copper foil	1oz	1.25																
		3.8	Core	3mil	3.00								SE50							SE50	
5	Sig2		Copper foil	1oz	1.25	162.52	7.8	6.3	5	4	3.6	4/3.5	4/3	3.7/3.5	3.5/3.6	4/4.6	3.5/4.2	3.5/4.7	4/6	3.5/9.2	L4/L7
		3.8	Prepreg	7628+1080	10.28		35.36	39.85	44.94	49.94	52.3	80.16	80.17	82.61	84.91	84.99	87.93	90.03	90.99	99.97	
6	Sig3		Copper foil	1oz	1.25	162.52	7.8	6.3	5	4	3.6	4/3.5	4/3	3.7/3.5	3.5/3.6	4/4.6	3.5/4.2	3.5/4.7	4/6	3.5/9.2	L4/L7
		3.8	Core	3mil	3.00																
7	GND/PWR		Copper foil	1oz	1.25																
		3.7	Prepreg	1086 or 1060	2.65								SE50			SE 50				SE50	
8	Bottom		Copper foil	0.5oz	0.65	145.30	8.1	6.6	5.3	4.2	3.9	4.4/3.5	4.2/3.1	4/3.5	3.8/3.5	4.2/4.2	3.5/3.6	3.5/3.9	4.2/5.8	3.5/7.1	L7
			Add Plating		0.95		35.3	39.94	44.57	50.16	51.84	80.13	80.31	83.26	84.93	84.93	88.19	89.84	90.14	99.93	
			SolderMask		0.50																
Overall Thickness (1.2mm ± 10%)					47.23000																

1.199642

Reference GCE RD data

線寬線距<3.5mil or 線距>12mil不建議使用

40 ± 4 ohm single-end	45 ± 4.5 ohm single-end	50 ± 5 ohm single-end	52 ± 5.2 ohm single-end	80 ± 8 ohm Diff.	83 ± 8.3 ohm Diff.	85 ± 8.5 ohm Diff.	88 ± 8.8 ohm Diff.	90 ± 9 ohm Diff.	Ref	100 ± 10 ohm Diff.	Ref
trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)	trace Width (±12%)		trace Width (±12%)	
								8.5/4.5	L3	12/5	no Ref
								90.14		100.75	
										11/6.5	no Ref
										99.63	
6	4.8	3.8	3.5	4/3.5	3.7/3.5	3.5/3.6	3.5/4.2		L4/L6	10/6.5	no Ref
39.87	44.8	50.03	51.88	80.1	82.59	84.91	87.85			99.46	
6	4.8	3.8	3.5	4/3.5	3.7/3.5	3.5/3.6	3.5/4.2		L5/L7	10/6.5	no Ref
								8.5/4.5	L6	12/5	no Ref
								90.14		100.75	

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