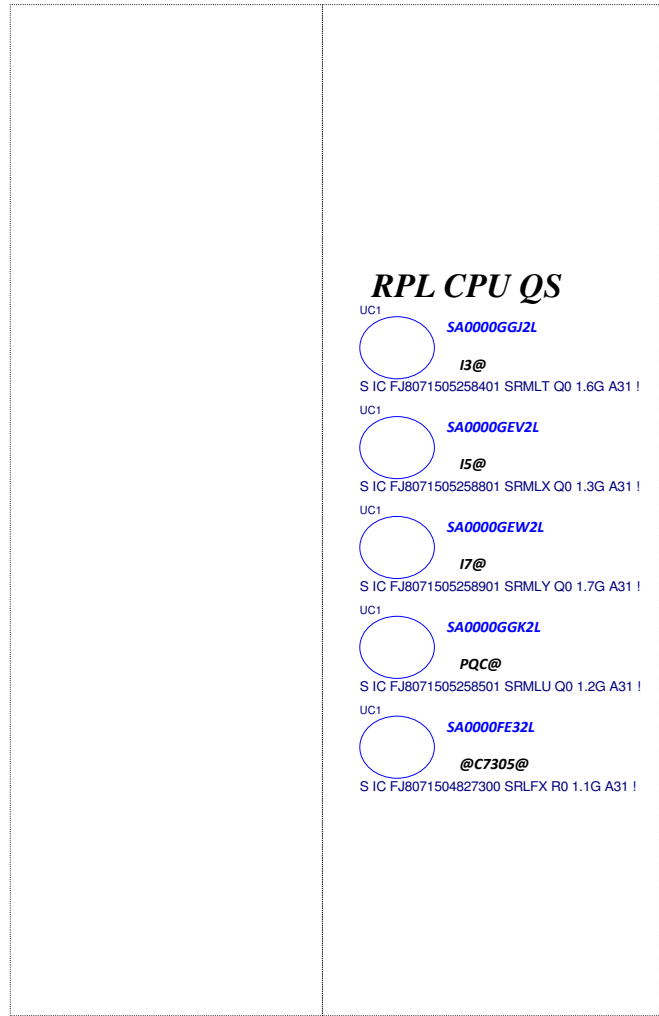



**COMPAL LA-M366P**  
**MODEL NAME : Warlock MLK2 RPL**  
**PCB NO : DA6002E0000**  
**PCB 2X2 LA-L241P REV0 M/B 1 S**

**RPL-U+NPCX993**  
**(UMA)**  
**2022-12-19**  
**REV : 1.0 (A00)**



**@ : Un-pop Component**  
**UMA@ : not Support external Graphic card**  
**N3@/V3@ : Inspiron/Vostro**  
**MSFT@/NMSFT@ : MSFT SKU / Normal SKU**  
**G3@ : Support G3 sharing SPI topology**  
**CNV@ : Support CNVi function**  
**S5LID@/LID@ : Support S5 LID power up Function/Normal LID close**  
**STG@ : C10\_gate control VCCSTG**  
**I2CTCH@/USBTCH@ : Touch Screen support I2C signal / USB signal**  
**I2CPAD@/PS2PAD@ : EC use I2C touch PAD signal(or PS2)**  
**JP@/JUMP@/PJP@ : JUMP**  
**100@/1000@ : 10/100 LAN / Giga-LAN**  
**PRO@/ICPRO@ : only LCDVDD protection/Hinge up protection Support**  
**EMI@/ESD@/RF@ : EMI, ESD and RF Component**  
**@EMI@/@ESD@/@RF@ : EMI, ESD and RF Un-POP Component**  
**CMC@ : XDP Component**  
**CONN@ : Connector Component**  
**KBBL@ : KB Backlight**  
**TPM@/NTPM@ : HW TPM/SW TPM**  
**750\_CTPM@ : 750 and china TPM**  
**CTPM@/ST\_CTPM@ : China TPM/ST China TPM**  
**FFS@ : Free Fall Sensor**  
**TYPEC@/NTYPEC@ : Support TypeC/non-TypeC**  
**TYPEC@EMI@/TYPEC@ESD@: EMI, ESD ,TypeC Component**  
**LBIST@/LBIST@RF@ : LBIST for LCD monitor**  
**TP@/CMC@TP@ : Test Point/XDP Test Point**  
**DISPCB@/UMAPCB@ : PCB MB**

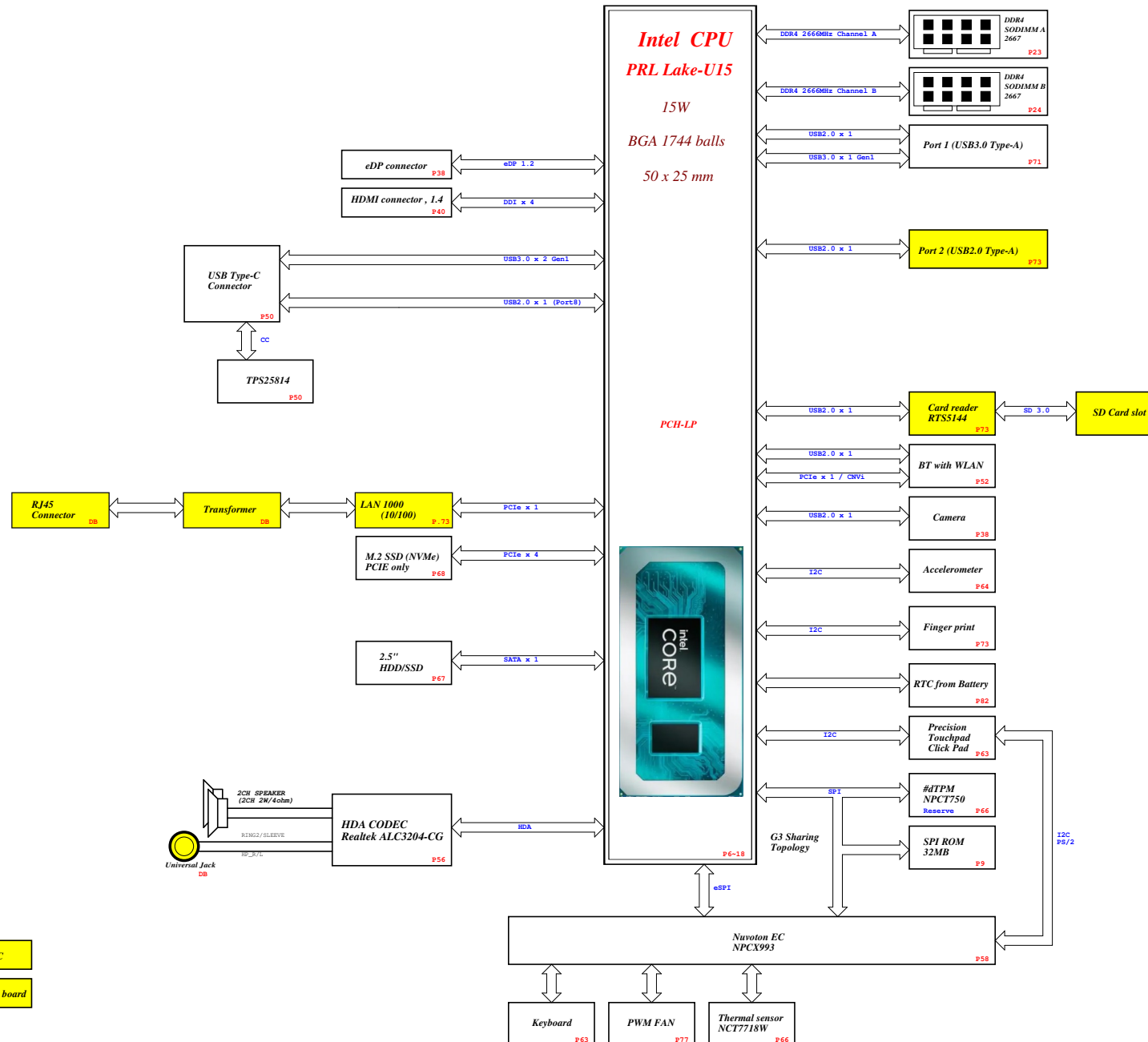
Layout Dell logo



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REV: X01  
PWB: 9HTP8

|   |            |                    |            |                          |                             |
|---|------------|--------------------|------------|--------------------------|-----------------------------|
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| Issued Date   | 2018/04/01 | Deciphered Date    | 2019/04/01 | Title                    |                             |
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|   |            |                    |            |                          | LA-M366P                    |
|   |            |                    |            | Date:                    | Wednesday, January 04, 2023 |
|   |            |                    |            | Sheet                    | 1 of 121                    |
|   |            |                    |            | Rev                      | 1.0                         |

# Block Diagram



|         |                |
|---------|----------------|
| Battery | RTC            |
| Charger | Daughter board |

## POWER STATES

| State                     | Signal | SLP S# | SLP S# | SLP S# | ALWAYS PLANE | SUS PLANE | RUN PLANE | CLOCKS |
|---------------------------|--------|--------|--------|--------|--------------|-----------|-----------|--------|
| S0 (Full ON) / M0         |        | HIGH   | HIGH   | HIGH   | ON           | ON        | ON        | ON     |
| S3 (Suspend to RAM) / M3  |        | HIGH   | HIGH   | HIGH   | ON           | ON        | OFF       | OFF    |
| S4 (Suspend to DISK) / M3 |        | LOW    | LOW    | HIGH   | ON           | OFF       | OFF       | OFF    |
| S5 (SOFT OFF) / M3        |        | LOW    | LOW    | LOW    | ON           | OFF       | OFF       | OFF    |
| G3                        |        | OFF    | OFF    | OFF    | OFF          | OFF       | OFF       | OFF    |
| DS3                       |        | —      | —      | —      | —            | —         | —         | —      |

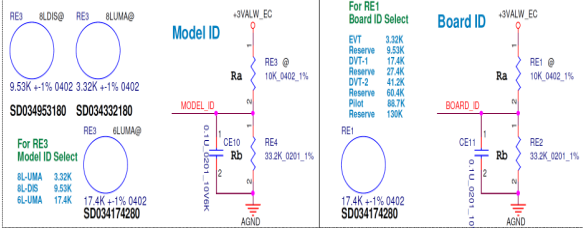
## Voltage Rails

| Power Plane    | Description                                 | S0  | S3  | S4/S5 | G3  |
|----------------|---|-----|-----|-------|-----|
| +19V_ADIN      | Adapter power supply                        | N/A | N/A | N/A   | N/A |
| +17.4V_BATT++  | Battery power supply                        | N/A | N/A | N/A   | N/A |
| +19VB          | AC or battery power rail for System         | N/A | N/A | N/A   | N/A |
| +RTC_SOC       | RTC power                                   | ON  | ON  | ON    | ON  |
| +3VALW_DSW     | +3VALW power for PCH DSW rails              | ON  | ON  | ON*   | OFF |
| +5VALW         | System +5V always on power rail             | ON  | ON  | ON*   | OFF |
| +3VALW         | System +3V always on power rail             | ON  | ON  | ON*   | OFF |
| +1.8V_PRIM     | System +1.8V always on power rail           | ON  | ON  | ON*   | OFF |
| +1.0V_PRIM     | System +1.0V always on power rail           | ON  | ON  | ON*   | OFF |
| +1.2V_DDR      | DDR4 +1.2V power rail                       | ON  | ON  | OFF   | OFF |
| +2.5V_MEM      | DDR4 +2.5V power rail                       | ON  | ON  | OFF   | OFF |
| +0.6V_DDR_VTT  | DDR +0.6V5 power rail for DDR terminator    | ON  | OFF | OFF   | OFF |
| +VCCIN_AUX     | CPU and PCH merged auxiliary power rail     | ON  | ON  | ON    | OFF |
| +VCCST         | +1.05 VCCST power rail                      | ON  | ON  | ON    | OFF |
| +VCCSTG        | +1.05 VCCSTG power rail                     | ON  | OFF | OFF   | OFF |
| VCCPLL         | +1.05 VCCPLL power rail                     | ON  | ON  | ON    | OFF |
| +VCC_IN        | Core voltage for CPU                        | ON  | OFF | OFF   | OFF |
| +3VLP          | +19VB to +3VLP power rail for suspend power | ON  | ON  | ON    | OFF |
| +3VALW_DSW     | +19VB to DSW power rail for suspend power   | ON  | ON  | ON    | OFF |
| +3VALW_PCH     | +3VALW power for PCH suspend rails          | ON  | ON  | ON*   | OFF |
| +5VS           | System +5VS power rail                      | ON  | OFF | OFF   | OFF |
| +3VS           | System +3VS power rail                      | ON  | OFF | OFF   | OFF |
| +1.35V_MEM_GFX | +1.35V power rail for GPU                   | ON  | OFF | OFF   | OFF |
| +3VGS          | +3V power rail for GPU                      | ON  | OFF | OFF   | OFF |
| +1.8VGS        | +1.8V power rail for GPU                    | ON  | OFF | OFF   | OFF |
| +0.95VSDGPU    | +0.95V power rail for GPU                   | ON  | OFF | OFF   | OFF |

Note : ON\* means that this power plane is ON only with AC power available, otherwise it is OFF

| USB 2.0 | DESTINATION          |
|---------|----------------------|
| 1       | USB2.0 port1         |
| 2       | NC                   |
| 3       | USB2.0 port3, IO/B   |
| 4       | USB2.0 port3, Type-C |
| 5       | Finger printer       |
| 6       | CCD                  |
| 7       | Card reader, IO/B    |
| 8       | NC                   |
| 9       | NC                   |
| 10      | BT                   |

## Board ID & Model ID Table



## 10.11.4 Power States

Table 783. System with M3 State Supported

| Rails              | SK Us | S0/ M0 <sup>3</sup> | C10 <sup>2</sup>                   | S0ix/ M-off <sup>4</sup>           | S3/ M <sup>3</sup>    | S3/ M-off              | S4 and S5/ M <sup>3</sup> | S4 and S5/ M-off | Deep S4/S5 | pseudoG3 <sup>1</sup> | True G3 <sup>1</sup> |
|--------------------|-------|---------------------|------------------------------------|------------------------------------|-----------------------|------------------------|---------------------------|------------------|------------|-----------------------|----------------------|
| VCCRTC             | All   | ON                  | ON                                 | ON                                 | ON                    | ON                     | ON                        | ON               | ON         | No Power              | No Power             |
| VCCDSW_3P3         | All   | ON                  | ON                                 | ON                                 | ON                    | ON                     | ON                        | ON               | ON         | No Power              | No Power             |
| VBATA (VDC)        | All   | ON                  | ON                                 | ON                                 | ON                    | ON                     | ON                        | ON               | ON         | No Power              | No Power             |
| VCCPRIM_3P3        | All   | ON                  | ON                                 | ON                                 | ON                    | ON                     | ON                        | OFF              | OFF        | No Power              | No Power             |
| VCCPRIM_1P8        | All   | ON                  | ON                                 | ON                                 | ON                    | ON                     | ON                        | OFF              | OFF        | No Power              | No Power             |
| VCC_VVNEXT_1P05    | P     | ON                  | ON                                 | ON                                 | ON                    | ON                     | ON                        | OFF              | OFF        | No Power              | No Power             |
| VCC_V1P0SEXT_1P05  | P     | ON                  | ON                                 | ON                                 | ON                    | ON                     | ON                        | OFF              | OFF        | No Power              | No Power             |
| V3.3M <sup>5</sup> | All   | ON                  | ON                                 | OFF                                | ON <sup>10</sup>      | OFF                    | ON <sup>10</sup>          | OFF              | OFF        | No Power              | No Power             |
| V1.6M <sup>5</sup> | All   | ON                  | ON                                 | OFF                                | ON <sup>10</sup>      | OFF                    | ON <sup>10</sup>          | OFF              | OFF        | No Power              | No Power             |
| VDD2               | All   | ON                  | ON                                 | ON                                 | ON                    | ON                     | OFF                       | OFF              | OFF        | No Power              | No Power             |
| VPP                | All   | ON                  | ON                                 | ON                                 | ON                    | ON                     | OFF                       | OFF              | OFF        | No Power              | No Power             |
| VCC1P05_PROC       | All   | ON                  | ON                                 | ON                                 | ON/OFF F 12, 13       | ON                     | ON/OFF F 12, 13           | OFF              | OFF        | No Power              | No Power             |
| VCCIN_AUX          | All   | ON                  | ON <sup>14</sup> /OFF <sup>2</sup> | ON <sup>14</sup> /OFF <sup>2</sup> | ON <sup>14</sup> /OFF | ON <sup>1</sup> /OFF F | ON <sup>14</sup> /OFF     | OFF              | OFF        | No Power              | No Power             |
| VCC1P8_PROC        | P     | ON                  | ON <sup>15</sup> /OFF <sup>2</sup> | ON <sup>15</sup> /OFF <sup>2</sup> | ON <sup>15</sup> /OFF | ON <sup>1</sup> /OFF F | ON <sup>15</sup> /OFF     | OFF              | OFF        | No Power              | No Power             |
| VCC_MIP1LP19       | P     | ON                  | OFF <sup>18</sup>                  | OFF <sup>18</sup>                  | OFF                   | OFF                    | OFF                       | OFF              | OFF        | No Power              | No Power             |

continued...

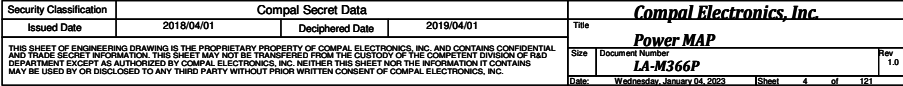
| Rails   | SK Us | S0/ M0 <sup>3</sup> | C10 <sup>2</sup>  | S0ix/ M-off <sup>4</sup> | S3/ M <sup>3</sup> | S3/ M-off | S4 and S5/ M <sup>3</sup> | S4 and S5/ M-off | Deep S4/S5 | pseudoG3 <sup>1</sup> | True G3 <sup>1</sup> |
|---------|-------|---------------------|-------------------|--------------------------|--------------------|-----------|---------------------------|------------------|------------|-----------------------|----------------------|
| VCCCORE | All   | ON                  | OFF <sup>17</sup> | OFF                      | OFF                | OFF       | OFF                       | OFF              | OFF        | No Power              | No Power             |
| VCCGT   | All   | ON                  | OFF <sup>17</sup> | OFF                      | OFF                | OFF       | OFF                       | OFF              | OFF        | No Power              | No Power             |

| Processor PCIe |      |      |      |               |      |      |      |           |           |           |           | PCIe |      |      |      |      |      |      |      |      |      |      |      | PCH PCIe |      |      |      |      |      |      |      |      |      |      |      |
|----------------|------|------|------|---------------|------|------|------|-----------|-----------|-----------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|------|------|------|------|------|------|------|------|------|
| 1              | 2    | 3    | 4    | 1             | 2    | 3    | 4    | 1         | 2         | 3         | 4         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 1        | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   |
| PCIe           | PCIe | PCIe | PCIe | PCIe          | PCIe | PCIe | PCIe | PCIe      | PCIe      | PCIe      | PCIe      | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe     | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe | PCIe |
| PCIe X 4 Gen4  |      |      |      | PCIe X 4 Gen4 |      |      |      | X1        | X1        | X1        | X1        | X1   | X1   | X1   | X1   | X1   | X1   | X1   | X1   | X1   | X1   | X1   | X1   | X1       | X1   | X1   | X1   | X1   | X1   | X1   | X1   | X1   | X1   | X1   | X1   |
| dGPU(GN18-S5)  |      |      |      | M.2 SSD Gen4  |      |      |      | M/B USB-A | M/B USB-A | M/B USB-A | M/B USB-A |      |      |      |      |      |      |      |      |      |      |      |      |          |      |      |      |      |      |      |      |      |      |      |      |
|                |      |      |      | 1             |      |      |      |           |           |           |           |      |      |      |      |      |      |      |      |      |      |      |      |          |      |      |      |      |      |      |      |      |      |      |      |

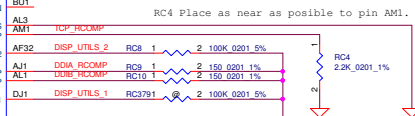
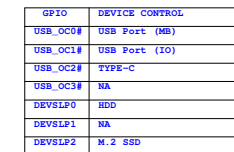
| USB/DDI       |     |          |                   |              |                   |              |             |                 |        |                |      |      |      |       |           |      |
|---------------|-----|----------|-------------------|--------------|-------------------|--------------|-------------|-----------------|--------|----------------|------|------|------|-------|-----------|------|
| Processor USB |     |          |                   | USB 2.0      |                   |              |             |                 |        |                |      |      |      | DDI   |           |      |
| 1             | 2   | 3        | 4                 | 1            | 2                 | 3            | 4           | 5               | 6      | 7              | 8    | 9    | 10   | 1     | 2         |      |
| TCP           | TCP | TCP      | TCP               | USB2         | USB2              | USB2         | USB2        | USB2            | USB2   | USB2           | USB2 | USB2 | USB2 | DDI A | DDI B     |      |
| TBT/USB4      |     | TBT/USB4 |                   | USB2         | USB2              | USB2         | USB2        | USB2            | USB2   | USB2           | USB2 | USB2 | USB2 | eDP   | eDP/HD MI |      |
|               |     |          | 1<br>Type-C<br>DP | M/B<br>USB-A | 2<br>M/B<br>USB-A | M/B<br>USB-A | 1<br>Type-C | Finger<br>print | Camera | Card<br>reader |      |      |      | BT    | LCD       | HDMI |

- Only for UMA/DSC(8L)
- Only for UMA(6L)

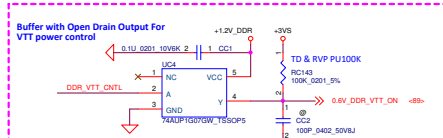
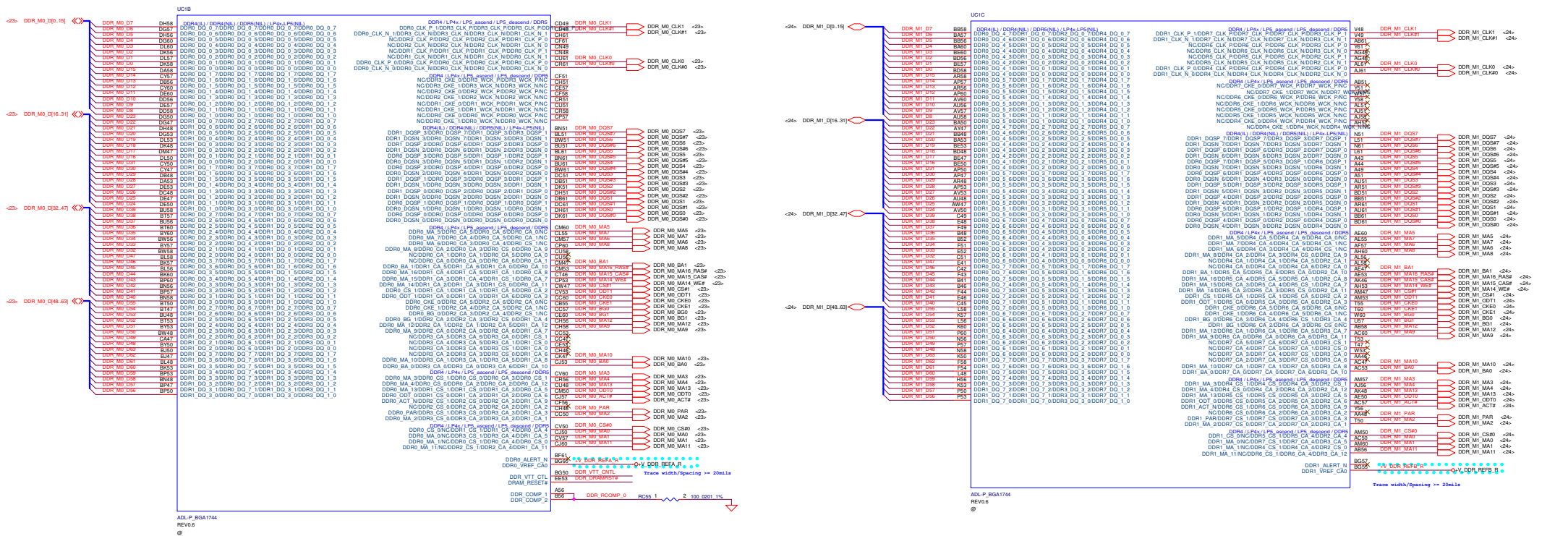
| USB3.0   | PCIE      | SATA   | DESTINATION         |
|----------|-----------|--------|---------------------|
| USB3.0-1 | PCIE-1    |        | USB3.0 (MB)(Type-A) |
| USB3.0-2 | PCIE-2    |        | NC                  |
| USB3.0-3 | PCIE-3    |        | USB3.0 (MB)(Type-C) |
| USB3.0-4 | PCIE-4    |        | USB3.0 (MB)(Type-C) |
|          | PCIE-5    |        | PCIE SSD            |
|          | PCIE-6    |        | PCIE SSD            |
|          | PCIE-7    |        | PCIE SSD            |
|          | PCIE-8    |        | PCIE SSD            |
|          | PCIE-9    |        | LOM                 |
|          | PCIE-10   |        | WLAN                |
|          | PCIE-11   | SATA-0 | SATA HDD            |
|          | PCIE-12   |        | NC                  |
|          | PCIE4 - 0 |        | NC                  |
|          | PCIE4 - 1 |        | NC                  |
|          | PCIE4 - 2 |        | NC                  |
|          | PCIE4 - 3 |        | NC                  |



|  |                    |                 |   |                |
|--|--------------------|-----------------|---|----------------|
| Security Classification  | Compal Secret Data |                 | <b>Compal Electronics, Inc.</b><br><b>Platform Power Sequence</b> |                |
| Issued Date  | 2018/04/01         | Deciphered Date | 2019/04/01  | Title          |
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| Date   | 2018/04/01         | Drawn By        | 2019/04/01  | Sheet 5 of 124 |









ESPI OR EC LESS

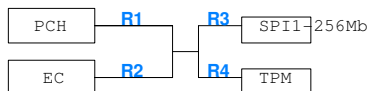
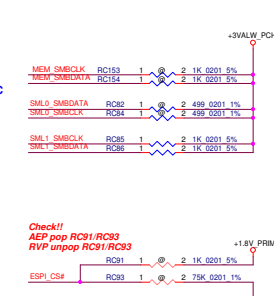
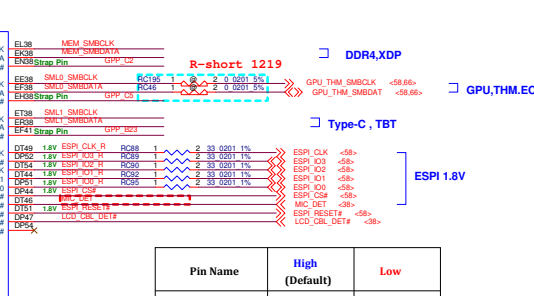
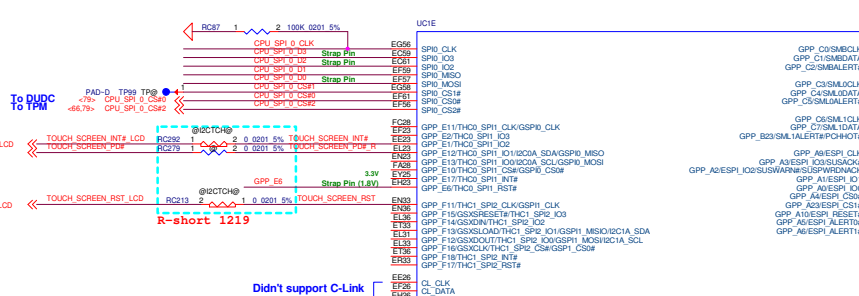
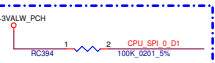
GPP\_C5 (Weak internal PD 20K)

**0 = Enable eSPL. (Default)**

**1 = Disable eSPL.**



**GPP\_E6 (External pull-up is required)**



| Device   | Device ID | Device Name   | Device Type   | Device ID | Device Name | Device Type | Device ID | Device Name | Device Type     |
|----------|-----------|---------------|---------------|-----------|-------------|-------------|-----------|-------------|-----------------|
| PCH Side | <79>      | CPU_SPI_0_CLK | CPU SPI 0 CLK | RC76      | 1           | NTPM        | 2         | 15 0201 1%  | CPU_SPI_0_CLK R |
| DUDC     | <79>      | CPU_SPI_0_D3  | CPU SPI 0 D3  | RC77      | 1           | NTPM        | 2         | 15 0201 1%  | CPU_SPI_0_D3 R  |
|          | <79>      | CPU_SPI_0_D2  | CPU SPI 0 D2  | RC78      | 1           | NTPM        | 2         | 15 0201 1%  | CPU_SPI_0_D2 R  |
|          | <79>      | CPU_SPI_0_D1  | CPU SPI 0 D1  | RC79      | 1           | NTPM        | 2         | 15 0201 1%  | CPU_SPI_0_D1 R  |
|          | <79>      | CPU_SPI_0_D0  | CPU SPI 0 D0  | RC80      | 1           | NTPM        | 2         | 15 0201 1%  | CPU_SPI_0_D0 R  |

[illegible]

|                 |       |   |       |   |              |             |
|-----------------|-------|---|-------|---|--------------|-------------|
| CPU SPI 0 CLK R | RC102 | 1 | NTPM0 | 2 | 49.9 0201 1% | SPI CLK ROM |
| CPU SPI 0 D3 R  | RC103 | 1 |       | 2 | 49.9 0201 1% | SPI D3 ROM  |
| CPU SPI 0 D2 R  | RC104 | 1 |       | 2 | 49.9 0201 1% | SPI D2 ROM  |
| CPU SPI 0 D1 R  | RC105 | 1 | NTPM0 | 2 | 49.9 0201 1% | SPI D1 ROM  |
| CPU SPI 0 D0 R  | RC106 | 1 | NTPM0 | 2 | 49.9 0201 1% | SPI D0 ROM  |

To SPI ROM

**R4**

| CPU             | SPI | CLK | R | RC346 | 1  | TPM | 2 | 15   | 0201 | 1% | SPI CLK TPM | SPI CLK TPM | <66> |
|-----------------|-----|-----|---|-------|--|-----|---|--|------|----|-------------|-------------|------|
| CPU SPI 0 CLK R |     |     |   | RC347 | 1 <td>TPM</td> <td>2</td> <td>15<th>0201</th><th>1%</th><td>SPI D1 TPM</td><td>SPI D1 TPM</td><td>&lt;66&gt;</td></td> | TPM | 2 | 15 <th>0201</th> <th>1%</th> <td>SPI D1 TPM</td> <td>SPI D1 TPM</td> <td>&lt;66&gt;</td> | 0201 | 1% | SPI D1 TPM  | SPI D1 TPM  | <66> |
| CPU SPI 0 D1 R  |     |     |   | RC348 | 1 <td>TPM</td> <td>2</td> <td>15<th>0201</th><th>1%</th><td>SPI D0 TPM</td><td>SPI D0 TPM</td><td>&lt;66&gt;</td></td> | TPM | 2 | 15 <th>0201</th> <th>1%</th> <td>SPI D0 TPM</td> <td>SPI D0 TPM</td> <td>&lt;66&gt;</td> | 0201 | 1% | SPI D0 TPM  | SPI D0 TPM  | <66> |

] To TPM

R4 should place near P.66 UX1 (TPM side)

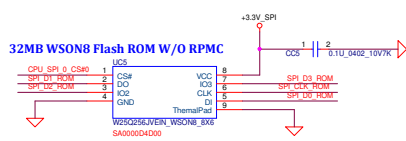
NPI pop D11  
MP pop RC300

+3.3V\_SPI      +3VALW\_PCH

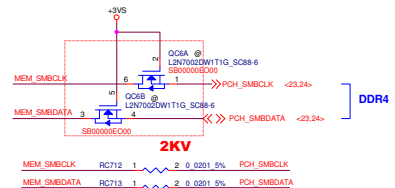
RC300   1   R   2   0.0402 1%

R-short 1219

For EC Auto Load Code (G3 topology)

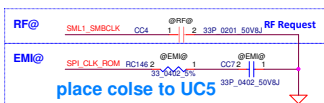


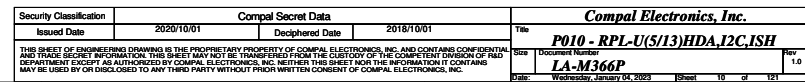
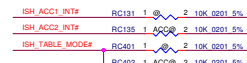
JUC5 ROM socket Co-lay with UC5

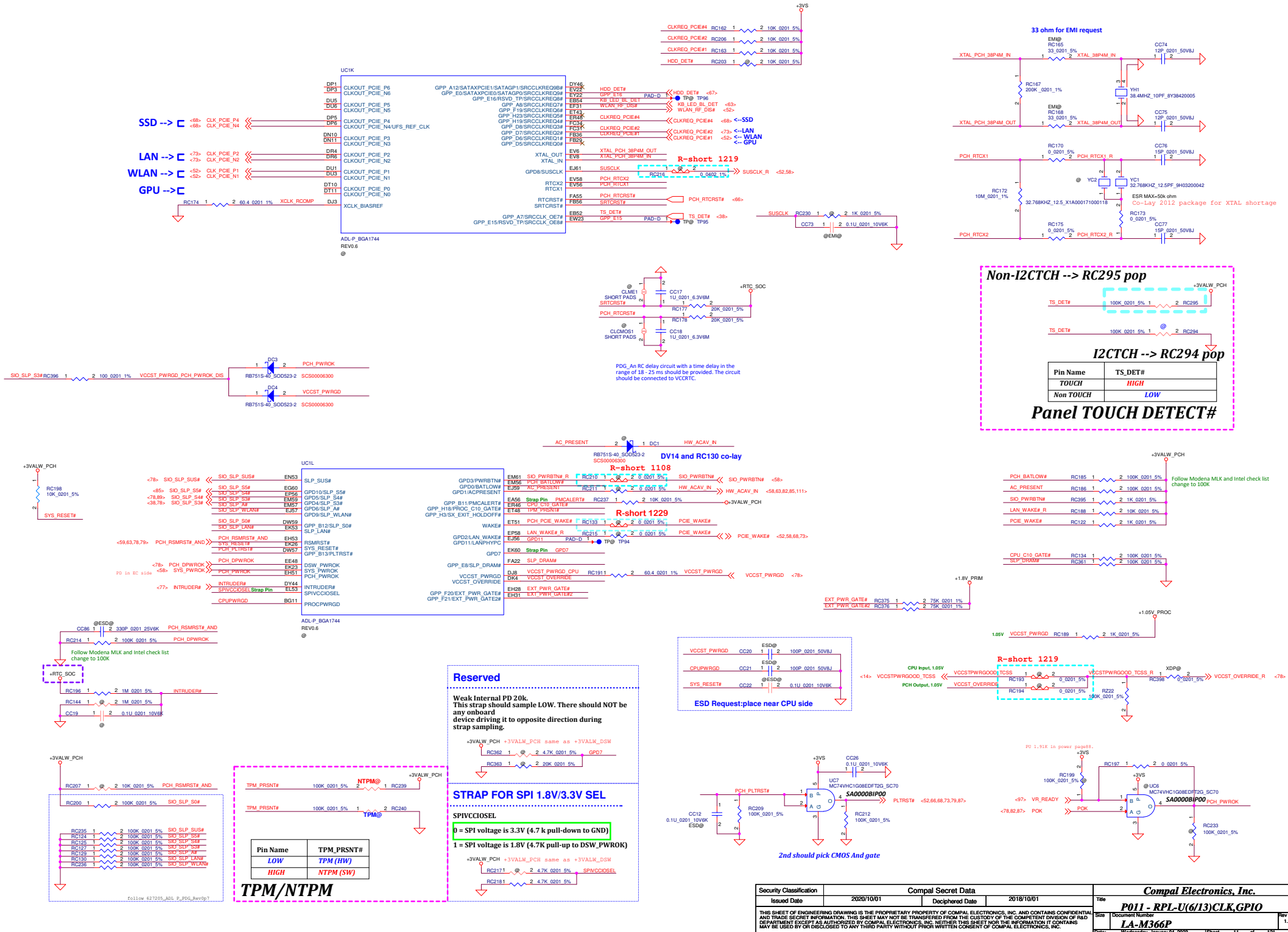


| Pin Name | High<br>(Default) | Low        |
|----------|-------------------|------------|
| MIC_DET  | Dual MIC          | Single MIC |

| R1   | R2   | R3  |
|--|--|---|
| <p><input type="checkbox"/> R276 TPM@<br/>0.0021 5%<br/>SD04100080</p> <p><input type="checkbox"/> R277 TPM@<br/>0.0021 5%<br/>SD04300080</p> <p><input type="checkbox"/> R278 TPM@<br/>0.0021 5%<br/>SD04300080</p> <p><input type="checkbox"/> R279 TPM@<br/>0.0021 5%<br/>SD04300080</p> <p><input type="checkbox"/> R300 TPM@<br/>0.0021 5%<br/>SD04300080</p> | <p><input type="checkbox"/> R293 TPM@<br/>100.0021 1%<br/>SD04110080</p> <p><input type="checkbox"/> R296 TPM@<br/>100.0021 1%<br/>SD04110080</p> <p><input type="checkbox"/> R297 TPM@<br/>100.0021 1%<br/>SD04110080</p> | <p><input type="checkbox"/> R10162 TPM@<br/>15.0021 1%<br/>SD041150A0</p> <p><input type="checkbox"/> R10165 TPM@<br/>15.0021 1%<br/>SD041150A0</p> <p><input type="checkbox"/> R10166 TPM@<br/>15.0021 1%<br/>SD041150A0</p> |







**Non-I2CTCH --> RC295 pop**

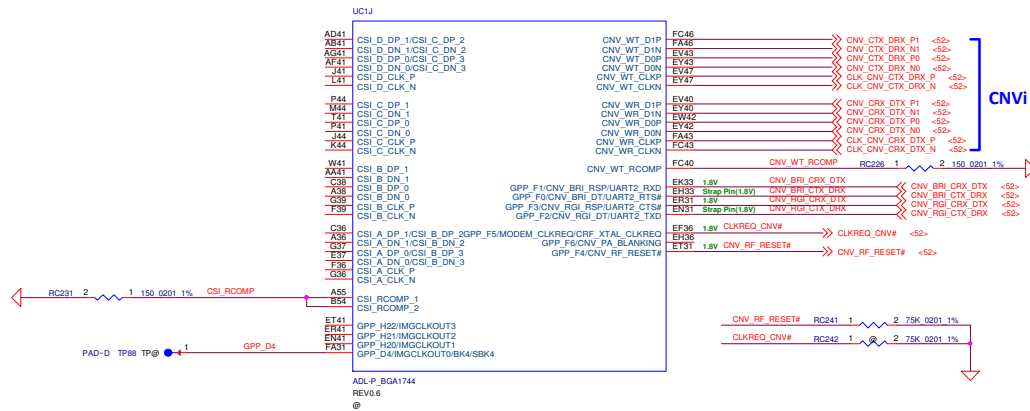
**I2CTCH --> RC294 pop**

| Pin Name  | TS_DET# |
|-----------|---------|
| TOUCH     | HIGH    |
| Non TOUCH | LOW     |

**Panel TOUCH DETECT#**

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|   |            |                    |            | Date                     | Wednesday, January 04, 2023 |
|   |            |                    |            | Sheet                    | 11 of 121                   |



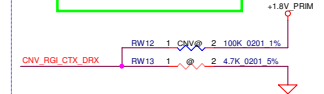


## M.2 CNVI MODES

GPP\_F2/CNV\_RGL\_DT

0 = INTEGRATED CNVI ENABLE

1 = INTEGRATED CNVI DISABLE

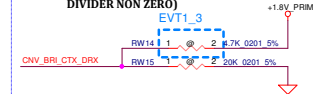


## XTAL SEL

GPP\_F0/CNV\_BRI\_DT (Internal 20 K Pull Down)

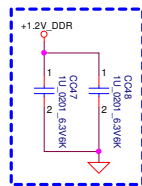
0 = 38.4/19.2MHZ (DEFAULT)

1 = 24MHZ (25 MHZ WHEN XTAL FREQ DIVIDER NON ZERO)



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|   |            |                    |            | Date                     | Wednesday, January 04, 2023 |
|   |            |                    |            | Sheet                    | 15 of 121                   |

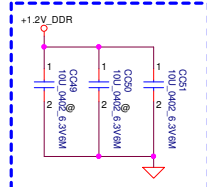




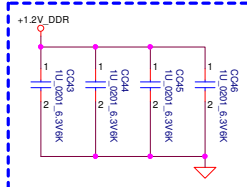
Primary side Cap  
2 x 1uF 0402

Secondary Side Cap  
2x placeholder  
4x 1uF 0402  
3x 10uF 0402

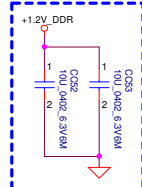
Primary side Caps



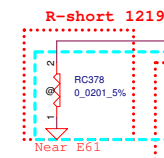
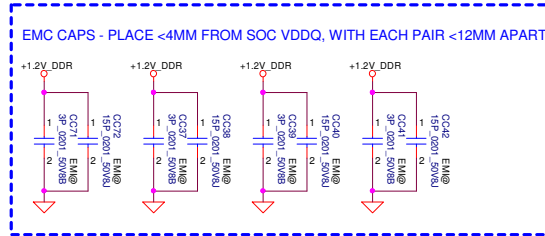
Secondary side Caps



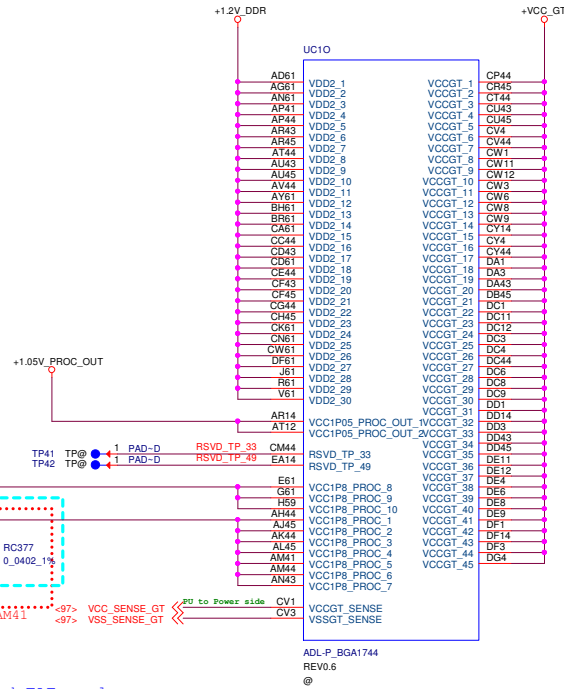
Secondary side Caps



Secondary side Caps Placeholder



Follow Intel PDG and FAE reply  
If not use PEG 010 port , VCC1P8\_PROC can be connected to GND



|   |  |                    |  |                                   |  |
|---|--|--------------------|--|-----------------------------------|--|
| Security Classification   |  | Compal Secret Data |  | Title                             |  |
| Issued Date   |  | Deciphered Date    |  | 2018/10/01                        |  |
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|   |  |                    |  | Date: Wednesday, January 04, 2023 |  |
|   |  |                    |  | Sheet 15 of 121                   |  |







| UC1R |          |      |
|------|----------|------|
| DC47 |          | ED58 |
| DC54 | VSS, 295 | ED6  |
| DC57 | VSS, 296 | ED60 |
| DC59 | VSS, 297 | ED68 |
| DE44 | VSS, 298 | EE16 |
| DE45 | VSS, 299 | EE17 |
| DE55 | VSS, 300 | EE18 |
| DF43 | VSS, 301 | EF13 |
| DF46 | VSS, 302 | EF8  |
| DF58 | VSS, 303 | EH13 |
| DF59 | VSS, 304 | EH8  |
| DG11 | VSS, 305 | EK21 |
| DG12 | VSS, 306 | EK28 |
| DG51 | VSS, 307 | EK36 |
| DG55 | VSS, 308 | EK43 |
| DG6  | VSS, 310 | EK51 |
| DG9  | VSS, 311 | EK58 |
| DH4  | VSS, 312 | EL13 |
| DH54 | VSS, 313 | EL4  |
| DJ47 | VSS, 314 | EL6  |
| DJ57 | VSS, 315 | EL8  |
| DK14 | VSS, 316 | EN13 |
| DK50 | VSS, 318 | EN8  |
| DL54 | VSS, 319 | EP14 |
| DL10 | VSS, 320 | ER1  |
| DL11 | VSS, 321 | ER13 |
| DL13 | VSS, 322 | ER21 |
| DM4  | VSS, 323 | ER28 |
| DM41 | VSS, 324 | ER3  |
| DM46 | VSS, 325 | ER36 |
| DM48 | VSS, 326 | ER43 |
| DM51 | VSS, 327 | ER51 |
| DM55 | VSS, 328 | ER6  |
| DM58 | VSS, 329 | EU11 |
| DM6  | VSS, 330 | EU56 |
| DM61 | VSS, 331 | EU58 |
| DN13 | VSS, 332 | EU8  |
| DN40 | VSS, 333 | EU14 |
| DP46 | VSS, 334 | EV10 |
| DP49 | VSS, 335 | EV23 |
| DT13 | VSS, 336 | EV36 |
| DT58 | VSS, 337 | EV39 |
| DT8  | VSS, 338 | EV4  |
| DT13 | VSS, 339 | EV45 |
| DV4  | VSS, 340 | EV52 |
| DV44 | VSS, 341 | EV59 |
| DV49 | VSS, 342 | EW11 |
| DV56 | VSS, 344 | EW64 |
| DV58 | VSS, 345 | EX20 |
| DV6  | VSS, 346 | EY26 |
| DV8  | VSS, 347 | EY3  |
| DW14 | VSS, 348 | EY33 |
| DW25 | VSS, 349 | EY39 |
| DW35 | VSS, 350 | EY45 |
| DY13 | VSS, 351 | EY48 |
| DY33 | VSS, 352 | EY52 |
| DY36 | VSS, 353 | EY56 |
| DY38 | VSS, 354 | EY58 |
| DY52 | VSS, 355 | EY68 |
| DY59 | VSS, 356 | EY59 |
| DY8  | VSS, 357 | EY6  |
| E43  | VSS, 358 | EY11 |
| E50  | VSS, 358 | F21  |
| EB13 | VSS, 359 | F23  |
| EB26 | VSS, 360 | F26  |
| EB31 | VSS, 361 | F3   |
| EB36 | VSS, 362 | F28  |
| EC28 | VSS, 363 | F33  |
| EC28 | VSS, 364 | F4   |
| ED13 | VSS, 365 | F48  |
| ED16 | VSS, 366 | F48  |
| ED4  | VSS, 367 | F46  |
| ED56 | VSS, 368 | F47  |
|      |          | F52  |

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|      |     |      |     |
|------|-----|------|-----|
|      |     | UC1S |     |
| F56  |     |      | M36 |
| F59  | VSS | 443  | M47 |
| F9   | VSS | 444  | M57 |
| F4A0 | VSS | 445  | M59 |
| F47  | VSS | 446  | N1  |
| F61  | VSS | 447  | N4  |
| FB14 | VSS | 448  | N44 |
| FB26 | VSS | 449  | N41 |
| FB26 | VSS | 450  | N48 |
| FB48 | VSS | 451  | N54 |
| FB59 | VSS | 452  | N9  |
| FB1  | VSS | 453  | N11 |
| FC2  | VSS | 454  | N11 |
| FC55 | VSS | 455  | P16 |
| FC56 | VSS | 456  | P21 |
| FC57 | VSS | 457  | P26 |
| FC58 | VSS | 458  | P3  |
| FC60 | VSS | 459  | P3  |
| G25  | VSS | 460  | P35 |
| G25  | VSS | 460  | P47 |
| G28  | VSS | 461  | P51 |
| G31  | VSS | 462  | P55 |
| G34  | VSS | 463  | R17 |
| G43  | VSS | 464  | R12 |
| G50  | VSS | 466  | R27 |
| H1   | VSS | 467  | R32 |
| H13  | VSS | 469  | R37 |
| H16  | VSS | 470  | R44 |
| H18  | VSS | 470  | R48 |
| H34  | VSS | 471  | R58 |
| H37  | VSS | 472  | T1  |
| H52  | VSS | 473  | T11 |
| H58  | VSS | 474  | T21 |
| H6   | VSS | 475  | T6  |
| H6   | VSS | 476  | T55 |
| H9   | VSS | 477  | T3  |
| J11  | VSS | 478  | T31 |
| J14  | VSS | 479  | T35 |
| J17  | VSS | 480  | T40 |
| J20  | VSS | 481  | T52 |
| J21  | VSS | 482  | U16 |
| J25  | VSS | 483  | U21 |
| J28  | VSS | 484  | U26 |
| J31  | VSS | 485  | U31 |
| J36  | VSS | 486  | U35 |
| J39  | VSS | 487  | U44 |
| J47  | VSS | 488  | U46 |
| J48  | VSS | 489  | U63 |
| J51  | VSS | 490  | U40 |
| J55  | VSS | 491  | V41 |
| L4   | VSS | 492  | V51 |
| L12  | VSS | 493  | V57 |
| L13  | VSS | 494  | V58 |
| L15  | VSS | 495  | V59 |
| L17  | VSS | 496  | W1  |
| L18  | VSS | 497  | W16 |
| L22  | VSS | 498  | W21 |
| L28  | VSS | 499  | W3  |
| L29  | VSS | 500  | W31 |
| L3   | VSS | 501  | W35 |
| L30  | VSS | 502  | W44 |
| L33  | VSS | 503  | Y12 |
| L36  | VSS | 504  | Y17 |
| L36  | VSS | 505  | Y27 |
| L38  | VSS | 506  | Y22 |
| L40  | VSS | 507  | Y32 |
| L45  | VSS | 508  | Y37 |
| L4   | VSS | 509  | Y43 |
| M    | VSS | 510  | Y45 |
| M16  | VSS | 511  | Y47 |
| M21  | VSS | 512  | Y49 |
| M31  | VSS | 513  | Y54 |
| M32  | VSS | 514  |     |
| M34  | VSS | 515  |     |
|      | VSS | 516  |     |

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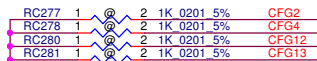
| UC1P |        |      |
|------|--------|------|
| A3   |        | AL15 |
| A10  | VSS_7  | AL17 |
| A21  | VSS_1  | AL22 |
| A23  | VSS_3  | AL4  |
| A26  | VSS_4  | AL9  |
| A28  | VSS_5  | AL71 |
| A30  | VSS_6  | AM0  |
| A31  | VSS_8  | AM51 |
| A33  | VSS_9  | AM55 |
| A40  | VSS_10 | AM3  |
| A47  | VSS_11 | AN17 |
| A53  | VSS_12 | AN40 |
| A60  | VSS_13 | AN46 |
| AA11 | VSS_14 | AN58 |
| AA21 | VSS_15 | AN48 |
| AA26 | VSS_16 | AP1  |
| AA31 | VSS_17 | AP15 |
| AA35 | VSS_18 | AP20 |
| AA40 | VSS_19 | AP22 |
| AA44 | VSS_20 | AP25 |
| AA57 | VSS_21 | AP35 |
| AA59 | VSS_22 | AP51 |
| AB16 | VSS_23 | AP55 |
| AB21 | VSS_24 | AP9  |
| AB26 | VSS_25 | AP58 |
| AB31 | VSS_26 | AR54 |
| AB35 | VSS_27 | AT47 |
| AB44 | VSS_28 | AT57 |
| AC4  | VSS_29 | AT59 |
| AC40 | VSS_30 | AT6  |
| AC44 | VSS_31 | AT64 |
| AC51 | VSS_32 | AU58 |
| AC55 | VSS_33 | AV11 |
| AC6  | VSS_34 | AV4  |
| AC8  | VSS_35 | AV9  |
| AD21 | VSS_36 | AW1  |
| AD26 | VSS_37 | AW14 |
| AD31 | VSS_38 | AW51 |
| AD35 | VSS_39 | AW55 |
| AD46 | VSS_40 | AY13 |
| AD48 | VSS_41 | AY43 |
| AD58 | VSS_42 | AY46 |
| AE12 | VSS_43 | AY48 |
| AE17 | VSS_44 | AY51 |
| AE22 | VSS_45 | AY55 |
| AE27 | VSS_46 | AY58 |
| AE32 | VSS_47 | AY9  |
| AE37 | VSS_48 | B4   |
| AE40 | VSS_49 | B34  |
| AE44 | VSS_50 | B43  |
| AE52 | VSS_51 | B50  |
| AE9  | VSS_52 | B58  |
| AF4  | VSS_53 | B61  |
| AF46 | VSS_54 | BA4  |
| AG1  | VSS_55 | BB12 |
| AG11 | VSS_56 | BB54 |
| AG55 | VSS_57 | BB6  |
| AG58 | VSS_58 | BB8  |
| AH9  | VSS_59 | BB9  |
| AJ3  | VSS_60 | BC14 |
| AJ41 | VSS_61 | BC47 |
| AJ47 | VSS_62 | BC57 |
| AJ49 | VSS_63 | BC59 |
| AJ54 | VSS_64 | BD4  |
| AK25 | VSS_65 | BD54 |
| AK26 | VSS_66 | BE1  |
| AK3  | VSS_67 | BE12 |
| AK37 | VSS_68 | BE51 |
| AK7  | VSS_69 | BE55 |
| AK57 | VSS_70 | BE49 |
| AK58 | VSS_71 | BF6  |
| AK59 | VSS_72 | BF48 |
| AK9  | VSS_73 |      |

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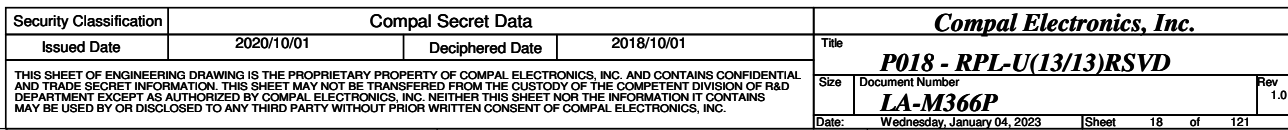
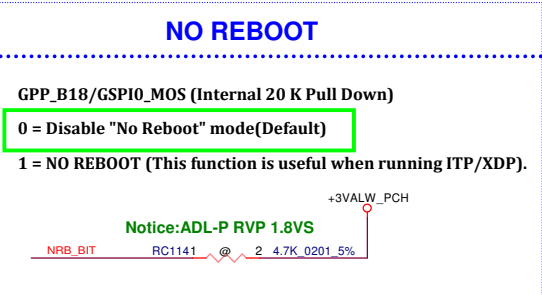
| UC1Q |         |         |      |
|------|---------|---------|------|
| BF58 |         |         | CD58 |
| BG1  | VSS_149 | VSS_222 | CE51 |
| BG12 | VSS_150 | VSS_223 | CE55 |
| BG44 | VSS_151 | VSS_224 | CF47 |
| BG52 | VSS_152 | VSS_225 | CF54 |
| BH3  | VSS_153 | VSS_226 | CG54 |
| BH4  | VSS_154 | VSS_227 | CG57 |
| BH46 | VSS_155 | VSS_228 | CG59 |
| BH48 | VSS_156 | VSS_229 | CH11 |
| BH58 | VSS_157 | VSS_230 | CH12 |
| BJ51 | VSS_158 | VSS_231 | CH24 |
| BJ55 | VSS_159 | VSS_232 | CH54 |
| BJ6  | VSS_160 | VSS_233 | CH6  |
| BJ6  | VSS_161 | VSS_234 | CH8  |
| BJ9  | VSS_162 | VSS_235 | CH9  |
| BL11 | VSS_163 | VSS_236 | CJ14 |
| BL1  | VSS_164 | VSS_237 | CJ4  |
| BL4  | VSS_165 | VSS_238 | CJ44 |
| BL9  | VSS_166 | VSS_239 | CK3  |
| BM1  | VSS_167 | VSS_240 | CK43 |
| BM7  | VSS_168 | VSS_241 | CK46 |
| BM9  | VSS_169 | VSS_242 | CK48 |
| BM47 | VSS_170 | VSS_243 | CK55 |
| BN1  | VSS_171 | VSS_244 | CK58 |
| BN1  | VSS_172 | VSS_245 | CK52 |
| BN54 | VSS_173 | VSS_246 | CN46 |
| BN9  | VSS_174 | VSS_247 | CN58 |
| BP4  | VSS_175 | VSS_248 | CN46 |
| BP51 | VSS_176 | VSS_249 | CN58 |
| BP55 | VSS_177 | VSS_250 | CP51 |
| BR43 | VSS_178 | VSS_251 | CP55 |
| BR46 | VSS_179 | VSS_252 | CR43 |
| BR48 | VSS_180 | VSS_253 | CR47 |
| BR58 | VSS_181 | VSS_254 | CR49 |
| BR6  | VSS_182 | VSS_255 | CT11 |
| BR8  | VSS_183 | VSS_256 | CJ54 |
| BR9  | VSS_184 | VSS_257 | CT59 |
| BT4  | VSS_185 | VSS_258 | CT6  |
| BT51 | VSS_186 | VSS_259 | CT8  |
| BU55 | VSS_187 | VSS_260 | CT9  |
| BU54 | VSS_188 | VSS_261 | CU4  |
| BU9  | VSS_189 | VSS_262 | CU54 |
| BV1  | VSS_190 | VSS_263 | CV14 |
| BV47 | VSS_191 | VSS_264 | CW43 |
| BV57 | VSS_192 | VSS_265 | CW46 |
| BV59 | VSS_193 | VSS_266 | CW48 |
| BW4  | VSS_194 | VSS_267 | CW51 |
| BW54 | VSS_195 | VSS_268 | CW55 |
| BW5  | VSS_196 | VSS_269 | CW58 |
| BY3  | VSS_197 | VSS_270 | CY51 |
| C1   | VSS_198 | VSS_271 | D11  |
| C21  | VSS_199 | VSS_272 | D15  |
| C25  | VSS_200 | VSS_273 | D14  |
| C28  | VSS_201 | VSS_274 | D17  |
| C31  | VSS_202 | VSS_275 | D20  |
| C33  | VSS_203 | VSS_276 | D21  |
| C34  | VSS_204 | VSS_277 | D25  |
| C40  | VSS_205 | VSS_278 | D28  |
| C9   | VSS_206 | VSS_279 | D31  |
| CA14 | VSS_207 | VSS_280 | D4   |
| CA43 | VSS_208 | VSS_281 | D53  |
| CA46 | VSS_209 | VSS_282 | D56  |
| CA49 | VSS_210 | VSS_283 | D58  |
| CA51 | VSS_211 | VSS_284 | D59  |
| CA55 | VSS_212 | VSS_285 | D9   |
| CA58 | VSS_213 | VSS_286 | DA11 |
| CB4  | VSS_214 | VSS_287 | DA12 |
| CB6  | VSS_215 | VSS_288 | DAB  |
| CB8  | VSS_216 | VSS_289 | DA8  |
| CB9  | VSS_217 | VSS_290 | DA9  |
| CC1  | VSS_218 | VSS_291 | DB14 |
| CC52 | VSS_219 | VSS_292 | DB4  |
| CC52 | VSS_220 | VSS_293 | DB54 |
| CD46 | VSS_221 | VSS_294 |      |

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|   |            |                    |            |  |                                    |            |
|---|------------|--------------------|------------|--|------------------------------------|------------|
| Security Classification   |            | Compal Secret Data |            | <b>Compal Electronics, Inc.</b>        |                                    |            |
| Issued Date   | 2020/10/01 | Deciphered Date    | 2018/10/01 | Title<br><b>P017 - RPL-U(12/13)GND</b> |                                    |            |
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|   |            |                    |            | Date: Wednesday, January 04, 2023      |                                    |            |
|   |            |                    |            | Sheet                                  | 17                                 | of 121     |



| Bifurcation  | Link Width      |     | EFG Signals |          |           | Lanes |   |   |  |
|--------------|-----------------|-----|-------------|----------|-----------|-------|---|---|--|
|              | 0x0             | 0x2 | EFG [14]    | EFG [15] | 0         | 1     | 2 | 3 |  |
|              | PCIe Controller |     |             |          | PCIe 0x60 |       |   |   |  |
| 1x4          | x4              | NA  | 1           | 1        | 0         | 1     | 2 | 3 |  |
| 1x4 Reversed | x4              | NA  | 0           | 1        | 3         | 2     | 1 | 0 |  |
|              | PCIe Controller |     |             |          | PCIe 0x62 |       |   |   |  |
| 1x4          | NA              | x4  | 1           | 1        | 0         | 1     | 2 | 3 |  |
| 1x4 Reversed | NA              | x4  | 1           | 0        | 3         | 2     | 1 | 0 |  |



Main Function:

Reserve

|   |            |                             |            |                          |           |
|---|------------|-----------------------------|------------|--------------------------|-----------|
| Security Classification   |            | Compal Secret Data          |            | Compal Electronics, Inc. |           |
| Issued Date   | 2014/09/08 | Deciphered Date             | 2013/10/28 | Title                    |           |
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| Date:   |            | Wednesday, January 04, 2023 |            | Sheet                    | 19 of 121 |

Main Function:

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|   |                    |                 |            |                          |                             |                 |
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| Security Classification   | Compal Secret Data |                 |            | Compal Electronics, Inc. |                             |                 |
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|   |                    |                 |            | Date:                    | Wednesday, January 04, 2023 | Sheet 20 of 121 |

Main Function:

# Reserve

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|   |                             |                 |            |                          | LA-M366P        | 1.0    |
| Date:   | Wednesday, January 04, 2023 |                 |            | Sheet                    | 21              | of 121 |

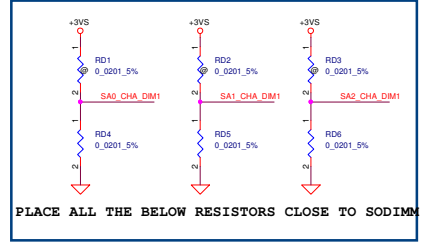
Main Function:

Reserve

|   |                    |                 |            |                          |                             |                 |
|---|--------------------|-----------------|------------|--------------------------|-----------------------------|-----------------|
| Security Classification   | Compal Secret Data |                 |            | Compal Electronics, Inc. |                             |                 |
| Issued Date   | 2014/09/08         | Deciphered Date | 2013/10/28 | Title                    | (RSVD)                      |                 |
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|   |                    |                 |            |                          | LA-M366P                    | 1.0             |
|   |                    |                 |            | Date:                    | Wednesday, January 04, 2023 | Sheet 22 of 121 |

# CHANNEL-M0

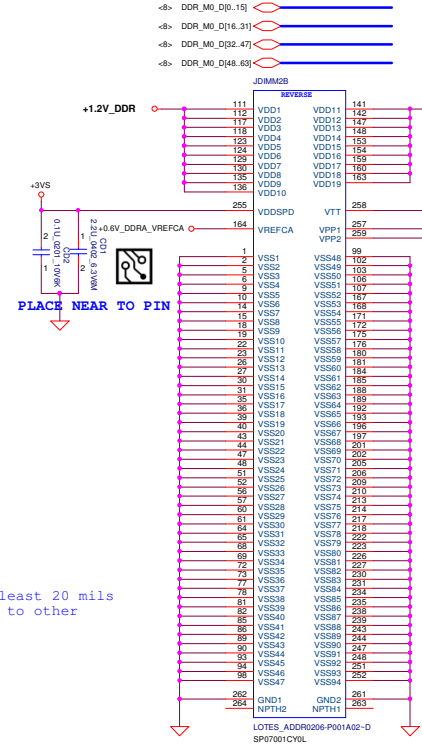
BOT: DIMM1 (JDIMM2 CONN) Non-ECC DIMM



SPD ADDRESS FOR CHANNEL A :

SA0 = 0; SA1 = 0; SA2 = 0.

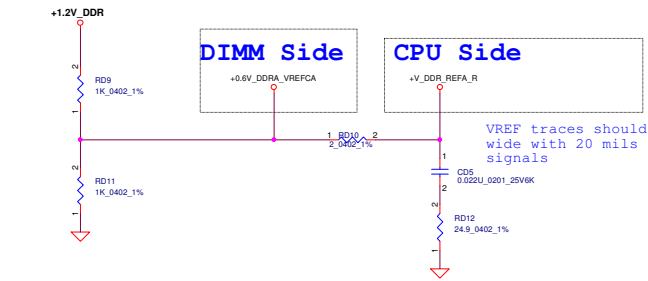
## Non-Interleaved Memory



PLACE NEAR TO PIN

### DIMM Side

### CPU Side

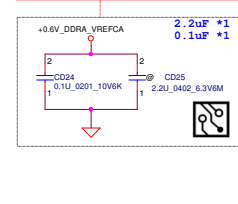
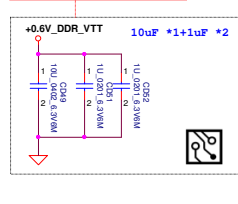
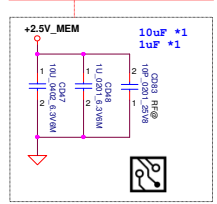


### Decoupling Cap. Channel A

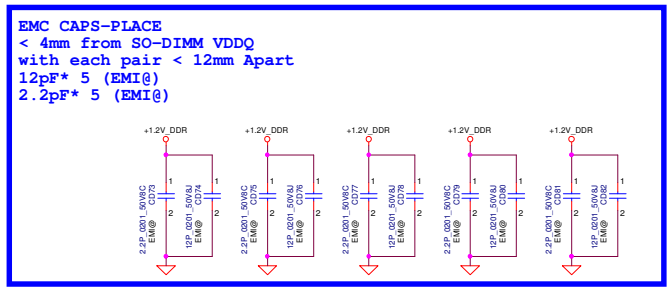
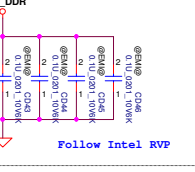
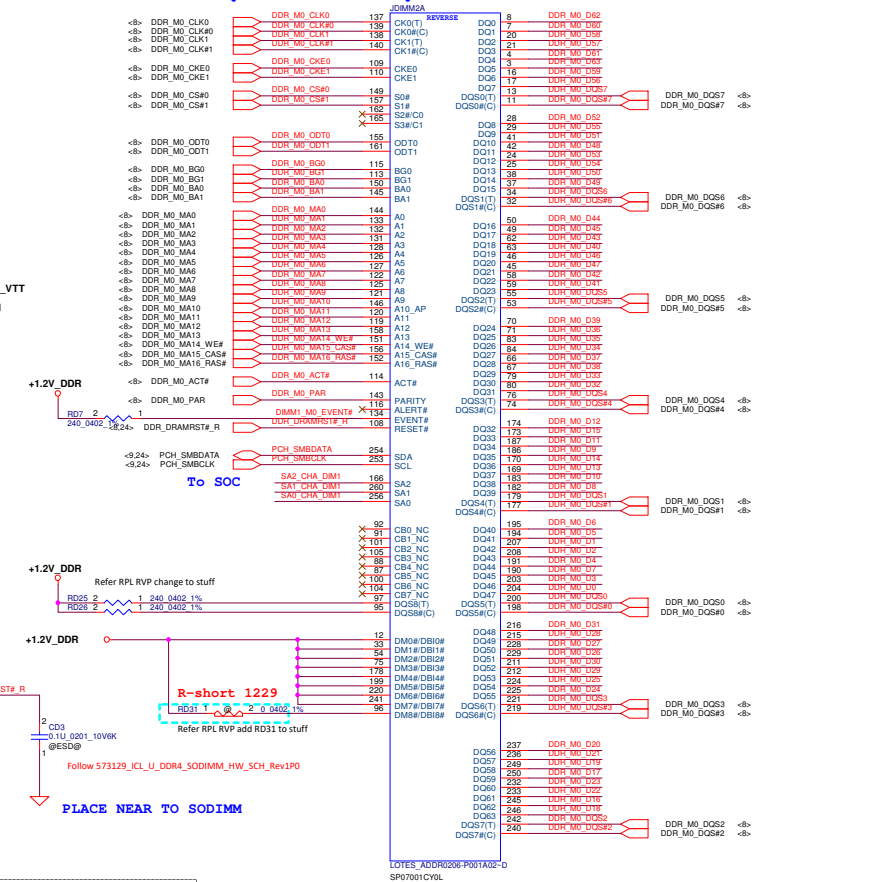
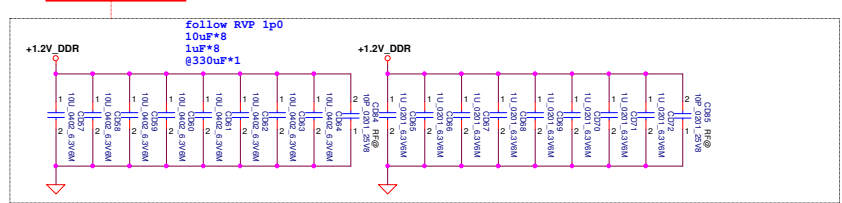
Layout Note:  
Place near JDIMM2.257,259

Layout Note:  
Place near JDIMM2.258

Layout Note:  
PLACE THE CAP near JDIMM2.164



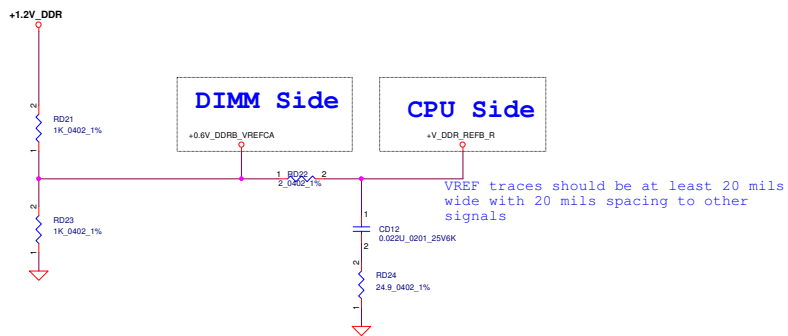
Layout Note:  
Place near JDIMM2



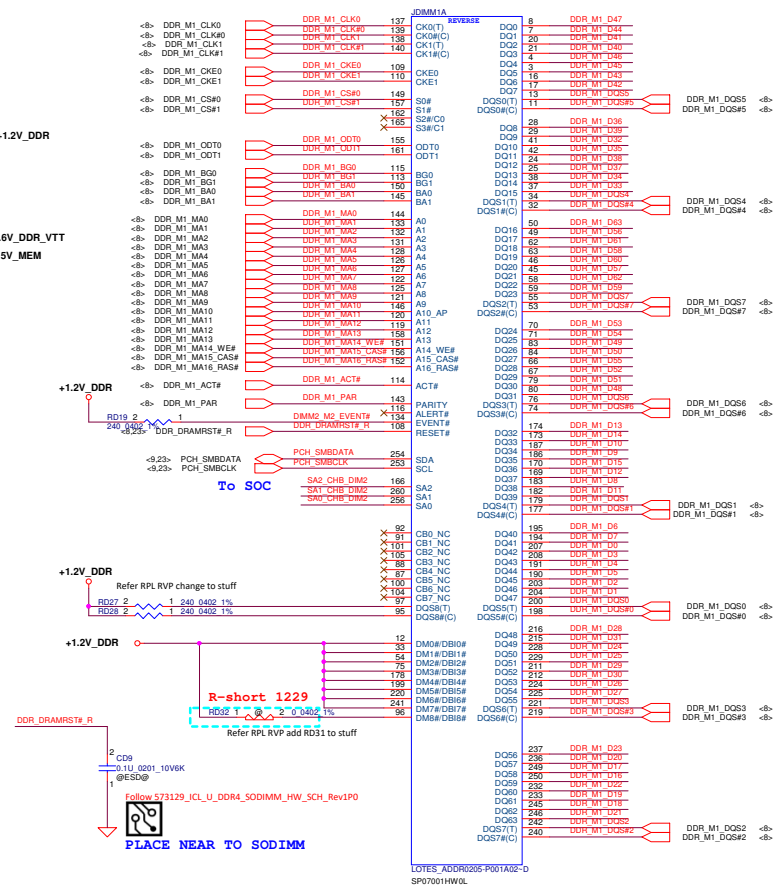
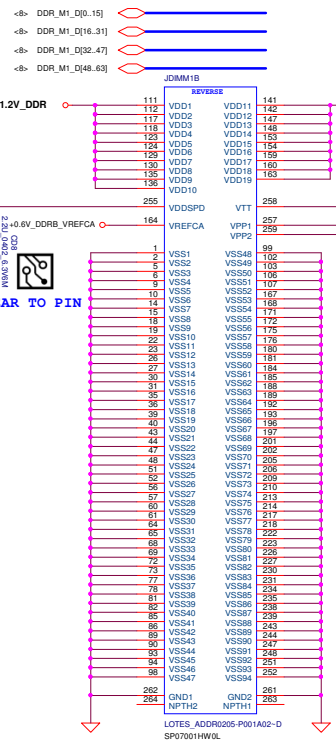
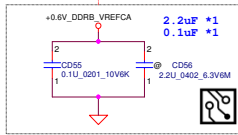
## Non-Interleaved Memory

SPD ADDRESS FOR CHANNEL B :

SA0 = 0; SA1 = 1; SA2 = 0.



08/30  
Update Table 4-26 for DDR4 SO-DIMM Decoupling Caps  
572907\_ICL\_UY\_PDG\_Rev0p7 Page.99



| Memory Configuration | Power Domain | Decoupling Location  | Qty x $\mu$ F (size)  |
|----------------------|--------------|--|-----------------------|
| DDR4 SODIMM 1DPC     | VDDQ/<br>VDD | 4 near each side of the DIMM connector close to VDD pins         | 16x 10 $\mu$ F (0603) |
|                      |              | 4 near each side of the DIMM connector close to VDD pins         | 16x 1 $\mu$ F (0402)  |
|                      |              | placeholder  | 1x 330 $\mu$ F (7343) |
|                      | VTT          | Place on VTT plane close to DIMM<br>1 cap stuffed, 1 placeholder | 2x 10 $\mu$ F (0603)  |
|                      |              | Place on VTT plane close to DIMM                                 | 4x 1 $\mu$ F (0402)   |
|                      | VPP          | DIMM pin side, 1 per DIMM  | 2x 10 $\mu$ F (0603)  |
|                      |              | DIMM pin side, 1 per DIMM  | 2x 1 $\mu$ F (0402)   |
|                      | VDDSPD       | Place close to DIMM  | 2x 0.1 $\mu$ F (0402) |
|                      |              | Place close to DIMM  | 2x 2.2 $\mu$ F (0402) |

**Note:**

1. Total quantity is referring to 2 channels

|   |                    |                 |            |                          |                             |       |    |     |
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| Security Classification   | Compal Secret Data |                 |            | Compal Electronics, Inc. |                             |       |    |     |
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Main Function:

# Reserve

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| Date: Wednesday, January 04, 2023   |                    |                 |            | Sheet                    | 25              | of 121 |

Main Function:

Reserve

|   |                    |                 |            |                          |                             |                 |
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|   |                    |                 |            | Date:                    | Wednesday, January 04, 2023 | Sheet 26 of 121 |

Main Func = GPU

|   |            |                    |            |              |                             |
|---|------------|--------------------|------------|--------------|-----------------------------|
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| Issued Date   | 2018/08/31 | Deciphered Date    | 2019/08/06 | NY(1/5)-PCIE |                             |
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|   |            |                    |            | Date:        | Wednesday, January 04, 2023 |
|   |            |                    |            | Sheet        | 27 of 121                   |
|   |            |                    |            | Rev          | 1.0                         |

Main Func = GPU

|   |            |                    |            |                             |                             |
|---|------------|--------------------|------------|-----------------------------|-----------------------------|
| Security Classification   |            | Compal Secret Data |            | Title                       |                             |
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|   |            |                    |            | Date:                       | Wednesday, January 04, 2023 |
|   |            |                    |            | Sheet                       | 28 of 121                   |
|   |            |                    |            | Rev                         | 1.0                         |

Main Func = GPU

|   |            |                    |            |               |                             |
|---|------------|--------------------|------------|---------------|-----------------------------|
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|   |            |                    |            | Sheet         | 29 of 121                   |
|   |            |                    |            | Rev           | 1.0                         |

Main Func = GPU



|   |            |                    |            |                             |                    |
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|   |            |                    |            | Sheet                       | 30 of 121          |

Main Func = GPU

|   |            |                    |            |                    |                             |
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|   |            |                    |            | Date:              | Wednesday, January 04, 2023 |
|   |            |                    |            | Sheet              | 31 of 121                   |
|   |            |                    |            | Rev                | 1.0                         |

Reserve

|   |            |                    |            |                          |                             |
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|   |            |                    |            | LA-M366P                 |                             |
|   |            |                    |            | Date:                    | Wednesday, January 04, 2023 |
|   |            |                    |            | Sheet                    | 32 of 121                   |
|   |            |                    |            | Rev                      | 1.0                         |



Reserve

|   |                    |                 |            |                          |                             |
|---|--------------------|-----------------|------------|--------------------------|-----------------------------|
| Security Classification   | Compal Secret Data |                 |            | Title                    |                             |
| Issued Date   | 2018/08/31         | Deciphered Date | 2019/08/06 | Compal Electronics, Inc. |                             |
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|   |                    |                 |            | Size                     | Rev                         |
|   |                    |                 |            | Document Number          | 1.0                         |
|   |                    |                 |            | LA-M366P                 |                             |
|   |                    |                 |            | Date:                    | Wednesday, January 04, 2023 |
|   |                    |                 |            | Sheet                    | 33 of 121                   |

Reserve

|   |            |                    |            |                          |                             |
|---|------------|--------------------|------------|--------------------------|-----------------------------|
| Security Classification   |            | Compal Secret Data |            | Compal Electronics, Inc. |                             |
| Issued Date   | 2018/08/31 | Deciphered Date    | 2019/08/06 | Title                    |                             |
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|   |            |                    |            | Document Number          | 1.0                         |
|   |            |                    |            | Date:                    | Wednesday, January 04, 2023 |
|   |            |                    |            | Sheet                    | 34 of 121                   |

Main Func = VRAM

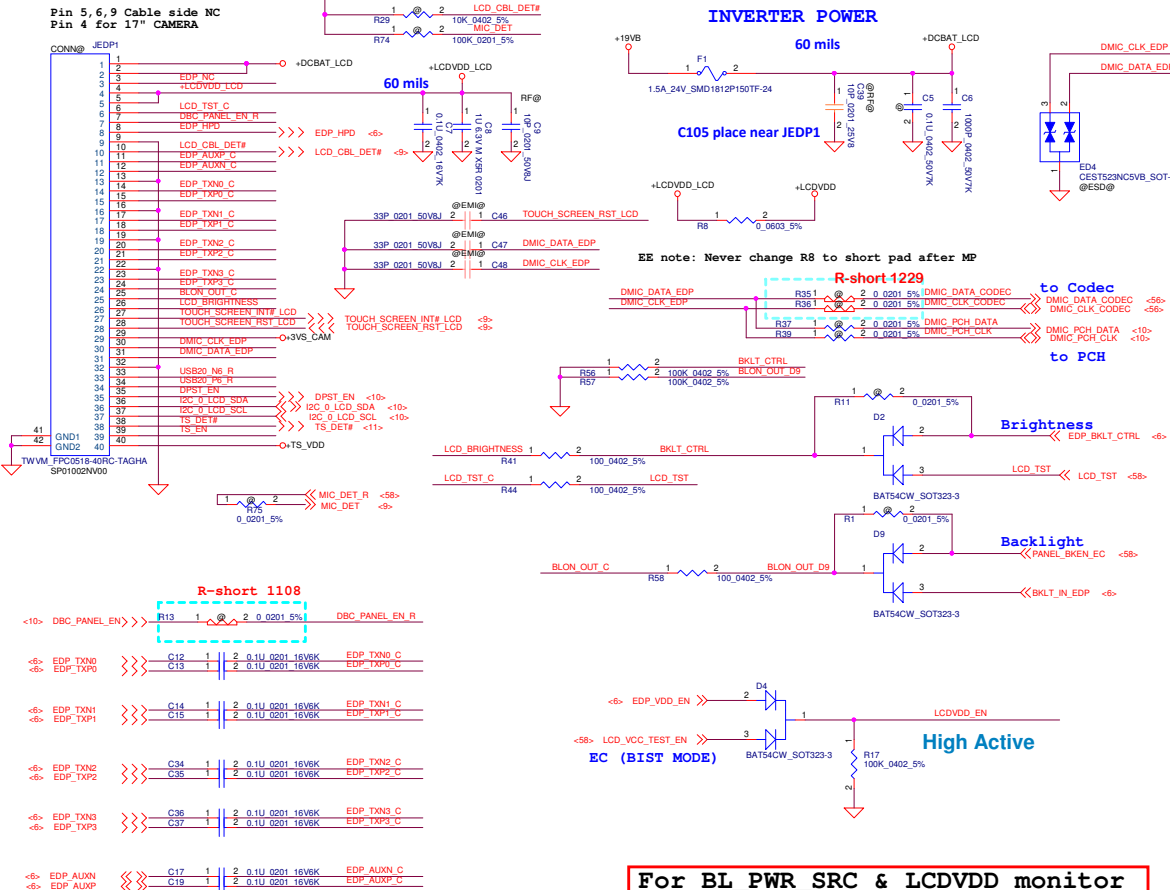
Main Func = VRAM

|   |            |                             |            |                          |                 |     |
|---|------------|-----------------------------|------------|--------------------------|-----------------|-----|
| Security Classification   |            | Compal Secret Data          |            | Compal Electronics, Inc. |                 |     |
| Issued Date   | 2018/08/31 | Deciphered Date             | 2019/08/06 | Title                    |                 |     |
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|   |            |                             |            |                          | LA-M366P        | 1.0 |
| Date:   |            | Wednesday, January 04, 2023 |            | Sheet 36 of 121          |                 |     |

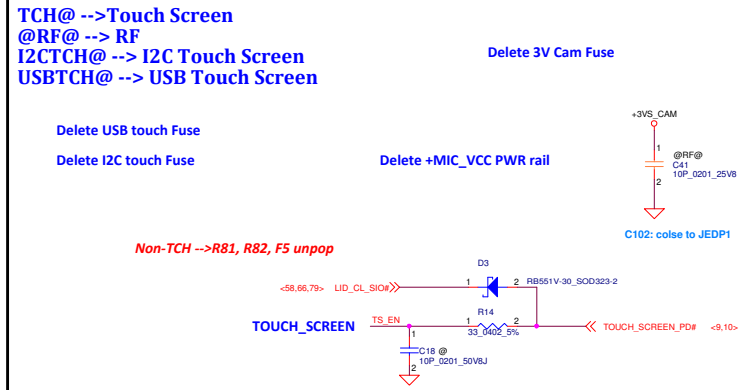
Main Func = GPU DC

|   |            |                    |            |                          |                             |
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| Security Classification   |            | Compal Secret Data |            | Compal Electronics, Inc. |                             |
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|   |            |                    |            | Date                     | Wednesday, January 24, 2023 |
|   |            |                    |            | Sheet                    | 37 of 121                   |

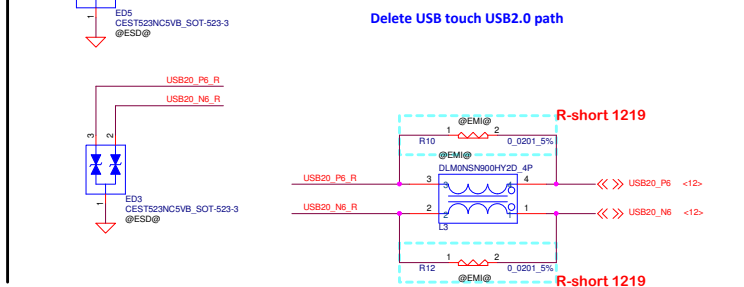
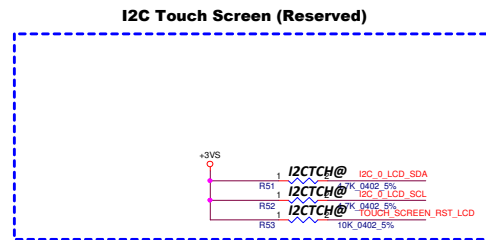
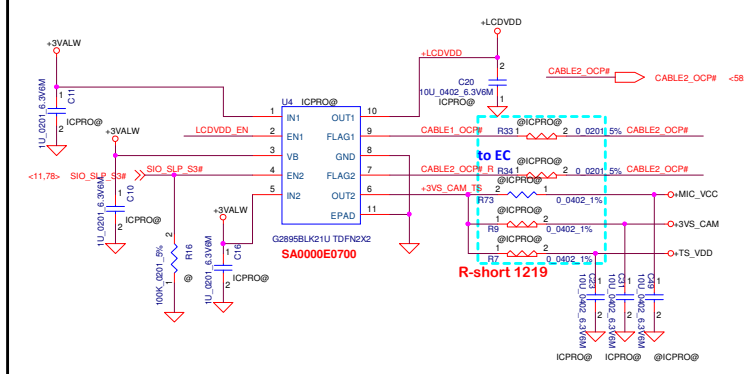
Main Func = LCD



Main Func = CAM&MIC, TS



Main Func = Hinge up protection



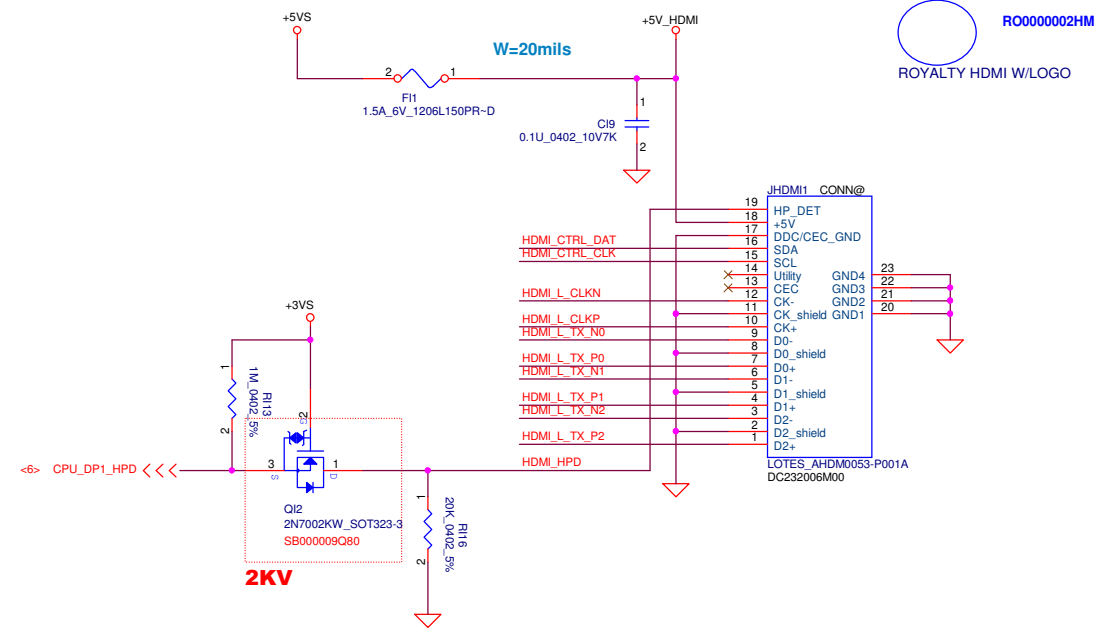
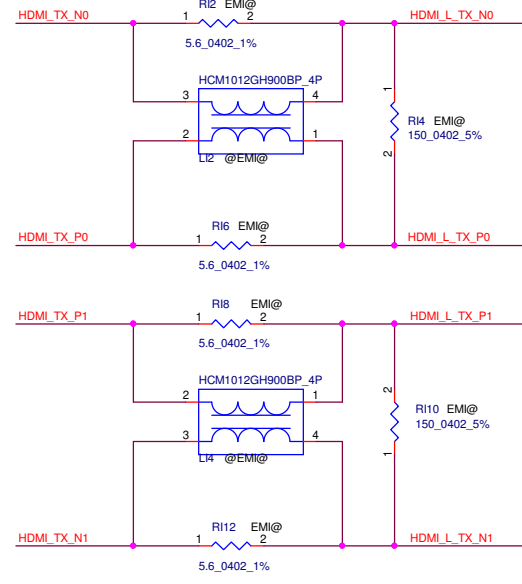
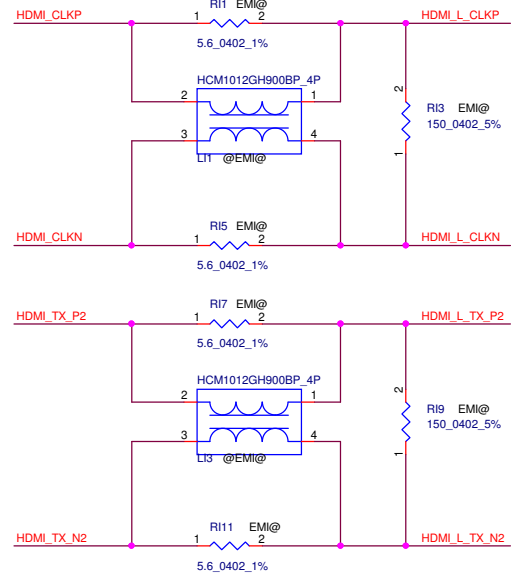
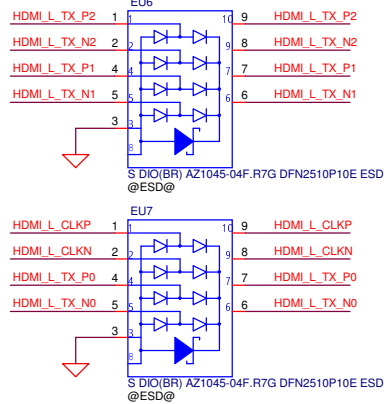
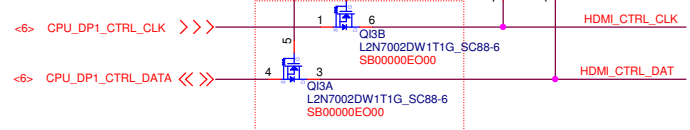
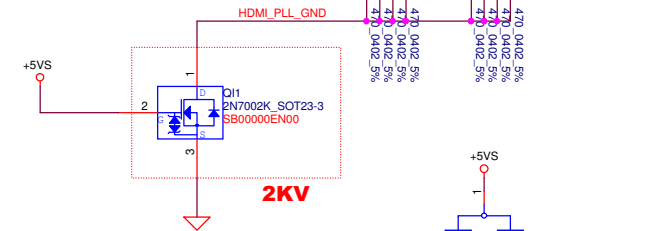
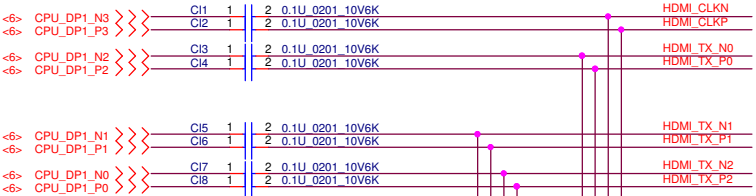
| Security Classification   | Compal Secret Data |                 | Title      |                 |
|---|--------------------|-----------------|------------|-----------------|
| Issued Date   | 2018/04/01         | Deciphered Date | 2019/04/01 | Document Number |
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| Compal Electronics, Inc.  |                    |                 |            | LA-M366P        |
| L2CD/Cam/MIC/T.Panel  |                    |                 |            | Sheet 36 of 121 |
| Date: Wednesday, January 04, 2023   |                    |                 |            |                 |

Main Function:

Reserve

|   |                    |                 |            |                          |                             |
|---|--------------------|-----------------|------------|--------------------------|-----------------------------|
| Security Classification   | Compal Secret Data |                 |            | Compal Electronics, Inc. |                             |
| Issued Date   | 2018/04/01         | Deciphered Date | 2019/04/01 | Title                    | (RSVD)                      |
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|   |                    |                 |            |                          | LA-M366P                    |
|   |                    |                 |            | Date:                    | Wednesday, January 04, 2023 |
|   |                    |                 |            | Sheet                    | 39 of 121                   |

Main Func = HDMI



|   |                    |                 |                          |                             |
|---|--------------------|-----------------|--------------------------|-----------------------------|
| Security Classification   | Compal Secret Data |                 | Compal Electronics, Inc. |                             |
| Issued Date   | 2018/04/01         | Deciphered Date | 2019/04/01               | Title                       |
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|   |                    |                 | Rev                      | 1.0                         |
|   |                    |                 | Date                     | Wednesday, January 04, 2023 |
|   |                    |                 | Sheet                    | 40 of 121                   |



Main Function:

# Reserve

|   |                    |                             |            |                          |                 |
|---|--------------------|-----------------------------|------------|--------------------------|-----------------|
| Security Classification   | Compal Secret Data |                             |            | Compal Electronics, Inc. |                 |
| Issued Date   | 2018/04/01         | Deciphered Date             | 2019/04/01 | Title                    | (RSVD)          |
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|   |                    |                             |            | Rev                      | 1.0             |
| Date:   |                    | Wednesday, January 04, 2023 |            | Sheet                    | 41 of 121       |

# Reserve

|   |            |                    |            |                          |                             |
|---|------------|--------------------|------------|--------------------------|-----------------------------|
| Security Classification   |            | Compal Secret Data |            | Compal Electronics, Inc. |                             |
| Issued Date   | 2018/12/24 | Deciphered Date    | 2018/12/31 | Title                    | TBT TYPE-C Port0 (1/2)      |
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|   |            |                    |            |                          | LA-M366P                    |
|   |            |                    |            | Date                     | Wednesday, January 04, 2023 |
|   |            |                    |            | Sheet                    | 42 of 121                   |
|   |            |                    |            | Rev                      | 1.0                         |

Main Func =

Reserve

|   |            |                             |            |          |                 |
|---|------------|-----------------------------|------------|----------|-----------------|
| Security Classification   |            | Compal Secret Data          |            | Title    |                 |
| Issued Date   | 2018/12/24 | Deciphered Date             | 2018/12/31 | Size     | Document Number |
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| Date  |            | Wednesday, January 04, 2023 |            | Sheet    | 43 of 121       |

Reserve

|   |            |                             |            |                        |                 |
|---|------------|-----------------------------|------------|------------------------|-----------------|
| Security Classification   |            | Compal Secret Data          |            | Title                  |                 |
| Issued Date   | 2018/12/24 | Deciphered Date             | 2018/12/31 | TBT TYPE-C Port1 (1/2) |                 |
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|   |            |                             |            | LA-M366P               | Rev 1.0         |
| Date  |            | Wednesday, January 04, 2023 |            | Sheet                  | 44 of 121       |

# Reserve

|   |            |                    |            |                          |                             |
|---|------------|--------------------|------------|--------------------------|-----------------------------|
| Security Classification   |            | Compal Secret Data |            | Compal Electronics, Inc. |                             |
| Issued Date   | 2018/12/24 | Deciphered Date    | 2018/12/31 | Title                    |                             |
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|   |            |                    |            | Size                     | Rev                         |
|   |            |                    |            | Document Number          | 1.0                         |
|   |            |                    |            | LA-M366P                 |                             |
|   |            |                    |            | Date:                    | Wednesday, January 04, 2023 |
|   |            |                    |            | Sheet                    | 45 of 121                   |

# Reserve

|   |  |                    |  |                 |  |                          |  |                             |  |                 |  |
|---|--|--------------------|--|-----------------|--|--------------------------|--|-----------------------------|--|-----------------|--|
| Security Classification   |  | Compal Secret Data |  |                 |  | Compal Electronics, Inc. |  |                             |  |                 |  |
| Issued Date   |  | 2018/12/24         |  | Deciphered Date |  | 2018/12/31               |  | Title                       |  |                 |  |
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|   |  |                    |  |                 |  | Size                     |  | Document Number             |  | Rev             |  |
|   |  |                    |  |                 |  |                          |  | LA-M366P                    |  | 1.0             |  |
|   |  |                    |  |                 |  | Date:                    |  | Wednesday, January 04, 2023 |  | Sheet 46 of 121 |  |

Reserve

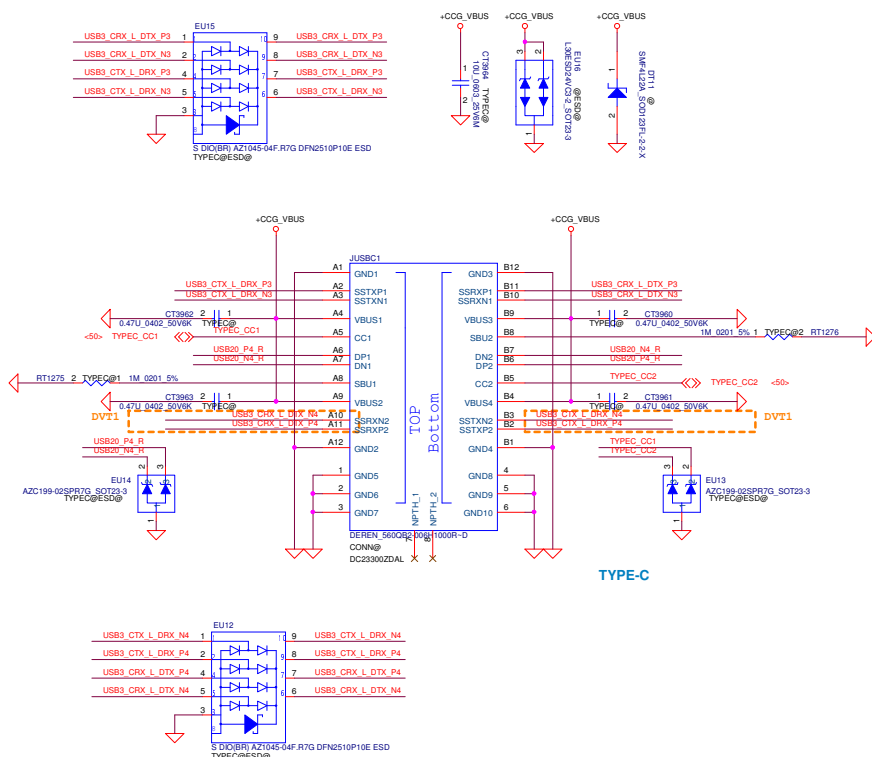
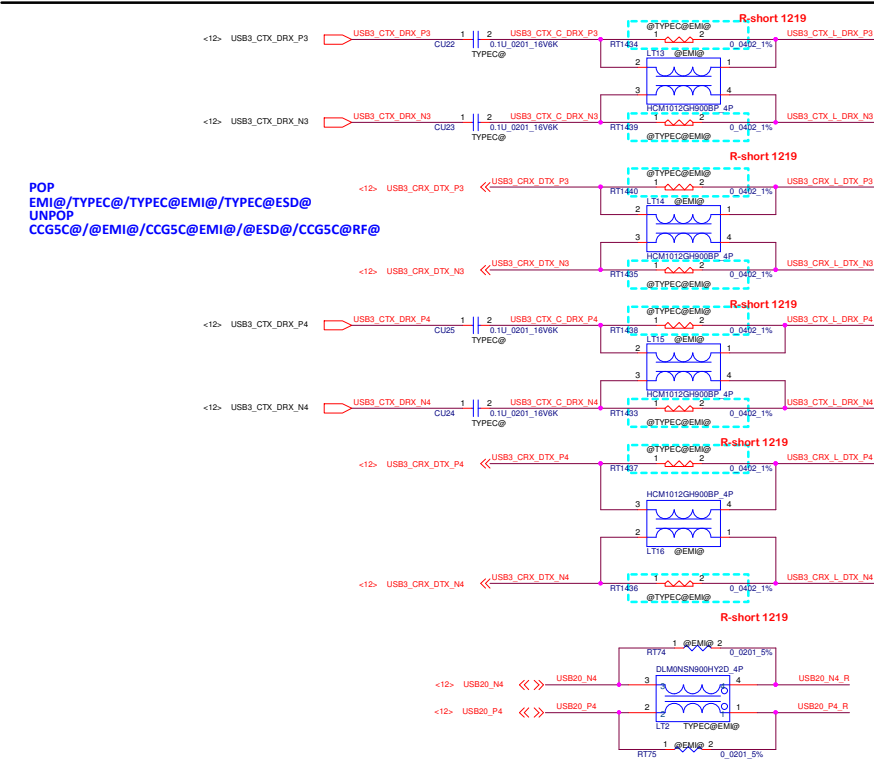
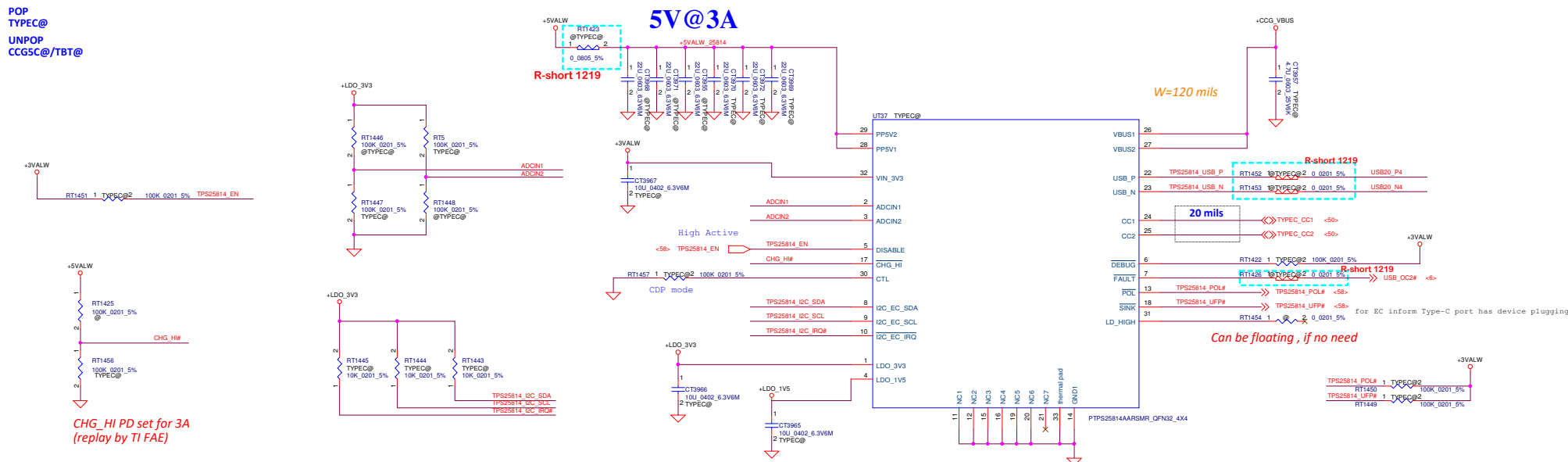
# Reserve



# Reserve

|   |            |                    |            |                          |                                    |
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| Security Classification   |            | Compal Secret Data |            | Compal Electronics, Inc. |                                    |
| Issued Date   | 2018/12/24 | Deciphered Date    | 2018/12/31 | Title                    | Reserve for TBT TYPE-C Port3 (2/2) |
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|   |            |                    |            |                          | LA-M366P                           |
|   |            |                    |            | Date:                    | Wednesday, January 04, 2023        |
|   |            |                    |            | Sheet                    | 49 of 121                          |
|   |            |                    |            | Rev                      | 1.0                                |

POP  
TYPEC@  
UNPOP  
CCG5C@/TBT@

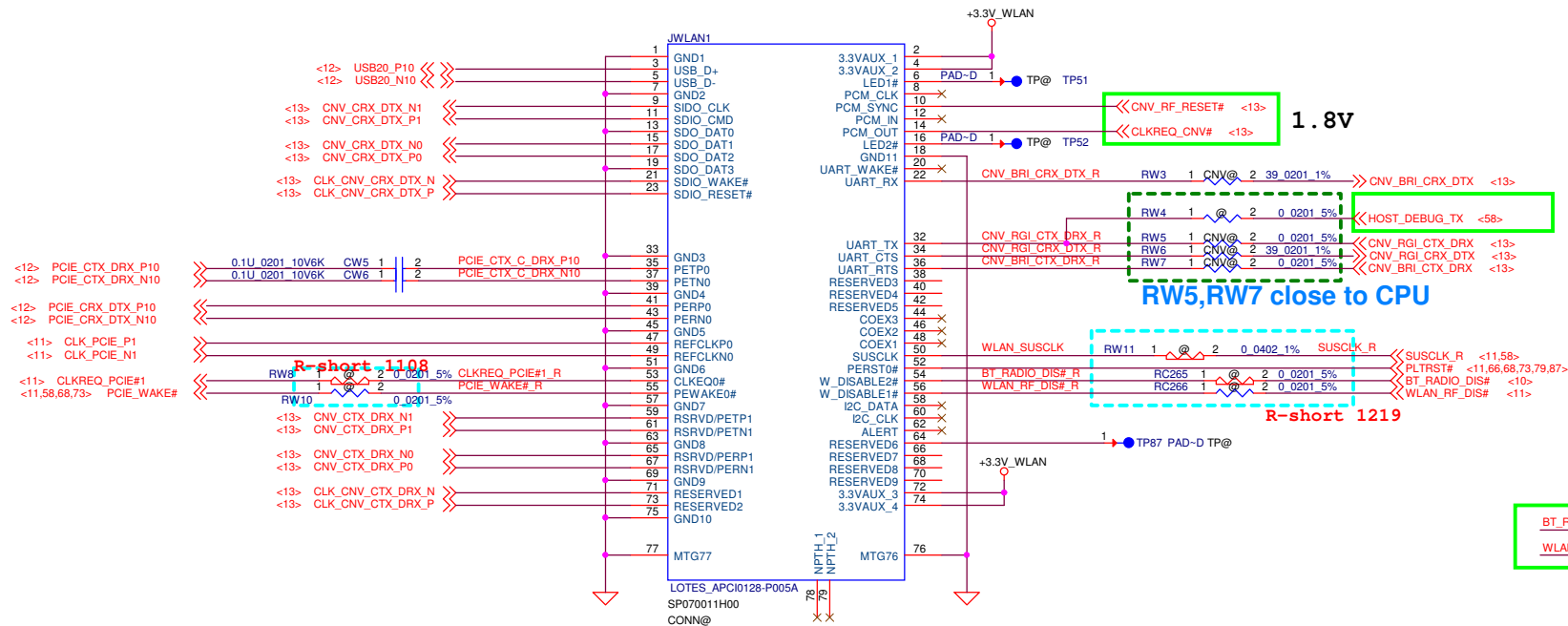
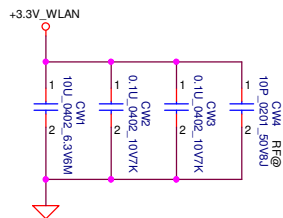


|   |            |                           |            |  |     |
|---|------------|---------------------------|------------|--|-----|
| <b>Security Classification</b>  |            | <b>Compal Secret Data</b> |            | <b><i>Compal Electronics, Inc.</i></b> |     |
| <b>Issued Date</b>  | 2018/12/24 | <b>Deciphered Date</b>    | 2018/12/31 | <b>Title</b>                           |     |
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|   |            |                           |            | <b>Item</b>                            |     |
|   |            |                           |            | Control Number                         |     |
|   |            |                           |            | <b><i>LA-M3666</i></b>                 |     |
|   |            |                           |            | <b>Date</b>                            |     |
|   |            |                           |            | Wednesday, January 10, 2024            |     |
|   |            | [Sheet                    | 50         | of                                     | 121 |

Main Func = LAN

|  |                    |                 |            |                 |                             |                 |
|--|--------------------|-----------------|------------|-----------------|-----------------------------|-----------------|
| Security Classification  | Compal Secret Data |                 | Title      |                 | Compal Electronics, Inc.    |                 |
| Issued Date  | 2018/04/01         | Deciphered Date | 2019/04/01 | Document Number | LAN RTL8111/RTL8106         |                 |
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|  |                    |                 |            | Date            | Wednesday, January 24, 2020 | Sheet 81 of 121 |

## Main Func = WLAN



|   |            |                    |            |  |                             |                 |
|---|------------|--------------------|------------|--|-----------------------------|-----------------|
| Security Classification   |            | Compal Secret Data |            | <b>Compal Electronics, Inc.</b><br><b>NGFF WLAN CONN</b> |                             |                 |
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|   |            |                    |            | <b>LA-M366P</b>  |                             |                 |
|   |            |                    |            | Date:  | Wednesday, January 04, 2023 | Sheet 52 of 121 |

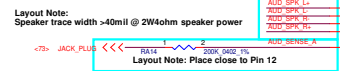
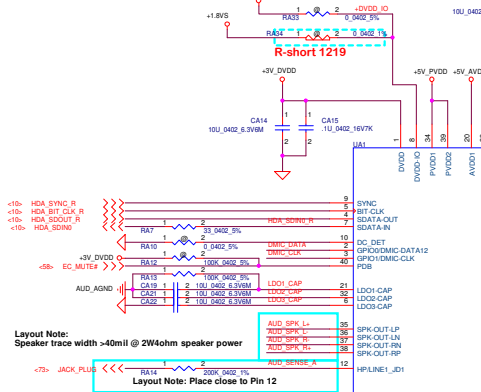
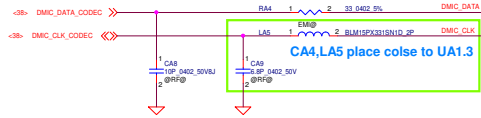
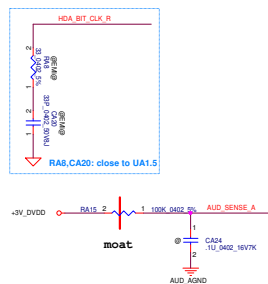
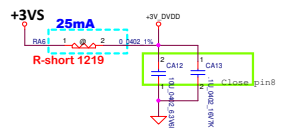
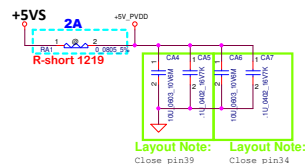
Reserve

|   |                    |                 |            |                          |                    |        |
|---|--------------------|-----------------|------------|--------------------------|--------------------|--------|
| Security Classification   | Compal Secret Data |                 |            | Compal Electronics, Inc. |                    |        |
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|   |                    |                 |            |                          | LA-M366P           | 1.0    |
| Date: Wednesday, January 04, 2023   |                    |                 |            | Sheet                    | 53                 | of 121 |

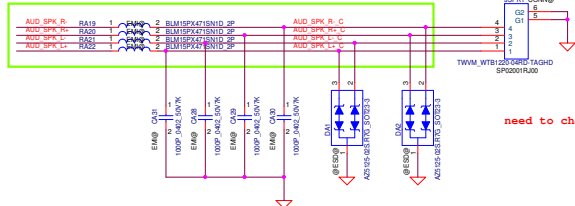
Main Function: Reserve

# Reserve

# Reserve



Layout Note:  
Speaker trace width >40mil @ 2W40hm speaker power



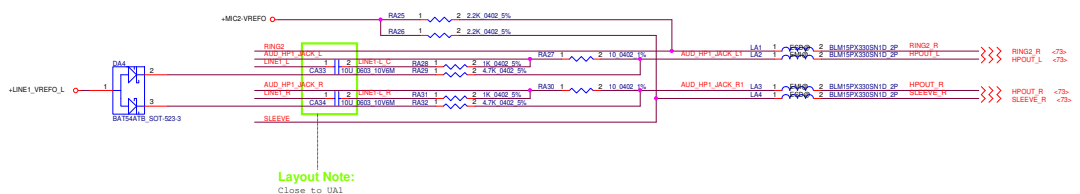
Speaker

| CONN Pin | Net name |
|----------|----------|
| Pin1     | SPK_L+   |
| Pin2     | SPK_L-   |
| Pin3     | SPK_R+   |
| Pin4     | SPK_R-   |

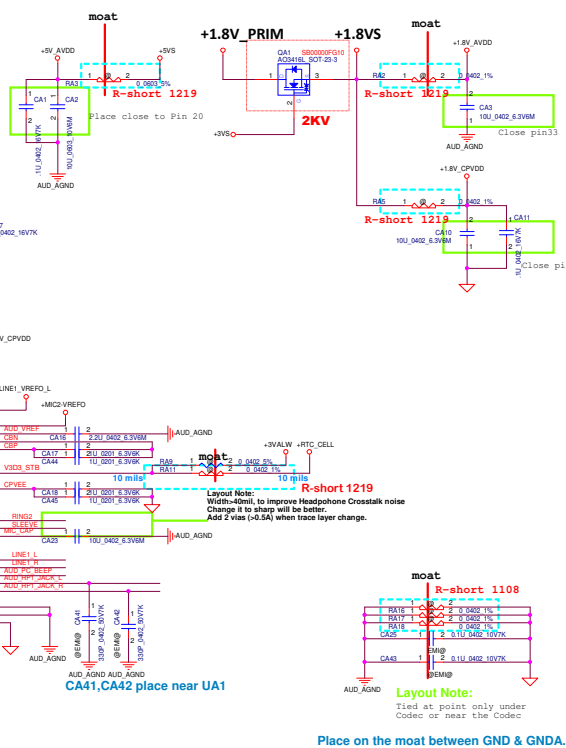
need to check pin define with Audio

Main Func = Audio Jack

Universal Jack  
(Global Headset Jack + mic phone in + line in support)



Layout Note:  
Close to UA1





Main Function:

Reserve

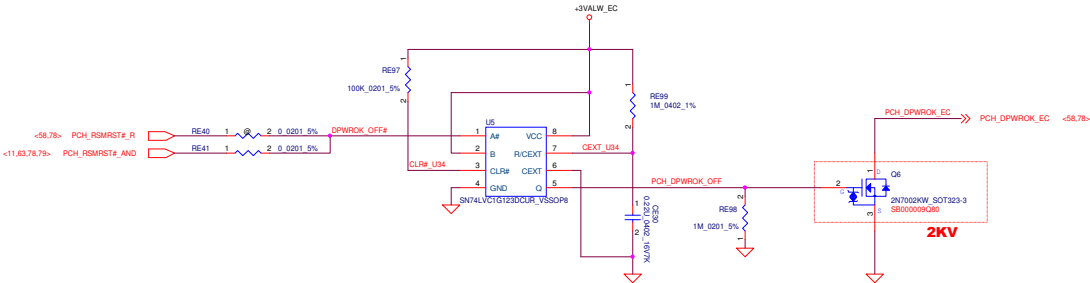
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|---|--------------------|-----------------|------------|--------------------------|-----------------|--------|
| Security Classification   | Compal Secret Data |                 |            | Compal Electronics, Inc. |                 |        |
| Issued Date   | 2018/04/01         | Deciphered Date | 2019/04/01 | Title                    | (RSVD)          |        |
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|   |                    |                 |            |                          | LA-M366P        | 1.0    |
| Date: Wednesday, January 04, 2023   |                    |                 |            | Sheet                    | 57              | of 121 |



Main Function: WDT circuit

FUNCTION TABLE

| INPUTS |   |   | OUTPUTS          |
|--------|---|---|------------------|
| CLR    | A | B | Q                |
| L      | X | X | L                |
| X      | H | X | L <sup>(1)</sup> |
| X      | X | L | L <sup>(1)</sup> |
| H      | L | ↑ | ⎓                |
| H      | ↓ | H | ⎓                |
| ↑      | L | H | ⎓                |



|                  |   |  |     |     |     |     |     |     |     |     |               |
|------------------|---|--|-----|-----|-----|-----|-----|-----|-----|-----|---------------|
| $t_{wOUT}^{(2)}$ | Q | $C_{ext} = 28\text{ pF}$ ,<br>$R_{ext} = 2\text{ k}\Omega$             | 225 | 600 | 190 | 220 | 170 | 200 | 150 | 180 | ns            |
|                  |   | $C_{ext} = 0.01\text{ }\mu\text{F}$ ,<br>$R_{ext} = 10\text{ k}\Omega$ | 100 | 110 | 100 | 110 | 100 | 110 | 100 | 110 | $\mu\text{s}$ |
|                  |   | $C_{ext} = 0.1\text{ }\mu\text{F}$ ,<br>$R_{ext} = 10\text{ k}\Omega$  | 1   | 1.1 | 1   | 1.1 | 1   | 1.1 | 1   | 1.1 | ms            |

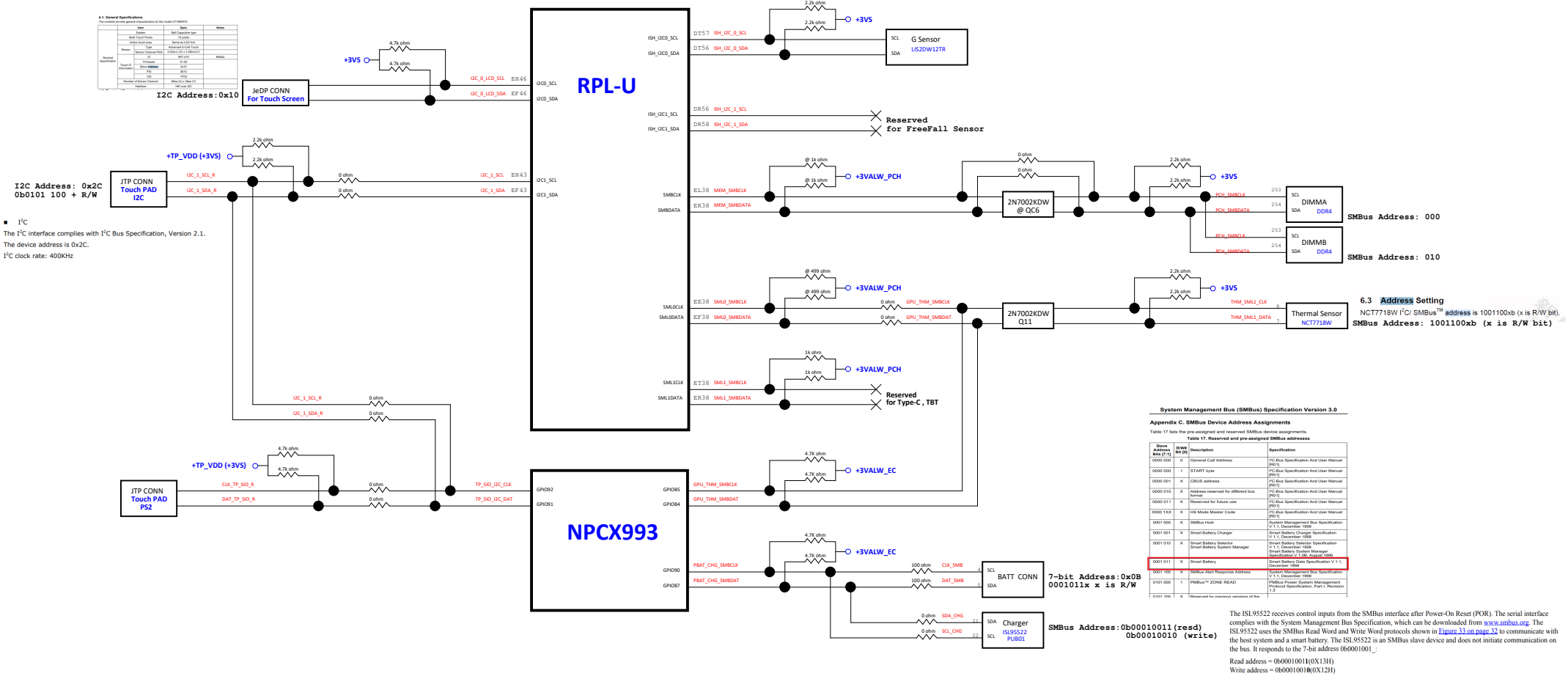
Main Function: S5 LID

Main Function:

Reserve

|   |                    |                 |            |                          |                             |
|---|--------------------|-----------------|------------|--------------------------|-----------------------------|
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|   |                    |                 |            |                          | LA-M366P                    |
|   |                    |                 |            | Date:                    | Wednesday, January 04, 2023 |
|   |                    |                 |            | Sheet                    | 60 of 121                   |

Main Function:SMB/I2C Block Diagrams



System Management Bus (SMBus) Specification Version 3.0

Appendix C. SMBus Device Address Assignments

Table 17 lists the pre-assigned and reserved SMBus device assignments.

Table 17. Reserved and pre-assigned SMBus addresses

| Device Address (7-bit) | Device ID (8-bit) | Description                          | Specification   |
|------------------------|-------------------|--------------------------------------|---|
| 0000 000               | 0                 | General Call Address                 | (PC-Bus Specification And User Manual (P01))                    |
| 0000 001               | 1                 | START type                           | (PC-Bus Specification And User Manual (P01))                    |
| 0000 001               | X                 | CRUS address                         | (PC-Bus Specification And User Manual (P01))                    |
| 0000 010               | X                 | Address reserved for different bus   | (PC-Bus Specification And User Manual (P01))                    |
| 0000 011               | X                 | Reserved for future use              | (PC-Bus Specification And User Manual (P01))                    |
| 0001 000               | X                 | PC-Voice Master Code                 | (PC-Bus Specification And User Manual (P01))                    |
| 0001 000               | X                 | SMBus Host                           | (System Management Bus Specification V 1.1, December 1996)      |
| 0001 001               | X                 | Smart Battery Charger                | (Smart Battery Charger Specification V 1.1, December 1996)      |
| 0001 010               | X                 | Smart Battery Selector               | (Smart Battery Selector Specification V 1.1, December 1996)     |
| 0001 011               | X                 | Smart Battery System Manager         | (Smart Battery System Manager Specification V 1.0, August 1999) |
| 0001 011               | X                 | Smart Battery                        | (Smart Battery Data Specification V 1.1, December 1996)         |
| 0001 100               | X                 | SMBus Alert Response Address         | (S 1.1, December 1996)  |
| 0101 000               | 1                 | PMBus™ ZONE READ                     | (PMBus™ Zone Read Specification V 1.0, November 2000)           |
| 0101 100               | X                 | Reserved for various versions of the |   |

The ISL9552Z receives control inputs from the SMBus interface after Power-On Reset (POR). The serial interface complies with the System Management Bus Specification, which can be downloaded from [www.smbus.org](http://www.smbus.org). The ISL9552Z uses the SMBus Read Word and Write Word protocols shown in Figure 33 on page 32 to communicate with the host system and a smart battery. The ISL9552Z is an SMBus slave device and does not initiate communication on the bus. It responds to the 7-bit address 0b00010011\_.

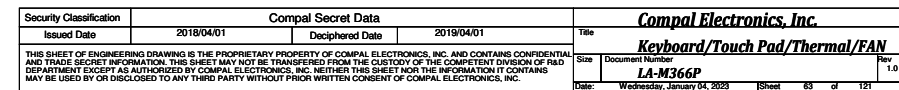
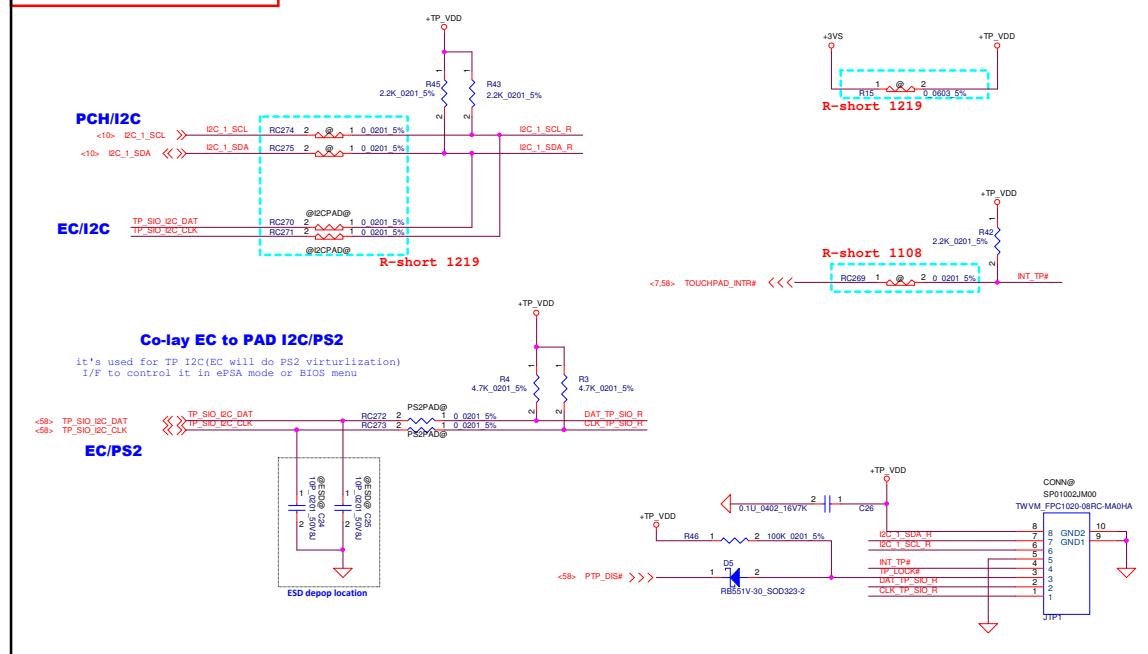
Read address = 0b00010011(0X13H)  
Write address = 0b00010010(0X12H)

Main Function:

Reserve

|   |                    |                 |            |                          |                 |        |
|---|--------------------|-----------------|------------|--------------------------|-----------------|--------|
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3  
Main Func = TPAD

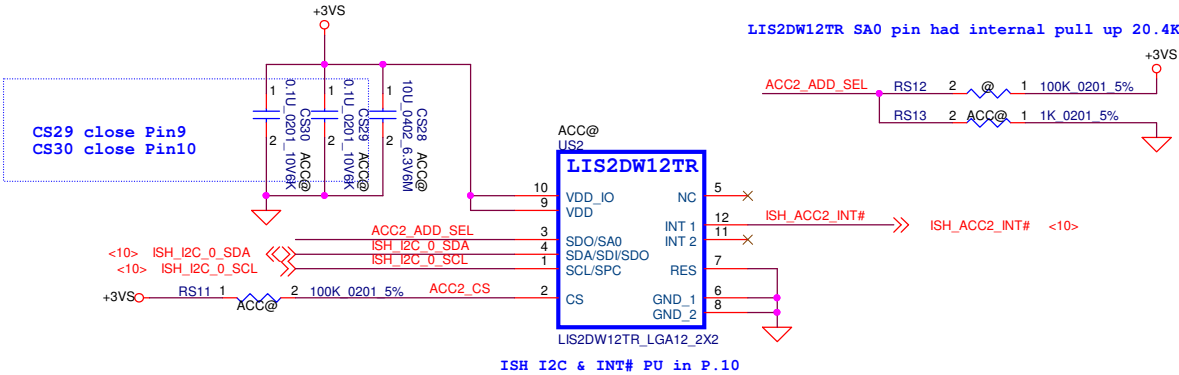


Main Function: ACC sensor

Table 16. SAD+Read/Write patterns

| Command | SAD[6:1] | SAD[0] = SA0 | R/W | SAD+R/W        |
|---------|----------|--------------|-----|----------------|
| Read    | 001100   | 0            | 1   | 00110001 (31h) |
| Write   | 001100   | 0            | 0   | 00110000 (30h) |
| Read    | 001100   | 1            | 1   | 00110011 (33h) |
| Write   | 001100   | 1            | 0   | 00110010 (32h) |

Accelerometer-16bit



|   |                    |                 |            |                          |                             |                 |
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Main Function:

# Reserve

|   |                    |                 |            |                          |                             |
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|   |                    |                 |            | Sheet                    | 65 of 121                   |

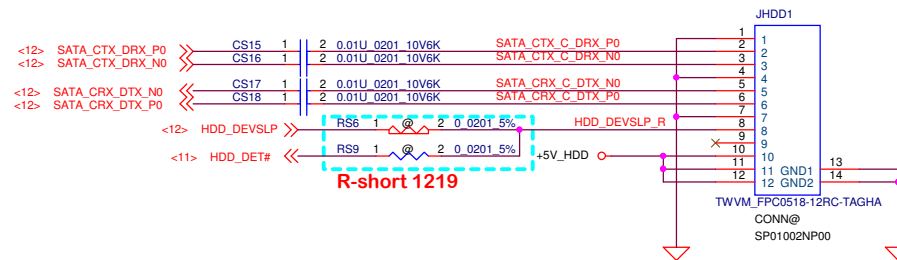
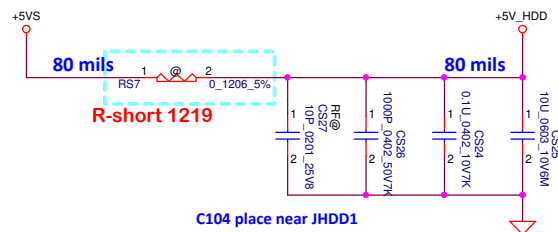
[illegible][illegible]

| TEMPERATURE (°C) |        | T_CRIT# |       |        |      |        |
|------------------|--------|---------|-------|--------|------|--------|
|                  |        | 2KΩ     | 7.5KΩ | 10.5KΩ | 14KΩ | 18.7KΩ |
| ALERT#           | 2KΩ    | 77      | 87    | 97     | 107  | 117    |
|                  | 7.5KΩ  | 79      | 89    | 99     | 109  | 119    |
|                  | 10.5KΩ | 81      | 91    | 101    | 111  | 121    |
|                  | 14KΩ   | 83      | 93    | 103    | 113  | 123    |
|                  | 18.7KΩ | 85      | 95    | 105    | 115  | 125    |

[illegible]

|  |                    |                 |                          |                             |
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|  |                    |                 | Sheet                    | 66 of 121                   |

Main Func = HDD&FFS



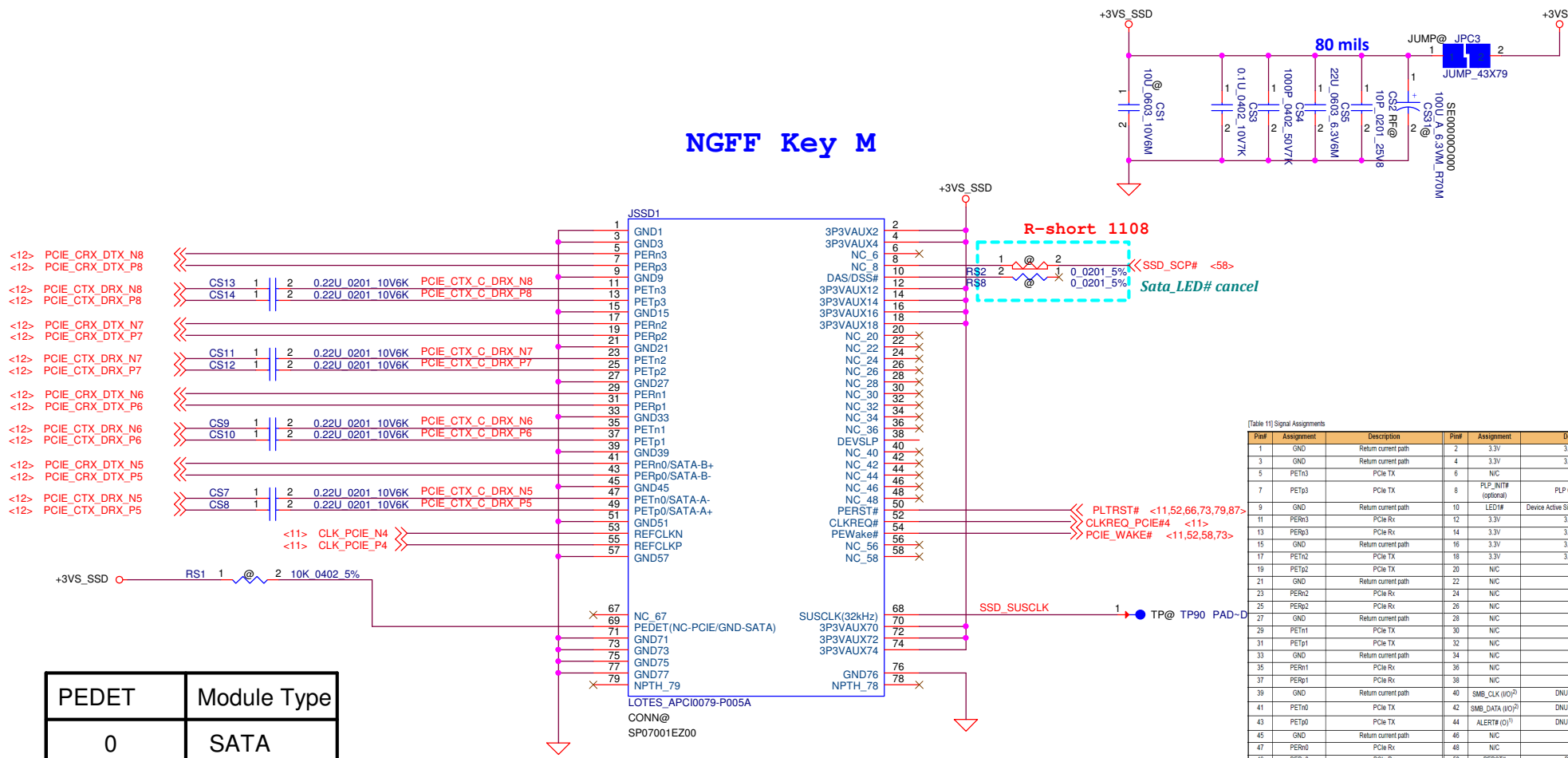
| CONN            |     | FFC |
|-----------------|-----|-----|
| GND             | S1  | 1   |
| A+              | S2  | 2   |
| A-              | S3  | 3   |
| GND             | S4  | 4   |
| B-              | S5  | 5   |
| B+              | S6  | 6   |
| GND             | S7  | 7   |
| DEVSLP          | P3  | 8   |
| 5V              | P7  | 10  |
| 5V              | P8  | 11  |
| 5V              | P9  | 12  |
| GND             | P10 |     |
| Device Activity | P11 | 9   |

Main Func = ODD

Cancel ODD

Main Func = SSD M Key CONN

NGFF Key M



| PEDET | Module Type |
|-------|-------------|
| 0     | SATA        |
| 1     | PCIE        |

| Table 11) Signal Assignments |            |                      |      |                             |  |
|------------------------------|------------|----------------------|------|-----------------------------|--|
| Pin#                         | Assignment | Description          | Pin# | Assignment                  | Description                              |
| 1                            | GND        | Return current path  | 2    | 3.3V                        | 3.3V source                              |
| 3                            | GND        | Return current path  | 4    | 3.3V                        | 3.3V source                              |
| 5                            | PETn3      | PCIe TX              | 6    | NIC                         | NIC                                      |
| 7                            | PETp3      | PCIe TX              | 8    | PLP_INIT# (optional)        | PLP Control Signal                       |
| 9                            | GND        | Return current path  | 10   | LED#                        | Device Active Signal (Refer to Table 12) |
| 11                           | PERn3      | PCIe Rx              | 12   | 3.3V                        | 3.3V source                              |
| 13                           | PERp3      | PCIe Rx              | 14   | 3.3V                        | 3.3V source                              |
| 15                           | GND        | Return current path  | 16   | 3.3V                        | 3.3V source                              |
| 17                           | PETn2      | PCIe TX              | 18   | 3.3V                        | 3.3V source                              |
| 19                           | PETp2      | PCIe TX              | 20   | NIC                         | NIC                                      |
| 21                           | GND        | Return current path  | 22   | NIC                         | NIC                                      |
| 23                           | PERn2      | PCIe Rx              | 24   | NIC                         | NIC                                      |
| 25                           | PERp2      | PCIe Rx              | 26   | NIC                         | NIC                                      |
| 27                           | GND        | Return current path  | 28   | NIC                         | NIC                                      |
| 29                           | PETn1      | PCIe TX              | 30   | NIC                         | NIC                                      |
| 31                           | PETp1      | PCIe TX              | 32   | NIC                         | NIC                                      |
| 33                           | GND        | Return current path  | 34   | NIC                         | NIC                                      |
| 35                           | PERn1      | PCIe Rx              | 36   | NIC                         | NIC                                      |
| 37                           | PERp1      | PCIe Rx              | 38   | NIC                         | NIC                                      |
| 39                           | GND        | Return current path  | 40   | SMB_CLK (I/O) <sup>2</sup>  | DMU (Do Not Use)                         |
| 41                           | PETn0      | PCIe TX              | 42   | SMB_DATA (I/O) <sup>2</sup> | DMU (Do Not Use)                         |
| 43                           | PETp0      | PCIe TX              | 44   | ALERT# (O) <sup>1</sup>     | DMU (Do Not Use)                         |
| 45                           | GND        | Return current path  | 46   | NIC                         | NIC                                      |
| 47                           | PERn0      | PCIe Rx              | 48   | NIC                         | NIC                                      |
| 49                           | PERp0      | PCIe Rx              | 50   | PENST#                      | PCIe Reset                               |
| 51                           | GND        | Return current path  | 52   | CLKREQ#                     | PCIe Device Clock Request                |
| 53                           | REFCLKN    | PCIe Reference Clock | 54   | PEWake#                     | NIC                                      |
| 55                           | REFCLKP    | PCIe Reference Clock | 56   | Reserved for MFG. Data      | DMU (Do Not Use)                         |
| 57                           | GND        | Return current path  | 58   | Reserved for MFG. Data      | DMU (Do Not Use)                         |
| 67                           | NIC        | NIC                  | 68   | SUSCLK                      | DMU (Do Not Use)                         |
| 69                           | PEDET      | NIC                  | 70   | 3.3V                        | 3.3V source                              |
| 71                           | GND        | Return current path  | 72   | 3.3V                        | 3.3V source                              |
| 73                           | GND        | Return current path  | 74   | 3.3V                        | 3.3V source                              |
| 75                           | GND        | Return current path  | 76   | 3.3V                        | 3.3V source                              |

Main Func = eMMC

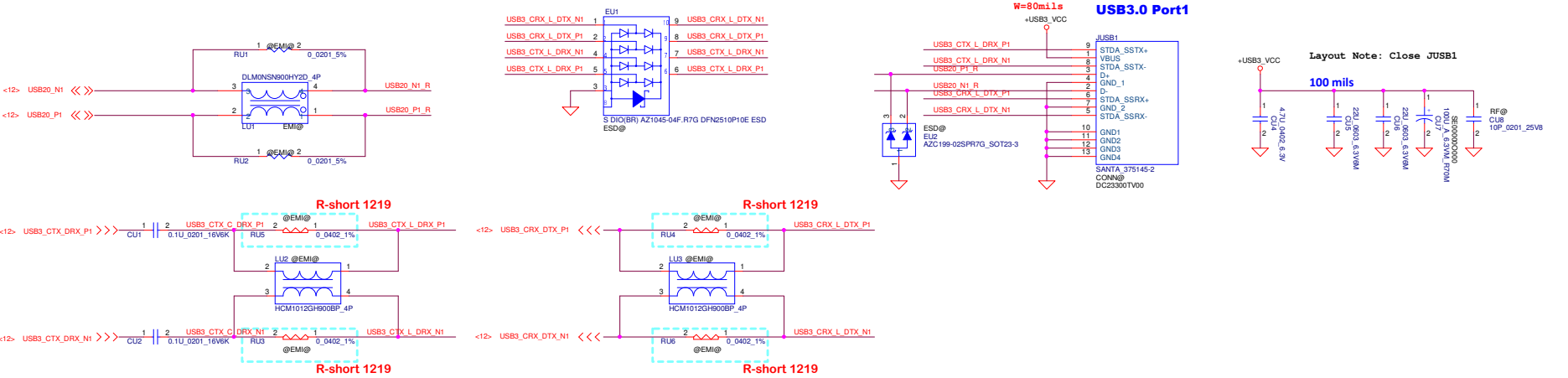
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Main Function:

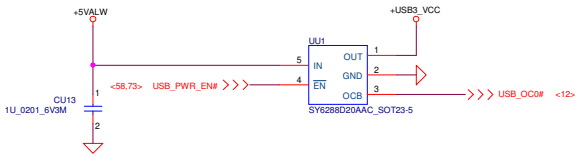
# Reserve

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Main Func = USB3.0 Port1



Maximum Output  
Current 2A



Main Func =

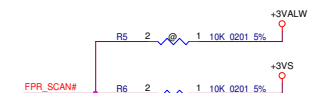
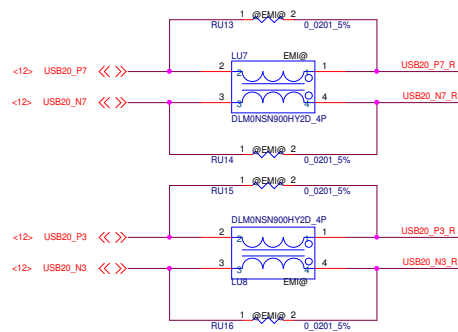
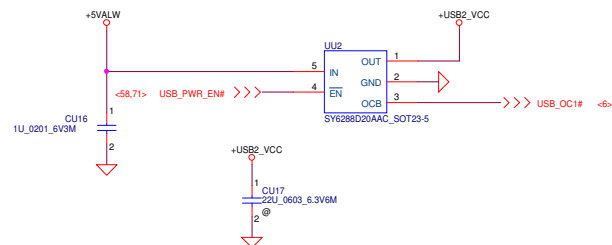
Main Function:

Reserve

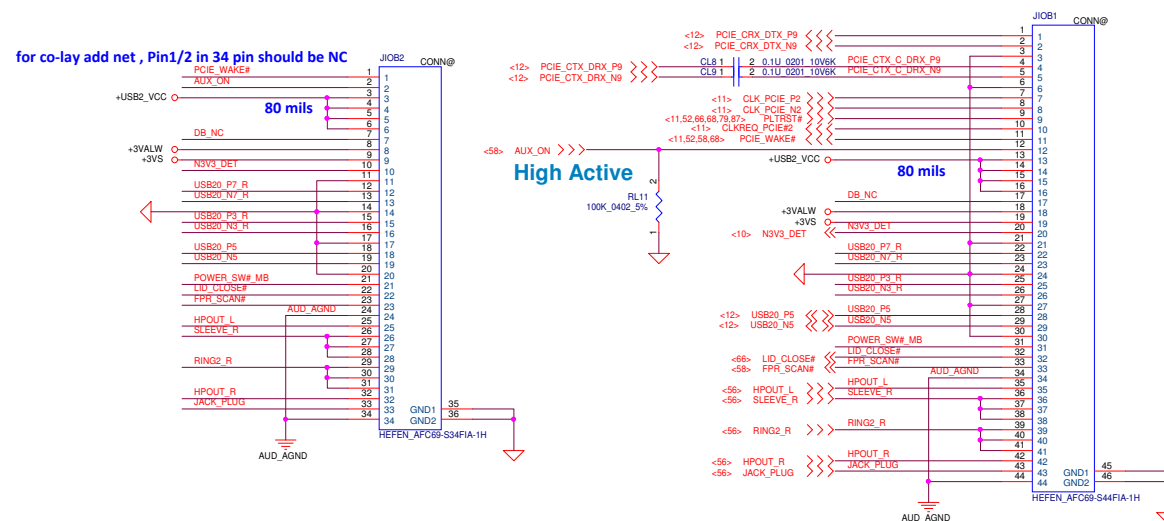
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|   |                    |                 |            | Sheet                    | 72 of 121                   |



2  
Main Func = FPR



JIOB1 and JIOB2 CONN co-lay

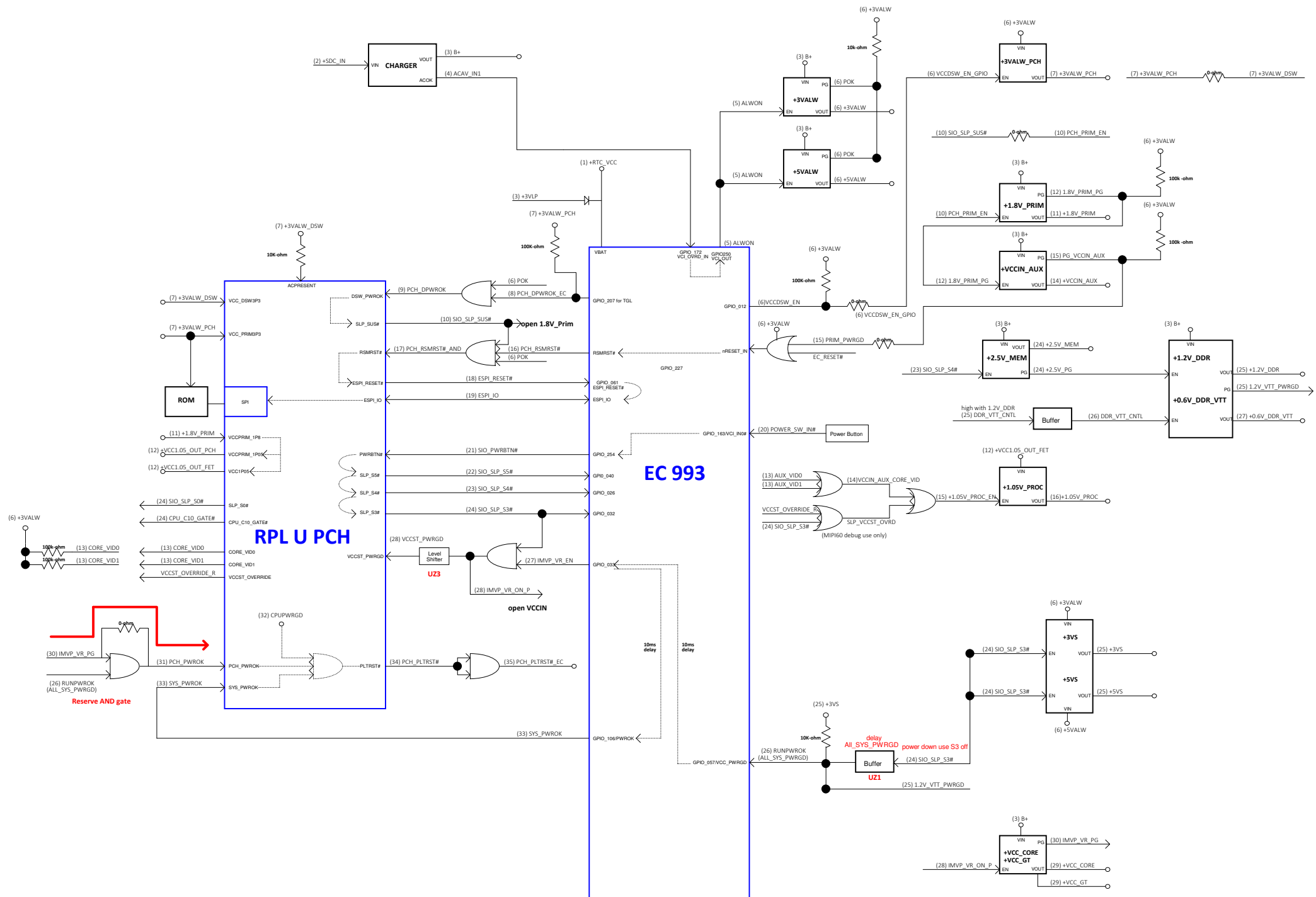


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Main Function:

Reserve

|   |                    |                 |            |                          |                 |
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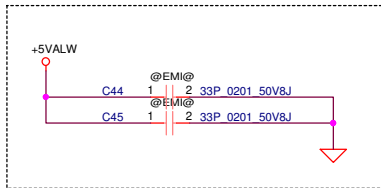


Main Function:

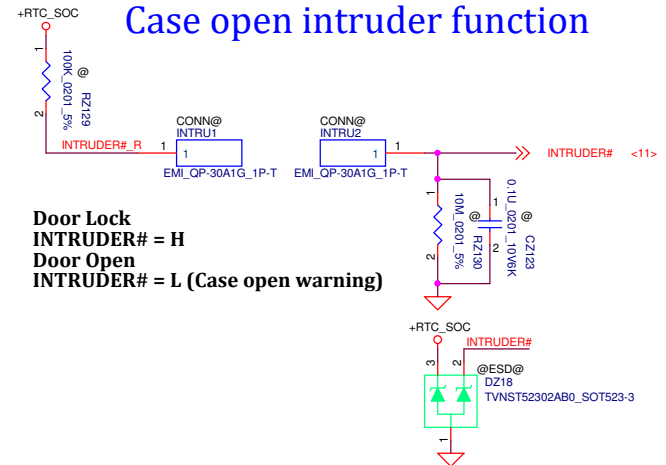
# Reserve

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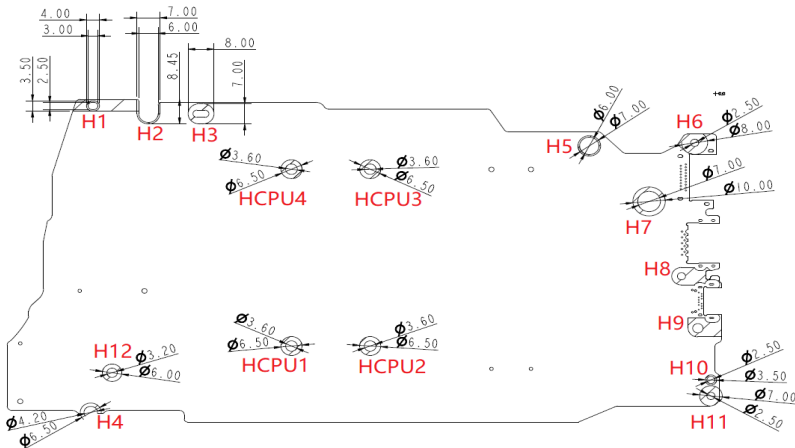
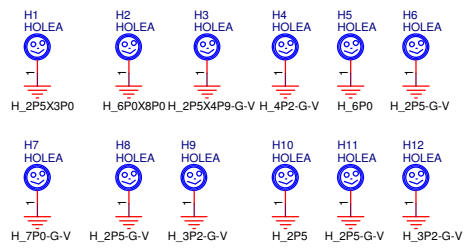
## EMI reserve bridge



## Case open intruder function

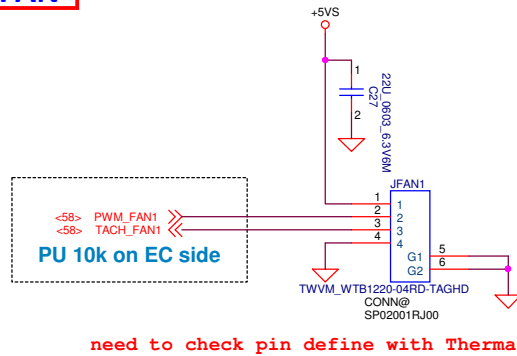


## Screw hole/FD



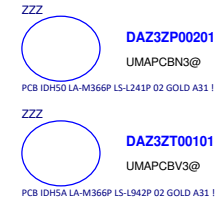
BTM VIEW GROUND PAD  
1031 ME update

## FAN



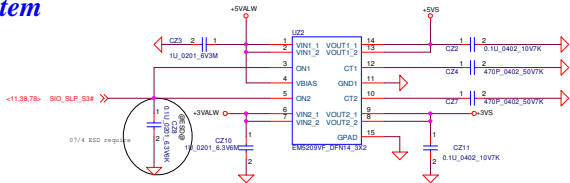
## PCB PN

### PCB R3 DAZ

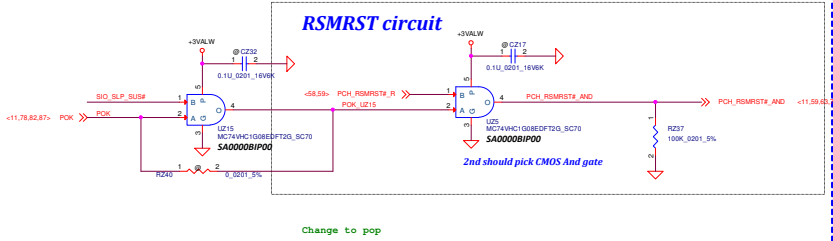
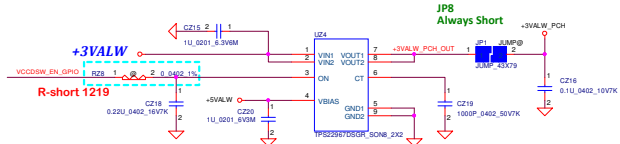


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|   |            |                    |            | LA-M366P                 |                             |                 |
|   |            |                    |            | Date:                    | Wednesday, January 04, 2023 | Sheet 77 of 121 |

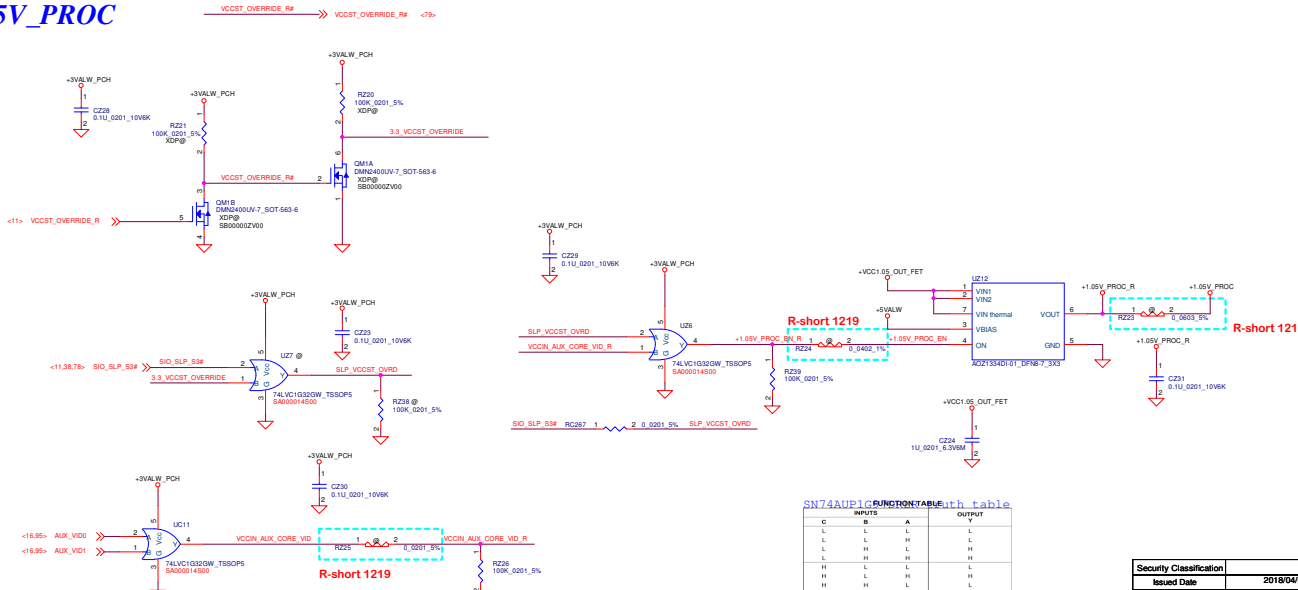
+5VS / +3VS for System



+3VALW TO +3VALW\_PCH

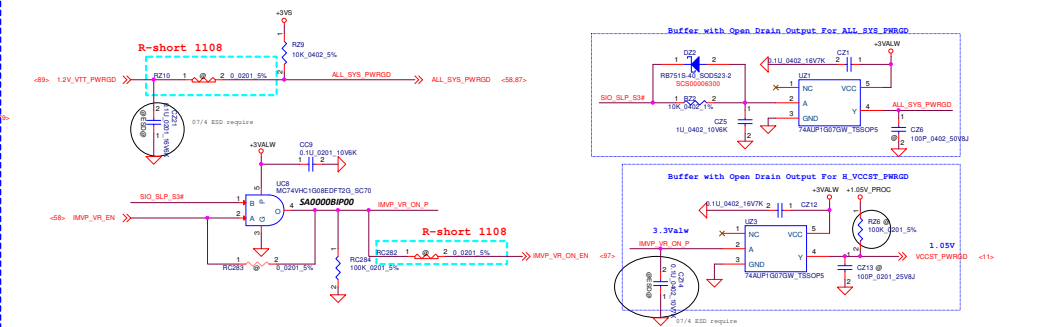


1.05V\_PROC



Sequence Logic

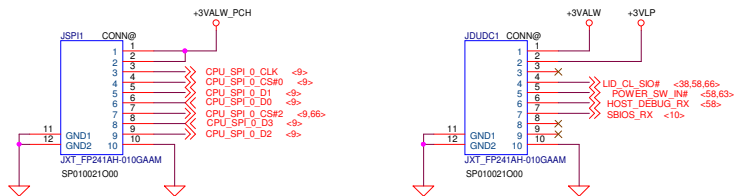
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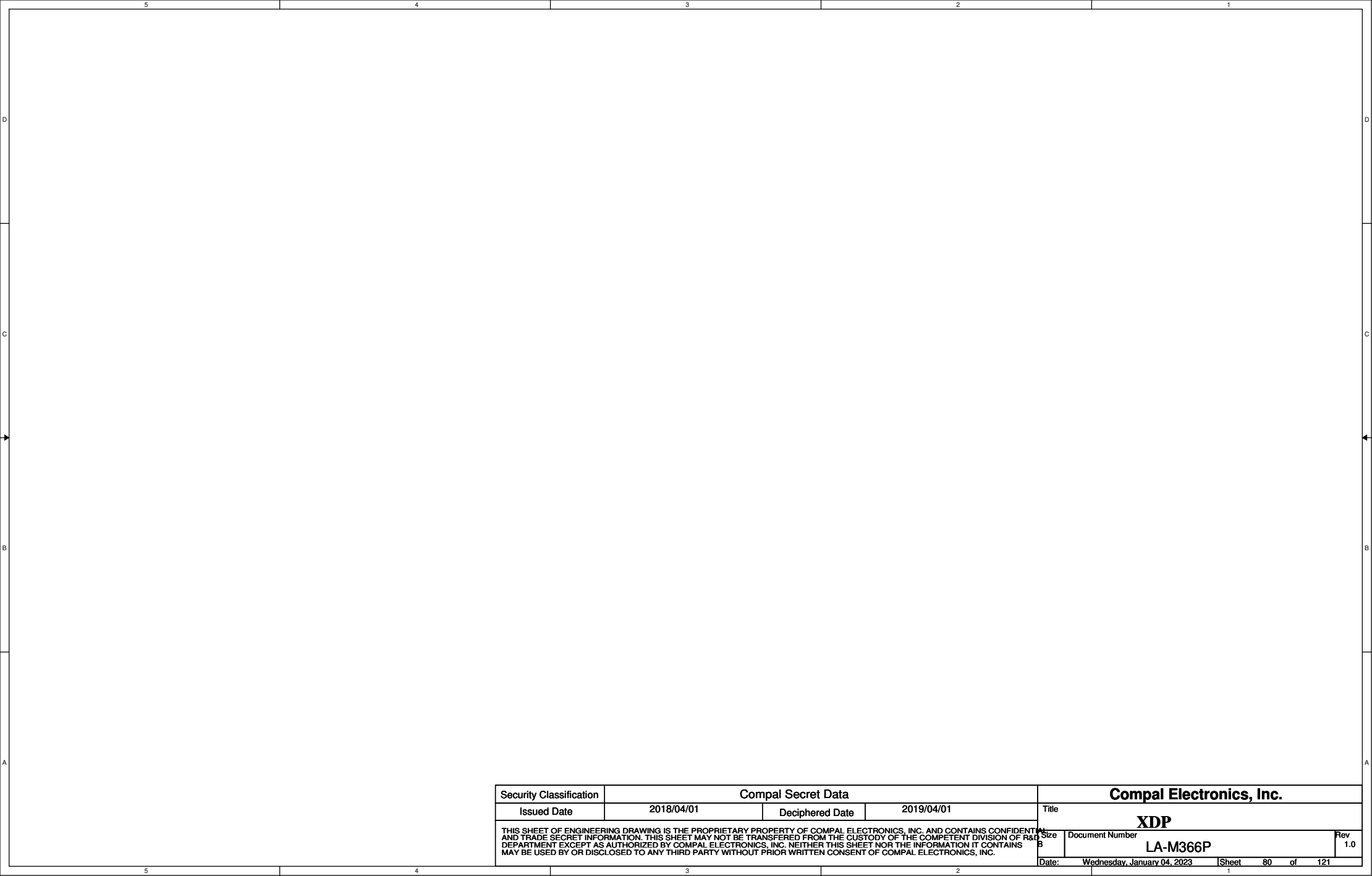
SN74AUP1C FUNCTION TABLE

| C | INPUTS | A | OUTPUT |
|---|--------|---|--------|
| L | L      | L | L      |
| L | L      | H | L      |
| L | H      | L | L      |
| L | H      | H | L      |
| H | L      | L | H      |
| H | L      | H | L      |
| H | H      | L | L      |
| H | H      | H | H      |

## DUDC



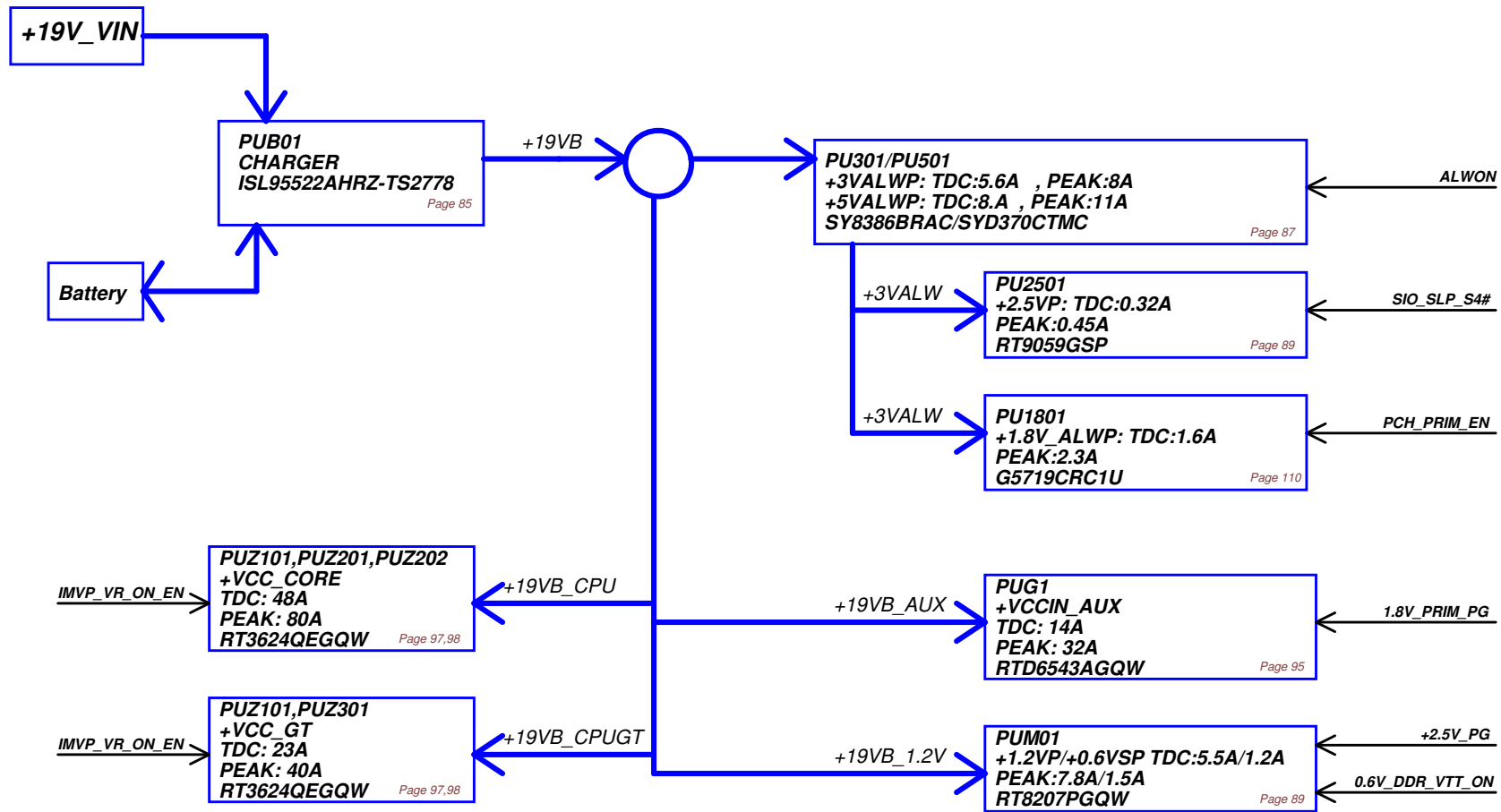
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| Security Classification   |            | Compal Secret Data |            | <b>Compal Electronics, Inc.</b><br><b>Debug connector</b> |            |
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| Date: Wednesday, January 04, 2023   |            |                    |            | Sheet   | 79 of 121  |



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|   |                    |                 |            | Date:<br>Wednesday, January 04, 2023 | Sheet<br>80                 | of<br>121  |



# Power block



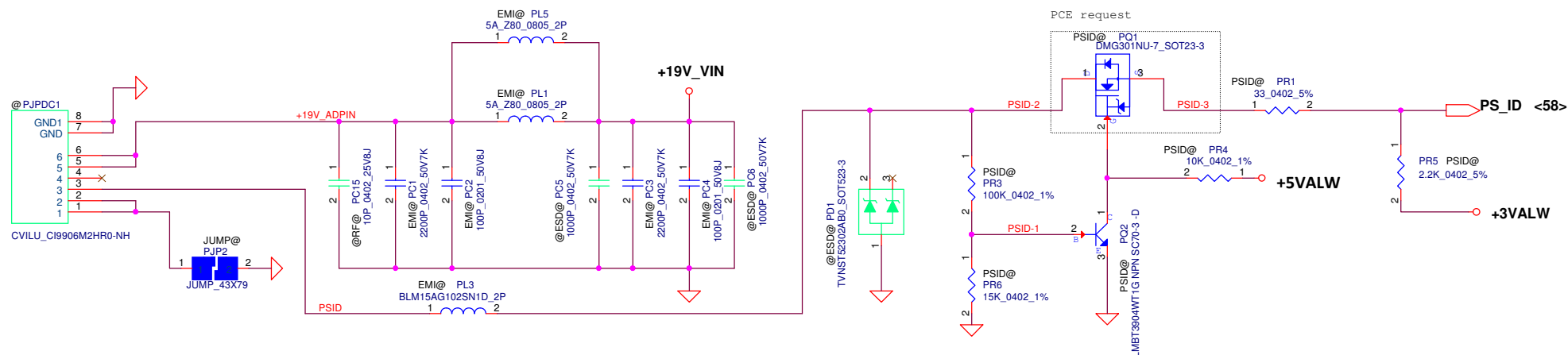
DELL CONFIDENTIAL/PROPRIETARY

Compal Electronics, Inc.

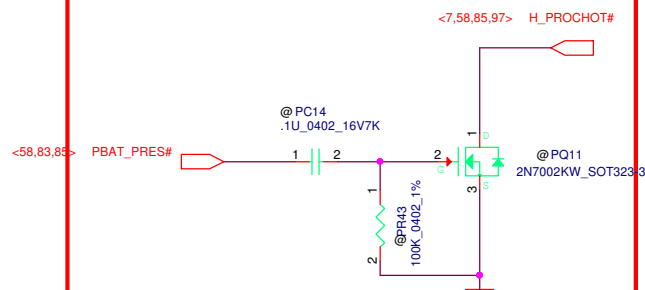
**BLOCK DIAGRAM**

|      |                             |                 |
|------|-----------------------------|-----------------|
| Size | Document Number             | Rev             |
|      | <b>LA-M366P</b>             | V03             |
| Date | Wednesday, January 04, 2023 | Sheet 81 of 121 |

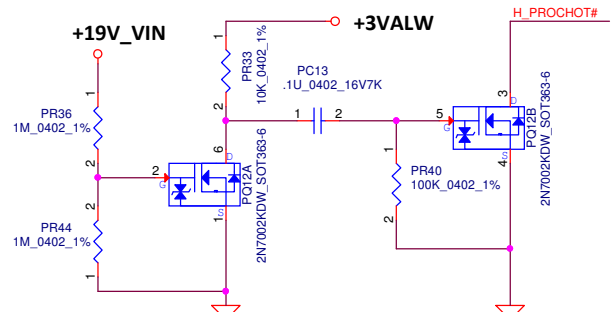
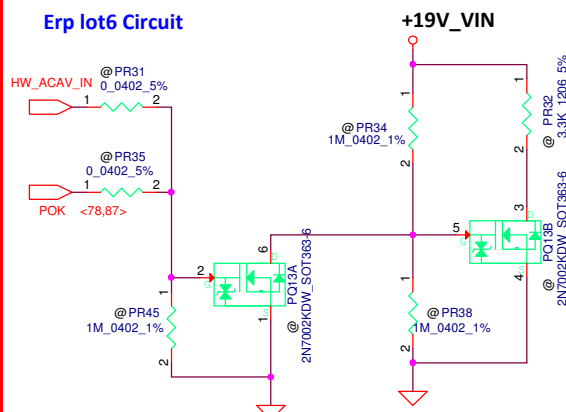
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**Adapter protection:**

if battery removed, adaptor only,  
then trigger the H\_PROCHOT#,  
keep @ in BOM since battery can not  
be removed by end user

**Battery protection:**

asserts H\_PROCHOT# when adaptor is  
unplugged, keep low for 10ms  
till SW PROCHOT# is issued by EC

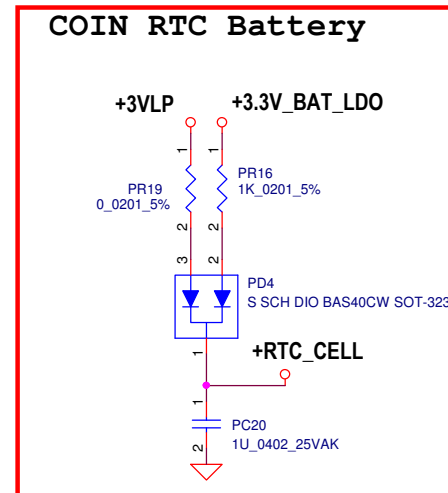
**Erp lot6 Circuit**

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|   |                    |                 |            | V03             |
| Date: Wednesday, January 04, 2023   |                    |                 |            | Sheet           |
|   |                    |                 |            | 82 of 121       |

**ACES\_50458-01001-P01\_10P-T**



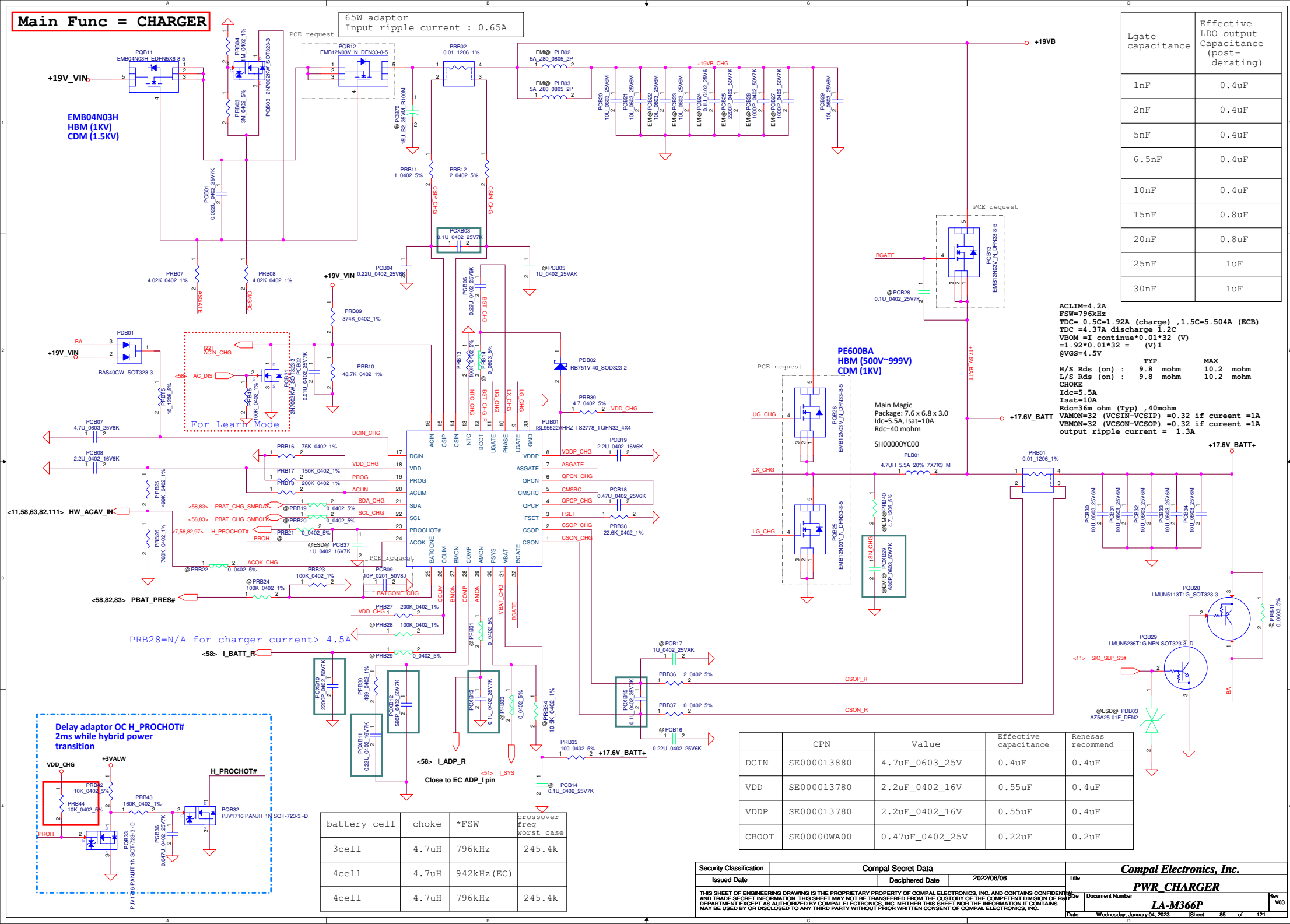
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| Issued Date   |  | Deciphered Date    | 2022/06/06 | Title   |                             |                 |
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|   |  |                    |            | Date:   | Wednesday, January 04, 2023 | Sheet 83 of 121 |

Reserve

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|   |  |                    |  | Size Document Number     |  |
|   |  |                    |  | LA-M366P                 |  |
|   |  |                    |  | Rev V03                  |  |
| Date: Wednesday, January 04, 2023   |  |                    |  | Sheet 84 of 121          |  |

**Main Func = CHARGER**

|                              |
|------------------------------|
| 65W adaptor                  |
| Input ripple current : 0.65A |

[illegible]

| Lgate capacitance | Effective LDO output Capacitance (post-derating) |
|-------------------|--|
| 1nF               | 0.4uF  |
| 2nF               | 0.4uF  |
| 5nF               | 0.4uF  |
| 6.5nF             | 0.4uF  |
| 10nF              | 0.4uF  |
| 15nF              | 0.8uF  |
| 20nF              | 0.8uF  |
| 25nF              | 1uF  |
| 30nF              | 1uF  |

```

ACLIM=4.2A
FSW=796kHz
TDC=0.0+1.92A (charge) ,1.5C=5.504A (ECB)
TDC #4.37A discharge 1.2C
VBOM = I continue*0.01+32 (V)
1.92*0.01*32 = (V1)
@VGS4.5V

          TYP          MAX
H/S Rds (on) : 9.8 mohm 10.2 mohm
L/S Rds (on) : 9.8 mohm 10.2 mohm
CHOKE
Idat=5.5A
Isat=10A
Rds=36m ohm (Typ) ,40mohm
VAMON=32 (VC5IN-VC5IP) = 0.32 if current =1A
VEMON=32 (VC5ON-VC5OP) = 0.32 if current =1A
output ripple current = 1.3A

```

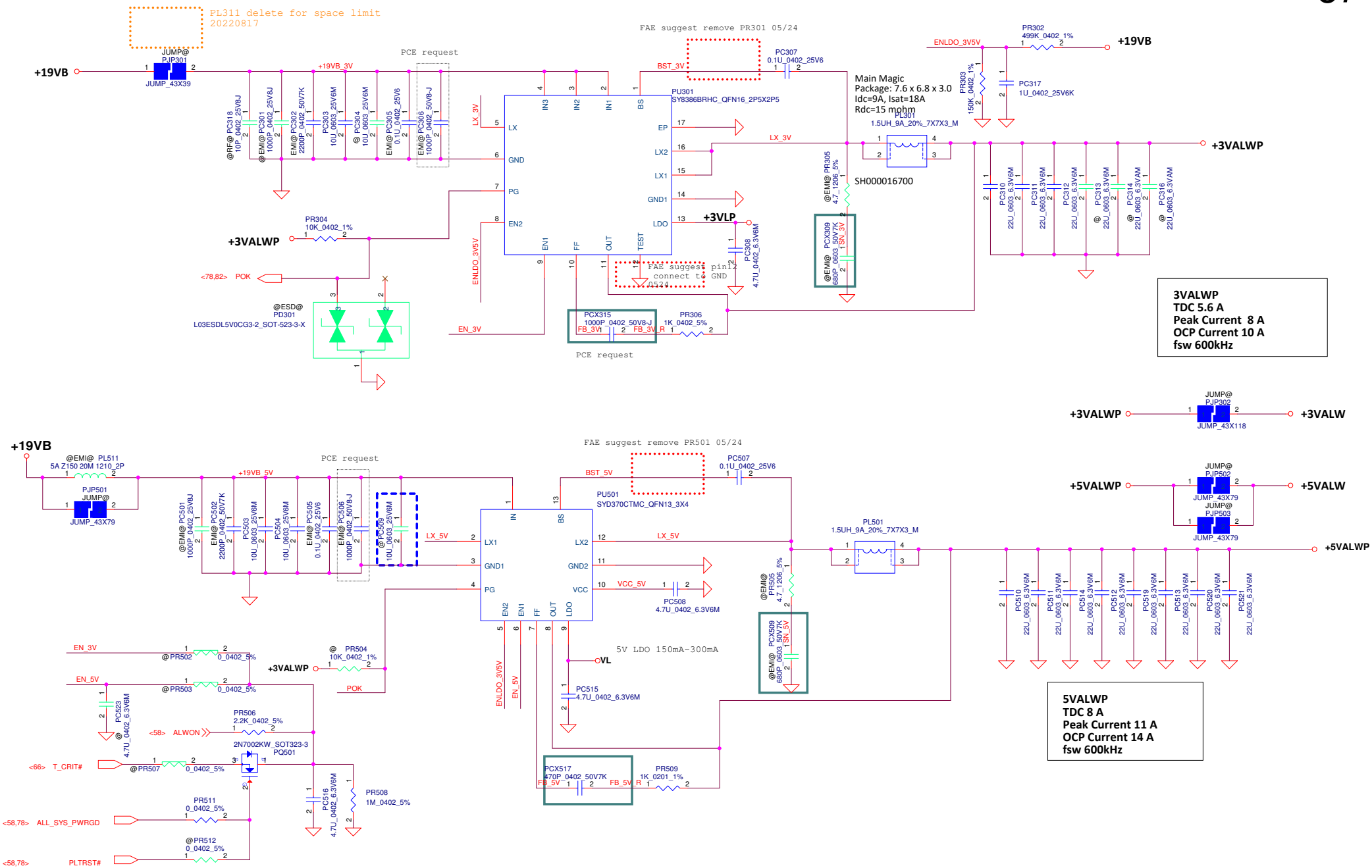
|       | CPN         | Value           | Effective capacitance | Renesas recommend |
|-------|-------------|-----------------|-----------------------|-------------------|
| DCIN  | SE000013880 | 4.7uF_0603_25V  | 0.4uF                 | 0.4uF             |
| VDD   | SE000013780 | 2.2uF_0402_16V  | 0.55uF                | 0.4uF             |
| VDDP  | SE000013780 | 2.2uF_0402_16V  | 0.55uF                | 0.4uF             |
| CBOOT | SE00000WA00 | 0.47uF_0402_25V | 0.22uF                | 0.2uF             |

|              |       |             |                                 |
|--------------|-------|-------------|---------------------------------|
| battery cell | choke | *FSW        | crossover<br>freq<br>worst case |
| 3cell        | 4.7uH | 796kHz      | 245.4k                          |
| 4cell        | 4.7uH | 942kHz (EC) |                                 |
| 4cell        | 4.7uH | 796kHz      | 245.4k                          |

|   |  |                    |  |   |                 |
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|   |               |                    |            | Sheet                    | 86 of 121                   |
|   |               |                    |            | Rev                      | V03                         |



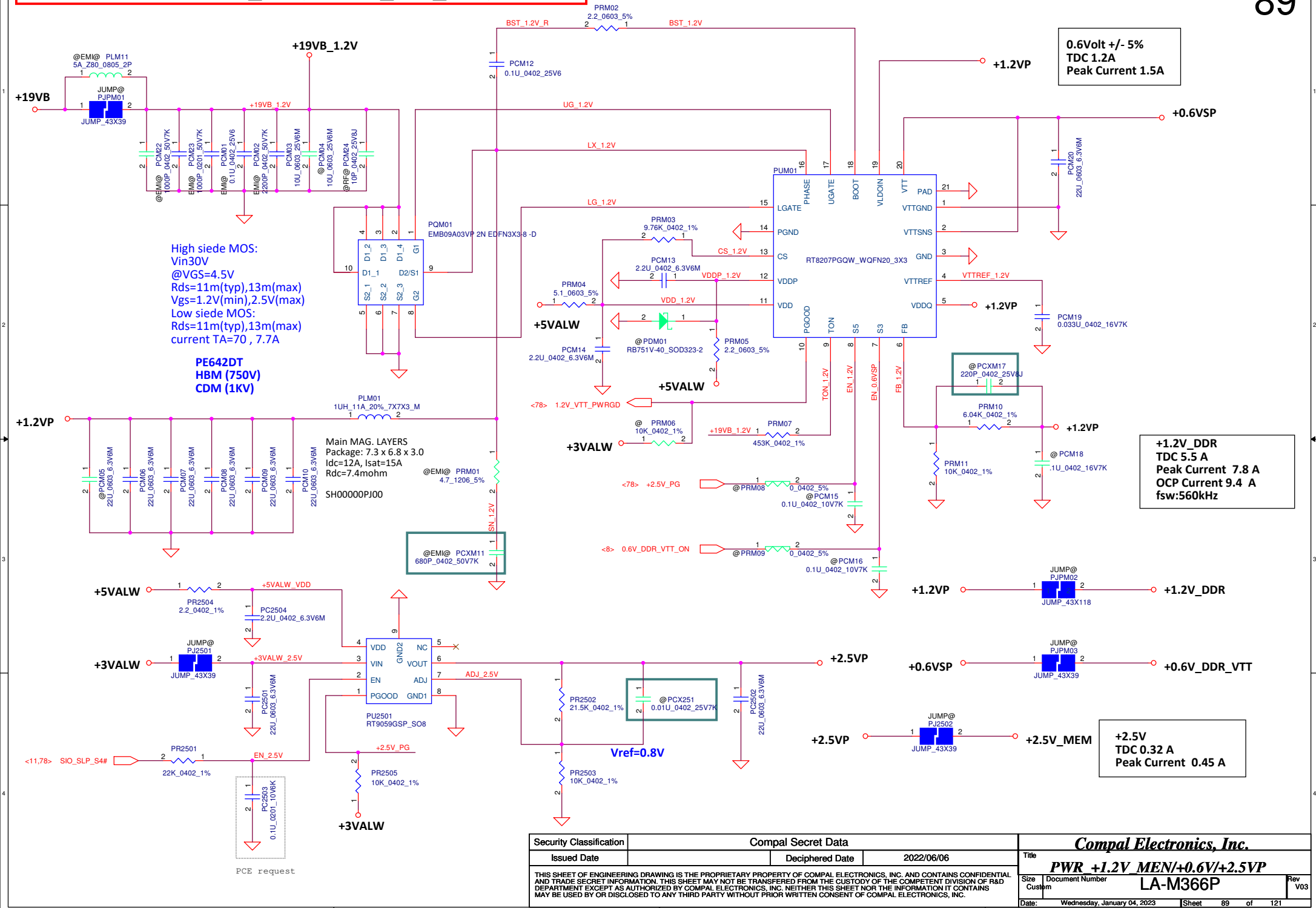
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|  |  |                    |            | Date:   | Wednesday, January 04, 2023<br>Sheet 87 of 121 |

Reserve

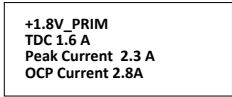
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|  |  |                    |  |                          |  | Date:           | Wednesday, January 04, 2023 |  |     |
|  |  |                    |  |                          |  | Sheet           | 88 of 121                   |  |     |
|  |  |                    |  |                          |  |                 |                             |  |     |



**Main Func = +1.2V\_DDR/+0.6V\_DDR\_VTT/ +2.5VP**



|   |  |                    |            |                          |                             |
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|   |  |                    |            | Custom                   | LA-M366P                    |
|   |  |                    |            | Date:                    | Wednesday, January 04, 2023 |
|   |  |                    |            | Sheet                    | 89 of 121                   |
|   |  |                    |            | Rev                      | V03                         |



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|   |               |                    |            | Sheet                    | 91 of 121                   |
|   |               |                    |            | Rev                      | V03                         |

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|   |  |                    |  |                          | LA-M366P                    | V03 |
|   |  |                    |  | Date:                    | Wednesday, January 04, 2023 |     |
|   |  |                    |  | Sheet                    | 92 of 121                   |     |

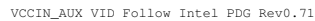
Reserve

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|   |             |                    |            |                          | LA-M366P                    |
|   |             |                    |            | Date:                    | Wednesday, January 04, 2023 |
|   |             |                    |            | Sheet                    | 93 of 121                   |
|   |             |                    |            | Rev                      | V03                         |

Reserve

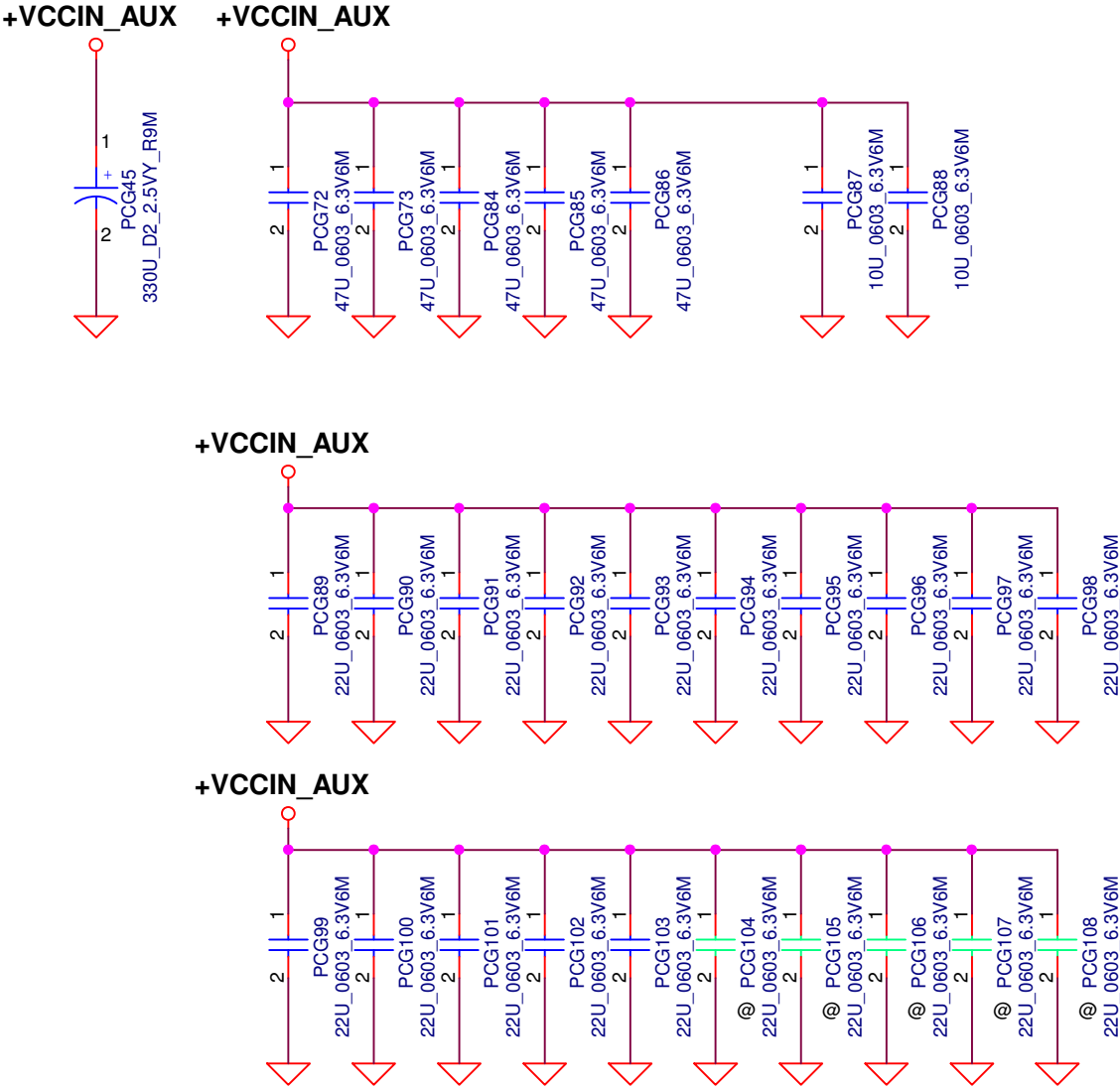
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|   |               |                    |            |                          | LA-M366P                    |
|   |               |                    |            | Date:                    | Wednesday, January 04, 2023 |
|   |               |                    |            | Sheet                    | 94 of 121                   |
|   |               |                    |            | Rev                      | V03                         |

TDC=14A  
ICCMAX=32A  
OCP=38.4A  
DC LL=2.0m ohm  
AC LL=3.4m ohm  
Fsw: 600KHz



| VID1 | VID0 | +VCCIN_AUX<br>Voltage |
|------|------|-----------------------|
| 0    | 0    | 0                     |
| 0    | 1    | 1.1                   |
| 1    | 0    | 1.65                  |
| 1    | 1    | 1.8                   |

Main Func = VCCIN\_AUX Decoupling



ADL-P\_15W

+VCCIN\_AUX

ICCMAX=32A

TDC=14A

OCP=38.4A

DC LL=2.0m ohm

AC LL=3.4m ohm

Intel PDG Rev1.0

+VCCIN\_AUX O/P caps:

330U\_D2\_2.5VM\_R4.5M \* 1pcs

47U/6.3V/X5R/0603 \* 5 pcs

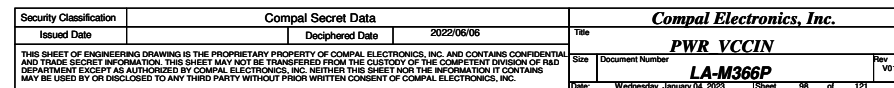
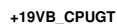
10U/6.3V/X5R/0603 \* 15 pcs

22U/6.3V/X5R/0603 \* 2 pcs

|   |                    |                 |            |                             |                 |           |
|---|--------------------|-----------------|------------|-----------------------------|-----------------|-----------|
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|   |                    |                 |            |                             | LA-M366P        | V03       |
| Date:   |                    |                 |            | Wednesday, January 04, 2023 | Sheet           | 96 of 121 |







Reserve

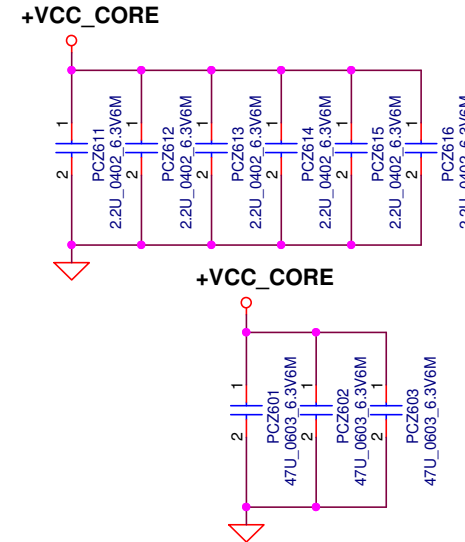
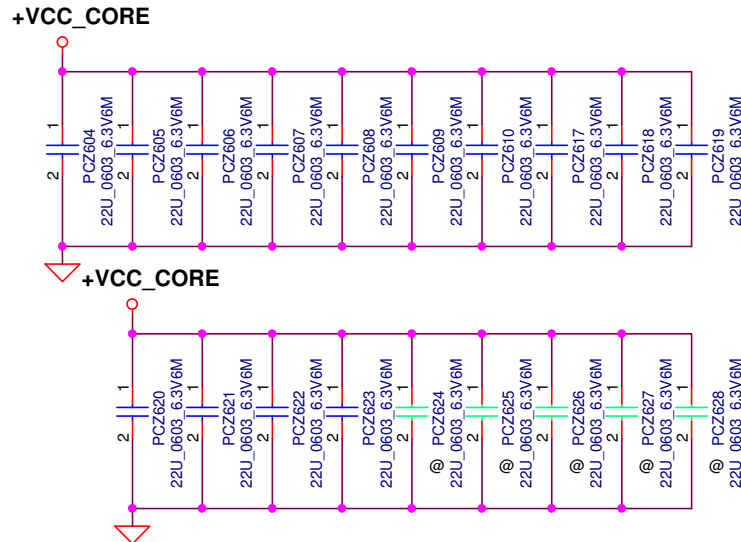
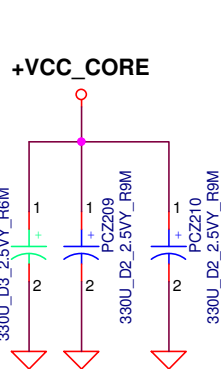
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|  |  |                    |  |                                 |  |                        |                             |  |          |           |         |
|  |  |                    |  |                                 |  | Date:                  | Wednesday, January 04, 2023 |  | Sheet    | 99 of 121 |         |
|  |  |                    |  |                                 |  |                        |                             |  |          |           |         |
|  |  |                    |  |                                 |  |                        |                             |  |          |           |         |

Reserve

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|  |  |                    |  |                                 |  |                        |                             |  |          |            |         |
|  |  |                    |  |                                 |  | Date:                  | Wednesday, January 04, 2023 |  | Sheet    | 100 of 121 |         |
|  |  |                    |  |                                 |  |                        |                             |  |          |            |         |
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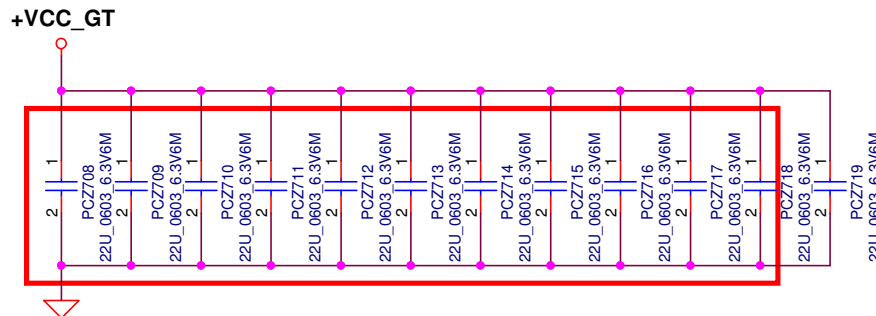
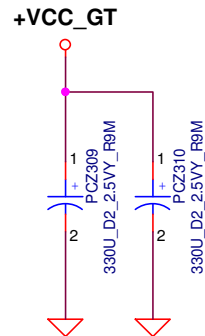
# Main Func = VCCIN Decoupling

101

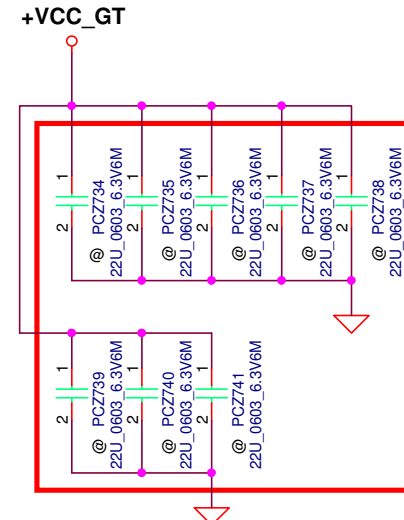
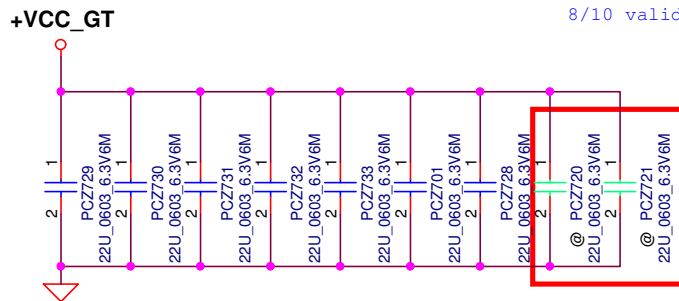


+VCC\_CORE O/P caps:

330U\_D2 2.5VM\_R9M \* 1pcs  
330U\_D3 2.5VY\_R6M\* 1pcs  
47U/6.3V/X5R/0603 \* 3 pcs  
2.2U/6.3V/X5R/0402 \* 6 pcs  
22U/6.3V/X5R/0603 \* 14 pcs



8/10 validation result



+VCC\_GT O/P caps:

330U\_D2 2.5VM\_R9M \* 2pcs  
22U/6.3V/X5R/0603 \* 29 pcs

Function feild:  
+VCC\_CORE output cap:36.4  
+VCC\_GT output cap:36.5

|   |  |                             |                 |                                 |                 |        |
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|   |  |                             |                 | <i>PWR +VCORE DECOUPLING</i>    |                 |        |
|   |  |                             |                 | Size                            | Document Number | Rev    |
|   |  |                             |                 |                                 | <i>LA-M366P</i> | V03    |
| Date:   |  | Wednesday, January 04, 2023 |                 | Sheet                           | 101             | of 121 |

PWR +VCORE DECOUPLING

LA-M366P

Reserve

|  |  |                    |  |                                 |  |                        |                             |  |          |            |            |
|--|--|--------------------|--|---------------------------------|--|------------------------|-----------------------------|--|----------|------------|------------|
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|  |  |                    |  |                                 |  |                        |                             |  |          |            |            |
|  |  |                    |  |                                 |  | Date:                  | Wednesday, January 04, 2023 |  | Sheet    | 102 of 121 |            |
|  |  |                    |  |                                 |  |                        |                             |  |          |            |            |
|  |  |                    |  |                                 |  |                        |                             |  |          |            |            |

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|   |  |                    |  | LA-M366P                 |                             |
|   |  |                    |  | Date:                    | Wednesday, January 04, 2023 |
|   |  |                    |  | Sheet                    | 103 of 121                  |
|   |  |                    |  | Rev                      | V03                         |

Reserve

|  |  |                    |  |                          |  |                 |                             |    |     |
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|  |  |                    |  |                          |  |                 | LA-M366P                    |    | V03 |
|  |  |                    |  |                          |  | Date:           | Wednesday, January 04, 2023 |    |     |
|  |  |                    |  |                          |  | Sheet           | 104                         | of | 121 |
|  |  |                    |  |                          |  |                 |                             |    |     |



Reserve

|   |  |                             |  |                          |  |
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| Size  |  | Document Number             |  | Rev                      |  |
|   |  | LA-M366P                    |  | V03                      |  |
| Date:   |  | Wednesday, January 04, 2023 |  | Sheet 105 of 121         |  |

Reserve

|  |  |                    |  |                                 |  |                        |                             |  |          |     |        |
|--|--|--------------------|--|---------------------------------|--|------------------------|-----------------------------|--|----------|-----|--------|
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|  |  |                    |  |                                 |  |                        |                             |  |          |     | V03    |
|  |  |                    |  |                                 |  | Date:                  | Wednesday, January 04, 2023 |  | Sheet    | 106 | of 121 |
|  |  |                    |  |                                 |  |                        |                             |  |          |     |        |
|  |  |                    |  |                                 |  |                        |                             |  |          |     |        |

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|   |  |                    |  | LA-M366P                 |                             |
|   |  |                    |  | Date:                    | Wednesday, January 04, 2023 |
|   |  |                    |  | Sheet                    | 107 of 121                  |
|   |  |                    |  | Rev                      | V03                         |

Reserve

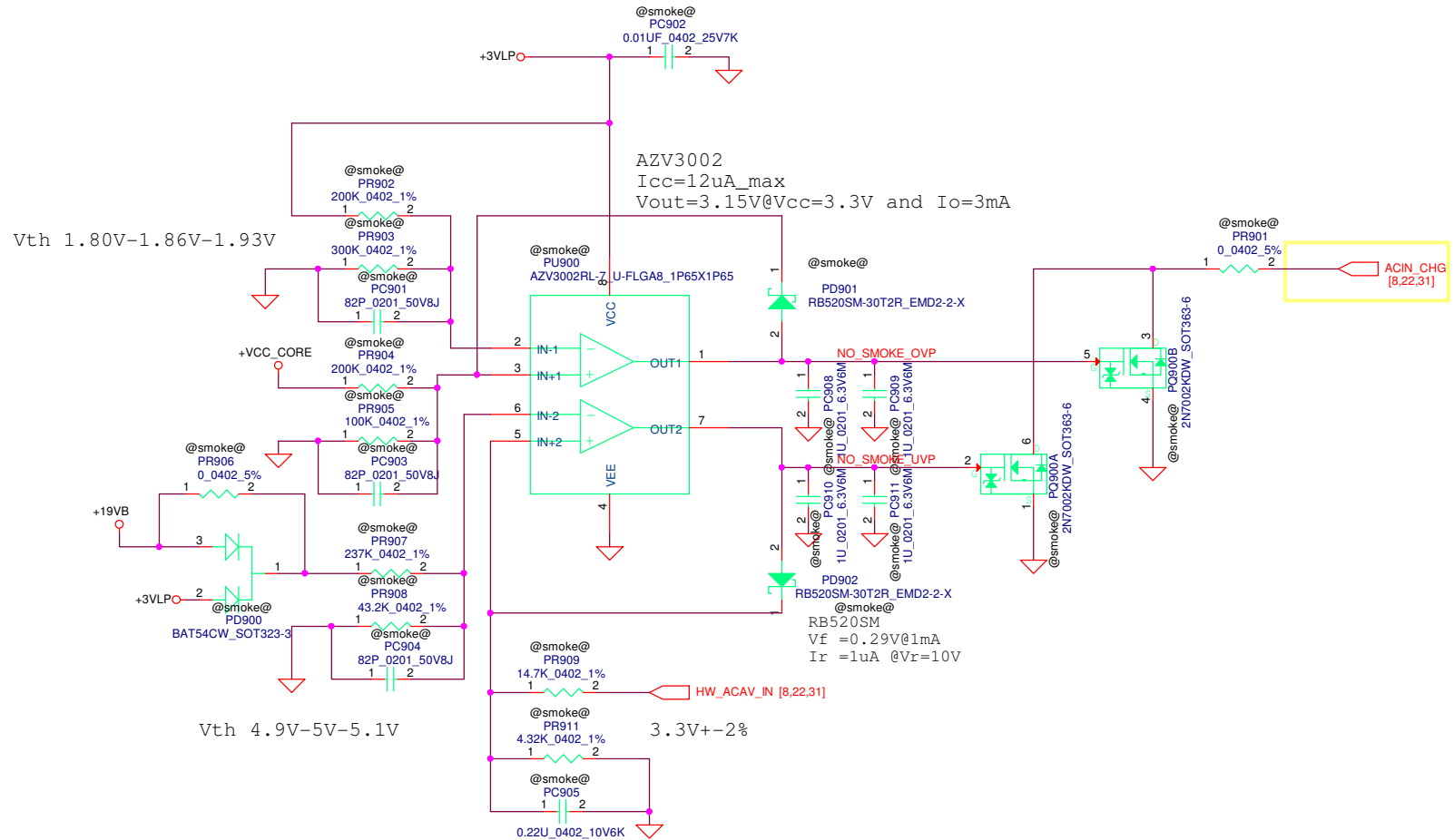
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|  |  |                    |  |                                 |  |                        |                             |  |          |            |         |
|  |  |                    |  |                                 |  | Date:                  | Wednesday, January 04, 2023 |  | Sheet    | 108 of 121 |         |
|  |  |                    |  |                                 |  |                        |                             |  |          |            |         |
|  |  |                    |  |                                 |  |                        |                             |  |          |            |         |

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|   |  |                    |  | LA-M366P                 |                             |
|   |  |                    |  | Date:                    | Wednesday, January 04, 2023 |
|   |  |                    |  | Sheet                    | 109 of 121                  |
|   |  |                    |  | Rev                      | V03                         |

Reserve

|  |  |                    |  |                          |                 |
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|  |  |                    |  | Size                     | Document Number |
|  |  |                    |  | LA-M366P                 | Rev V03         |
| Date: Wednesday, January 04, 2023  |  |                    |  | Sheet 110 of 121         |                 |



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|   |  |  |  |                    |  |  |  | V03                               |  |  |  |
|   |  |  |  |                    |  |  |  | Date: Wednesday, January 04, 2023 |  |  |  |
|   |  |  |  |                    |  |  |  | Sheet 111 of 121                  |  |  |  |

Reserve

|   |  |                             |  |                          |  |
|---|--|-----------------------------|--|--------------------------|--|
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| Size  |  | Document Number             |  | LA-M366P                 |  |
| Date:   |  | Wednesday, January 04, 2023 |  | Sheet 112 of 121         |  |
| Rev   |  | V03                         |  |                          |  |



Reserve

|   |  |                             |  |                          |  |
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| Size  |  | Document Number             |  | Rev                      |  |
|   |  | LA-M366P                    |  | V03                      |  |
| Date:   |  | Wednesday, January 04, 2023 |  | Sheet 113 of 121         |  |

Reserve

|   |  |                    |  |                          |                             |
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|   |  |                    |  | LA-M366P                 |                             |
|   |  |                    |  | Date:                    | Wednesday, January 04, 2023 |
|   |  |                    |  | Sheet                    | 114 of 121                  |
|   |  |                    |  | Rev                      | V03                         |

Reserve

|  |  |                    |  |                          |                 |
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| Date: Wednesday, January 04, 2023  |  |                    |  | Sheet 115 of 121         |                 |

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|   |  |                    |  | Sheet                    | 116 of 121                  |
|   |  |                    |  | Rev                      | V03                         |

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| Date: Wednesday, January 04, 2023  |  |                    |  | Sheet 117 of 121         |                 |

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|   |  |                    |  |                          |                             |
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|   |  |                    |  | LA-M366P                 |                             |
|   |  |                    |  | Date:                    | Wednesday, January 04, 2023 |
|   |  |                    |  | Sheet                    | 118 of 121                  |
|   |  |                    |  | Rev                      | V03                         |

Version Change List (P. I. R. List)

Item   Page#   Title   Date   Request Owner   Issue Description   Solution Description   Rev.

|    |  |  |  |  |  |  |  |
|----|--|--|--|--|--|--|--|
| 1  |  |  |  |  |  |  |  |
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| 12 |  |  |  |  |  |  |  |
| 13 |  |  |  |  |  |  |  |
| 14 |  |  |  |  |  |  |  |

Version Change List ( P. I. R. List )

Item

Page#

Title

Date

Request  
Owner

Issue  
Description

Solution  
Description

Rev.

15



Reserve

|   |  |                    |  |                          |                             |        |
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|   |  |                    |  | Date:                    | Wednesday, January 04, 2023 |        |
|   |  |                    |  | Sheet                    | 121                         | of 121 |