

COMPAL CONFIDENTIAL

MODEL NAME :EDC41  
PCB NO :LA-G891P  
BOM P/N :XXXXX

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

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

Layout Dell logo



COPYRIGHT 2017  
ALL RIGHT RESERVED  
REV:X00  
PWB:

Power CKT : \*NORTHBAY 14UU\_WHL\_PWR\_0128  
GPIO map : X10\_CSLP GPIO map Rev1.3\_20180529

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title

Cover Sheet

Size

Document Number

Rev

0.3

Date

Monday, February 25, 2019

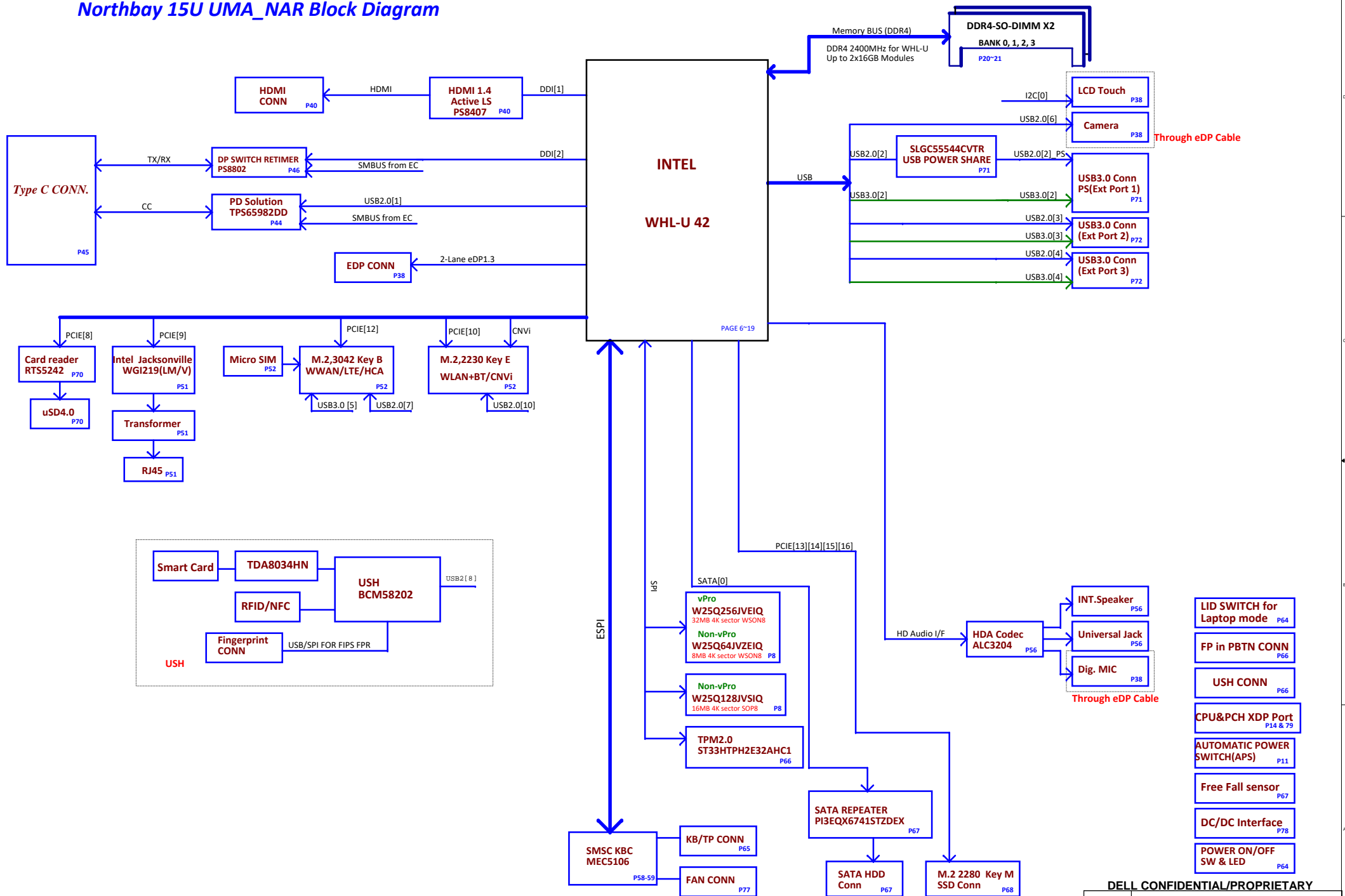
Sheet

1

of

102

# Northbay 15U UMA\_NAR Block Diagram



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.

DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Block Diagram			
LA-G891P	Rev 0.3		
Date: Monday, February 25, 2019	Sheet 2	of 102	

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	
Intel® RST Support	No Support				No Support				Yes				Yes			

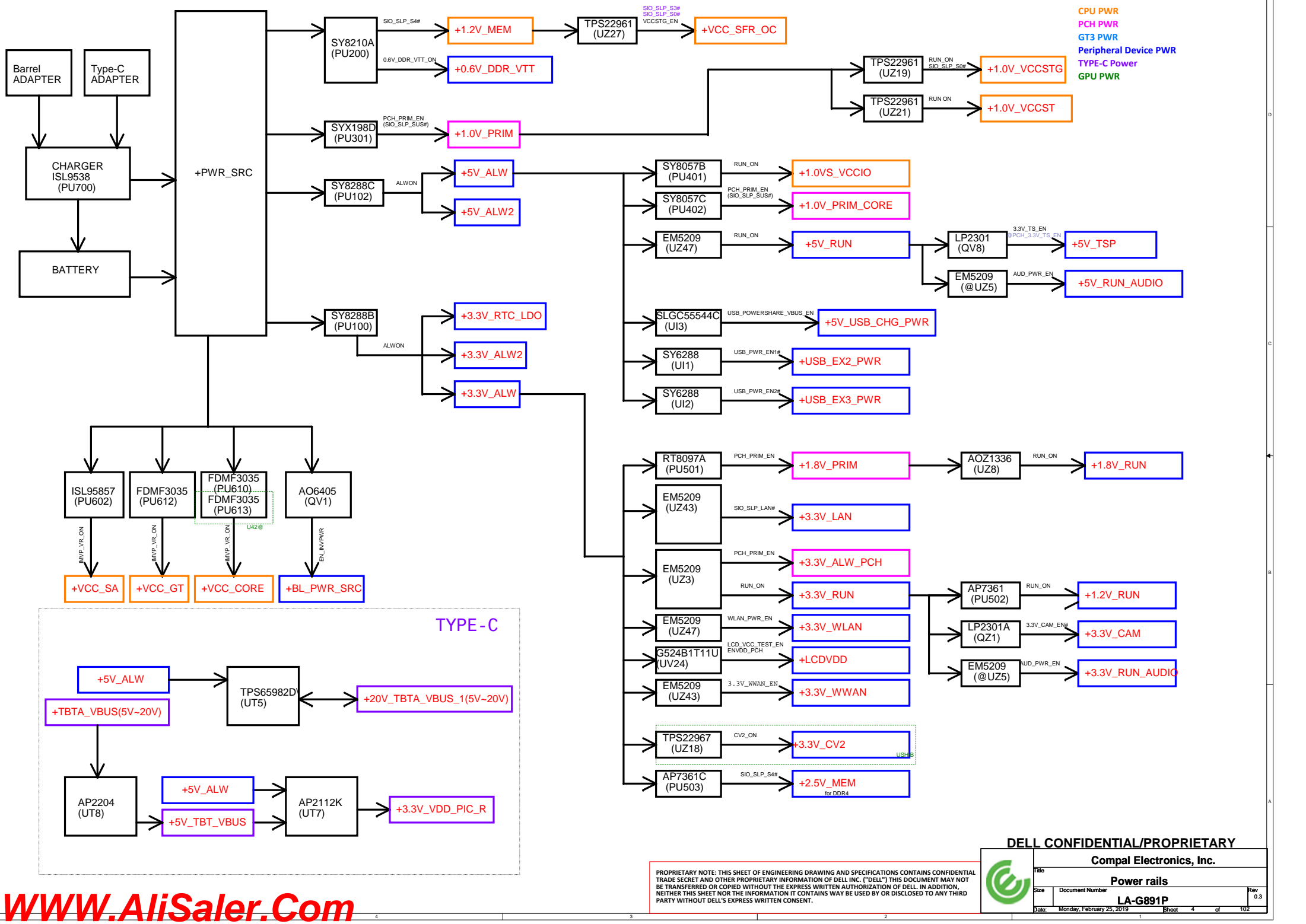
DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.



Title		Port assignment	
Size	Document Number	LA-G891P	
Date	Monday, February 25, 2019	Sheet	3 of 102

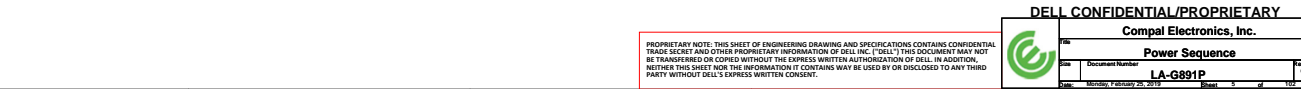
PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



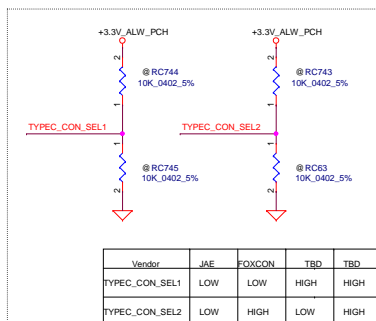
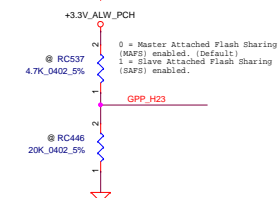
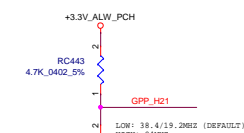
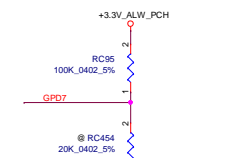
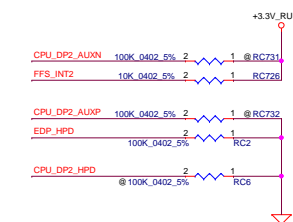
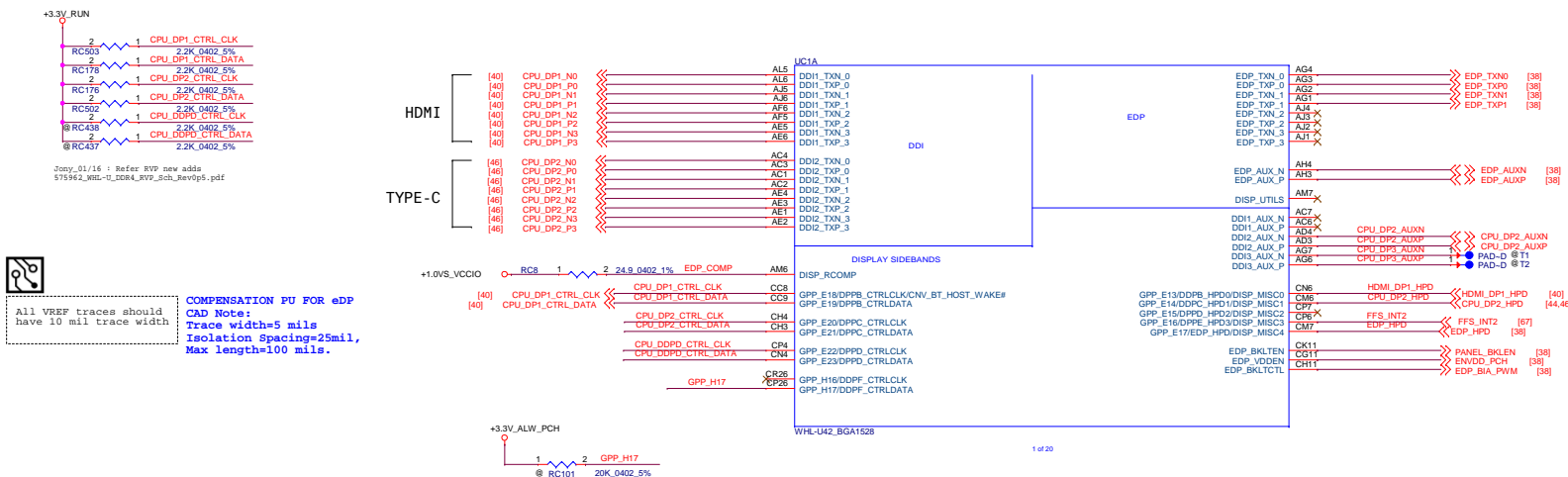
PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

**+1.0V\_PRIM**

VCCPRIM\_1P0 PCH PWRBTN# SIO\_PWRBTN# **8**



For 2LANE EDP



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

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

C10\_GATE# >>> CPU\_C10\_GATE# [17,58,8]

Jony\_01/16 : CK15 - Keep 200 ohm  
575962 NHL-U DDR4 RVP Sch Rev0p5.pd

DELL CONFIDENTIAL/PROPRIETARY

**Compal Electronics, Inc.**

**Title** **R07-MCP(1/14)DDI EDR CSI2 ENMC**

Size	Document Number
------	-----------------

LA-G891P

Date: Monday, February 25, 2019 Sheet 6 of 1

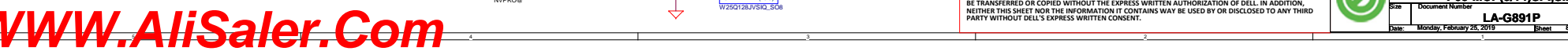
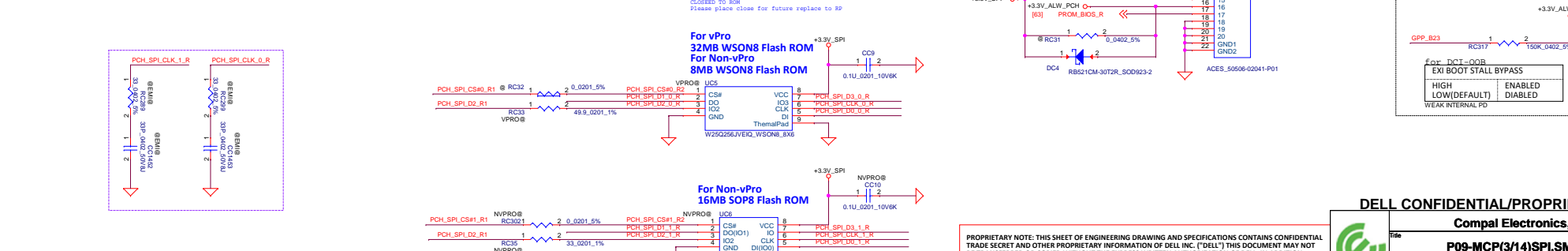
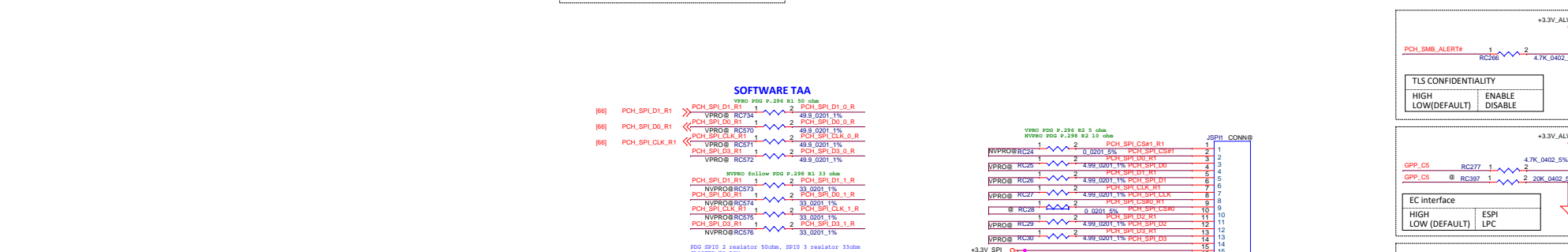
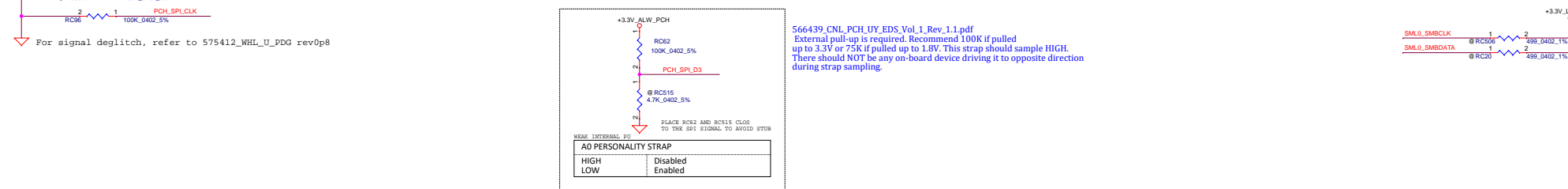
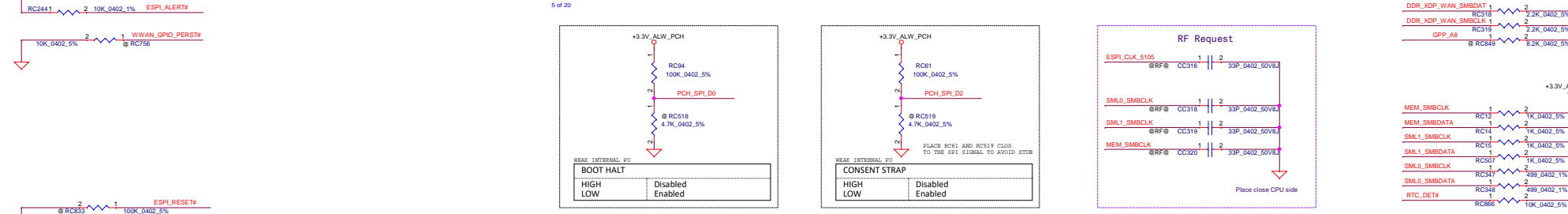
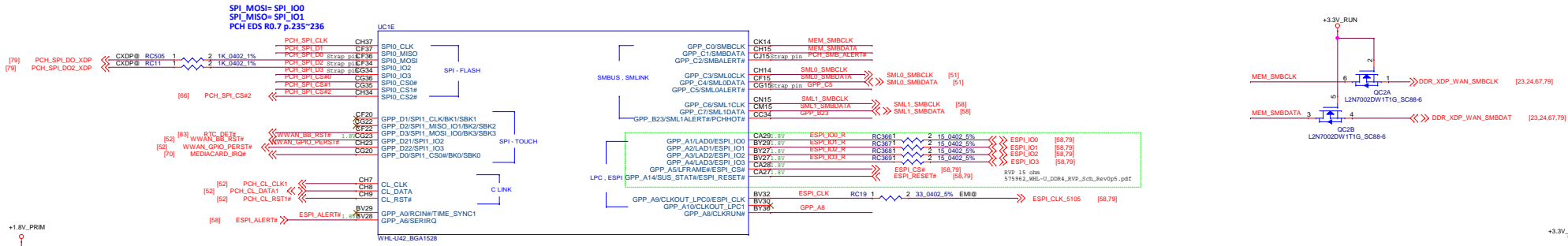
PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

[23] DDR\_A\_DQS#(0..7) <<>>  
[23] DDR\_A\_DQ\_63 <<>>  
[23] DDR\_A\_DQS(0..7) <<>>  
[23] DDR\_A\_MA(0..16) <<>>

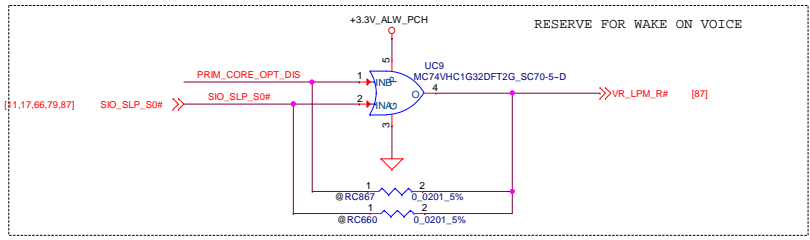
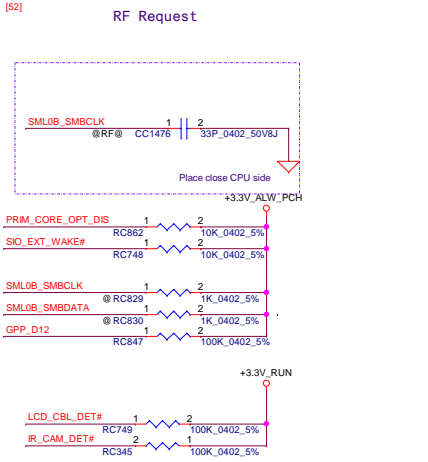
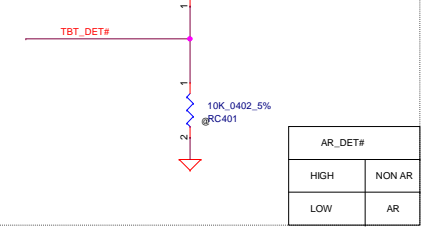
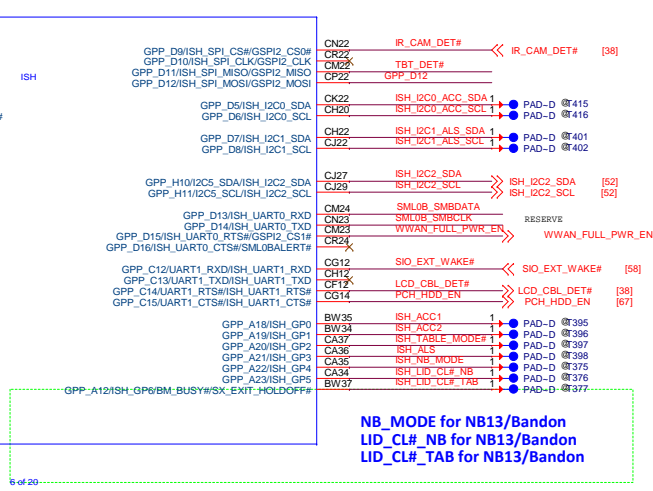
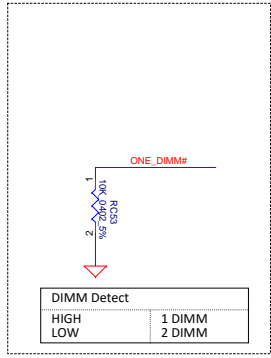
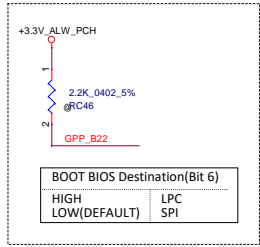
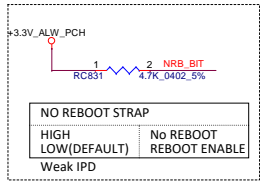
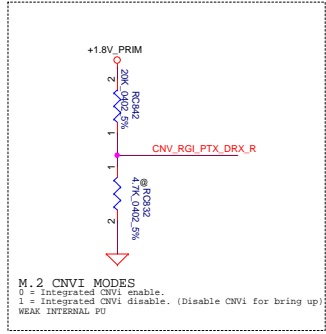
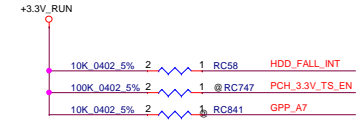
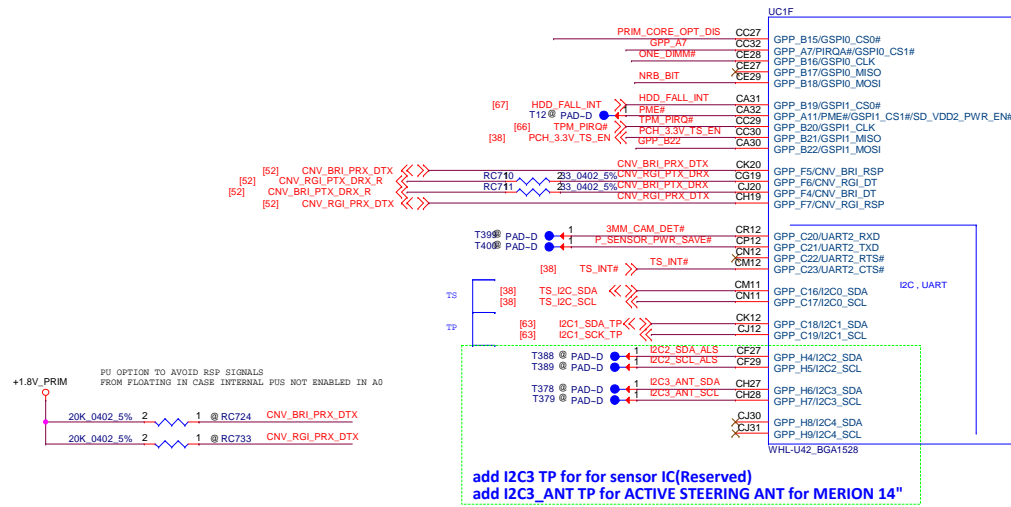
[24] DDR\_B\_DQS#(0..7) <<>>  
[24] DDR\_B\_DQ\_63 <<>>  
[24] DDR\_B\_DQS(0..7) <<>>  
[24] DDR\_B\_MA(0..16) <<>>

UC1B		UC1B		UC1B	
DDR_A_D0	A26	DDR0_DQ_0/DDR0_DQ_0	V32	DDR_A_CLK#0	[23]
DDR_A_D1	D26	DDR0_DQ_1/DDR0_DQ_1	V31	DDR_A_CLK#1	[23]
DDR_A_D2	D28	DDR0_DQ_2/DDR0_DQ_2	V32	DDR_A_CLK#2	[23]
DDR_A_D3	D29	DDR0_DQ_3/DDR0_DQ_3	V31	DDR_A_CLK#3	[23]
DDR_A_D4	B26	DDR0_DQ_4/DDR0_DQ_4	V32	DDR_A_CLK#4	[23]
DDR_A_D5	B28	DDR0_DQ_5/DDR0_DQ_5	V31	DDR_A_CLK#5	[23]
DDR_A_D6	B29	DDR0_DQ_6/DDR0_DQ_6	V32	DDR_A_CLK#6	[23]
DDR_A_D7	A28	DDR0_CKE_0/DDR0_CKE_0	U36	DDR_A_CKE#1	[23]
DDR_A_D8	B30	DDR0_CKE_1/DDR0_CKE_1	U37	DDR_A_CKE#2	[23]
DDR_A_D9	D30	DDR0_CKE_2/DDR0_CKE_2	U38	DDR_A_CKE#3	[23]
DDR_A_D10	B33	DDR0_DQ_9/DDR0_DQ_9	U39	DDR_A_CKE#4	[23]
DDR_A_D11	D32	DDR0_DQ_10/DDR0_DQ_10	U40	DDR_A_CKE#5	[23]
DDR_A_D12	A30	DDR0_DQ_11/DDR0_DQ_11	A532	DDR_A_CS#0	[23]
DDR_A_D13	C30	DDR0_CSD_1/DDR0_CSD_1	AF32	DDR_A_CS#1	[23]
DDR_A_D14	B32	DDR0_DQ_12/DDR0_DQ_12	AF31	DDR_A_CS#2	[23]
DDR_A_D15	C32	DDR0_DQ_13/DDR0_DQ_13	AF31	DDR_A_CS#3	[23]
DDR_A_D16	D33	DDR0_DQ_14/DDR0_DQ_14	AF31	DDR_A_CS#4	[23]
DDR_A_D17	A34	DDR0_DQ_15/DDR0_DQ_15	AF31	DDR_A_CS#5	[23]
DDR_A_D18	B34	DDR0_DQ_16/DDR0_DQ_16	AF31	DDR_A_CS#6	[23]
DDR_A_D19	C34	DDR0_DQ_17/DDR0_DQ_17	AF31	DDR_A_CS#7	[23]
DDR_A_D20	D35	DDR0_DQ_18/DDR0_DQ_18	AF31	DDR_A_CS#8	[23]
DDR_A_D21	A36	DDR0_DQ_19/DDR0_DQ_19	AF31	DDR_A_CS#9	[23]
DDR_A_D22	B36	DDR0_DQ_20/DDR0_DQ_20	AF31	DDR_A_CS#10	[23]
DDR_A_D23	C36	DDR0_DQ_21/DDR0_DQ_21	AF31	DDR_A_CS#11	[23]
DDR_A_D24	D37	DDR0_DQ_22/DDR0_DQ_22	AF31	DDR_A_CS#12	[23]
DDR_A_D25	A38	DDR0_DQ_23/DDR0_DQ_23	AF31	DDR_A_CS#13	[23]
DDR_A_D26	B38	DDR0_DQ_24/DDR0_DQ_24	AF31	DDR_A_CS#14	[23]
DDR_A_D27	C38	DDR0_DQ_25/DDR0_DQ_25	AF31	DDR_A_CS#15	[23]
DDR_A_D28	D39	DDR0_DQ_26/DDR0_DQ_26	AF31	DDR_A_CS#16	[23]
DDR_A_D29	A40	DDR0_DQ_27/DDR0_DQ_27	AF31	DDR_A_CS#17	[23]
DDR_A_D30	B40	DDR0_DQ_28/DDR0_DQ_28	AF31	DDR_A_CS#18	[23]
DDR_A_D31	C40	DDR0_DQ_29/DDR0_DQ_29	AF31	DDR_A_CS#19	[23]
DDR_A_D32	D41	DDR0_DQ_30/DDR0_DQ_30	AF31	DDR_A_CS#20	[23]
DDR_A_D33	A42	DDR0_DQ_31/DDR0_DQ_31	AF31	DDR_A_CS#21	[23]
DDR_A_D34	B42	DDR0_DQ_32/DDR0_DQ_32	AF31	DDR_A_CS#22	[23]
DDR_A_D35	C42	DDR0_DQ_33/DDR0_DQ_33	AF31	DDR_A_CS#23	[23]
DDR_A_D36	D43	DDR0_DQ_34/DDR0_DQ_34	AF31	DDR_A_CS#24	[23]
DDR_A_D37	A44	DDR0_DQ_35/DDR0_DQ_35	AF31	DDR_A_CS#25	[23]
DDR_A_D38	B44	DDR0_DQ_36/DDR0_DQ_36	AF31	DDR_A_CS#26	[23]
DDR_A_D39	C44	DDR0_DQ_37/DDR0_DQ_37	AF31	DDR_A_CS#27	[23]
DDR_A_D40	D45	DDR0_DQ_38/DDR0_DQ_38	AF31	DDR_A_CS#28	[23]
DDR_A_D41	A46	DDR0_DQ_39/DDR0_DQ_39	AF31	DDR_A_CS#29	[23]
DDR_A_D42	B46	DDR0_DQ_40/DDR0_DQ_40	AF31	DDR_A_CS#30	[23]
DDR_A_D43	C46	DDR0_DQ_41/DDR0_DQ_41	AF31	DDR_A_CS#31	[23]
DDR_A_D44	D47	DDR0_DQ_42/DDR0_DQ_42	AF31	DDR_A_CS#32	[23]
DDR_A_D45	A48	DDR0_DQ_43/DDR0_DQ_43	AF31	DDR_A_CS#33	[23]
DDR_A_D46	B48	DDR0_DQ_44/DDR0_DQ_44	AF31	DDR_A_CS#34	[23]
DDR_A_D47	C48	DDR0_DQ_45/DDR0_DQ_45	AF31	DDR_A_CS#35	[23]
DDR_A_D48	D49	DDR0_DQ_46/DDR0_DQ_46	AF31	DDR_A_CS#36	[23]
DDR_A_D49	A50	DDR0_DQ_47/DDR0_DQ_47	AF31	DDR_A_CS#37	[23]
DDR_A_D50	B50	DDR0_DQ_48/DDR0_DQ_48	AF31	DDR_A_CS#38	[23]
DDR_A_D51	C50	DDR0_DQ_49/DDR0_DQ_49	AF31	DDR_A_CS#39	[23]
DDR_A_D52	D51	DDR0_DQ_50/DDR0_DQ_50	AF31	DDR_A_CS#40	[23]
DDR_A_D53	A52	DDR0_DQ_51/DDR0_DQ_51	AF31	DDR_A_CS#41	[23]
DDR_A_D54	B52	DDR0_DQ_52/DDR0_DQ_52	AF31	DDR_A_CS#42	[23]
DDR_A_D55	C52	DDR0_DQ_53/DDR0_DQ_53	AF31	DDR_A_CS#43	[23]
DDR_A_D56	D53	DDR0_DQ_54/DDR0_DQ_54	AF31	DDR_A_CS#44	[23]
DDR_A_D57	A54	DDR0_DQ_55/DDR0_DQ_55	AF31	DDR_A_CS#45	[23]
DDR_A_D58	B54	DDR0_DQ_56/DDR0_DQ_56	AF31	DDR_A_CS#46	[23]
DDR_A_D59	C54	DDR0_DQ_57/DDR0_DQ_57	AF31	DDR_A_CS#47	[23]
DDR_A_D60	D55	DDR0_DQ_58/DDR0_DQ_58	AF31	DDR_A_CS#48	[23]
DDR_A_D61	A56	DDR0_DQ_59/DDR0_DQ_59	AF31	DDR_A_CS#49	[23]
DDR_A_D62	B56	DDR0_DQ_60/DDR0_DQ_60	AF31	DDR_A_CS#50	[23]
DDR_A_D63	C56	DDR0_DQ_61/DDR0_DQ_61	AF31	DDR_A_CS#51	[23]
DDR_A_D64	D57	DDR0_DQ_62/DDR0_DQ_62	AF31	DDR_A_CS#52	[23]
DDR_A_D65	A58	DDR0_DQ_63/DDR0_DQ_63	AF31	DDR_A_CS#53	[23]
DDR_A_D66	B58	DDR0_DQ_64/DDR0_DQ_64	AF31	DDR_A_CS#54	[23]
DDR_A_D67	C58	DDR0_DQ_65/DDR0_DQ_65	AF31	DDR_A_CS#55	[23]
DDR_A_D68	D59	DDR0_DQ_66/DDR0_DQ_66	AF31	DDR_A_CS#56	[23]
DDR_A_D69	A60	DDR0_DQ_67/DDR0_DQ_67	AF31	DDR_A_CS#57	[23]
DDR_A_D70	B60	DDR0_DQ_68/DDR0_DQ_68	AF31	DDR_A_CS#58	[23]
DDR_A_D71	C60	DDR0_DQ_69/DDR0_DQ_69	AF31	DDR_A_CS#59	[23]
DDR_A_D72	D61	DDR0_DQ_70/DDR0_DQ_70	AF31	DDR_A_CS#60	[23]
DDR_A_D73	A62	DDR0_DQ_71/DDR0_DQ_71	AF31	DDR_A_CS#61	[23]
DDR_A_D74	B62	DDR0_DQ_72/DDR0_DQ_72	AF31	DDR_A_CS#62	[23]
DDR_A_D75	C62	DDR0_DQ_73/DDR0_DQ_73	AF31	DDR_A_CS#63	[23]
DDR_A_D76	D63	DDR0_DQ_74/DDR0_DQ_74	AF31	DDR_A_CS#64	[23]
DDR_A_D77	A64	DDR0_DQ_75/DDR0_DQ_75	AF31	DDR_A_CS#65	[23]
DDR_A_D78	B64	DDR0_DQ_76/DDR0_DQ_76	AF31	DDR_A_CS#66	[23]
DDR_A_D79	C64	DDR0_DQ_77/DDR0_DQ_77	AF31	DDR_A_CS#67	[23]
DDR_A_D80	D65	DDR0_DQ_78/DDR0_DQ_78	AF31	DDR_A_CS#68	[23]
DDR_A_D81	A66	DDR0_DQ_79/DDR0_DQ_79	AF31	DDR_A_CS#69	[23]
DDR_A_D82	B66	DDR0_DQ_80/DDR0_DQ_80	AF31	DDR_A_CS#70	[23]
DDR_A_D83	C66	DDR0_DQ_81/DDR0_DQ_81	AF31	DDR_A_CS#71	[23]
DDR_A_D84	D67	DDR0_DQ_82/DDR0_DQ_82	AF31	DDR_A_CS#72	[23]
DDR_A_D85	A68	DDR0_DQ_83/DDR0_DQ_83	AF31	DDR_A_CS#73	[23]
DDR_A_D86	B68	DDR0_DQ_84/DDR0_DQ_84	AF31	DDR_A_CS#74	[23]
DDR_A_D87	C68	DDR0_DQ_85/DDR0_DQ_85	AF31	DDR_A_CS#75	[23]
DDR_A_D88	D69	DDR0_DQ_86/DDR0_DQ_86	AF31	DDR_A_CS#76	[23]
DDR_A_D89	A70	DDR0_DQ_87/DDR0_DQ_87	AF31	DDR_A_CS#77	[23]
DDR_A_D90	B70	DDR0_DQ_88/DDR0_DQ_88	AF31	DDR_A_CS#78	[23]
DDR_A_D91	C70	DDR0_DQ_89/DDR0_DQ_89	AF31	DDR_A_CS#79	[23]
DDR_A_D92	D71	DDR0_DQ_90/DDR0_DQ_90	AF31	DDR_A_CS#80	[23]
DDR_A_D93	A72	DDR0_DQ_91/DDR0_DQ_91	AF31	DDR_A_CS#81	[23]
DDR_A_D94	B72	DDR0_DQ_92/DDR0_DQ_92	AF31	DDR_A_CS#82	[23]
DDR_A_D95	C72	DDR0_DQ_93/DDR0_DQ_93	AF31	DDR_A_CS#83	[23]
DDR_A_D96	D73	DDR0_DQ_94/DDR0_DQ_94	AF31	DDR_A_CS#84	[23]
DDR_A_D97	A74	DDR0_DQ_95/DDR0_DQ_95	AF31	DDR_A_CS#85	[23]
DDR_A_D98	B74	DDR0_DQ_96/DDR0_DQ_96	AF31	DDR_A_CS#86	[23]
DDR_A_D99	C74	DDR0_DQ_97/DDR0_DQ_97	AF31	DDR_A_CS#87	[23]
DDR_A_D100	D75	DDR0_DQ_98/DDR0_DQ_98	AF31	DDR_A_CS#88	[23]
DDR_A_D101	A76	DDR0_DQ_99/DDR0_DQ_99	AF31	DDR_A_CS#89	[23]
DDR_A_D102	B76	DDR0_DQ_100/DDR0_DQ_100	AF31	DDR_A_CS#90	[23]
DDR_A_D103	C76	DDR0_DQ_101/DDR0_DQ_101	AF31	DDR_A_CS#91	[23]
DDR_A_D104	D77	DDR0_DQ_102/DDR0_DQ_102	AF31	DDR_A_CS#92	[23]
DDR_A_D105	A78	DDR0_DQ_103/DDR0_DQ_103	AF31	DDR_A_CS#93	[23]
DDR_A_D106	B78	DDR0_DQ_104/DDR0_DQ_104	AF31	DDR_A_CS#94	[23]
DDR_A_D107	C78	DDR0_DQ_105/DDR0_DQ_105	AF31	DDR_A_CS#95	[23]
DDR_A_D108	D79	DDR0_DQ_106/DDR0_DQ_106	AF31	DDR_A_CS#96	[23]
DDR_A_D109	A80	DDR0_DQ_107/DDR0_DQ_107	AF31	DDR_A_CS#97	[23]
DDR_A_D110	B80	DDR0_DQ_108/DDR0_DQ_108	AF31	DDR_A_CS#98	[23]
DDR_A_D111	C80	DDR0_DQ_109/DDR0_DQ_109	AF31	DDR_A_CS#99	[23]
DDR_A_D112	D81	DDR0_DQ_110/DDR0_DQ_110	AF31	DDR_A_CS#100	[23]
DDR_A_D113	A82	DDR0_DQ_111/DDR0_DQ_111	AF31	DDR_A_CS#101	[23]
DDR_A_D114	B82	DDR0_DQ_112/DDR0_DQ_112	AF31	DDR_A_CS#102	[23]
DDR_A_D115	C82	DDR0_DQ_113/DDR0_DQ_113	AF31	DDR_A_CS#103	[23]
DDR_A_D116	D83	DDR0_DQ_114/DDR0_DQ_114	AF31	DDR_A_CS#104	[23]
DDR_A_D117	A84	DDR0_DQ_115/DDR0_DQ_115	AF31	DDR_A_CS#105	[23]
DDR_A_D118	B84	DDR0_DQ_116/DDR0_DQ_116	AF31	DDR_A_CS#106	[23]
DDR_A_D119	C84	DDR0_DQ_117/DDR0_DQ_117	AF31	DDR_A_CS#107	[23]
DDR_A_D120	D85	DDR0_DQ_118/DDR0_DQ_118	AF31	DDR_A_CS#108	[23]
DDR_A_D121	A86	DDR0_DQ_119/DDR0_DQ_119	AF31	DDR_A_CS#109	[23]
DDR_A_D122	B86	DDR0_DQ_120/DDR0_DQ_120	AF31	DDR_A_CS#110	[23]
DDR_A_D123	C86	DDR0_DQ_121/DDR0_DQ_121	AF31	DDR_A_CS#111	[23]
DDR_A_D124	D87	DDR0_DQ_122/DDR0_DQ_122	AF31	DDR_A_CS#112	[23]
DDR_A_D125	A88	DDR0_DQ_123/DDR0_DQ_123	AF31	DDR_A_CS#113	[23]
DDR_A_D126	B88	DDR0_DQ_124/DDR0_DQ_124	AF31	DDR_A_CS#114	[23]
DDR_A_D127	C88	DDR0_DQ_125/DDR0_DQ_125	AF31	DDR_A_CS#115	[23]
DDR_A_D128	D89	DDR0_DQ_126/DDR0_DQ_126	AF31	DDR_A_CS#116	[23]
DDR_A_D129	A90	DDR0_DQ_127/DDR0_DQ_127	AF31	DDR_A_CS#117	[23]
DDR_A_D130	B90	DDR0_DQ_128/DDR0_DQ_128	AF31	DDR_A_CS#118	[23]
DDR_A_D131	C90	DDR0_DQ_129/DDR0_DQ_129	AF31	DDR_A_CS#119	[23]
DDR_A_D132	D91	DDR0_DQ_130/DDR0_DQ_130	AF31	DDR_A_CS#120	[23]
DDR_A_D133	A92	DDR0_DQ_131/DDR0_DQ_131	AF31	DDR_A_CS#121	[23]
DDR_A_D134	B92	DDR0_DQ_132/DDR0_DQ_132	AF31	DDR_A_CS#122	[23]
DDR_A_D135	C92	DDR0_DQ_133/DDR0_DQ_133	AF31	DDR_A_CS#123	[23]
DDR_A_D136	D93	DDR0_DQ_134/DDR0_DQ_134	AF31	DDR_A_CS#124	[23]
DDR_A_D137	A94	DDR0_DQ_135/DDR0_DQ_135	AF31	DDR_A_CS#125	[23]
DDR_A_D138	B94	DDR0_DQ_136/DDR0_DQ_136	AF31	DDR_A_CS#126	[23]
DDR_A_D139	C94	DDR0_DQ_137/DDR0_DQ_137	AF31	DDR_A_CS#127	[23]
DDR_A_D140	D95	DDR0_DQ_138/DDR0_DQ_138	AF31	DDR_A_CS#128	[23]
DDR_A_D141	A96	DDR0_DQ_139/DDR0_DQ_139	AF31	DDR_A_CS#129	[23]
DDR_A_D142	B96	DDR0_DQ_140/DDR0_DQ_140	AF31	DDR_A_CS#130	[23]
DDR_A_D143	C96	DDR0_DQ_141/DDR0_DQ_141	AF31	DDR_A_CS#131	[23]
DDR_A_D144	D97	DDR0_DQ_142/DDR0_DQ_142	AF31	DDR_A_CS#132	[23]
DDR_A_D145	A98	DDR0_DQ_143/DDR0_DQ_143	AF31	DDR_A_CS#133	[23]
DDR_A_D146	B98	DDR0_DQ_144/DDR0_DQ_144	AF31	DDR_A_CS#134	[23]
DDR_A_D147	C98	DDR0_DQ_145/DDR0_DQ_145	AF31	DDR_A_CS#135	[23]
DDR_A_D148	D99	DDR0_DQ_146/DDR0_DQ_146	AF31	DDR_A_CS#136	[23]
DDR_A_D149	A100	DDR0_DQ_147/DDR0_DQ_147	AF31	DDR_A_CS#137	[23]
DDR_A_D150	B100	DDR0_DQ_148/DDR0_DQ_148	AF31	DDR_A_CS#138	[23]
DDR_A_D151	C100	DDR0_DQ_149/DDR0_DQ_149	AF31	DDR_A_CS#139	[23]
DDR_A_D152	D101	DDR0_DQ_150/DDR0_DQ_150	AF31	DDR_A_CS#140	[23]
DDR_A_D153	A102	DDR0_DQ_151/DDR0_DQ_151	AF31	DDR_A_CS#141	[23]
DDR_A_D154	B102	DDR0_DQ_152/DDR0_DQ_152	AF31	DDR_A_CS#142	[23]
DDR_A_D155	C102	DDR0_DQ_153/DDR0_DQ_153	AF31	DDR_A_CS#143	[23]
DDR_A_D156	D103	DDR0_DQ_154/DDR0_DQ_154	AF31	DDR_A_CS#144	[23]
DDR_A_D157	A104	DDR0_DQ_155/DDR0_DQ_155	AF31	DDR_A_CS#145	[23]
DDR_A_D158	B104	DDR0_DQ_156/DDR0_DQ_156	AF31	DDR_A_CS#146	[23]
DDR_A_D159	C104	DDR0_DQ_157/DDR0_DQ_157	AF31	DDR_A_CS#147	[23]
DDR_A_D160	D105	DDR0_DQ_158/DDR0_DQ_158	AF31	DDR_A_CS#148	[23]
DDR_A_D161	A106	DDR0_DQ_159/DDR0_DQ_159	AF31	DDR_A_CS#149	[23]
DDR_A_D162	B106	DDR0_DQ_160/DDR0_DQ_160	AF31	DDR_A_CS#150	[23]
DDR_A_D163	C106	DDR0_DQ_161/DDR0_DQ_161	AF31	DDR_A_CS#151	[23]
DDR_A_D164	D107	DDR0_DQ_162/DDR0_DQ_162	AF31	DDR_A_CS#152	[23]
DDR_A_D165	A108	DDR0_DQ_163/DDR0_DQ_163	AF31	DDR_A_CS#153	[23]
DDR_A_D166	B108	DDR0_DQ_164/DDR0_DQ_164	AF31	DDR_A_CS#154	[23]
DDR_A_D167	C108	DDR0_DQ_165/DDR0_DQ_165	AF31	DDR_A_CS#155	[23]
DDR_A_D168	D109	DDR0_DQ_166/DDR0_DQ_166	AF31	DDR_A_CS#156	[23]
DDR_A_D169	A110	DDR0_DQ_167/DDR0_DQ_167	AF31	DDR_A_CS#157	[23]
DDR_A_D170	B110	DDR0_DQ_168/DDR0_DQ_168	AF31	DDR_A_CS#158	[23]
DDR_A_D171	C110	DDR0_DQ_169/DDR0_DQ_169	AF31	DDR_A_CS#159	[23]
DDR_A_D172	D111	DDR0_DQ_170/DDR0_DQ_170	AF31	DDR_A_CS#160	[23]
DDR_A_D173	A112	DDR0_DQ_171/DDR0_DQ_171	AF31	DDR_A_CS#161	[23]



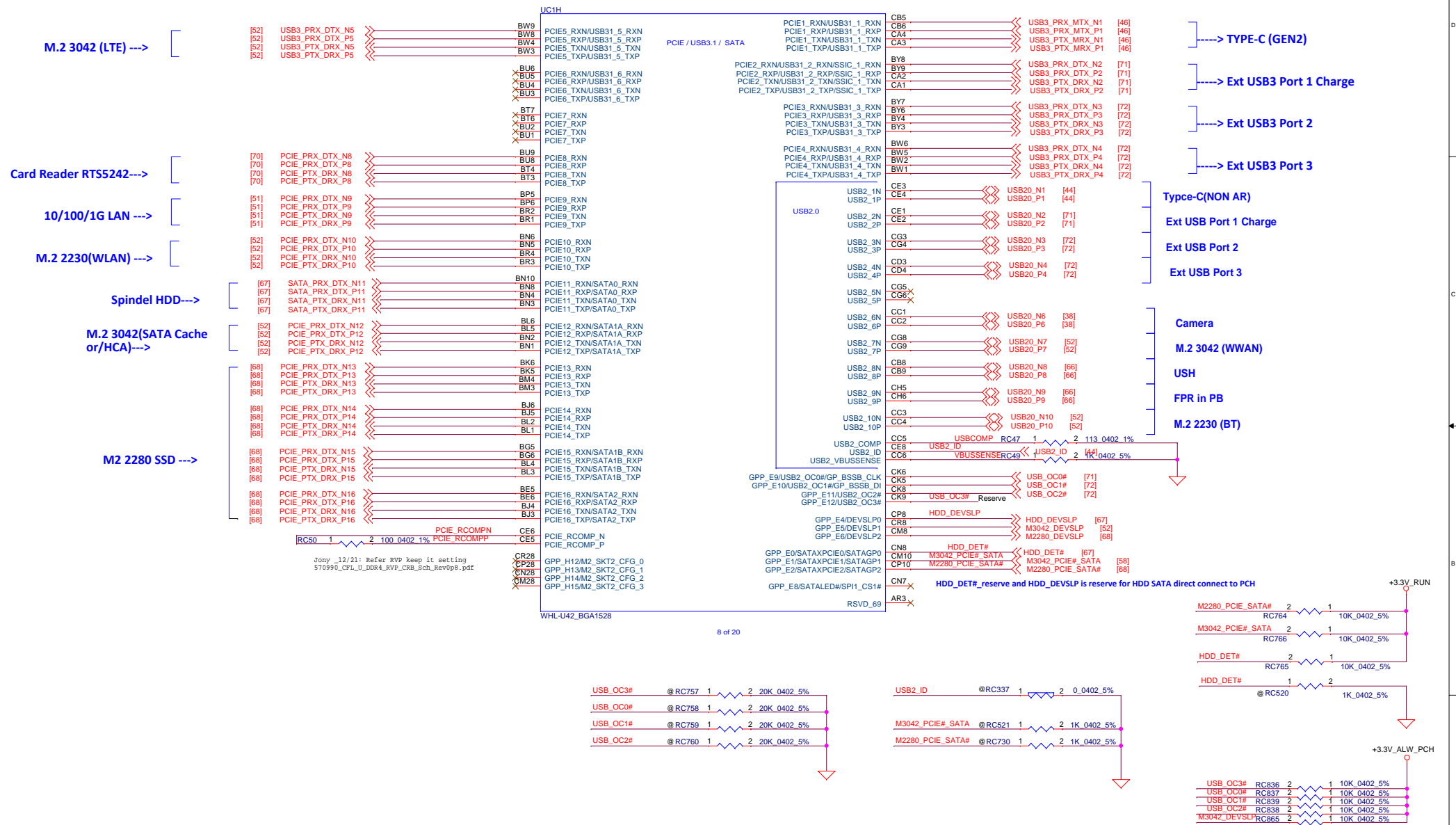






PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

AR,NB\_Bandon DSC(follow WHL 180306C port map)



DELL CONFIDENTIAL/PROPRIETARY

**Compal Electronics, Inc.**

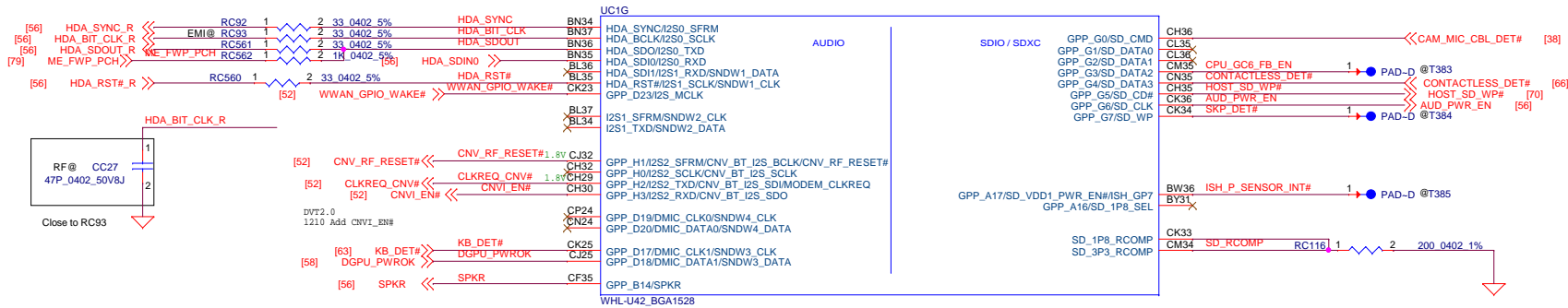
**P11-MCP(5/14)PCIE,USB,SATA**

**LA-G891P**

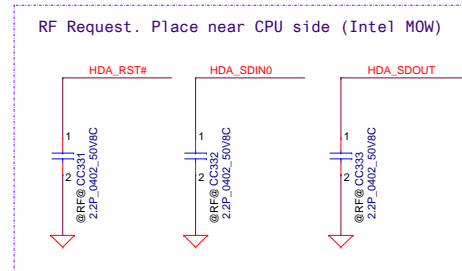
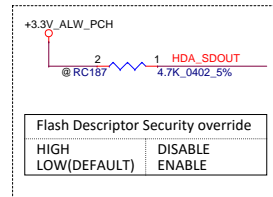
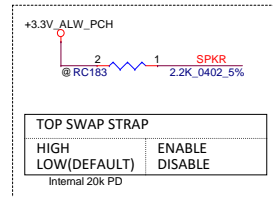
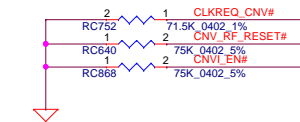
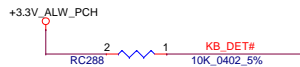
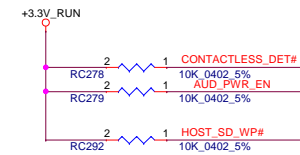
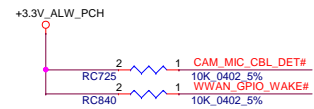
0.3

Date: Monday, February 25, 2019 Sheet 10 of 102





7 of 20



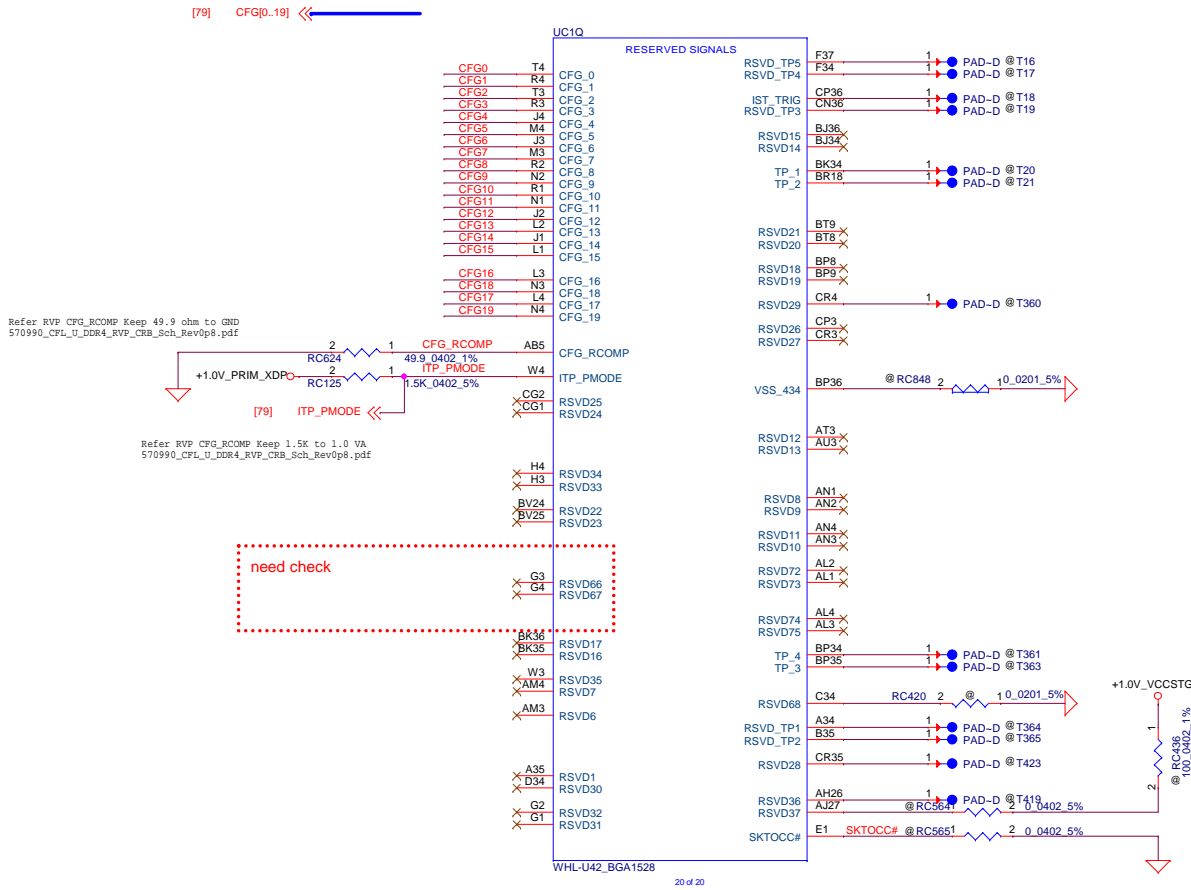
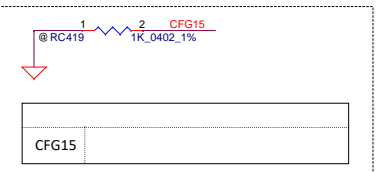
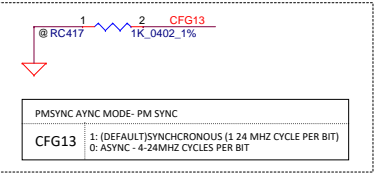
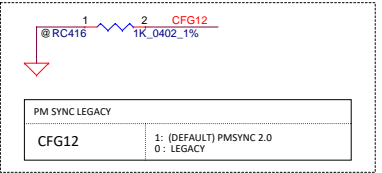
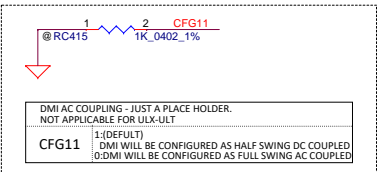
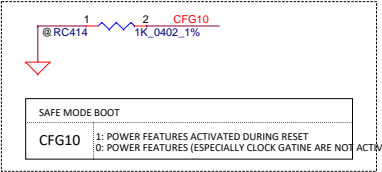
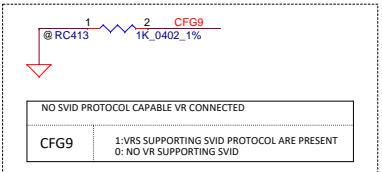
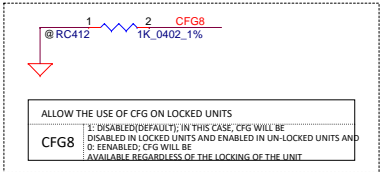
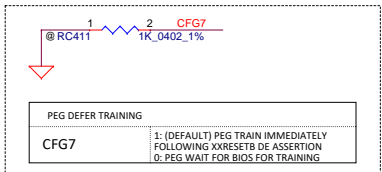
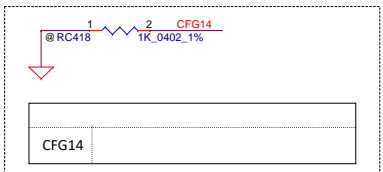
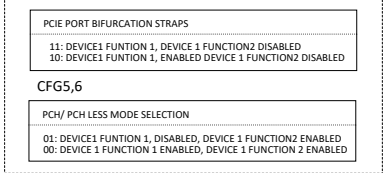
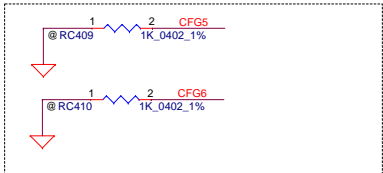
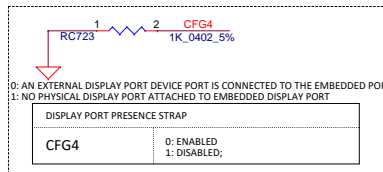
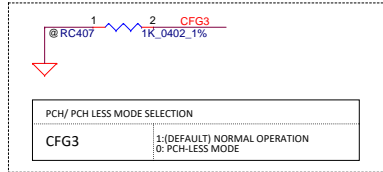
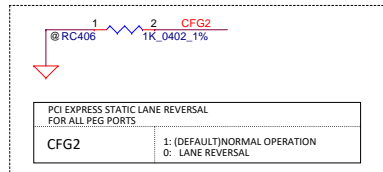
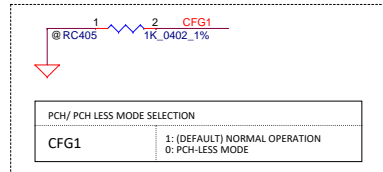
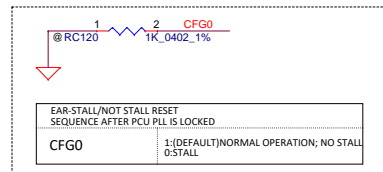
DELL CONFIDENTIAL/PROPRIETARY

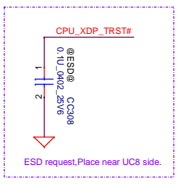
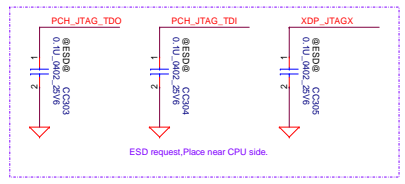
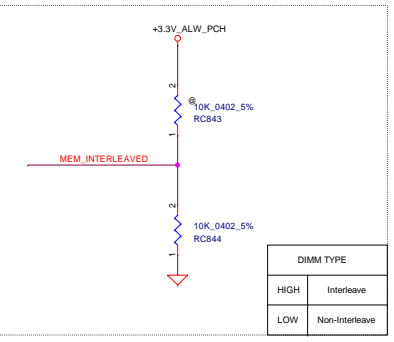
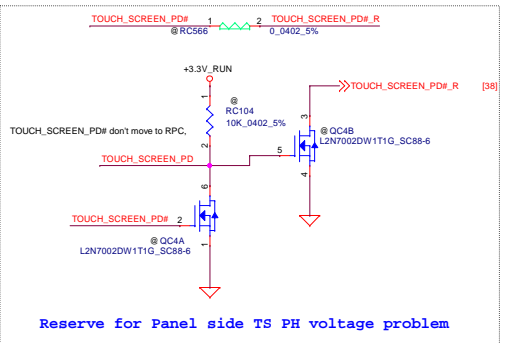
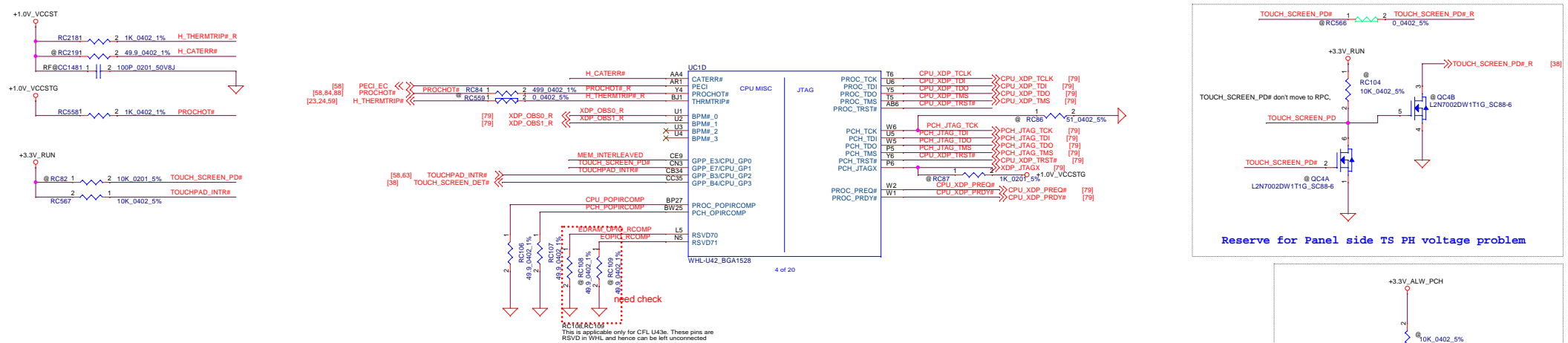


Compal Electronics, Inc.

Title	P13-MCP(7/14)MISC,JTAG,HDA,SDIO		
Size	Document Number	LA-G891P	Rev 0.3
Date	Monday, February 25, 2019	Sheet 12	of 102

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.





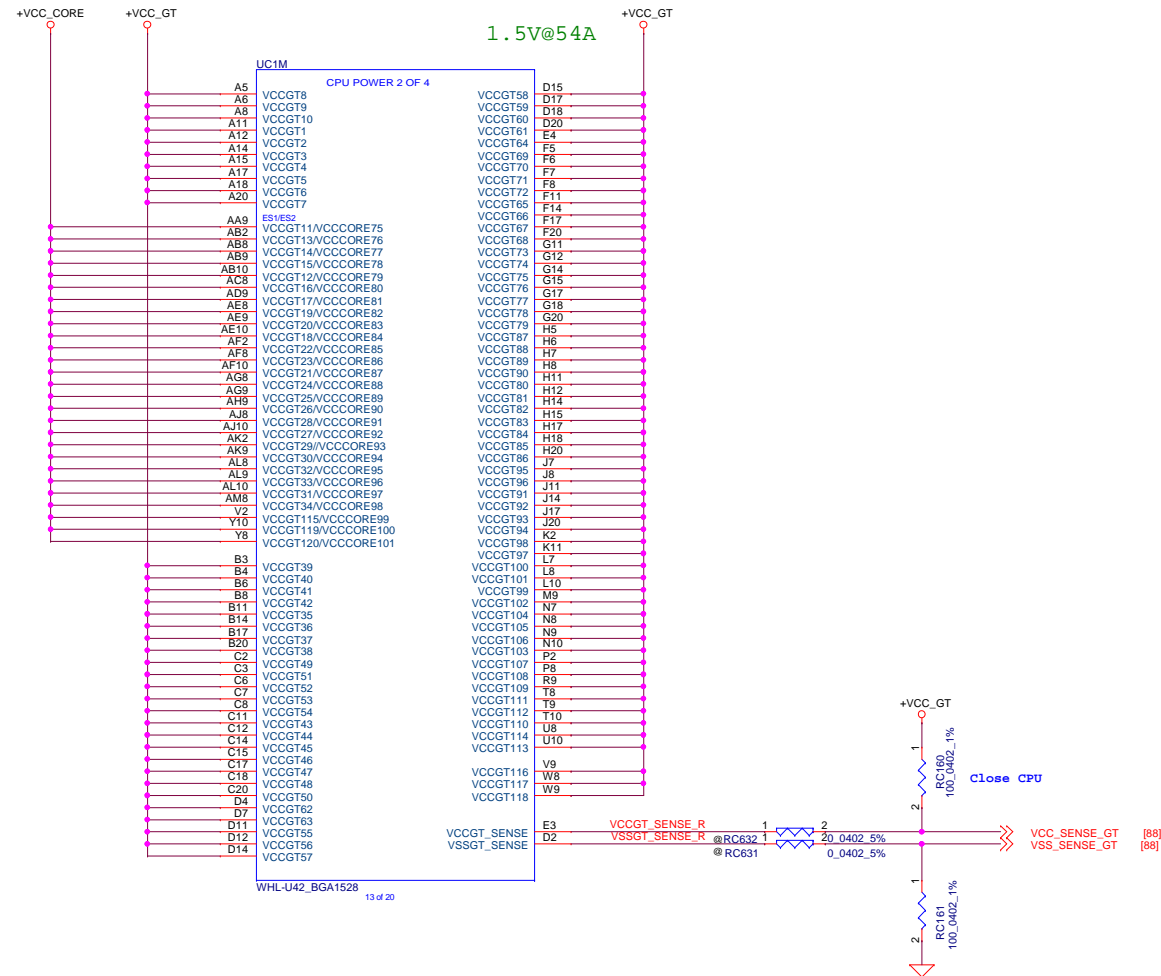
PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



## THE BALLOUT ONLY FOR WHL ES2 CPU

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

Pin Number	CFL-U43E	WHL E51 Netname	WHL E52 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



**DELL CONFIDENTIAL/PROPRIETARY**



**Compal Electronics, Inc.**

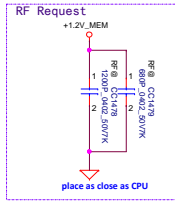
**P17-MCP(11/14)PWR-VCCGT**

**LA-G891P**

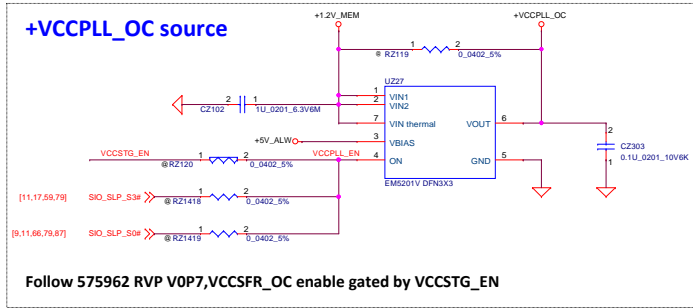
Date: Monday, February 25, 2019 Sheet 16 of 102

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

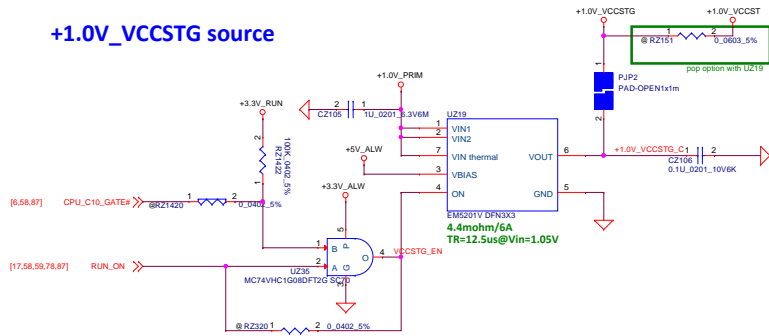
+1.2V\_DDR: 1.2V, 3.5A  
 +1.0V\_VCCSTG: 1V, 120mA; VCCPLL: 1V, 120mA  
 +1.0V\_VCCSTG: 1V, 40mA  
 +VCCPLL\_OC: 1.2V, 260mA  
 +1.0V\_VCCIO: 0.85~0.95V, 3.1A  
 +VCC\_SA: 1.15V, 5.1A



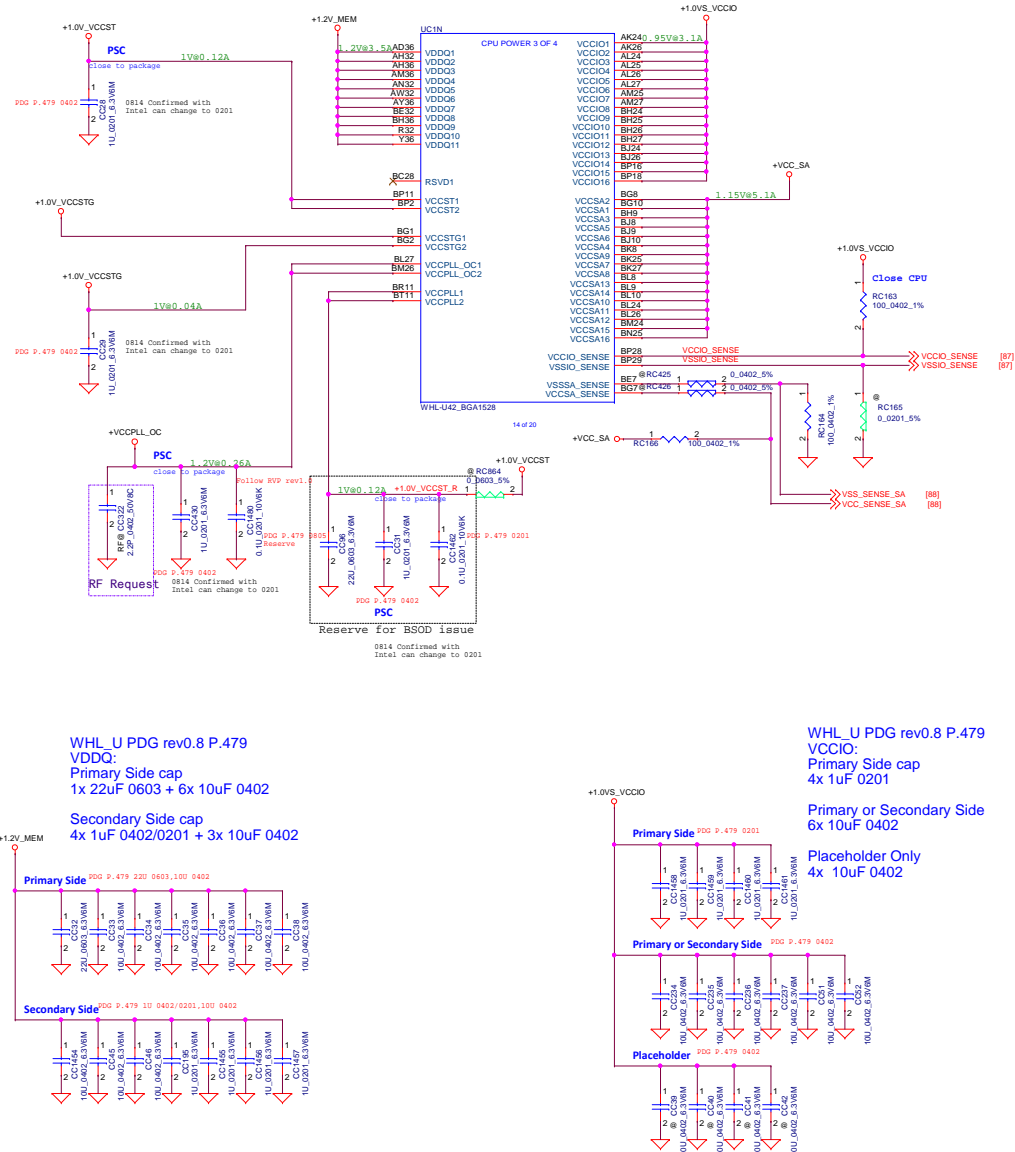
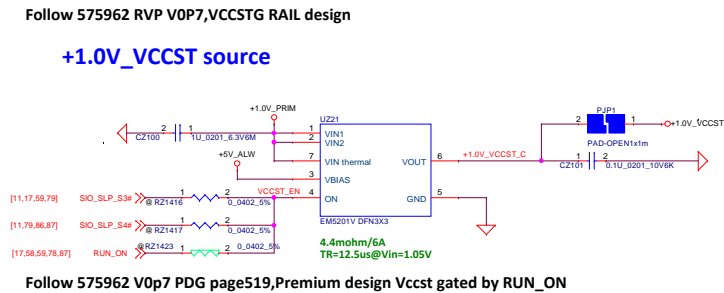
### +VCCPLL\_OC source



### +1.0V\_VCCSTG source



### +1.0V\_VCCST source



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.



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

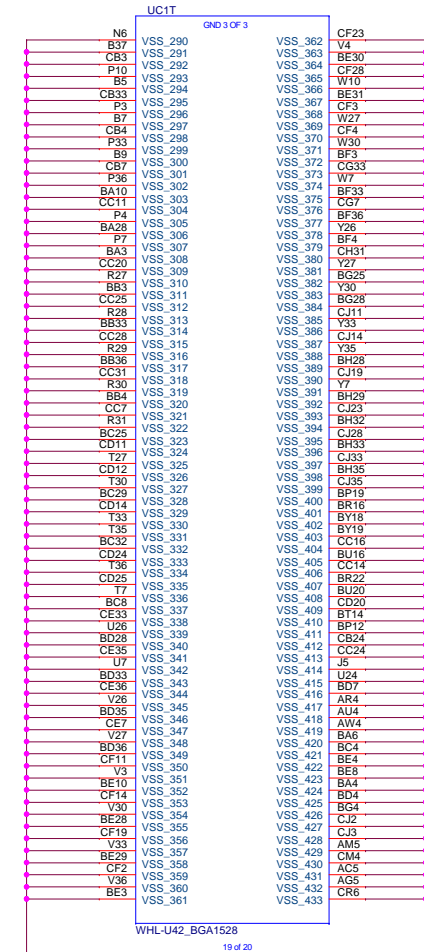
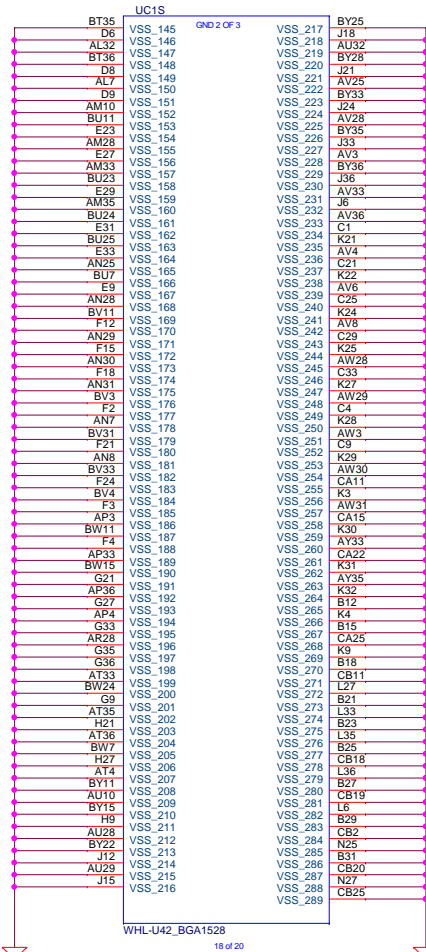
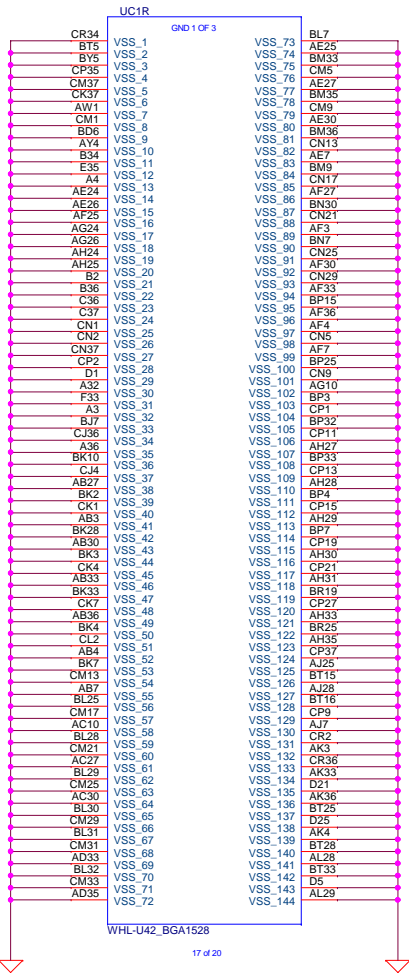
LA-G891P

Monday, February 25, 2019

17 of 102

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.





## DELL CONFIDENTIAL/PROPRIETARY



Compal Electronics, Inc.

P20-MCP(14/14)VSS

LA-G891P


Title	Document Number	Rev
	LA-G891P	0.3
Date:	Monday, February 25, 2018	Sheet 19 of 102

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.

Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

DELL CONFIDENTIAL/PROPRIETARY

		Compal Electronics, Inc.	
File		SOC or PCH / FCH	
Size	Document Number		Rev
	LA-G891P		0.3
Date: Monday, February 25, 2019		Sheet	20 of 102

# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
File			
SOC or PCH / FCH			
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 21 of 102

# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

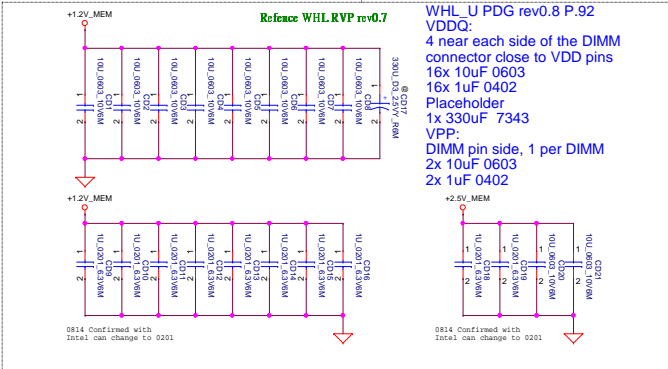
DELL CONFIDENTIAL/PROPRIETARY		
Compal Electronics, Inc.		
File		
SOC or PCH / FCH		
Size	Document Number	Rev
	LA-G891P	0.3
Date:	Monday, February 25, 2019	Sheet 22 of 102



[7] DDR\_A\_DQS[0..7] << >>  
 [7] DDR\_A\_DQ[0..63] << >>  
 [7] DDR\_A\_DQS[0..7] << >>  
 [7] DDR\_A\_MA[0..16] << >>

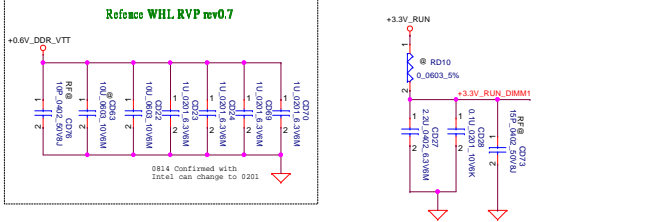
Layout Note:  
Place near JDIMM1

Link LOTES\_ADDR0206-P001A02 done 0410



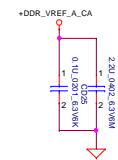
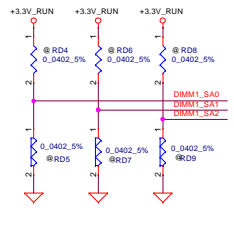
WHL\_U PDG rev0.8 P.92  
 VTT:  
 Place on VTT plane close to SODIMM  
 2x 10uF 0603(1 cap stuffed, 1 placeholder)  
 4x 1uF 0402  
 VDDSPD:  
 Place close to DIMM  
 2x 0.1uF 0402  
 2x 2.2uF 0402

Layout Note:  
Place near JDIMM1.258

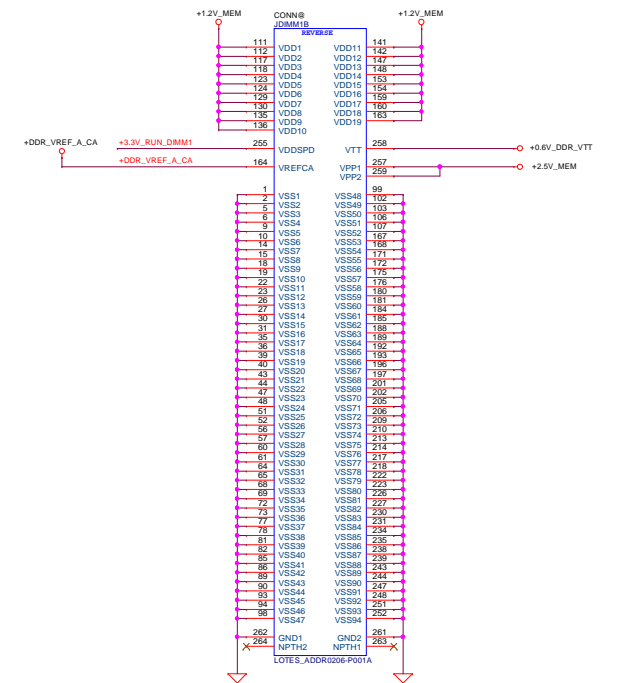
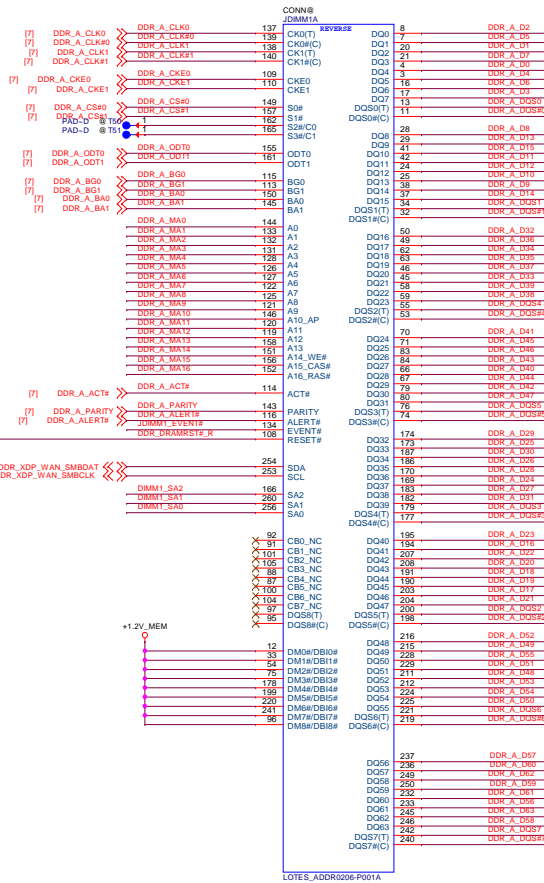


## DIMM Select

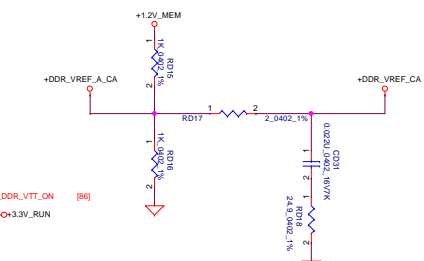
	SA0	SA1	SA2
DIMM1	0	0	0
DIMM2	1	0	0
DIMM3	0	1	0
DIMM4	1	1	0



[24] DDR\_DRAMRST#\_R << @RD12 1 2 0.0402\_5%



JDIMM1\_EVENT# 1 2 1K\_0402\_5% << H\_THERMTRIP# [14.24.59]



6/8 Change to SA00007WE00 DII

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.



Title	DDR4 DIMMA	Rev	0.3
Size	Document Number		
Date	Monday, February 25, 2019	Sheet	23 of 102

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.

```
[7] DDR_B_DQS#[0..7] <<>>
[7] DDR_B_D[0..63] <<>>
[7] DDR_B_DQS[0..7] <<>>
[7] DDR_B_MA[0..16] >>>>
```

Layout Note:  
Place near JDIMM2



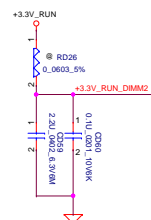
WHL\_U PDG rev0.8 P.92  
VDDQ:  
4 near each side of the DIMM  
connector close to VDD pins  
16x 10uF 0603(2 DIMMS TOTAL)  
16x 1uF 0402(2 DIMMS TOTAL)  
Placeholder  
1x 330uF 7343  
VPP:  
DIMM pin side, 1 per DIMM  
2x 10uF 0603  
2x 1uF 0402



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

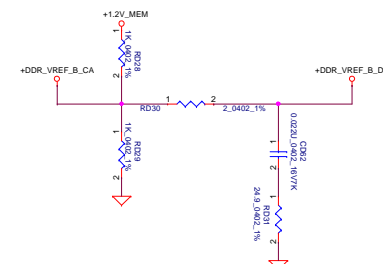
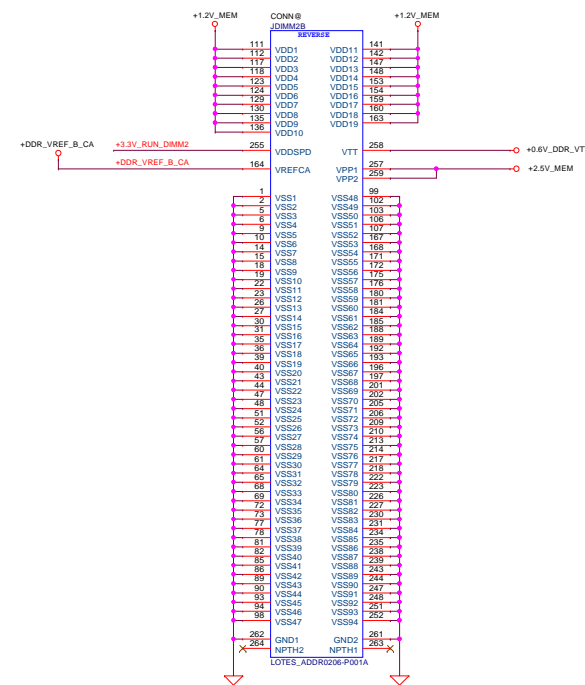
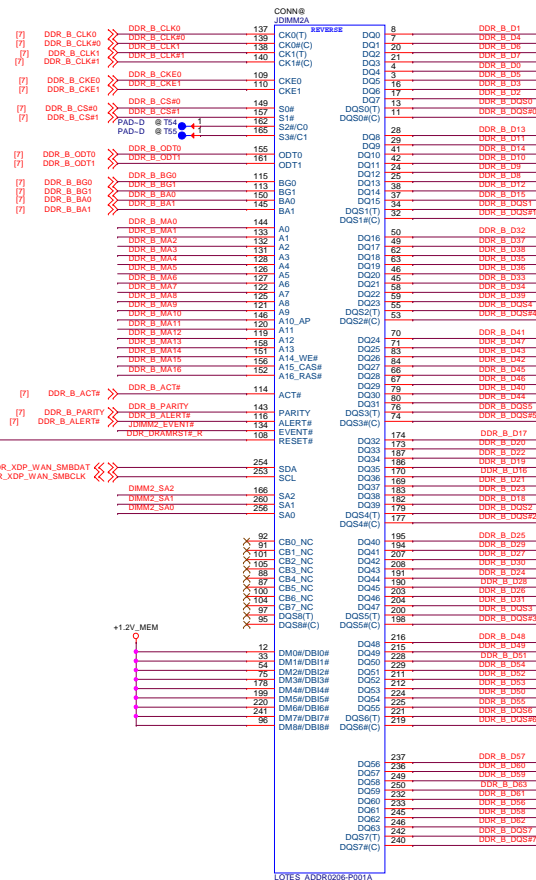
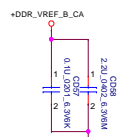
Layout Note:  
Place near  
JDIMM2.258

Reference: WHL RVP rev0.2



## DIMM Select

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



DELL CONFIDENTIAL/PROPRIETARY

**Compal Electronics, Inc.**

### DDR4 DIMMB

Size	Document Number
	LA 38345

LA-G891P

Date: Monday, February 25, 2019 Sheet 24 of 10

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.

# Reserve


PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

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

# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

DELL CONFIDENTIAL/PROPRIETARY

		Compal Electronics, Inc.	
		Title DDR	
Size	Document Number LA-G891P		Rev 0.3
Date: Monday, February 25, 2019		Sheet	26 of 102


# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

DELL CONFIDENTIAL/PROPRIETARY		
Compal Electronics, Inc.		
Title		
DGPU		
Size	Document Number	Rev
	LA-G891P	0.3
Date:	Monday, February 25, 2019	Sheet 27 of 102

# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



**DELL CONFIDENTIAL/PROPRIETARY**

**Compal Electronics, Inc.**

**DGPU**

**LA-G891P**

Monday, February 25, 2019

Title	DGPU		
Size	Document Number	Rev	
		0.3	
Date	Monday, February 25, 2019	Sheet	28 of 102

# Reserve

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.




Title		DGPU	
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 29 of 102

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



**DELL CONFIDENTIAL/PROPRIETARY**

**Compal Electronics, Inc.**

**DGPU**

Document Number **LA-G891P**

Date: Monday, February 25, 2019

Size	Rev
	0.3
Sheet 30 of 102	


# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title		DGPU	
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 31 of 102

# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



**DELL CONFIDENTIAL/PROPRIETARY**

**Compal Electronics, Inc.**

**DGPU**

**LA-G891P**

Monday, February 25, 2019

Title	DGPU		
Size	Document Number	Rev	
		0.3	
Date	Monday, February 25, 2019	Sheet	32 of 102


# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title		DGPU	
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 33 of 102

# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



**DELL CONFIDENTIAL/PROPRIETARY**

**Compal Electronics, Inc.**

**DGPU**

Document Number **LA-G891P**

Date: Monday, February 25, 2019

Size	Rev
	0.3
Sheet 34 of 102	


# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

DELL CONFIDENTIAL/PROPRIETARY		
Compal Electronics, Inc.		
Title		
VRAM		
Size	Document Number	Rev
	LA-G891P	0.3
Date:	Monday, February 25, 2019	Sheet 35 of 102

# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



**DELL CONFIDENTIAL/PROPRIETARY**

**Compal Electronics, Inc.**

**Title**

**VRAM**

<b>Size</b>	<b>Document Number</b>	<b>Rev</b>
	<b>LA-G891P</b>	<b>0.3</b>

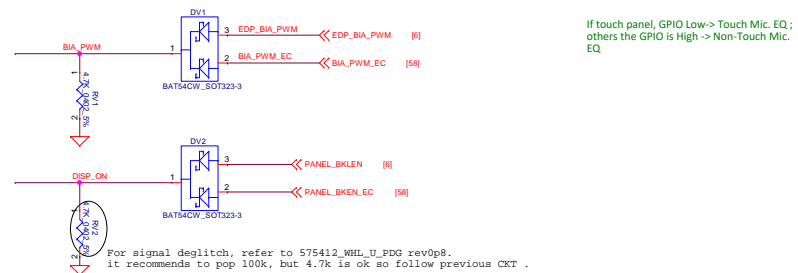
**Date:** Monday, February 25, 2019 **Sheet** 38 **of** 102



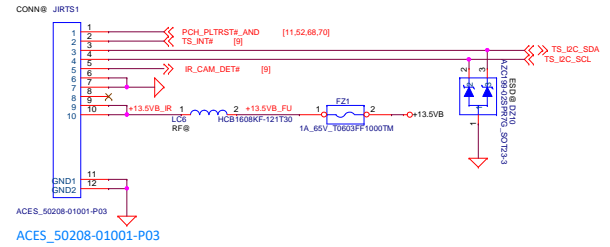
# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

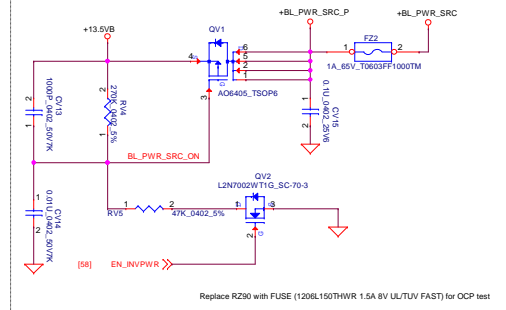
DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title			
DGPU DC/DC Interface			
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 37 of 102



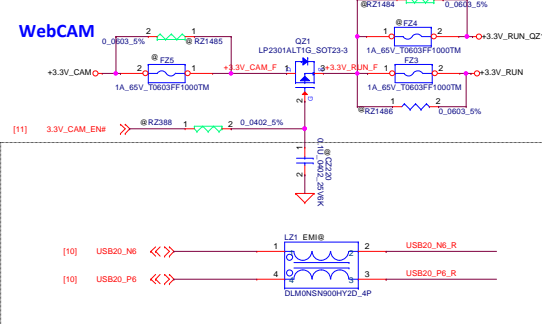
**TOUCH SCREEN & IR CAMERA connector**



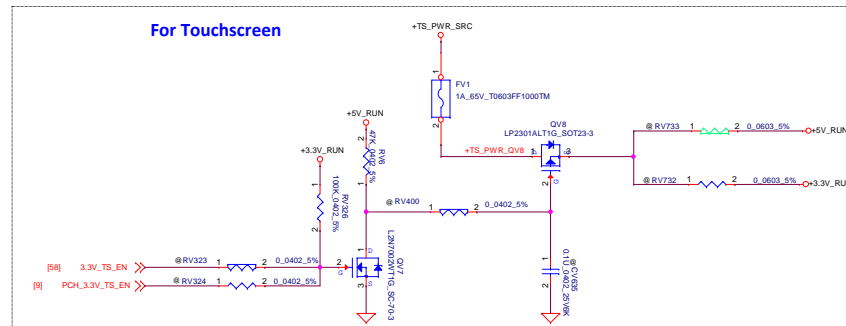
## Backlight POWER



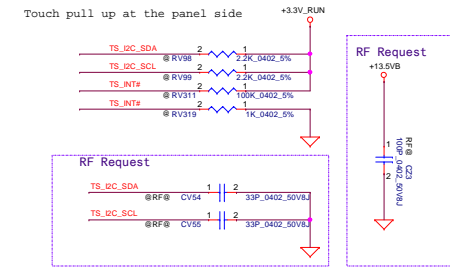
## WebCAM



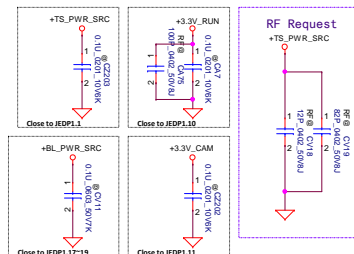
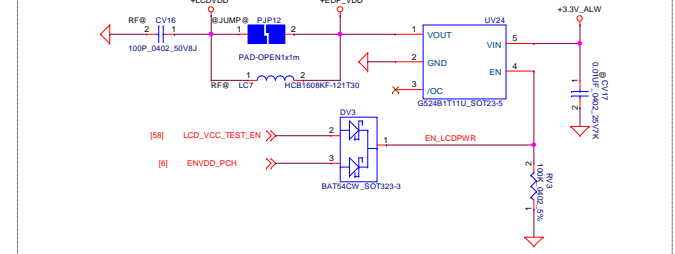
### For Touchscreen



For 2LANE EDP &5V\_TSP,NB15



## LCDVDD POWER



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.

# Reserve

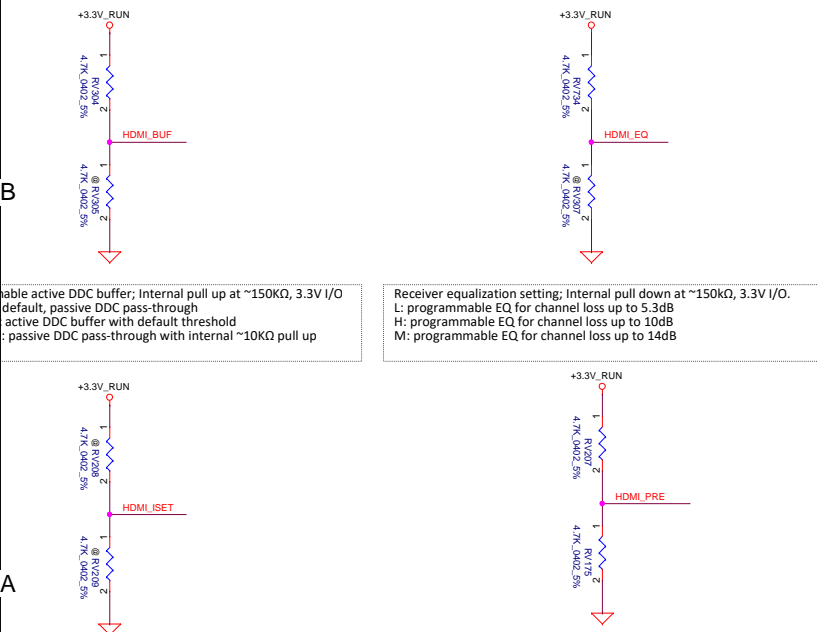
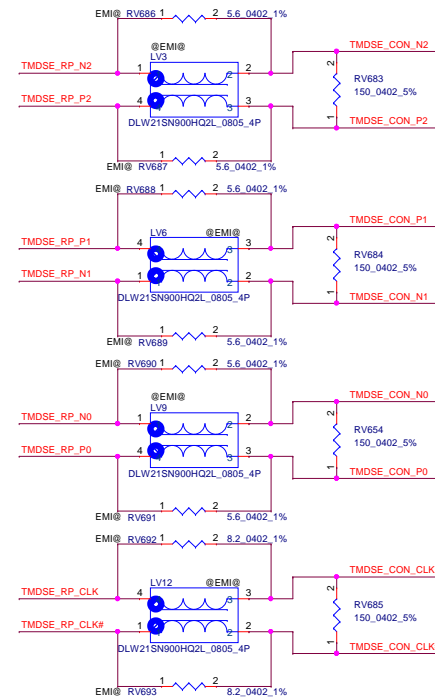
PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL"). THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title		DP	
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 39 of 102



# Reserve

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.



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title		CRT	
Size	Document Number	LA-G891P	Rev 0.3
Date:	Monday, February 25, 2019	Sheet 41 of 102	

# Reserve

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.



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

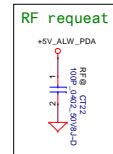
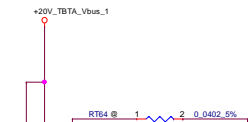
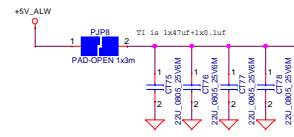
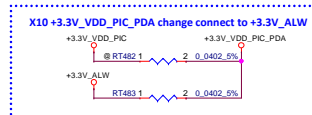
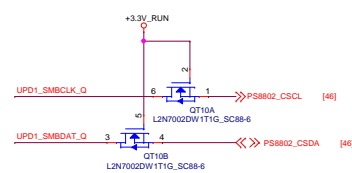
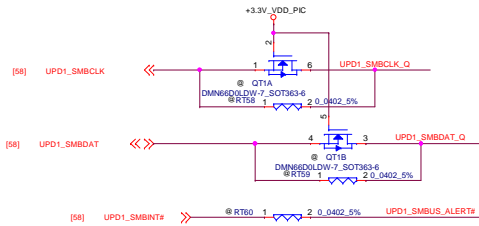
Title		TBT-AR-DP,PCIE	
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 42 of 102

# Reserve

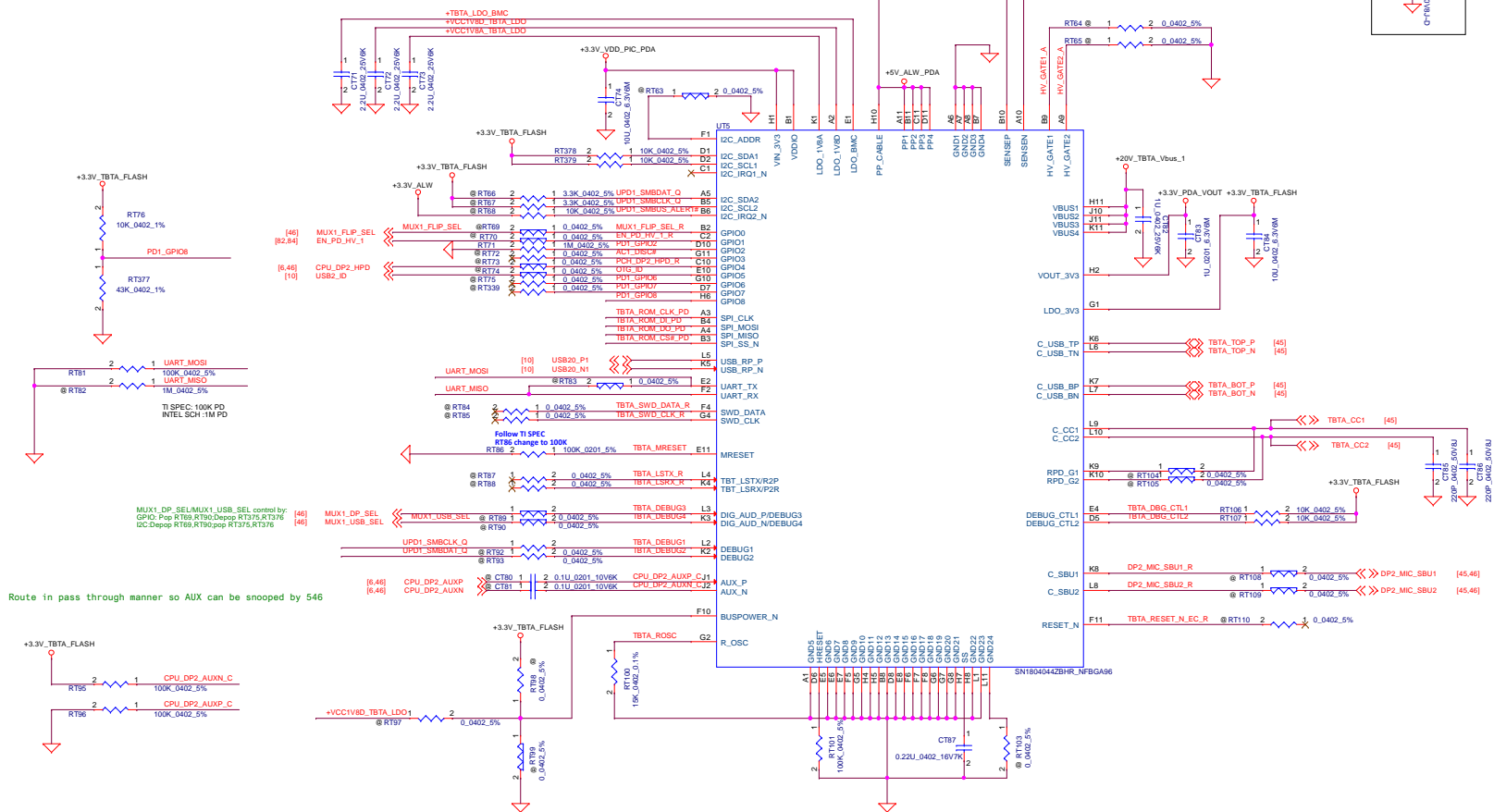
PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL"). THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title			
TBT-AR-VCC/VSS			
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 43 of 102

For Non-AR config



DIV = R2/(R1+R2)		Factory Device Configuration	Description
DIV_min	DIV_max		
0.00	0.06	0	<p>UPF only</p> <p>5V @0.9A Sink capability with "Ask for Max" for anything from 0.9-3.0A</p> <p>T8T Alternate Modes not supported</p> <p>DisplayPort Alternate Modes not supported</p> <p>TI/VD supported</p>
0.10	0.18	1	<p>UPF only</p> <p>5V @0.9A Sink capability with "Ask for Max" for anything from 0.9-3.0A</p> <p>T8T Alternate Modes not supported</p> <p>DisplayPort Alternate Modes -Sink, C and D pin configuration TI/VD supported</p>
0.20	0.28	2	<p>UPF only</p> <p>5V @3.0A Source capability</p> <p>T8T Alternate Modes not supported</p> <p>DisplayPort Alternate Modes not supported</p> <p>TI/VD supported</p>
0.30	0.38	3	<p>UPF only</p> <p>5V @3.0A Source capability</p> <p>T8T Alternate Modes not supported</p> <p>DisplayPort Alternate Modes -Sink, C and D pin configuration TI/VD supported</p>
0.40	0.48	4	<p>DRP</p> <p>5V @0.9-3.0A Sink capability</p> <p>5V @3.0A Source capability</p> <p>T8T Alternate Modes not supported</p> <p>DisplayPort Alternate Modes not supported</p> <p>TI/VD supported</p> <p>Accepts data and power role swaps, but does not initiate.</p>
0.50	0.58	5	<p>DRP</p> <p>5V @0.9-3.0A Sink capability</p> <p>5V @3.0A Source capability</p> <p>T8T Alternate Modes not supported</p> <p>DisplayPort Alternate Modes - Source, C, D, and E pin configurations.</p> <p>TI/VD supported</p> <p>Accepts power role swaps but will not initiate.</p> <p>Accepts data role swaps to UEP and can initiate.</p>
0.60	0.68	6	<p>DRP</p> <p>5V @0.9-3.0A Sink capability</p> <p>5V @3.0A Source capability</p> <p>T8T Alternate Modes not supported</p> <p>DisplayPort Alternate Modes - Source, C, D, and E pin configurations.</p> <p>TI/VD supported</p> <p>Accepts power role swaps but will not initiate.</p> <p>Accepts data role swaps to DEP and can initiate.</p>
0.70	1.00	7	Infinite boot retry from Flash to Host and UFP cycles.



Route in pass through manner so AUX can be snooped by 546

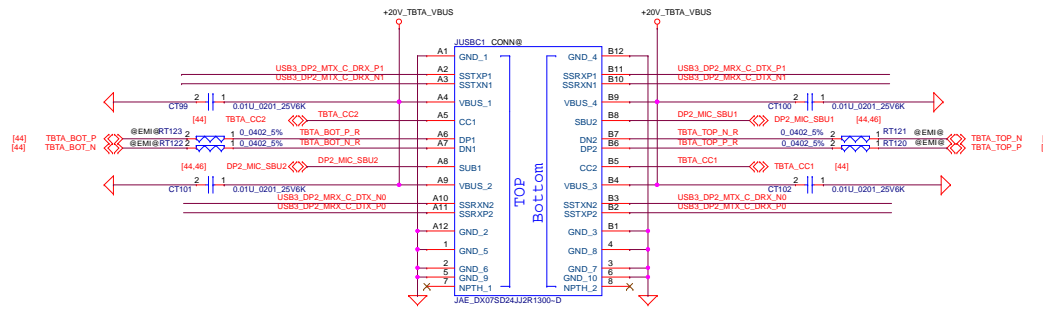
Security Classification	Compal Secret Data		
Issued Date	2016/01/01	Deciphered Date	2017/01/01
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</p>			

DELL CONFIDENTIAL/PROPRIETARY  
**Compal Electronics, Inc.**  
 Title **[Type C]PD Controller TI**

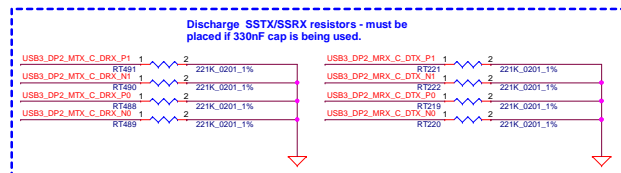
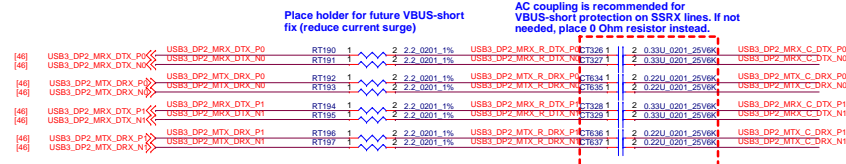
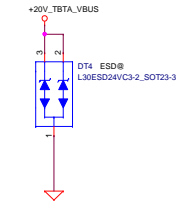
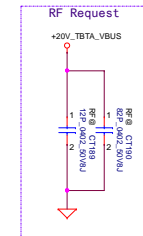
Size C	Document Number		
	<b>LA-G891P</b>		
Date:	Monday, February 25, 2019	Sheet	44 of 10



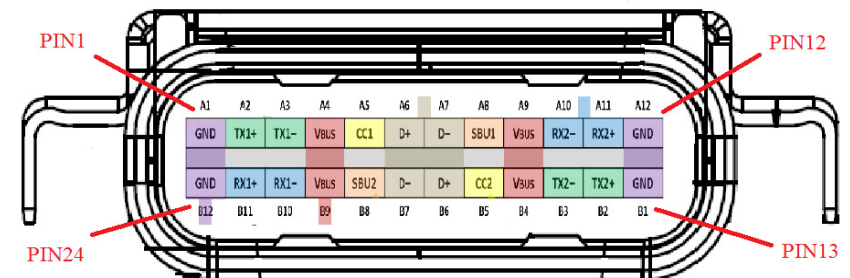
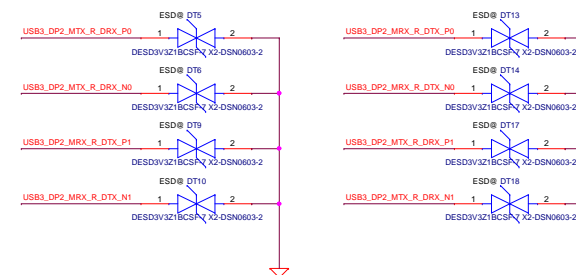
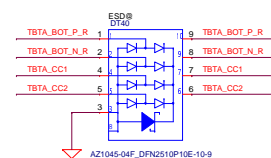
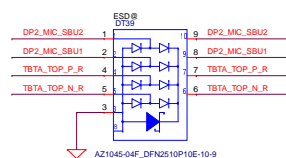
CT630-633 use SD043000080 (0 ohm) for CSLP3 build

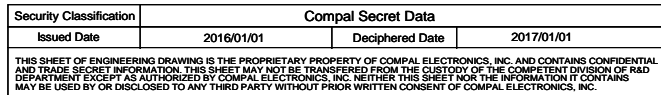


Link DX07SD24J2R1300 done 0123



change typeC ESD part from SC40000AR00 to SC40000DF00





**WWW.AliSaler.Com**

# Reserve

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.



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title		TYPE-C	
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 47 of 102

Reserve

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title

TYPE-C

Size

Document Number

LA-G891P

Rev

0.3

Date: Monday, February 25, 2019

Sheet 48 of 102

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.



# Reserve

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.

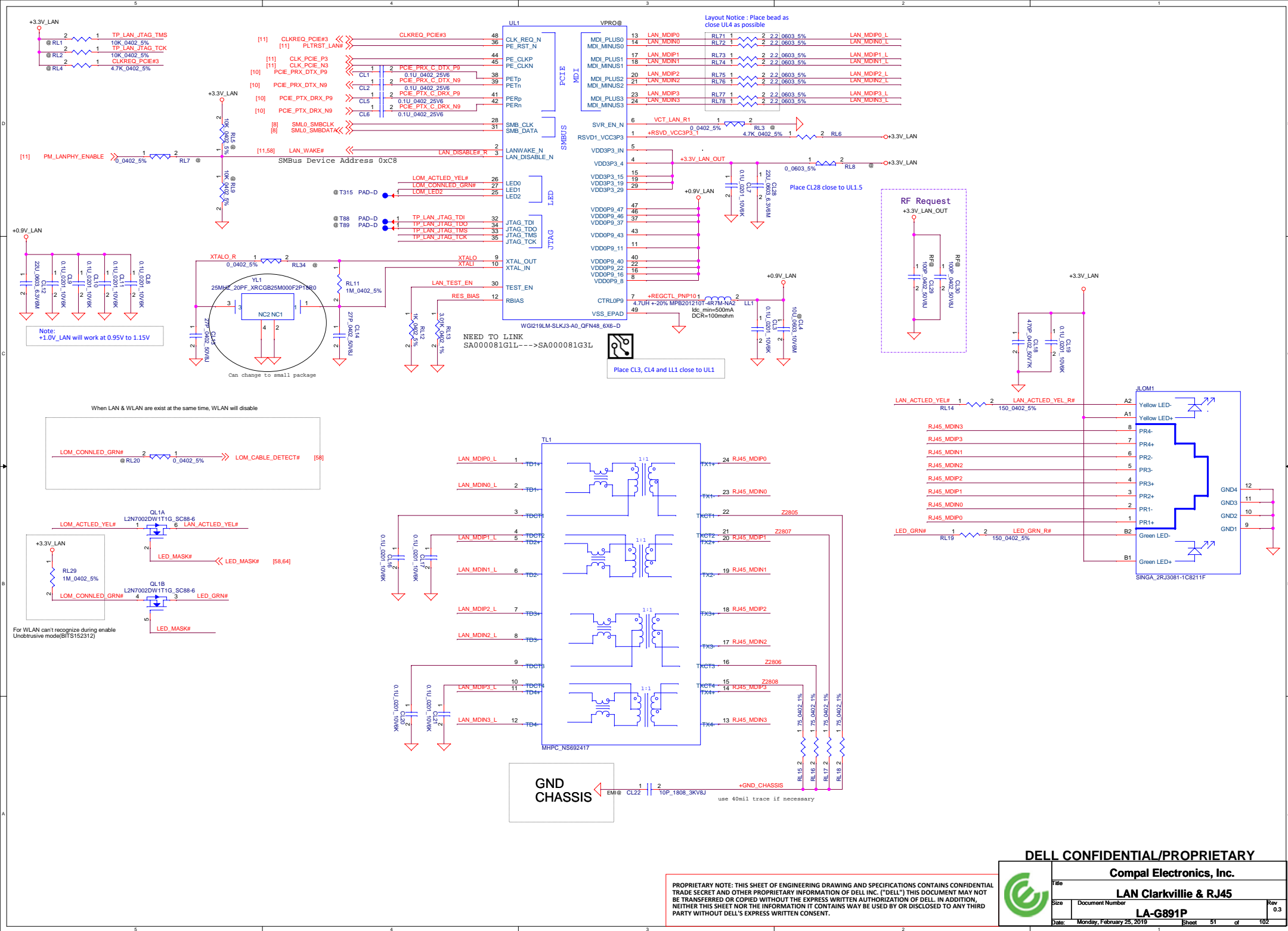


DELL CONFIDENTIAL/PROPRIETARY

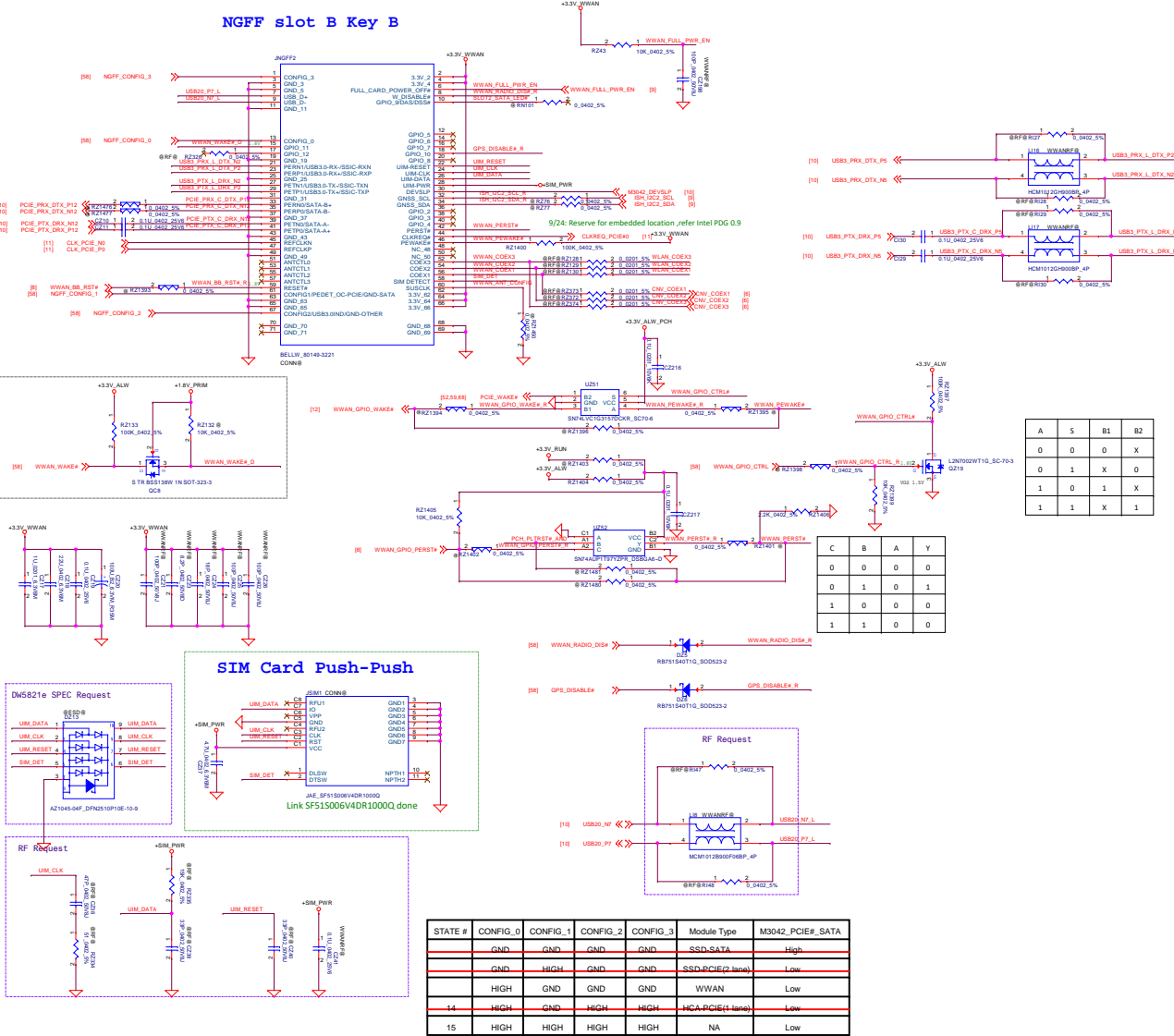
Compal Electronics, Inc.

Title		TYPE-C	
Size	Document Number	LA-G891P	Rev 0.3
Date	Monday, February 25, 2019		Sheet 49 of 102

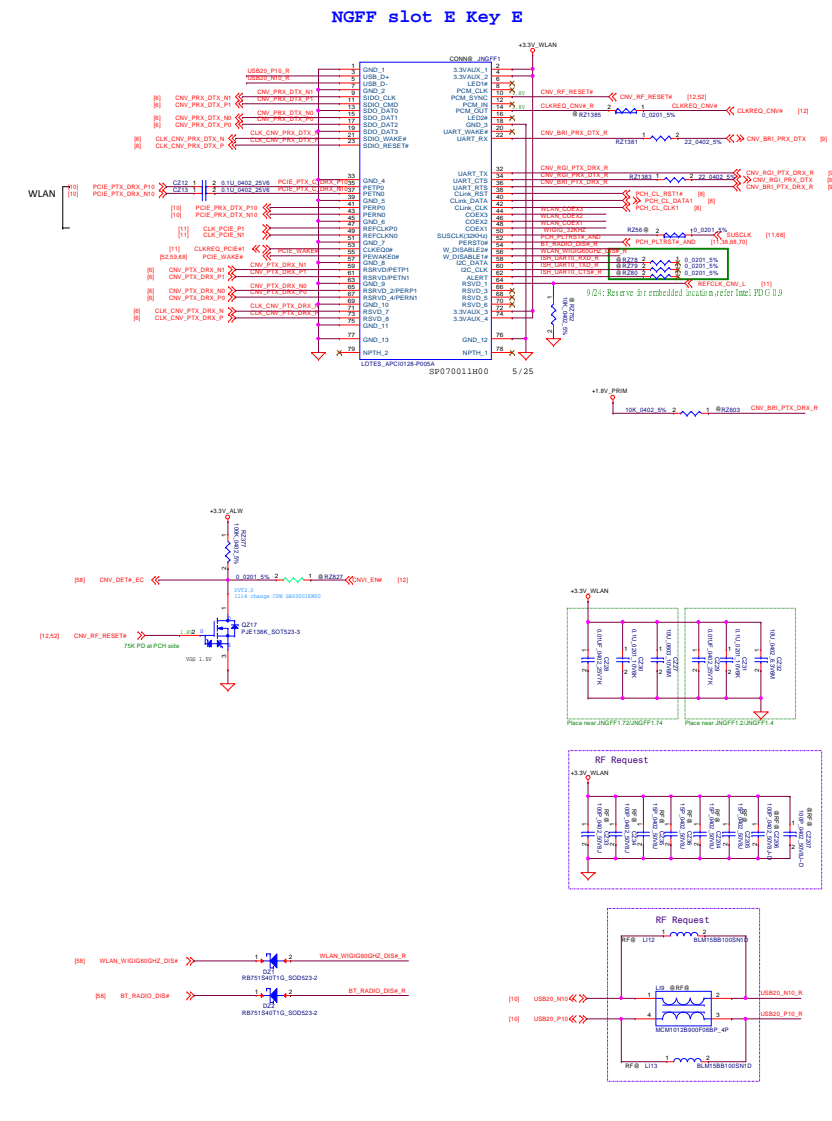




## NGFF slot B Key B



## NGFF slot E Key E



PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. IT IS THE PROPERTY OF DELL INC. AND IS NOT TO BE REPRODUCED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL INC. 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.

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

NOFF Card

LA-G891P



Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title		WIGIG/WIDI	
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 53 of 102

RESERVE

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title			
PCIE/SATA DEMUX			
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 54 of 102

Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title			
PCIE device			
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 55 of 102

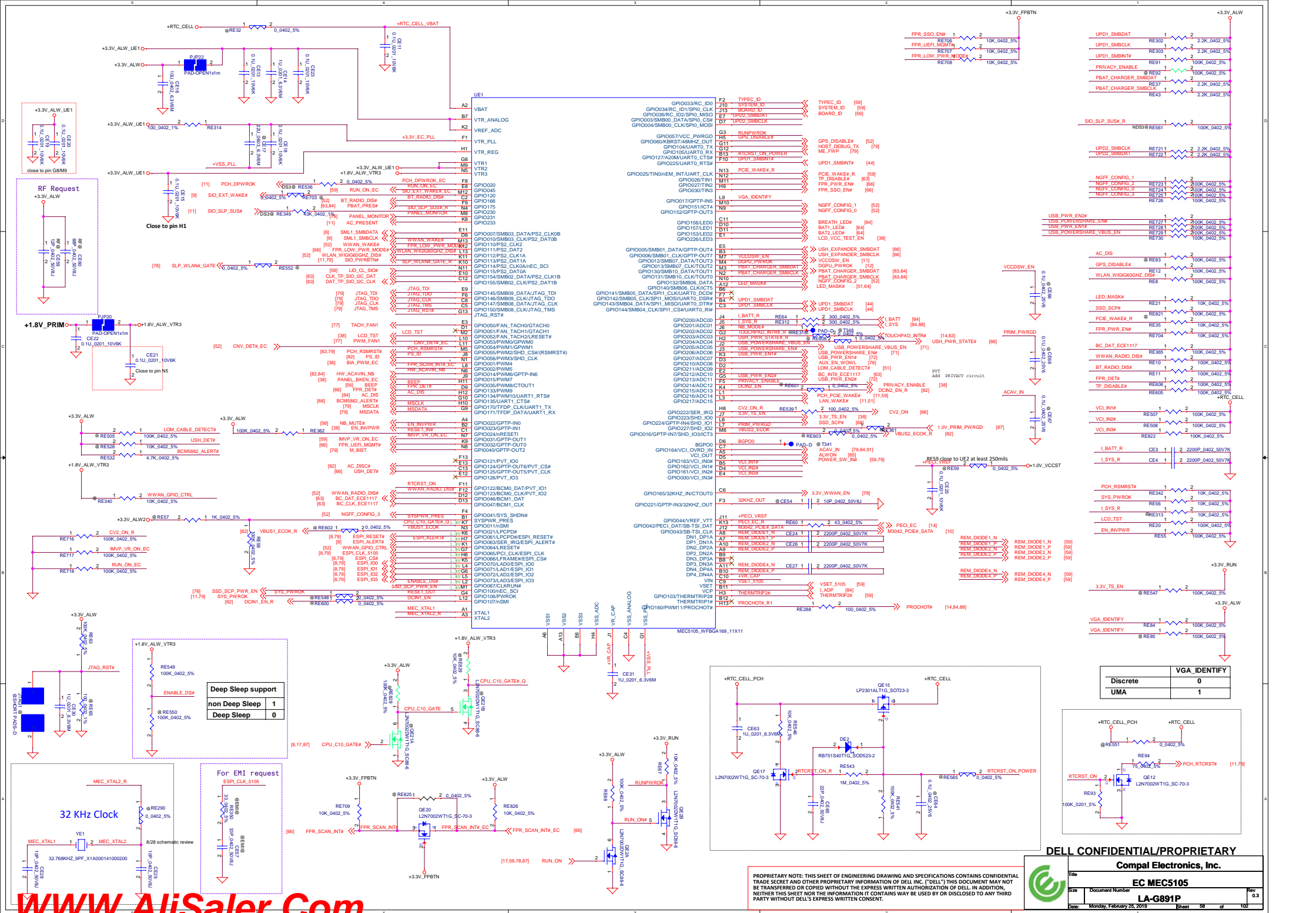


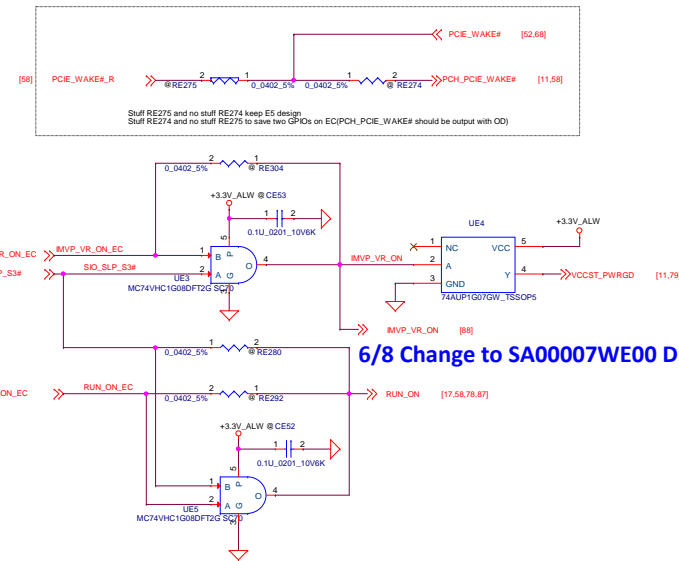
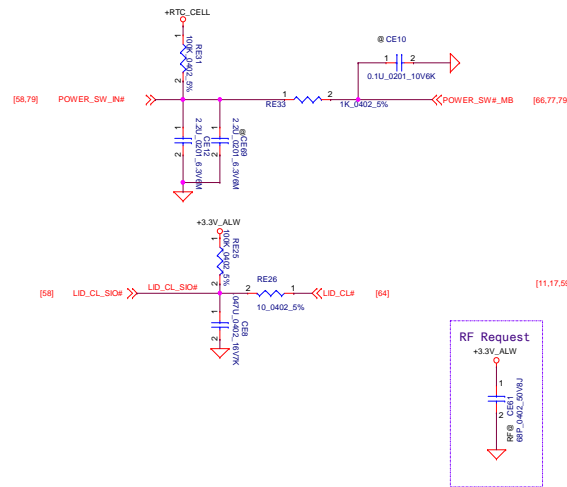
# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



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





RE343	CE62	REV	RE79	CE40	REV	RE300	CE47	PANEL SIZE
* 240K	4700p	Single Port ACE w/o AR	240K	4700p	X00	240K	4700p	11"
130K	4700p	Single Port ACE w/AR	130K	4700p	X01	130K	4700p	12"
62K	4700p	Dual Port ACE w/o AR	62K	4700p	X02	62K	4700p	13"
33K	4700p	Dual Port ACE w/AR	33K	4700p	X03	* 33K	4700p	14"
8.2K	4700p	Dual Port ACE (w/AR +w/o AR)	8.2K	4700p	reserved	8.2K	4700p	15"
4.3K	4700p	.	* 4.3K	4700p	A00	4.3K	4700p	17"
2K	4700p	.	2K	4700p	.	2K	4700p	15P
1K	4700p	.	1K	4700p	.	1K	4700p	.

PD\_ACE\_DET# rise time is measured from 5%~68%.

BOARD\_ID rise time is measured from 5%~68%.

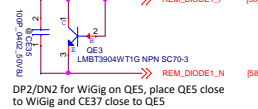
SYSTEM\_ID rise time is measured from 5%~68%.



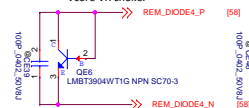
#### Thermal diode mapping

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

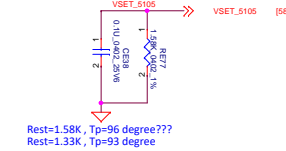
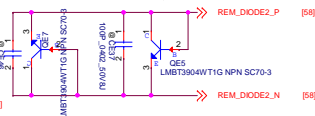
Place under CPU  
Place CE35 close to the QE3 as possible



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



#### DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.



Title	MEC5105 support	Rev	0.3
Sta	Document Number		
Date	Monday, February 25, 2019	Sheet	98 of 102

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.

Reserve

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title

Secure & Reset IC

Size

Document Number

LA-G891P

Rev

0.3

Date:

Monday, February 25, 2019

Sheet

60

of

102

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.







Reserve

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title

LED (Controller)

Size

Document Number

LA-G891P

Rev

0.3

Date:

Monday, February 25, 2019

Sheet

62

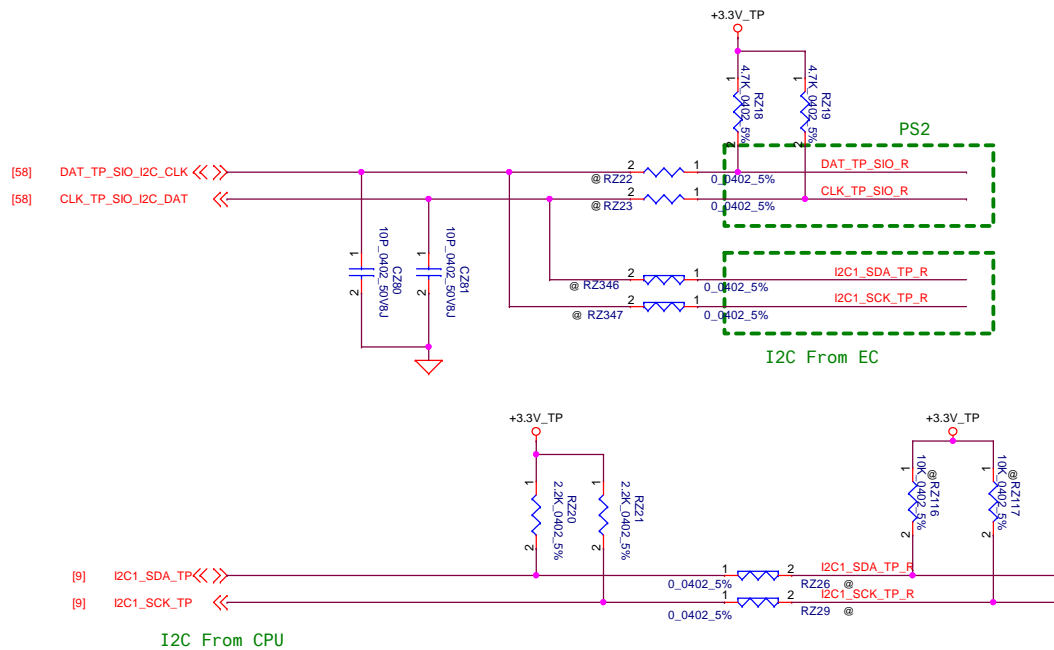
of

102

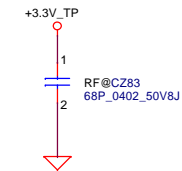
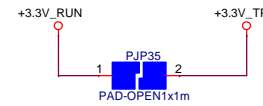
PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



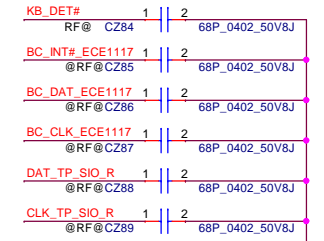
## Touch Pad



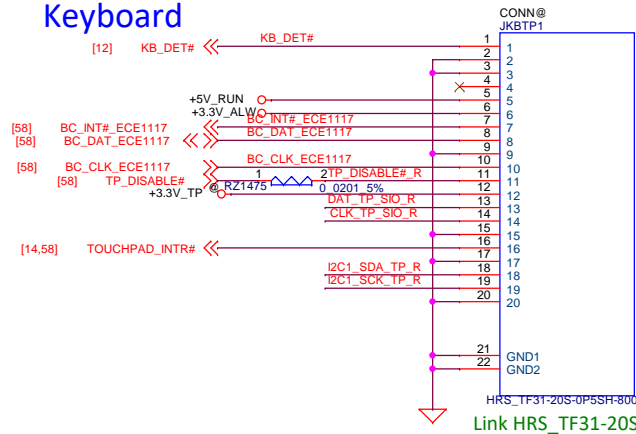
Plan is for I2C to be driven by the EC for Win7 and Pre-OS (will utilize Intel I2C drivers for Win7)  
For Win8.1 and 10 the EC will control TP over I2C Pre-OS and then the PCH will drive I2C when in Windows  
Route PS2 from EC to the touch pad also for contingency plan if I2C has issues



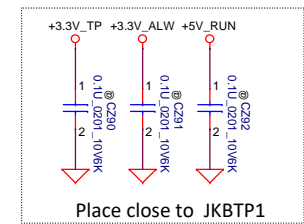
## RF Request



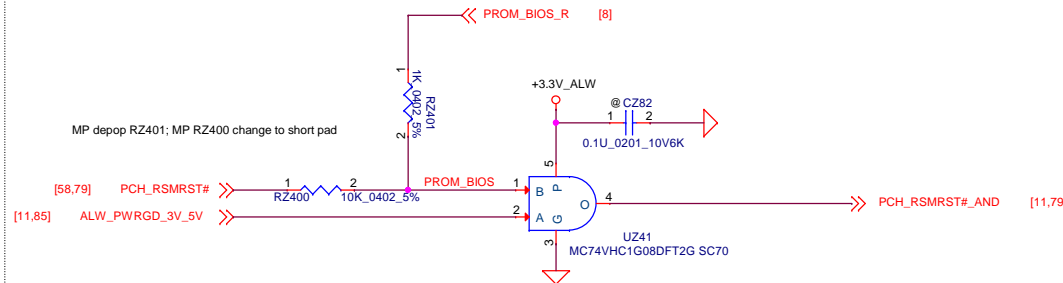
## Keyboard



5 / 29



## RSMRST circuit



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.



**DELL CONFIDENTIAL/PROPRIETARY**

**Compal Electronics, Inc.**

## Keyboard

**LA-G891P**

Title

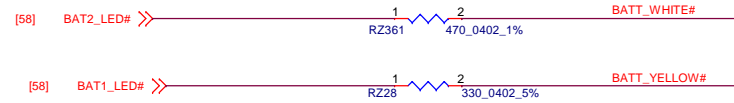
Size	Document Number
------	-----------------

Date: Monday, February 25, 2019

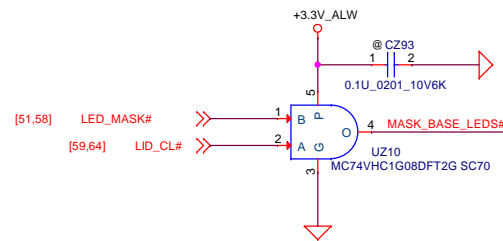
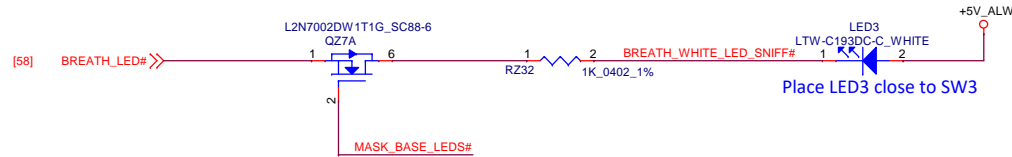
Sheet 63 of 102

Rev	0,3
-----	-----

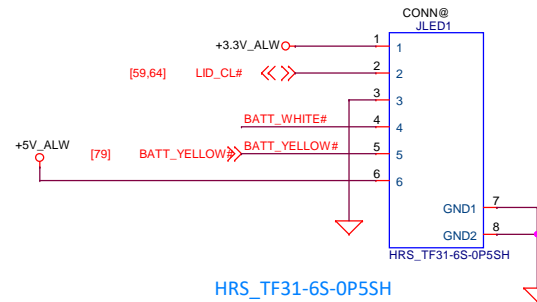
## Battery LED



## Breath LED



## LED board CONN



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

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title	LED & LID	
Size	Document Number	Rev
	LA-G891P	0.3
Date:	Monday, February 25, 2019	Sheet 64 of 102

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



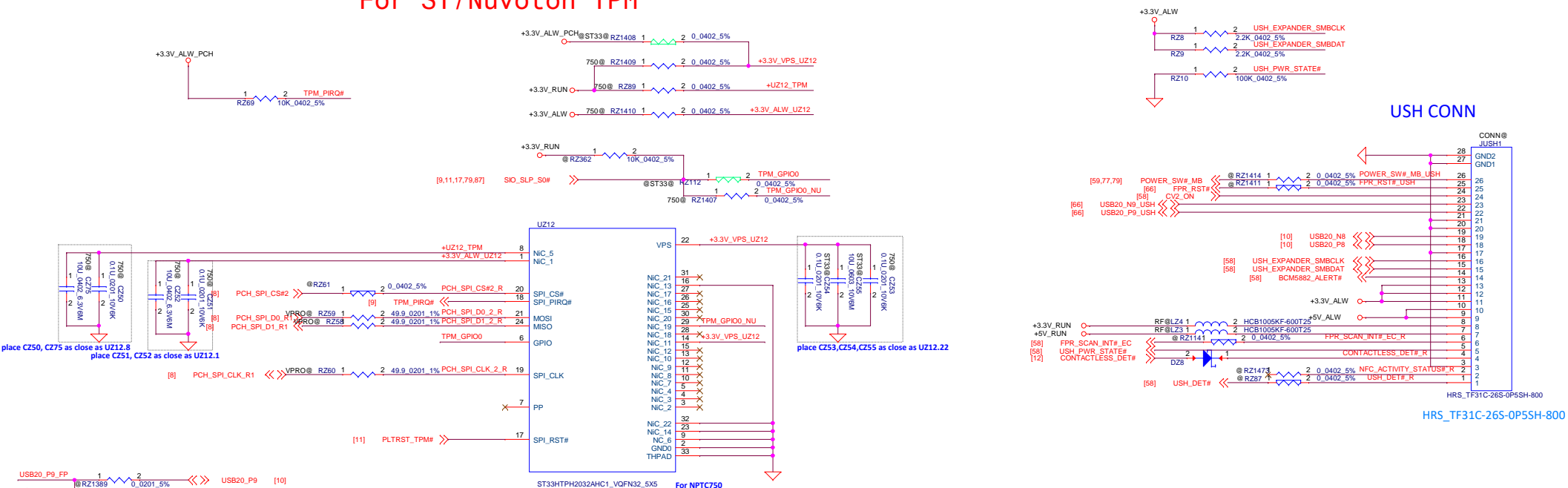
# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

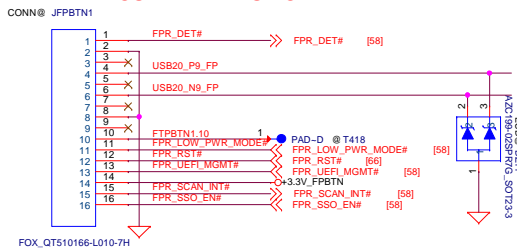


DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title	KB/TP/LED/LID		
Size	Document Number	LA-G891P	Rev 0.3
Date:	Monday, February 25, 2019	Sheet 65 of 102	

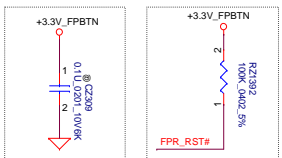
### For ST/Nuvoton TPM



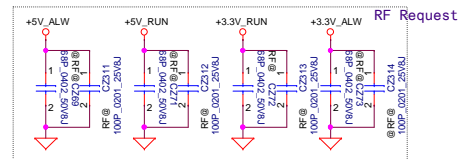
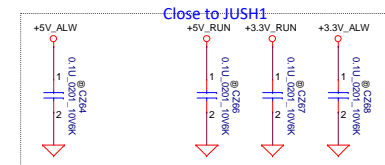
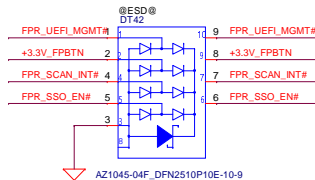
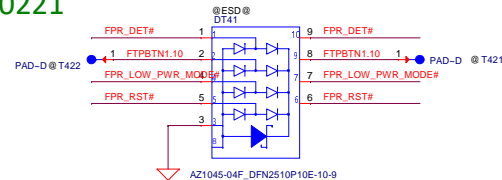
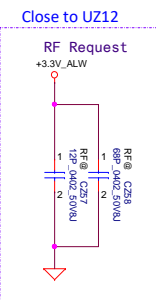
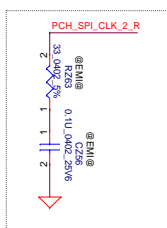
**FP in PWR BUTTON connector**  
**NEED CONFIRM MODULE PINDEFINE**



Link FOX\_QT510166-L010-7H done



Compal MB CONN Symbol	Signal	FPR Symbol
2	GND	1
4	USB DP(D+)	2
6	USB DM(D-)	3
8	GND	4
10	RESERVED	5
12	FP RESET#	6
14	+3.3V_FPBTN	7
16	FPR_SSO_EN#	8
15	FPR_SCAN_INT#	9
13	FPR_UEFI_MGMT#	10
11	FPR_LOW_PWR_MODE#	11
9	NA	12
7	NA	13
5	NA	14
3	NA	15
1	FPR_DET(GND)	16



DELL CONFIDENTIAL/PROPRIETARY

**Compal Electronics, Inc.**

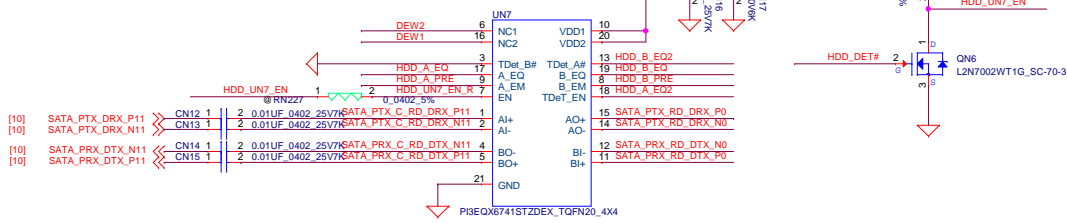


Title			
MEC5105 support			
Size	Document Number		Rev
	LA-G891P		0
Date:	Monday, February 25, 2019	Sheet 66 of 102	

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.

	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

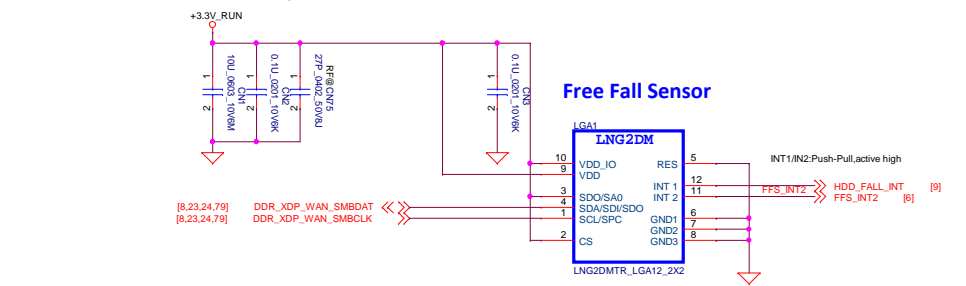
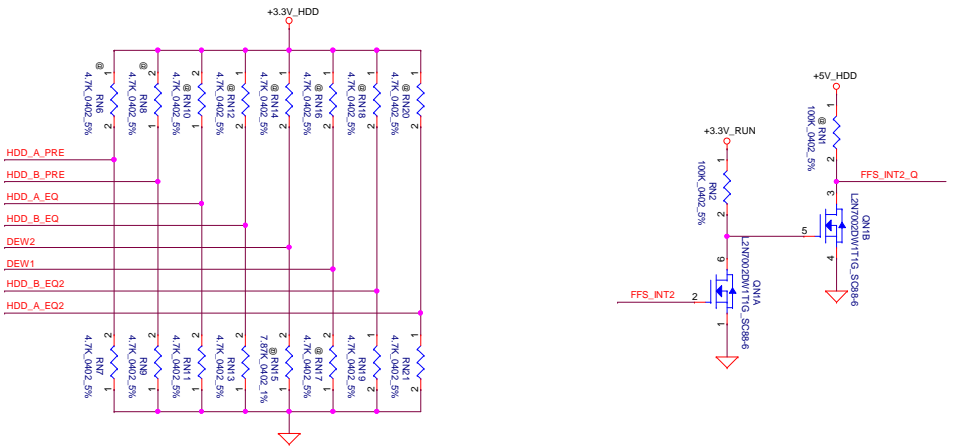
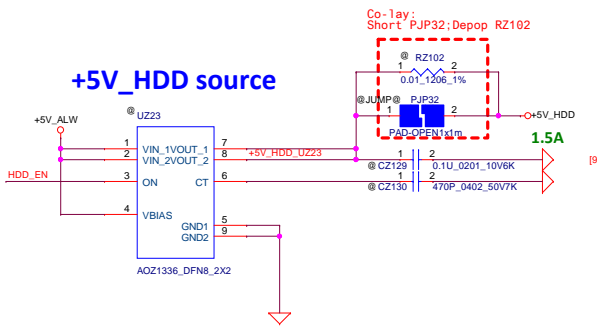
## SATA Repeater



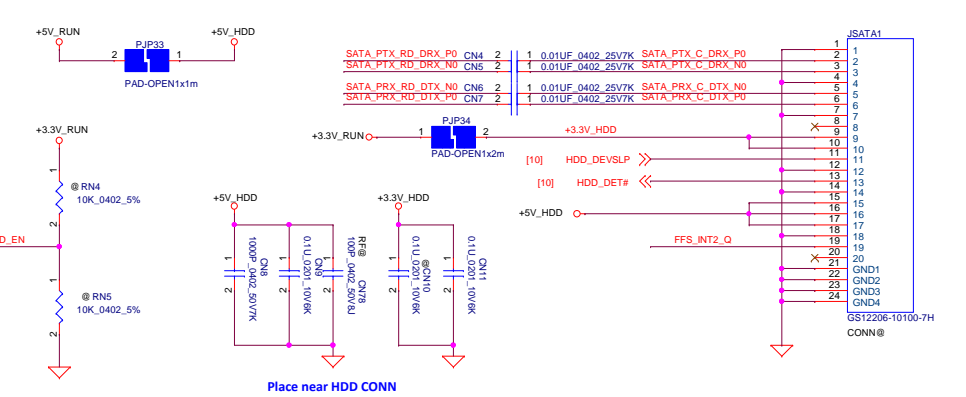
	HDD_A_EQ	HDD_B_EQ	HDD_A_EQ2	HDD_B_EQ2	DEW1	DEW2	HDD_A_PRE	HDD_B_PRE
* Pericom PI3EQX6741ST	PD (RN11)	PD (RN13)	PD (RN21)	PD (RN19)	NC	NC	PD (RN7)	PD (RN9)
TI SN75LVCP601	PD (RN11)	NC	PD (RN21)	PD (RN19)	NC (IPU)	NC (IPU)	PH (RN6)	PH (RN8)
Parade PS8527C	PD (RN11)	PD (RN13)	PD (RN21)	PD (RN19)	NC (1/2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

			A_EQ	B_EQ		A_EM	B_EM
* Main	Pericom	0 NC 1 1	3dB 6dB 9dB	3dB 6dB 9dB	0 NC 1 1	0dB 1.5dB	0dB 1.5dB
2nd	TI	0 NC 1 1	7dB 0dB 14dB	7dB 0dB 14dB	0 NC 1 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	0dB	0dB
		0 0	7.4dB	7.4dB	0 0	-3.5dB	-3.5dB
		0 1	14.4dB	14.4dB	0 1	-1.5dB	-1.5dB
		M M	12.2dB	12.2dB	M M		
		M 0	9.4dB	9.4dB	M 0		
		M 1	13.3dB	13.3dB	M 1		
		1 M	6.2dB	6.2dB	1 M		
		1 0	11.2dB	11.2dB	1 0		
		1 1	5dB	5dB	1 1		

\* red color is current setting



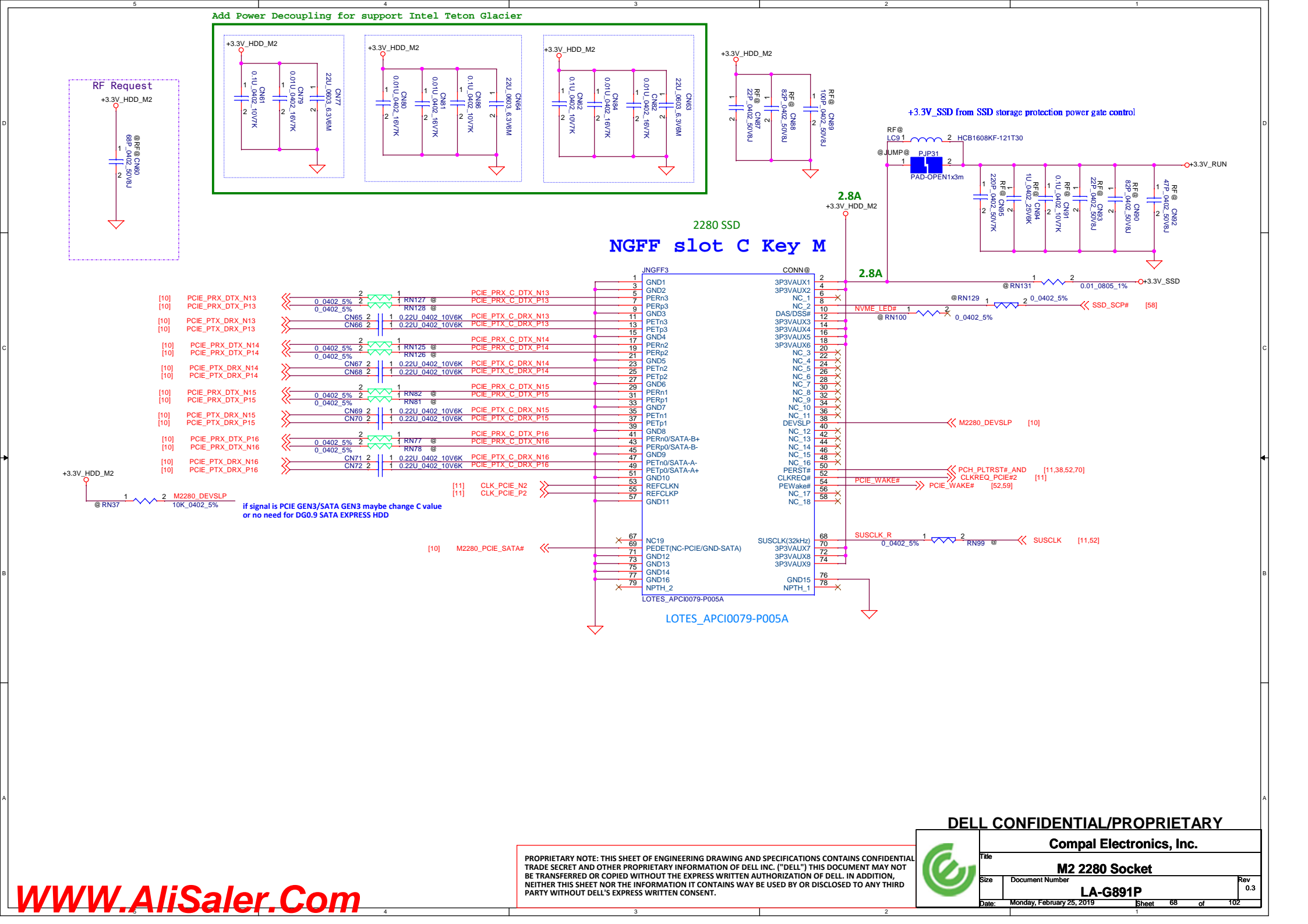
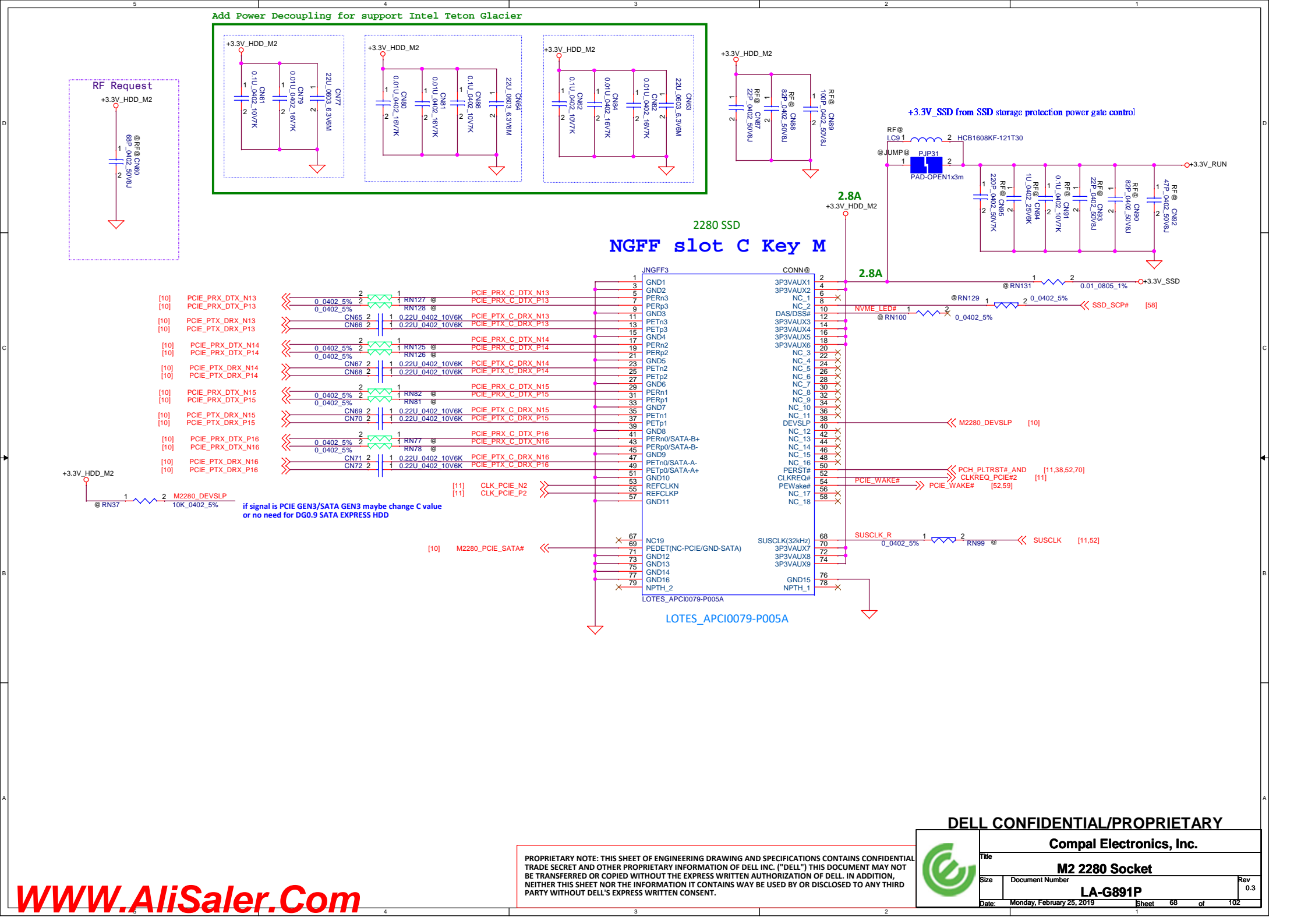
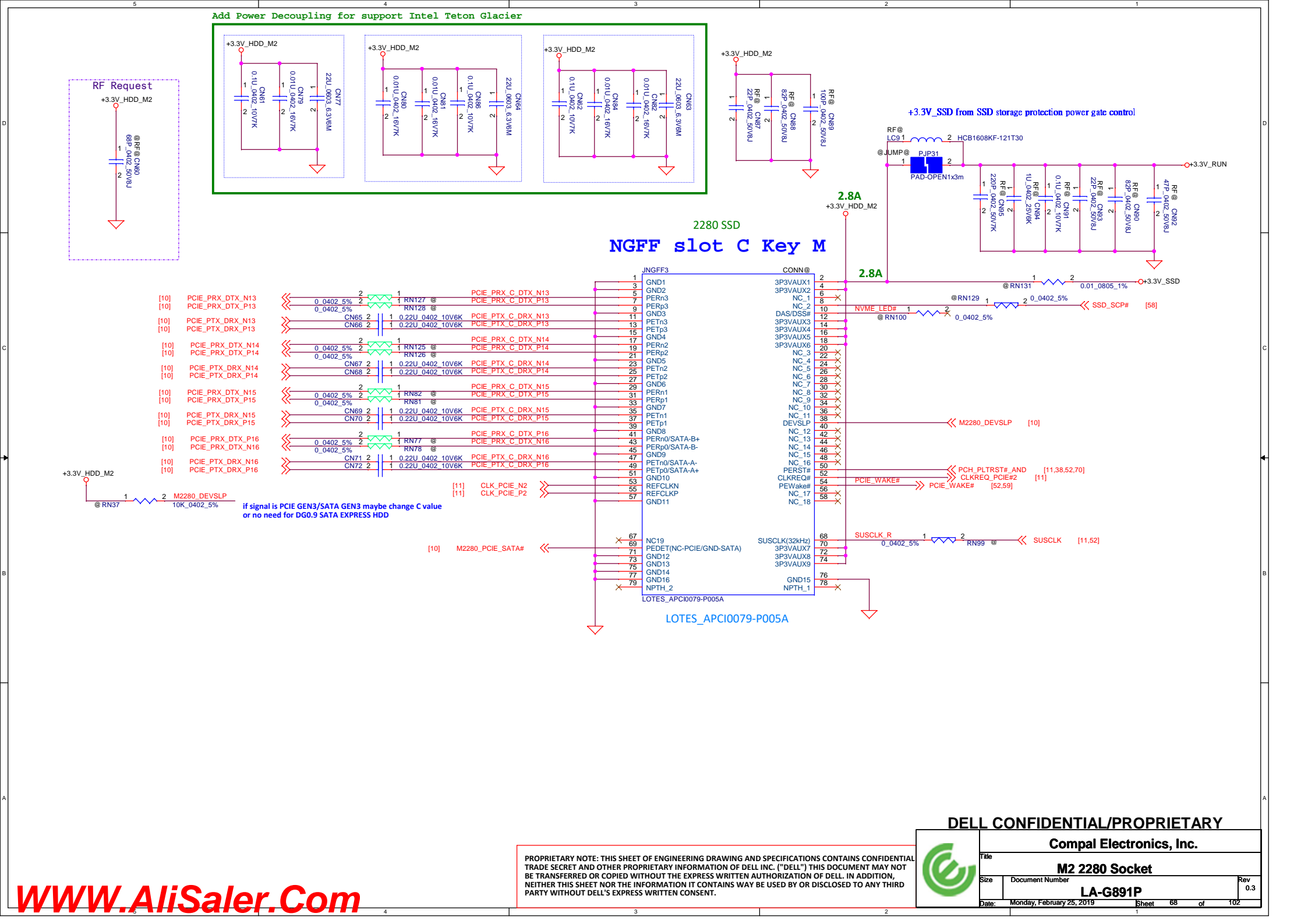
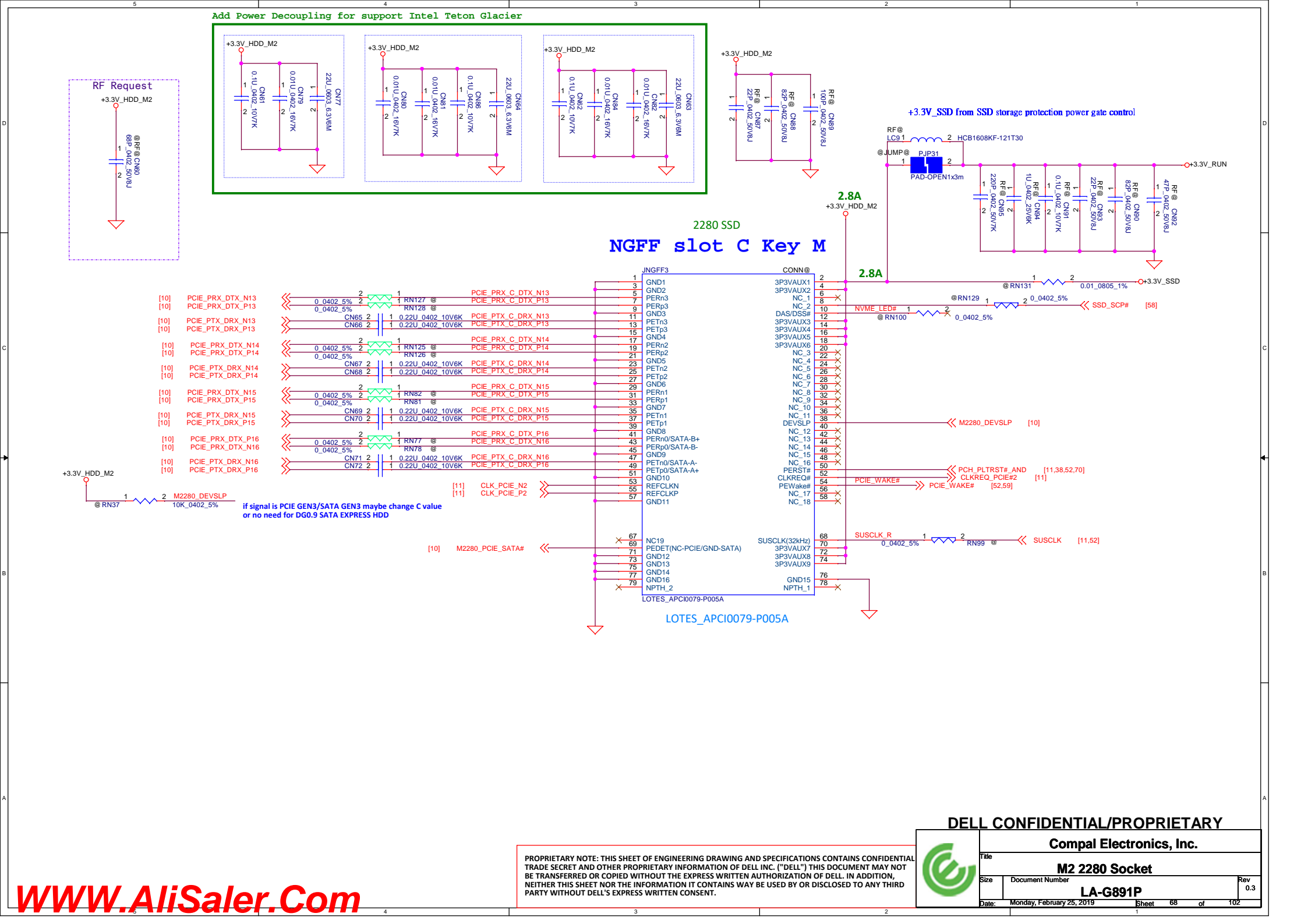
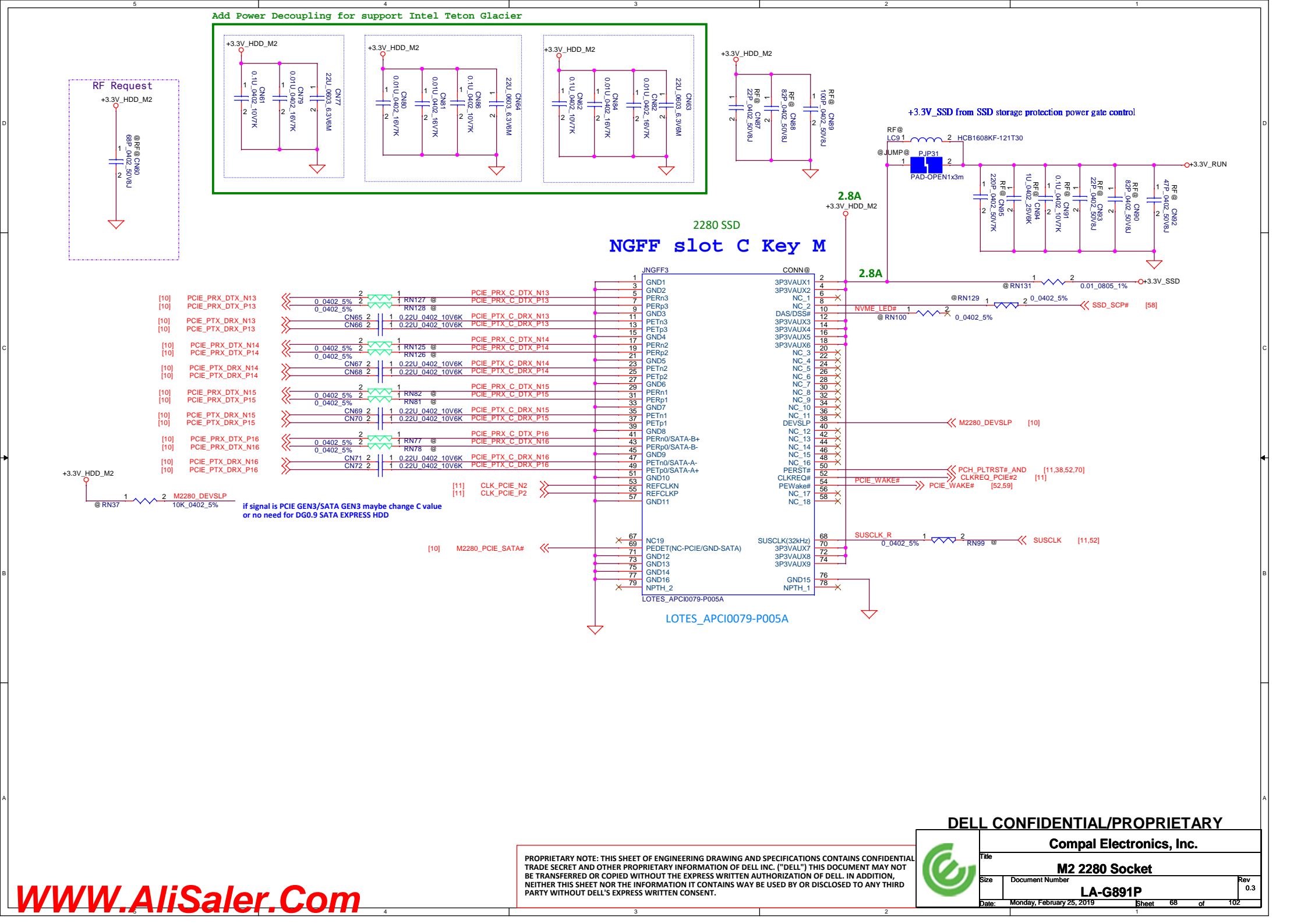
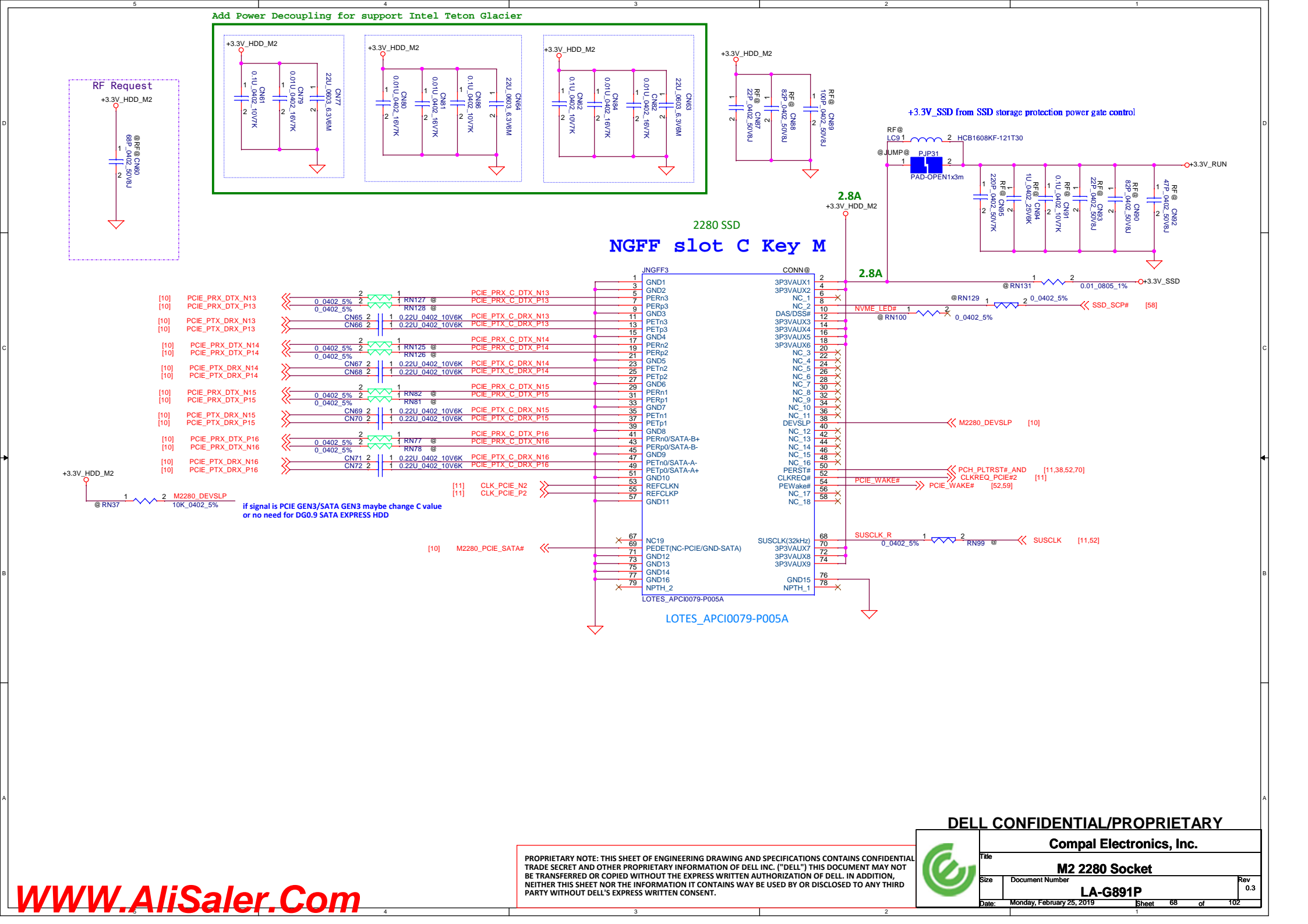
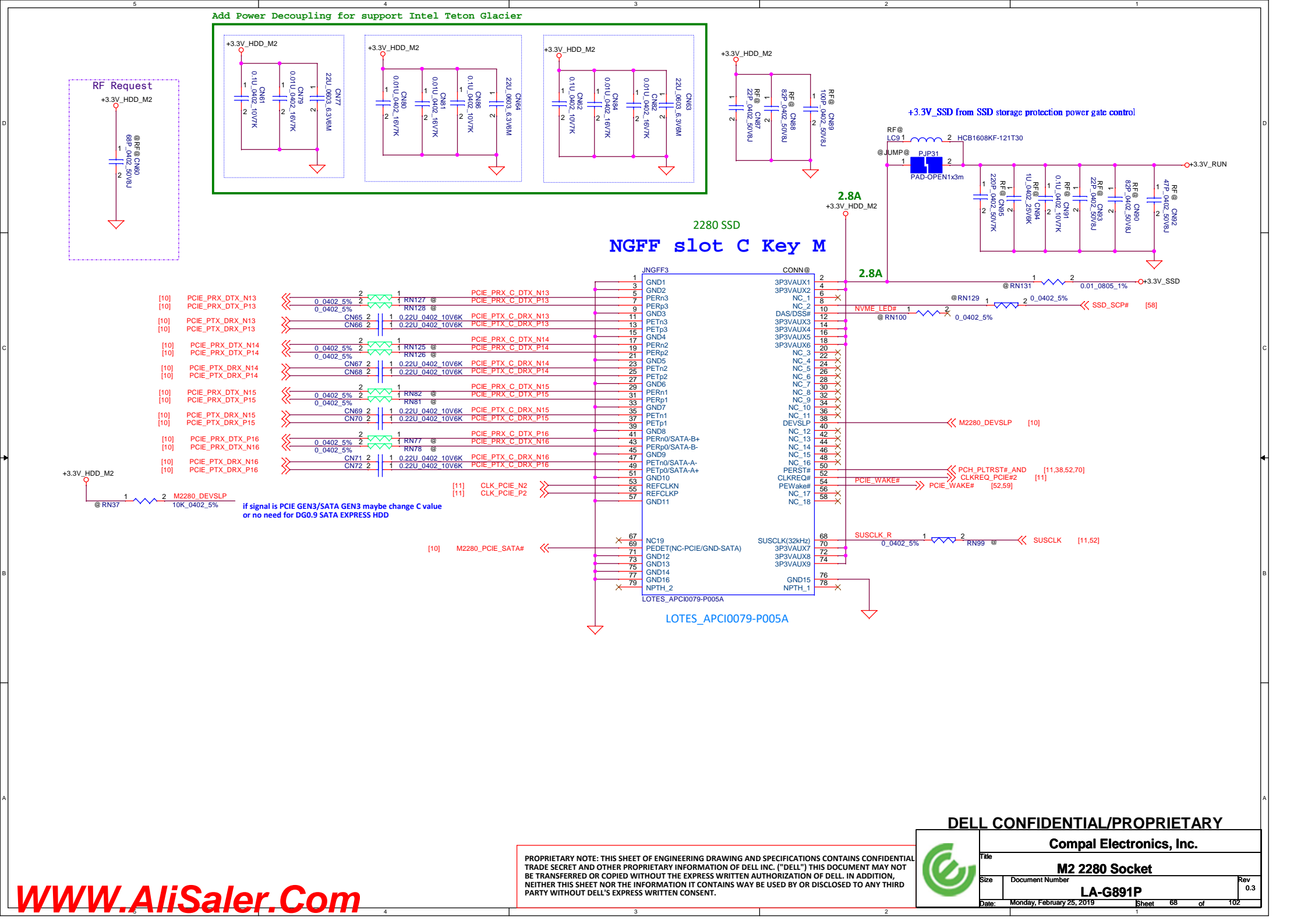
Command	SAD[6:1]	SAD[0] = SA0	R/W	SAD+R/W
Read	010100	0	1	01010001 (51h)
Write	010100	0	0	01010000 (50h)
Read	010100	1	1	01010011 (53h)
Write	010100	1	0	01010010 (52h)



## DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.			
SATA Repeater&HDD CONN			
LA-G891P			
Date:	Monday, February 25, 2019	Sheet	67 of 102

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.

[illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible][illegible]



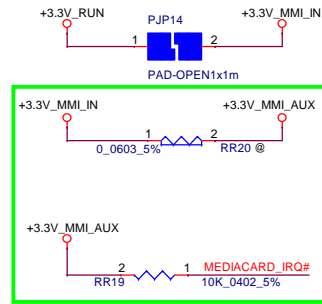
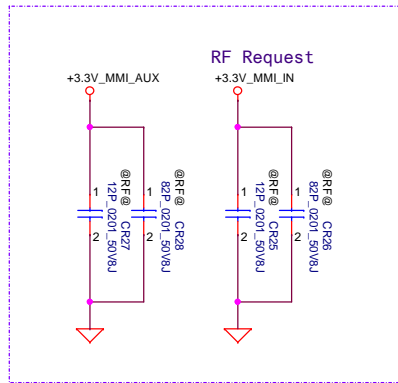
Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



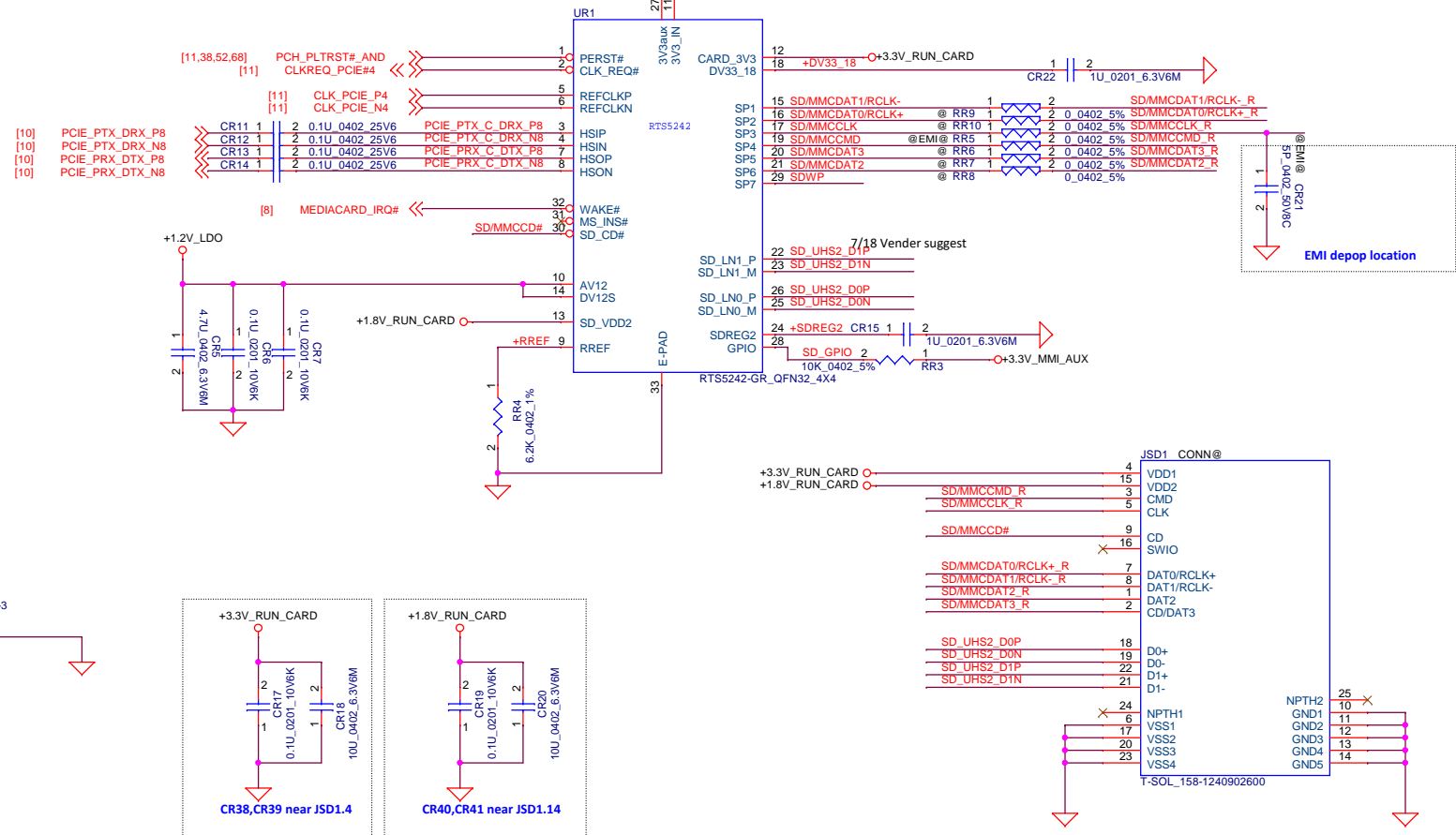
DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title	eMMC/UFS		
Size	Document Number	Rev	
	LA-G891P	0.3	
Date:	Monday, February 25, 2019	Sheet	69 of 102

# For PCIE Interface



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

7/18 Vender suggest.



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

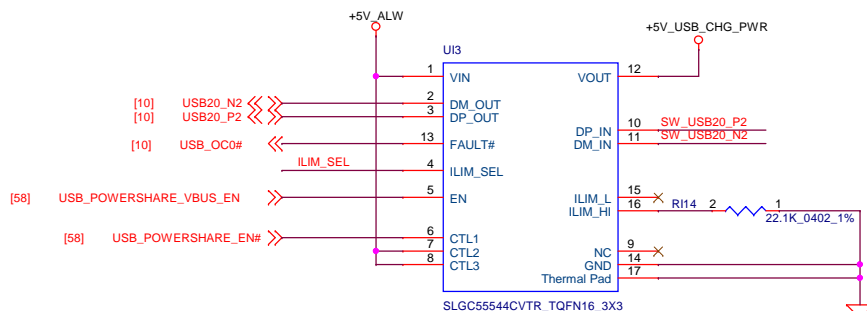
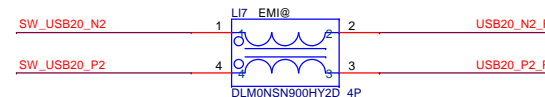
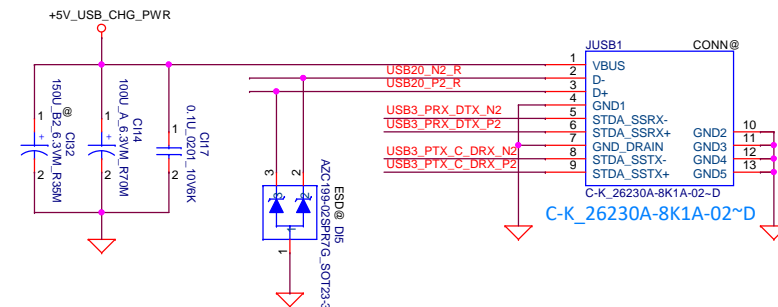
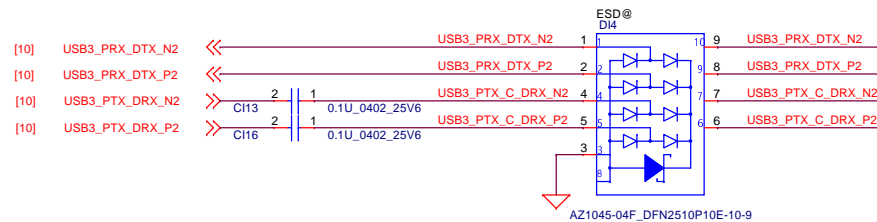
Card Reader RTS5242

LA-G891P

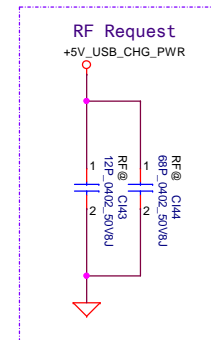
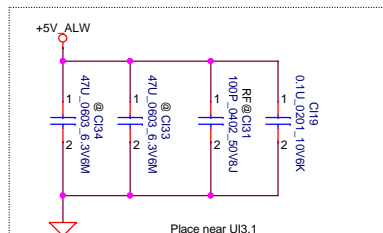
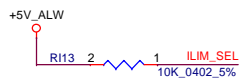
Date: Monday, February 25, 2019 Sheet 70 of 102

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.





Link Seligro SA000097E10 Done  
MAIN : SLGC55544CVTR



DELL CONFIDENTIAL/PROPRIETARY

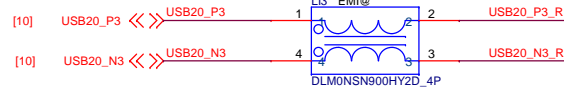
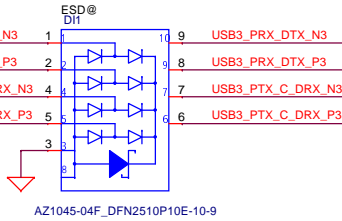
Compal Electronics, Inc.

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

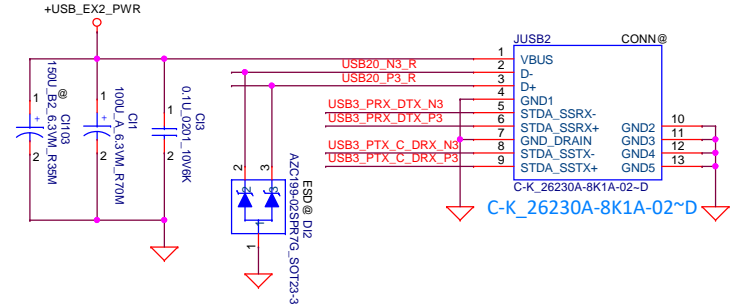
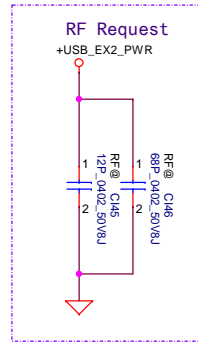
PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



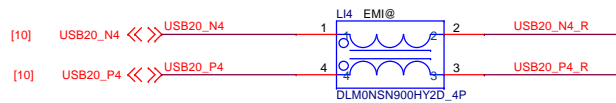
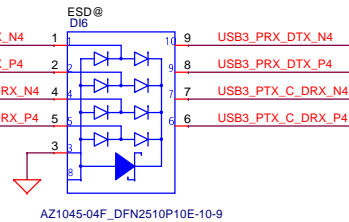
[10] USB3\_PRX\_DTX\_N3 <<< USB3\_PRX\_DTX\_N3 1 9 USB3\_PRX\_DTX\_N3  
 [10] USB3\_PRX\_DTX\_P3 <<< USB3\_PRX\_DTX\_P3 2 8 USB3\_PRX\_DTX\_P3  
 [10] USB3\_PTX\_DRX\_N3 >>> C15 2 1 0.1U\_0402\_25V6 USB3\_PTX\_C\_DRX\_N3 4 7 USB3\_PTX\_C\_DRX\_N3  
 [10] USB3\_PTX\_DRX\_P3 >>> C14 2 1 0.1U\_0402\_25V6 USB3\_PTX\_C\_DRX\_P3 5 6 USB3\_PTX\_C\_DRX\_P3



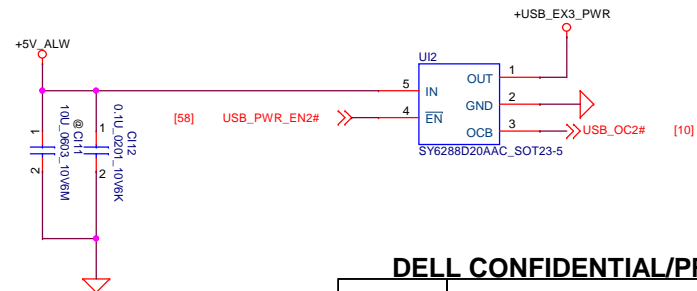
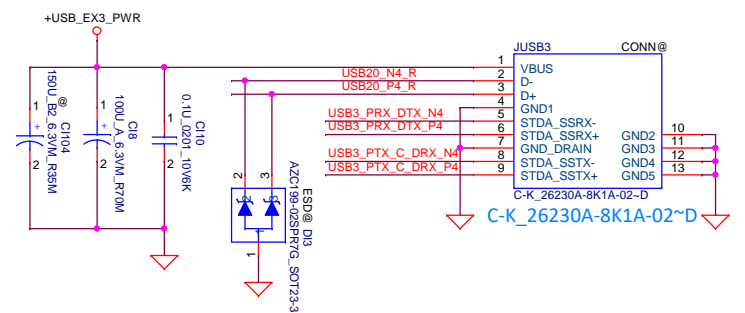
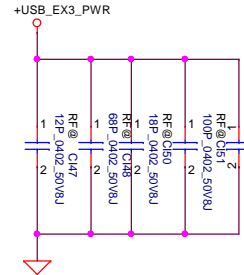
DFB request:  
 main SM070003Z00 (INPAQ\_MCM1012B900F06BP\_4P)  
 Footprint use 2nd source SM070004400 (PANAS\_EXC24CQ900U\_4P)  
 Pitch change from 0.5mm to 0.55mm



[10] USB3\_PRX\_DTX\_N4 <<< USB3\_PRX\_DTX\_N4 1 9 USB3\_PRX\_DTX\_N4  
 [10] USB3\_PRX\_DTX\_P4 <<< USB3\_PRX\_DTX\_P4 2 8 USB3\_PRX\_DTX\_P4  
 [10] USB3\_PTX\_DRX\_N4 >>> C127 2 1 0.1U\_0402\_25V6 USB3\_PTX\_C\_DRX\_N4 4 7 USB3\_PTX\_C\_DRX\_N4  
 [10] USB3\_PTX\_DRX\_P4 >>> C128 2 1 0.1U\_0402\_25V6 USB3\_PTX\_C\_DRX\_P4 5 6 USB3\_PTX\_C\_DRX\_P4



RF Request



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title		JUSB2&JUSB3
Size	Document Number	LA-G891P
Date:	Monday, February 25, 2019	Sheet 72 of 102

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title		USB2/USB3 DB	
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019	Sheet	73 of 102

Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

Title		Dock	
Size	Document Number	LA-G891P	Rev 0.3
Date:	Monday, February 25, 2019	Sheet 74	of 102

# Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title		USB	
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019		Sheet 75 of 102

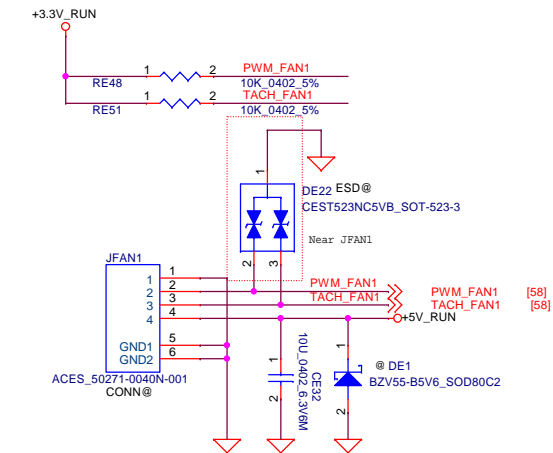
Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title		USB	
Size	Document Number	LA-G891P	Rev 0.3
Date:	Monday, February 25, 2019	Sheet 76	of 102

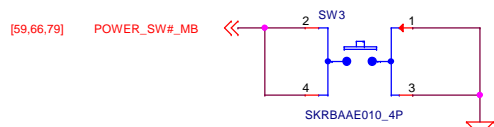




Link 50271-0040N-001 DONE

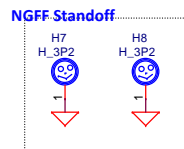
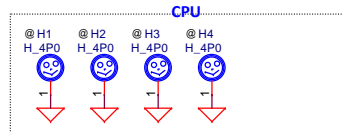
JFAN1 fan follow X9 project PIN DEFINE

## POWER & INSTANT ON SWITCH TOP

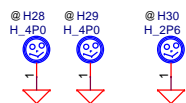
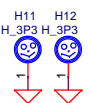


## Fiducial Mark

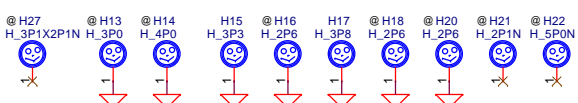
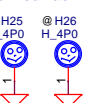
- @FD1  
FIDUCIAL MARK-D
- @FD2  
FIDUCIAL MARK-D
- @FD3  
FIDUCIAL MARK-D
- @FD4  
FIDUCIAL MARK-D



## EDP Standoff



## FAN Standoff



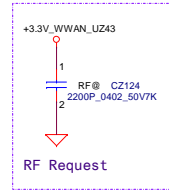
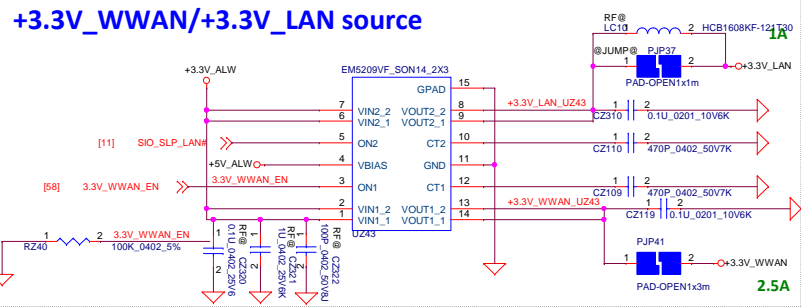
PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

DELL CONFIDENTIAL/PROPRIETARY

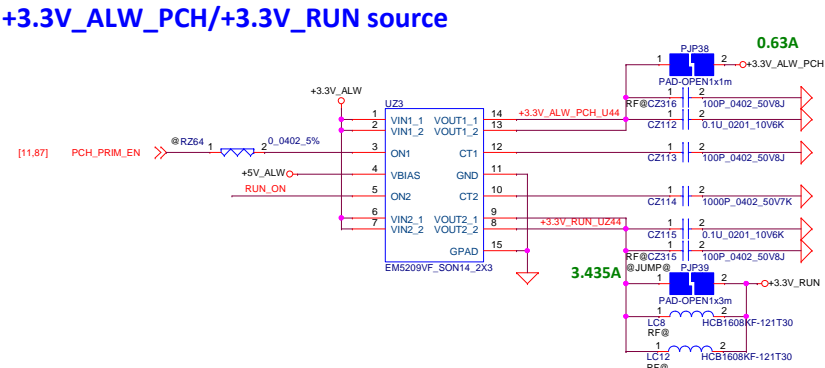
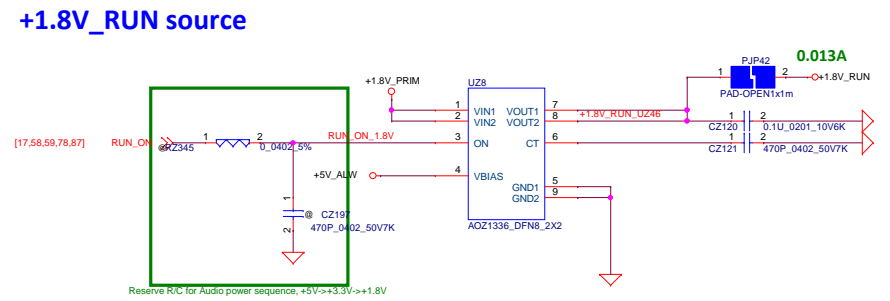
Compal Electronics, Inc.

Title		PAD, LED	
Size	Document Number	LA-G891P	
Date:	Monday, February 25, 2019	Sheet	77 of 102
		Rev	0.3

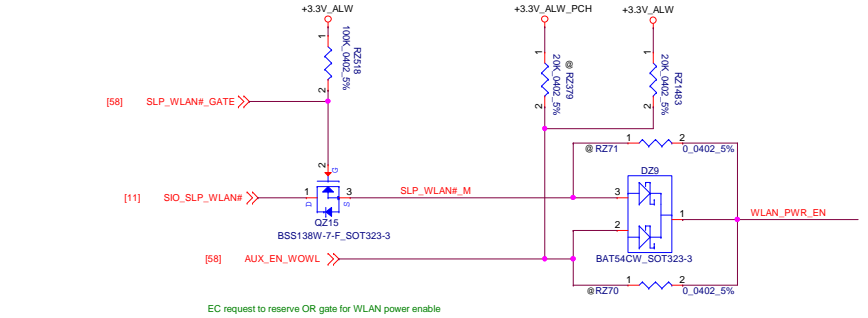
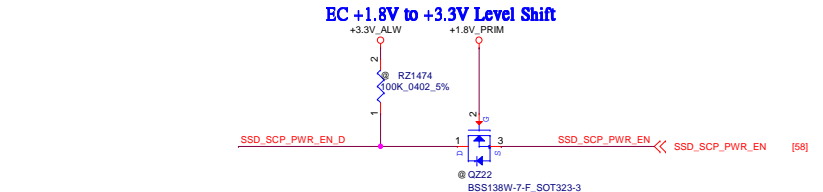
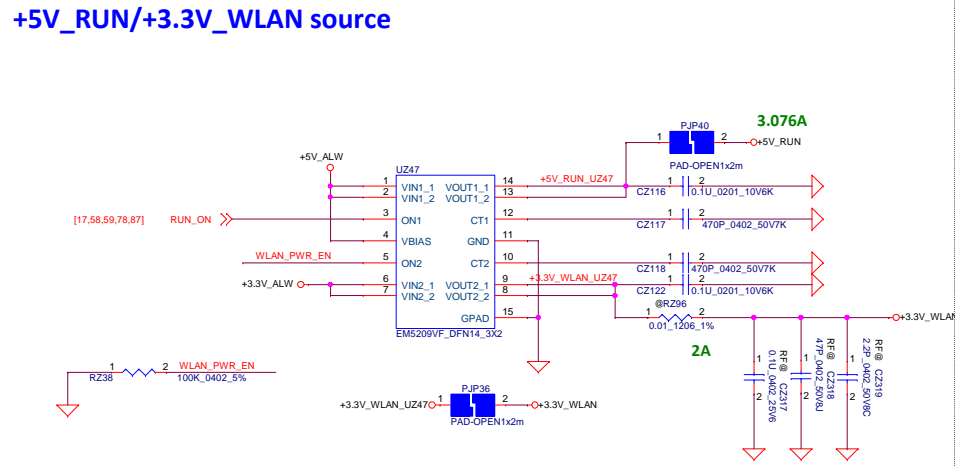
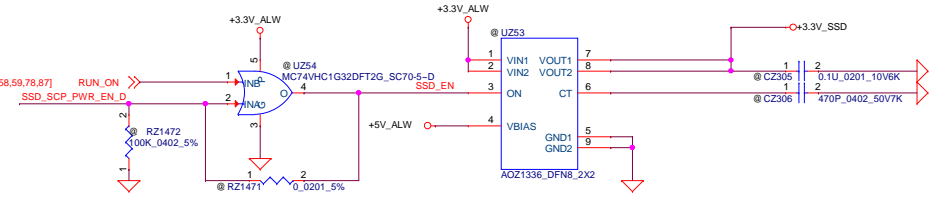
### +3.3V\_ALW\_PCH/+3.3V\_RUN source




**Reserve for SSD storage protection power gate control**



### EC +1.8V to +3.3V Level Shift



	<b>Compal Electronics, Inc.</b>		
	File _____		
	<b>Power control</b>		
	Size _____	Document Number <b>LA-G891P</b>	Rev <b>0.3</b>
Date: <b>Monday, February 25, 2019</b>		Sheet <b>78</b> of <b>102</b>	

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.



Reserve

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.




DELL CONFIDENTIAL/PROPRIETARY			
Compal Electronics, Inc.			
Title		Google Debug	
Size	Document Number	Rev	
	LA-G891P	0.3	
Date:	Monday, February 25, 2019	Sheet	80 of 102



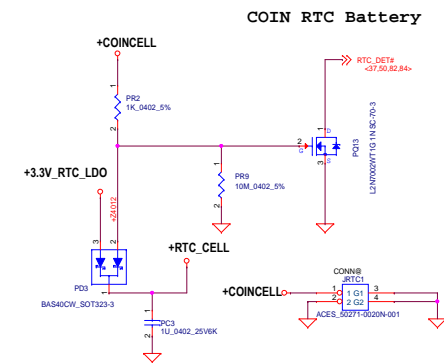
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF THE COMPANY OR DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

DELL CONFIDENTIAL/PROPRIETARY



Compal Electronics, Inc.		
Title		
PWR-Block Diagram		
Size	Document Number	Rev
	LA-893	0.1
Date:	Monday, February 25, 2019	Sheet 81 of 101





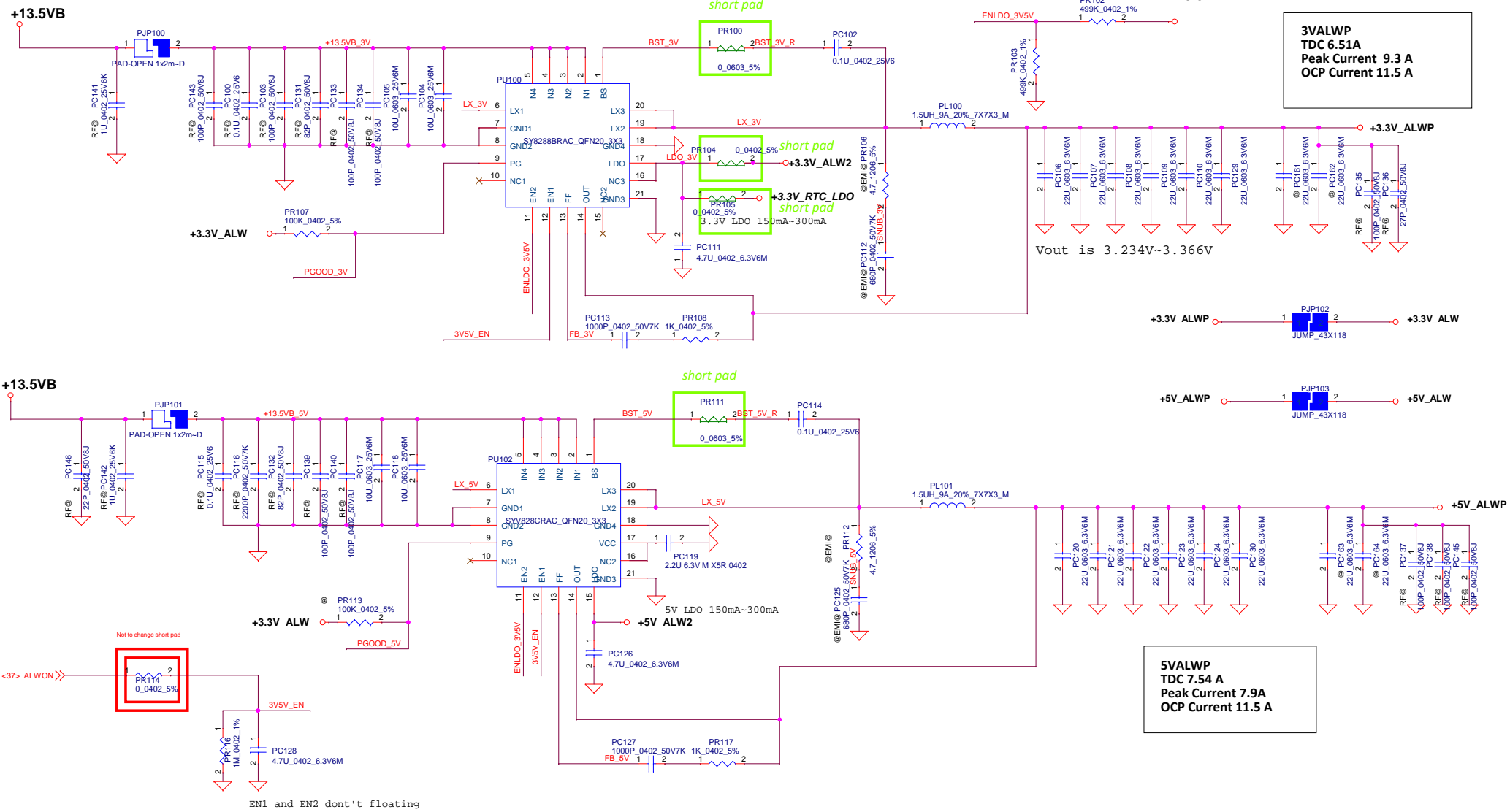


**LA-891**

Size	Document Number	Rev
	<b>LA-891</b>	


THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

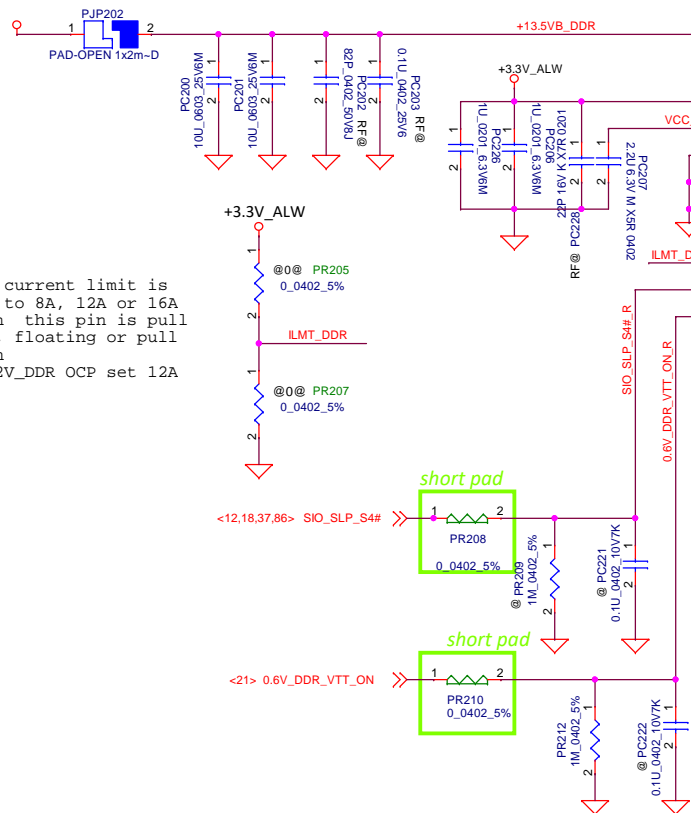




THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

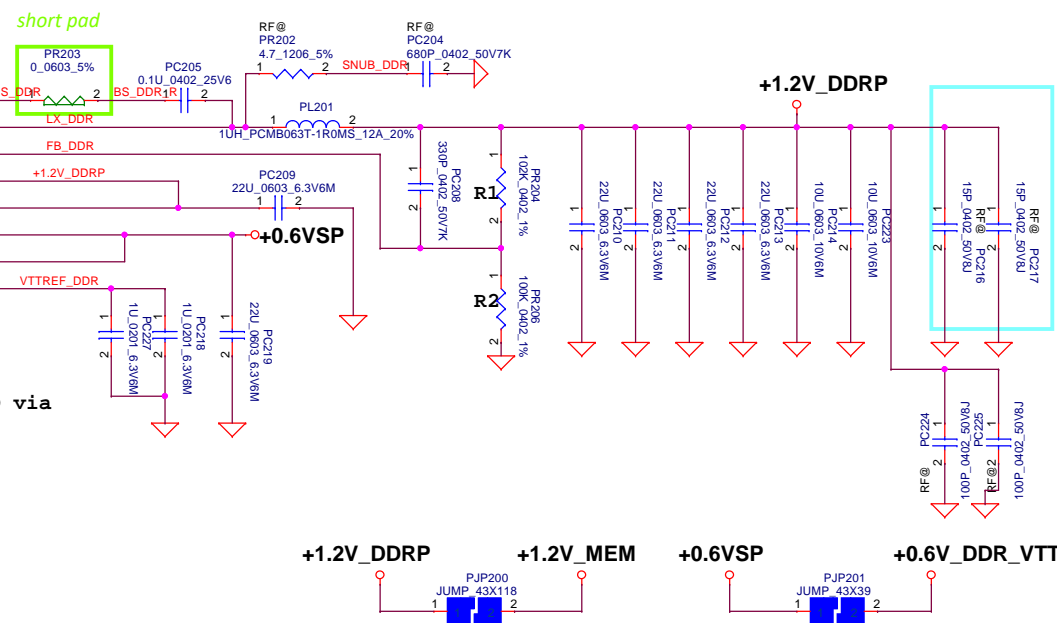
DELL CONFIDENTIAL/PROPRIETARY

			
Compal Electronics, Inc.			
Title			
+5V_ALW/3.3V_ALW			
Size	Document Number	Rev	
	LA-891	0.3	
Date:	Monday, February 25, 2019	Sheet	85 of 101



Mode	S3	S5	VOUT	VTT
Normal	H	H	on	on
Stadby	L	H	on	off
Shutdown	L	L	off	off

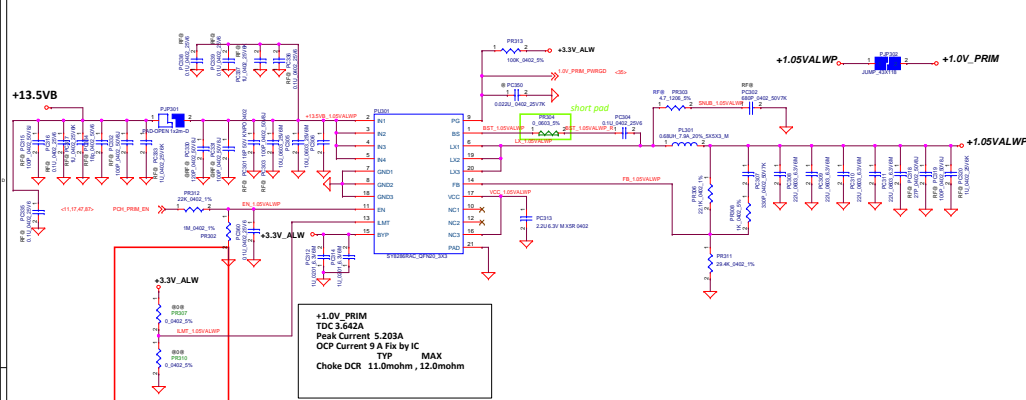
Note: S3 - sleep ; S5 - power off



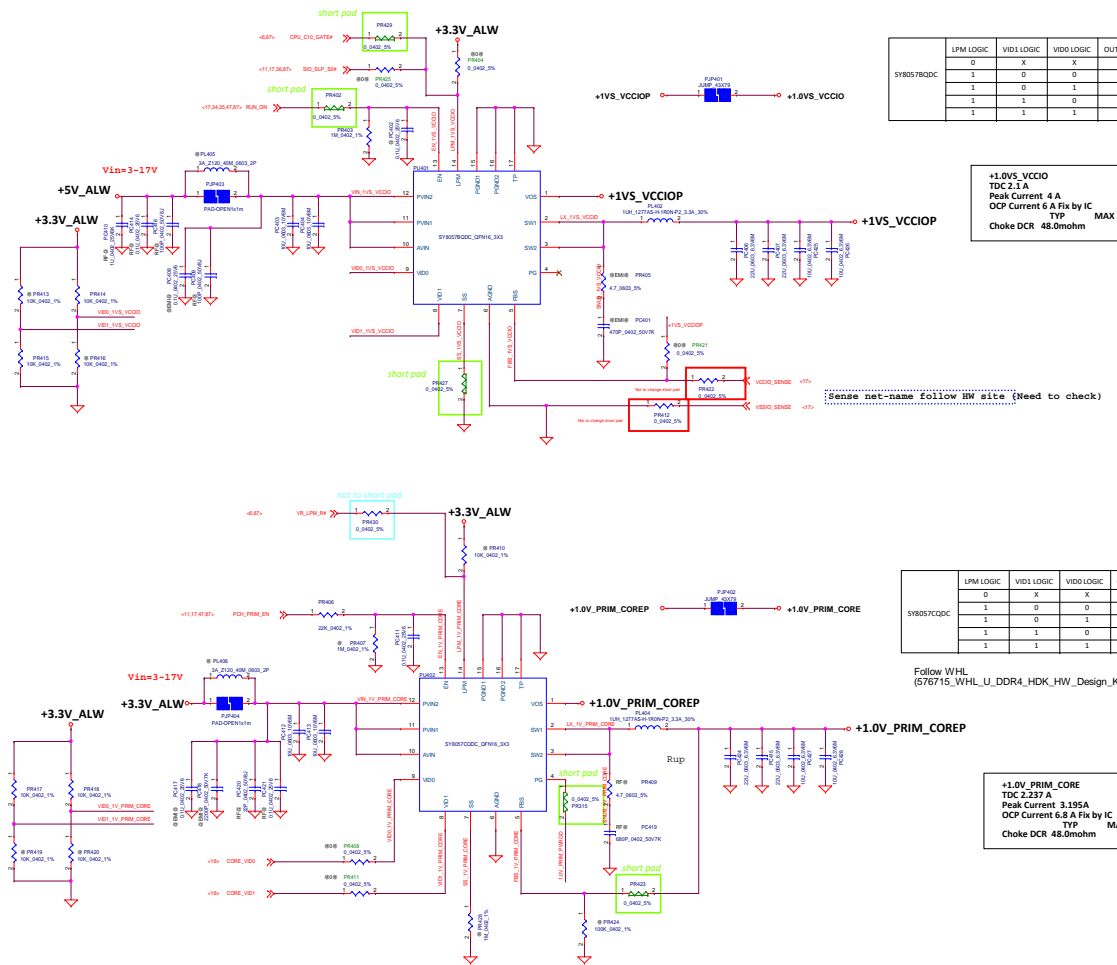
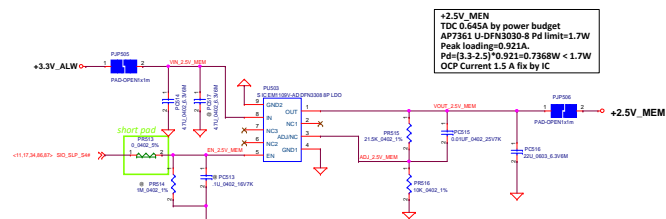
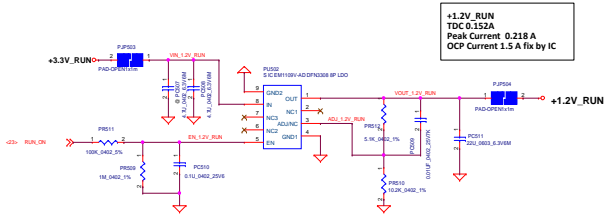
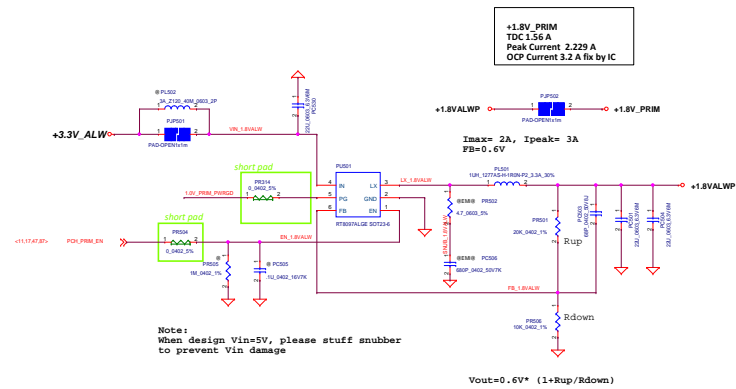
```
0.6Volt +/- 5%
TDC 1.05A
Peak Current 1.5A
OCP Current 2A (fix)
```

**LA-891**

Date: Monday, February 25, 2019      Sheet 86 of 101



The current limit is set to 6A, 9A or 12A when this pin is pull low, floating or pull high



	LPM LOGIC	VDD1 LOGIC	VDD0 LOGIC	OUTPUT VOLTAGE
SY8057BQDC	0	X	X	0.95(PM)
	1	0	0	0.95
	1	0	1	0.95
	1	1	0	1.00
	1	1	1	1.05

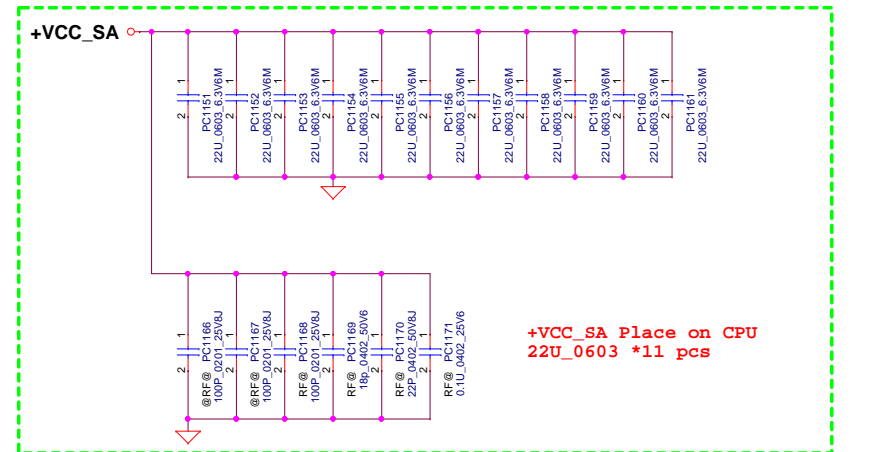
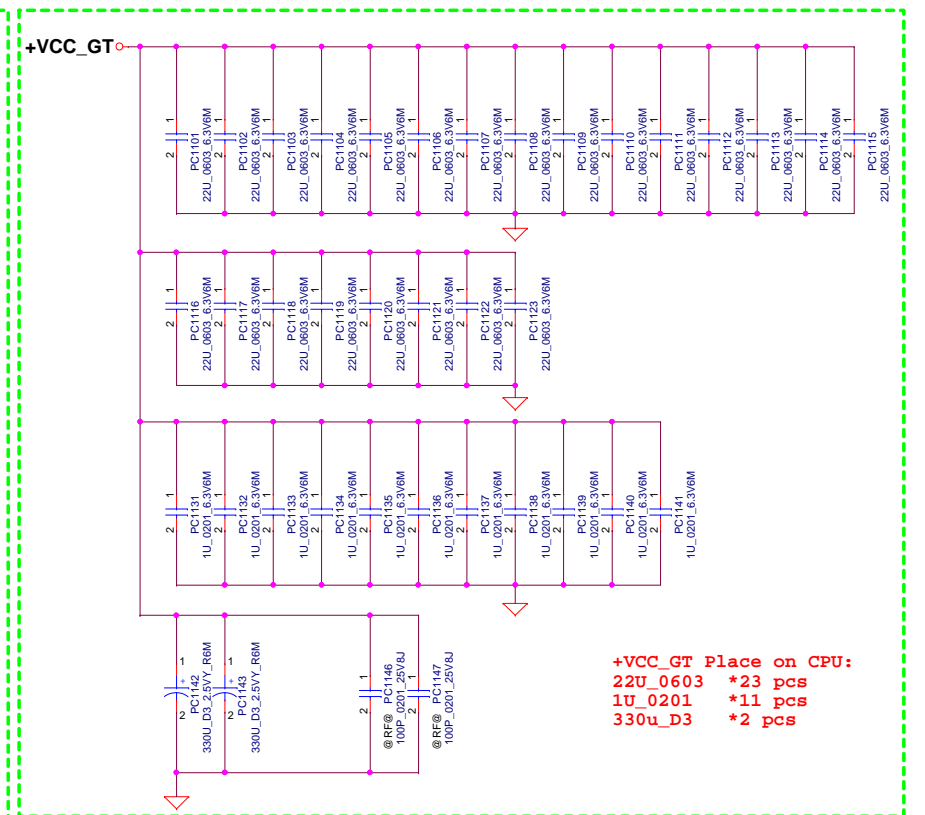
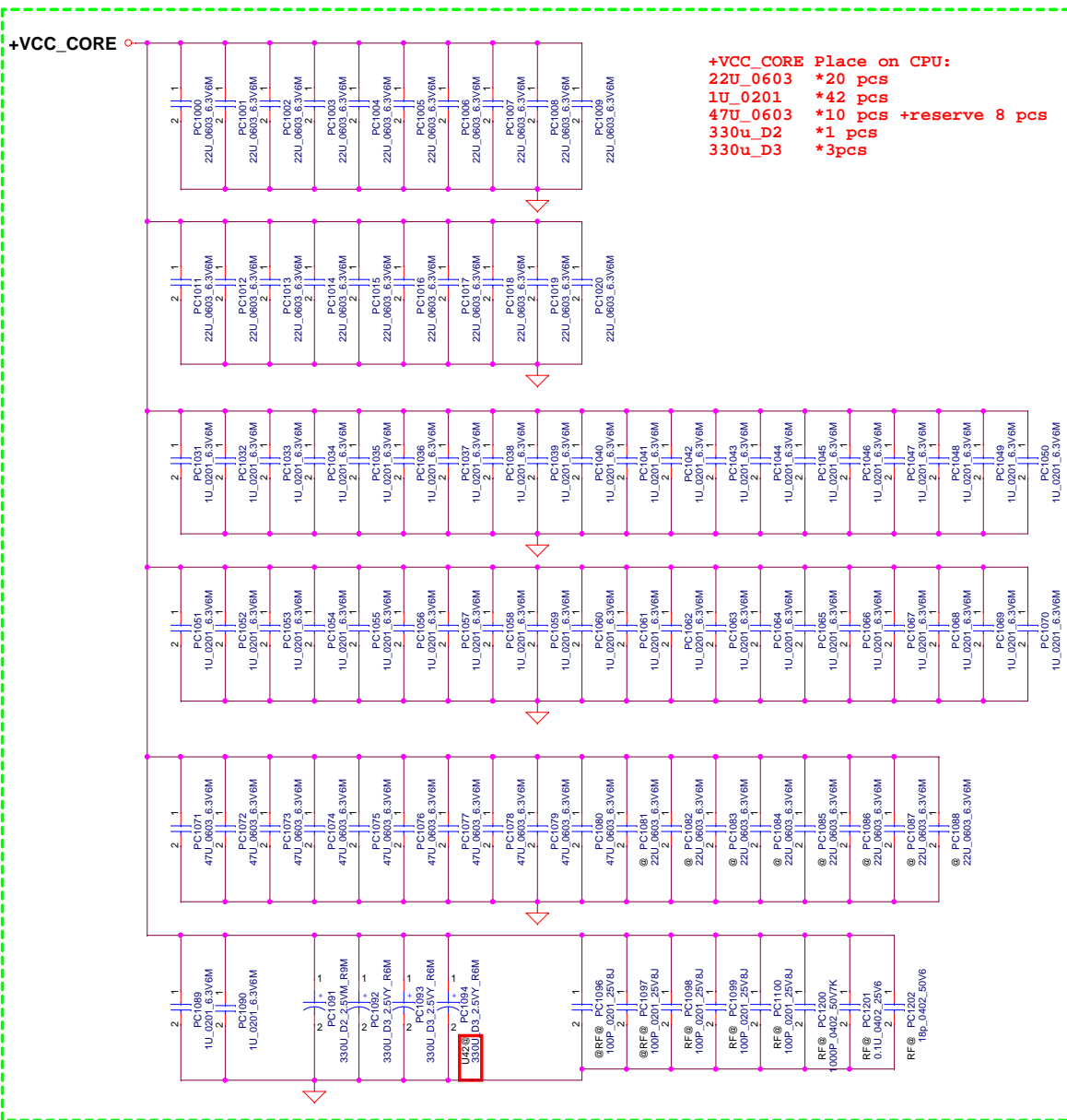
	LPM LOGIC	VDD1 LOGIC	VDD0 LOGIC	OUTPUT VOLTAGE
SY8057CQDC	0	X	X	0.75(PM)
	1	0	0	0.9
	1	0	1	0.95
	1	1	0	1.00
	1	1	1	1.05

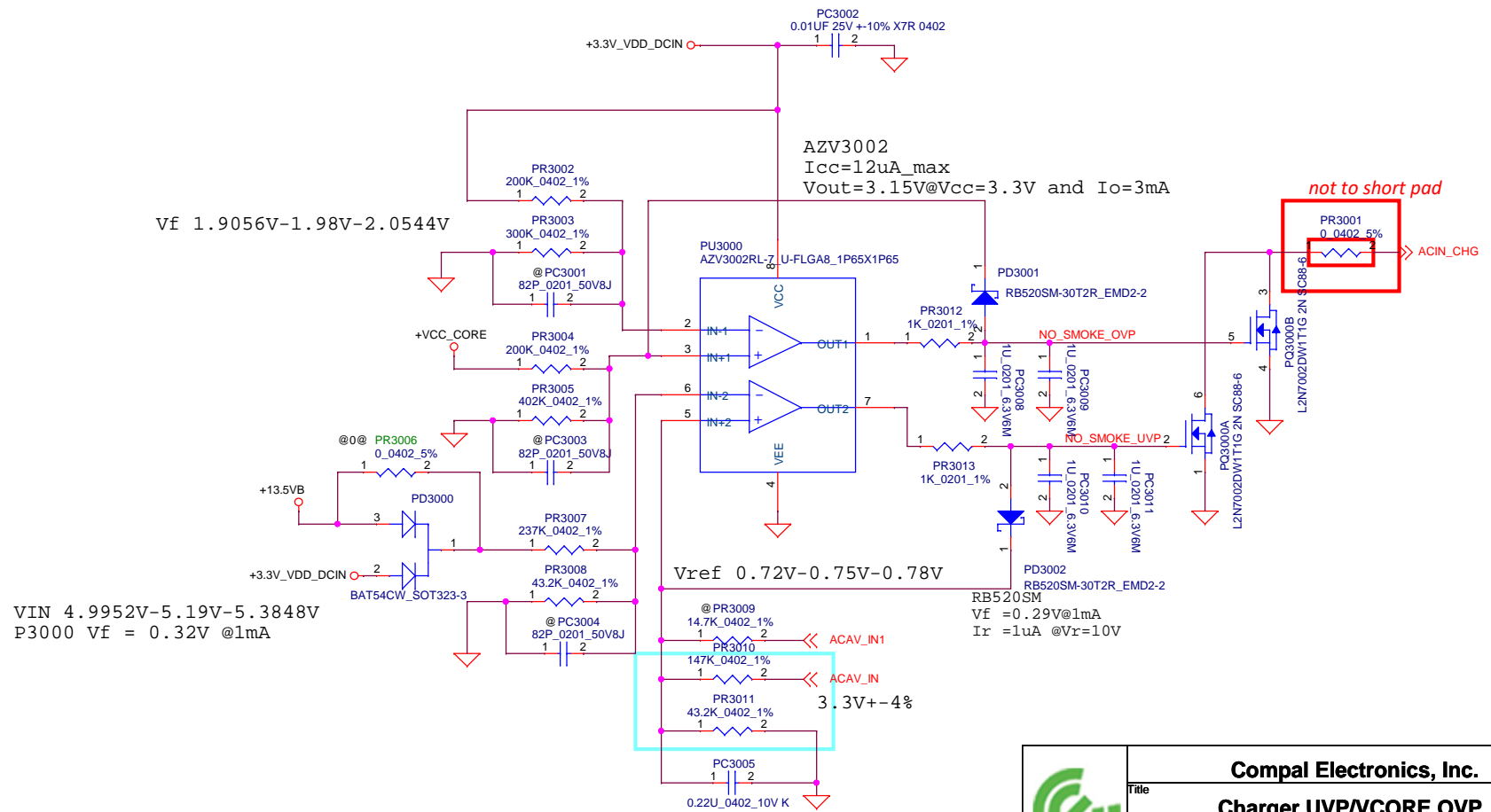
Follow WHL  
(S76715\_WHL\_U\_DDR4\_HDK\_HW\_Design\_Kit\_Rev0p5)


DELL CONFIDENTIAL/PROPRIETARY










			<b>Compal Electronics, Inc.</b>	
			<b>Charger UVP/VCORE OVP</b>	
Size	Document Number		Rev	
	LA-891		0.3	
Date:	Monday, February 25, 2019		Sheet	91 of 101

# Reserve

DELL CONFIDENTIAL/PROPRIETARY


			
File			
Reserve for PWR			
Size	Document Number		Rev
	DB-2283P		0.1
Date:	Monday, February 25, 2019	Sheet	92 of 101

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS



# Reserve


DELL CONFIDENTIAL/PROPRIETARY

			
Compal Electronics, Inc.			
File	Reserve for PWR		
Size	Document Number		Rev
	DB-2283P		0.1
Date:	Monday, February 25, 2019	Sheet	93 of 101

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS

# Reserve


DELL CONFIDENTIAL/PROPRIETARY

			
Compal Electronics, Inc.			
Reserve for PWR			
File	Document Number	Rev	
	DB-2283P	0.1	
Date	Monday, February 25, 2019	Sheet	94 of 101

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS

# Reserve


DELL CONFIDENTIAL/PROPRIETARY

			
Compal Electronics, Inc.			
Reserve for PWR			
File	Document Number	Rev	
	DB-2283P	0.1	
Date:	Monday, February 25, 2019	Sheet	95 of 101

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS

# Reserve


DELL CONFIDENTIAL/PROPRIETARY

			
Compal Electronics, Inc.			
File	Reserve for PWR		
Size	Document Number	Rev	
	DB-2283P	0.1	
Date:	Monday, February 25, 2019	Sheet	96 of 101

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS

Reserve


DELL CONFIDENTIAL/PROPRIETARY

			
Compal Electronics, Inc.			
File	Reserve for PWR		
Size	Document Number	Rev	
	DB-2283P	0.1	
Date:	Monday, February 25, 2019	Sheet	97 of 101

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS

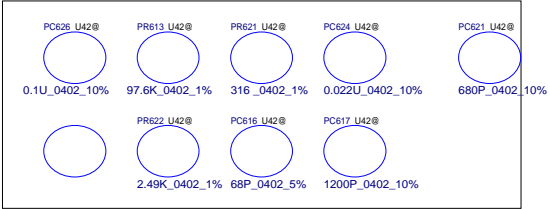
Reserve

DELL CONFIDENTIAL/PROPRIETARY

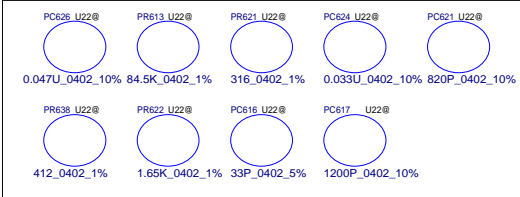
			
Compal Electronics, Inc.			
File	Reserve for PWR		
Size	Document Number	Rev	
	DB-2283P	0.1	
Date:	Monday, February 25, 2019	Sheet	98 of 101

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS


U42



U22



DELL CONFIDENTIAL/PROPRIETARY

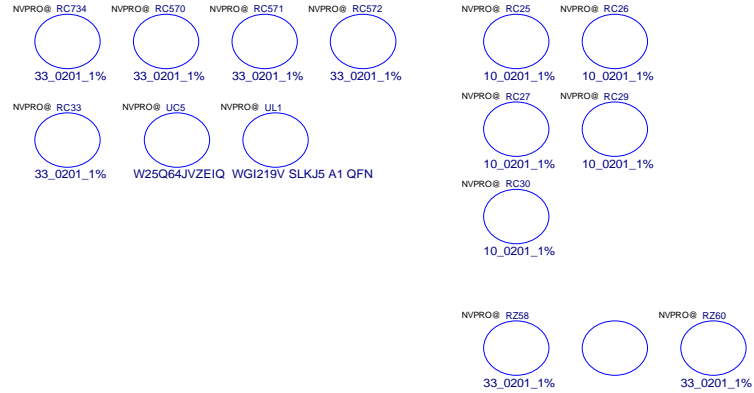
			
File <b>Reserve for PWR</b>			
Size	Document Number <b>LA-891</b>		Rev <b>0.3</b>
Date:	Monday, February 25, 2019	Sheet	100 of 101

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS










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.

DELL CONFIDENTIAL/PROPRIETARY

		<b>Compal Electronics, Inc.</b>	
Title		<b>SENSOR</b>	
Size	Document Number	Rev 0.3	
Date: Monday, February 25, 2019	Sheet 102 of 102	LA-G891P	

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	3.9/3	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						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	

DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.



PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

Title			
Stack-up			
Size	Document Number		Rev
	LA-G891P		0.3
Date:	Monday, February 25, 2019	Sheet	103 of 102