# Compal Confidential

## GLMS1

## DIS M/B Schematic Document

### Intel Tiger Lake-UP3 Processor with DDR4 Memory Down
### Touch Screen

2021-08-02

LA-K321P

REV：2A

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|---|---|---|---|
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| Issued Date | 2019/11/27 | Deciphered Date | 2020/11/27 |

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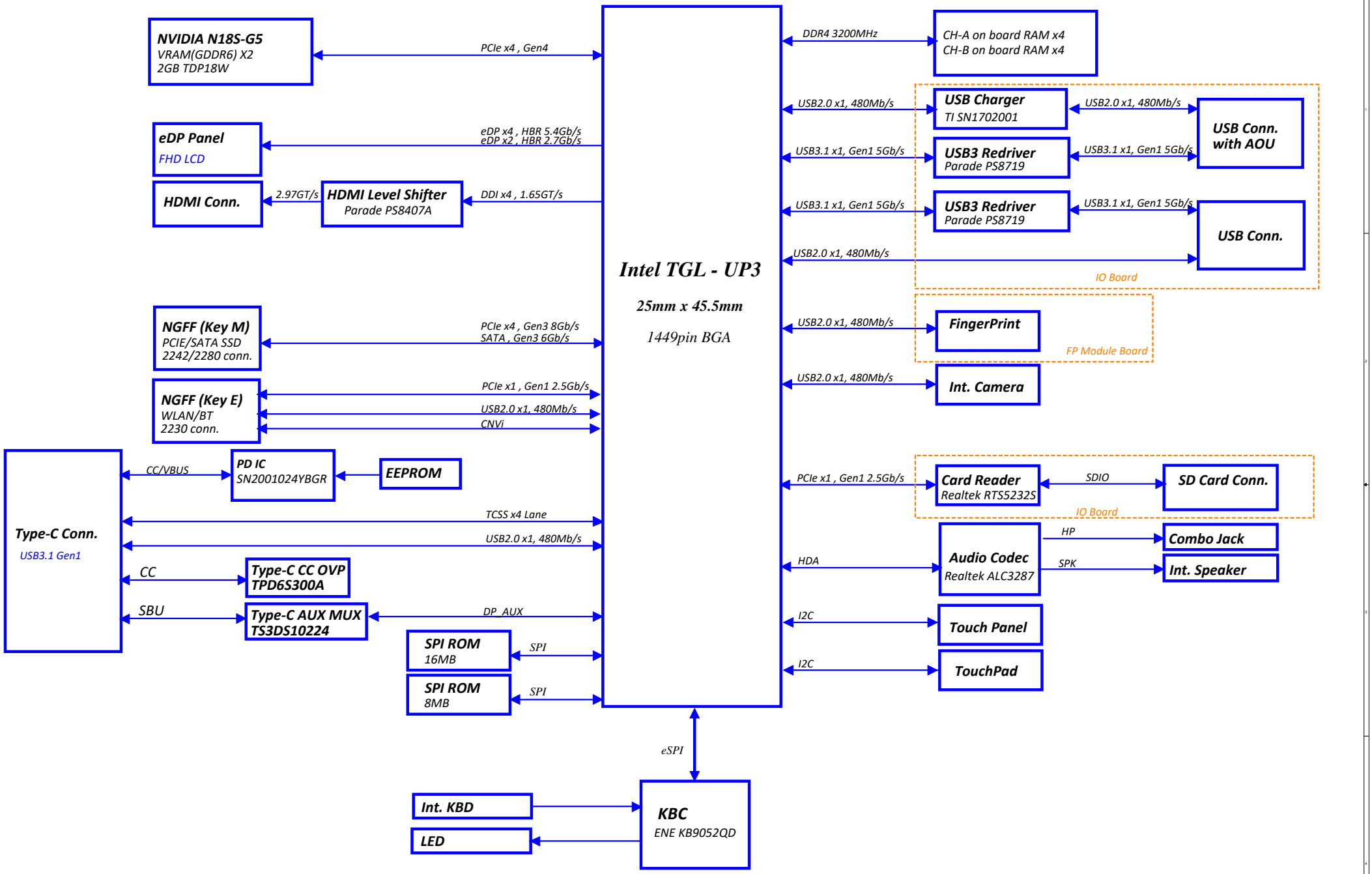
| Date: Monday, August 02, 2021 | Sheet 1 of 121 | | |

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## Voltage Rails

| power plane / State | +12.6VB | +5VALW<br>+3VALW<br>+1.8VALW | +1.2V<br>+2.5V | +5VS<br>+3VS<br>+1.8VS<br>+0.6VS<br>+1.05V_VCCST<br>+1.05VS_VCCSTG<br>+VCCIN<br>+VCCIN_AUX<br>+1.8VS_DGPU<br>+1.8VS_DGPU_AON<br>+VGA_CORE<br>+1.0VS_DGPU<br>+1.2VS_VRAM |
|---|---|---|---|---|
| S0 | O | O | O | O |
| S3 | O | O | O | X |
| S5 S4/AC | O | O | X | X |
| S5 S4/ Battery only | O | X | X | X |
| S5 S4/AC & Battery don't exist | X | X | X | X |

## BOM Structure Table

| Item | BOM Structure |
|---|---|
| GPU | DIS@ |
| | UMA@ |
| Channel B Memory Down | CHB@ |
| Memory Down - SDP Package | SDP@ |
| | SDP_CHB@ |
| Memory Down - DDP Package | DDP@ |
| | DDP_CHB@ |
| DCI | DCI@ |
| Intel CNVi WLAN | CNVi@ |
| Keyboard BackLight | KBL@ |
| EMI Category | EMI@ |
| ESD Category | ESD@ |
| RF Category | RF@ |
| RMT test | RMT@ |
| HDMI Level Shifter | LS@ |
| Touch Screen | TS@ |
| GPU GC6 Mode | GC6@ |
| | NOGC6@ |
| CPU select | i3@ |
| | i5@ |
| | i7@ |

| Item | BOM Structure |
|---|---|
| GPU select (include chip and strap RES) | N18S_G5@ |
| VRAM select (include chip and strap RES) | VRAM_M2G@ |
| | VRAM_S2G@ |
| on board RAM select (include chip and strap RES) | MD_S4G@ |
| | MD_H4G@ |
| | MD_M4G@ |
| | MD_S8G@ |
| | MD_H8G@ |
| | MD_M8G@ |
| | MD_S16G@ |
| | MD_H16G@ |
| | MD_M16G@ |

## USB 2.0 Port Table

| Port | External USB Port |
|---|---|
| 1 | USB2/3 Port (IO - 1) |
| 2 | USB2/3 Port (IO - 2) |
| 3 | USB2/3 Port (Type-C) |
| 4 | Touch Screen |
| 5 | |
| 6 | Camera |
| 7 | Fingrt Print |
| 8 | |
| 9 | |
| 10 | NGFF WLAN+BT |

## TCP Port Table

| Port | Lane |
|---|---|
| 0 | TYPE C (PD + CC) |
| 1 | |
| 2 | |
| 3 | |

## DDI Port Table

| Port | Lane |
|---|---|
| 0 | EDP |
| 1 | HDMI |

## USB 3.0 Port Table

| Port | |
|---|---|
| 1 | USB2/3 Port (IO - 1) |
| 2 | USB2/3 Port (IO - 2) |
| 3 | |
| 4 | |

## PCH PCIE Port Table

| Port | Lane | |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | 3 | NGFF WLAN+BT |
| 4 | 4 | CardReader |
| 5 | 0 | |
| 6 | 1 | |
| 7 | 2 | |
| 8 | 3 | |
| 9 | 3 | |
| 10 | 2 | SSD |
| 11 | 1 | |
| 12 | 0 | |

## SATA Port Table

| Port | |
|---|---|
| 0 | |
| 1 | SSD |

## CPU PCIE Port Table

| Port | Lane | |
|---|---|---|
| 0 | 0 | |
| 1 | 1 | GPU |
| 2 | 2 | |
| 3 | 3 | |

## EC SM Bus1 address

| Device | Address |
|---|---|
| Smart Battery | 0001 011x 16h |
| Charger (ISL88739A) | 0001 001x 12h |

## EC SM Bus2 address

| Device | Address |
|---|---|
| Thermal Sensor (F75305M) | 1001_101xb 9Ah |
| Thermal Sensor (F75397M) | 1001_100xb 98h |

## PCH SM Bus address

| Device | Address |
|---|---|
| DDR_JDIMM1<br>Touch Pad | 1010 010x A4h |

## GPU SM Bus address

| Device | Address |
|---|---|
| Internal thermal sensor | 1001 111x 9Eh |

## SMBUS Control Table

| | SOURCE | SOC | BATT | CHARGER | KB9052 | PD IC | Thermal Sensor | DGPU |
|---|---|---|---|---|---|---|---|---|
| EC_SMB_CK1<br>EC_SMB_DA1 | KB9052<br>+3VL | X | V<br>+3VALW | V<br>+19V_VIN | X | X | X | X |
| EC_SMB_CK2<br>EC_SMB_DA2 | KB9052<br>+3VL | V<br>+3VS | X | X | X | X | V<br>+3VS | V<br>+3VS |
| EC_SMB_CK3<br>EC_SMB_DA3 | KB9052<br>+3VL | X | X | X | X | V<br>+3VL | X | X |
| SOC_SMBCLK<br>SOC_SMBDATA | SOC<br>+3VS | X | X | X | X | X | X | X |
| SOC_SML0CLK<br>SOC_SML0DATA | SOC<br>+3VS | X | X | X | X | X | X | X |

| STATE \ SIGNAL | SLP_S1# | SLP_S3# | SLP_S4# | SLP_S5# | +VALW | +V | +VS | Clock |
|---|---|---|---|---|---|---|---|---|
| Full ON | HIGH | HIGH | HIGH | HIGH | ON | ON | ON | ON |
| S1(Power On Suspend) | LOW | HIGH | HIGH | HIGH | ON | ON | ON | LOW |
| S3 (Suspend to RAM) | LOW | LOW | HIGH | HIGH | ON | ON | OFF | OFF |
| S4 (Suspend to Disk) | LOW | LOW | LOW | HIGH | ON | OFF | OFF | OFF |
| S5 (Soft OFF) | LOW | LOW | LOW | LOW | ON | OFF | OFF | OFF |

## ON BOARD RAM

### 4GB(R3)

| Micron | Hynix | Samsung |
|---|---|---|
| UD1 MD_M4G@ MT40A512M16TB-062E:J SA0000CMS10 | UD1 MD_H4G@ H5AN8G6NCJR-XNC SA0000CZ320 | UD1 MD_S4G@ K4A8G165WC-BCWE SA0000CZ520 |
| UD2 MD_M4G@ MT40A512M16TB-062E:J SA0000CMS10 | UD2 MD_H4G@ H5AN8G6NCJR-XNC SA0000CZ320 | UD2 MD_S4G@ K4A8G165WC-BCWE SA0000CZ520 |
| UD3 MD_M4G@ MT40A512M16TB-062E:J SA0000CMS10 | UD3 MD_H4G@ H5AN8G6NCJR-XNC SA0000CZ320 | UD3 MD_S4G@ K4A8G165WC-BCWE SA0000CZ520 |
| UD4 MD_M4G@ MT40A512M16TB-062E:J SA0000CMS10 | UD4 MD_H4G@ H5AN8G6NCJR-XNC SA0000CZ320 | UD4 MD_S4G@ K4A8G165WC-BCWE SA0000CZ520 |

### 8GB(R3)

| Micron | Hynix | Samsung |
|---|---|---|
| UD1 MD_M8G@ MT40A512M16TB-062E:J SA0000CMS10 | UD1 MD_H8G@ H5AN8G6NCJR-XNC SA0000CZ320 | UD1 MD_S8G@ K4A8G165WC-BCWE SA0000CZ520 |
| UD2 MD_M8G@ MT40A512M16TB-062E:J SA0000CMS10 | UD2 MD_H8G@ H5AN8G6NCJR-XNC SA0000CZ320 | UD2 MD_S8G@ K4A8G165WC-BCWE SA0000CZ520 |
| UD3 MD_M8G@ MT40A512M16TB-062E:J SA0000CMS10 | UD3 MD_H8G@ H5AN8G6NCJR-XNC SA0000CZ320 | UD3 MD_S8G@ K4A8G165WC-BCWE SA0000CZ520 |
| UD4 MD_M8G@ MT40A512M16TB-062E:J SA0000CMS10 | UD4 MD_H8G@ H5AN8G6NCJR-XNC SA0000CZ320 | UD4 MD_S8G@ K4A8G165WC-BCWE SA0000CZ520 |
| UD5 MD_M8G@ MT40A512M16TB-062E:J SA0000CMS10 | UD5 MD_H8G@ H5AN8G6NCJR-XNC SA0000CZ320 | UD5 MD_S8G@ K4A8G165WC-BCWE SA0000CZ520 |
| UD6 MD_M8G@ MT40A512M16TB-062E:J SA0000CMS10 | UD6 MD_H8G@ H5AN8G6NCJR-XNC SA0000CZ320 | UD6 MD_S8G@ K4A8G165WC-BCWE SA0000CZ520 |
| UD7 MD_M8G@ MT40A512M16TB-062E:J SA0000CMS10 | UD7 MD_H8G@ H5AN8G6NCJR-XNC SA0000CZ320 | UD7 MD_S8G@ K4A8G165WC-BCWE SA0000CZ520 |
| UD8 MD_M8G@ MT40A512M16TB-062E:J SA0000CMS10 | UD8 MD_H8G@ H5AN8G6NCJR-XNC SA0000CZ320 | UD8 MD_S8G@ K4A8G165WC-BCWE SA0000CZ520 |

### 16GB(R3)

| Micron | Hynix | Samsung | |
|---|---|---|---|
| UD1 MD_M16G@ MT40A1G16KD-062E:E SA0000D3U10 | UD1 MD_H16G@ H5ANAG8NCMR-XNC SA0000CZ120 | UD1 MD_S16G@ K4AAG165WA-BCWE SA0000CZ220 | UD1 MD_H16G2@ H5ANAG8NCJR-XNC SA0000DYB10 |
| UD2 MD_M16G@ MT40A1G16KD-062E:E SA0000D3U10 | UD2 MD_H16G@ H5ANAG8NCMR-XNC SA0000CZ120 | UD2 MD_S16G@ K4AAG165WA-BCWE SA0000CZ220 | UD2 MD_H16G2@ H5ANAG8NCJR-XNC SA0000DYB10 |
| UD3 MD_M16G@ MT40A1G16KD-062E:E SA0000D3U10 | UD3 MD_H16G@ H5ANAG8NCMR-XNC SA0000CZ120 | UD3 MD_S16G@ K4AAG165WA-BCWE SA0000CZ220 | UD3 MD_H16G2@ H5ANAG8NCJR-XNC SA0000DYB10 |
| UD4 MD_M16G@ MT40A1G16KD-062E:E SA0000D3U10 | UD4 MD_H16G@ H5ANAG8NCMR-XNC SA0000CZ120 | UD4 MD_S16G@ K4AAG165WA-BCWE SA0000CZ220 | UD4 MD_H16G2@ H5ANAG8NCJR-XNC SA0000DYB10 |
| UD5 MD_M16G@ MT40A1G16KD-062E:E SA0000D3U10 | UD5 MD_H16G@ H5ANAG8NCMR-XNC SA0000CZ120 | UD5 MD_S16G@ K4AAG165WA-BCWE SA0000CZ220 | UD5 MD_H16G2@ H5ANAG8NCJR-XNC SA0000DYB10 |
| UD6 MD_M16G@ MT40A1G16KD-062E:E SA0000D3U10 | UD6 MD_H16G@ H5ANAG8NCMR-XNC SA0000CZ120 | UD6 MD_S16G@ K4AAG165WA-BCWE SA0000CZ220 | UD6 MD_H16G2@ H5ANAG8NCJR-XNC SA0000DYB10 |
| UD7 MD_M16G@ MT40A1G16KD-062E:E SA0000D3U10 | UD7 MD_H16G@ H5ANAG8NCMR-XNC SA0000CZ120 | UD7 MD_S16G@ K4AAG165WA-BCWE SA0000CZ220 | UD7 MD_H16G2@ H5ANAG8NCJR-XNC SA0000DYB10 |
| UD8 MD_M16G@ MT40A1G16KD-062E:E SA0000D3U10 | UD8 MD_H16G@ H5ANAG8NCMR-XNC SA0000CZ120 | UD8 MD_S16G@ K4AAG165WA-BCWE SA0000CZ220 | UD8 MD_H16G2@ H5ANAG8NCJR-XNC SA0000DYB10 |

## PCB PN

PCB GLMS1 LA-K321P
DAZ37H00102

## TGL-UP3 CPU

| UC1 | UC1 | UC1 |
|---|---|---|
| i3-1115G4<br>SA0000DRS50<br>i3@ | i5-1135G7<br>SA0000DRR50<br>i5@ | i7-1165G7<br>SA0000DRG60<br>i7@ |

## GPU

UV1
SA0000DGW50
N18S-G5-A1
N18S_G5@

## VRAM

| Samsung | Micron | Hynix |
|---|---|---|
| UG11 SA0000C6270<br>VRAM_S2G@<br>K4Z80325BC-HC14 | UG11 SA0000BND70<br>VRAM_M2G@<br>MT61K256M32JE-14:A | UG11 SA0000DUW30<br>VRAM_H2G@<br>H56C8H24AIR-S2C |
| UG12 SA0000C6270<br>VRAM_S2G@<br>K4Z80325BC-HC14 | UG12 SA0000BND70<br>VRAM_M2G@<br>MT61K256M32JE-14:A | UG12 SA0000DUW30<br>VRAM_H2G@<br>H56C8H24AIR-S2C |

## ON BOARD RAM X76

| Samsung | Hynix | Micron |
|---|---|---|
| X76 DRAM 4G SAM SINGEL<br>X76946G8LA1<br>X76_S4G_1CH_3200@ | X76 DRAM 4G HYN SINGEL<br>X76946G8LA2<br>X76_H4G_1CH_3200@ | X76 DRAM 4G MIC SINGEL<br>X76946G8LA3<br>X76_M4G_1CH_3200@ |
| X76 DRAM 8G SAM DUAL<br>X76948G8LA4<br>X76_S8G_2CH_3200@ | X76 DRAM 8G HYN DUAL<br>X76948G8LA5<br>X76_H8G_2CH_3200@ | X76 DRAM 8G MIC DUAL<br>X76948G8LA6<br>X76_M8G_2CH_3200@ |
| X76 DRAM 16G SAM DUAL<br>X76948G8LA1<br>X76_S16G_2CH_3200@ | X76 DRAM 16G HYN DUAL<br>X76948G8LA8<br>X76_H16G_2CH_3200@ | X76 DRAM 16G MIC DUAL<br>X76948G8LA9<br>X76_M16G_2CH_3200@ |

## VRAM X76

| | |
|---|---|
| X76 VRAM SAM 2G<br>X76946G8LA4<br>X76_S2G@ | X76 VRAM MIC 2G<br>X76946G8LA5<br>X76_M2G@ |

## X4E

| | |
|---|---|
| SMT EMC DIS<br>X4EANN38L01<br>X4E_DIS@ | SMT EMC UMA<br>X4EANN38L02<br>X4E_UMA@ |

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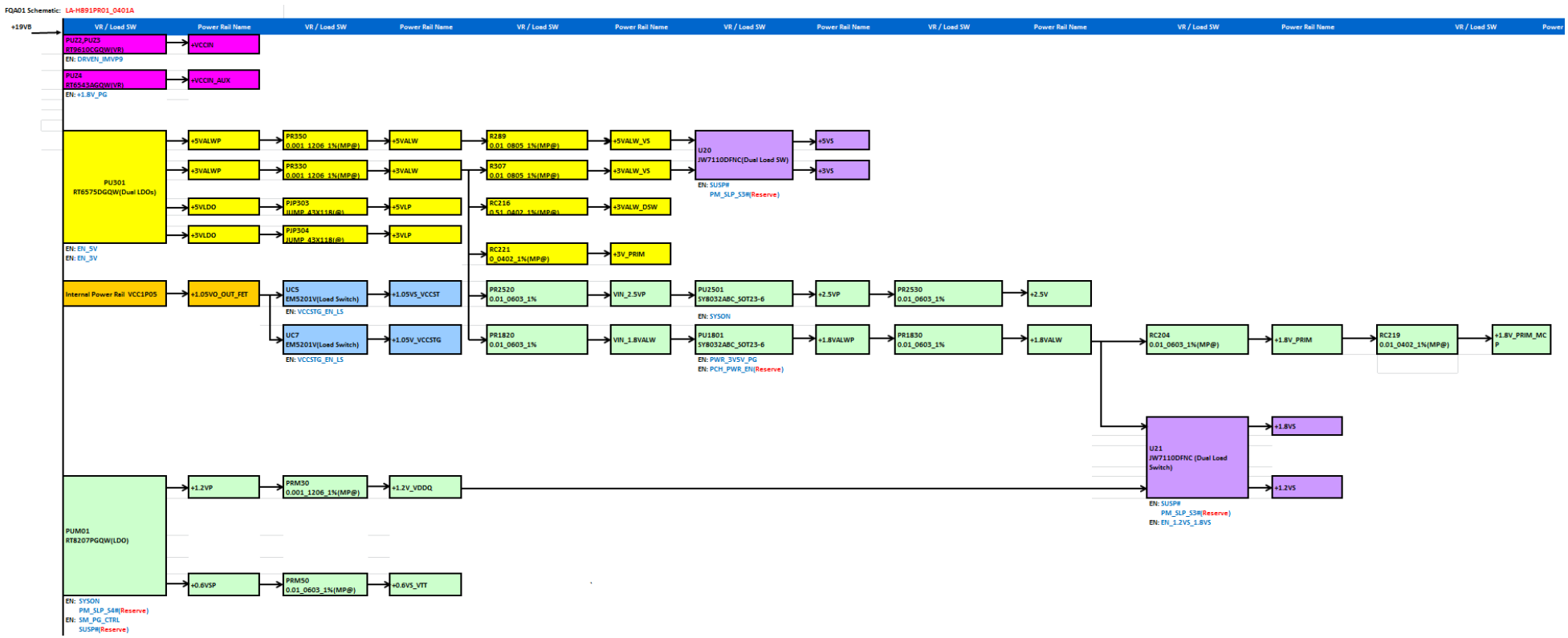
# [FQA01-Power Map_TGL-UP3_DDR4_Volume_S0ix]

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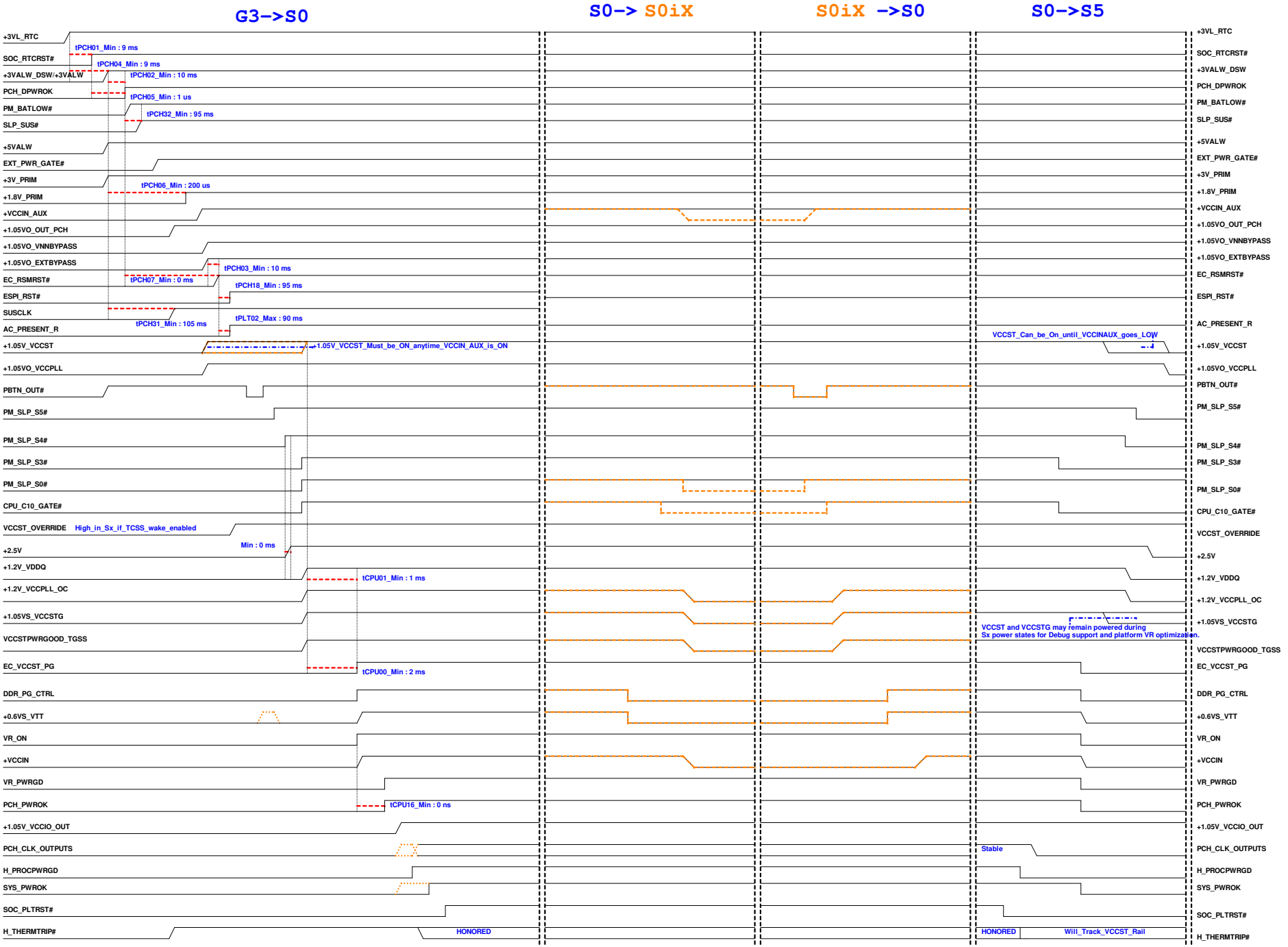


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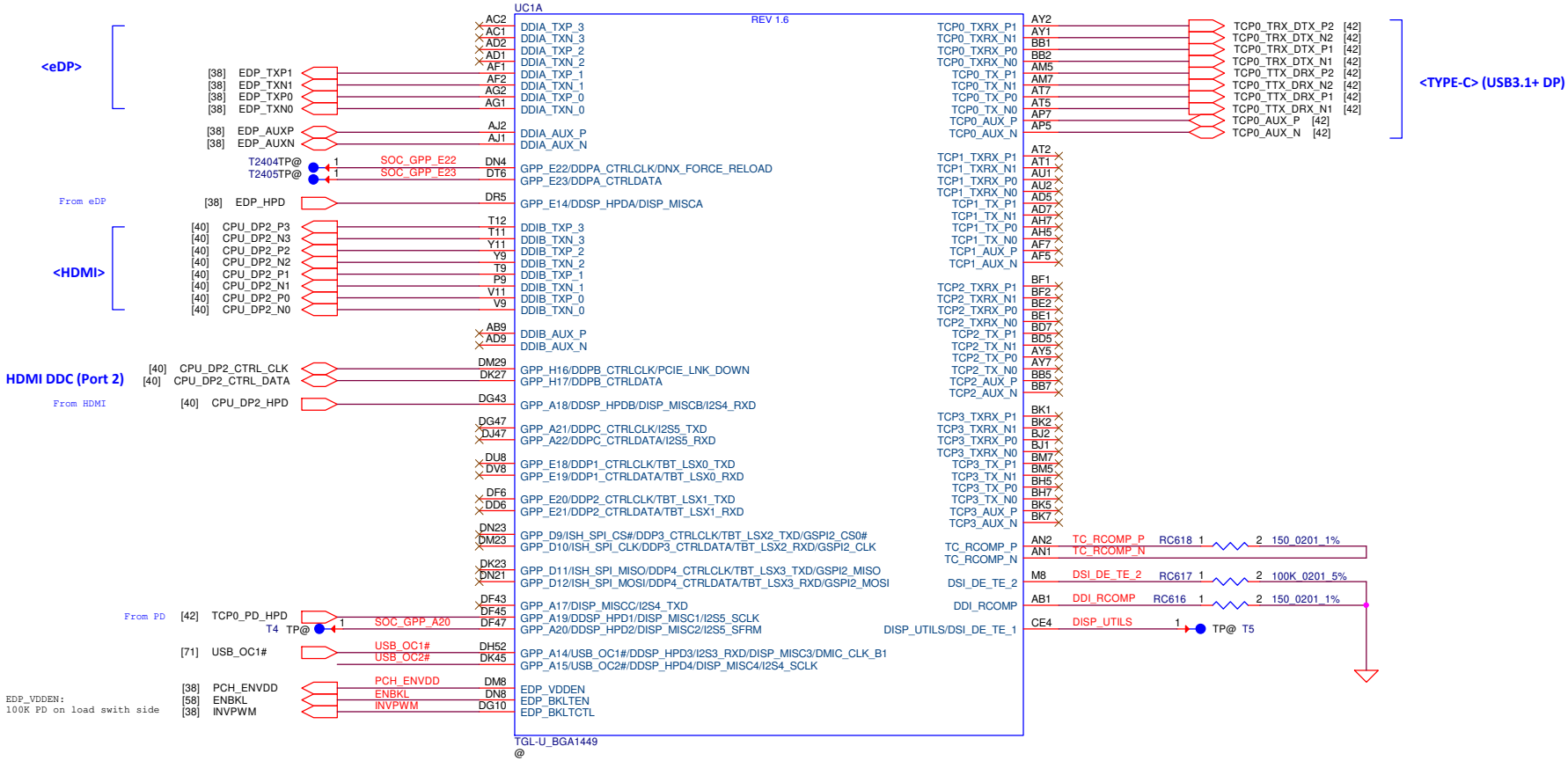


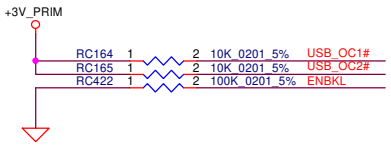


**Table 32. USB3/USB2 Port Pairing for USB-C* Connectors**

| | Connector C0 | Connector C1 | Connector C2 | Connector C3 |
|---|---|---|---|---|
| CPU USB3 port# | 1 | 2 | 3 | 4 |
| PCH USB2 port# | 2 | 3 | 4 | 6 |

To make split xDCI controller working functionally for different USB-C* connectors with increasing port numbers (TCP0_*, TCP1_*, TCP2_*, TCP3_*), recommended to pair with increasing number of USB2 ports from PCH. Simplest form of requirement is to match USB2/USB3 port numbers for USB-C* connectors, but it is not strictly required.


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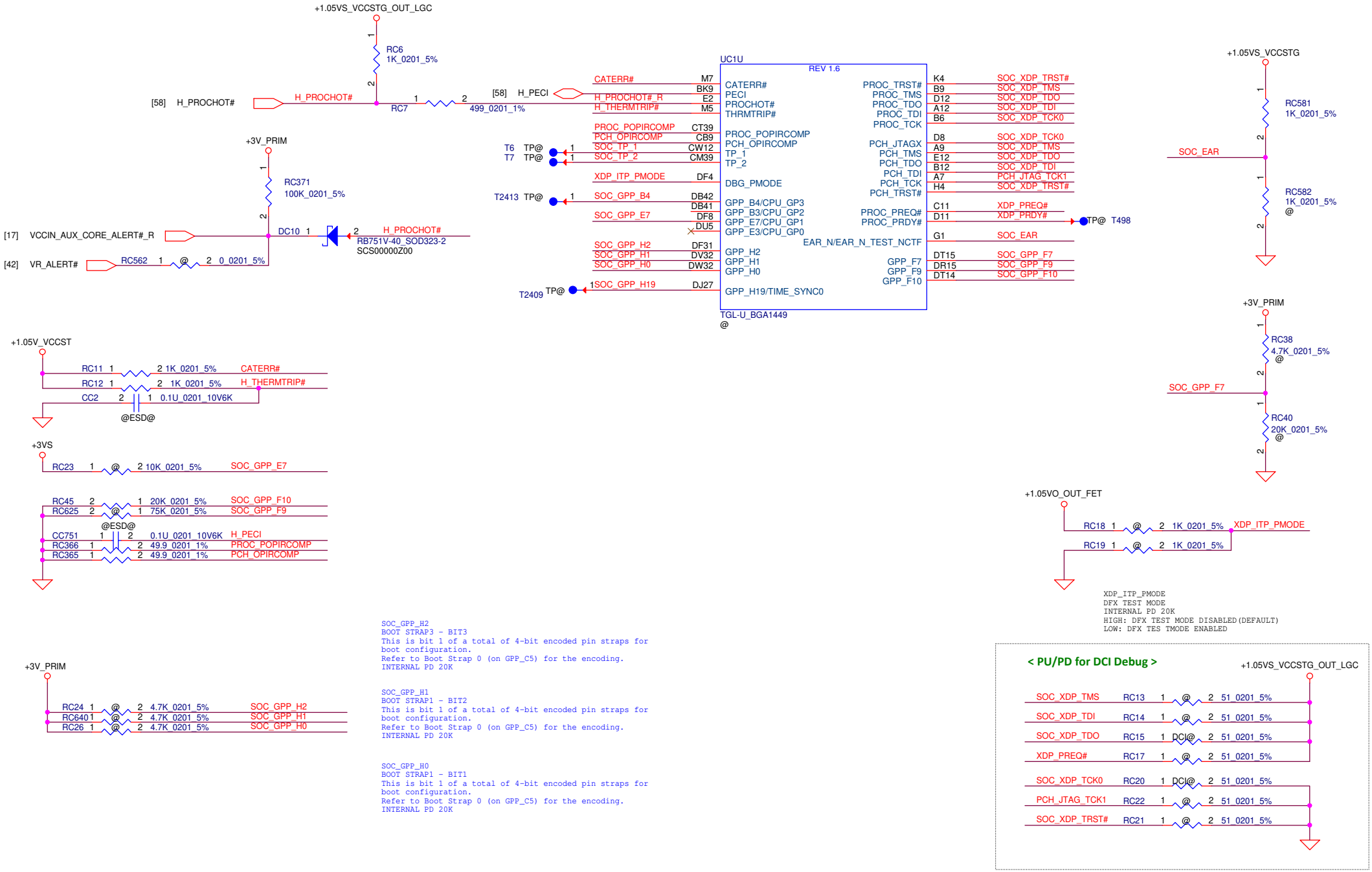


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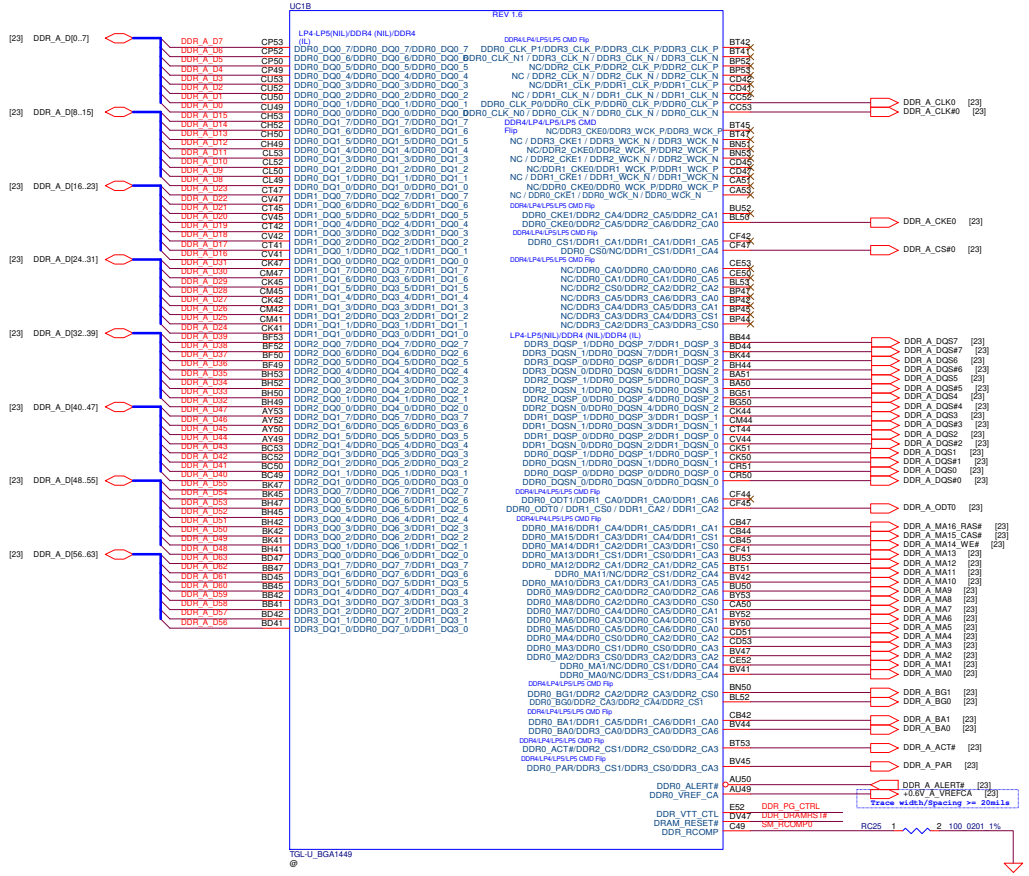
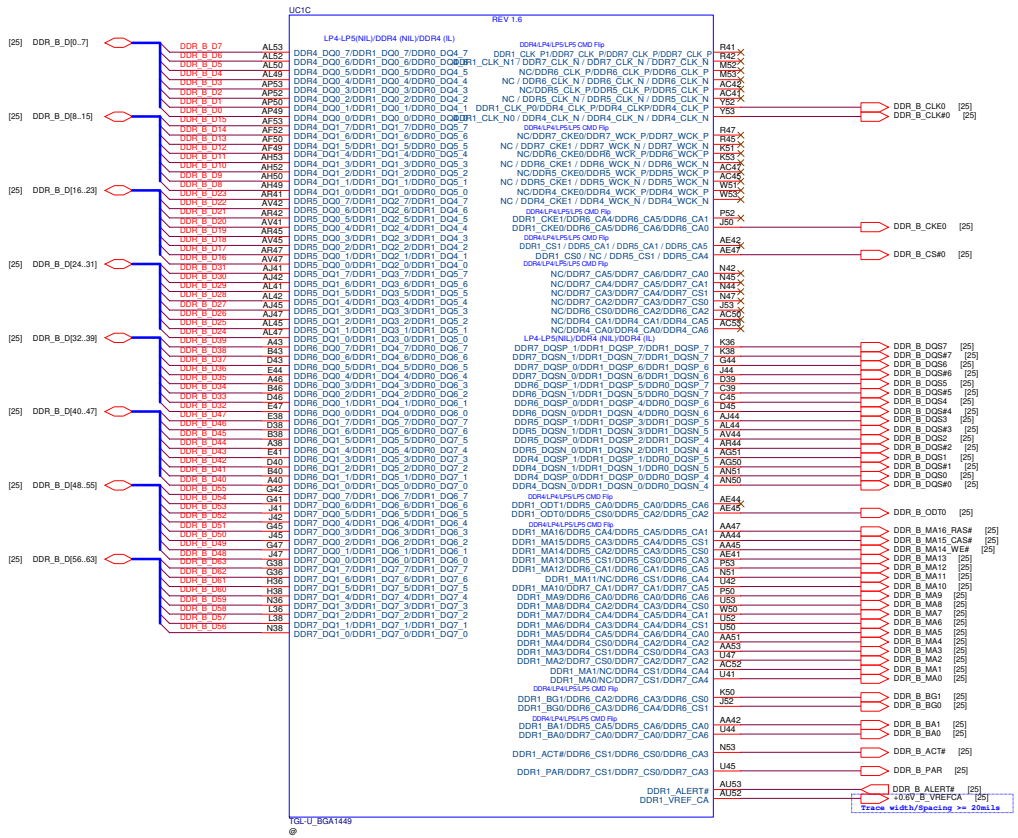
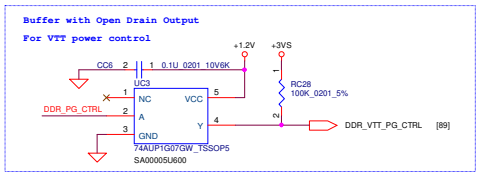
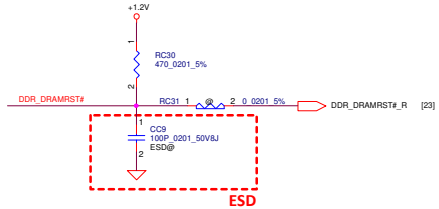
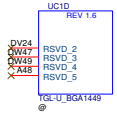
# Follow Intel DDR4 NIL

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Title: **TGL-UP3(3/14)DDR4**

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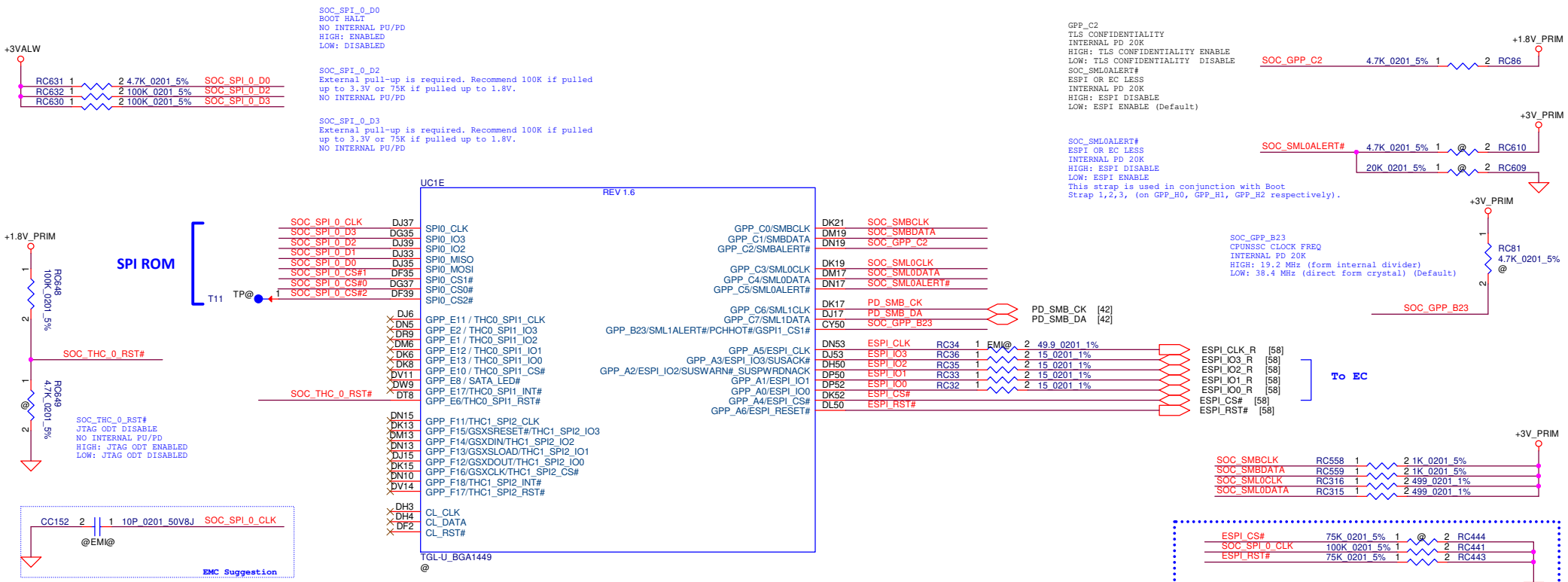


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**Compal Electronics, Inc.**

Title: **TGL-UP3(4/14)SPI,ESPI,SMB,LPC**

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|---|---|---|
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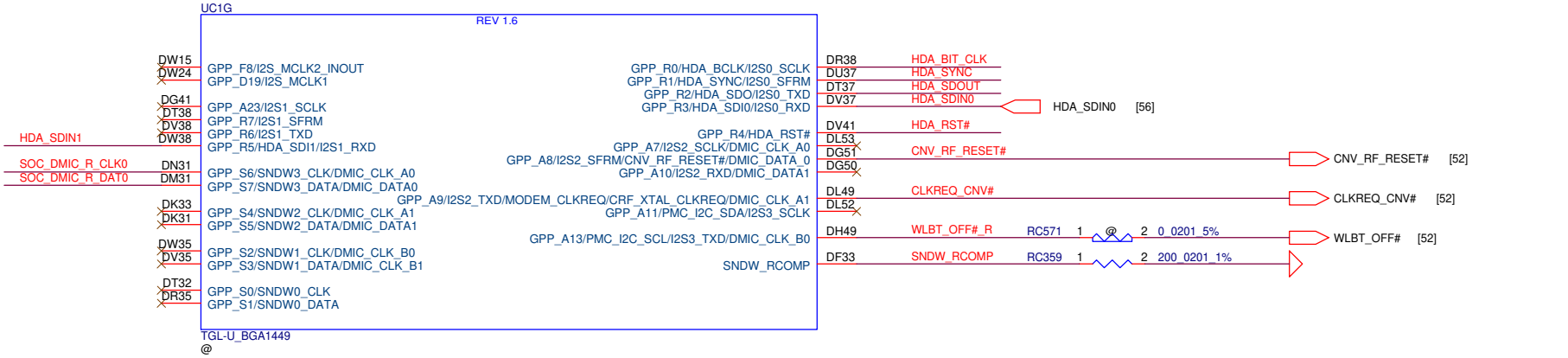
Date: Thursday, June 03, 2021 | Sheet 9 of 121




< HD AUDIO >

[56] HDA_BIT_CLK_R — RC46 1 EMI@ 2 33_0201_5% — HDA_BIT_CLK

[56] HDA_SYNC_R — RC48 1 2 33_0201_5% — HDA_SYNC

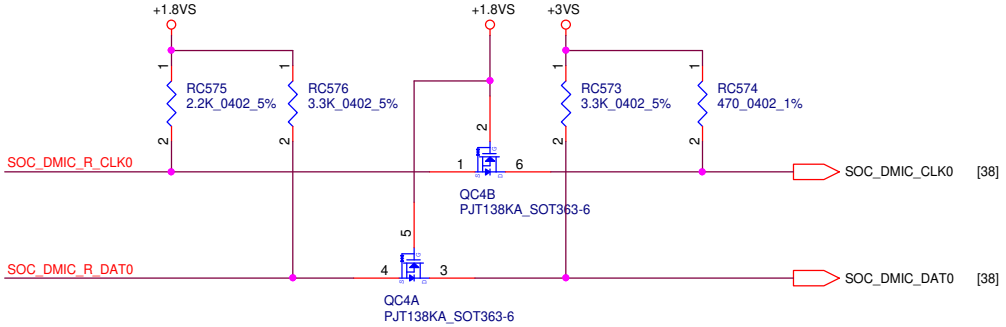
[56] HDA_SDOUT_R — RC47 1 2 33_0201_5% — HDA_SDOUT

75K_0201_5% 1 2 RC307 CNV_RF_RESET#
100K_0201_5% 1 2 RC448 HDA_BIT_CLK
33K_0201_5% 1 2 RC449 HDA_RST#
33K_0201_5% 1 @ 2 RC450 HDA_SDIN1

***Follow 607872_TGL_UY_PDG for Glitch***

< To Enable ME Override >

[58] ME_EN — RC51 1 @ 2 0_0201_5% — HDA_SDOUT

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**Compal Electronics, Inc.**

Title: **TGL-UP3(5/14)HDA,SD**

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|---|---|---|
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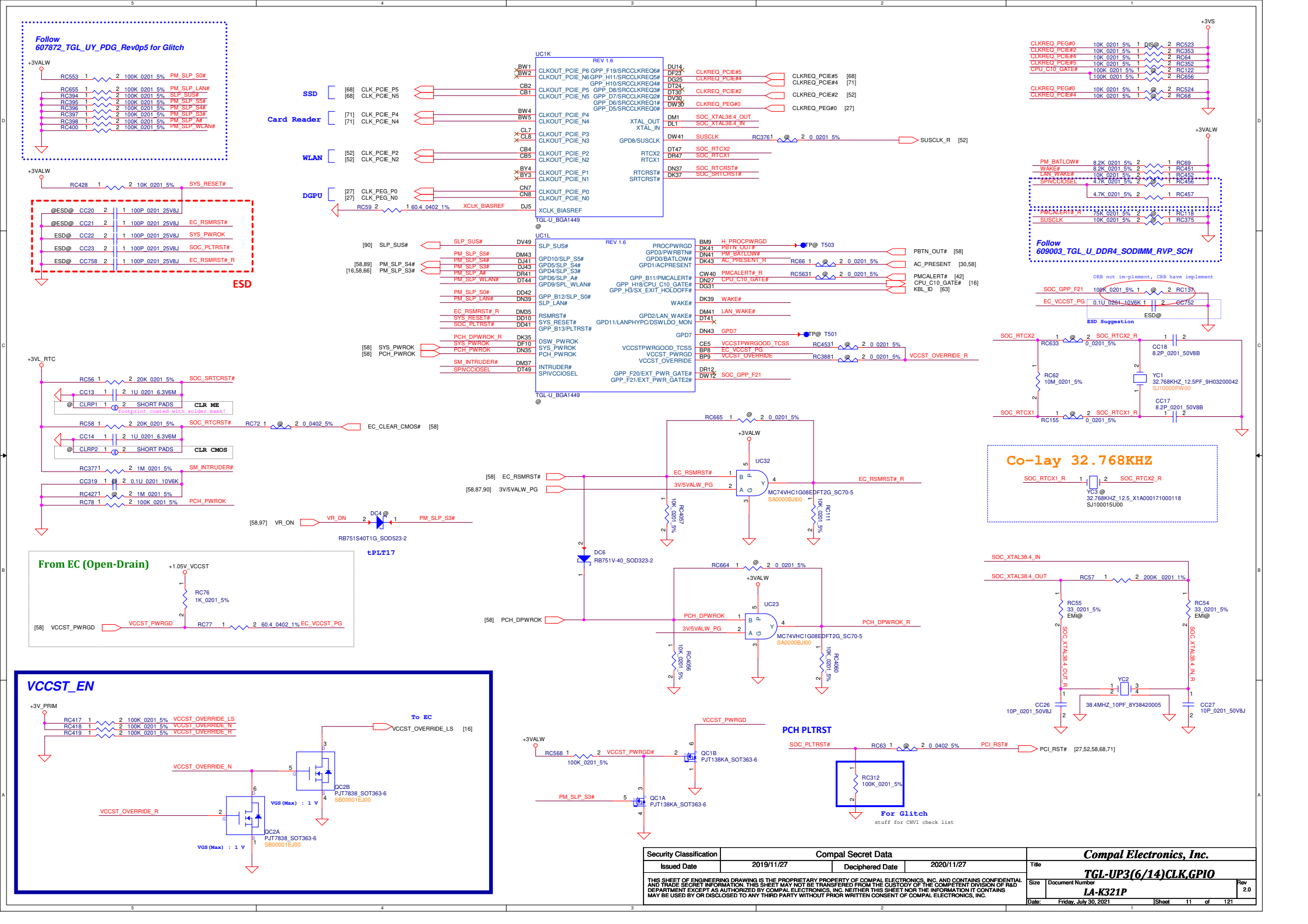


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Title: TGL-UP3(6/14)CLK,GPIO

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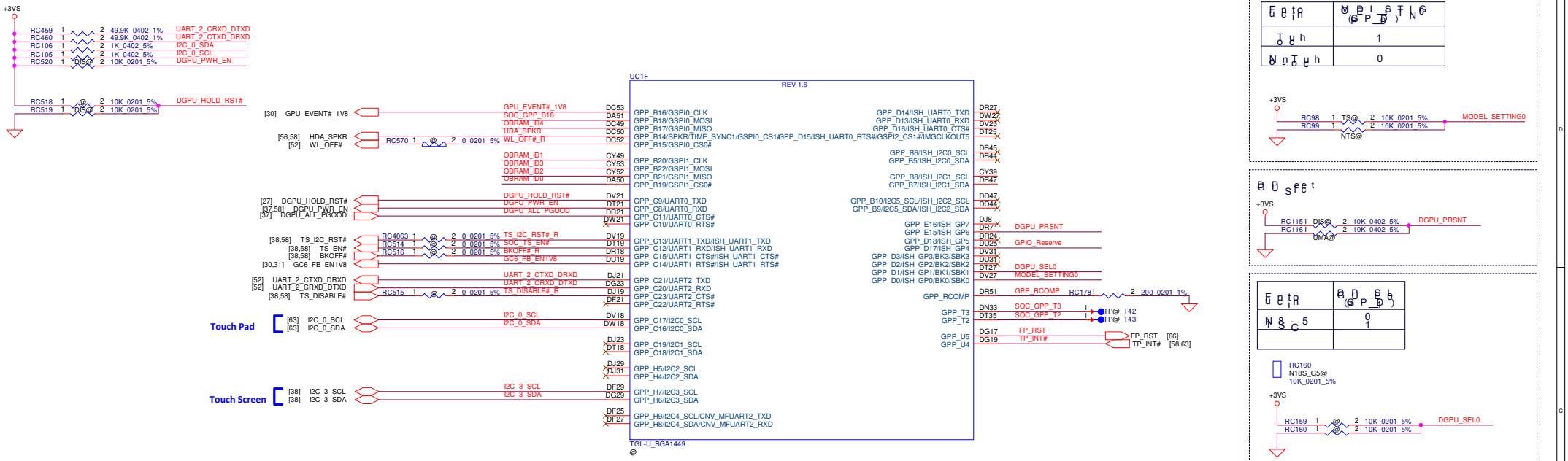
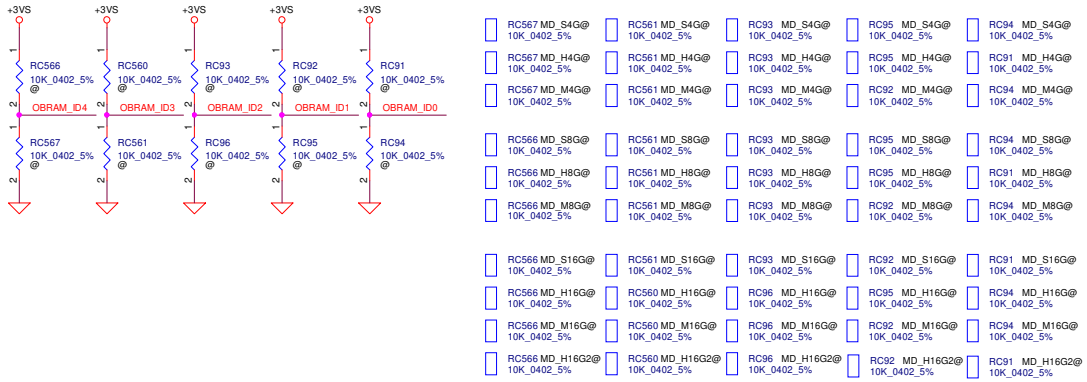
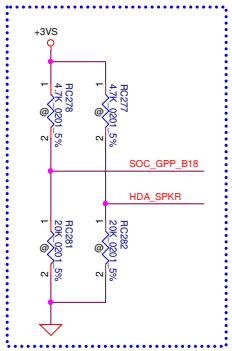
Date: Friday, July 30, 2021 Sheet 11 of 121




| Capacity | Description | Package | Part Number(R3) | Channel | OBRAM_ID4 | OBRAM_ID3 | OBRAM_ID2 | OBRAM_ID1 | OBRAM_ID0 | X76 P/N | DDR4 Total size |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 8Gb-3200 | K4A8G165WC-BCWE | SDP | SA0000CZ520 | 1 | 0 | 0 | 1 | 0 | 0 | X7684838LA1 | 4GB |
| | H5AN8G6NCJR-XNC | SDP | SA0000CZ320 | 1 | 0 | 0 | 1 | 0 | 1 | X7684838LA2 | |
| | MT40A512M16TB-062E:J | SDP | SA0000CMS10 | 1 | 0 | 0 | 1 | 1 | 0 | X7684838LA3 | |
| | MT40A512M16TB-062E:R | SDP | SA0000CMS80 | 1 | 0 | 1 | 1 | 0 | 1 | TBD | |
| 8Gb-3200 | K4A8G165WC-BCWE | SDP | SA0000CZ520 | 2 | 1 | 0 | 1 | 0 | 0 | X7684838LA4 | 8GB |
| | H5AN8G6NCJR-XNC | SDP | SA0000CZ320 | 2 | 1 | 0 | 1 | 0 | 1 | X7684838LA5 | |
| | MT40A512M16TB-062E:J | SDP | SA0000CMS10 | 2 | 1 | 0 | 1 | 1 | 0 | X7684838LA6 | |
| | MT40A512M16TB-062E:R | SDP | SA0000CMS80 | 2 | 1 | 1 | 1 | 0 | 1 | TBD | |
| 16Gb-3200 | K4AAG165WA-BCWE | SDP | SA0000CZ220 | 2 | 1 | 0 | 1 | 1 | 1 | X7684838LA7 | 16GB |
| | H5ANAG6NCMR-XNC | DDP | SA0000CZ120 | 2 | 1 | 1 | 0 | 0 | 0 | X7684838LA8 | |
| | MT40A1G16KD-062E:E | SDP | SA0000D3U10 | 2 | 1 | 1 | 0 | 1 | 0 | X7684838LA9 | |
| | H5ANAG6NCJR-XNC | SDP | SA0000DYB10 | 2 | 1 | 1 | 0 | 1 | 1 | TBD | |
| | MT40A1G16RC-062E:B | SDP | SA0000CSR10 | 2 | 1 | 1 | 1 | 0 | 0 | TBD | |




## Strap Pin




GPP_B18
No Reboot
INTERNAL PD 20K
HIGH: No Reboot
LOW: Reboot Enable (Default)

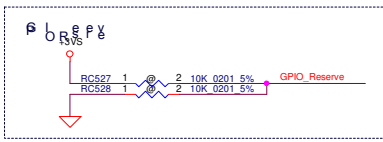
SPKR
TOP SWAP OVERRIDE
INTERNAL PD 20K
HIGH: Top swap enable
LOW: Disable (Default)







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Title: TGL-UP3(7/14)GPIO

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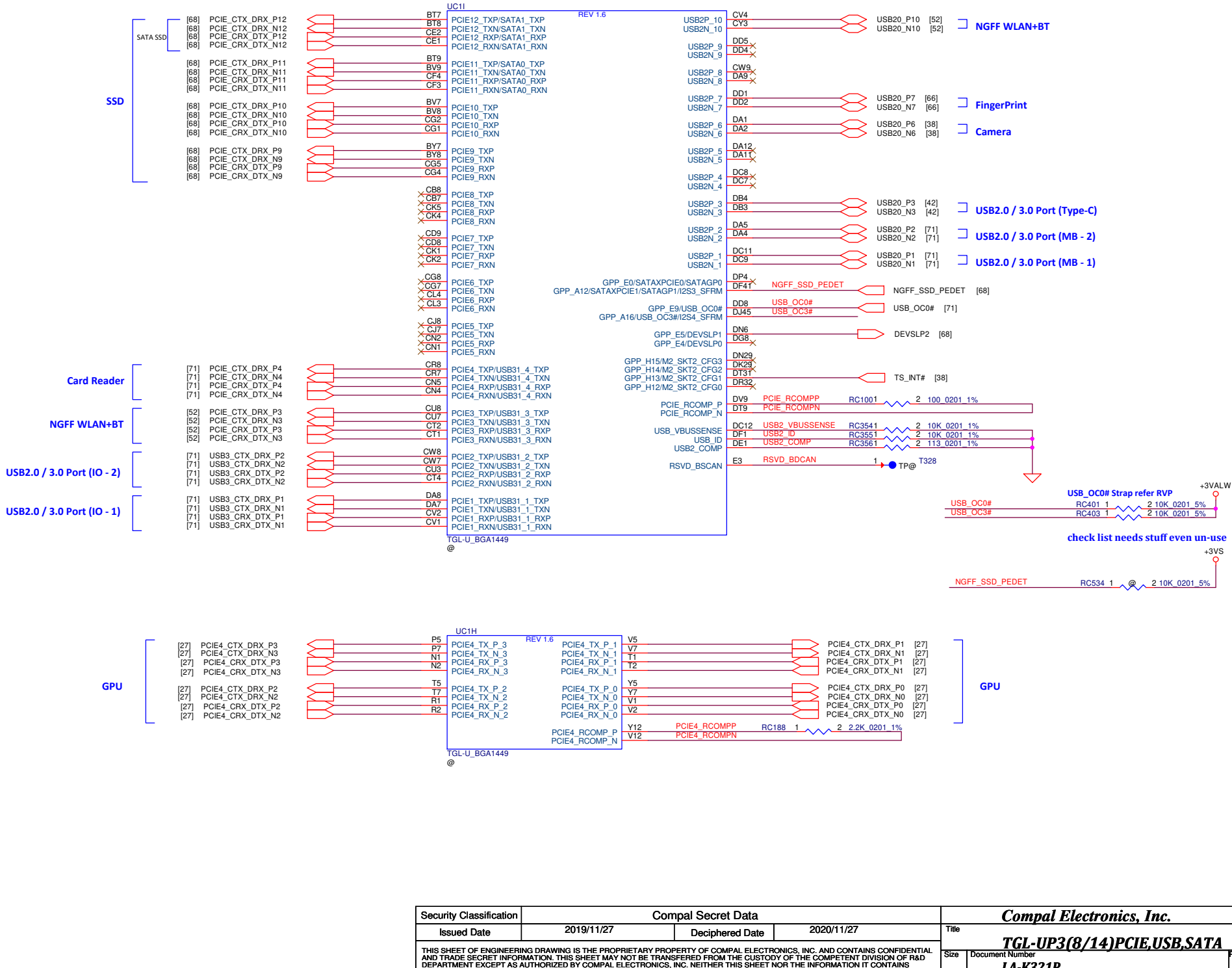
Date: Thursday, June 03, 2021 | Sheet 12 of 121

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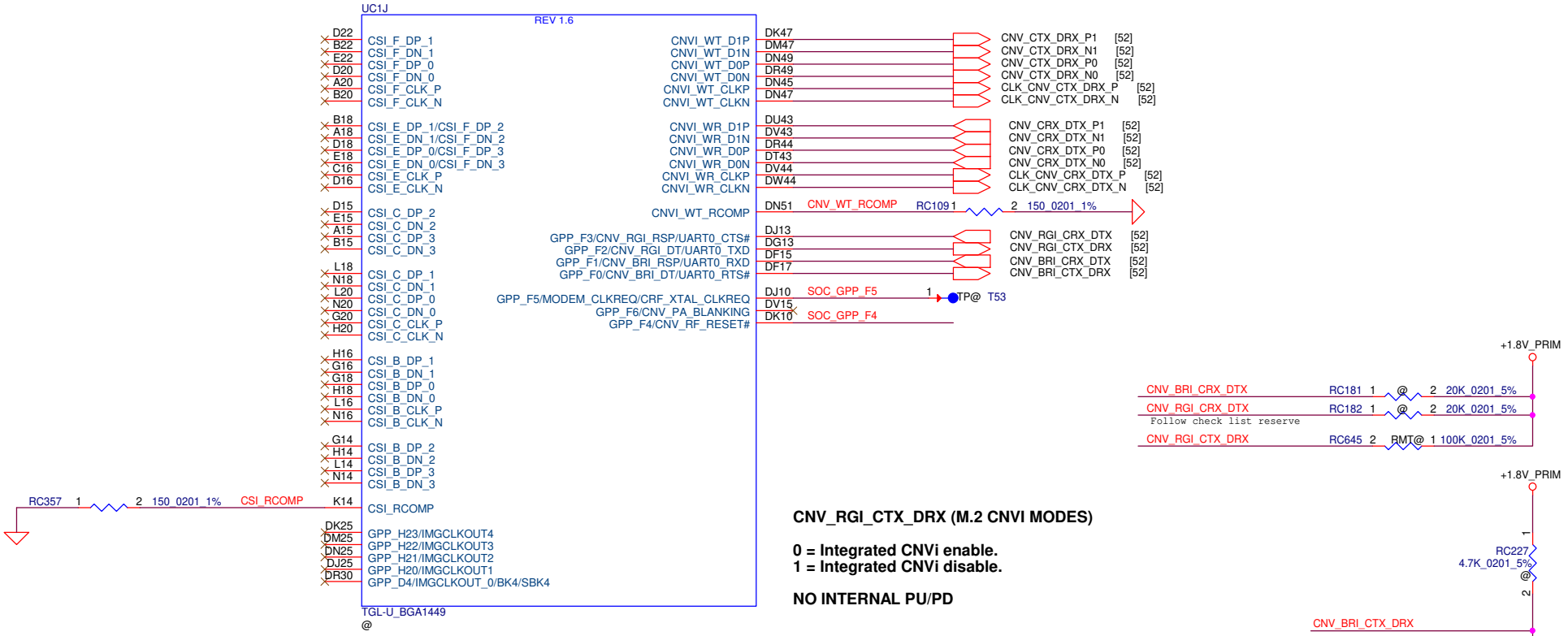
| Size | Document Number LA-K321P | | Rev 2.0 |
| Date: Thursday, June 03, 2021 | Sheet 13 of 121 | | |





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Compal Electronics, Inc.

Title: TGL-UP3(9/14)CSI,CNV

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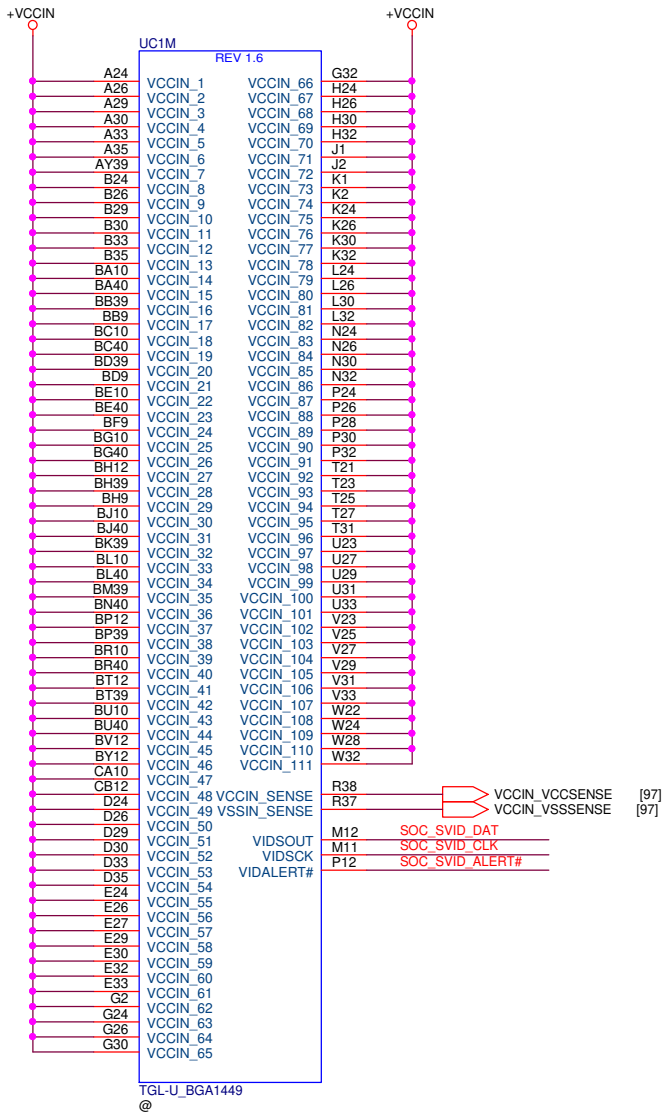
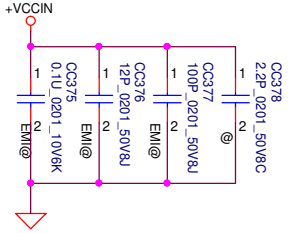
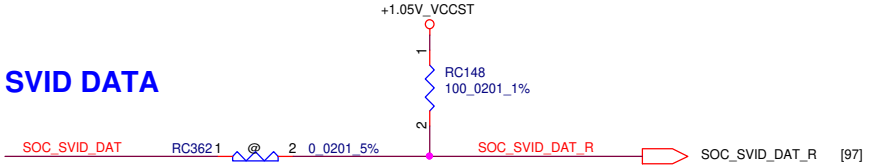


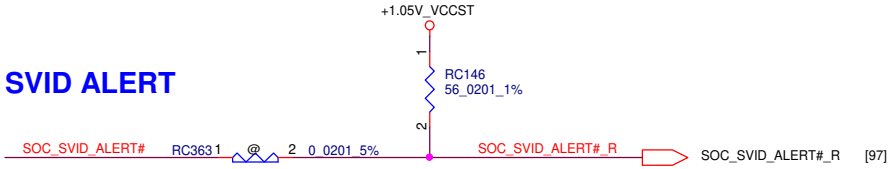

## EMC CAPS-PLACE
## < 5mm from SOC VCCIN



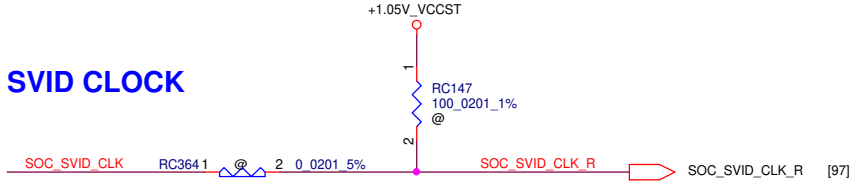

## SVID DATA




## SVID ALERT




## SVID CLOCK

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EMC CAPS-PLACE
< 4mm from SOC VDDQ
with each pair < 12mm Apart
12pF* 3 (EMI@)
2.2pF* 3 (EMI@)

+1.2V
CC218 2.2P_0201_50V8C EMI@
CC219 12P_0201_50V8J EMI@
CC220 2.2P_0201_50V8C EMI@
CC221 12P_0201_50V8J EMI@
CC222 2.2P_0201_50V8C EMI@
CC223 12P_0201_50V8J EMI@

+1.05VS_VCCSTG_OUT_FUSE
+1.05VS_VCCSTG_FUSE
+VCCFPGM
+1.05V_VCCIO_OUT
+1.05VS_VCCSTG_OUT_LGC
+1.05V_VCCST
+1.05VS_VCCSTG
UC1O
REV 1.6
TP@ T60
TGL-U_BGA1449
@

+1.05VS_VCCSTG_OUT_FUSE
RC239 1 @ 2 0 0402 5%
+1.05VS_VCCSTG_FUSE
+VCCFPGM
RC240 1 @ 2 0 0402 5%

## +1.8VALW TO +1.8V_PRIM

+1.8VALW
RC243 1 @ 2 0 0603 5%
+1.8V_PRIM
CC753 4.7U_0402_6.3V6M

## VCCST

+1.05VO_OUT_FET
Imax : 0.445 A
CC750 1U_0201_6.3V6M
+5VALW
CC58 0.1U_0201_10V6K
VCCST_EN_LS
VCCSTG_EN_LS
UC5
IN1 OUT1
EN1 CT1
VBIAS GND
EN2 CT2
IN2 OUT2
GND PAD
G2894KD1U TDFN2X3_14
SA0000D5C00
+1.05V_VCCST_R
RC622 1 @ 2 0 0402 5%
Imax : 0.445 A
+1.05V_VCCST
CC60 0.1U_0201_10V6K
0 for 65us
CC62 1 @ 2 1000P_0402_50V7K
CC63 1 @ 2 1000P_0402_50V7K
+1.05VS_VCCSTG
+1.05VS_VCCSTG_R
RC619 1 @ 2 0 0402 5%
Imax : 0.119 A
CC61 0.1U_0201_10V6K
+1.05VO_OUT_FET
CC59 1U_0201_6.3V6M

## VCCSTG

RDS(on) = 20mΩ at VIN = 1.05V (VBIAS = 5V)
10µs <= EN asserted to VOUT stable <= 65µs
CPU_C10_GATE# stable to +1.05VS_VCCSTG <= 65us (tCPU26)

+1.05V_VCCST
CC252 1U_0201_6.3V6M
CC253 1U_0201_6.3V6M
+1.05VS_VCCSTG
CC254 1U_0201_6.3V6M
CC255 1U_0201_6.3V6M
+1.05VS_VCCSTG_OUT_FUSE
CC229 1U_0201_6.3V6M
+1.05VS_VCCSTG_FUSE
CC256 1U_0201_6.3V6M
+VCCFPGM
CC257 1U_0201_6.3V6M

## Close to UC5

+1.05V_VCCST
CC754 0.1U_0201_10V6K @RF@
+1.05VS_VCCSTG
CC755 0.1U_0201_10V6K @RF@

## Place on CPU Side

+1.2V
CC67 CC68 CC69 CC70 CC71 CC72 CC73 CC74 CC401 1U_0201_6.3V6M
CC75 CC76 CC77 CC78 CC79 CC80 CC81 CC82 CC83 CC84 CC85 CC86 CC87 CC88 CC89 CC90 CC91 CC92 10U_0402_6.3V6M
CC78 CC407 22U_0603_6.3V6M
CC94 22U_0603_6.3V6M

## VCCST/VCCSTG Enable

[11,58,66] PM_SLP_S3#
PM_SLP_S3#
RC304 1 2 0 0201 5%
[58,78,111] SUSP#
SUSP#
RC303 1 @ 2 0 0201 5%
DC7
VCCST_EN_LS
LRB715FT1G_SOT323-3
[11] VCCST_OVERRIDE_LS
VCCST_OVERRIDE_LS
RC340 1 @ 2 0 0201 5%
DC8
VCCSTG_EN_LS
[11] CPU_C10_GATE#
CPU_C10_GATE#
RC331 1 @ 2 0 0201 5%
LRB715FT1G_SOT323-3

Figure 228. VCCST Enable Logic

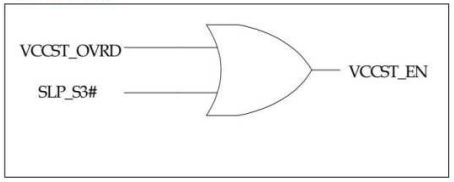
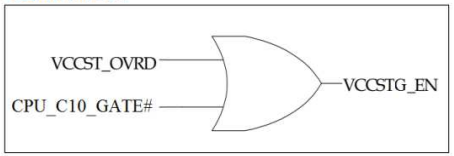



Figure 229. VCCSTG Enable Logic

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Size: Document Number: LA-K321P
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Date: Thursday, June 03, 2021
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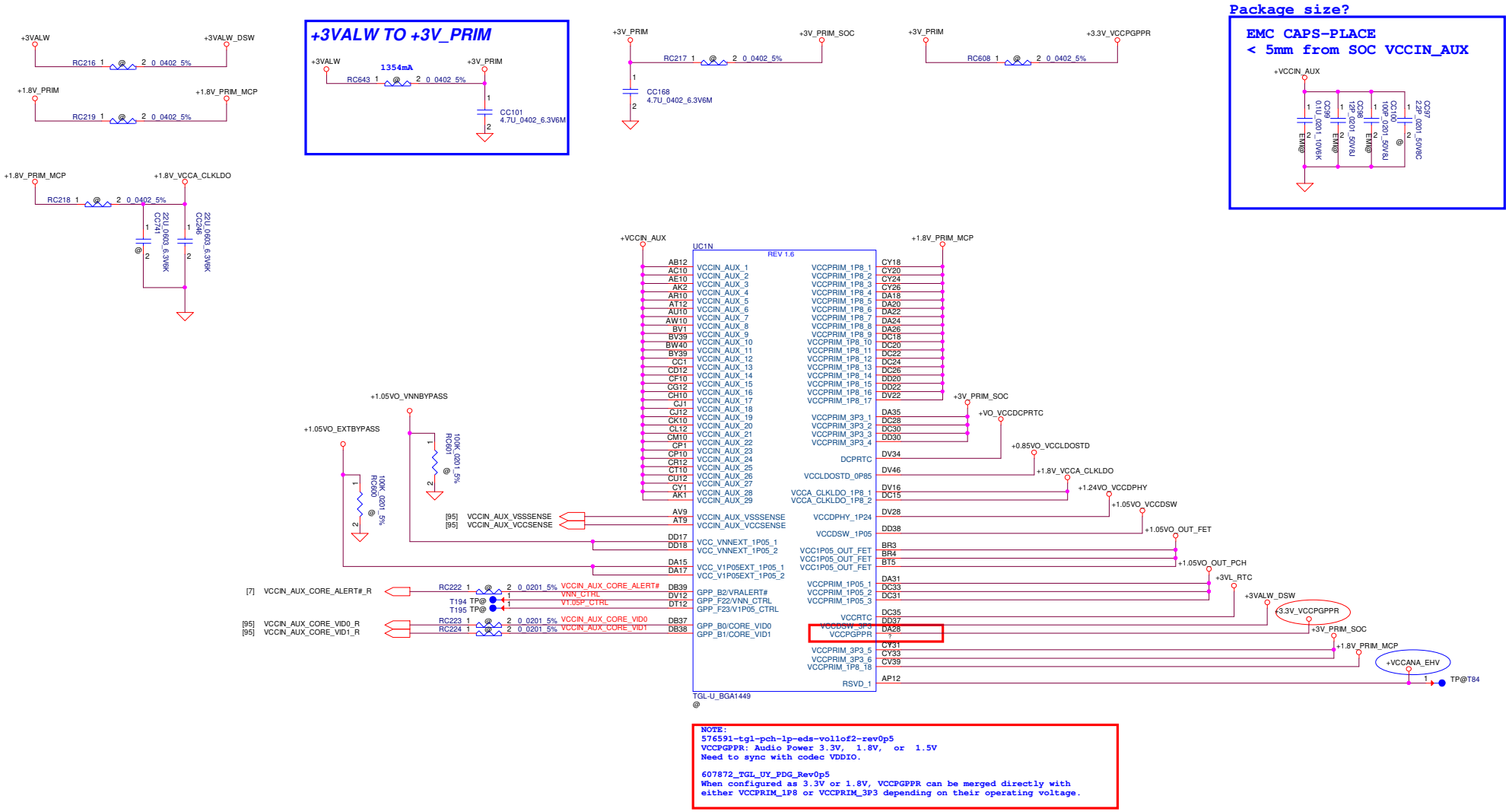


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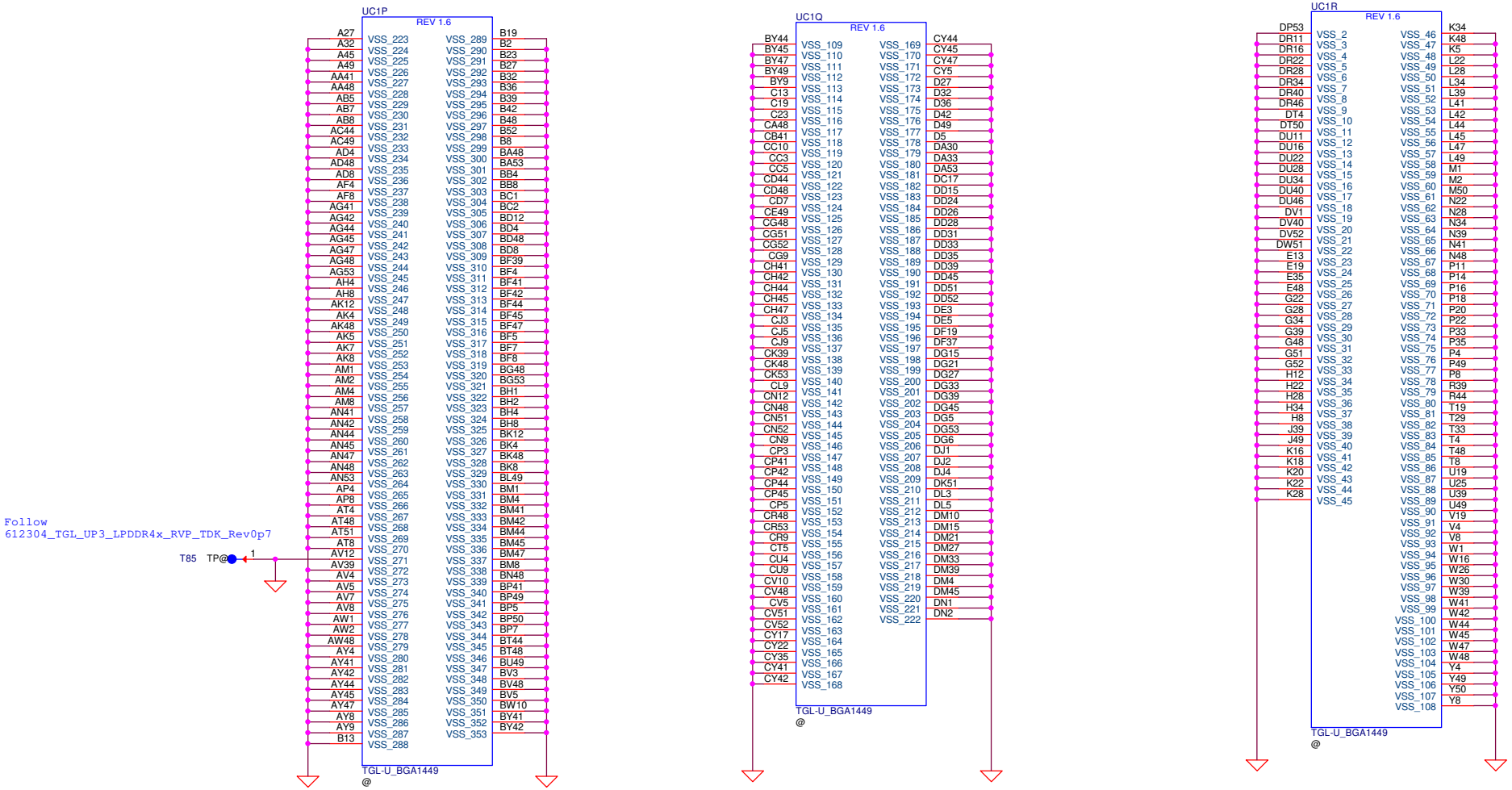


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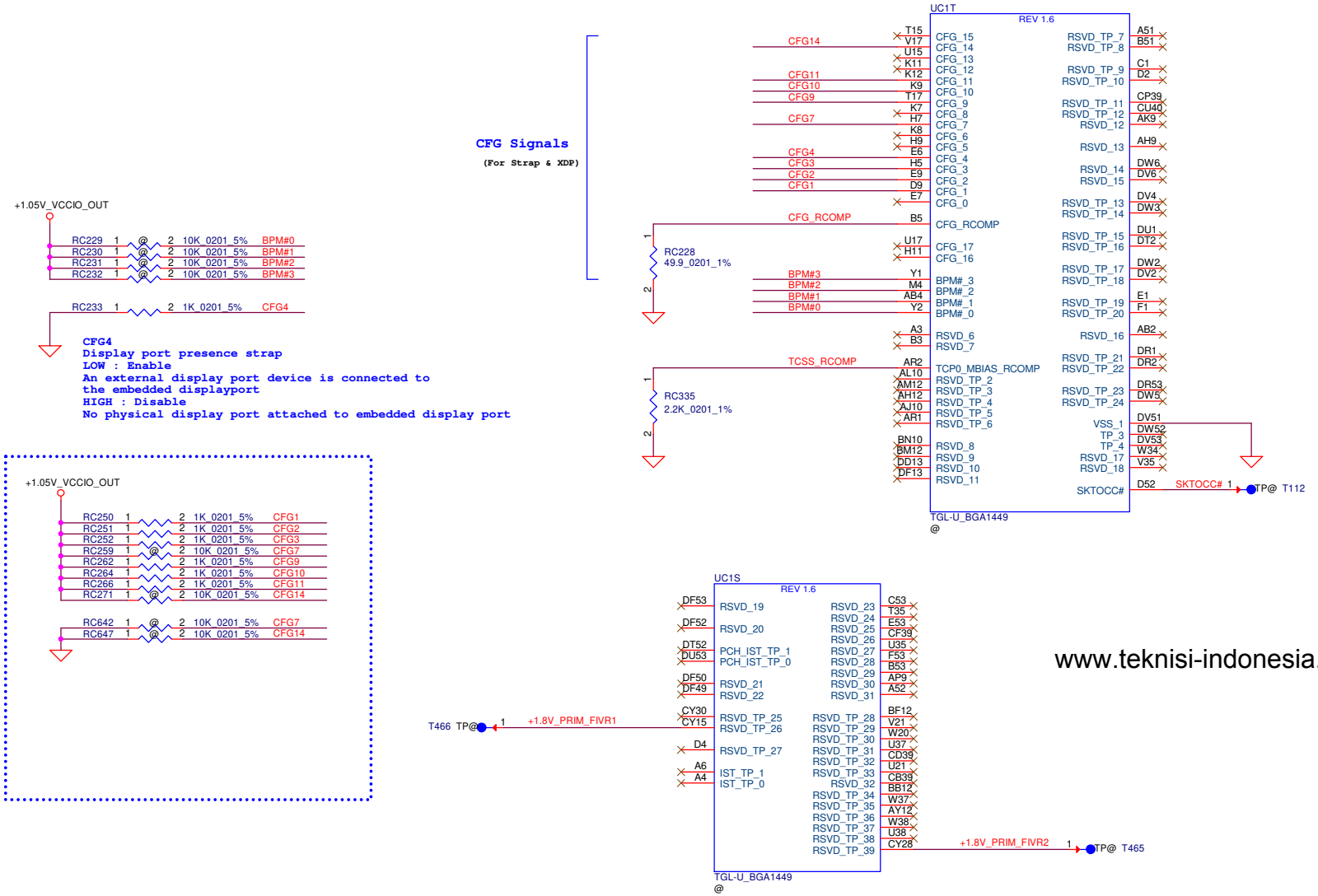


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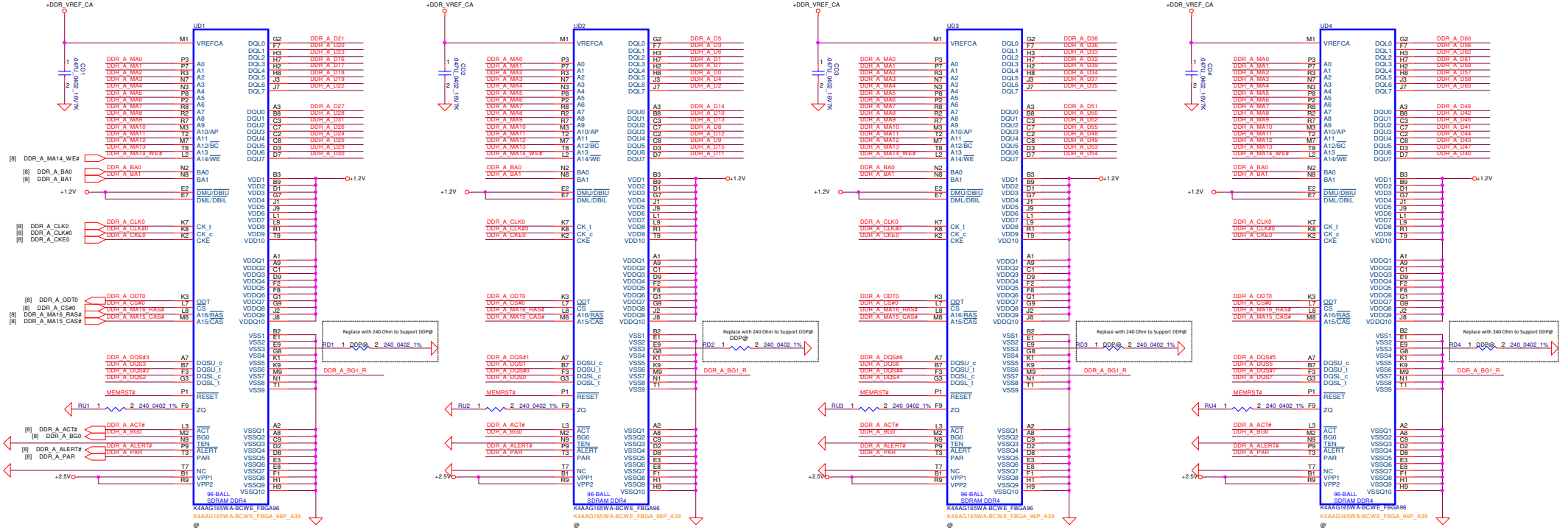

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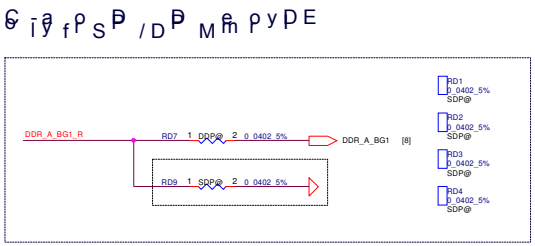


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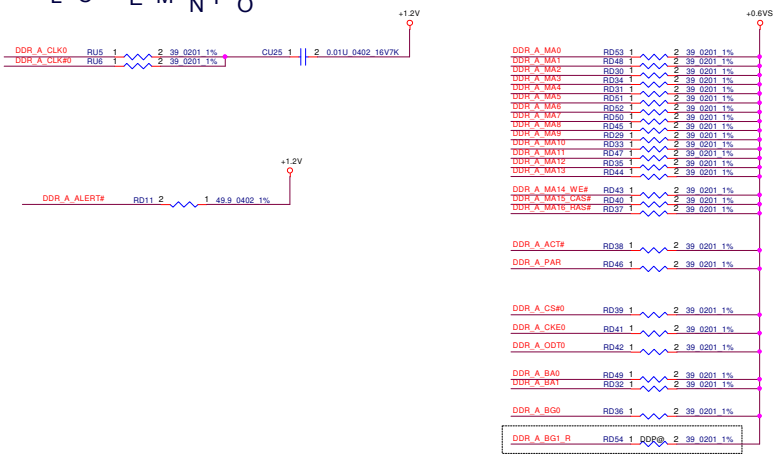

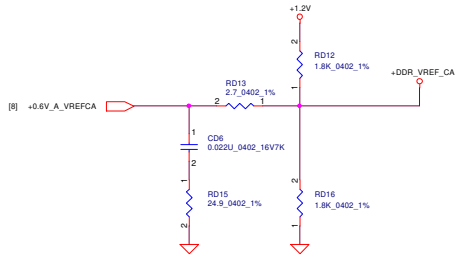


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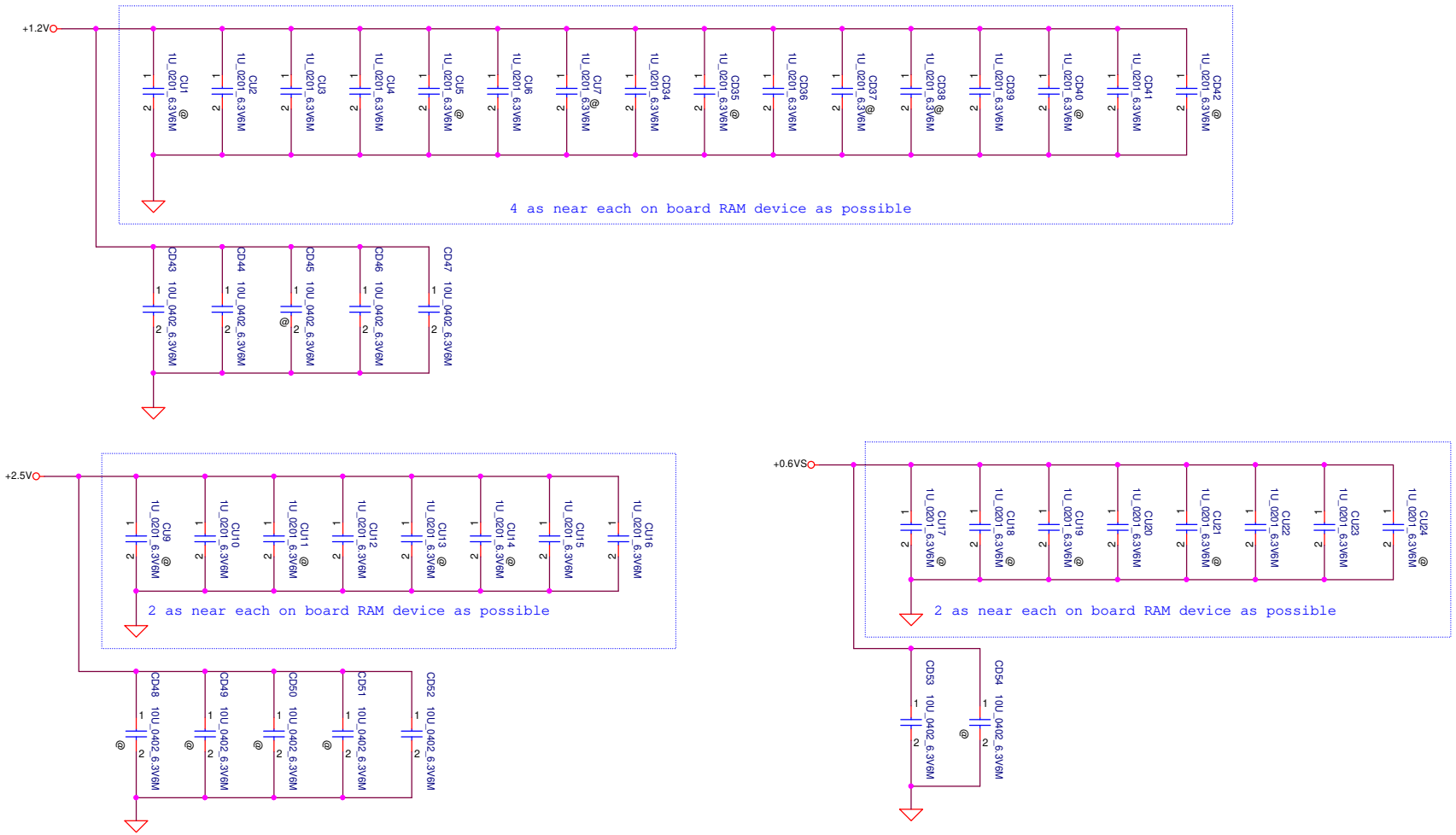


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Title: **DDR4 ON BOARD RAM Decoupling**

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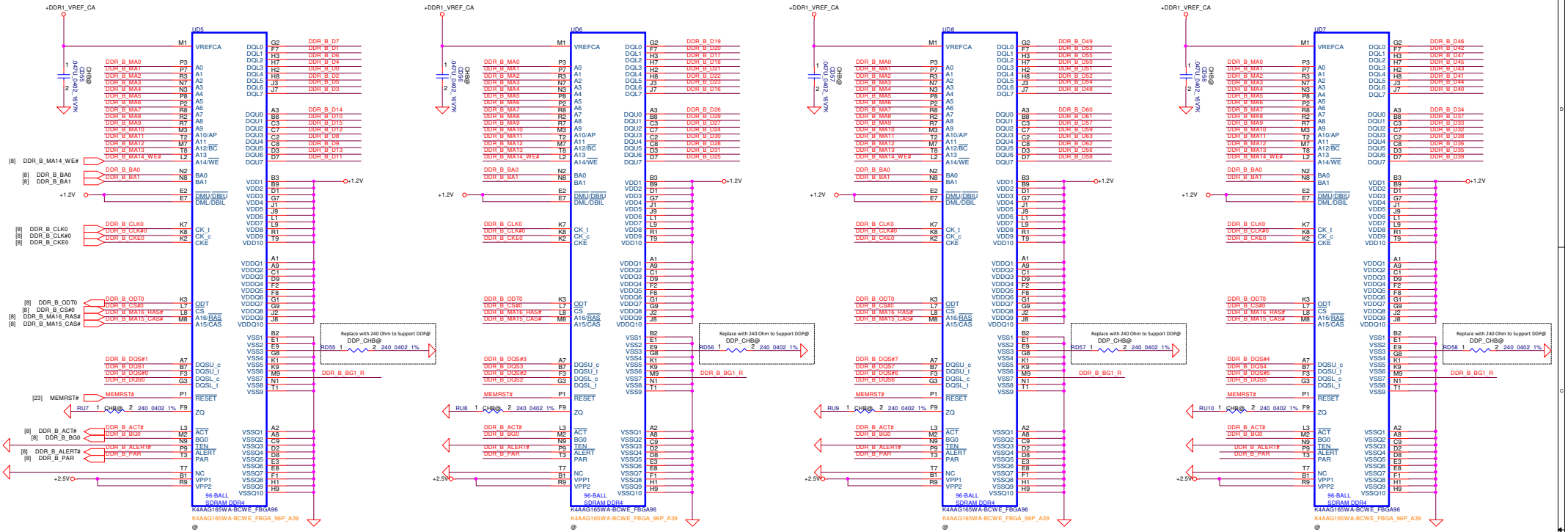

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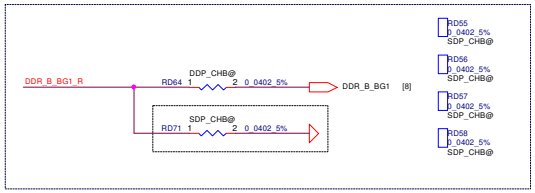


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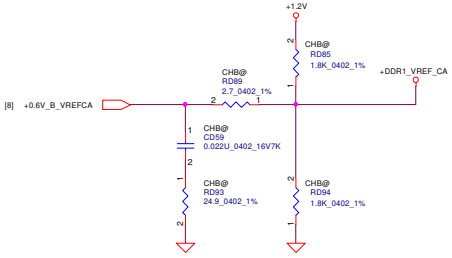


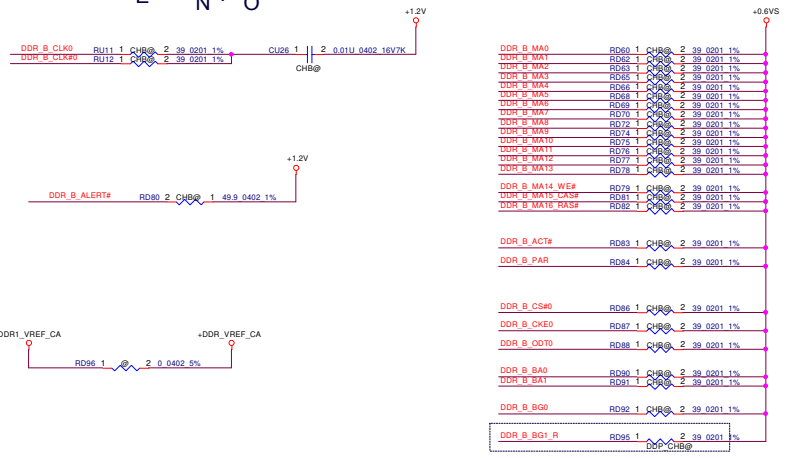


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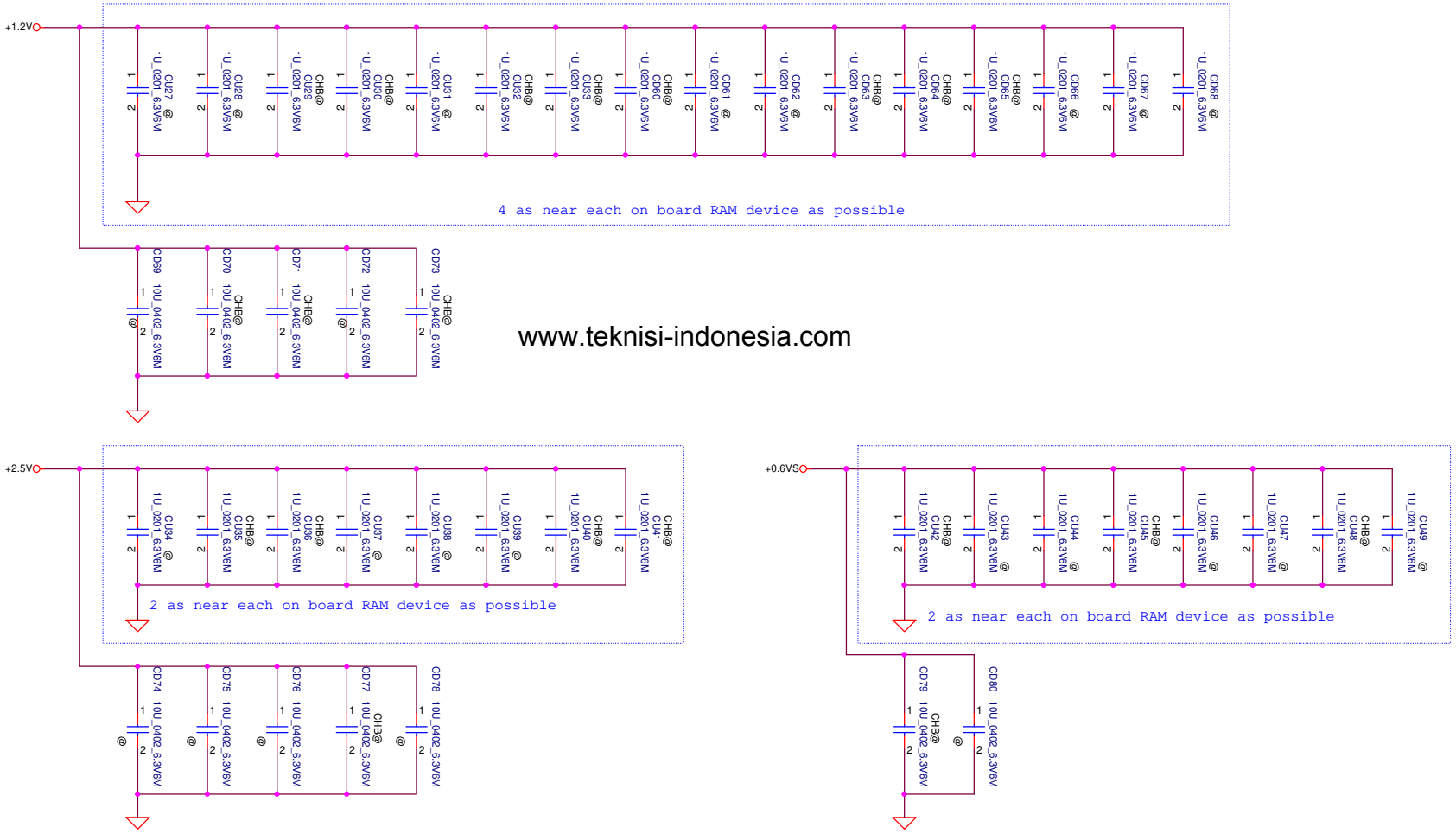


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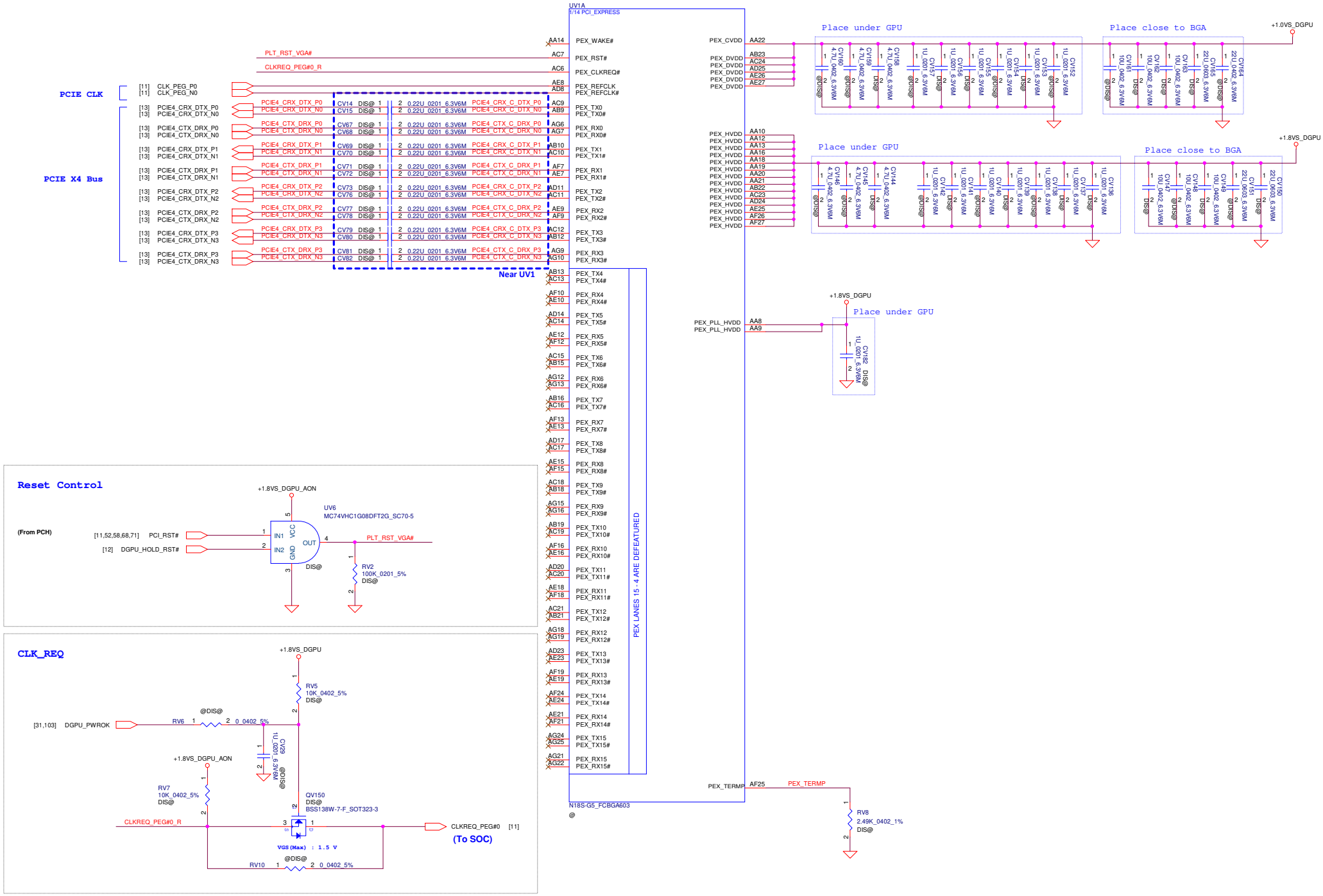


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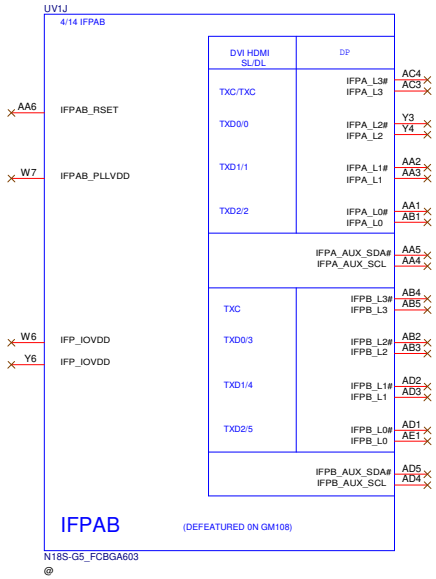


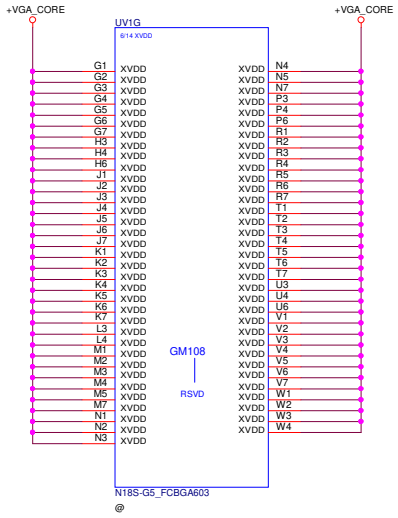


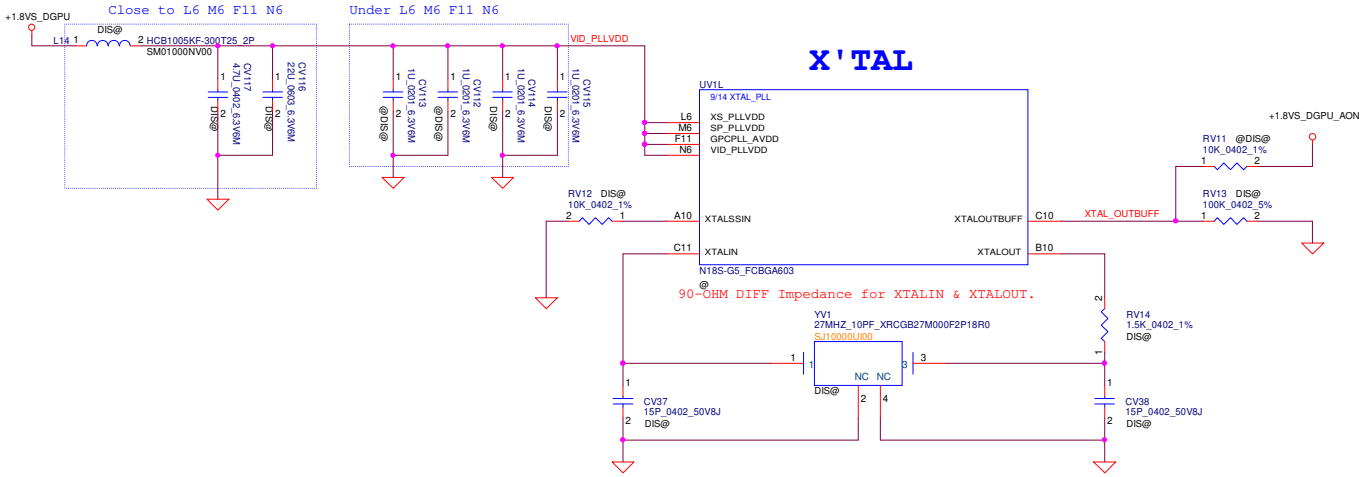


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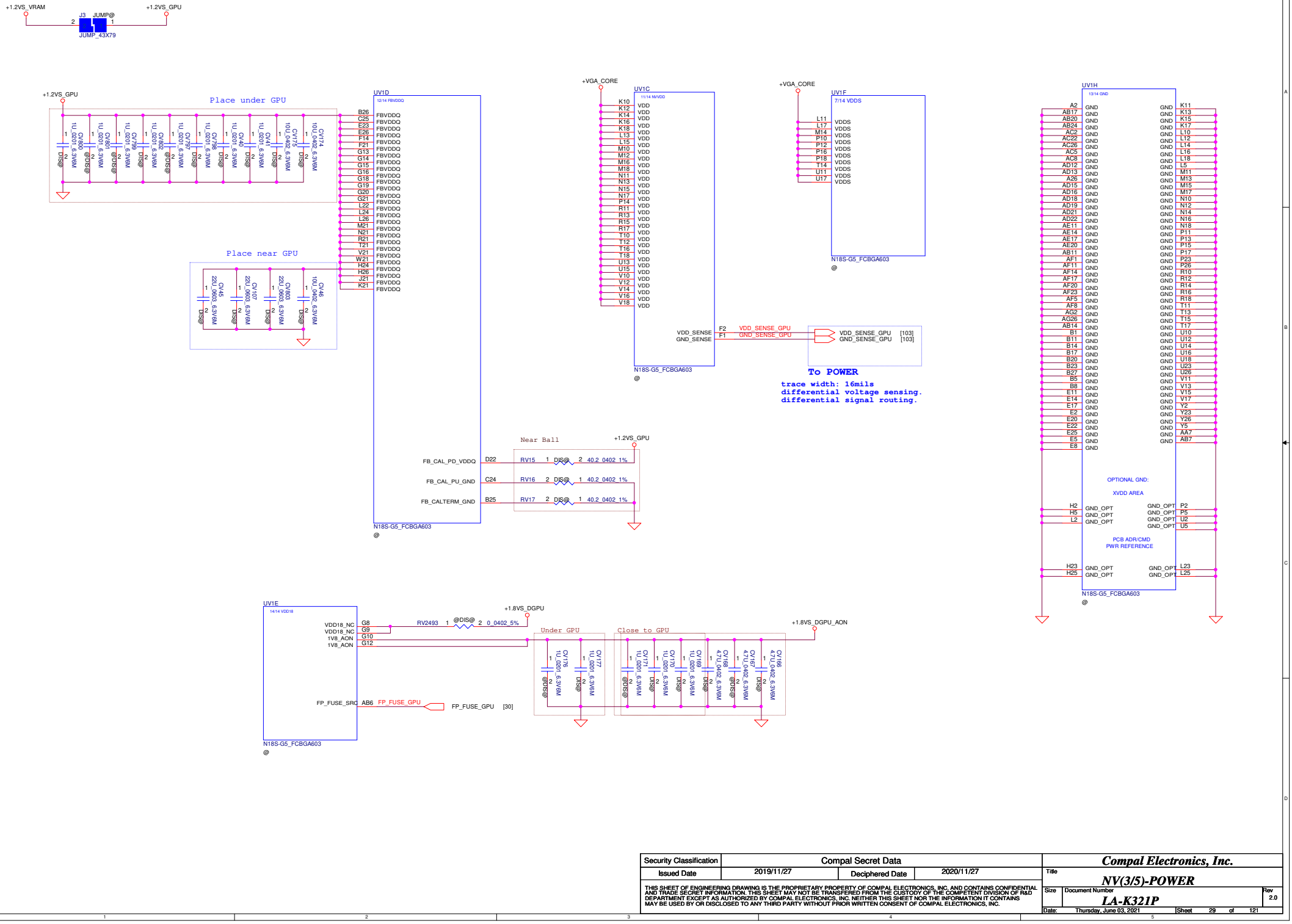


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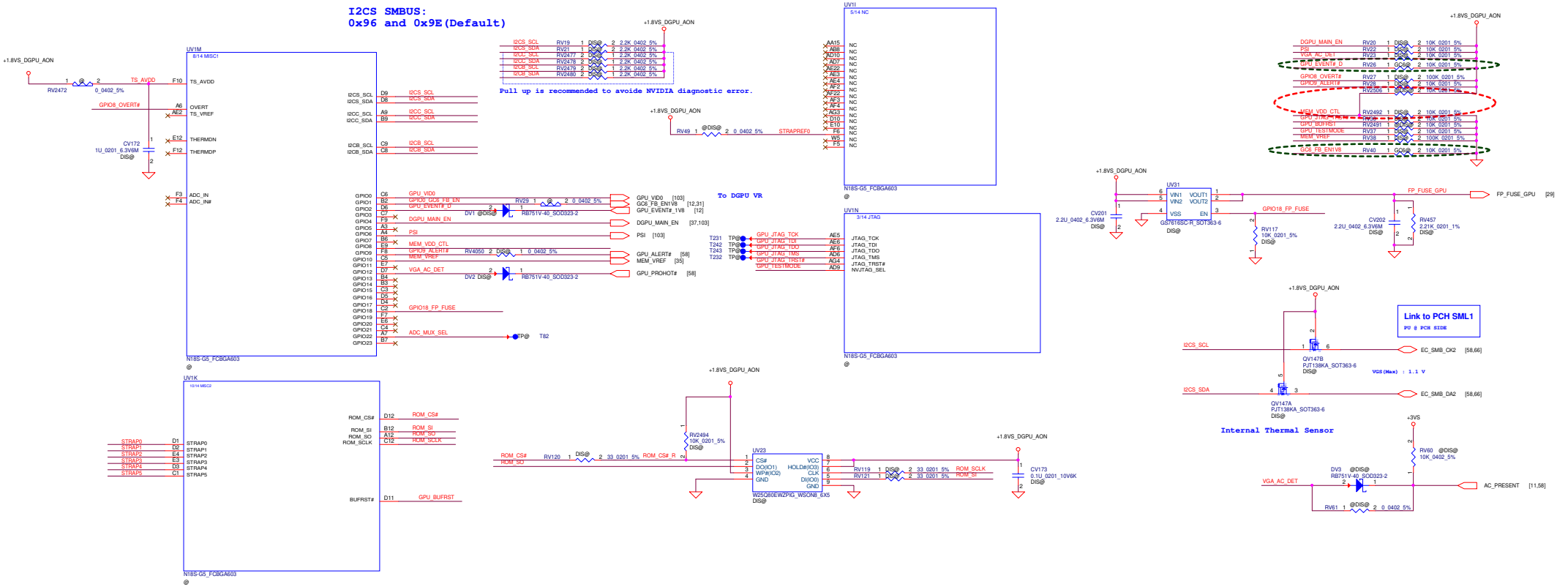


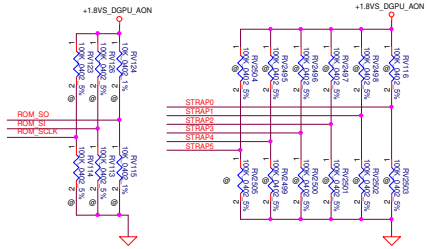

## N18S -G5 Strap

| ROM_SO | ROM_SI | ROM_SCLK | STRAP3 | STRAP4 | STRAP5 |
|---|---|---|---|---|---|
| RV115 DIS@ 10K_0402_5% | RV113 DIS@ 100K_0402_5% | RV114 DIS@ 100K_0402_5% | RV2500 DIS@ 100K_0402_5% | RV2499 DIS@ 100K_0402_5% | RV2505 DIS@ 100K_0402_5% |

Table 12.4 FS_OVERT* Strap Enablement

| Strap Pins see Note 1 | | | FS_OVERT* Function |
|---|---|---|---|
| ROM_SO see Note 2 | ROM_SI | ROM_SCLK | |
| L | L | L | FS_OVERT* function **ENABLED** |
| L | L | H | FS_OVERT* function **DISABLED** (Reserved; do not configure) |
| all other configurations | | | (Invalid; do not configure) |

## STRAP



## N18S -G5 VRAM Strap

| RAM_CFG | STRAP2 | STRAP1 | STRAP0 |
|---|---|---|---|
| 0x1 (LLH) M2G | RV2501 100K_0402_5% VRAM_M2G@ | RV2502 100K_0402_5% VRAM_M2G@ | RV116 100K_0402_5% VRAM_M2G@ |
| 0x0 (LLL) S2G | RV2501 100K_0402_5% VRAM_S2G@ | RV2502 100K_0402_5% VRAM_S2G@ | RV2503 100K_0402_5% VRAM_S2G@ |

Table 12.3 RAMCFG

| Strap Pins see Note | | | RAMCFG Setting Number (see Memory RVL for memory configs corresponding to these numbers) |
|---|---|---|---|
| STRAP2 | STRAP1 | STRAP0 | |
| L | L | L | 0 (0x0000) |
| L | L | H | 1 (0x0001) |
| L | H | L | 2 (0x0002) |
| L | H | H | 3 (0x0003) |
| H | L | L | 4 (0x0004) |
| H | L | H | 5 (0x0005) |
| H | H | L | 6 (0x0006) |
| H | H | H | 7 (0x0007) |
| L | L | M | 8 (0x0008) |
| L | M | L | 9 (0x0009) |
| L | M | H | 10 (0x000A) |
| L | H | M | 11 (0x000B) |
| M | L | L | 12 (0x000C) |
| M | L | H | 13 (0x000D) |

Table 11. N18S-G5-B and N18S-G5 GDDR6 Recommended Memories

| Memory Density | Allowed Memory Configuration | FBVDD/Q | Vendor | Manufacturer Part Number | Die Revision | Strap | Memory Speed Grade | Date Code Alert | Qual Plan | Status |
|---|---|---|---|---|---|---|---|---|---|---|
| 8 Gb | 2Chx256Mx16 | 1.2V | Micron | MT61K256M32JE-14:A | A-die | 0x1 | 14 Gbps | 1940[2] | Full | Production candidate |
| | | | Samsung | K4Z80325BC-HC14 | C-die | 0x0 | 14 Gbps | 2001[3] | Full | Production candidate |

Notes:

1. For N18S-G5-B and N18S-G5, the maximum allowable memory case temperature is 95 °C.
2. Before the date code is available, the specially screened Micron memory (for 11 Gbps @ 1.2V support) will include the "GDDR6 1.2V @ 11 Gbps" words in the label.
3. Before the date code is available, the specially screened Samsung memory (for 11 Gbps @ 1.2V support) is identified by "SPL" letters inserted before the seven digits in its lot ID.

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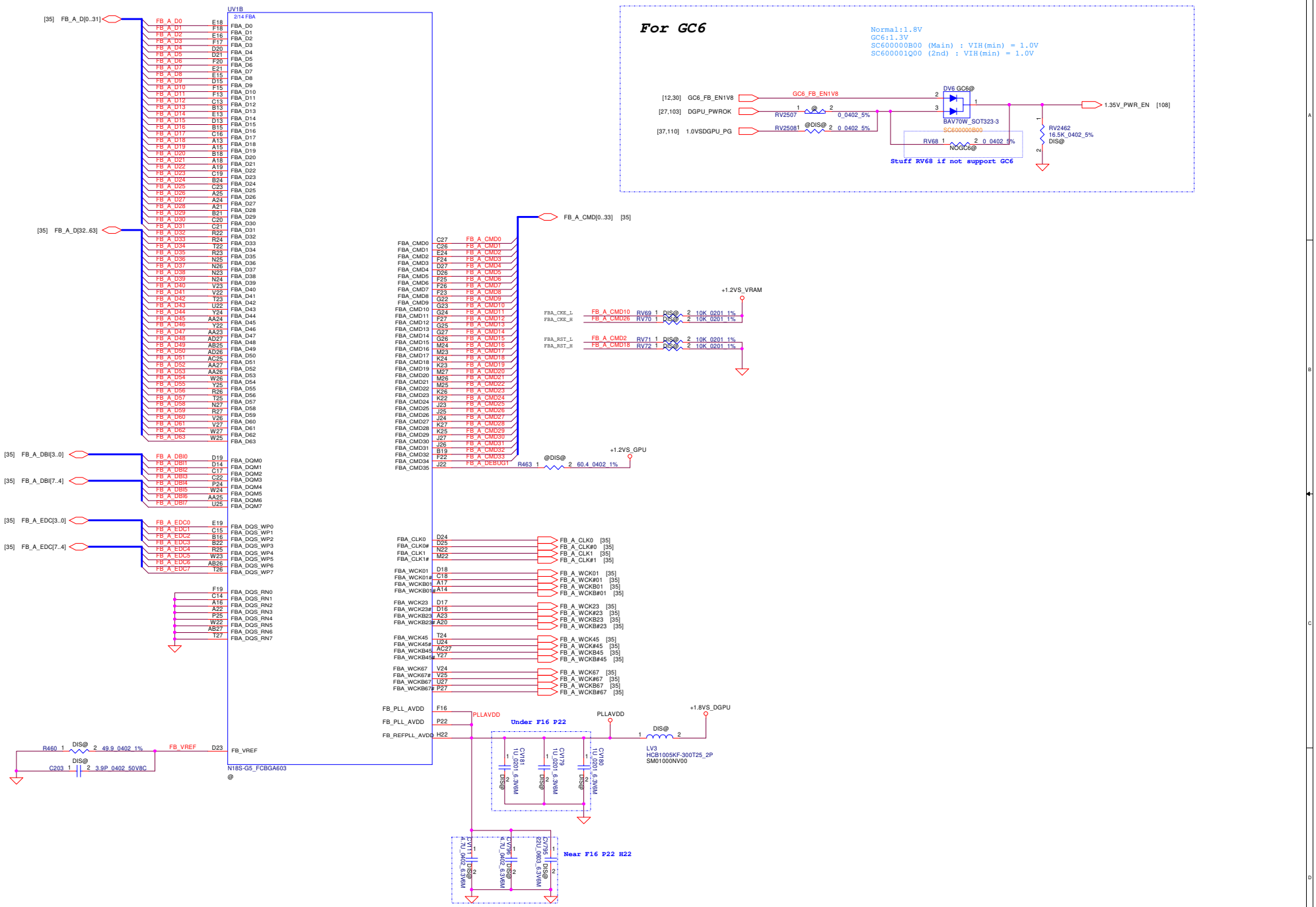


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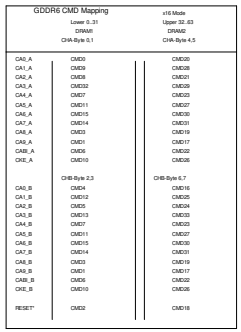
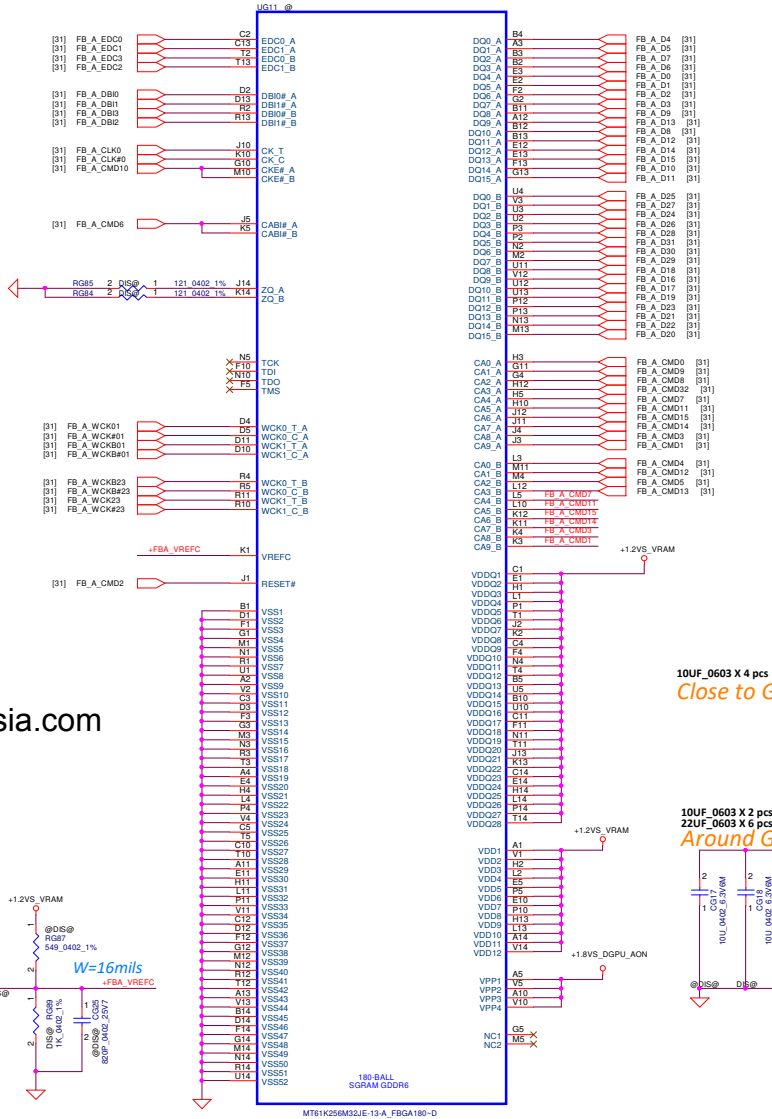
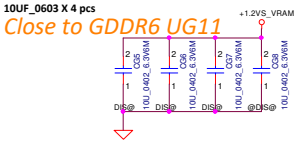
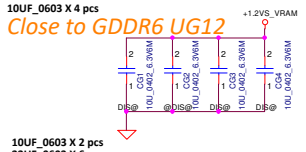
Date: Thursday, June 03, 2021 | Sheet 34 of 121

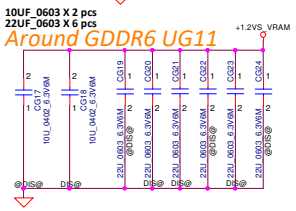
# VRAM A

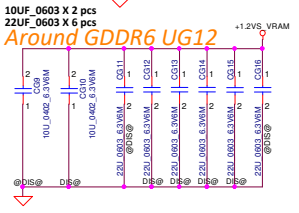


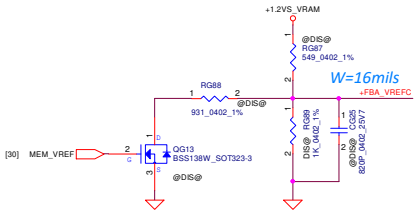



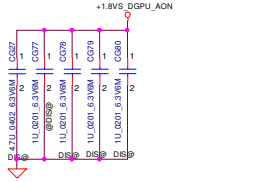



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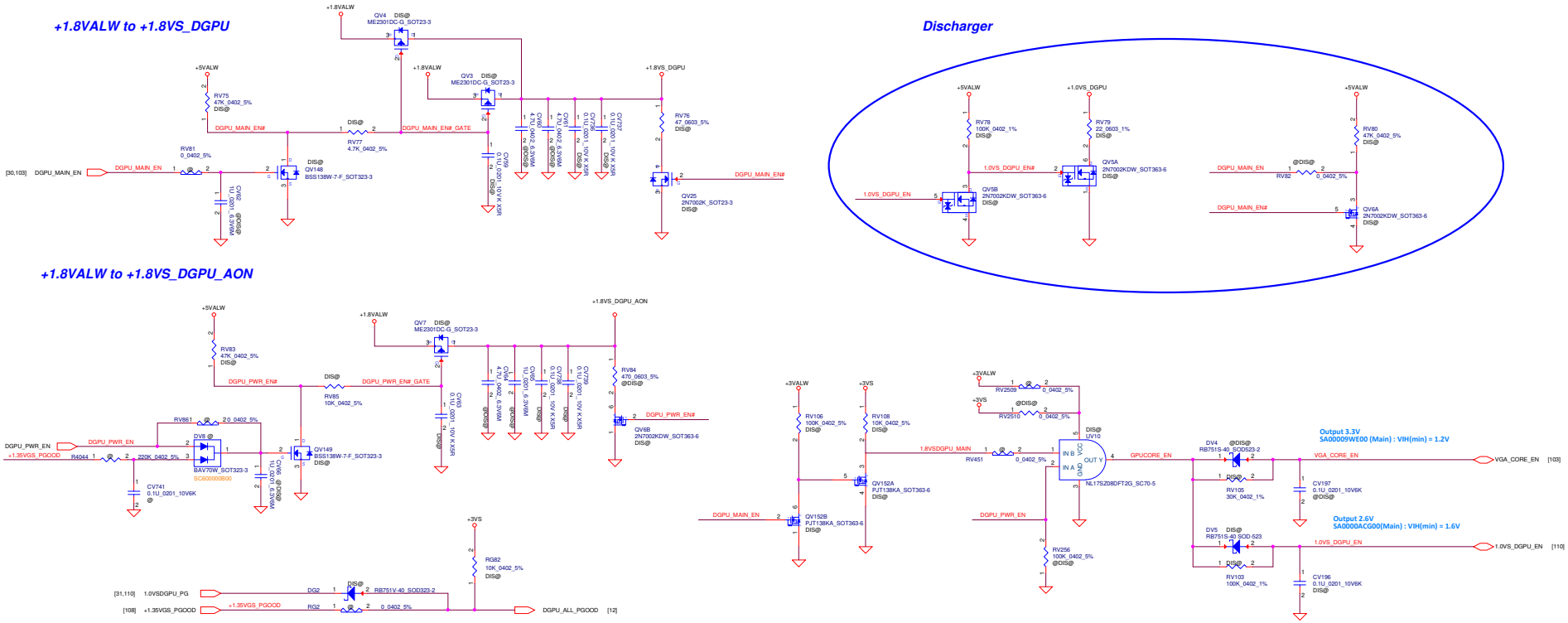


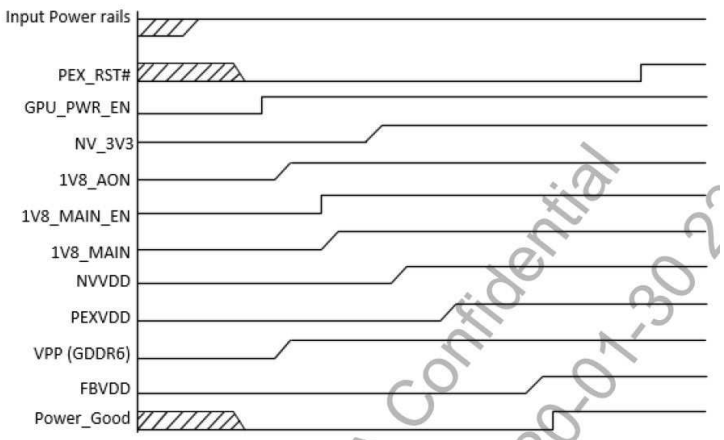


Figure 5.6 Power-Up Sequence

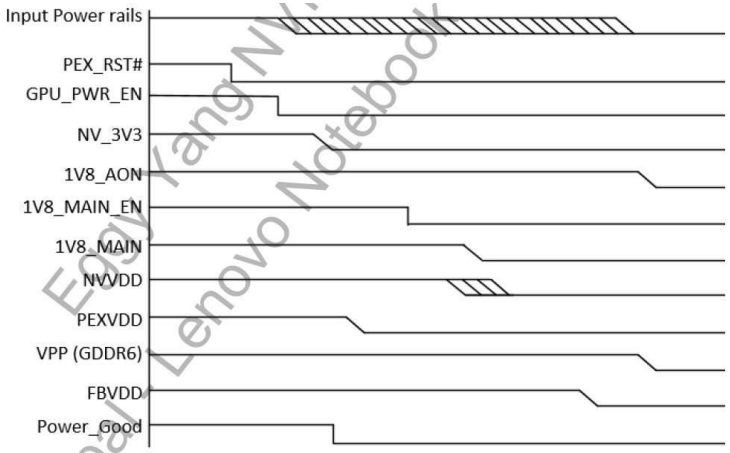


Figure 5.7 Power-Down Sequence

Compal Confidential
2020-01-30
Eggy Yang NV
Compal Lenovo Notebook

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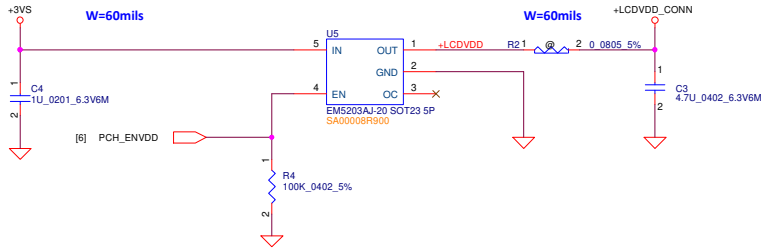
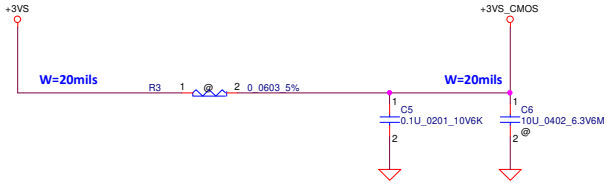
| | | | Date: Thursday, June 03, 2021 Sheet 37 of 121 |

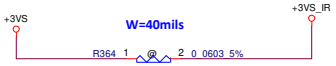
# LCD POWER SWITCH



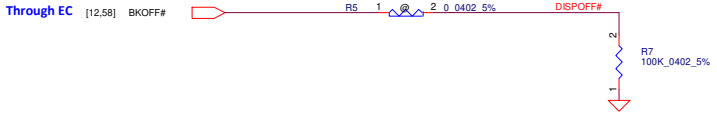

# CAMERA POWER CIRCUIT



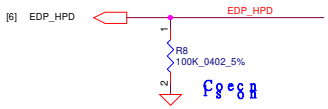

# IR POWER



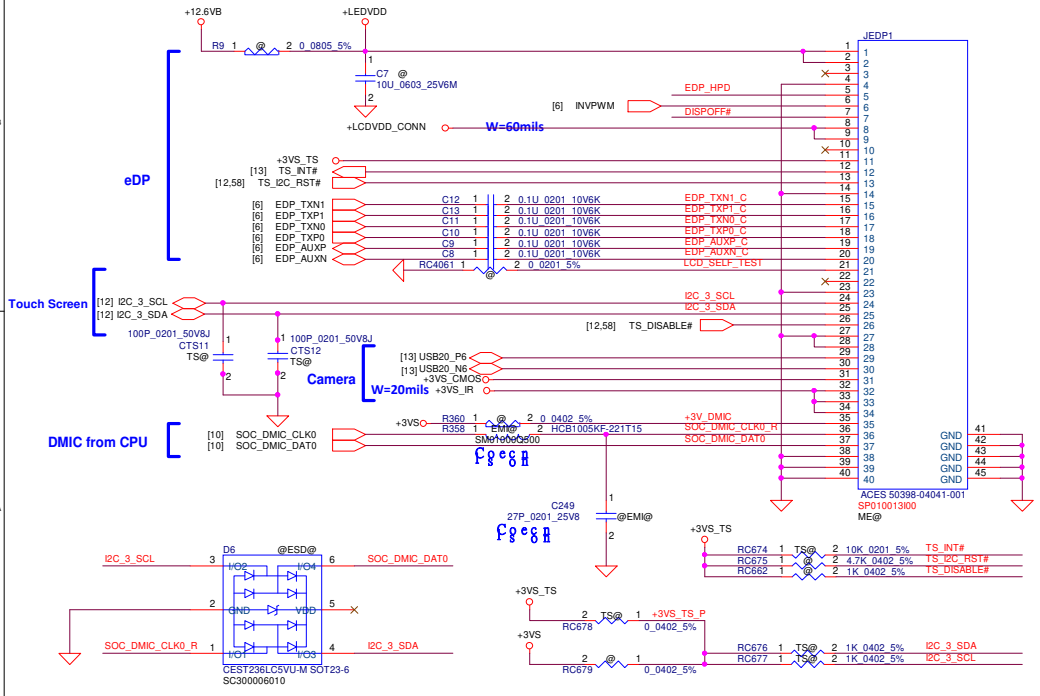

# DISPLAY OFF



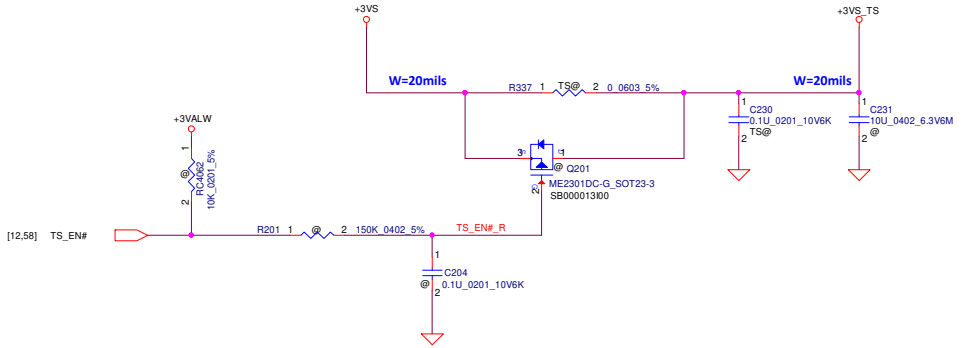

# HOT PLUG DETECT




# eDP CONNECTOR




# Touch Screen POWER CIRCUIT

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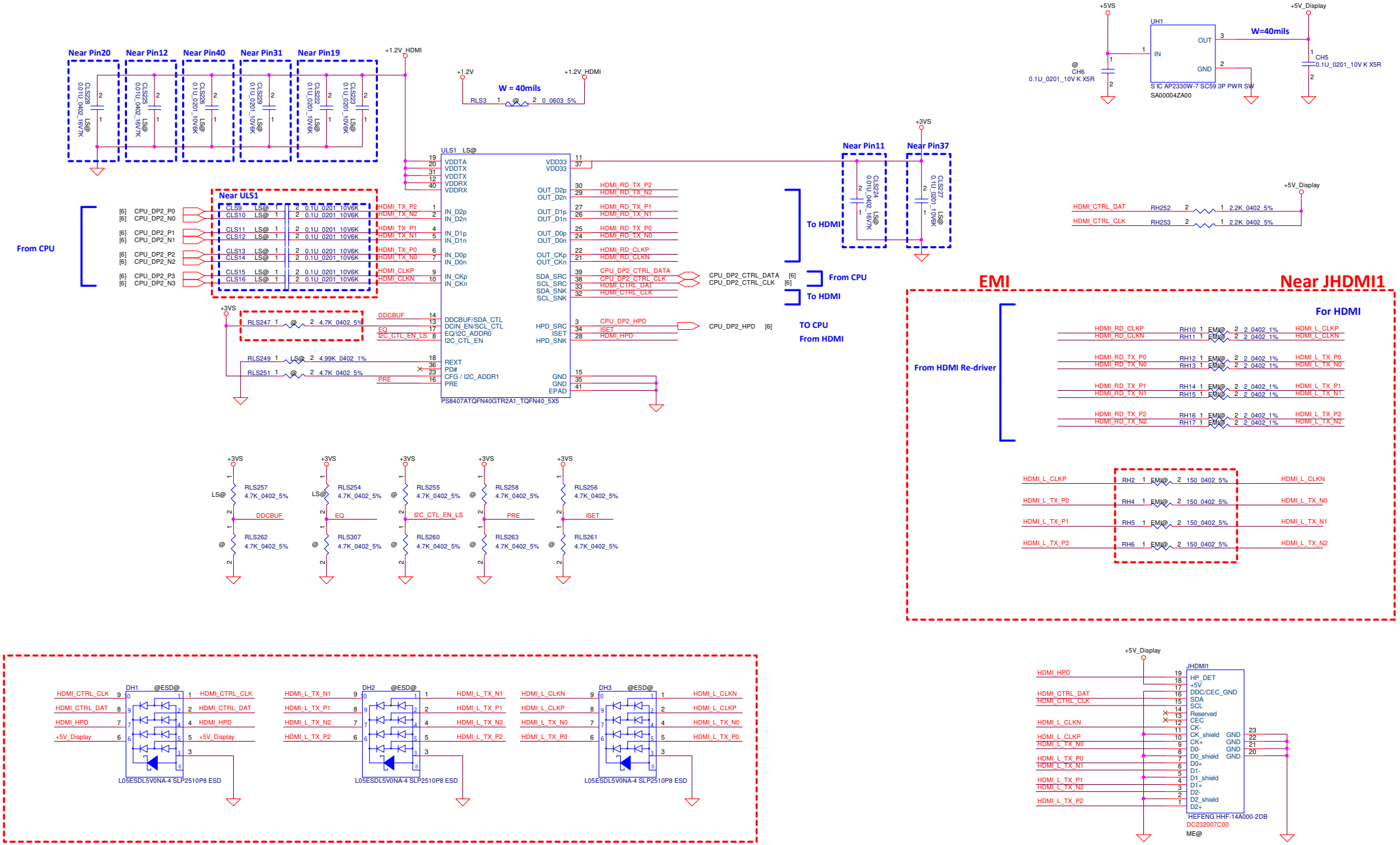
# HDMI

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| Size | Document Number | | Rev |
| Custom | LA-K321P | | 2.0 |
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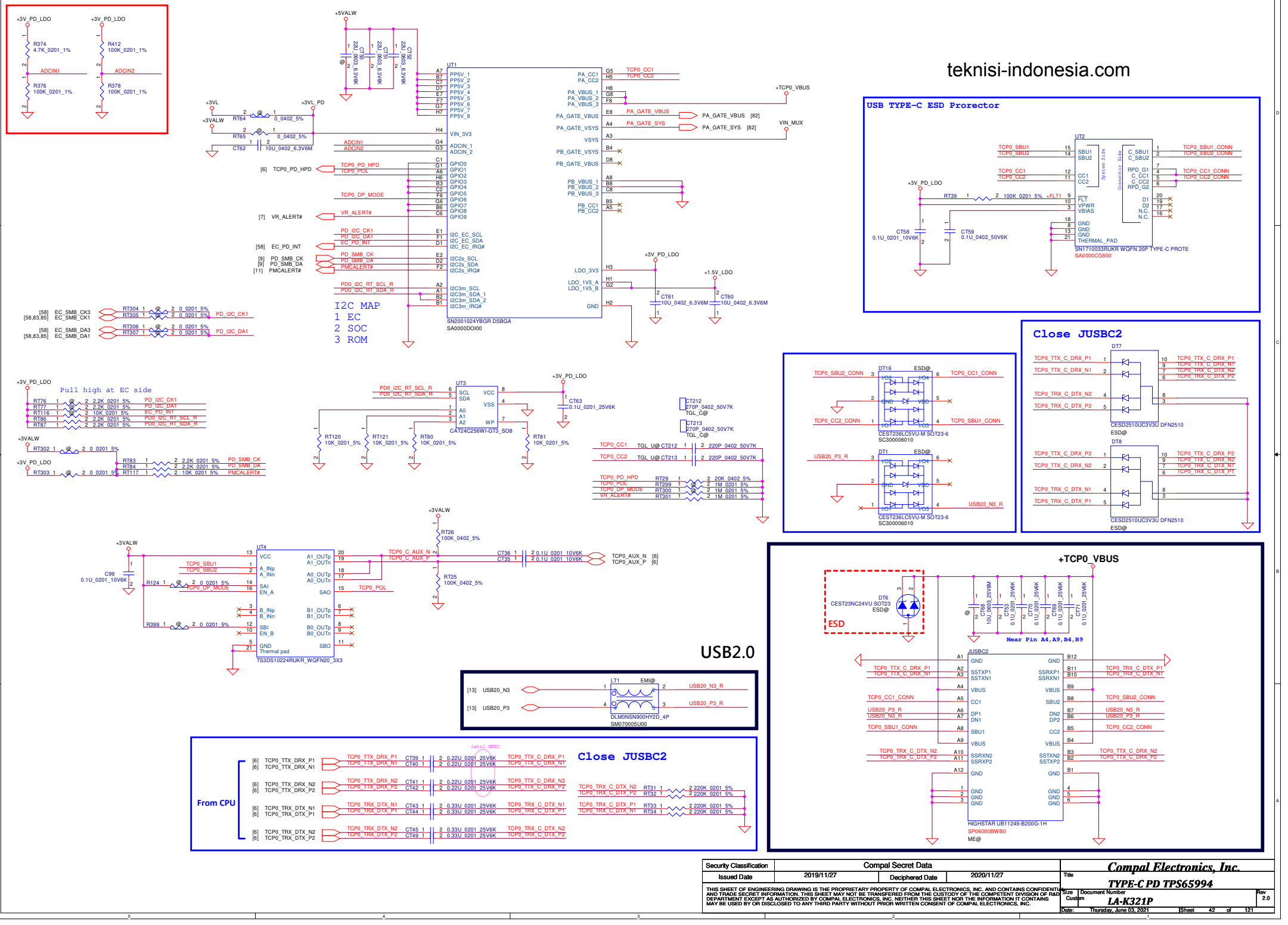


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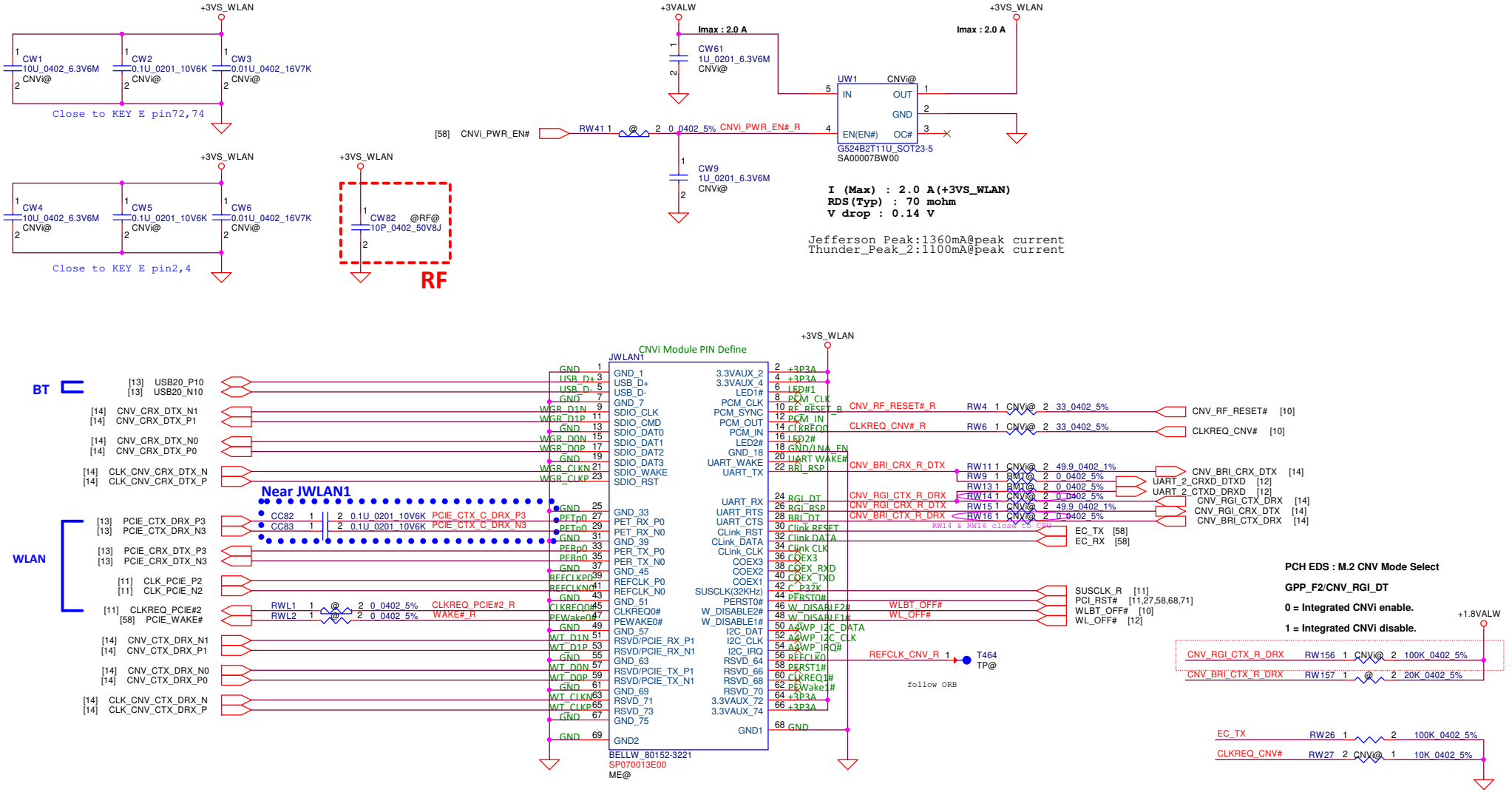
# NGFF WLAN / BT (Key E)

## NGFF Wireless LAN / BT (Key E) [PCIE+USB/CNVi]

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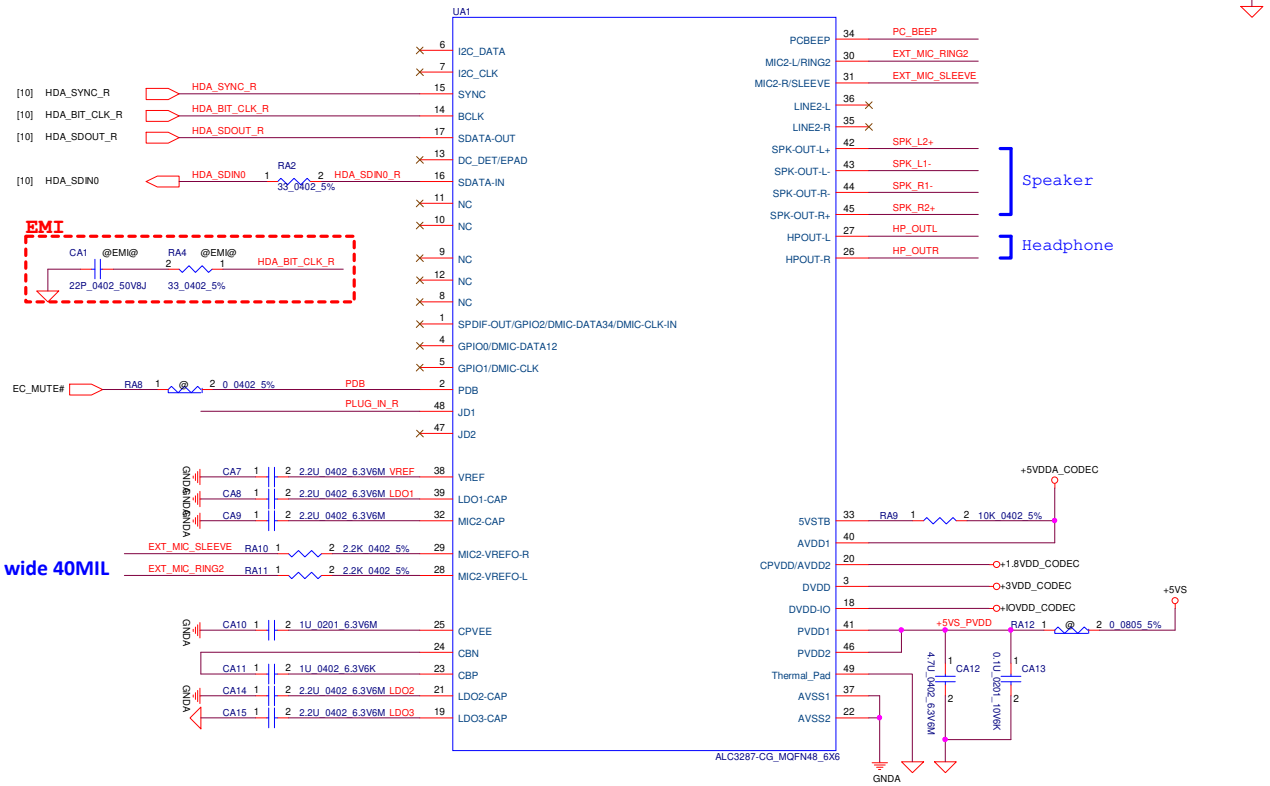
| Title: NGFF WLAN / BT | | | |
| Size | Document Number: LA-K321P | | Rev: 2.0 |
| Date: Thursday, June 03, 2021 | | Sheet 52 of 121 | |

# ALC3287

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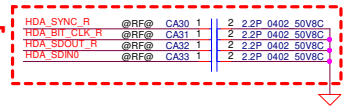
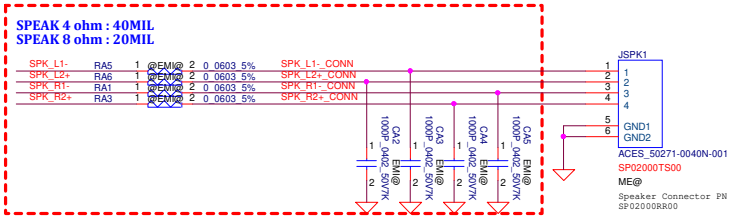
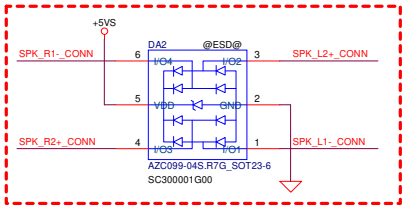



## Speaker

### EMI

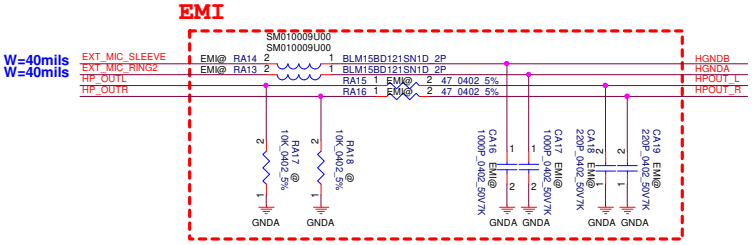



### ESD



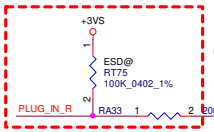

ESD

## EMI




Follow LAH101P un-stuff CA16, stuff CA35

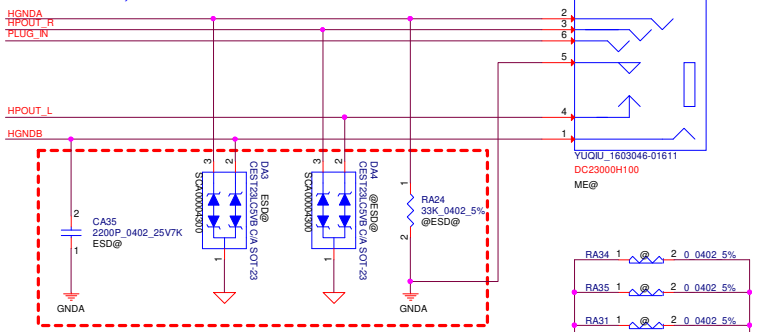
## Close Audio codec




## Combo Jack (Normal Open)

Follow ELZ02 pin number

HGNDA / HGNDB , W=60mils

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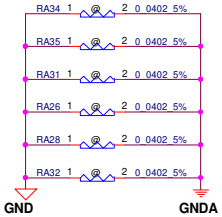


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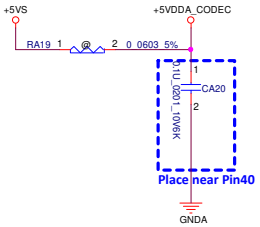


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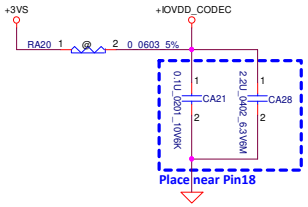


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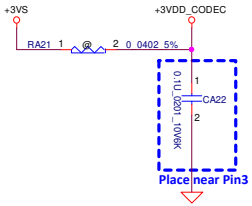


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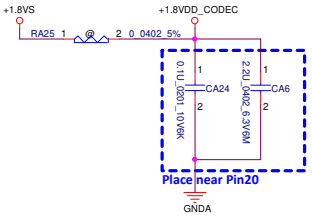
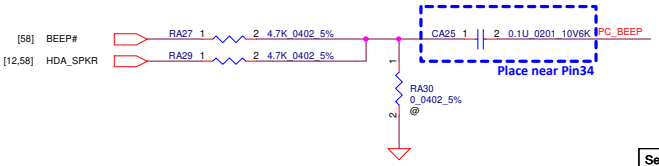



## PC Beep

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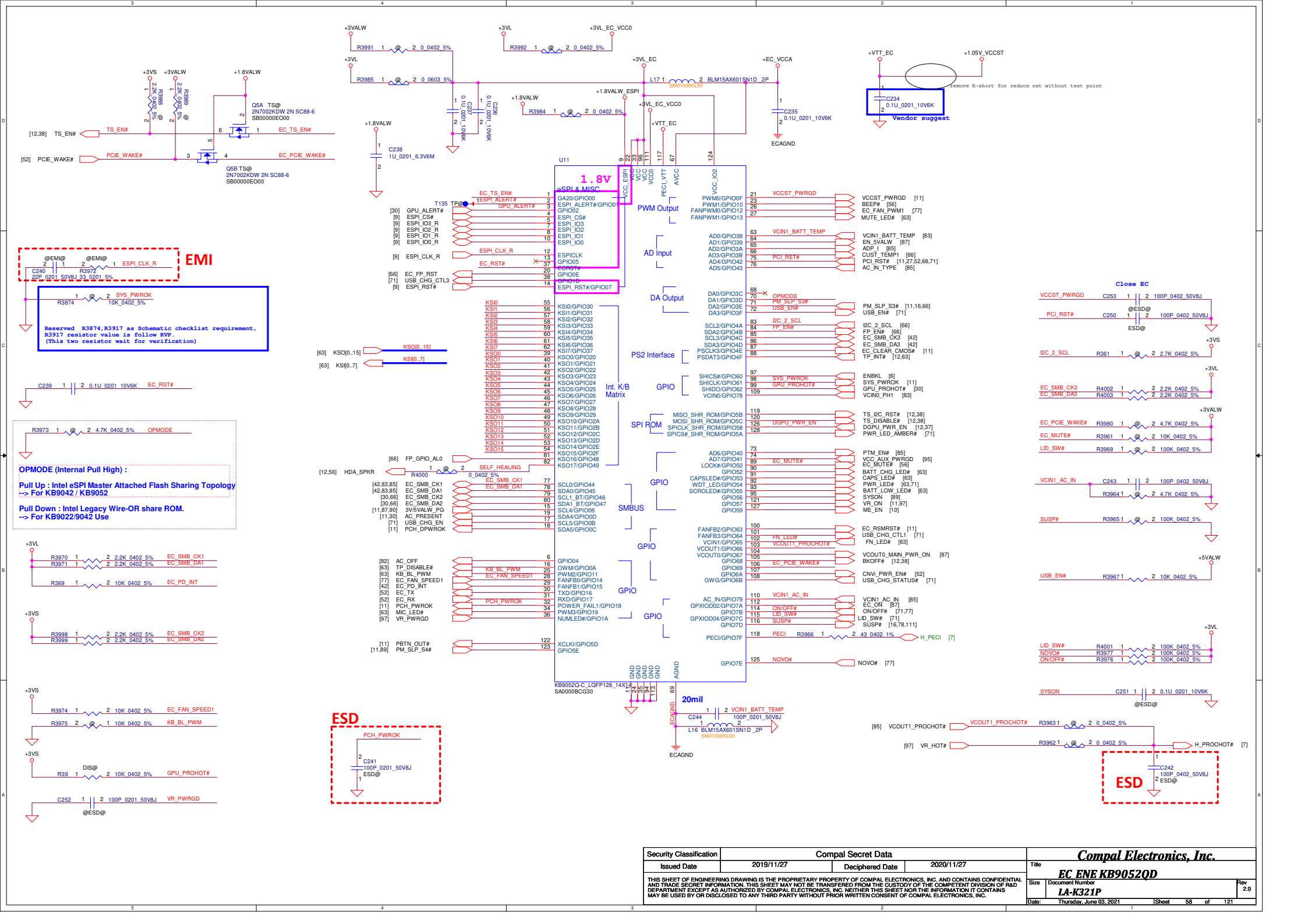
| Title | Audio Codec Realtek ALC3287 |
| Size | Document Number: LA-K321P |
| Rev | 2.0 |
| Date: | Thursday, June 03, 2021 |
| Sheet | 56 of 121 |


EMI
Reserved R3874,R3917 as Schematic checklist requirement,
R3917 resistor value is follow RVP.
(This two resistor wait for verification)
OPMODE (Internal Pull High) :
Pull Up : Intel eSPI Master Attached Flash Sharing Topology
--> For KB9042 / KB9052
Pull Down : Intel Legacy Wire-OR share ROM.
--> For KB9022/9042 Use
ESD
20mil
Close EC
Vendor suggest
remove R-short for reduce net without test point
1.8V
eSPI & MISC
PWM Output
AD Input
DA Output
PS2 Interface
GPIO
SPI ROM
Int. K/B Matrix
SMBUS
KB9052Q-C_LQFP128_14X14
SA0000BCG30
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EC_ENE KB9052QD
Size
Document Number
LA-K321P
Rev
2.0
Date: Thursday, June 03, 2021
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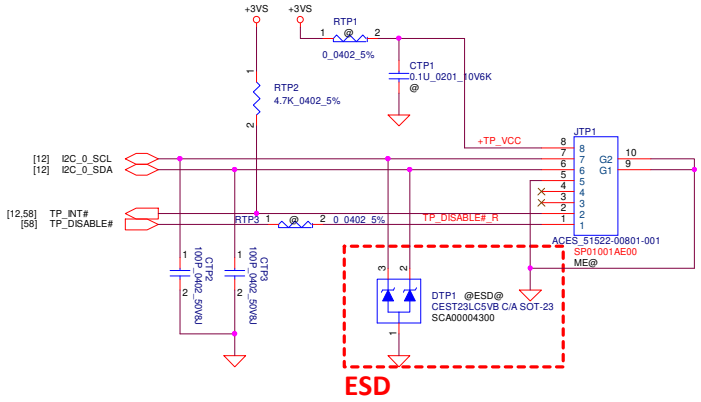
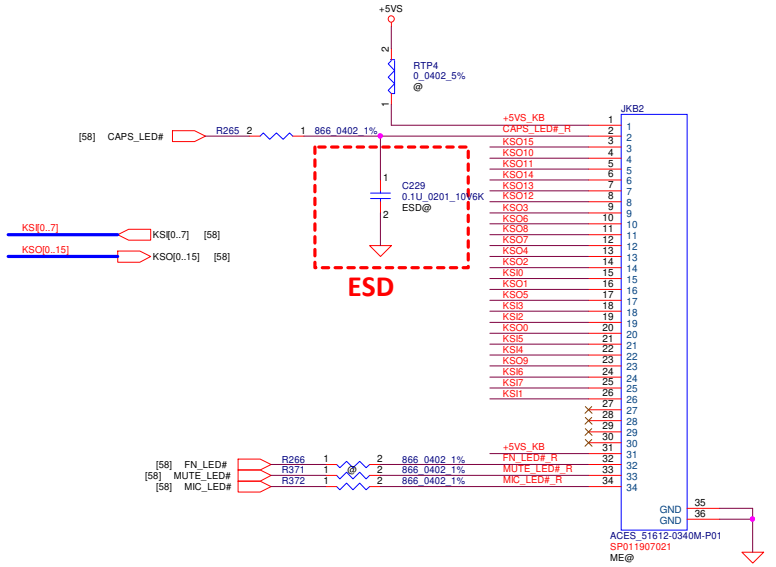
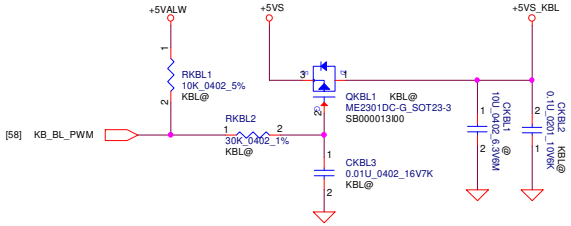
# Touch Pad




# Keyboard

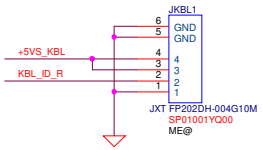


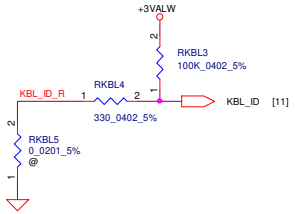

# Keyboard Backlight



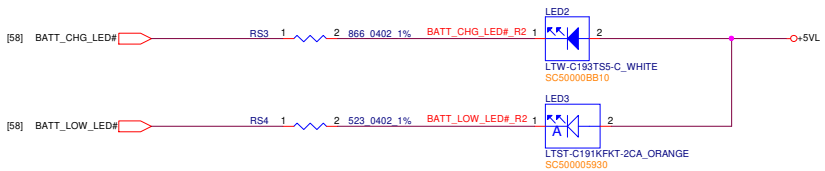

## Keyboard BackLight_SELECT

| Function | KBL_ID |
|---|---|
| KBL | 0 |
| NO KBL | 1 |

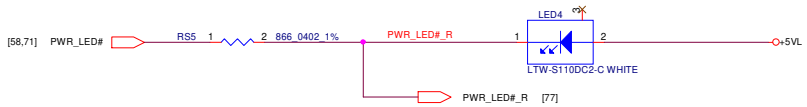



# BATT LED




# Status LED




| | | | |
|---|---|---|---|
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Compal Electronics, Inc.

Title: KB / TP / LED

Size: Custom | Document Number: LA-K321P | Rev: 2.0

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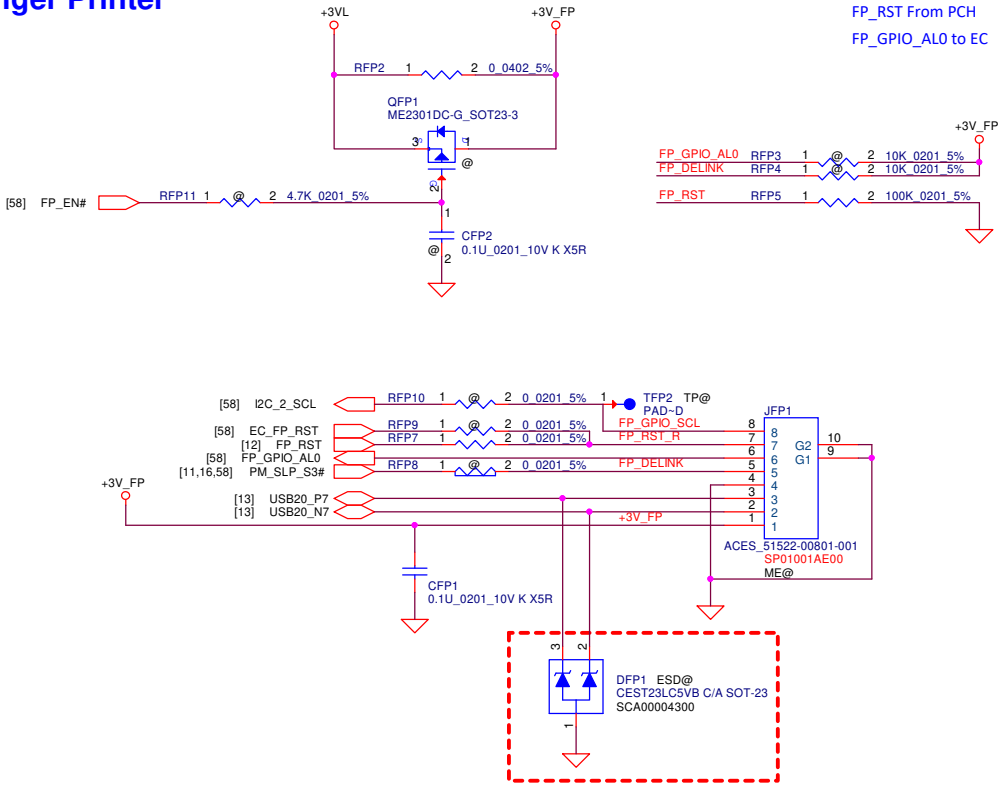
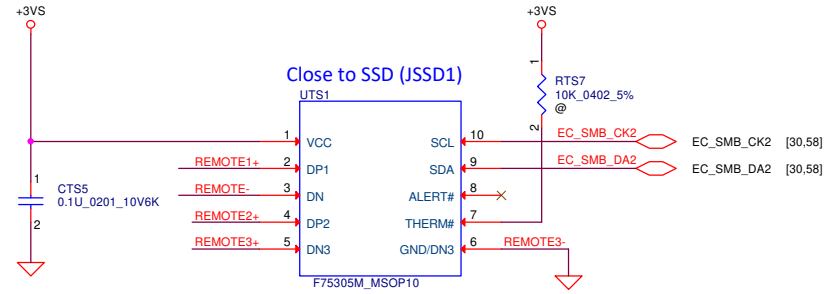
# Finger Printer

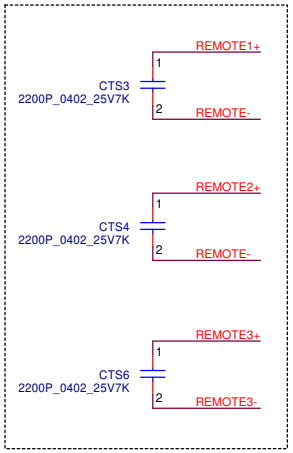



# Thermal Sensor

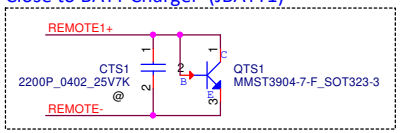



Address 1001_101xb

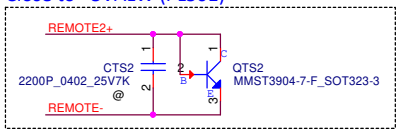
Close to UTS1



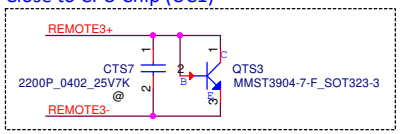

Close to BATT Charger (JBATT1)




Close to +5VALW (PL501)

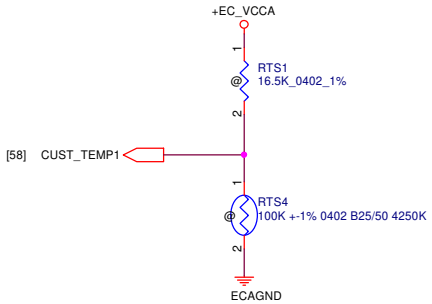



Close to CPU Chip (UC1)




REMOTE1,2,3 (+/-) :
Trace width/space:10/10 mil
Trace length:<8"

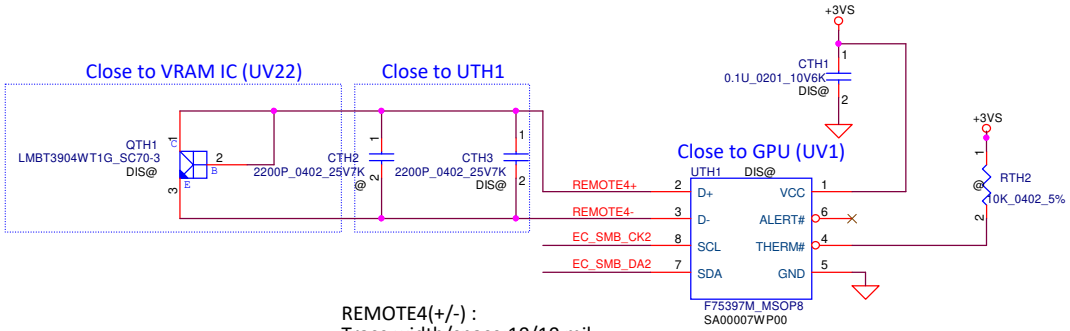
Under thermal pipe




Close to VRAM IC (UV22)

Close to UTH1

Close to GPU (UV1)




REMOTE4(+/-) :
Trace width/space:10/10 mil
Trace length:<8"

***Address 1001_100xb***

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***Compal Electronics, Inc.***

Title: ***Finger Printer/ Thermal***

Size: Custom | Document Number: ***LA-K321P*** | Rev: 2.0

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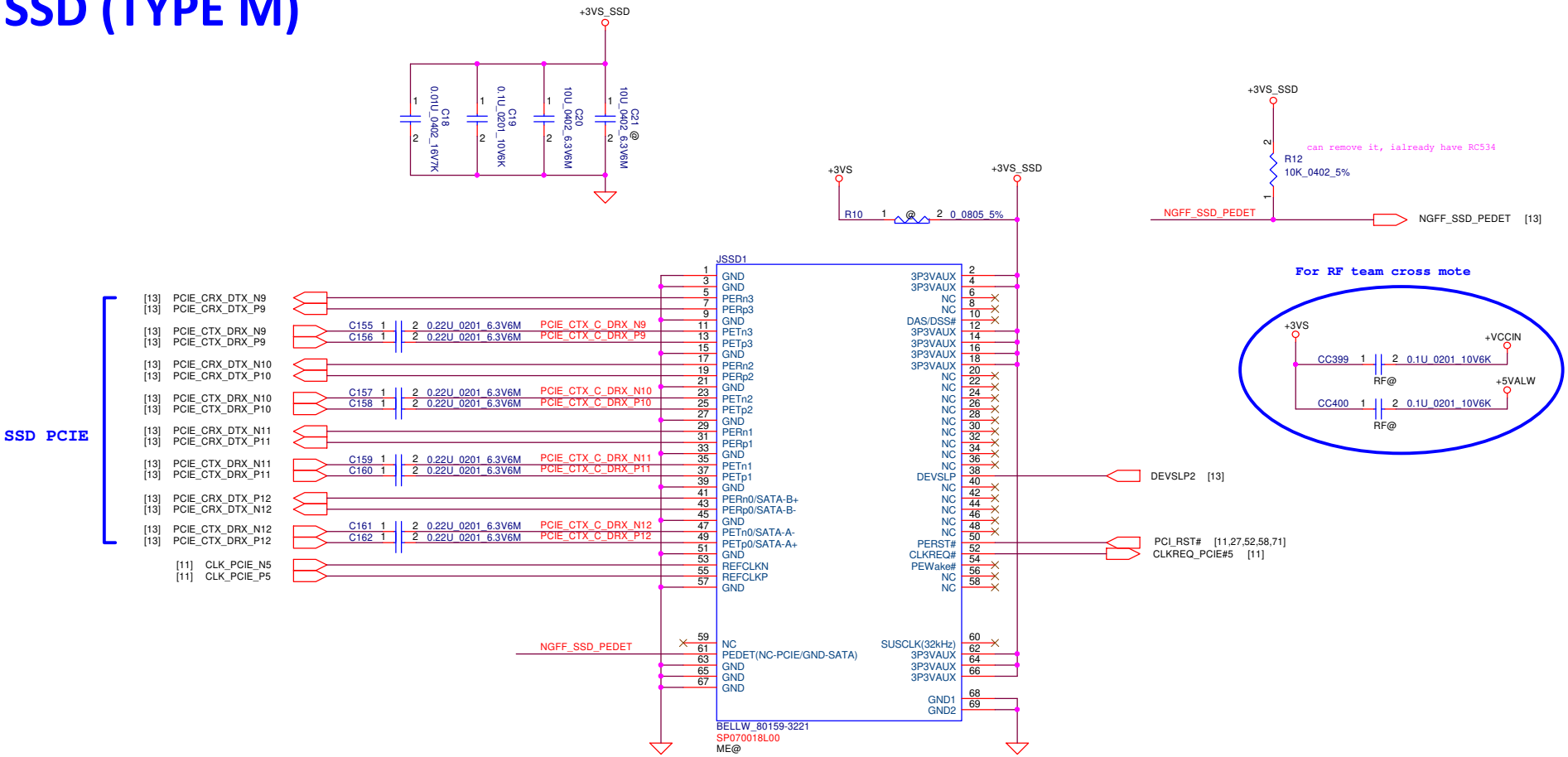
# SSD (TYPE M)

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Compal Electronics, Inc.

Title: NGFF SSD

Size | Document Number: LA-K321P | Rev: 2.0

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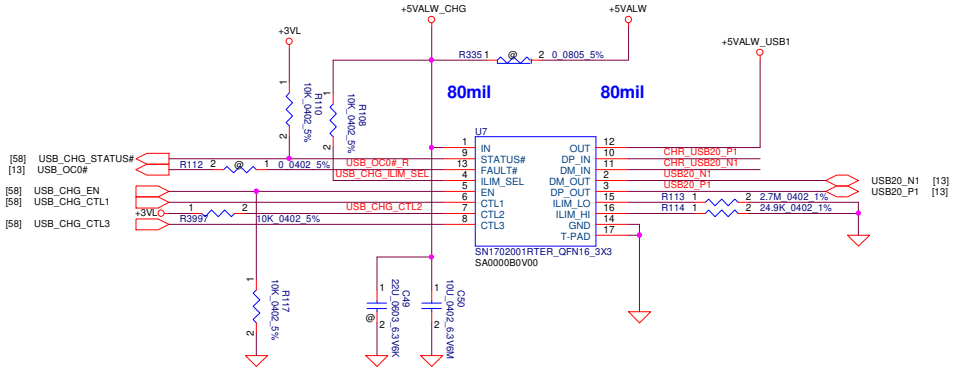
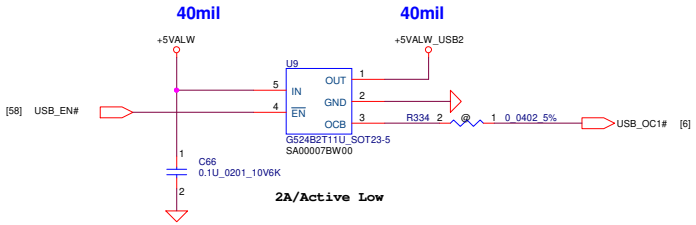
# USB3.0_Port (AOU_Port)

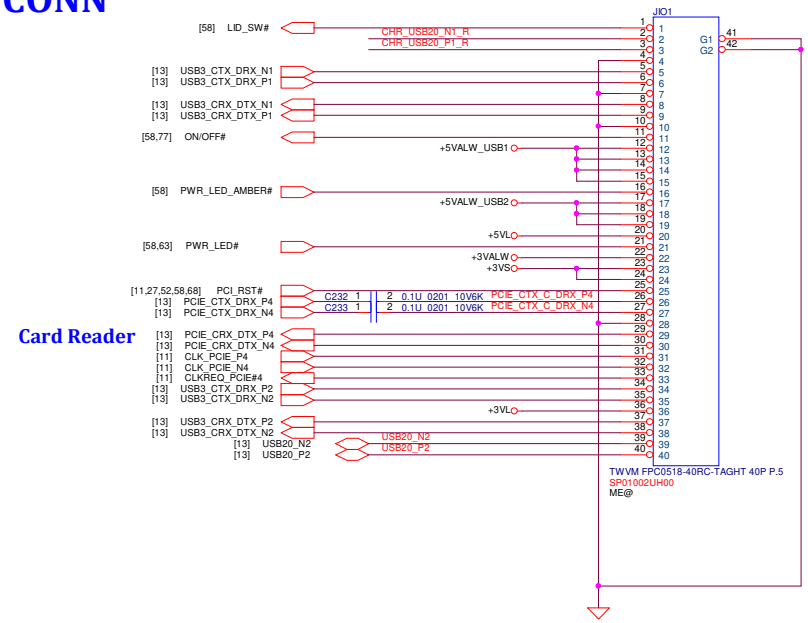



**EMI**

# USB3.0_Port (Non-AOU_Port)




# I/O CONN

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| | | | |
|---|---|---|---|
| Compal Electronics, Inc. | | | |
| Title | USB3 / IO board Conn. | | |
| Size | Document Number | | Rev |
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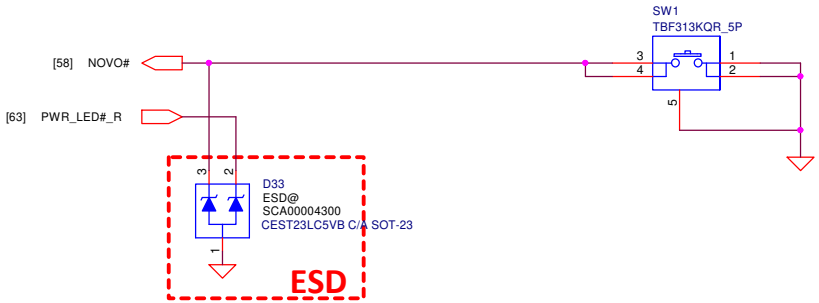
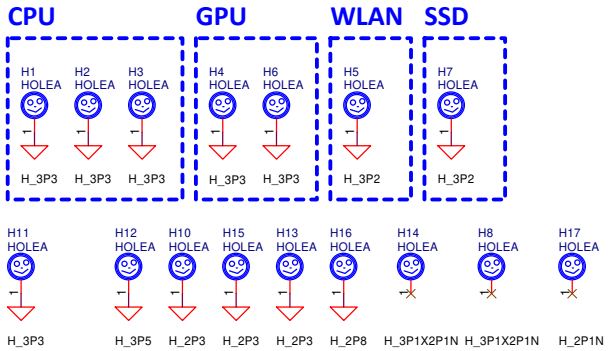
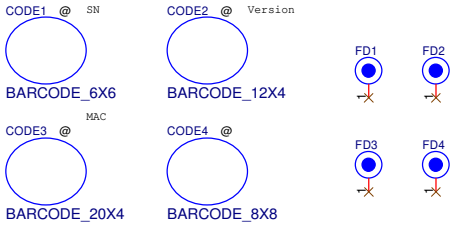
## NOVO Button



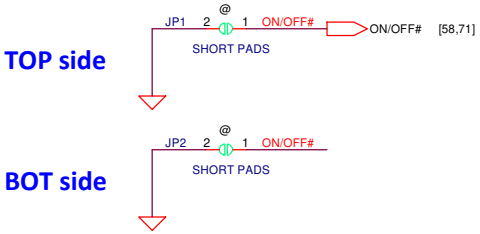

## SCREW



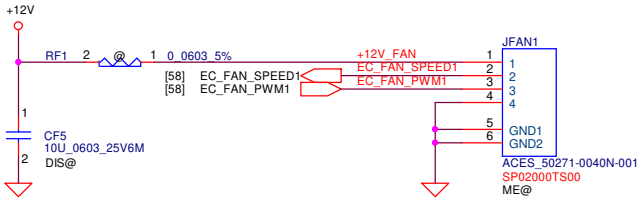

## LASER BARCODE



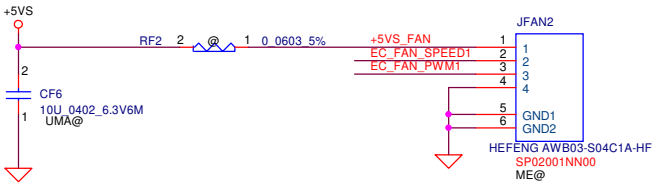

## ON/OFF# SHORT PAD



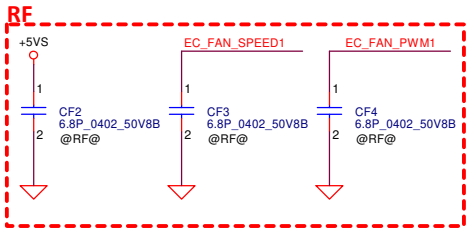

## +12V FAN



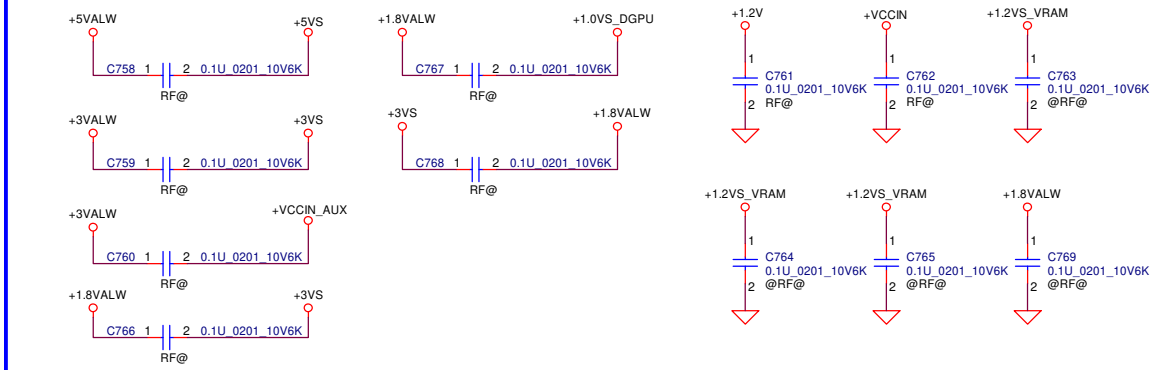

## +5V FAN




## RF




## RF moat Caps

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Compal Electronics, Inc.

Title: NOVO / SCREW / FAN

Size: Custom | Document Number: LA-K321P | Rev: 2.0

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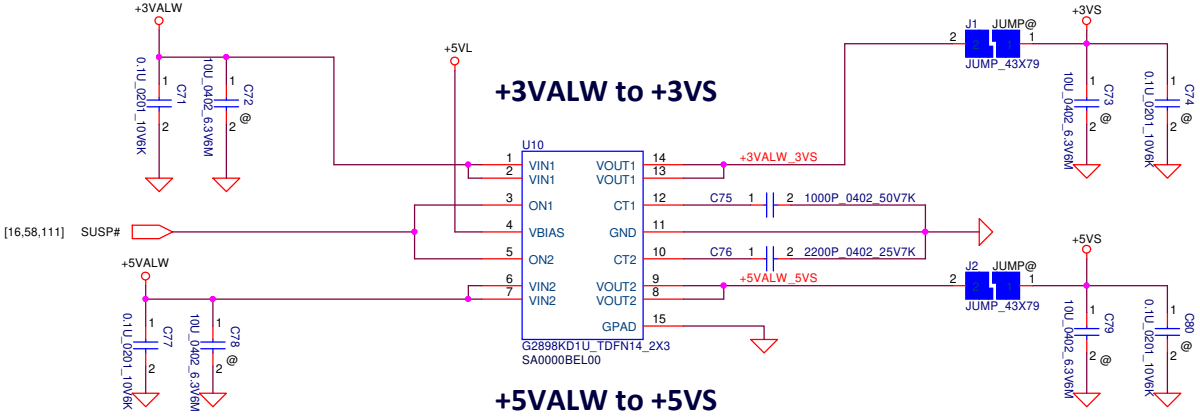
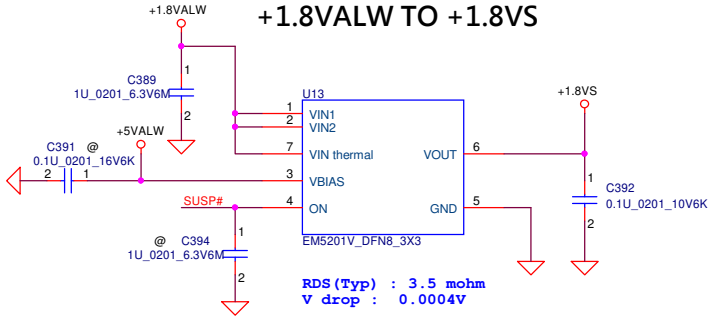
# DC to DC

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|---|---|---|---|
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| Issued Date | 2019/11/27 | Deciphered Date | 2020/11/27 |

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Compal Electronics, Inc.

Title: DC to DC

Size: Custom | Document Number: LA-K321P | Rev: 2.0

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| | | | |
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**Compal Electronics, Inc.**

Title: **Reserve**

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|---|---|---|
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| | | | |
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| Issued Date | 2019/11/27 | Deciphered Date | 2020/11/27 |

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**Compal Electronics, Inc.**

Title: **Reserve**

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**Compal Electronics, Inc.**

Title: **PWR- Reserve**

| Size | Document Number | Rev |
|---|---|---|
| Custom | **LAK321P** | 2.0 |

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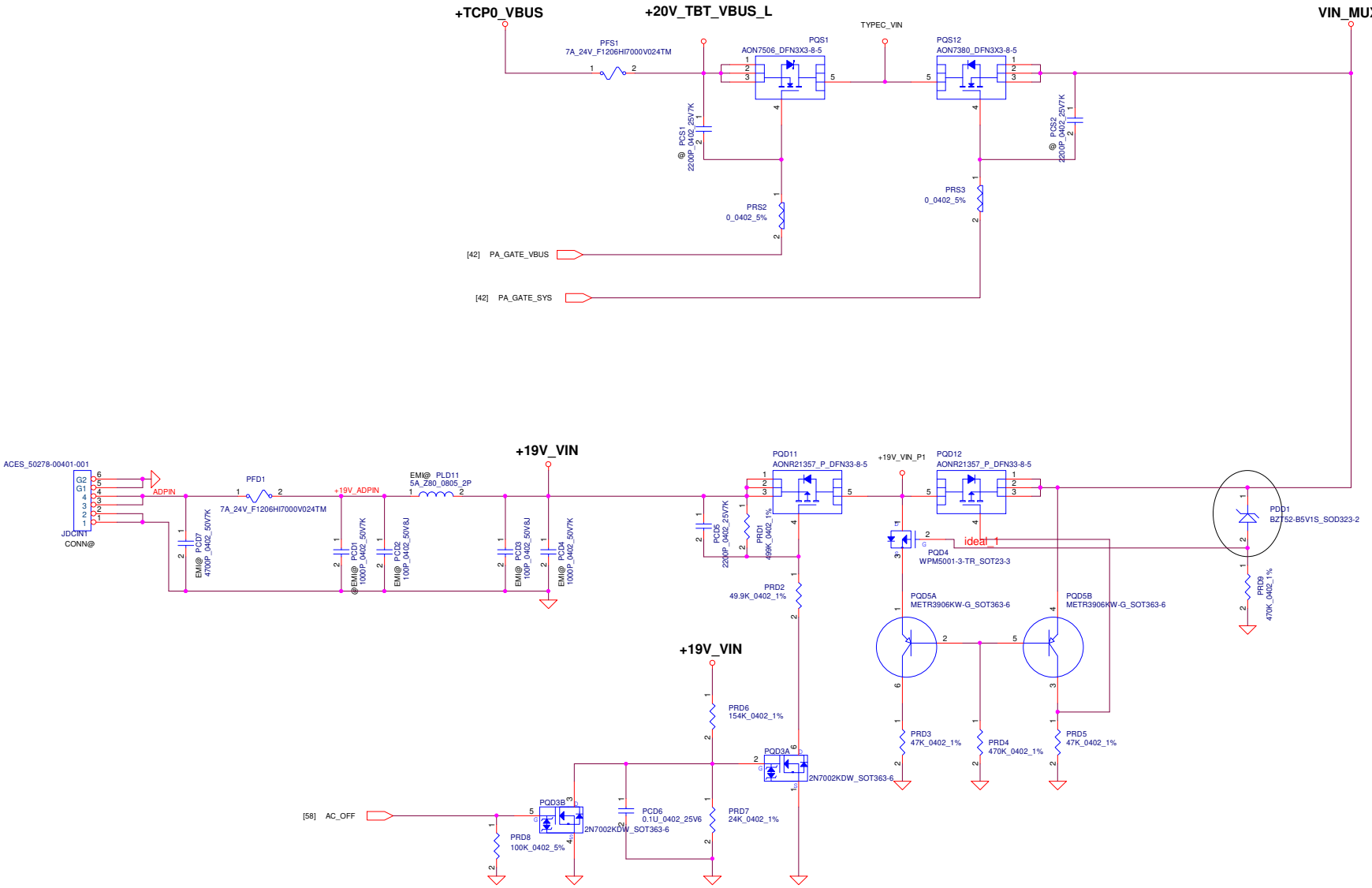


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| Compal Electronics, Inc. | | | |
| Title | PWR- DC Conn/Type-C PD in | | |
| Size: Custom | Document Number: LAK321P | | Rev: 2.0 |
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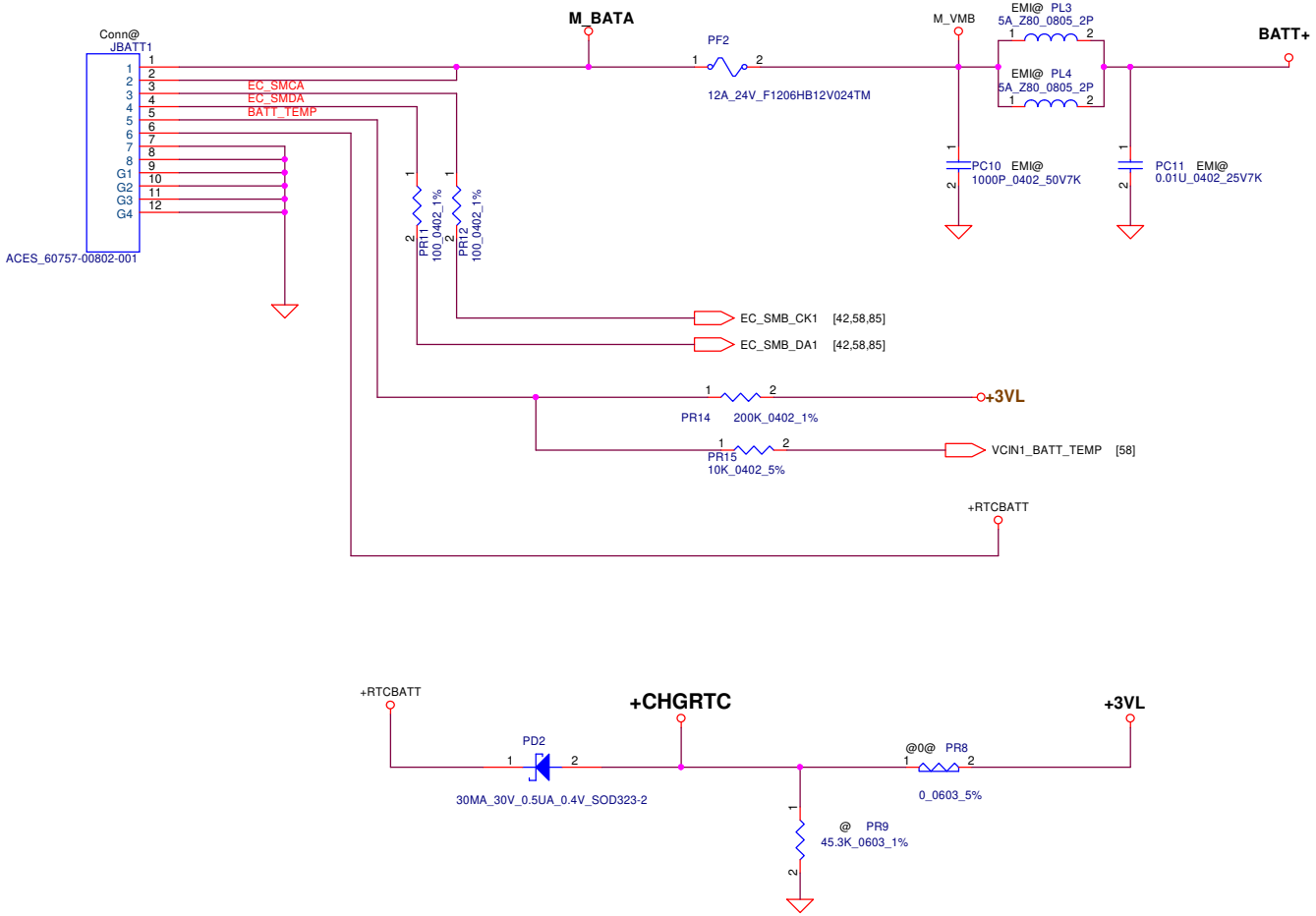
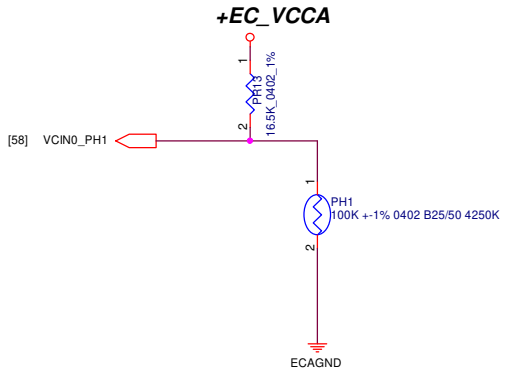



***PH201 under CPU botten side :***
***CPU thermal protection at 93 +-3 degree C***
***Recovery at 56 +-3 degree C***







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| Issued Date | 2019/05/23 | Deciphered Date | 2021/05/31 |

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**Compal Electronics, Inc.**

Title: **PWR- BATTERY CONN/OTP/RTC**

| Size | Document Number | Rev |
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| Custom | LAK321P | 2.0 |

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| | | | |
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**Compal Electronics, Inc.**

Title: **PWR- Reserve**

| Size | Document Number | Rev |
|---|---|---|
| Custom | **LAK321P** | 2.0 |

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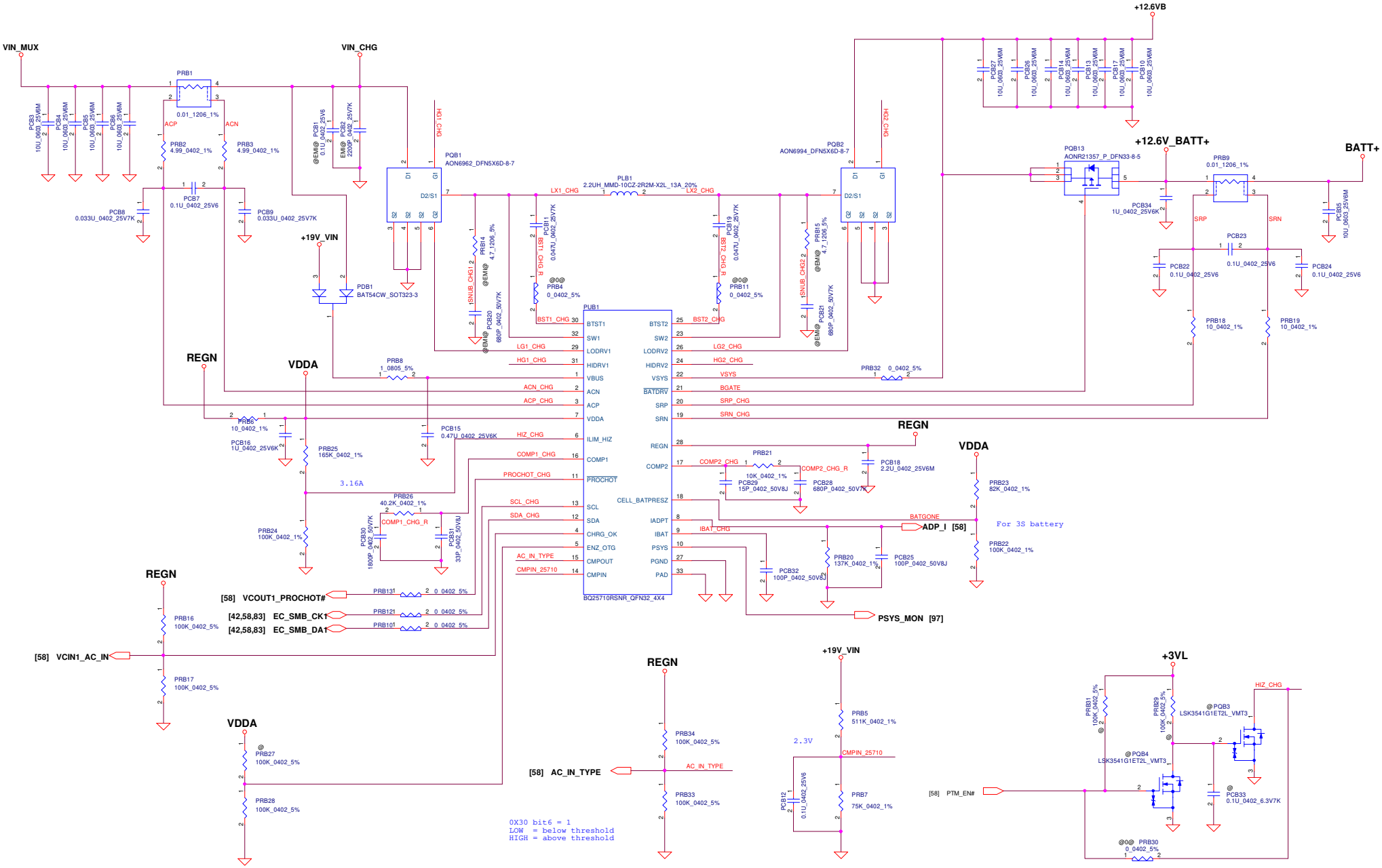


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**Compal Electronics, Inc.**

Title: **PWR- CHARGER**

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**Compal Electronics, Inc.**

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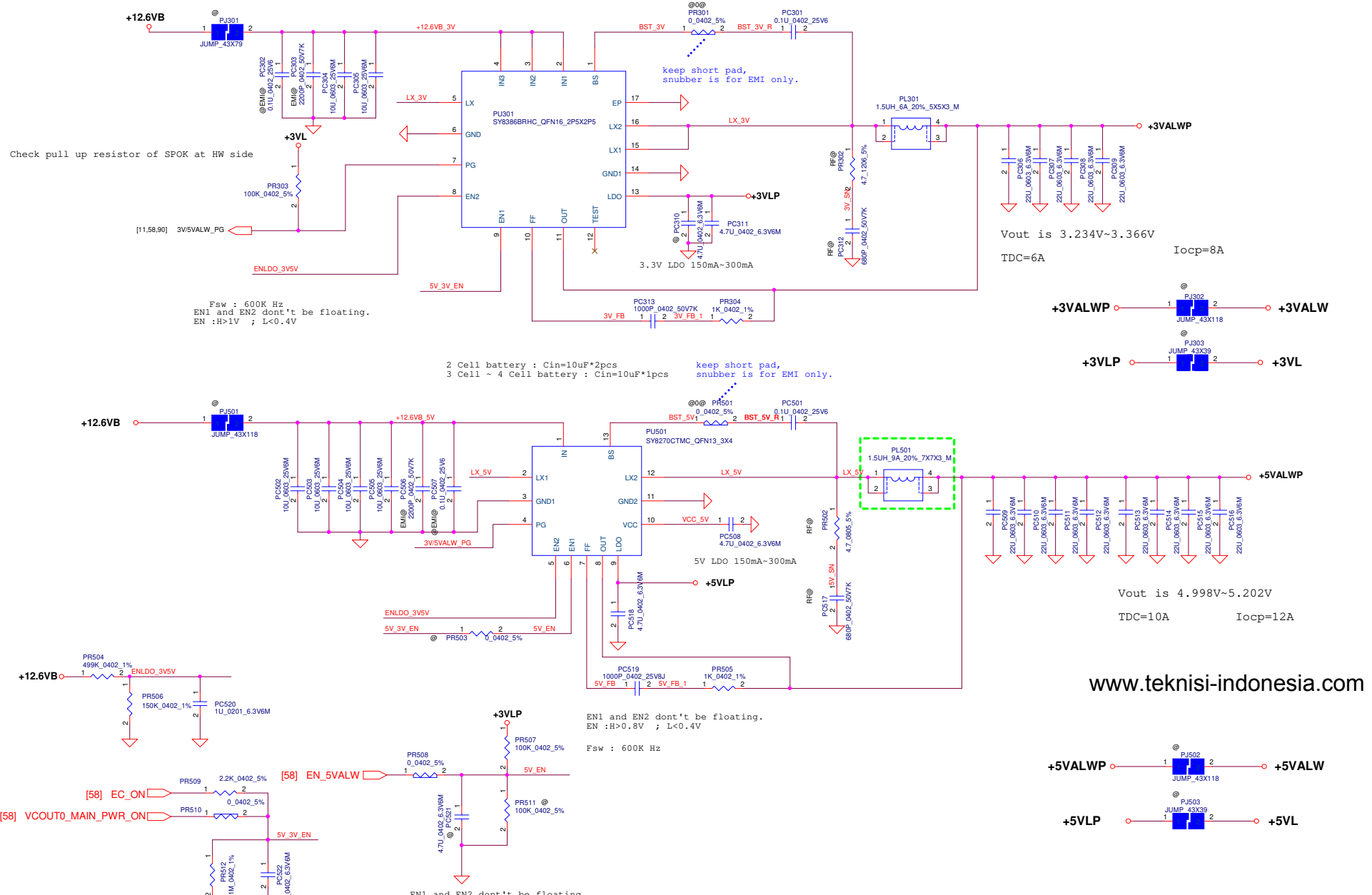


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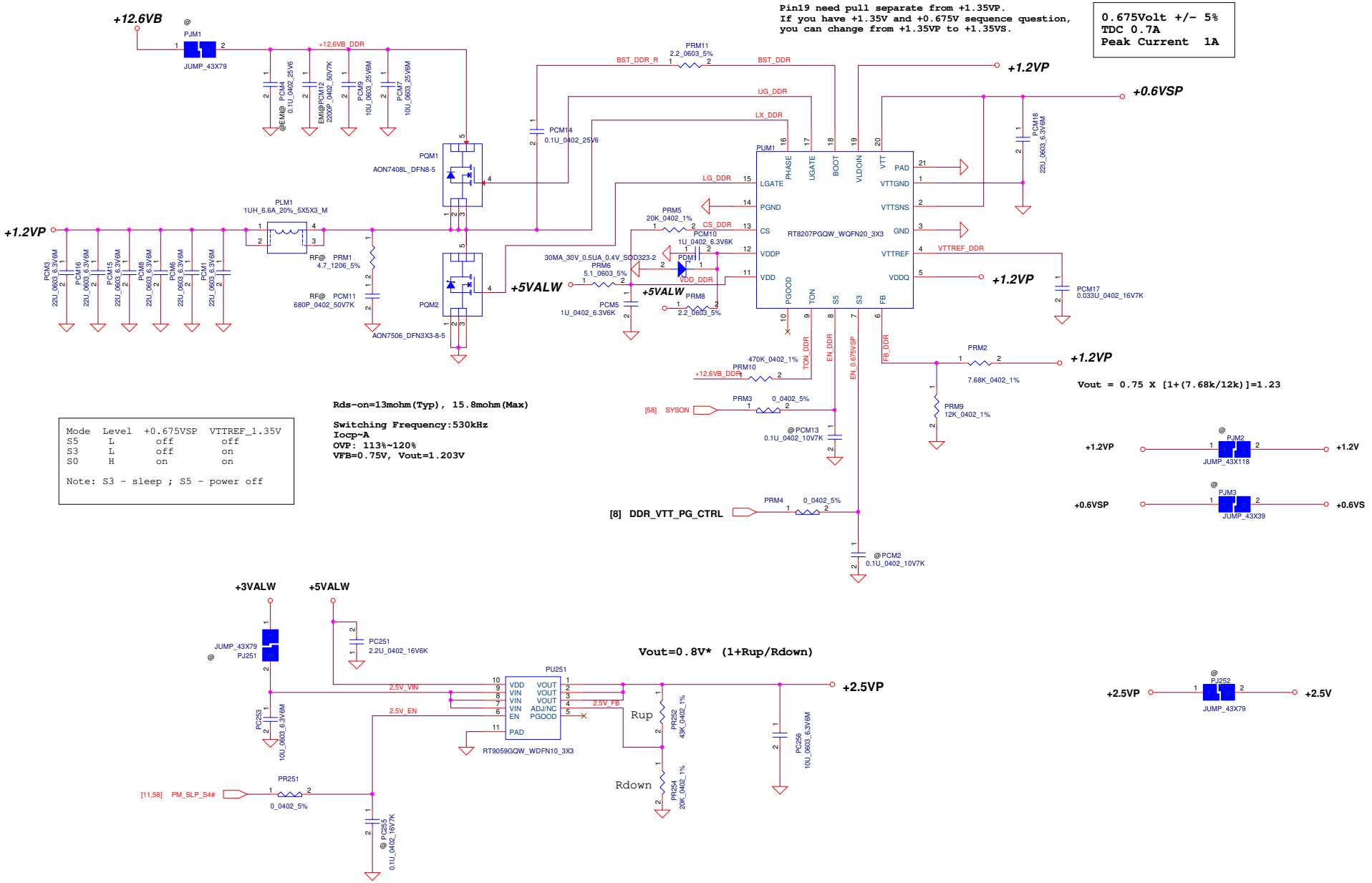


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| Title | PWR- DDR | | |
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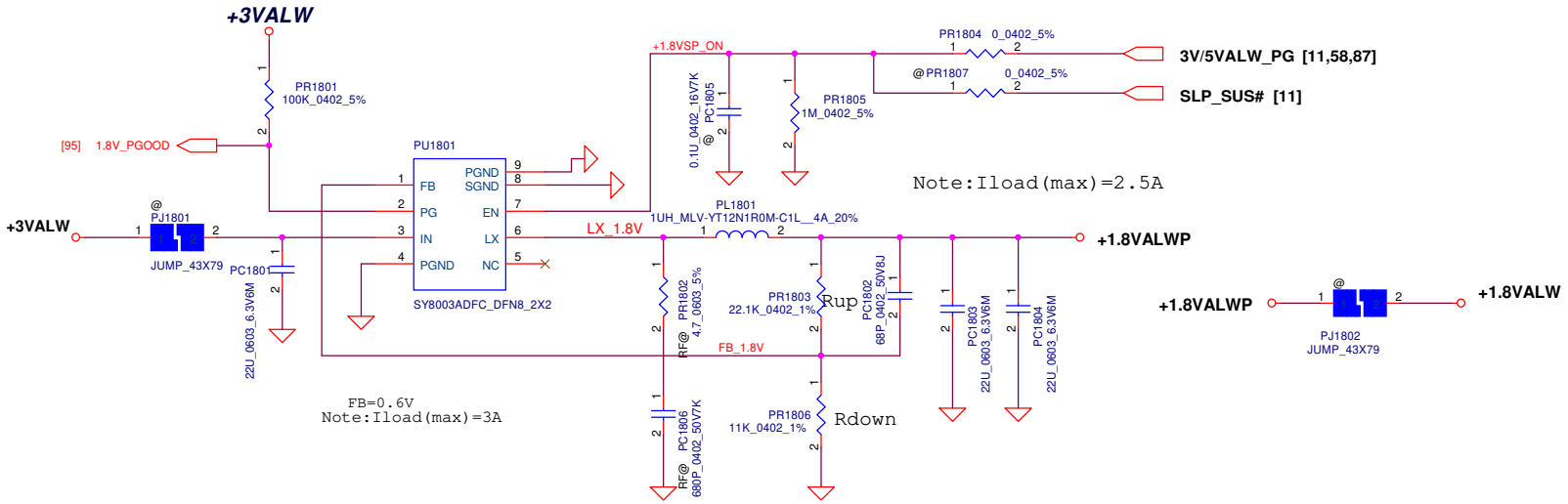


**Note:**
**When design Vin=5V, please stuff snubber to prevent Vin damage**

**Vout=0.6V* (1+Rup/Rdown)**

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**Compal Electronics, Inc.**

Title: **PWR- 1.8VALWP**

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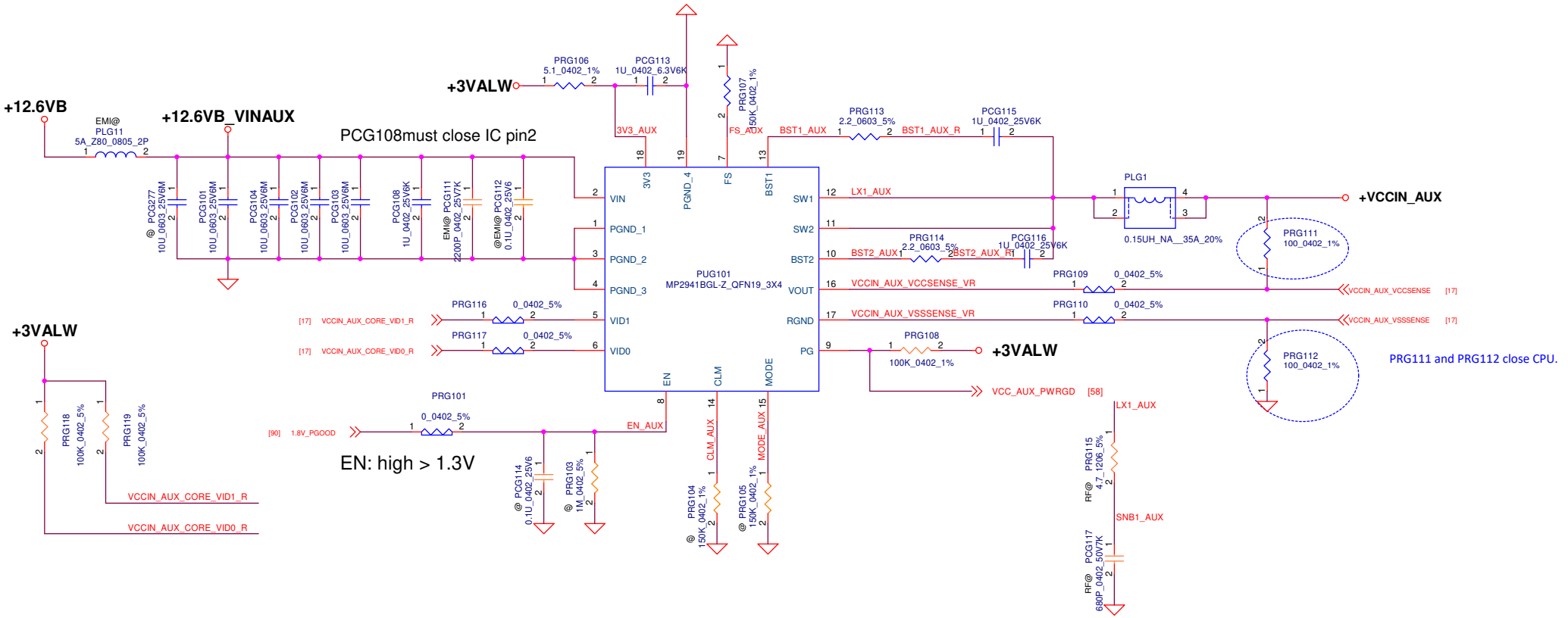
CPU PWR controller(36.1), Driver MOS(36.2), Support component(36.3)

Module model information
MP2941_V1.mdd

**VCCIN_AUX (Base on PDG rev 0.71)**
**Peak Current 26A (ICCmax)**
**TDC :10A**
**DC Load line :TBD mV/A**
**AC Load line :TBD mV/A**
**OCP Current 32A**
**Fsw=700kHz**

ES need to change to SA0000BJK10




TBD under checking with MPS

Table---1:VID control Bit logics

| VID1 | VID0 | VOUT(V) |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 1.1 |
| 1 | 0 | 1.65 |
| 1 | 1 | 1.8 |

Table---2:CLM Select

| State | CLM | Resistor to GND |
|---|---|---|
| M1 | 7A | 0 |
| M2 | 10A | 90k |
| M3 | 13A | 150k |
| M4 | 17A | >230k or float |

Table---3:MODE Select

| State | Interleaving | VID Down option | Resistor to GND |
|---|---|---|---|
| M1 | N | Slew down | 0 |
| M2 | Y | Slew down | 90k |
| M3 | Y | Decay | 150k |
| M4 | N | Decay | >230k or float |

Table---4:FS Select

| State | Fs(kHz) | Resistor to GND |
|---|---|---|
| M1 | 500 | 0 |
| M2 | 700 | 90k |
| M3 | 1000 | 150k |
| M4 | 1200 | >230k or float |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Compal Electronics, Inc.

Title: PWR- VCCIN_AUX(MP2941)

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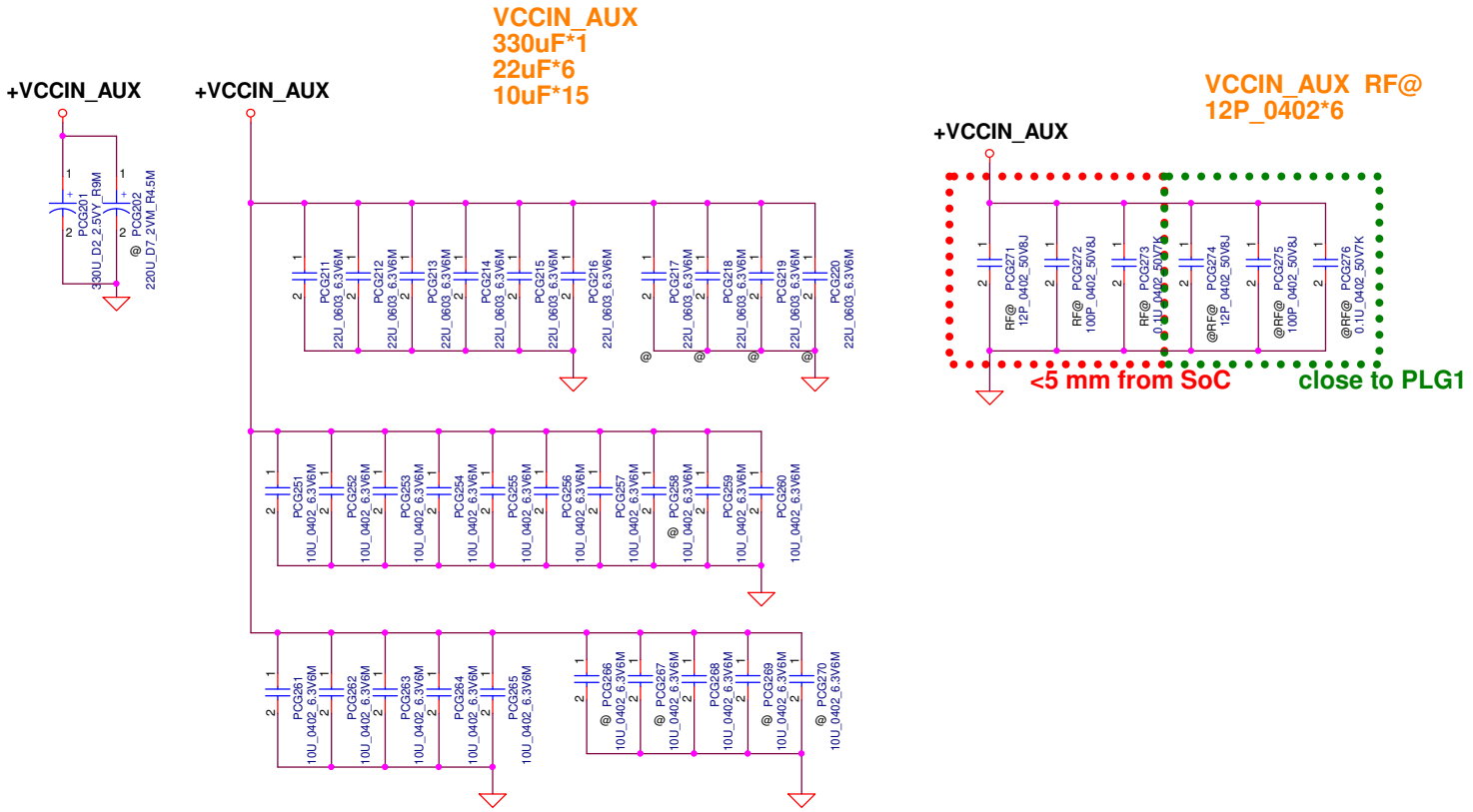


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**Compal Electronics, Inc.**

Title: PWR- VCORE Cap

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Module model information

MP2940_V1A.mdd for IC portion
MP2940_V1B.mdd for SW portion

$$T_{JUNCTION} = \frac{V_{TEMP} + 100mV}{10mV / ^{o}C}$$

Rpsys=0.8/PWR_in_MAX*Isys
=0.8/160uA
=5k ohm

Where:
PWR_in_Max is the maximum input power, with the unit of W.

PE pin can be always pull high to 3.3V
The leakage is 3.3V/100Kohm=0.033mA.

H>0.8 L<0.4

Vcs=(10uA*Io)*Rcs+1.23

Static Load Line Setting

Rdroop=RLL/2*10uA*(4/8*1/8)*1000
=2m/2*10uA*(4/8*1/8)*1000
=1.6k

RIMON=32*(1.6*8/11)/(ICCMAX*10uA)*1000
=32*(1.6*8/11)/(33*10uA)*1000
=113k

PRZ37=57.6k ohm for TGL-U42 ICCMAX=65A.
PRZ37=69.8k ohm for TGL-U22 ICCMAX=55A

1.8V LDO output for current sense

Function Field :
PWR.Plane.Regulator_MP2940:36.1
Rest of support elements:36.3

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Title: PWR- VCORE(MP2940)

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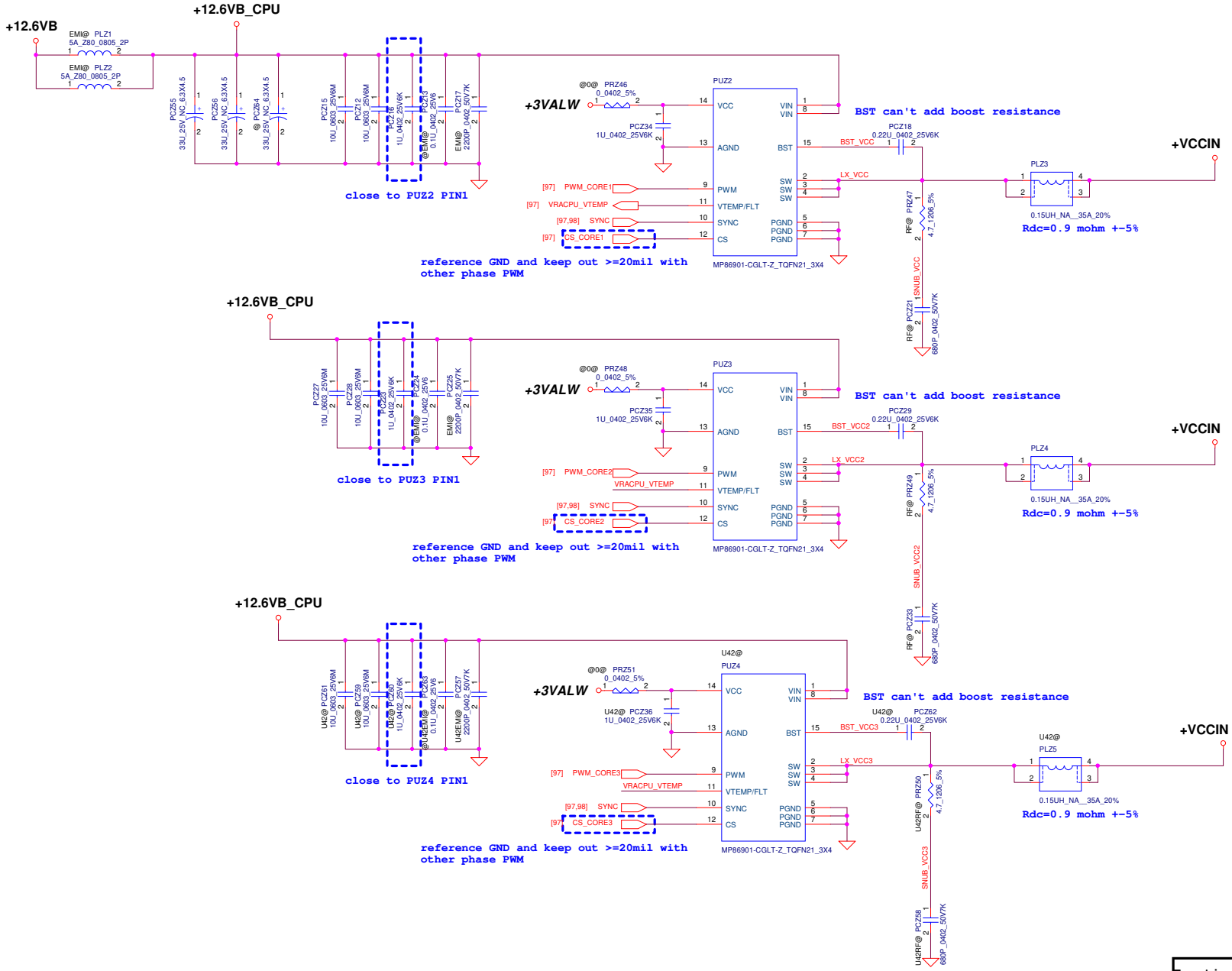


Function Field :
Drivers:36.2
Rest of support elements:36.3
CPU_Core output CAP (Including MLCC):36.4

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Compal Electronics, Inc.

Title: PWR- VCORE_SW

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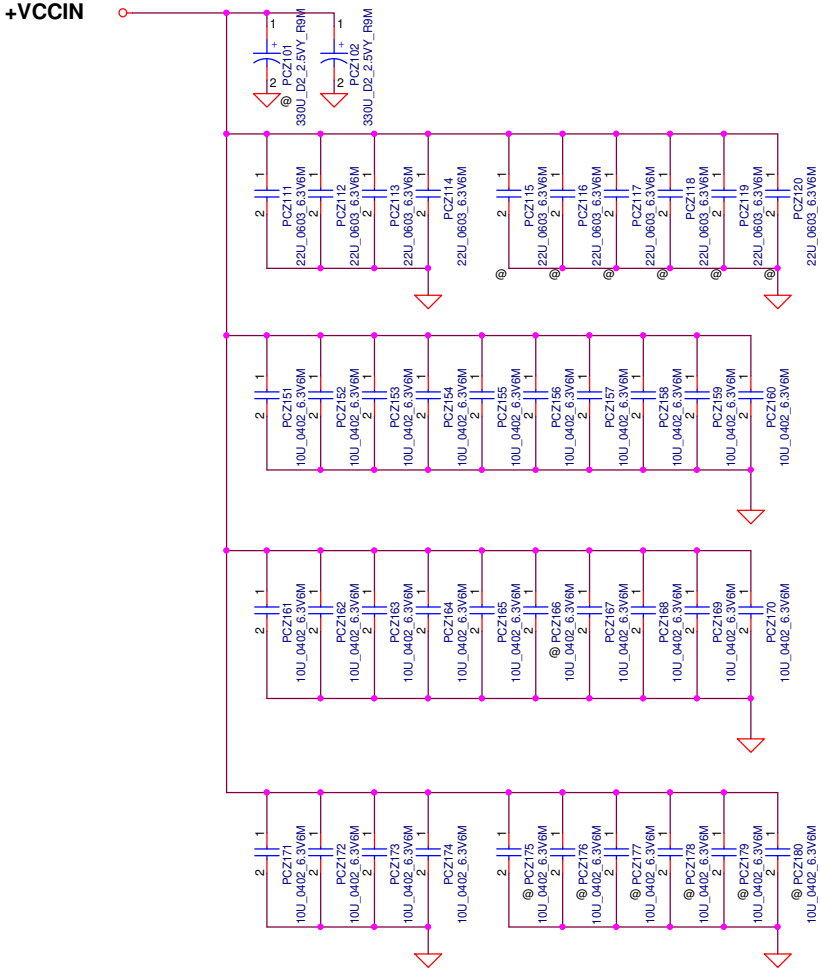
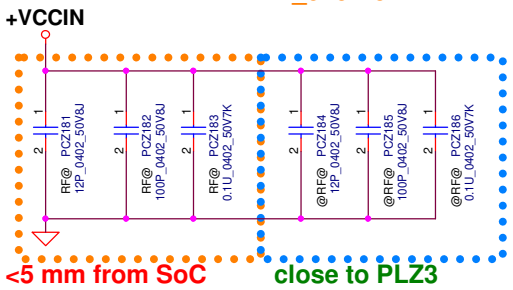
VCCIN
330uF*1
22uF*4
10uF*24




VCCIN_RF@
12P_0402*6

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Title: PWR- VCORE Cap

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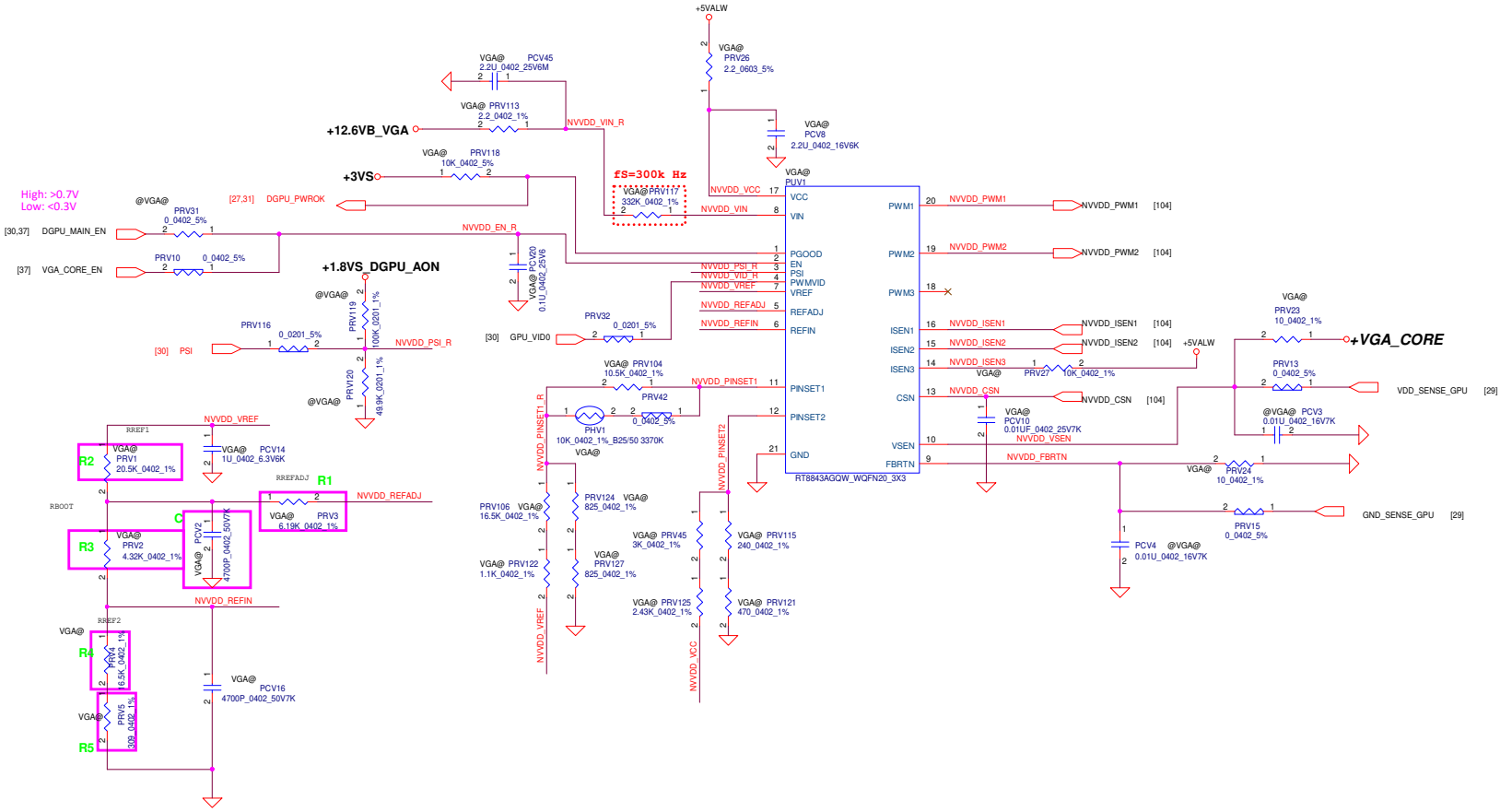


R1//(R3+R4+R5) = 4.787k
R1//R2=4.754K

Vboot = Vref X [Ref2/(Ref1+Rboot+Ref2)]
Vboot=2*[(R4+R5) / (R2+R3+R4+R5)]
Vboot=2*[(16.5k+309) / (20.5k+4.32k+16.5k+309)] = 0.8076

Vmin=Vvref X [Rref2/(Rref2+Rboot)]X[(Rrefadj//(Rboot+Rref2))/(Rref1+(Rrefadj//(Rboot+Rref2)))]

Vmin=2 X [(R4+R5)/((R4+R5)+R3)]X[(R1//(R3+(R4+R5)))/(R2+(R1//(R3+(R4+R5))))]

Vmax=Vvref X [Rref2/((Rref1//Rrefadj)+Rboot+Rref2)]

Vmax=2 X [(R4+R5)/(R2//R1)+R3+(R4+R5))]

Vmin=2 X [(R4+R5)/((R4+R5)+R3)]X[(R1//(R3+(R4+R5)))/(R2+(R1//(R3+(R4+R5))))] =0.3V

Vmax=2 X [(R4+R5)/(R2//R1)+R3+(R4+R5))] =1.3

$$V_{min} = V_{VREF} \times \frac{R_{REF2}}{R_{REF2} + R_{BOOT}} \times \frac{R_{REFADJ} // (R_{BOOT} + R_{REF2})}{R_{REF1} + \left[(R_{REFADJ} // (R_{BOOT} + R_{REF2}))\right]}$$

$$V_{max} = V_{VREF} \times \frac{R_{REF2}}{(R_{REF1} // R_{REFADJ}) + R_{BOOT} + R_{REF2}}$$

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| Title | PWR- GPU_CORE | | |
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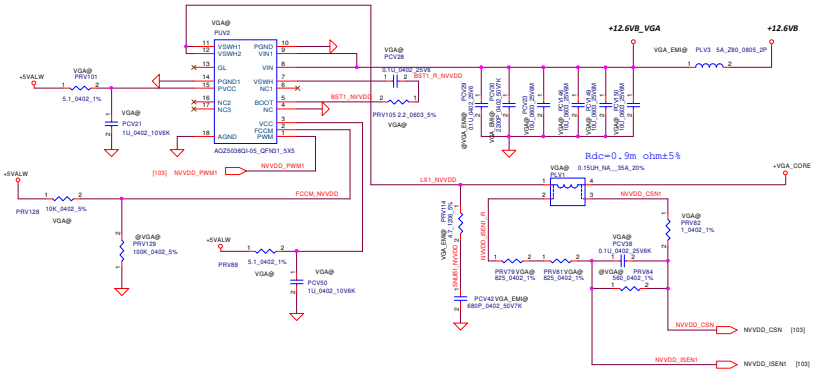
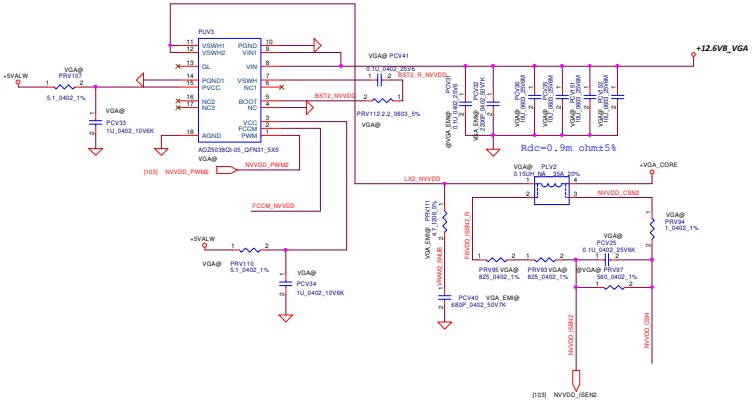
+VGA_CORE
EDP-Continuous 35A
EDP-Peak 75A
OCP > Need larger than (A)
Please base on GPU spec to calculate.

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| Title | PWR- GPU_CORE_SW |
| Size | D |
| Document Number | LAK321P |
| Rev | 2.0 |
| Date: | Friday, May 07, 2021 |
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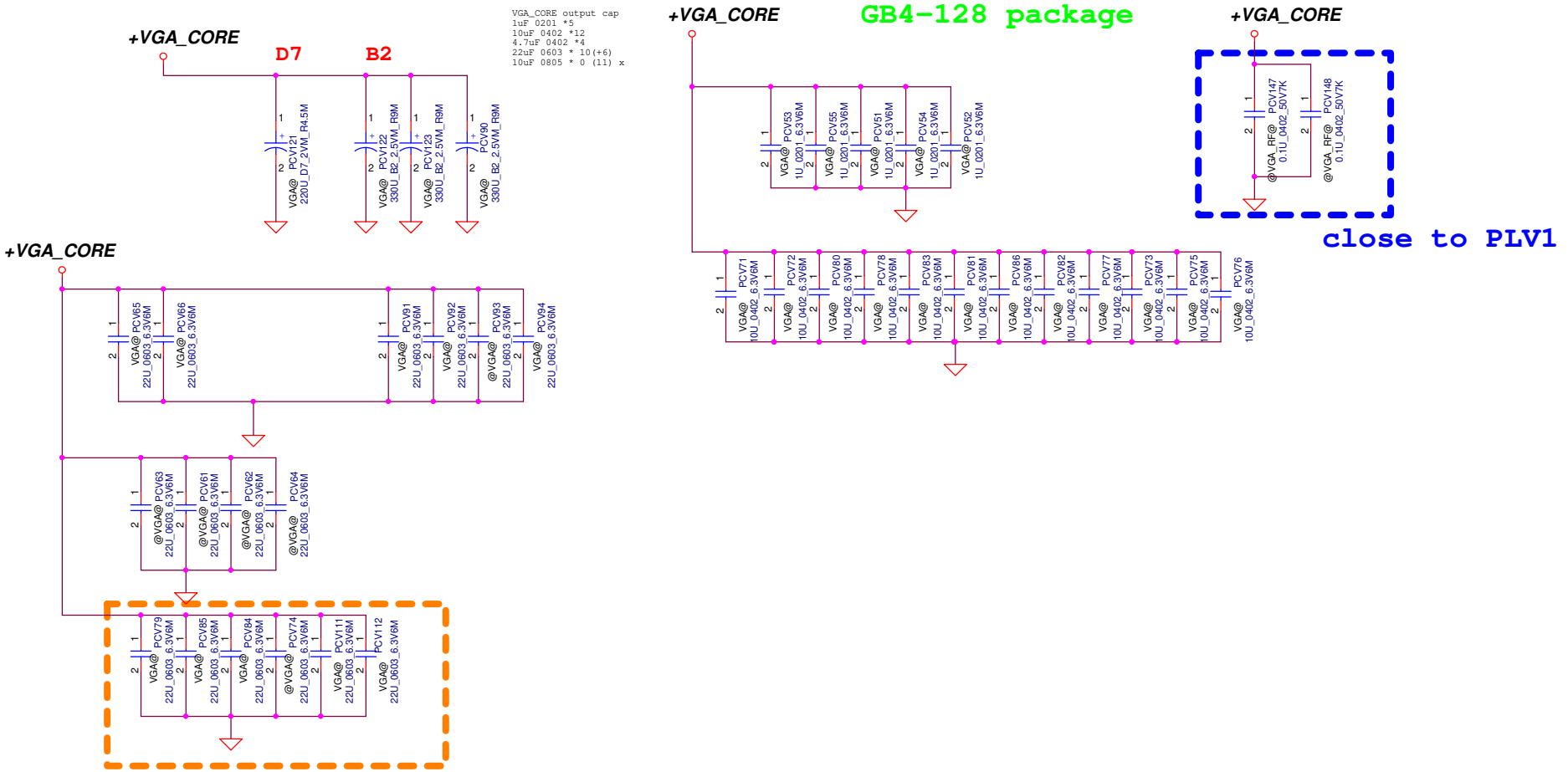


VGA_CORE output cap
330U_B2_2.5V 3pcs
22U_0603_6.3V 4pcs

10U_0603_6.3V 13pcs
1U_0402_16V 5pcs

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Title: PWR- GPU_CORE Cap

Size: Custom | Document Number: LAK321P | Rev: 2.0

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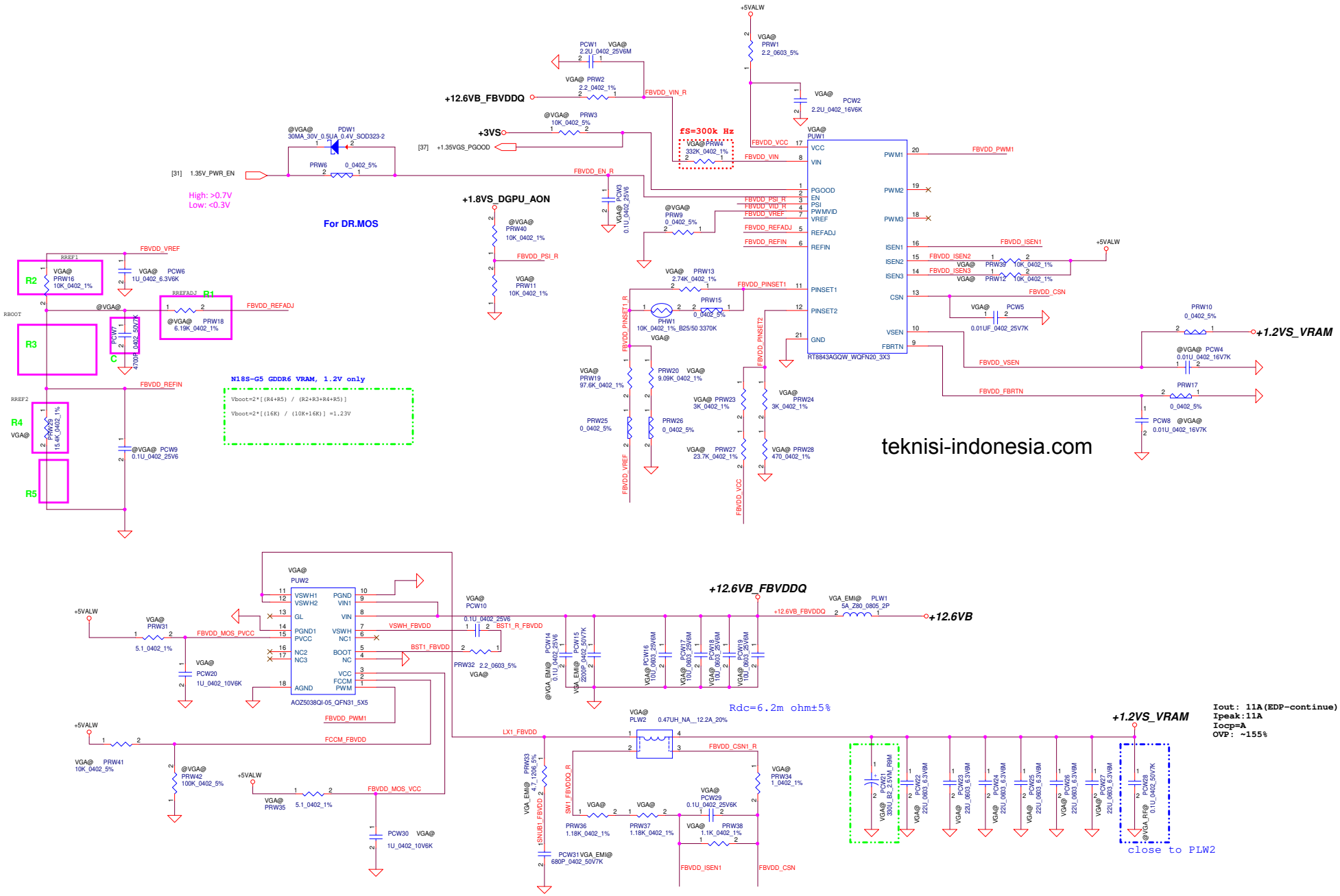


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| | | | |
|---|---|---|---|
| Title | PWR- GPU_VRAM | | |
| Size | Document Number | | Rev |
| C | LAK321P | | 2.0 |
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| Issued Date | 2019/12/09 | Deciphered Date | 2021/05/31 |

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Title: **PWR- Reserve**

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| Custom | **LAK321P** | 2.0 |

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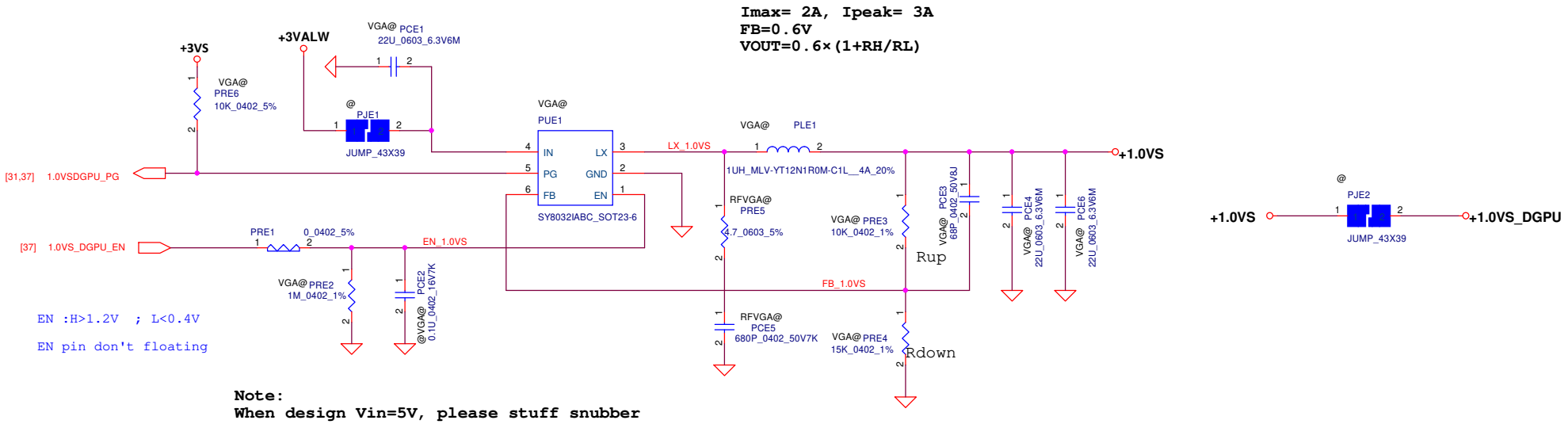


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Title: PWR- GPU 1.0V

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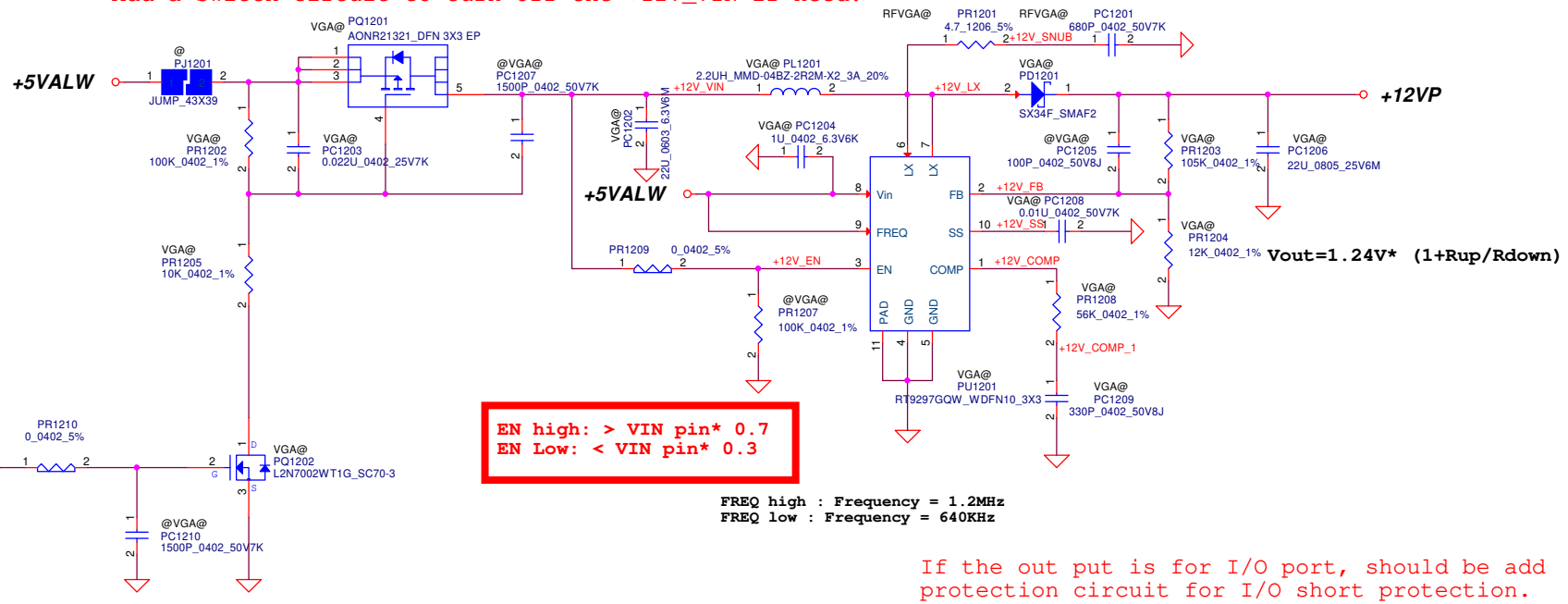
Module model information

RT9297_V1.mdd

Add a switch circuit to turn off the +12V_VIN if need.

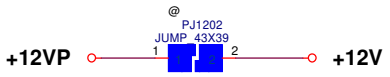
Must check PL501 and PD501 rating for your application.




**EN high: > VIN pin* 0.7**
**EN Low: < VIN pin* 0.3**

**FREQ high : Frequency = 1.2MHz**
**FREQ low : Frequency = 640KHz**

If the out put is for I/O port, should be add protection circuit for I/O short protection.

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**Compal Electronics, Inc.**

Title: **PWR- 12V**

Size: Custom | Document Number: **LAK321P** | Rev: 2.0

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Title: **PWR- Reserve**

| Size | Document Number | Rev |
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## Version change list (P.I.R. List)



| Item | Reason for change | PG# | Modify List | Date | Phase |
|---|---|---|---|---|---|
| 1 | For Voltage deviation | 103,108 | Mount PCV14 & PCW6 (1U_0402_6.3V6K) | 4/1 | SDV2 |
| 2 | Dr.Mos FCC pin Voltage insufficient | 104,108 | PRW41 & PRV128 From 100K_0402 change to 10K_0402 | 4/1 | SDV2 |
| 3 | Part count reduce | 108 | Remove PRW22 & PRW30 | 4/1 | SDV2 |
| 4 | Adjust VRAM voltage | 108 | PRW29 from 15K change to 15.4k | 4/1 | SDV2 |
| 5 | Fix VRAM cannot Power on<br>Change DCR sense R & C Parameter setting. | 108 | PRW37 From 374 change to 806_0402 , Mount PRW38 (1.1K_0402_1% )<br>PRW19 From 182K change to 118K_0402 , PRW20 From 169K change to 11K_0402<br>PRW25 & PRW26 change to R-short | 4/1 | SDV2 |
| 6 | Change component size | 103 | PRV23 , PRV13 , PRV24 , PRV15 ,PRV31 & PRV10 from 0201 change to 0402 | 4/7 | SDV2 |
| 7 | Change component size | 103,108 | PRV27 ,PRW39 & PRW12 from 0201 change to 0402 | 4/8 | SDV2 |
| 8 | Adjustment MLCC mount location | 96 | Mount PCG268 , UnmountPCG258 | 4/9 | SDV2 |
| 9 | For ACFET rating, Size from 3x3 change to 5x6 | 82 | PQS12 From AON7380_DFN3X3-8-5 change to EMB04N03H_EDFN5X6-8-5 | 4/13 | SDV2 |
| 10 | RF demand | 96,101 | Mount PCG271,PCG272,PCG273,PCZ181,PCZ182,PCZ183 | 4/14 | SDV2 |
| 11 | HW Suggest | 108 | Unmount PDW1 | 4/14 | SDV2 |
| 12 | Change VRAM OCP setting from 14A to 16A | 108 | PRW19 From 118k change to 97.6k.PRW20 From 11k change to 9.09k.<br>PRW36 From 806 change to 1.18k.PRW37 From 374 change to 1.18k.<br>PRW27 From 2.43k change to 23.7kPRW24 From 240 change to 3k | 4/14 | SDV2 |
| 13 | Repeat pull-height | 108 | Unmount PRW3 | 4/20 | SDV2 |
| 14 | HW Suggest<br>Adjustment DDR Voltage from 1.2v to 1.23v | 89 | PRM2 from 6.04k change to 7.68k<br>PRM9 from 10k change to 12k | 4/23 | SDV2 |
| 15 | Unified P/N | 104 | PLV1 & PLV2 From SH00001DC00 change to SH00001EF00(Common part ) | 4/24 | SDV2 |
| 16 | Fix NVVDD Overshoot/undershoot issue | 103 | Mount PCV16 (SE074472K80, S CER CAP 4700P 50V K X7R 0402) | 4/30 | SDV2 |
| 17 | For cost | 82 | PQS12 From EMB04N03H_EDFN5X6-8-5 change to AON7380_DFN3X3-8-5 | 5/4 | SIT |
| 18 | Part count reduce | | PR508 ,PR510, PRM3 , PRM4 , PR251 ,PR1804 , PRG116 , PR117 , PRG109 , PRG110<br>PRV10 , PRW6 , PRE1 , PR1210 , PR1209 , PRV116 , PRV32 , PRV42 , PRW15 , PRV42<br>PRB32 from 0 ohm change to R- short | 5/8 | SIT |
| 19 | Unified P/N | 106 | PCG201 Form SGA00002680 Change to SGA0000E800 (Common part) | 5/13 | SIT |
| 20 | Part count reduce | 95 | PRG101 From 0 ohm change to R-short | 5/14 | SIT |
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|---|---|---|
| Title: PWR- PIR (1/2) | | |
| Size: Custom | Document Number: LAK321P | Rev: 2.0 |
| Date: Friday, May 07, 2021 | Sheet 119 of 121 | |

| Item | Reason for change | PG# | Modify List | Date | Phase |
|---|---|---|---|---|---|
| 25 | EX | XX | EX | XX | XX |

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Compal Electronics, Inc.

Title: PWR- PIR (2/2)

Size: Custom | Document Number: LAK321P | Rev: 2.0

Date: Friday, May 07, 2021 | Sheet 120 of 121

# Version change list (P.I.R. List)



| Item | Reason for change | PG# | Modify List | Date | Phase |
|---|---|---|---|---|---|
| 1 | For fixing headset auto swap issue | 56 | RA33 change from 0 ohm to 200K ohm | 2020/3/30 | SDV->SIT |
| 2 | For GPU Power Bead source supply | 28 | L14 change footprint from 0603 to 0402 | 2020/4/15 | SDV->SIT |
| 3 | For better power shape | 29 | RV462 change from 0805 0 ohm to J3 43x79 Jump | 2020/5/04 | SDV->SIT |
| 4 | For Thermal GPU Prochot require | 30 | change GPU GPIO 9 to GPIO 12 | 2020/6/15 | SIT->SIT-R |
| 5 | For TGL common design | 11 | Combine 2 SOT323 package (QC2 & QC3) into 1 SOT363 package | 2020/6/15 | SIT->SIT-R |
| 6 | For Sequence design reserve | 11/90 | Reserve SLP_SUS# to +1.8VSP_ON circuit | 2020/6/15 | SIT->SIT-R |
| 7 | For Finger Print power switch design reserve | 58/66 | Add QFP1 & CFP2 & RFP11 | 2020/7/16 | SIT->SIT-R |
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Compal Electronics, Inc.

Title: PIR (HW)

Size: Custom | Document Number: LA-K321P | Rev: 2.0

Date: Thursday, June 03, 2021 | Sheet 121 of 121